Jama Connect User Guide

Table of Contents

Welcome to Jama Connect

Jama Connect is a centralized web application that helps you manage the development of new technology products. It manages all aspects of product requirements. Jama Connect also records test results and manages risk while maintaining regulatory compliance.

As a new user or trial user, read through this section to learn how Jama Connect can change the way you work and can enhance your product development process. We want to answer all your *"What do I need to get started?"* questions.

This information isn't linear — feel free to scan through and jump to the different areas that are most interesting to you.

The right tool at the right time

This guide contains information about a self-hosted release of Jama Connect. If you're a system administrator new to Jama Software you can skip straight to the system administrator section [471].

Get started

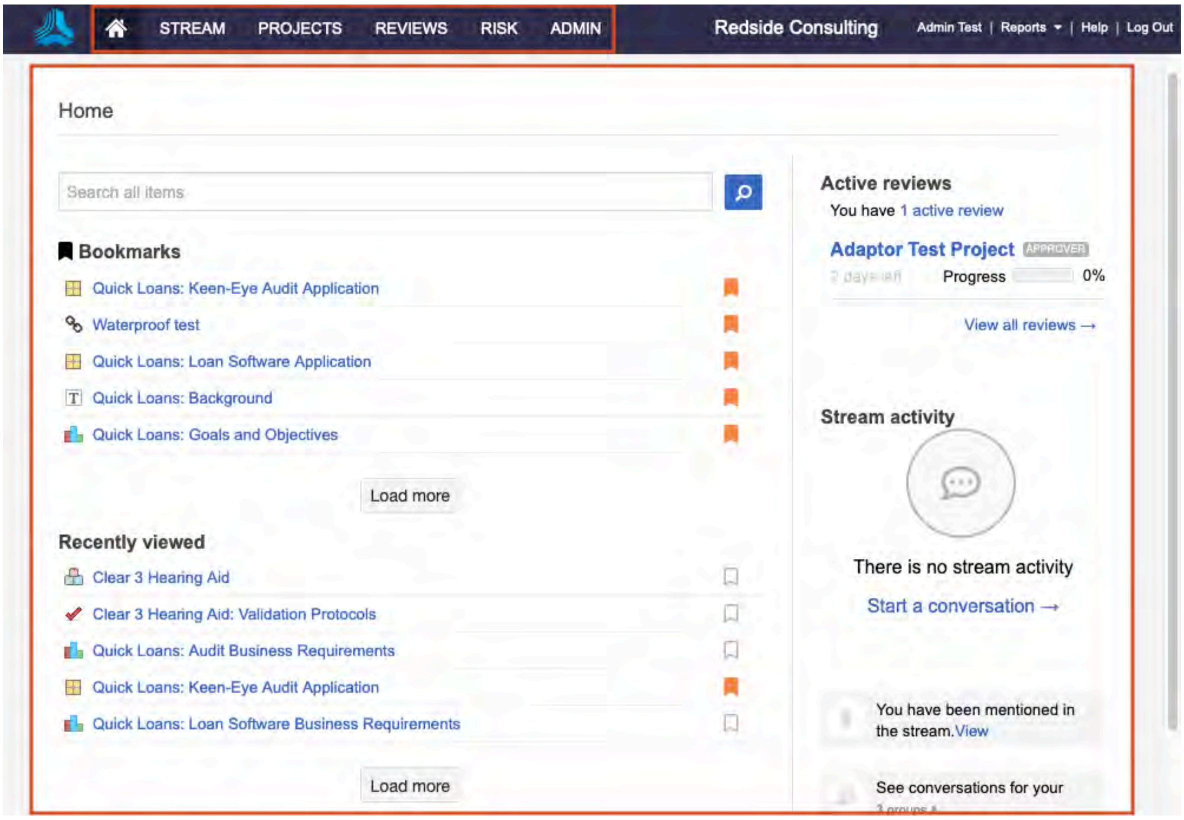
To start using Jama Connect, you need your user account credentials.

- **Trial account**
  Sign up for a free trial at https://www.jamasoftware.com/platform/jama-connect/trial/
- **New user account**
  Your administrator has your account username and password.

As a new user of Jama Connect, this is the place to start: log in and get familiar with the different areas of the workspace.

To log in to Jama Connect:

1. In a supported web browser, enter the URL provided by your administrator.
2. Type your username and password, then select **Log in**.
   Header — Includes the main sections of the Jama Connect interface.
   Homepage — Shows links to your most relevant content like bookmarks, recent views, open views, stream comments, and actions.



Tips and more

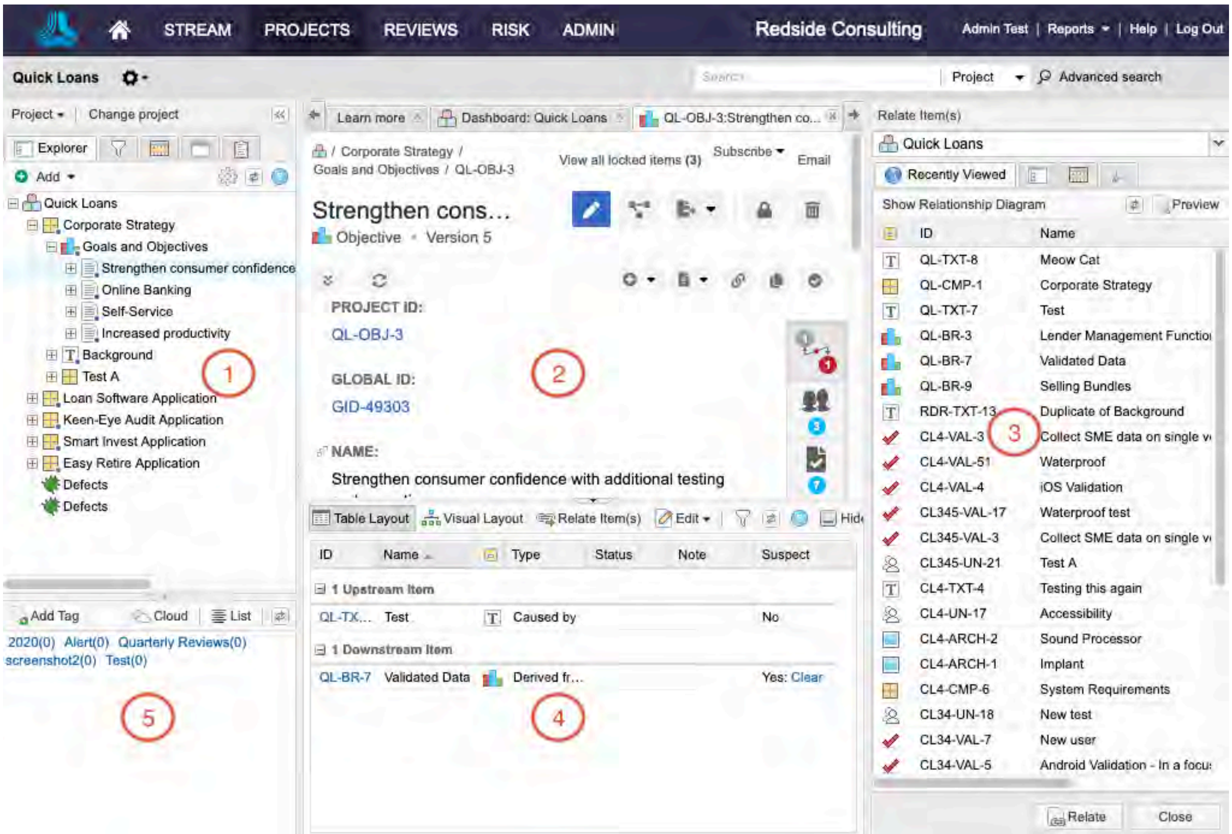
- You're allowed 10 login attempts within five minutes before you're locked out for 30 minutes. To unlock your account before then, follow the forgotten password procedure.
- To manage your account, select your name in the top right navigation to open the **My Profile** window.
- To log out of the application, select **Log Out** in the top right header. If you don't log out, the default timeout is two hours.
- Bookmark projects, containers, sets, and folders so they appear under **Bookmarks** and **Recently viewed** sections. Having it appear in both places allows you to keep track of recently viewed items even if you remove the bookmark.

Exploring the Jama Connect workspace

The Jama Connect workspace is where you set up and manage your projects, create test plans, communicate with your team, track relationships, and more.

You can also view these short videos to learn the Jama Connect basics: how to navigate the system, add and edit information, build in traceability, send information for review, and collaborate with your project team.

The workspace is divided into five panes that you can expand, collapse, and resize.



1. **Explore and manage projects** — Select the tabs at the top of the left panel to expand these views: Explorer, Filters, Releases, Baselines, and Test Plans.
2. **View item details** — View the details for specific items. Content from Components, Sets, Folders, Filters, and individual items are located in this pane.
3. **Create trace relationships** — Add relationships for traceability or items within a change request. Open this section from the Relationships tab and close when it's not needed.
4. **Manage item information** — Manage information associated with comments, relationships, attachments, versions, and activities.
5. **Use keywords to navigate the workspace** — Use the tags cloud to navigate to items grouped by keywords.

Jama Connect is highly configurable, so you can customize the workflow that works best for you. For example, focus on creating requirements from the Explorer Tree, view details about a test case, or explore relationships. Depending on the task or goal, you might interact with one area or all areas of the workspace.

Navigation

These links can help you find your way around Jama Connect:

- Explorer Tree [45]
- Toolbar [48]
- Side toolbar [56]

Views

You can choose how you view your selected items in the center panel. Each view is suited to different types of work.

- **Single Item View** [55] — Displays the information about one item in the center panel.
- **List View** [51] — Shows data from multiple items in a table with a different field in each column so you can sort, select, and compare items at a glance.
- **Reading View** [52] — Shows both text and images for a particular group of items so you can read through selected items like a document.
- **Trace View** [52] — Shows related upstream and downstream items, missing relationships, and item details in context of their relationship.
- **Compare View** [57] — Shows side by side content so you can compare differences between different item versions.

Project approach and tree structure

Jama Connect is made up of projects and uses a tree approach, which allows users to easily organize content and view the content of each project.

What is a project?

Think of a project as a virtual container or “workspace” of information. Each project relates to a product you are creating or a software application you are developing.

Why have a project?

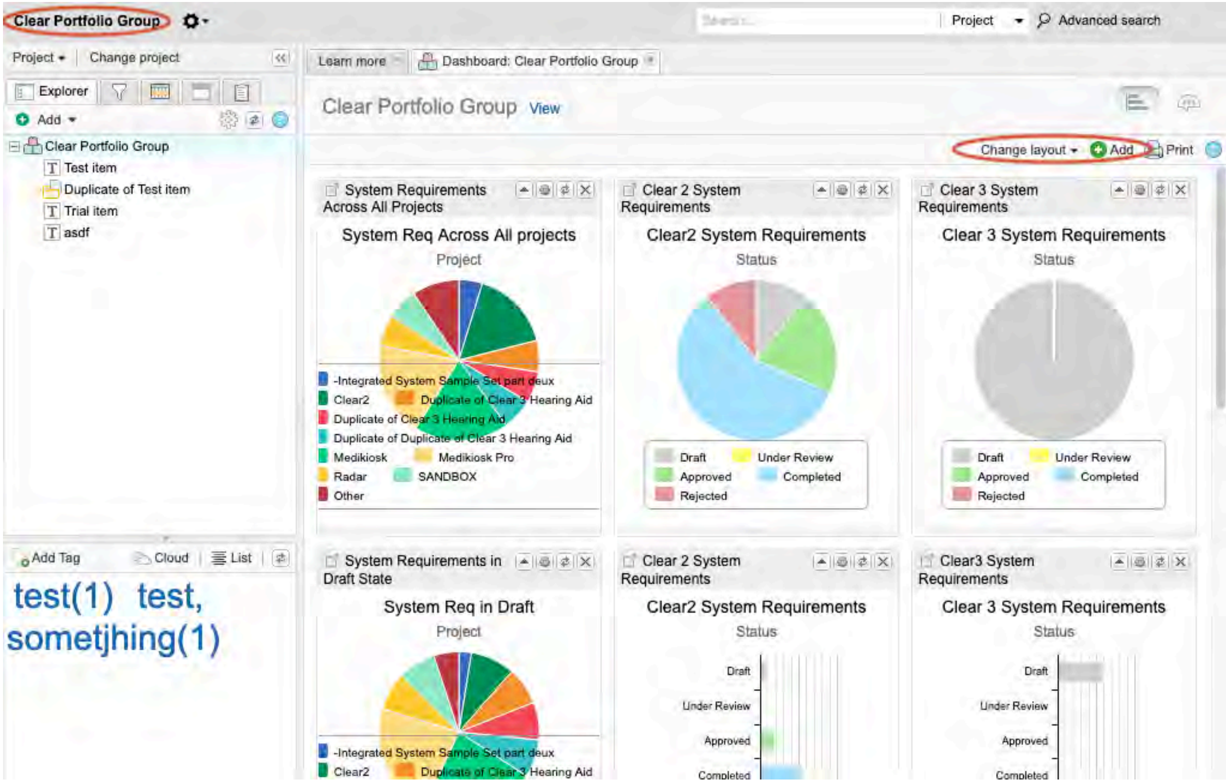
Projects allow you to organize content and apply permission schemas. For example, a user might be able to create and edit requirements in Project A, but might not be able to see content in Project B.

Projects are created by the Jama Connect admins at your organization, who also control corresponding permissions for each project.

At a high-level, each Jama Connect environment can contain multiple projects. Typically, a single project in Jama Connect relates to a single product or a single version of a system that you are building.

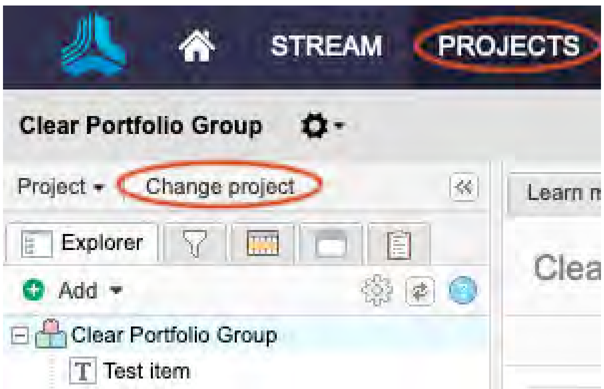
Monitoring your project

Within a Jama Connect project, you can track releases/phases, baselines, test plans, and results. You can also create a project **dashboard** to track the data your team wants to monitor for quality and progress.



How do I access my project?

To open a single project, click **Projects** in the header. If you're already in a project, select **Change project** to switch to a different project.



Advantages of projects and tree structure

Jama Connect projects and the Explorer Tree are highly configurable, which allows your organization to adapt the solution to fit your own unique hierarchy and development process.

We also have several templates to get your team started. This allows your organization to:

- Standardize methodology across different teams
- Decrease context switching when working across multiple projects
- Enable reuse of shared requirements

Organizing your content

Each project has its own Explorer Tree, which displays project items in a hierarchical structure. Think of the tree like your filing cabinet.

Within the Explorer Tree you have access to several tools to organize your content:

- **Component** — A structural container used to organize a project into more manageable pieces.
  For example, if our project represented an automobile, typical components in our Jama Connect project might be: “Vehicle Airbag System” or “Emergency Braking System.” Underneath these components are all the requirements and test sets that make up these subsystems for a car.
- **Set** — A container that defines groups of items of a single **item type**. Sets can exist at the top of projects or beneath the components.
  For example, in our “Emergency Braking System” component we might have a set of “System Requirements” and a separate set of “Verification Tests.” Typically documents such as a Product Requirement document or Functional Requirement specification translates in Jama Connect as a set.
- **Folder** — A way to organize items within a set.
- **Items** — The granular types of content in Jama Connect.
  For example, a single Requirement is an item. A single Test Case is an item. You can configure multiple item types in Jama Connect.

Learn more about projects and Explorer Tree

- Projects at a high level [625]
- Configure Explorer Tree settings [47]

Item-based product development

Jama Connect is a database-driven, item-based product development platform.

Why do we use *items* instead of *documents*? Several reasons:

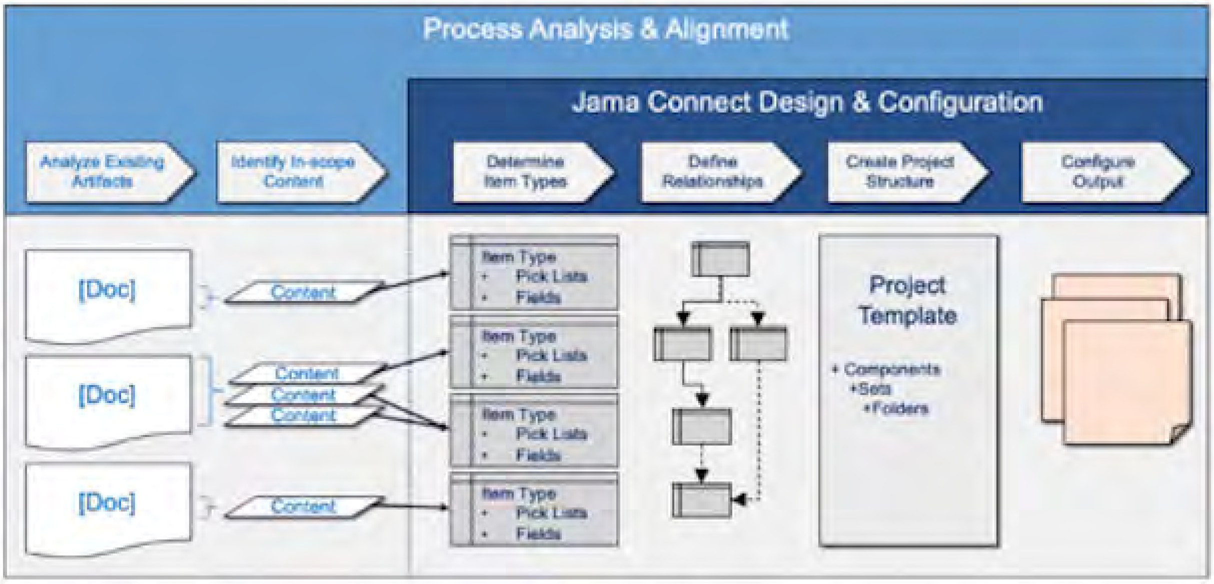
- **Version control** — Track changes and feedback at an individual item level, whether the item is a requirement, a risk, a test, or even project documentation.
- **Data integrity** — Quickly search, filter, and create dashboards to view progress based on item attributes. Documents don’t allow for this and often have data integrity issues.
- **Time savings** — Save time by not having to manually maintain IDs and trace links in a document. In Jama Connect, traceability is a by-product of the way you work.
- **Review efficiency** — Focus on smaller, more iterative item reviews. Users no longer have to wait for entire documents to be submitted before they can provide feedback. Get to market quicker!
- **Auditing quality** — With a few clicks, identify items that are missing coverage throughout the product development process.

The shift from a document-based approach to an item-based approach is key to enabling the value of Jama Connect. Your team's methodology directly influences how you set up and configure your Jama Connect environment with different item types.

The diagram below illustrates how to shift from a document-based approach to an item-based approach using Jama Connect.

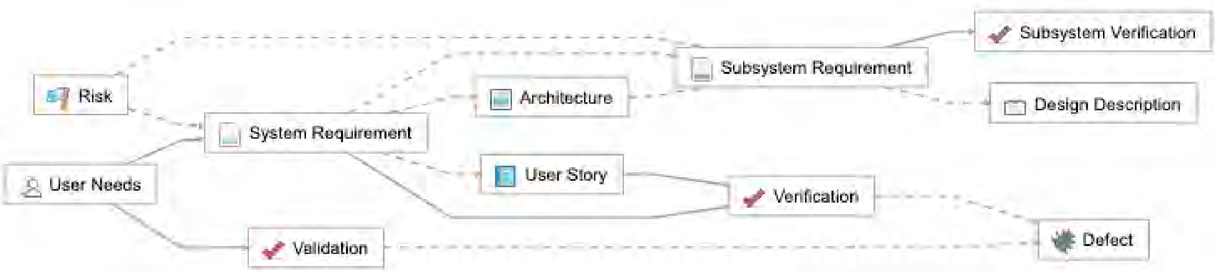
- Identify the documents and content that need to live in Jama Connect.
- Determine the item types that exist in those documents. For example, item types could be System Requirements, Use Cases, or Test Cases. Item types must have defined relationships in Jama Connect, which you can specify using a relationship rule.
- Configure a project structure, then import your existing documentation or start authoring in Jama Connect.

With an item-based and data driven workflow, you can configure a project structure, then begin authoring in Jama Connect. You can either import existing content or author directly in the application. You only need to export documents as needed.



The following diagram* is a typical relationship model in Jama Connect that adheres to a Systems Engineering Methodology (SEM).

* **Box** = single item type. **Lines** = relationships



Your team's development methodology comes into play here, for example classic vs. agile methodology. While some teams use only one method, many teams use a combination.

Each method might use different terms. For example:

Classical Systems Engineering	System Requirement System Architecture High-Level Requirement Low-Level Requirement
Agile	Strategic Themes Epics User Stories

Traceability from Requirements to Test

Traceability shows the relationship between items that depend upon and define each other. You can always travel upstream or downstream to get more context and trace product definition from high level requirements all the way through final tests.

Relationships in Jama Connect are established between discrete items. For example, Stakeholder Requirement A is related to System Requirement X.

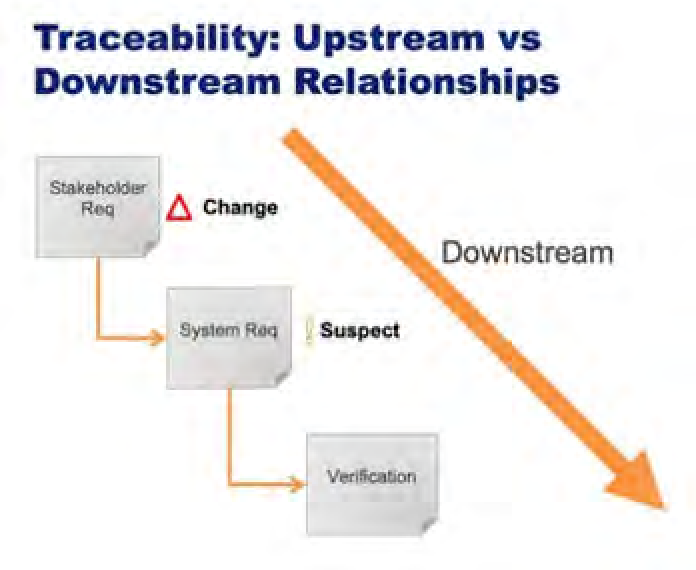
Benefits of establishing relationships

Why are relationships important in Jama Connect?

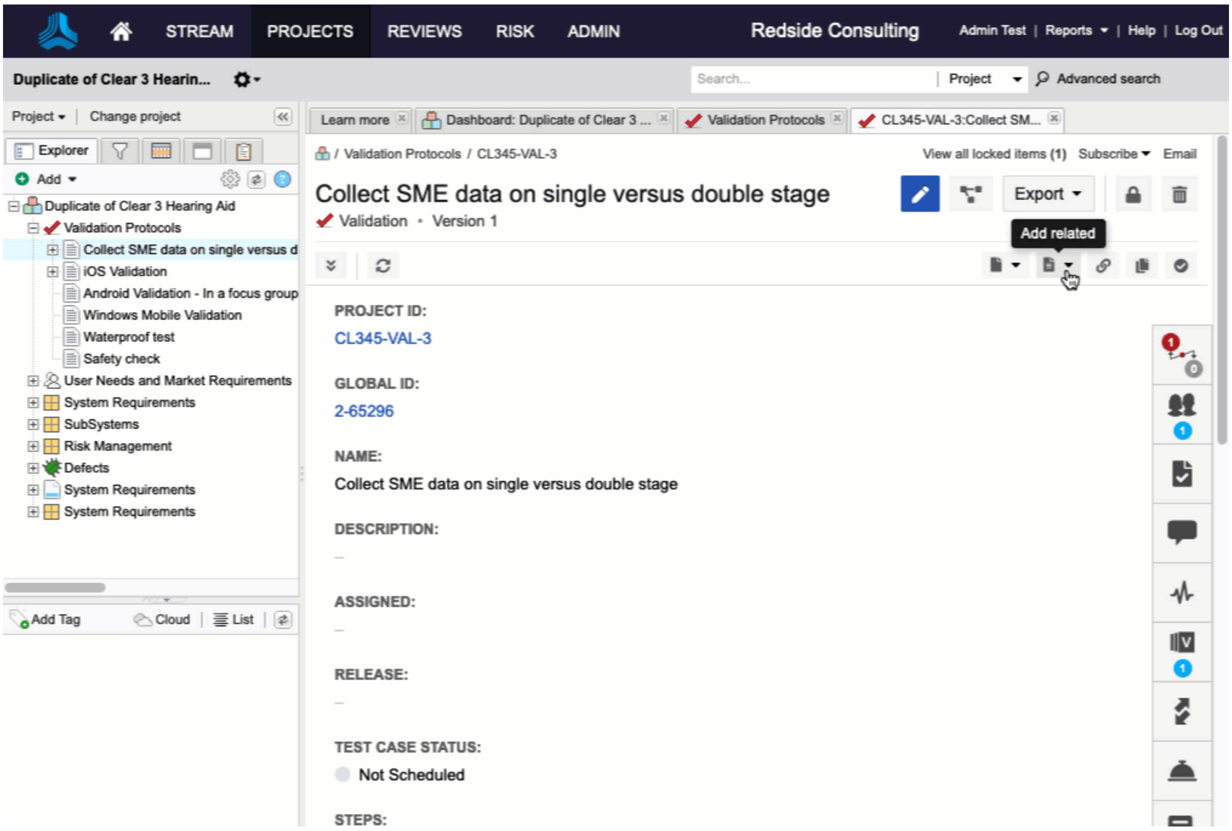
- **Allocation** — Understand which systems and subsystems implement the requirements.
- **Traceability** — Break down high-level requirements into more detailed specifications.
- **Verification** — Prove implementation and quality by linking requirements to tests and their results.
- **Impact analysis** — When requirements change, identify and understand the ripple effect to lower-level requirements and testing.

Relationship rules are applied to projects to drive compliance to your organization's model and methodology. Setting up relationship rules for your item types is critical because it enforces the methodology your organization wants to use in Jama Connect.

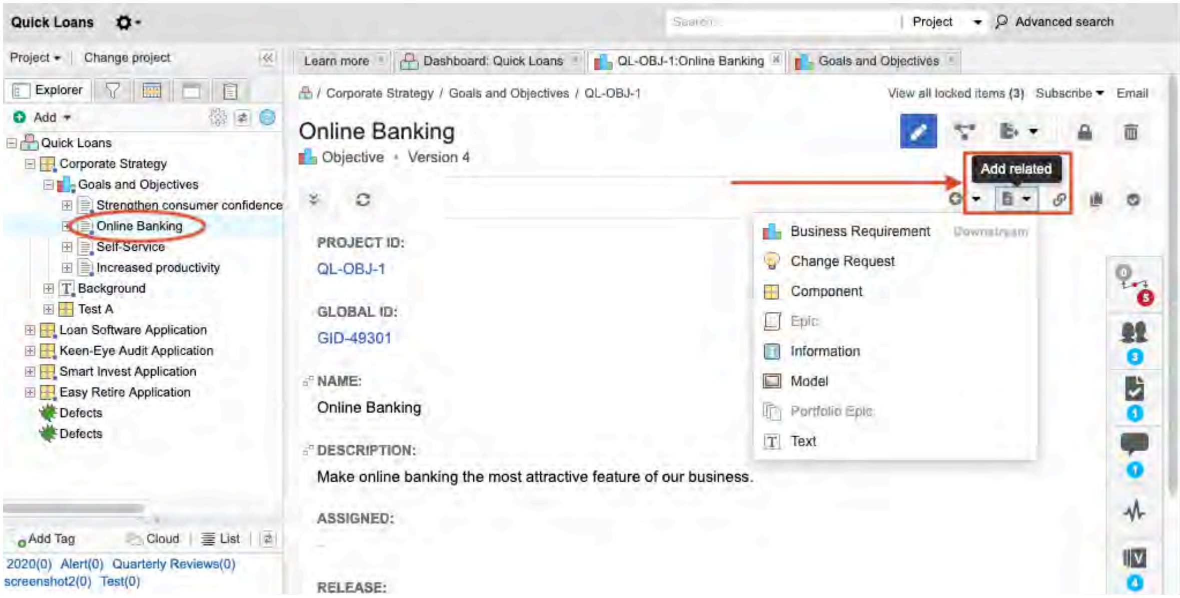
Jama Connect uses the terms "upstream" and "downstream" to describe relationship direction. When upstream items change, their downstream items are flagged as "suspect" so that you can review any impact the change might have.



How to establish a relationship:



1. Navigate to a single item in your project such as a user need or a requirement.
2. Click **Add related** and select the item type you want to add.



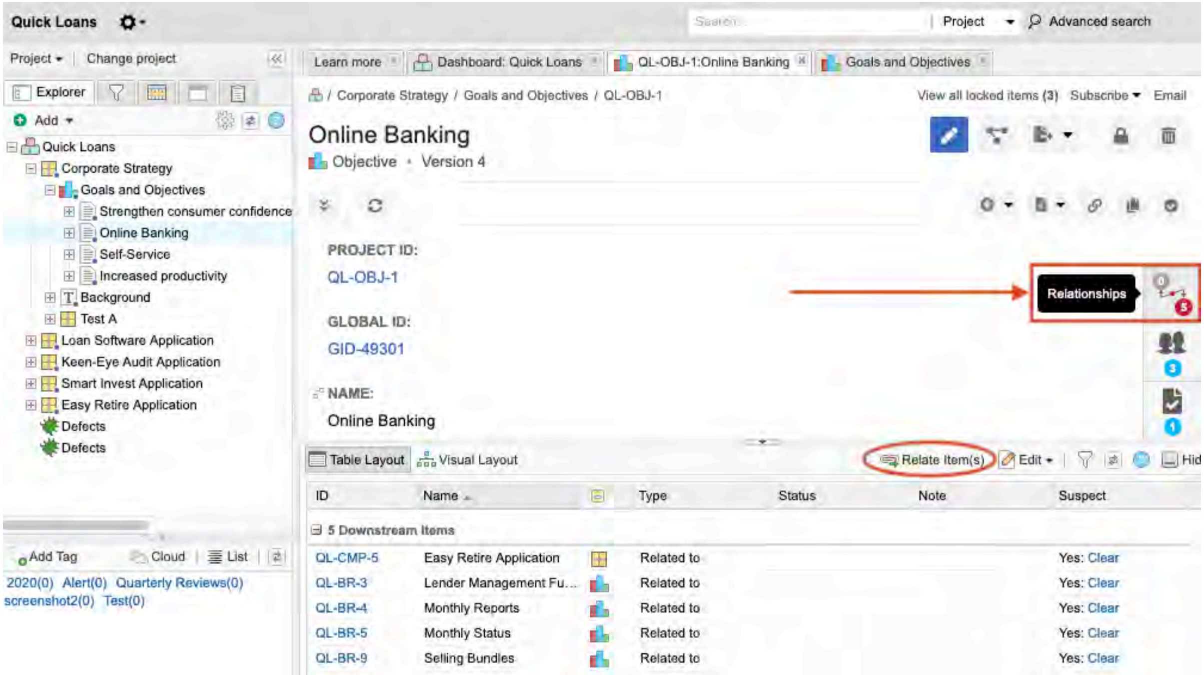
Jama Connect opens a new window where you configure the item relationship.

3. Click **Save and Close**.

The original item (Requirement) and the new item (Verification) are now linked with a trace relationship.

View and add relationships

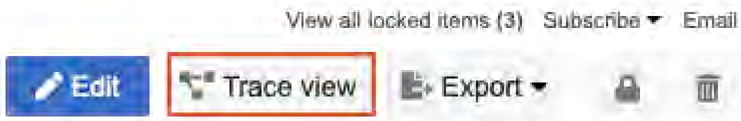
- To view relationships, click the “**Relationships** widget in right corner of the item.
- To add more relationships, click **Relate items**.



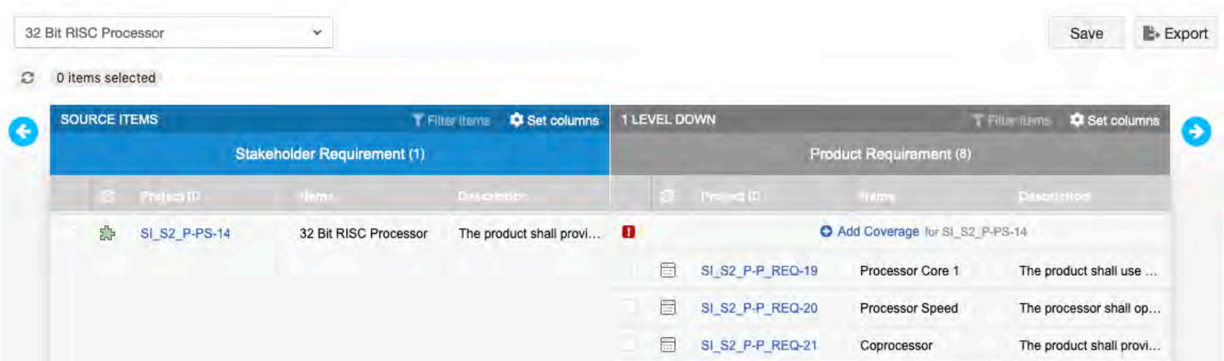
To learn more about adding relationships, see: Relationships [260]

What's next

Once you have established relationships, the **Trace view** in Jama Connect is a great way to view a live trace matrix [272]. You can also filter and extract views of your traceability.



Trace view:



Tracking changes in your project

Being able to track changes is critical throughout product development, including details and context that led to the change, specific version differences, and stakeholders involved with the changes. Jama Connect gives you the ability to capture all of these details.

Jama Connect has two effective ways to track changes:

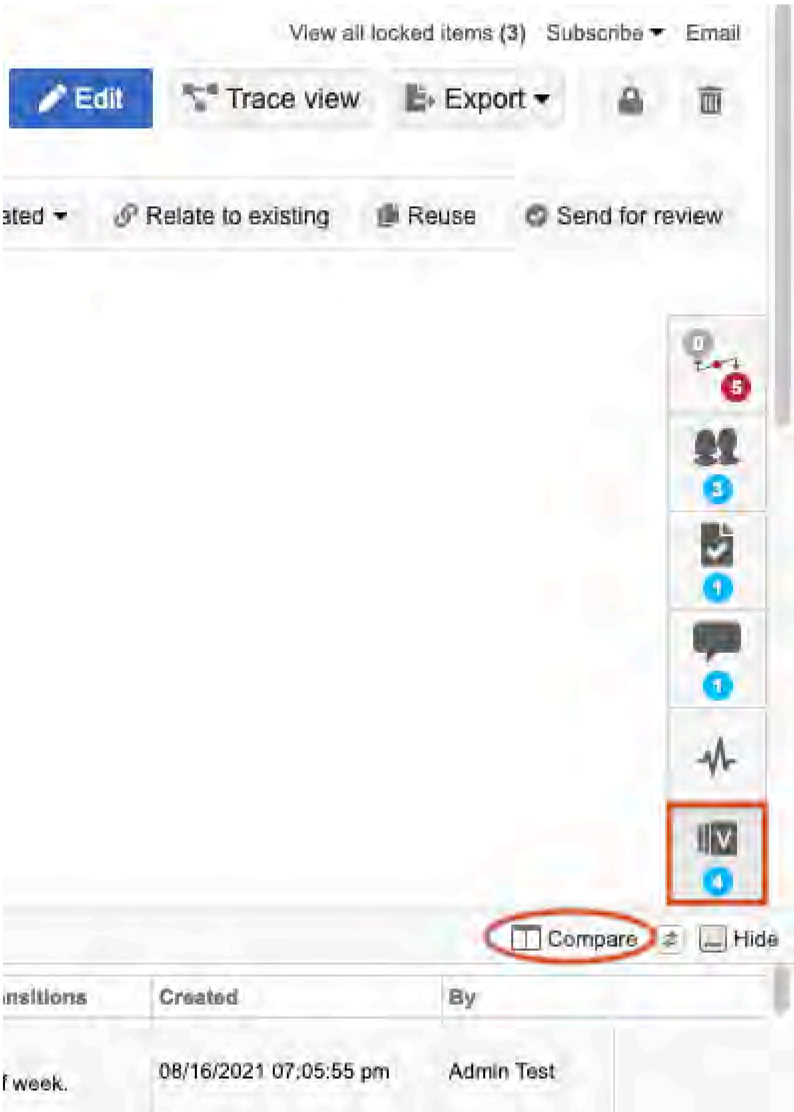
- **Versions** — Capture change at an “item” level. For example, a single requirement might have multiple versions as well as associated change comments.
- **Baselines** — Capture a point-in-time snapshot of a group of items. For example, if you want to preserve a version of an entire Jama Connect project or “set” of approved items, you can create a baseline.

Version changes

A new version is created each time you make changes to an item. In the bottom panel, you can compare versions or make a past version current.

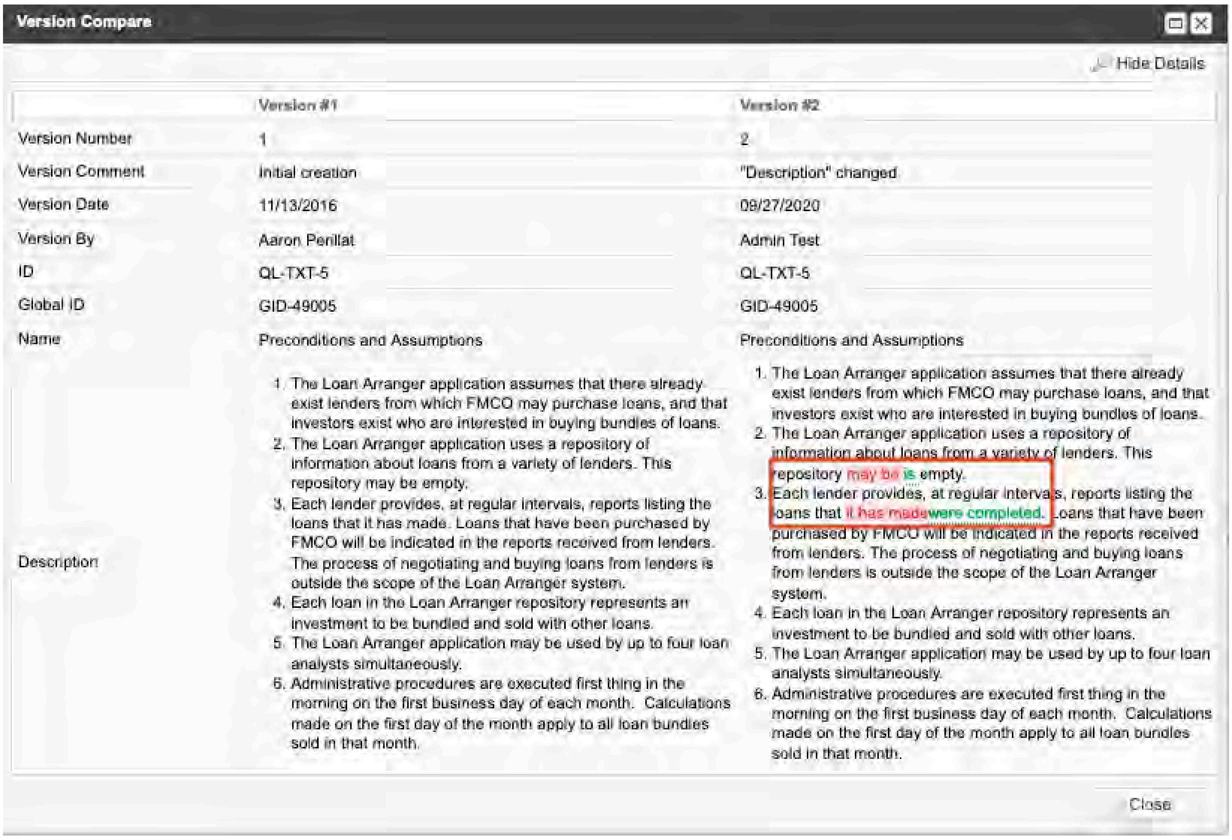
Changes to a single item

In the following screenshot, you can see how Jama Connect compares differences between multiple versions of an item. This engineering requirement has two versions. In the bottom panel, you can also see who made the change, any change details, and, if added, any change comments. Get the complete context of change from just this one screen!



Version Compare view

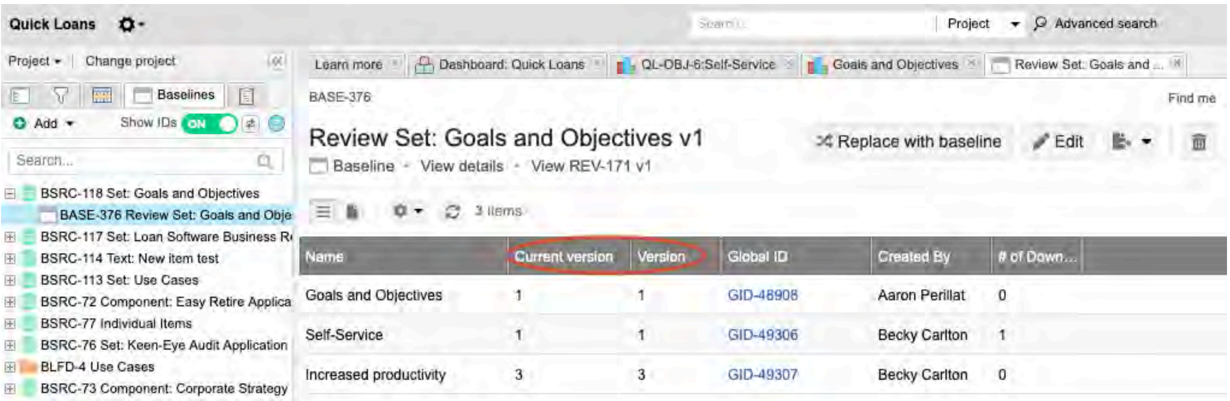
This next screenshot shows the differences between two versions of a requirement. Individual field differences are shown and highlighted* in red and green, making it easy to see what might have changed.



* **Red** = content that was removed. **Green** = new content added.

Changes to several items in a baseline

This next screenshot shows a baseline in Jama Connect, which is a snapshot of several items.



Baselines can also change over time as new requirements are added, removed, or updated. Jama Connect provides users with the ability to track these changes between different baselines through out-of-the-box reports.

How reviews work

Ever feel like work is harder than it should be? Multiple revisions of a document get emailed around; conflicting or out-of-sequence feedback on shared documents; expensive time-consuming review meetings: sound familiar?

Jama Connect alleviates these pain points with its review features.

- Everyone is automatically placed in the latest revision.
- Reviewers can simultaneously log their feedback and approvals.
- All feedback is in sequence with document revisions.
- It’s easy to filter and view only the items that need additional review or feedback.

Reviews are critical to improving requirements and test quality and in increasing the shared understanding among the teams who are engineering and implementing the requirements. Most item types in Jama Connect can be sent to a review.

Review roles: who does what?

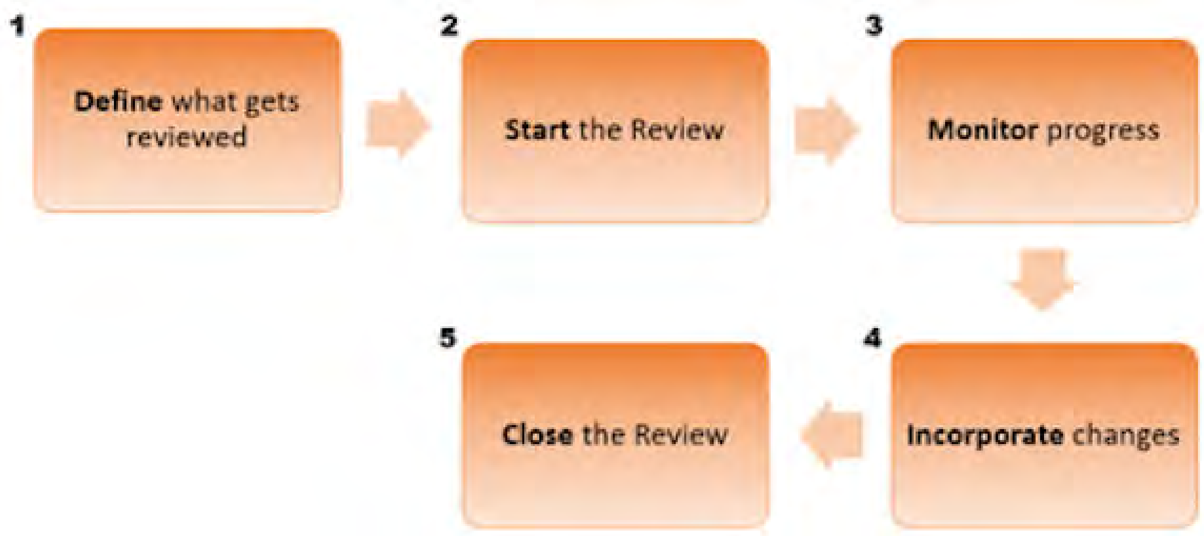
- **Moderator** — Content Owner. Starts the review and facilitates the discussion.
- **Reviewer** — Contributes to the discussion.
- **Approver** — Signs off and approves items that are in review.

Who can start a review?

Users with Creator license and permissions to author and edit in the project can start and moderate a review.

What's involved in a review?

Here’s what a typical workflow looks like.



1	**Define what gets reviewed**	Before starting a review, determine which set or folder of items you want to send for review. A review doesn't need to be for an entire document. It can be for particular sections only, which allows for a more agile and iterative review. In addition to location, a review can be started from a filter, release, baseline, or test plan.
2	**Start the review**	If leveraging Jama Connect workflow functionality, make sure the status of items is set to "Review:" right-click on the location in the Explorer Tree and click **Send for review**. If you're starting from a filter, release, baseline or test plan, right-click the Filter/Release/Baseline/Test Plan name and click **Send for review**. Jama Connect loads the review setup wizard, where you can configure the review deadline and invite Reviewers and Approvers.
3	**Monitor progress**	the review is initialized, Reviewers and Approvers receive an email invitation to participate. They work concurrently, adding comments and marking items as "Approved" or "Rejected." As a moderator, you can track participant progress and respond to comments.
4	**Incorporate changes**	As the moderator, you incorporate edits based on feedback from the participants. After incorporating changes, you are prompted to publish a new revision of the review.
5	**Close the review**	Reviews close when the review deadline is reached or when the Moderator closes the review manually (**Finish > Close for feedback**, **Finish > Finalize approval review**, or **Finish > Mark review as finalized**).

Reviews can always be reopened to publish new revisions and review what has changed.

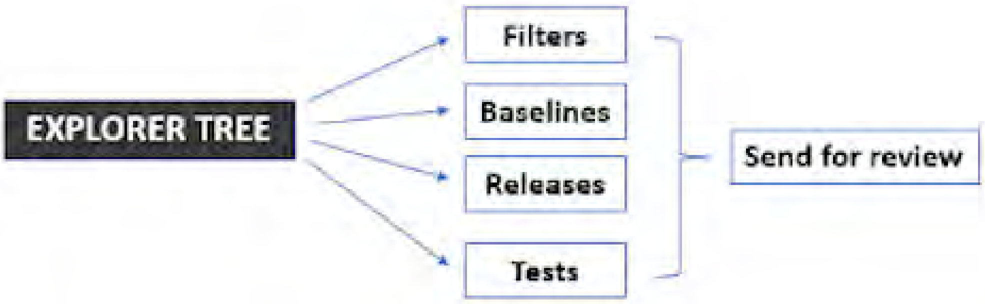
Best practices

- Facilitate a review before Requirement is moved to "Approved" or "Rejected" status.
- Focus on small, iterative reviews with fewer than 200 requirements per review. A large requirements doc can be hard to consume.
- It's OK to have lots of review revisions; approvers are always placed into the "latest" revision.
- Offer guidance on the type of feedback you need.

Create a review

You can *create* a review for any group of items in a project. And you can *start* a review from several places in the Jama Connect interface.

Regardless of where you begin, the process is the same through an easy-to-follow wizard.



Let's start from **Reviews** in the top navigation.

1. Select **Reviews**, then select **Start a review**.

   The wizard opens to the Definitions page.
2. Follow the prompts in the wizard to define your review:

3. Click **Initiate review**.

Learn more about reviews

For details about how to create and use reviews, explore these topics in the User Guide:

- Review moderator [152]
- Compare versions [187]
- Filter or search the review workspace [180]
- Organize and find review comments [178]
- Review Education Resources from Community site
- Review Center FAQ from Community site

Exporting documents from Jama Connect

While Jama Connect alleviates many of the pain points around managing documents, you might still need to create documents to share with your customers, quality teams, or auditors.

The basics

With Jama Connect, you can easily create documents using our standard export to Word and Excel or by creating your own custom office templates.

The items that appear in your Jama Connect view are exported:

Beyond the basics with Office templates

If you need more than what the default Office templates provide, you can customize a template to suit your project. For details about how to create a custom Office template:

- Exports [298] (User Guide)
- Word Template Guide (Community)

Advanced reporting

If you require more control over the report output than Word templates provide, you can use an advanced reporting tool like BIRT or Velocity.

Here are some common scenarios for using an advanced reporting tool:

- **Ordering of documents** — Word templates always arrange your included items in the same order that they appeared in Jama Connect when you generated the export. If you need like items to stay together or certain item types to always be displayed before other types, you need to use a custom export.
- **Style formatting** — Although Word templates support basic text formatting like bullets and text decoration, they don't support control for page formatting options like section breaks or custom page numbering. BIRT and Velocity exports provide a broader level of control than Word.
- **Multiple levels of relationships** — Default Word templates can export relationships one level upstream or one level downstream. BIRT and Velocity both allow more access to follow relationships and tree structure through multiple levels.
- **Conditional logic** — BIRT and Velocity both allow more control over when and where to display information. If you want to display an item's status, but only if it were created more than 30 days ago and has an upstream relationship to a Feature, you need to use an advanced reporting engine.

For more detailed information about advanced reporting:

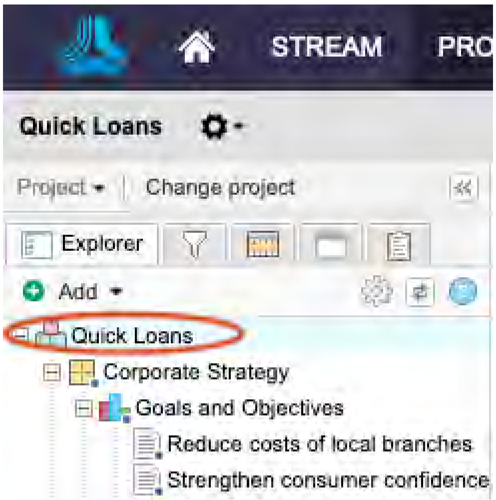
- Introduction to Advanced Reporting (Community)

Dashboards

You can configure your projects to show key metrics to quickly see what needs attention. Typically, dashboards are used to:

- **Monitor progress** (for example, status of Requirements or Execution Results of a Test Cycle)
- **Audit progress** (for example, show the count of items that are missing a critical data point or process step)

To access the dashboard, select the project name in the Explorer Tree.



As an administrator with organization or project permissions, you can customize dashboards per project (not per user).

Customizations include:

Filter results	Displays the results of an existing filter.
Assigned to me	Displays a list of items "assigned to" the current user.
Bar chart	Displays the results of an existing filter as a bar chart.
Recent activity	Displays a line graph of recent activity over a period of time.
Pie chart	Displays a pie chart for a filter and field that the user selects.
Activity stream	Displays the current activity stream of the project. View all current activity including comments, edits made, new items created, and assignment changes.
Project summary	Displays a summary of the entire project, including total number of items in the project, number of days until next release, and number of days until project completion.
Rich text	Displays user defined text, images, diagrams, and equations.
Recently viewed	Displays the last 15 items viewed by the current user.
Relationship diagram	Displays the relationship rules applied to the project.

Testing

Do you need to validate and verify your product? Or maybe you need to create a report that shows the connection between regulations, requirements, and tests?

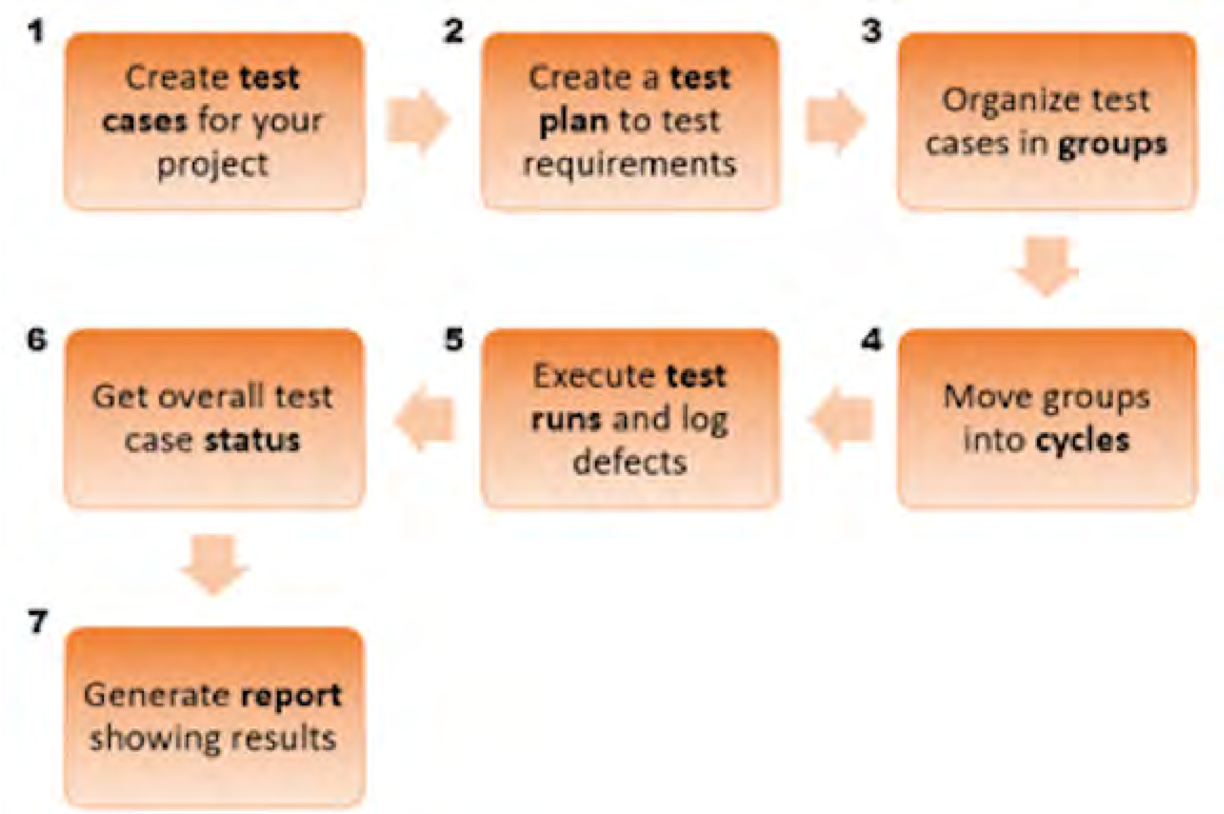
Then look no further: use Jama Connect test capabilities to guide your teams through the testing process, so you can validate and verify your products and systems.

Let's define our terms

Test cases	Items that contain the tests needed to validate or verify product features or systems. They contain the essential information about your tests, and can be organized by project, library, or ad hoc.
Test plans	Document that describe the strategy and objective of the test.
Test groups	Allows teams to organize test cases within a test plan.
Test runs	Item used to record results for a test case you ran against your product.
Test cycles	A series of test runs consisting of groups of test cases, that are ready for execution. In a test plan, you can add a test cycle to help manage and execute test runs.
Defects	Testing errors that are logged from test runs and traced to upstream test cases and requirements through the relationship configuration.

What's involved in testing?

Here's a typical workflow:



1	**Create test cases for your project**	Create test cases that meet the needs of a particular project or multiple projects across your organization.Test cases describe the specific tests you plan to use and their steps. Relate test cases to the requirement you're testing.
2	**Create a test plan to test requirements**	Create a test plan that gives an overview of how you want to test requirements.
3	**Organize test cases in groups**	Associate the cases you want to use into that plan using groups to organize them.
4	**Move groups into cycles**	Get ready for testing, by moving those groups into cycles where you can see a list of all the tests you want to run.
5	**Execute test runs and log defects**	Execute the test runs and log defects as needed.
6	**Get overall test case sta-tus**	Resulting test run statuses roll up to calculate the overall test case status.
7	**Generate report showing results**	You can then generate a report showing results, such as the Test Plan Summary Reporter or the Test Plan Detail Report.

Learn more about testing

- Test cases [316]
- Test plans [326]
- Test groups [329]
- Test cycles [337]
- Test runs [340]
- Defect item type [594]

All about baselines

A baseline in Jama Connect is a snapshot of your project at a point in time. The current version of each selected item — and their relationships — are forever associated with that baseline.

Why are baselines important?

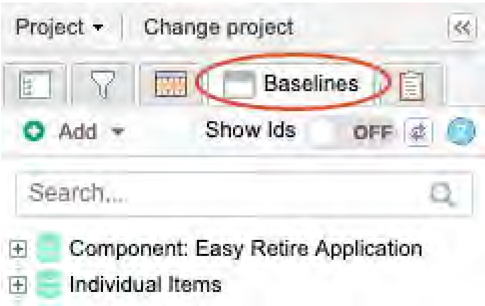
A baseline captures the relationship of your selected project components to each other, as well as their state — for example: draft, reviewed, approved.

A project in Jama Connect can have many baselines. Use baselines as the basis for an export or as a reference for a historical milestone. By *creating a baseline at each project milestone*, you can view the status of your project at those key points in the lifecycle. For example:

- At gate reviews
- Before a reorganization
- Before an import of requirements

Where to create the baseline

In the Jama Connect Project, navigate to the **Baselines** tab and click **Add > Baseline**.



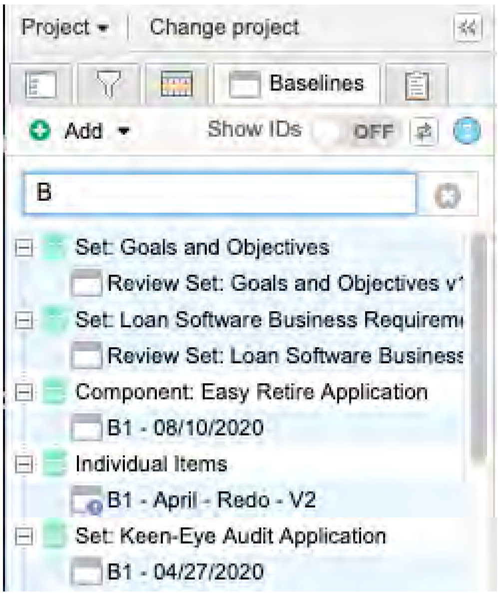
Create a baseline (snapshot)

Are you ready to send an item for review? Or maybe you need to capture the current set of requirements. Perhaps your project has reached a milestone like testing or approval.

Create a baseline to secure a snapshot of one or several items in your project.

1. Select the **Baseline** tab from the left panel tabs of your project.
2. From the **Add** drop-down menu, select **Baseline**.
3. Select the criteria that you want to include in your baseline, using the three tabs in the pop-up window:
   - **Item selection** — A copy of the project where you are working. Select your entire project, a single set, multiple sets, a single item, or multiples items.
   - **Releases** — If you created a release, baseline one or multiple items.
   - **Filters** — Baseline any advanced filters you created.
4. Click **Create**. The Add Baseline window appears with a pre-populated name.
5. *(Optional)* Rename the baseline or add a description.
6. Click **Save**.

Your baseline is now created and is highlighted under the source where you created it.



Organize your baseline tree: the basics

Working with baselines is dynamic and intuitive: reorganize, rename, and restructure your tree however you want. Let's create a folder or two, then we can arrange them.

Note: You must be a project admin or organization admin to do this.

1. From the **Add** drop-down menu, select **Folder**.
2. In the window that opens, type the name of the folder.
3. Click **Save**.

The new folder is saved at the top of your baseline tree.

Quick tips

- To add a folder to an existing folder, right-click on a folder and select **Add Folder**.
- To move a folder or a source, drag it to a location in your baseline tree.

Learn more about baselines

For detailed information about baselines, explore more topics in the User Guide:

- Baseline sources [239]
- Baseline organization [240]
- Baseline activity [248]
- Add electronic signatures to a baseline [228]

Reuse and synchronization

Reuse in Jama Connect is much more than a copy/paste mechanism. It's a full suite of features that allows for complex capabilities like:

- Maintaining a *library* of common requirements
- *Branching* a project to create a variant product
- *Comparing differences* between a local version of a requirement and its source library version

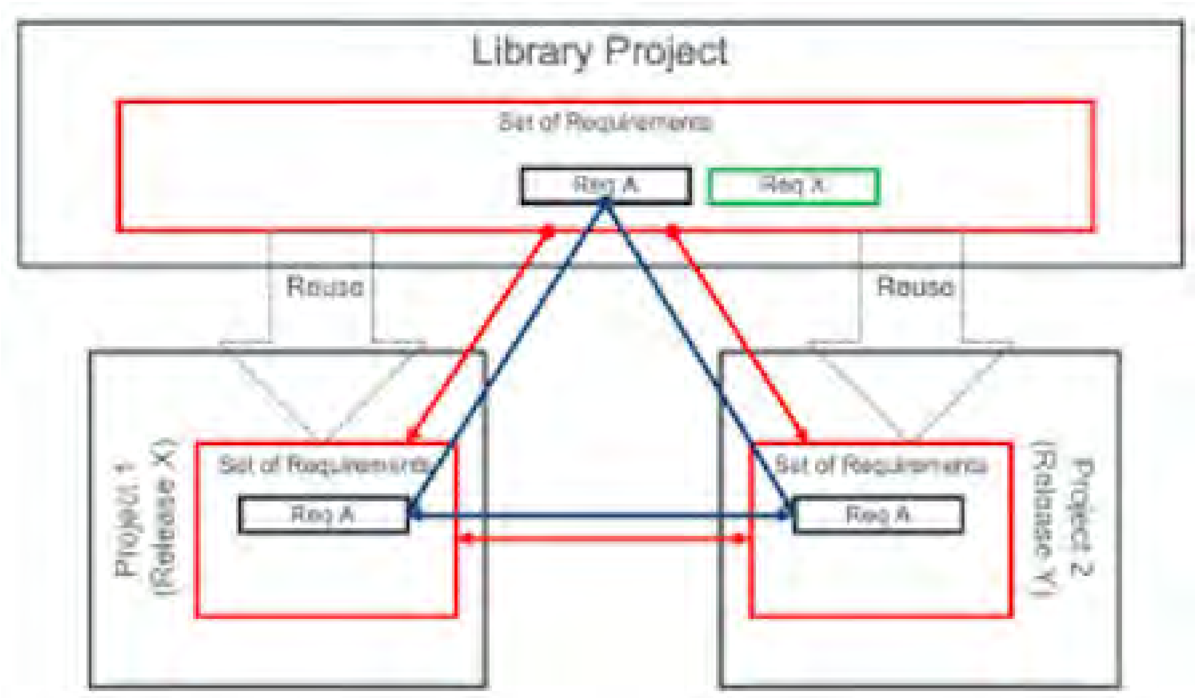
Reuse and Sync methods are useful for detecting variance and putting a spotlight on the impact analysis across releases and projects. And these methods are useful whether your product keeps the same requirements as a previous version; if it integrates and improves on original requirements; or if you include custom requirements for each product.

To save time and effort for your teams:

- Reuse common product requirements between projects.
- Sync across those reused items to help determine and track variance across projects.

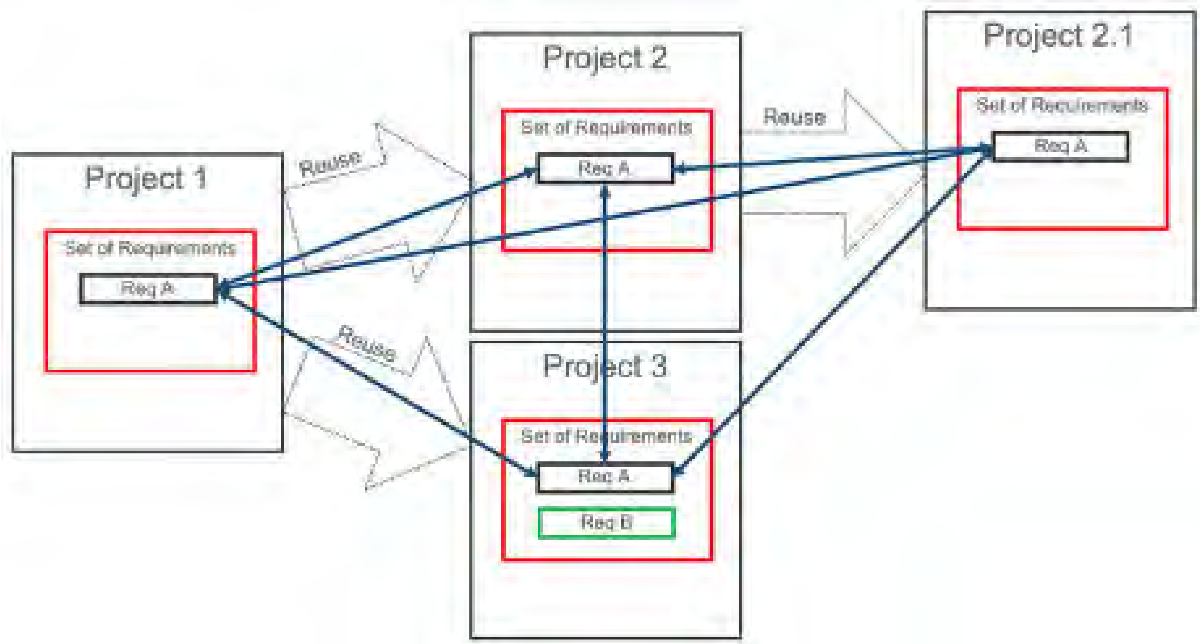
When you use Reuse and Sync within your requirements management configuration infrastructure, you maximize your requirements resource management. You can modify and evolve existing work quickly while maintaining your requirement lineage.

Library approach



- A library project houses a collection of requirements maintained by a “librarian” or “curator” (permissions-based).
- The curator of a library can pull differences back into the library when needed.
- Project members can pull and push updates between the project and the library.

Branching approach



- Projects are branched by project duplication.
- Synchronization is enabled during project duplication and differences are monitored between containers/items.
- Jama Connect project baselines are created just after duplication. This captures the state of the project at the time of duplication and is used for baseline comparisons.

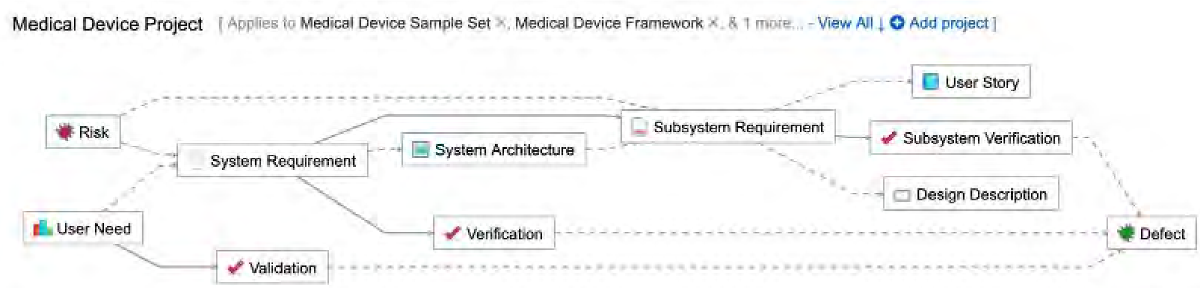
Administration

Administration in Jama Connect is primarily used to control the product development process and users' access to the data.

Product development process

There is no "one size fits all" process for developing products or applications. Each industry starts with a template modeled after best practices, but every company can tailor the process to fit their needs.

Here is an example process* used to develop a medical device.



* **Boxes** = an artifact/document (generically defined as item types in Jama Connect).

Lines = relationships that enforce traceability between the items.

Item types = items with configurable fields to record specific details about each requirement, including details like ID, Name, and Description. Also include values for capturing data like workflow status and validation method, similar to columns in spreadsheet.

User management

A primary role for administration in any enterprise system is the assignment of licenses and managing access to data. Jama Connect includes several options to give administrators the ability to fine-tune read/write/review access to fit their company's needs.

Learn more about user management

- Licensing [578]
- Managing users [568]

Manage item types

By default, a trial user account is set up with permissions of an organization administrator, which gives you access to the **ADMIN** module in the top-level navigation. If you don't see this, ask your administrator to update your permissions.

Edit an existing item type

1. Select **Admin > Organization**, then select **Item Types**.
2. Find the item type you want and select **Edit** in that row.
3. Adjust the details that your project users can see when working with items.
   - **Display, Display plural** — The name used to identify the item type, for example, System Requirement.
   - **Type key** —The part of the ID that helps users quickly determine the item type of an item. For example, the default type key for System Requirement is **SREQ**, so when a user sees an item with the ID of QR-SREQ-34, they can know at-a-glance that the item is a System Requirement for that project.
   - **Use as** — Specific functions or permissions for item types configured as a test case or defect.
   - **Image** — An icon to help users quickly differentiate items.
   - **Widgets** — A graphic that shows additional data for the item. The most common widgets are Versions, Links, Attachments, Relationships, Activities, and Tags.
4. Click **Save**.

Add a field

Chances are that the fields available in your selected item type are just what you need for your process. But if you want to add details specific to your organization, you can do that too.

1. Select **Admin > Organization**, then select **Item types**.
2. Select **Fields** from the row of the item type.
3. Select **Add Field** from the fields' header for the item type.
4. Select **Custom Fields**, then select the type of field you want to add.
5. Enter the name you want users to see in **Field Label**.
   The **Unique Field Name** is pre-populated with a suggestion. This name is used for reporting or accessing from REST API.
6. Depending on the field type you select, additional options might be required. If prompted, configure them now.
7. Click **Save**.
8. *(Optional)* Use the arrow keys in the header to move the field into the order you want on the form.

Configure pick lists

A common field to configure on an item type is a pick list. Pick lists can be reused, and the list you want, like **Priority**, might already exist. You can adjust the language or values to fit your needs.

If you need a new list, you can create it before you add the new field to an item type.

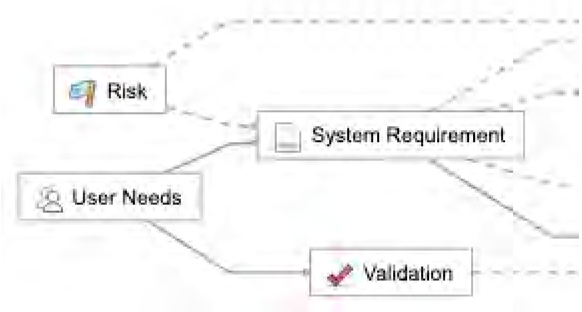
1. Select **Admin > Organization**, then select **Pick lists**.
2. Find the pick list you want and select **Values** in that row.
3. Add a new value or edit an existing value:
   - **New** — Select the **+** icon and enter the value.
   - **Existing** — Select the row and click the pencil icon.
4. Click **Save**.
5. *(Optional)* Use the arrow keys in the header to move the field into the order you want on the form.

Managing relationship rules

Relationships are an important part of ensuring compliance and quality. Many industries base their processes around the V-Model and need relationships to enforce the traceability through the stages.

Creating the correct relationships can be challenging for users, so Jama Connect gives administrators the ability to configure rules that help guide users in making the correct connections.

In the previous process example for a medical device, the item type **User Need** can have two downstream relationships: **System Requirement** and **Validation**.



To configure these relationships, you use the **Relationships** option from the left panel.

Upstream		Downstream	Relationship Type	For Coverage
Architecture	→	Checklist	Related to	Yes
Automotive Cause	→	Automotive Subsystem Requirement	Satisfied By	Yes
High Level Requirement	→	Attachment	Derived from	Yes
Analysis Item	→	Automotive Failure Mode	Assimilated by	Yes
User Needs	→	System Requirement	Derived from	No
User Needs	→	Validation	Validated By	Yes

Upstream refers to the higher-level item type that is affected by the lower level (*downstream*) item, often through an activity like testing or decomposition.

Add a new relationship rule

Creating a relationship establishes a directional link between two items.

1. Select **Admin > Organization**, then select **Relationships**.
2. Find the relationship ruleset you want.

3. Scroll to the bottom of the list of rules and select **Add relationship**.
4. Configure the relationships:
   a. Select the **Upstream Type**.
   b. Select the **Downstream Type**.
   Relationship types describe why the relationship between the two items exists. View the pick list above the rulesets on the Relationships page.
   c. Select **Yes** or **No** to configure if the relationship is used for coverage.
   Note: If you select **For Coverage**, Jama Connect notifies users if this relationship doesn't exist.
   d. Click **Save**.

Managing workflow

Similar to relationships, workflow is an important part of ensuring compliance and quality.

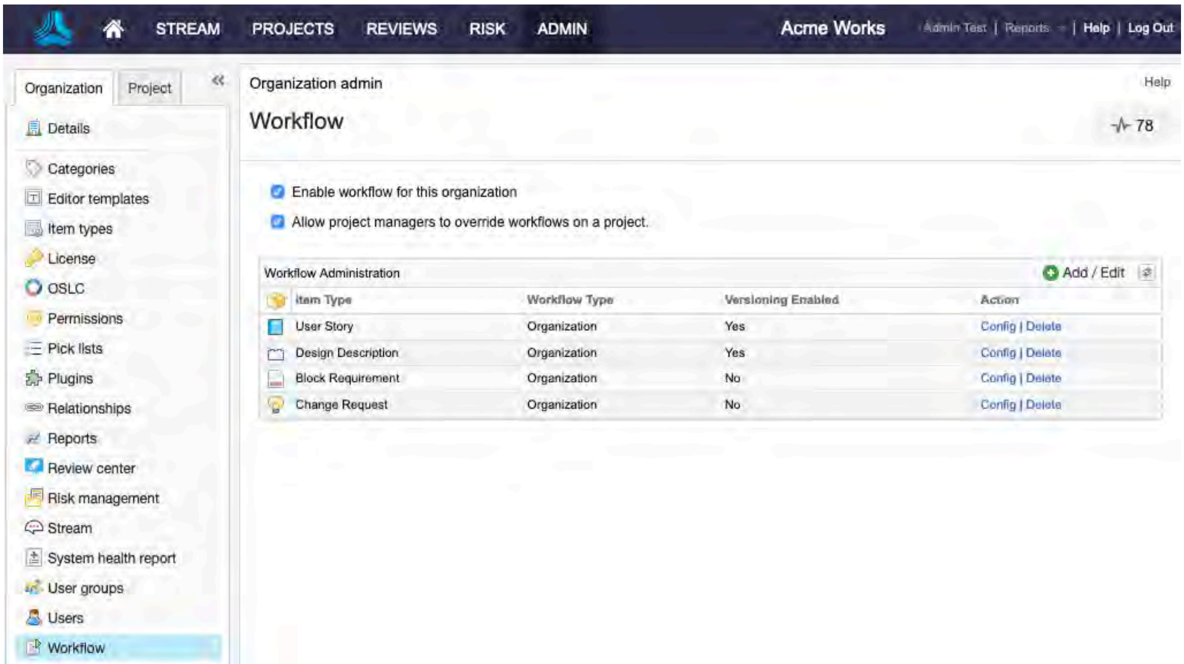
Workflow in Jama Connect is highly configurable. In general, workflow is set up on an item type with a pick list of available statuses. This process guides a user though specific steps, making sure that only users with correct permissions can make the transitions (by utilizing the Transition Permissions features), then locking items from further updates when needed.

For example, when an item is moved from **Draft** to **Approved**, it is locked so no changes can be made while it is in the **Approved** state.

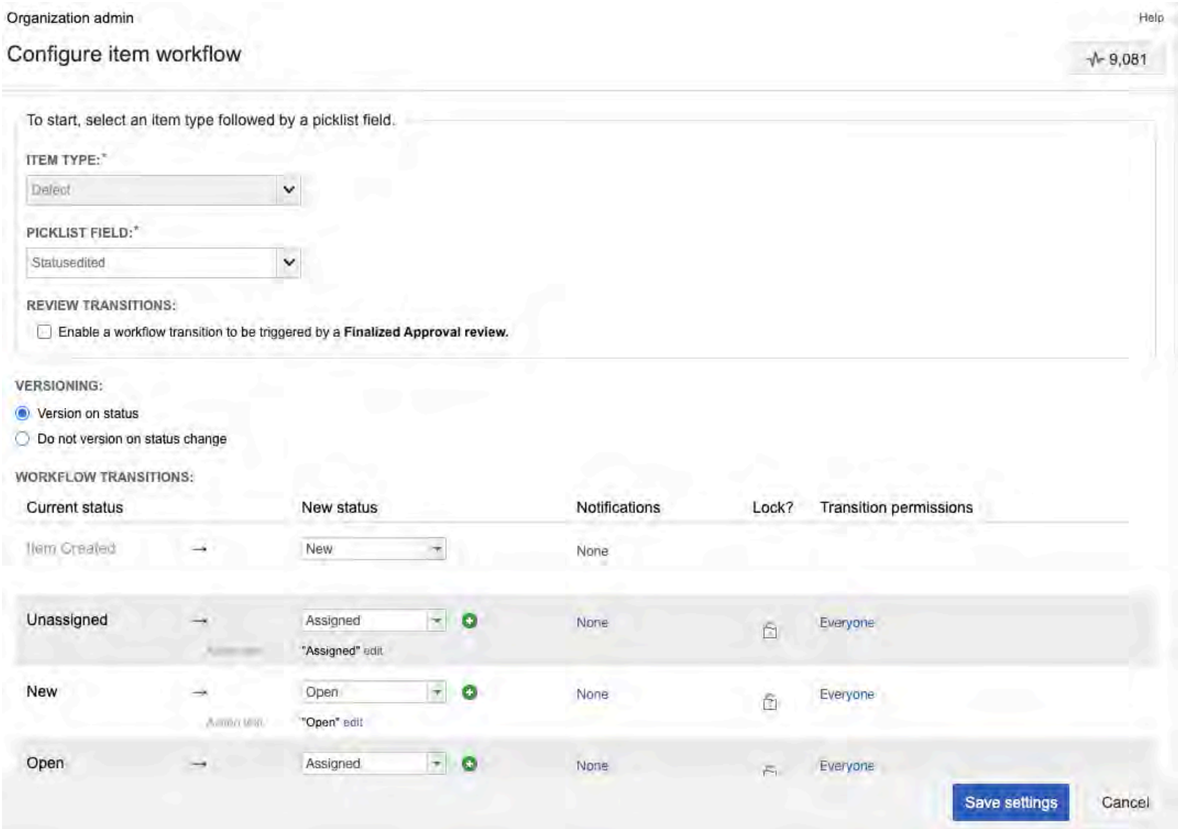
Add a new transition to a workflow

The best way to understand workflows is to start with a workflow that's included in your collection of data.

1. Select **Admin > Organization**, then select **Workflow**.



2. Find the item type you want and select **Config** in that row.
3. In the Workflow Configuration section, use the item type and picklist field options to set up and manage the transitions between statuses.
   The Current Status column shows all values for the selected picklist field; the New Status column is the option you want for the transition from that state. For example, a requirement that is a Draft can be Approved or Rejected.



4. *(Optional)* To add a transition state, select **+** and configure:
   - If users are notified of the change
   - If the item is locked when it transitions to the new state
   - Any restrictions on who can make the update
5. *(Optional)* Select **-** to remove a transition state.
6. Click **Save settings**.

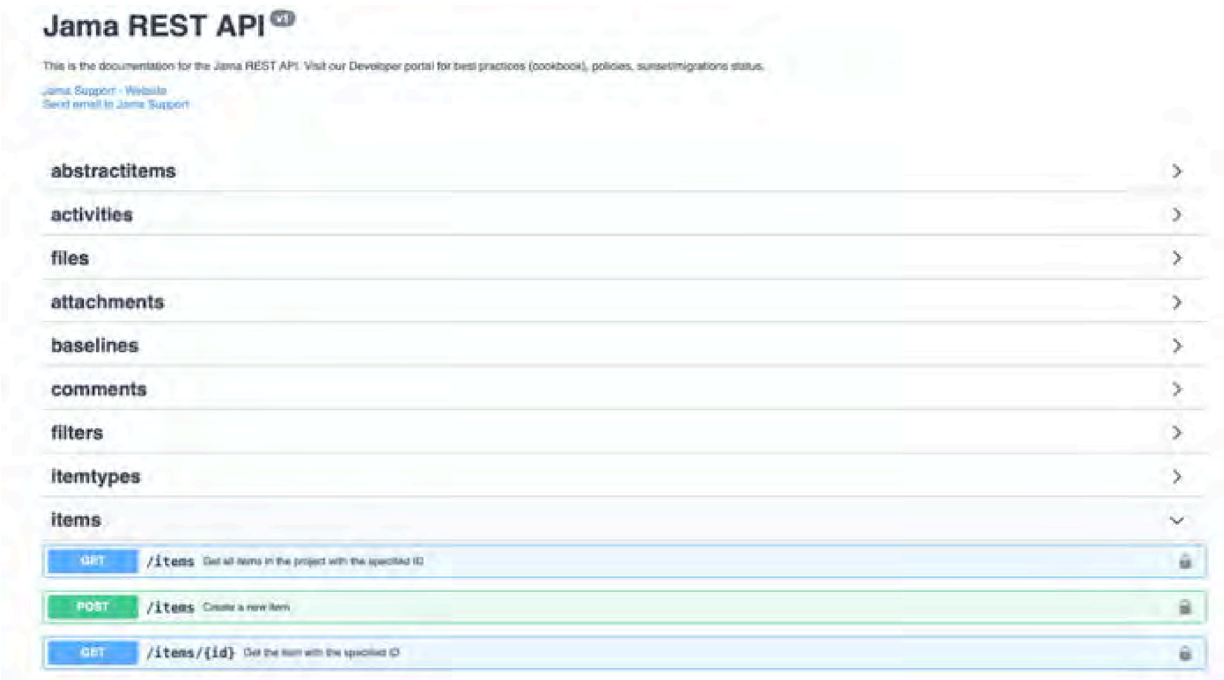
REST API and extensibility

Jama Connect offers a powerful REST API that allows your team to integrate and extend the out-of-box capabilities of Jama Connect.

Typical use cases include:

- Integrating test results from automated test scripts
- Extracting specific data for analysis in Business Intelligence tools
- Automating batch manual tasks

You can see REST API swagger documentation at **<your Jama URL>/api-docs/**



Interested in learning how to work with the Jama Connect REST API? The following resources can help you get started.

- **API Cookbook** provides recipes for users and partners creating integrations using the Jama Connect REST API: https://dev.jamasoftware.com/cookbook/
- Jama Connect REST API documentation provides information about the specifics of our API: https://rest.jamasoftware.com/

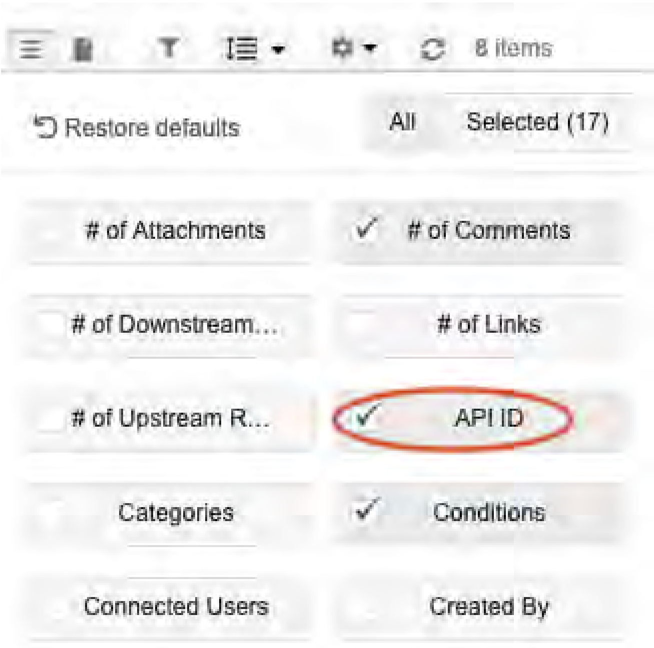
ID	Description
Project ID	Project IDs are unique to Jama Connect. Your administrator sets the default project and set keys. Example: <project key> - <set key> # <SBX-REQ-1 or SBX-TEST-3>
Global ID	Global IDs are used to reference where a requirement or test was reused globally across Jama Connect projects. The Global ID isn't unique because several copies of items might be connected that share the same Global ID. Example: GID-1234
API ID	API IDs are the database identifier for an item and is used by developers when interacting with Jama Connect from the REST API. In List View, you can locate the API ID as a column or in the browser URL for the item you're viewing in Jama Connect. Example: 21374

Find **Project** API ID in URL:

Find **Filter** API ID, navigate to the filter in Jama Connect and look at URL:

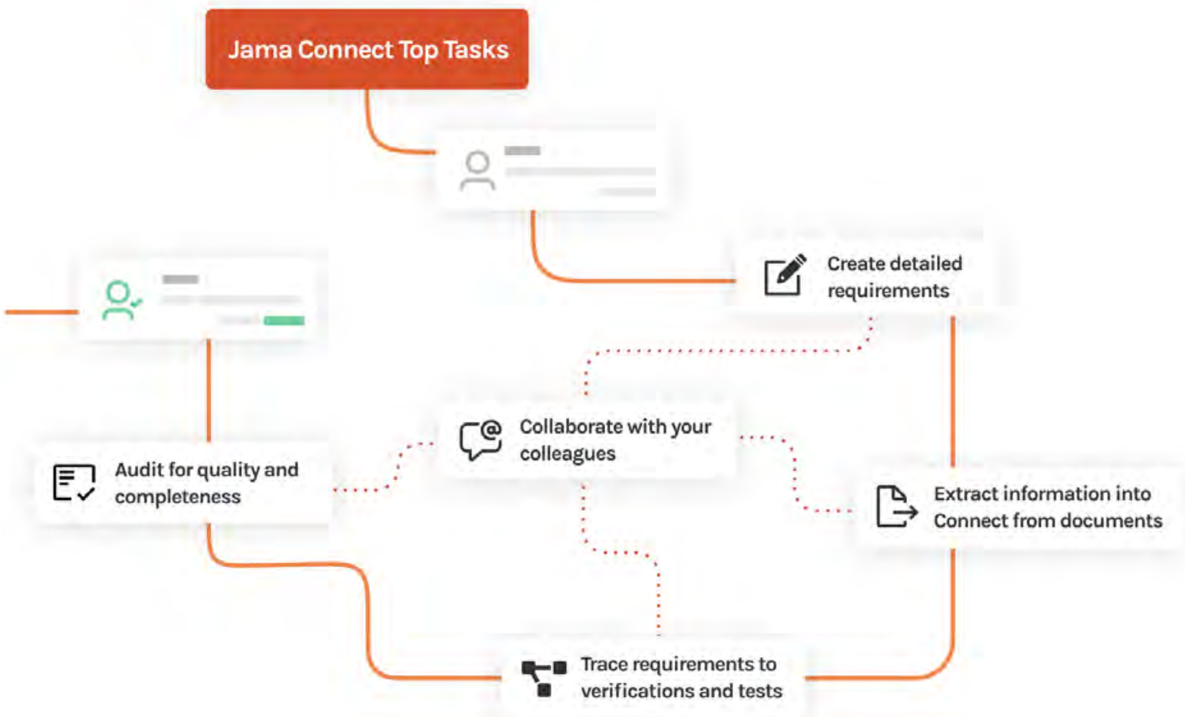
Find **Item** API IDs:

Find API IDs in List View:



Jama Connect top tasks

Want to learn more about the Jama Connect tasks that are of highest interest to our users? Based on research and feedback, we created a table with links to the top areas our users want to know about. A *top task* is a common feature that's frequently leveraged by our users.



Top task	Helpful links
Create detailed requirements	Add an item [66] Create new items
Trace requirements to verifications and tests	Traceability from requirements to test [14] Jama Connect for modern requirements management
Extract information into Jama Connect from documents	Import items [94] Import from Microsoft Word [95] Import from Microsoft Excel [104] Import from IBM DOORS [121]
Audit for quality and completeness	Item-based product development [13] Export test cases to Microsoft Excel [324] Test [316] Advanced filters [135] Dashboard [353]
Collaborate with your colleagues	Collaborating with your team [196] Reviews in Jama Connect [149] Staying connected with the Stream [203] Electronic signatures [225] Roles for review workflow [149]

Videos and top resources

Use these videos to get acquainted with Jama Connect and to access additional information and resources.

- Get started with Jama Connect
- Jama Connect Basics
- Jama Community Top Resources

Setting up your work environment

You can change the settings for your profile and workspace to suit your needs and your project work.

My Profile page

- Add a photo
- Add contact information
- Change your password
- Control subscriptions (email notifications)
- Manage settings for reviews

Workspace

- Customize the Explorer Tree
- View a group of content
- Configure fields

Editing and managing your profile

Your profile is where you change your password, view locked items, and manage subscriptions.

To manage your profile, select your name in the top right navigation to open the **My Profile** window.

To do this...	Select...
Edit your user details	**Edit settings**
Replace your default user picture	**Edit avatar**
Reset your password [37] and you're not using SSO	**Change password**
Set API credentials [38]	**Set API credentials**
Configure your item subscriptions [39]	**My subscriptions**
View your locked items [41]	**My locked items**
View and unlock system-locked items [549]	**System locked items**
Configure your review subscriptions [40]	**Review Center**

Reset your password

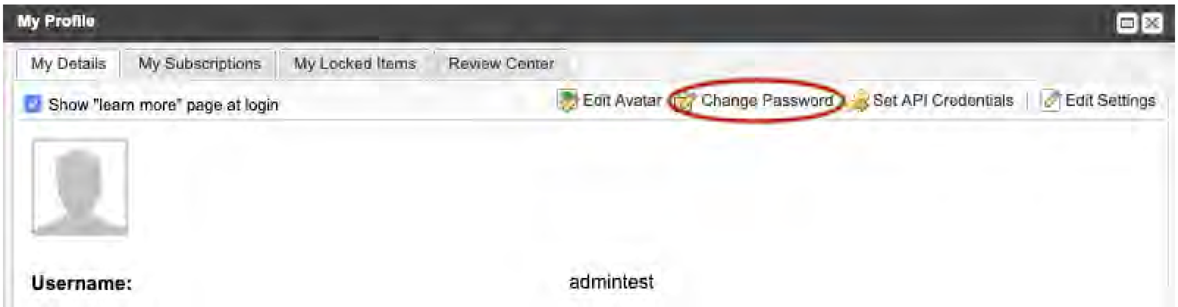
You can change your password from your **My Profile** window or reset it from the login screen.

An organization or system administrator can also reset user passwords [578].

NOTE

If your organization is using LDAP or Crowd authentication, this feature is disabled.

1. Select your name in the header to open the **My Profile** window.
2. Select **Change Password** from the options at the top of the window.



3. Enter and confirm your new password.
   Passwords must meet the strength requirements set by the system administrator [501]. To display tips about which characters are required for password strength, hover over the center of the window.
4. Select **Close**.

Set API credentials

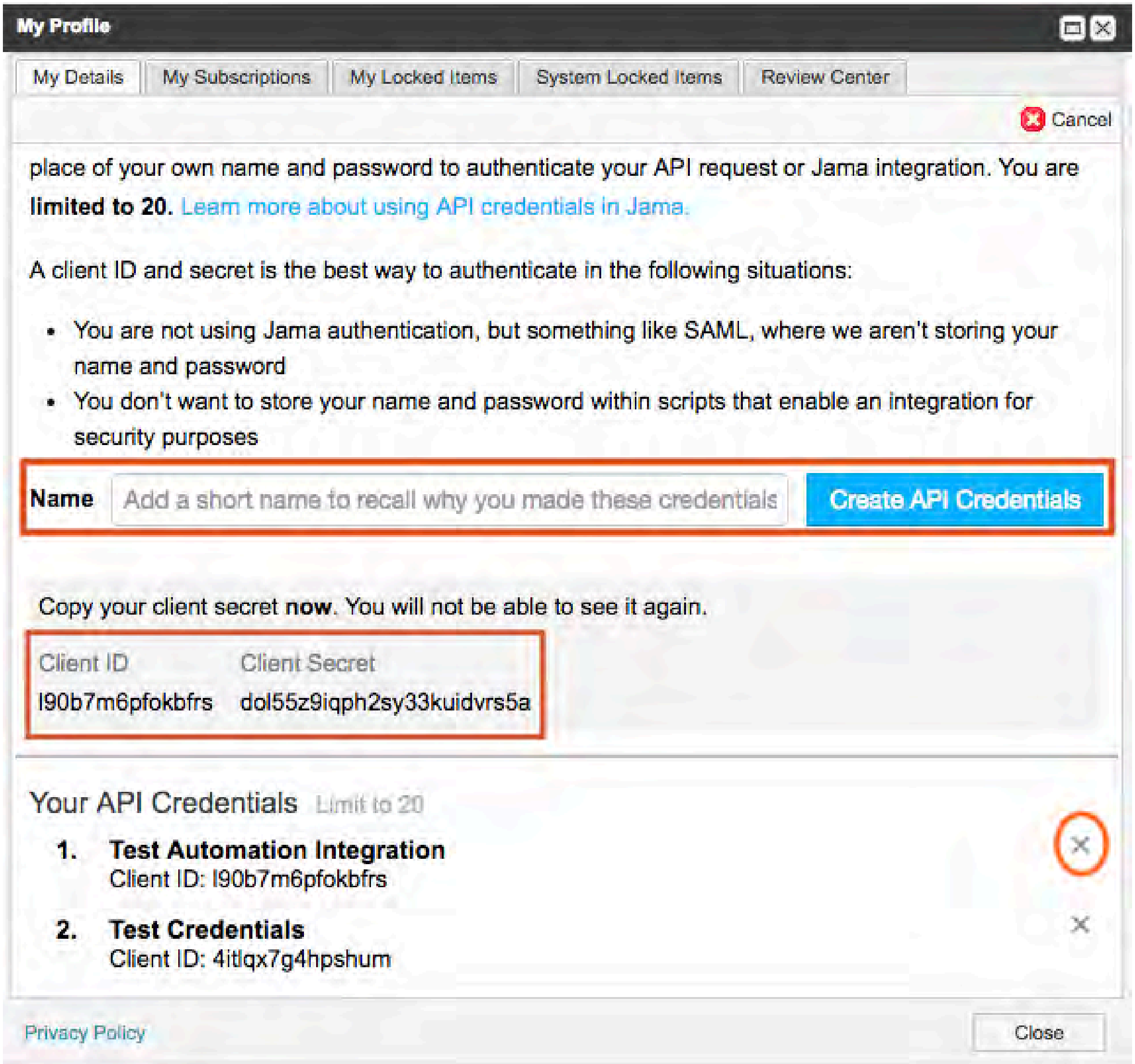
To integrate applications and scripts through the Jama Connect REST API [471], you must first generate API credentials. We currently use OAuth 2.0 authentication to generate pairs of client IDs and secrets. This method is often preferred by users and IT security groups over more basic methods that directly take usernames and passwords.

Important considerations

- To use the API in a self-hosted environment, you need basic authentication for scripts and integrations.
- API credentials like these are only used for safe authentication. User access and privileges set by your Jama Connect administrator are still enforced.
- For full instructions on how to use API credentials after you generate them, see the developer notes on authentication.
- You can make a maximum of 20 API credentials; remove the ones you don't need. To do this, select **Set API credentials** from the **My Profile** window.

To set your API credentials:

1. Select your name in the header to open the **My Profile** window.
2. Select **Set API Credentials** at the top right of the window.
3. Add a name (required) to help remember why you made these credentials and a short description (optional) that's easy to understand, like Test Automation Integration.
4. Select **Create API Credentials**. Jama Connect generates a new Client ID and Client Secret pair for you to use.



5. Copy the Client ID and Client Secret right away.

> **IMPORTANT**
> The Client Secret is displayed only once, right after you create it. Copy the Client ID and Client Secret into your application before you continue. If you don't copy them now, you must create a new Client ID and Client ID.

Configure email notifications and subscriptions

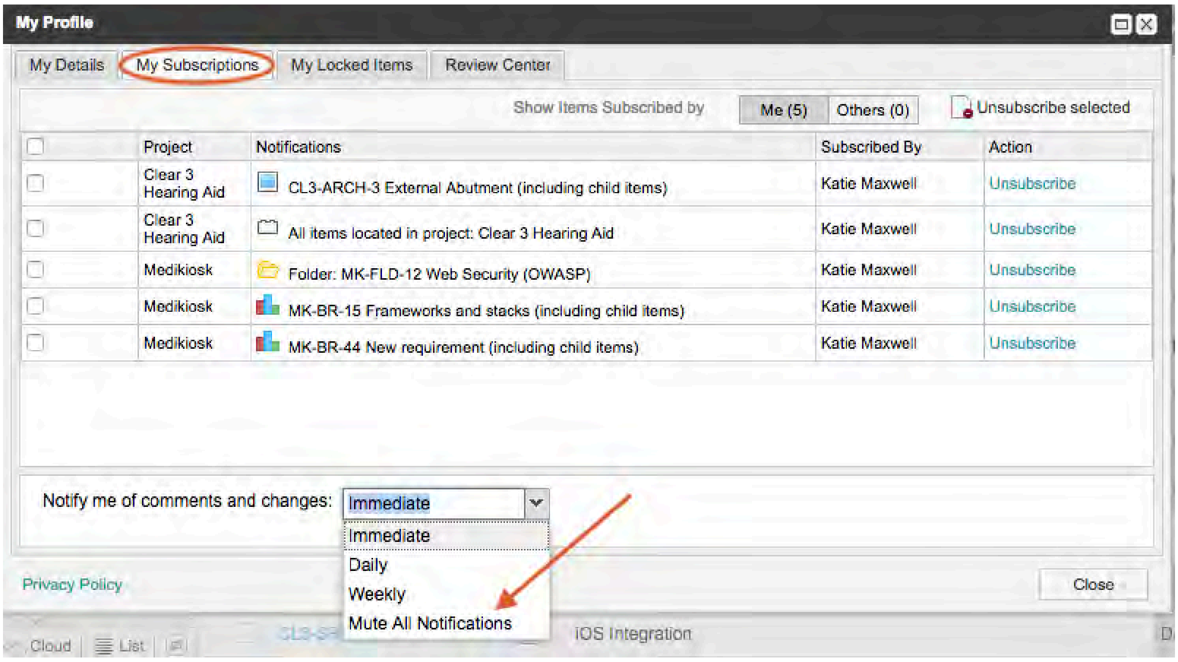
You can subscribe to email notifications [196] to stay up to date on item changes. To receive email notifications, you must configure your profile to receive them.

You can only unsubscribe to notifications that you created for yourself. If you have notifications that others subscribed you to, you can’t unsubscribe, but you can mute them.

> **NOTE**
> Muting notifications can be disabled by an organization administrator [618].

1. Select your name in the header to open the **My Profile** window.
2. Select **My Subscriptions**, then select the tab with the subscriptions you want to see:
   - **Me** — Subscriptions you created
   - **Others** — Subscriptions that others created for you

3. Define how often you want to receive notifications: use the drop-down menu at the bottom of the window.
   Default is to check for new notifications every 5 minutes.
   - **Daily** — Receive a batch of notifications in a single daily email.
   - **Weekly** — Receive a batch of notifications in a single weekly email.
   - **Mute All Notifications** — Silence all item subscription emails.

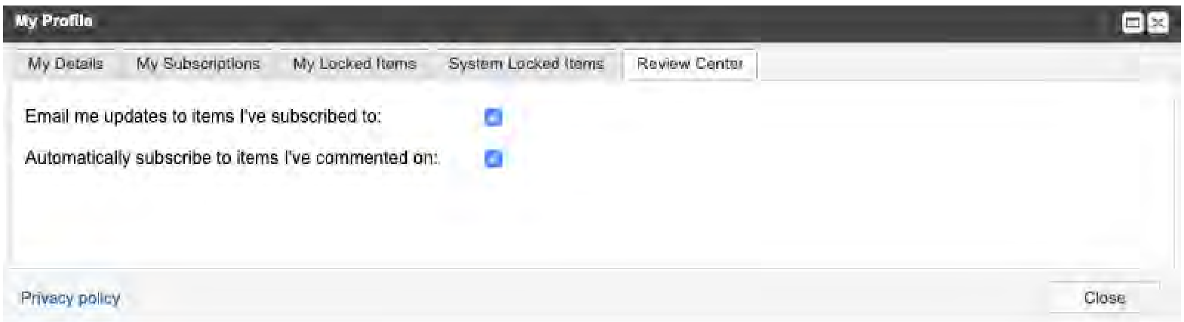


> **NOTE**
> Muting notifications only affects email subscriptions for items and not other types of email notifications [196].

Configure my review settings

You can subscribe to a review [193] to keep up to date with comments on items in the review.

1. Select your name in the header to open the **My Profile** window, then click **Review Center**.



2. Configure your settings:
   - Enable email updates from **Reviews**.
   - Automatically follow items you commented on.
3. Select **Close**.

View and unlock locked items

You don't need administrator permissions to unlock items that you locked.

Organization admins can...	Unlock other users' items [547] View and unlock system-locked items [549] across projects in Jama Connect
Project admins can...	Unlock other users' items [547] View and unlock system-locked items in projects where they are admins

TIP

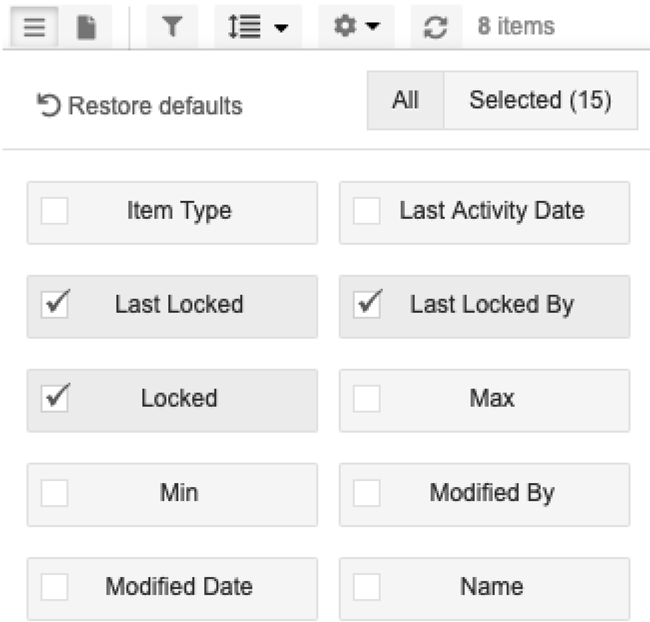
In Single Item View, you can see who locked an item when you hover over the **Edit** button.

Organization and project admins can't unlock system-locked items using the batch update workflow.

To view locked items across projects:

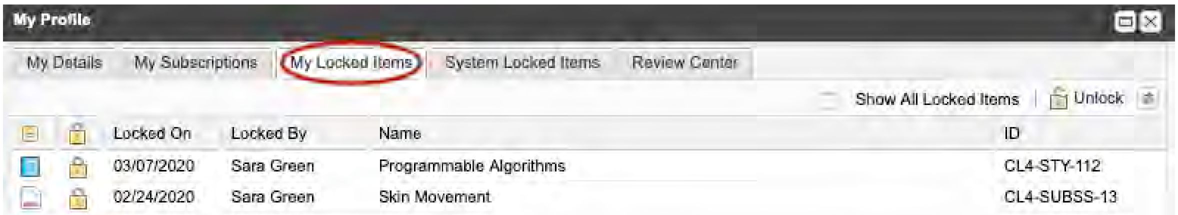
1. Select your name in the header to open the **My Profile** window.
2. Click **My Locked Items** to view a list of locked items.

3. Select the item you want to unlock, then select **Unlock** in the top right corner of the window.
   Note: Organization admins can select **Show All Locked Items**.
4. (Optional) In List View, select the gear icon, configure which fields are visible, then select **Locked**, **Last Locked By,** and **Last Locked**.



To unlock your items across projects:

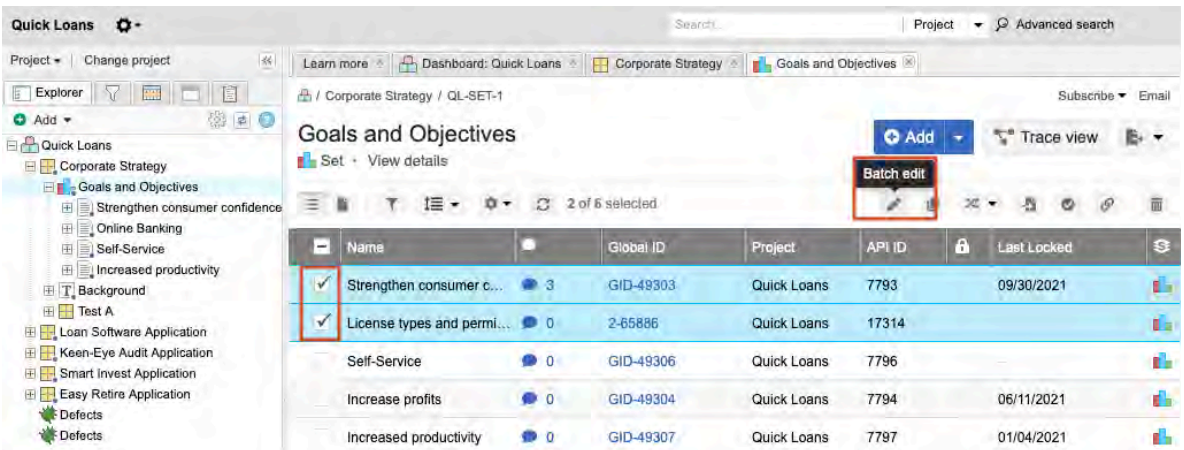
1. Select your name in the header to open the **My Profile** window.
2. Click **My Locked Items** to view a list of locked items.



3. Select the item you want to unlock, then select **Unlock** in the top right corner of the window.
4. (Optional) In List View, select the gear icon, configure which fields are visible, then select **Locked**, **Locked By,** and **Last Locked**.

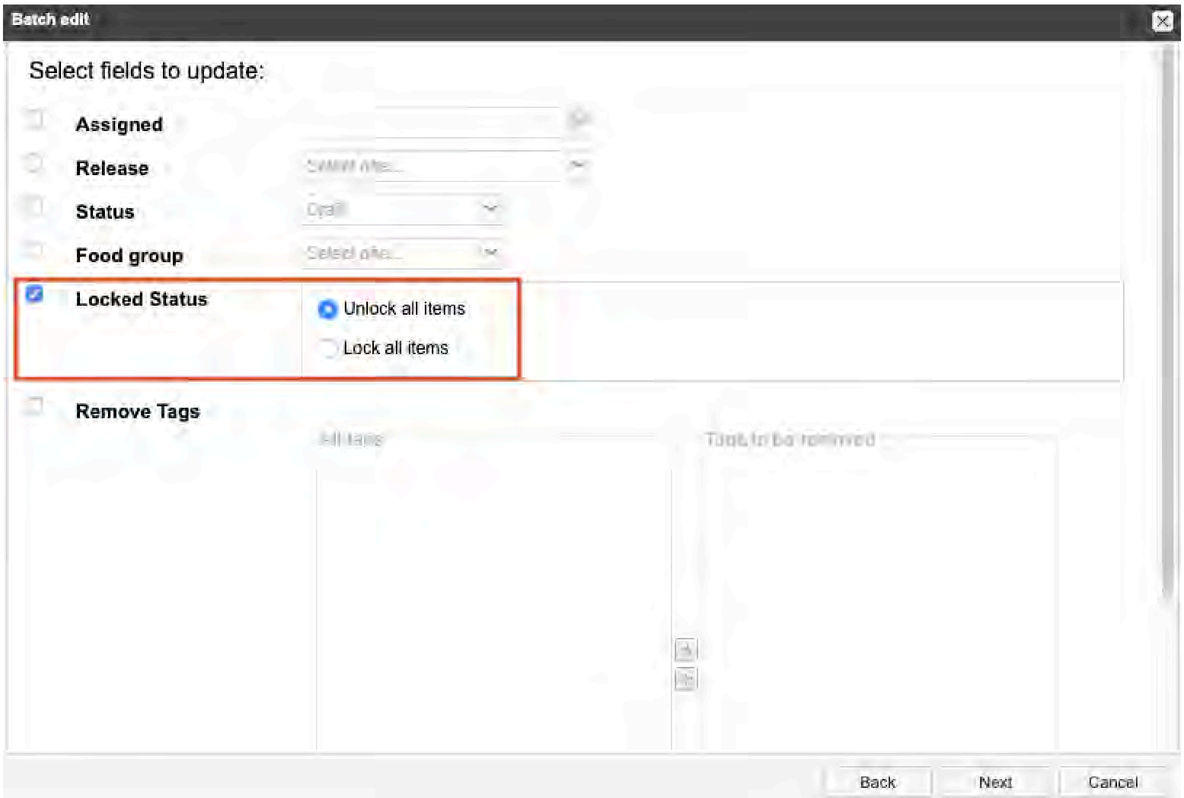
To lock or unlock items in List View:

1. In List View, select the items you want to unlock.
2. Select **Batch edit**.

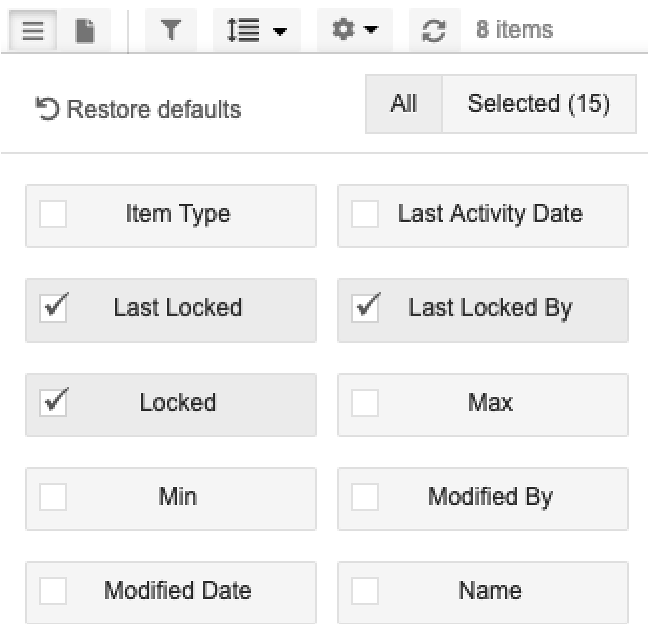


3. In the Batch update window, enable **Locked Status**, then select one of the following:
   - **Unlock all items**

- **Lock all items**



4. Click **Next**, comment and notify users as needed, then select **Commit**.
5. (Optional) In List View, select the gear icon, configure which fields are visible, then select **Locked**, **Locked By**, and **Last Locked**.



The new columns and results appear in the table.

Adding and deleting bookmarks

Bookmarks are links to content you view frequently and are displayed at the top of your homepage.

NOTE

You can use your browser's bookmarks or favorites feature to bookmark any view in Jama Connect.

Bookmarks remain at the top of the homepage, sorted by most recently viewed. Projects, components, folders, sets, filters, risk analyses, and Trace Views can be bookmarked for future reference.

You can add bookmarks in two different ways:

- **Bookmark recently viewed content on the homepage** — When you view a particular folder, set, component, or project it will appear in the **Recently viewed** list on your homepage. Select the empty bookmark icon for the content you want to bookmark. The bookmark icon changes to a solid icon and the content appears under the **Bookmarks** and **Recently viewed** sections.
- **Bookmark Trace Views** — When viewing a Trace View that you want to bookmark, you first save the Trace View [256], then select the bookmark icon at the top of the page. Trace View is now bookmarked on your homepage.
  To remove a bookmark, select the solid bookmark icon in the bookmarks list on the homepage. The content you remove appears at the top of the section.

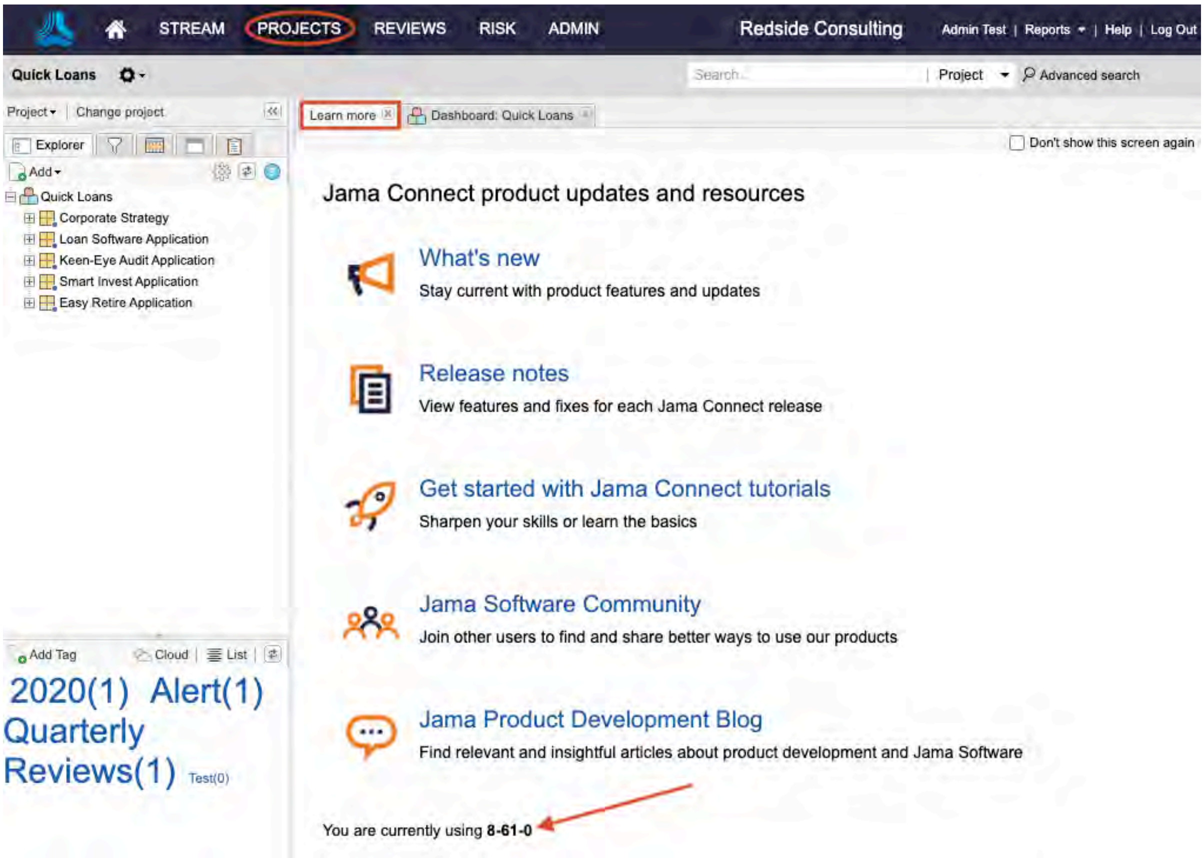
NOTE

You can also bookmark risk analyses [416]. These are visible for organizations with risk management licensing, and appear when you select **Risk** in the header.

Learn more

Here are some ways to learn more about the application:

- Select **Projects > Learn more** to see a list of in-depth resources about Jama Connect.



- You can see which version of Jama Connect you're using at the bottom of the page or from the login page if you're using the default authentication.
- View a glossary [668] of Jama Connect specific terms.
- Look for **Learn more** or the question mark icon throughout the application. You can also select **Help** in the top right corner to open the *Jama Connect User Guide* in a new tab.

Getting familiar with the Jama Connect interface

The Jama Connect interface is where you work with and manage your projects. It is made up of several distinct areas, each with its own purpose.

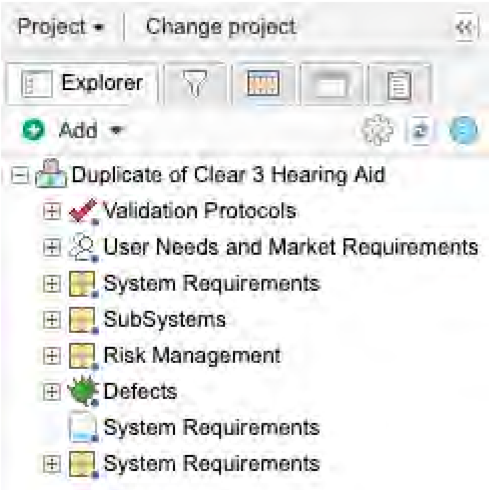
The information in *Get started* introduces you to the interface. This chapter takes a more detailed look with descriptions of toolbars and panes in the interface. It also includes instructions for customizing the Explorer Tree and configuring how you view your projects.

Explorer Tree

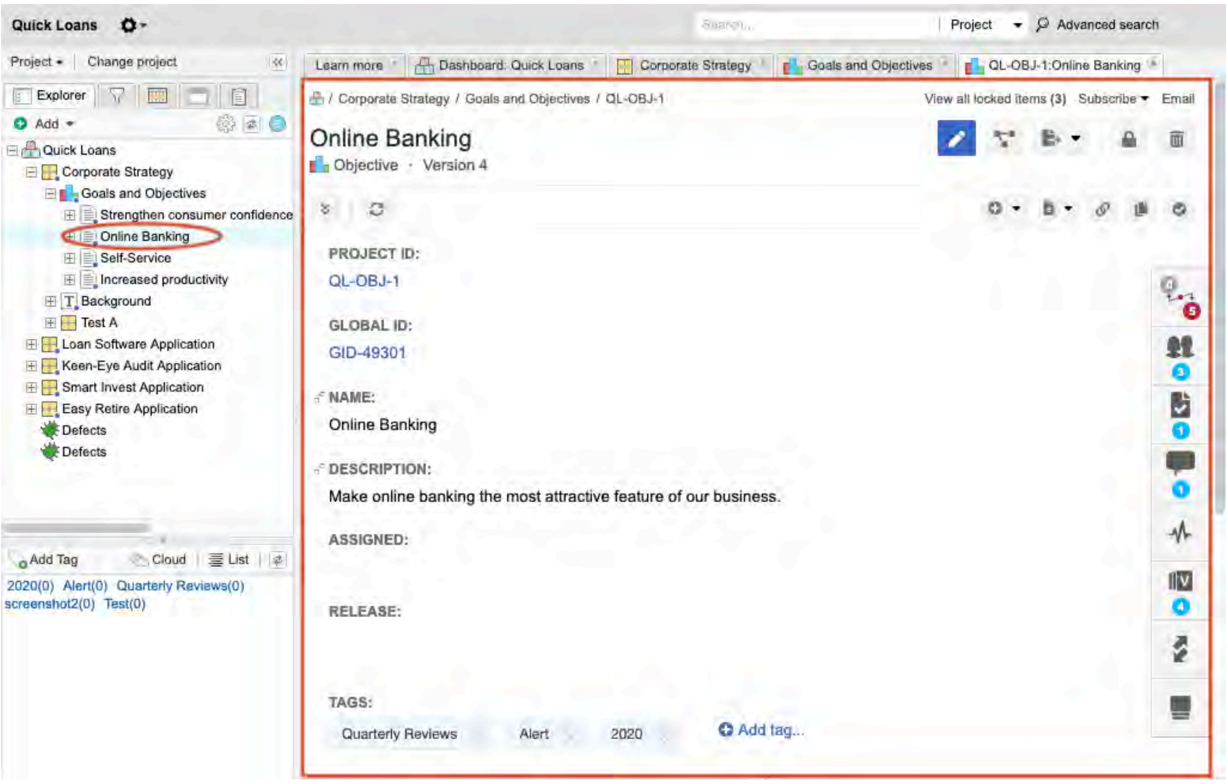
The Explorer Tree organizes the sets, components, folders, and items in your project.

How it works

You can drag and drop items between the Explorer Tree and List View [51] to move items [79] and organize your project. You can also configure settings [47] so that the Explorer Tree displays information that's most useful to you.



Jama Connect arranges content by component, set, and folder. Select one to view its content.



For more information about how to use the Explorer Tree:

- Find an item in the Explorer Tree [147]
- Filter the Explorer Tree [139]
- Move items in the Explorer Tree [79]

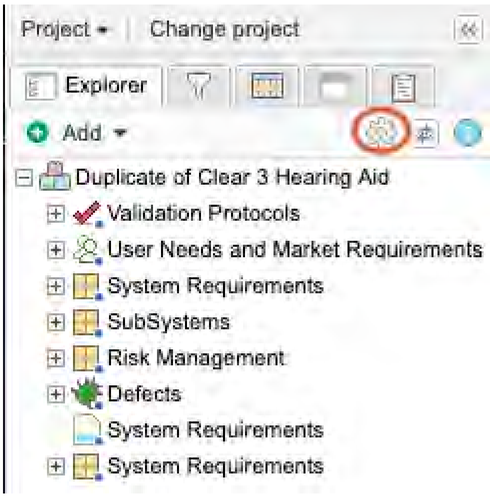
Tips and more

- When working with a large number of items — more than 250 items per folder — work with them in List View instead of the Explorer Tree.
- To move multiple items, you can multi-select in the List View and drag them to their new location in the Explorer Tree.

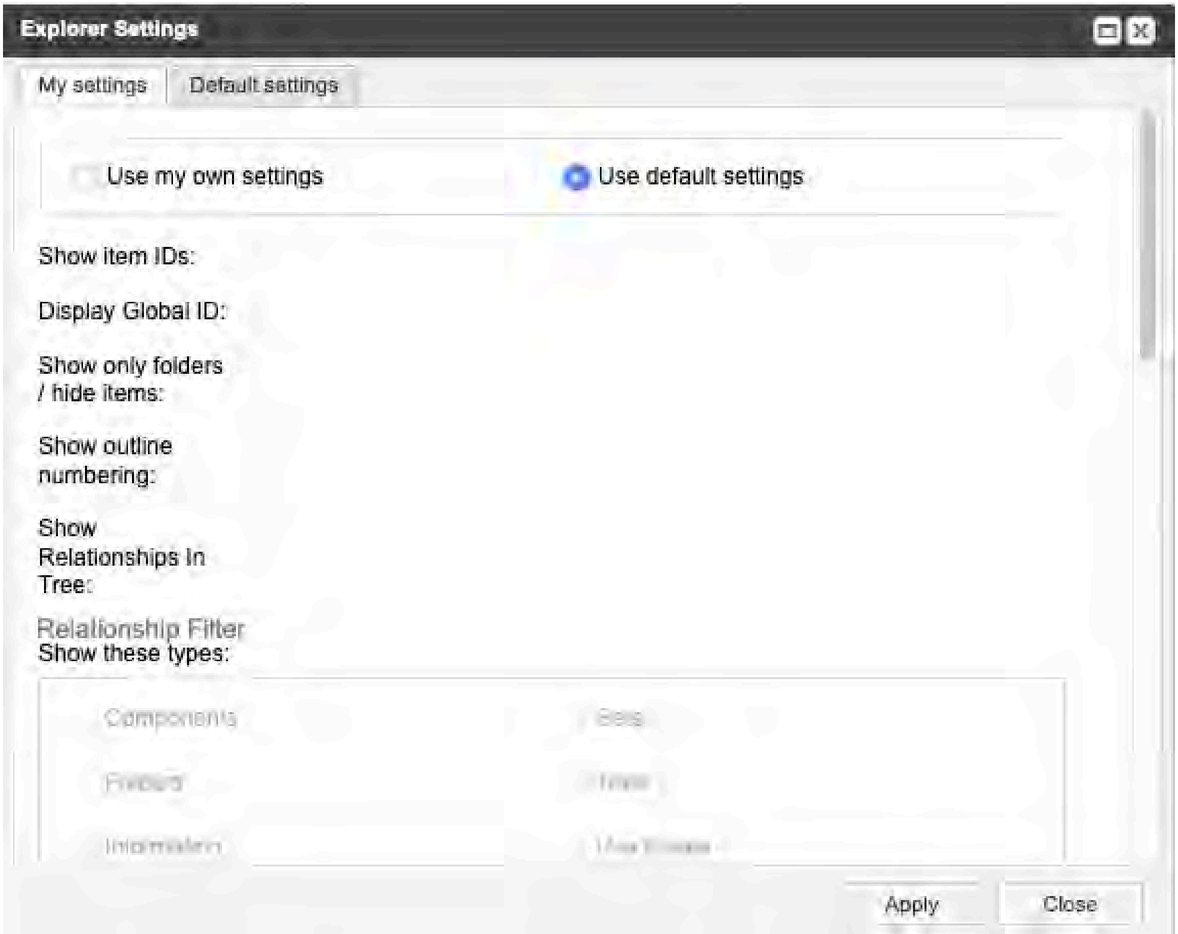
Customize the Explorer Tree

The Explorer Tree organizes the sets, components, folders and items in your project hierarchy. You can configure the Explorer Tree settings so that it displays only information that's useful to you.

1. Select the **gear icon** at the top of the Explorer Tree to open the **Explorer Settings** window.

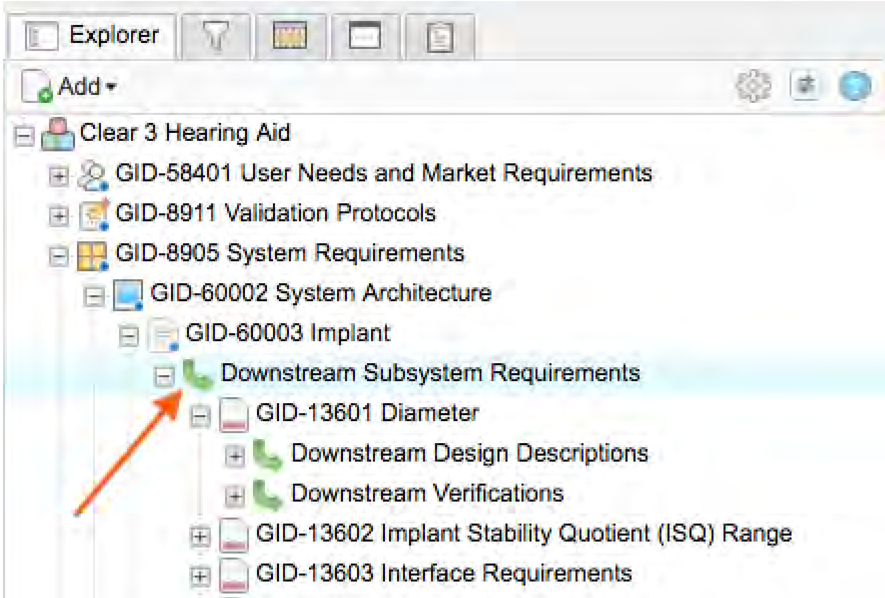


2. In the **My Settings** tab, select the changes you want:



- **Use my own settings** — Overrides the default Explorer Tree settings with your personal settings.
- **Use default settings** — Returns the Explorer Tree to the default settings. An organization or project administrator can configure default Explorer Tree settings [636].
- **Show item IDs** — Displays the unique ID [637] (as in PROJ-REQ-25) before each item.

- **Display global ID** — Displays the global ID (as in GID-8845) before each item. This can be helpful if the item is copied and synchronized.
- **Show only folders / hide items** — Hides items from view in the Explorer Tree. Components, set, and folders are still displayed. This can improve performance when your project has a large number of items.
- **Show outline numbering** — Displays a number scheme of order and depth in the Explorer Tree. Root level items have numbers like 1, 2 or 3. Child items contain the parent item number as well as its own number, like 1.1, 1.2 or 1.1.5.
- **Show relationships in Explorer Tree** — Displays downstream relationships of items in the Explorer Tree. Select the green downstream arrow to open the related items in List View.



> ⚠ **CAUTION**
> Be careful not to relate an item back to itself. You can create an infinite loop that causes the Explorer Tree to expand. To avoid this, don't relate items in a way that creates an infinite loop.

3. Select **Apply**. When you're satisfied with changes, select **Close**.

Tools for viewing and controlling content

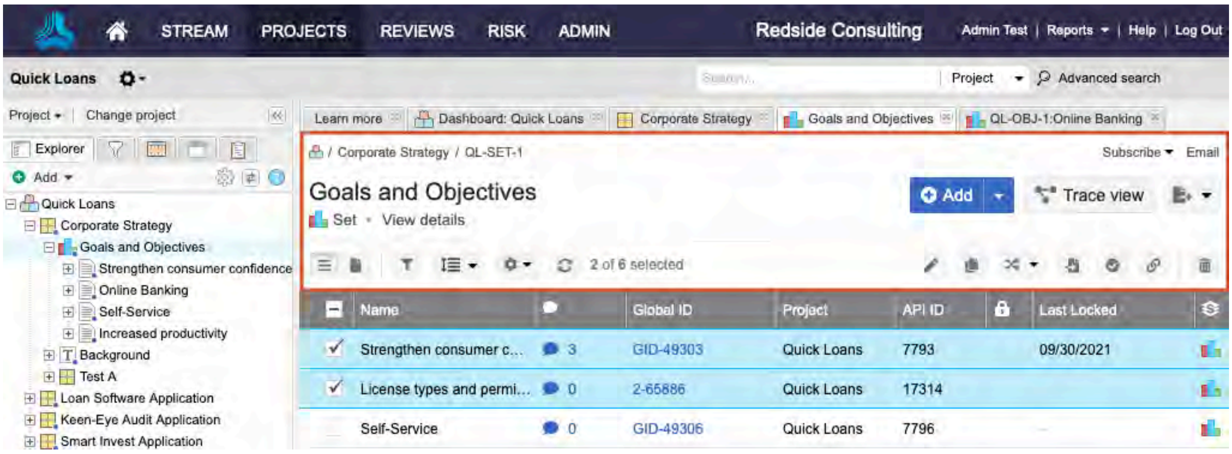
With Jama Connect, you can look at and control your content according to the type of work you need to do.

- Toolbar [48] — Provides different methods to control and view your content.
- List View [51] — Shows data from multiple items in a table with a different field in each column.
- Reading View [52] — Shows text and images for a group of items so you can read through selected items like a document.
- Trace View [52] — Shows related upstream and downstream items, missing relationships, and item details in context of their relationship.

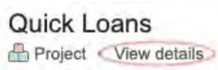
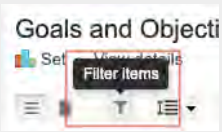
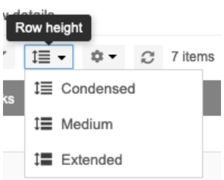
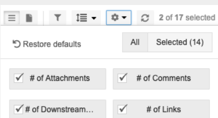
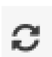
You can also customize fields [54] that control how you view your projects.

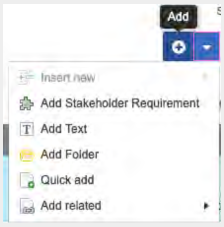
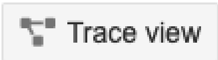
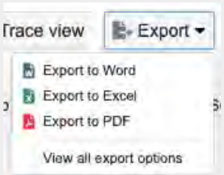
Toolbar

The toolbar is located in the center of the workspace. The tools allow you ways to control and view your content.



Toolbar options vary slightly depending on your location in the application.

Select...	To...
View details 	See the details of a component, set, folder, or a project overview.
List View 	Show data from multiple items in a table with a different field in each column. You can sort, select, and compare items at a glance. For more information, see List View [51].
Reading View 	Show text and images for a group of items, which allows you to read through selected items like a document. For more information, see Reading View [52].
Filter items 	Open the filter panel and filter the items you want to see. A filter limits the group of items or comments by content, like author, keyword, date, or coverage.
Row height 	In List View, manually adjust the height of the rows. If you select **Extended**, rows are formatted to wrap text.
Gear icon (show/hide fields) 	Configure which fields appear for each item in Reading View, List View, or Trace View. For more information, see Configure fields [54].
Refresh 	Refresh the list of results and recent changes from other users.

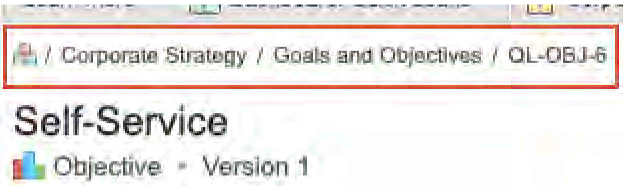
Select...	To...
Add 	Add items, folders, sets, and components.
Trace View 	Show related upstream and downstream items, missing relationships, and item details in context of their relationship. For more information, see Trace View [52].
Export 	Export your data to Word, Excel, PDF, or use one of the Office Templates.
Batch edit 	Update picklist fields and tags for multiple items at a time.
Reuse 	Reuse [279] when your projects contain items that are the same or similar.
Convert to 	Change an existing item or items from one type to another.
Batch transition 	Select multiple items of the same item type and transition them to a different workflow status.
Send for review 	Send specific items for review. **Note**: The maximum number of items you can **Send for review** is 500.
Relate to existing 	Relate two existing items of the same item type.

List View

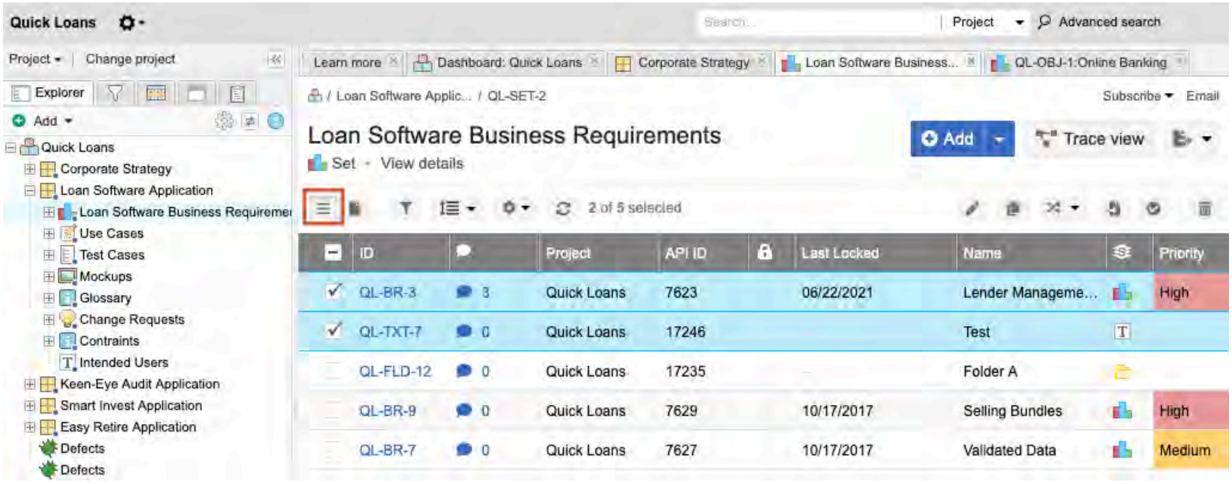
In List View, you can configure which fields appear as table columns. The table is dynamic — you can sort, select, drag and drop, and reorder columns.

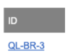
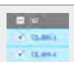
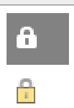
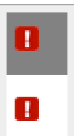
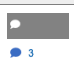
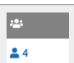
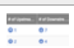
Tips and more

- If your organization has a risk management license, you can also configure this view [54] to see risks in List View [423].
- To reorganize columns, select the column header and drag it to the new location.
- To choose which fields you see in the table, you can configure fields [54].
- Use the interactive links (breadcrumb navigation) to find your way around and view the location of your project hierarchy.



- To sort items, select the column header.

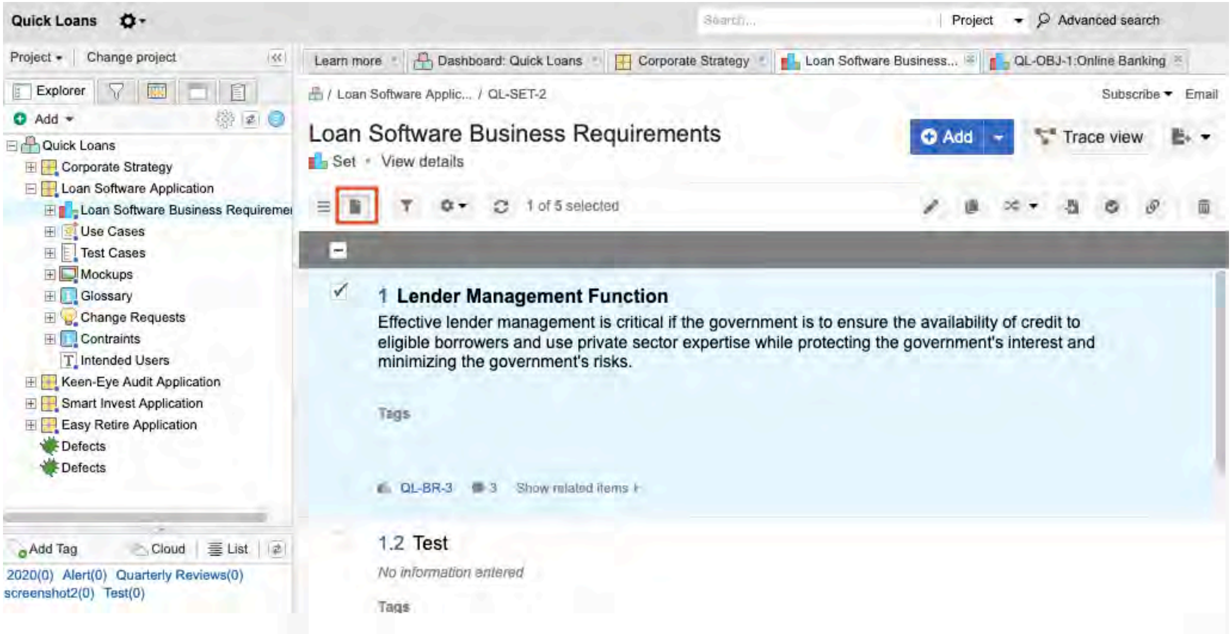


	View information about an item.
	Move [79] items in a project.
	View locked items [41].
	View how many relationships an item has, as well as whether those relationships meet the project's relationship rules. For more information, see Relationship Status Indicator [269].
	View and add comments [210].
	View and add connected users [224].
	View related items (the relationship between two items). For more information, see Add a relationship from Single Item View [260].

Reading View

Reading View shows text and images for a group of items so you can read through selected items like a document.

You can use Reading View in both Projects and Reviews. Click **Reading View** on the toolbar at the top of the center panel.

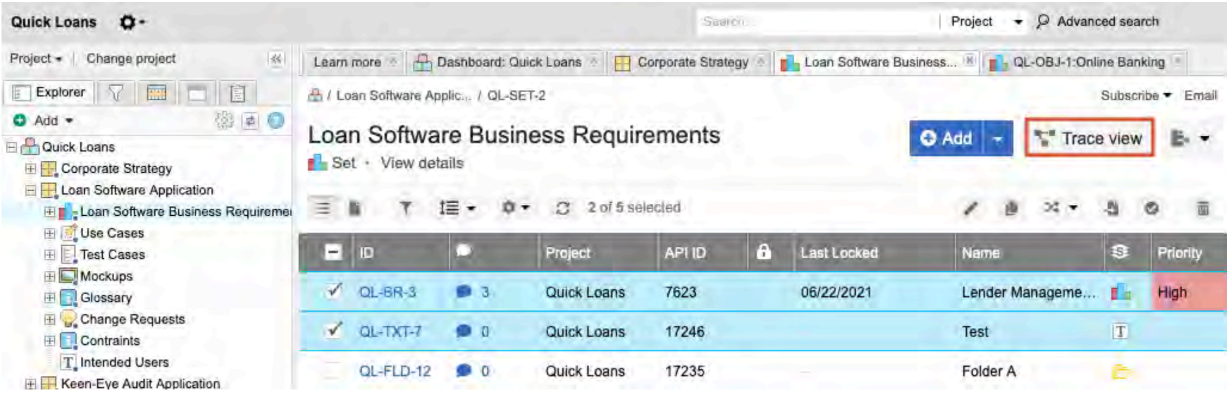


From **Projects > Reading View** you can:

- View images
- Select individual or multiple items
- Open items
- View hierarchy with numbering
- Drag items to the Explorer Tree to reorder (as long as item type allows it)
- Add comments and view connected users
- Configure fields [54]
- View related items
- Export hierarchical content from an advanced filter [140]
- If your organization has a risk management license, you can also configure this view [54] to see risks in Reading View [423]

Trace View

Trace view shows related upstream and downstream items, missing relationships, and item details in context of their relationship.

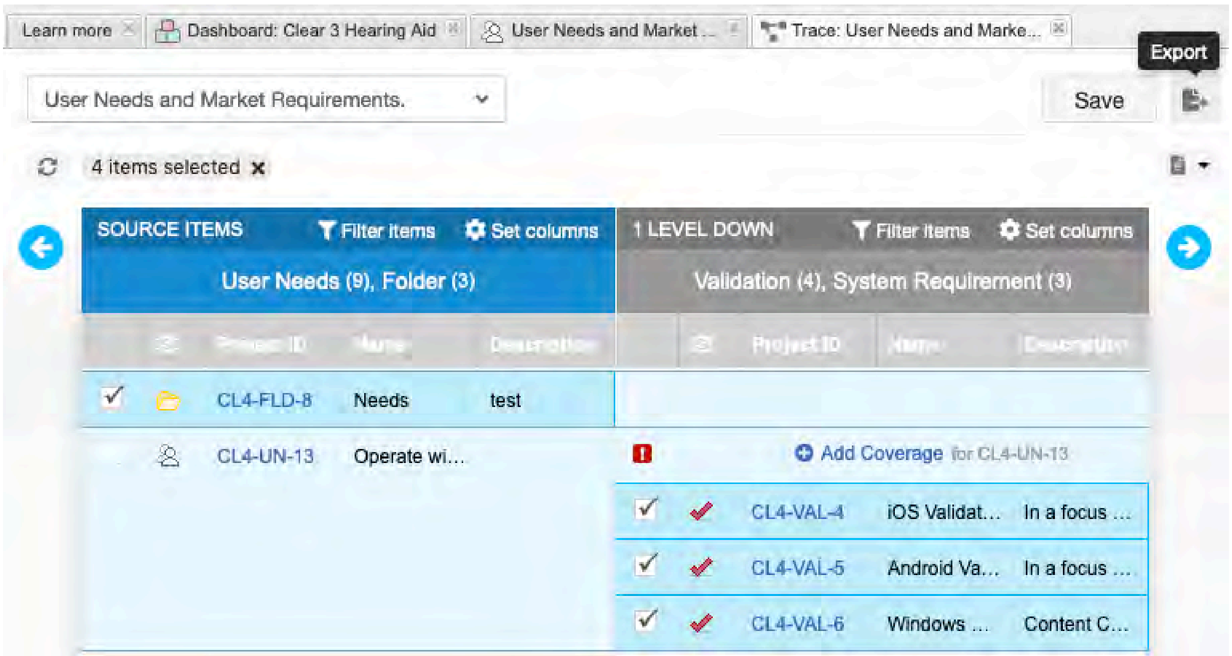


When you select **Trace View**, the items you selected in List View are displayed in the **Source** column. Related items downstream from the source are displayed to the right. Items upstream from the source are displayed to the left. Use the blue arrow buttons on either side of the screen to travel up or downstream.

The top of each level column shows a count of the item types found on the entire level.

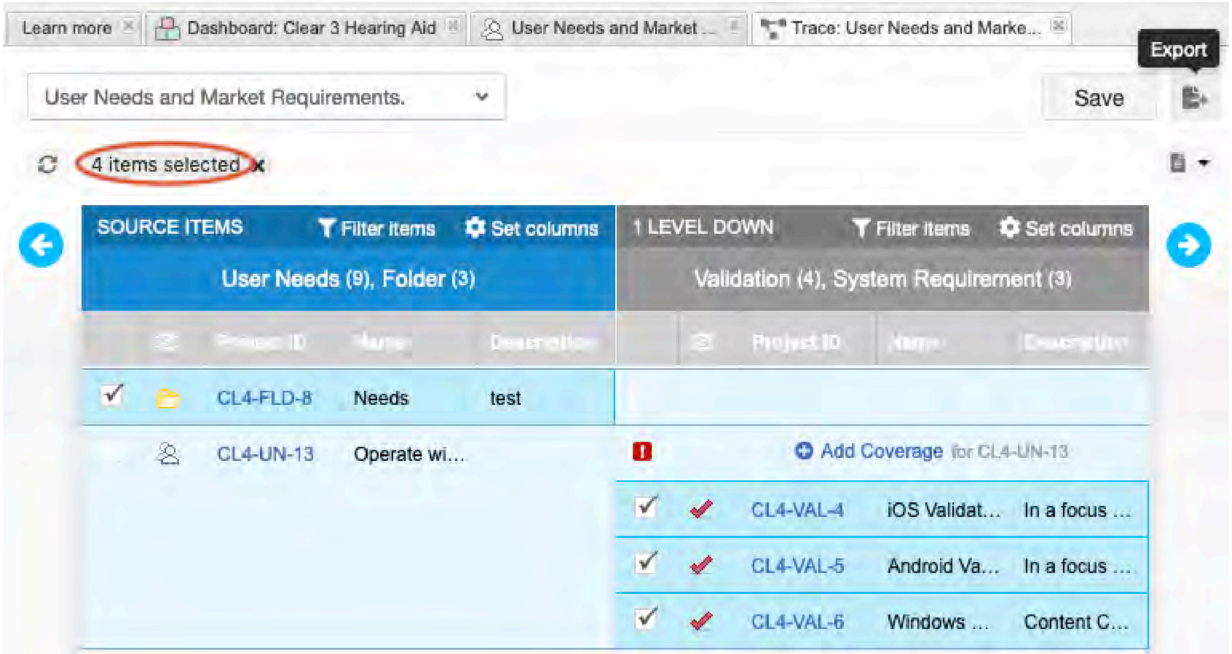
NOTE

The item count is a unique count. If the same item is downstream of multiple items in the source column, it appears multiple times in the "1 level down" column, but it's counted only once.



Select an item in the source column to highlight its specific upstream and downstream relationships. You can select multiple items using the checkboxes. Selections remain highlighted as you navigate. Select **X** to clear your selections.

Select **Set columns** at the top of each trace level to turn fields on or off [54] for items in that level.



Use Trace View to find missing coverage and use the Add menu in the toolbar to add items directly from this view.

You can also filter Trace View [258] or use Trace View to save a view [256] or export the content [257].

You can also use the Trace View to see validation and verification testing results. If a test case is visible in Trace View, you also see the related test runs. No manual creation of relationships is required; Trace View infers the relationship between test cases and runs and once a test cycle is created.

If your organization has a risk management license, you can also configure this view [54] to see risks in Trace View. [423]

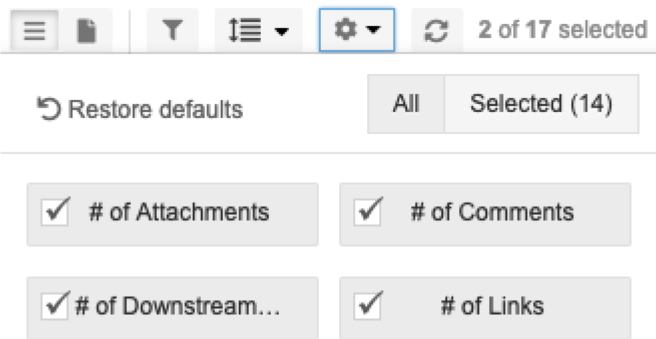
Configure fields

Choose which fields you see for each item in Projects Reading View, List View, or Trace View.

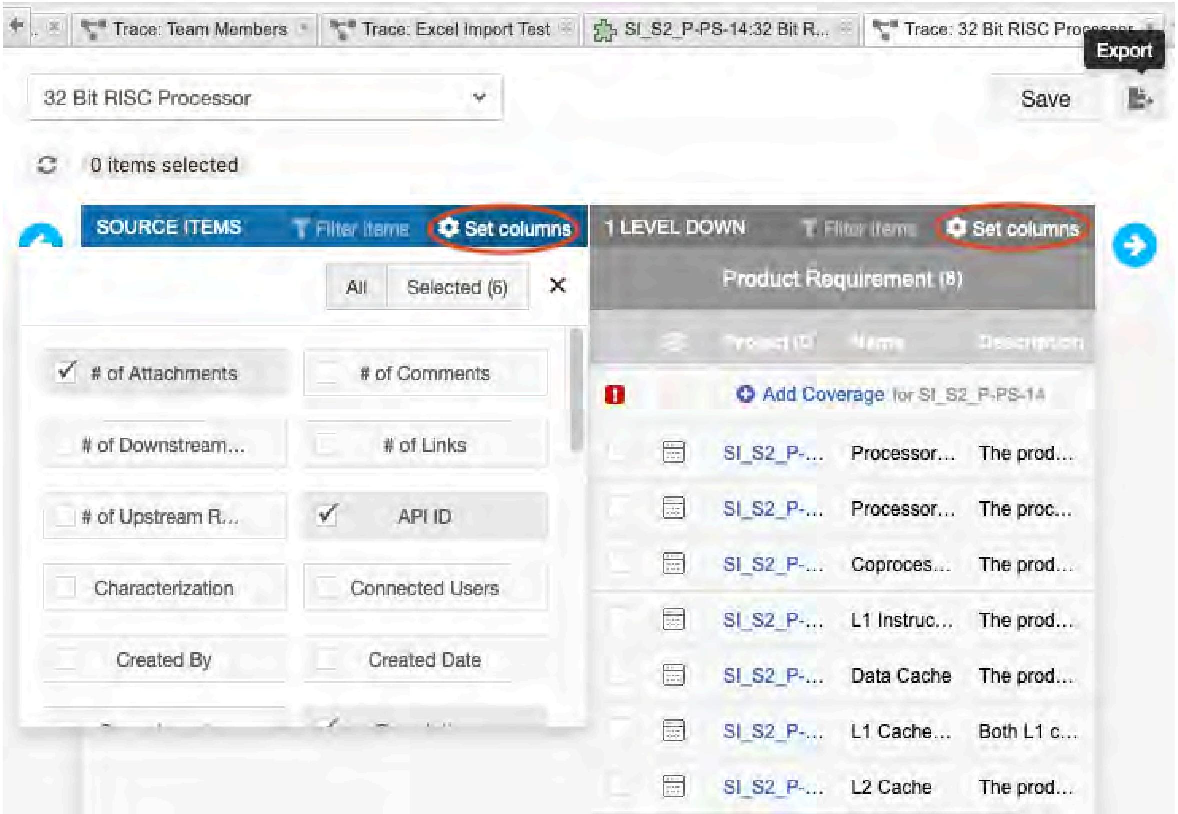
Tips and more

- All users see the **Risk** field as an option. However, risk analyses function only if you purchased additional licensing.
- You can also configure your Compare View for synchronized items [296] or your List View for baselines [247].

1. Select the **gear icon (show/hide fields)** in the toolbar [48].



In Trace View you can configure fields for each level independently.



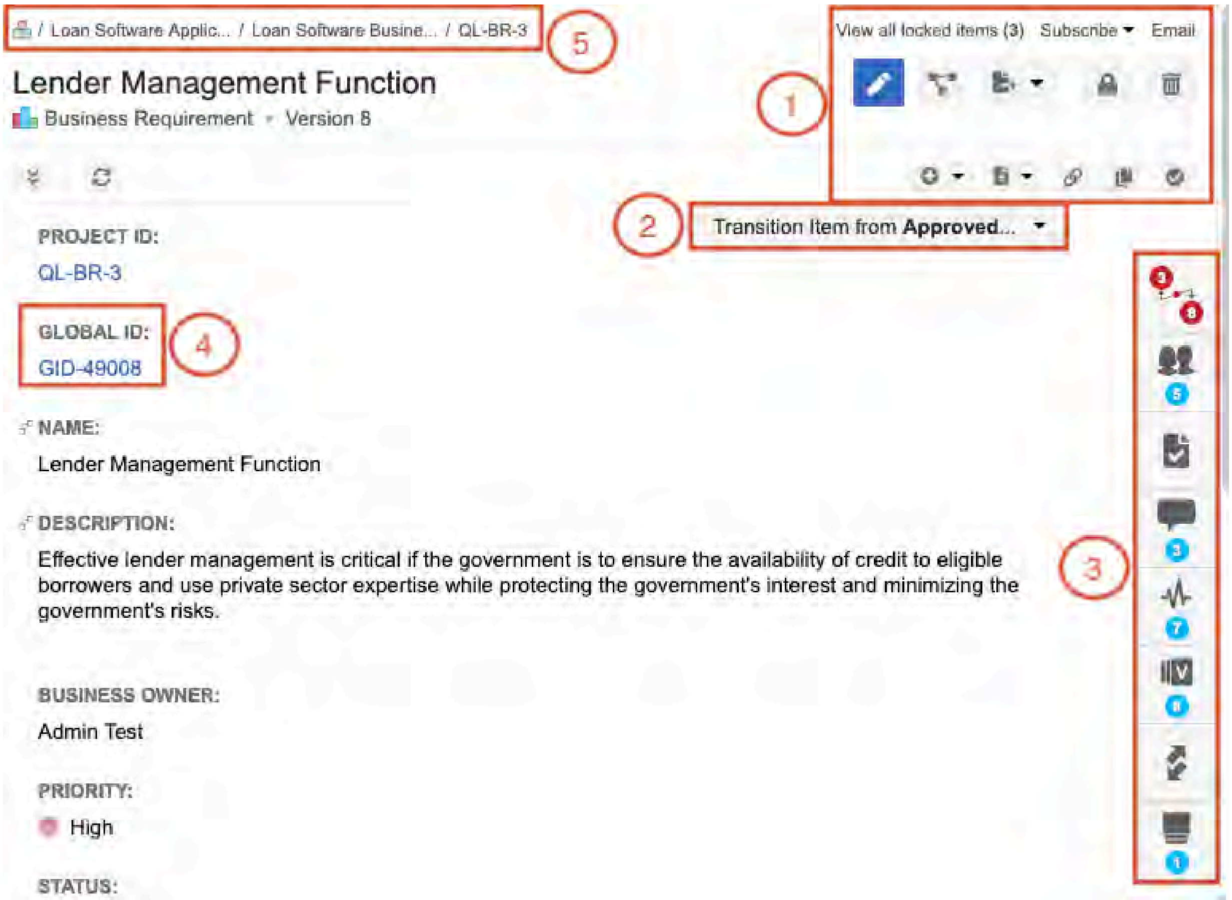
2. In the drop-down list, select the fields you want to see. Reading View remembers user selections for a particular location so they appear across sessions.
3. Close the window.

The table displays your changes.

Single Item View

In Single Item View, you can view specific details about an item. For example, an item's ID, Name, Description, and Status. This view always shows all the fields the item type is configured to include by your admin.

You can also edit the item [70] and use widgets [56] to access different areas of Jama Connect.

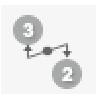
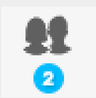


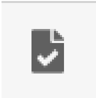
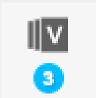
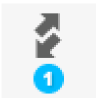
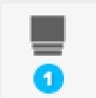
Here's a high-level overview of some of the features Single Item View offers:

1. Top right toolbar [48]
2. Projects workflow [198]
3. Side toolbar [56]
4. Global ID [278]
5. Breadcrumb navigation (formerly called "Find me") helps you find your way around and indicates the location in your project hierarchy.

Side toolbar

The Side toolbar appears on the right side in Single Item View. The widgets are buttons that give you access to different features of Jama Connect. Widgets can be configured by an organization administrator configured by an organization administrator [593].

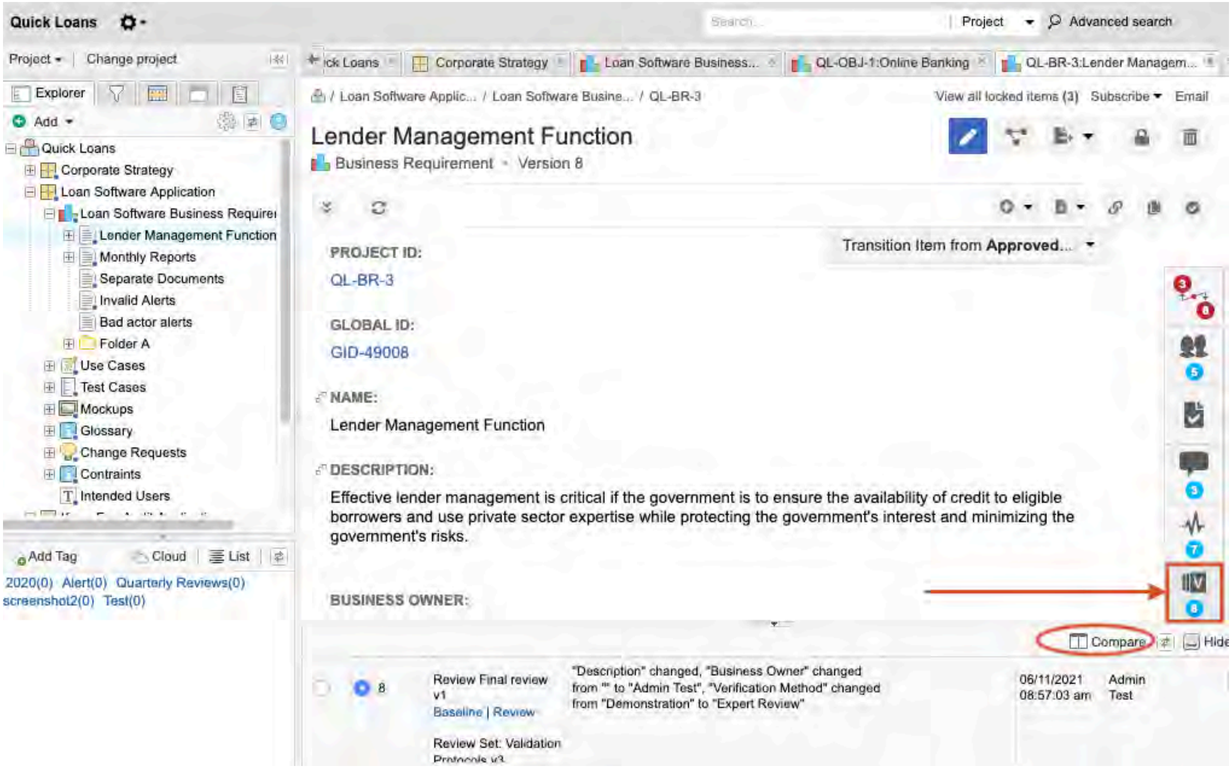
Select...	To...
Relationship Status Indicator 	Open the bottom panel where you can see the required relationships for this item and whether the item follows the project's relationship rules. Suspect relationships [270] are also flagged.
Connected users 	Opens a window that displays the users directly associated with the item as well as indirectly associated with related or traced items. The number displayed is the number of connected users.

Select...	To...
Review comments 	Opens and closes the bottom panel of review comments [178] related to this item. The number displayed is the total number of comments for this item.
Comments 	Opens and closes the bottom panel of comments [210] related to this item. The number displayed is the total number of comments for this item.
Activities 	Opens and closes the bottom panel display of activities [209] related to this item.
Versions 	Opens and closes the bottom panel of item versions [230]. The number displayed is the total number of versions for this item.
Synchronized items 	Opens and closes the bottom panel of synchronized items [288].
Child items 	Opens and closes the bottom panel with a list view of child items [69]. Appears only if the selected items has child items.
Items to be changed 	Opens and closes the bottom panel with a list of change requests [232] that might affect this item.

Compare View

Compare View shows side-by-side content so you can compare differences between different item versions.

To open compare view, select the Version widget in the side toolbar.



Compare View is used in these areas of Jama Connect:

- Compare versions of reviews [187]
- Compare synchronized items [293]
- Compare item versions [231]

Creating content

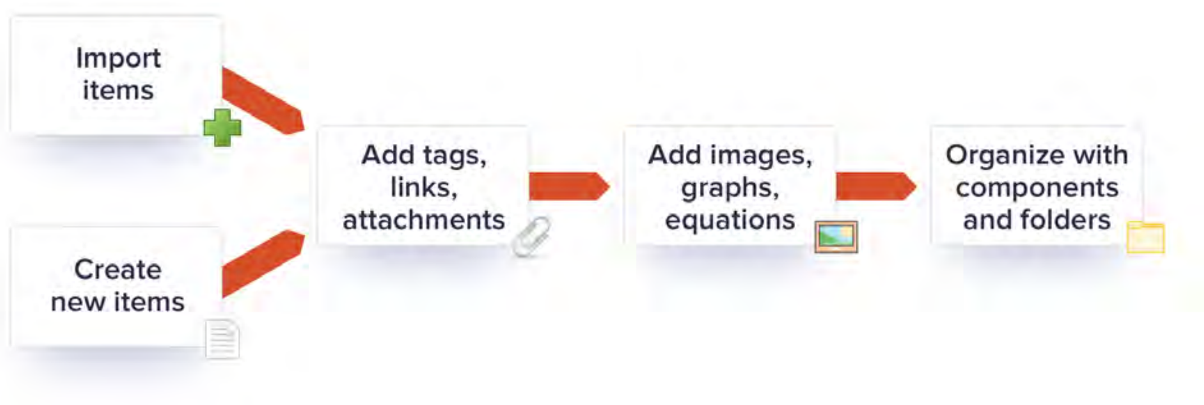
Content in Jama Connect is structured using an *item-based approach* rather than a document-based approach. Items are the major building blocks for your content and Jama Connect includes several item types.

Item type: Containers		
	Components	• Structural container • Organize projects into manageable pieces
	Sets	• Structural container • Access rights can be configured • Items of the same type can be grouped • Contain folders, test items, child items
	Folders	• Structural container • Organize items • Manage hierarchy in the Explorer Tree • Contain text items or items of the same type
Item type: Items		
	Item	• Individual building block of a project • Comprised of customizable fields

Organizations typically create items as requirements, features, use cases, test cases, defects, or other information types that define the scope of a project or product.

To create content in Jama Connect, you can import existing content from another platform, or you can author directly in the application.

A typical process for creating content might include these tasks:

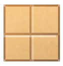


TIP

Before populating Jama Connect with your data, discuss with others in your organization which elements of the application you want to use and how you want to use them. Involving team members early in the process can help avoid rework later.

Containers

Containers help organize your content in Jama Connect. Types of containers include components [60], sets [61], and folders [63].

Item type: Containers		
	Components	• Structural container • Organize projects into manageable pieces
	Sets	• Structural container • Access rights can be configured • Items of the same type can be grouped • Contain folders, test items, child items
	Folders	• Structural container • Organize items • Manage hierarchy in the Explorer Tree • Contain text items or items of the same type

NOTE

A source folder [239] is a specific type of folder that refers to baselines. It is the only container type that is not an item.

Add a component

A *component* is a structural container item used to organize a project into more manageable pieces.

For example, you might define each piece of your product with a different component.

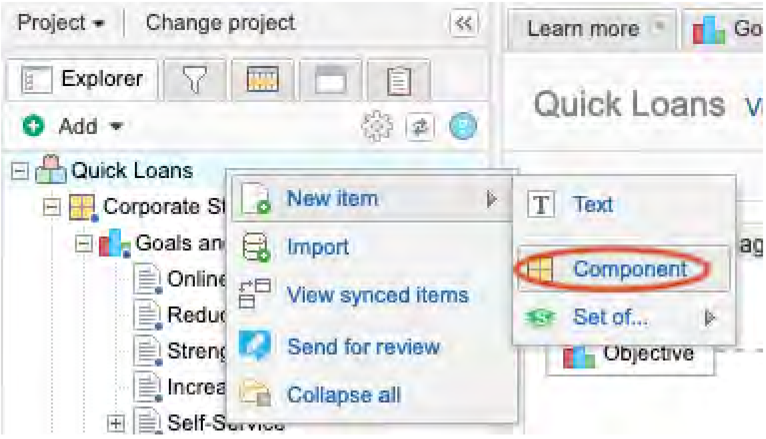
- Components can only be located or moved to the root of the Explorer Tree or inside another component.
- Components might contain sets of various item types, text items, and sub-components. Each component can have different access rights.

NOTE

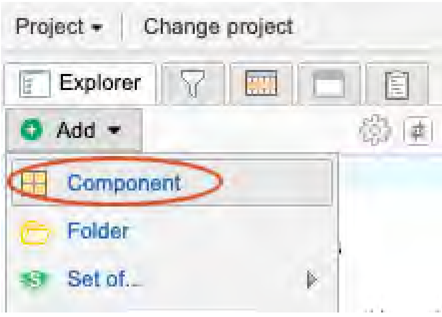
Text items can appear anywhere in this structure.

To add a component:

1. Open the Add Item window using one of these methods:
   - Wherever you want to add a component or sub-component in the Explorer Tree, right-click on the project name.



- Select **Add > Component** at the top of the left panel in the project where you want to add the component.



2. In the Add Item window:
   a. Write a name and description for the component.
   b. (Optional) Select **Notify** to select users or groups you want to notify about the creation of this component.
   c. (Optional) To add more components, select **Add another**.
   d. (Optional) Use the Select Location window to choose where to put the new folder. This option appears only if you created a folder from the Add drop-down menu. Invalid locations are disabled.
3. Click **Save and Close**.

Add a set

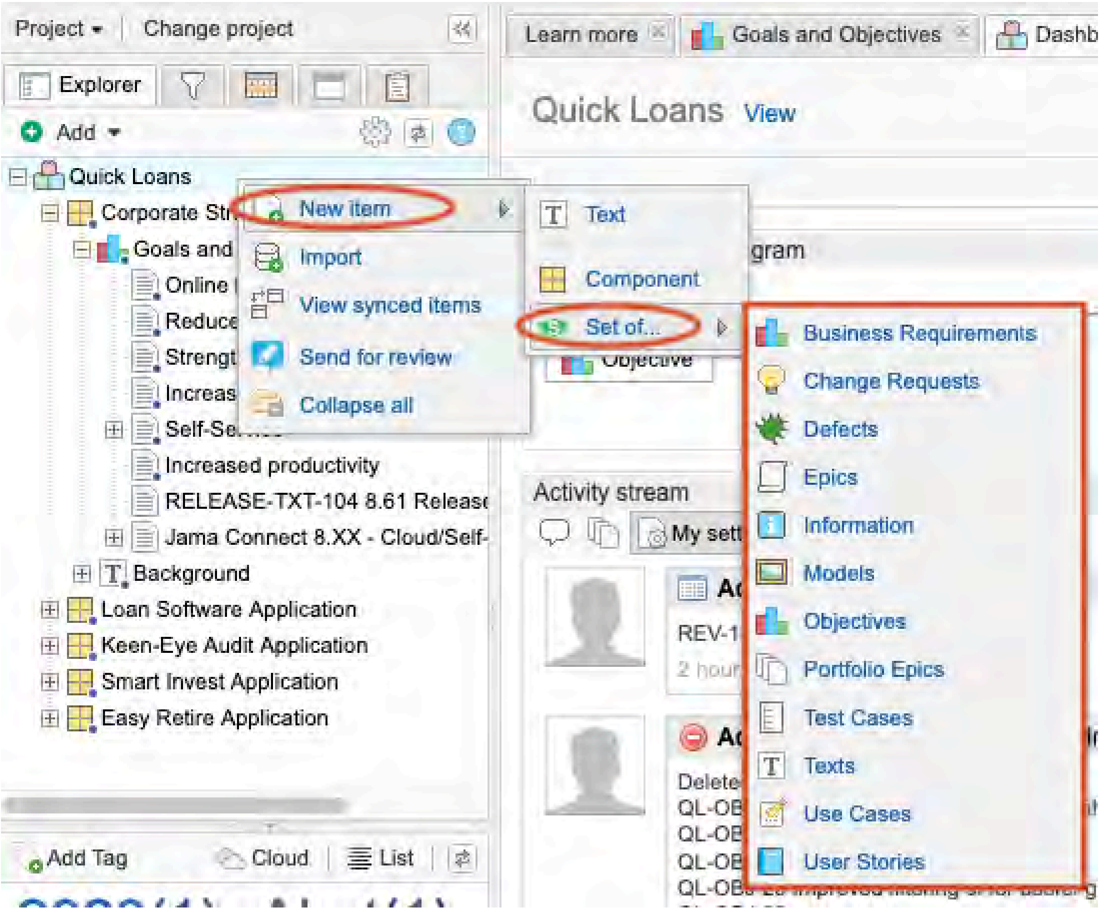
A *set* is a structural container item with configurable access rights, used to group items of the same type. It can also contain folders, text items, child text items, and child items of the same type.

A set contains items of the same type. You can move or copy between sets of the same item type.

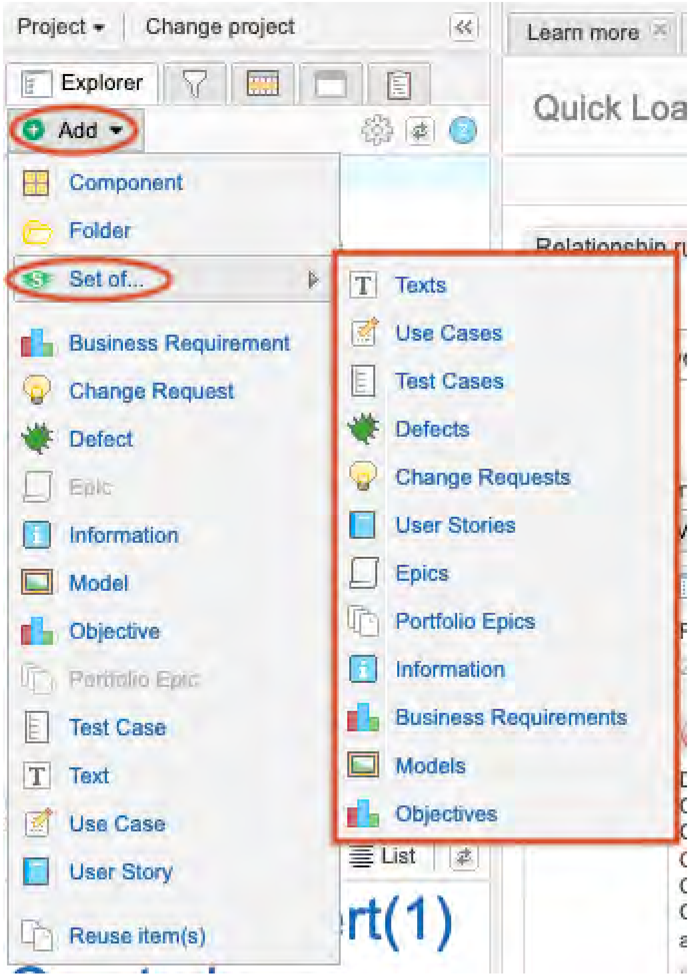
Item types for a set are configured by an organization administrator [589].

To add a set:

1. Open the Add Item window using one of these methods:
   - Wherever you want to add a set in the Explorer Tree, right-click on the project name and select **Add > New item > Set of...**, then select the item type from the list.



- From the top of the left panel, select **Add > Set of...**, then select the item type from the list.



2. In the Add Item window:
   a. Edit the set key, name, and description of the set.
   b. (Optional) Select **Notify** to select users or groups you want to notify about the creation of this set.
   c. (Optional) Select **Add Another** to add more components, then select the location for the new set.
   d. (Optional) Use the Select Location window to choose where to put the new set.
      This option appears only if you created the set from the Add drop-down menu.
      Invalid locations are disabled.
3. Click **Save and Close**.

Add a folder

A *folder* is a container item you can use to organize items and manage hierarchy in the Explorer Tree.

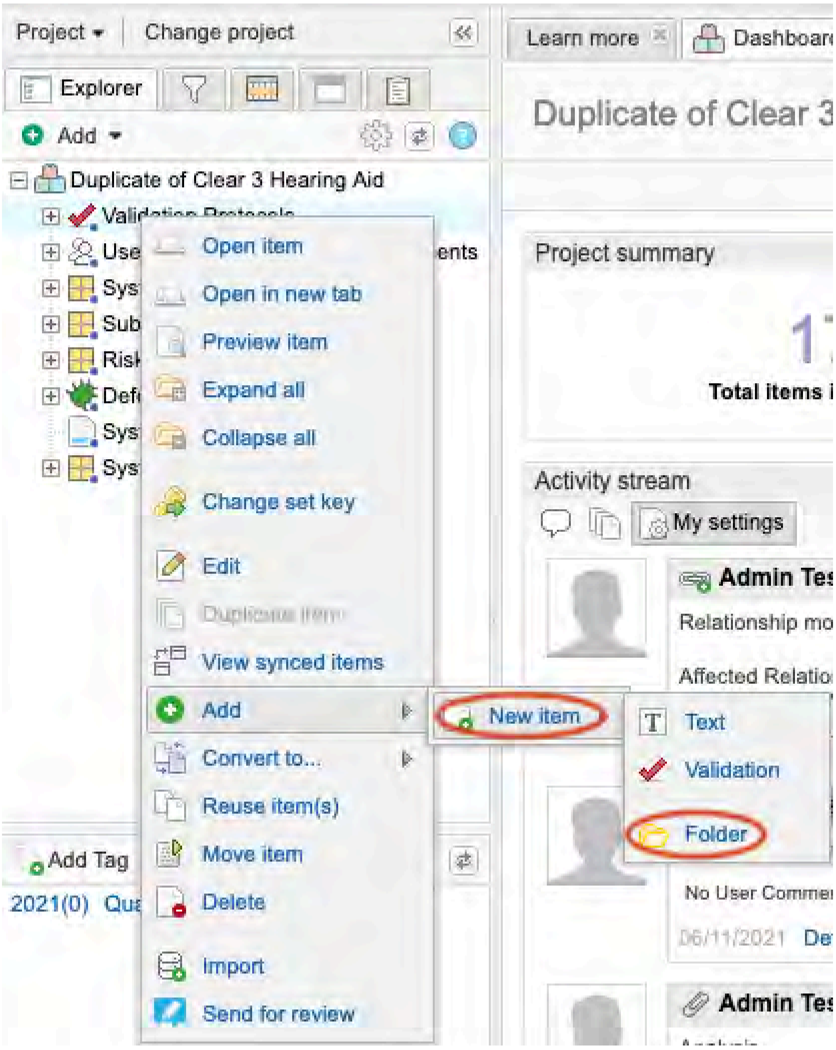
Folders are a structural item type that contain other items, not an array of different item types. Folders can contain only text items and the same item type as the folder itself. Folders can be located or moved inside a set of the same item type, or inside another folder. You can't place a folder inside a component of mixed item types.

An item can be moved between folders and sets of the same item type using drag and drop within the Explorer Tree or from List View. Folders can be dragged to other sets of the same item type or into other folders also in the same item type.

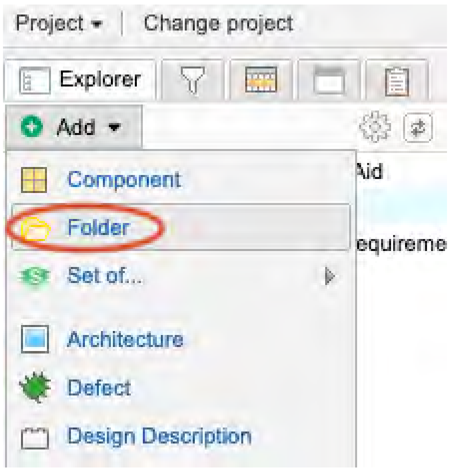
To add a folder:

1. Open the Add Item window using one of these methods:

- Wherever you want to add a folder in the Explorer Tree, right-click on the set name and select **Add > New item > Folder**.



- Select **Add > Folder** at the top of the left panel in the project where you want to add the folder.



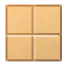
2. In the Add Item window:
   a. Write a name and description for the folder.
   b. (Optional) Select **Notify** to select users or groups you want to notify about the creation of this folder.
   c. (Optional) To add more folders, select **Add another**.
   d. (Optional) Use the Select Location window to choose where to put the new folder.

This option appears only if you created a folder from the Add drop-down menu. Invalid locations are disabled.

3. Click **Save and Close**.

Items

Items are the building blocks of Jama Connect. Projects are made up of items and items are made up of fields. Items can be containers [60] or documents.

Item type: Containers		
	Components	• Structural container • Organize projects into manageable pieces
	Sets	• Structural container • Access rights can be configured • Items of the same type can be grouped • Contain folders, test items, child items
	Folders	• Structural container • Organize items • Manage hierarchy in the Explorer Tree • Contain text items or items of the same type
Item type: Items		
	Item	• Individual building block of a project • Comprised of customizable fields

All items have a global ID [278], a unique ID [637], and an item type that's determined by an organization administrator [589].

> **NOTE**
> Baselines, source folders, risks, risk analyses, reviews, and test groups aren't items, so they don't have an item type and a global or unique ID.

Several places in Jama Connect allow you to see a quick preview of an item without opening it in the center panel. For example, right-click on an item in the Explorer Tree and select **Preview item**.

Container items

Select **View details** next to a container's title to:

- Display container's detailed information.
- Open container's attachments [84].
- Edit the name or description of the container itself.

TIP

To receive email notifications when a container changes, subscribe yourself [197] or others [197] to the container.

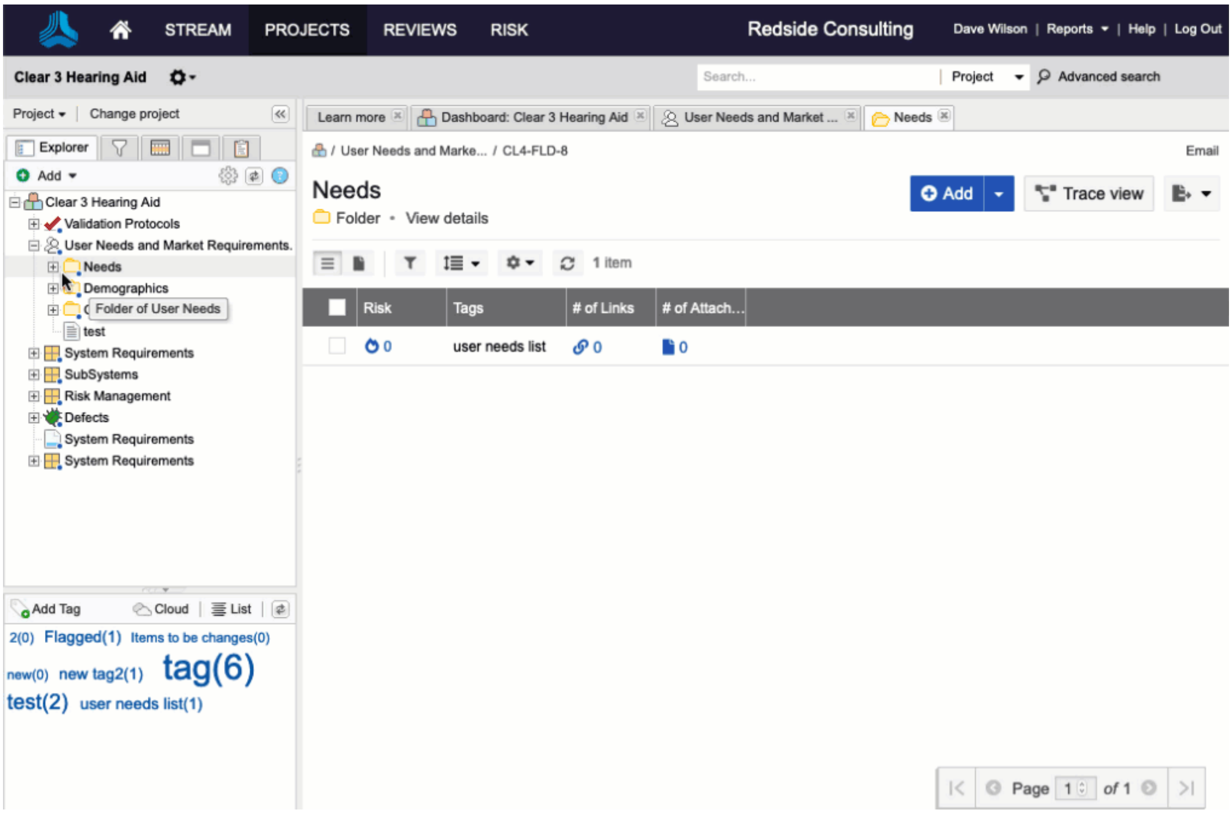
Add an item

Even if you import data from another application or sync data from another tool, you can also add a new item to your project as needed.

You can an add an item to a project from several places in Jama Connect. The list of displayed items includes only item types that are valid for the selected location.

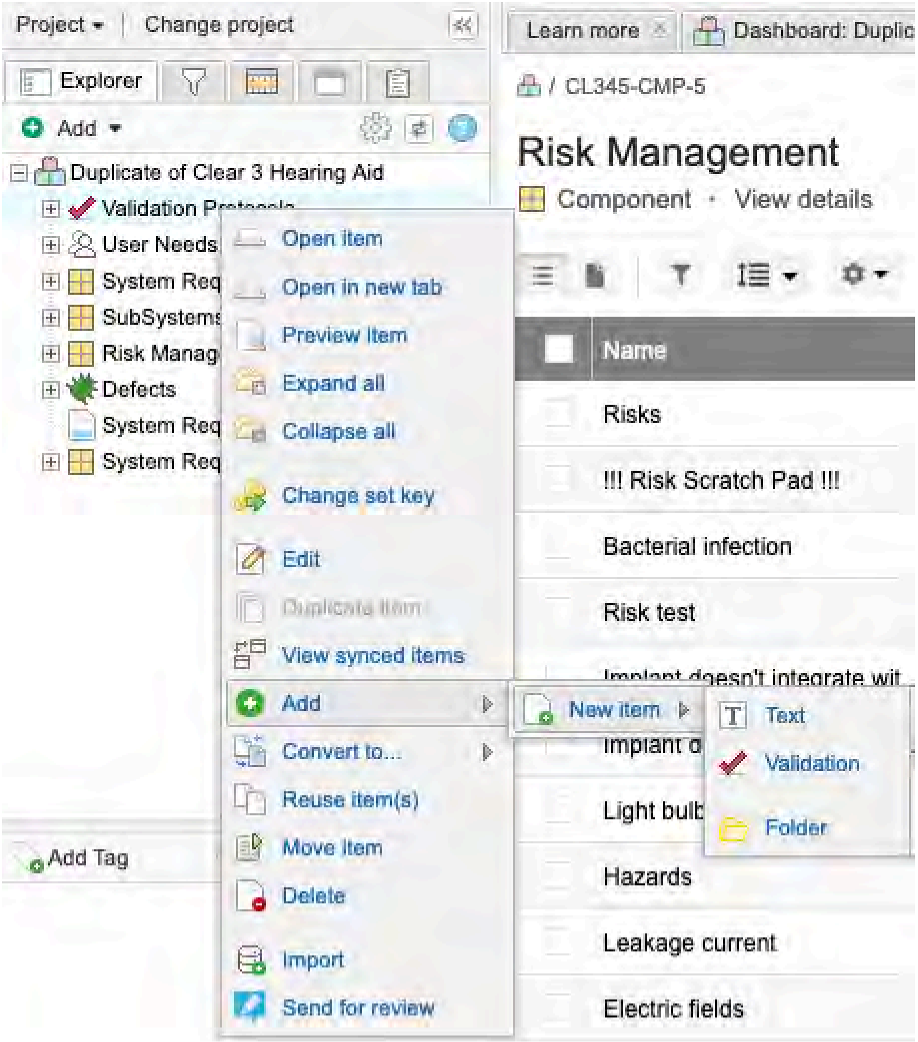
NOTE

You can't add items in filters or in lists of mixed item types.

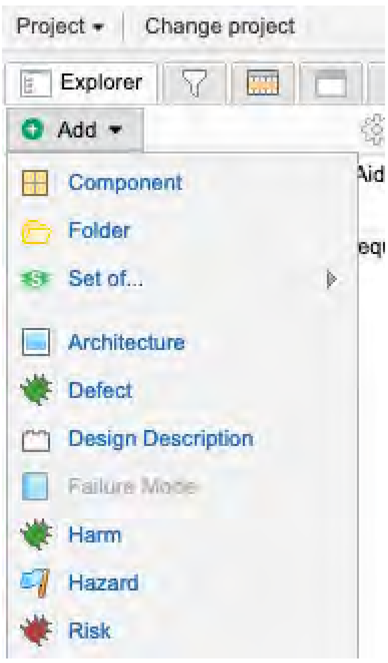


To add an item to your project:

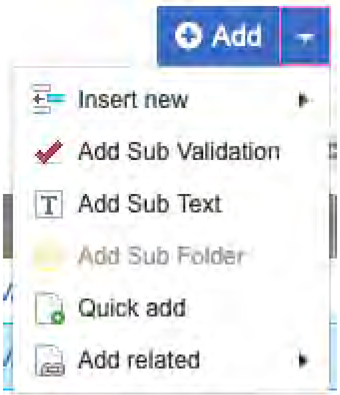
1. Open the Add item window using one of these methods.
   - **Right-click the project name** — In the Explorer Tree (or wherever in that project you want to add an item), right-click the project name, select **Add > New item**, then select an item type from the list that appears.



- **Add drop-down list** — In the project where you want to add the item, select **Add** at the top of the left panel, then select the item type from the list that appears.



- **Toolbar** — From the toolbar above Single Item View, List View, or Reading View, select **Add**, then choose the item type from the list that appears.



In List View, if the list contains items of a single item type and no items are selected, you can add an item of the same type, a text item, or a set to the bottom of the list.
If an item is selected, use one of these options.

- **Insert new** to insert a new item below the selected item or add a child item.
- **Add Item Type as child** to add an item as a child item of the selected item.
- **Add related** to add a related item to the selected item. If a relationship rule [259] was applied to that project, only item types that meet the rules are available for that selection.
- **Quick add** add items in a set of the same item type.

2. Select the location where you want to add the new item in the window that opens (invalid locations are disabled), then click **Select & Close**.
3. In the Add Item window:
   a. Fill in the fields for the selected item type.
   b. (Optional) Select **Notify** to add a notification comment and select users or groups to notify about the creation of this item.
   Comments are included in the version notes for the item and are displayed in the stream [209].
4. Select **Save** or **Save and Close**.
5. Select **Commit**.

Quick-add an item

The Quick-add option lets you add multiple items at a time to a set of the same item type.

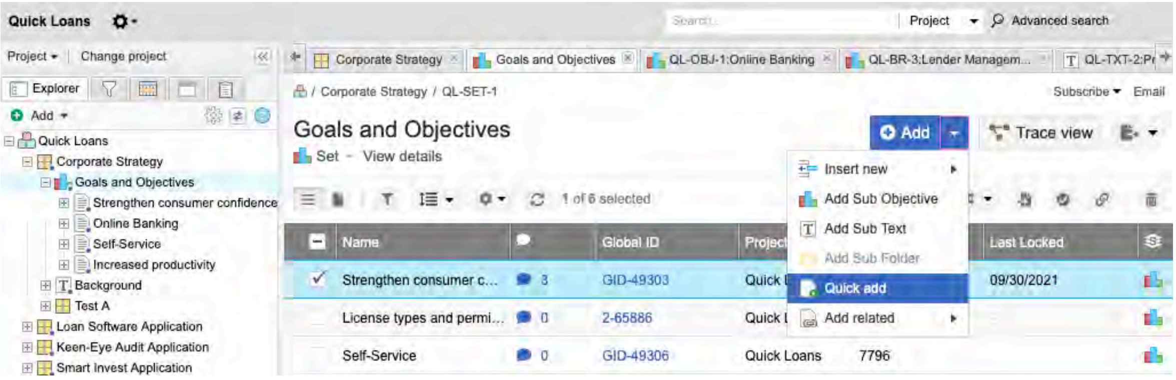
You can add up to 50 items at once.

Important considerations

- The Name field is required.
- The Description field is required or read-only based on how the item type is configured.
- To add required fields, edit the item after you create it.

To quick-add an item:

1. In your project, select **Add > Quick add**.
   If you don't see the Quick add option, then the item you're adding doesn't match the item type in that set.



2. Enter the required name for the item (255 characters maximum) and an optional description (500 characters maximum).
3. Click **Add Row** to include additional rows as needed, for a maximum of 50 rows (items). Include a name and optional description for each added item.
   Use the tab key to move across the table.

4. Click **Save**.
   The new items appear in the Explorer Tree.
5. To add required fields to a new item, select the item to open and edit it.

Add a child item

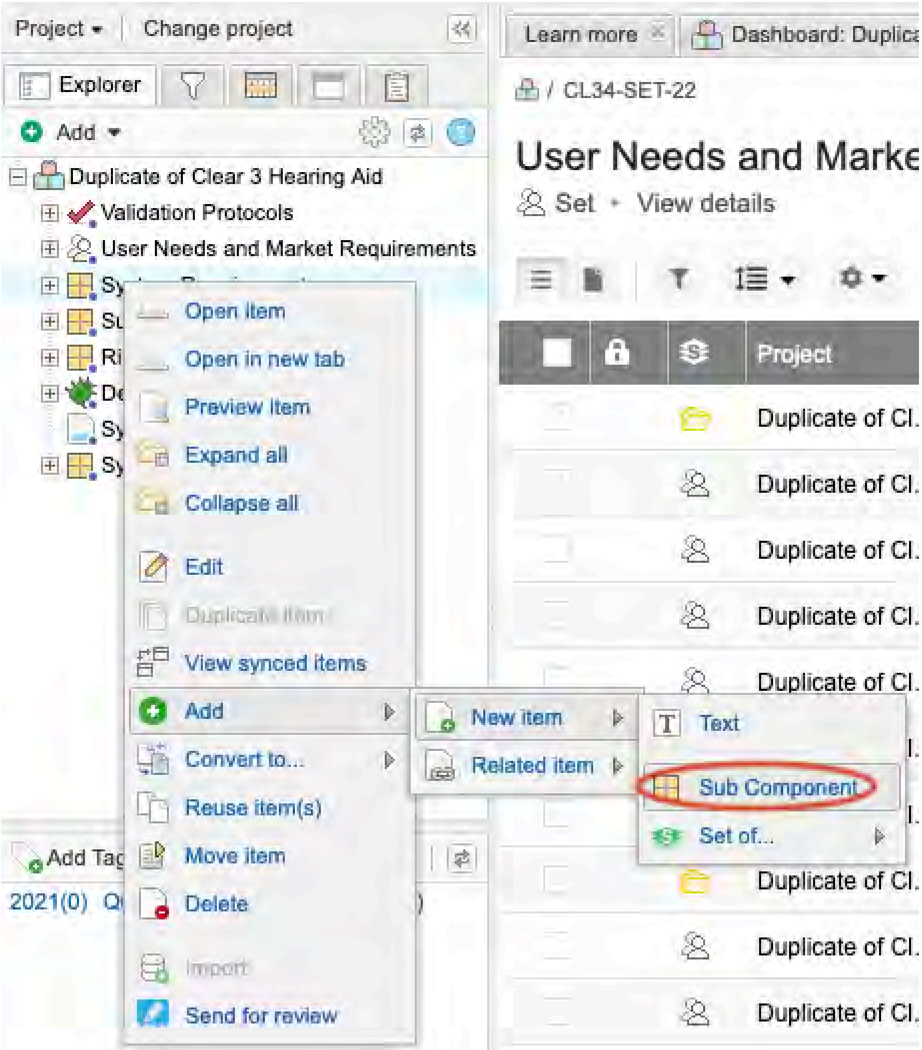
Create a child item when you need an item that falls hierarchically below a parent item of the same item type.

Important considerations

- If a parent item includes a child item, the parent item can't be converted to a text item.
- A parent item can include a child item that is a text item.
- Relationships and attribute values of a parent item aren't inherited by child items.

To add a child item:

1. Right-click on an item and select **Add > New item > Sub Component**.



2. In the Add item window, fill in the fields for the selected item type.
3. (Optional) Select **Notify** to add a notification comment and select users or groups to notify about the creation of this item.
   Comments are included in the version notes for the item and are displayed in the stream.
4. Select **Save** or **Save and Close**.
5. Select **Commit**.

Edit an item

You can edit a saved item any time you need to add or change its information.

Single Item View automatically displays items in a read-only format.

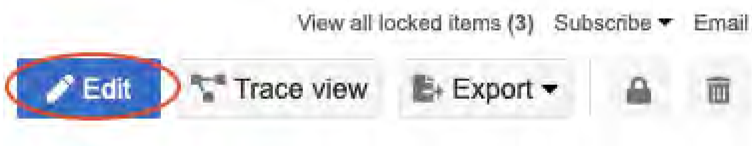
Important considerations

- You must have create/edit permissions to edit an item.
- A field must be enabled for read/write permissions.
- If a field is disabled for editing, it might have been configured to be read-only [598] by an organization admin, locked by another user, or locked through a workflow.

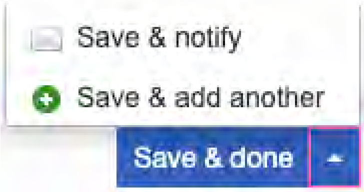
To edit an item:

1. Select the field you want to edit, using one of these methods:
   - Double-click on the field
   - Hover over the field and select the pencil icon to make it editable.

- Select **Edit** from the toolbar.



2. Edit the item field, as needed.
3. When you're done editing, select an option:



- **Save & done**.
- To save and add another item of the same type, select the arrow on the middle button, then select **Save & add another**.
- To save and notify other Jama Connect users, select the arrow on the middle button, then select **Save & notify**.

4. Select **Save Changes** to complete the edit and create a new version of the item.

A confirmation message confirms that the item was successfully changed.

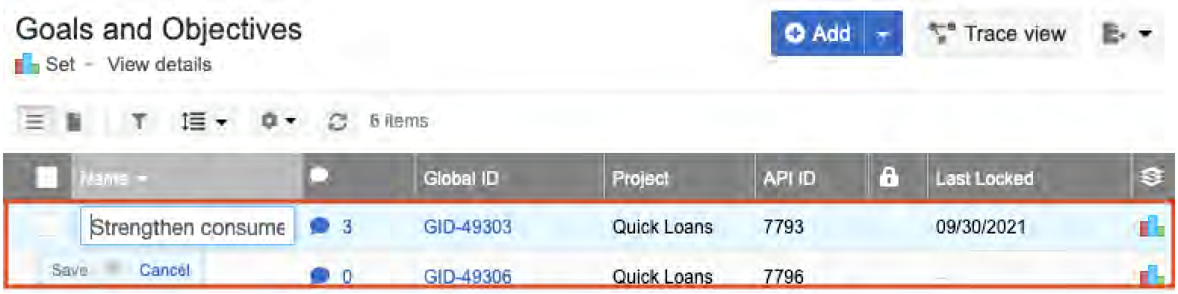
Edit an item in List View

You can edit an item to make needed changes, for example to picklists, fields, and tags. In List View you can update multiple items of the same type. You can make changes in one item, then press **Enter** to move to the next row.

TIP

If you need to make the same changes across multiple items, use batch update [72].

1. Double-click the field you want to edit in projects List View.



2. To undo any unsaved changes, press **Escape** or select **Cancel** below the selected item.
3. Select **Save** or press **Enter** to save the change and move to the next item in the list.

Batch-update multiple items

You can update picklists, fields, and tags for multiple items at one time.

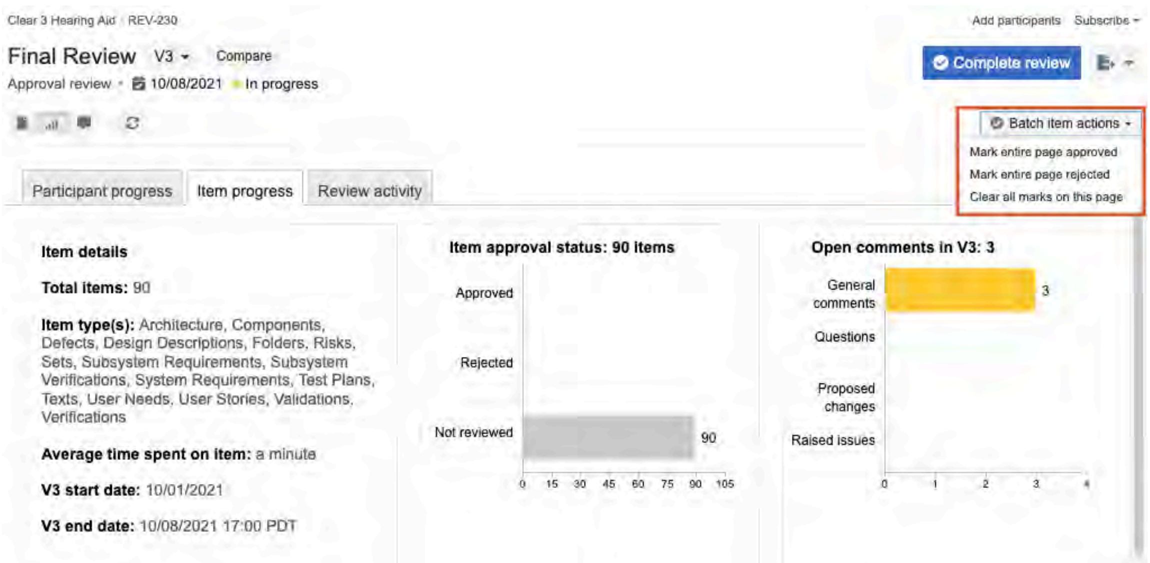
Important considerations

- You can't batch-update rich text fields. Instead, use a Jama Connect to Excel round trip [117].
- You can't batch update test runs using this method. Instead, use the Test runs window to batch update test runs [350].

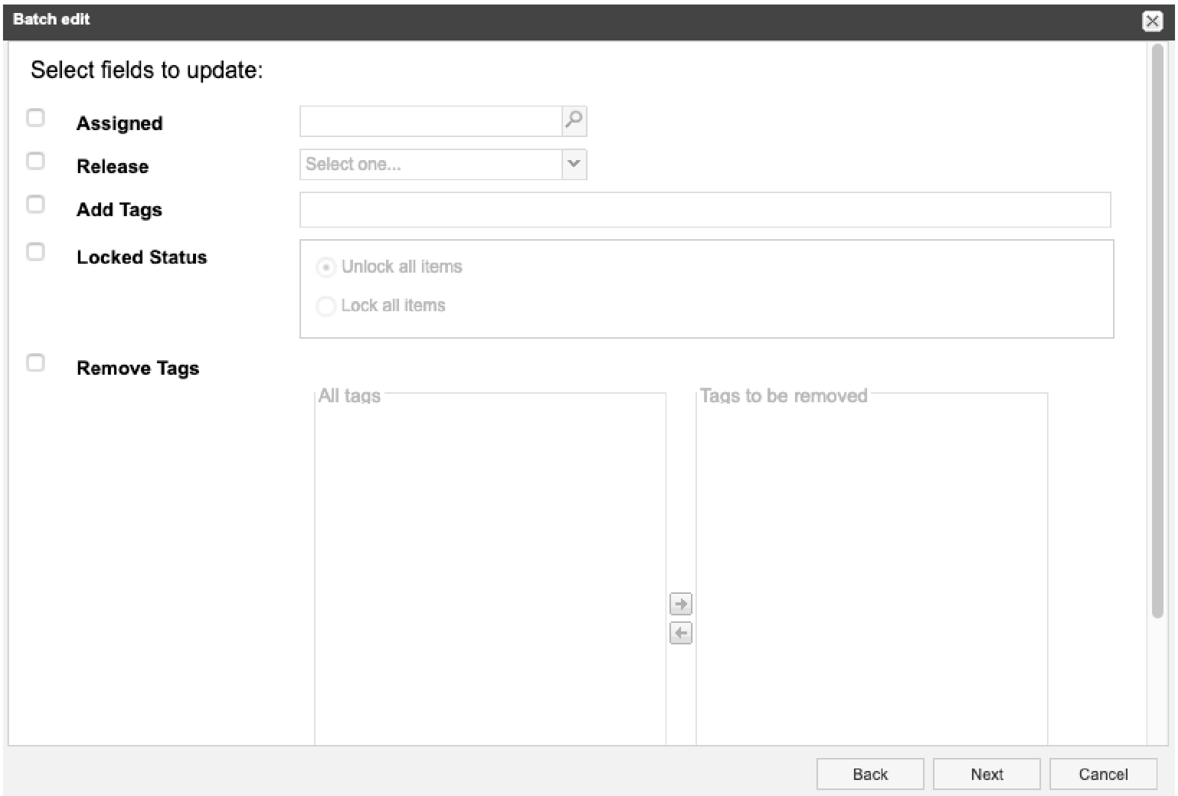
To batch-update items:

1. Select items that you want to edit using one of these methods:
   - In List View, select the items that you want to edit, then select **Batch edit** to open the Batch update window.

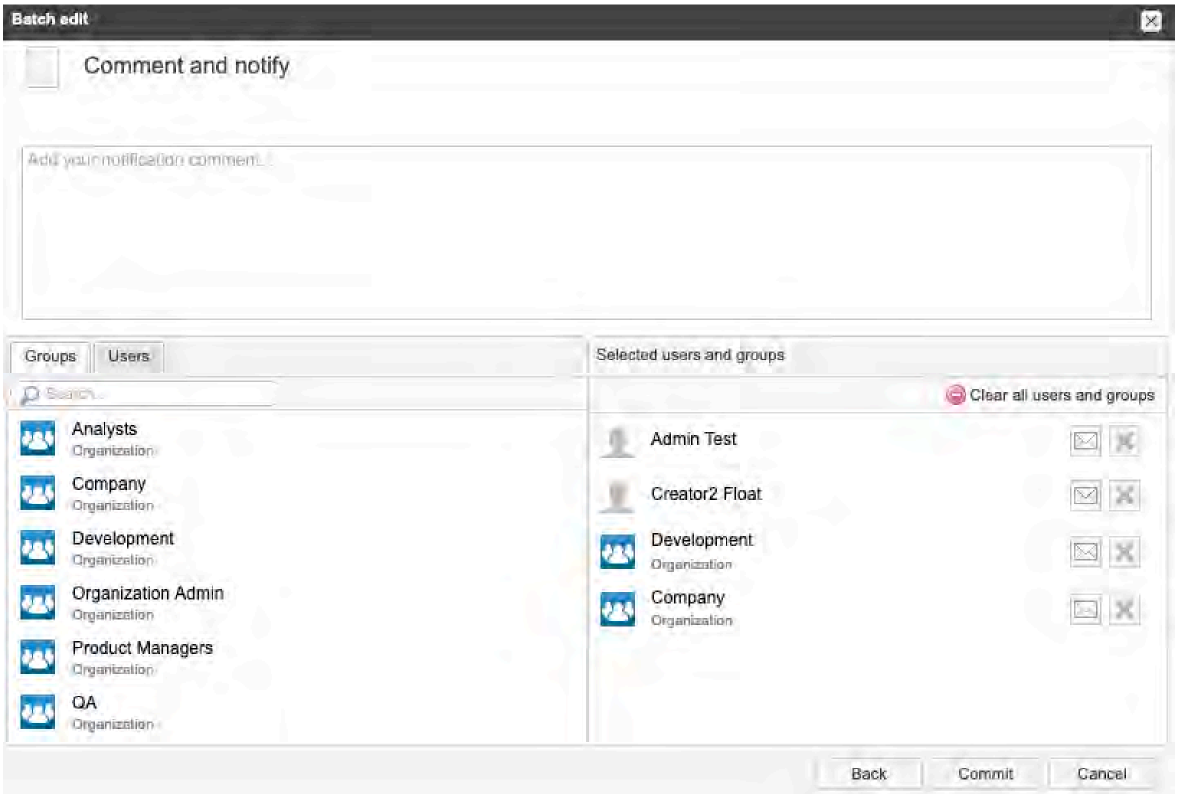
   - (Review moderator only) Select items for batch update in the item progress [190] tab of review statistics.



2. In the Batch edit window, make your changes, then select **Next**.



3. (Optional) Select users or groups and send a notification about this batch update.



4. Select **Commit**.

Add, edit, or delete links

You can add a link to an item using two methods.

- Associate a link with an item.
- Embed a link in a rich text field in an item.

If the Links widget was enabled by an organization administrator [593], you can store a link or URL in Jama Connect, then assign the link to individual items across projects.

Important considerations

URLs that are prefixed with "http://" are treated as unique links. URLs without the prefix are added to the end of the Jama Connect URL, which might be helpful if you placed files on the server and you want to link them without uploading them as attachments.

For example:

- **http://www.creativecommons.org** — Opens a new browser window with the URL https://creative-commons.org/
- **screenshots/login.html** — Opens a new browser window with the URL http://localhost:8080/con-tour/screenshots/login.html

To add, edit, or delete a link:

1. To add a link, in Single Item View, select **Add link**, then fill in the fields and select **Save**.

2. To edit or delete a link, select **Edit** or **Delete** from the link's row.

Locking an item

A lock makes an item read-only, so that it can't be edited or deleted. An item can be manually locked [74] or automatically locked [202] by the system.

What *can* you do with a locked item?

- Reuse [279] and create relationships from a locked item.
- View and unlock locked items [41].
- Find out who locked an item.

What *can't* you do with a locked item?

- Edit, delete, or synchronize locked items.

Who can unlock a Jama Connect item?

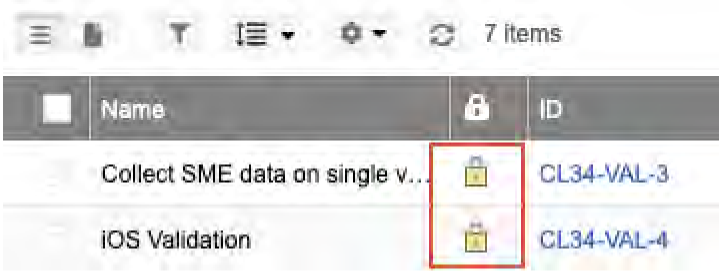
An organization admin or project admin can unlock system-locked items [549], but only an organization admin can unlock items manually locked by another user [547].

Locked items	Who can unlock?
Manually locked by other users	Organization admin
Locked by system or workflow	• Project admin • Organization admin • Creator user with workflow transition permissions *(only for projects the user administers)*

Manually lock and unlock items from the toolbar

To prevent others from making changes while you're working on an item, you can manually lock that item.

When you configure List View to show locked items, a gold lock appears next to items that are manually locked.

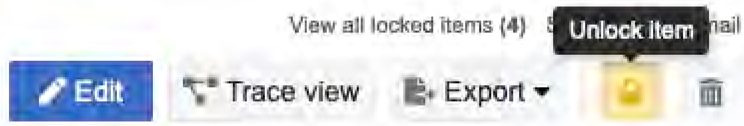


TIP

If you need to access an item locked by another user, contact that user or your organization administrator to unlock it.

1. **To lock an item manually** — In Single Item View, select **Lock item** from the toolbar.

2. **To unlock an item** — (Organization or project admins only) In Single Item View, select unlock item [41] from the toolbar.



Converting items to another item type

In Jama Connect you can change an existing item or items from one type to another. When you convert an item to another type, these attributes remain intact: short name, description, relationships, versions, activities, comments, and tags.

To convert an item, folder, set, or component, you can use:

- Drag and drop [76]
- Context actions menu [77]

Important considerations

- A field is converted only if its name or data type is identical in the current and new item types.
- A lookup field is converted only if it refers to the same pick list (and has has the same name and data type) in the current and new item types.
- Converting an item breaks the sync if you reused that item.
- If converting an item puts the item out of compliance with the relationship rules, the issue is reflected in the relationship diagram.
- When you convert a set, all items in that set are converted to a different item type.
- You can't "undo" an item conversion [79] but you can convert the item back to the original item type. Use the same procedure you used to convert items.

You can convert from...	To...	Notes
Component	set text item	Sets within the original component convert to folders in the newly created set.
Set	component set folder text item	For components, the original set must be empty and at the top level of the hierarchy. Original set must be empty.
Folder	item folder	
Item	item text item* folder**	
Text item	component set item	

* An item that include child items can't be converted to a text item.

** A child item can't be converted to a folder unless the parent is converted first. When converting to a folder, items lose widget functionality and custom field values.

Convert items using drag and drop

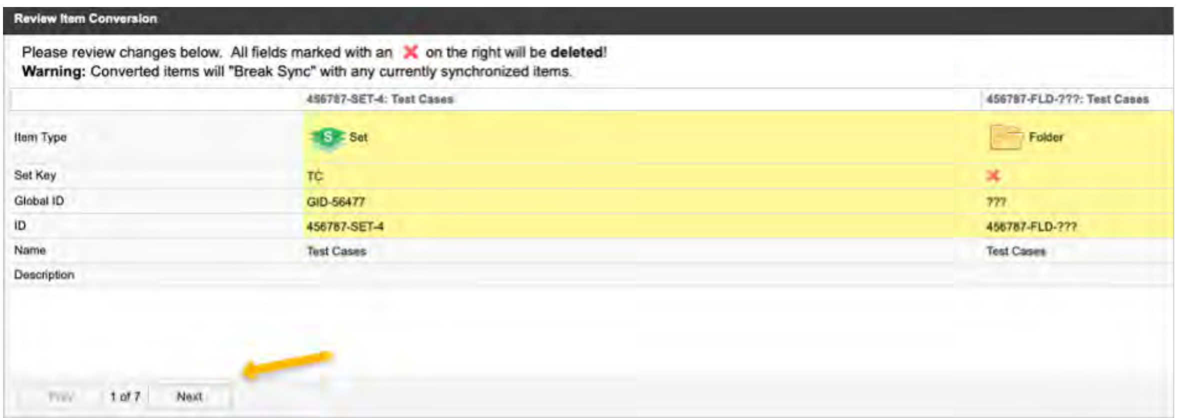
When you need to change the item type for all items in a set, use the drag and drop method.

Important considerations

- Before converting items, read about how conversions work in Jama Connect [75].
- When you drag and drop a text item into a folder of your required type, the text item is moved to that location, but it isn't converted.
- You can't use bulk conversion for text items. You must convert them one at a time.
- When converting an item to a folder, select **Recursively convert all items with Children to Folders** in the Review Item Conversion window. Parent items at every level beneath the item being converted are converted to a folder.

To convert an item or set to another item type with drag and drop:

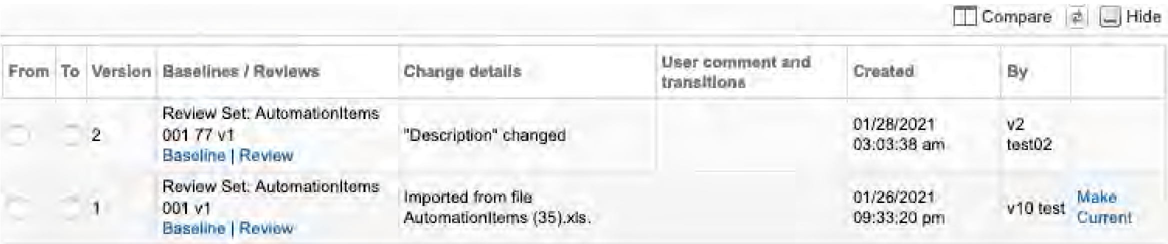
1. From List View or the Explorer Tree, select the items and drag them into the set where you want to move them.
2. Review the information in the Review Item Conversion window.



3. Click **Next** to view each page of the Review Item Conversion window.
4. If converting an item to a folder, select **Recursively convert all items with Children to Folders**. Parent items at every level beneath the item being converted are converted to a folder.

> **NOTE**
> This option appears only when you select a folder to be converted.

5. Select **Convert**.
   If the item can belong in its current location (such as a text item), it remains there. However, sets can't contain mixed item types, so the item might need to be moved.
6. If prompted to move an item, select the new location for that item, then click **Select and Close**.
7. To see changes, select **Versions** in the side toolbar [56] of Single Item View [55] to open the item's version tab.



Compare | Hide

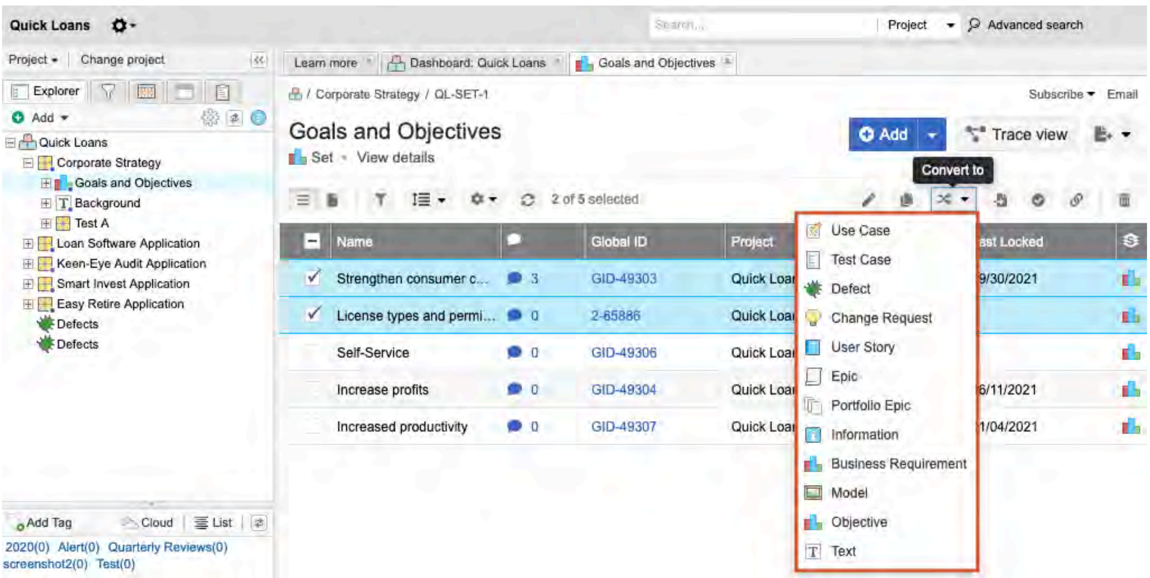
From	To	Version	Baselines / Reviews	Change details	User comment and transitions	Created	By	
		2	Review Set: AutomationItems 001 77 v1 Baseline | Review	"Description" changed		01/28/2021 03:03:38 am	v2 test02	
		1	Review Set: AutomationItems 001 v1 Baseline | Review	Imported from file AutomationItems (35).xls.		01/26/2021 09:33:20 pm	v10 test	Make Current

Convert items in List View or Explorer Tree

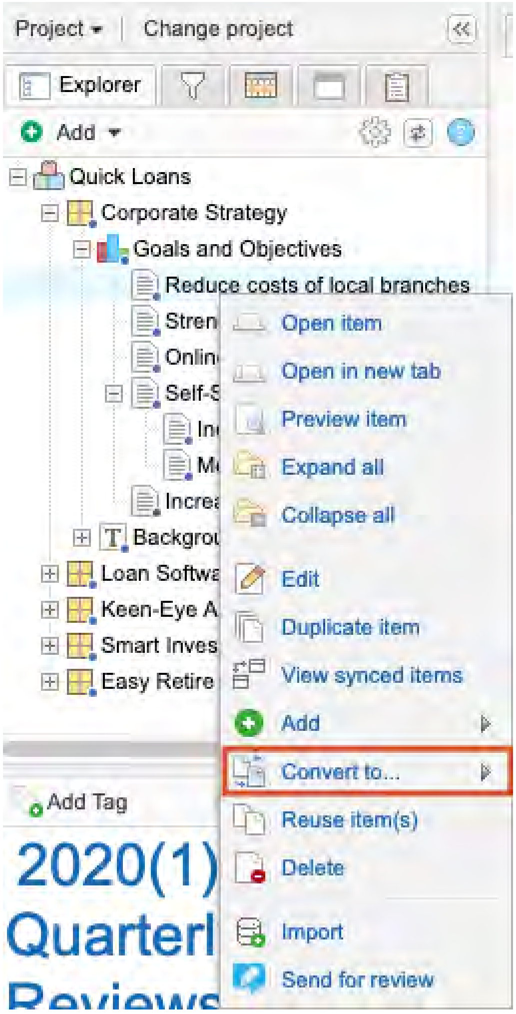
You can use the drop-down menu in List View or the Explorer Tree to convert items or sets.

Before converting items, read about how conversions work in Jama Connect [75].

1. In List View or the Explorer Tree, select the items you want to convert, select **Convert to**, then select an item type from the list that appears.
   - **List View** — Select the checkbox for the item or set.



   - **Explorer Tree** — Right-click on an item or set.



The Review Item Conversion window highlights in white the fields that are copied into the new item type.

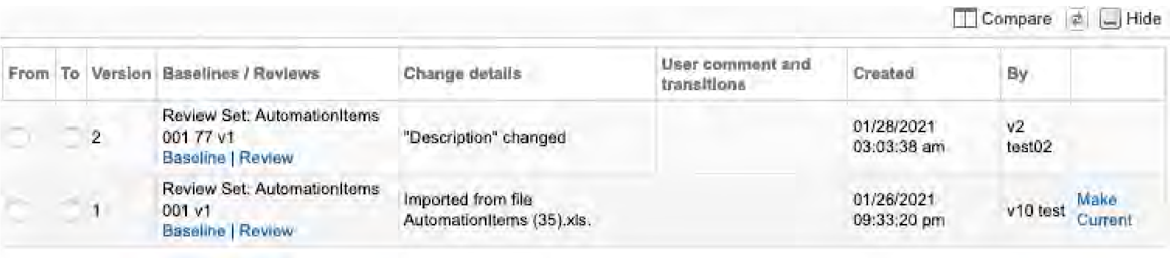
2. Click **Next** to view each page of the Review Item Conversion window.
3. If converting an item to a folder, select **Recursively convert all items with Children to Folders**. Parent items at every level beneath the item being converted are converted to a folder.
   This option appears only when you select a folder to be converted.
4. Select **Convert**.

If the item can belong in its current location (such as a text item), it remains there. However, sets can't contain mixed item types, so the item might need to be moved.

5. If prompted to move an item, select the new location for that item, then click **Select & Close**.

> **NOTE**
> If you select multiple items in List View, you must also specify a location, even if it's the items' original location. Doing this ensures that the items end up in the correct place.

6. To see the changes, select **Versions** in the side toolbar [56] of Single Item View [55] to open the item's version tab.



Convert items back to original type

You can't undo an item conversion, but you can convert your items back to their original type. When changing back, the item receives new identifiers.

- Use the same procedure you used to convert your items to convert the same items back to the original type.
- Any fields that don't convert in the new conversion direction are lost. To determine if fields were lost, select **Versions** in the side toolbar of Single Item View to open the bottom panel and select **Compare**.
- Any fields that were lost must be manually replaced by an organization administrator [598].

Moving items

Within a project, you can move items using the Explorer Tree [79] or List View [80]. Once items are moved, you can undo the move or find the items in the stream [146].

Rules for moving items

Item type	Rule
Component	Can have child components and can be moved to the root of the Explorer Tree.
Set	Can be moved inside a component or to the root of the Explorer Tree. Sets can't have child sets.
Folder	Can be moved to a set that's the same item type as the set where the folder was created, or to another folder.
Item	Can have child items of the same item type and be moved to a set of the same item type or to a folder.
Text item	Can be moved anywhere in the Explorer Tree.
General	You must have write-access to both an item and its new location. When components, sets, or folders are moved, all items within them are also moved.

Move items in Explorer Tree

Items must meet valid item location rules [79] before then can be moved.

You can also move items between projects [80].

Visual indicators tell you if a move is allowed or provides guidance for moving an item.

- **Green indicator** — Moves that are allowed.

- **Red indicator** —Moves that aren't allowed.
- **Dotted blue line** — Guide for moving an item between other items.

To move items in the Explorer Tree:

1. Select the item you want to move in the Explorer Tree.
2. Drag and drop the item to the new location.

Move items in List View

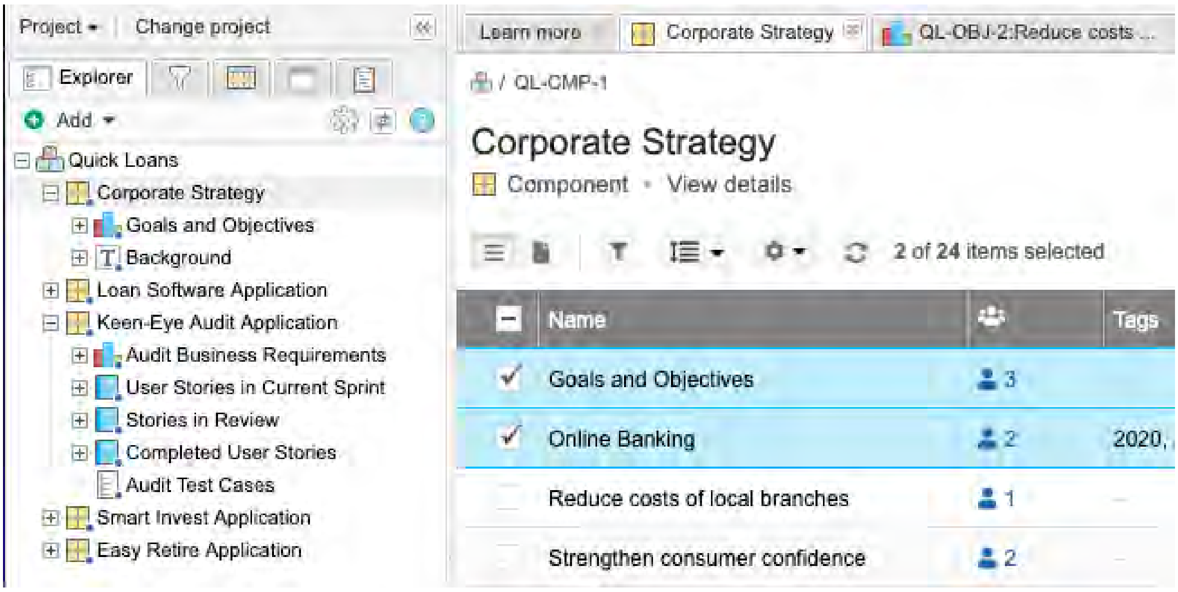
Items must meet valid item location rules [79] before they can be moved.

Quick tips

- If you select the tab at the top of the Explorer Tree and drag items from List View to the release, you can change the release on one item or multiple items.
- You can move items between projects [80].

To move items in List View:

1. In List View, select the items you want to move.
2. Drag and drop the items to the chosen location.



Move items between projects

You can move an item or set of items, along with all associated conversations, versions, and attachments to a different project. This is useful when a project has grown too large and performance has started to degrade.

Important considerations — Review this list before you move items between projects

- A move can't be undone. Users can move items back to the original project but IDs are changed.
- You can only move components and sets between projects. If you're trying to move a folder of items or individual items from a component or set, you must first create a new component/set, then move those items to the new component/set.
- Document key IDs are changed when an item is moved. The new ID is based on rules set up in the destination project.
- When an item is moved, all associated stream collaboration, activities, and versions are moved to the new project. Attachments, tags, and releases are copied to the new project.

- If you delete the source project, images inserted in a rich text field that are copied in other projects are also deleted because they are referenced and aren't copied from the original project. To keep images intact in the duplicated project, we recommend archiving the source project.
- Original attachments, tags, and releases still exist in the source project, including links, images, and diagrams within rich text fields.
- Test runs can't be moved. Test cases can be moved without impacting test runs.
- Items contained in a review aren't shown in future versions of a review after they are moved.
- The document ID in old baselines reflect the new ID.
- If any moved item is associated with an integration sync, integrations such as the JIH can't be running while a move is being performed.
- Performance might be impacted at the time of the move if other resource-intensive processes are being done at the same time.

TIP

If you delete the source project, images inserted in a rich text field that are copied in other projects are also deleted because they are referenced and aren't copied from the original project. To keep images intact in the duplicated project, we recommend archiving the source project.

To move items between projects:

1. Make sure that:
   - You have write permissions in the source and destination project.
   - The items to be moved must be unlocked.
   - All other move operations are completed. You can't make two moves at the same time.
2. In the source project, right-click on the set or component of items you want to move, then select **Move item**.
3. In the Move items to... window, select the destination project and select **Move**.
4. Review details and select **Confirm**.
   During the move you can go to the destination project by selecting **Go to project** or stay in the same project by selecting **Done**.
   A pop-up window shows progress of the move. If any item fails to move, the entire move fails.

Once the move is complete, you can find recently moved items [146] from the Activity Stream.

Duplicate an item

You might want to copy an item to use it as a template for a new project or a new requirement.

You can duplicate items in Jama Connect using these methods.

- **Duplicate items** — Create a copy of the item's name, description, test steps (if applicable), and the ability to choose to include tags, attachments, and links. You can duplicate items that are locked.
- **Reuse items** — Creates a copy of an item, but with more options. With this method you can reuse multiple items, reuse items with children, duplicate more of the item's content, or duplicate an item from another project. For more information, see Reuse items [279].

> **NOTE**
> You must have read/write permissions to duplicate an item.

To duplicate an item:

1. Right-click on the item you want to copy and select **Duplicate item** from the menu.
2. In the Duplicate item window, indicate whether you want to duplicate tags, attachments, or links.
3. Press **Enter** or select **Duplicate**.

   > **NOTE**
   > According to the item type, selected preferences are saved across sessions. However, clearing your browser data restores default options. When specific attributes (as in links) aren't enabled for an item type, the option doesn't appear in the pop-up window.

The item you duplicated opens in Single Item View of the duplicated item.

Delete an item

When you delete items, they aren't physically deleted. They are marked as inactive and are no longer visible to users or reports. If needed, they can be re-activated through the database.

Anyone with read/write permissions for an item can delete it, unless an organization administrator has made the option unavailable [618].

Important considerations

- You can delete an item only if it is unlocked.
- Deleted items show up in the activity stream. The activity entry is also the only method of restoring a deleted item [82] for those with delete permissions.
- In most cases, nothing is deleted from the Jama Connect database. Even if you delete another user, item, or something else in the system, a record is maintained and the deleted object is merely de-activated on the front end. However, you can permanently delete the selected project and everything under it from the database.

To delete an item:

1. To delete in Single Item View [55], choose an item and select **Delete**.
2. To delete in List View [51] or Reading View [52], choose one or more items and select **Delete**.
3. To delete in the Explorer Tree, right-click on an item and select **Delete**.

Restore a deleted item

If you have permission to delete an item, you can also restore it. When you restore a deleted item, it retains all comments, versions, and relationships associated with the item.

1. Select the project name at the top of the left panel to open the dashboard, then open the **Activity Stream widget** [353] to view recent activities.
2. In the search field at the top of the Activity Stream widget, type **delete** to display all recently deleted items.

3. Find the item you want to restore and select **Restore**.

If the set for the restored item was removed, a component with a temporary set is created. The item can then be moved to any set of the same item type.

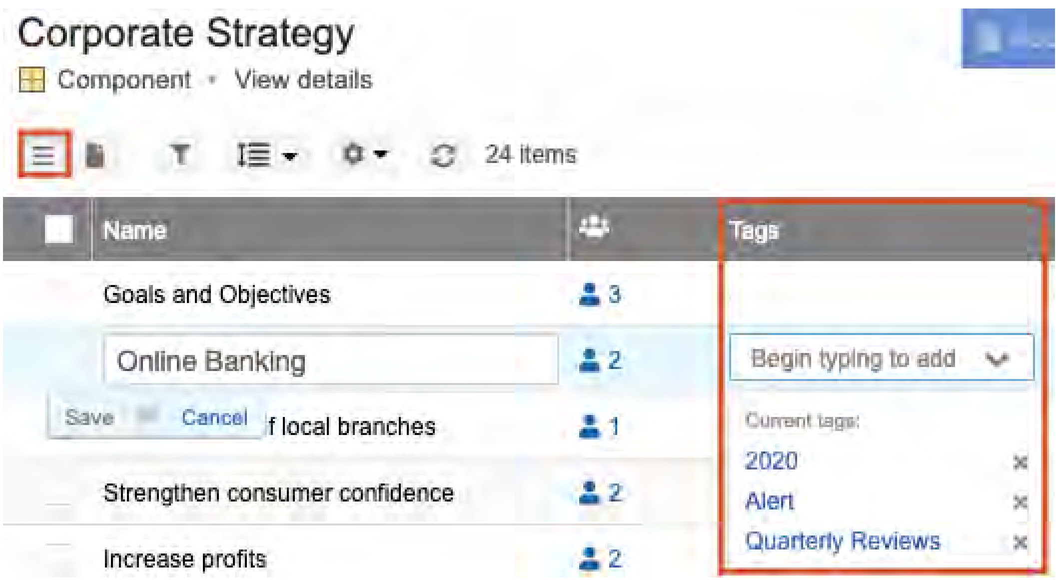
Tags

Tags are labels that you can attach to items. They can help you find items with something in common.

> **NOTE**
> These tags are different than hashtags [211] that you apply to comments in the stream.

Tags are displayed in the bottom of the left panel in a section that can be hidden.

- Search for tags [133] using the "tag:" prefix.
- You can edit tags in List View.



- Tags can be displayed in a Cloud view:

In either view, select the tag to view its associated items.

Add and delete tags

Add and delete tags as your project evolves, if you created a tag by accident, or to keep items organized.

The tags widget must be enabled by an organization administrator [589]. Otherwise, the option to add a tag isn't available in the UI.

1. To add a tag to an item:
   a. In Single Item View, select **Add tag**.

   b. Enter the tag name in the available field.
2. To delete a tag from an item, select the **X** in the tag.

Attachments

Attachments are external files such as images, documents, and spreadsheets that can be attached to an item.

A project administrator can manage attachments [641] for a project.

Important considerations

- You must have create/edit permissions to access attachments.
- These default filetypes are allowed: APK, AVI, BMP, CSV, DOC, DOCM, DOCX, DOT, DOTX, DWG, GIF, GZ, JAMA, JPEG, LOG, MD, MOV, MP3, MP4, MPEG, ODG, ODP, ODS, ODT, PAGES, PDF, PGP, PNG, PPT, PPTM, PPTX, RAR, RTF, TGZ, TIF, TIFF, TRA, TXT, VCS, VSD, VSDX, VSS, WAR, WAV, WMA, WMV, WPS, XCF, XLS, XLSB, XLSM, XLSX, XLT, XPS, ZIP, ZIPX.
- Hosted environment — To add filetypes or ask about the number or size limits for attachments, ask your Named Support Contact to request this from support.
- Self-hosted environment — The system admin can update this list directly [498].

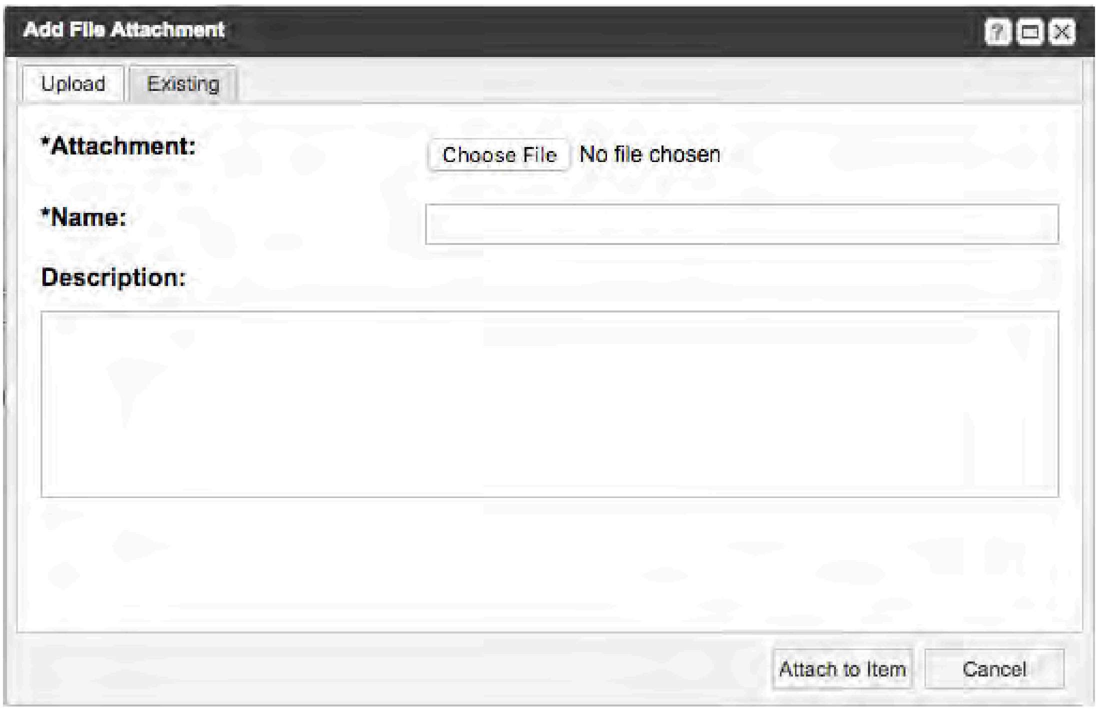
Add, edit, and delete attachments

An attachment is an external file such as an image, document, or spreadsheet that can be added to an item. You can add, edit, or delete attachments as needed.

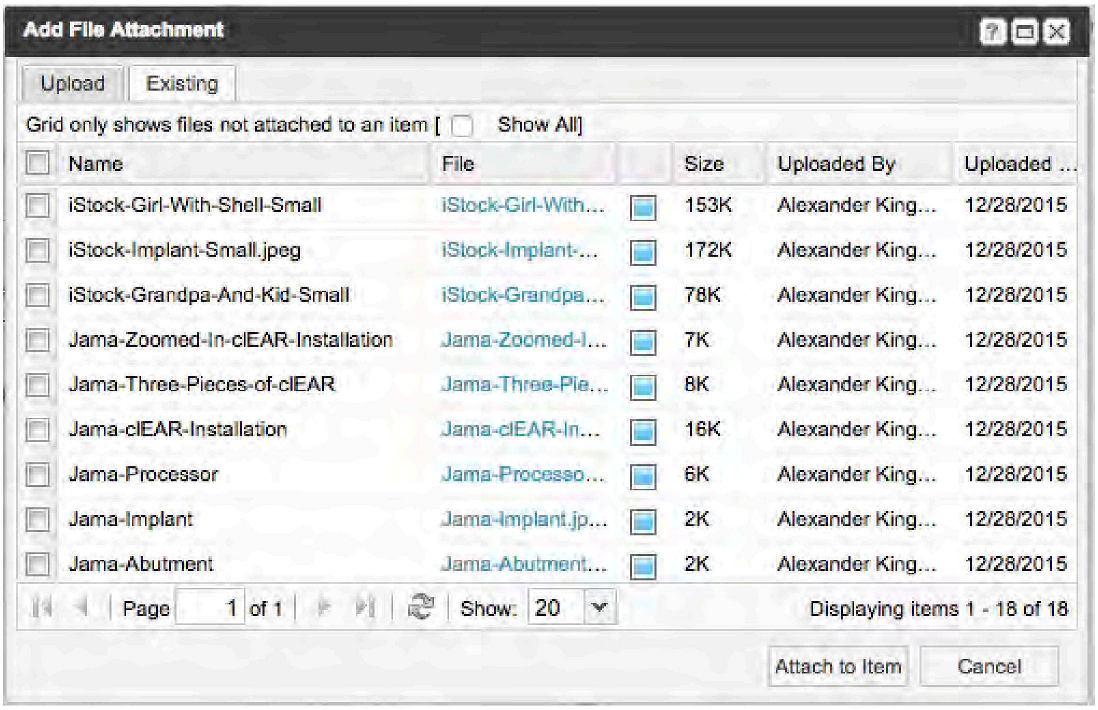
NOTE
You must have create/edit permissions to access attachments.

1. To add an attachment:
   a. In Single Item View, select **Add attachment**.

   - To upload new items, select the **Upload** tab in the Add File Attachment window, then select **Choose file** to select the file you want to attach and upload.

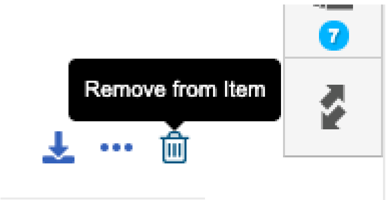


- To attach files that are already uploaded to Jama Connect, select the **Existing** tab in the Add File Attachment window, then select the file you want to attach. Select **Show all** to see all the files that are already attached to an item.

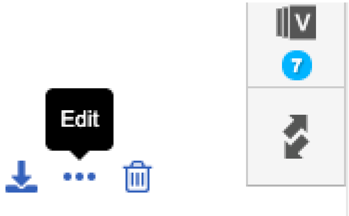


b. Select **Attach to Item**.
   The file is now shown in Single Item View as an attachment.
c. To download the attachment, select the attachment name or the down arrow icon.

2. To delete an attachment, select **Remove from item** (trash icon).



3. To edit what is attached to an item, select **Edit** (three dots icon) to open the Edit File Attachment window.



You can then:

- Reload the attachment.
- Update the name and description.
- Upload a different attachment, which overwrites the existing one. To add a new attachment, start from step 1.

4. Select **Save and Close**.

Using the rich text editor

When the rich text editor is enabled [598] by your organization admin, you can format text in individual fields and embed other data like images and tables.

With rich text fields you can use text formatting, hyperlinks [89], images [88], tables [89], spellcheck-er (English), templates [92], diagrams, graphs [90], and equations [91].

> **NOTE**
> The equation editor requires additional licensing. Contact your Jama Software account manager for more information.

If a field is enabled with rich text, you see the rich text menu, which provides rich text controls. These controls are like text editing options in many software applications. You can also use keyboard shortcuts [662] with the rich text editor.

Important considerations

- Many third-party reporting tools can't display rich text (HTML) properly.
- Integrations with third-party applications might not be able to accept rich text (HTML) data.
- Each rich text section can have its own style, making it difficult to control the overall look and feel of your report.
- As needed, you can disable the rich text editor [598].
- Whenever a rich text item is saved, Jama Connect deletes certain text (usually code like JavaScript) that might be a security risk. This doesn't affect most data.

Rich text toolbar and buttons

1. **Text style and size**
2. **Cut, copy, and paste** — Paste action inserts selected text as plain text.
3. **Field view** — Insert document templates [92] (must be configured [608] by organization admin), view source code, and fullscreen mode.
4. **Format text**
5. **Subscript, superscript**
6. **Text alignment**
7. **List formatting**
8. **Edit text**
9. **Insert links [89]**
10. **Special tools** — Add diagrams [90], images [88], tables [89], special characters.
11. **Accessibility checker**
12. **Equations editor** — Math Editor, Chemistry Editor.

The spellchecker automatically underlines misspelled words in red. **Cmd+right-click** on the word to view spelling suggestions.

Insert image to rich text fields

The rich text editor lets you add an image to an item field. The editor provides multiple methods for adding an image.

> **NOTE**
> A system admin can manage file types [498] for self-hosted customers. Cloud customers need to contact support before they can use this option.

1. Add an image using one of these rich text methods:
   - **Toolbar option: Add image**

     > **TIP**
     > Provide the full path to the image file to comply with third-party converters for PDF and Word. If you move Jama Connect to a new server or modify the server name, edit your image files to match the path or name change.

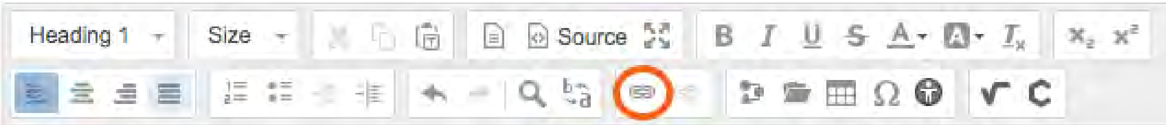
   - **Copy and paste** (not available with Internet Explorer 10)
   - **Drag and drop**
   - **Browse the server** (select **Add image from the server**)

2. (Optional) Resize or move the image as needed.
   A system admin or organization admin can define a maximum height and width setting for an inserted image.
3. If an inserted image is too large to be displayed, select **Expand** to view the image in full size.

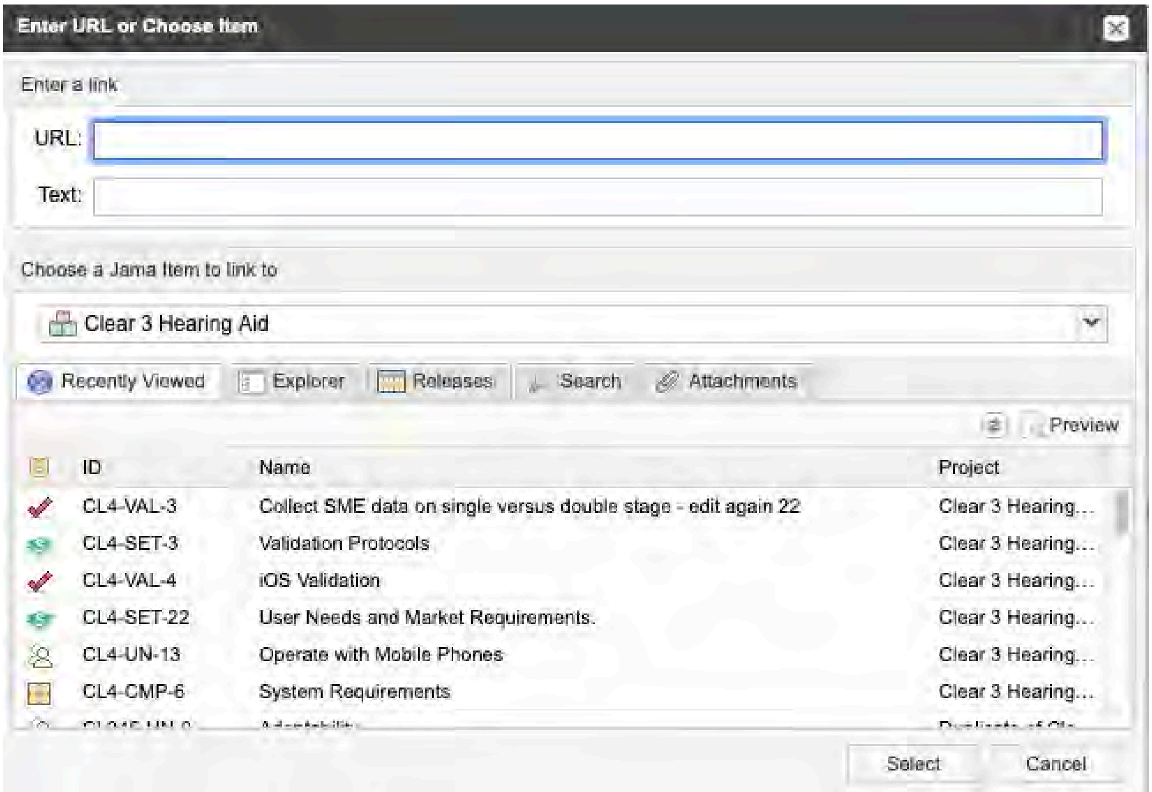
Insert a link in rich text fields

Direct links to attachment files can be helpful to reviewers. You can link from a rich text field directly to other sets, items, and attachments in Jama Connect, or to an external link.

1. Select the **Link** icon in the Rich Text toolbar.



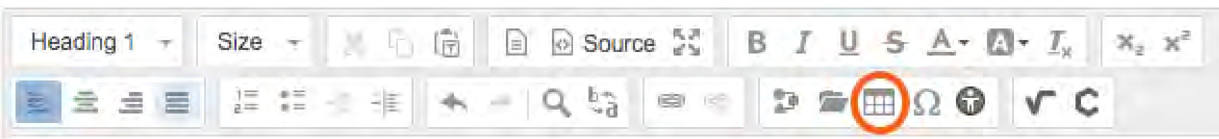
2. In the Enter URL or Choose Item window, do one of the following:
   - Enter the URL for an external link.
   - Select tabs to choose your link from recently viewed locations, the Explorer Tree, releases, search results, or attachments, then under the Attachments tab, upload a file directly from your desktop.



3. Click **Select** to place your link in the rich text field. The link doesn't work until you save changes to your item.
4. To break a link, select the **Break link** icon in the toolbar.

Add and edit tables with rich text editor

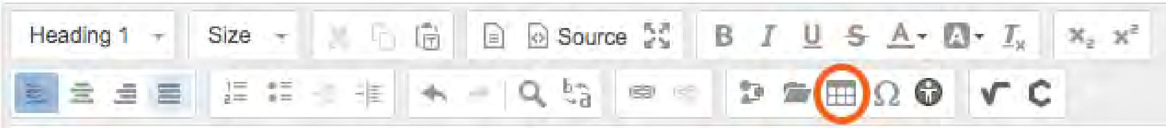
You can add a table to an individual field using the tools section of the rich text editor [87]. You can also edit the table.



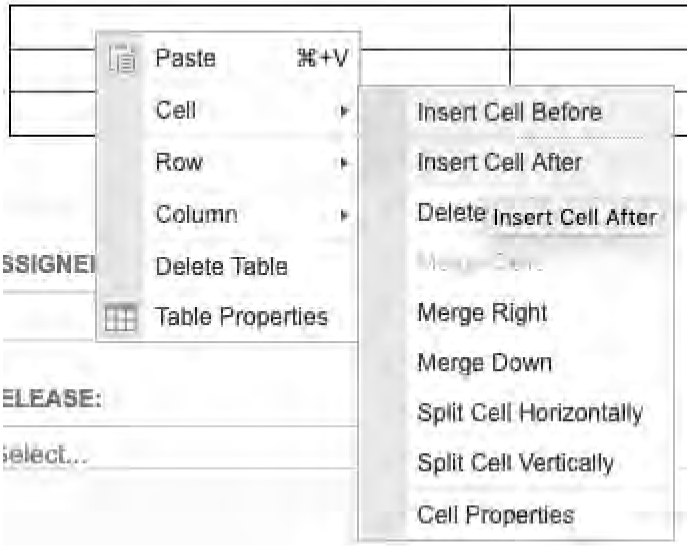
TIP

Although you can import tables from other documents, they can be difficult to work with once imported, and they don't export cleanly. Instead, create tables manually in Jama Connect.

1. To add a table, select the **Table** icon in the Tools section of the rich text editor.



2. To format a table, right-click any table cell, then select the preferred action.



3. To resize a table, select its borders.
4. To add space above or below a table, hover your mouse near the space, then select the blue button that appears on the right.

Insert rich text diagrams

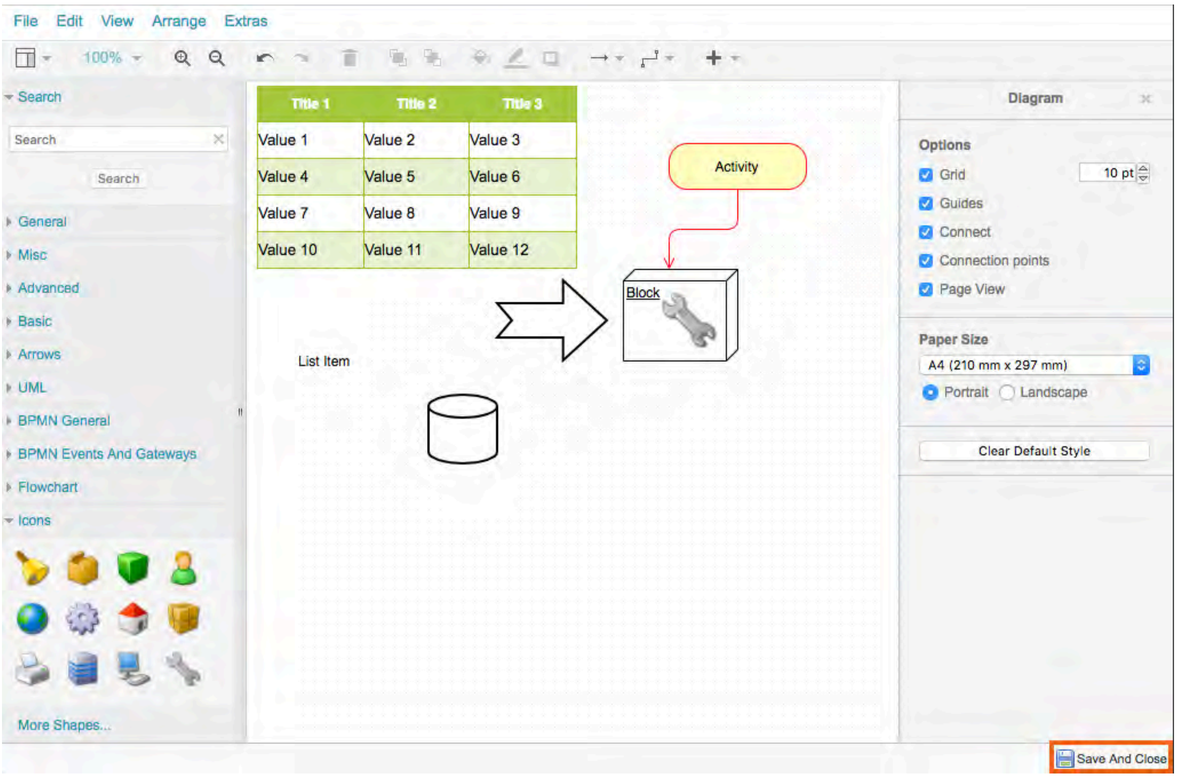
Diagrams can be anything from basic shapes to more complex modeling and business process flows. Once saved, a diagram is an editable image within the rich-text field.

Important considerations

- You can't copy and paste between the diagram editor and other applications.
- You can't import images from other diagramming tools.

1. Select **Diagram** in the Rich Text toolbar to open the Graph Editor window. If you highlight an existing diagram before selecting the button, it appears in the window for editing.

2. In the **Graph Editor** window, create new shapes by dragging from the menu on the left and dropping to the canvas.



3. To add shapes, icons, tables, or text, or to use the search function, use options in the left pane. For more information, see MXGraph Editor.
4. To format style text and arrangement, use the options on the right.
5. When finished, select **Save and Close** to insert your image into the field.

Insert equations in rich text fields

With this editor, you can create complex equations and edit them in Jama Connect. These are converted into images for safe storage and export, but are always editable when you have a MathType license.

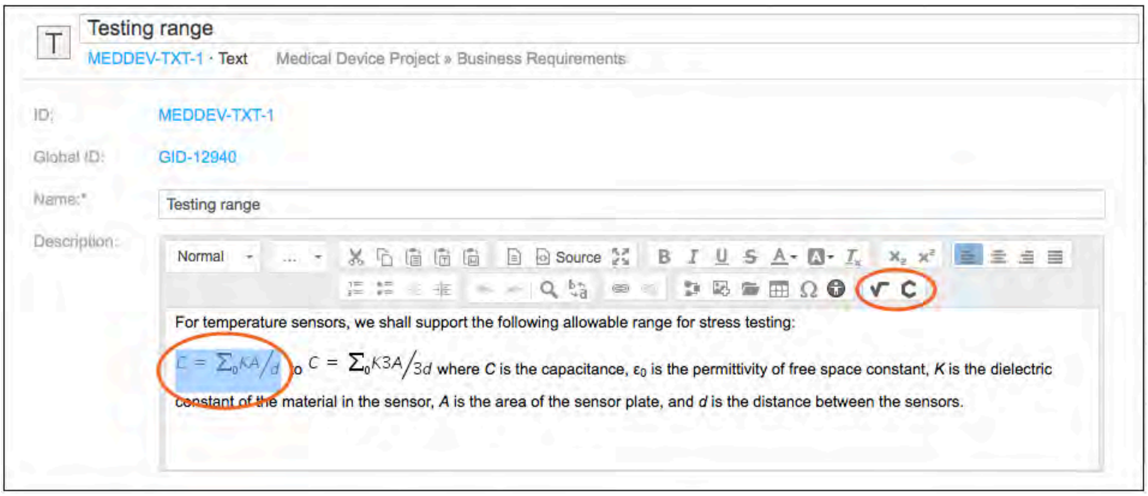
Important considerations

Your organization determines the total number of floating licenses, which are available on a first-come/first-served basis. If a license is available, you can use it by opening the Equation Editor. To release the license, close the Equation Editor. If a license isn't available, try again in a few minutes or contact your admin for help.

> **NOTE**
>
> The MathType Equations Editor requires a separate license. Contact your Jama Connect administrator or sales representative to inquire about purchasing this license.
>
> For self-hosted customers with a license, the system administrator can enable the equations editor [489].

1. To add a new equation or formula, open the appropriate editor by clicking its icon (**Math Editor** or **Chemistry Editor**), then select the equation or formula you need.
2. To edit an existing equation or formula in your item, use one of these methods:

- Highlight the equation/formula, then select the appropriate icon for the editor you need.
- Double-click on the equation/formula to open the appropriate editor.



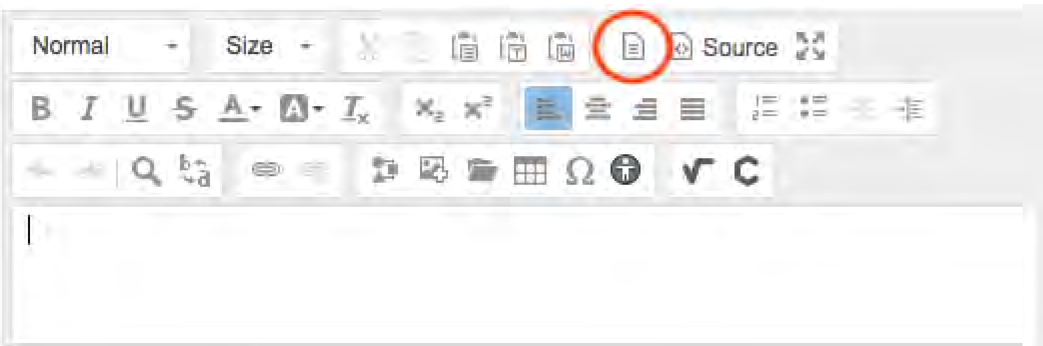
For more information about how to create mathematical equations or chemistry formulas, see the MathType User Guide.

Insert templates to rich text editor

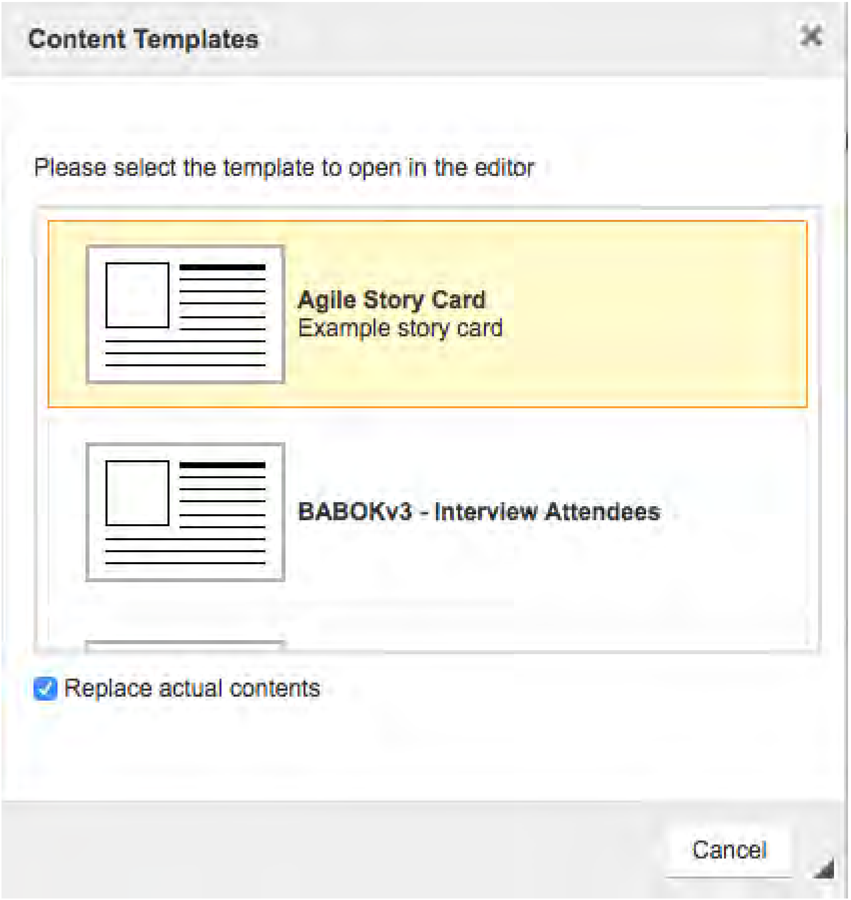
Templates are pre-written text or documents that can be inserted into the rich text editor to help uniformly format items like test cases or use cases.

> **IMPORTANT**
> This feature must be configured by an organization admin [608] before you can use it.

1. To open the **Content Templates** window, select the **Templates** icon in the Rich Text toolbar.



2. Select a template from the list (for example, Basic Use Case, Document Style Use Case, Basic Test Case, and Agile Story Card) and continue editing the item.

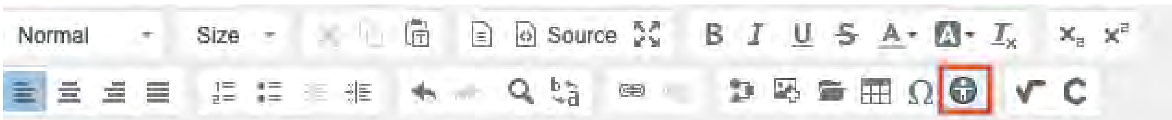


3. Select **Replace actual contents** to delete content currently in the field.
4. Click **Save & done**.

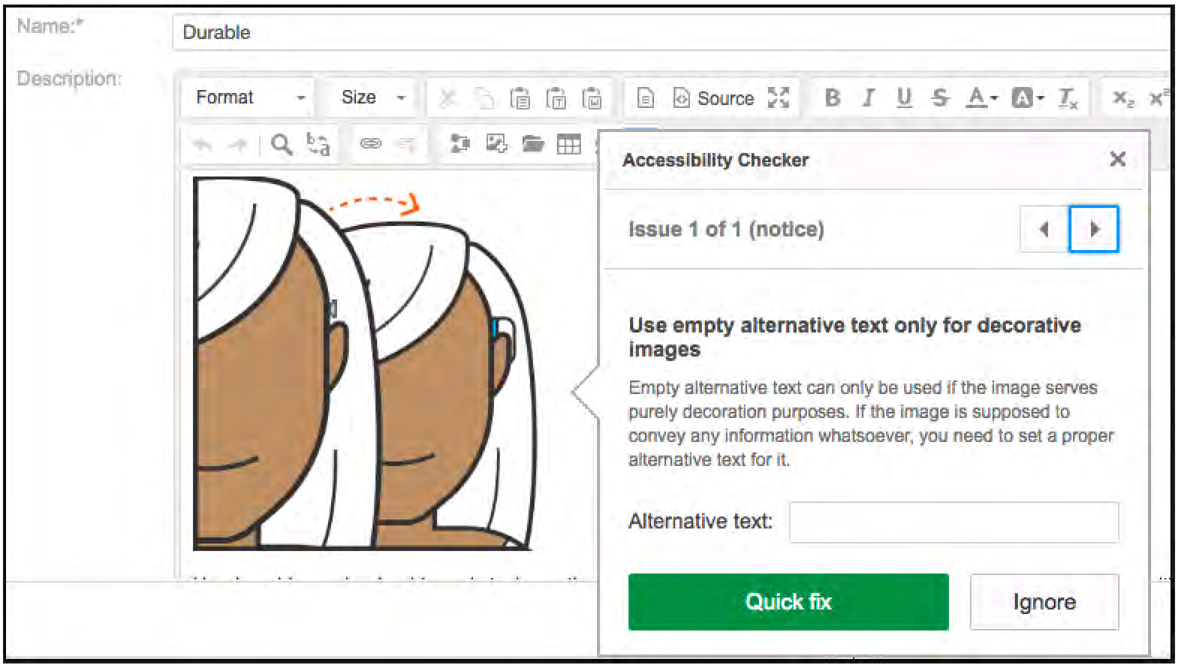
Run Accessibility Checker

The Accessibility Checker is a plugin that analyzes content created in the rich text editor. It lets you know if the content meets standards for people with impaired visual, cognitive, or motor skills.

1. Select the **Accessibility Checker** icon from the Rich Text toolbar.



The plugin inspects output HTML code to identify common accessibility problems and offers a "quick fix" solution.



2. Use the arrows at the top of the pop-up window to scroll through issues found by the Accessibility Checker.
3. For each identified issue, do one of the following:
   - Enter the suggested changes and select **Quick fix** to apply the changes.
   - Select **Ignore**.
4. If the Accessibility Checker finds no issues, you see a confirmation message. Select **OK** to close the message.

Importing content into Jama Connect

Content in Jama Connect is structured using an item-based approach. Items in Jama Connect can be containers (components, sets, folders) or instances of a particular type of item, such as a requirement or test case.

One way to populate Jama Connect with content is to import existing items (such as requirements or test cases) from other applications.

The most common applications for importing items into Jama Connect are:

Microsoft Word	• Determine hierarchy of imported items with Word heading styles (Heading 1, Heading 2...). • Retain formatting like bulleted lists, numbered lists, and text formatting. • Import Word tables as rich text field content or use tables to identify and import discrete items into Jama Connect.
Excel	• Map columns directly to fields. • Determine hierarchy of imported items with cell coloring or indentation. • Import via one-way import or round-trip import/export [117].
IBM Doors	• Import objects found within Modules. • Map object attributes directly to fields within Jama Connect. • Maintain relationships during import with active IBM DOORS data.

The Data Import Wizard guides you through the process of importing items into Jama Connect. It recognizes file types like .doc, .docx, .xls, .xlsx, and .csv and displays options accordingly.

You might need to prepare your source file for a successful import. For example, if your Word file has requirements in tables, you might need to ensure that all tables use consistent headings in the first row so that the wizard can identify each table for import.

TIP

Before populating Jama Connect with your data, discuss with others on your team to make sure all needed information has a "home" (field) in Jama Connect. Involving team members in this process can avoid rework of having to import again for data that was not initially taken into account.

Importing items from a Word file

You can add items to Jama Connect from a Word file. You might, for example, have a Word document with various types of requirements (customer, system, or software requirements) or with test cases.

TIP

If you are familiar with how to prepare a Word file for import, go to Import a Word file [100].

When using a Word document to import items into Jama Connect, you can use these features to control how things are imported.

- **Headings and styles** — From the document's **Styles** list, you can use default heading styles to determine hierarchy (nesting) of imported items in Jama Connect.Headings are always imported as items, not as folders. However, the hierarchy can be converted to folders once imported to Jama Connect. Apply the Normal style to item descriptions.
- **Tables** — Tables in a Word document can be imported directly into Jama Connect rich text fields as tables. Word tables can also be used to create discrete items in Jama Connect. If a table has a first row header and one row per requirement, the content is read as one item per row. If a table has two columns where the first column contains headings (for example, "Requirement Text") and the second column contains data (for example, "The system shall…"), the content is read as individual items for each table that conforms to a repeated structure.
- **Import/Ignore Sections** — Use designated keywords in your Word document to define which sections to import and which to ignore. This is useful for large documents when not all content is relevant to import.
- **Field mapping** — Define how Word elements map to Jama Connect item fields. This process varies slightly, depending on whether you use headers or tables to identify items.

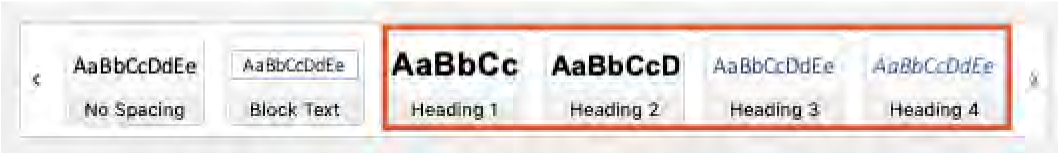
NOTE

Many Word styles are imported, but not all are converted exactly. The import wizard can't import a table of contents. Images are included as part of the import. OLE components, such as embedded Visio diagrams, are imported as PNG images.

Setting hierarchy with heading styles

When importing items from a Word document, you must prepare the document so that the import is successful. An important step in this preparation is to set the hierarchy, how items are nested in Jama Connect.

To set the hierarchy, use Word heading styles. Each heading represents a new item in Jama Connect. The heading text is imported into the item's **Name** field and any paragraph text, tables, or images are imported into the **Description** field.

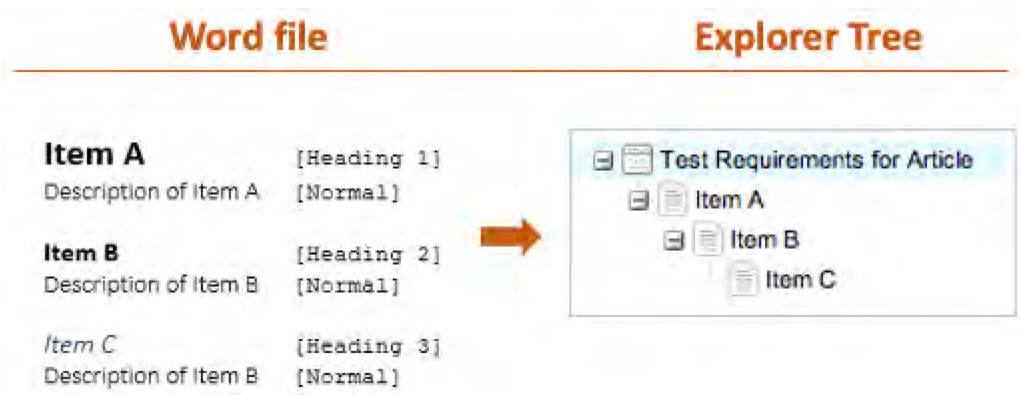


NOTE

In your Word document, all headings are imported as items, never as folders. However, the item hierarchy can be converted to folders after import using the Convert function.

The hierarchy of imported items is determined by which heading level you apply to the item name. A nested heading in Word is treated as a child item in Jama Connect, with a maximum of seven levels.

For example, in this diagram, **Item A** uses Heading 1 and is imported as a parent item. **Item B** uses Heading 2 and is imported as a child of Item A, and **Item C** uses Heading 3 and is imported as a child of Item B.



When you open the imported item in Single Item View, the **Name** field is populated with the text of the Word heading, and the Description field is populated with the text of the **Normal** style paragraph.

NOTE

For the Description and rich text fields, formatting for bullets, bold, italic, and underlining are retained when imported. Numbered lists are imported as bullets. When a list contains multiple levels, Jama Connect continues to use bullets. However, each set is indented to indicate the original level.

How tables are imported from Word

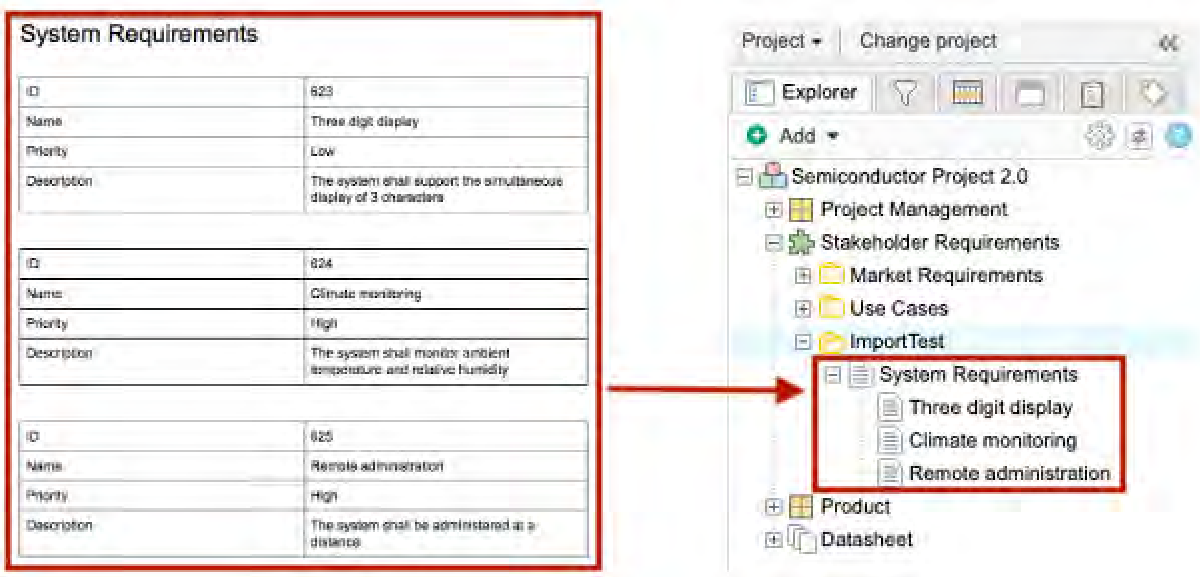
When importing items from a Word document, the Data Import Wizard lets you choose how tables are imported.

Each table is an individual item

Select this option when your Word document includes a separate table for each item you want to import. The wizard prompts you to complete field mappings with this option.

In this example, the document heading (**System Requirements**) is imported to Jama Connect as a parent item and each table is imported as a separate child item.

The table for each item must have at least two columns: column 1 is the field name (for example, **Name**) and column 2 is the field value (for example, **Three digit display**).



TIP

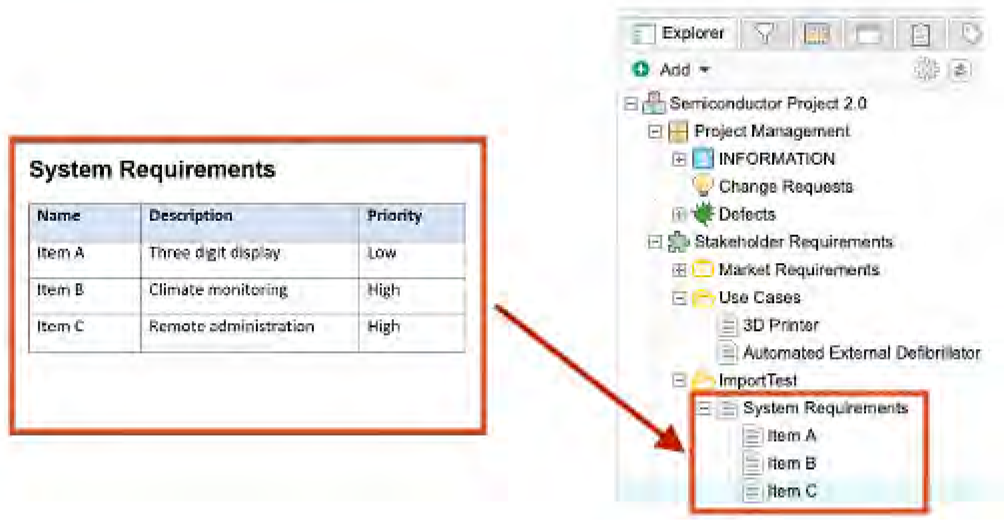
If your Word file includes multiple tables, make sure that all tables use the same wording for the field name in the header (first) row. For example, if one table uses **ID** for the field name, all tables must use **ID**, as in this example.

Each table row is an individual item

Select this option when your Word document includes tables where the first row is the heading row and each subsequent row constitutes a discrete item. The wizard prompts you to complete field mappings with this option.

The cells with field names must be the top row of the table. Each subsequent row represents a separate item, and a row's cells define the field values. If you have multiple tables in your document, each table must have the same heading values to be recognized by the import tool.

This is an example document after importing into the set called System Requirements.

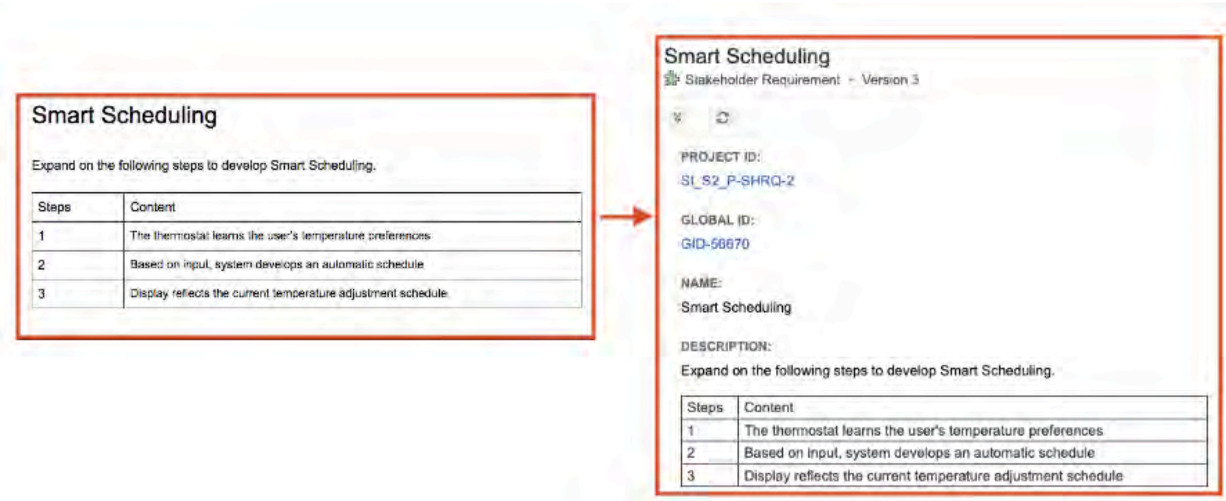


Descriptions might include tables

Select this default option when the document you're importing has no tables or the content of a table applies only to the item description.

You don't need to map fields when you select this option.

Here is an example document and the results after you import.

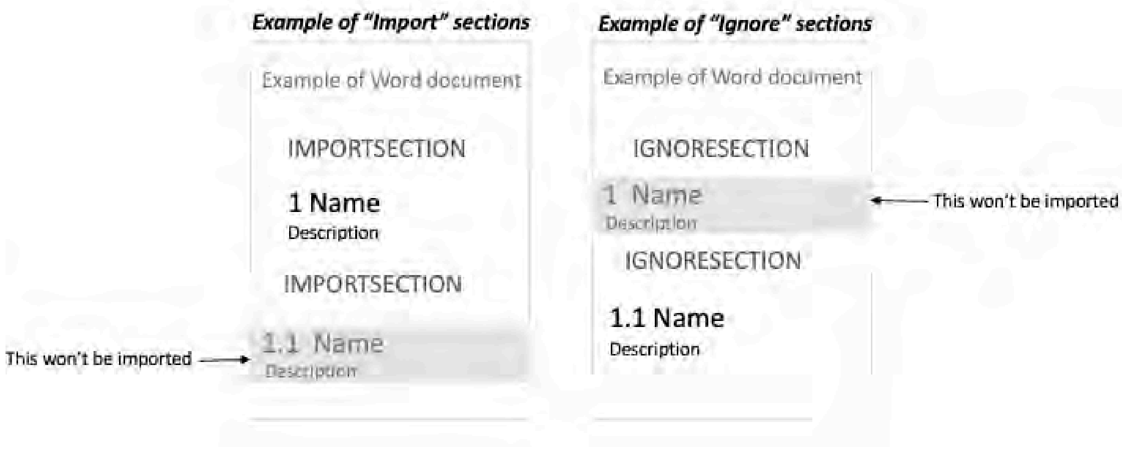


Prepare your Word file for import

Before you import a Word file, make sure it is formatted for a successful import. For example, confirm that you use default headings and that your tables are formatted properly.

You might also need to define the *document scope* by tagging sections of content to include and exclude. Requirement documents are often large and might contain sections or items that need to be imported to different sets, different folders, or not at all.

1. Open the Word file you intend to import to Jama Connect.
2. Set hierarchy with heading styles [96] (how items are nested in Jama Connect).
3. If your file includes tables, make sure they are formatted according to how tables are imported from Word [97].
4. (Optional) If you don't want to import the entire file, add keywords to sections you want to import and ignore.
   Use start/stop keywords that are simple, one-word, and all caps with no formatting. Keywords must not be actual words that might appear in the content. Commonly used start/stop keywords are IMPORTSECTION and IGNORESECTION.
   a. Insert the keyword IMPORTSECTION *before and after* each section you want to import.
   b. Insert the keyword IGNORESECTION *before and after* each section you want to exclude from the import.

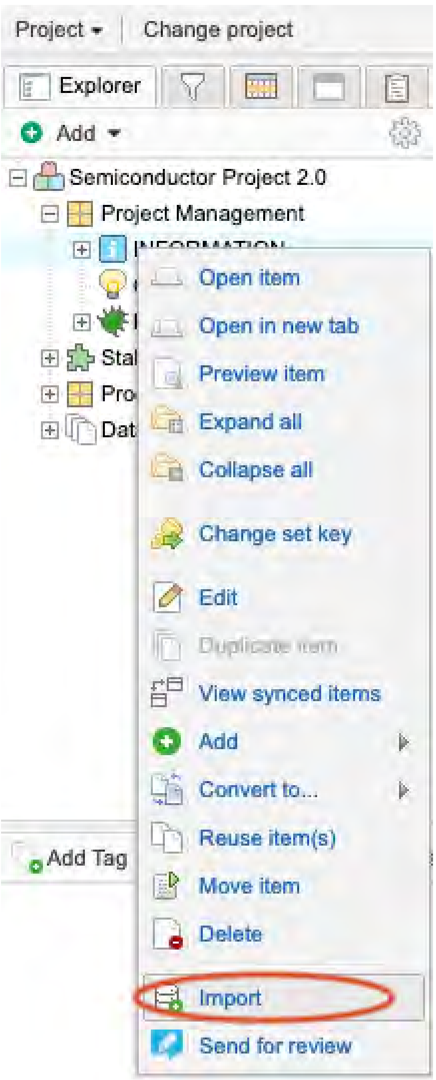


5. Save and close the Word file.

Import a Word file

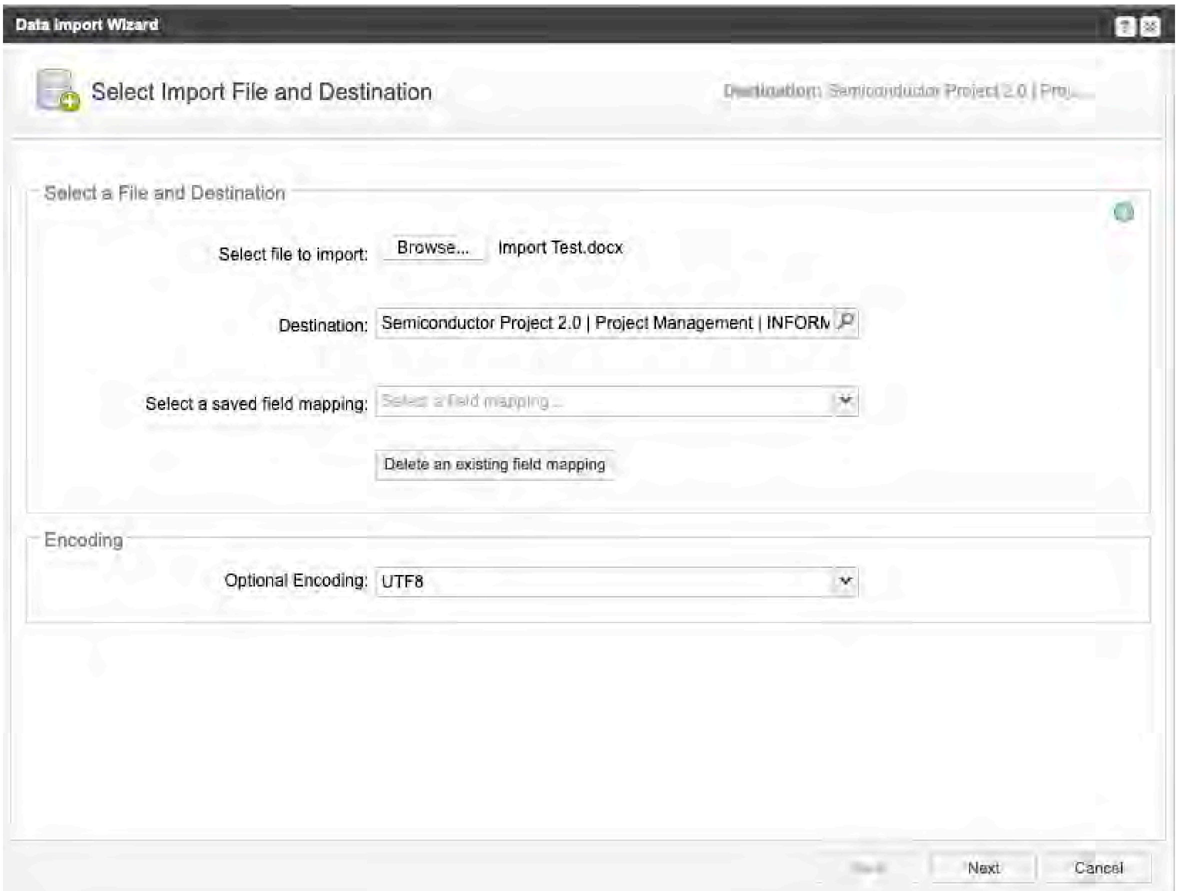
Once you have exported data from DOORS, you can import it to Jama Connect using the Data Import Wizard in Jama Connect.

1. Open the Data Import Wizard: In the Explorer Tree, right-click an item where you want to import new items, then select **Import**. Your file will be imported below the selected item.



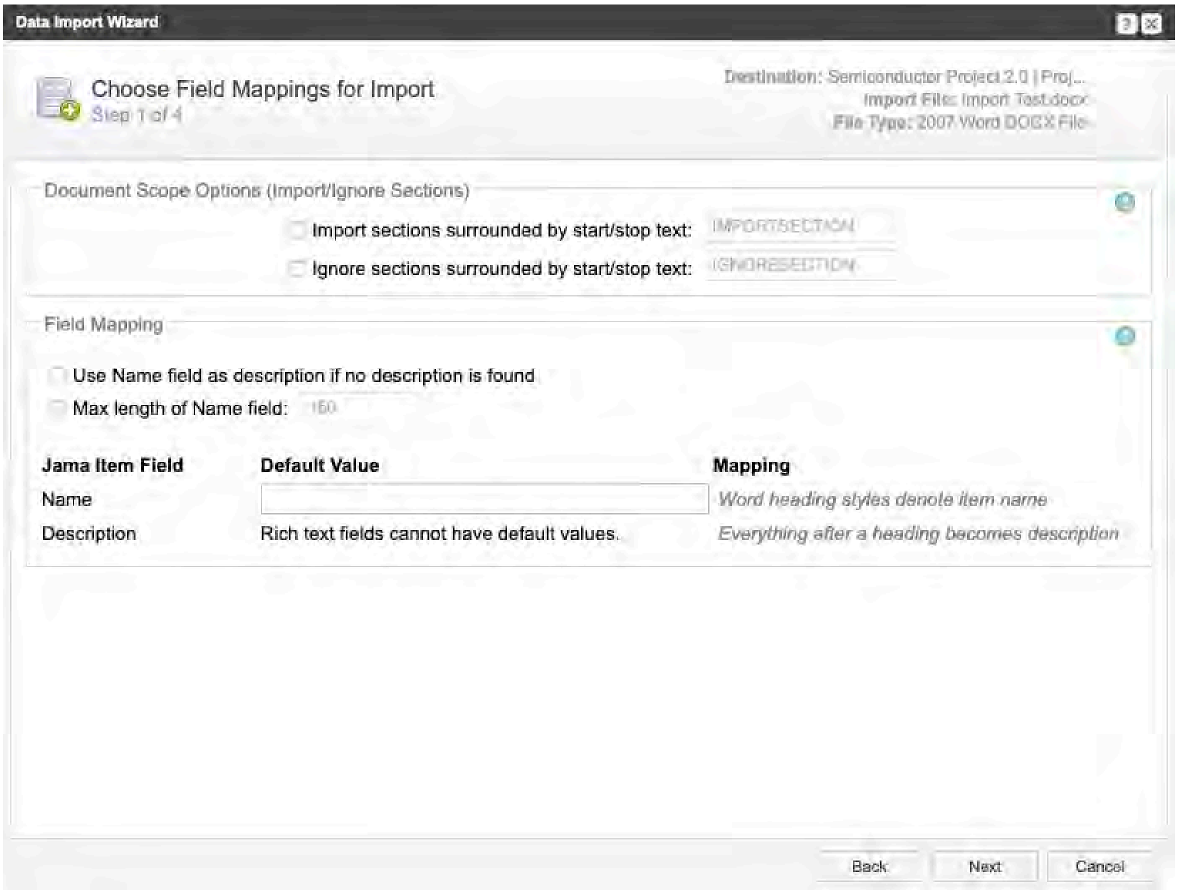
The first page of the wizard opens with the **Destination** field pre-populated.

2. Complete the **Select Import File and Destination** page, then click **Next**.



   a. Click **Browse** and select the Word file you want to import.
      If the file type isn't recognized, the import doesn't continue.
   b. (Optional) If you previously saved your field mappings for importing a Word file, click the **Select a saved field mapping** field and choose that file.
      This is useful if you are importing multiple documents with the same field mapping.
   c. (Optional) In the **Encoding** section, select the character set encoding to use during the import. For most imports you can use the default, UTF-8, which is used by the Jama Connect database.

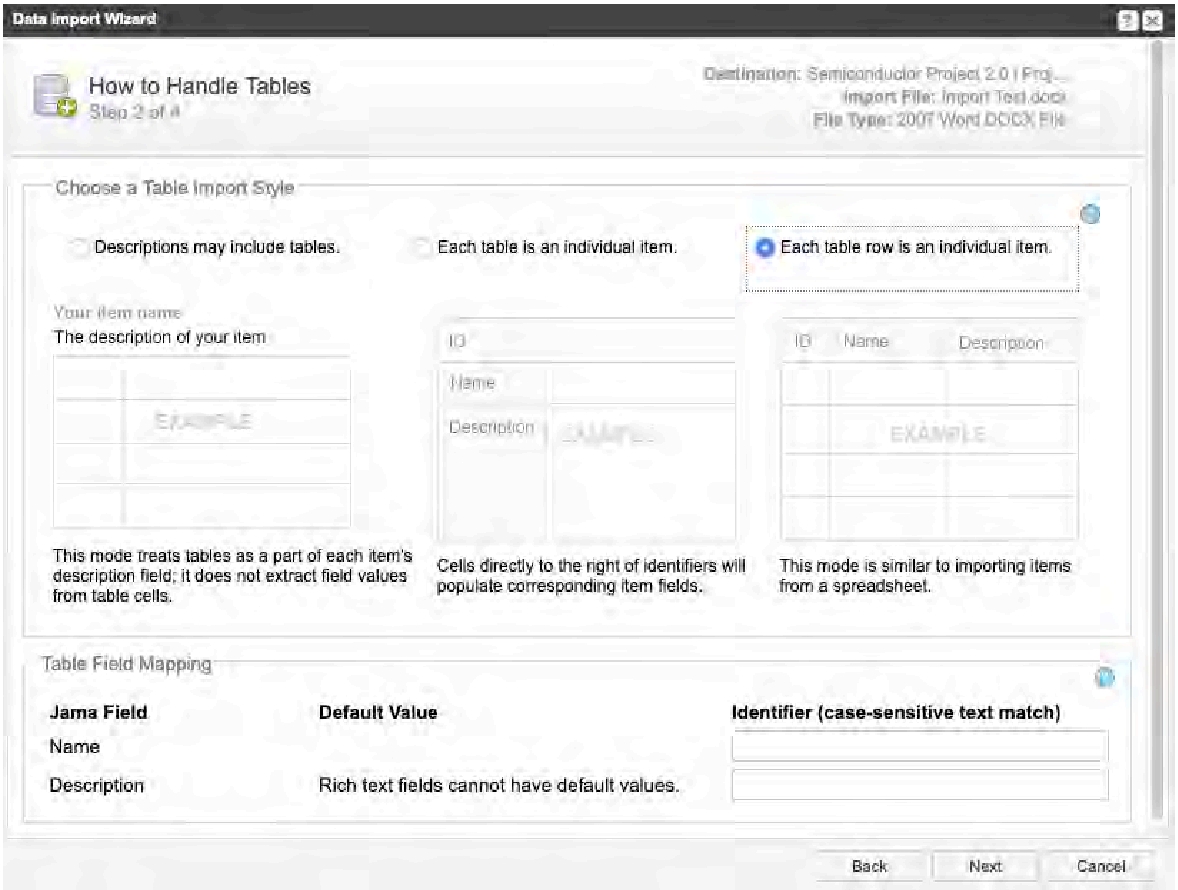
3. Complete the **Choose Field Mappings for Import** page, then click **Next**.



a. **Document Scope Options** — If you tagged your Word file to import and ignore some sections, select the checkboxes and enter the name of each keyword (for example, INCLUDESECTION and IMPORTSECTION).

b. **Field Mapping**
   - **Max length of Name field** — Select this and enter a maximum number of characters for the name. Default is 255 but this option lets you further limit the name length.
   - **Default Value** — Use this option (when available) if you want a field value to be used by default. Then, all items created during import include the default value you enter. For example, you can set the status to **Draft** for all imported items.

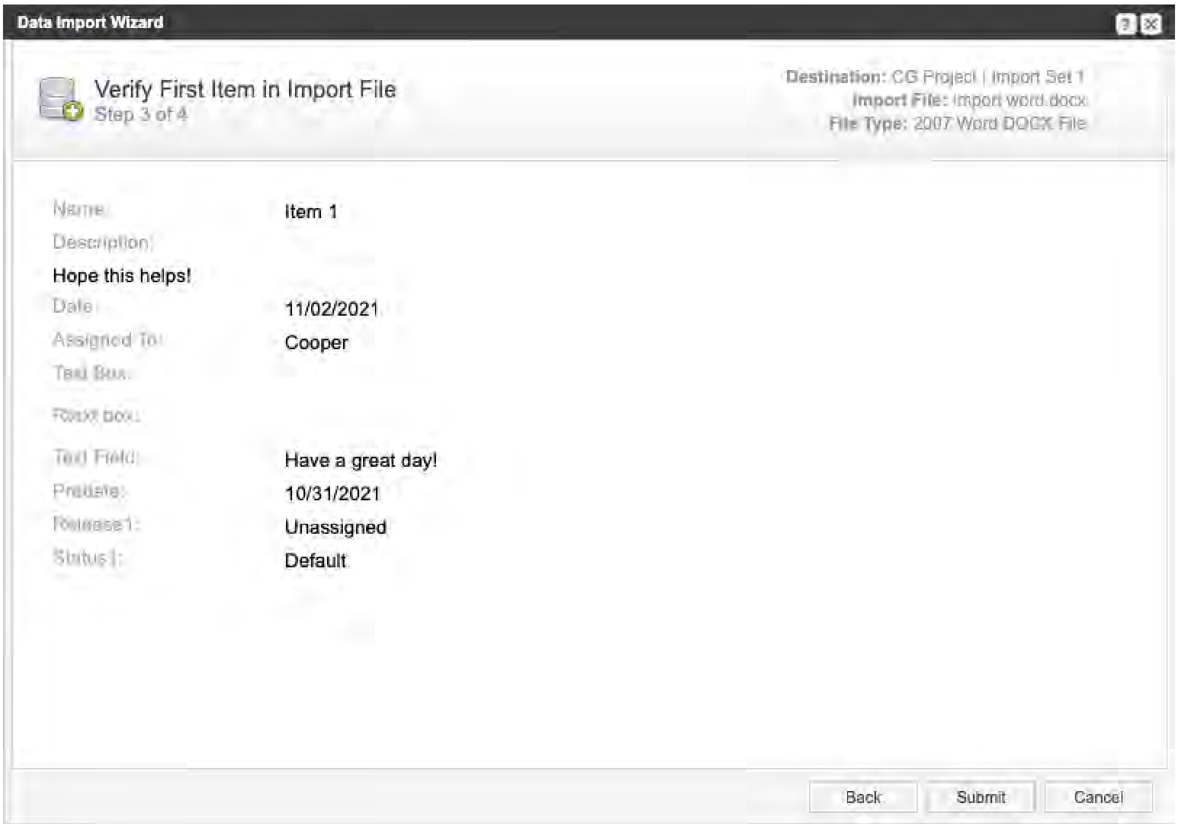
4. Complete the **How to Handle Tables** page, then click **Next**.



a. **Choose a Table Import Style** — Select this option if your item description includes tables:
   - **Descriptions may include tables** — Select this option if your file uses headings for hierarchy, but the content includes some tables.
   - **Each table is an individual item** — Select this option if your file uses tables and includes a separate table for each item. Must complete Table Field Mapping.
   - **Each table row is an individual item** — Select this option if your file uses tables and the tables use a separate row for each item. Must complete Table Field Mapping.

b. **Table Field Mapping** — Complete this section if importing table content as individual items (option 2 or 3 above). From your Word tables, copy the heading values into the Identifier field for each Jama Field mapping. For some Jama Fields, you can set a default value (for example, setting status to Draft), which populates the field if the mapping has no value.

5. **Verify First Item in Import File** — Review the mapping of the first item found in the document you're importing. If the mapping is correct, select **Submit** to import the target document.



a. (Optional) Select **Import another file** to restart the wizard.
b. (Optional) To reuse the field mapping settings, select **Save this as new document mapping**.

> **NOTE**
> Field mappings are project-specific and can be used by any user in the project where the mappings are saved.

c. Click **Submit**.

6. Click **Close**.

A message appears in the Data Import Wizard to confirm that the import was successful.

Importing from Excel

You can use the Excel Import Wizard to import data into Jama Connect from a Microsoft Excel document. This process is called a *one-way Excel import*. You can also export existing data from Jama Connect to an Excel template, then update the data in Excel as needed, and import it back into Jama Connect. This called an *Excel round-trip*.

To ensure a successful import, your Excel worksheet must be created and formatted for the specific type of data (items, test cases, item relationships) that you want to import.

For items and test cases, your worksheet indicates item hierarchy — how items are nested — as folders, parent items, or child items. You can use color or indentation to define hierarchy.

When importing items, your worksheet can include only one item type. If you need to import more than one item type, you must create a separate worksheet for each item type and import each worksheet separately.

TIP

If you are familiar with how to prepare an Excel file for import, go to the tasks Import items [113], Export/import via Jama Connect-to-Excel round trip [117], and Import relationships [120].

Recognized file types

Jama Connect imports data from Excel files with these extensions: **.xlsx**, **.xls**, and **.csv**.

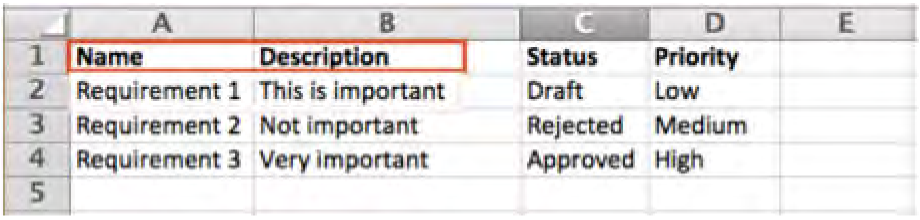
NOTE

An import from a file with a .csv extension doesn't create folders or hierarchy. Only .xlsx and .xls files create folders and hierarchy.

Preparing a worksheet to import items

Before importing items from your Excel worksheet, make sure it contains all the necessary elements for a successful import.

- One item type per worksheet. If you have more than one item type to import, create a separate worksheet for each type.
- Header row [106] **with field names**



	A	B	C	D	E
1	Name	Description	Status	Priority	
2	Requirement 1	This is important	Draft	Low	
3	Requirement 2	Not important	Rejected	Medium	
4	Requirement 3	Very important	Approved	High	
5					

- Valid pick list options [106]
  If importing into a Jama Connect pick list field, make sure the values in your Excel worksheet exactly match the available values in the Jama Connect field.
- **Date format**
  When including dates in text-formatted cells, always format dates like this:
  mm/dd/yyyy hh:mm:ss Z (example: **-0800, +1000, +0700**) where **Z** is the time zone difference from GMT.
- **Roundtrip**
  If importing to update existing items in Jama Connect, you must use a spreadsheet generated from Jama Connect when you select the **Excel Export for Roundtrip** option.
  Create a baseline [239] before a round-trip export/import process, in case you need to restore old data.

TIP

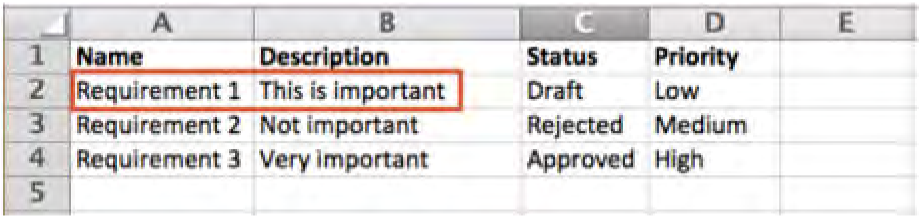
To import test cases or requirements, see Preparing a worksheet to import test cases [110] or Preparing a worksheet to import relationships [112].

Defining header row in Excel

Including a header row in your worksheet helps to easily map columns in the worksheet to fields in Jama Connect. Typically, the Header row is the first row in your worksheet, but it doesn't have to be.

The header row includes fields listed horizontally, with values for those fields defined in subsequent rows.

Your worksheet can contain only one header row. If you don't use column headers, the import automatically numbers the columns sequentially from left to right, starting with 1.



	A	B	C	D	E
1	Name	Description	Status	Priority	
2	Requirement 1	This is important	Draft	Low	
3	Requirement 2	Not important	Rejected	Medium	
4	Requirement 3	Very important	Approved	High	
5					

We recommend that you always include **Name** and **Description** fields. You can add optional fields like **Status** or **Priority**.

If you don't include a **Name** field, the worksheet must still contain a column to be mapped to the Jama Connect **Name** field. Every item and folder in Jama Connect must have a value in the **Name** field. If your requirements were previously managed in an Excel worksheet without this field, you can create a new column for **Name** values or designate an existing column, such as a legacy ID value, for the **Name**.

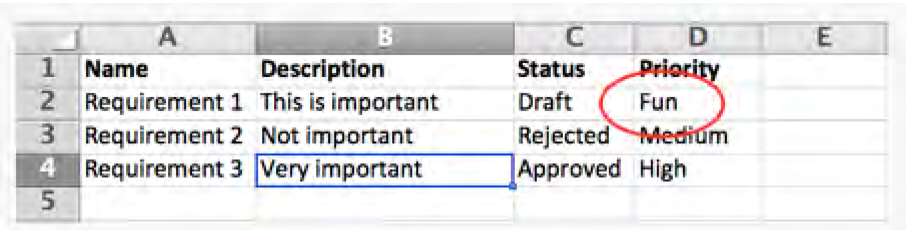
If other fields for the imported item type are required (based on Admin configurations), you can add them to your worksheet or plan to set a default value during the import.

> **IMPORTANT**
>
> An organization administrator can add or delete fields [598] for an item type in Jama Connect. However, the **Name** field is a system field and can't be disabled.

Defining pick lists in Excel

When your worksheet includes a column for a pick list in Jama Connect, for example **Priority** or **Status**, the values you define must match the list of available values in Jama Connect. Otherwise, the imported item shows a blank entry for that field value.

In this example worksheet, Requirement 1 lists **Fun** as a Priority value, which doesn't match the values in Jama Connect (**High**, **Medium**, **Low**). After importing this item, the List Item View shows a blank entry for Priority.



	A	B	C	D	E
1	Name	Description	Status	Priority	
2	Requirement 1	This is important	Draft	Fun	
3	Requirement 2	Not important	Rejected	Medium	
4	Requirement 3	Very important	Approved	High	
5					

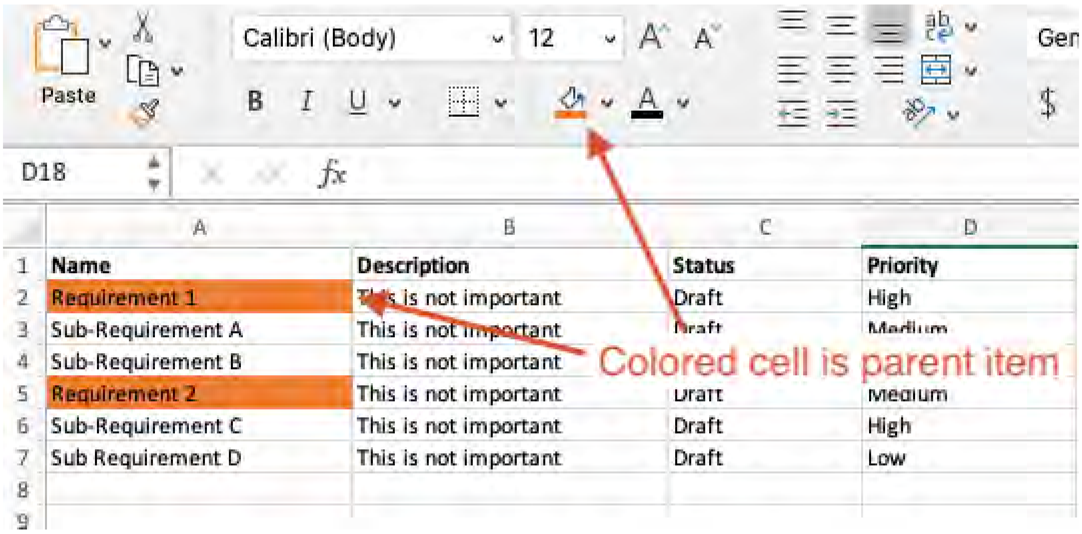
TIP

Before importing your worksheet, identify the columns in Excel that will be mapped to pick list fields in Jama Connect. Use the Excel Filter functionality to identify the values found in that column in Excel. If the values found in Excel do not have an exact match in the Jama Connect pick list, you must correct errors before importing. Otherwise, the value will be blank.

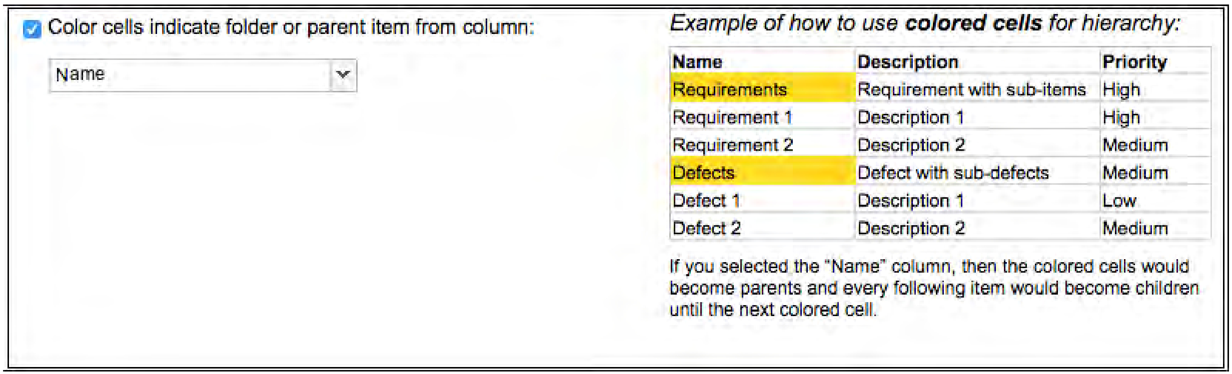
Setting hierarchy with color in Excel

When you import items from an Excel worksheet, you can use cell color to determine hierarchy of imported items. This method allows only one tier of hierarchy and doesn't differentiate between colors.

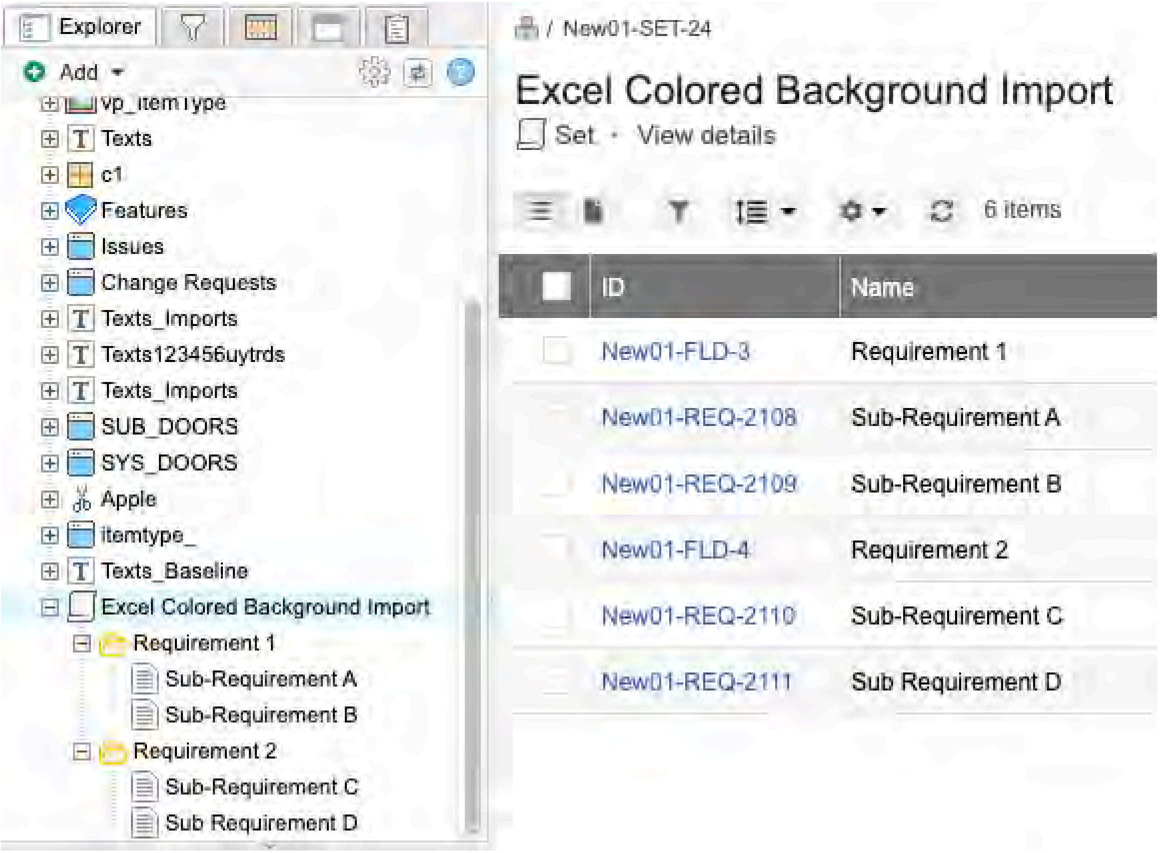
In your Excel worksheet, you can select the cell you want to use as a parent container and use a color to indicate hierarchy.



When you import the document, the Data Import Wizard prompts you to select the column that will determine hierarchy. In this example, **Name** column is selected.



The resulting import shows the colored cells as parent containers.

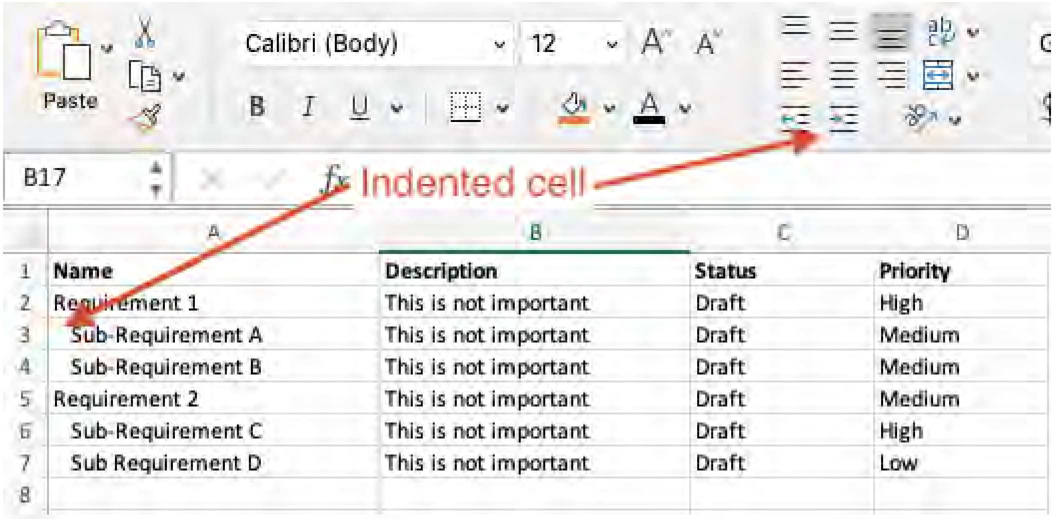


Setting hierarchy with indentation in Excel

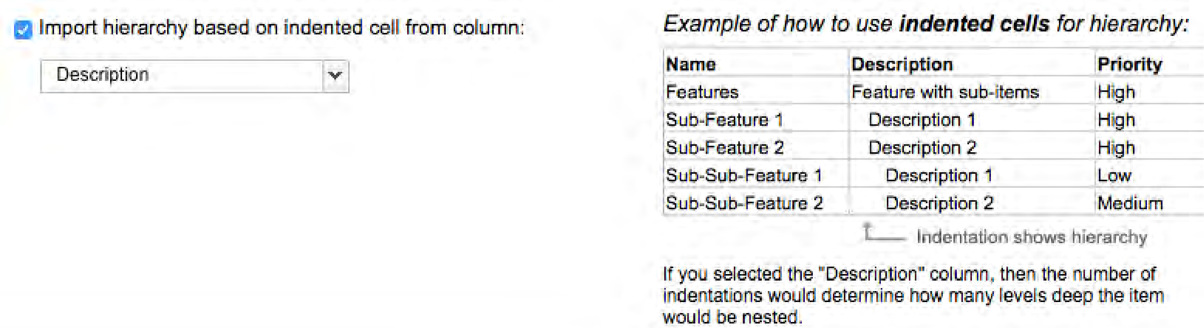
When you import from an Excel worksheet, you can use indentation to determine hierarchy of imported items.

In your Excel worksheet, you decide which cells you want to be parent items, then indent the cells below the parent items.

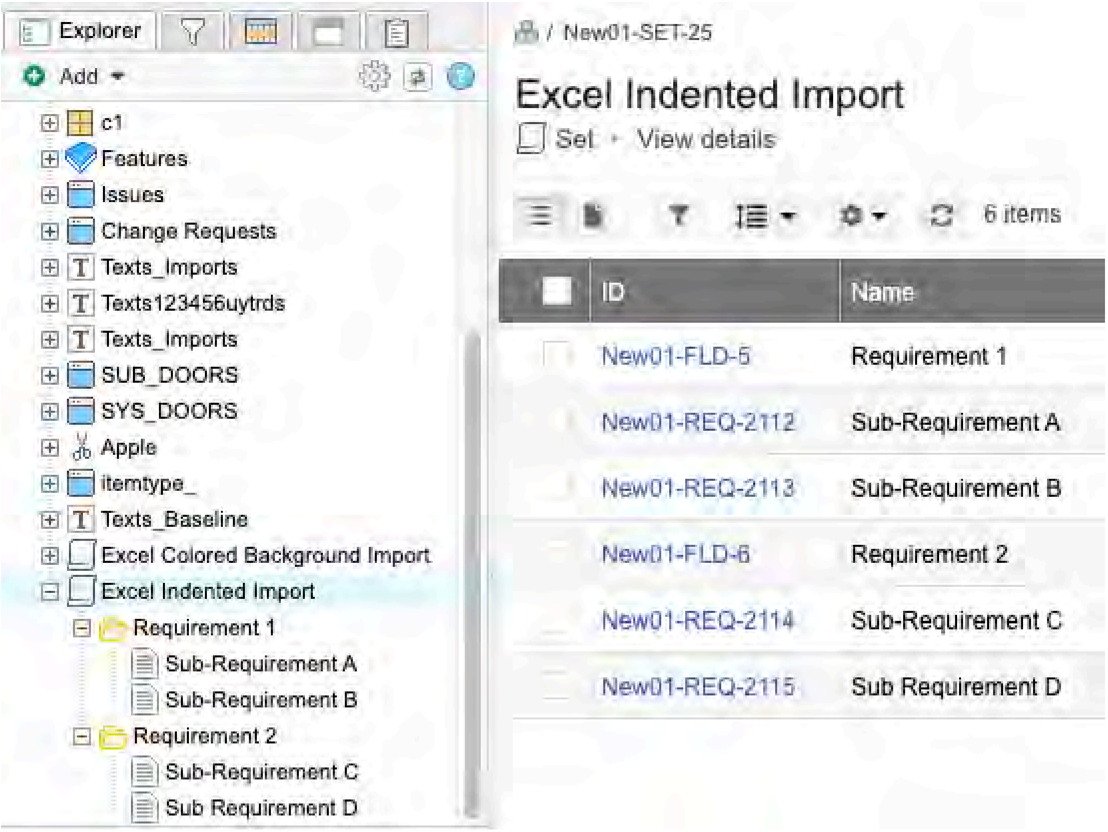
Using indentation for hierarchy allows multiple levels of hierarchy (for example, folders containing sub-folders and subfolders containing items). This is an advantage over using highlighted cells for hierarchy.



When you import the document, the Data Import Wizard prompts you to select the column that will determine hierarchy. In this example, **Description** column is selected.



The resulting import shows the indented cells as child items:



Preparing a worksheet to import test cases

To import test cases and their steps, you use the **Excel import to Jama Connect** option. You can use a **one-way import** to import a test case from an Excel worksheet or, if you need to update existing test cases, you can use a **round-trip** process.

Required header fields

To successfully import test cases and their test steps, your Excel worksheet must contain one header row with these four columns (field names): **Test Case Name**, **Action**, **Expected Results**, and **Notes**.

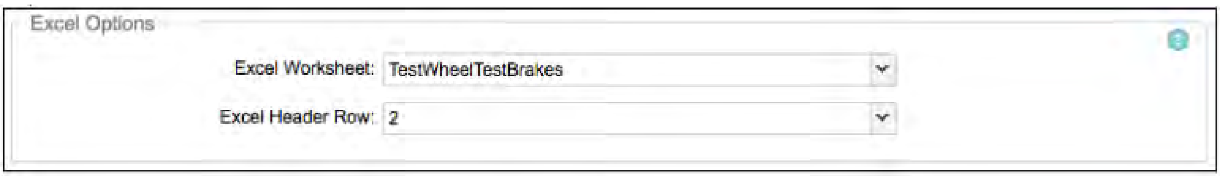
A	B	C	D
Test Case Name	Action	Expected Results	Notes

One-way import for test cases

Quickly bring legacy test cases into Jama Connect. This example worksheet imports two test cases: "Test Wheel" and "Test Brakes." Each row with the repeated test case name is imported as a new test step.

A	B	C	D
Test Case Name	**Action**	**Expected Results**	**Notes**
Test Wheel	Rotate	move in circular motion with no obstruction	tester notes
Test Wheel	Let air out	self inflator starts	tester notes
Test Wheel	Poke Hole	self inflator starts	tester notes
Test Wheel	bend spoke	wheel breaks	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 20ft at 80% downgrade at 50MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 30ft at 85% downgrade at 50MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 40ft at 90% downgrade at 50MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 15ft at 80% downgrade at 40MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 20ft at 85% downgrade at 40MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 25ft at 90% downgrade at 40MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 10ft at 80% downgrade at 30MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 15ft at 85% downgrade at 30MPH	tester notes
Test Brakes	apply brakes downhill	slows to a stop in 20ft at 90% downgrade at 30MPH	tester notes

When importing the Excel file, follow the instructions for any one-way import [117]. The Data Import Wizard prompts you to select the worksheet, plus the number of the header row.



NOTE

To import items or requirements, see Preparing a worksheet to import items [105] or Preparing a worksheet to import relationships [112].

Round-trip for test cases

When you need to update a test case already in Jama Connect, you can use a round-trip [117] process. First you export a test case from Jama Connect, which generates an Excel file populated with the required fields. Next you update any fields that need changes, then re-import the data back to Jama Connect.

Because of the relationship between test cases and test runs, you can't update the test case status [320] in a round-trip import/export. The test case status field is calculated from all test runs derived from that test case.Test case status.

Add and delete a test step in Excel

You might need to add a new step to your test case or delete an existing step.

1. **Add a test step** — Copy an existing row (step), then right-click on the row where you want to insert the copy and select **Insert Copied Cells**. Edit the fields in the copied row to reflect the information needed for the new step.

K	L	M	N	O	P	Q	R	S	T	U	V
Description	Ass	Priority	Test Case	Locked By	Last I	Modified B	Modified	Step #	Step Actio	Step Expected	Step Notes
Tests included whe		Medium	Not Sched		05/17	Sam Test	05/17/20	1	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	1	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	2	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	3	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	4	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	6	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	7	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	7	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	8	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	9	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	10	Not Sched		
open a web browse		Unassigne	Not Sched			Sam Test	05/17/20	11	Not Sched		

IMPORTANT

Always use **Insert Copied Cells** instead of **Paste**. The Paste command replaces the row instead of adding a new row, and subsequent steps are removed on import.

2. **Remove a step** — Right-click on the row (step) you want to remove, then select **Delete**. Re-numbering of steps takes effect on import.
3. Save the file.

Preparing a worksheet to import relationships

Relationships are imported to Jama Connect from an CSV file, using a relationship import plugin [551]. You can't import relationships with the Excel Import Wizard.

A properly formatted CSV file, when opened in Excel, consists of two columns:

- **Column A** — Parent or upstream item references
- **Column B** — Child or downstream item references

	A	B
1	CP-REQ-10	CP-UC-94
2	CP-REQ-8	CP-UC-95
3	CP-REQ-9	CP-UC-96
4		

As needed, you can import multiple relationships to a single item or many relationships to many items. To accomplish this, you create duplicate cell combinations for those items. In this example, CP-REQ-10 has three relationships, each in its own row.

	A	B
1	CP-REQ-10	CP-UC-94
2	CP-REQ-10	CP-UC-95
3	CP-REQ-10	CP-UC-96
4		

NOTE

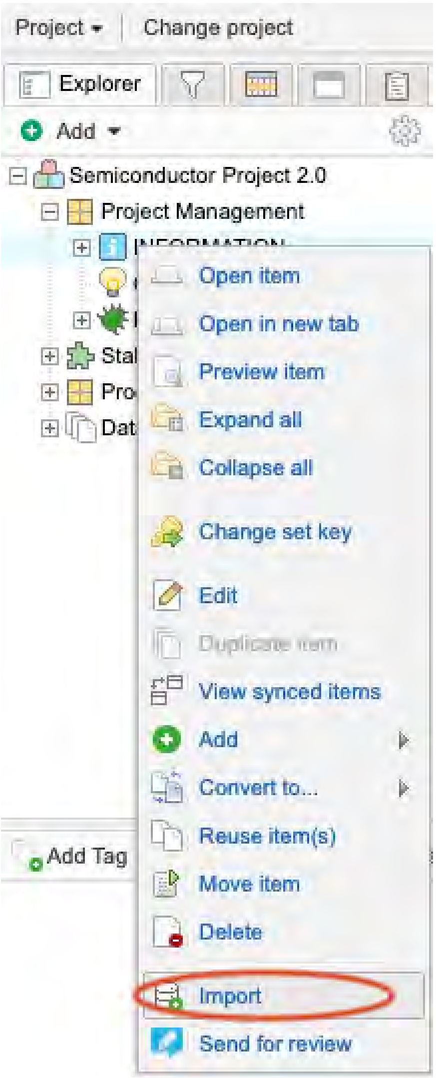
To import items or test cases, see Preparing a worksheet to import items [105] or Preparing a worksheet to import test cases [110].

Import items or test cases from an Excel worksheet

Importing items or test cases from Excel to Jama Connect is called a one-way import. The process is handled by the Data Import Wizard, which guides you through the steps. The wizard recognizes .xls and .xlsx file types.

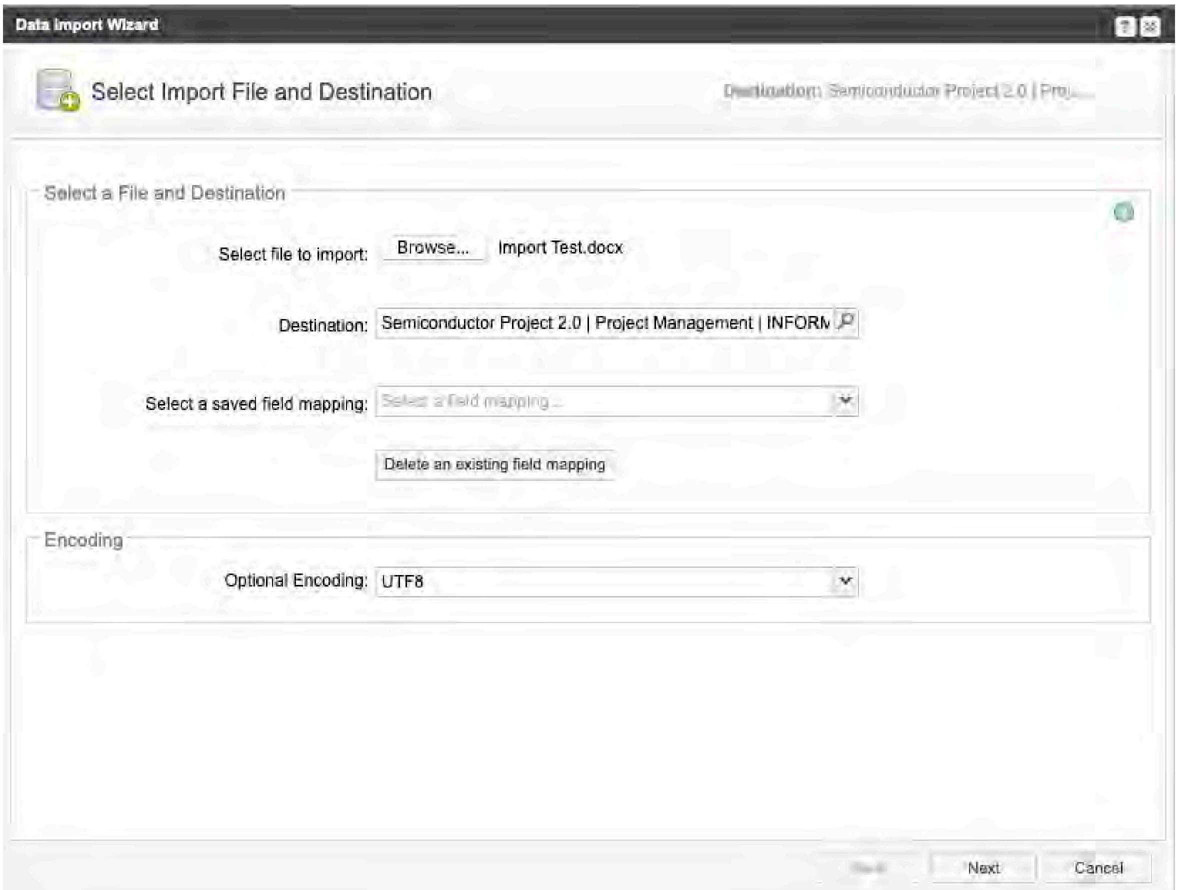
> **IMPORTANT**
>
> You can't create new items with a one-way import. If you need to add new items, use an Excel round trip [117].

1. Open the Data Import Wizard: In the Explorer Tree, right-click the set or folder where you want to import new items, then select **Import**. Your file will be imported below the selected item.



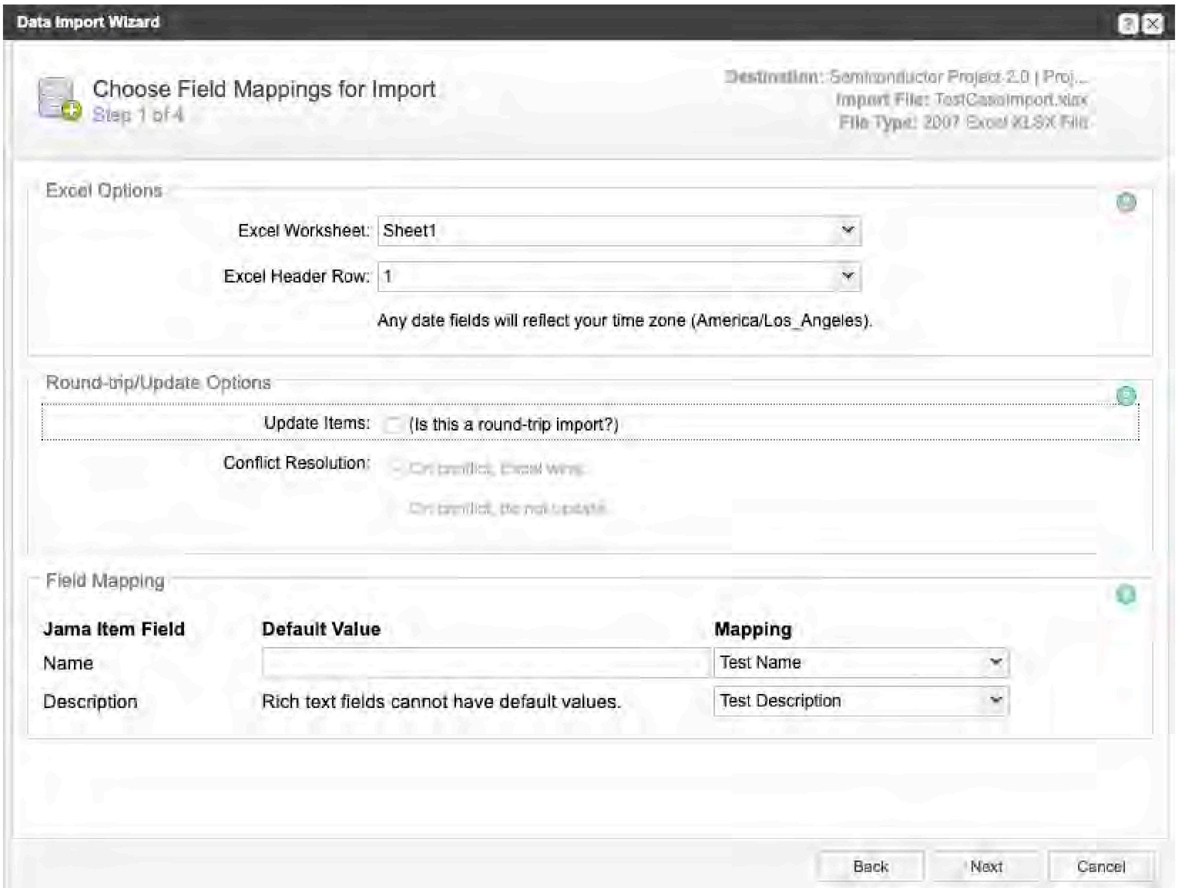
   The first page of the wizard opens with the **Destination** field pre-populated.

2. Complete the **Select Import File and Destination** page, then click **Next**.



a. Click **Browse** and select the Excel file you want to import. If the file type isn't recognized, the import doesn't continue.
b. (Optional) **Encoding** — Select **UTF8**.

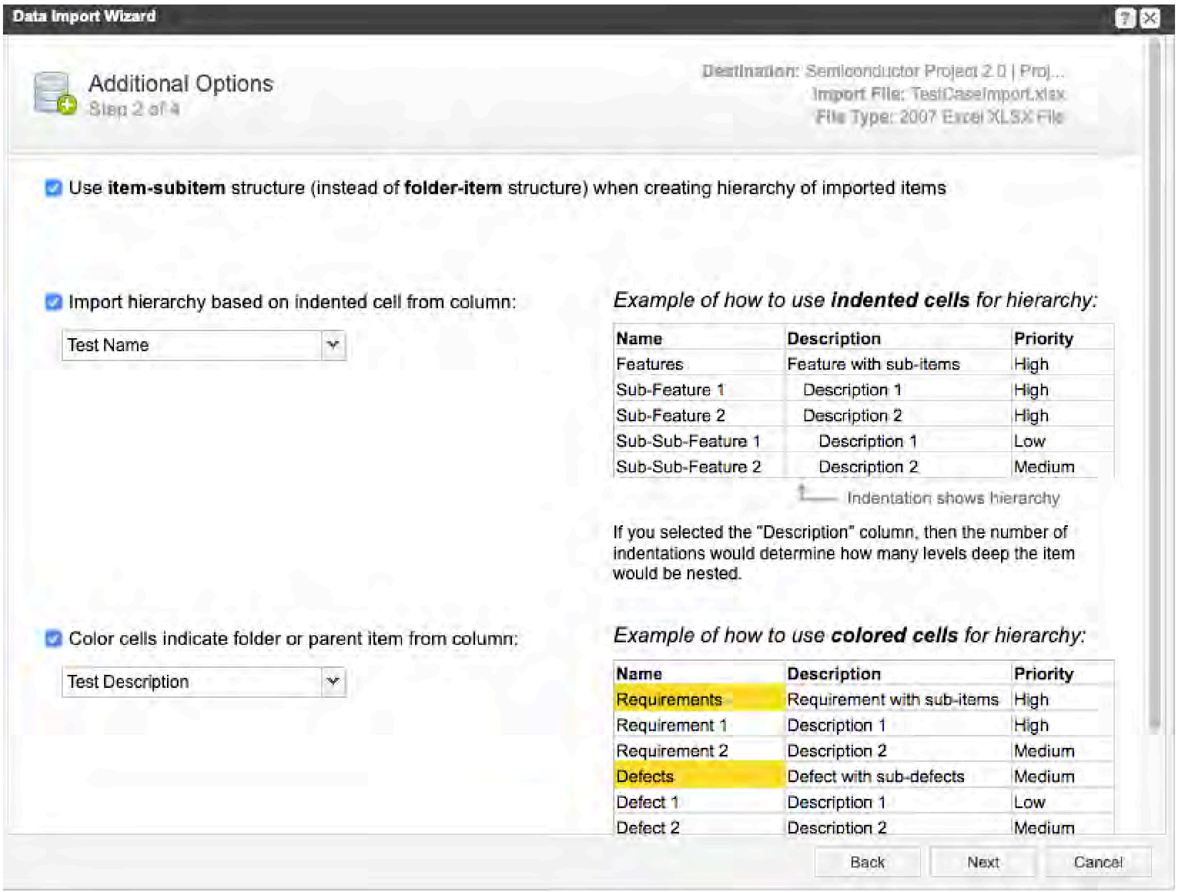
3. Complete the **Choose Field Mappings for Import** page, then click **Next**.



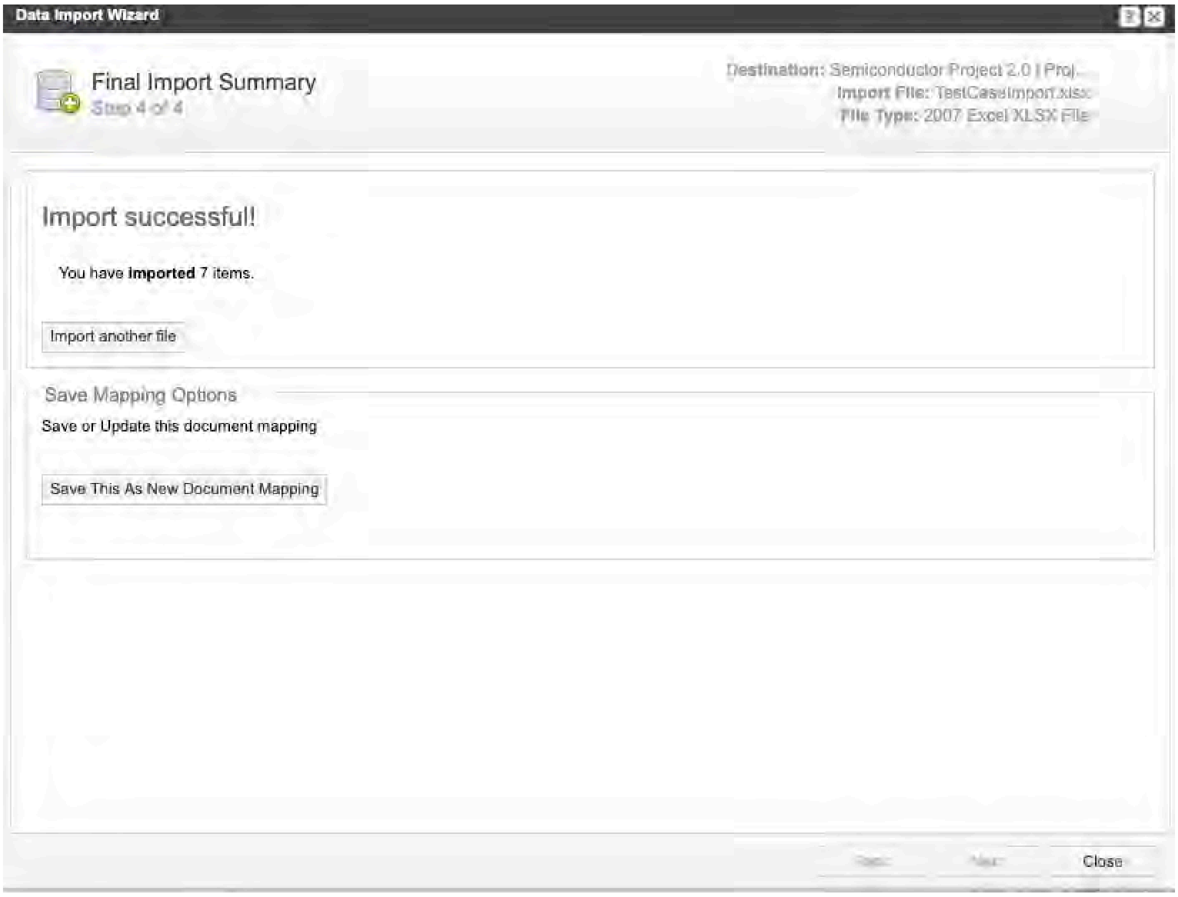
Excel Options — If your file has more than one worksheet, select the one you want to import, then enter the number for the header row. If a header row doesn't exist, select row **0**, which populates the Mapping section with the Excel default column names.

- **Round trip/Update Options** — For one-way import, leave these options unselected.
- **Field Mapping** — Select the appropriate column from the worksheet for each field in Jama Connect where you want to import data. Select a mapping for **Name** and any required fields, as determined by the Admin configuration for the item type. Fields not required for the import don’t need to be mapped.

4. On the **Additional options** page, indicate whether your worksheet uses cell color or indentation for hierarchy, then click **Next**.



5. If the fields were mapped successfully, you see a preview of your import. Click **Submit** to import all items.
   The **Final Import Summary** page confirms the total number of items imported.



6. (Optional) Import another worksheet or save the current mappings to use for future uploads.

> **NOTE**
> Field mappings are project-specific and can be used by any user in the project where the mappings are saved.

7. Click **Close**.

Export/import via Jama Connect-to-Excel round-trip

With a round trip, you can batch edit multiple items or test cases in Jama Connect, as well as create new items or test steps to be imported.

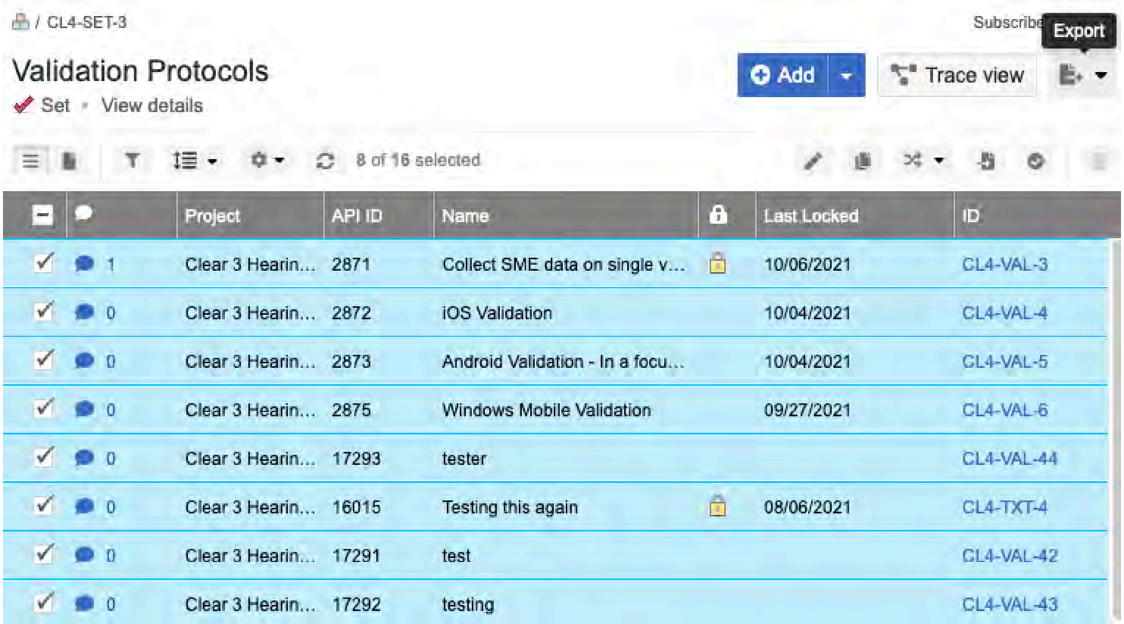
The round-trip process involves these steps:

1. Export the items you want to edit from Jama Connect to an Excel worksheet.
2. Make your changes in the worksheet (add items or steps, delete steps, change field values).
3. Import the edited worksheet back into Jama Connect.

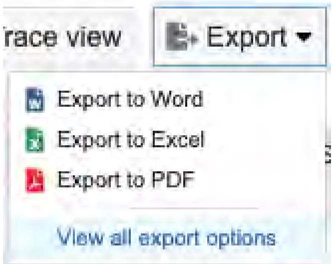
Round trip requires you to re-import Excel documents created by Jama Connect using an Excel template. When the system identifies items that originated in Jama Connect, it updates your items according to the conflict rule set at the time of the import.

Excel has a cell character limitation and, during the export, truncates rich text fields that exceed the limit. A truncated rich text field can impact the data that's imported to Jama Connect using round-trip.

1. Export a folder, filter, or set of items to Excel:
   a. In List View, select the columns that you want to export to Excel.
      Only the columns shown in List View are exported, so be sure to display all columns you need to include.

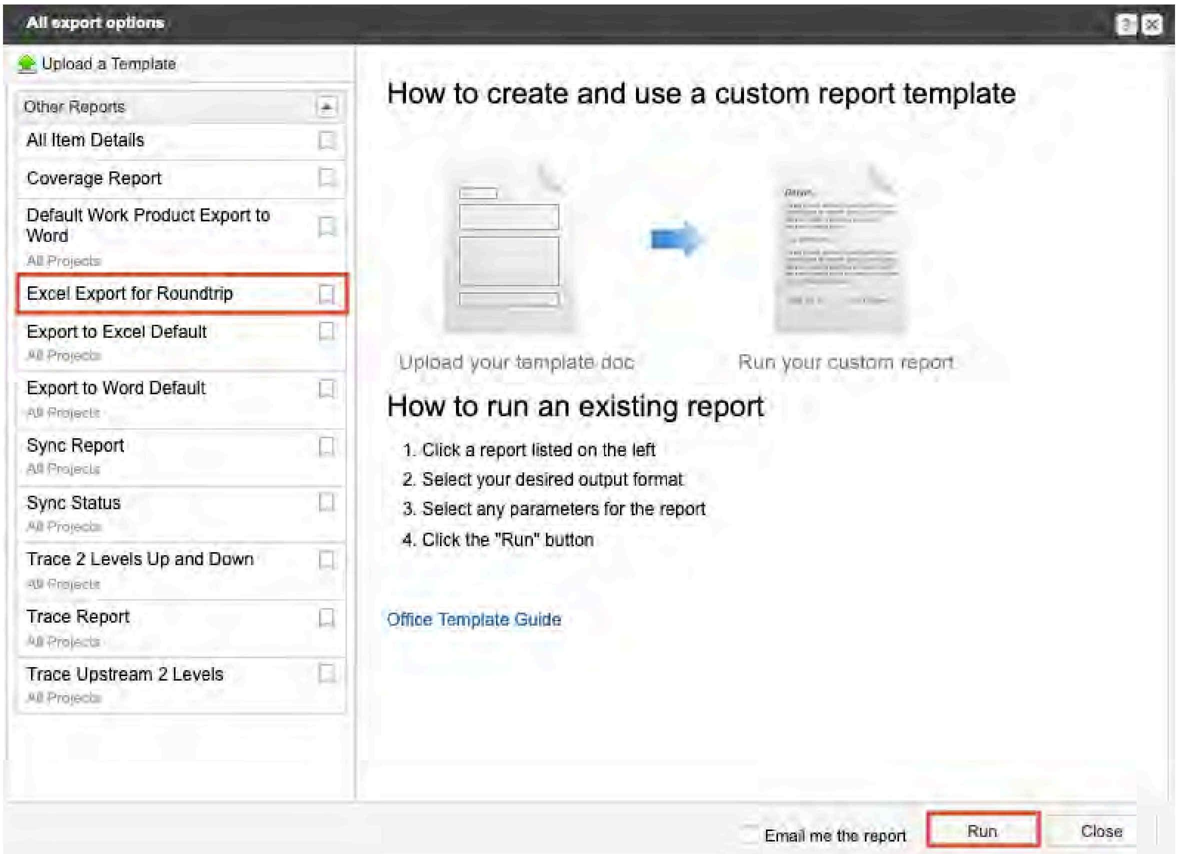


b. Select **Export > View all export options**.

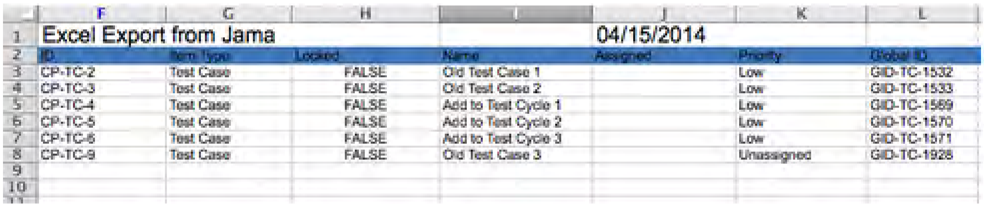


c. In the window that opens, select **Excel Export for Roundtrip** from the menu on the left, then select **Run**.

> **NOTE**
>
> Excel limits the number of characters that a cell can contain. If a Jama Connect field (rich text field) exceeds the limit, Excel truncates the text when it's exported. As a result, the Jama Connect is updated with the truncated data if imported via round-trip.



2. Open the newly downloaded Excel report and save it to a place where it can be edited.

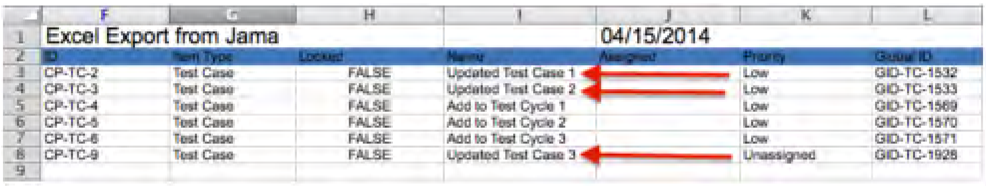


Excel Export from Jama 04/15/2014

ID	Item Type	Locked	Name	Assigned	Priority	Global ID
CP-TC-2	Test Case	FALSE	Old Test Case 1		Low	GID-TC-1532
CP-TC-3	Test Case	FALSE	Old Test Case 2		Low	GID-TC-1533
CP-TC-4	Test Case	FALSE	Add to Test Cycle 1		Low	GID-TC-1569
CP-TC-5	Test Case	FALSE	Add to Test Cycle 2		Low	GID-TC-1570
CP-TC-6	Test Case	FALSE	Add to Test Cycle 3		Low	GID-TC-1571
CP-TC-9	Test Case	FALSE	Old Test Case 3		Unassigned	GID-TC-1928

Columns A–E are hidden. They contain fields that Jama Connect requires to update existing items.

3. Edit the exported Excel document with required changes, then save it.
   a. Edit the fields you need to update. In this example, the names of three test cases are changed.

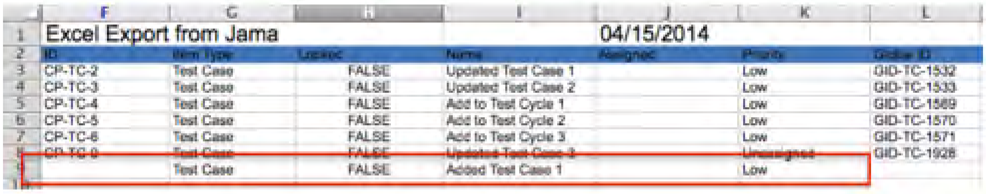


Excel Export from Jama 04/15/2014

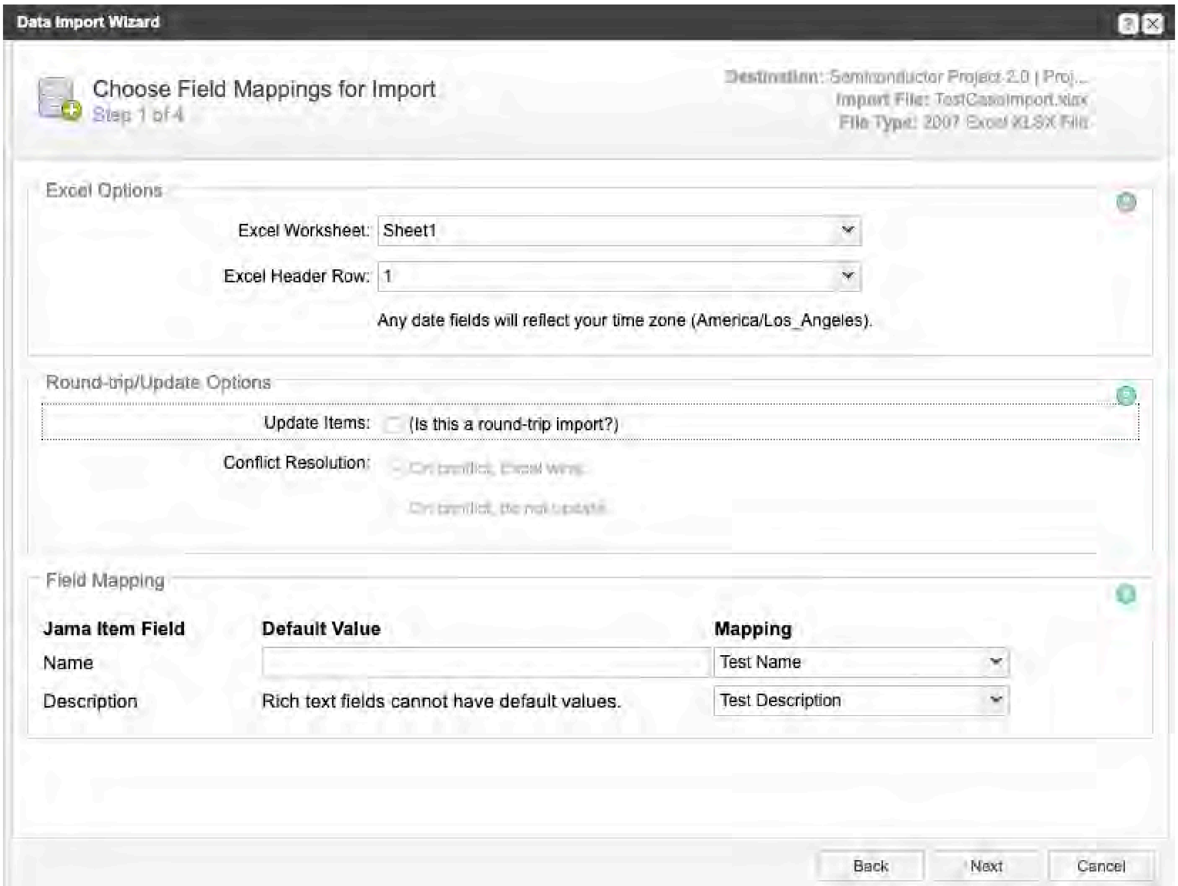
ID	Item Type	Locked	Name	Assigned	Priority	Global ID
CP-TC-2	Test Case	FALSE	Updated Test Case 1		Low	GID-TC-1532
CP-TC-3	Test Case	FALSE	Updated Test Case 2		Low	GID-TC-1533
CP-TC-4	Test Case	FALSE	Add to Test Cycle 1		Low	GID-TC-1569
CP-TC-5	Test Case	FALSE	Add to Test Cycle 2		Low	GID-TC-1570
CP-TC-6	Test Case	FALSE	Add to Test Cycle 3		Low	GID-TC-1571
CP-TC-9	Test Case	FALSE	Updated Test Case 3		Unassigned	GID-TC-1928

   If a field is based on a pick list in Jama Connect (for example, **Priority**), the pick list values are exported as well. This ensures that valid data is entered before re-importing to Jama Connect.

   b. As needed, create new items or test steps that you want added to Jama Connect. After import, added items appear at the bottom of the set or folder where you import to.
      - You can add only one item type for the selected set or folder.
      - Leave the **ID** and **Global ID** fields blank. These values are assigned to new items during import
      - Leave **Assigned** field blank.



4. Import the edited Excel file. The process is the same as for the one-way import except for the **Choose Field Mappings for Import** page:



   a. **Excel Options** — If your file has more than one worksheet, select the one you want to import. Select the number of the row in your worksheet that contains the headers. By default, the Excel for Roundtrip export uses row 2 as the header row.
      If a header row doesn't exist, select row **0**, which populates the Mapping section with the Excel default column names.
   b. **Round trip/Update Options** — Select the checkbox for **Update Items** to update Jama Connect items that were modified in the round-trip Excel worksheet.
      Select an option for **Conflict Resolution: Excel wins** or **Do Not Update**. Conflicts might occur when a field in Jama Connect has changed values since the round-trip export was generated.
   c. **Field Mapping** — Select the appropriate column from the worksheet for each field in Jama Connect where you want to import data. Select a mapping for **Name** and any required fields, as determined by the Admin configuration for the item type. Fields not required for the import don’t need to be mapped.

Import relationships from Excel

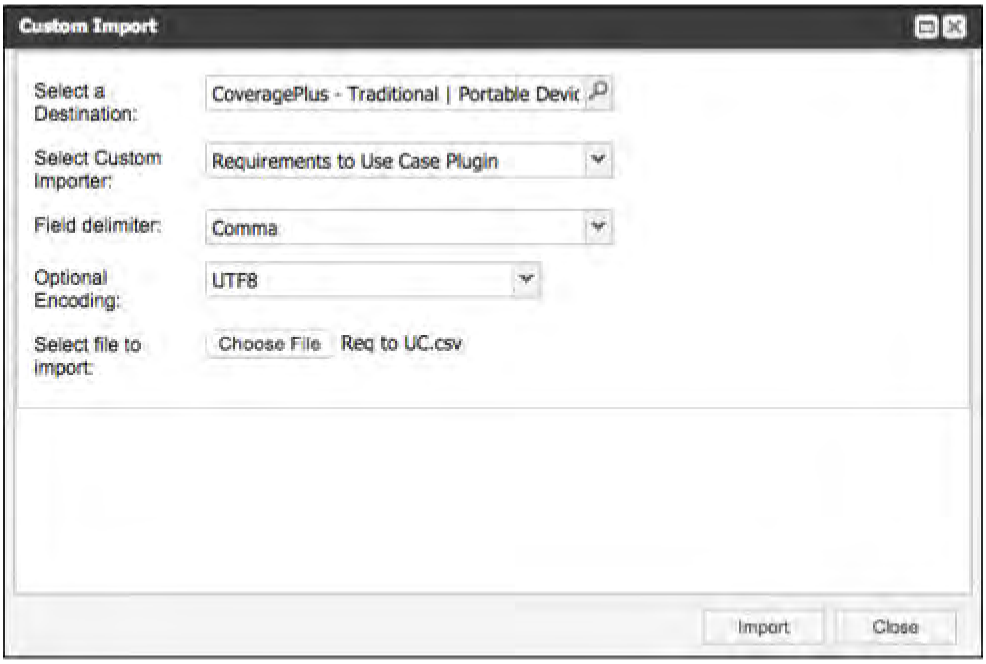
Relationships are imported to Jama Connect from a CSV file. The file consists of two columns.

Important considerations

- A relationship import plugin must be configured [551] and enabled.
- A CSV file must include correct parent and child field values and must have the .csv extension.
- Import relationships in small batches no larger than 250 at a time.
- Check that your parameters are written correctly and reference the right API ID or field. For more information, see Configure import relationships plugin [551].

To import relationships:

1. From the Jama Connect header, select **Project > Import > Custom Import**.
2. In the window that opens, configure these settings:
   - **Select a destination** — Select the location in your project for the Import Relationships Plugin. Destination is required, but it doesn't affect the import.
   - **Select custom importer** — Select the **Import Relationships Plugin** created by your organization admin.
   - **Field delimiter** — Select **Comma**.
   - **Optional Encoding** — Select **UTF8**.
   - **Select file to import** — Click **Choose File**, then navigate to the CSV file with the required relationships.



3. Select your Excel file and click **Import**.

Give Jama Connect time to process the relationships. If you're importing more than 100 relationships, the update isn't instantaneous.

When the import is complete, you see a notification at the top of your screen: "Success: X items imported."

Importing from IBM DOORS

You can import active IBM DOORS data, such as requirements, test cases, and project information to Jama Connect. You can also maintain relationships during the import process.

Here are the steps for a successful import:

1. Ensure you meet Jama Connect [122] and DOORS [122] prerequisites.
2. Export HTML zip file from DOORS [124].
3. Import to Jama Connect [125].

DOORS export prerequisites

Before exporting data from IBM DOORS, verify these prerequisites for a successful export.

Mapping

- The **Object Identifier** column in IBM DOORS is typically mapped to the **Name** field in Jama Connect.
- If you're importing hierarchy, the DOORS standard **Object Heading and Text** (or **Main**) column must be mapped to the **Description** field in Jama Connect. This is the only column that exports hierarchy information to HTML for Jama Connect imports.

Links

If you're importing links (trace relationships) across multiple modules in DOORS:

- The modules must be open when you export. A DOORS export includes only the modules that are shown in your view, so make sure no filters are selected because they limit the number of items exported.
- Each module must have a unique prefix so that the **Object Identifier** is unique. DOORS doesn't enforce this requirement, so make sure you confirm that each module has a unique prefix before you export.
- The **Object Identifier** column must be visible in the DOORS module view (not **Object Number** or **Absolute Number**). The **Object Identifier** is a combination of the **Module Prefix** and the **Absolute Number** (as in SYS32). If the **Object Identifier** has only integer values, the **Module Prefix** is most likely empty.

Jama Connect prerequisites for DOORS import

Before importing data from DOORS to Jama Connect, verify these prerequisites for a successful import.

Links

Relationships between items aren't created until both items are imported.

- To import relationships (or trace links), you must create a custom field in Jama Connect [598] for each item type you're importing.
- Each custom field must contain a unique identifier, which aids in importing relationships from DOORS to Jama Connect.

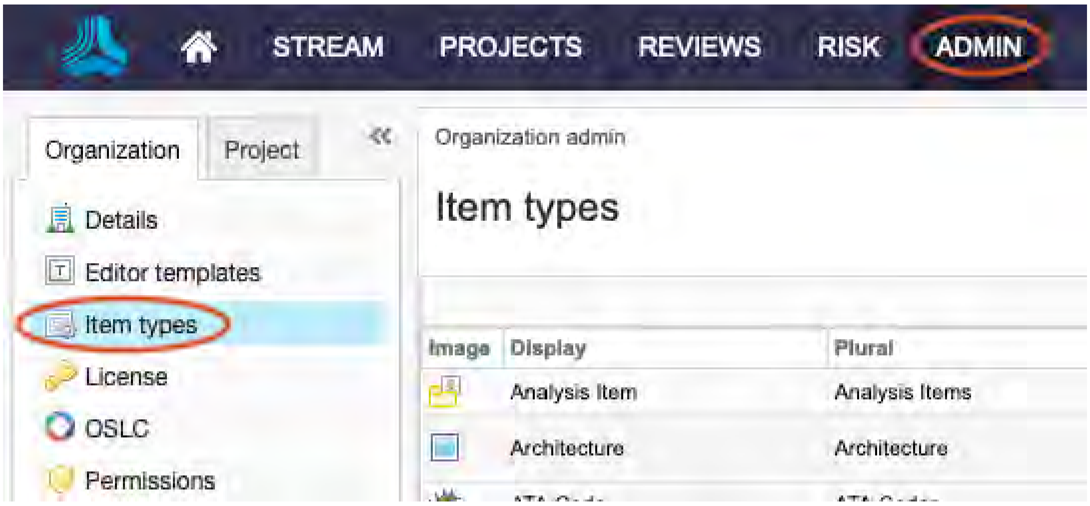
Create custom fields in Jama Connect

To import relationships (or trace links), you must first create a new custom field in Jama Connect for each item type you're importing. Each field must contain a unique identifier.

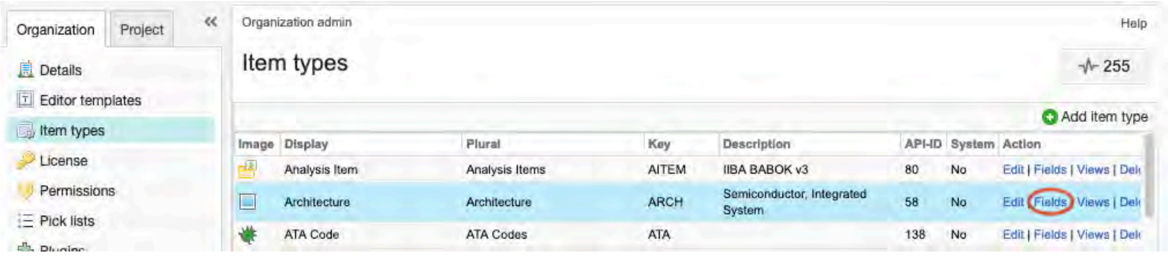
TIP

When importing many custom fields from DOORS, create a common custom item type that contains all the custom fields. Use this item type only for the initial import, then later convert sets to a standardized set of item types. That way, every imported item includes legacy DOORS information in its version history. To view this information, compare versions [231].

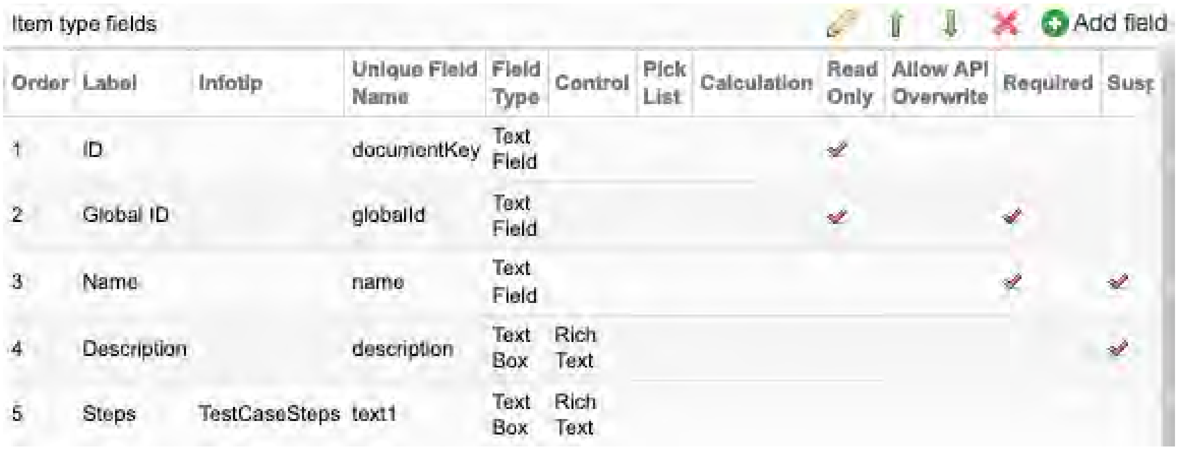
1. In Jama Connect, select **Admin > Organization > Item types**.



2. Find the item type you're using for the DOORS import, then select **Fields**.



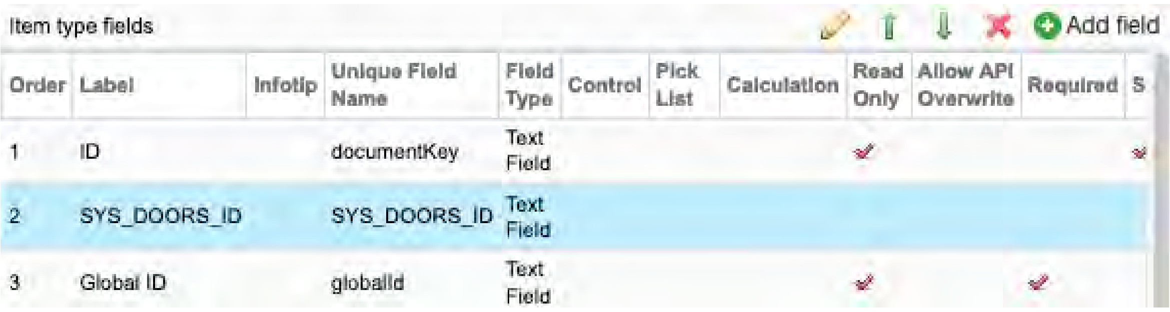
3. In the panel that opens, select **Add Field**.



4. In the Add Field window that opens, complete these options, then click **Save**.

- **Select a Field Type** — Select **Custom Fields**, then select **Text Field** from the drop-down menu.
- **Field label** — Enter a name for the field (for example, "DOORS ID").
- **Unique Field Name** — Enter "SYS_DOORS_ID." This is case-sensitive and must exactly match the above image.
- Select **Read Only**.

This item type can now accept relationships (trace links) imported from DOORS.



Order	Label	Infotip	Unique Field Name	Field Type	Control	Pick List	Calculation	Read Only	Allow API Overwrite	Required	S
1	ID		documentKey	Text Field				✓			✓
2	SYS_DOORS_ID		SYS_DOORS_ID	Text Field							
3	Global ID		globalId	Text Field				✓		✓	

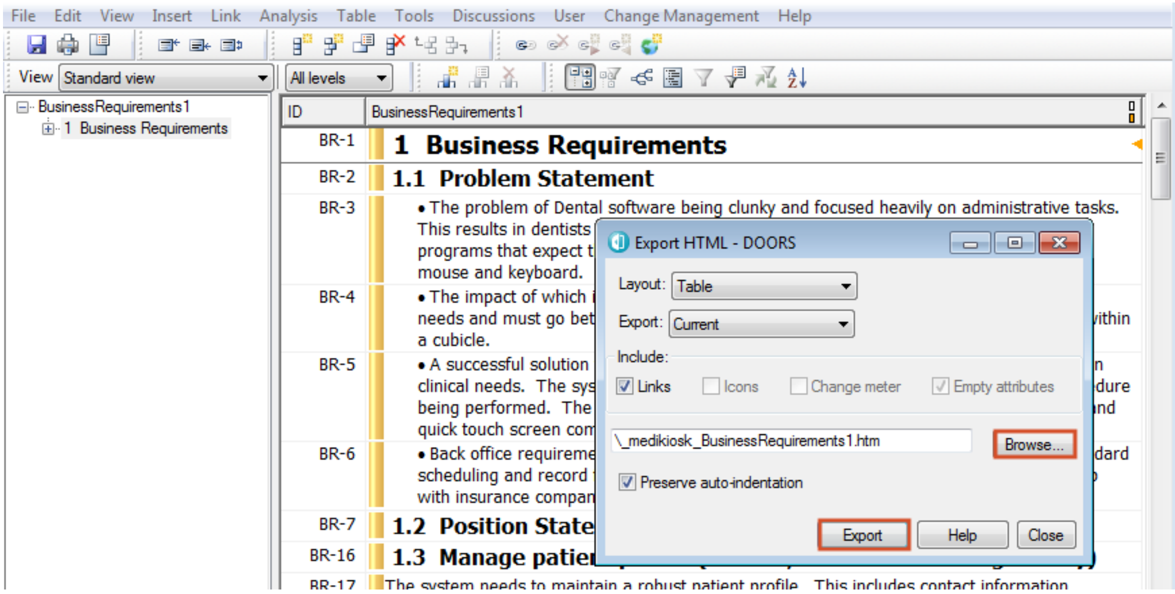
IMPORTANT

The SYS_DOOR_ID field must be created for all the item types you are relating.

Export data from DOORS

Before you can import data from IBM DOORS to Jama Connect, you must export it to an HTML .zip file.

1. On your local system, create the export target folder in the local drive/directory.
2. Open a DOORS module that you want to export and make sure there are no active filters.
3. Select **File > Export > HTML**.
4. Select **Layout > Table**.
5. Select **Export > Current**.
6. Select **Links** to import links as relationships and create the necessary field in Jama Connect [122].
7. Select a folder or location where you want to store your DOORS files.
8. **Browse** to the target folder and select **Export**.



9. Without making changes, create a .zip file to the target folder that contains the exported HTML content.

IMPORTANT
Changing or moving the exported files before compressing them can create unreliable results.

Images in the item description are imported. Comments, attachments, and item history aren't imported.

Import DOORS files to Jama Connect

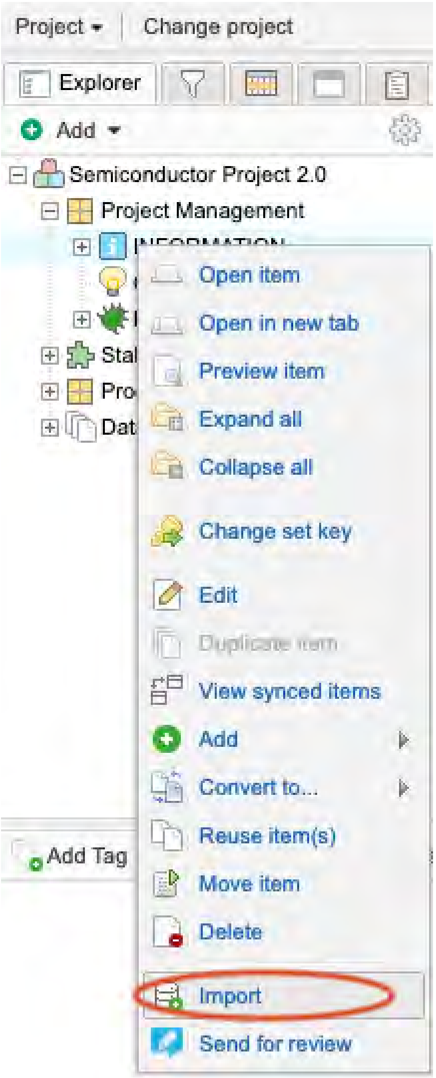
Once you have exported data from DOORS, you can import it to Jama Connect using the Data Import Wizard in Jama Connect.

The import process creates:

- Sets or folders in an existing set. DOORS Attributes map to fields in Jama Connect.
- Relationships between items only after both items are imported.

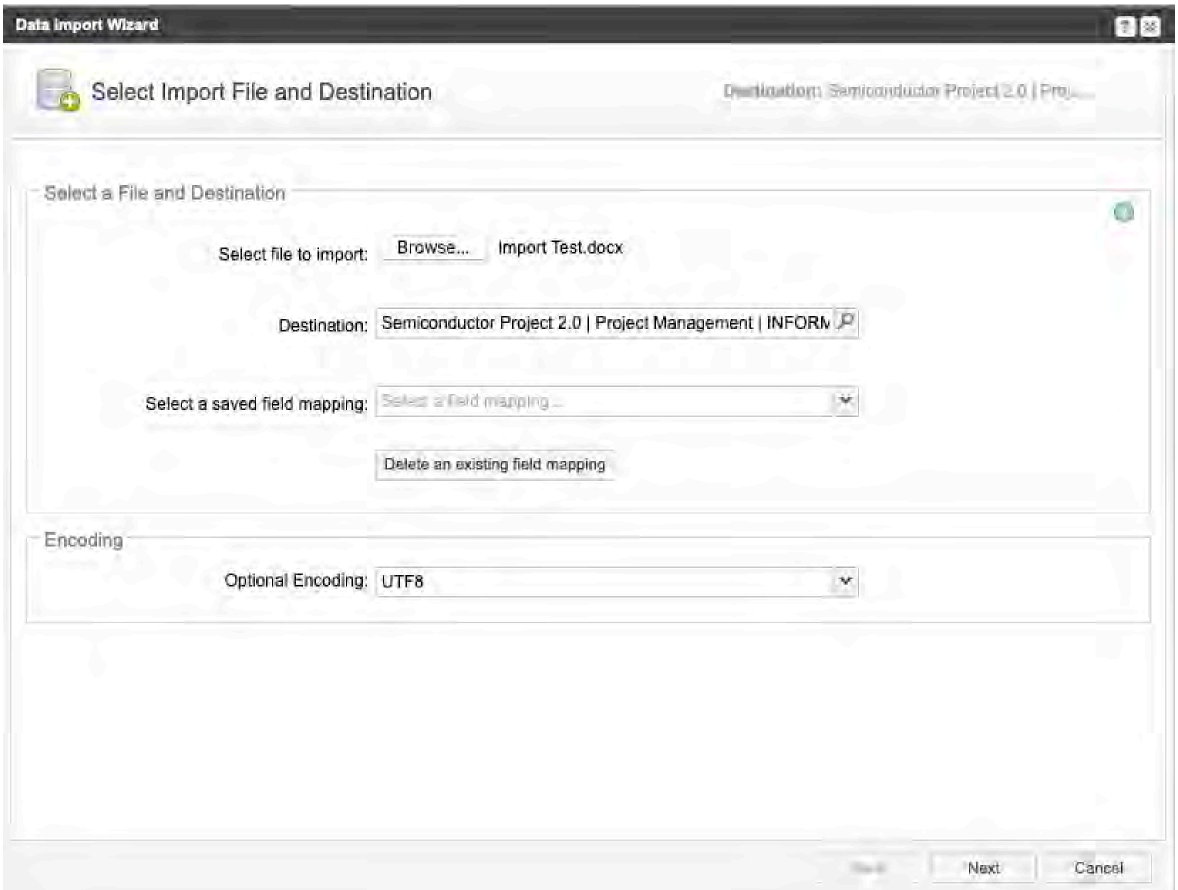
The Data Import Wizard guides you through the import steps.

1. Open the Data Import Wizard: In the Explorer Tree, right-click an item where you want to import new items, then select **Import**. Your file will be imported below the selected item.



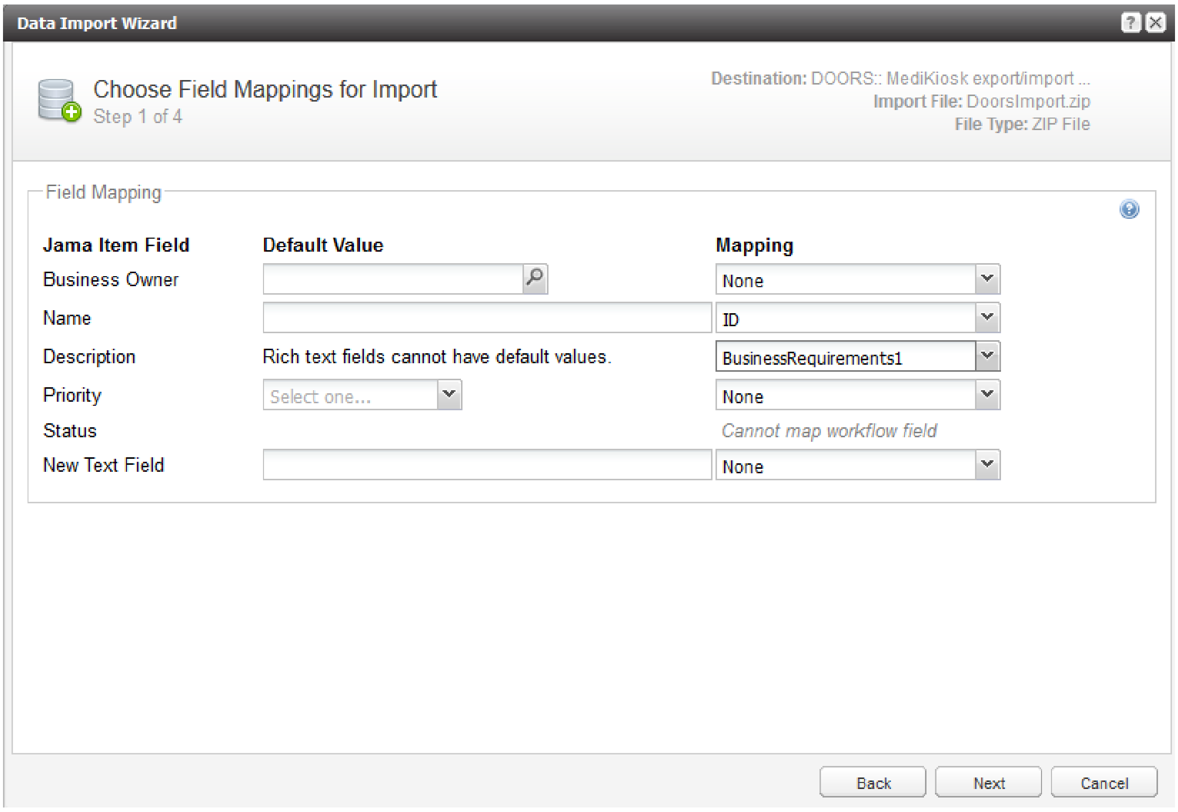
The first page of the wizard opens with the **Destination** field pre-populated.

2. Complete the **Select Import File and Destination** page, then click **Next**.



- Click **Browse** and select the DOORS file you want to import.
  If the file type isn't recognized, the import doesn't continue.
- (Optional) **Select a saved field mapping** — Select previously created import configurations that were saved in the project for the same file type. This is helpful if you need to import multiple documents with the same field-mapping layout.
- **Optional Encoding** — Select **UTF8**.

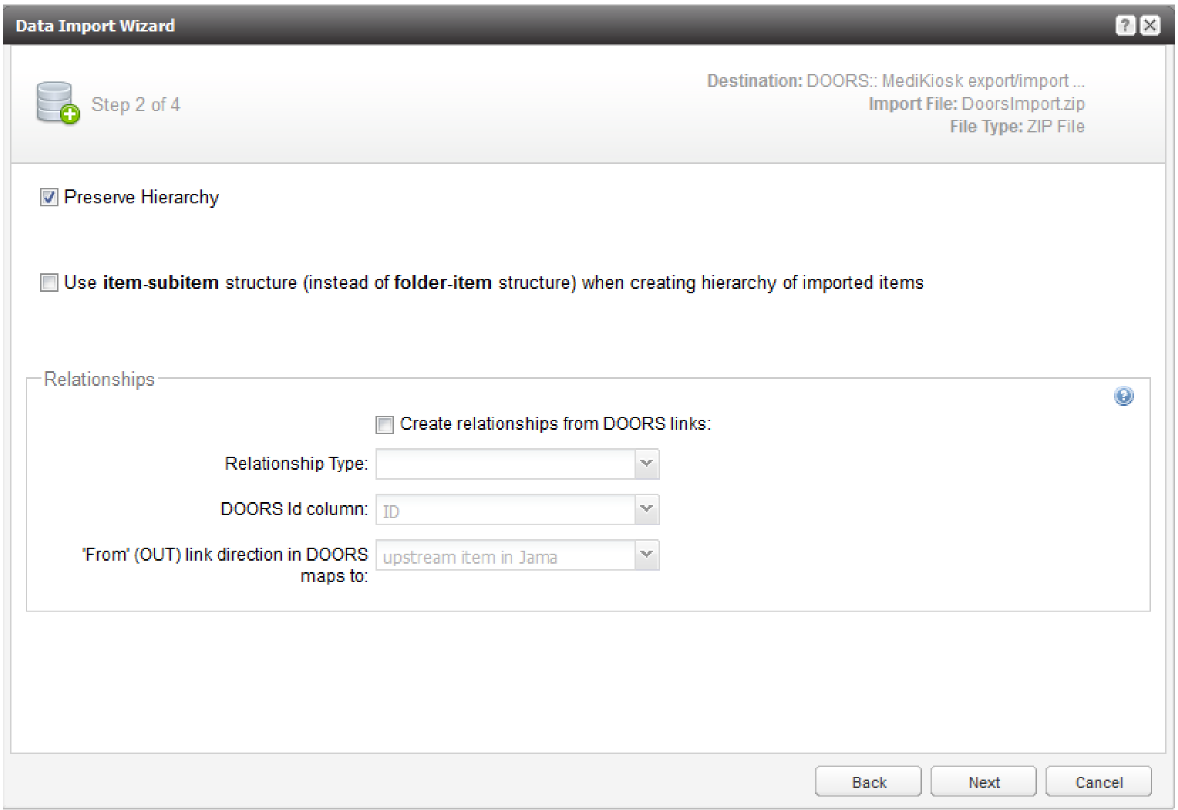
3. Complete the **Choose Field Mappings for Import** page, then click **Next**.



- **Field Mapping** — Select a mapping for the **Name** field (this is usually the DOORS Object Identifier attribute). You can assign a default value for other Jama Connect fields and select which DOORS attributes you want to map to each.

> **IMPORTANT**
>
> The Description field is usually mapped to the Main attribute in DOORS. Bullets and other symbols are exported from DOORS as images, not as formatting. If you're mapping a field that contains images or formatting, the corresponding import field must be configured as a rich text field, otherwise these images don't appear.
>
> You can't select a mapping for Step action, Step expected results or Step notes.

4. Select the options you want for hierarchy and relationships, then click **Next**.



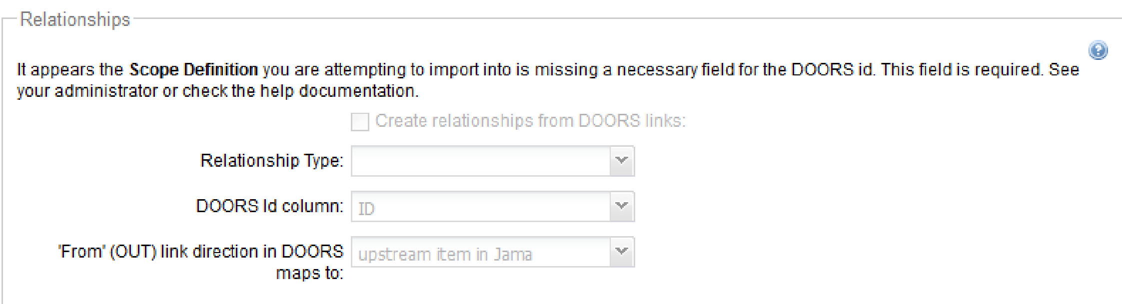
- **Preserve hierarchy** — Select to keep the DOORS hierarchy when importing. If left unselected, the resulting items are at the same level.
- **Use item/sub-item structure** — Select if you want all parent items to keep the item type of their children. If left unselected, all parent items become folders.

IMPORTANT

All items converted to folders lose their relationships (links). If you're importing relationships, use the item or child-item structure.

- **Create relationships from DOORS links** — Select to migrate Trace Links from DOORS to relationships in Jama Connect.

  If you see the following error, check that you successfully completed all Jama Connect prerequisites [122] before import.



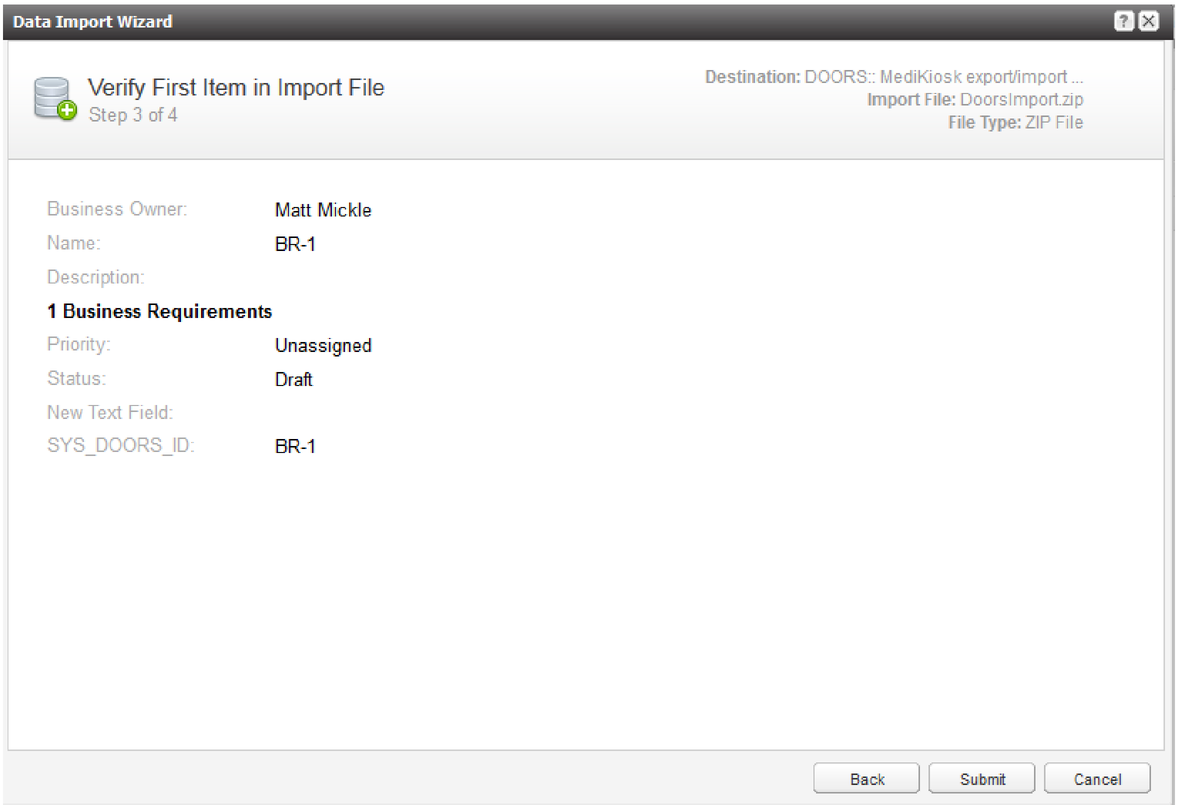
- **Relationship type** — Select the type of relationship you want to create. If left unselected, this value is set to your organization's default value.
- **DOORS ID column** — Select the name of the column from your export that contains the DOORS Object Identifier, which is used as the identifier when creating relationships. It must match between item types.

- **'From' (OUT) link direction in DOORS maps to** — Set **OUT=upstream** or **OUT=downstream**. DOORS and Jama Connect use different terminology for relationship direction. The selection depends on how relationships are used in DOORS. Check the HTML file or run a test import to verify that this works as expected.

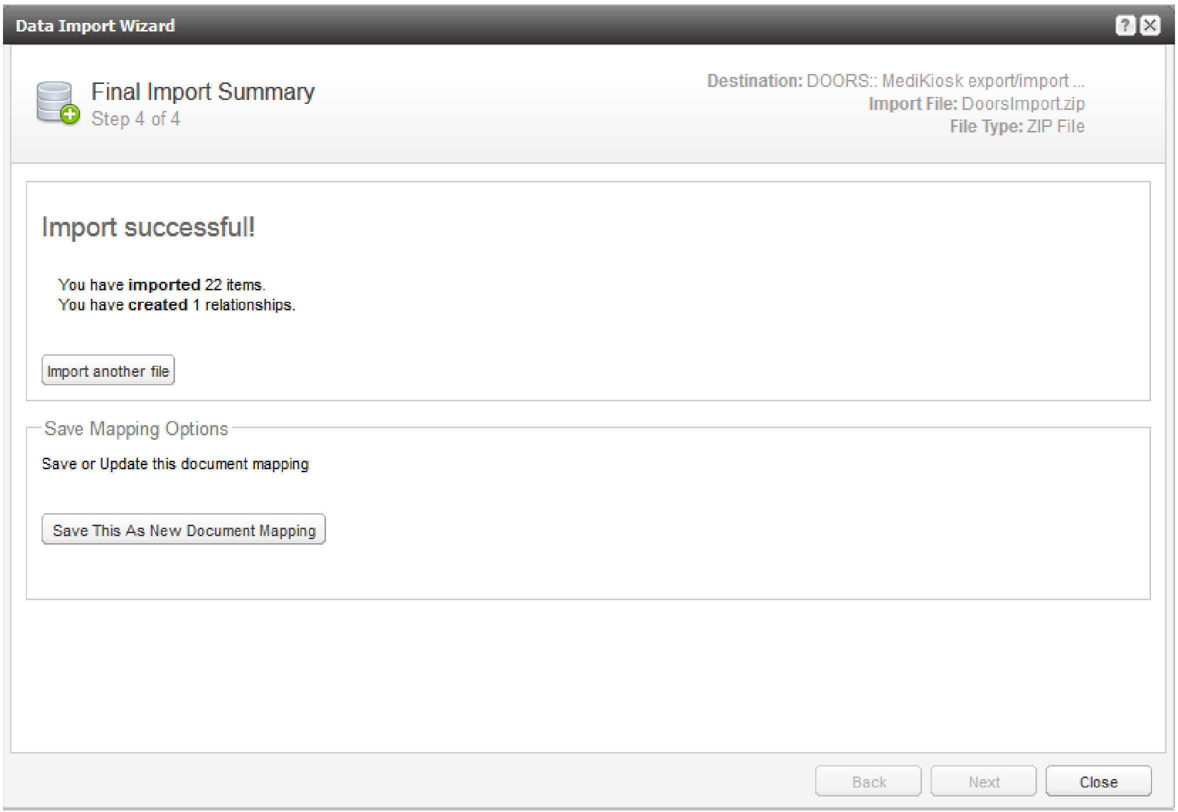
IMPORTANT

Because relationships are created based on the DOORS Object Identifier, importing items twice creates multiple relationships.

5. If the fields were mapped successfully, you see a preview of your import. Verify that it looks correct, then click **Submit** to import all items.



The **Final Import Summary** page confirms the total number of items imported.



- (Optional) Import another DOORS Module.
- (Optional) If you plan on importing the same item type (objects) with the same mappings multiple times, you can save your mapping changes as a new document mapping here.

6. Click **Close**.

Find content

The content you want to find might be anywhere in your project. For example, you might want to look at the requirements or test plans.

Jama Connect gives you many ways to directly access the items you need:

- Search [132] — Look through an index of your item type fields, as well as text within a Word document, a PDF document, or text attachments, to bring up a list of items.
  Use the search bar in the header to help you find the topic you're looking for.
- Filter [134] — Limit the results of a search to a group of items by content such as author, keyword, date, or coverage. You can also filter stream comments, review comments, reviews, review items, Trace View items, and project items.
  Select **Filter items** at the top of the center panel in List View or Reading View to open the filter panel and filter out the items you want to see.
- Advanced filters [135] — Save a set of rules or conditions for later use and share that filter with other users.
- Quick find [140] — If you don't remember where to find something in the application, use the quick find [140] topic in this guide.

You can also find moved items [146] or find an item in the Explorer Tree [147].

Full text search

Jama Connect uses an index of the database fields for its search function. It also searches in text, Word files, and PDF files to find the items you're looking for.

You can search item IDs, descriptions, attachments, and field values. Search for a specific unique item ID (not global ID) and it opens.

Important considerations

- The application doesn't support searches for null values. This includes checkboxes that haven't been checked.
- Files over 25 MB aren't indexed so their content isn't searchable.
- The following file types are indexable: PDF, DOC, DOCX, PPT, PPTX, TXT, RTF.
- The following file types are **not** indexable: XLSX, XLS, XML, HTML, HTM.

Ways you can search

You can search for a word or a phrase for a simple search, and you can use advanced methods like wildcards, Boolean operators, and more to find the items you need.

- **Single term** — Use a single word to find items with that exact term or items that contain that term. For example, `Test` returns items with the terms `test`, `pretest`, `tests`, `tested`, and `tester`.
- **Phrase** — Use a group of words surrounded by double quotes. For example, “`primary test`" returns only items that contain the words `primary test`.
- **Single character wildcard** — Use a single character wildcard (?) with a single term (not a phrase). For example, `te?t` returns items that contain `test`, `tent`, and `text`.
- **Multi-character wildcard** — Use a multi-character wildcard (*) with a single term (not a phrase). For example, `syn*ize` returns items containing the terms `synchronize` and `synthesize`.

NOTE
You can't begin a search with a wildcard (such as ?!*) or you will receive a syntax error.

- **Boolean operators** — Boolean operators in ALL CAPS to combine phrases or terms.
  - **OR (||)** is the default Boolean operator when you enter two terms or phrases. For example, `primary test` or `sample` returns items that contain either `primary test OR sample`.
  - **AND** returns items where both terms and phrases exist. For example, `primary test AND sample` returns documents that contain **both** `primary test` **and** `sample`.
  - **+** returns items that must contain the term or phrase immediately following the +. For example, `+primary test` returns items that must contain `primary` and might contain `test`.
  - **NOT (-)** excludes items that contain the word or phrase after NOT. The application doesn't allow null searches, so you must enter something before the word NOT to get any results. For example, `primary test` `NOT sample` returns items that contain `primary test` but not `sample`.
- **Parentheses** — Use parentheses to group clauses and form sub queries. For example, `(tests OR samples) AND maps` return results that contain `tests`, `maps`, `samples` **and** `maps` or all three terms.
- **Prefix** — Use the prefix `tag:` to indicate the tag field in your query. For example, `tag: requirement management AND tag:security`.
- **Field name** — Use field names followed by a colon to search for information in specific fields. For field names that contain spaces use an underscore. For example, `user_status:new` returns items with a **User status** field that contains `new`.

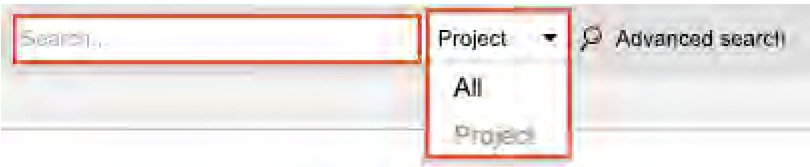
Search for content

Need to search across all projects or within a current project? Enter a query in the search field to find what you need.

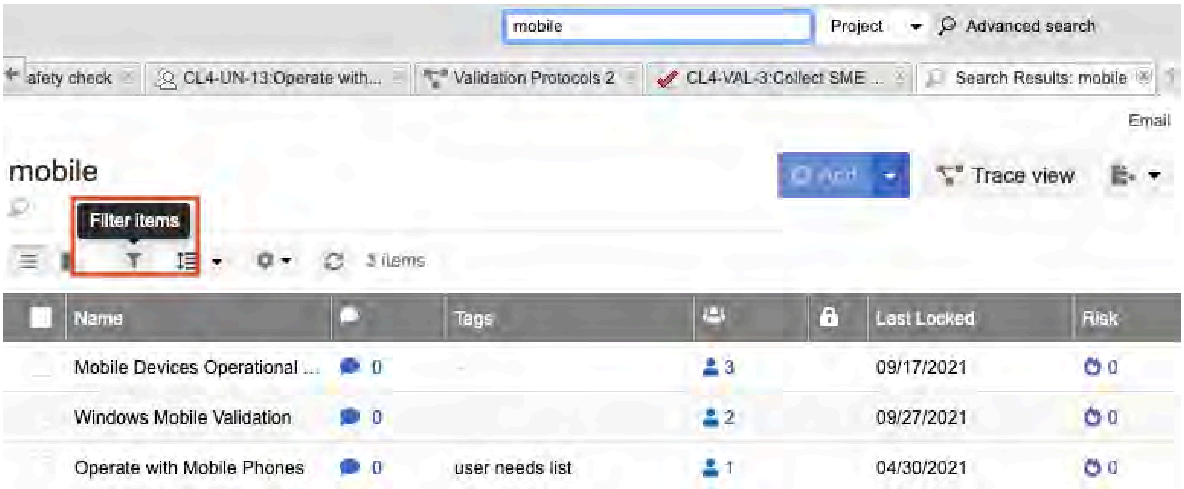
For more complex searches, use advanced filters [135].

You must have read permissions for projects or sets to be included in your search results.

1. From the drop-down menu in the upper right header, select where you want to search:
   - **Project** — Within the current project.
   - **All** — Across all projects in your organization.
2. Enter your query in the search field and press **Enter**.



3. (Optional) Select **Filter items** to refine your search. For details, see Filter items for targeted results [134].



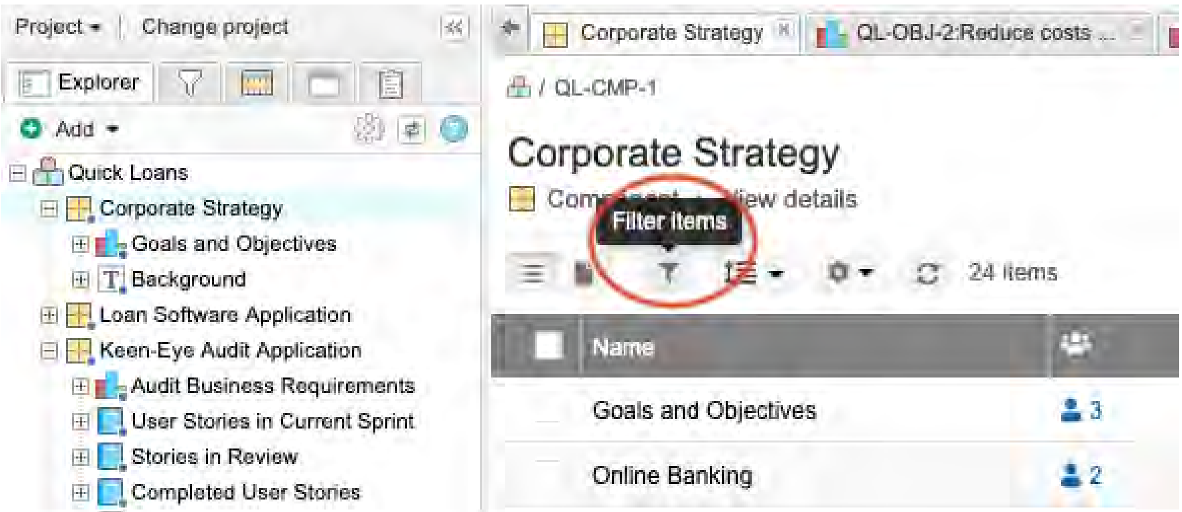
The results appear in List View.

Filter items for targeted results

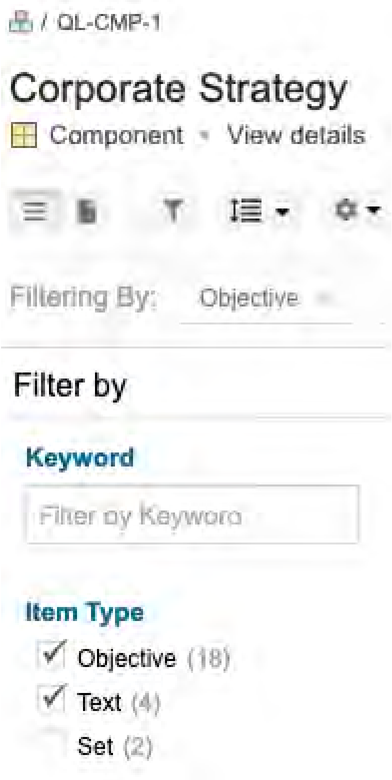
Using a filter is an easy way to refine your search results. To limit and focus your text search, you can filter content by author, date, or coverage.

Filters can't be saved. If you want to reuse a specific filter, use the advanced filters.

1. In Projects, select **Filter items** to open the Filter by panel.



2. Define how you want to filter your results. Filters are cumulative and the options you select are displayed at the top of the screen.
   - **Keyword** — Enter a term in the Keyword field.
   - **Item Type** — Templates for sets used within each project. For example, you can filter by System Requirement, Set, Folder, or more.
   - **Author** — The person who created or last modified the item.
   - **Direct Coverage** — Parameters for upstream, downstream, missing, and suspect relationships.
   - **Last Modified** — Time stamp of when the item was last modified.



The search results appear in List View.

3. When you're done, select **Hide Filters** to close the panel.

Any applied filters are preserved and visible at the top of the page.

Advanced filters

With advanced filters you can save a set of rules or conditions for later use and share that filter with other users.

Add or edit advanced filters [136], bookmark them, or use them to filter the Explorer Tree [139] or send items for review [153].

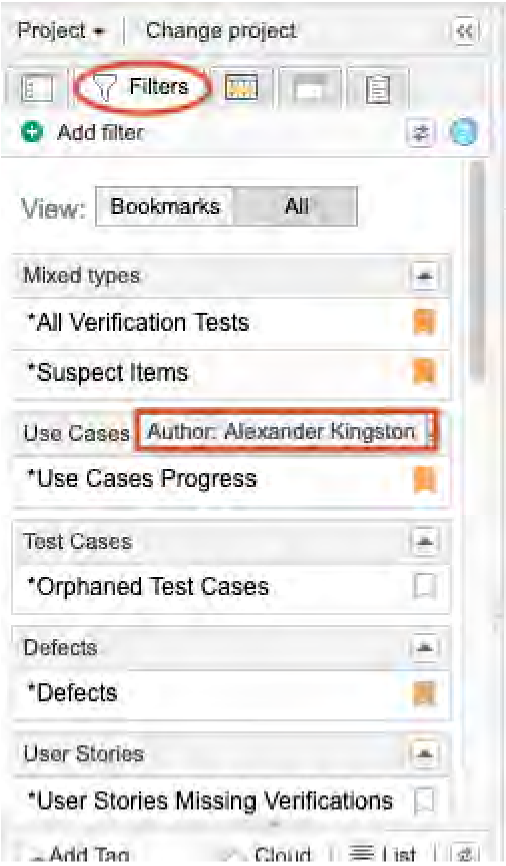
Rules and conditions

- Each rule is matched to a specific item type or all item types having specified conditions.
- A condition describes specific attributes of an item (fields of an item type, tags, relationships, location, keyword, or if the item has children).
- Each rule can contain any number of these conditions.
- The rule can be set to return items that follow any one of the conditions, all of the conditions, or none of the conditions (which acts as the inverse of "any").

Finding advanced filters

In the left panel next to the Explorer Tree tab, select **Filters**.

Tip: Hover of the filter name to see the author's name.



CAUTION

You can delete a filter when you no longer need it. Before you do, make sure the filter isn’t shared. If you delete a shared filter, even if you're not the creator, it's deleted for everyone.

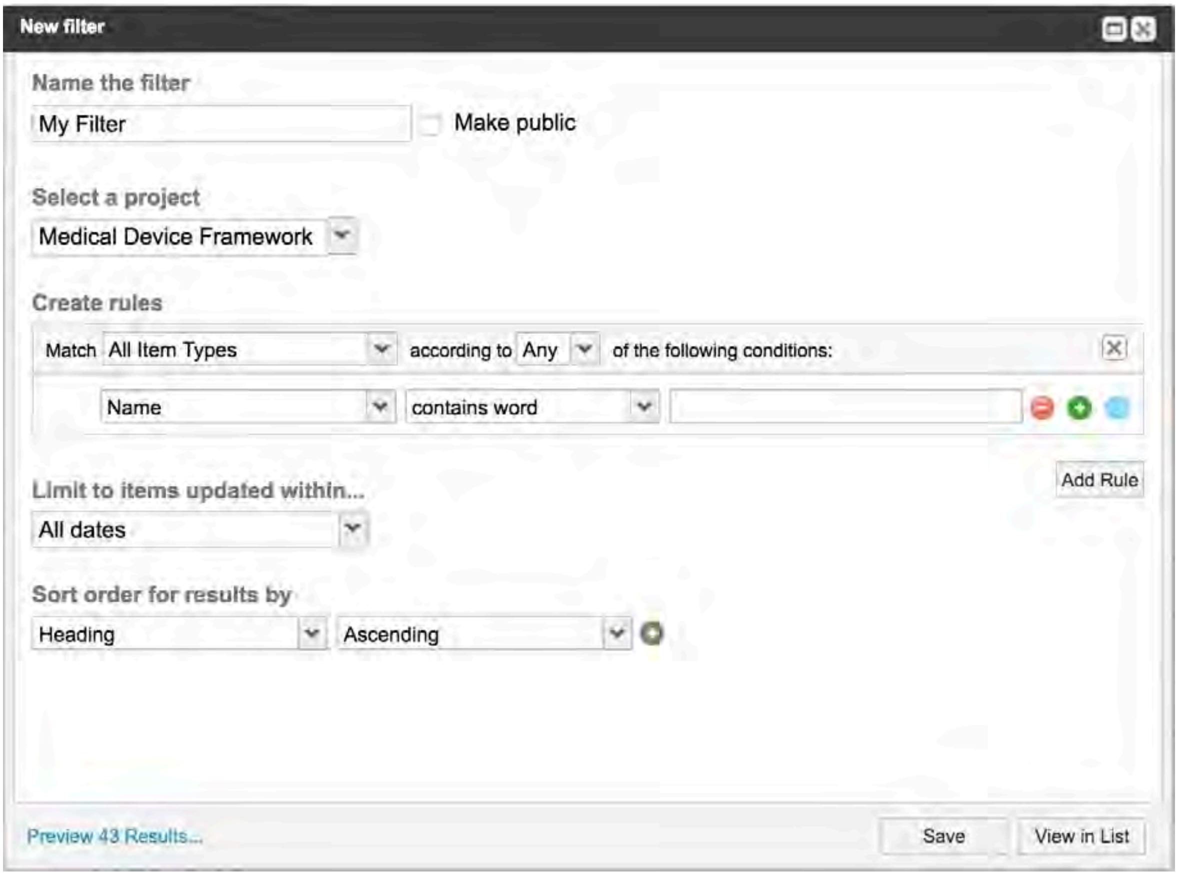
Add or edit advanced filters

Running a filter against all your Jama Connect projects can return large data sets and degrade performance. For best results and quality performance, make filters more specific to return only the results you need.

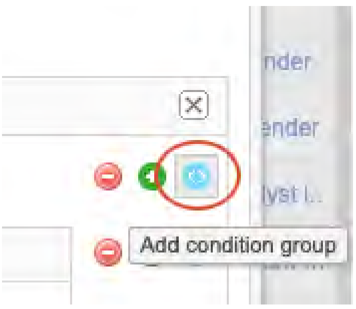
NOTE

Only organization administrators can edit filters that they didn't create. Depending on your permission, you might not be able to edit filters that were created by other users. To view their details, right-click on the filter name under the **Filters** tab and select **View criteria**.

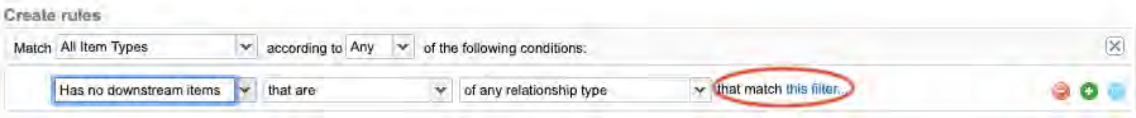
1. In the Explorer Tree, select the **Filters** tab.
2. Select **Add filter** to open the **New filter** window.



3. Name the filter and indicate the project scope by selecting one of these options:
   - **This project only** — Use this filter to query data from the project the user is viewing at the time. The filter appears only when using this project.
   - **Current project** — Use this filter to query data from the project the user is viewing at the time. But the filter is also available for use in other projects.
   - **All projects** — The filter pulls data from every project in the organization that the user has permissions to view. Using this option, you can see items from other projects that match the filter criteria.
4. (Optional) Select **Make public** to make the filter public. This filter is available to anyone with access to the project.
5. Define your filter. Condition options change depending on which item type is selected.
   - Select **Add rule** to create a new rule. A filter can contain any number of rules.
   - Add a condition (**+**)
   - Remove a condition (**–**)
   - Select the blue **Add condition group** button to add a condition group. Condition options change depending on which item type is selected.



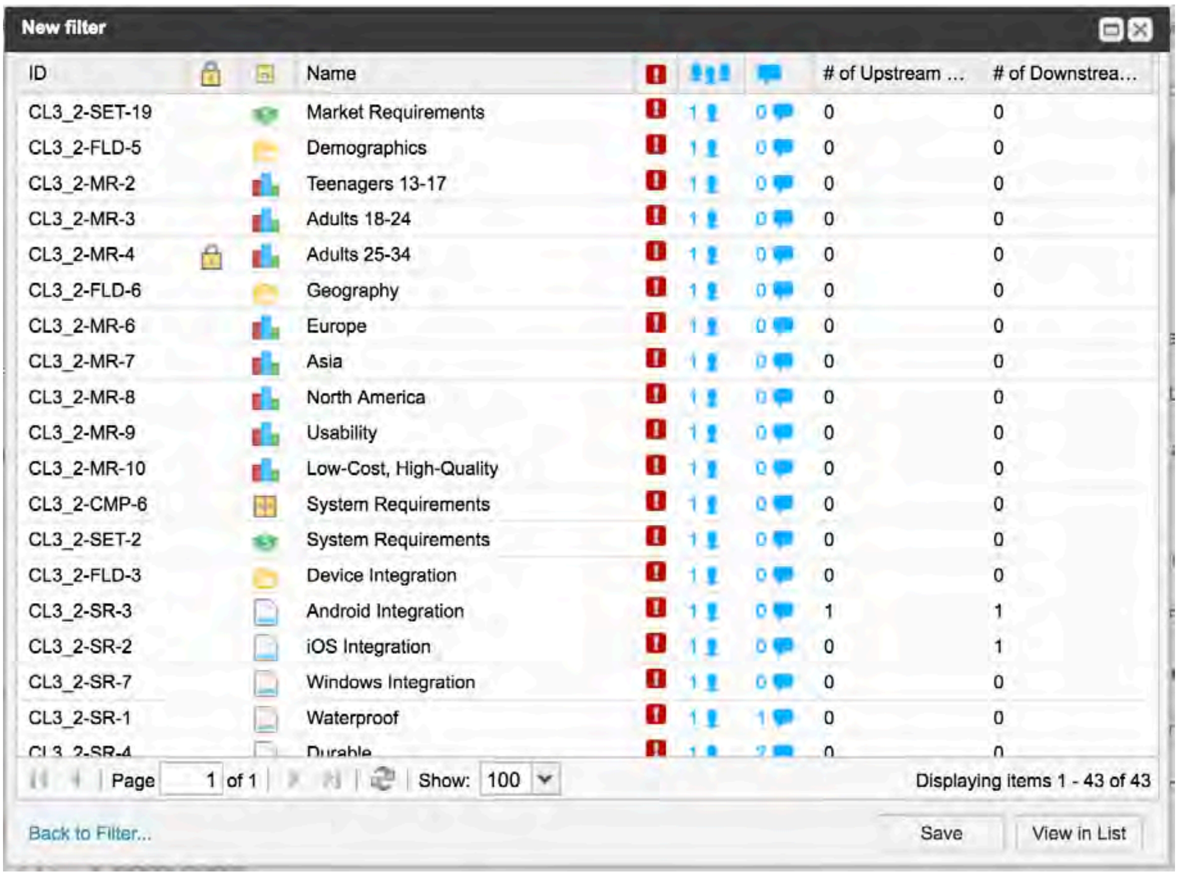
   - If your relationship condition requires a sub-filter, select **this filter...** to open the **Embedded Filter** window.



Example: A filter to identify all change requests with downstream relationships to requirements. Create a filter to identify change requests with downstream relationships and another sub-filter to limit downstream items to the relationship item type.

- To limit the filter to items updated within a certain amount of time, use the drop-down menu next to **Limit to items updated within**.
- To define the how the results are sorted on output, use the drop-down menus next to **Sort order for results by**.

6. Preview your results by selecting **Preview** in the bottom left corner of the **New filter** window. Results appear in the same window.

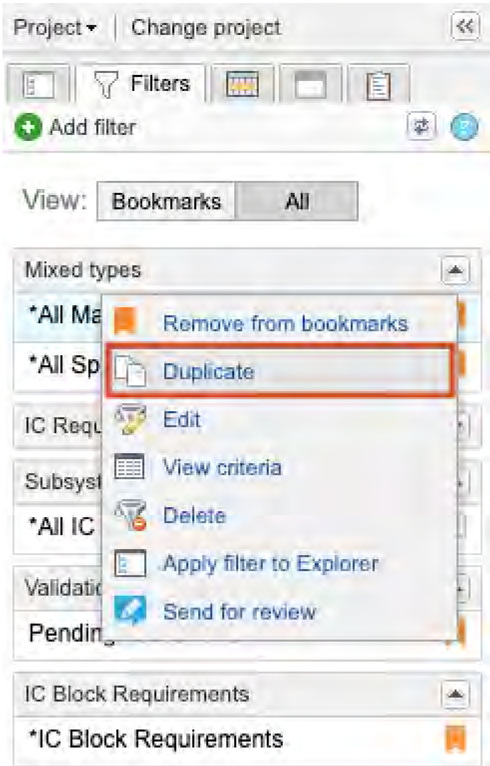


7. Choose from one of these options:
   - Select **Save**.
   - Select **Back to Filter** to make changes to the filter.
   - Select **View in List** to see the filtered items in List View. Your filter isn't saved.

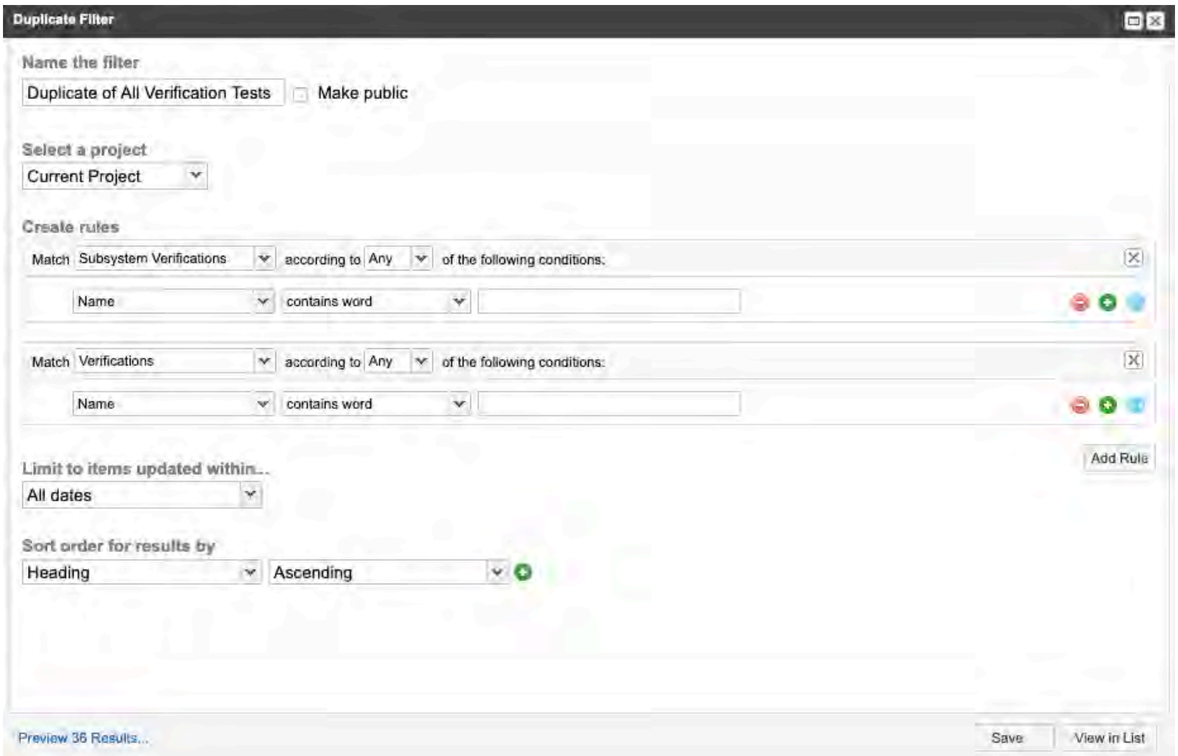
Duplicate advanced filters

Advanced filters allow you to use complex criteria. To save time, copy a filter so you can reuse it in future searches.

1. Under the **Filters** tab of the Explorer Tree, right-click on the filter you want to copy and select **Duplicate**.



2. Enter a name and edit the filter settings [136].



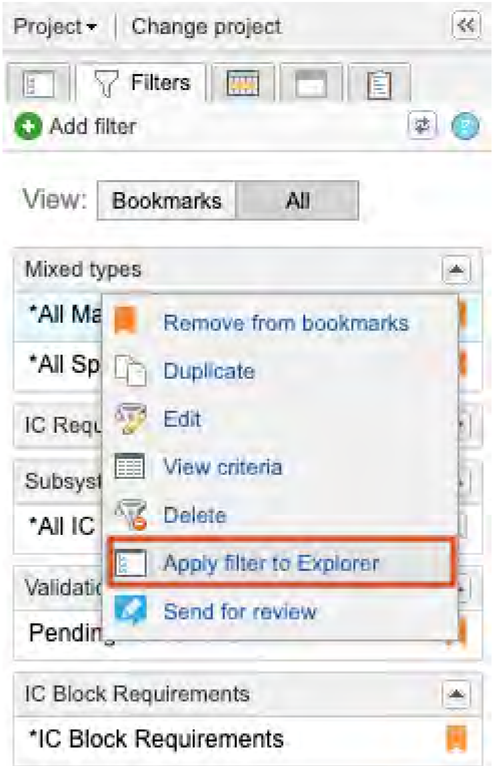
3. Select **Save**.

Filter the Explorer Tree

The Explorer Tree can contain a lot of items, making it time consuming to find what you need. Apply an existing filter to quickly locate multiple items.

1. To view saved filters, select the **Filters** tab in the Explorer Tree.

2. Right-click on the filter you want to use and select **Apply filter to Explorer**.



The filter results are shown in the Explorer Tree. Items in the hierarchy that don't apply are shown in lighter text.

Export from advanced filters

Select the data you want to export using advanced filters and export directly to Word, Excel, or PDF.

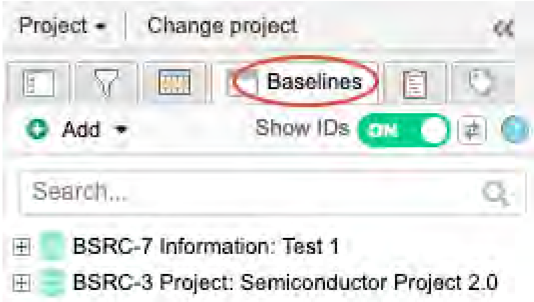
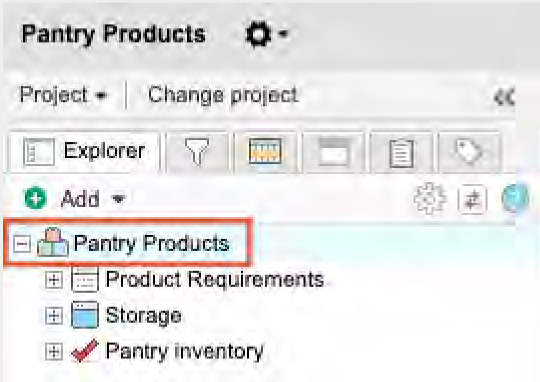
If you view your filter results in Reading View, the hierarchy container items are visible. These items offer visual context and are included in your export. However, they can't be selected or changed from this view.

1. Create the advanced filter [135] that gathers the items you want to export.
2. Select **Export** and choose the output type.

Quick find

Do you know what you're looking for, but just forgot where it is in the application? Use this handy table to quickly find what you need.

Note: Small screens display icons as image-only, without the text.

<table>
<tr><th>To find...</th><th>Where</th><th>Select...</th></tr>
<tr><td>Baselines</td><td>Explorer Tree</td><td>Baselines tab
</td></tr>
<tr><td>Dashboard</td><td>• Upper left corner of the screen
• Explorer Tree</td><td>Project name
</td></tr>
<tr><td>Homepage</td><td>Top header from anywhere in Jama Connect</td><td>House icon
</td></tr>
<tr><td>Impact Analysis</td><td>Single Item View</td><td>Single Item View > Impact analysis

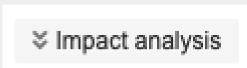
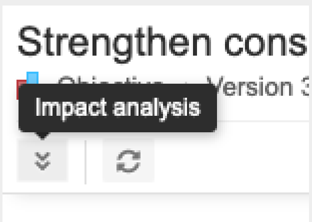
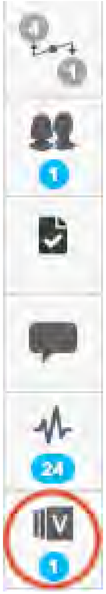
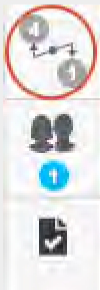
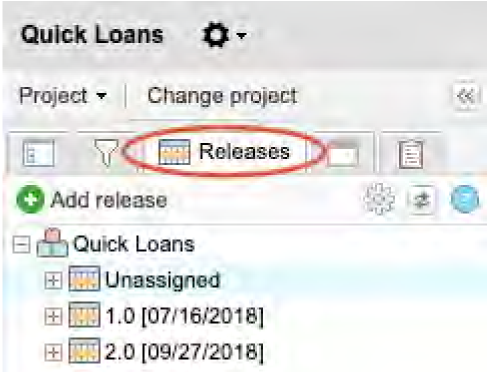
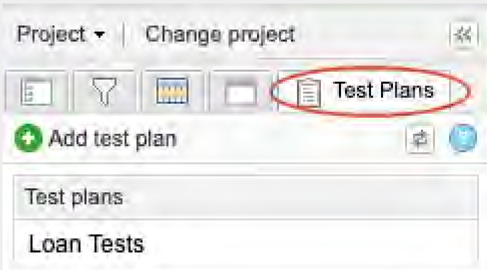
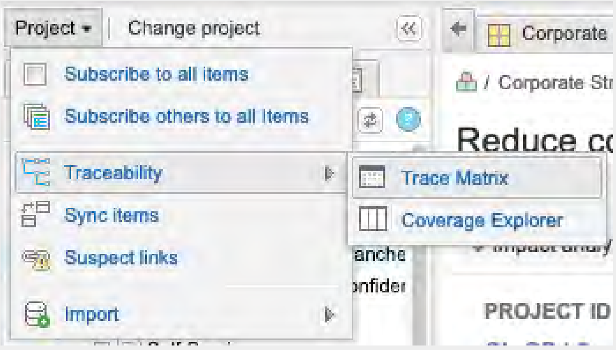



Image-only version:
</td></tr>
</table>

To find...	Where	Select...
Item versions	Single Item View (side toolbar)	**Versions** widget 
Relationships	Single Item View (side toolbar)	**Relationships** widget 
Relationship Status Indicator	• Side toolbar • In a column in List View (when configured)	**Relationships** widget  • **Top number** -- Represents the number of upstream items related to this item. • **Bottom number** -- Represents the number of downstream items. If an item isn't in compliance with the relationship rules, it appears in red. Otherwise, it's gray.
Relationship rules	Single Item View	**Relationships** widget > **Relate items** in the bottom panel > **Show relationship diagram** at the top of the right panel For more information, see Relationship rules quick find [144].

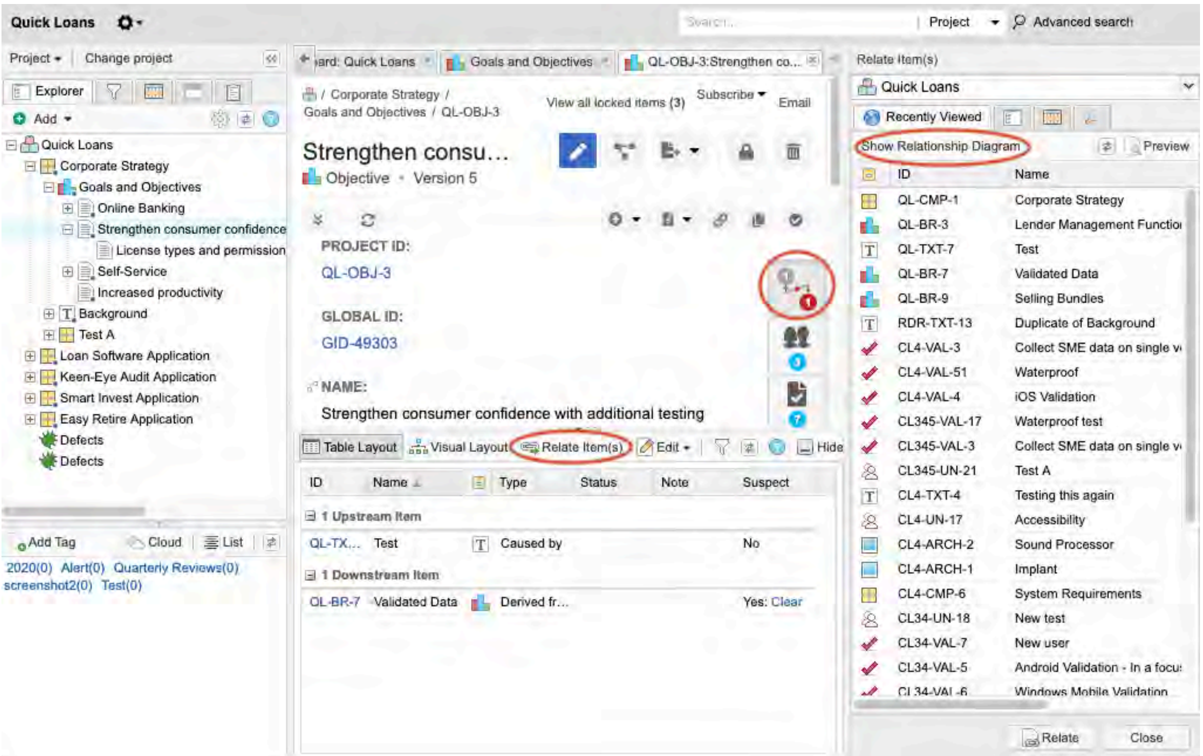
To find...	Where	Select...
Releases	Top of the left panel	**Releases** 
Review status	Header	**Reviews**  • **Grid** -- Displays review status at the bottom of each card.  • **Table** -- Displays review status in **Review status** column. 
Risk analyses	Header	**Risk** 
Suspect links	• List View • Single Item View • Advanced filters • Explorer Tree	You can find suspect links from several places in Jama Connect. For more information about finding suspect links, see Suspect links quick find [145].
Test cases	• Explorer Tree • Projects > List View • Projects > Trace View	You can find test cases from several places in Jama Connect. For more information about finding test cases, see Test cases quick find [146].
Test plans	Explorer Tree	**Test Plans** tab > <plan> 
Trace View	Projects	**Trace View** button 

To find...	Where	Select...
Traceability Matrix	Projects > Project > Traceability	**Trace Matrix** 

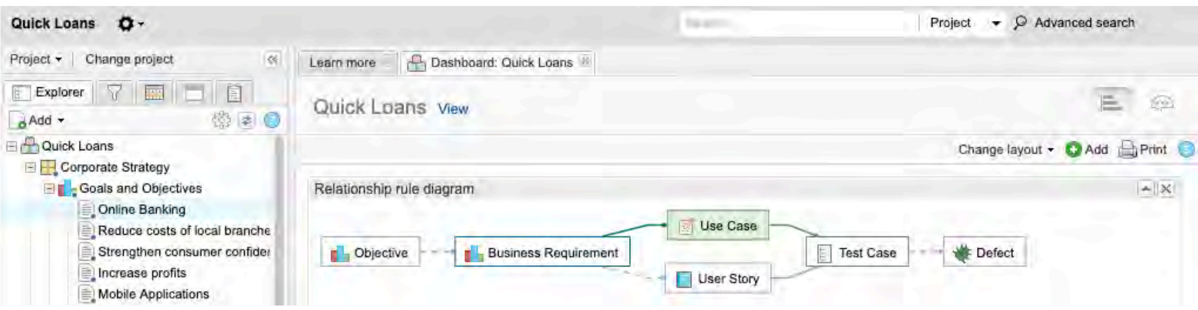
Relationship rules quick find

Relationship rules are set up by an organization administrator [614], but can be viewed by all users in two places.

- In Single Item View, select the **Relationships** widget, select **Relate items** in the bottom panel, then select **Show relationship diagram** at the top of the right panel. The relationship diagram for this project appears in a pop-up window.



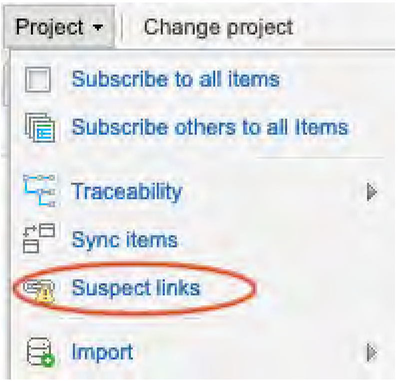
- Display the diagram for a project on the dashboard [355].



Suspect links quick find

You can find suspect links [270] using one of these methods.

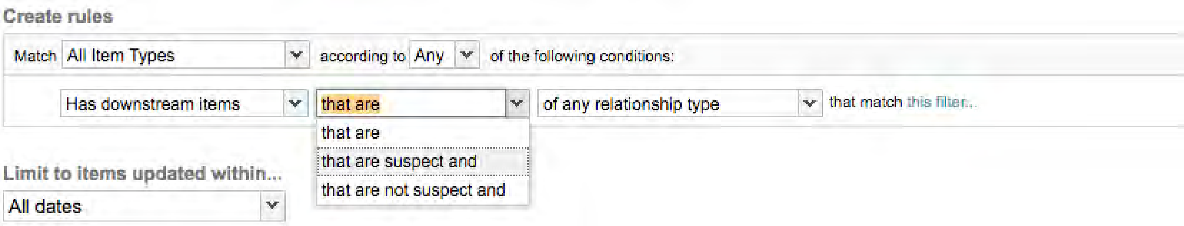
- To view (or clear [270]) all suspect links for a project, select **Project > Suspect links**.



- To view all suspect links for an item, open an item in Single Item View [55] and select **Relationships** in the side toolbar to open the bottom panel.

In the **Suspect** column, you can see if an item is suspect because of upstream changes. You can also clear suspect links [270].

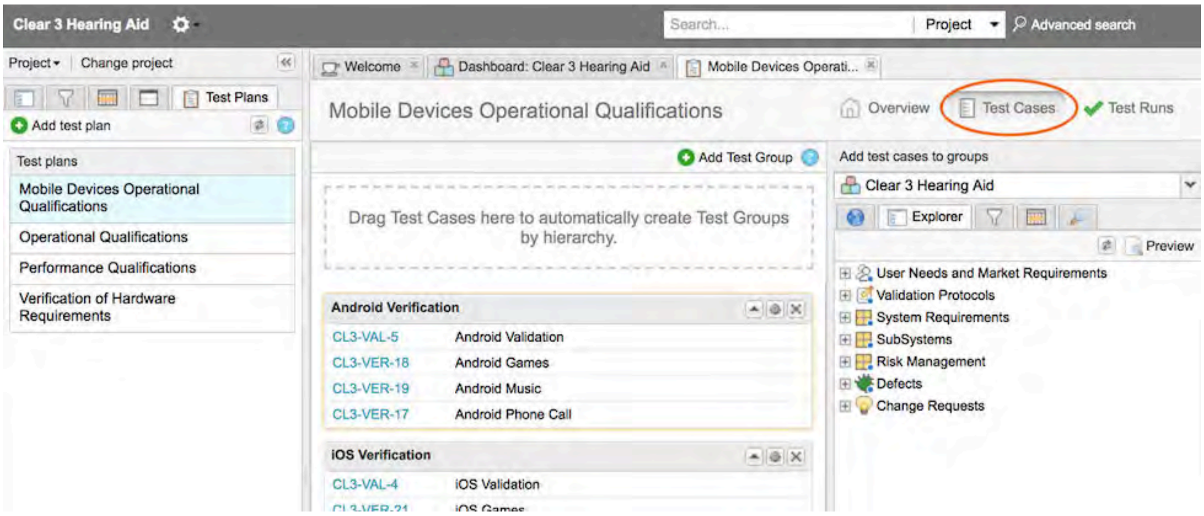
- In List View or Single Item View, view suspect links in the Relationship Status Indicator [269].
- Find suspect links using advanced filters [135].



Test cases quick find

You can find test cases using one of these methods.

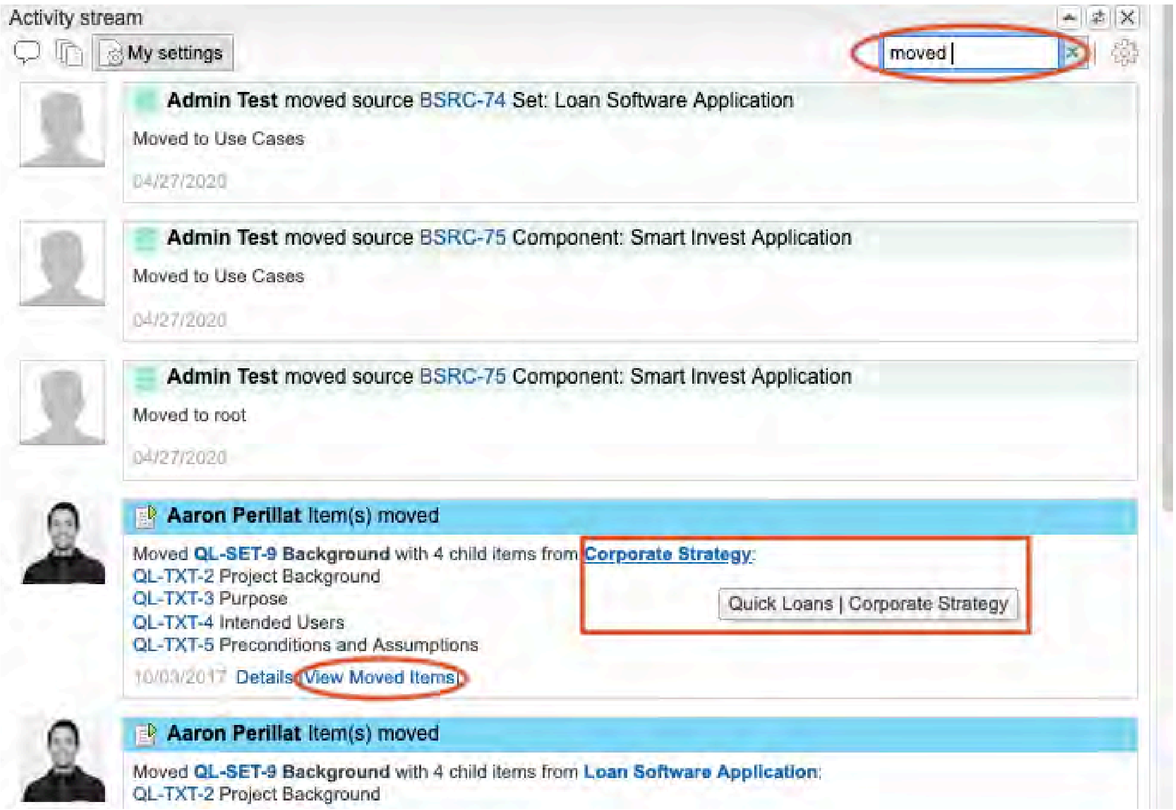
- Look for test cases in the **Explorer Tree** [47].
- **Projects > Trace View [52]** where they appear in relationship to items they test, along with associated test runs.
- **Projects > List View** [51] where you can filter by item type name to find test cases.
- **Test Plans** where you can see them in the test cases section of the plan by selecting **Test Cases**.



Find moved items

If you don't know where to look for items that were moved, you can use the Activity Stream to find and access recently moved items. This is also an easy way to move all items back to the previous location (or to another location) after a move is made.

1. Open the Activity stream and use the search box to search for moved items.
2. Hover your mouse over the location to see a file path.
3. Select **View moved items** to see the files that were moved.



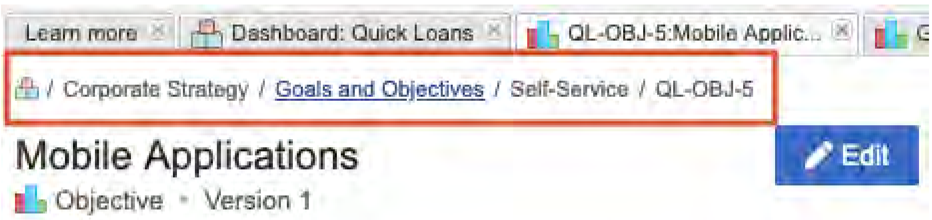
4. (Optional) In List View, you can move items.

Find an item in the Explorer Tree

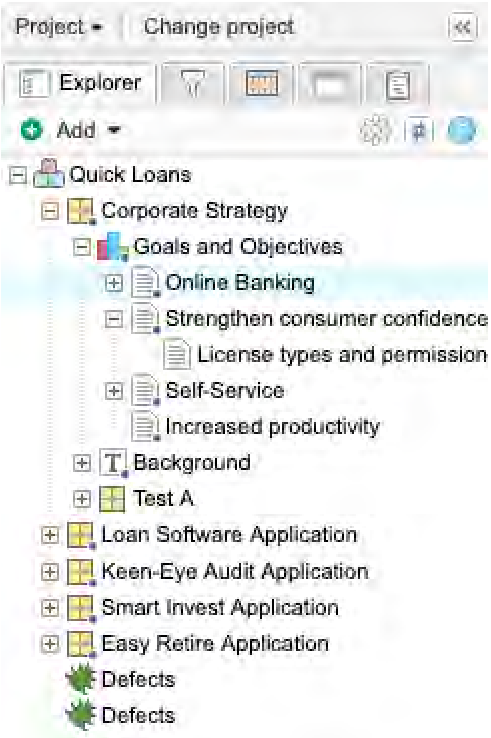
If you've navigated to an item from search results, filter results, or tags, you can quickly locate an item in the Explorer Tree.

> **NOTE**
> When viewing the Explorer Tree, some items aren't visible if a component, set, or folder contains over 250 items.

- From the Single Item View toolbar, use interactive links (formerly called "Find me") to find a location in your project hierarchy.



- From the Explorer Tree, view the highlighted item you want to find.


Project
Change project
Explorer
Add
Quick Loans
Corporate Strategy
Goals and Objectives
Online Banking
Strengthen consumer confidence
License types and permission
Self-Service
Increased productivity
Background
Test A
Loan Software Application
Keen-Eye Audit Application
Smart Invest Application
Easy Retire Application
Defects
Defects

Reviews in Jama Connect

Reviews play a key role in successful product development. They help ensure that a new project meets stakeholder, market, and compliance requirements.

Jama Connect uses an iterative and collaborative approach for reviewing requirements and other artifacts in real-time, which improves stakeholder alignment, reduces review cycles, and eases the path to compliance.

Your organization administrator configures review center settings [622] to meet the needs of your organization.

Review features include a wizard that streamlines review setup and electronic signatures for coordinated approval and signoff.

Roles for review workflow

Your role determines which tasks you perform in a review.

Moderator — Create, manage, finalize, and close a review. Only moderators can comment on a closed review.

Approver — Provide feedback and approve or reject the item during the review.

Reviewer — Provide feedback.

Review Administrator — See and manage all reviews.

Role	Responsibilities and actions
Moderator	• Initiate a review. • Add and manage review participants. • Modify a review. • Edit an item to incorporate feedback. • Close and reopen a review. • Publish a revised review. • Finalize a review. • Archive a review. • Delete a review. • Recover an archived review. • Transition items based on item workflow. • Remove items.
Reviewer*	• Contribute feedback. • Finish a review as a reviewer.
Approver	• Contribute feedback. • Approve or reject review items. • Delegate approval. • Finish the review as an approver. • Add electronic signatures to a review.
Review administrator	• View a list of all reviews. • Perform administration tasks for all reviews, whether or not they were invited to participate. • Archive and unarchive a review. • Recover a deleted review. • Configure review comments.
All	• Find and view review items. • Compare versions. • Monitor progress. • Vote on items. • Subscribe to items on the page.

* Moderators and approvers can also perform all reviewer actions.

Review lifecycle — Who does what during a review

Action	Moderator	Reviewer	Approver	Review Admin
Initiate a review [153]	X			
Invite participants [158]	X		X	
Add and manage review participants [160]	X			
Modify a review [161]	X			
Delegate approval [175]			X	
Participate as a reviewer [170]	X	X	X	
Find and view review items [180]	X	X	X	X
Contribute feedback [170]	X	X	X	
Finish the review as a reviewer [172]	X	X		
Finish the review as an approver [173]			X	
Electronically sign the review [174]			X	
Incorporate review feedback [162]	X			
Close a review [163]	X			
Mark a review as completed and update workflow status [169]	X			
Compare versions [187]	X	X	X	X
Monitor progress [189]	X	X	X	X
Vote on items [194]	X	X	X	X
Subscribe to items on the page [193]	X	X	X	X
View list of all reviews [151]				X
Perform administration tasks for all reviews [177]				X
Archive a review [165]	X			X
Recover an archived review [165]	X			X
Recover a deleted review [177]				X
Configure review comments [178]				X
Remove or recover items in a review [166]	X			

Workflow status for reviews

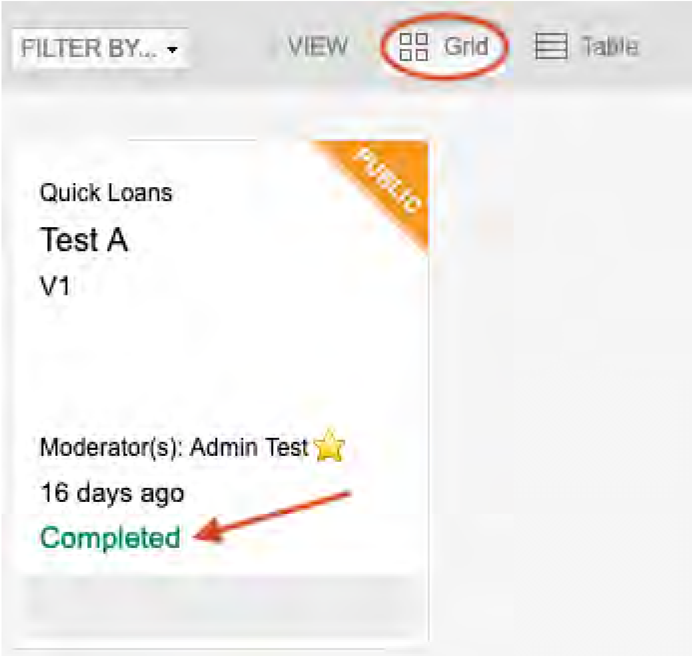
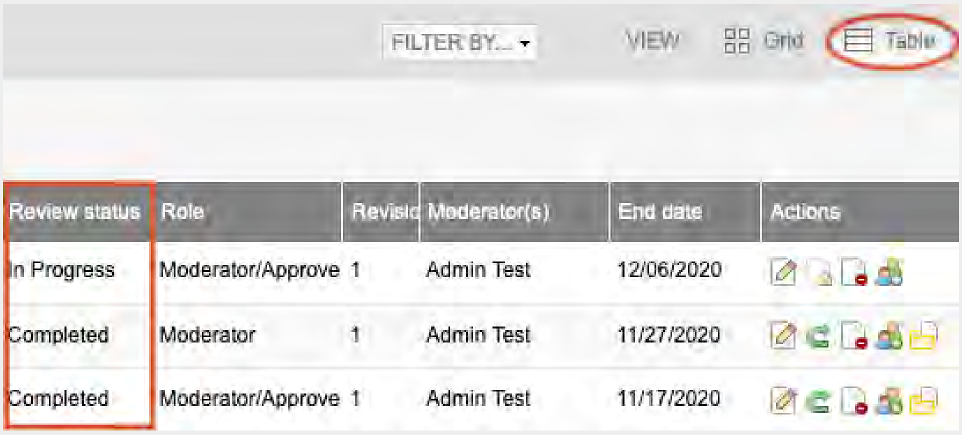
The review status field shows the current workflow stage (status) of a review. This field changes as a result of other operations, like closing and archiving a review.

Review status is visible in Grid View and Table View [150].

Status	Definition
In progress	Default status when moderator initiates a review. [153] Status can be changed to “In progress” when the moderator restores a deleted review or marks the review status as "In progress [150]."
Closed for feedback	Automatic status when the review deadline is reached or when the moderator closes a review [163].
Completed	Status displayed when a moderator selects **Close for feedback** or a deadline date is met.
Review finalized	Status when a moderator marks a review as finalized.
Archived	Status when a moderator archives a review [165], or when a review administrator recovers a deleted review or sets the status to "Archived."
Deleted	Status when a moderator or review administrator deletes a review [165].

Review status quick find

Quickly find a review status using one of these methods.

<table>
<tr><th>Location</th><th>Option</th></tr>
<tr><td>Reviews (header)</td><td>Select Grid to see the review status at the bottom of each card.

</td></tr>
<tr><td>Table</td><td>Select Table. Review status appears in the Review status column.

</td></tr>
</table>

Review Center dashboard views

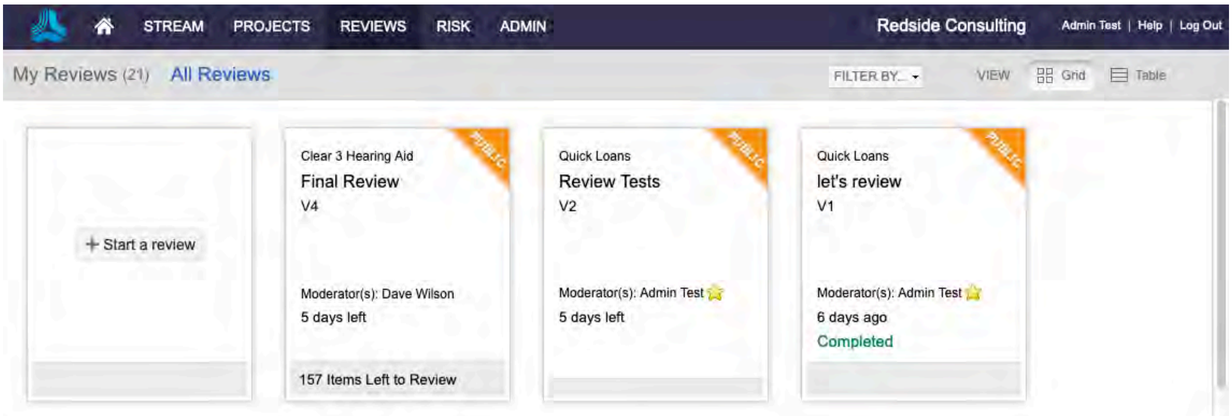
Access reviews from the top navigation by selecting **Reviews** in the header.

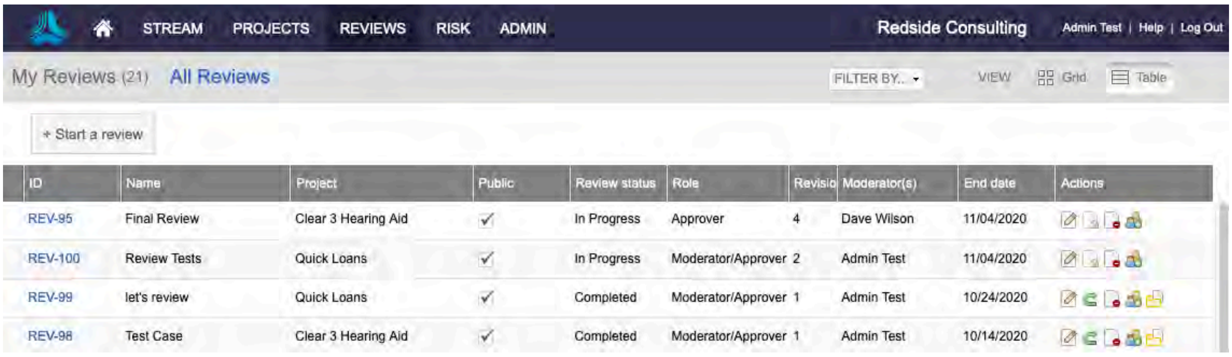
From the header, you have two options:

My reviews	All reviews where you are assigned as a reviewer [170], approver [172], or moderator [152].
All reviews	Reviews that haven't yet been archived.

What you see in the dashboard

What is displayed in the dashboard depends on your role, whether you've been invited to a review, and the options you select.





Review administrators — See all reviews.

Users — See only public reviews until they are invited to a review (depends on how your organization administrator and moderator have set public review permissions).

Filter by — Filter reviews by review status or by your role in the review.

Include/Hide archived reviews — See reviews that have been archived or remove them from your results.

The indicator for a pubic review depends on your view:

Grid View	Table View
	

Moderator tasks

Certain tasks can only be performed by a moderator. Moderators can also be reviewers or approvers, in which case they can perform all tasks for those roles as well as moderator tasks.

- Initiate a review [153]
- Add and manage participants [160]
- Modify a review [161]
- Incorporate feedback for review items [162]
- Close an "in progress" review for feedback [163]

Initiate a review

You can create reviews for any item or group of items that you can access. By default, you are the moderator for any reviews you create.

You can start a review from several places in the interface. Whichever method you use, a wizard opens and guides you through the process.

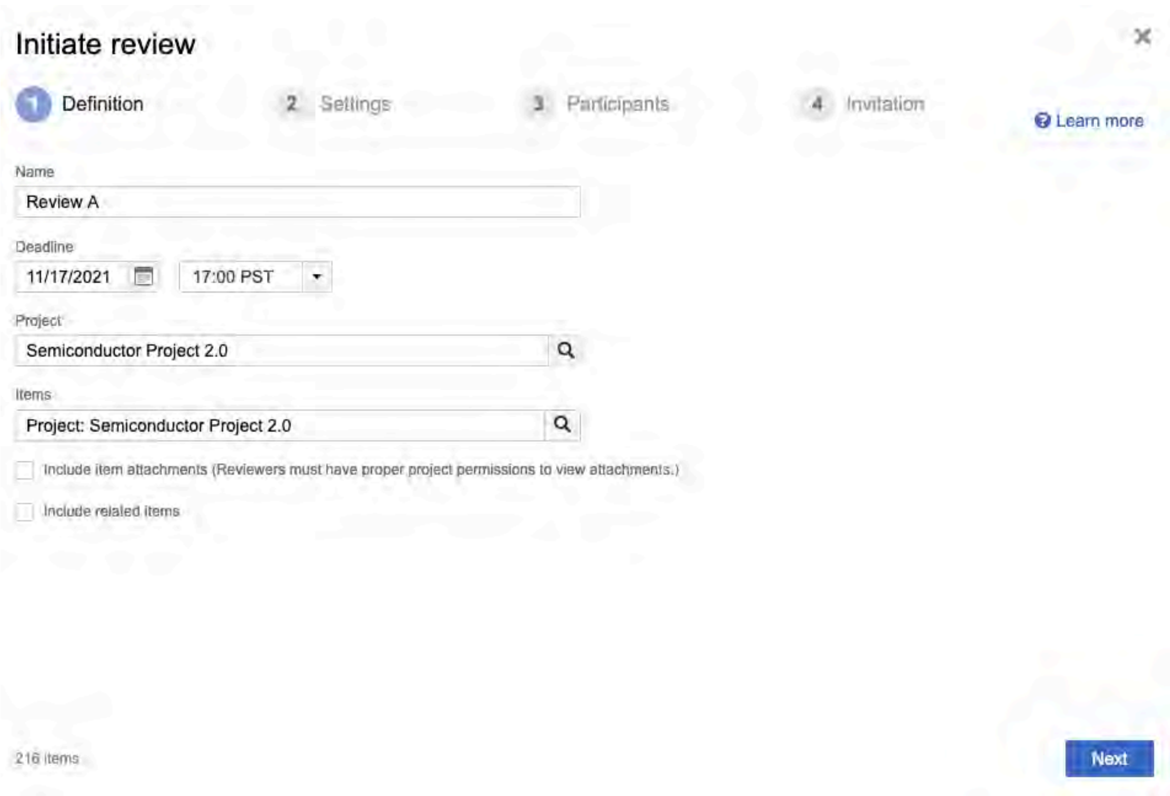
Method/location	Action
Reviews	Select **Reviews** in the top navigation, then select **Start a review**.
Test plan	Select **Test runs > Cycle > Send for review** to send a cycle of test runs to review. **Note**: To send an entire test plan for review, select **Test Plans**, right-click on the test plan, and select **Send for review**.
Projects > Single Item View	Select the item you want to review, then select **Send for review**.
Projects > List View	Select the items you want to review, then select **Send for review**.
Explorer Tree	Right-click on an item and select **Send for review**.
	Filters tab — Right-click on the filter that points to the items you want to review, then select **Send for review**.
	Releases tab — Right-click on the filter that points to the release you want to review, then select **Send for review**.
	Baselines tab — Right-click on the source that includes the baselined items you want to review, then select **Send for review** (reviews the items in their current state, not their baselined state). If all items from an existing source were deleted, you can't select **Send for review** from the baseline tree.

TIP

When you initiate a review, a baseline of the selected reviews is automatically generated [248]. You can find this baseline [248] under the Baselines tab or you can find a link under the Versions tab of any item in this review.

To start a review:

1. Select the items you want to review using one of the methods described in the previous table.



2. Definition [154] — Define your review.
3. Settings [156] — Configure the settings for your review.
4. Participants [158] — Configure who you want to review your items.
5. Invitation [159] — Complete the invitation email.

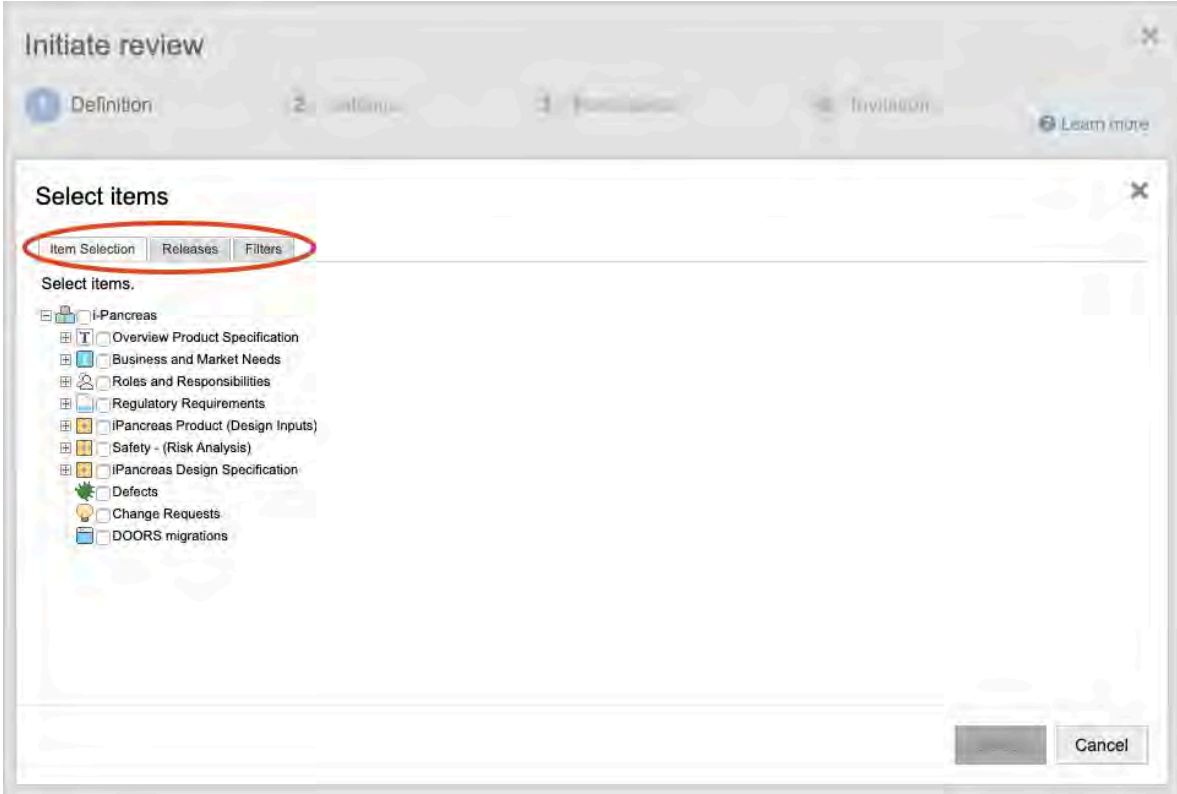
Definition

When you initiate a review [153], the first step is to define the review.

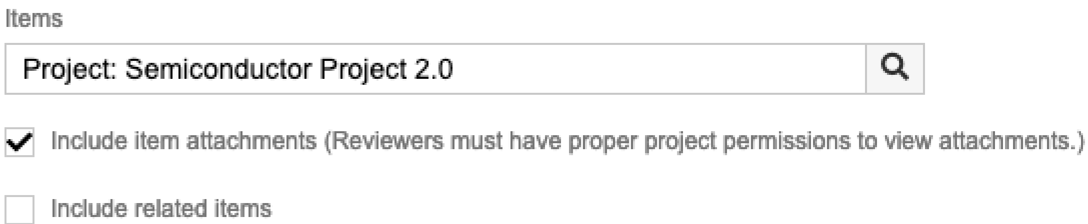
1. If you selected items before initiating the review, the system suggests a name, or select a name for the review.
2. Set a deadline for the review, or the deadline defaults to one week from today.

> **NOTE**
> If you're using Windows, be sure that "Adjust for daylight saving time automatically" is enabled in "Date and time" settings in Windows, so that the time zone is displayed correctly when initiating a review.

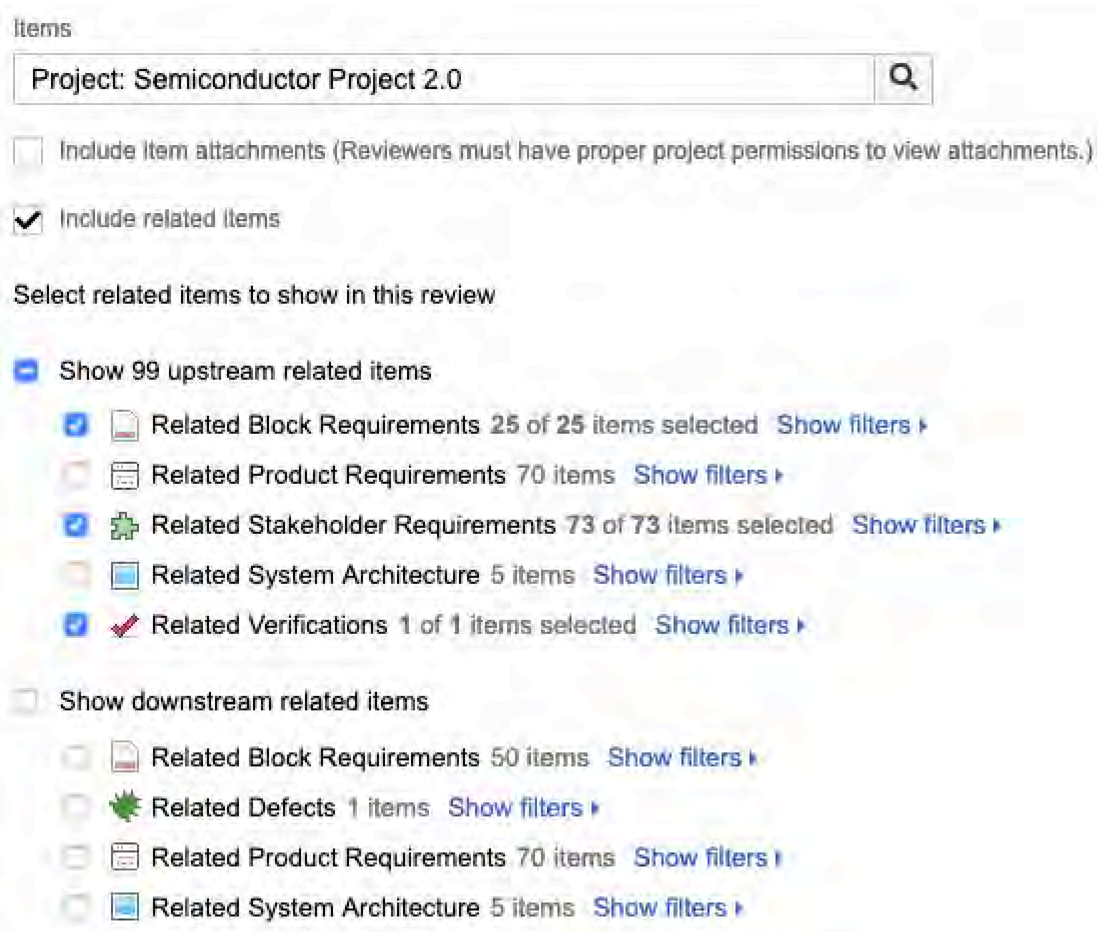
3. If you selected items before initiating the review, the **Project** field shows the name of the source project. Otherwise, select the **Project** that contains the items for this review.
4. If you selected items before initiating the review, this field isn't editable. Otherwise, select the items that you want to review.
   You can select whole containers or expand the containers to select individual items. You can also use the **Releases** or **Filters** tab to select a release or filter to send to review. You can't select items from multiple tabs. Use the **Select** button to indicate your choice is complete.



5. Select **Include item attachments** to add item attachments to the review.



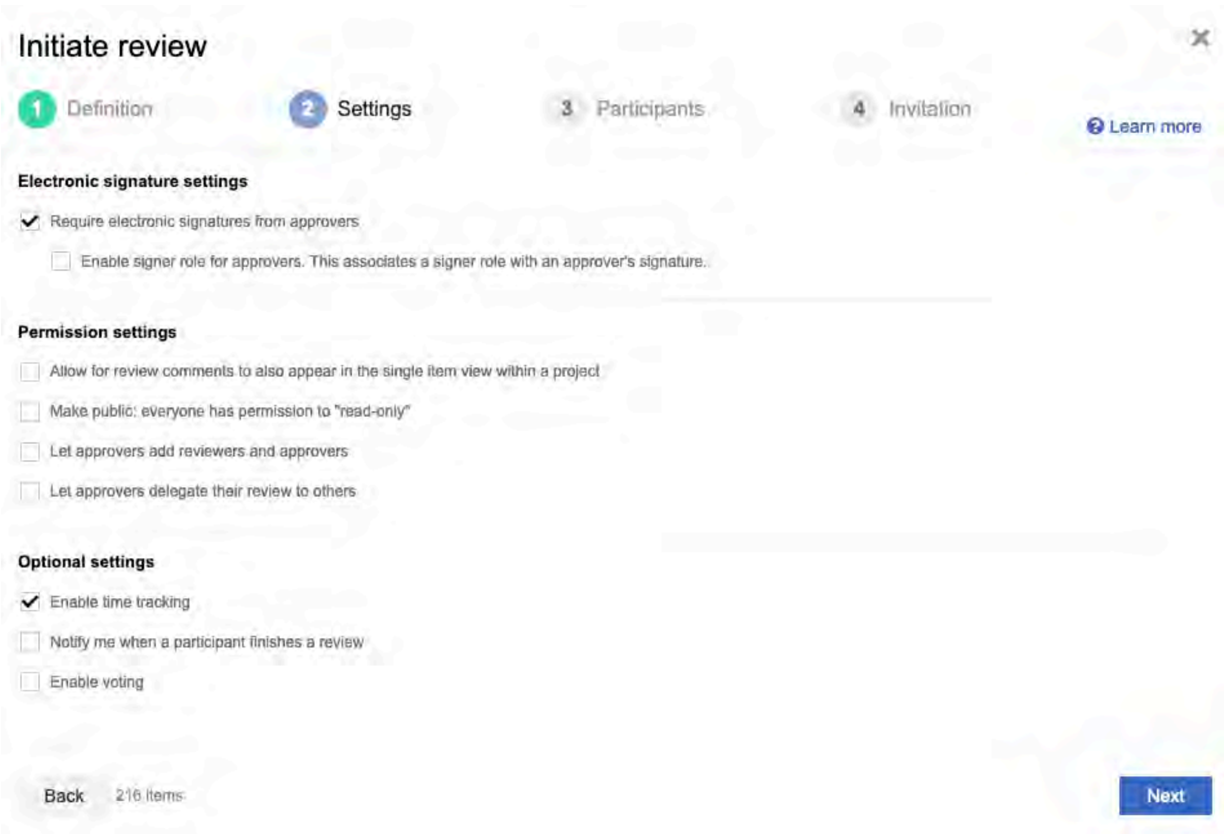
   When the review is created, you see attachments for the item in each section of the review (if they exist). Select the attachment link to open the latest version of the attachment.
6. Select **Include related items** to see options for making upstream and downstream items visible in the review (as long as such items exist).
   You see each item type that's related either upstream or downstream, along with a count of the number of related items.
   Select **Show filters** to filter those relationships by relationship type.
   Select the related items you want to include in the review.



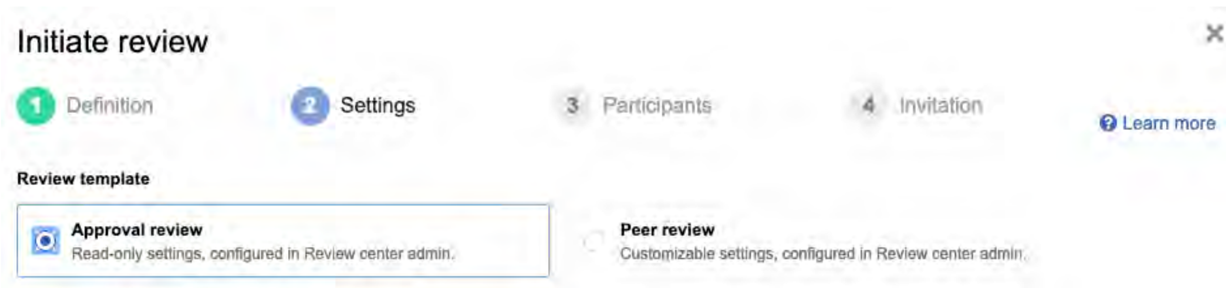
7. Select **Next**.

Settings

When you initiate a review [153], the second step is to choose the review settings. This image shows the default settings. Additional settings are available only if they are configured by an organization or process administrator.



You see the Review template option if it's enabled in Review center by an organization admin. For more information about review templates, see Item workflow for Approval Reviews.



1. Select electronic signature settings.
   If you select **Require electronic signatures from approvers**, all approvers must sign the review in order to approve it. Select **Enable signature group for approvers** if you want your review signatures to have a particular signer role. Find out more about how electronic signatures work [225].
2. Select permission settings.
   Allow for review comments to also appear in the single item view within a project:
   Administrators must first enable this option in the **Review Center Settings** for this option to appear.
   Make public: This option makes the review visible beyond those invited to participate. An organization administrator determines whether public reviews [622] can be seen by anyone with access to reviews, or only by those with permission to ALL items in a review.
   Let approvers add reviewers and approvers: Select to allow approvers to add others to the review.
   Let approvers delegate their review to others: Select to allow delegation of the approver role. If an approver is assigned a signer role, and they delegate their approver role, the signer role is also delegated.
3. Select optional settings.

Enable time tracking: Check this box to track the amount of time each reviewer spends within the review. The clock that tracks the time is visible to all participants in review statistics [189].

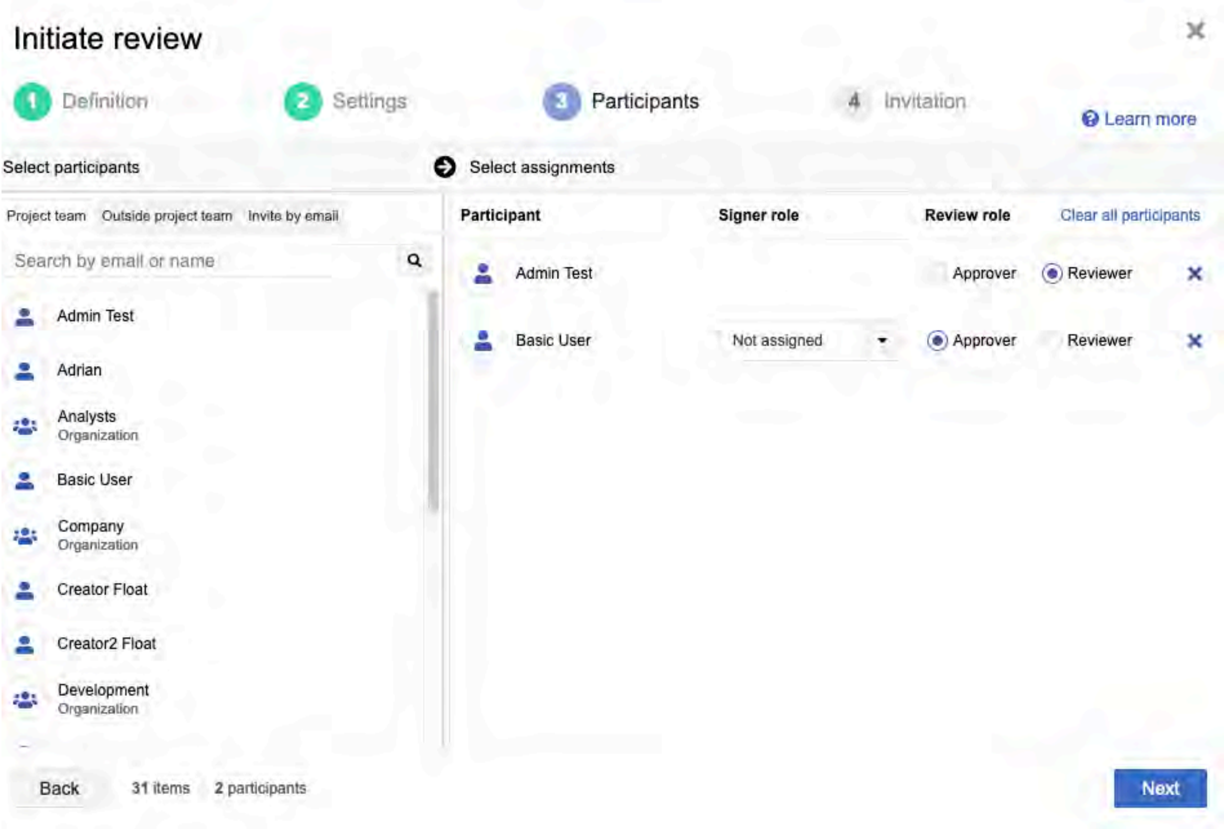
Notify me when a participant finishes a review: Check this box to send notification emails [196] to the moderator when a reviewer marks a review complete or when a participant requests a new version.

Enable voting: Check this box so participants can provide input on priority or other issues the moderator needs to resolve. Read more about voting [194]. If you select this box, you are asked to designate the number of votes per user and a label for what the vote means.

4. Select **Next**.

Participants

When you initiate a review [153], the third step is to choose review participants.



> **IMPORTANT**
>
> Inviting anyone to a review gives them read access to the entire content of the review, even if they don't have permission to the underlying items.

1. Using the left column, select participants for this review.
   Use the tabs at the top of the column to select from users on the **project team**, or from **outside the project team**.
   You can select individuals or groups. Search by name or email using the field at the top of the list. If you select a group, you can add all users or select individual users from the group.
   Select the **Invite user by email tab** to invite users from outside of Jama Connect. Those users receive an email invitation with a link to the review. When they select the link, they are given a

reviewer license (as long as there are floating reviewer licenses available) and are asked to set up an account. They can only access the review you invite them to.

> **IMPORTANT**
> An organization administrator can disable this function or can restrict the domains for which outside review invitations are allowed. [622]

2. Selected participants appear in the right panel. Select a review role for each participant (approver [172] or reviewer [170]).
   If you enabled signer roles [156], you can also assign a signer role to each approver.
   Signer roles are based on groups. If you select a group name, then select **All users**, the signer role for those users defaults to the group name.
3. Select **Next**.

Invitation

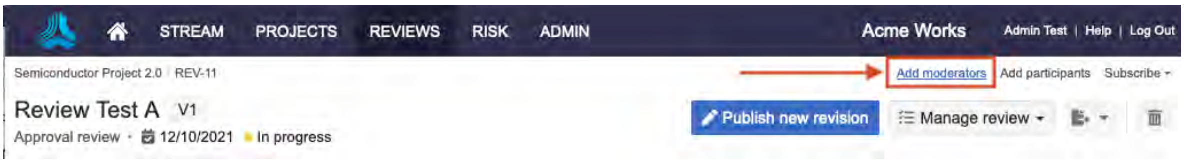
When you initiate a review [153], the final step is to complete the invitation.

1. You see a draft of the email that's sent to **participants**. At the top, it shows the total number of participants who receive the email and their roles.
   Fields for the email **subject** and **message** are the only two fields you can modify in this panel.
   The email also shows the **review role** and **signer role** as determined in the participants panel [158]. For reviews that have participants with different reviewer roles, light gray text shows information that might vary for each participant.
   The **signature meaning** is the same for all reviews and defaults to "I approve this review" and can't be modified.
   The email includes a **link to the review** and the **deadline**.
2. Select **Initiate review** to receive a confirmation that your email was sent.

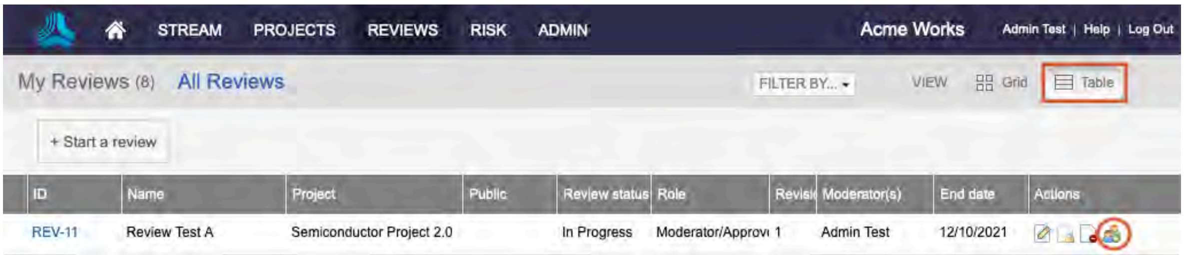
Add and manage review participants

As a moderator, you can add or remove moderators from your review.

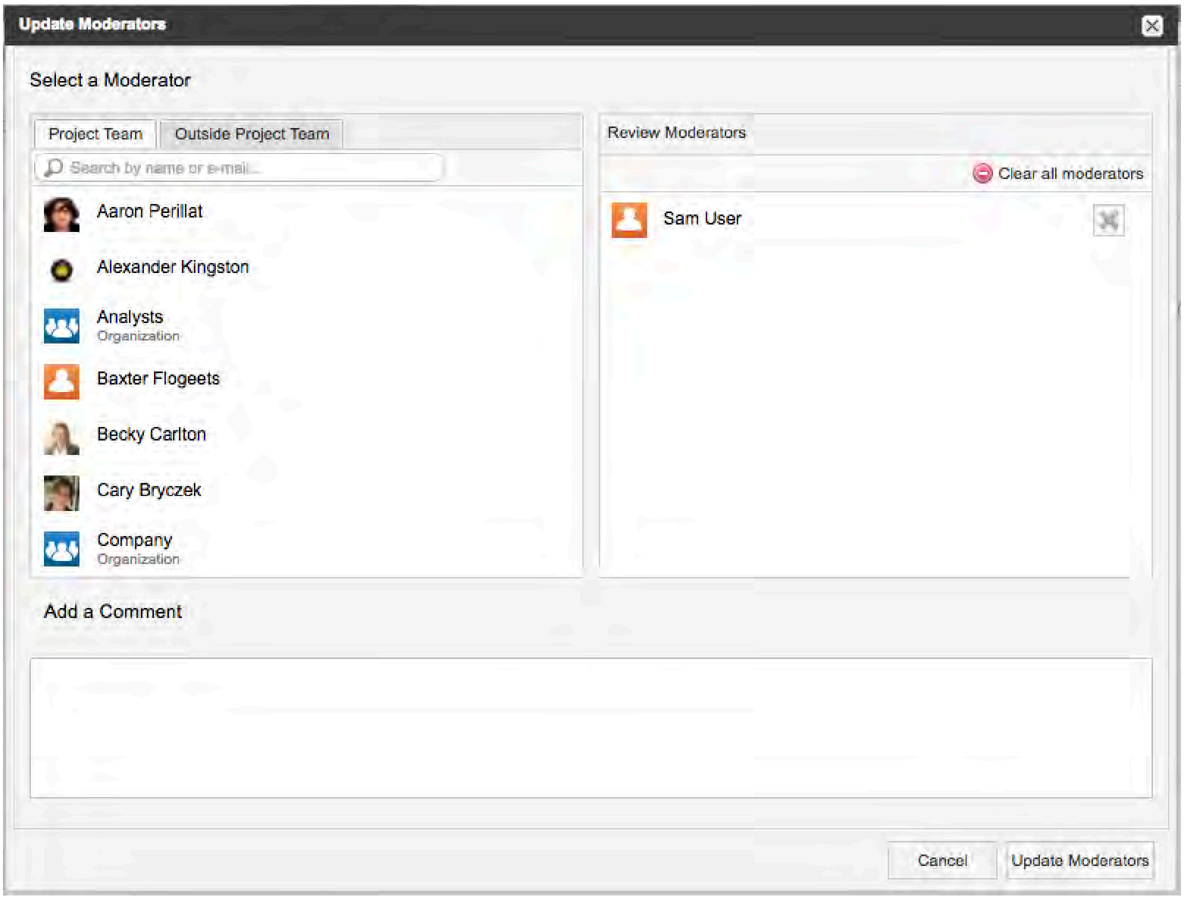
1. In a review, select **Add moderators**.



   If you are viewing multiple reviews in the Table view, select **Update moderators for this review**.



   The **Update Moderators** window opens.



2. Add moderators from your team (**Project Team** tab) or from outside your team/Jama Connect (**Outside Project Team** tab).
3. To remove a moderator, select the **X** next to the name in the Review Moderators panel.
4. (Optional) Add a comment about the changes you made.
5. To finish, select **Update Moderators**.

Important considerations

- If you remove yourself from a review, you no longer have access to that review. All added and existing moderators receive email notifications for changes to the list of moderators during the review.

- Moderators can be added to a review regardless of their access rights to the items in the review. However, when a new revision for the review is published, it includes only items that moderators have write access to. This can have unexpected consequences for reviews sent from filters, such as missing or extra items in the new revision.

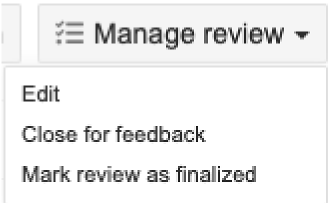
Modifying an "In progress" review

You might want to change the content that's included in a review, the due date, or the participants. You can also close a review so that feedback is no longer allowed.

Only a moderator [152] or a review administrator [177] can change a review.

You can change a review from different locations and views in Jama Connect:

- In a review, use the **Manage review** drop-down menu.



- In **Reviews > Table View**, use the **Actions** column.

ID	Name	Project	Public	Review status	Role	Revisio	Moderator(s)	End date	Actions
REV-107	test review	Quick Loans	✓	In Progress	Moderator/Approve	1	Admin Test	12/06/2020	
REV-105	Test	Quick Loans	✓	Completed	Moderator	1	Admin Test	11/27/2020	
REV-106	Test A	Quick Loans	✓	Completed	Moderator/Approve	1	Admin Test	11/17/2020	

The icons in the **Actions** column are:
Edit — Open the wizard where you change the deadline, invite new reviewers, or change an approver's status (role).
Reopen — Open a review that was closed.
Delete — Remove a review permanently (only a review administrator can recover a deleted review).
Update moderators — Add to or remove moderators from your review.
Archive — Remove the review from the list that appears to users.

Modifying a "Closed" review

A review closes automatically on the end date and time or it can be closed manually by the moderator. When a review is closed, reviewers can no longer add comments.

Important considerations

- As the moderator, you might want to reopen a closed review to allow more feedback, archive the review, or publish a new version.
- Only a moderator or a review administrator can edit a review.
- When viewing a closed review, you see a blue status bar at the top of the review, which notifies participants if a review is closed.

Use these buttons to do the following with a closed review:

- **Archive** — Remove a review from the primary list of reviews.
- **Recover** — Recover a review that was archived or deleted. No item updates are published.
- **Publish new revision** — Publish a new version of the review that includes any changes made to the original items, and change any options for the review itself.

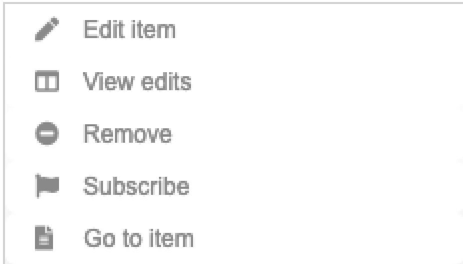
Incorporate review feedback

A moderator can incorporate feedback by editing an item directly from the review.

1. From the header, select **Reviews**, then open the item using one of these menus:

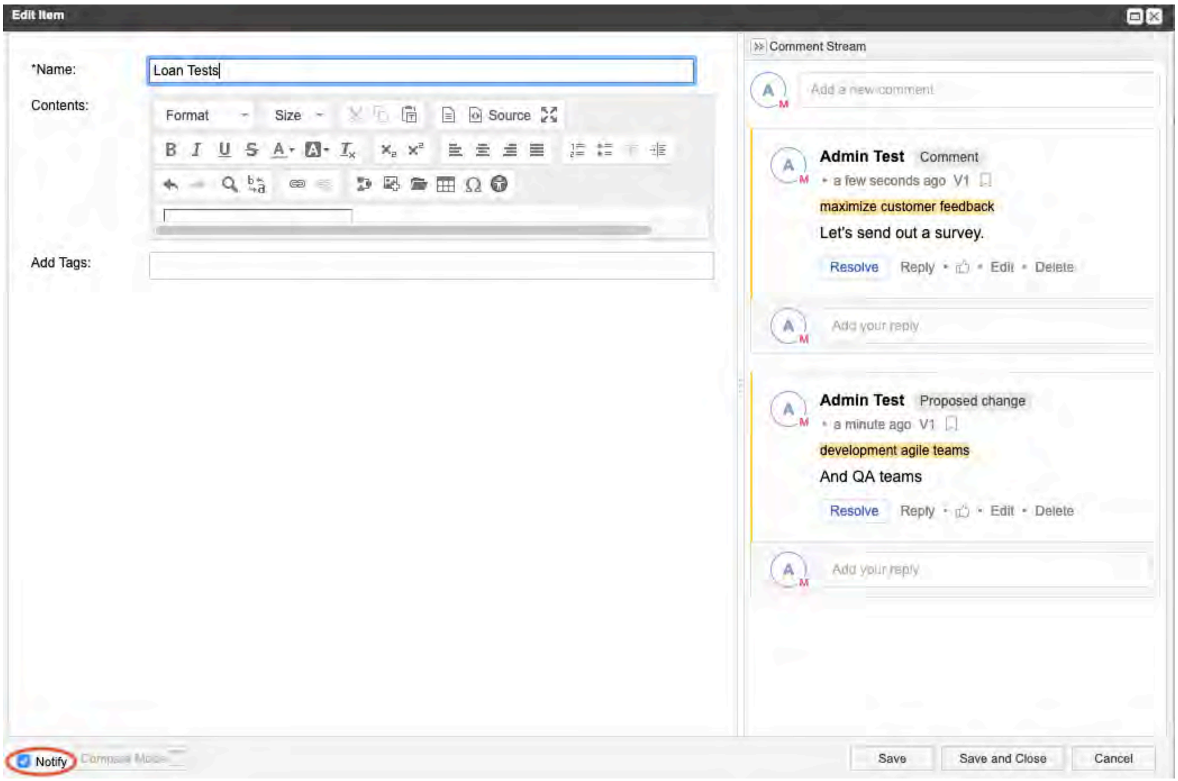
Triangle drop-down menu

Menu next to item's name

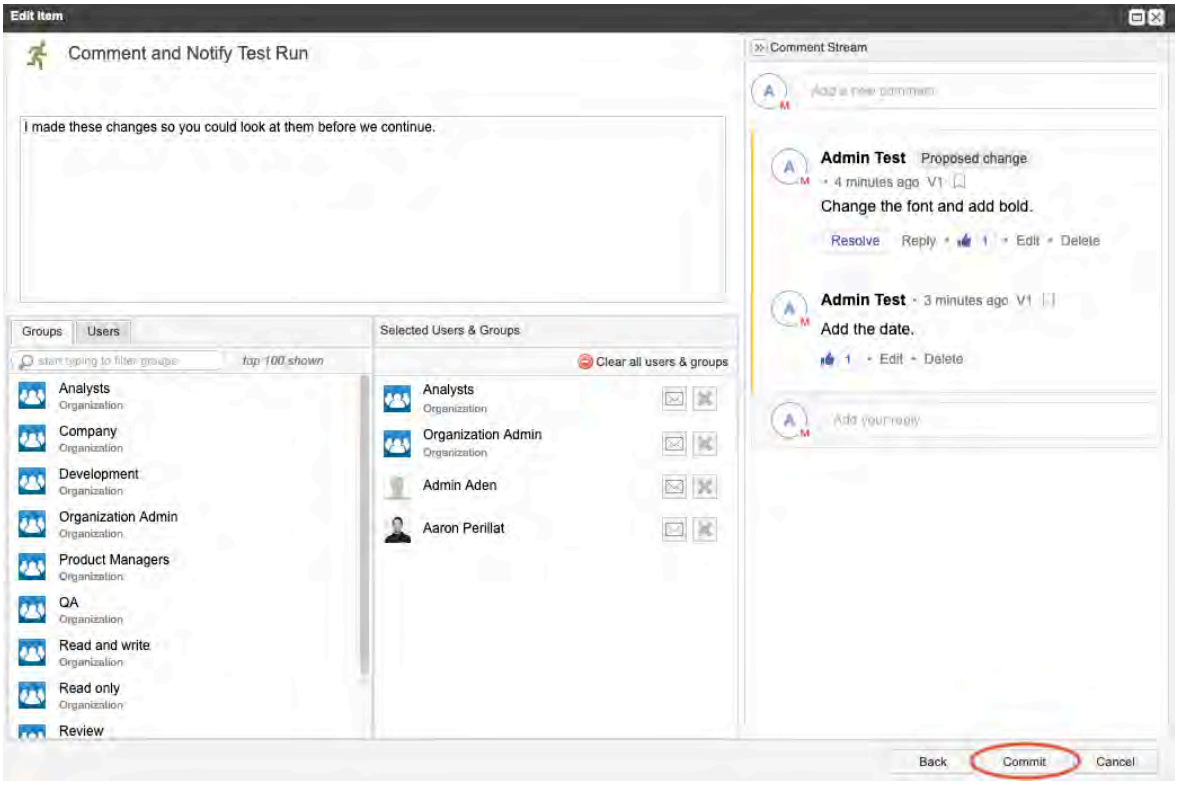


   You can also select the name of the item you want to edit to open it, then select **Edit item** from the menu on the right.

2. In the window that opens, make the changes you need.



3. (Optional) Select **Notify** to designate people or groups you want to inform about this change, then choose the people to be informed.



Your changes are saved in the project, but *not in the review*.

Any time an update is made to an item that's in review, a blue status bar appears at the top of the review. The review remains unchanged until the moderator publishes a new version.

4. Select **Commit**.
5. To update change in the review click **Publish new revision**.
6. In the window that opens, select one:
   - **Publish** — Update the review for all participants.
   - **Modify review** — Make further changes to the review itself in the wizard.

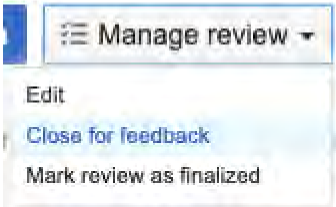
Participants receive an email notifying them about the new revision.

Close an "In progress" review

A review closes automatically when its deadline is reached. A moderator might want to close a review manually before the deadline if, for example, all reviewers already provided feedback.

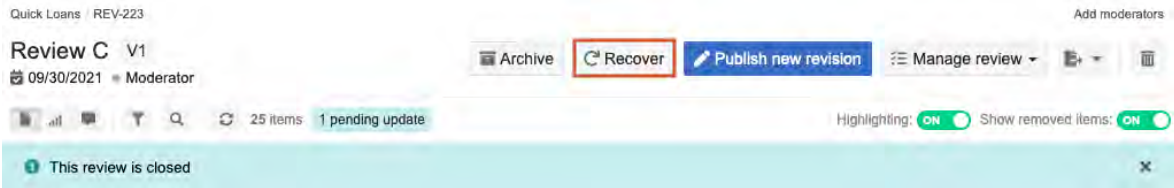
Once a review is closed, a moderator can recover it by changing the status back to “In progress.”

1. To close a review manually that you are currently viewing, select **Manage review > Close for feedback**.



The closed review now displays the message “This review is closed” in the blue status bar.

2. To reopen a closed review, select **Recover**.



The blue status bar no longer appears when the review is reopened.

Publish a revised review

When changes are made to the original review items, you can publish a new version of the review that includes the changes.

1. Open a review that includes changes. The text in highlighted in blue indicates the number of pending updates.

2. Select **Publish new revision** to include these changes in the review.
3. Select an option:
   - **Publish** — Publish the revision immediately (available only when a new version of an item is created).
   - **Modify review** — Change more options for the review in the wizard.

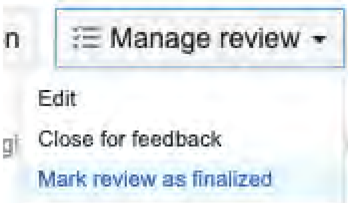
Finalize a review

When you’re satisfied that your review is complete — that all items have been reviewed and approved and that all comments have been resolved — the next step is to finalize the review.

Important considerations

- When you finalize the review, the review workflow tool automatically updates the status of the review items. For example, at the end of a review, a moderator can trigger the status of reviewed items to change from "In review" to "Approved."
- If workflow is assigned to an item type in your Approval review [623], the item will transition. If you don't use a template, the review is marked as finalized.
- When you reopen a finalized review, items are transitioned to their previous review status.

1. In the review, select **Manage review > Mark review as finalized**.



2. In the window that opens, select **Finalize review**.

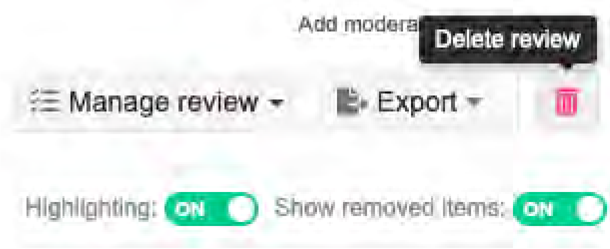
This action automatically triggers Review Status Workflow, which updates the status of the review.

Delete a review

You can delete a review, but not if it includes electronic signatures. However, if an entire project is deleted, all reviews in that project are also deleted, even if they include electronic signatures.

Once a review is deleted, only a review administrator can recover it.

1. From the header in the review, select **Delete review** (trash icon).



2. When prompted to confirm, select **Yes**.

Now, when a user selects **Reviews**, the review that you just deleted is no longer listed with other reviews.

Archive a review

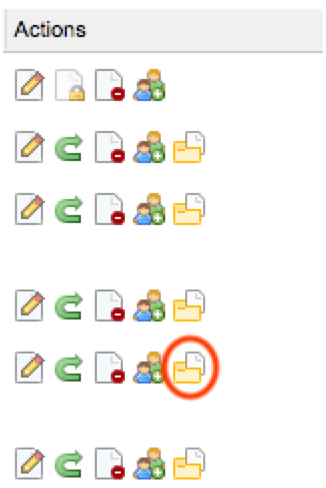
When a review is archived, it's no longer visible in the list that's displayed when users select **Reviews** in the header.

Reviews can only be archived by moderators and review administrator, and only if their status is "Closed."

As the moderator, you can control which reviews are visible to your participants:

- Select **Filter by > Include archived reviews**.
- Select **Filter by > Hide archived reviews**.

1. From the header, select **Reviews > Table**.
2. In the **Actions** column of the review you want to archive, select the folder icon to archive the review, then confirm when prompted.



Recover an archived review

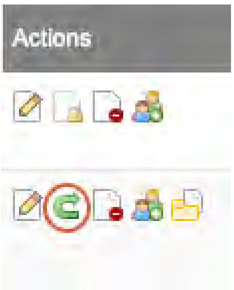
A moderator or review administrator can recover a review that was archived [165].

When an archived review is recovered, the participant roles and contributions are unchanged. For example, if an approver signed and approved a review before it was archived or deleted, it remains the same after the review is recovered.

If items were edited after a review was archived or deleted, they don't appear in the recovered review until the moderator publishes a revised review.

You can recover an archived review from the review’s Actions column or from its blue status bar.

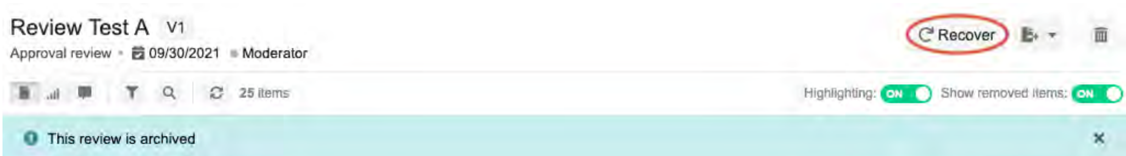
1. **To recover an archived review from the Actions column:**
   1. From the header, select **Reviews > Table**.
   2. In the row with the review you want to recover, select the **Reopen** icon from the **Actions** column.

   3. In the window that opens under **Select review status**, use the drop-down menu to select "In progress," select a new end date and time, then select **Save**.

2. **To recover an archived review from the review’s blue status bar:**
   1. Open a review that was archived.
   2. From the header, select **Recover**.

Remove or recover items in a review

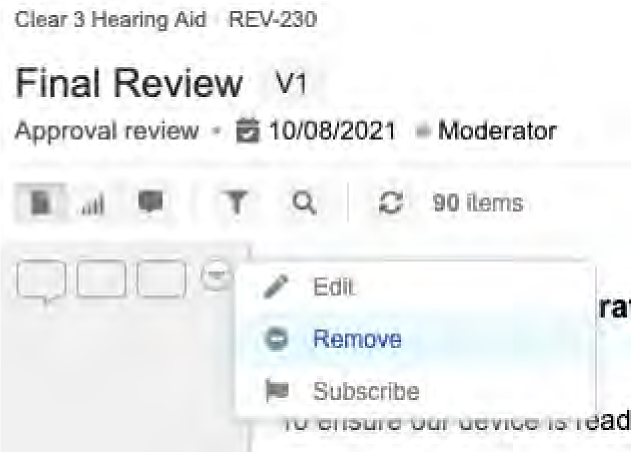
A moderator can remove or recover items in a review, and can perform either of these actions without altering the source in the project.

Important considerations

- When you pair these actions with the Approval workflow, those items remain in their original state and aren't updated when the review is finalized.

To remove items from a review:

1. In the review with the item you want to remove, select the triangle drop-down menu, then select **Remove** next to the item.



   The "Tagged for removal" label appears.
2. Click **Publish new revision** to remove the item from the review.

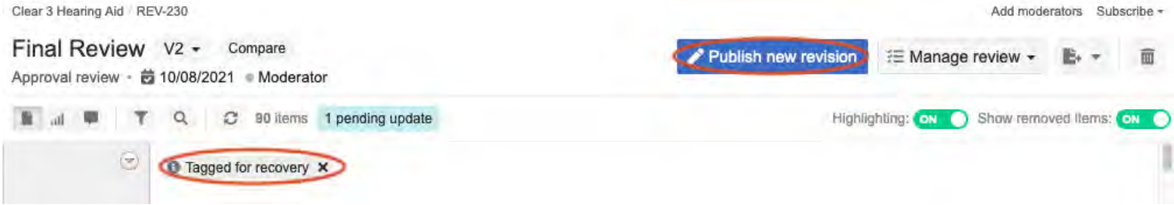
3. In the Publish new revision window, click **Publish**.
   A label appears with the version the item was removed in.
   Anyone who has access to the review can see items that were removed.

To recover items in a review:

1. From the triangle drop-down menu, select **Recover** to recover the item you removed.

The "Tagged for recovery" label appears.

2. Click **Publish new revision** to recover the item in the review.



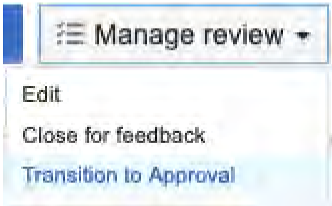
Transition a Peer review to an Approval review

When reviewers are done looking over a Peer review, the moderator can transition a review to an Approval review.

Important considerations

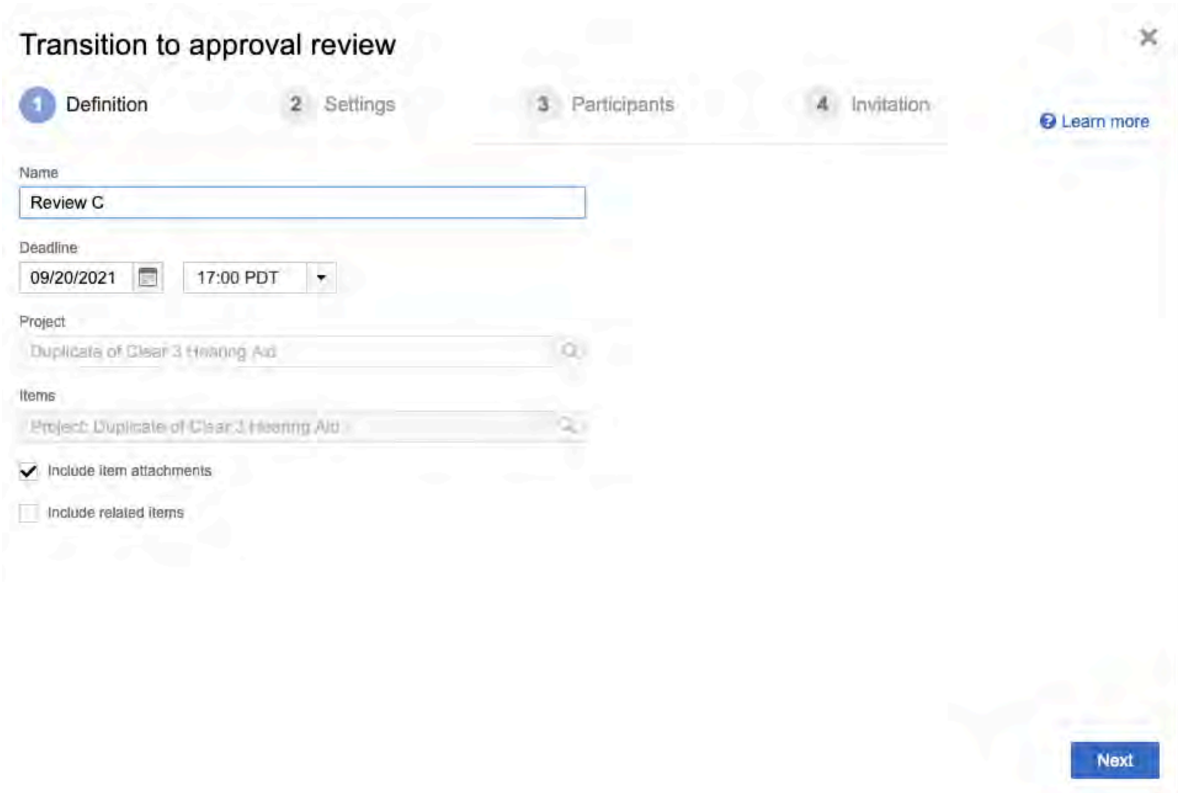
- Both templates must be enabled [623] by an organization administrator.
- When an item is tagged for removal or recovery, and you want to transition to an Approval review, those items are automatically updated.

1. In the review, select **Manage review > Transition to Approval**.

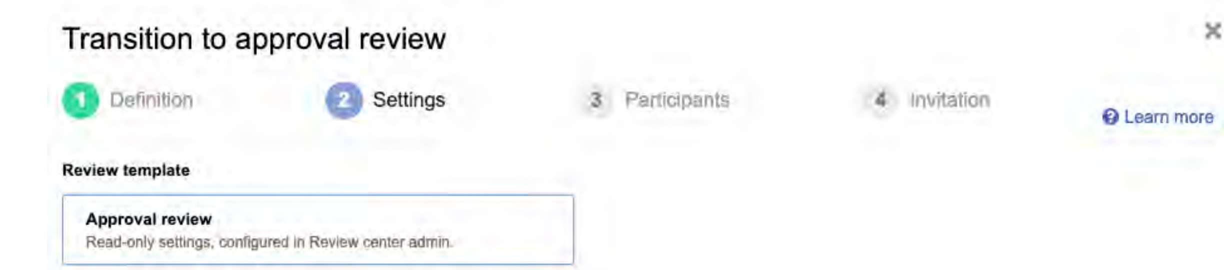


The Transition to approval review wizard opens.

2. On the Definition page, make your changes, then click **Next**.



3. On the Settings page, confirm you're using the approval template, then click **Next**.



4. On the Participants page, make your changes, then click **Next**.
5. On the Invitation page, update the subject and message as needed, then click **Transition review**.

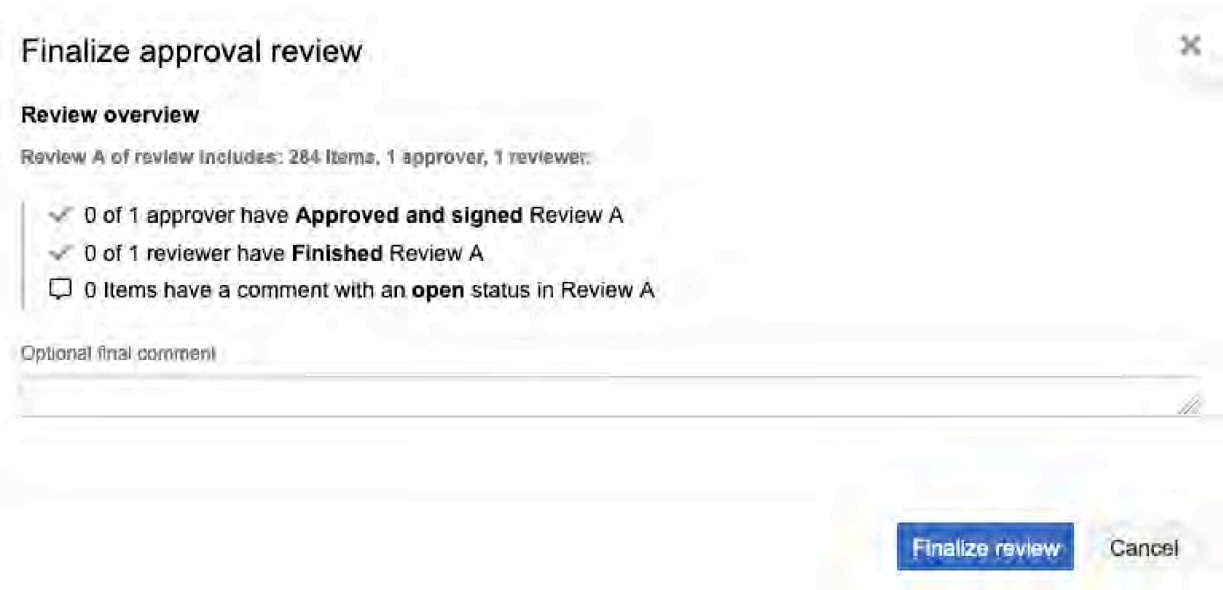
A revision is created and an email notification is sent to reviewers.

Close and finalize Approval review

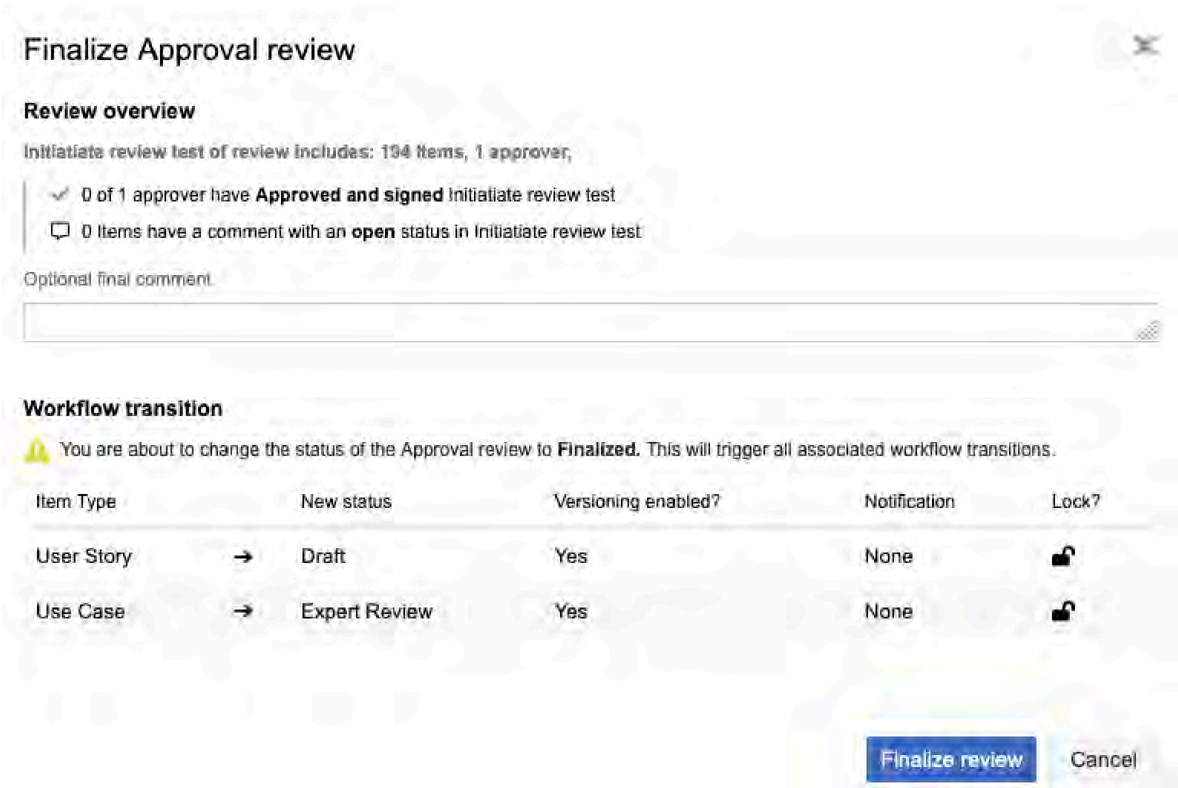
After the review is approved, the moderator closes and transitions items to their approved state. You don't need a Peer review to finalize an Approval review.

Workflow must be enabled [32] in **Admin > Organization** for the items in the review, or the option to **Close and transition items** won't appear when you finalize a review.

Example with workflow disabled



1. In the review, select **Manage review > Finalize approval review**.
   Wizard opens. You can change the name, deadline, and participants.
2. View the review overview and workflow transitions, then click **Finalize review**.



The review is now closed.

Reviewer tasks

- Contribute feedback [170]
- Finish a review as a reviewer [172]

Reviewers can also perform tasks that are available to all review roles.

For example:

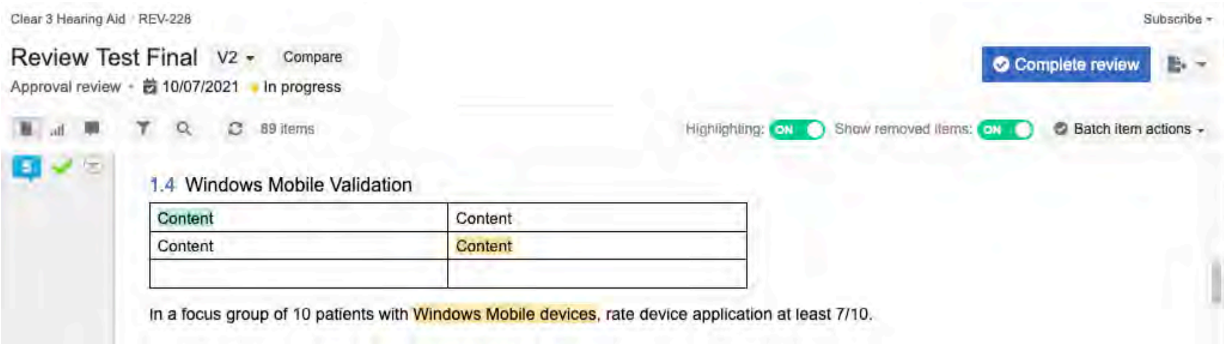
- Find and view review items [180]
- Compare versions [187]
- Vote on items [194]
- Subscribe to items on the page [193]

For details, see Tasks for all review roles [180].

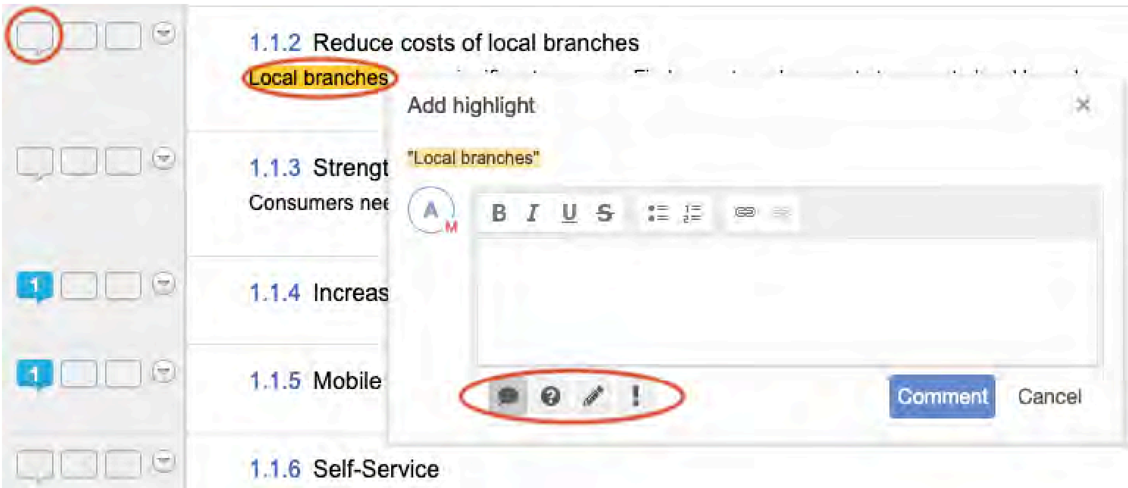
Contribute feedback

Once a review is created, all participants can read through the items, make comments, and ask questions.

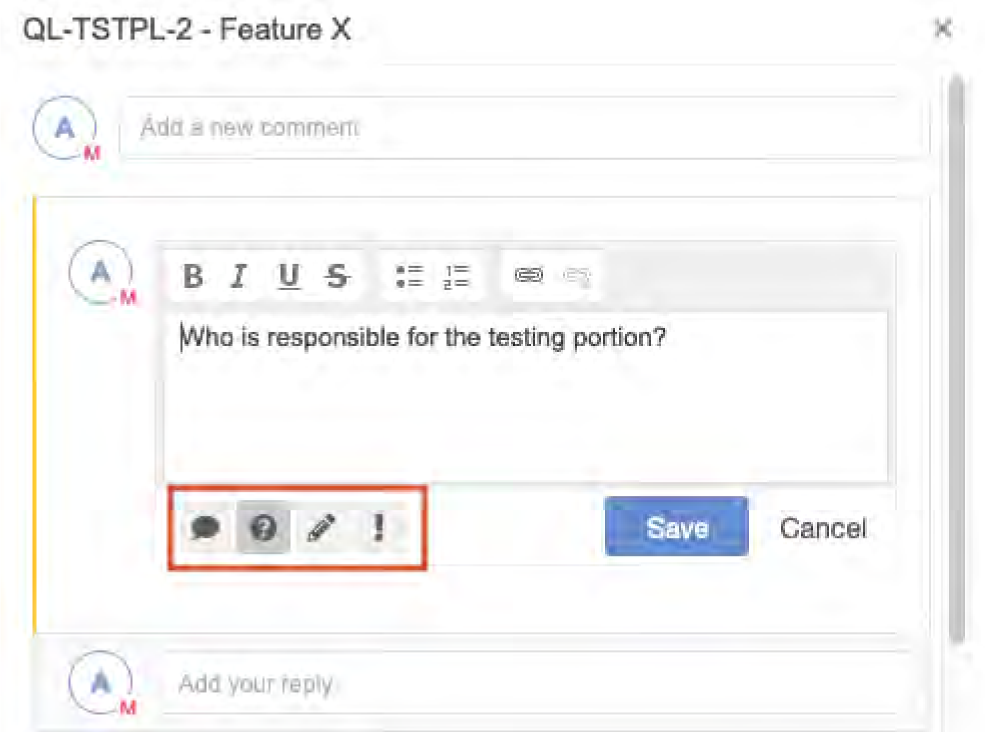
By default, you see only comments made in a specific version. For example, comments made in version 2 only appear in that version.



1. From the review, open the Comment window using one of these methods:
   - Select the Comments icon next to the item.
   - Select the text you want to comment on.



2. Type your comment.
3. (Optional) Apply a category to your comment to help participants understand and track key feed-back.

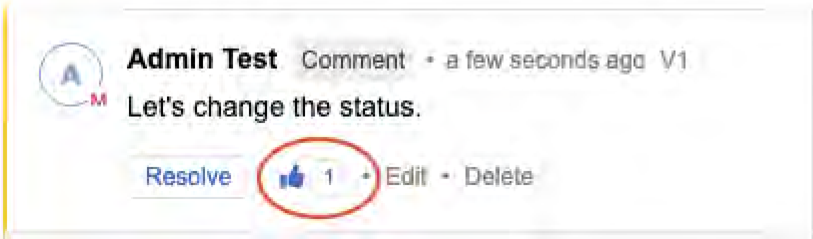


Category	Outline color	Meaning
Comment / Speech bubble	Yellow	Open
	Green	Acknowledged by Moderator
Question mark	Yellow	Open
	Green	Answered by Moderator
Pencil / Proposed change	Yellow	Open
	Green	Accepted by Moderator
	Red	Rejected by Moderator
Exclamation / Issue	Yellow	Open
	Green	Resolved by Moderator

4. Select **Submit feedback** to save the comment.

Additional ways to collaborate with your team

- Use the like icon when you agree with a comment and want to track how team members vote on a decision.



Finish a review as a reviewer

When you complete your work as a reviewer, the next step is to “finish” the review. This action lets the moderator know you're done with your work (if notifications were set up) and updates the overall review progress in review statistics [190].

If the review is closed before you finish the review, the blue status bar includes a message: “This review is closed.”

1. From the review, select **Complete review** on the toolbar.

2. In the review summary window, add any final comments, select **Finish**.
3. If you need to make more comments after finishing the review, select **Reopen review** from the toolbar, as long as the moderator hasn’t yet closed the review.

Approver tasks

- Approve or reject review items [173]
- Finish a review as an approver [173]
- Add electronic signature to a review [174]
- Add reviewers [176]
- Delegate approval [175]

IMPORTANT

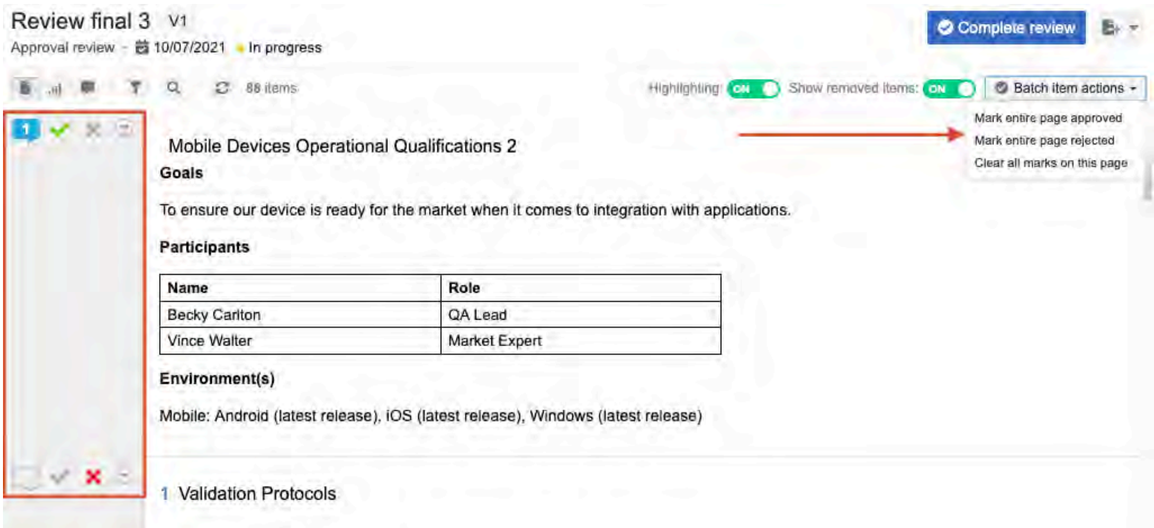
After delegating approval, you are no longer an approver, but you remain a reviewer for the current review. If you delegate approval, all new approvers receive an email notification.

Approve or reject review items

During a review, you can view items and their comments, approve or reject individual items, and approve or reject an entire review.

If you don't see a checkmark or X, you don't have Approver status. Contact your Moderator if you need Approver status.

1. To mark an individual item, select an icon next to its name:
   - **Checkmark** = Item is approved
   - **X** = Item is rejected

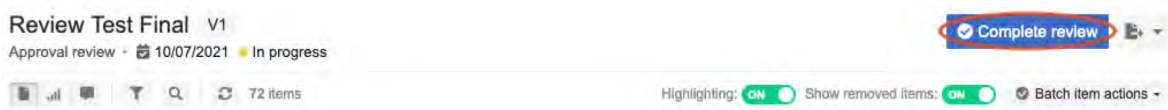


2. To mark all items on the page, use the Batch item actions pull-down menu:
   - **Mark entire page approved**
   - **Mark entire page rejected**
3. If your review contains more than one page of items, repeat this action for each page.

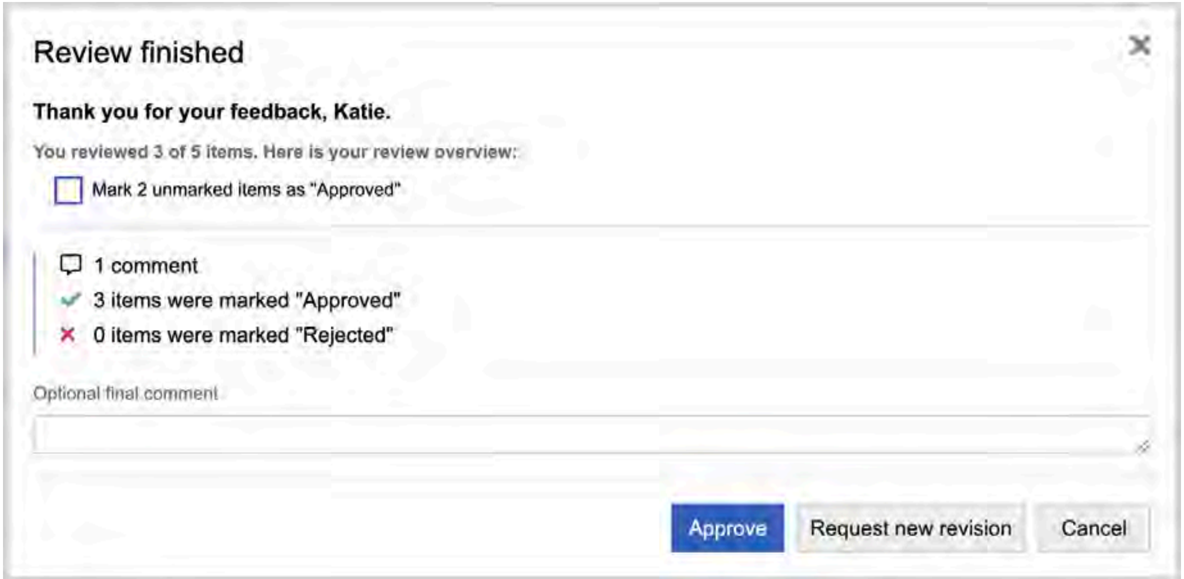
When you're done, the blue status bar includes the message “You’ve marked all items in the review.” You can then finish the review as an approver and electronically sign the review.

Finish a review as an approver

1. When you're finished with a review, select **Complete review** from the toolbar.



2. In the **Review finished** window, you can mark any remaining items "Approved" and add a final comment. These comments are visible under **Reviews > Feedback** in the top-right menu, or in an email sent to the moderator if email notifications are enabled for this review. If this review requires an electronic signature [174], you can also add that here.



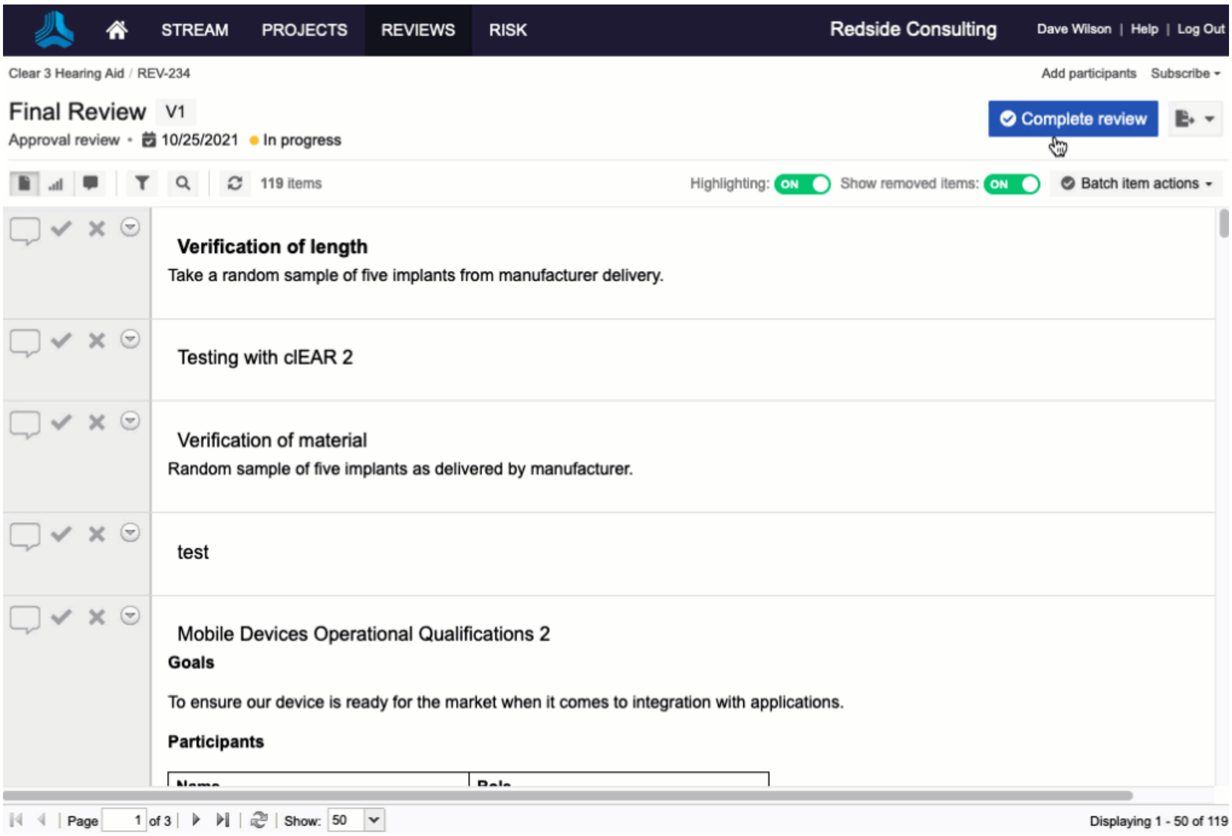
3. Select **Request new revision** or **Approve** (or **Approve and sign** if you're using an electronic signature).

NOTE

If you change your mind and want to reopen your review after finishing a review as an approver, you can select **Reopen review** to re-open it, as long as the moderator hasn't closed the review. If you're using an electronic signature [225], opening a review revokes it.

Sign a review electronically

If a review requires an electronic signature, you are asked to add a signature when you finish a review as an approver.

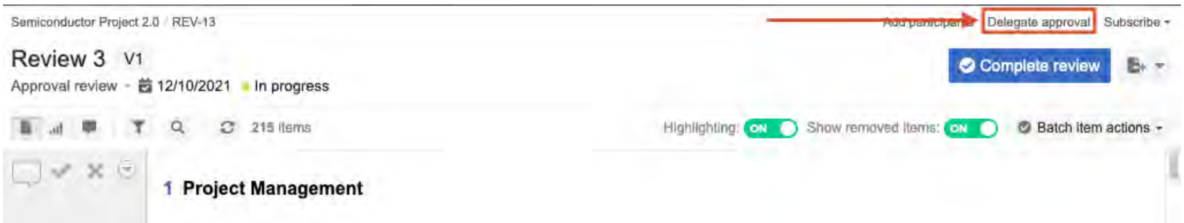


1. In the **Review finished** window, enter your username and password as your electronic signature. If your organization uses SAML, the SAML authentication window opens, where you enter your username and password.
2. Select **Approve and sign** to complete the review.

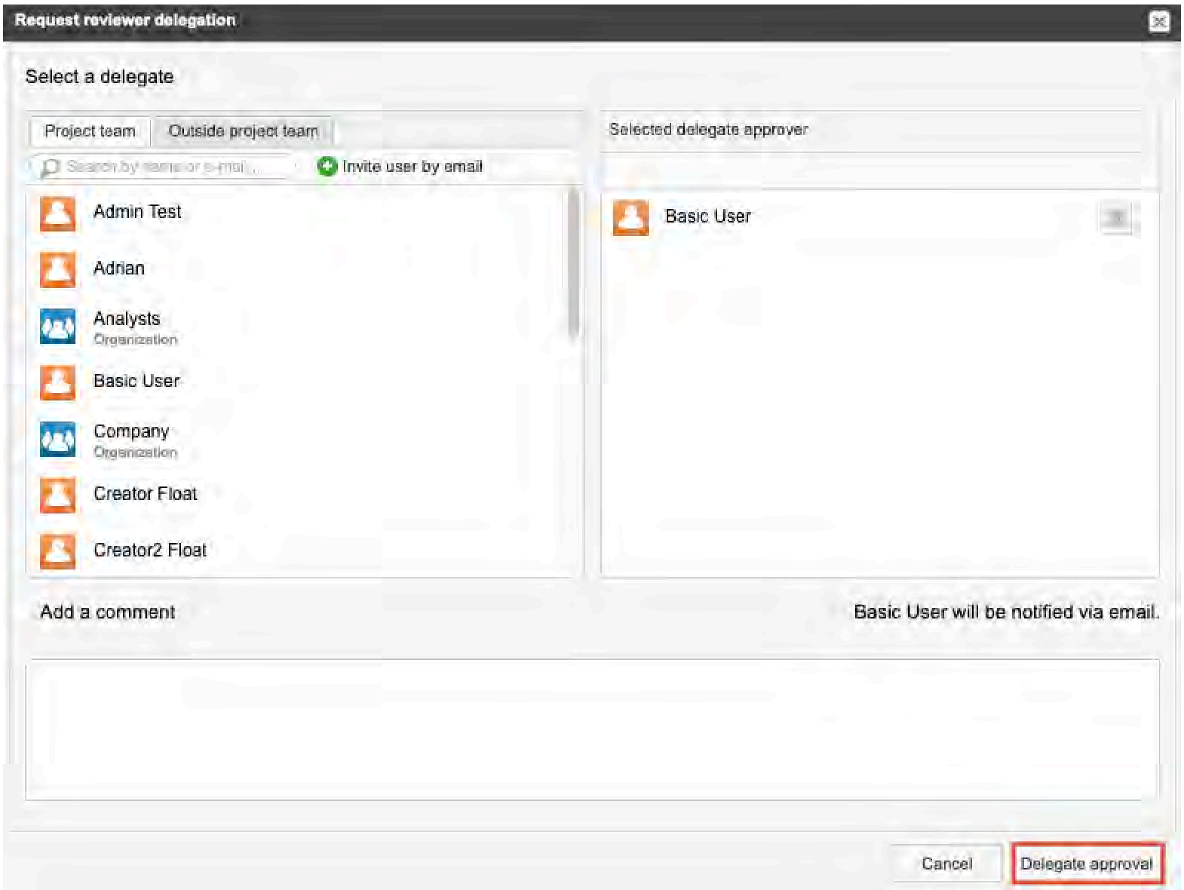
Delegate approval

Assign approval to another team member if you're away when a review needs to be approved or someone else is a better fit.

1. In the review, select **Delegate approval** from the toolbar.



2. In the **Request reviewer delegation** window, select a delegate.



3. Click **Delegate approval**.
   A confirmation message appears.

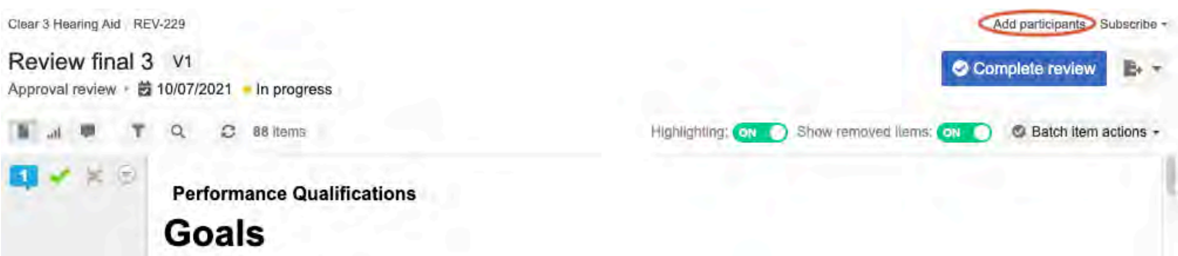
4. Click **Yes** to confirm.

An email is sent to the new approver notifying them of the request.

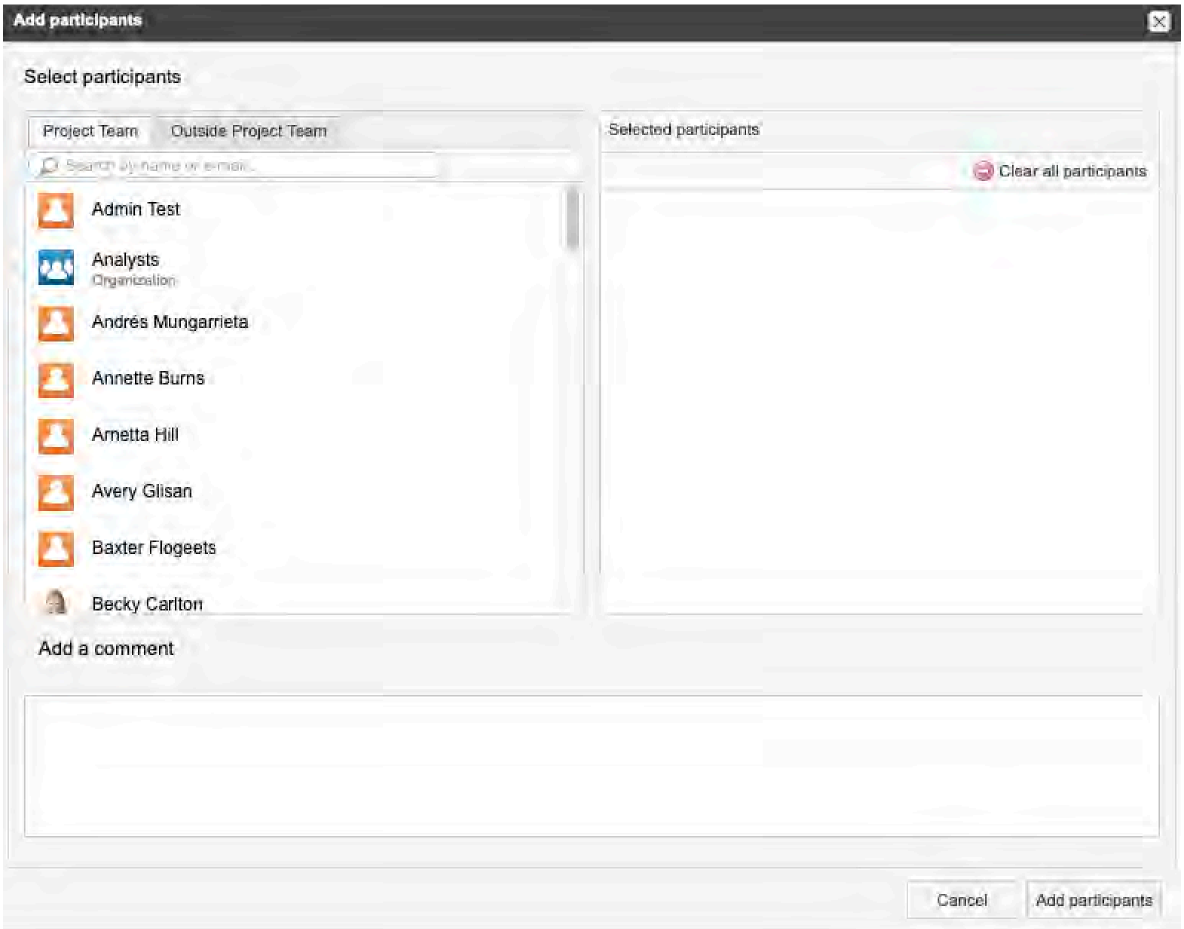
Add reviewers

You can add reviewers to a review at any time.

1. In the review, select **Add participants**.



2. In the window, select the review participants you want to add.



3. Click **Add participants**.

An email is sent to the reviewers notifying them of the request.

Review administrator tasks

- Recover a deleted review [177]
- Configure review comments to appear in projects [178]
- Recover an archived review [165]
- Modify a review [161]
- Make a review public [156]

Important considerations

- Permissions for a review administrator must be assigned by an organization administrator.
- As a review administrator, you can access a review's content when the review is public; when you are also a reviewer, approver, or moderator in the review; or when you add yourself to the review.

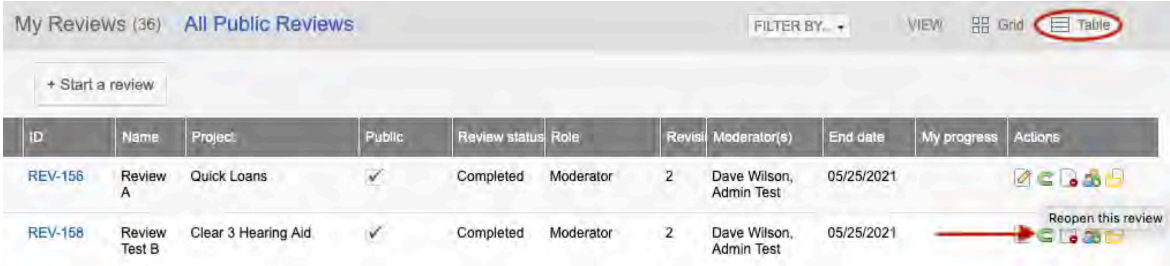
Recover a deleted review

Only a review administrator can recover a review that was deleted.

When a deleted review is recovered, the participant roles and contributions are unchanged. For example, if an approver signed and approved a review before it was deleted, it remains the same after the review is recovered.

If items were edited after a review was deleted, they don't appear in the recovered review until the moderator publishes a revised review.

1. From the header, select **Reviews > Table**.
2. In the row with the review you want to recover, select the **Reopen** icon in the **Actions** column.



3. In the **Recover review** window, select the new end date for the review.

4. Click **Save**.

The table is refreshed and the review is now open.

Configure review comments to appear in projects

Comments made during reviews can provide valuable context, whether you're reviewing a requirement, lower-level feature, or test item. A record of those comments offers enhanced traceability, so you can make informed decisions over the course of the item's lifecycle.

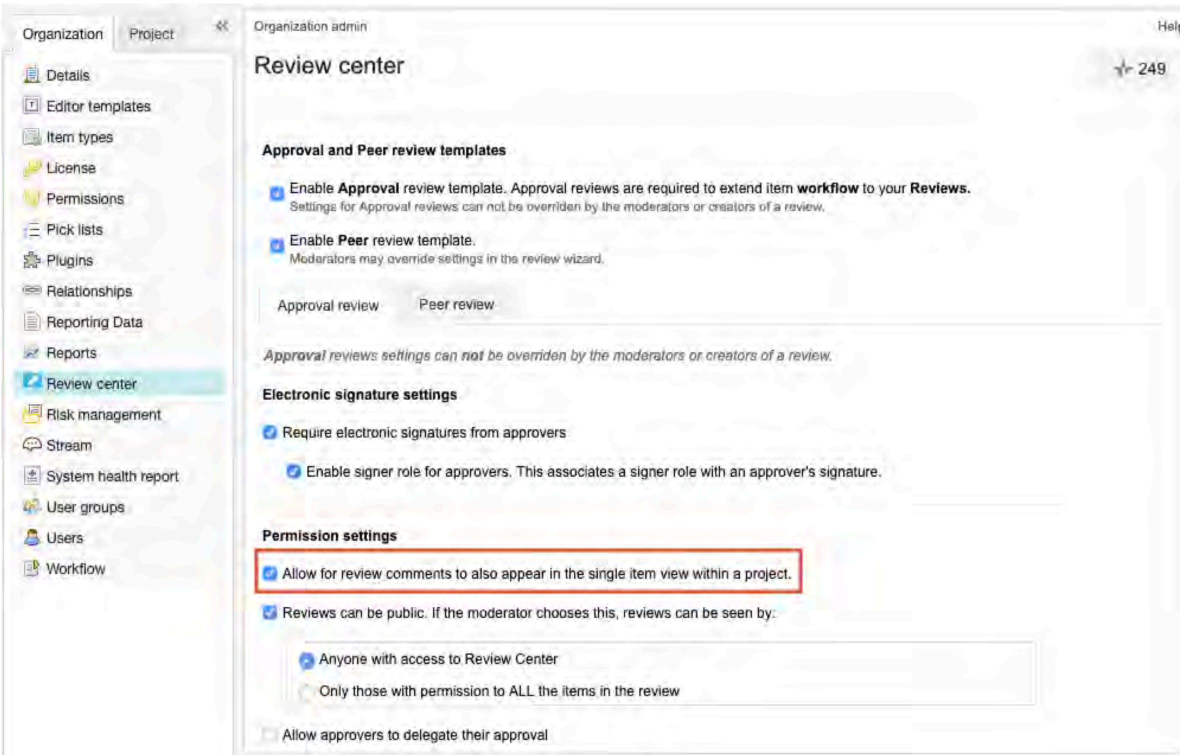
The review moderator can allow comments from a review to appear in the project view for that item.

When enabled, the **Review comments** widget appears in Single Item View. Select it to see the review comments for that item.

This option needs to be enabled in two places for it to take effect. The organization administrator must enable it in the Review Center Settings and the moderator must enable it when creating a review.

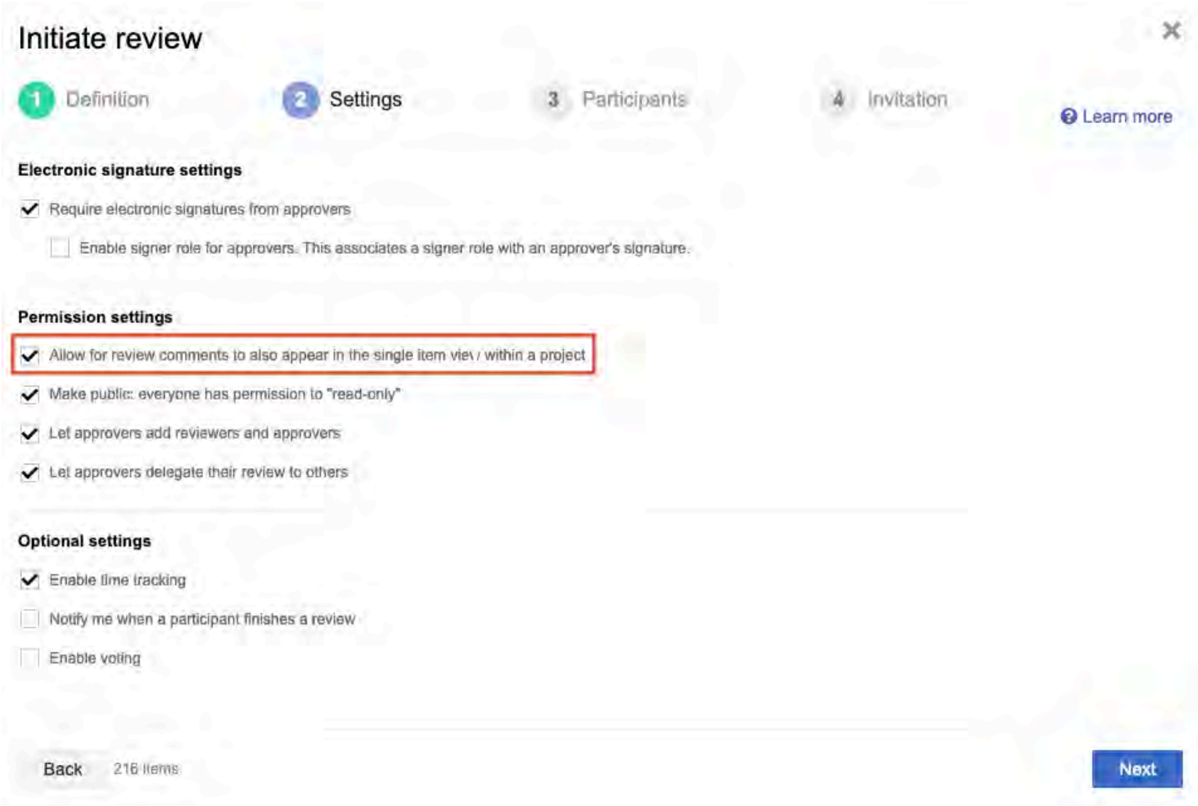
For the administrator

1. Select **Admin > Organization > Review center**.
2. Under Permission settings, select **Allow for review comments to also appear...**, then click **Save settings**.
   This option is now available and visible to review moderators when they create reviews.



For the review moderator

- When creating a review, select **Allow for review comments to also appear in the single item view within a project**.



Once enabled, comments are grouped by review and sorted with the latest comments at the top.

Tips and more

- *Why aren't comments appearing?* For review comments to be visible within a project, this setting must be enabled for each review.
- *How do I see comments from older reviews?* For reviews created without this setting, you can go back and change this setting to include review comments.
- **View More** — Appears if there are more comments from that review that haven't loaded.
- **Load More** — Provides comments from older reviews that haven't loaded, including comments that might have occurred since the page loaded.

Tasks for all participant roles

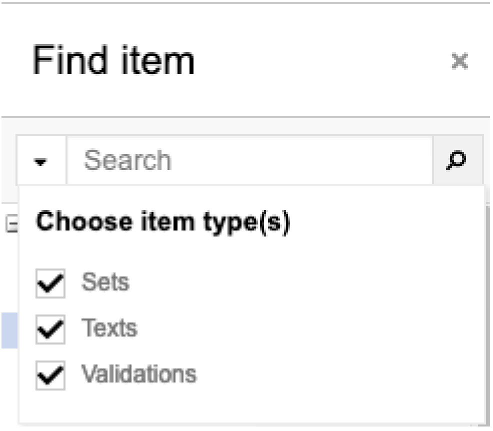
Find and filter items in a review

All user roles can search for and filter specific items in a review.

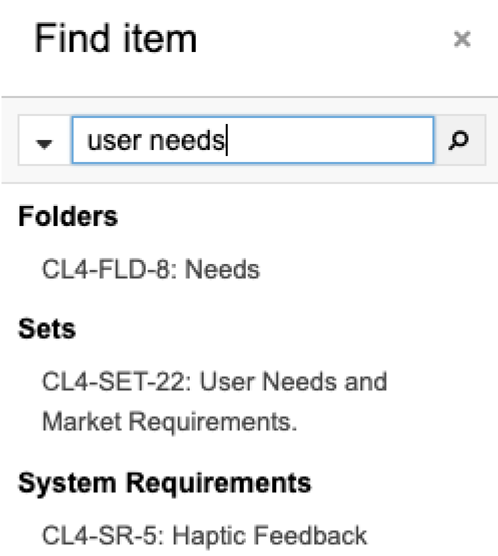
You can navigate to different areas of the review workspace without losing your filter or search selection. For example, if you make a filter selection and go to another view, your filter selection is saved when you navigate back to the review.

Find items in a review

- Enter text in the Search field, then expand the **Choose item types** drop-down menu to filter your search.



- Select the item type, then enter text in the **Search** field.

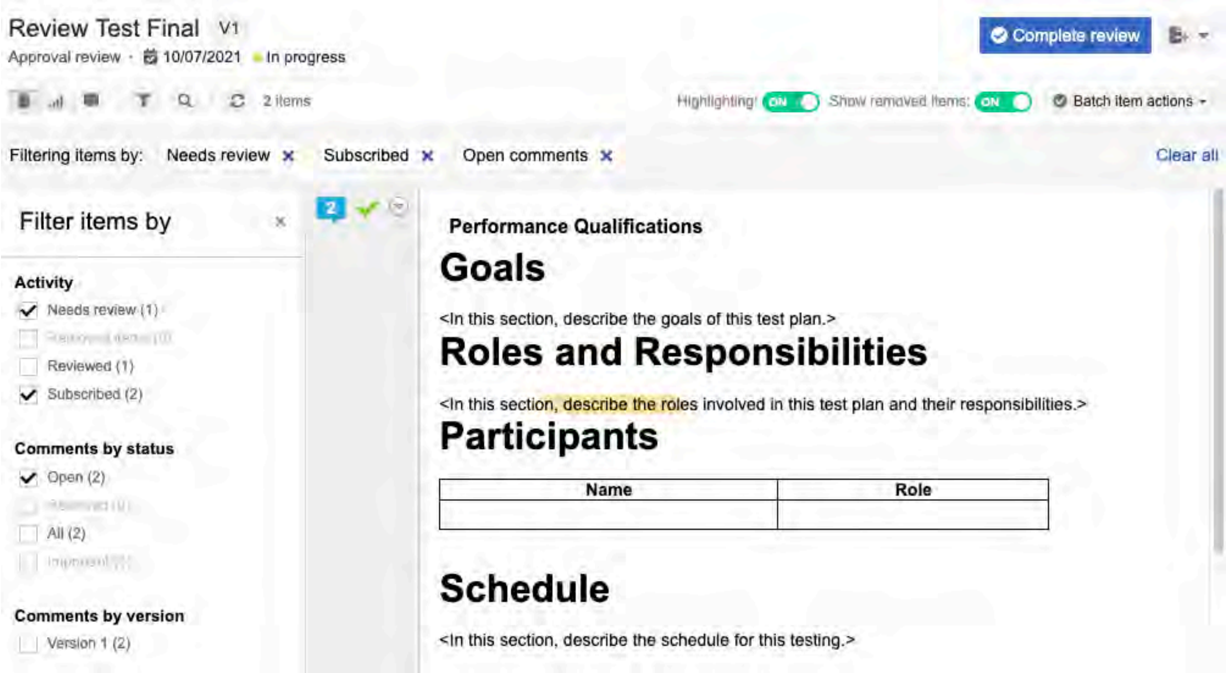


When you select an item from the search results or table of contents, the item is selected and outlined in blue. In the **Find item** panel, you can refine your search based on the filtered results.

Filter items in a review

Use filtering to view items and comments that need your attention.

All review participants can filter items to find comments by status, version, author, or activity.



All review participants can filter items to find comments by status, version, author, and activity.

All review participants can filter review items by **Activity**, **Comments by status**, **Comments by version**, and **Comments by author**. Selecting and applying filters in a specific category is additive and applies ADD statements to each selection. If you apply filters that span multiple filter categories, it becomes an OR statement.

Highlighting review comments

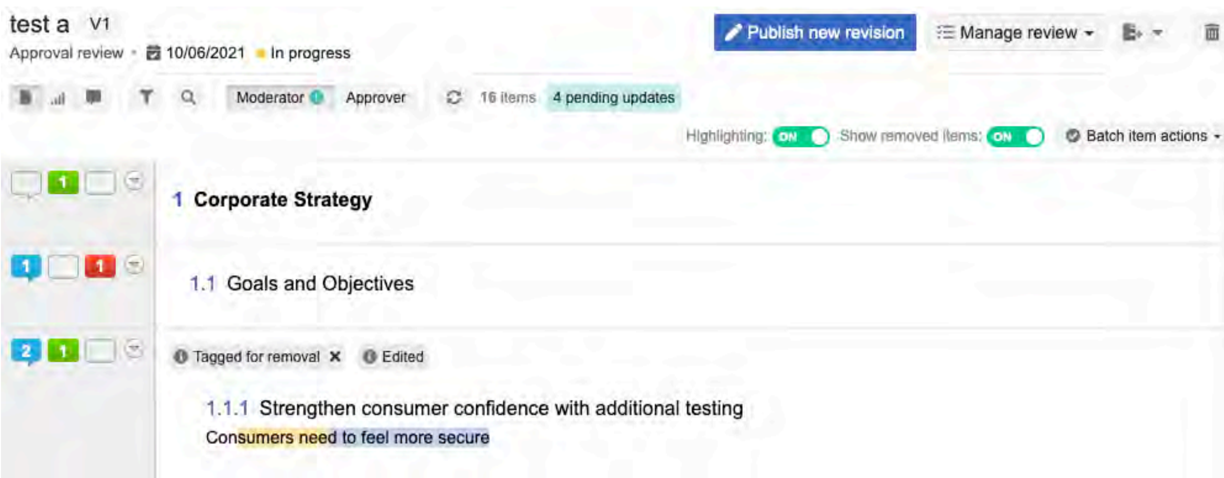
You can organize and find comments based on their status: Open, Resolved, or Rejected. Comments of each status type are highlighted by a different color (highlighting is turned on by default).

For example, a comment highlighted in yellow lets review participants know that it's open, while a comment highlighted in red indicates that a proposed change was rejected.

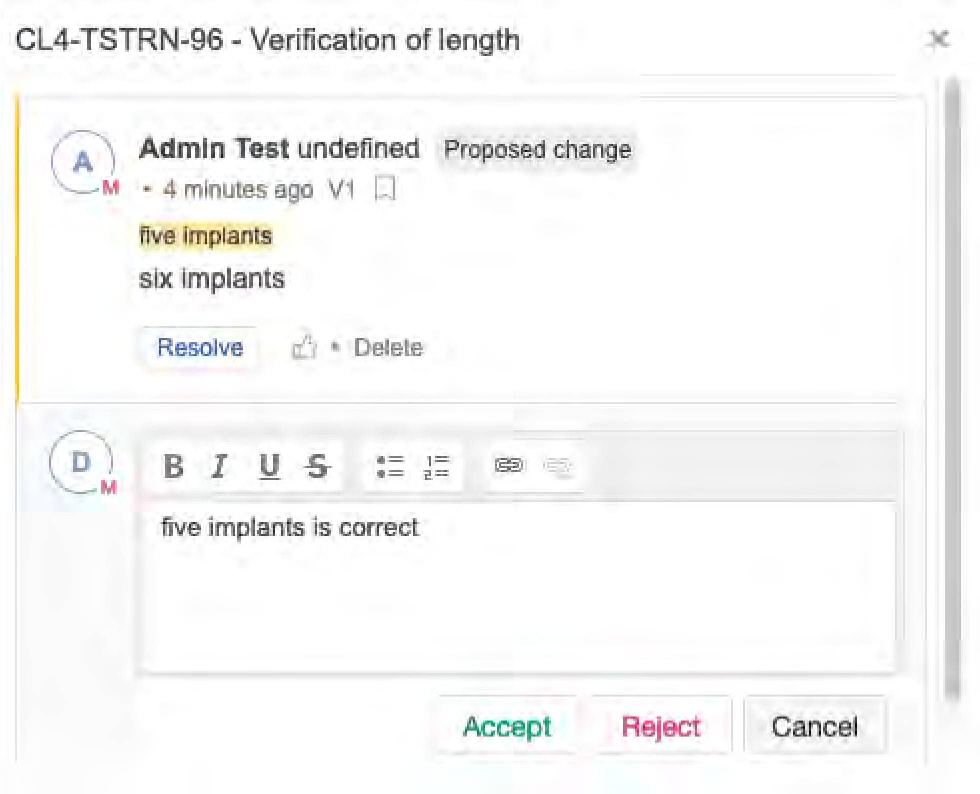
Color	Comment status
Yellow	Open
Green	Resolved
Red	Rejected

By default, the review version that you're looking at shows only highlighted comments that are open, resolved, or rejected.

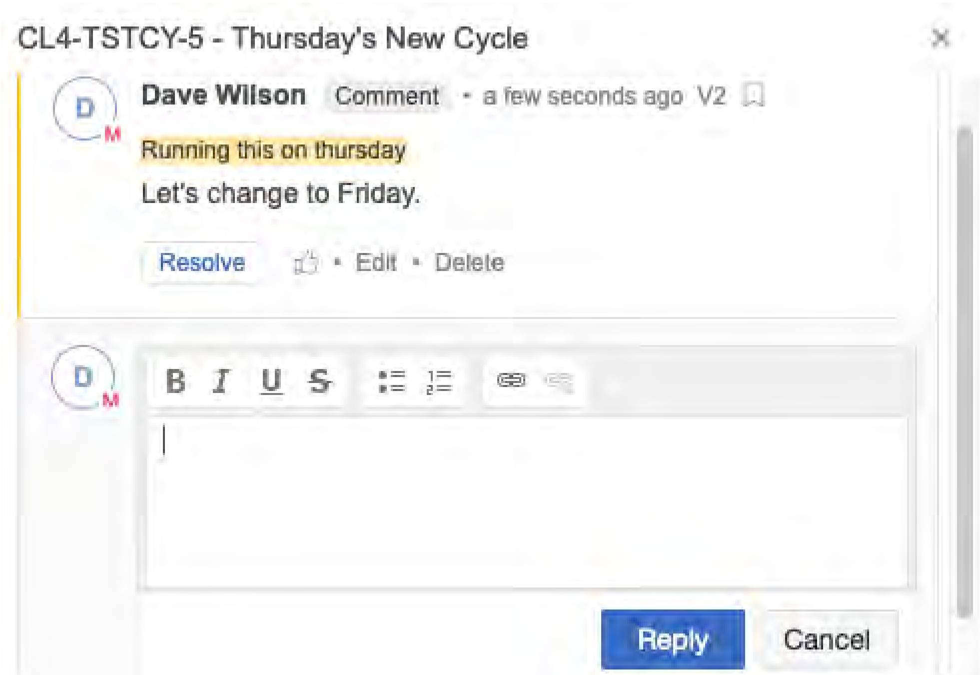
When two highlighted comments overlap, that text is highlighted in light blue.



You can only reject comments that propose a change.



Moderators resolve an open comment: select it, (optional) type a response and click **Reply**, then click **Resolve**.



The comment box and highlighted text changes to a resolved status (green).

Apply @mention to review comments

Use the @mention feature to direct comments to a subject matter expert. This is useful when you have several reviewers and need to direct a question to a specific reviewer.

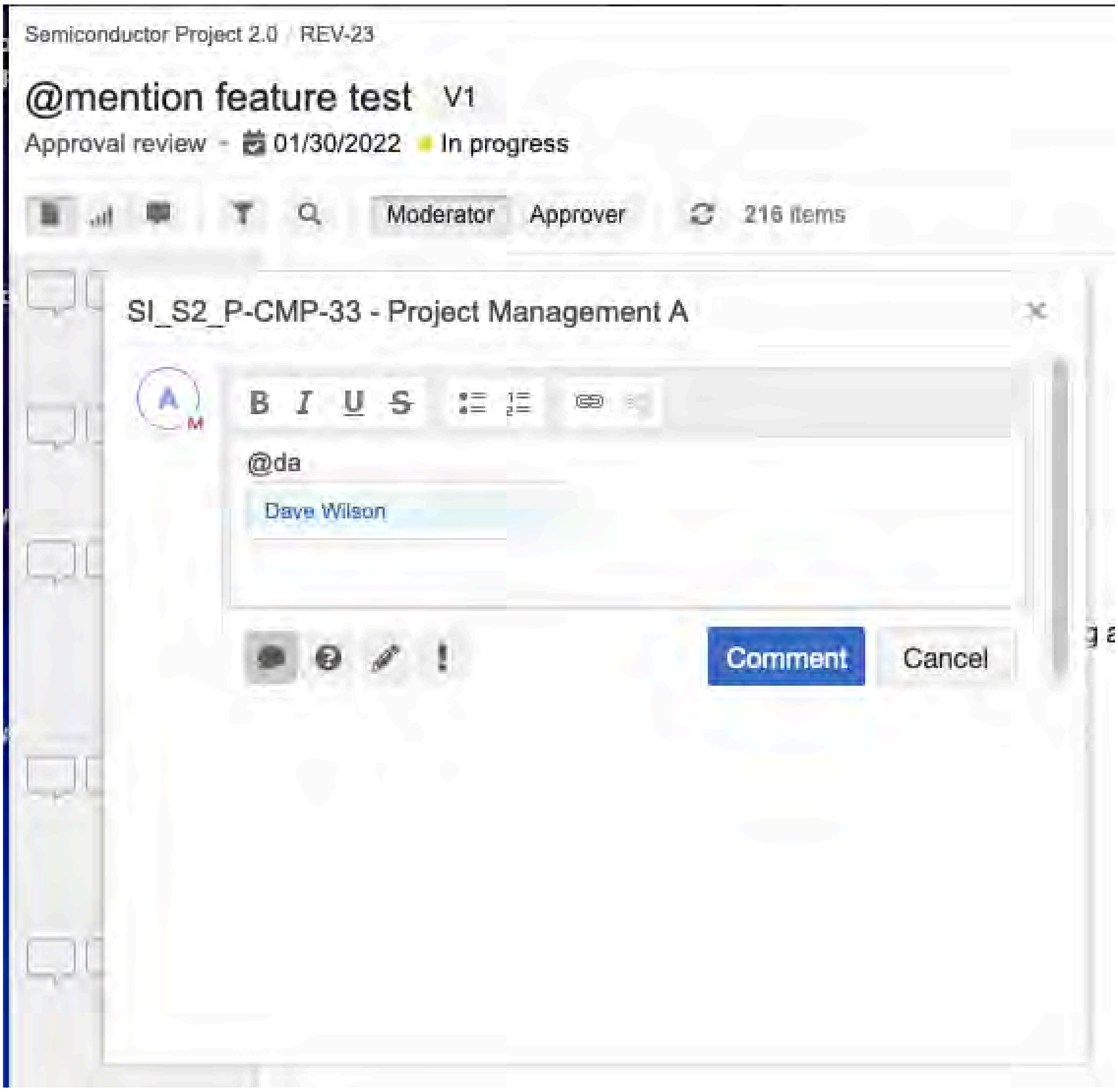
Important considerations

- Comments that include @mention are highlighted by color, based on whether you or another review is tagged. Light yellow = comment for you. Light blue = comment for another reviewer.

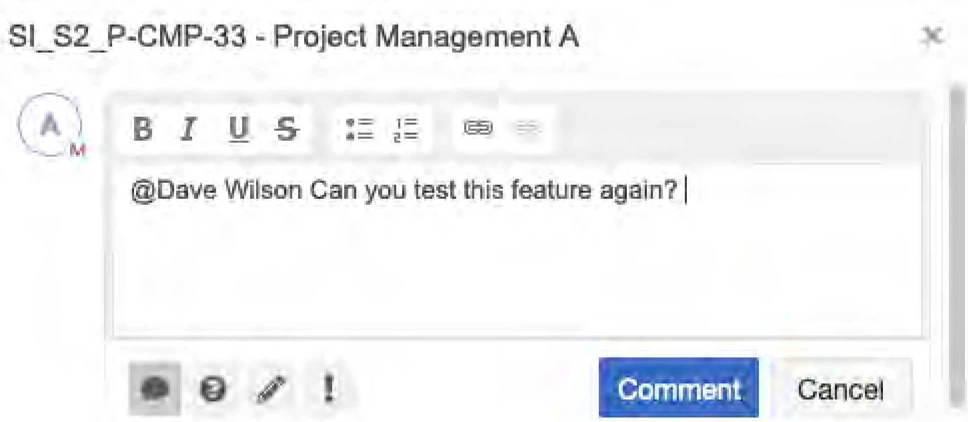
- Only users participating in the review appear in the list of possible reviewers who can be tagged with @mention. You can modify the review [161] to add participants.
- Anyone who is participating in the review can @mention other participants.

To use the @mention feature:

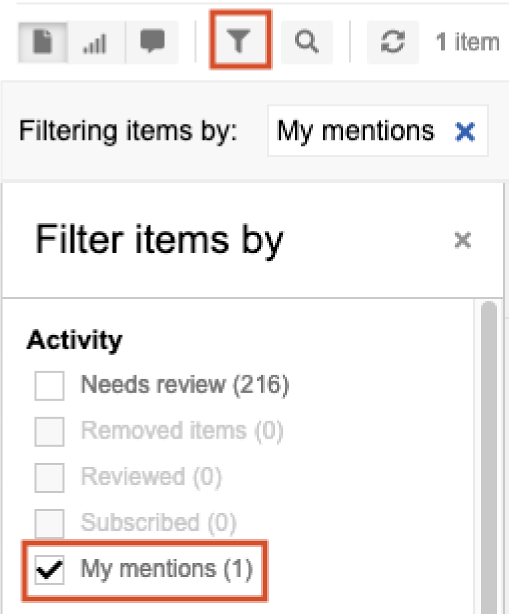
1. In a review, select the comment icon and type **@** followed by the name of the reviewer.
   Repeat for each reviewer you want to mention.
   Only the names of the people you included when you created the review [153] appear in the list.



2. Type your message, then click **Comment**.



3. (Optional) To display only items where you are mentioned, select **Filter > My mentions**.



An email notifies the tagged review participant with the review name, items, and comment.

Compare versions

Whenever a published review has more than one version, you can compare two versions.

Good to know

- If you want to make other fields visible in the review, an organization administrator can configure item type views [609] for Reading View or Single Item View to show those fields.
- Typically, item fields contain fewer than 10,000 characters (2,000 words). When you compare review versions, the applications might skip fields with lengthy content.
- The date and version a comment was added appears in the comment.

1. From the review with the versions you want to compare, click **Compare**.

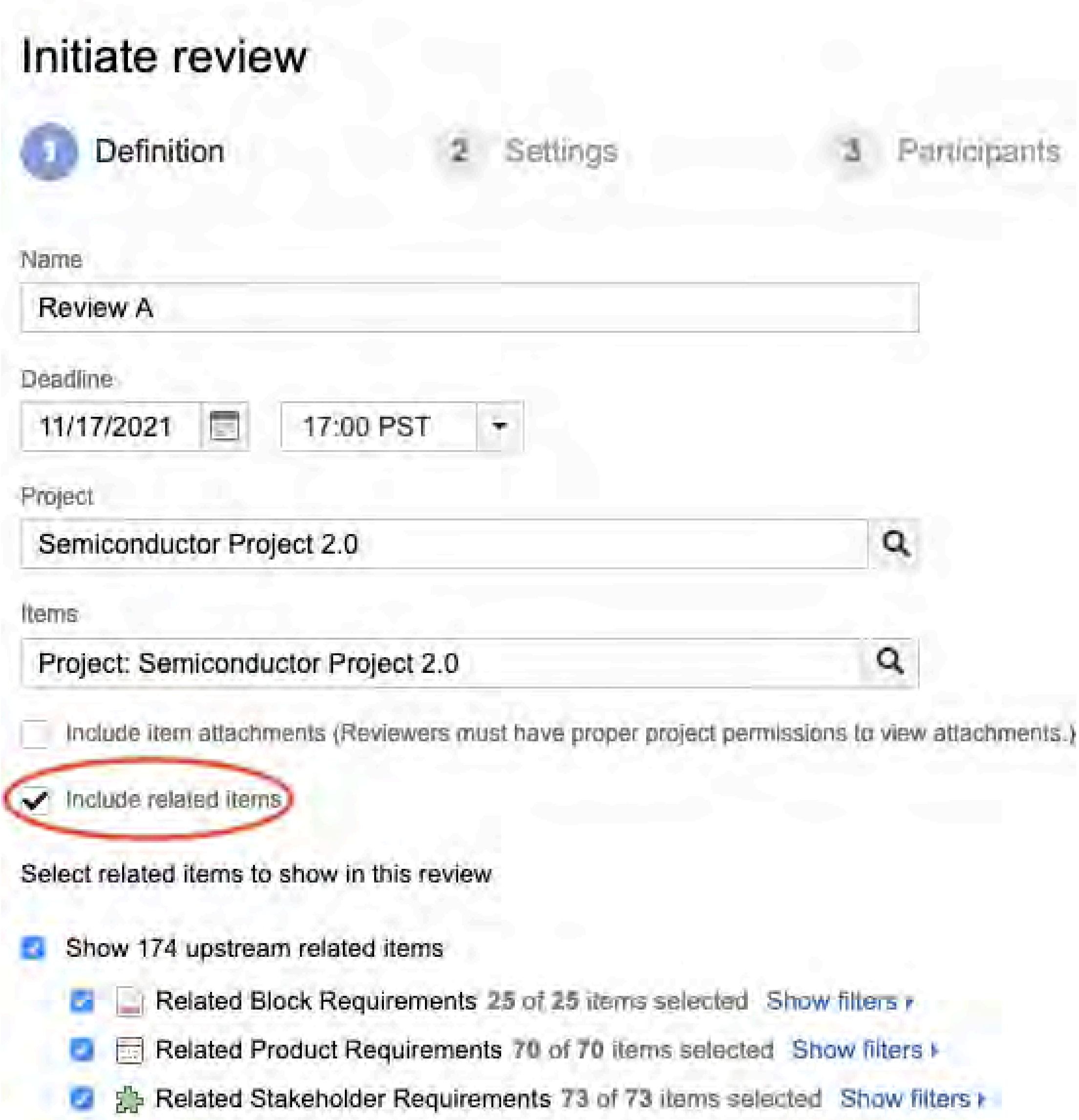
2. Select the versions drop-down menu near the review title to select the version you want to compare to the current review.

Changes are displayed inline. Deleted text is red and highlighted. Added text is green and underlined.

The "compare view" displays inline changes for most field types. If the field can't be compared, you see the message: *Not available for reviews*.

Show related items in a review

Including related items in a review gives reviewers context and helps them understand the coverage of items in a review. Related items are visible only if the moderator selected the option **Include related items** when the review was created.



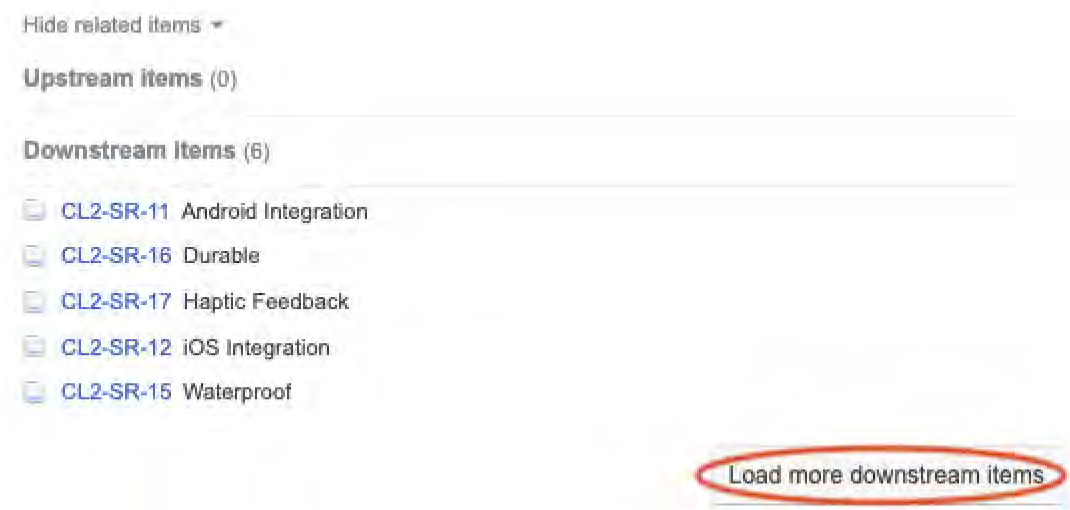
If you don't have permissions to view a related item, you see an item type icon and the text *This item is outside the scope of this review*.

To view items directly related to a review item:

1. In the review, select **Show related items**.

Initially, up to five upstream and downstream items are displayed.

2. To view additional related items, select **Load More Downstream Items**.



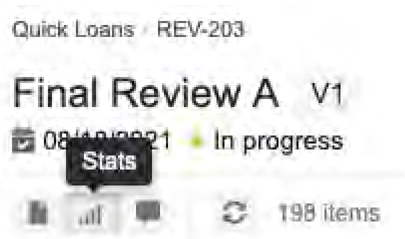
3. Select a related item to see more details.

View participant progress

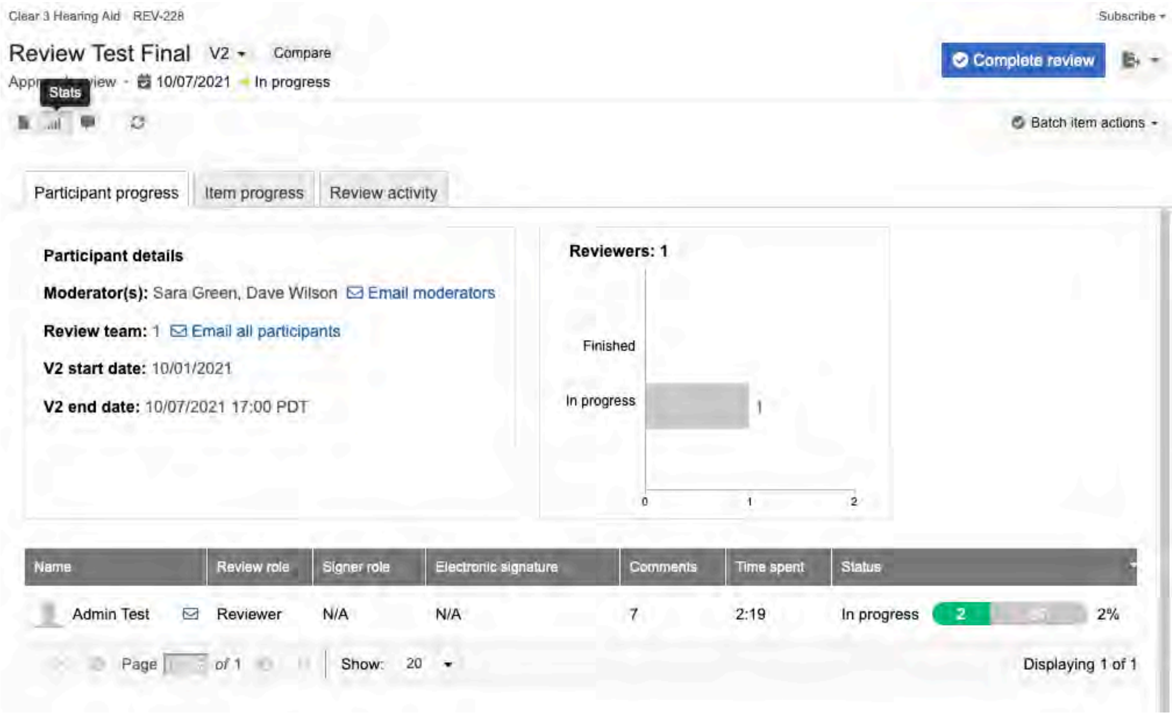
As a review progresses, you can view statistics about the participants' progress. This information is unique to the current version of the review.

In separate tabs, you can see item progress [190] for this version, or review activity [191] across versions.

1. From the review with stats you want to view, select **Stats**.



2. Under the **Participant progress** tab, you can see a panel with participant details and links to email participants.
   Next to that, bar charts show overall progress for the review for approvers and reviewers who have finished the review. For approvers the chart shows how many items they marked approved or rejected. For other reviewers it shows how many items are marked read. Reviewers' time spent.
   Below that, each participant is listed with their review role, signer role, signature information, comment count, time spent shown in hours:minutes, and a progress bar showing their completion level.



NOTE

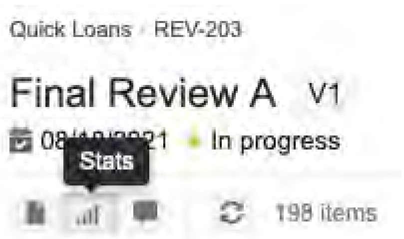
Time is logged if a tab with the review is left open by a reviewer.

View item progress

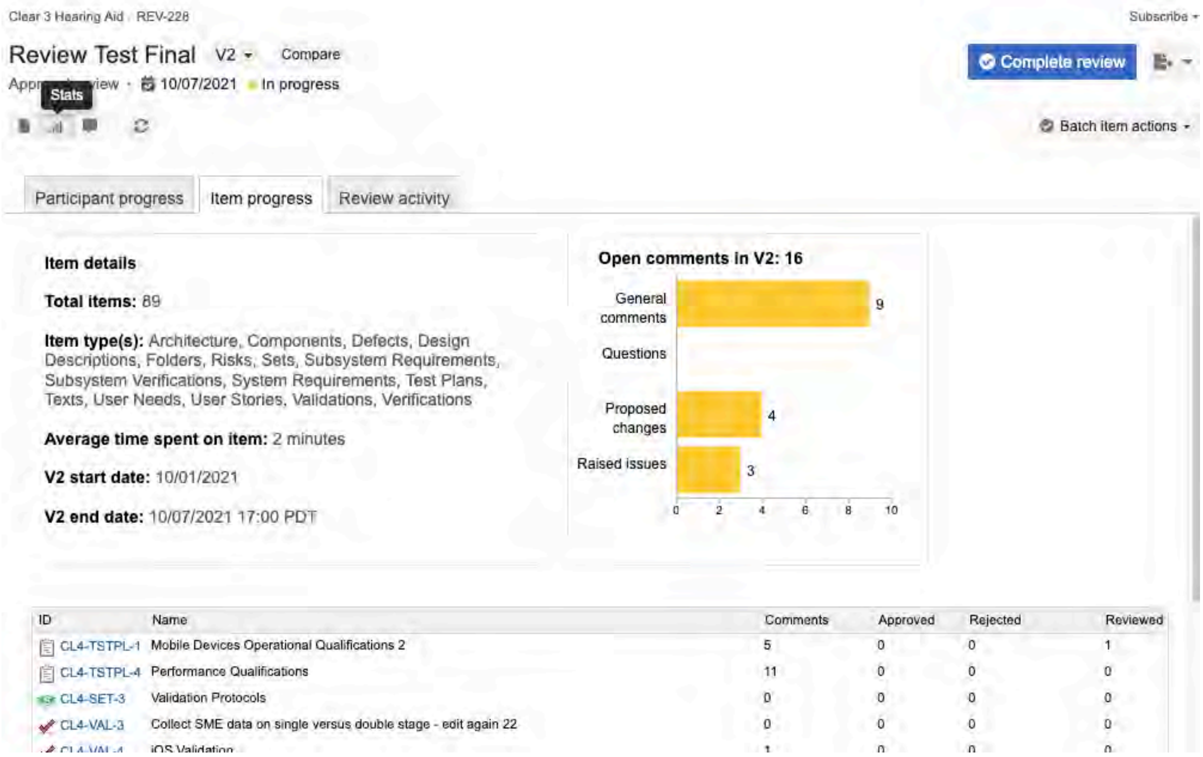
As a review progresses, you can view statistics about the progress of the items in review. This information is unique to the current version of the review.

In separate tabs, you can see participant progress [189] for this version and review activity [191] across versions.

- From the review with the items you want to view, select **Stats**.



Under the **Item progress** tab, you see an overview with the total number of items in the review, their item types, the start and end dates for this version of the review, the current approval status for all items (if this review uses approvers), and a summary of open comments in the review.
Below that, is a table showing item fields along with the number of votes, as well as the number of participants who marked the item approved, rejected, or reviewed.



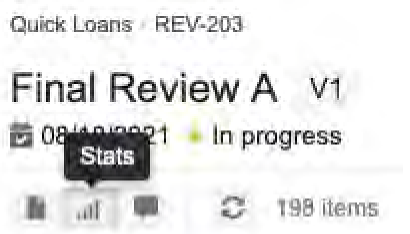
For reviews with multiple approvers, the item approval status count increases when *all* approvers approve the item. However, it only takes one approver to reject an item for the rejected count to increase. Items that aren't marked as approved or rejected are considered not reviewed. Items that aren't marked as approved or rejected are considered not reviewed.
If you're a moderator, you see the preset filters to filter the list by item type, folder, or set. You can use **Views** to configure which fields are visible in the table. You can use **Actions** to batch update items [72].

View review activity

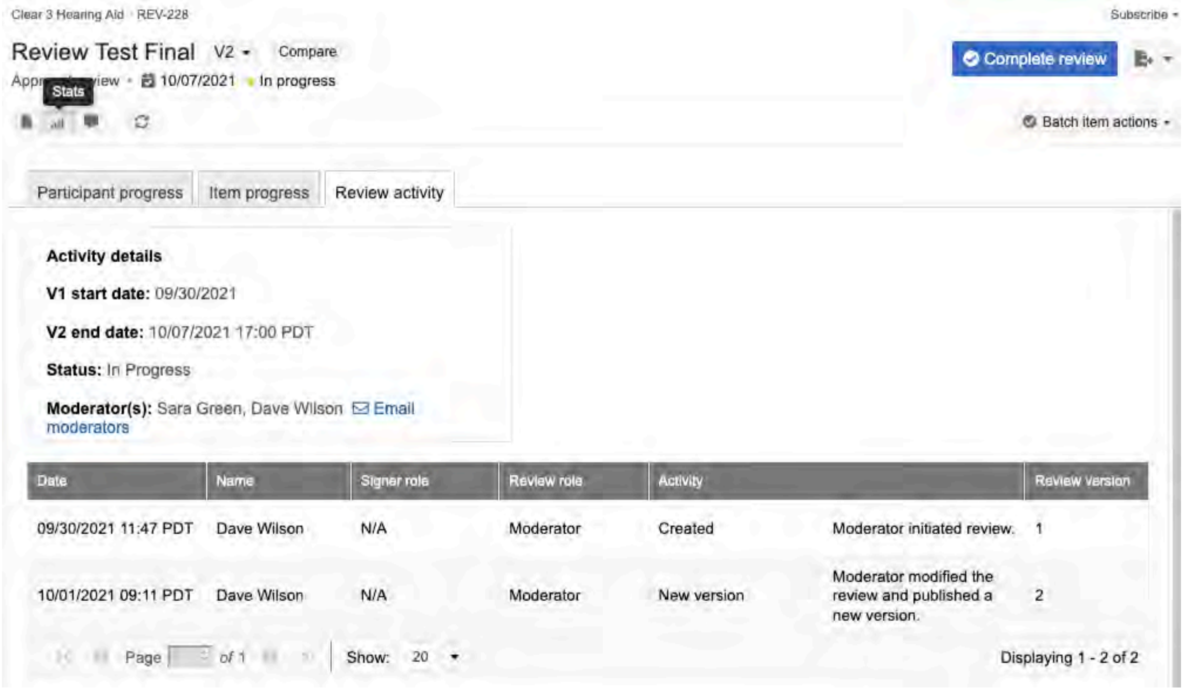
You can see all activities for a review across versions, including when reviews were opened, closed, when new versions were published or when signatures were added. This can be useful for collecting electronic signature [225] information for FDA 21 CFR Part 11 compliance.

You can also see item progress [190] and participant progress [189] for each version of the review.

1. From the review with activities you want to view, select **Stats**.



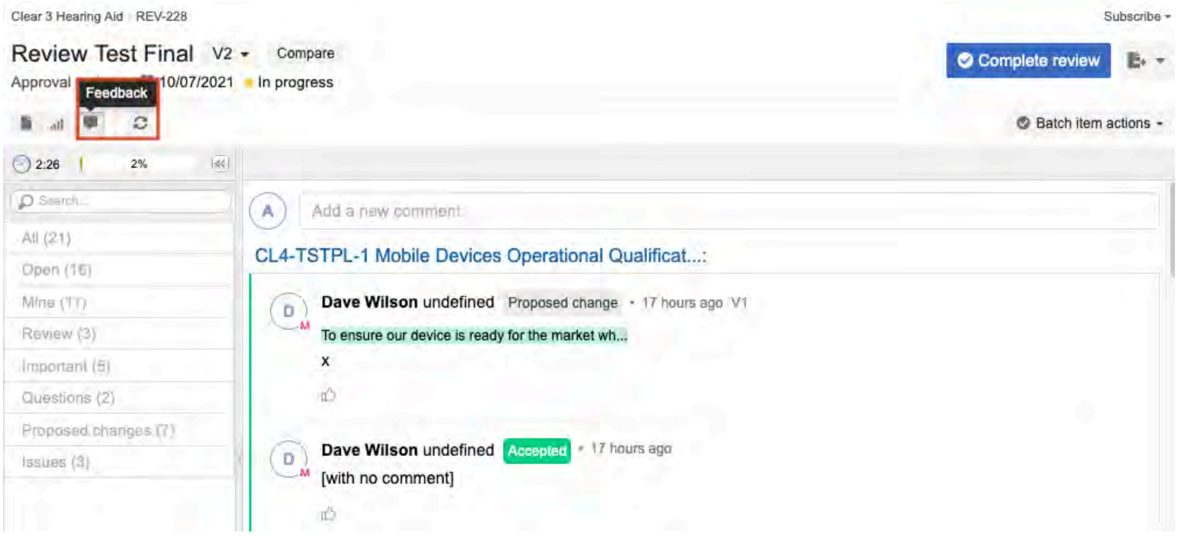
2. In the page that opens, select the **Review activity** tab.
   The table shows activity for all versions since the review was created.



Filter review comments

You can view and filter comments for all the items in a review to find only the comments you want to see.

1. From the review, select **Feedback** to see all the comments for the review, with a filter panel on the left.
   You can read and reply to comments here.



2. (Optional) You can also use the filters in the filter panel to search for comments by category or keyword. Available categories are:

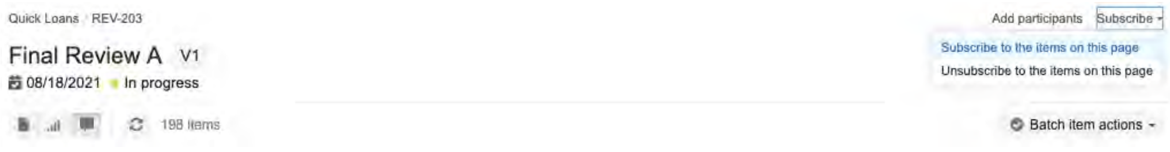
All	Every comment from the review.
Open	Comments the moderator hasn't acknowledged or responded to
Mine	Your comments
Review	Comments sent to participants about the review by email
Important	Comments flagged as important by a moderator
Questions	Comments that are questions to be answered
Proposed changes	Comments that suggest changes
Issues	Comments that raise issues

Subscribe to a review

If you're a review participant, you can stay up-to-date on review comments with email notifications in reviews where you're a participant.

To receive notifications, you must first configure your review subscriptions [40] in your profile. You can also configure your profile so that you automatically follow an item when you comment on it.

1. Open the review with the items you want to subscribe.
2. Select **Actions > Subscribe to the items on this page**.



> **IMPORTANT**
> Some reviews contain multiple pages of items. To subscribe to all the items in a large review, you must subscribe to items on multiple pages.

Export reviews

You can export reviews as a Word document or a PDF by selecting **Export** anywhere in **Reviews**.

Review exports can't be customized, the export uses the default Word template.

You have two export options:

- **Export activity review** — Includes all review activities [191] across versions (for example, when the review was created, versioned, closed, marked as finalized) along with the date, name, and role of the person responsible.
- **Export version review** — Includes an overview of the review, a list of participants with their review role, signer role, signature meaning and status, as well as the content of the review and the comments.

To download an export to your desktop:

1. In the review you want to export, select **Export** in the top right toolbar.
2. Select the type of export and format.

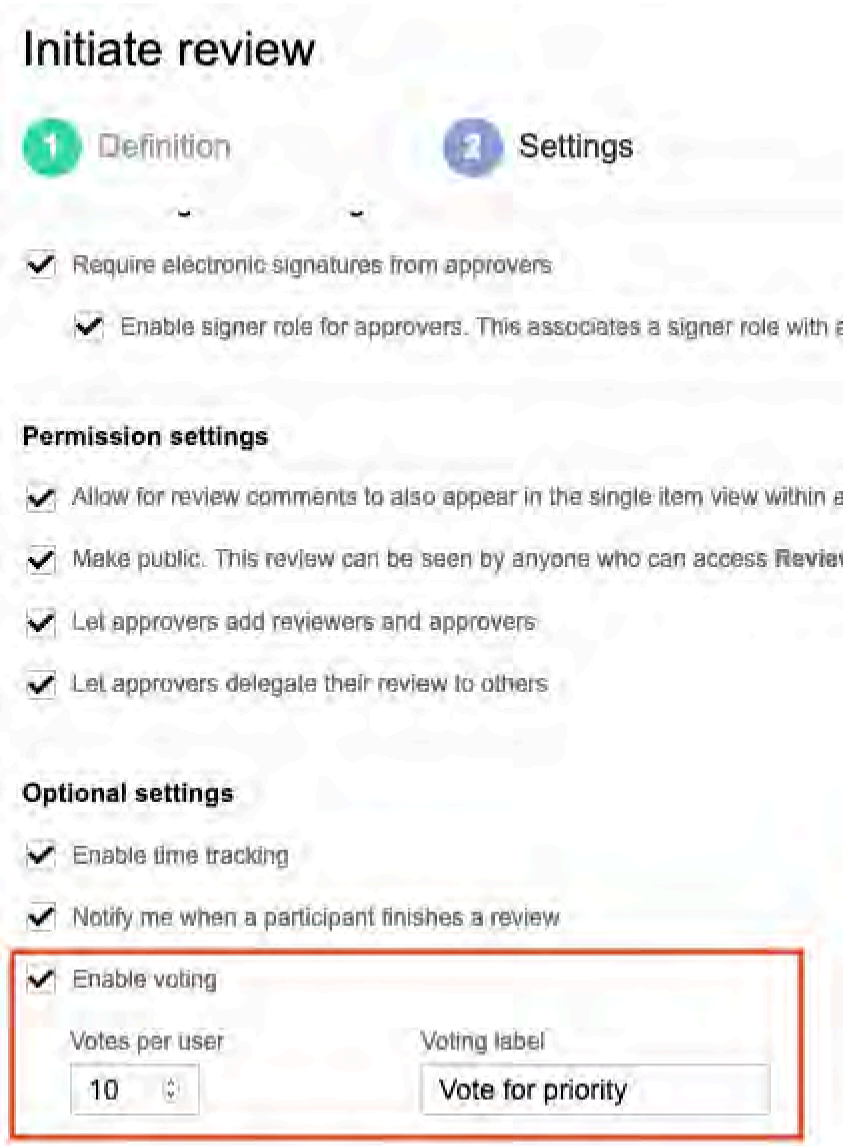
3. In the window that opens, choose how you'd like to open the file, then click **OK**.

The file opens in a new tab.

Voting

With voting, your team can prioritize items or rank them based on a topic proposed by the moderator. Each participant has a certain number of votes. Participants can give multiple votes to a single item.

Moderators can enable voting in the settings [156] when they initiate a review.



You can apply votes as a participant using one of these methods:

- Select the up arrow to add a vote or the down arrow to subtract votes. The box on the left displays the number of votes you used on that item. You also see how many votes you have left to use.

- Participants can also apply votes while viewing an item's detail.

Collaborating with your team

For companies to turn today's research into tomorrow's products, teams must stay connected and synchronized. Jama Connect equips teams to track decisions and ensure quality of the product they set out to build.

Jama Connect links globally distributed team members and facilitates collaboration in the product development lifecycle. It allows you to provide and capture feedback, decision making, and approval for requirements and all product aspects under review.

Jama Connect enables efficient sharing of data, documents, files, information, and knowledge within and across teams in your organization.

Use these features to work with your team, document conversations, and track decisions.

- **Reviews [149]** — A method to help teams, stakeholders, and customers discuss, evaluate, revise, and approve items in the development process. For details, see Reviews in Jama Connect [149].
- **Workflows [198]** — An automated set of transitions, from one status to another, over the course of an item's lifespan.
- **Notifications [196]** — Optional emails sent to groups or individuals to alert you when changes to items are made.
- **Stream [203]** — A collection of the most recent comments and activities in the project.
- **Electronic signatures [225]** — A method for getting approval on electronic documents or forms.

Email notifications and subscriptions

Users can configure email and notification settings in their profile [37] to stay up to date with activity in their projects.

> **IMPORTANT**
> To receive notifications in Jama Connect, your SMTP must be enabled by your system administrator.

You can sign up for notifications to be sent to you automatically from several places in Jama Connect.

Notifications from...	Sent to you...
Review [153]	When you're invited to participate When someone replies to your comments in a review
Workflow [643]	When status of an item changes
Stream [214]	When you're mentioned in the stream
System Health Report [550]	With updates on license usage

Your Jama Connect administrators control what you can do with subscriptions. For example:

- **Organization administrators** — Can allow users to subscribe others and to mute subscriptions.
- **Project organization administrators** — Can unsubscribe groups or individuals from any of their subscriptions.

As a user, you can:

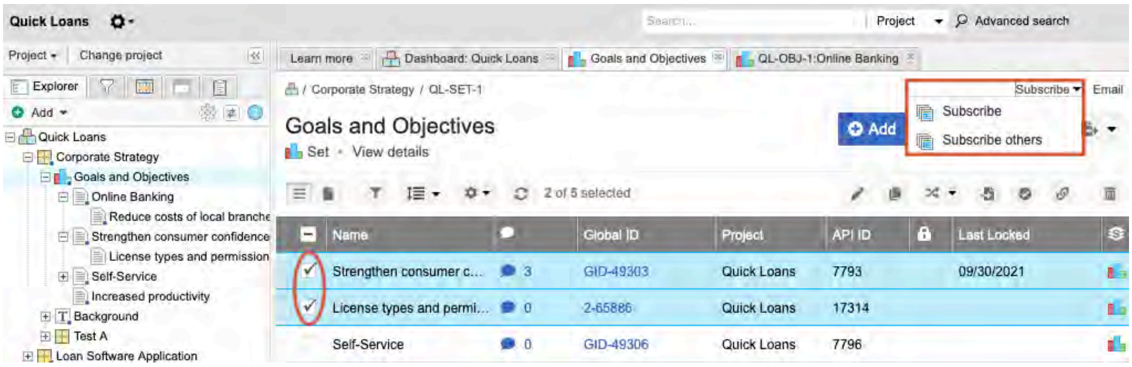
- Set up notifications for a single item in a project or for an entire project.
- Configure email notifications and subscriptions.

Subscribe to emails for yourself

You can subscribe to a single item, to multiple items, or to an entire project.

1. To subscribe to a single item, select the item in Single Item View, then select **Subscribe**.

2. To subscribe to multiple items:
    1. Open the items in **Project > List View**.
    2. Select each item you want to subscribe to.
    3. Select **Subscribe**.



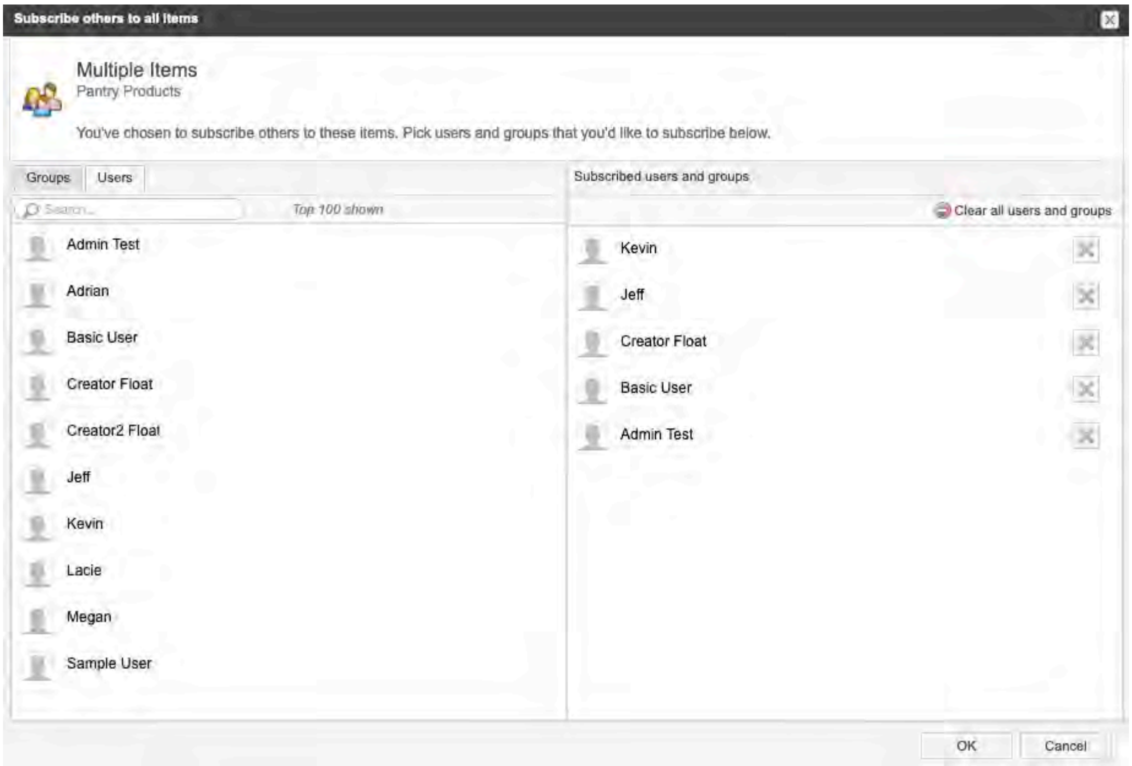
A confirmation message appears below the toolbar.

Subscribe other users to email notifications

You must be a system, organization, or project administrator to subscribe others to all items at a project level.

1. To subscribe others to a single item, select the item in Single Item View, then select **Subscribe > Subscribe others**.

2. To subscribe others to multiple items:
    1. Open the items in **Projects > List View**.
    2. Select each item you want to subscribe to.
    3. Select **Subscribe > Subscribe others**.
    4. In the Subscribe others to all items window, select the groups or users that you want to subscribe to this item.



5. Click **OK**.

Workflow

A workflow is a set of transitions from one status to another, over the course of an item's lifespan.

All workflows must be set up by an organization or process administrator before they can be used.

Workflow can be used in these scenarios:

- Project items [198] — Creates a common pathway for items to follow.
- Review items [623] — Allows organizations to configure items to transition to a specific workflow state following the review process.

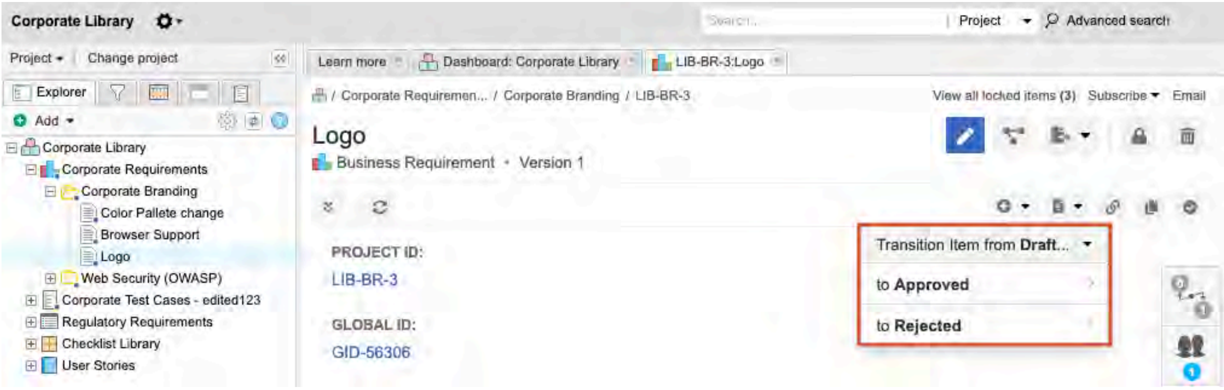
Using workflow in Projects

You can set up a workflow for Project items, so that users at your organization can move items in your project along a similar path as they progress.

Workflow in Projects allows you to:

- Update status for an item or group of items. Items must be the same type and in the same workflow state.
- Transition items from one status to the next, either for a single item or as a batch transition for a group of items.

If workflow is configured by an organization [643] or process admin, use the drop-down menu in Single Item View to move the status of an item along the workflow and activate any related actions or notifications.



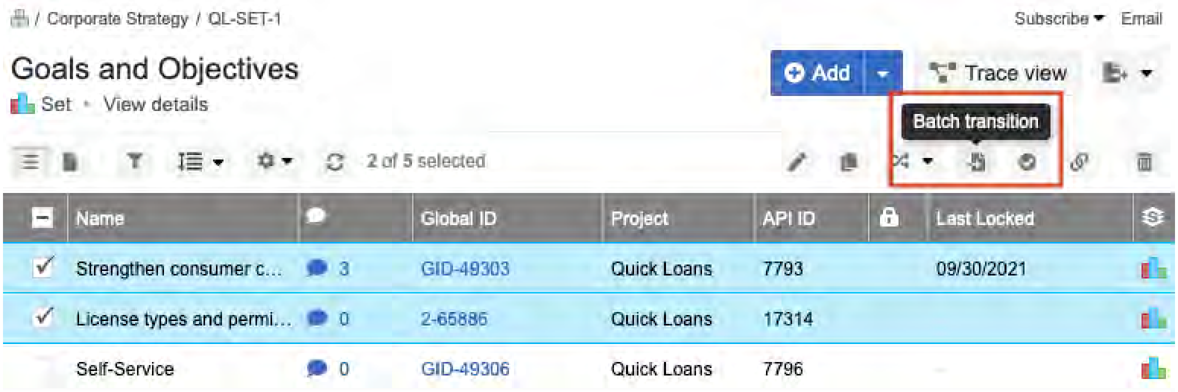
Use workflow to batch transition items

With batch transitions, you can select multiple items of the same item type and transition them to a different workflow status.

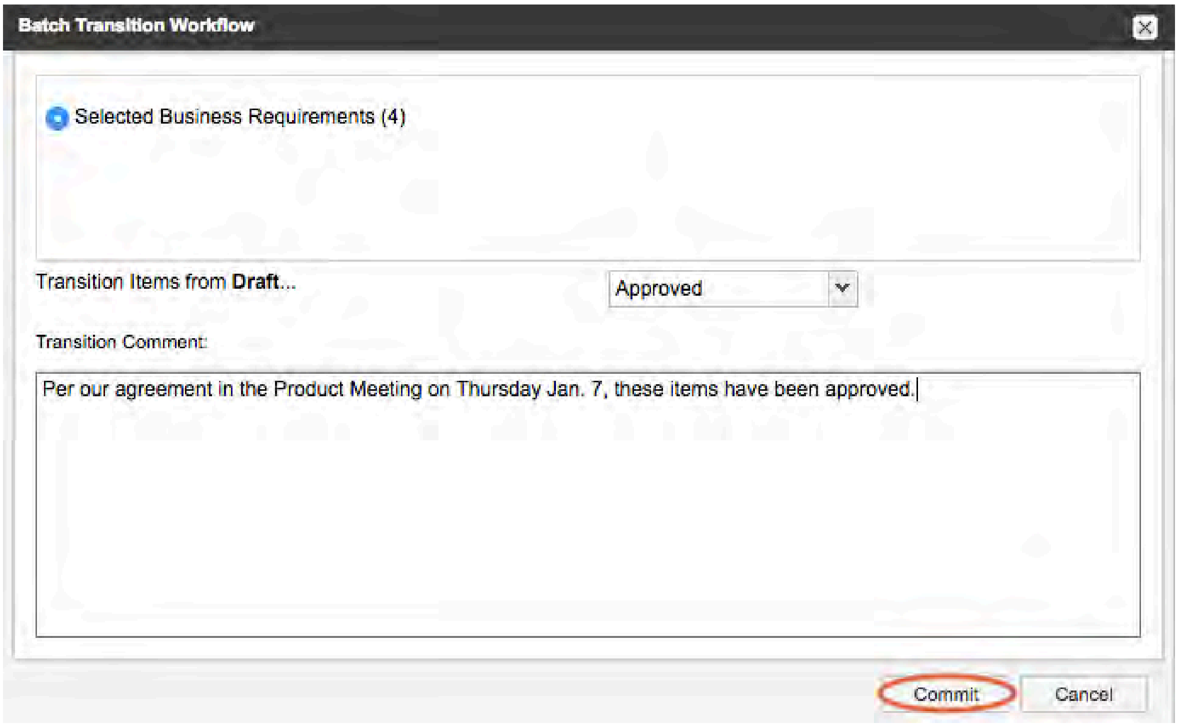
Important considerations

- All items that you transition must be in the same state. For example, you might batch transition all "In Progress" items to a "Complete" status, but you can't select both "In Progress" and "Proposed" items for batch transition.

1. Select the project, folder, or set that contains the items you want to transition and view them in **List View**. Select the items you want to transition, then select **Actions > Batch transition**.

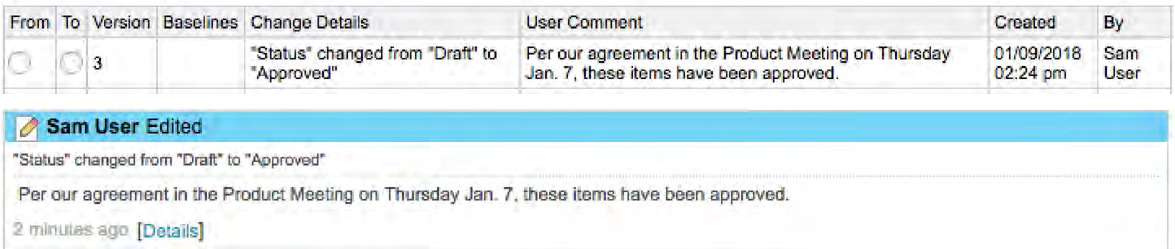


2. In the Batch Transition Workflow window, confirm your item selection, choose the status, add a comment, then click **Commit**.

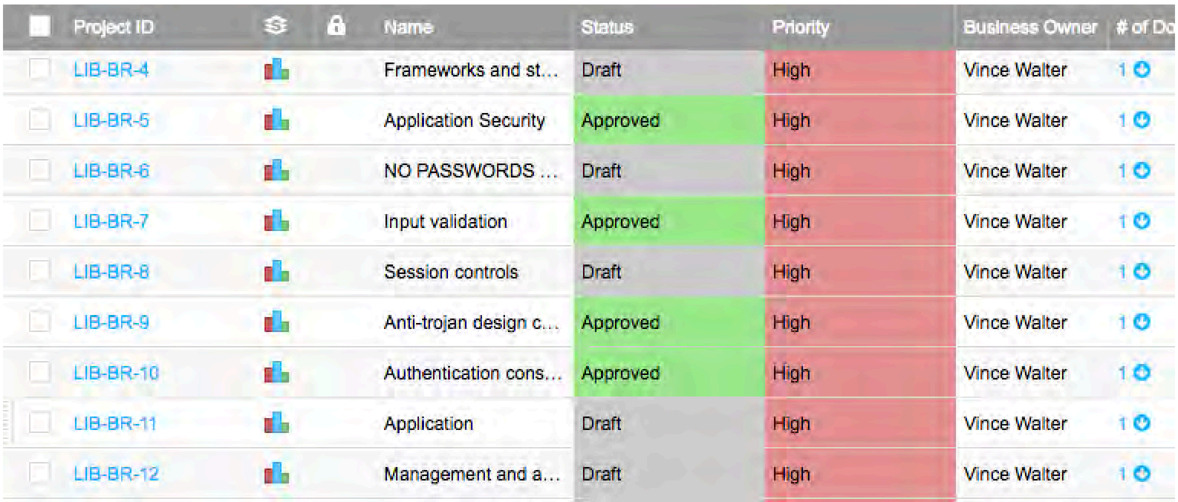


Your comment appears in the version history of the item and as an activity in the stream.

Note: A batch transition is the only way to add a version or notification comment.



3. The status change is shown for each item you transitioned.



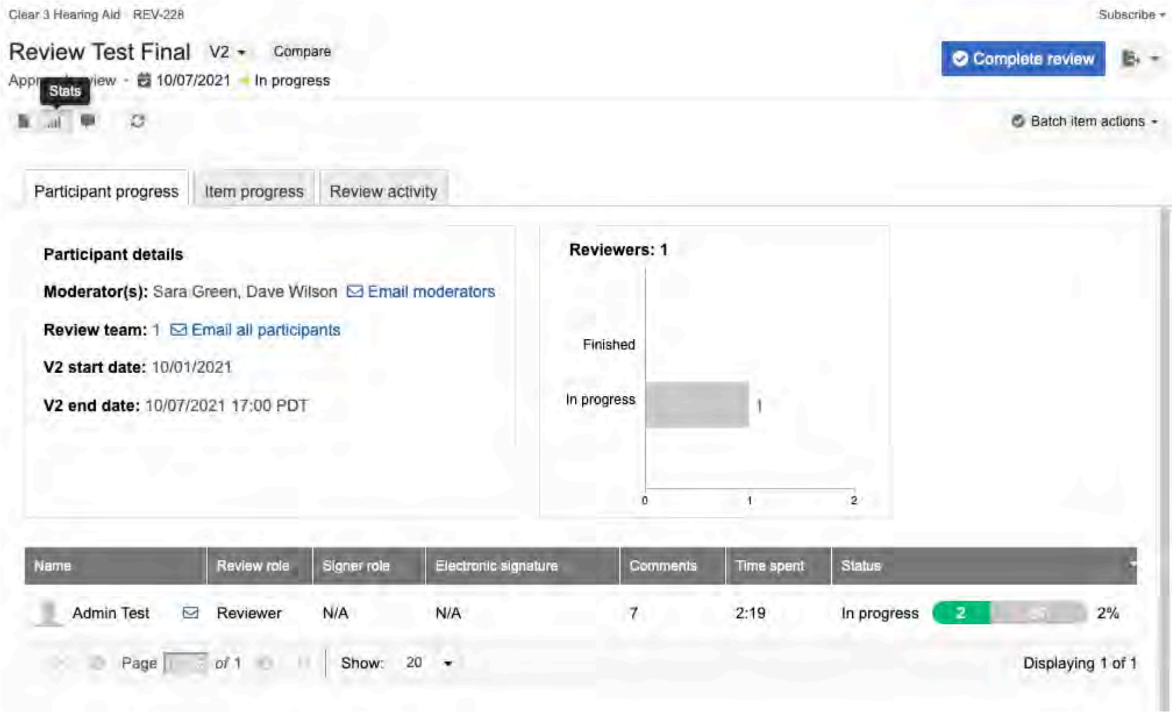
Use workflow to batch transition items in Reviews

With batch transitions, you can select multiple items of the same item type and transition them to a different workflow status.

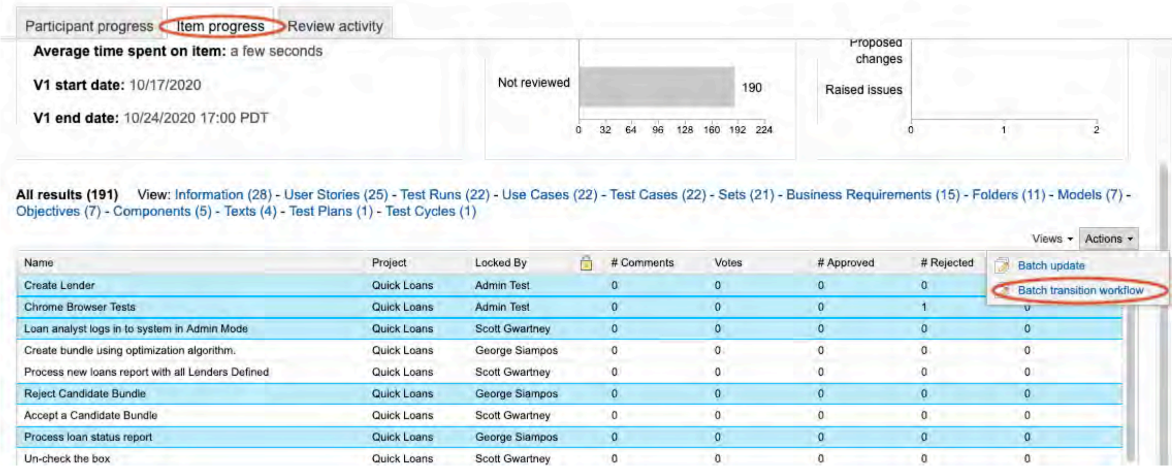
Important considerations

- The items you select for transition must be the same item type and workflow state.

1. When you're in a review, select **Stats**.

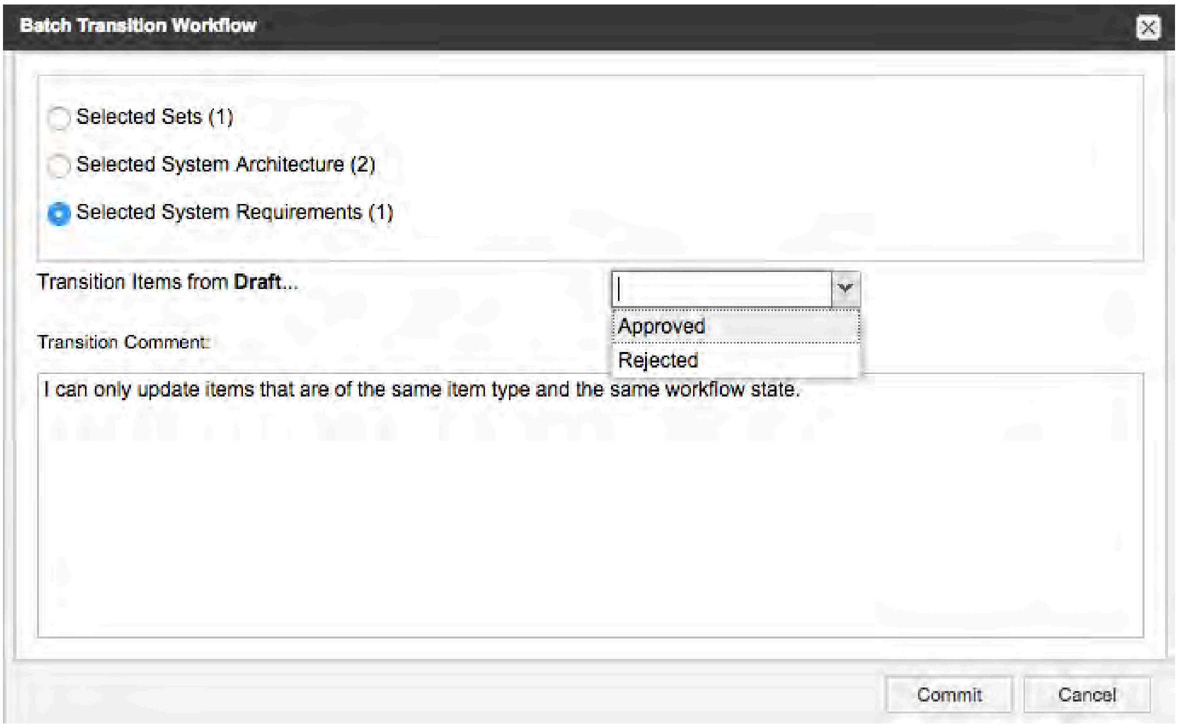


2. Scroll to the bottom of the page and select items of the same item type and workflow state that are to be transitioned. You can select multiple items by using **Shift** or **Ctrl** keys. Select **Actions** > **Batch transition workflow**.



> **NOTE**
>
> You can also batch update non-workflow fields, but you can't batch delete from here.

3. In the Batch transition workflow window, select the set of items you want to update and the intended workflow transition, then click **Commit**.



If the workflow doesn't have another transition state to select, you don't have permission or the item is locked. A pop-up window displays a warning that you can't proceed.

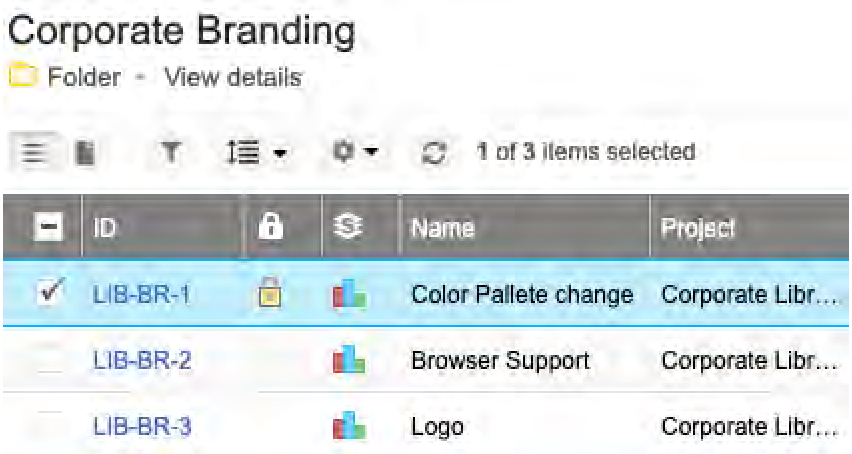
Lock items in a workflow

Locking items in a workflow can help avoid unwanted changes. For example, a project administrator might want to leave items unlocked while in "draft" status, but lock them when they reach "approved" status.

> **NOTE**
> You must have organization or project administrator permissions to configure workflow.

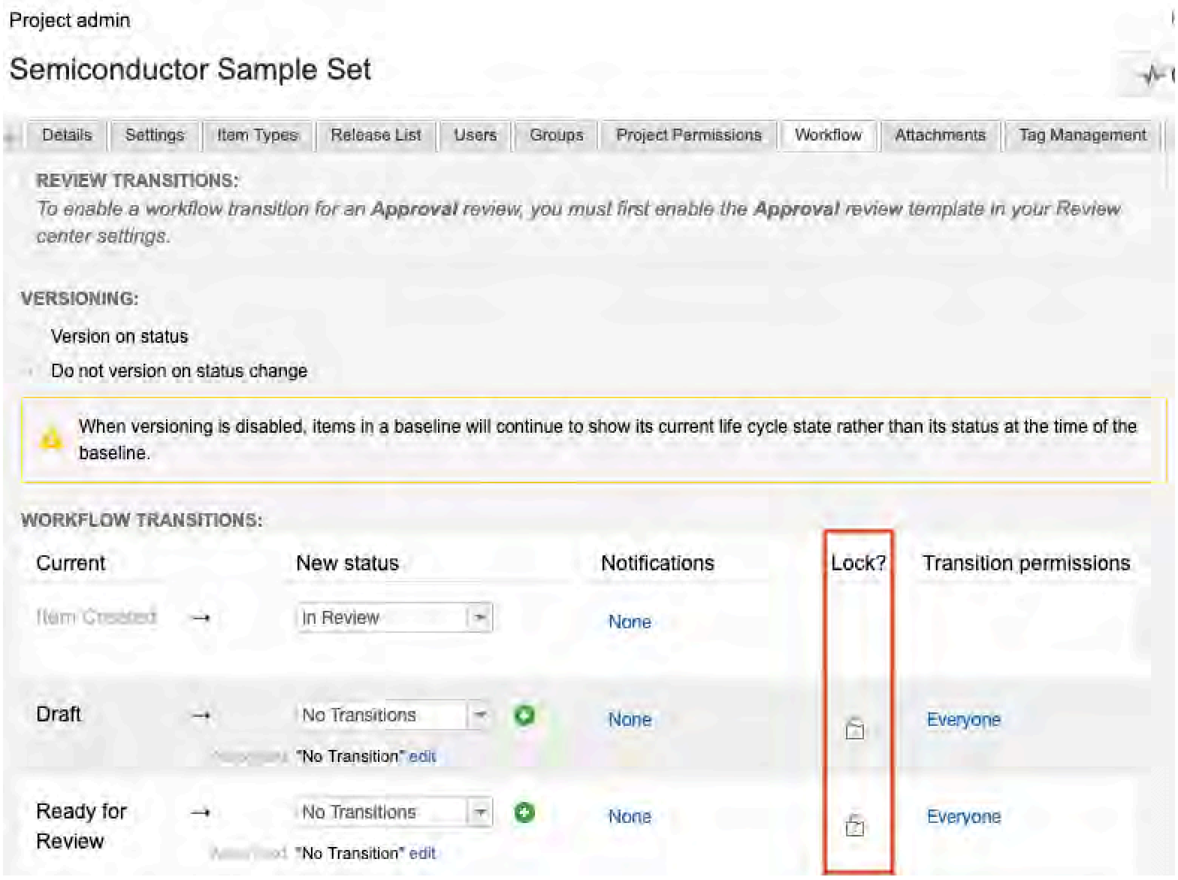
Items can also be automatically locked by the workflow [198]. These items show a gray lock after their name and a blue lock in List View.

System-locked items unlock when transitioned through the workflow or by an organization or project administrator.



To add an automatic lock to the workflow:

1. Select **Admin > Project > Workflow**.
2. For the item you want to lock, select **Override**.
3. In the **Lock?** column, select the lock icon to include (or remove) an automatic lock in the workflow.

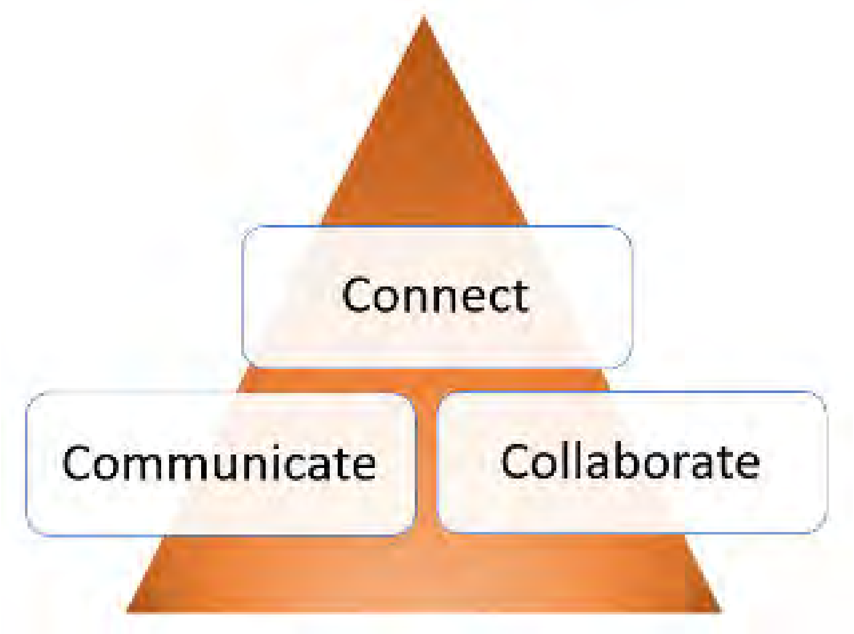


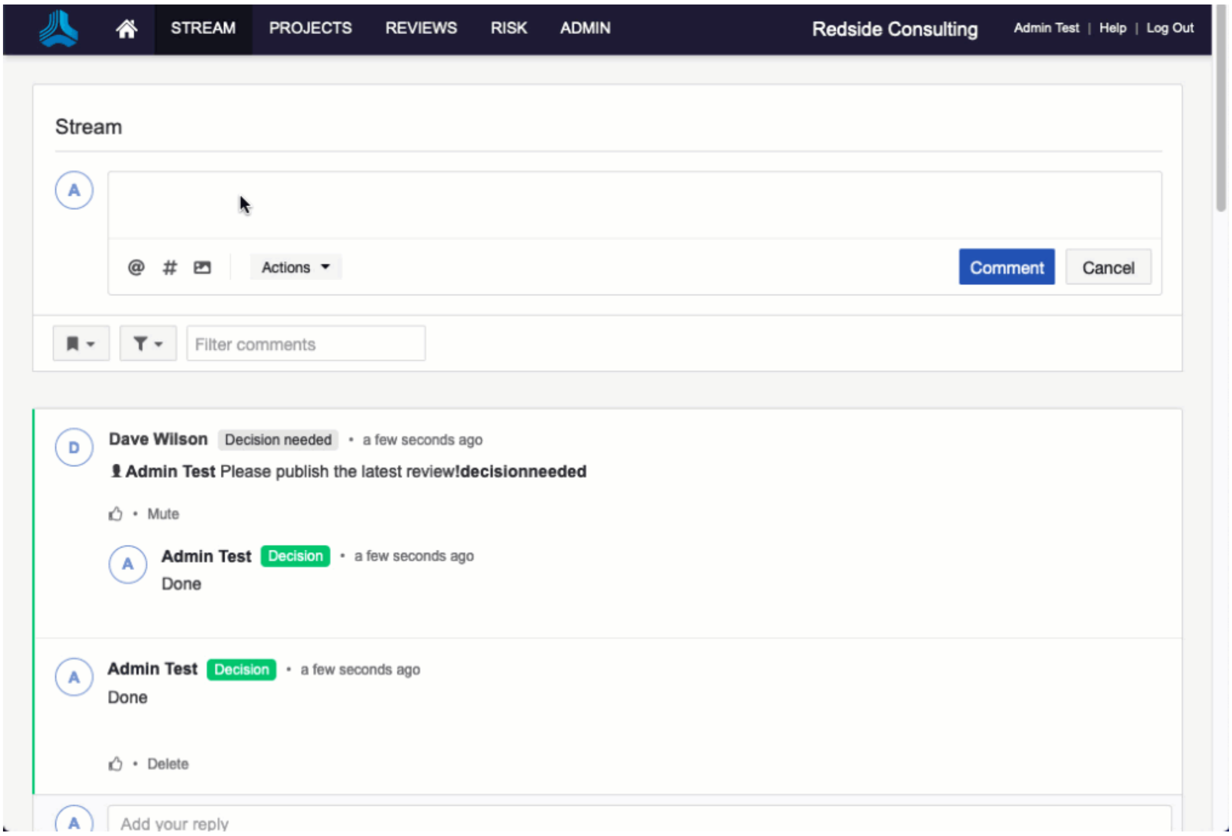
4. Click **Save settings**.

Stream — Staying connected

The stream is where you can see the most recent comments and activities of your Jama Connect project.

The stream is built on three basic activities:





Working with the stream

With everyone having the most up-to-date information through the stream, stakeholders stay informed and aligned.

You can:

- Include stakeholders in a conversation [212] by name or email.
- Keep up to date on the latest activities [209] for a project or item.

- Clarify conversations by using actions [216] like questions, decisions, or issues.
- Include whiteboards, prototypes, or other images [215].
- Filter the stream [218] to include only comments or activities that refer to a specific project, item, or person.
- View the stream across projects [223], at an item level [220], or at a project level [222].

Types of streams

Jama Connect includes streams for specific types of collaboration and activity.

Global Stream [205] — At this level, you see a collection of the most recent comments and activities.

Project and Item Activity Stream [205] — At this level, you see comments and activities for the entire project.

Item Collaboration Stream [206] — At this level, you can see comments and connected users related to a specific item.

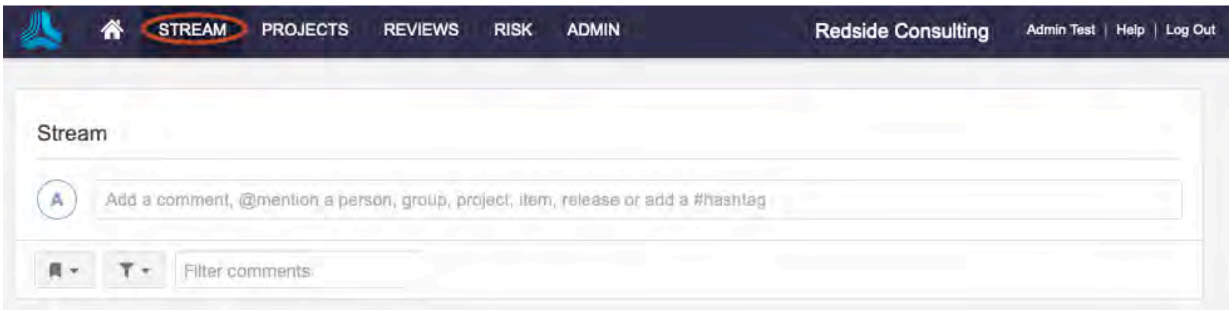
Baseline Activity Stream [207] — At this level, you can monitor activity, quickly find a baseline ID, or see if a signature is revoked.

Review Activity (Stats) [208] — At this level, you can see all activities for a review across versions, including when reviews were opened, closed, when new versions were published, or when signatures were added.

Admin Activity Stream [544]— At this level, you see an audit trail of updates made by organization and project administrators.

Global stream

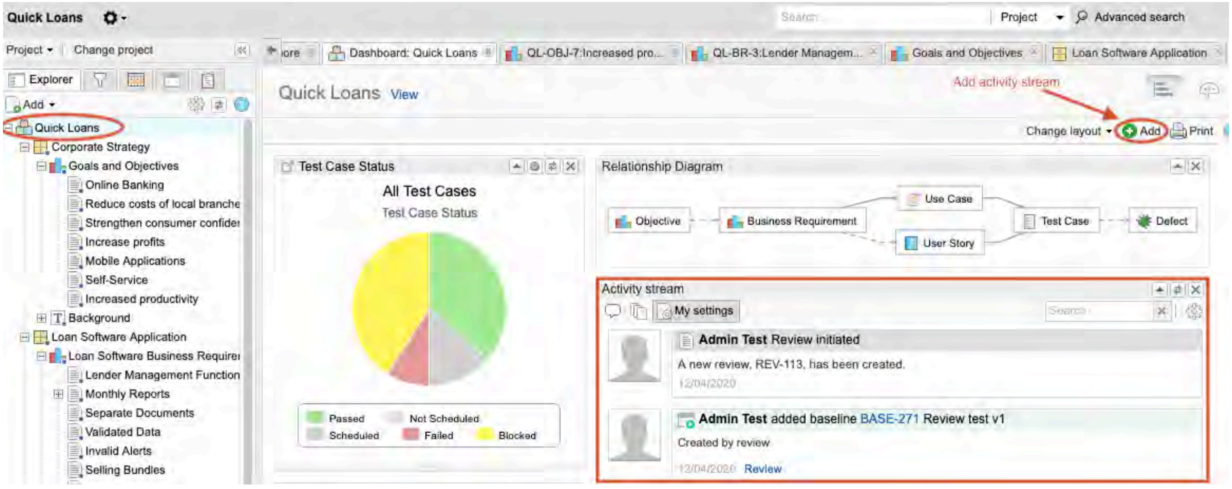
At this level, you see a collection of the most recent comments and activities.



How to access	From the header, select **Stream**.
What you can do	See the most recent comments related to an item.

Project activity stream

At this level, you see comments and activities for the entire project.

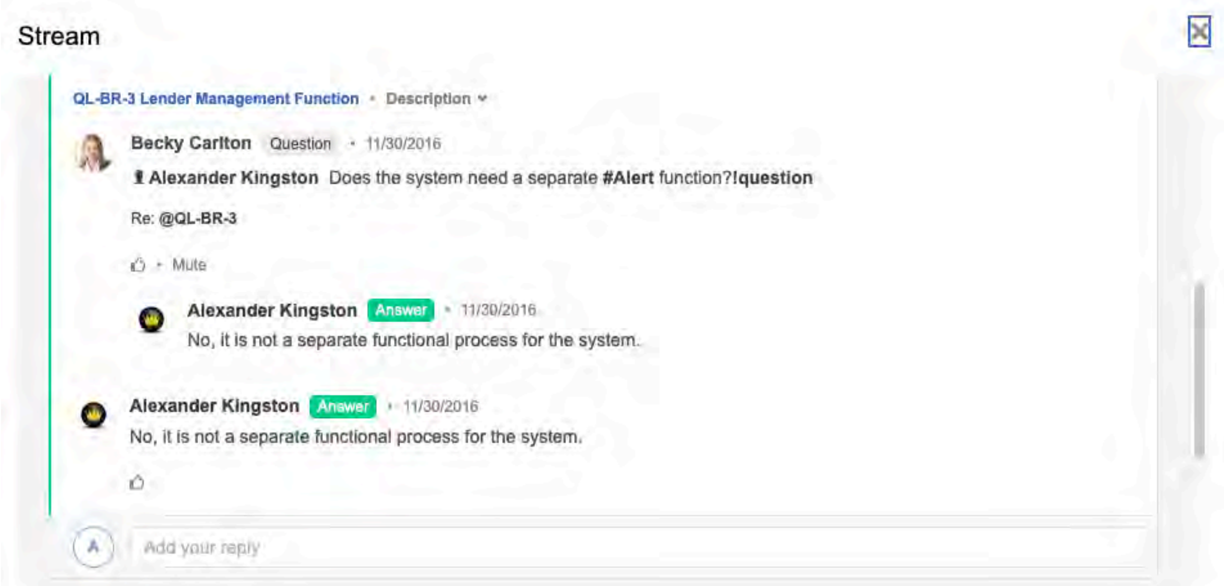


How to access	Select the project name to open the Activity Stream. **Note:** If you don't see the Activity Stream, select the green **Add** button. In the window, select Activity stream, then click **Add**. You must have Project Admin permissions to do this.
What you can do	• See comments and activities for the entire project. • See changes to items — Adding, editing, or deleting content from item fields, commenting on an item; using features like releases, baselines, or reviews that impact the item. • Find out when a review is opened, revised, closed, reopened; when signatures are added or revoked. • View items that are reused and synchronized and reuse details that appear in the activity stream. Users with read permission can view details about reused items and can select a link to view newly copied and synchronized items. • From a project, select the Collaboration **Stream View** icon to see information only for that project.

Item collaboration stream

At this level, you can see comments and connected users related to a specific item.

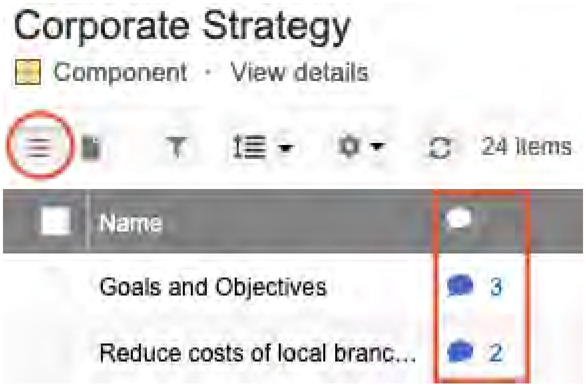
Here's an example of what the stream looks like in List View and Reading View:



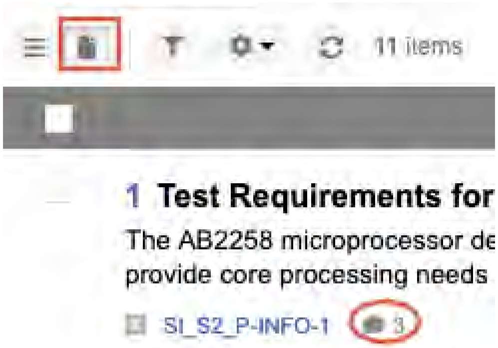
How to access

There are several ways to view the stream at the item level.

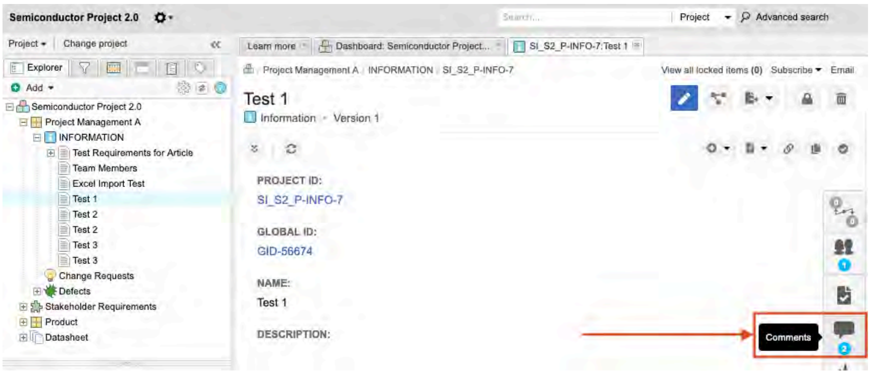
In **Project > List View**, select the speech bubble icon.



In **Project > Reading View**, select the speech bubble icon.



In **Project > Single Item View**, select the speech bubble icon.

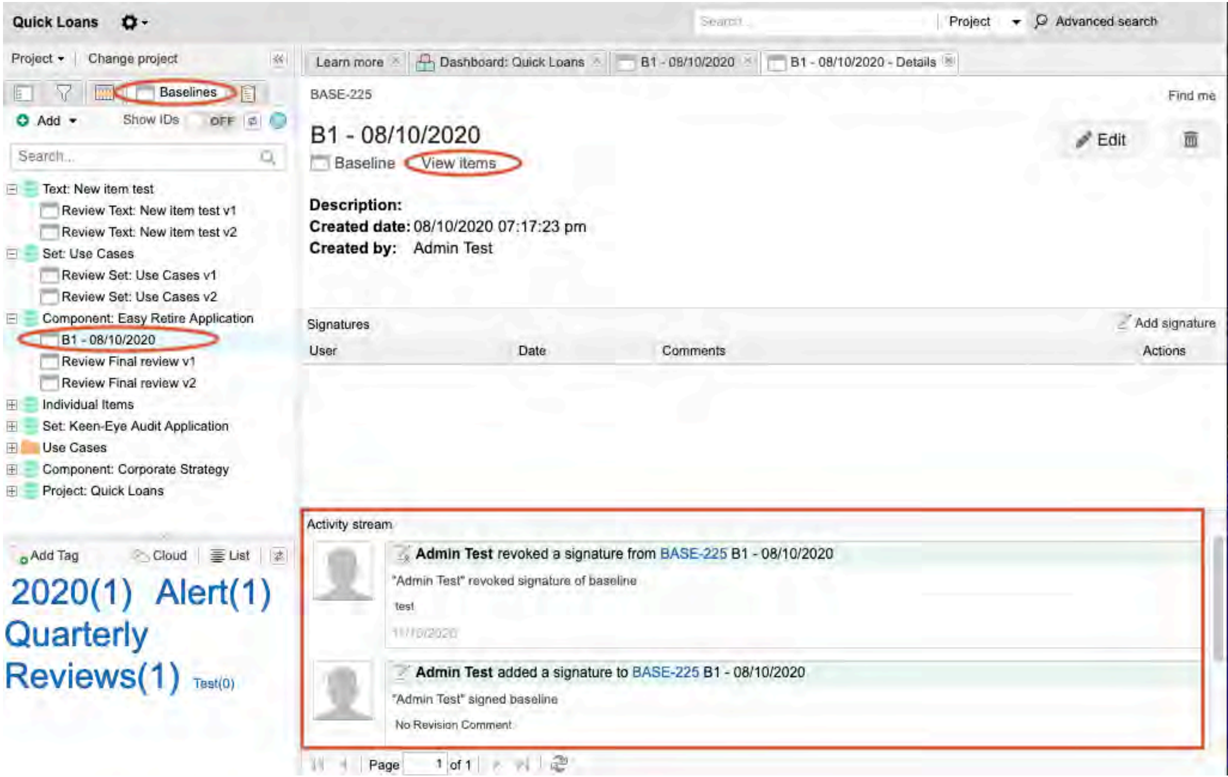


What you can do

- See comments and connected users related to a specific item.
- See changes to items — Adding, editing, or deleting content from item fields, commenting on an item; using features like releases, baselines, or reviews that impact the item.
- View items that are reused and synchronized and reuse details that appear in the activity stream. Users with read permission can view details about reused items and can select a link to view newly copied and synchronized items.

Baseline activity stream

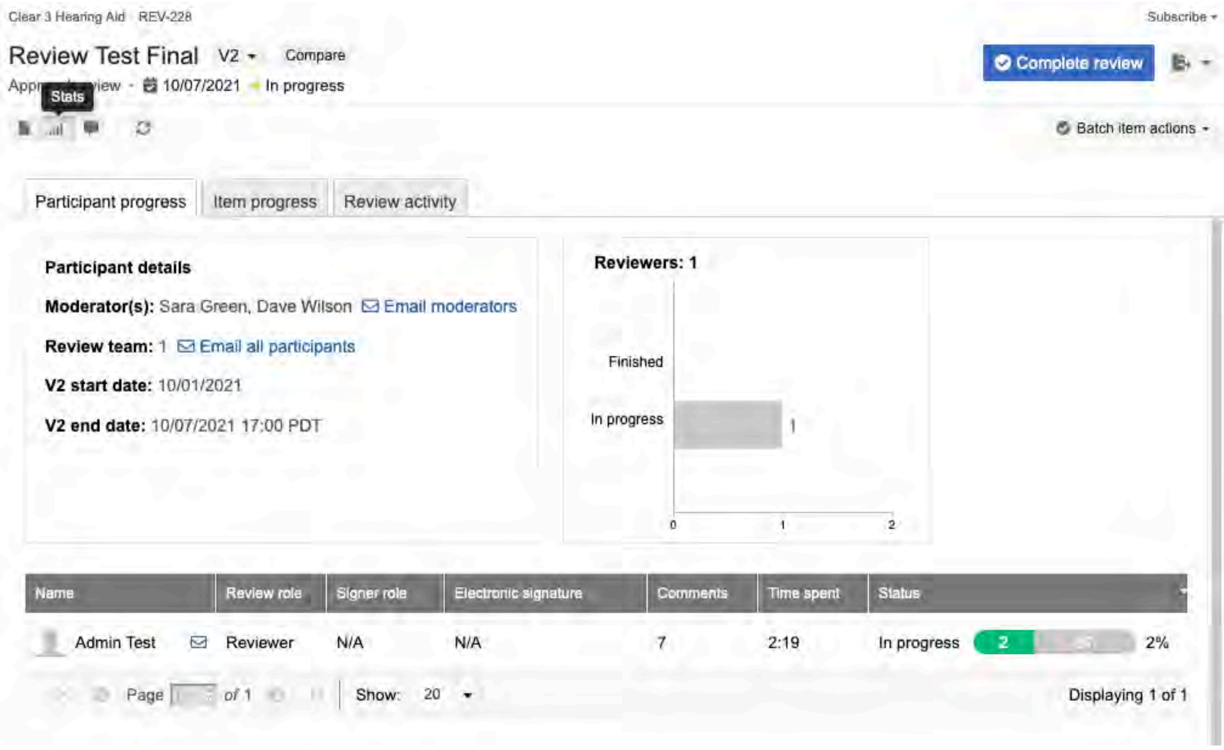
At this level, you can monitor activity, quickly find a baseline ID, or see if a signature is revoked.



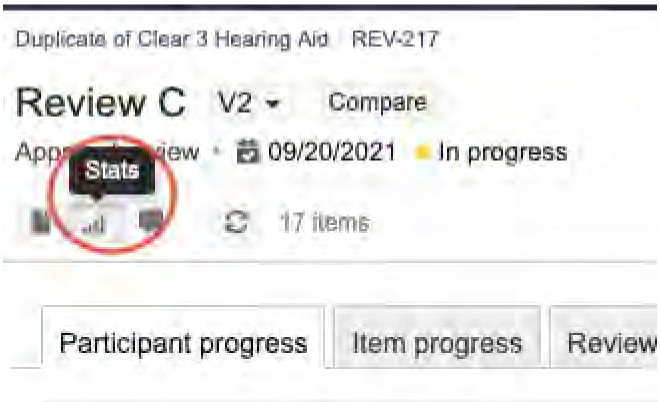
How to access	Select the **Baselines** tab, baseline name, and **View details** (which changes to View items) to open the Activity stream.
What you can do	• Monitor activity, quickly find a baseline ID, or see if a signature is revoked. • View changes to baselines — Adding (manually or automatically with a review), editing, or deleting* baselines or sources. Visible to users with read-only permission. Baseline activity streams. *Deleting requires admin permissions. Baselines with e-signatures can't be deleted.

Review activity (stats)

At this level, you can see all activities for a review across versions, including when reviews were opened, closed, when new versions were published, or when signatures were added.



How to access	In the review, select **Stats** to open the activity page.



What you can do

- See all activities for a review across versions, including when reviews are opened, closed, when new versions were published, or when signatures were added.
- Find out when a review is opened, revised, closed, reopened; when signatures are added or revoked.
- See when items are sent for review.
- See all activity for a single review across revisions in the Review activity tab.

Activity stream

Activities are the recorded changes made to an item, including editing, commenting on, relating to other items, deleting, and restoring.

You can view activities at an item level [220] or a project level [222]. You can also view activities specific to different parts of Jama Connect, such as reviews [191] and baselines [248].

These are the types of activities that appear in the stream.

Activity type	Definition	Visible in...
Changes to items	Adding, editing, or deleting content from item fields; commenting on an item; using features like releases, baselines, or reviews that impact the item.	Project activity stream Item activity stream
Changes to baselines	Adding (manually [245] or automatically with a review [244]), editing, or deleting* baselines or sources. Visible to users with read-only permission. Baseline activity stream [248] shows all activity for a baseline.	Baseline activity stream
Reused and synchronized items	When items are reused and synchronized [276], details of reuse appear in the activity stream. Users with read permission can view details about reused items and can select a link to view newly copied and synchronized items.	Project activity stream Item activity stream
Comments	Comments related to an item or project. Review comments aren't included in activity stream.	Collaboration stream
Reviews	When review is opened, revised, closed, reopened; when signatures are added or revoked.	Project activity stream Review activity (stats)
	When items are sent for review, see all activity for a single review across revisions in the review activity [191] tab.	Review activity (stats)

* Deleting requires admin permission. Baselines with e-signatures can’t be deleted.

Comments

Comments are user-created messages that you can see in the stream or in reviews.

Comments are visible:

- At an item level [220]
- At a project level [222]
- In reviews [170]
- Across projects [223]

You can add and delete a comment as well as restore comments that you deleted. You can also add a hashtag (#) to a comment for filtering or add a reference to a specific person, project, or group.

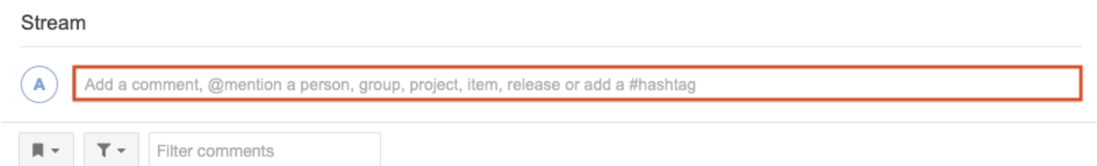
Add, delete, or restore a comment

All comments made in Jama Connect are displayed in the stream. You can see any comment you have permissions to view.

You can add comments, delete comments that you made, and restore comments that you deleted.

You can also restore comment threads or replies that you deleted, but only if they were associated with an item. You can't restore deleted comments that aren't associated with an item.

1. To add a comment to the stream, an item, or a project:
   1. Open the stream at an item level [220], project level [222], or across projects [223].
   2. Enter your comment:
      - **New comment** — In the Stream comment box.
      - **Replying to a comment** — In the reply box below the comment.

   3. (Optional) As needed, you can refer to a particular person, group, project or item [212], request or resolve an action [216], upload an image [215], or add a hashtag [211].

   4. Select **Comment**.
2. To delete a comment:
   1. Select **Delete** below the comment.
   2. When prompted, click **Yes**.
3. To restore a deleted comment:
   1. In Single Item View, select the Activities widget to open the bottom panel.

   2. In the deleted comment, select **Restore**.

   3. When prompted, click **Yes**.

   The comment is restored and appears in the My Settings section.

Tips and more

When the discussion gets long, Jama Connect shows only the most recent comments. Select **View all replies** to expand the thread and show all comments. Select **Hide replies** to collapse the thread.

Add a comment hashtag

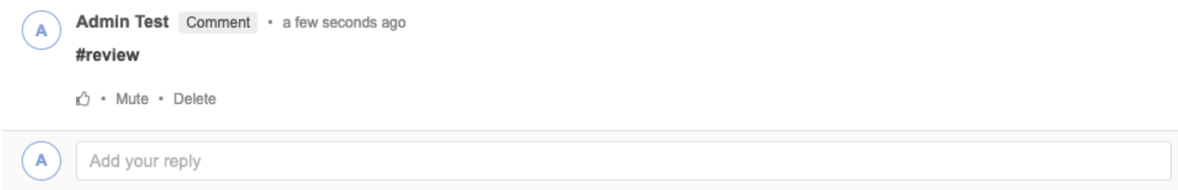
By adding a hashtag to your comments, you can quickly filter the stream by selecting the hashtag itself.

Tags begin with the # character and are lowercase letters with no spaces.

To add a comment hashtag:

1. In the Stream comment box, type **#** followed by the tag.
   For example, #alert or #review.

2. Click **Comment**.



The comment appears in the stream thread.

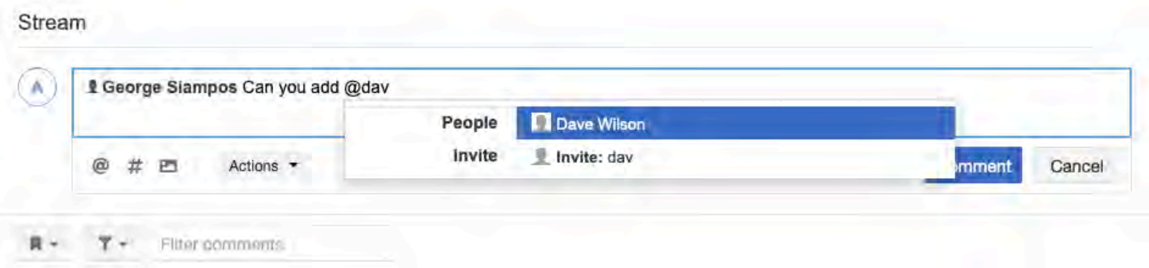
> **NOTE**
> Comment tags are different from item tags. Comment tags are added to comments and can be used to filter the stream, but item tags are added to an individual item and can be used to search or group items.

Use @mention to add a reference

To increase the efficiency and usability of your comments, you can refer to specific items, projects, people, or groups with @mention.

Anyone you include in a comment receives an email notification [214].

1. Open a list of names (items, projects, people, groups) using one of these methods:
   - In the comment field of the Stream window, type **@** followed by the first few letters of the name.



   - Below the comment field of the Stream window, select **@**.

2. Scroll through the list to select the name you want to include in your comment.

The name that you included appears as a bold link in your comment.

Add someone from outside Jama Connect

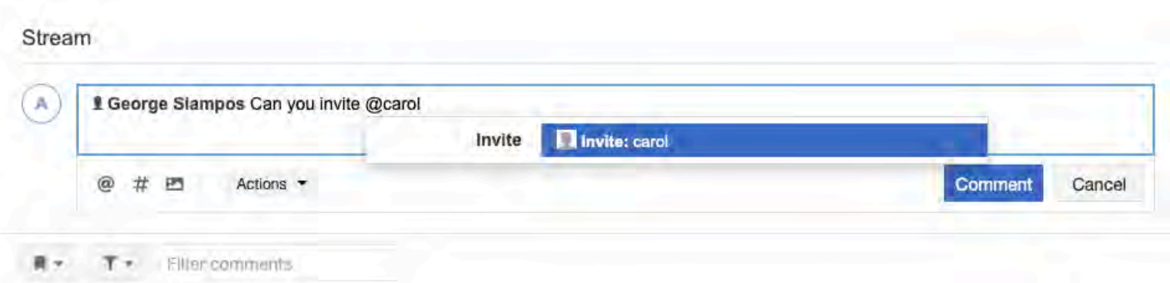
You can add a commenter who is not part of Jama Connect. They get a temporary license [578] that allows them to view the comment threads to which they were invited. They can also see descriptions of referenced items in the thread.

Once you send the invitation, the person can optionally set up a user login and password, which is then available in the @mention drop-down list. The license expires after 30 days —and the user is locked out of Jama Connect — unless it is changed to a permanent one. They can still be @mentioned in stream if the license has expired, but they can no longer access the conversation or items.

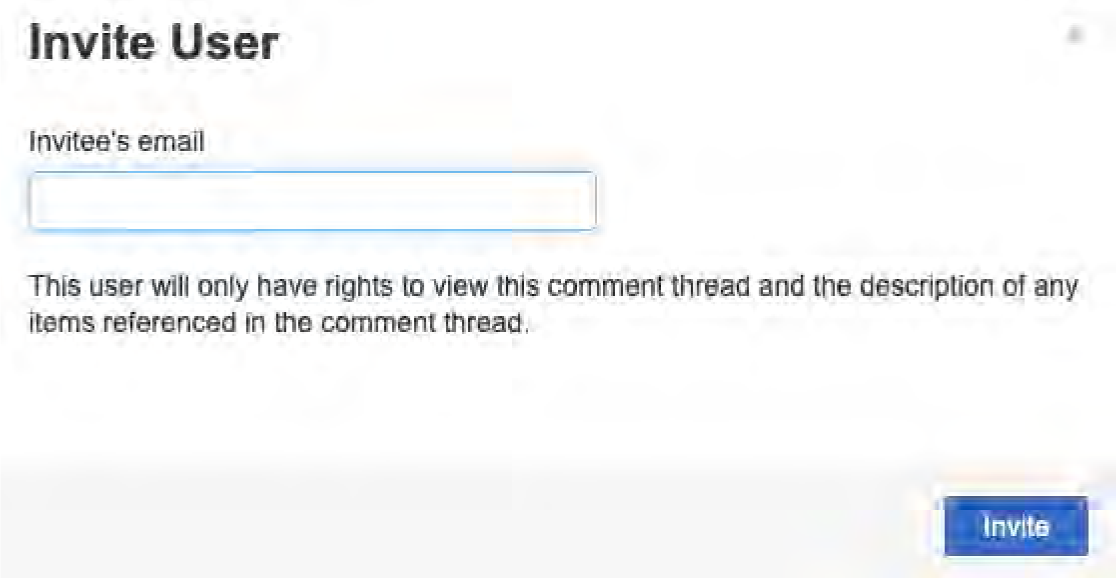
NOTE
An administrator can grant invited users permission [653] to view additional project data.

To give stream access to someone outside of Jama Connect:

1. In the comment field of the Stream window, type **@** followed by the user's email address to trigger an invitation, then select the blue **Invite bar** that appears.



2. In the **Invite User** window that opens, enter the full email address and click **Invite**.



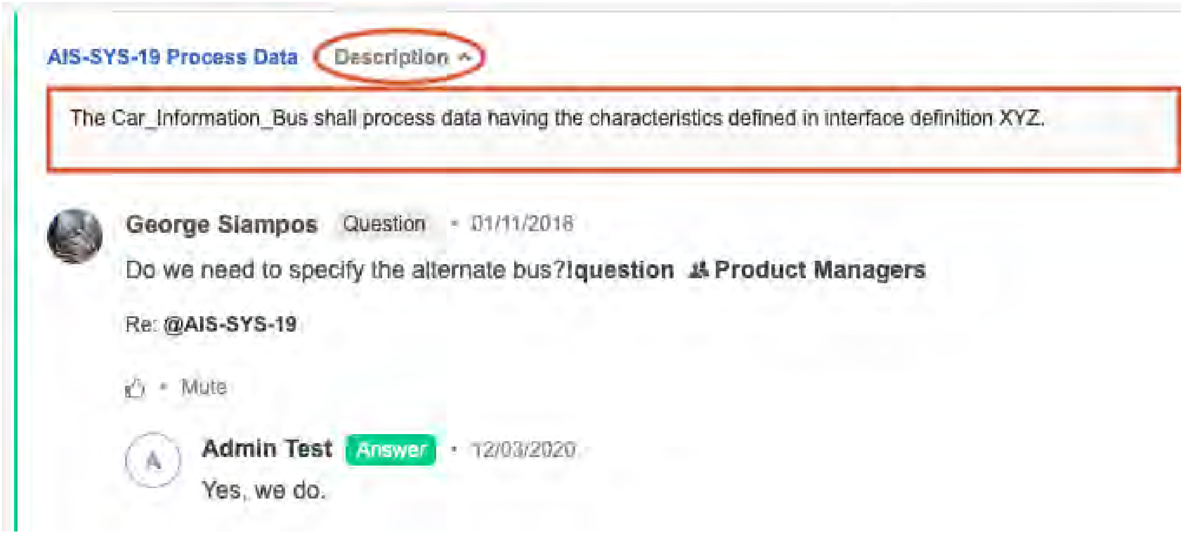
3. Type your note and click **Comment**.

The person you invited now automatically receives stream emails [214].

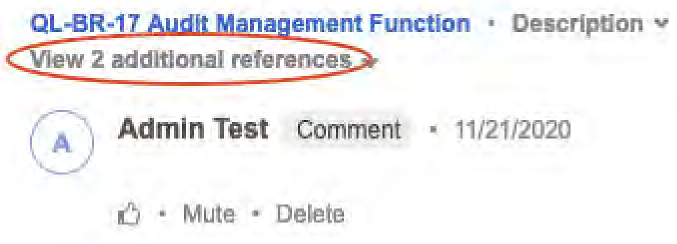
View referenced projects and items

When a project or item is referenced with @mention, you can view it in its activity stream.

1. To view a reference to a:
   - **Project** — Open the project's activity stream.
   - **Item** — Open the item's activity stream in Single Item View.
2. (Optional) In the activity stream, select **Description** to see details about the referenced project or item.



3. (Optional) Select **View additional references** to see more than the first displayed reference.



Email notifications for the stream

Jama Connect includes several types of email notifications, including ones initiated in the stream. This information applies only to stream email notifications.

Adding participants

When you comment on an item or project in the activity stream, you can add people to a comment by using @mention. This includes people who aren't current Jama Connect users.

When you receive stream notifications

Initial email — When your name is added to a comment in the stream.

Update email — When anyone replies to a comment thread where your name was added.

New comments — If you subscribed to the item.

Tips and more

- If you are in multiple groups that are mentioned in a comment, they receive only one email for each comment or reply.
- When participants receive an email because they're mentioned in the stream, they can comment directly to the thread by replying to that email. A copy of the comment is emailed to everyone on the thread.
- Email updates contain links to see the entire comment thread in Jama Connect.

> **NOTE**
> Replying to a thread by email works for comment threads in the stream, but not for comments in reviews.

- To stop receiving email notifications for a comment thread where you're mentioned, go to that thread in the stream and select **Mute**. Do this for each thread that mentions you.

> **NOTE**
> Once you mute notifications for a thread, you only receive future emails if you're specifically mentioned in a comment or if you're a member of a group that's also referenced.

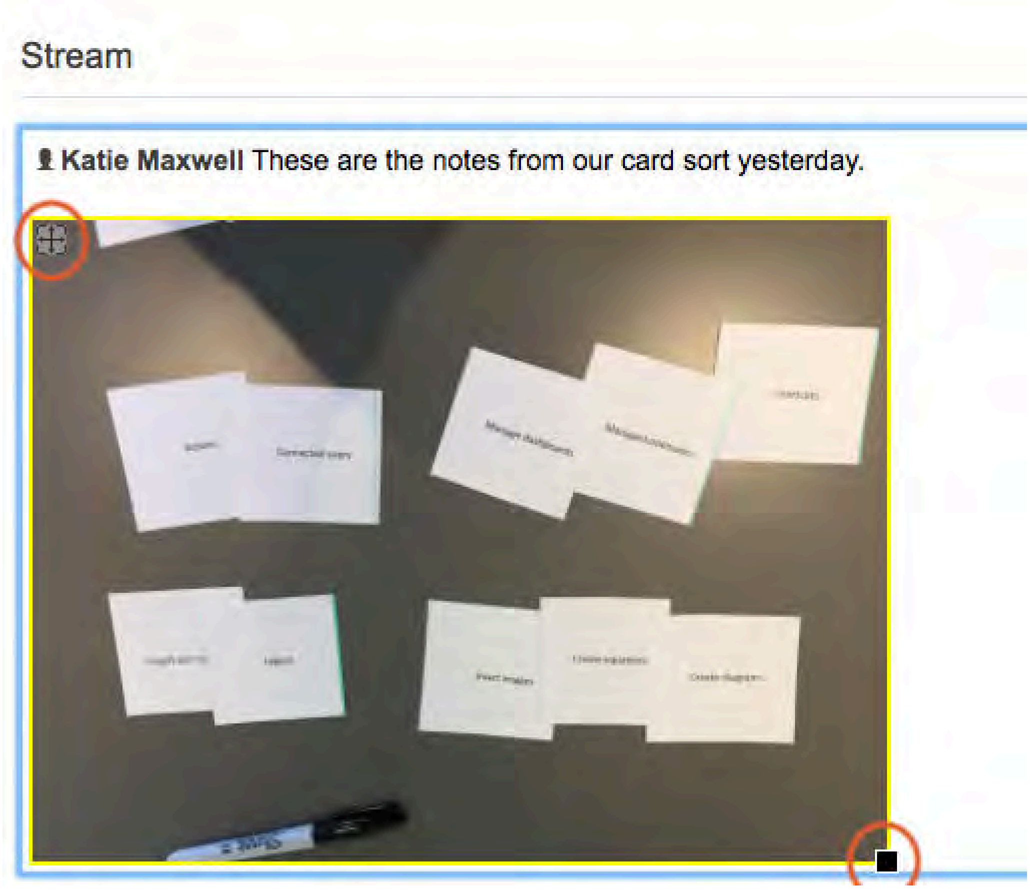
Upload images to the stream

You can include useful photos (meeting notes, white board drawings, or prototypes) in the stream by uploading images.

Here's how:

1. In the Stream window, select the **Image** button.

2. Select the image file you want to upload, then select **Open**.
   The image appears in the stream comment field.
3. (Optional) To resize the image, hover over the bottom right-hand corner of the image, grab the handle and drag the corner to the required size.
4. (Optional) To move the image in the comment, hover over the top left-hand corner of the image and grab the handle. Drag the image to the correct location in the comment.



5. Select **Comment**.

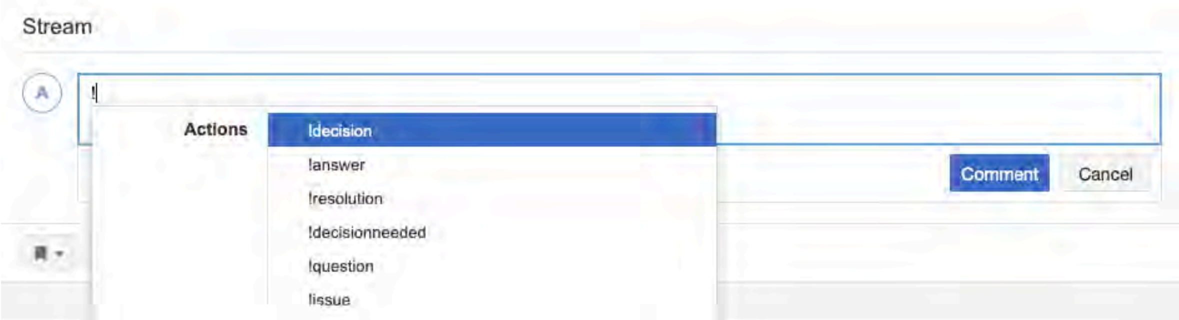
The image you uploaded now appears in the stream.

Request or resolve an action

Actions can highlight important conversations in the stream by identifying a comment as one of three types: decision, question, or issue.

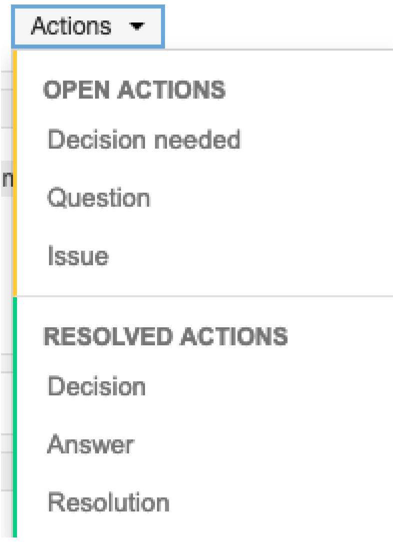
Actions also help clarify your request to someone you include in your comment. You can also filter by actions [218] to see what questions, issues, or decisions need attention.

1. To initiate a request, choose from the **Actions** menu or type a **!** in the comment box and choose an action from the menu that appears.

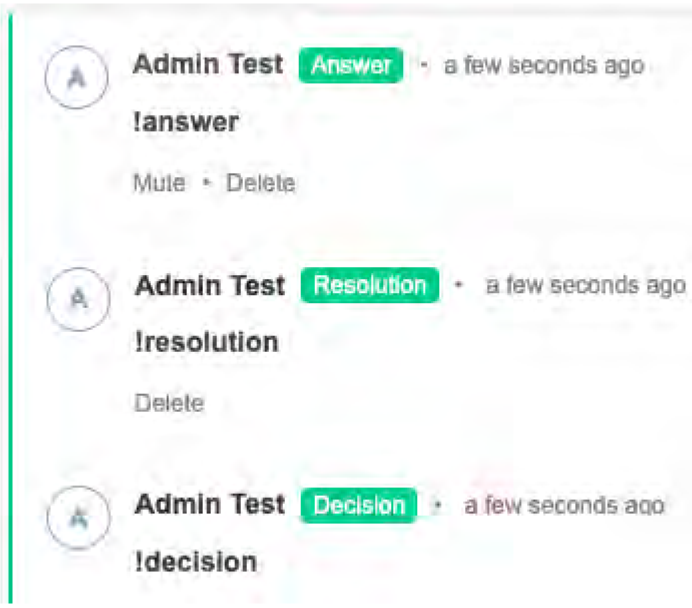
   When a comment contains a request action, the left edge of the comment is outlined in yellow and a blue button invites other users to resolve the action (Answer question, Make decision, Resolve issue).

2. To respond to a request, choose from the **Actions** menu: **Decision**, **Answer**, or **Resolution**.

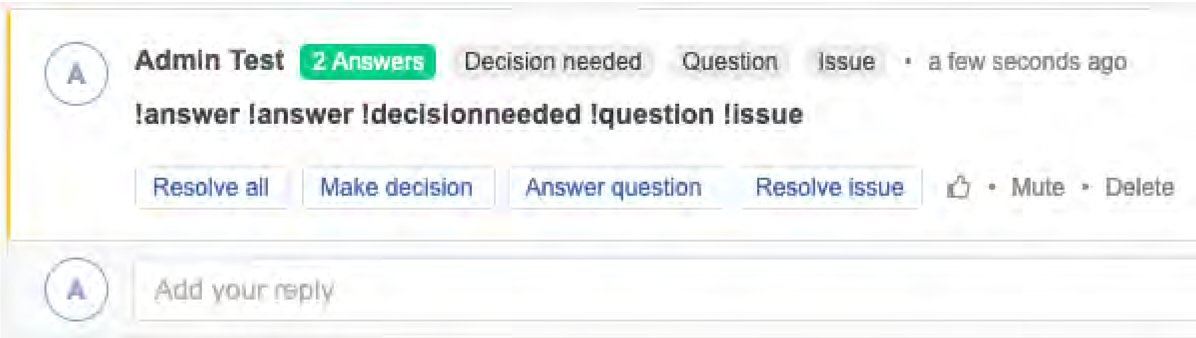


Tips and more

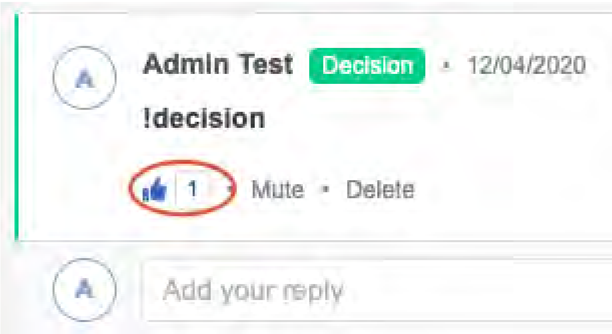
- Resolved actions are displayed in green.



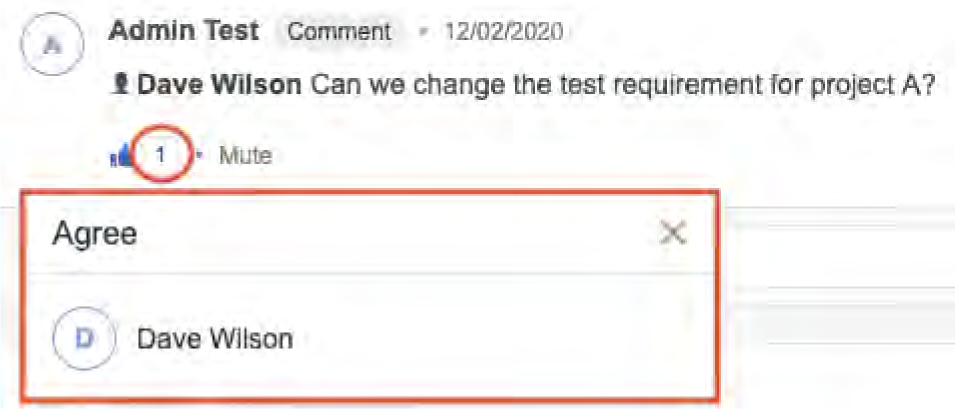
- Open actions are displayed with a yellow border.



- Use the like icon when you agree with a comment and want to track how team members vote on a decision.



- Select the number next to the like icon to see who agreed.



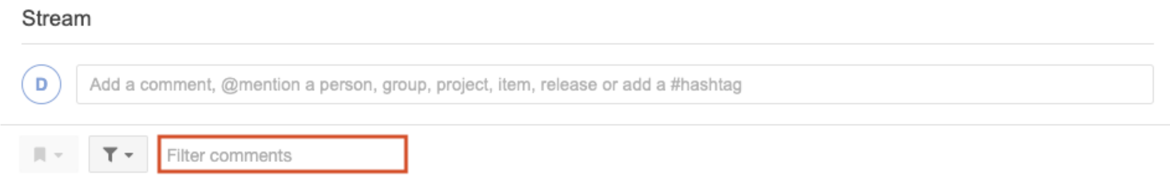
Filter the stream

Filters let you see only comments that matter to you. When you create a filter, it remains active only if the session is active.

If you want to reuse a filter, you can save it. You can also bookmark a filter in your browser to view later.

> **NOTE**
> You can create custom filters [220] at an item level to filter comments or activities in the stream.

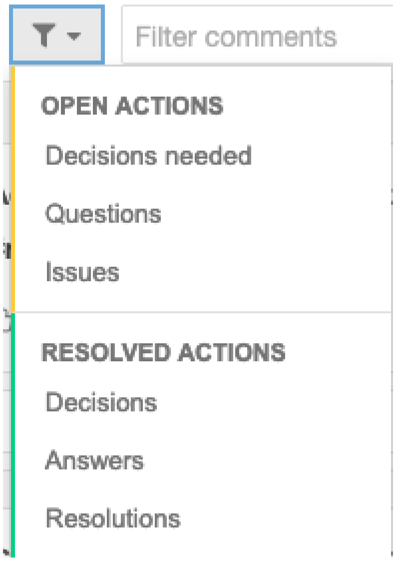
1. Open a Stream window and select the **Filter comments** field.



2. Enter one of the following and select from the displayed menu to create a filter:

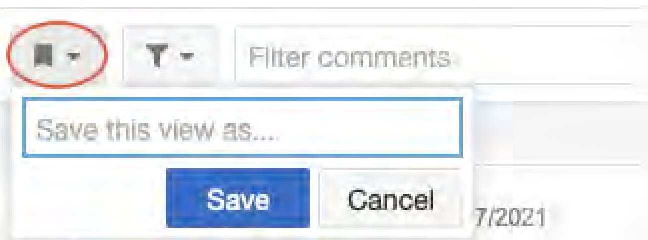
#	Displays a menu of hashtags.
@	Displays a menu of users.
!	Displays a menu of actions.
Keyword	Displays a menu of frequently used names for people, groups, projects, or other content types.

3. Select an option from one of the menus or press **Enter** if you entered a new keyword.
4. (Optional) To filter by actions, select the **Quick filters** menu. These filters are additive so you can filter on multiple actions.



The filters you choose appear below the comment field. The stream is refreshed with each filter you add or delete.

5. (Optional) To save a filter, select the bookmark button and enter a name for the filter, then select **Save**.



6. To set a quick filter from a comment, select people, projects, items, or other boldfaced references in the comment. These filters aren't additive.
7. (Optional) To share a filter with another Jama Connect user, copy the URL of your filtered results and send it through email.

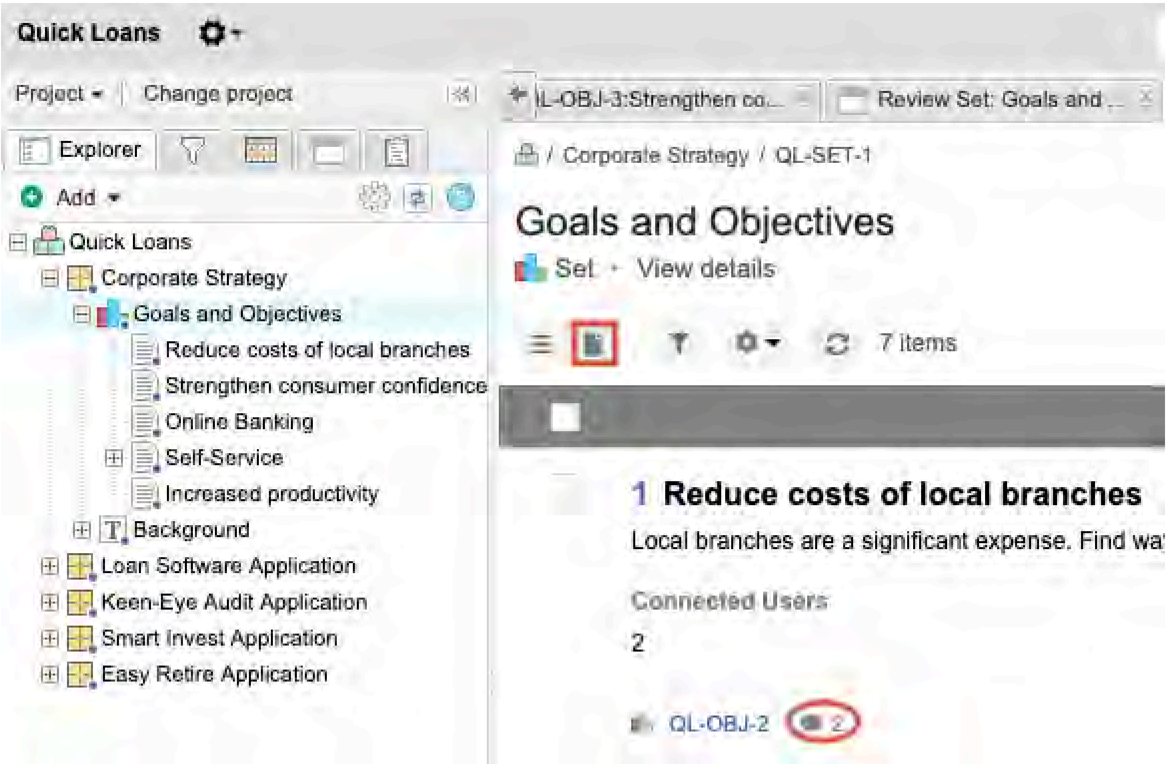
View collaboration stream at an item level

You can view the stream [203] comments and activity for an item, for example, to see all "Open" (unresolved) questions about that item. A speech bubble icon includes a number that indicates how many comments were recorded for that item.

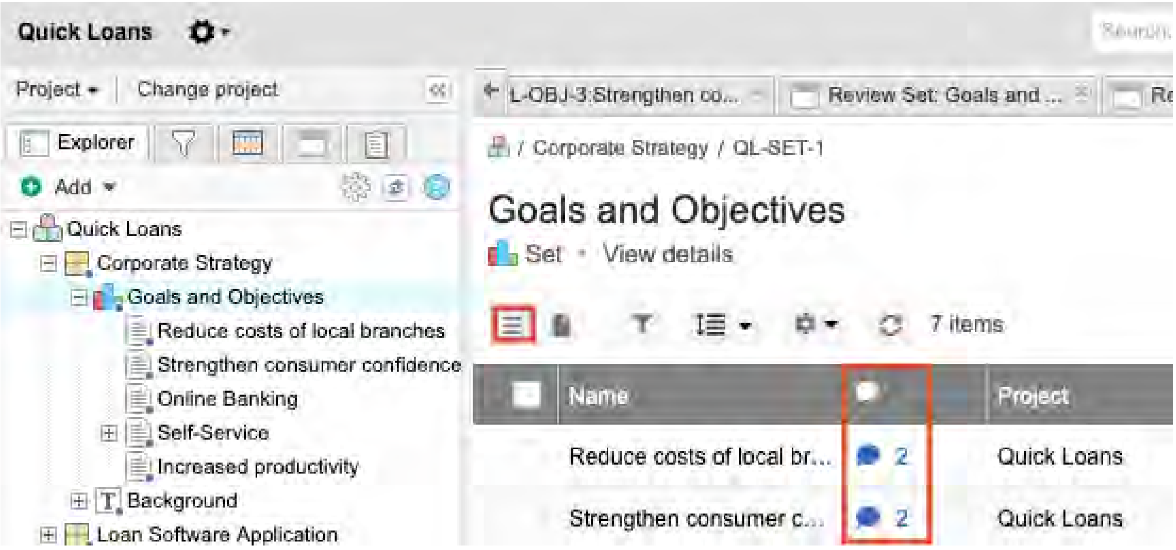
> **NOTE**
> The side toolbar is only visible if it is configured by the organization administrator [593].

To view comment stream

1. Select an item's speech bubble icon using one of these methods:
   Projects > Reading View

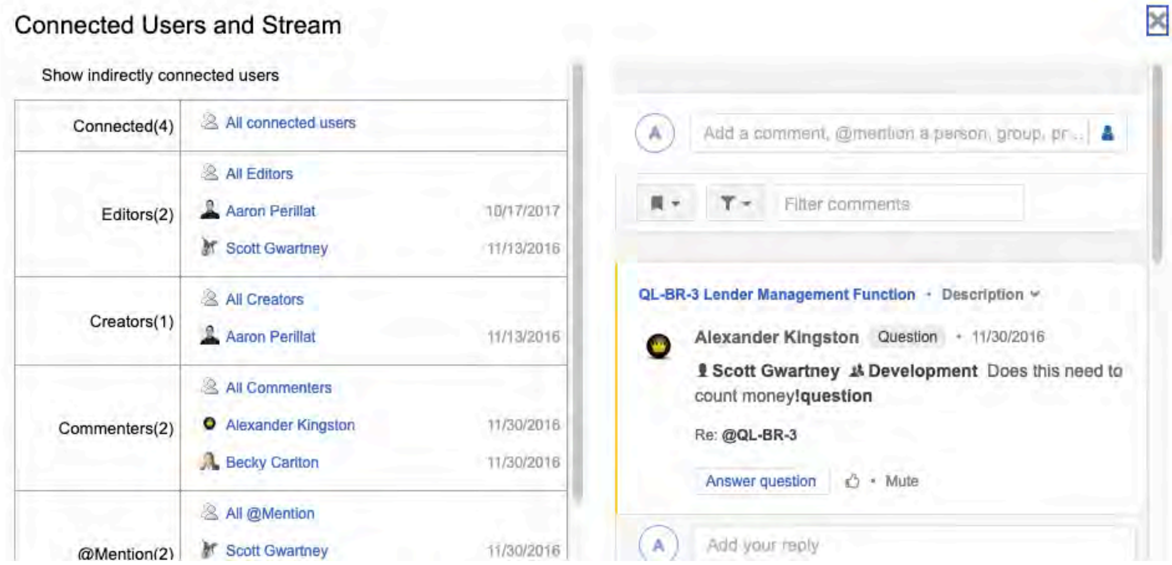


   Projects > List View



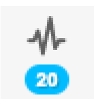
Single Item View > Side toolbar

2. In the window that opens, select the silhouette icon to view comments, add comments, or view connected users.



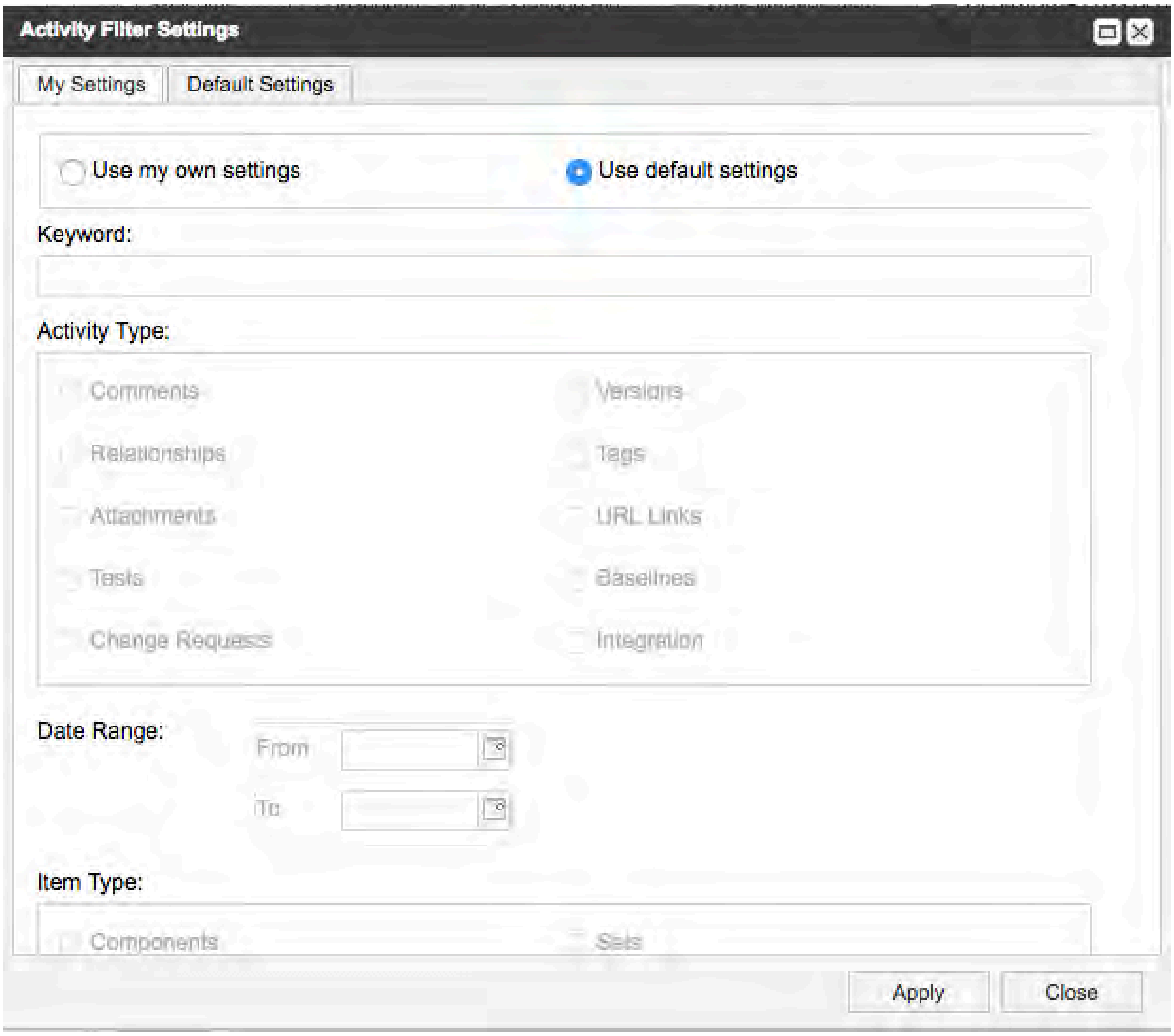
To view comment and activity stream

1. In Single Item View, select the **Activities** button on the side toolbar to see the history of an item. The number on the button indicates the item's activity.



2. The bottom panel displays the stream and all activities (such as edits, reviews, relationships) and comments for this item. From here you can add a comment, search the stream with a keyword, refresh the display, or hide the panel.

3. Use the three buttons in the top left corner of the stream to:
   - **Display active comments**
   - **Display all activities**
   - **Apply a custom filter to activities**
4. Select the settings (gear) icon in the top right corner to open the Activity Filter Settings window.
5. Keep the default settings or customize keywords, activity type, date range, or item type, then select **Apply**. Your custom filters are saved across items.



View collaboration stream at a project level

You can view the stream [203] at a project level, you see comments [210] and activities [209] for the entire project in the project dashboard.

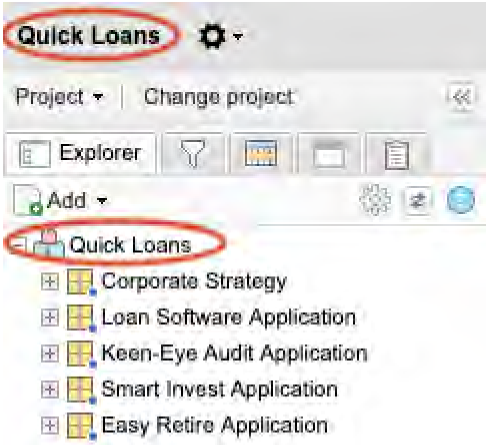
Important considerations

- Any comments you enter at this level automatically refer to the selected project.

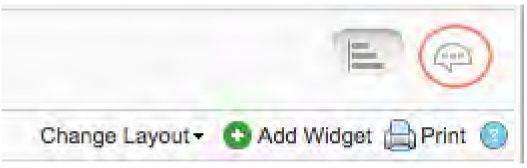
- If the stream doesn't already appear on your project dashboard, a project or organization administrator can add it.

Open the project dashboard using one of these methods:

- **Explorer Tree** — Select the main project level in the Explorer Tree or select the name of the project just above the Explorer Tree.



- **Comment bubble** — Select the comment bubble in the upper right navigation, then select **Stream View**.

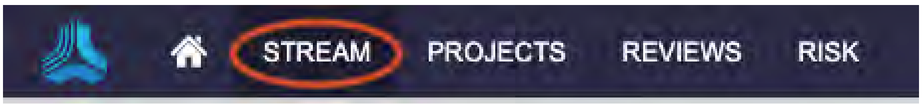


View global stream across projects

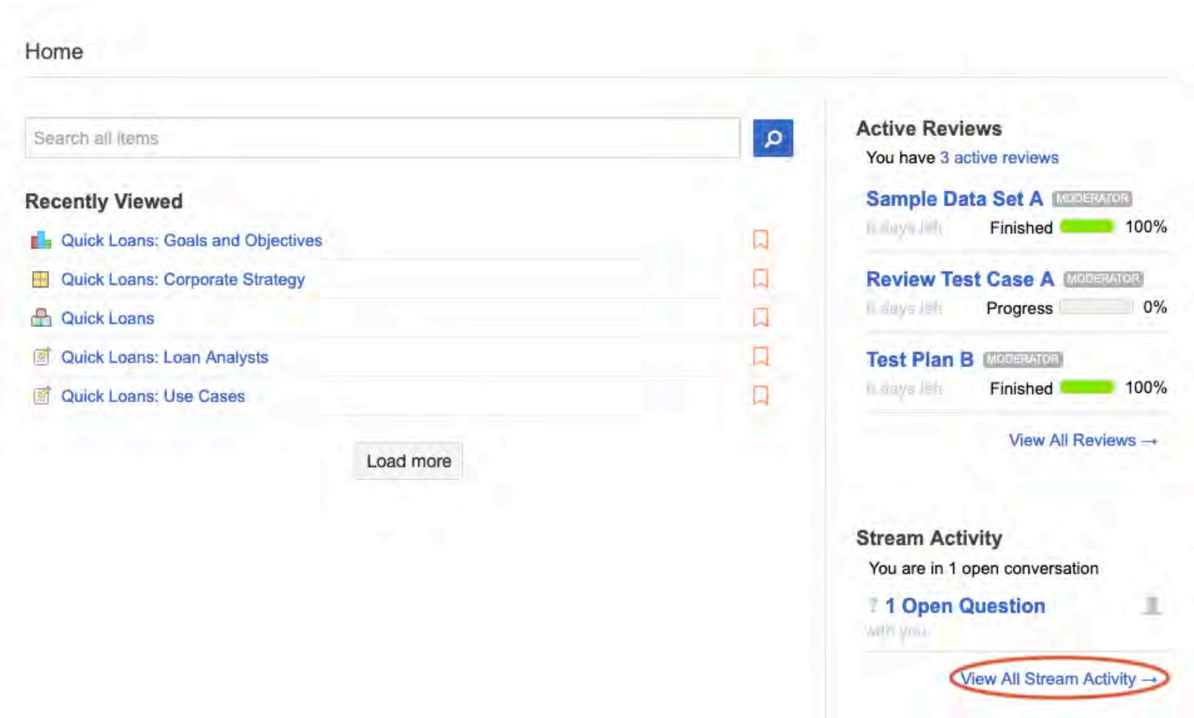
View the stream across projects when you want to do a search or filter projects. For example, if you want to see open questions that are assigned to you for all projects.

To view the stream across projects, use one of these methods:

- Select **Stream** from the top navigation. This displays all comments from all projects, starting with the most recent.



- Select **View All Stream Activity** from the home page to see all comments across projects.



View connected users

A connected user is a creator, editor, or someone who has commented, subscribed, or been @mentioned on an item.

View connected users to see who is connected to items. For example, if you're changing a requirement and want to see who might be impacted by a change.

To view connected users:

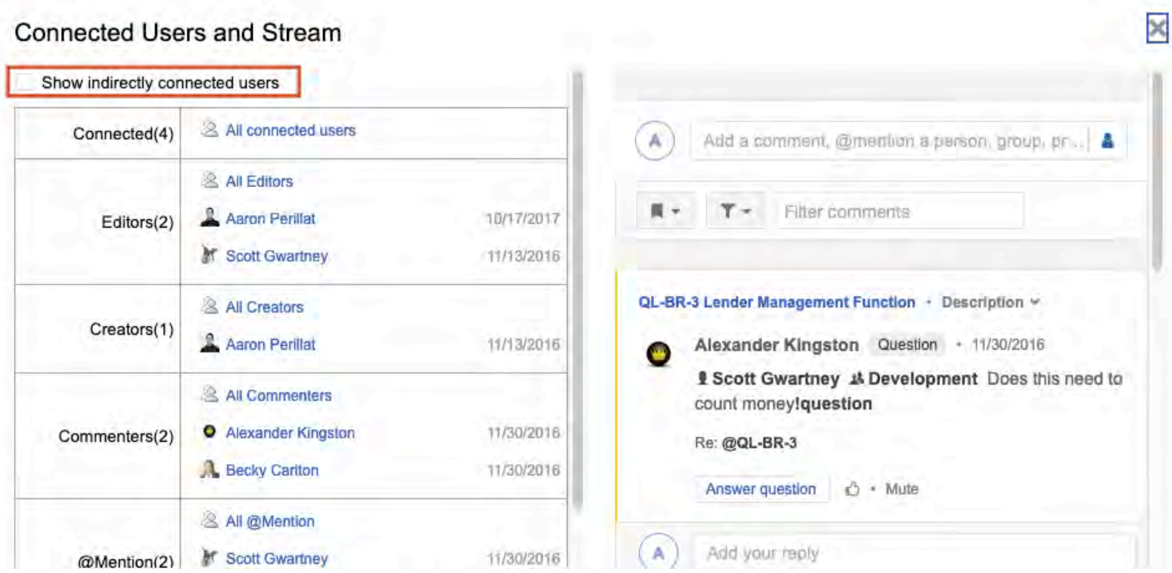
1. Open the Connected users window using one of these methods:
   - **Single Item View** — Select the connected users icon.

   - **List View** — Select the user icon.

2. Select **Show indirectly connected users** to view users who are interested in items related to this one.



3. (Optional) To toggle the related users on or off, select the circle icons at the top of the list.

You can now view the list of connected users and make comments in the stream.

Electronic signatures

An electronic signature is a way for project participants to virtually approve reviews, baselines, and electronic documents like test plans and requirements.

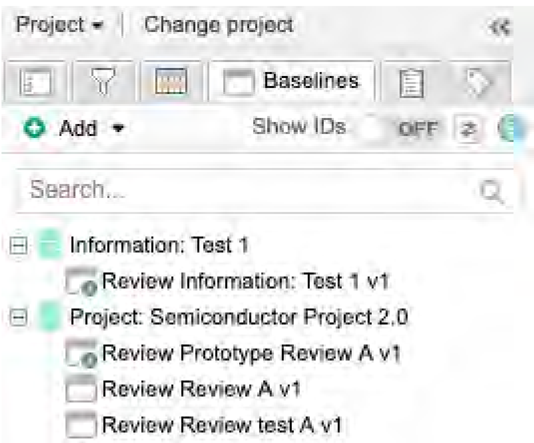
Review moderators can require a signature for a review and add a signer role. All review signatures carry the Signature meaning: "I approve the content of this review."

Electronic signatures consist of a username and password. They are captured with a time and date stamp and an audit trail. Each signature is tied to the individual user, as well as to a baseline or review where the signature was added.

Electronic signatures, time stamps, signer roles, and signature meaning are all visible in review activity [191].

Things to know

- For easy identification, a baseline with an electronic signature includes a blue dot and white exclamation mark in the baseline tree.



- As the moderator, you can add a signer role or a reason for signing to a review signature [174], but not to a baseline signature.
- Signatures are enabled by default, but can be disabled by a system administrator.

- Electronic signatures depend on the authentication system your organization is using. Authentication properties can be configured by a system administrator.
- You can't delete a review with an electronic signature, or a baseline created from a review with an electronic signature.
- You can revoke your signature if it was signed in error or something needed to change. Select **Revoke** to cancel your signature. Only the user who signed the baseline can remove their signature. When revoking a signature, you can leave a reason for revoking, which appears in the activity stream as a comment.

- As an approver, you can reopen a review that you signed, but this revokes your signature.
- To see a review that was signed, look in the participant progress [189] or review activity [191] tab.
- Self-hosted customers can't edit a baseline that is signed.

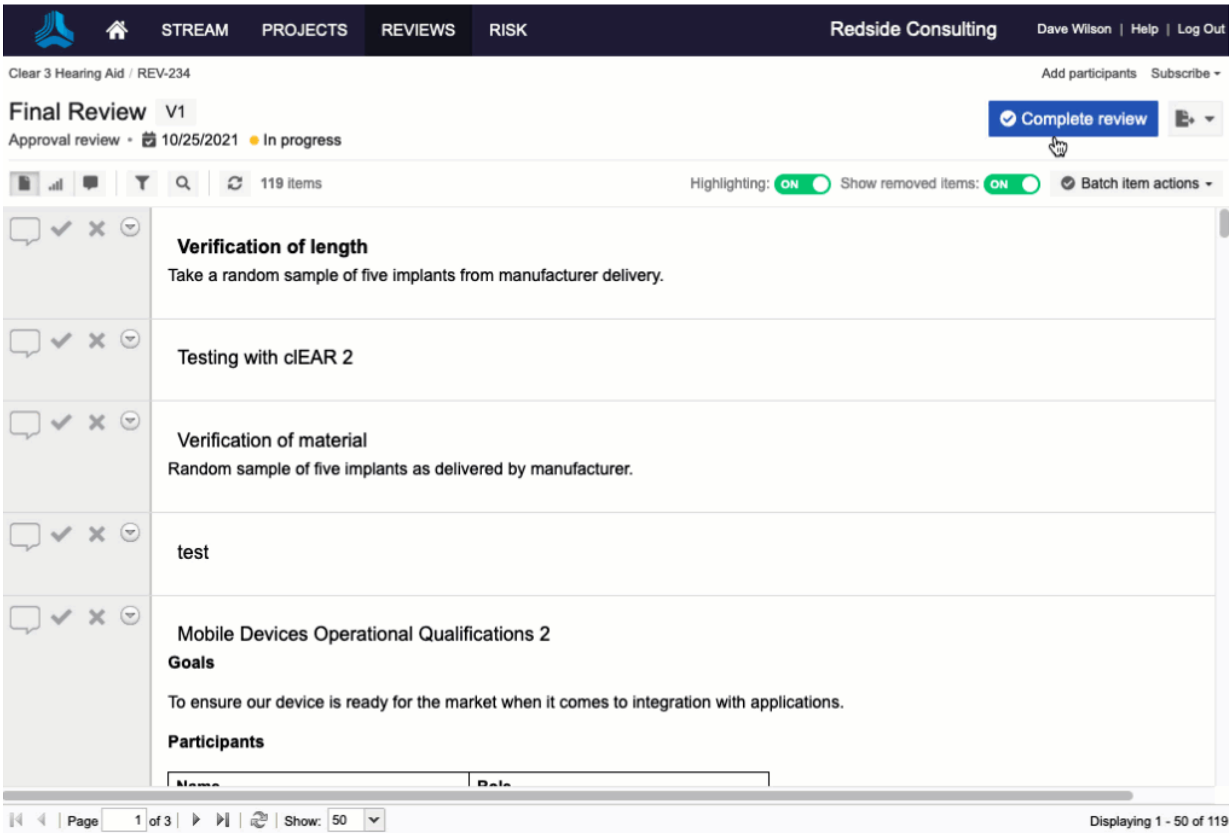
NOTE

You can't delete a review with an electronic signature, or a baseline created from a review with an electronic signature.

Electronic signatures depend on the authentication system your organization is using. Authentication properties can be configured by a system administrator.

Sign a review electronically

If a review requires an electronic signature, you are asked to add a signature when you finish a review as an approver.



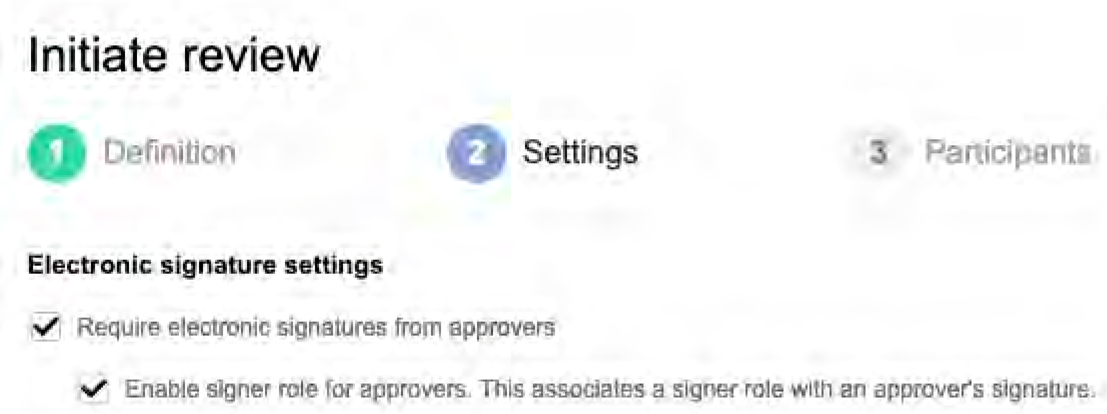
1. In the **Review finished** window, enter your username and password as your electronic signature. If your organization uses SAML, the SAML authentication window opens, where you enter your username and password.
2. Select **Approve and sign** to complete the review.

Add signer role

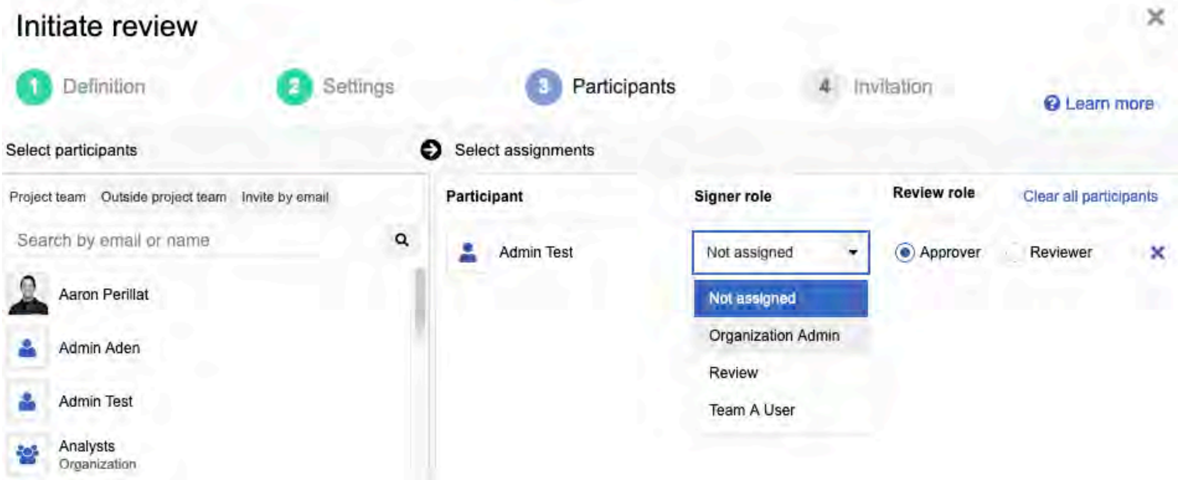
As a moderator, you can enable the signer role for other approvers. This allows them to associate their role with their signature. Signer roles are created from user group names.

If your moderator is inviting a user from outside of Jama Connect, they must log in and register before you can assign them to a group. After your organization or project admin adds them to a group, the moderator can edit the review to give them a signer role.

1. Initiate a review [153].
2. Make sure electronic signatures and signer roles are enabled in settings [156].



3. To invite participants [160], select the user, then use the **Signer role** drop-down menu to assign a signer role.



- If the user belongs to multiple groups, you can choose their role as signer from multiple options.
- If they don't belong to any groups, their role is "Not assigned."
- To add a signer role, create a user group [569] with a name that indicates the role you want to represent (for example, QA, Business Analysts, Security). Be sure the person you want to assign the role to belongs to that group.
- If you select a group in the participants panel, select **Add all users**. The signer role defaults to the name of that group.

4. Click **Initiate review**.

Approvers assigned a signer role are notified of their role in their email invitation [159].

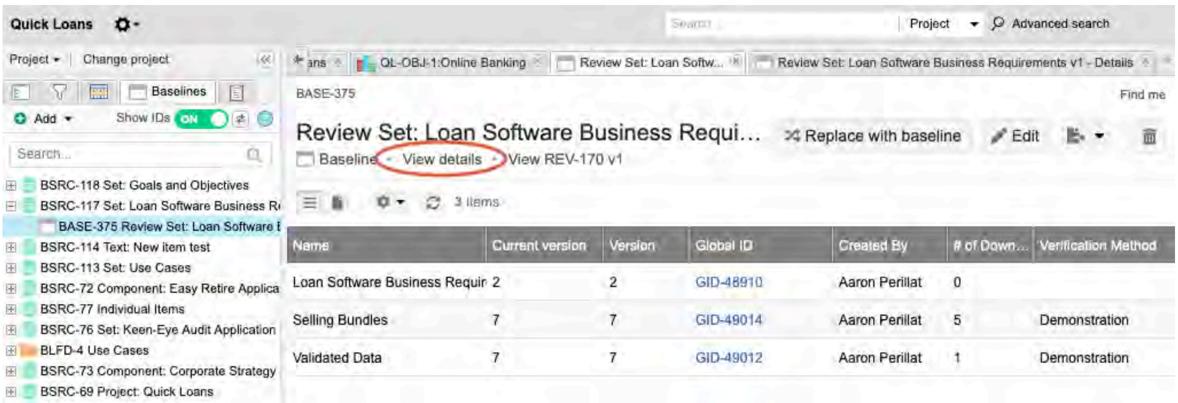
TIP

After a review is signed, anyone with permission to a review can view signer roles that were used for a signature under review activity [191].

Sign a baseline electronically

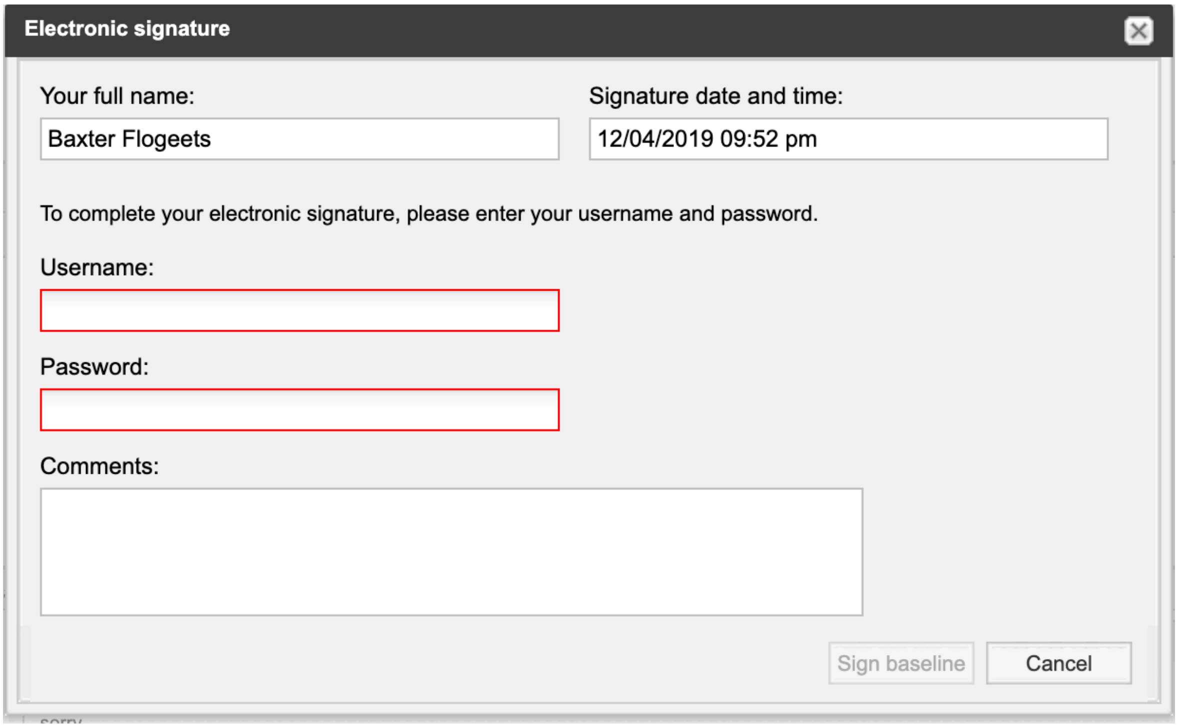
Adding an electronic signature lets users see items that are approved or revoked. For example, if you want to sign and approve a review.

1. In the Explorer Tree under the **Baselines** tab, select the baseline you want to sign, then select **View details**.



2. Select **Add signature**.

3. In the **Electronic signature** window, enter your username, password, and any optional comments, then select **Save**. Username and password must match that of the logged in user.
If your organization is using SAML for authentication, you are asked to select **Sign baseline**, then enter your username and password to authenticate your signature.



Manage content

Use these features to plan, organize, track progress and impact.

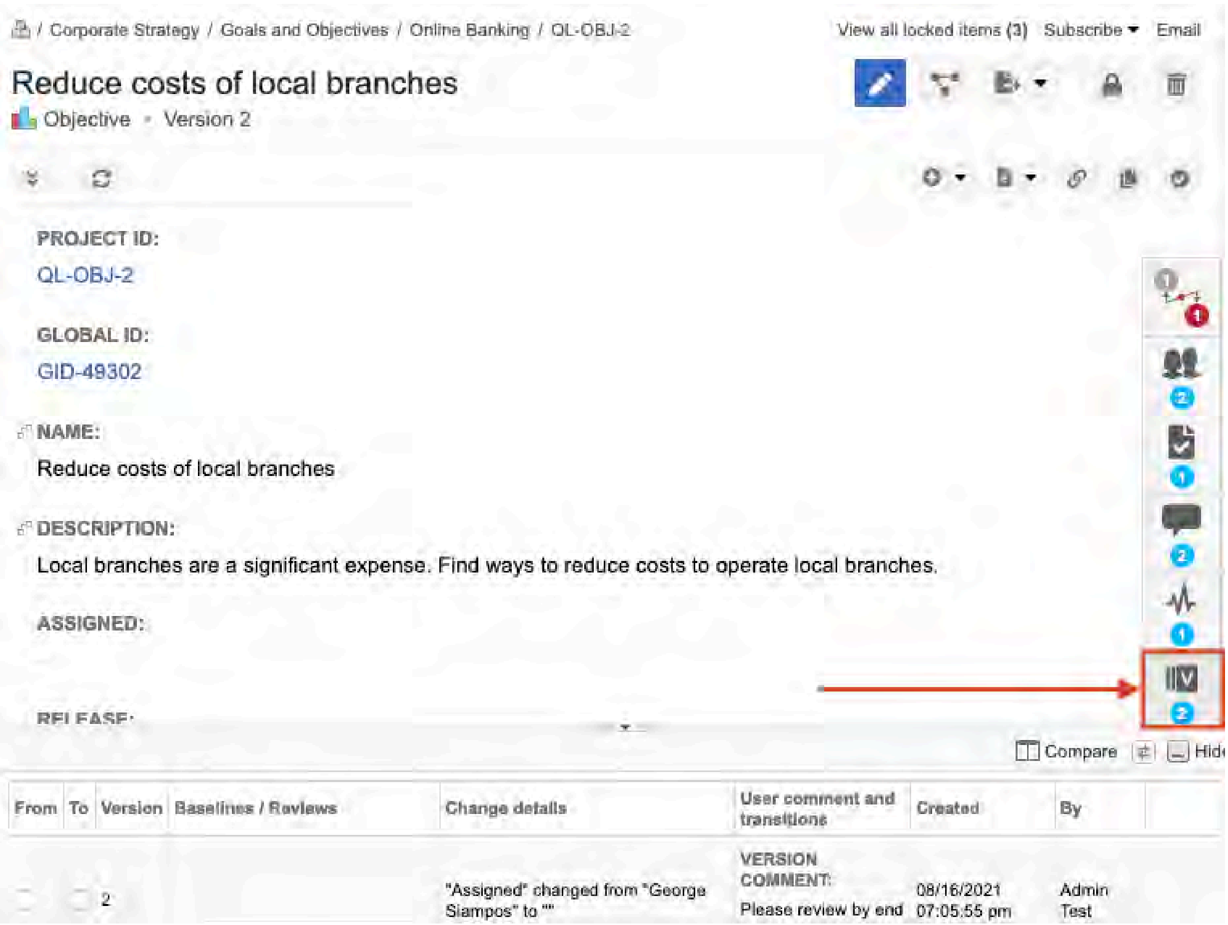
Item versions

A new version is created each time you make changes to an item. In the bottom panel you can compare versions [231] or make a past version current [231].

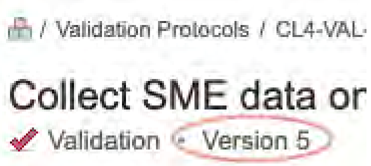
When viewing item versions, you can see **Baselines** that were created when that version was active, any automatically generated **Change details**, any user comments applied by the person who made the changes, as well as the date and name of the person who made the changes.

Item versions quick find

In Single Item View, select **Versions** in the side toolbar to open a list of item versions in the bottom panel.



The current version number appears below the item name and in the small blue circle on the **Versions** button.

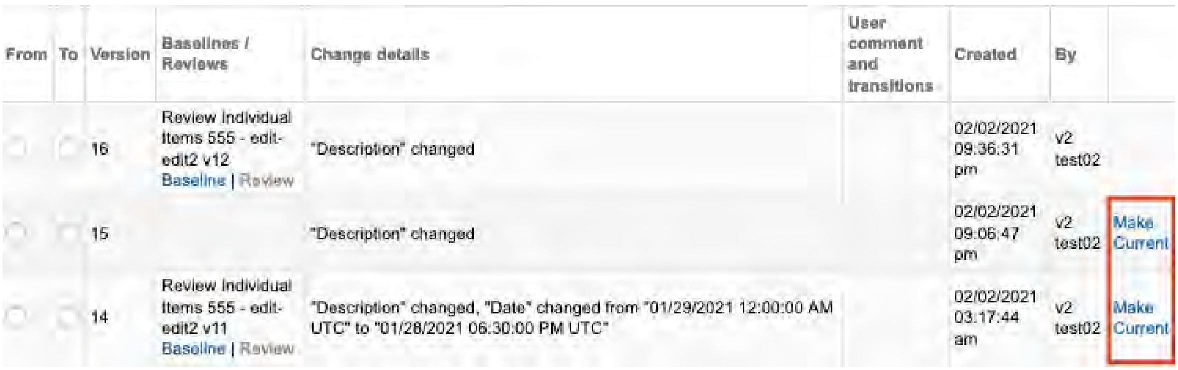


Make a past item version current

When you make a past item current, the system creates a new version that's identical to the version you chose. By doing this, you don't lose access to past versions.

All pick list values that existed at the time the previous version of the item was active are restored, even if that value was removed as an option for new items.

1. Select **Versions** to open the bottom panel in Single Item View.
2. Find the row that contains the item version that you want to make current and select **Make Current**.

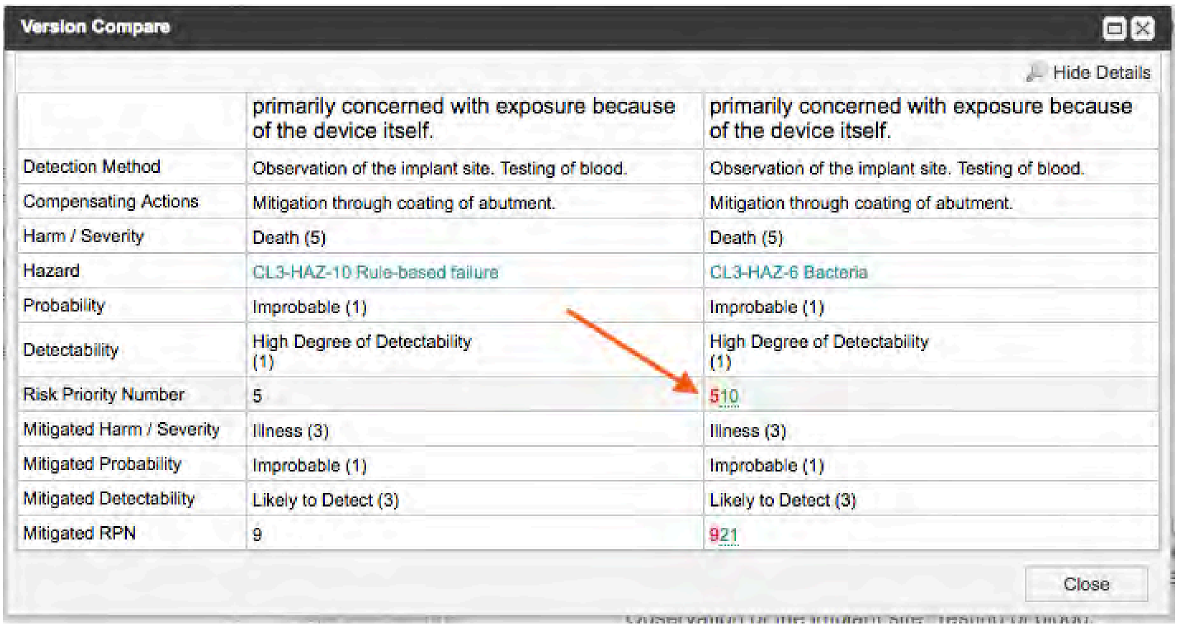


> **NOTE**
>
> You can't make past versions of test cycles or test runs current. For converted items, you can't revert back to the previous item type using this method.

Compare versions

1. Select **Versions** to open the bottom panel in Single Item View.
2. Select the two versions you want to compare using the buttons in the **From** and **To** columns, then select **Compare**.

3. In the **Version compare** window, the **From** version is on the left and the **To** version on the right. Changes are displayed inline. Deleted text is red and highlighted. Added text is green and underlined.



Change requests

Change requests are items that call for a change to product or system.

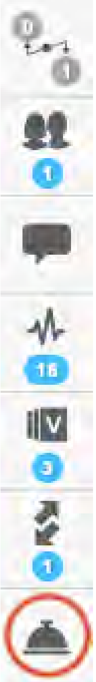
Change requests don't entail any sort of automated process; they are simply a way to track requested changes. When an item type is activated as a change request [589], you can add new change requests and associate them with other items [232].

With change requests you can:

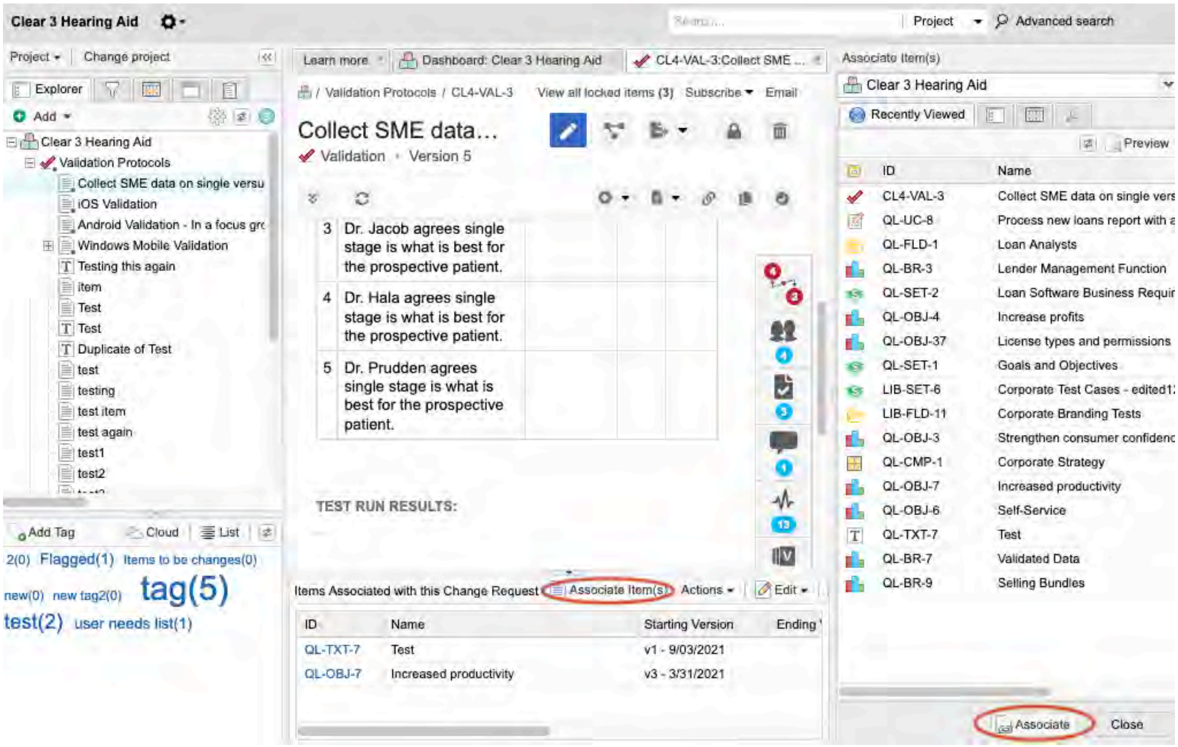
- Use Impact Analysis [235] to determine if and how your change requests affect other items, and create direct relationships between affected items and the change request.
- Send a change request to review [153] to gather feedback from stakeholders and determine if the change request is approved or rejected.

Add a change request and associate items

1. Create a new set in your project called "Change requests" to make them easy to find.
2. Add a new item [66] to that set.
3. Open the item and select **Items to be changed**. This button doesn't appear unless configured by an organization administrator [593].



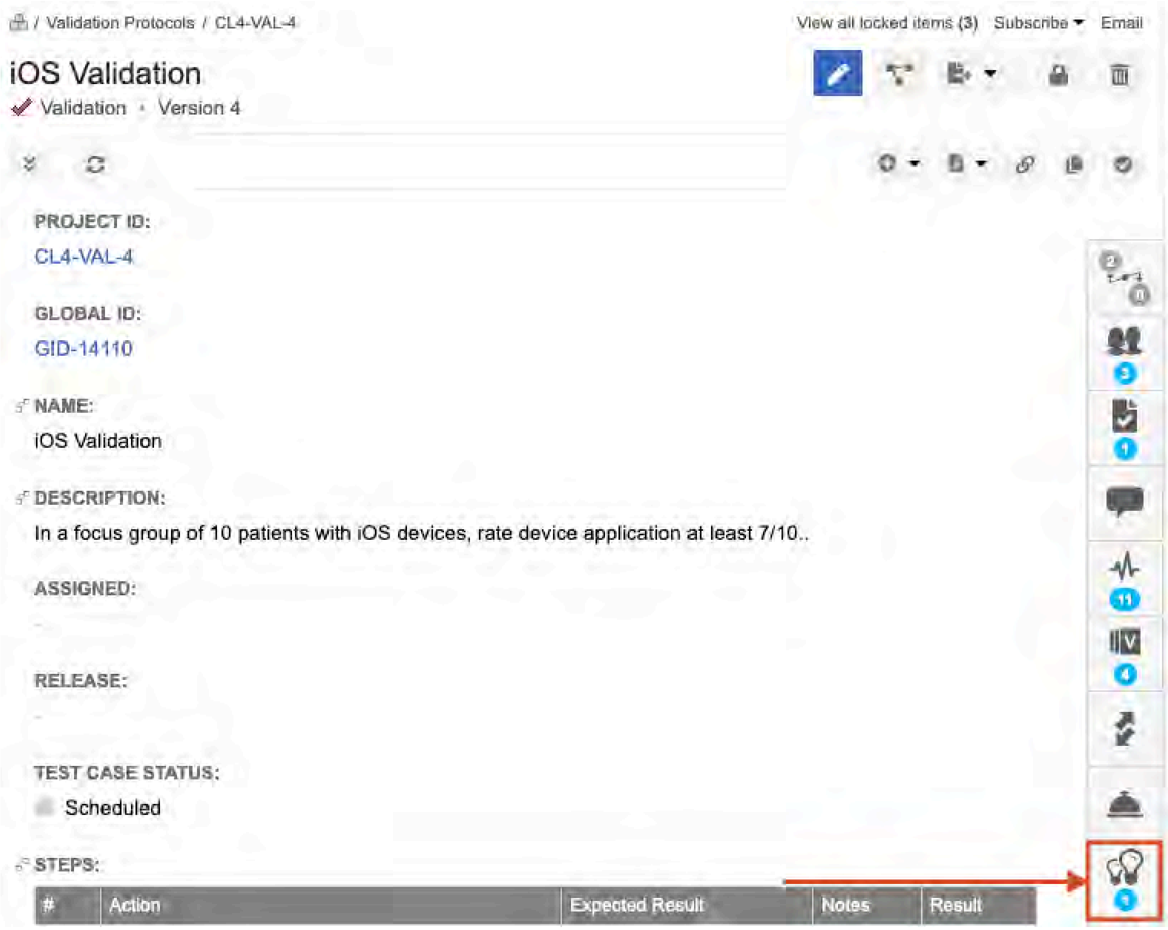
4. In the bottom panel that opens, select **Associate Items**. From the list that appears on the right panel, select which items you want to associate with this change request, then select **Associate**. You can also double-click on the item to associate it.



5. The items that you associated appear in the bottom panel with links to those items. Each item is listed with the **Starting version** when the change request was introduced and the **Ending version** of the item that fulfills the change request.

> **IMPORTANT**
> If an item has the change request tab enabled, it's a change request. Items that are change requests can't be associated with other items that are change requests.

6. You can edit the association [234] to indicate the starting version when the change request was introduced, the ending version of the item that fulfills the change request, and additional notes. You can also run an Impact Analysis [235], delete an association [235], or close a change request [236].
7. When you view other items that were associated with this change request, you see the same button in the right toolbar of their Single Item View, as well as any change requests they're associated with in the bottom panel.



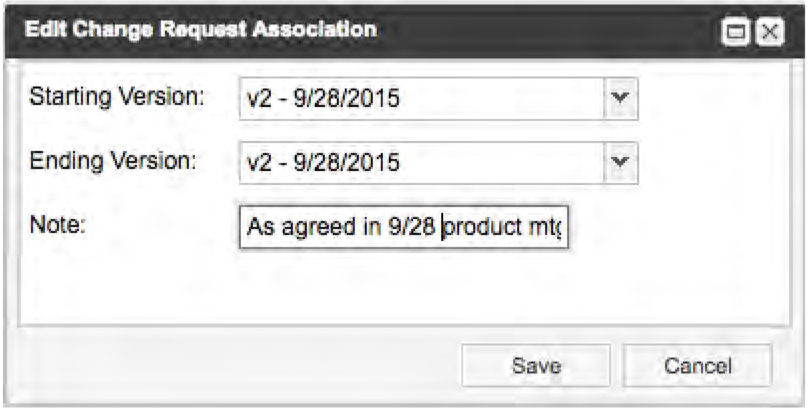
> **TIP**
> When the change request author locks the change request, it can't be edited. This way the author can moderate the progress of requested items to be changed, can update associations, or close the change request as edits are made.

Edit change request associations

Edit change request associations to indicate which version is the starting or ending version of a change request.

1. In Single Item View, select **Change Request** to open the bottom panel with a list of associated change requests.

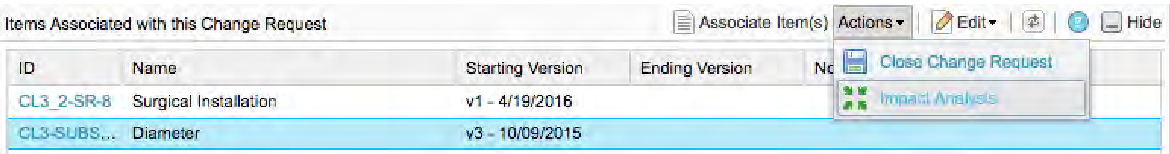
2. Double-click in the row with the item you want to update. You can also select the row, then select **Edit > Update association**.
3. In the window that opens, modify the **Starting Version**, **Ending Version**, or **Note**.



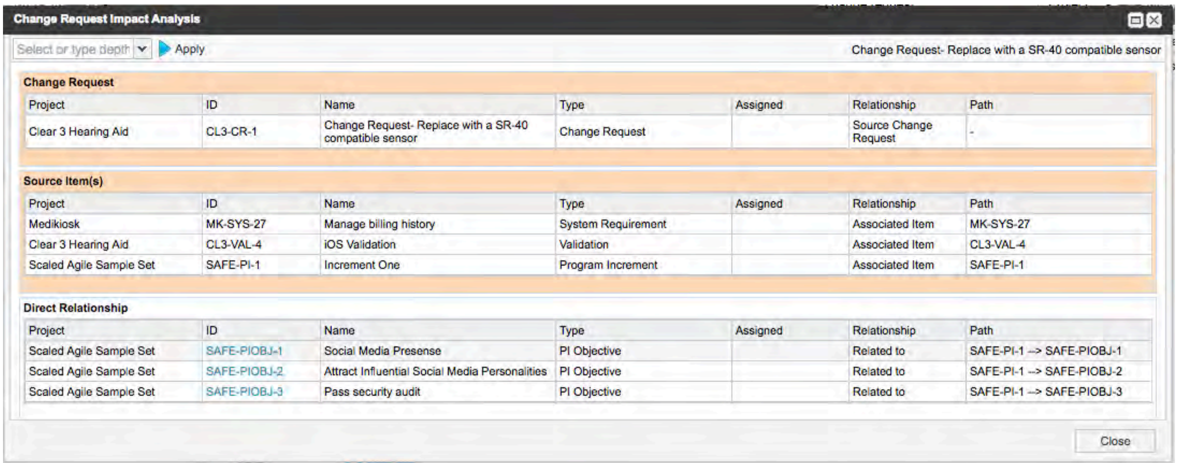
4. Select **Save**.

Create change request Impact Analysis

1. In Single Item View, select **Change Request** to open the bottom panel with a list of associated change requests.
2. Select the item you want to know more about and select **Actions > Impact Analysis**.



The Impact Analysis is populated by the items in the change request.

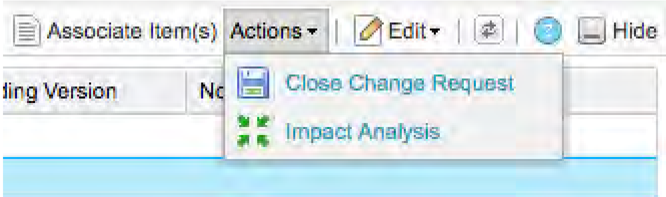


Delete change request associations

1. In Single Item View, select **Change Request** to open the bottom panel with a list of associated change requests.
2. Double-click in the row with the item you want to update. You can also select the row, then select **Edit > Update association**.
3. Select **Edit > Remove Association**.

Close a change request

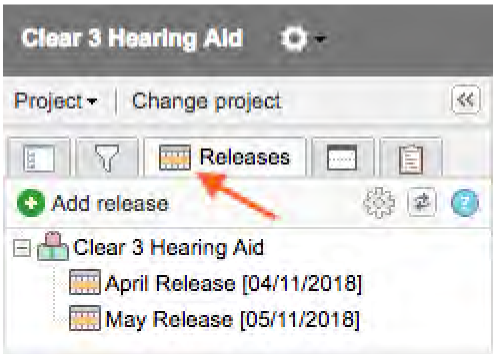
1. In Single Item View, select **Change Request** to open the bottom panel with a list of associated change requests.
2. Select the change request you want to close, then select **Actions > Close Change Request**.



Releases

A release is a group of items that are developed together and mapped to a specific completion date.

Select **Releases** at the top of the left panel to see all of the releases listed for this project. Select any release to see the items assigned to it.



If you include items in a release, you are assigning them to that release. If the release field [236] is visible, you can use Reading or List View to see the name of the release to which an item has been assigned.

Assign an item to a release

When you assign an item to a release, the item will appear under the **Releases** tab, and the action will be noted in the version history.

You can only use the system predefined Release field to show items in the Releases tab. If you use a custom Release field to designate an item to a release, that item won't appear in the Releases tab.

Before you can assign items to a release, a project or organization administrator must first create the release. Once the release is created, there are several ways you can assign an item to a particular release:

- Locate the release field [236] (if it is visible [609]) in Single Item or List View and select the desired release name from the drop-down menu.
- In the List or Reading View of your project, select the items you want to add to the release. Select the **Releases** tab at the top of the left panel and drag the items into the release.
- Use batch update [72].
- Use round-trip import and export [117].

Release field

The release field is a predefined field [601] with a picklist that contains all the releases created in a particular project.

> **IMPORTANT**
> You can only use the system predefined **Release** field to show items in the **Releases** tab. If you use a custom **Release** field to designate an item to a release, that item will not appear in the **Releases** tab.

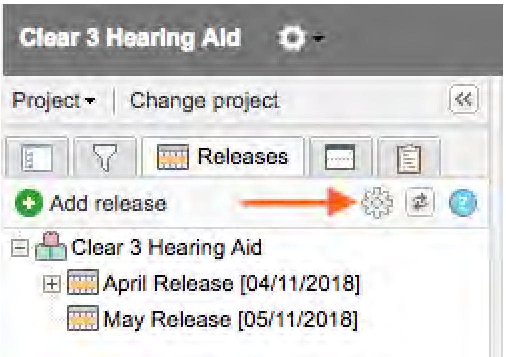
If you don't see a release field in the item type you are using, an organization administrator can edit the fields for that item type [598], and make it visible [609].

An organization administrator must also configure pick list values [606] for each release.

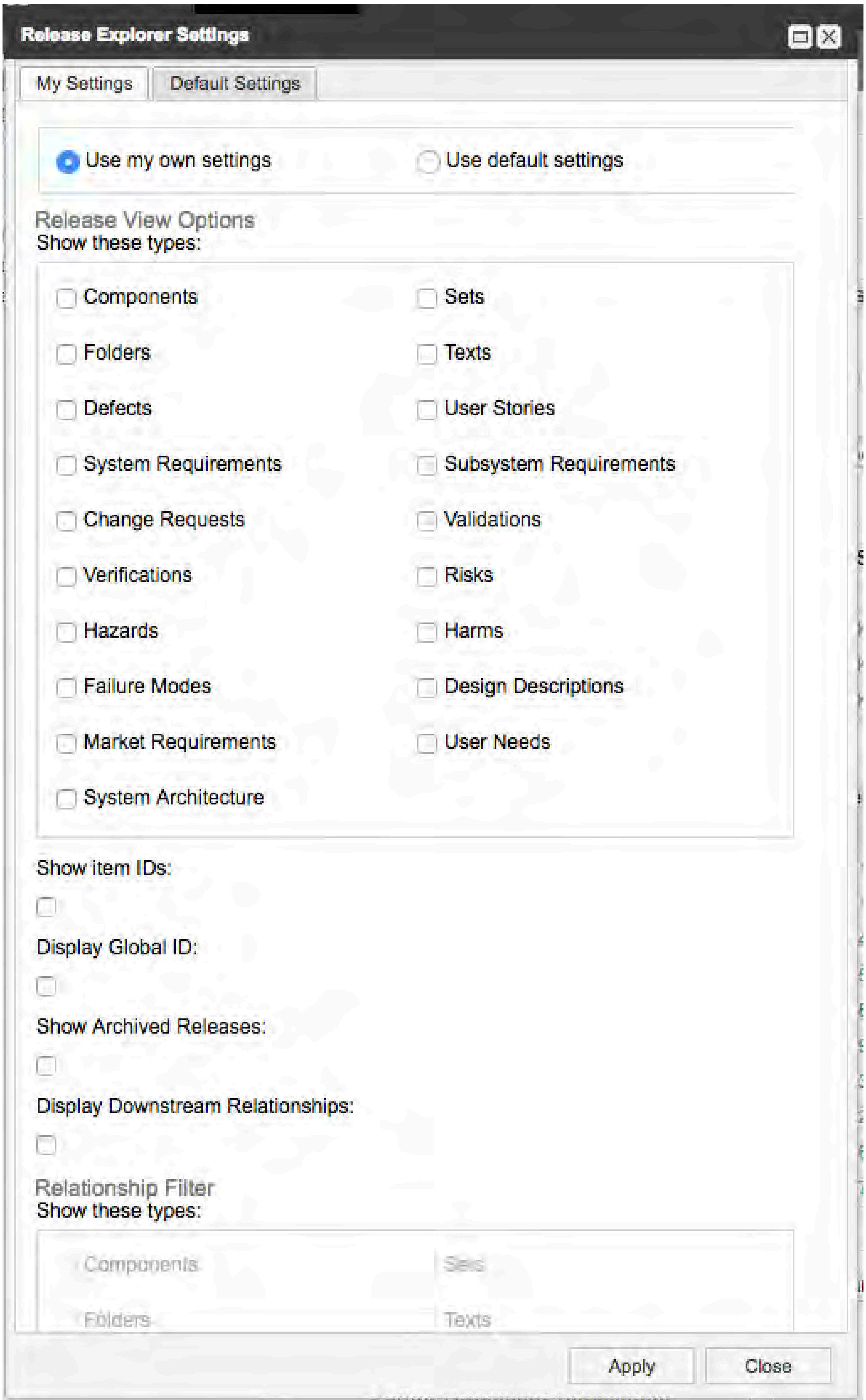
Release settings

You can determine what you'd like to see under the **Releases** tab for your project whether it is the default settings or your personal settings.

1. Select the **Releases** tab in the left panel.
2. Select the **Release settings** (gear) icon.



3. In the **Release settings window**, select **Use my own settings** or **Use my default settings** to determine what you want to see under the **Releases** tab. You can choose to see only certain item types, IDs, archived releases or relationships that you want to see. Scroll down to see all the options for release settings.



4. Select **Apply** to apply these settings.

NOTE

If you are an organization or project administrator, you can configure default settings under the **Default settings** tab and select **Apply**.

Baselines

A baseline in Jama Connect is a snapshot of your project at a point in time. The current version of selected items — and their relationships — are forever associated with that baseline. A baseline also captures the state of the selected items, like Draft, Reviewed, and Approved.

Important considerations

- When you add a relationship to a baseline, the version doesn't change.
- Relationships do not change if you replace it with a baseline.
  For example, if you have two relationships at the time of baseline version one, make a change to version two, add a relationship to version three and replace it with a baseline, you still have three relationships.
- If you click **Revert to Baseline**, all content is switched back to the content that was versioned at the time it was baselined.

What you need to create a baseline

Versioning must first be enabled to create a baseline. Once versioning is enabled [648], a baseline is created:

- Automatically [248] when someone initiates or revises a review
- Manually [245] by anyone with read/write permissions

Why are baselines important?

By creating a baseline at each project milestone, you can view the status of your project at those key points in the lifecycle. You can also see which items are related in the baseline list and reading views.

What can I do with a baseline?

- Locate an existing baseline [244]
- Create a baseline manually [245]
- Compare baselines [247]
- View baseline activity [248]
- Replace current items with baseline [252]

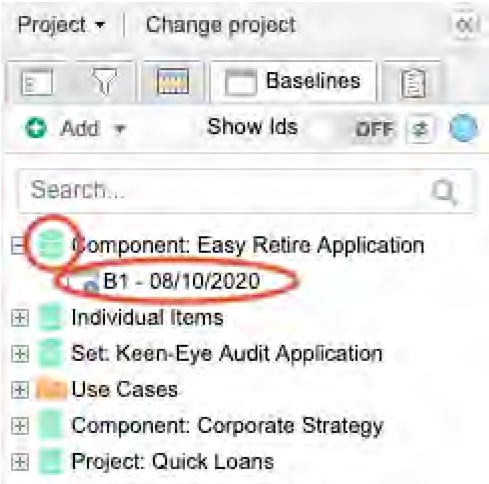
What is a baseline source?

A source is a container that holds all the baselines for a specific group of items.

When you add a baseline for a new group of items, the source is created automatically. Whenever you add the baseline — from a project, set, folder, filter, release, or individual items — the source is created in the tree and contains the new baseline. A source can't exist without a baseline.

If a source already exists when a new baseline is created for the same set of items, the baseline is added to that source. Otherwise, a new source is created and added to the top of the tree.

Key to the baseline tree



- **Green database icon** — Source
- **White box wrapped in gray** — Baseline
- **Individual Items** — Default source name when multiple items are selected at the time the baseline is created.
- **B1-04/27/2020** — Example of default baseline name (baseline number and date it was created). Baseline name is editable as needed.

Tips and more

- If you create a baseline from a container, filter, release, or review, the source and its initial baseline are created. If you use the same source the next time you create a baseline, that second baseline added to the source under the first baseline.
- If you create a new baseline from a set and add another single item to it from another set, a source labeled "Individual Items" is created.
- Deleting a baseline source deletes all the baselines it contains.

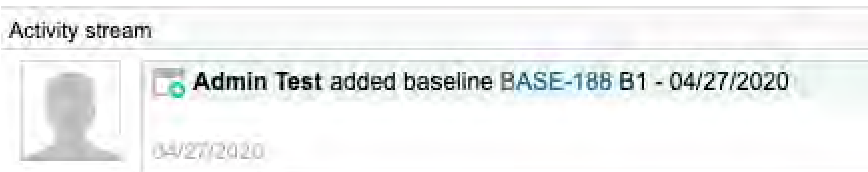
Benefits of organizing your baseline tree

Organize your baseline tree to reflect how your organization works.

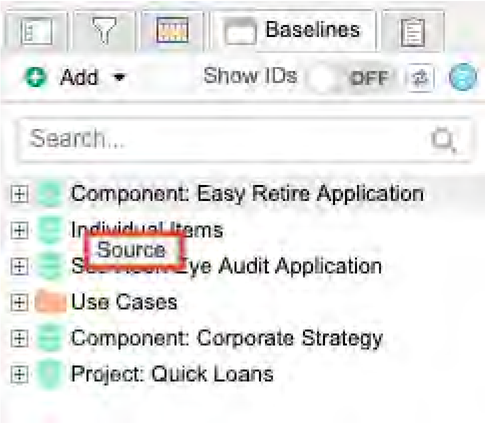
Project and organization administrators can reorganize the baseline tree by dragging and dropping sources and folders.

Organizing baseline sources and folders

- Use drag and drop to move baseline sources from one location to another, from the root level to a folder, and between folders.
- Editing a source name creates an event in the project activity stream. In the activity stream, select the baseline source ID to open the baseline tree and view the highlight.

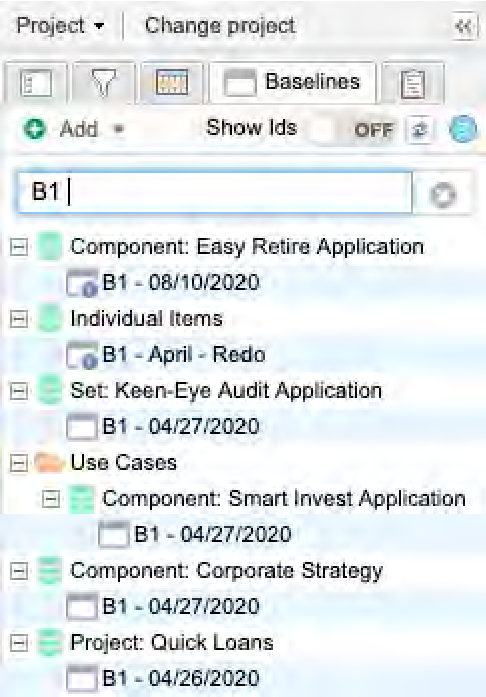


- Baseline folders can be created at the root level or added to a folder. Use drag and drop to reorder baseline folders.
- If you hover over an icon or name in the baseline tree, hover text appears describing the contents of the item.

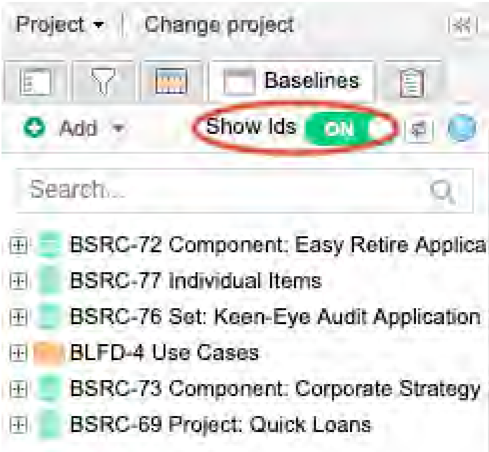


Searching baselines, baseline folders, and baseline sources

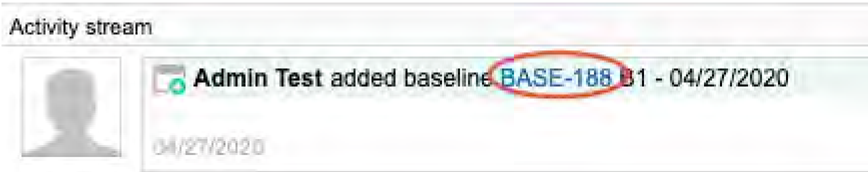
- When you type a name in the search field, the results are highlighted so you can find them easily.

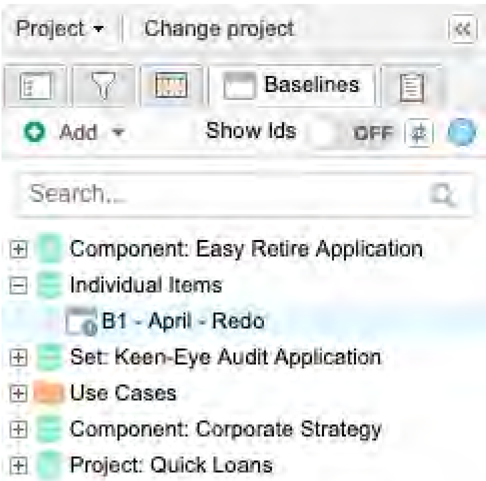


- When you clear the search field, the results from the previous search are expanded and highlighted in the baseline tree.
- When you create a folder or baseline, it is highlighted in the baseline tree.
- If you accessed the baseline from a link or the Explorer Tree hierarchy is collapsed, select **Find me** to locate the baseline in the baseline tree.
- When you toggle **Show IDs** to **On**, the baseline IDs are displayed in the baseline tree. When the IDs are visible, you can search for them using the baseline search box.

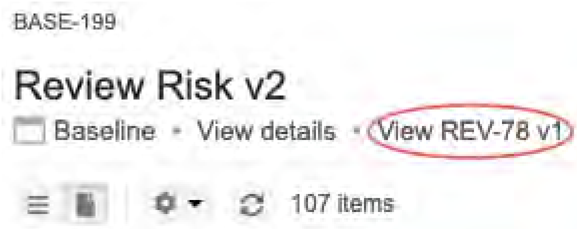


- When you select the baseline ID in the activity stream, the source is expanded and the baseline is highlighted. Use the baseline activity stream to monitor activity, quickly find a baseline ID, or see if a signature is revoked.





- A link is added in the baseline header when a baseline is created from a review or a new revision of a review. Use the link to navigate to a specific review quickly.



Create baseline folders

Once a baseline is created, the item content can't be changed. You can, however, change the baseline name and description.

Users with a creator license and permissions for project or organization administrator can create, edit, and delete an empty baseline folder.

Anyone with read/write permissions can edit, delete, or restore a baseline that they created. However, you must have project or organization administrator permissions to edit, delete, or restore baselines created by others.

- Create a baseline folder using one of these methods:
  - From the **Add** drop-down menu, select **Folder**.
  - Right-click on the folder, then select **Add Folder**.

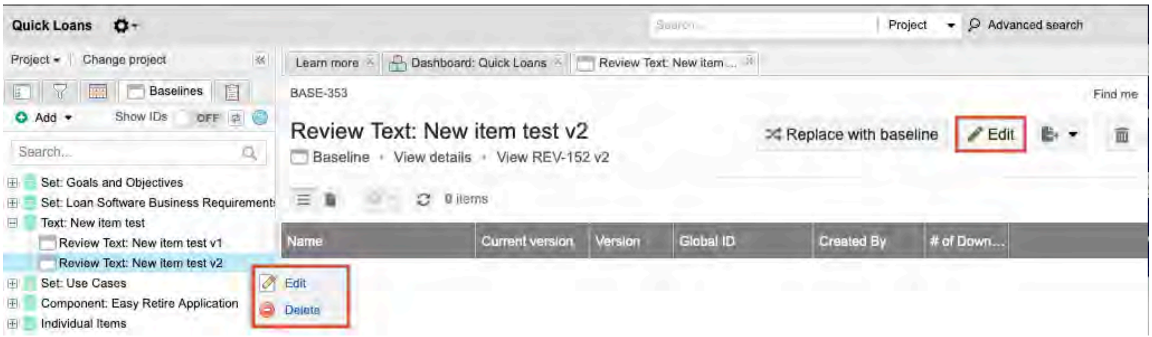
Edit a baseline

Once a baseline is created, the item content can't be changed. You can, however, change the baseline name and description.

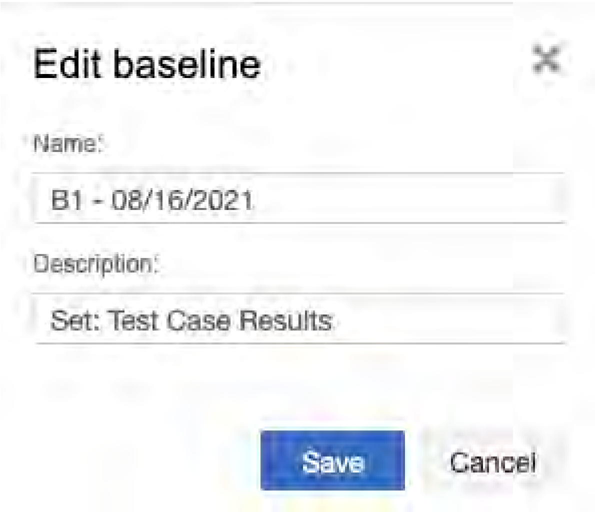
Important considerations

- Anyone with read/write permissions can edit, delete, or restore a baseline that they created.
- You must have project or organization administrator permissions to edit, delete, or restore baselines created by others.
- You must be an organization or project administrator to edit a signed baseline.

1. Select the **Baselines** [244] tab in the Explorer Tree, then select the baseline you want to edit.
2. You can edit a baseline in two ways:
   - Right-click on the baseline and select **Edit**.
   - In the upper right corner of the main panel, click **Edit**.



3. In the Edit baseline window, enter your changes and select **Save**.



Your changes appear in the Explorer Tree.

Locate an existing baseline

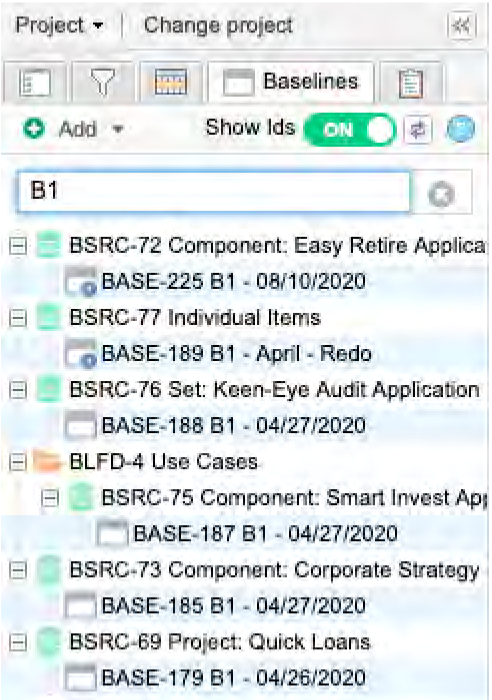
When anyone creates or revises a review, a baseline is automatically generated. Knowing where to look for an existing baseline can be helpful when you want to compare changes in a review that has multiple versions.

You can find a baseline for a specific project from the Explorer Tree or Single Item View.

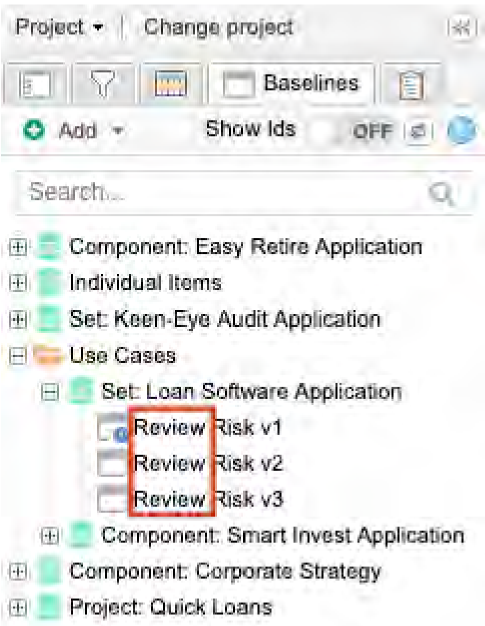
Explorer Tree

Use the Explorer Tree to find a baseline if you need to quickly find a baseline.

1. Select the **Baselines** tab of the project you want to look at.
2. Type the baseline name in the search field. The results are highlighted so you can find them easily.



3. Expand the source to see all the baselines from the same source, then select the one you want. If a baseline was created from a review, it is preceded by the word "review" in the name.

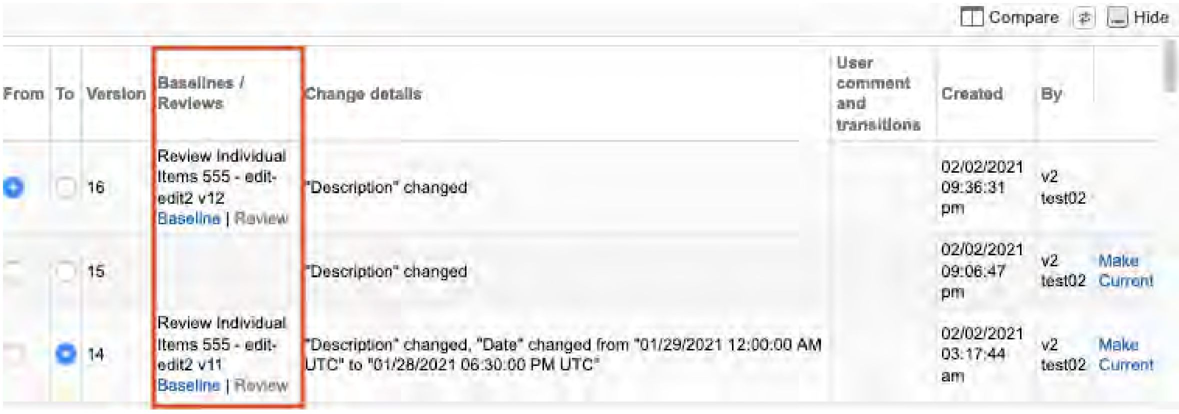


4. Select the baseline to view its contents.

Single Item View

Use this method if you know which items were included in the baseline or the review that created it.

1. Open the item in Single Item View [55].
2. Select the **Versions** button on the side toolbar [56].
   The list of reviews and baselines is displayed in the bottom panel under the Baselines/Reviews column.



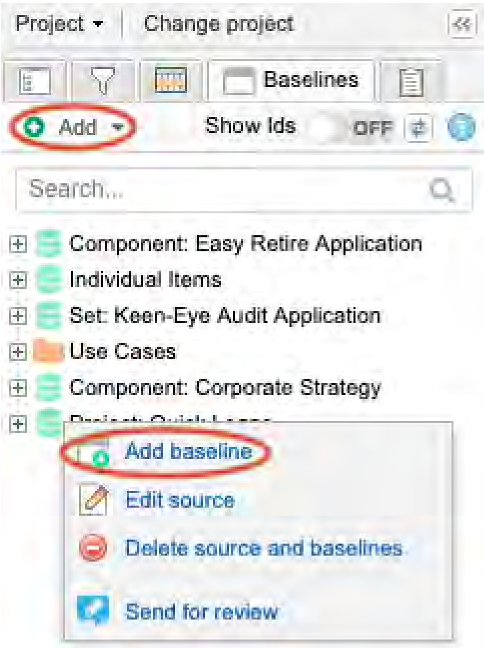
3. Select the link to open the review or the corresponding baseline. If the review link is disabled, you weren't invited to the review or the review isn't public.

Create a baseline manually

Create a baseline when you want to capture a snapshot of where items are at in that moment.

> **NOTE**
> You must have a creator license and read/write permissions to manually create a baseline.

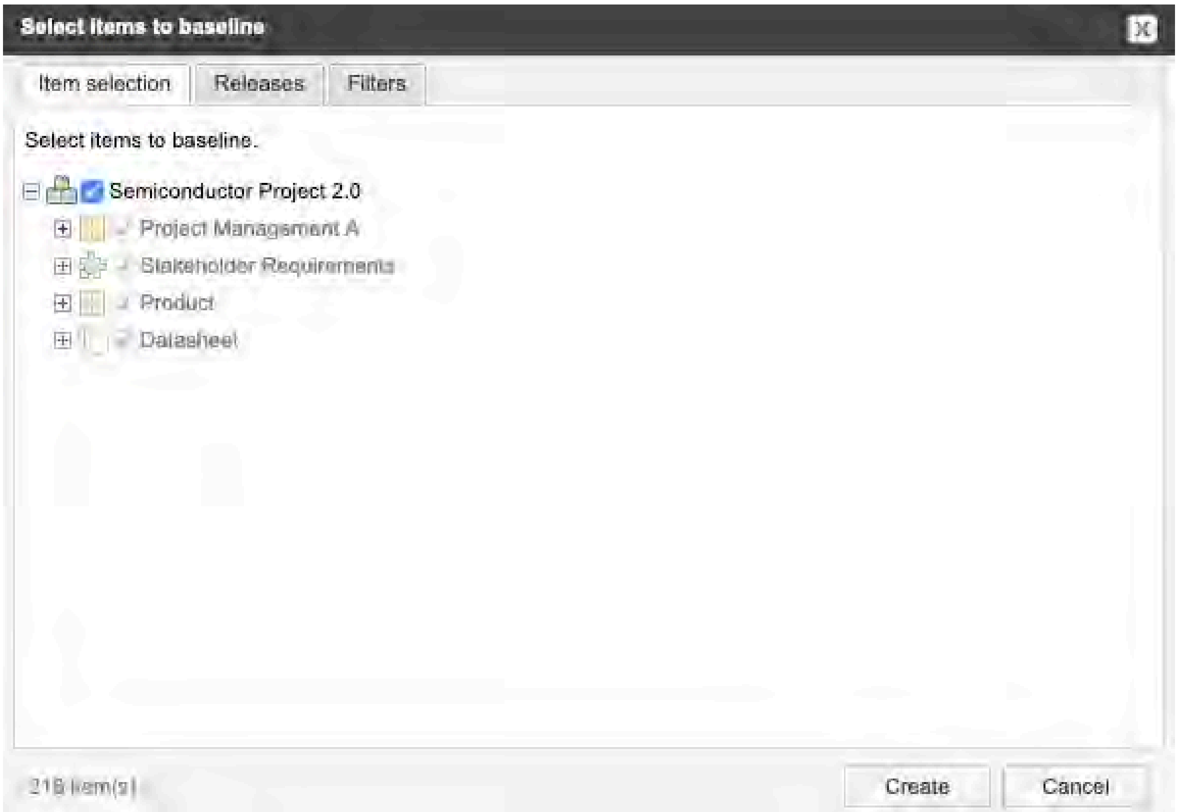
1. In the Explorer Tree, select the **Baselines** tab in the project where you want to create the baseline.
2. Add a baseline using one of these methods:
   - If the item already has a source, right-click on the source and select **Add baseline**.
   - If you need to choose items, select **Add > Baseline** from the top.



NOTE

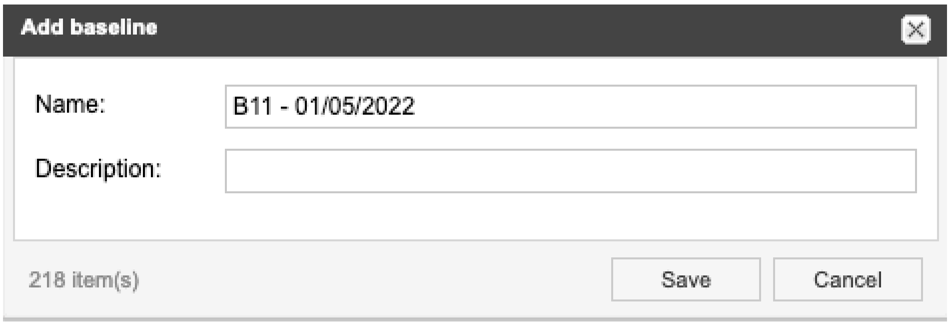
If the items from an existing source were deleted, you can't add a new baseline from that source.

3. In the window that opens, click a tab (**Item selection**, **Releases**, **Filters**) and select containers or individual items in that tab. You can select containers or individual items, but you can select from only one tab.



4. Click **Create**.

5. (Optional) Change the default name for the baseline and add a description.



6. Select **Save** to create the baseline.

The new baseline is added to the tree, either under and existing source or to the top of the tree. Baselines are always listed in the order they were created.

Tips and more

- Baselines are created automatically [248] whenever anyone creates a review.
- Project versioning must be enabled [648] to be able to create a baseline.
- All upstream and downstream relationship information from items included in the baseline scope are also included in the baseline snapshot, even if those upstream or downstream items aren't part of the baseline scope. This functionality is limited to relationship direction, item name, and item ID.

Comparing baselines

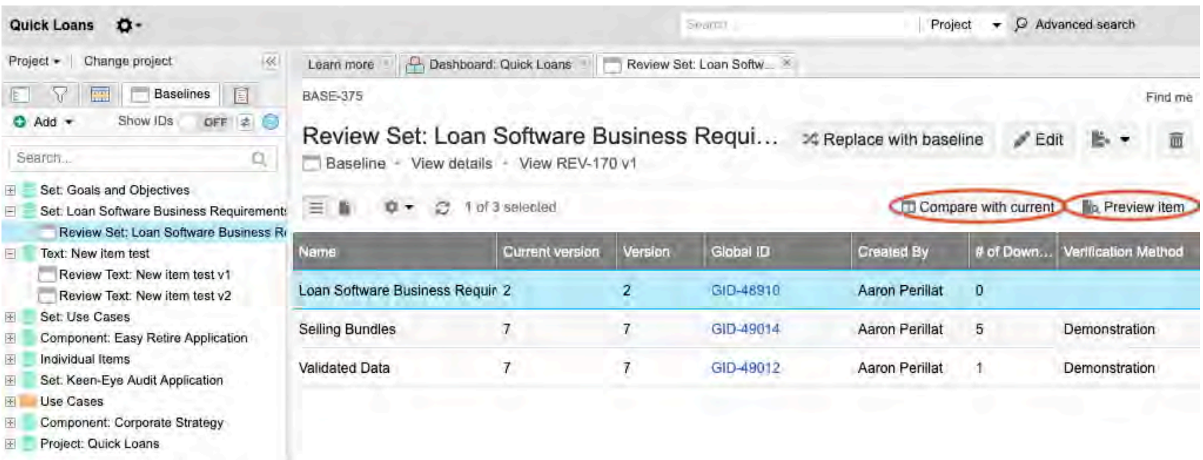
You can compare baselines to see if an item changed since the last baseline, and what those changes were.

Two default reports analyze baselines to show changes over time:

- Baseline Comparison [361] compares two baselines.
- Baseline Compared to Current [359] compares the items and relationships from a baselined version to the current version.

There are several ways to compare baselines:

- Select the **Baselines** tab in the Explorer Tree, then select the baseline you want to view. (Optional) In List View, select the gear icon (Show/Hide) to open the drop-down menu, then select **Current version** and **Version** to display those columns.
- To view the version of an item that was baselined, select the row, then select **Preview item**.
- To compare a baselined item with the current version side-by-side, select the row for that item, then select **Compare with current** in the top right.



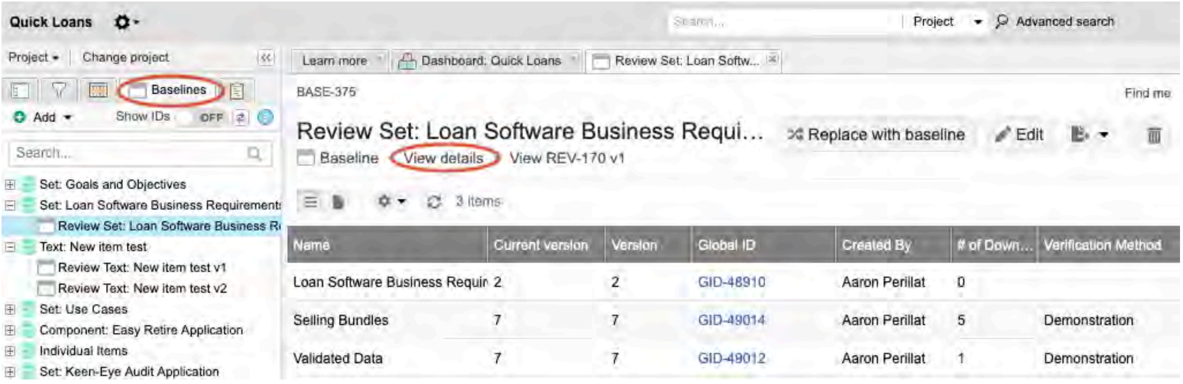
Tips and more

- To see the current state of the item, select any Global ID [278] or Unique ID [637] in List View.

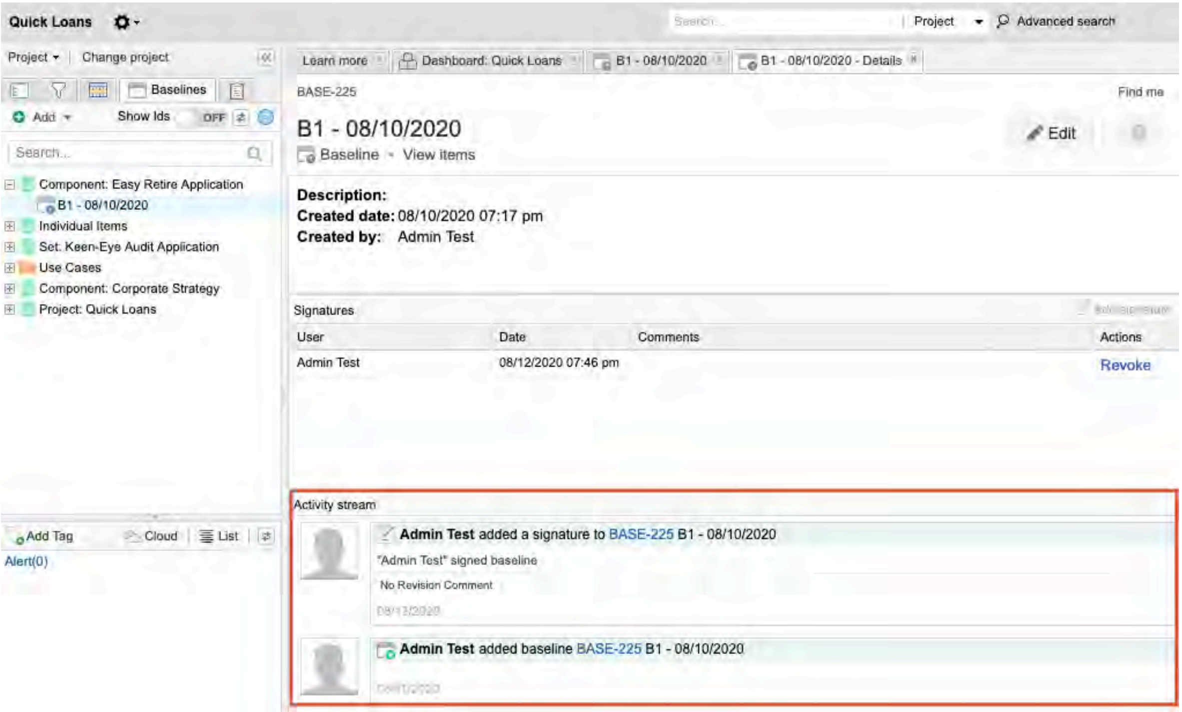
View baseline activity

Use the baseline activity stream to monitor activity, quickly find a baseline ID, or see if a signature is revoked.

1. Select the **Baselines** tab, then select the name of the baseline that you want to view.
2. Select **View details**.



The baseline activity stream is visible at the bottom of the center panel.

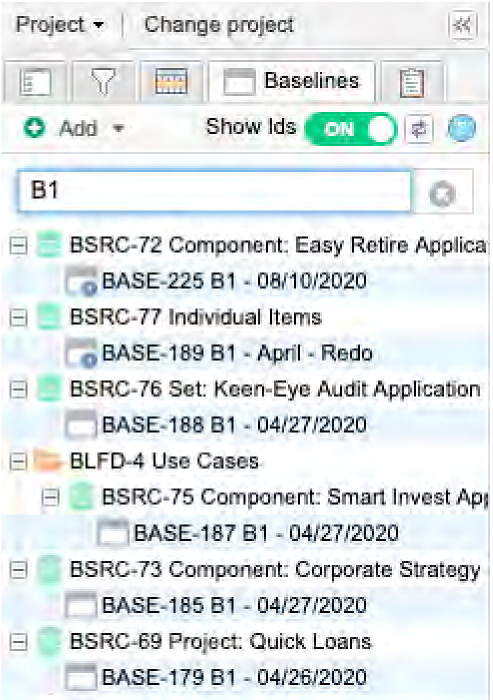


Locate review baselines

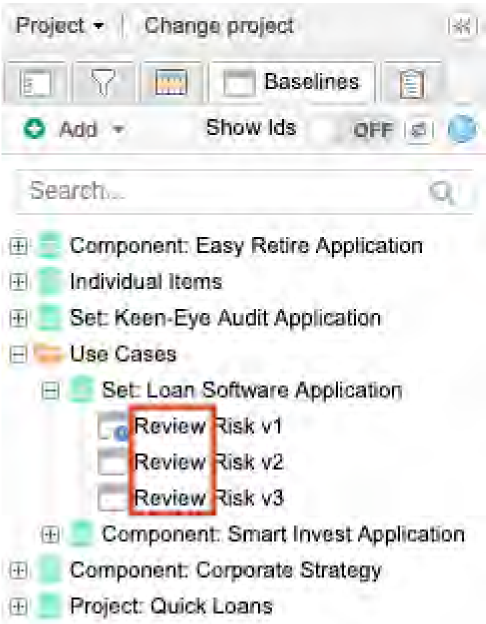
When anyone creates or revises a review, a baseline is automatically generated so that you can compare changes between reviews.

You can find automatically generated review baselines in two ways:

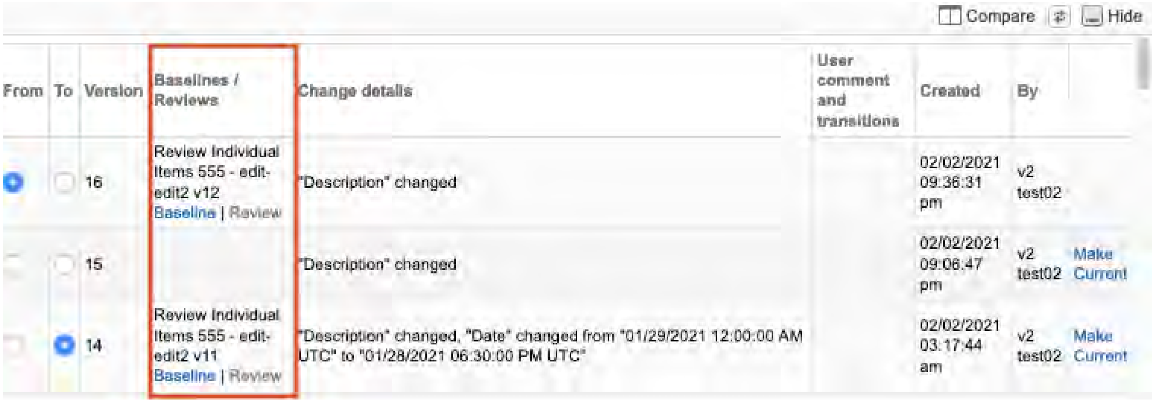
- Select **Baselines** in the Explorer Tree of your project.



Baselines that were automatically generated for reviews are displayed with the word "Review" preceding the name of the review.



- If you know the items that were included in the baseline (or the review that created it):
  1. Open the item in Single Item View [55].
  2. Select **Versions** in the side toolbar [56].
     The list of reviews and baselines is displayed in the bottom panel under the **Baselines/Reviews** column.

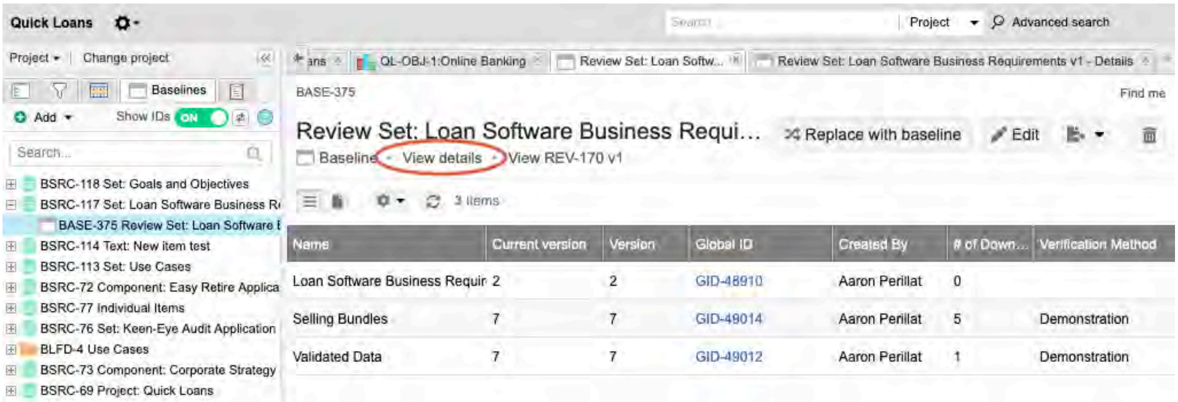


3. Select the link for the review or its corresponding baseline. The link is enabled only if you were invited to the review.

Sign a baseline electronically

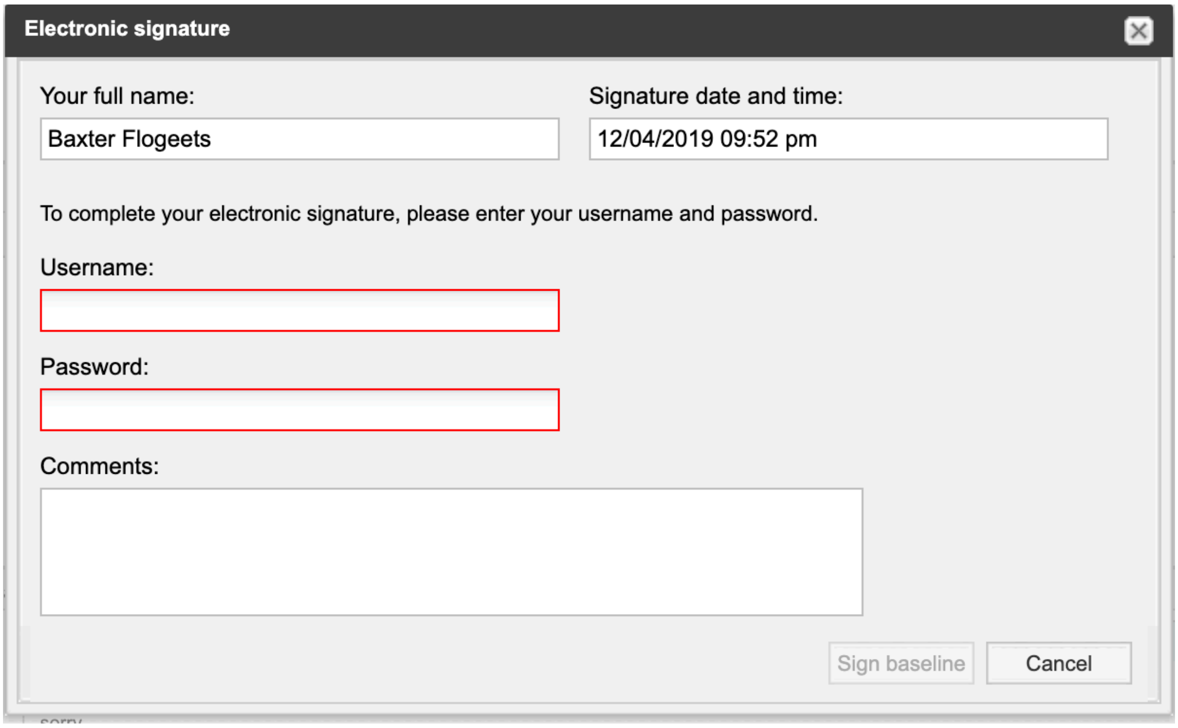
Adding an electronic signature lets users see items that are approved or revoked. For example, if you want to sign and approve a review.

1. In the Explorer Tree under the **Baselines** tab, select the baseline you want to sign, then select **View details**.



2. Select **Add signature**.

3. In the **Electronic signature** window, enter your username, password, and any optional comments, then select **Save**. Username and password must match that of the logged in user.
   If your organization is using SAML for authentication, you are asked to select **Sign baseline**, then enter your username and password to authenticate your signature.



Deleting sources and baselines

Delete a source or baseline if it was created by mistake or you no longer need it.

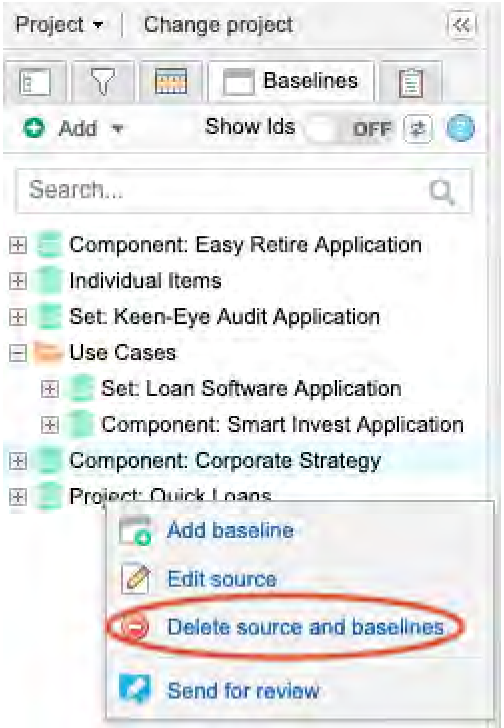
Things to know

- Deleting a source deletes all the baselines it contains.
- The option to delete a baseline or source that contains a baseline is only enabled for baselines that are not yet electronically signed. However, deleting a project [630] deletes all project content, including baselines and signatures.

> **NOTE**
> You must have project or organization administrator permissions to delete sources and baselines.

Delete a source

- Right-click on the source you want to delete.



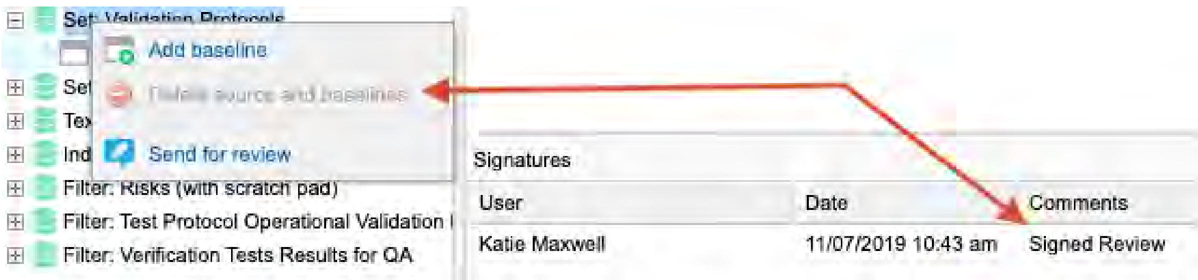
Delete a baseline

Delete a baseline from the project using one of these methods:

- Select the baseline, then select **Delete** (trash icon) in the top right.
- Right-click on the baseline name, then select **Delete**.

Tips and more

- **Undo** — If you change your mind after deleting a source or baseline, you can select **Undo** in the success notice.
- **Restore** — You can restore a deleted baseline or source by finding the deletion activity [209] in the projects activity stream and selecting **Restore**. If you deleted a source that contains multiple baselines, you can restore individual baselines or the source and all its baselines. When you restore a baseline or source, this event appears in the baseline activity stream.
- **Limitations** — You can't edit or delete a baseline that is electronically signed. You also can't delete a source if it contains an electronically signed baseline.



Replace current items with baseline

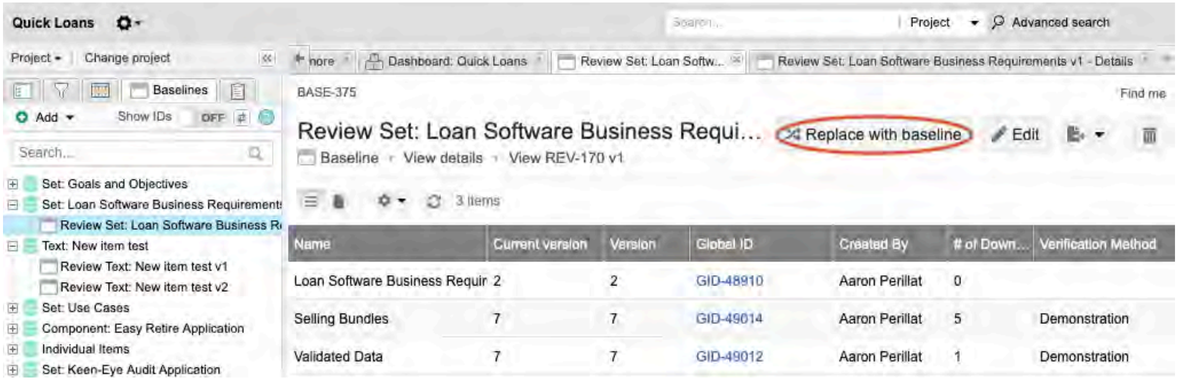
When you replace current items with a baselined version, a new version of the item is created and content is replaced with the baseline content. No versions are lost.

Important considerations

- Items that were deleted are restored to the version at time of the baseline.
- Relationships that were deleted aren't restored.
- You can update an individual item from the versions tab in Single Item View [230].

> **NOTE**
> You must have project or organization administrator permissions to do this.

1. Select the baseline you want to revert in the **Baselines** tab of the Explorer Tree [244].
2. Select **Replace with baseline**.



3. In the confirmation message, click **Yes**.

A pop-up message displays the number of items that were updated.

Coverage and traceability

Traceability shows the relationship between items that depend upon and define each other. You can always travel upstream or downstream to get more context and trace product definition from high level requirements all the way through final tests.

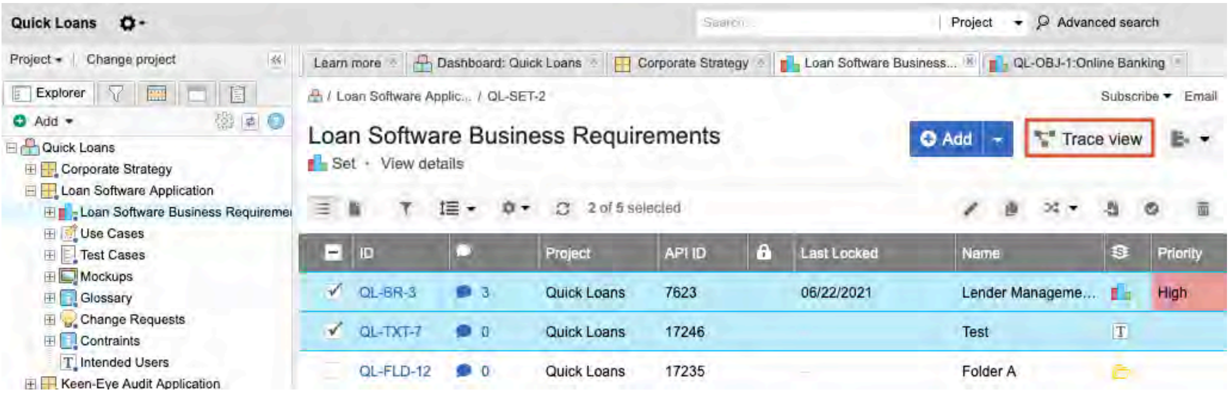
Coverage is the extent to which items are validated by another item.

By relating items [260] according to a set of relationship rules [614], you can assess the impact that changes can have on other items. View items in Trace View [52], or use the following options to analyze item relationships and be sure you have the coverage you need.:

- Relationship Status Indicator [269]
- Trace Matrix [272]
- Impact Analysis [273]
- Coverage Explorer [274]

Trace View

Trace view shows related upstream and downstream items, missing relationships, and item details in context of their relationship.

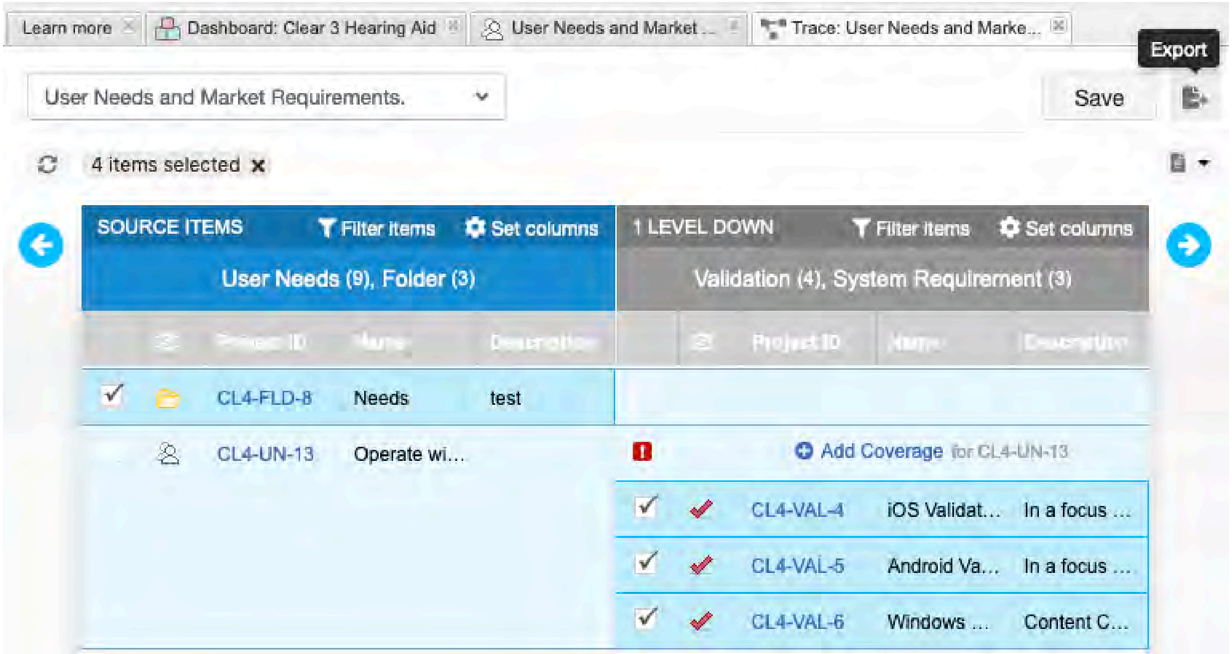


When you select **Trace View**, the items you selected in List View are displayed in the **Source** column. Related items downstream from the source are displayed to the right. Items upstream from the source are displayed to the left. Use the blue arrow buttons on either side of the screen to travel up or downstream.

The top of each level column shows a count of the item types found on the entire level.

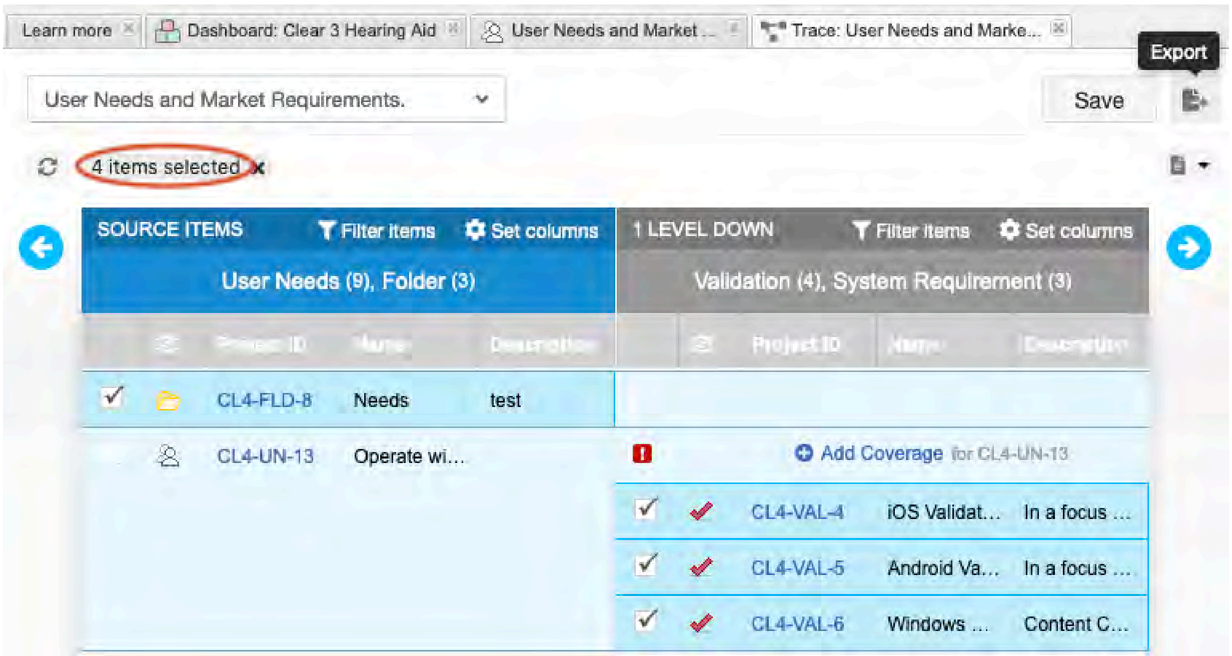
NOTE

The item count is a unique count. If the same item is downstream of multiple items in the source column, it appears multiple times in the "1 level down" column, but it's counted only once.



Select an item in the source column to highlight its specific upstream and downstream relationships. You can select multiple items using the checkboxes. Selections remain highlighted as you navigate. Select **X** to clear your selections.

Select **Set columns** at the top of each trace level to turn fields on or off [54] for items in that level.



Use Trace View to find missing coverage and use the Add menu in the toolbar to add items directly from this view.

You can also filter Trace View [258] or use Trace View to save a view [256] or export the content [257].

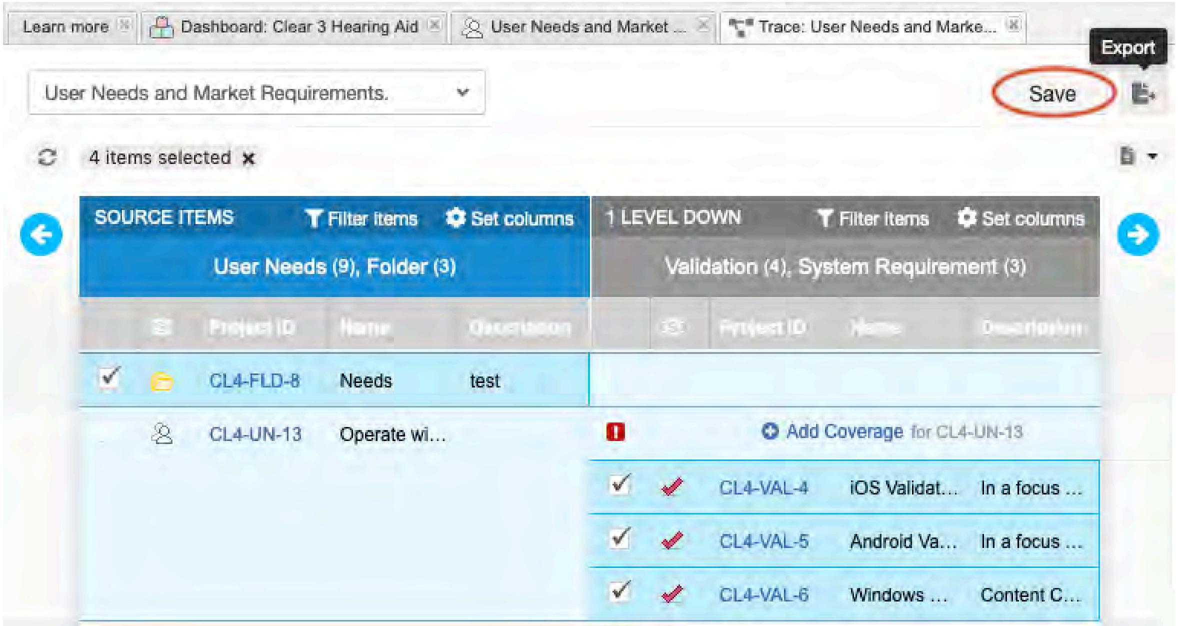
You can also use the Trace View to see validation and verification testing results. If a test case is visible in Trace View, you also see the related test runs. No manual creation of relationships is required; Trace View infers the relationship between test cases and runs and once a test cycle is created.

If your organization has a risk management license, you can also configure this view [54] to see risks in Trace View. [423]

Save a Trace View

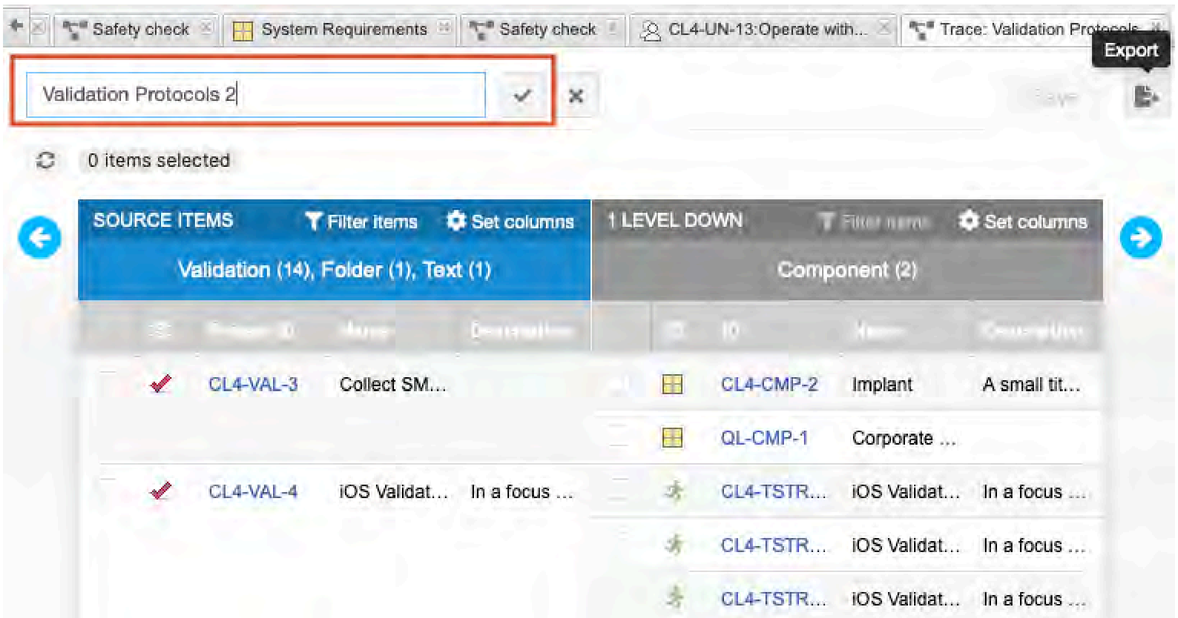
After you save a Trace View, you can change the name and save it as something else. You can also bookmark it.

1. Select the Trace View [52] that you want to save, then click **Save**.



The name text box becomes an editable field.

2. Edit the name as needed, then select **Save** (checkmark icon).



3. (Optional) Select the arrow next to the name to see a pull-down list of saved Trace Views. Bookmarked views appear at the top of the list.

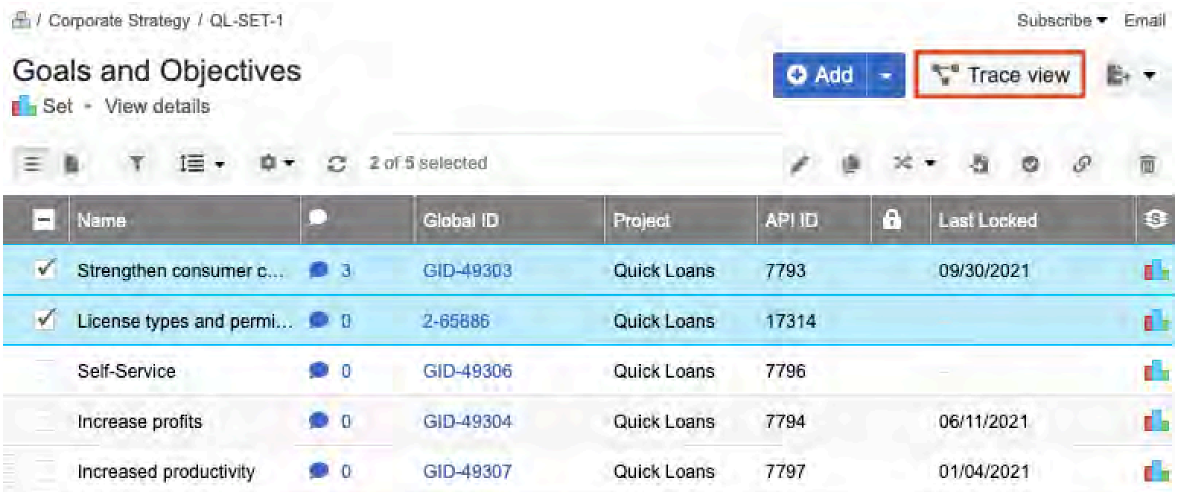
Bookmarked Trace Views are visible from your homepage; use the URL to share this Trace View with other users.

Export a Trace View

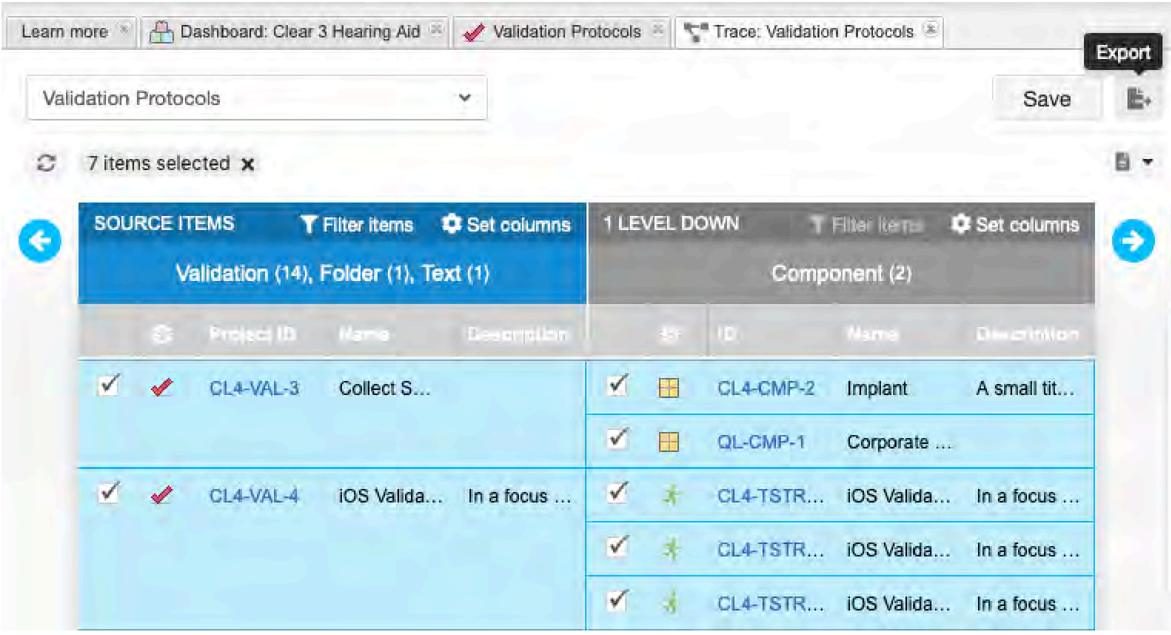
When you export from Trace View, the result contains all data that traces from the columns currently visible on your screen to the **Source** column.

> **IMPORTANT**
>
> When you export a Trace View, it can be no more than 6 levels. If you try to export a Trace View that exceeds 6 levels, the Export button is grayed out.

1. From the Explorer Tree or an advanced filter, select the items you want to export, then click **Trace view**.



2. Navigate to the furthest level upstream or downstream that you want to export, then click **Export**.

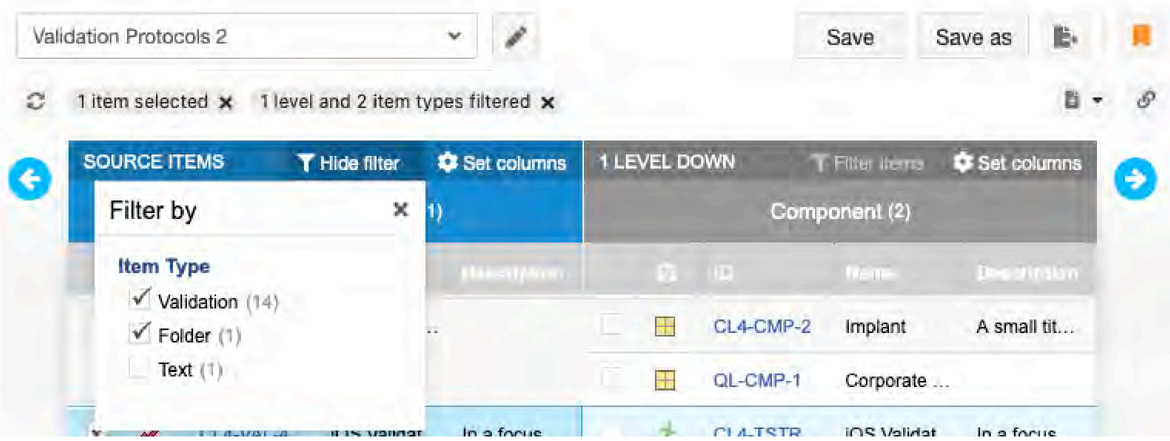


3. Click **OK** to open the CSV file.
   Select the down arrow in your browser to view the available downloads.

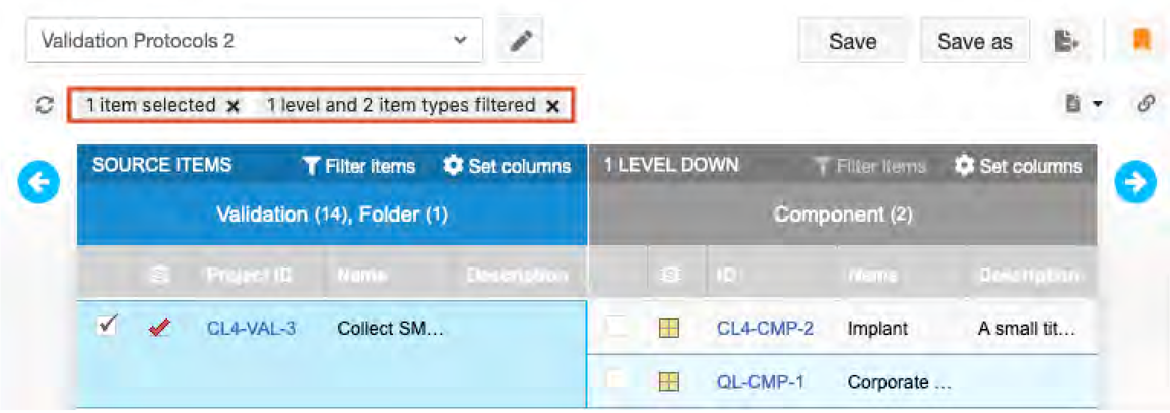
Filter Trace View

You can filter items in Trace View by item type.

1. Open the items you want to filter in Trace View [52].
2. If more than one item type exists in a column, you can select **Filter items** at the top of the column you want to filter.



3. In the window that opens, select the items you want to see.
   A number next to each item type displays the total count of unique items to filter for that item type in that column.
4. After the filter runs, a message at the top of the page lets you know how many levels and how many total item types were filtered. Select **X** to remove all filters.



5. You can save the Trace View [256] or export the Trace View [257] with filters in place.

Relationships

Relationships link items together and can help assess the impact an item or group of items can have on other items.

Traceability is defined by relationships. When one item changes, you know to check related items to make sure they are still correct.

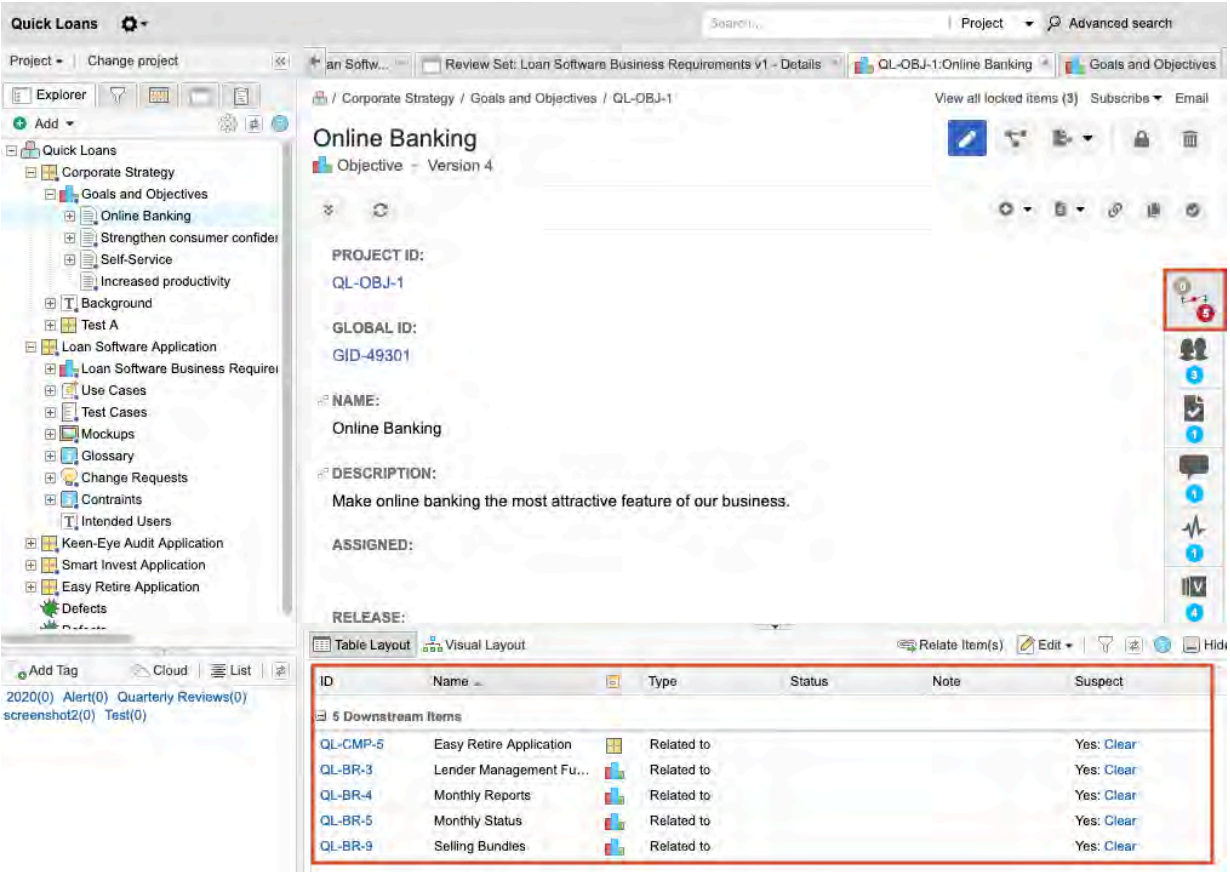
Relationships can be upstream or downstream from an item. With the appropriate permissions [269], you can relate items within the same project or between projects. Find and view relationships [259] in Single Item View.

You can also add relationships from:

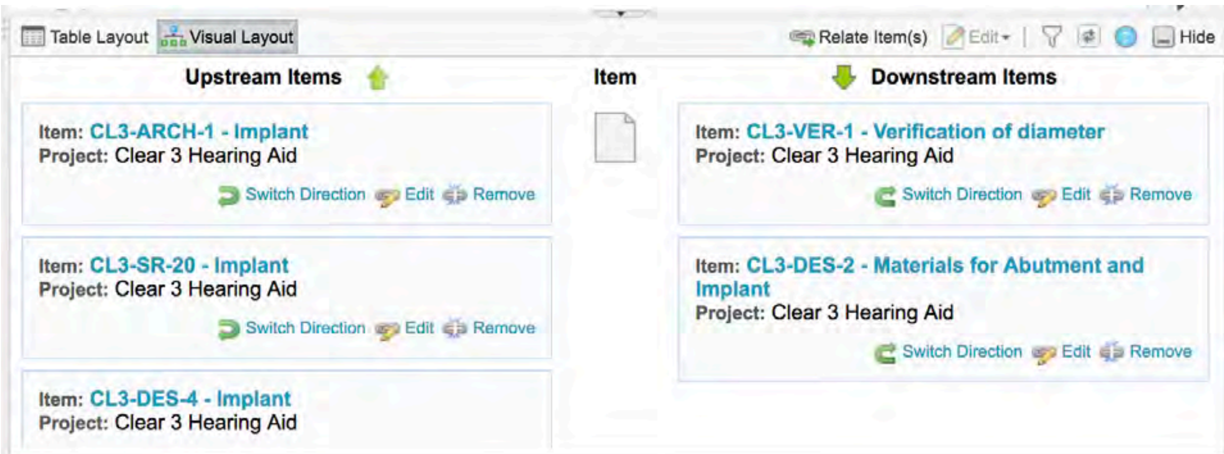
- Single Item View [260]
- List, Reading or Trace View [263] (by adding a new related item)
- The trace matrix [263]

Relationships quick find

In Single Item View, select **Relationships** to open the bottom panel where you can view and filter [267] related items.



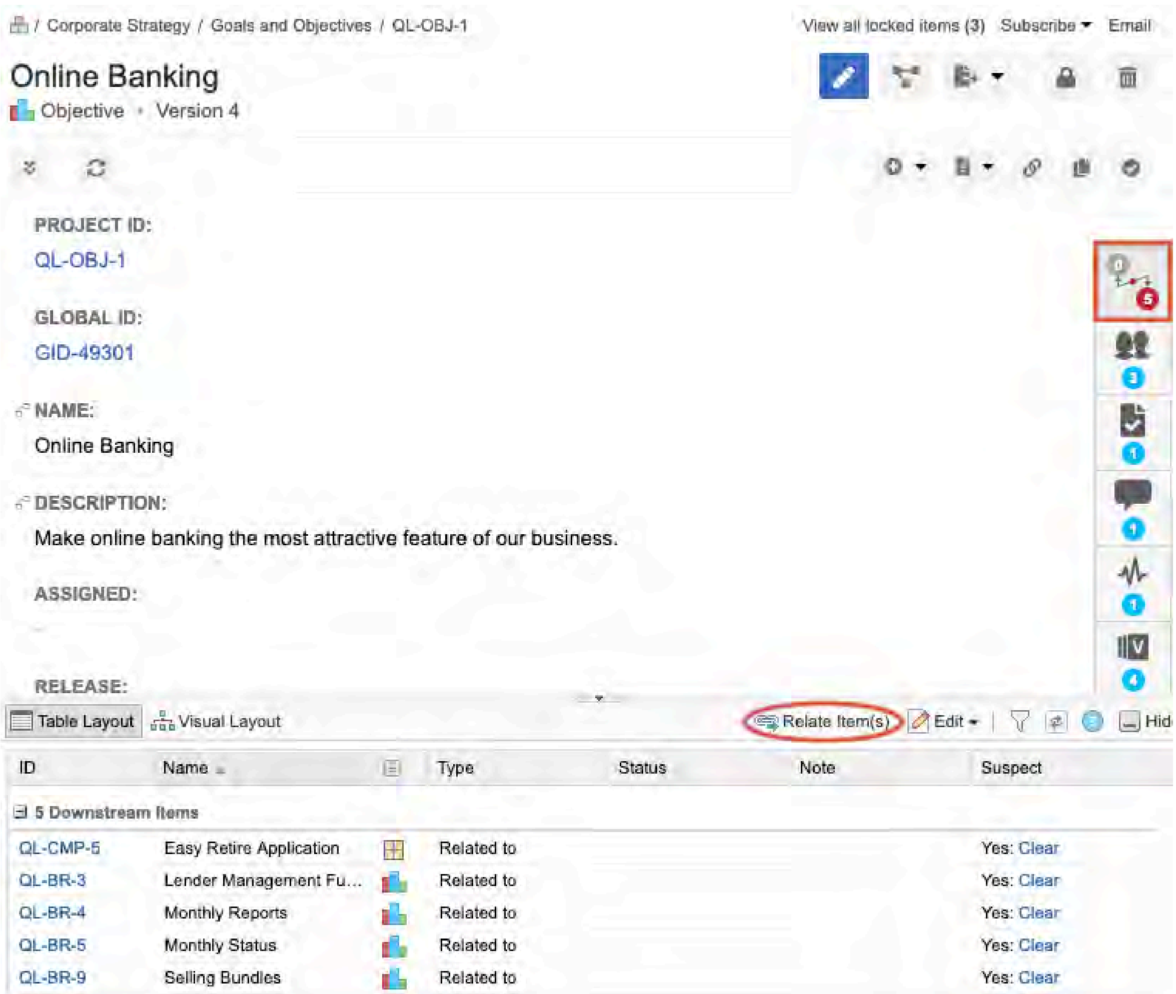
Select **Visual Layout** to see a different perspective with links to more rapid actions.



Add a relationship from Single Item View

Creating a relationship establishes a directional link between two items. The related items can exist in the same set or project, or in completely different projects.

1. Select **Relationships** in the side toolbar, then select **Relate Items** in the bottom panel.

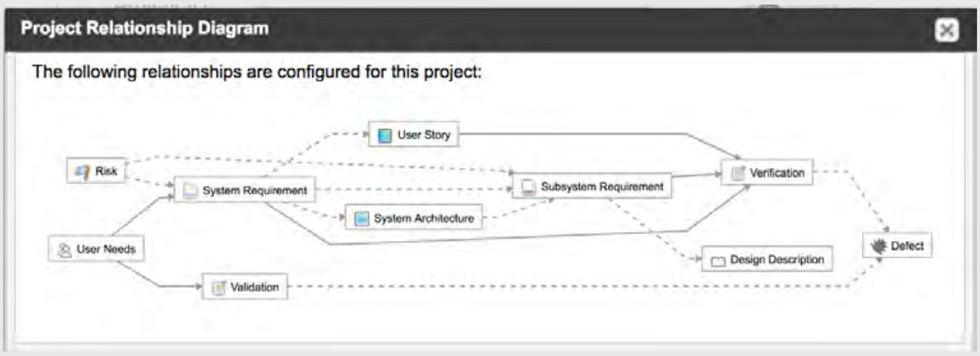


2. This opens the side panel where you can select the items that you want to relate. **Recently viewed items** is the default view, but you can also choose the **Explorer Tree**, **Releases** , or **Search** tab to find the items you want to relate. Double-click on the item, or select the item you want to relate and select **Relate**.

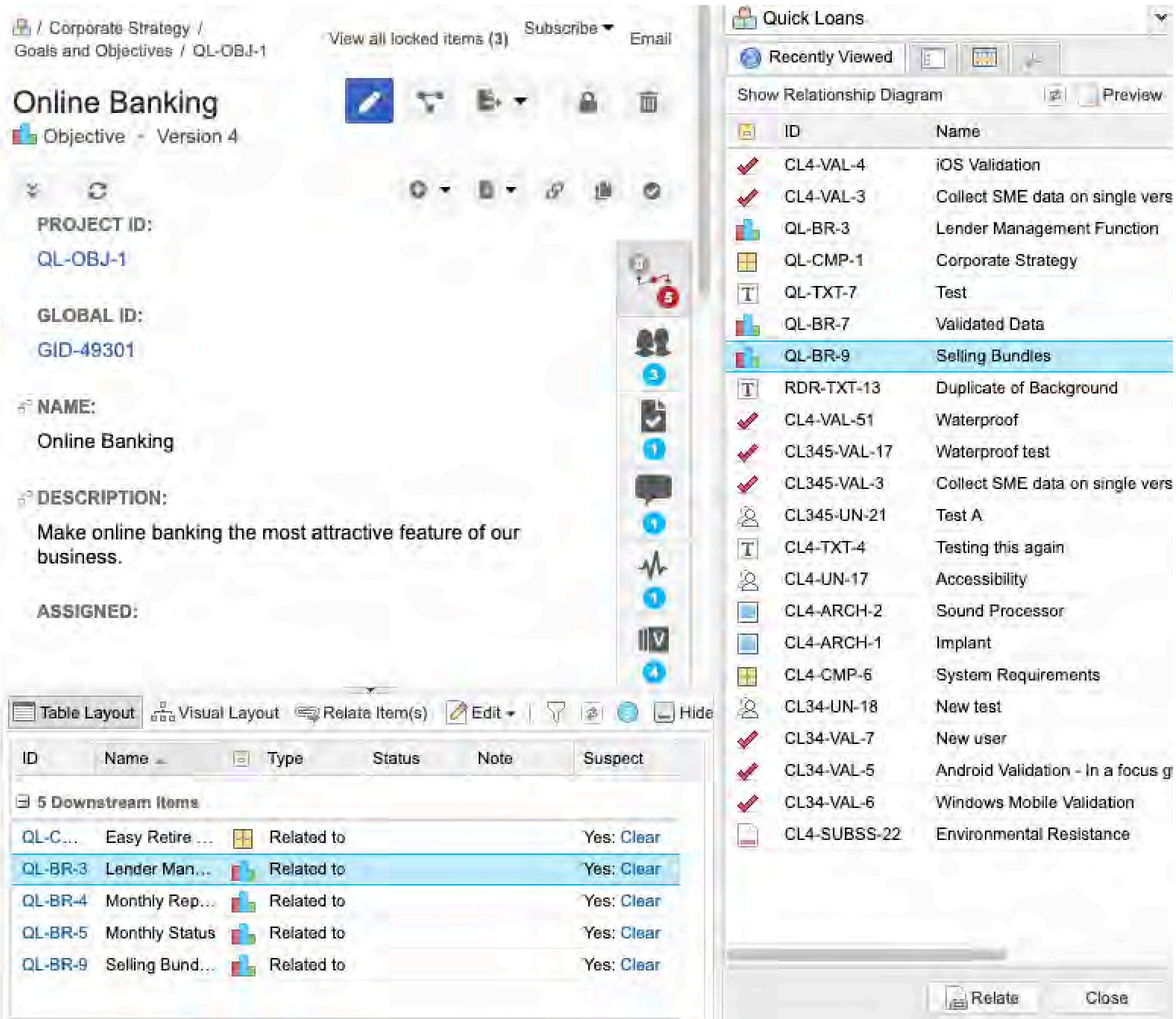
> **NOTE**
>
> If you don't have rights to a linked related item, you can still see the related item's name, project, and relationship attributes. However, you can't preview, open, or edit the item if you don't have permission.

IMPORTANT

If relationship rules [614] were applied to the project, only items that meet the rule's criteria appear in the right panel. You can only create a relationship with item types that meet the applied relationship rules. Select **Show relationship diagram** at the top of the right panel to display the rules that are associated to this project.



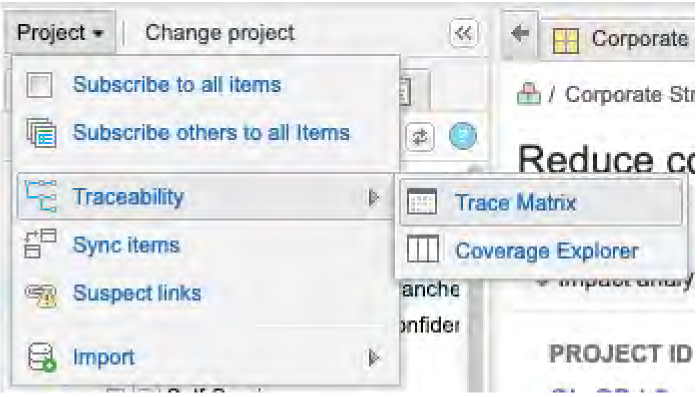
3. A relationship is added to the selected item in the direction defined by the rules and is immediately visible in the bottom panel. If the new relationship isn't defined in the rules, you are prompted to define the relationship direction and type.



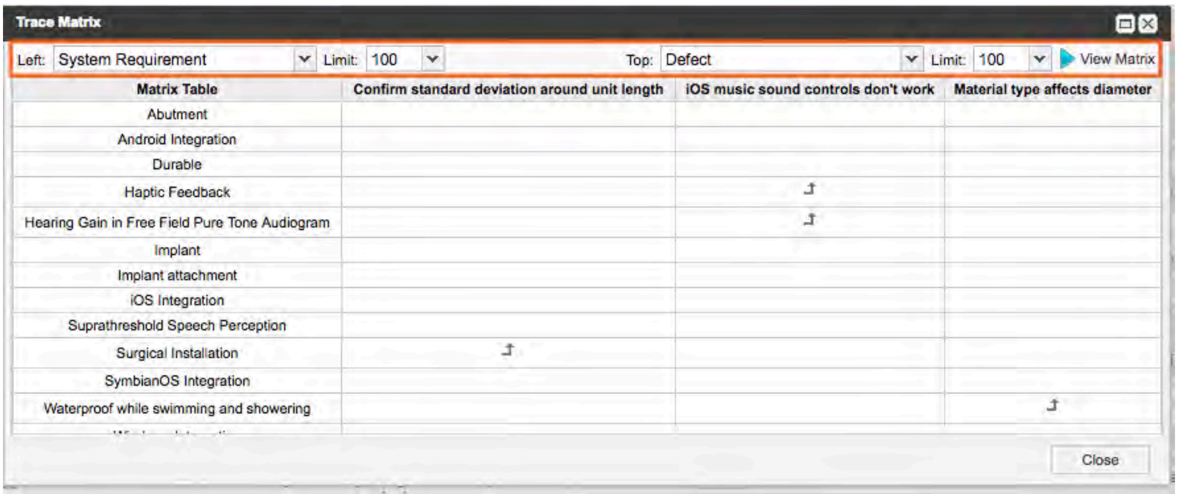
> **TIP**
> If you have multiple relationships to define between the same item types, you can select **Don't ask again**. During your session, all relationships between these item types are automatically set up the same way.

Add a relationship from the Trace Matrix

1. Select **Projects** in the header, then select **Project > Traceability > Trace Matrix**.



2. In the **Trace Matrix** window header, select the two item types you want to compare, and limit the number of items you want to see, then select **View Matrix**.

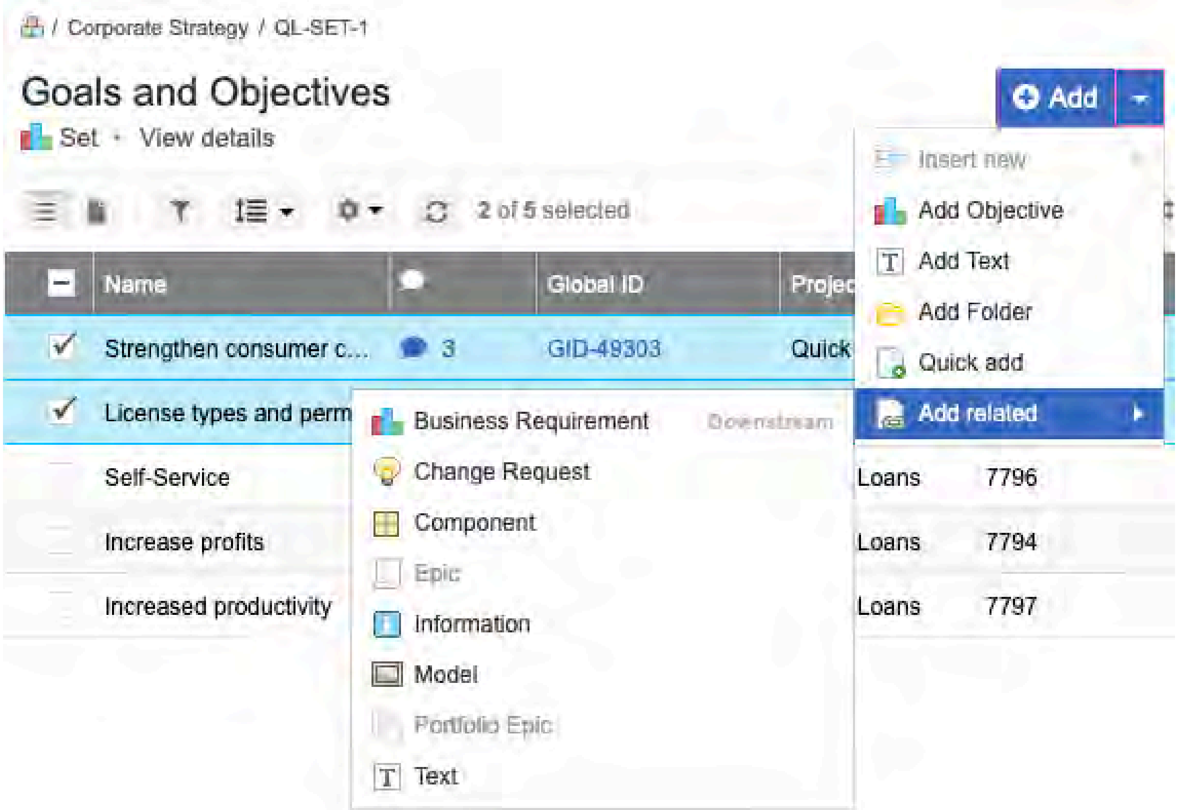


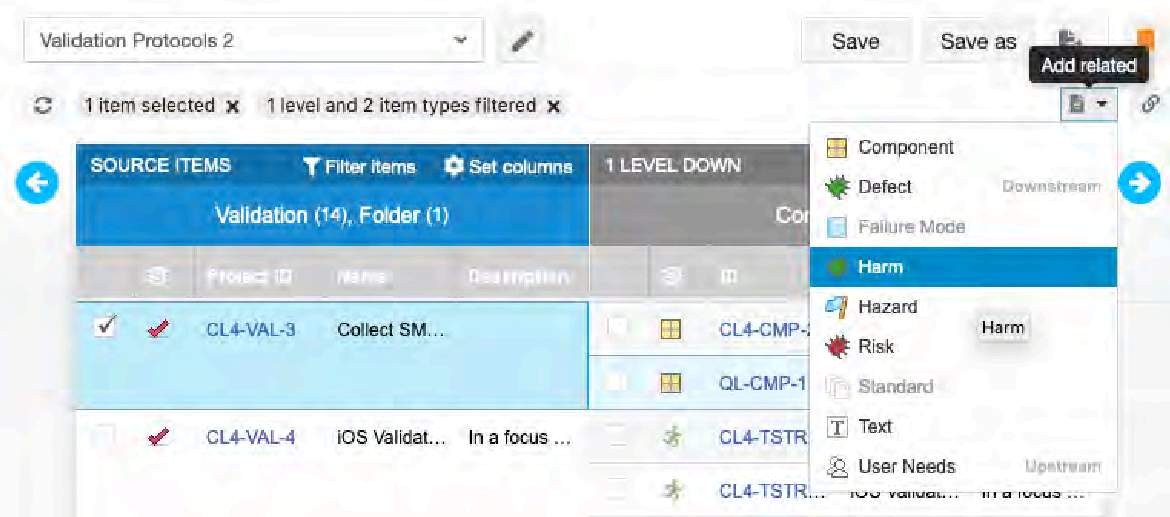
3. Double-click in any cell where you want to add or edit a relationship.
4. In the **Add/Edit Relationship** window, make changes and select **Update**.

Add a new related item

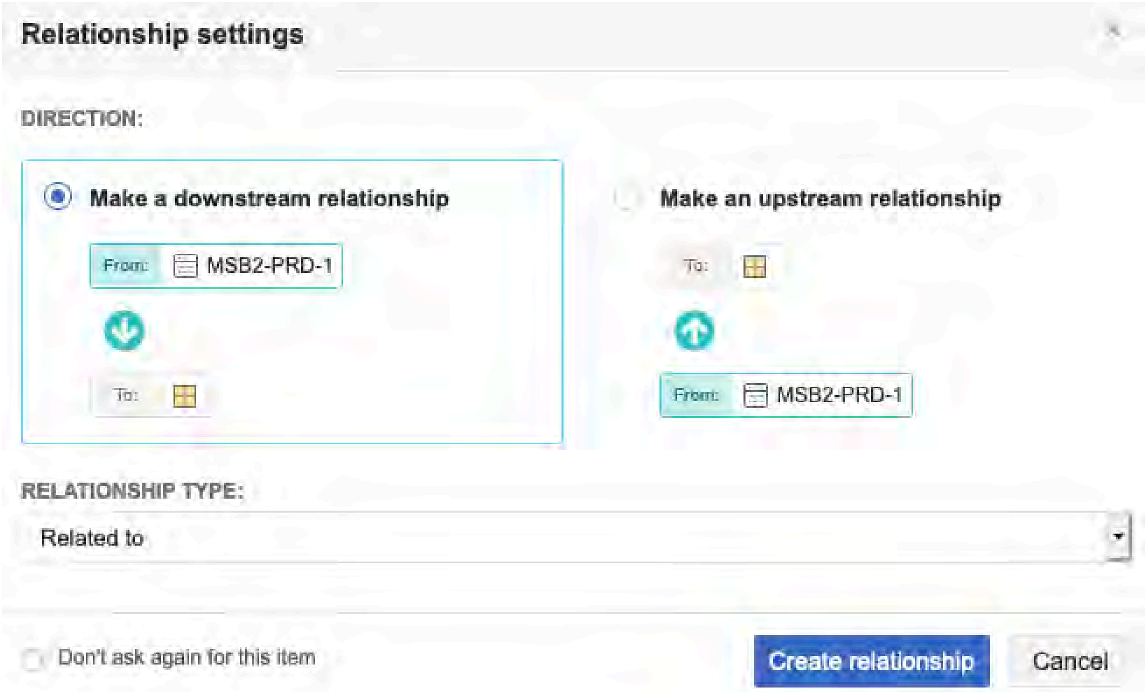
You can add a new item and, at the same time, relate it to one or more items.

1. View the items to be related in List View [51], Trace View [52], or Reading View [52].
2. Select the items to which you want to add related items. To use the **Add related** option, all selected items must be the same item type.
3. Select **Add> Add related** in the top right toolbar. From the drop-down menu, select the item type for the missing upstream or downstream items you want to add. The drop-down menu lists only item types allowed by relationship rules.

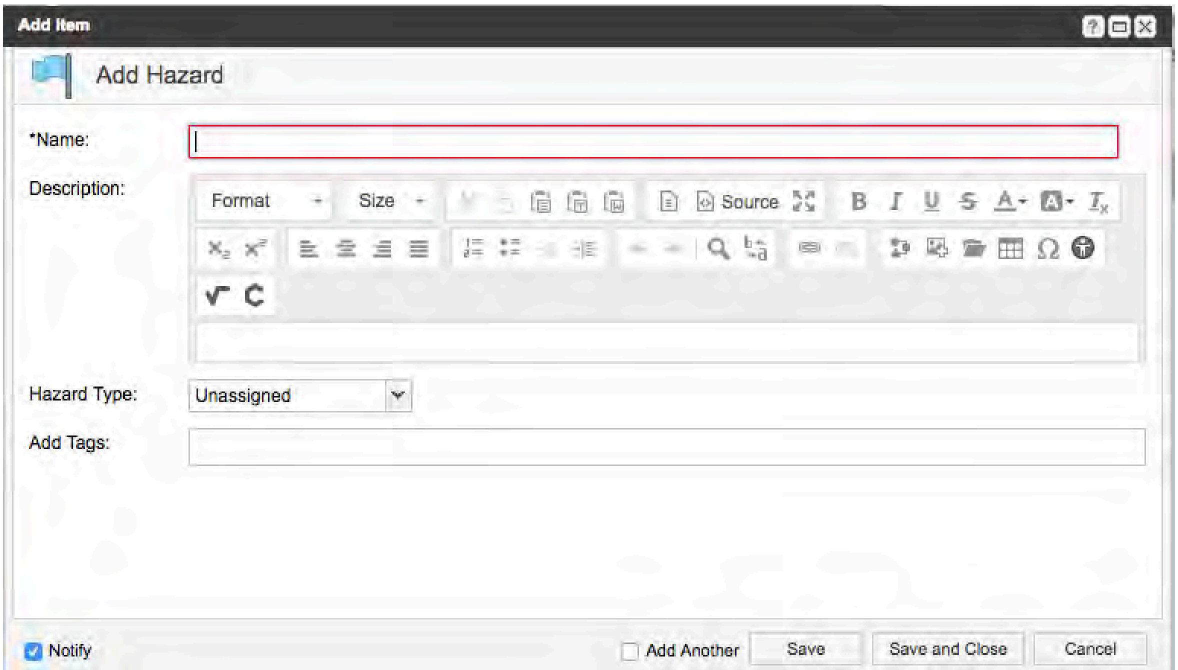




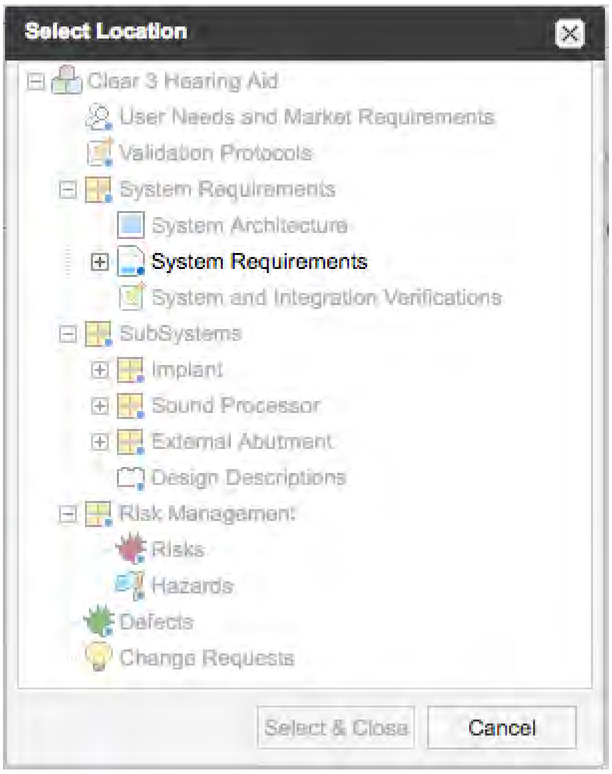
4. In the **Relationship settings** window, select the direction and relationship type for the item you want to relate, then select **Create relationships**.
   - **Direction** — Upstream or downstream.
   - **Relationship Type** — Configured by an organization administrator [611]. Common examples include: related to, dependent on, derived from, validated by, verified by, or mitigated by.



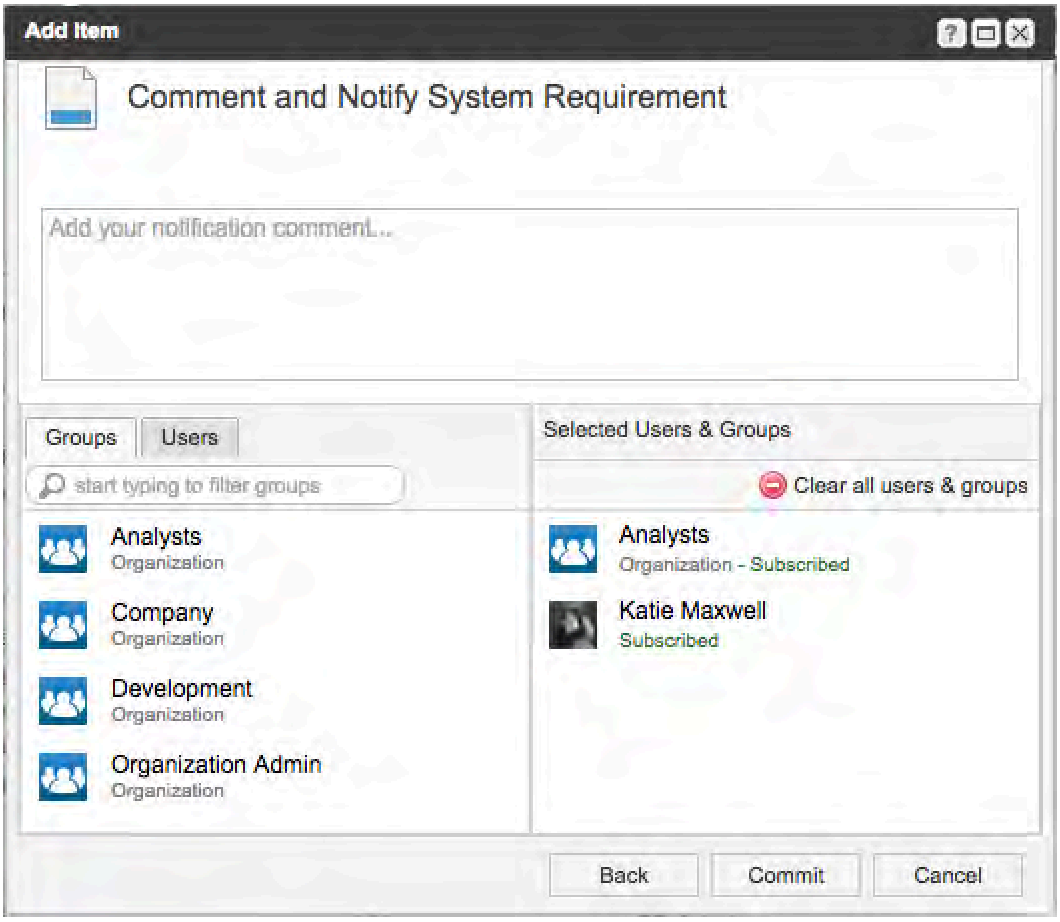
5. In the **Add Item** window, enter details including name and description, then select **Save**.



6. In the **Select Location** window, you must select a location for this new item. Locations that aren't permitted appear in light gray. You might need to expand folders, sets, or components to find the location you want. Select a location, then **Select and close**.



7. If you checked the **Notify** option in the **Add Item** window, you can notify other groups or users of this new related item.

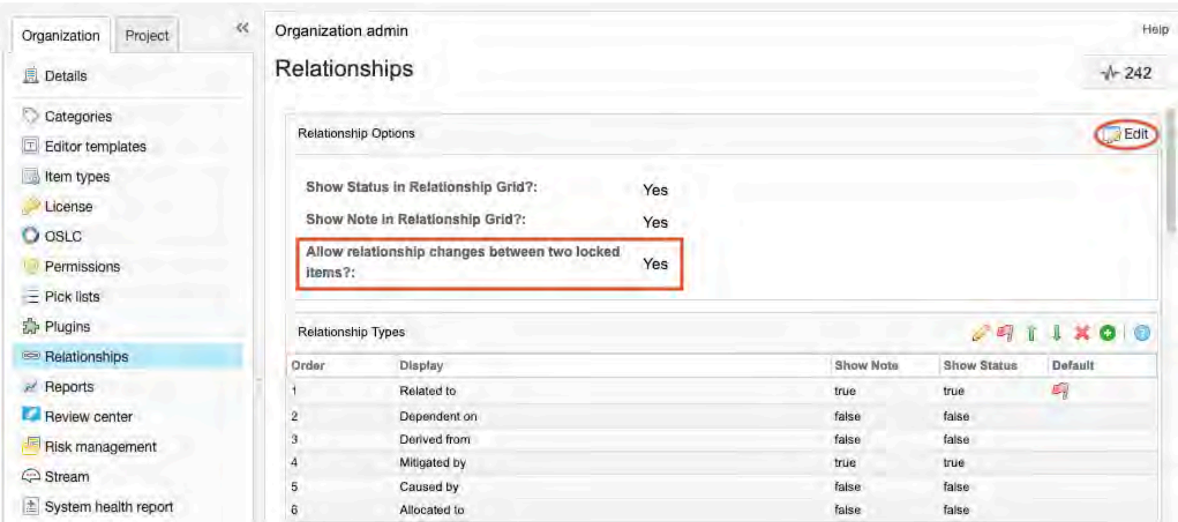


Relate two locked items

As part of your workflow, you can relate two existing locked items.

> **NOTE**
> You must have organization admin permissions to complete this task.

1. Configure relationships [611] for your item types.
2. Select **Admin > Organization**, then select **Relationships**.



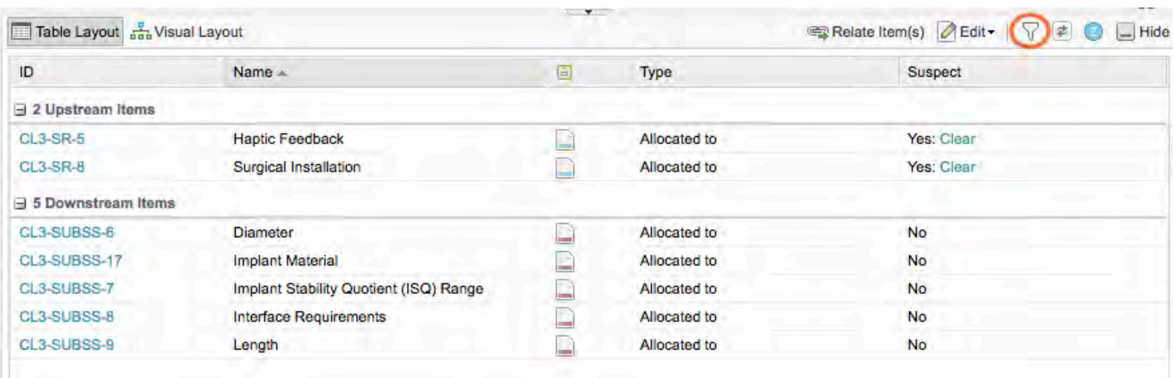
3. In the **Relationship Options** section, click **Edit**.
4. Select **Allow relationship changes between two locked items**.
5. Click **Save**.

You can now relate two locked items.

Filter relationships

You can filter items related to a single item. For example, you might want to view only the test cases or use cases related to a requirement. The filter is stored until the end of your session, so as you move from item to item, the filter remains in effect.

1. In Single Item View, select **Relationships** in the side toolbar to open the bottom panel.
2. Select **Filter** in the bottom panel toolbar.



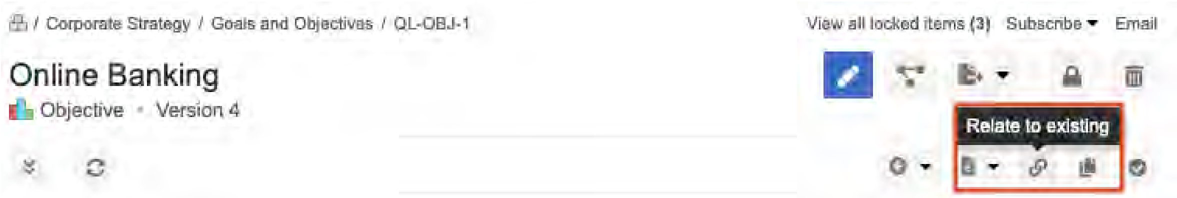
3. In the **Relationships filter settings** window, choose your own settings or the default settings, scroll down to see all the options, then select **Apply**.

4. You see the results filtered out in the bottom panel, select **Filter Applied-Click To Restore Defaults** to release the filter and see all related items again.

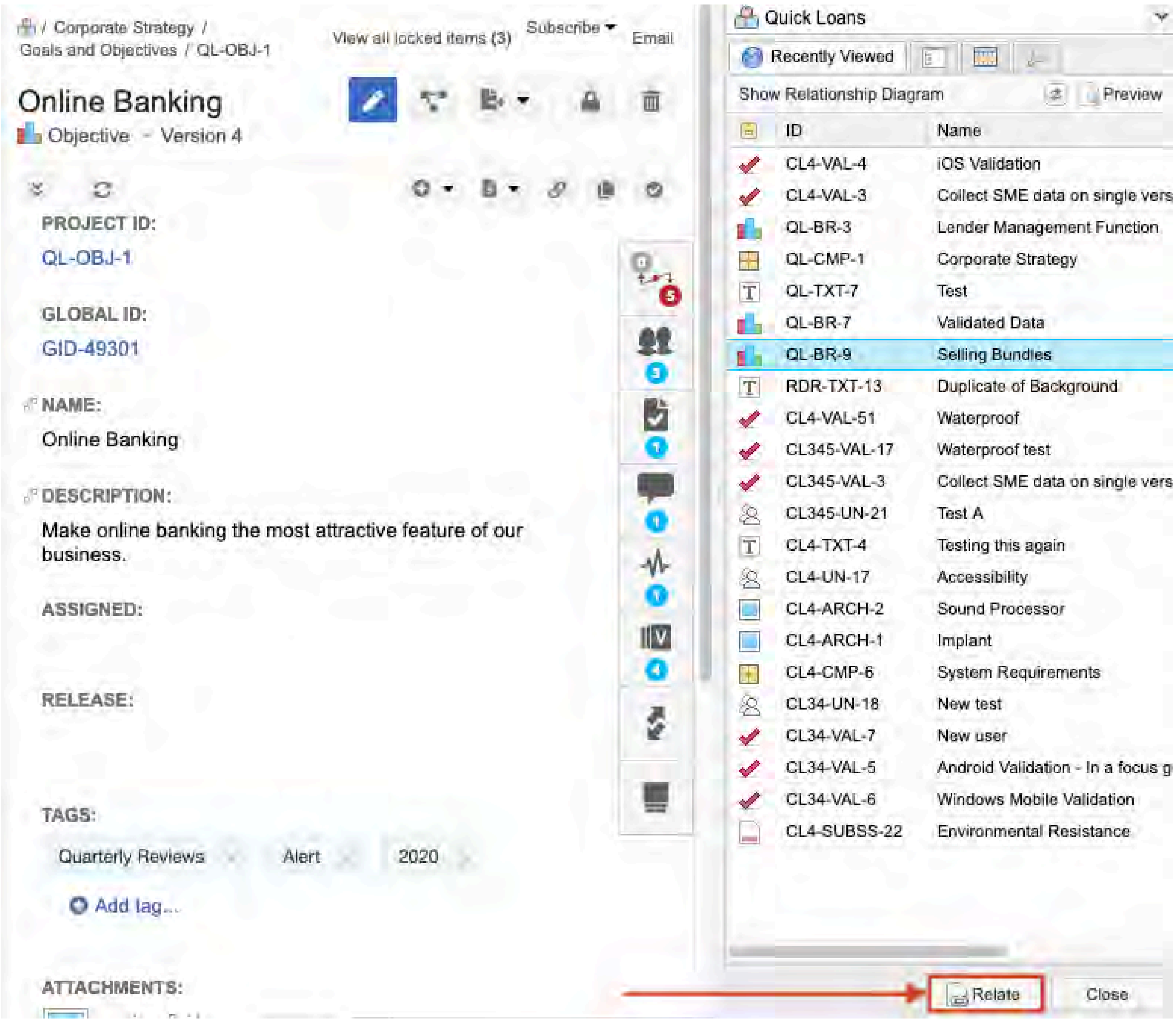
Relate to an existing item

You can relate two existing items of the same item type.

1. View the items to be related in List View [51], Trace View [52], or Reading View [52].
2. Select the items to relate. All selected items must be the same item type.
3. Select **Relate to existing**.



4. In the side panel that opens, select the items that you want to relate, then click **Relate**.



Recently viewed items is the default view, but you can also use the Explorer Tree, Releases, or Search tab to find the items you want to relate.

A relationship is added to the selected item in the direction defined by the rules and is immediately visible in the bottom panel of the relationships [259] view. If the new relationship isn't defined in the rules, you are prompted to define the relationship direction and type.

Tip: If you have multiple relationships to define between the same item types, you can select **Don't ask again**. During your session, all relationships between these item types are automatically set up the same way.

Access permissions and relationships

How you interact with relationships depends on the access permissions you have for each of the related items. Read more about permissions [578].

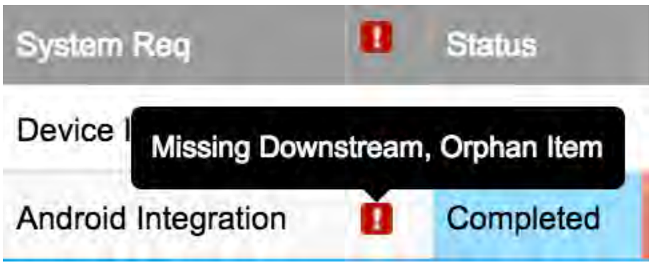
If you have these access permissions for the current item...	and these access permissions for the related item...	you can....
Read/Write	Read only	... view trace relationships as well as the ID and name of the related item. You can modify relationships and create new ones. You can also navigate to the related item and clear suspect links.
Read only or Read/Write	No permission	... view trace relationships, but not modify or create new relationships. You can see the ID and name, but can't navigate to the related item.
Read only	Read/Write	... view trace relationships. You can modify relationships and create new ones. You can also navigate to the related item and clear suspect links.
Read/Write	Read/Write	... create, modify, or delete relationships as well as navigate to related items.
Read only	Read only	... view trace relationships and navigate to related items. You can't create or modify relationships between the two items.

Relationship Status Indicator

The Relationship Status Indicator shows how many relationships an item has, as well as whether those relationships meet the project's relationship rules.

The Relationship Status Indicator is visible in the **Relationship** button of the side toolbar [56], as well as in a column in List View (when configured [54]).

- On the **Relationships** button, the number at the top represents how many upstream items are related to this item. The number at the bottom of the button shows the number of downstream items. If an item isn't in compliance with the relationship rules, it appears in red. Otherwise it is gray.
- In List View, you can hover over the red exclamation point to see how the item violates relationship rules.



An item might violate relationship rules in one of these situations:

- **Orphan item** — Item is missing a required upstream item. Adding a related upstream item resolves the error.
- **Missing coverage** — Item is missing a required downstream item. Adding a related downstream item resolves this error.
- **Suspect** — An upstream item has changed. After you're satisfied that the item isn't affected by that change, clearing the suspect link resolves this error.

NOTE

If relationship rules haven't been applied to the project, an error appears only if the link is suspect.

Clear suspect links

Suspect links on an item indicate it might no longer be correct or complete, because changes were made to items upstream.

TIP

Links that are suspect also show the relationship status indicator when you view them in List View or Single Item View, as long as the Relationship Status Indicator field was added to the item type.

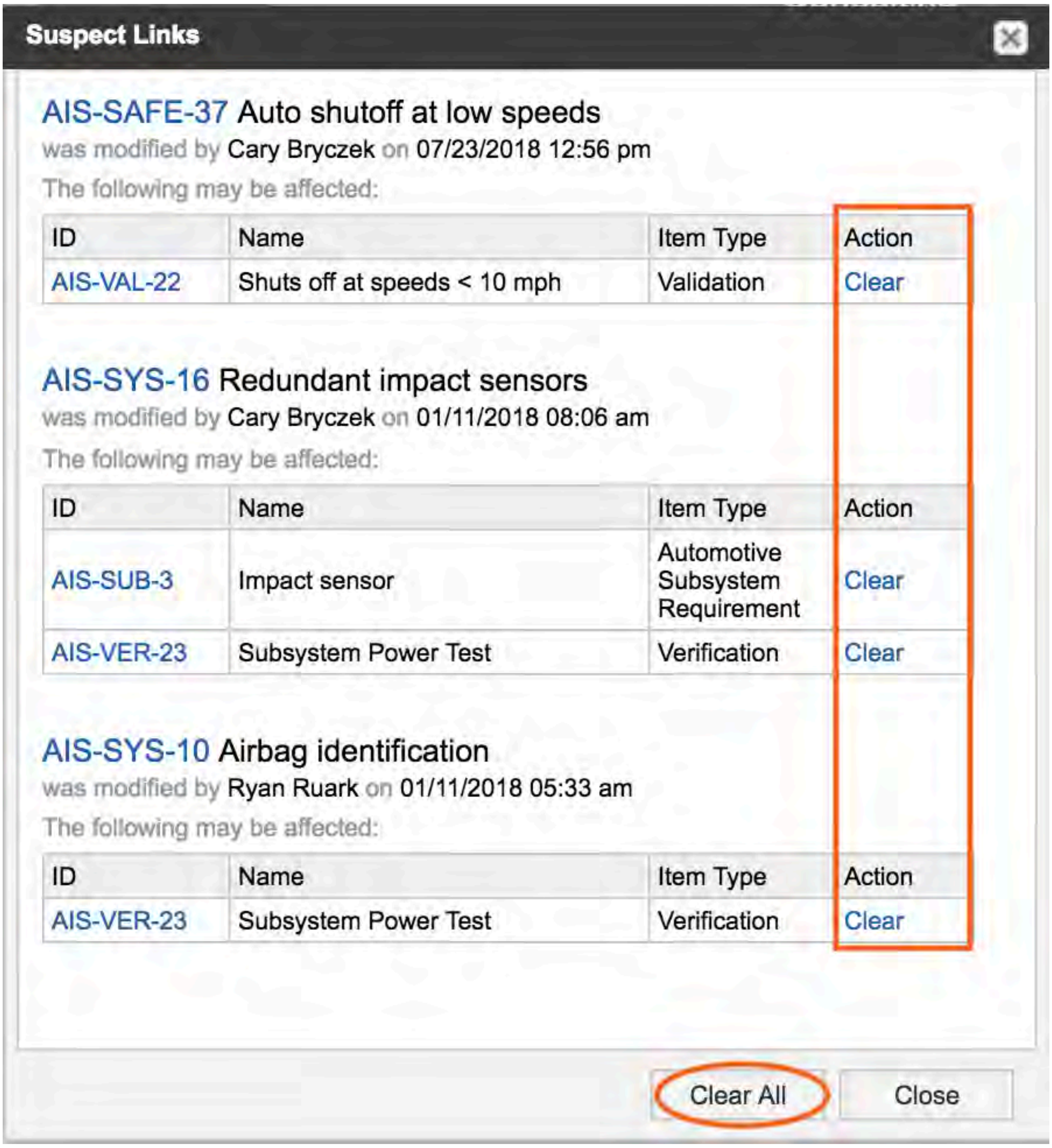
If you view an item that's marked as suspect and determine it has no impact, or make the necessary changes, you can manually clear the suspect link.

To clear suspect links:

1. Open all suspect links for the project or suspect links for a single item [145].
2. Select **Clear** to clear an individual link or **Clear All** to clear all suspect links.

   NOTE

   The **Clear All** button applies only to visible items. If you want to clear a large number of suspect links, you must select **Clear All**, then wait for the list to be updated with the remaining items, then select **Clear All** again until no more suspect links are displayed.



NOTE

Only updates to certain fields trigger suspect links. These fields are determined by the organization administrator who configures item types [598].

Trace Matrix

The Trace Matrix is a visual representation of relationships within a project.

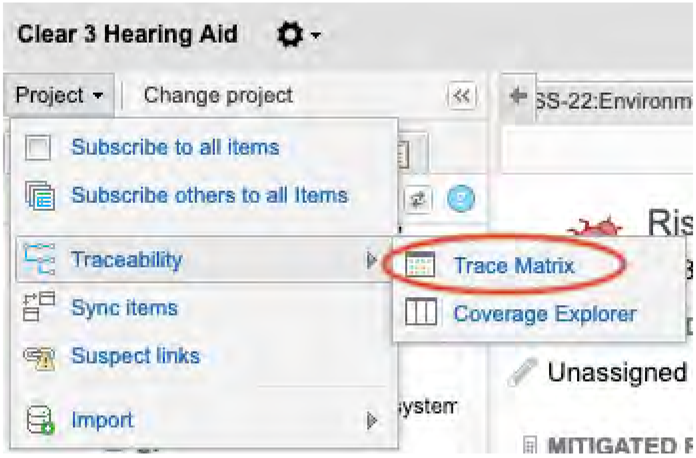
This is an intuitive way to quickly see relationships for two groups of items. For example, you can select a set of requirements and see which have related test cases. The matrix also helps determine impact when a change occurs.

IMPORTANT

The Trace Matrix doesn't enforce relationship rules.

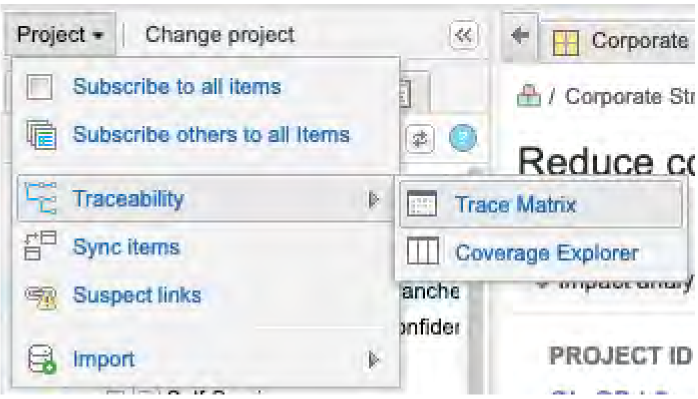
Traceability Matrix quick find

Select **Projects > Project > Traceability > Trace Matrix** to access the Trace Matrix.

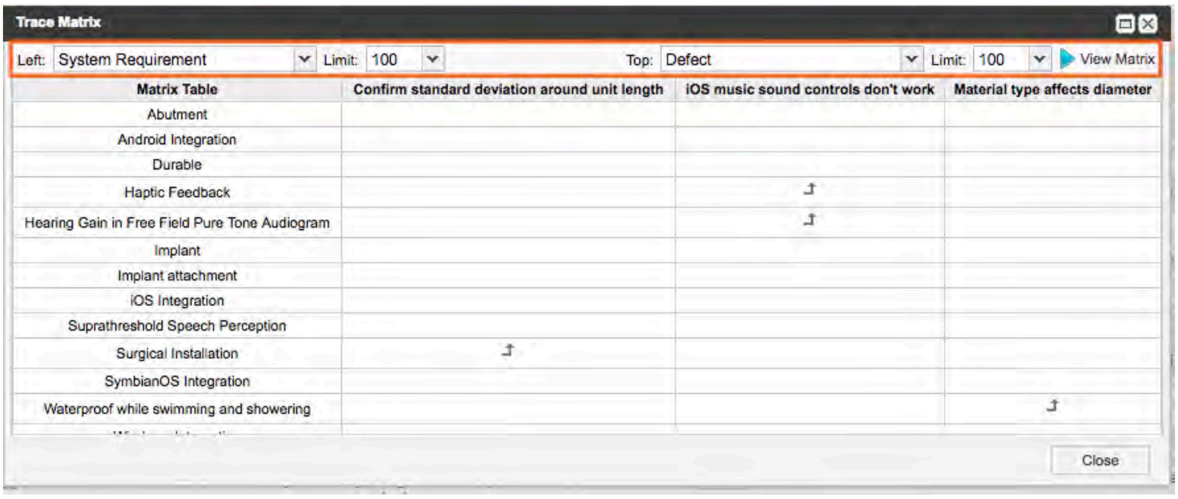


Add a relationship from the Trace Matrix

1. Select **Projects** in the header, then select **Project > Traceability > Trace Matrix**.



2. In the **Trace Matrix** window header, select the two item types you want to compare, and limit the number of items you want to see, then select **View Matrix**.



3. Double-click in any cell where you want to add or edit a relationship.
4. In the **Add/Edit Relationship** window, make changes and select **Update**.

Impact Analysis

Impact Analysis shows you the entire picture of all upstream and downstream related items that might be affected by changes.

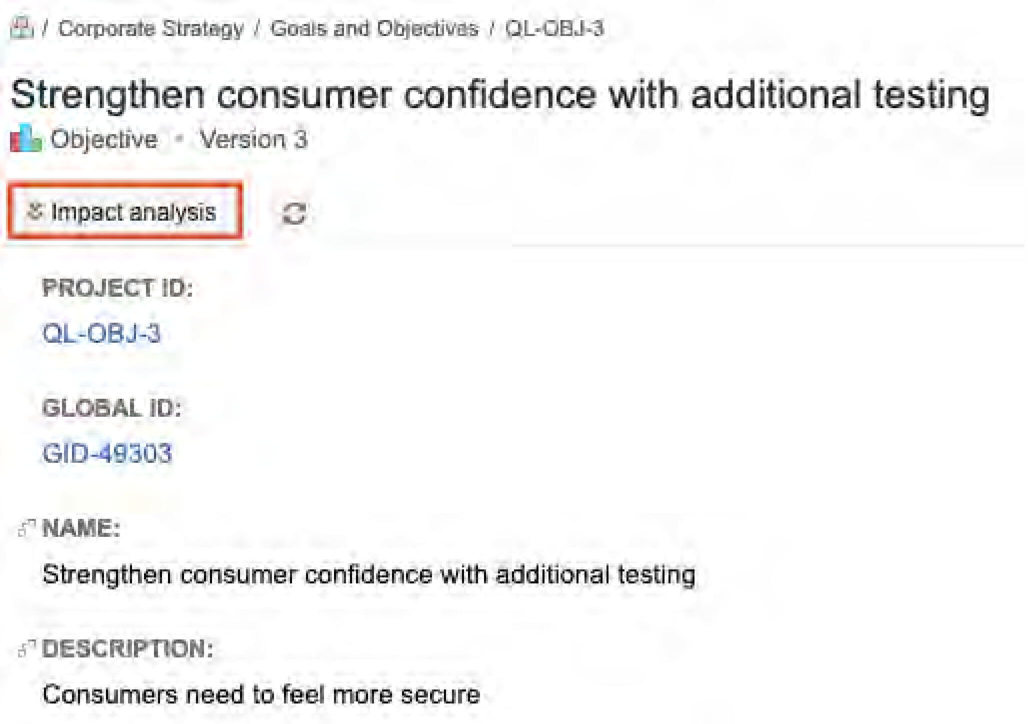
With traceability, you can see the impact of a change to a selected item before the change is made.

For example, if you're about to change a requirement, you can first see who is assigned to related items and include them on a comment about the change.

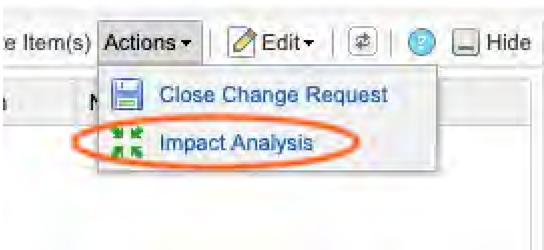
Impact Analysis quick find

In the top toolbar of Single Item View, select **Impact Analysis**.

Note: Small screens display icons as image-only, without the text.



You can also perform an impact analysis on a change request. Select **Items to change** (bell icon) on the **Change request** in the side toolbar to open the bottom panel, then select **Actions > Impact Analysis**.



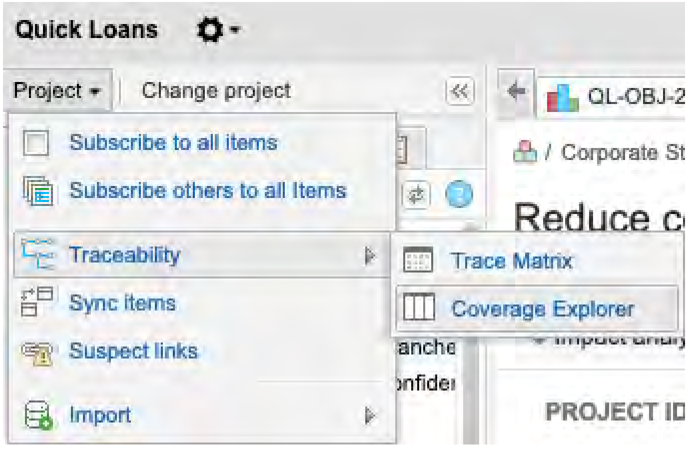
Coverage Explorer

The Coverage Explorer is tool to view or export a set of items, including related items that provide needed coverage.

You can create and save coverage views and export them to an Excel document [275].

Coverage Explorer quick find

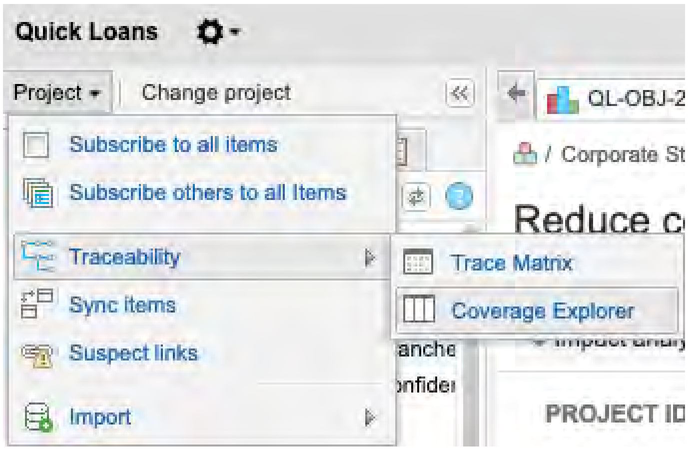
Select **Project > Traceability > Coverage Explorer**.



Create and export views in the Coverage Explorer

A view can only contain up to 500 items per level. You can bookmark a view to highlight and prioritize it. Only the view's creator can rename or delete it.

1. From Projects, select **Project > Traceability > Coverage Explorer**.



2. Select **Add Coverage View**.

3. In the **Select items** window, select the item or items you want to analyze for coverage. Use the tabs at the top to change your view from **Recently Viewed** to the **Explorer**, **Releases** , or a **Filter** if these are better ways to find the items you want. Select **Preview** to see details about an item. Once you choose the items you want to analyze, use **Select** to close the window and see your items in the main **Coverage Explorer** window.

4. Use the **gear** icon at the top of the **Coverage Explorer** window to hide, show, and reorder fields for that level.
5. Select the **green plus** button to add a new level of downstream relationships. You can add only one item type per level. However, if you add a downstream level and leave the item type blank, it displays multiple item types.
6. Select **Save** to save the view. It is added to the saved views in the left column with a favorite star. You can deselect the star by clicking on it.
7. Select **Export** to export a view to an Excel document.

Reuse and synchronization

With reuse [279] and synchronization [288] you can duplicate supporting information for any item, container of items, or even a project and continuously keep it in sync.

Supporting information can include the entire item, item fields, item widget information (relationships, tags, attachments), related items, child items, project details, and other information. You can choose how much of this you want to include when you reuse items [279]. Duplicate [81] is a simple way to reuse information.

NOTE

Attachment links are synchronized, not attachment content.

When items are synchronized, they receive a global ID [278] that they share regardless of where they are located in the system. You can synchronize the items that you reuse, or connect existing items [292] so that they can be maintained in parallel.

To keep track of synchronized items, use the **Sync items window** [277] where you can compare items [293] and decide how to update synchronized items.

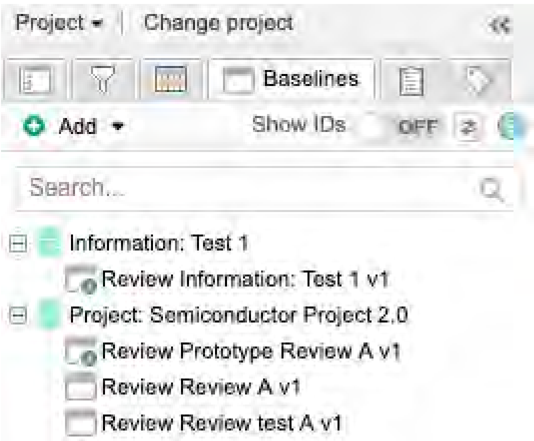
NOTE

Reuse and synchronization can require significant memory. This is especially true if your organization has a large Jama Connect database and has heavy reuse or synchronization use.

Reuse and synchronization quick find

With reuse and synchronization, you can duplicate supporting information for any item, container of items, or even a project and continuously keep it in sync.

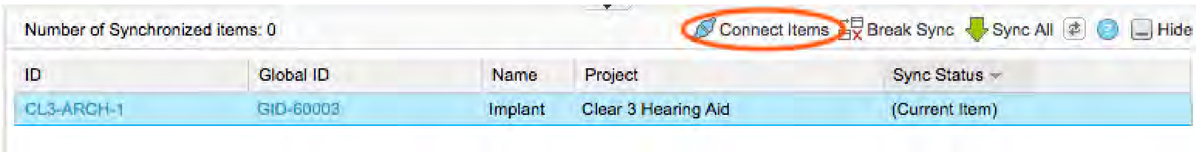
- **Organization administrator** — Only an organization administrator can configure reuse and synchronize [549].
- **Explorer Tree** — In the Explorer Tree, a blue dot in the bottom right-hand corner indicates that an item was synchronized.



- **List View** — Select an item in list view then select **Actions > Reuse** to open the **Reuse item(s)** window.
- **Project drop-down menu** — An organization or project administrator can select **Project > Sync items** to open the **Sync items** window, or **Project >Manage all projects** to duplicate (and optionally synchronize) projects [627].
- **Stream** — Reuse and synchronization of items adds activity entries to the stream [220] for all items created or modified during the process.
- **Synced items window** — Right-click on any item in the Explorer Tree, then select **View synched items**.

  This opens the Sync Items window, where you can select any item or container on the left to see which other items have the same global ID.

- **Single Item View synced items bottom panel** — Open an item in Single Item View. On the right toolbar select, select **Synchronized items**.
  This opens the bottom panel to display all items that are currently synchronized with this item. From here, you can connect items [292], synchronize items [288], break sync [290], or compare details for items that are out of sync [293].



Global ID

Global IDs are identifiers of items that are connected through synchronization. While every item has its own unique ID [637] (which is also the project ID), two items that are synchronized can share a Global ID.

Items that share this ID are considered cloned artifacts, despite being located in different areas of Jama Connect, and possibly representing different versions of each other.

Global IDs have two parts:

- **Global ID prefix** — The Global ID is the same across the organization. An organization administrator can change the Global ID prefix [546].
- **Global ID counter** — The Global ID counter only grows and can't be reset or reduced. An organization administrator can change the starting point of the Global ID counter. If a user tries to set the counter value below the Last Used Global ID Counter, Jama Connect shows an error message notifying the user to choose a greater value.

When items are connected for synchronization, they are assigned the same Global ID. When an item is removed from this group (through Break sync [290]) a new Global ID is assigned.

Reuse and synchronization guardrail

Reuse and synchronization of hundreds of items can affect system performance, causing it to feel slower than usual for users and decrease performance for other processes such as exporting.

If you try to reuse and synchronize a very large number of items, a warning appears if it's likely to impact performance.

If you still want to do this, consider reusing items in smaller batches or starting a large reuse and synchronize process during off hours when there is less competition for resources.

When to use reuse and synchronize

Typical scenarios for reuse and synchronize include creating a library or catalog, branching, and release management.

- **Duplicate** — You can make a copy of an item, container, or project. Synchronization is optional but can be enabled between items.
- **Library/Catalog** — Create a library or catalog to establish system-wide standards in your organization for all business units to follow. These might include common business practices, rules, glossaries or even a set of non-functional requirements that teams must reference but not modify.
  For example, a business that relies heavily on acronyms and terminology might create a glossary that can be defined and managed in one place, and used as a reference everywhere else. Another organization might create and manage business practices in one place, allowing references to those practices to remain consistent across the organization.

TIP

If you're using a catalog to push changes to many projects, you can synchronize items to push changes from your "catalog" project to all other project items that share the same global ID. You must have write access on all projects in the sync to do this.

- **Shared requirements** — Large projects typically adhere to a common set of requirements, but often each requirement also has information specific to a project and must be managed by that project. For instance, a requirement name and description can be shared across multiple projects but release values, priorities, assignments, and relationships can continue to be managed by each project.
- **Branching** — With branching, you can split a set of information from a single point in time into several branches such that each branch can be modified in parallel.

  This can be useful when you want a snapshot of items at a particular point in time, but to still allow these items to be modified in parallel. In this case, reuse results in the versioning of an entire document made up of multiple items, rather than just a version of a single requirement.
- **Release management** — Similar to branching, reuse and synchronization lets you use items across multiple releases or sprints in parallel.
- **Project template** — You can set up a project to act as a template that you reuse and synchronize to quickly ramp up new projects or to establish standard practices on content organization. You can also synchronize the template to push updates to associated projects.

Reuse

If your projects contain items that often are the same or differ slightly, reuse can help you work more efficiently. You can reuse items over multiple projects and synchronize them, if needed.

You can only duplicate items to sets of the same item type. For example, if you have two requirement sets in a project created from the same item type then you can duplicate and move items between these sets. Child items behave much the same as sets: if you reuse items to a parent item, making them child items, they must be the same item type as the parent item.

TIP

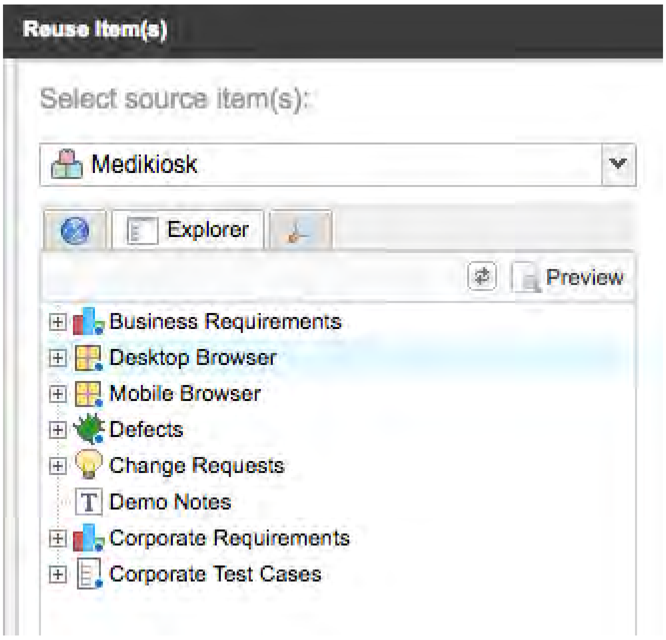
If you have several items that are reused regularly, put them in a central project so future changes to items can easily be maintained from one central location.

NOTE

For instance, during reuse, relationships can automatically be created that are inconsistent with the relationship rules of a specific project.

Reuse an item

1. Select items for reuse [280].
2. In the **Reuse Items** window do the following:
   - Select source items (if not already selected)



- Select reuse options [281]
- Select target destination [285]

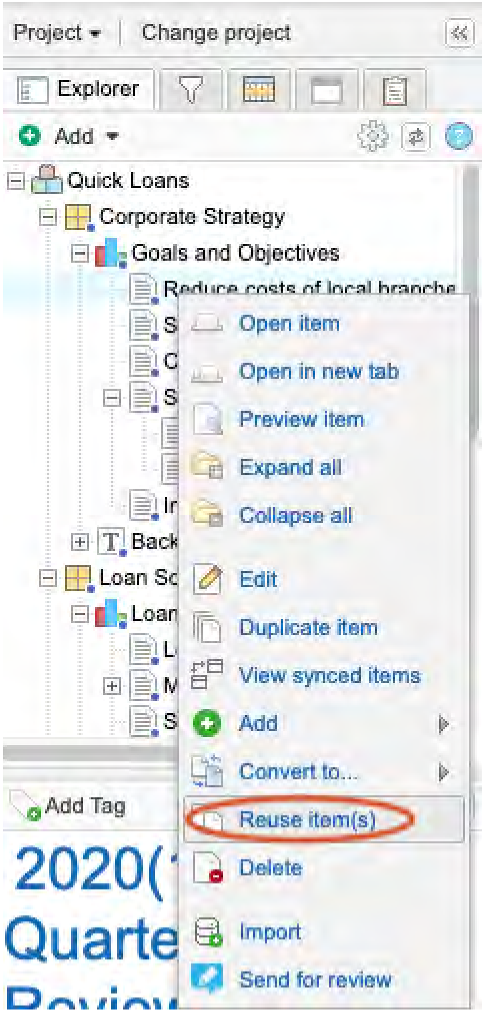
3. Select **Reuse and sync** at the bottom of the window. If you're reusing something that has already been reused, a warning asks you whether you want to overwrite or skip the items. Select one of the following:
   - **Overwrite Items** — Overwrites the items in the destination and replaces it with the items in the source project. Overwritten items use the fields you specified for reuse. Any fields not included in the reuse operation are set to null or their default value. Tags, attachments, and links are replaced, if you included tags, attachments, and links.
   - **Skip Items** — Skips any existing items in the destination, so they don't get replaced with source items.
4. The **Reuse Complete** window shows a summary of what was reused. Select one of the following:
   - **View Results** — Shows a list of all of the newly reused items.
   - **Reuse Again** — Select to reuse the same source items in a different destination.
   - **Finished** — Closes the windows.

Select items for reuse

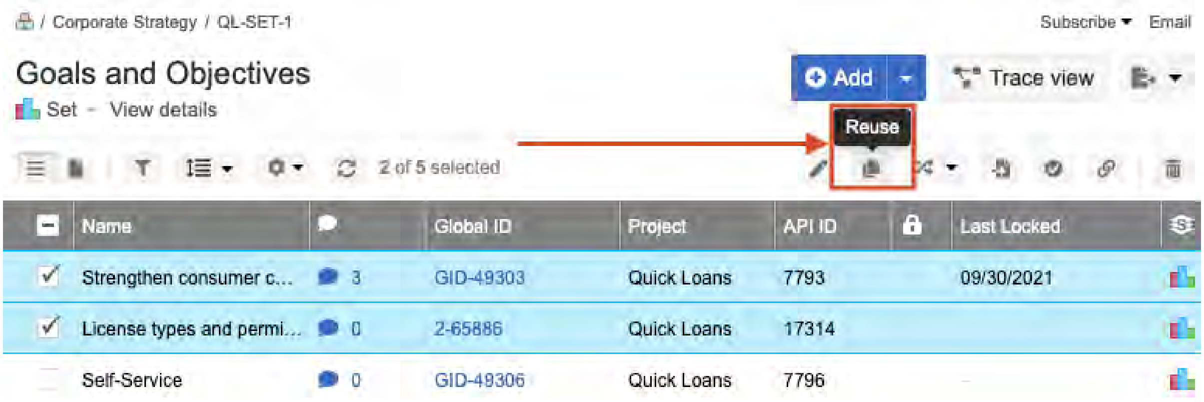
Follow these steps to reuse multiple items, the full content of a single item, or to reuse an item from one project in another project.

You can select items for reuse in two ways.

- In the Explorer Tree, select the item or container that you want to reuse. Right-click to open the context menu and select **Reuse items**.



- In List View, select the items you want to reuse, then select **Reuse**.



TIP

To quickly make a copy of an item in the same project, use Duplicate items [81].

Select reuse options

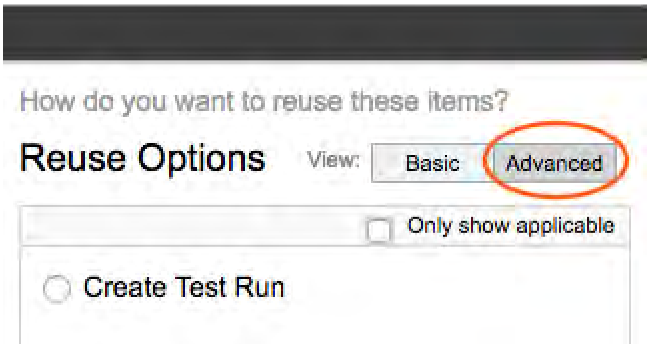
These options are part of the process of reusing items [279].

Important considerations

Selecting items for reuse can be helpful if you are creating several copies, but want the original "source" item to have a relationship to its copied items. For example, if you reuse a set of requirements multiple times from a library project in Jama Connect in several other projects: if you copied to a System 1 project and then System 2 project. When viewing the copied requirements in System 2, users could see an upstream relationship to the "source" requirements in the library. Adding or not adding this relationship has no impact on how to compare or sync items.

To compare differences between synced items: Compare synchronized items [293]

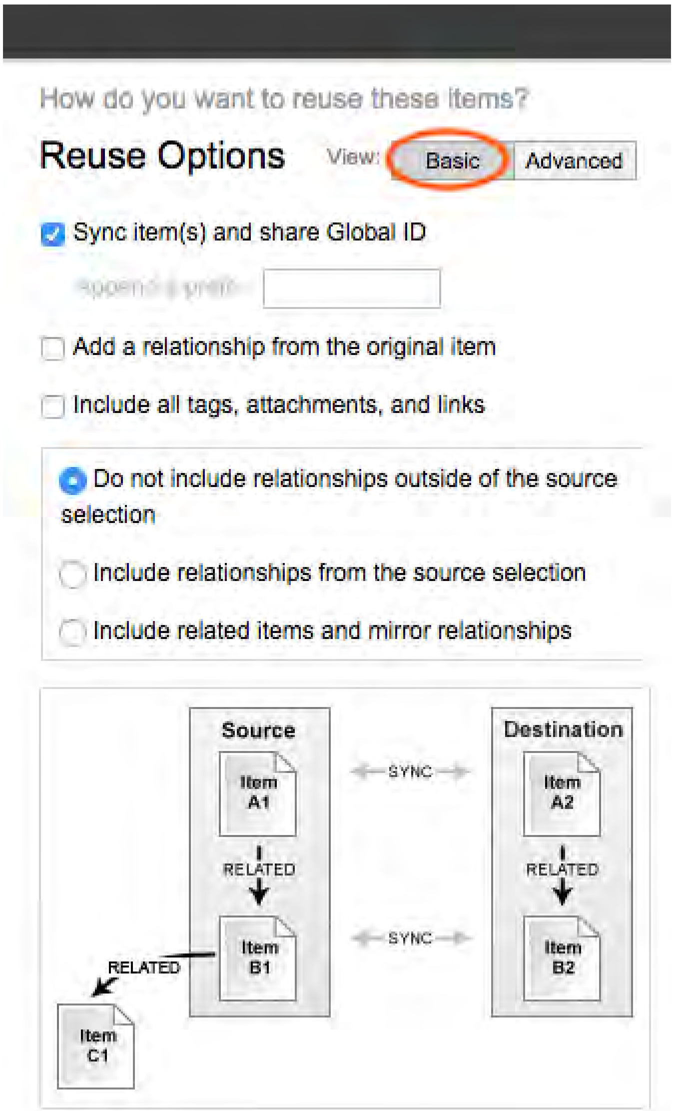
These basic options cover common ways to reuse items. Use advanced options to customize reuse rules as needed.



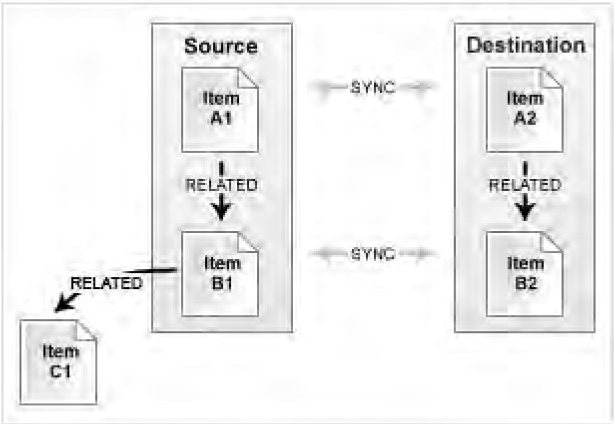
NOTE

Advanced reuse rules must be configured by a reuse administrator [286].

Under basic reuse options, select the following:

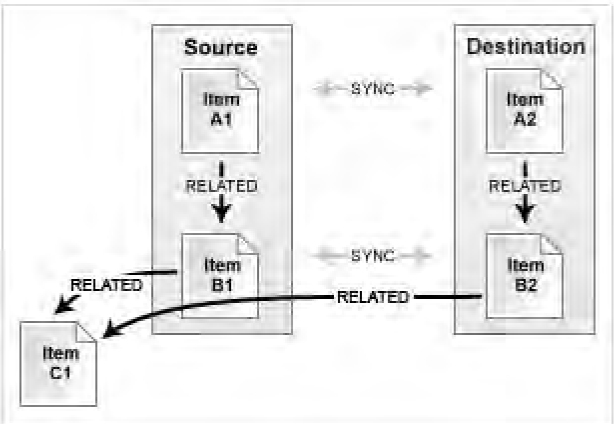


- **Sync item(s) and share Global ID (default)**
  This option is selected by default and gives source and destination items the same Global ID. Any changes to synced items displays an out-of-sync flag. You can use Compare View to understand what no longer matches between synced items and choose to sync them again. Deselect this reuse option if you only want to duplicate items, but not sync them.
- **Append a prefix**
  Adds a prefix to the name of the item. Example: Entering "ABC-" as the prefix for item "Example A" results in the name "ABC-Example A."
- **Add a relationship from the original item**
  This not only reuses the source item, but also creates a relationship between the source item and the newly created one.
- **Include all tags, attachments and links**
  Select this if you also want to duplicate all tags, attached files and URL links associated with the items. If an existing item is overwritten and this is checked, all tags, attachments, and links are updated to match (any tags, attachments, or links that existed in the destination but not in the source item are removed). If this isn't selected and you overwrite an existing item, any tags, attachments, and links are cleared in the destination item.
- **Don't include relationships outside of the source selection**



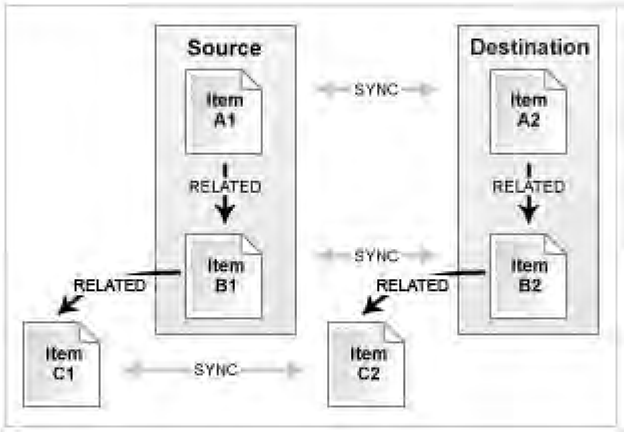
This selection tells the system to only copy the source item. Any relationships within the source item aren't copied. For example, if the source item has a component that contains Features, Requirements, and Test Cases, any relationships between those selected items are copied when the component is reused. However, if any of the source items have relationships that are to items outside of the source component, such as a relationship between a Requirement in the source component and a Use Case in another component not reused in this action, those relationships aren't copied.

- **Include relationships from the source selection**



This tells the system to copy over the source item, as well as any source item relationships. The new item has relationships to the same items as the source item. For example, if the source item has a component that contains Features, Requirements, and Test Cases, any relationships between those selected items are copied when the component is reused. In addition, if any of the source items have relationships that are to items outside of the source component, such as a relationship between a Requirement in the source component and a Use Case in another component not reused in this action, a relationship is created between the newly created Requirement and the same Use Case.

- **Include related items and mirror relationships**



This tells the system to copy over the source item and any related items and create a relationship to those newly created related items. For example, if the source item has a component that contains Features, Requirements, and Test Cases, any relationships between those selected items are copied when the component is reused. Also, if any of the source items have relationships that are to items outside of the source component, such as a relationship between a Requirement in the source component and a Use Case in another component not reused in this action, a new Use Case and its container appears in this project, as well as a new relationship between the new Requirement and the new Use Case.

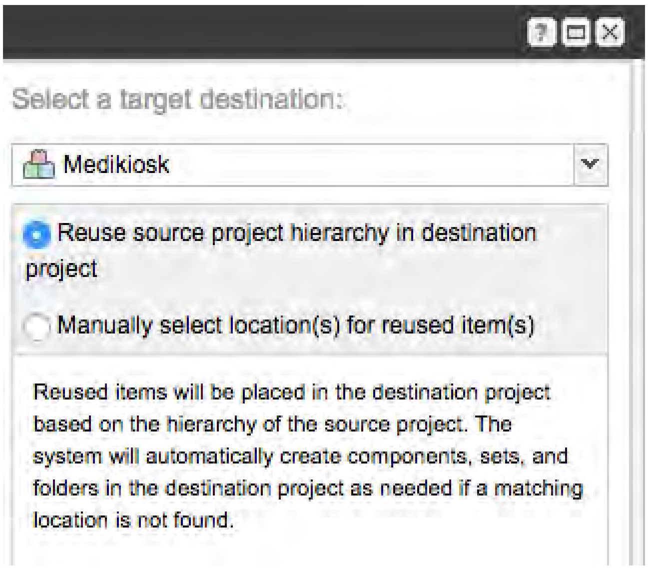
IMPORTANT

If you change the hierarchy of the source component, those changes aren't made in the destination component.

Select target destination

The target destination is the place where you want to create a reused item. When reusing items you can create a new item or you can overwrite an existing item with the source item.

In the **Reuse Items** window, under **Select a target destination**, select where you want the item to go:



- **Reuse source project hierarchy in destination project**
  Select this option if you are choosing a target destination in a different project that has the same hierarchy as the source project. If a similar set and folder exist, or if they have the same names and layout in the source and destination project, then those sets and folders aren't remade in the destination project. If a similar set or folder doesn't exist, a new one is created.
  For example, if you reuse a feature in the Features component, but no Features component exists in the target project, this option creates the Features component and reuses the feature.
- **Manually select location(s) for reused items(s)**
  Select this option if you're copying an item to a different project with a very different structure, or if you're reusing an item to a different section of the same project.

Reuse administrator

Because of the complexity of reuse and synchronization, it can be helpful to have a person managing reuse. An organization administrator can assign reuse administrator permissions [583].

Reuse administrators are the only ones who can:

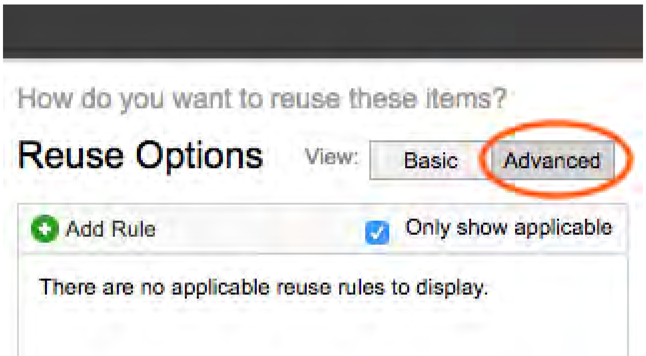
- Edit and delete compare views of synchronized items
- Add, edit, and delete reuse rules under advanced options

Add and edit reuse rules

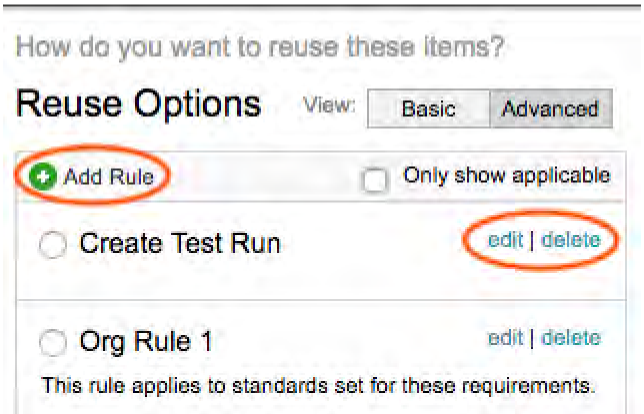
> **IMPORTANT**
> You must be a reuse administrator [286] to perform these tasks.

A reuse rule allows you to reuse not only specific items, but also items related to your primary selection. You can also select which fields are copied to the new item (fields not selected use default values).

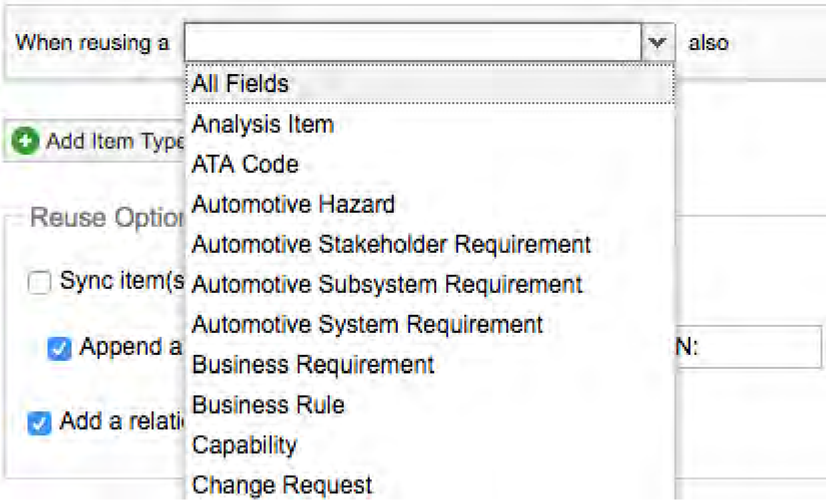
1. After selecting items for reuse, the Reuse window opens. Under Reuse options, select **Advanced**.



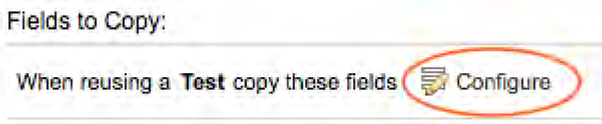
2. Only reuse rules that apply to the item type selected are shown. To view all reuse rules, deselect **Only show applicable**. As a reuse administrator, you can **add**, **edit** , or **delete** rules.



3. If you **add** or **edit** a rule, the **Reuse window** opens.
4. To add a rule, select **Add item type rule**, then select an item type from the drop-down menu.



5. Select the green **Related** button to define how to handle up and downstream items related to this item type. You can add multiple rules for each item type and each rule can go 16 levels deep. Select the **red minus delete** button to remove any level or rule.
6. Select the reuse options that you want to apply to these rules:
   - **Sync items and share global ID**
     Select this box to give the source item and the destination item the same global ID. With the same global ID, changes to one item flag the relationship between them as out of sync.
   - **Append a prefix to the names of the copied items**
     If the items are only being reused but not synchronized, you can append a prefix to the new item in order to differentiate between two copies of the same items. Enter the prefix you want to use in the field.
   - **Add a relationship from the original item**
     Select this to create a relationship between the original item and the new item.
7. At the bottom of the window under **Fields to copy**, you can configure each item type to limit the fields and widgets to be copied. Select **Configure** next to the item type you want to configure.



8. The fields tab allows you to define whether you want all fields copied or specific fields copied.

> **IMPORTANT**
> Release fields can't be reused and synced between projects because they are unique to each project.

9. The **Widgets** tab allows you to define whether you copy tags, attachments, and links. Once you have configured your item type, select **Done** to save your changes and close the window.

Synchronization

Synchronization monitors for differences between reused items and containers. When differences exist, users have the option to update the data for those items or containers.

Synchronized items are only visible to users with read permissions to both items. You must have write permissions to make edits, synchronize [288], reuse [279], or duplicate items.

If you change the hierarchy of a source component, those changes aren't synchronized in the destination component.

When you convert a synchronized item to different item type, such as converting a Requirement to a Feature Request, the item loses its synchronization and receives a new global ID.

> **NOTE**
> Synchronization changes don't trigger suspect links [270].
>
> Running a synchronization does not remove deleted items. For example, if an item is deleted from the original component, you can't choose **Sync All** to delete that item from the new component.

Synchronize items

Synchronization updates are allowed only on those projects where you have read/write permissions. You can pull data from projects where you have read-only permissions, but you can't push data to items in those projects.

If you add a new item to a container in the source project, then synchronize it to other projects, Jama Connect checks the destination projects to see whether an item with the new global ID already exists.

You can synchronize items in one of these ways:

- When you connect items from Single Item View [292]
- In the **Synced items** window (when syncing multiple items) [290]
- When you reuse items [279]
- When an organization or project administrator duplicates projects [627]

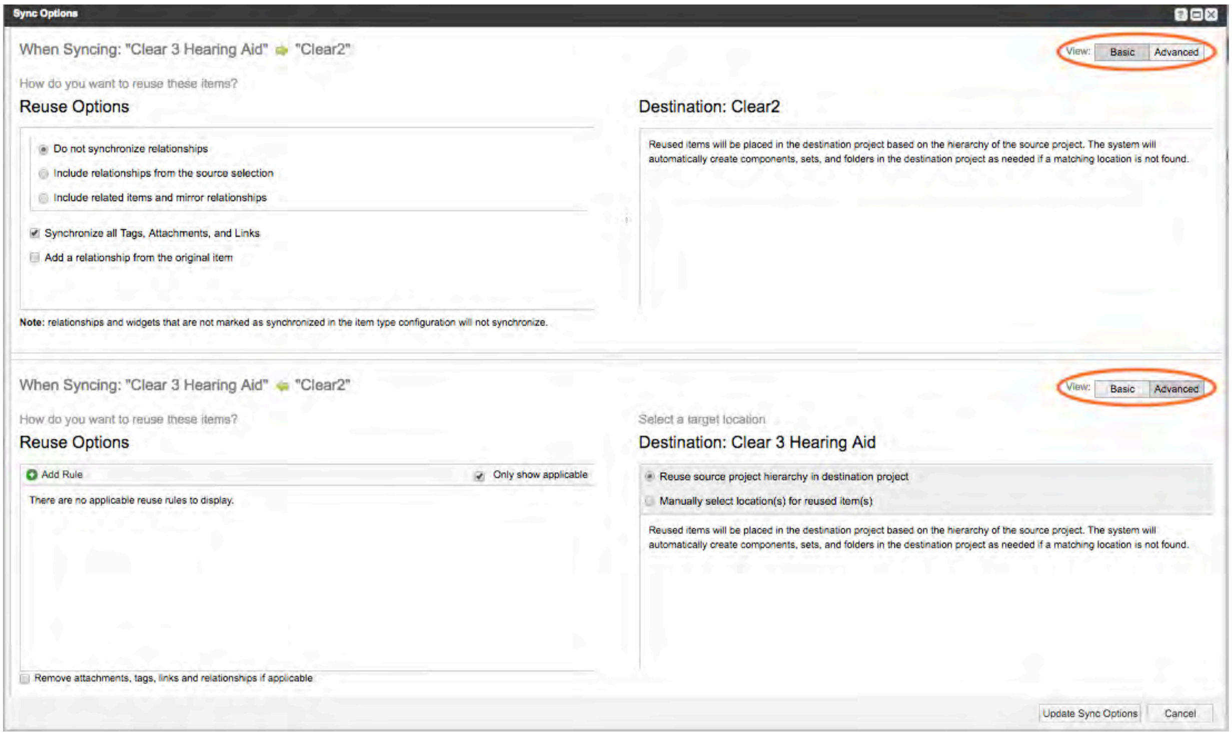
> **NOTE**
> If multiple items with the same global IDs are allowed in that project [546], a new sync item is added to the container in the destination project, and other copies of that item elsewhere in the project are ignored. If multiple items with the same global ID aren't allowed (default), the destination items sync, even though they aren't in the proper hierarchy.

Sync options window

If you're viewing the Sync options window when synchronizing items in the **Synced items** window [290], you see reuse options and a destination for your item.

If you're viewing **Sync options** window from the Compare View, you see a top and bottom half. The top section displays rules for items in the left column of Compare View. The bottom section displays rules for items in the right column of Compare View. The functionality is the same for each pane.

Rules you create in the **Sync options** window override synchronization rules created through administration or reuse.



Select **Basic** in the top right corner to view and select these options:

- Choose how you want to handle relationships:
  - **Don't synchronize relationships**
  - **Include relationships from the source selection**
  - **Include related items and mirror relationships**
- Select the following options as needed:
  - **Synchronize all tags, attachments, and links**
    When synchronizing related items that don't exist in the destination project, all fields, tags, attachments, and links are reused. Fields that aren't applicable to the destination project are set to defaults.

    > **NOTE**
    > Only links to attachments are synchronized, not the attachments themselves.

  - **Add a relationship from the original item**
- The default destination uses the specified target destination.
  Reused items are placed in the destination project based on the hierarchy of the source project. If a matching location isn't found, the system automatically creates components, sets, and folders in the destination project as needed.

Select **Advanced** to:

- Display and modify existing reuse rules or add new ones.
  Reuse rules shown are filtered by item type. Deselect **Only show applicable** to display all reuse rules. Select **Add rule** to add a new rule to the items selected in this view.
- Select a destination.
  Select **Manually select location(s) for reused item(s)** to select a specific destination for your synced items.

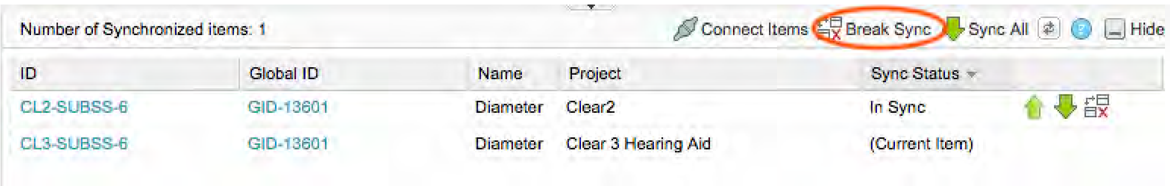
Select **Synchronize** to sync all fields specified in the reuse rules in the **Sync options** window. This also removes all attachments, tags, links, and relationships if selected.

When synchronizing related items that don't exist in the destination project, all fields, tags, attachments, and links follow the sync option that's applied to the view (fields that aren't applicable to the destination project are set to defaults).

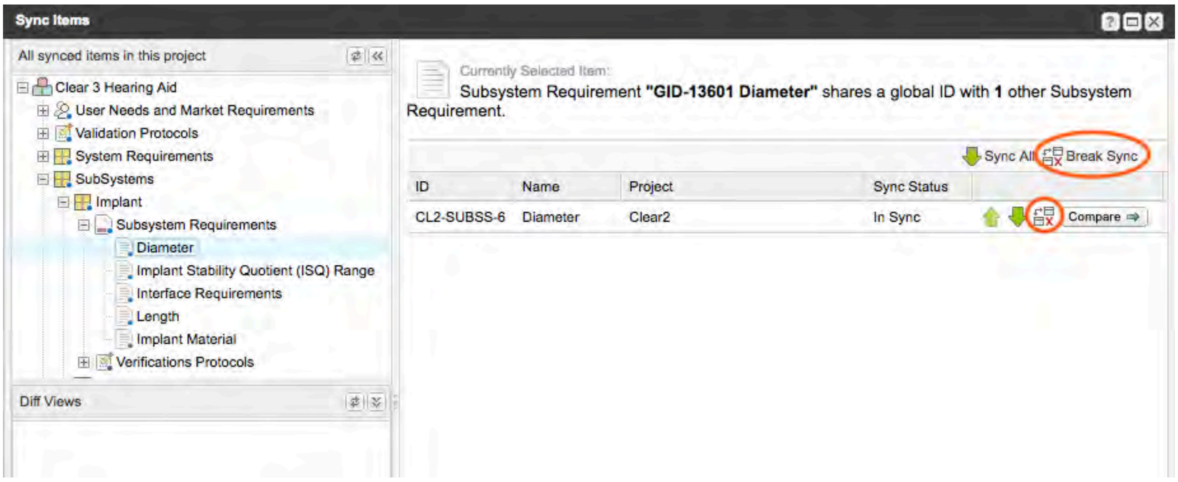
Break synchronization

Breaking the synchronization removes the connection between items and any other relationships built on this connection. In addition, it gives the removed item a new global Id. Further synchronizations for that original global ID don't affect the item with the broken connection.

1. Open the **Synced items** window or open the bottom panel in Single Item View [277] of the item whose synchronization you want to break.
2. Select the item whose synchronization you want to break and select **Break Sync**.

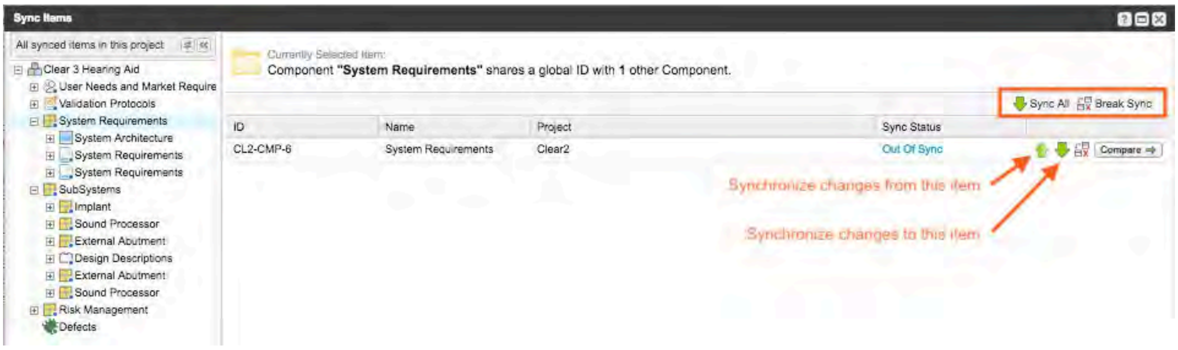
   In the **Sync Items** window, select **Break Sync** in the same row as a specific item to remove the sync and reassign that item a new global ID. Click the **Break Sync** button at the top to break the synchronization between all of the items listed and reassign a new global ID to all of the items.

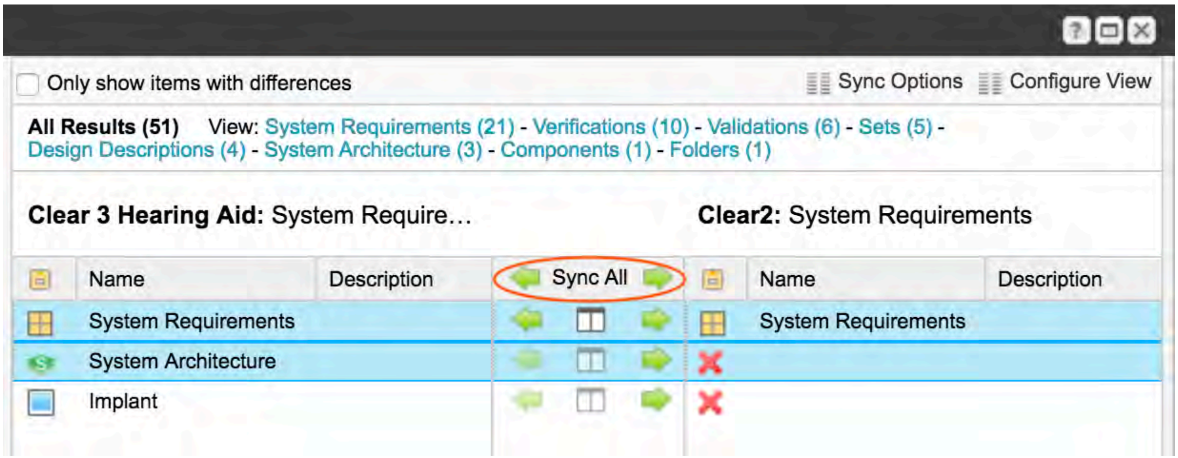
3. You are asked to confirm the break. Select **Yes** to continue.

Synchronize items from Synced items window

1. Open the **Synced items** window [277].
2. Select the component, set, or items that you want to sync from the Explorer Tree. Select **Sync All** to open the **Sync options** [289] window for all of the items shown, or select the up or down arrow to sync changes to or from the items shown.



3. Alternatively, you can select **Compare** to open the Compare View. Then use the right or left arrow buttons for each item to sync them in a particular direction. Or, you can select multiple items (highlighted in blue) using the **Ctrl** and **Shift** keys and use the arrows at the top of the **Sync All** column to synchronize all the items in a particular direction.



> **CAUTION**
>
> Synchronizing all items can't be undone. If the wrong groups are chosen to be updated, fixing those updates might be cumbersome and time intensive.

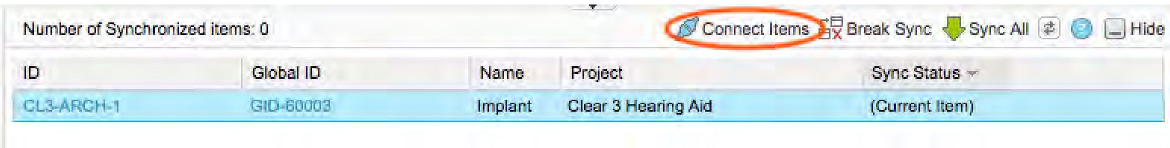
4. The **Batch Sync** window displays the selected number of items to update. **Selected Items**are automatically selected, but you can also choose **All items**.

5. Select **Batch Sync** to complete the update.

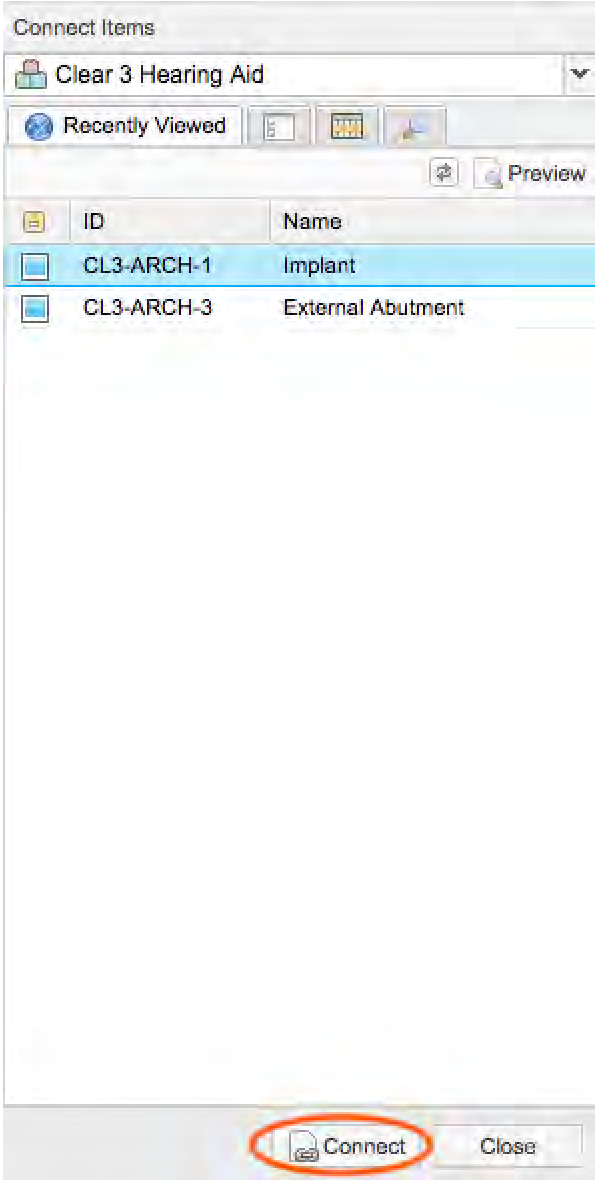
> **NOTE**
>
> When synchronizing items, only those fields that are enabled as synchronized fields [593] have their data updated. Child items are added to the destination if they exist in the source only.
>
> When syncing a container, the container and all children are always synced unless you created advanced reuse rules [286] that specify otherwise.

Connect items from Single Item View

1. Open the bottom panel in Single Item View [277].
2. In the bottom panel, select **Connect Items**.



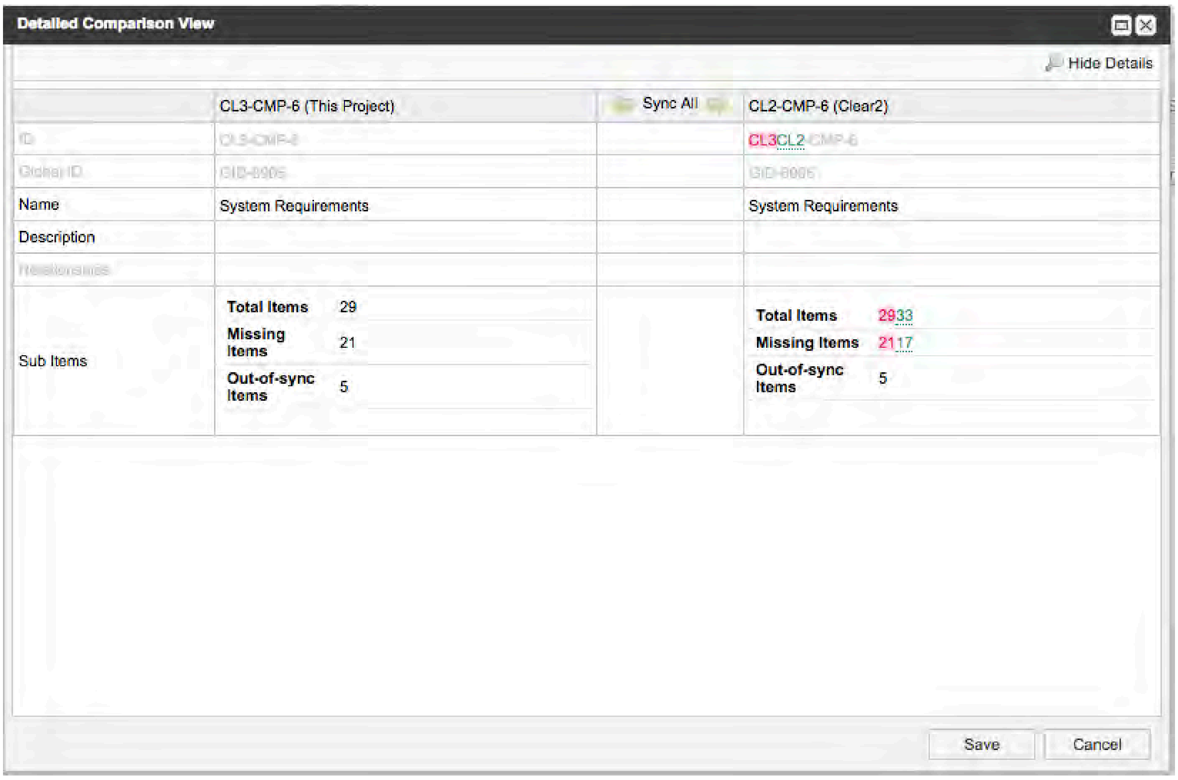
3. In the right panel that opens, select the item you want to connect to, then select **Connect**. You can use the recently viewed, search, explorer, or releases tabs to help you find the item. You can also select **Preview** to open a window with details about an item.



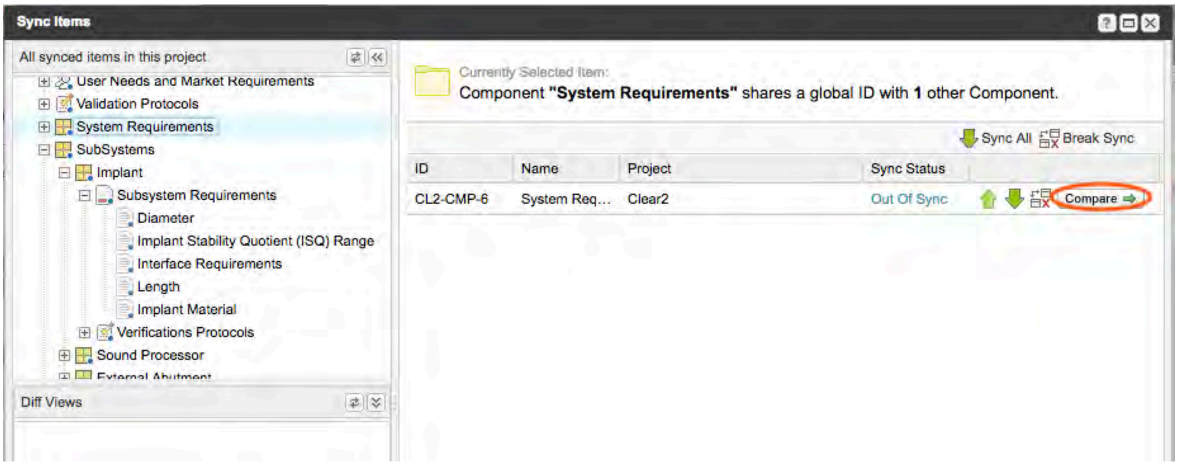
4. The newly connected item now appears in the bottom panel with the same global ID. This change also appears as an activity in the Stream [203].

Compare synchronized items

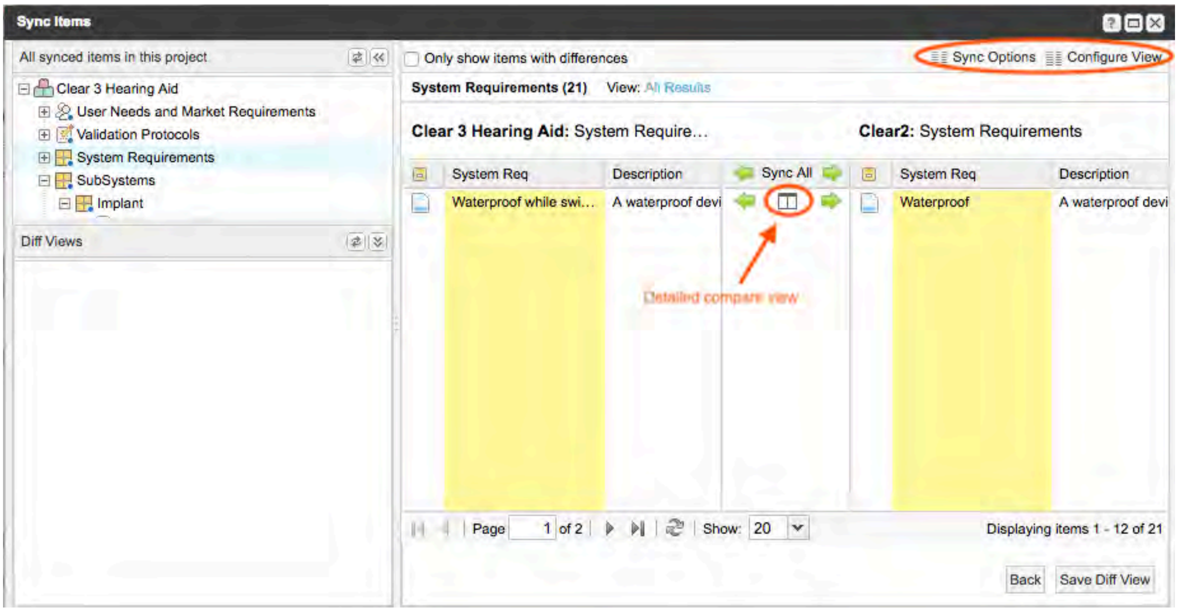
1. Open the **Synced items** window [277], then select an item or container in the Explorer Tree.
2. The selected item or component is displayed with a sync status that lets you know whether that item is in sync or out of sync. If it's out of sync, select it to open a **Detailed Comparison View** of those differences.



3. To view the differences at an item level, select **Compare**.

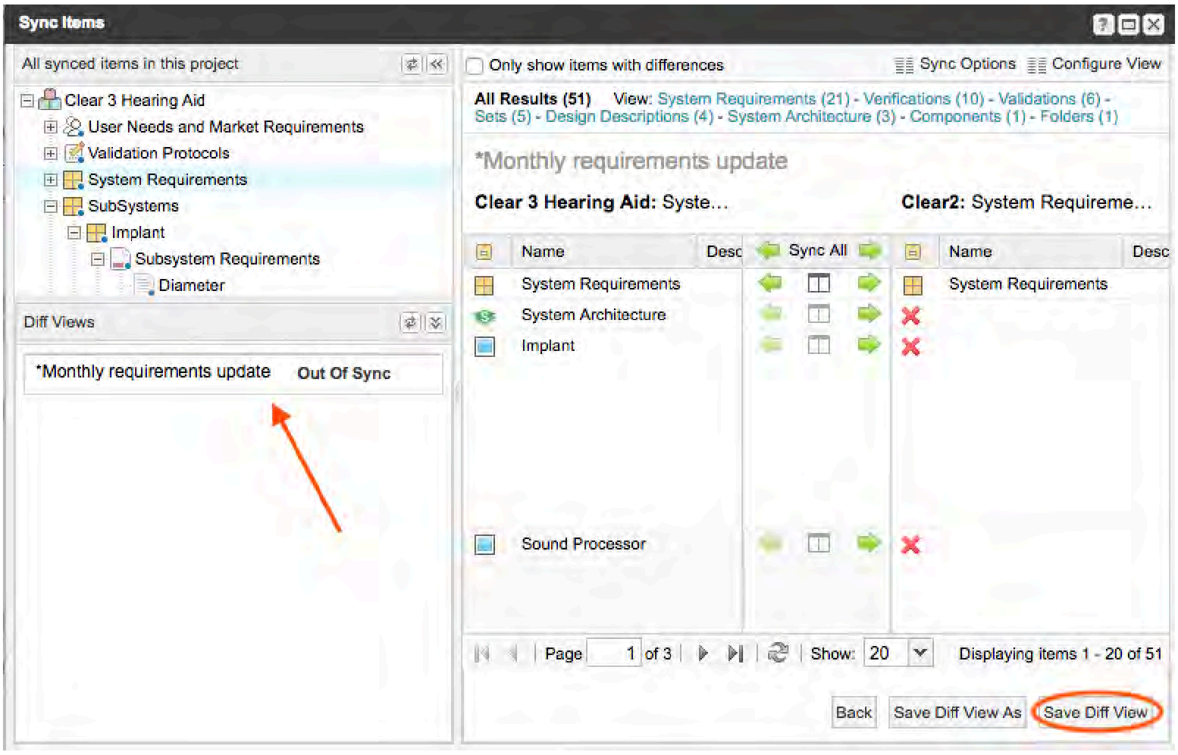


4. You see a list of all synchronized items in that component. Use the links at the top to filter items within a component. Use your mouse to scroll left or right so you can compare fields. Click **Configure View** to configure which fields are displayed [296]. Yellow highlights indicate synchronized items with content that doesn't match.

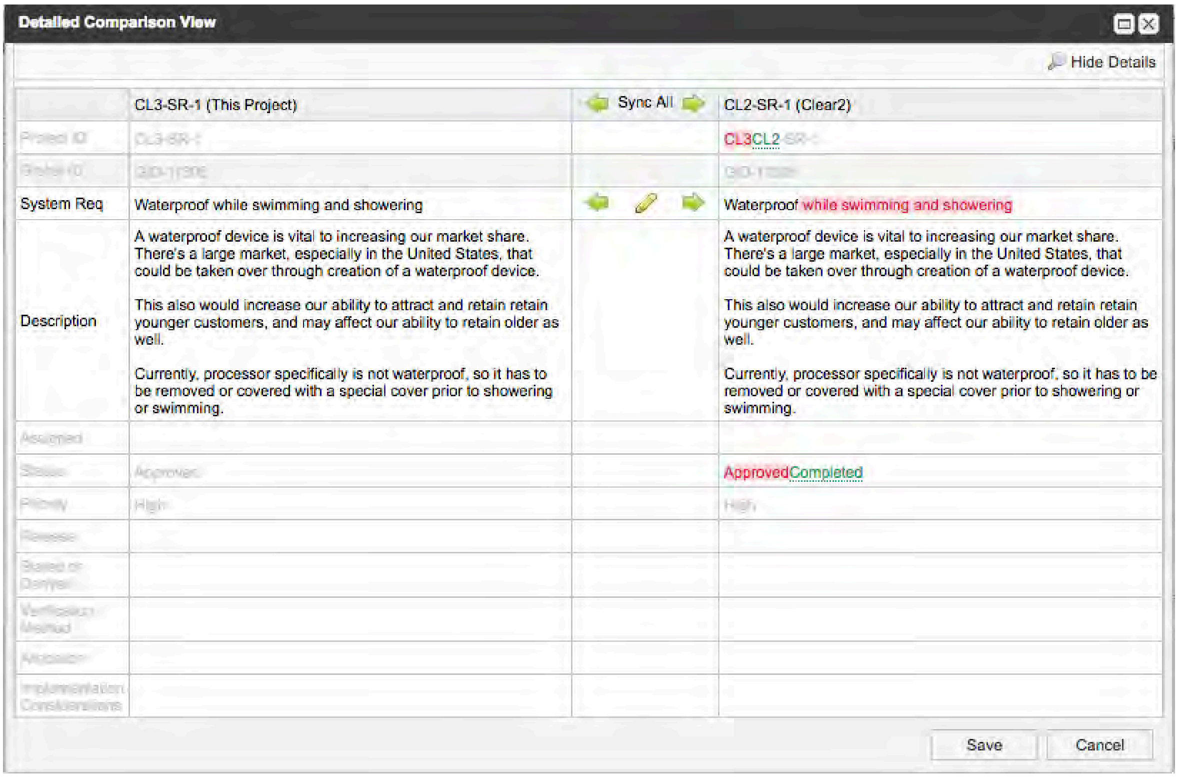


> **NOTE**
> If an organization administrator didn't enable a field to be synced [593], it's never highlighted in yellow, and it can't be synced.

5. (Optional) Select **Save compare view**.



6. If this view doesn't give you enough information to determine whether or not you want to sync something, select **Detailed compare view** for the items you want to compare. This opens a **Detailed Compare View** window.
   You see individual changes that were made with the old text highlighted and in red and the new text underlined and in green. You can synchronize the data by selecting the **green arrow**, or select the **pencil icon** to manually edit the content of the fields. Select **Save** when you're done.

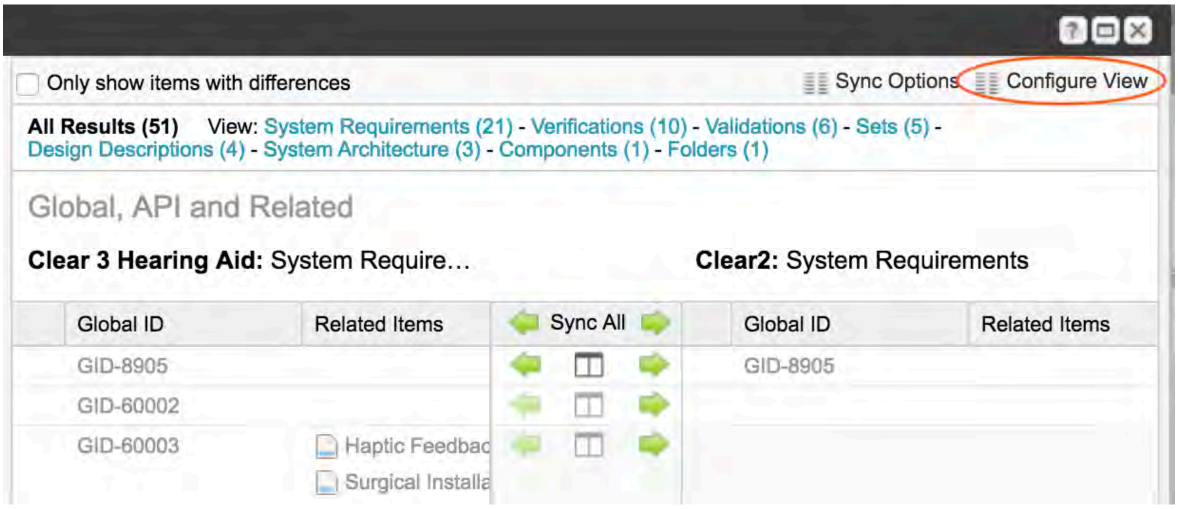


7. Select **Back** to go back to the initial window where you can select synced items.

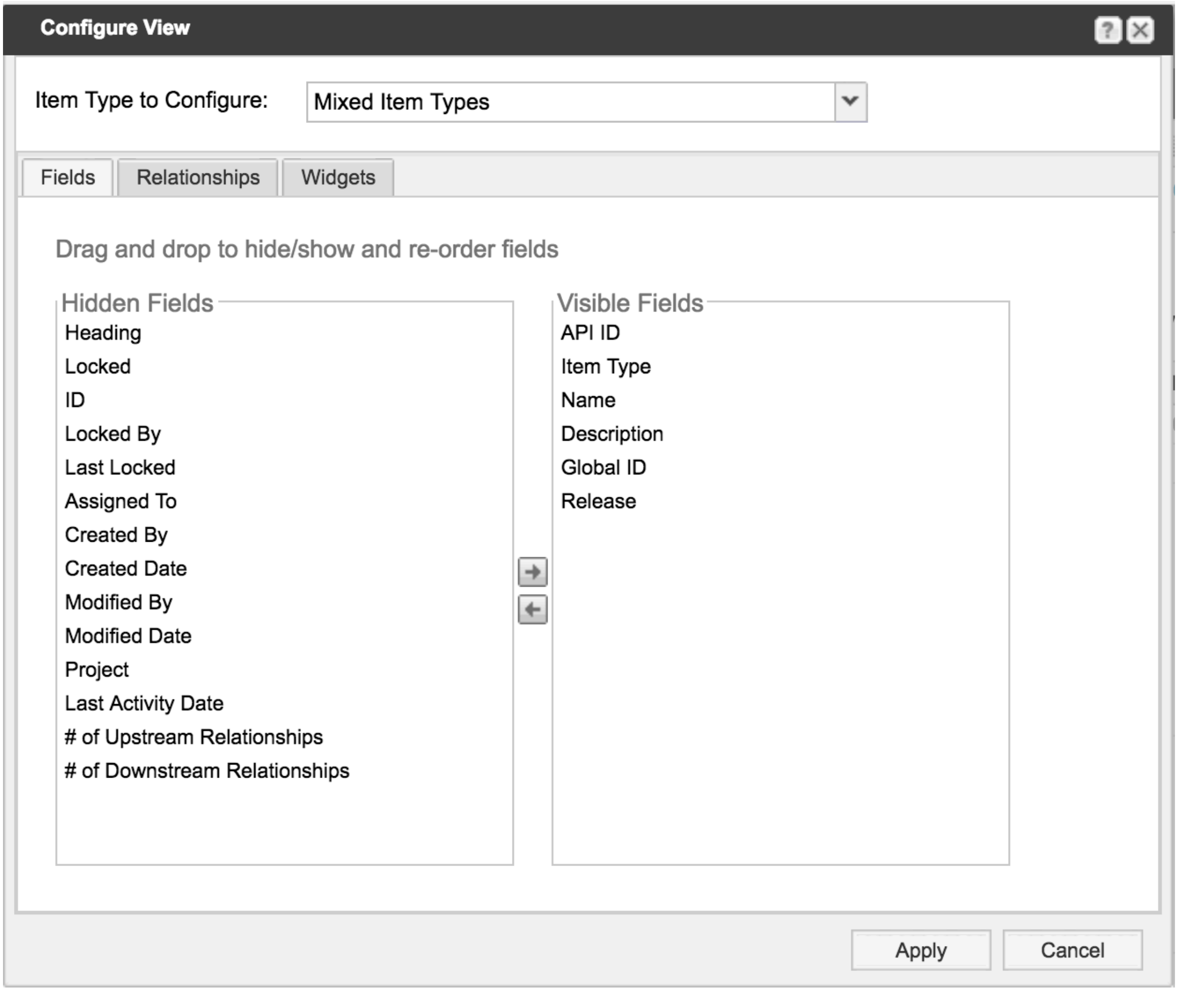
Configure Compare View for synchronized items

To configure Compare View in the **Synced items** window:

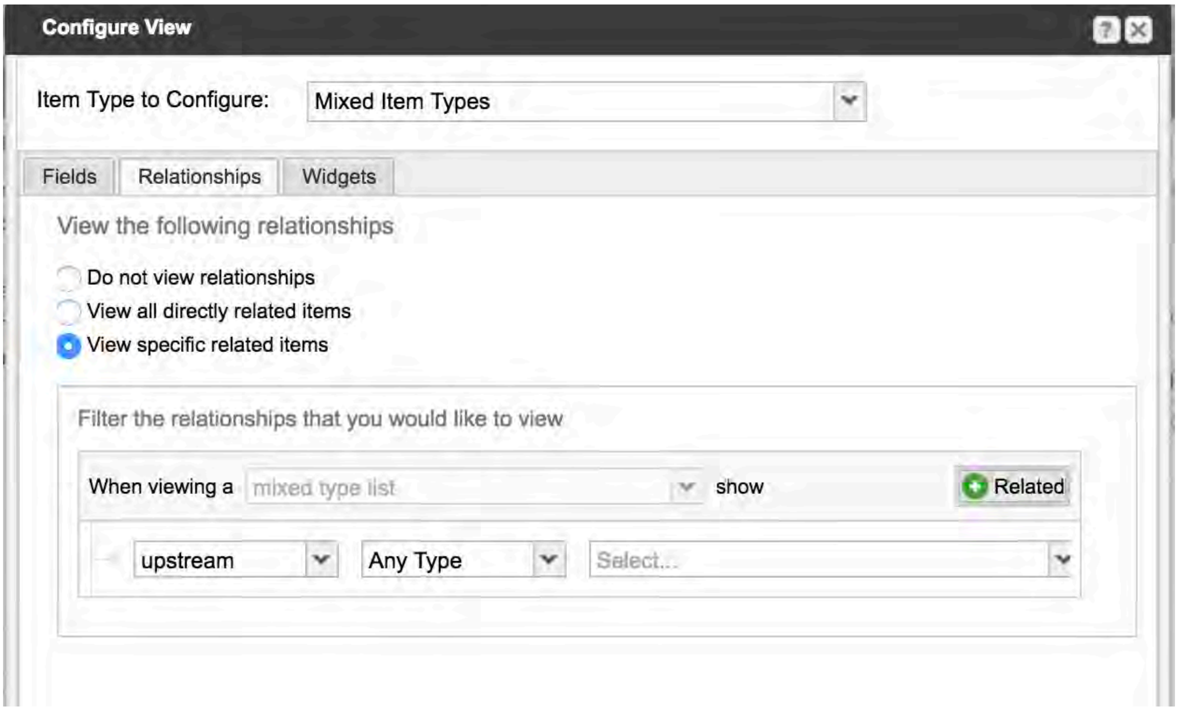
1. Select **Configure View** in the upper right corner.



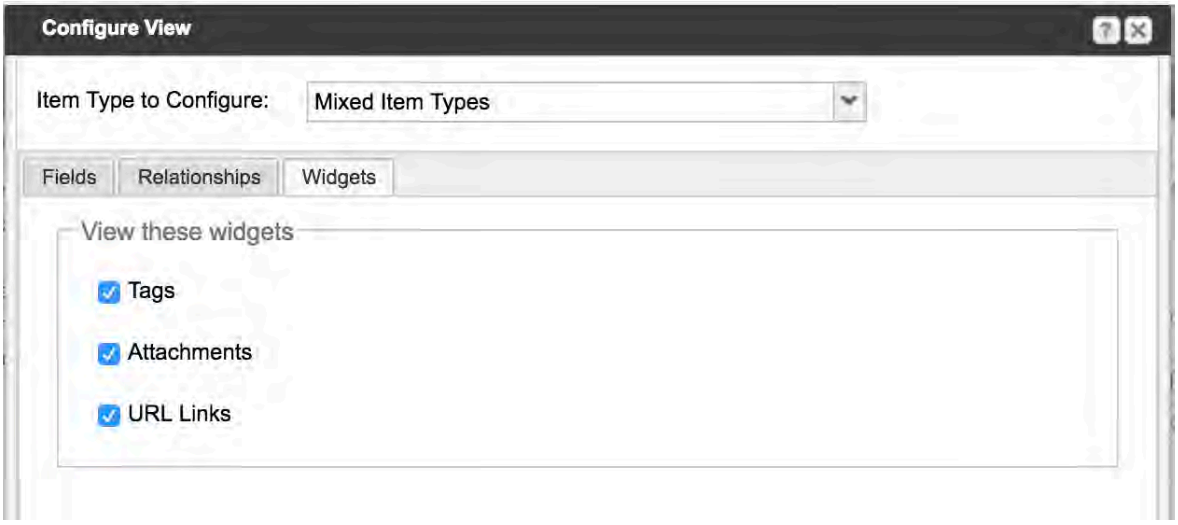
2. Select the item type to configure from the drop-down menu at the top of the **Configure view** window.
3. Under the **Fields** tab, double-click, drag or use the middle arrows to move the fields you want to see from **Hidden fields** to **Visible fields**.



4. Under the **Relationships** tab, indicate whether to view relationships and to view all or some of them in the Compare View.



5. Under the **Widgets** tab, indicate whether you want to see tags, attachments, and URL links in the Compare View.



6. Select **Apply** to save your changes or select **Cancel** to close the window without saving.

NOTE
The changes you make in this window are only set for the specific Compare View you're currently viewing in the Sync Items window. Changes don't persist if you close this window. If you want to keep the same configuration, you can save a Compare View [293].

Exports

Select the data you want to export using advanced filters [135] or the Explorer Tree and export directly to Word [300] or Excel [300] from List or Reading View. Use these options to quickly export without a template.

If you view your filter results in Reading View, you see container items. These items offer a sense of hierarchy and visual context and are included in your export. However, you can't select or change containers from Reading View.

Important considerations

Data exported from Jama Connect to Excel can be interpreted as formulas in Excel, leading Excel to evaluate the cell and return a value. For example, if the name of an in item in Jama Connect is “=1338-1”, Excel interprets it as a formula and the value is displayed as “1337”. All Excel formulas begin with the equal symbol (=). When Excel encounters a field value that starts with =, the cell might interpret it as a formula.

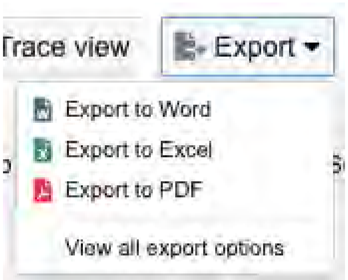
To avoid issues with how Excel might interpret data, don't use field names starting with the equal symbol (=).

You can also:

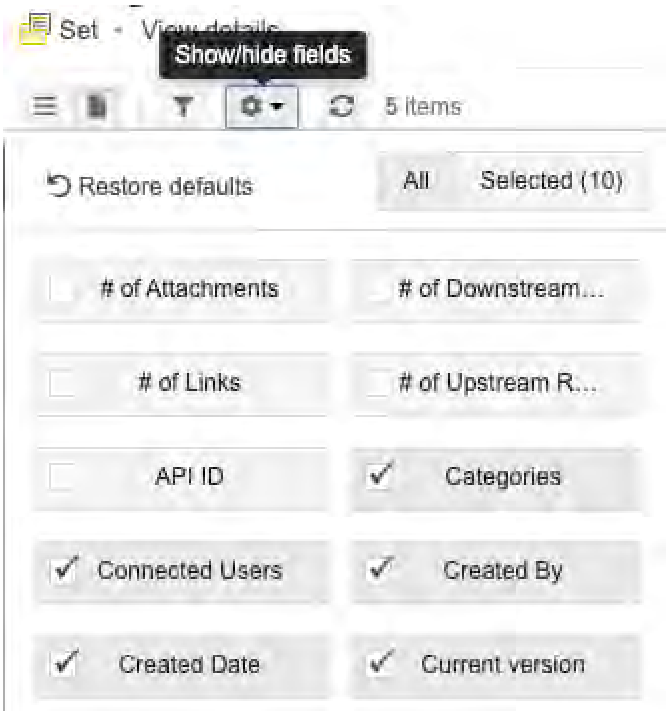
- Export data using a custom template [302]
- Export data from Trace View [257]
- Export review activity [193]
- Export test cases [324]
- Make round-trip exports [117]

- Export a risk analysis [426] (if your organization has this feature)

To use specific templates, select **View all export options** [302]. From the All export options window, you can download and modify some of the more basic templates [305].



Do you have information you want to include or exclude from an export? In List View, select **Show/hide fields** (gear icon) to modify the fields that appear in your in your document.



Export template parameter

By default, extra line breaks are removed to improve the published document, however this might cause consecutive tables to be combined. If you need to restore a template to previous export results, you can apply a new parameter to the report parameter field in the template.

Setting	Definition	Parameter
Default	Removes extra line breaks; consecutive tables are combined.	cleanEmptyParagraphs=true
Custom	Keeps extra line breaks; consecutive tables are separate.	cleanEmptyParagraphs=false

TIP

For self-hosted customers, a system or organization administrator can upload custom Velocity exports [558] that are also displayed in the Export window.

Export to Word

You can export a set of items as a Microsoft Word document. If you want to show your content in context, you can include hierarchy in these exports. The default Word export is a boilerplate that was created with Office Templates and can be modified to meet your needs.

To export contextual hierarchy with Reading View:

1. Select the items you want to export using the Explorer Tree or an advanced filter.
2. Choose **Reading View**.
3. Select **Export > Export to Word**.
4. Upon export, your content appears as follows, depending on how you selected your data:
   - **Selection with the Explorer Tree**
     The selected container becomes the title page for the export.
   - **Selection with an advanced filter within a single project**
     Reading View includes the container hierarchy above the filtered items, up to the top of the project. Container items that show hierarchy have a grayed-out (disabled) checkbox, while the rest of the items can be selected. Hierarchical containers are exported with the content items.
   - **Selection with a cross-project filter**
     Reading View doesn't display numbering. The export is a listing of items without hierarchical information.

When you export items from List View, all of the items appear in list form. The export displays a table of contents, followed by each of the items, their names, and a list of field names and values for each.

To export a list of items from List View:

1. Select the items you want to export using the Explorer Tree or an advanced filter.
2. Choose **List View.**
3. Select **Export > Export to Word**.

> **NOTE**
> Word for Mac is known to have some issues with exporting certain formats and tables. If you experience issues, try to eliminate any special formatting or tables within tables.

Export to Excel using default templates

Export to Microsoft Excel if you need to provide data to external stakeholders who don’t have access to Jama Connect. You can also use round trip to work offline or share data in a format that can be used to update existing data.

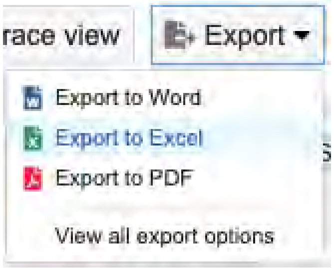
You can export selected items to an Excel document two ways:

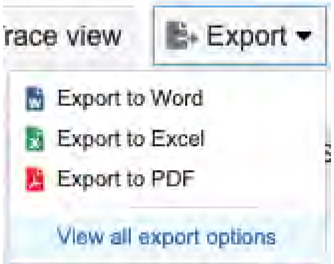
- Using the default boilerplate template
- Using Office Templates, which can be customized

To export data to Excel:

1. From an advanced filter or the Explorer Tree, select the data you want to export.
2. In List View, select the gear icon (Show/Hide) to open the drop-down menu.
3. Select the fields that you want to include in the Excel output.
4. Deselect (hide) the fields that you don't want to include.

> **NOTE**
> Excel doesn't support rich text. Jama Connect removes formatting when it exports to Excel.

5. In the toolbar, select **Export**.
6. **For default template**
   If you want to export using the default boilerplate, select **Export to Excel**. Your results appear immediately.
   

7. **For Office Templates**
   If you want to customize your template, select **View all export options**, select an Excel export option, then click **Run**.
   

   - **Export to Excel default**
     Generates an export that includes the fields that appear in List View (one column per field). This export isn't meant for importing data updates to existing items in Jama Connect. If you need to do this, use Excel Export for Roundtrip [117].
   - **Excel Export for Roundtrip**
     Includes all available fields. You can edit the resulting spreadsheet and import the changes back into Jama Connect.

> **NOTE**
> All fields that you plan to update using round trip must be included in the export, including rich text fields like Description. Rich text is output in raw HTML format, so the content can be preserved if re-imported.

Export to PDF

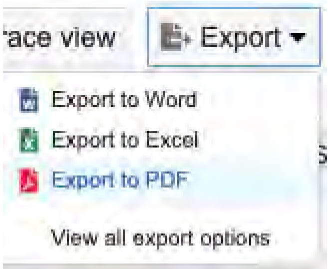
You can export a set of items as a PDF using the PDF reports included with Jama Connect. If you want to show your content in context, you can include hierarchy in these exports. The default export is created with Office templates and can be modified to meet your needs.

NOTE

For information about creating custom PDF reports and how to make existing reports PDF compatible, go to the Jama Software Community site and search for Velocity reports or see Upload custom reports or exports [558].

To export contextual hierarchy with Reading View:

1. Select the items you want to export using the Explorer Tree or an advanced filter.
2. In Reading View, select **Export > Export to PDF**.



3. Upon export, your content appears as follows, depending on how you selected your data:
   - **Selection with the Explorer Tree**
     The selected container becomes the title page for the export.
   - **Selection with an advanced filter within a single project**
     Reading View includes the container hierarchy above the filtered items, up to the top of the project. Container items that show hierarchy have a grayed-out (disabled) checkbox, while the rest of the items can be selected. Hierarchical containers are exported with the content items.
   - **Selection with a cross-project filter**
     Reading View doesn't display numbering. The export is a listing of items without hierarchical information.

When you export items from List View, all of the items appear in list form. The export displays a table of contents, followed by each of the items, their names, and a list of field names and values for each. To export a list of items from List View:

1. Select the items you want to export using the Explorer Tree or an advanced filter.
2. In List View, select **Export > Export to PDF**.

Office Templates

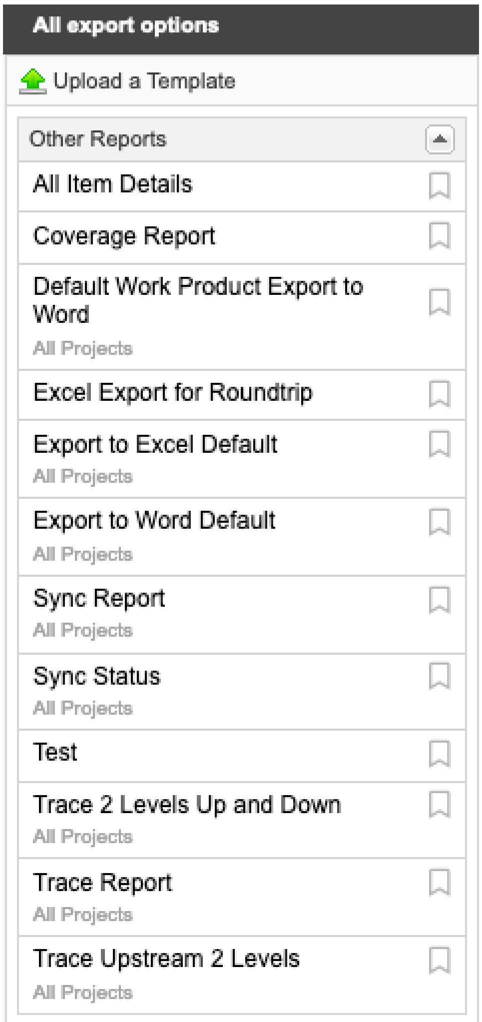
Microsoft Office Templates are Word documents and Excel spreadsheets that allow you to add formatting to your exports.

Office Templates are best for simple exporting with Word and Excel using data that you select in the Explorer Tree or with an advanced filter [135].

Select **Export > View all export options** to open the **All export options** window.

The Office Templates window shows several default templates that come with Jama Connect. You can download one of the existing templates [305] and modify it, or create your own template in Word and upload it [306]. Select the bookmark next to a template to move it to the top of the list.

For self-hosted customers, an administrator can also upload Velocity templates [558] and they are also displayed here.



TIP

The All Items Details Export [308], and the Coverage Report [309] are made with Velocity and can't be downloaded and modified with Microsoft Word.

Each Office Template has three sections:

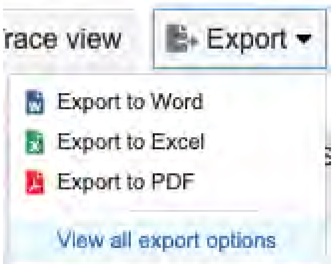
- **Cover page** This section contains general information about the export, and the data it references. Some fields typically included in this area are:

  ```
  <<reportName>> - shows the Report Name entered in the Office Templates
  window
  <<reportDescription>> - shows the Report Description entered in the
  Office Templates window
  <<contextType>> - shows the type of content being used (e.g. release,
  component, filter, folder, item etc)
  <<contextName>> - immediate context for the data being used (e.g.
  container name, like "Requirements")
  <<userName>> - name of the user generating the report
  <<projectName>> - name of the project
  <<projectManager>> - project administrator
  <<organizationName>> - name of the organization
  <<contextPath>> - hierarchical path from the content to the project level
  ```
- **Table of contents**
  This is automatically generated using Word's heading hierarchy. You can delete this by editing the template to remove this section.
- **Items and fields**
  This section contains the items and their respective fields from the selected data set. This section can be modified.

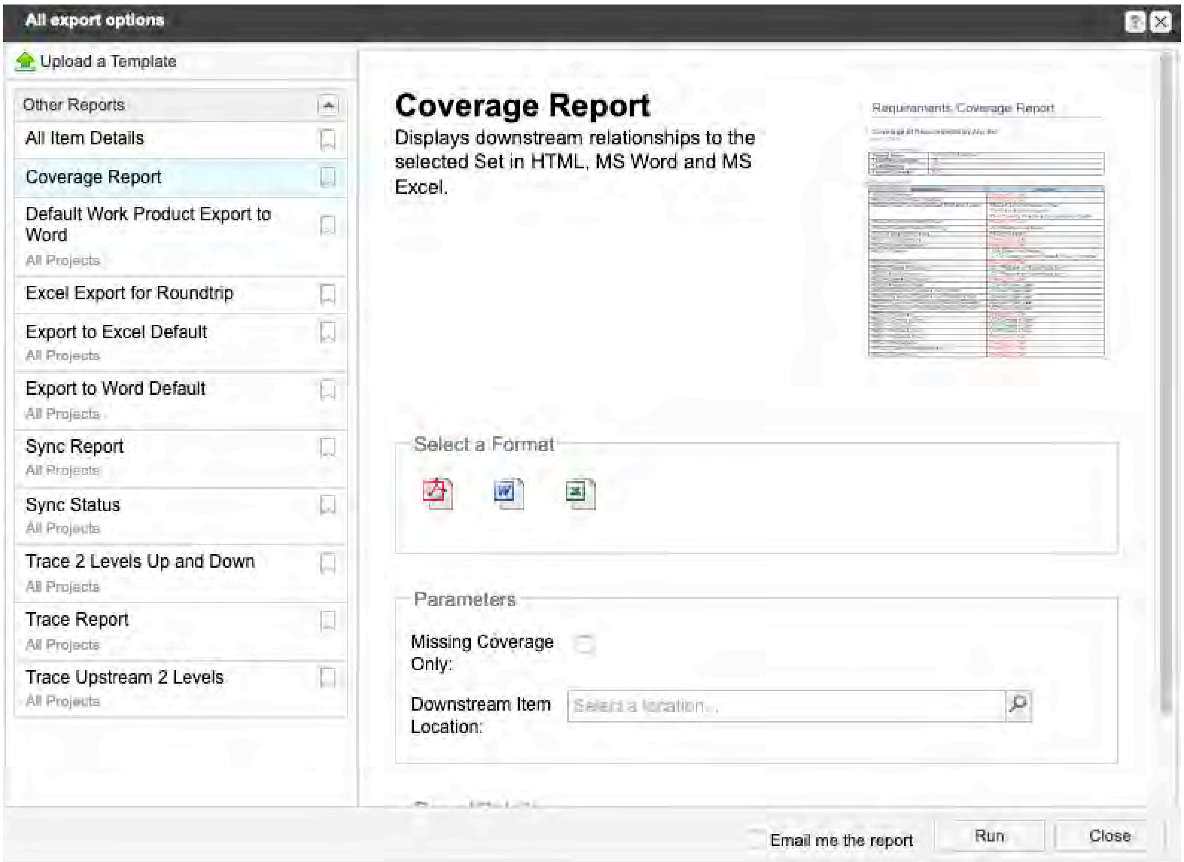
> **TIP**
>
> For a list of fields available for export in your current project, you can download the Field Reference Guide [310].
>
> If you need to roll up field data or do something more complex than simply export formatted data from Jama Connect, read about reports [357] or custom reports [374].

Export data with Office templates

1. In List View or Single Item View, select **Export > View all export options**.

2. In the All export options window that opens, select the export you want to run from the list of templates on the left.

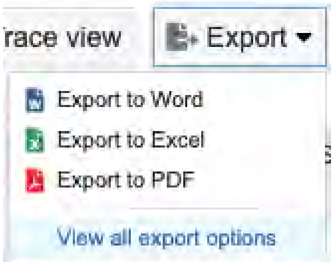


3. Select the format for your export. You might also need to enter additional information about your export for some of the templates to work correctly.
4. Exports that contain lots of data can take several minutes. You can select **Email me the report** to receive a link to the export when it's finished. Links are stored for 7 days before they're automatically deleted.
5. Click **Run** .

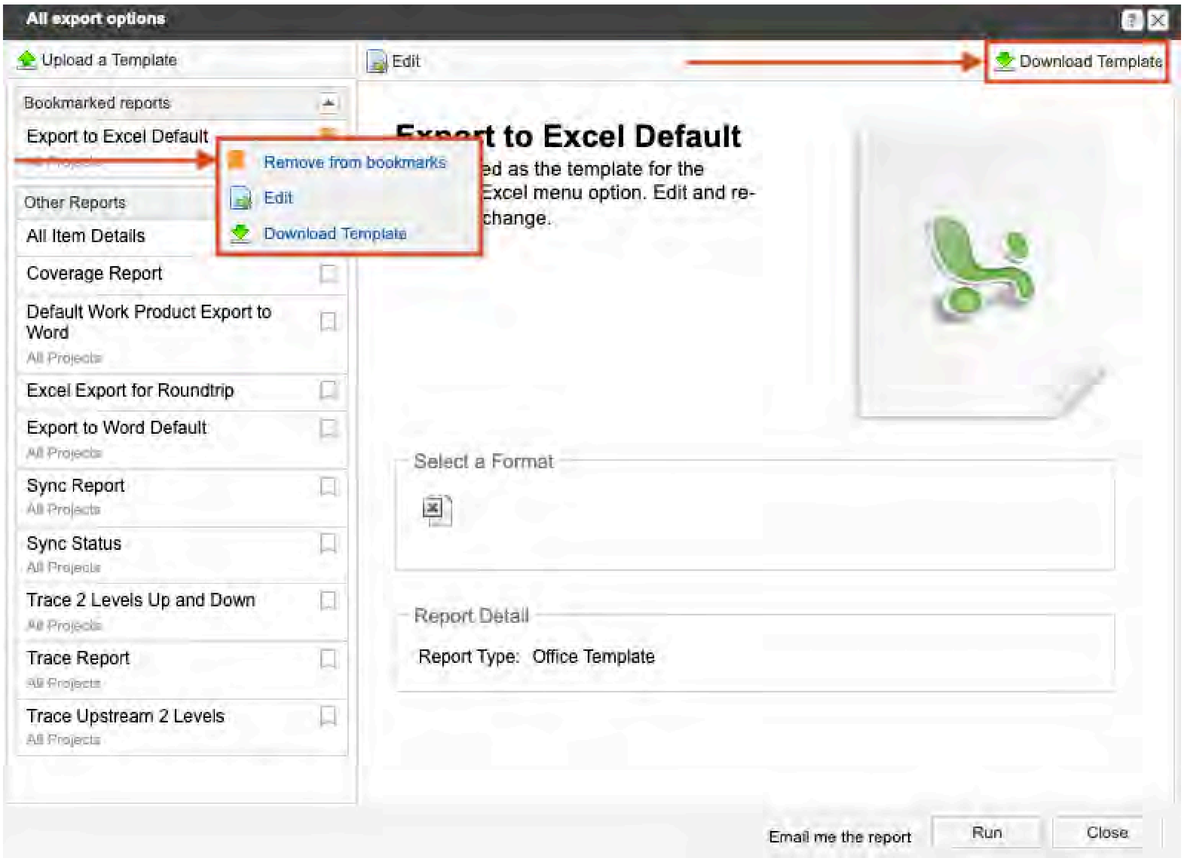
Download an existing export template

You can download an existing Office Template to modify it or to start a new template.

1. In List View, Reading View, or Single Item View, select **Export > View all export options**.



2. In the All export options window that opens, right-click on the template you want to download or open the template and use the top toolbar to select **Download Template**.



3. The template is downloaded to your computer. You can modify the template in Word and upload it as a new template [306].

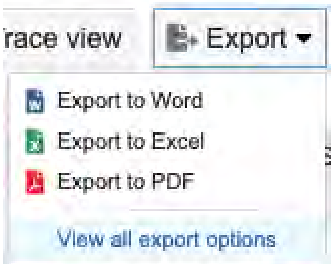
Upload an export template

Any user with read/write permissions can upload and export a custom template. You must be a project administrator to upload and save a template to a particular project.

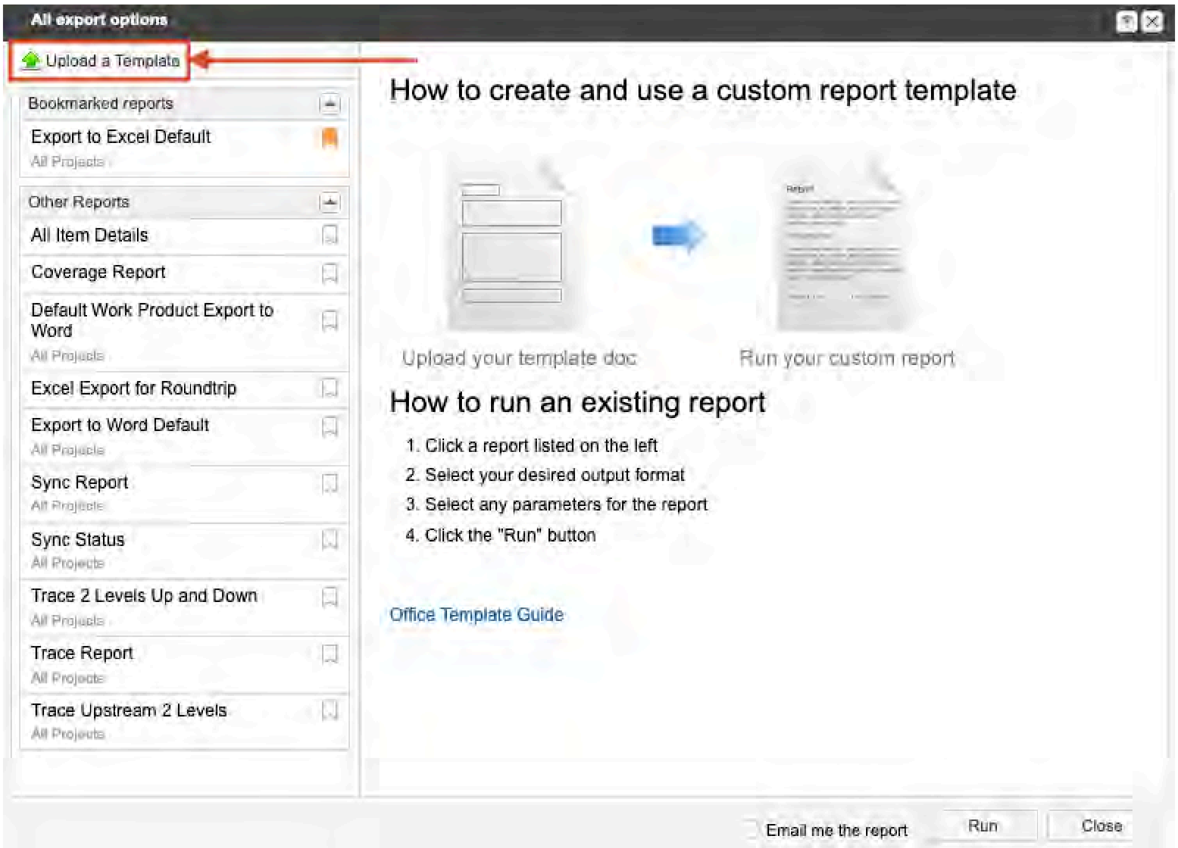
> **NOTE**
> For self-hosted customers, an organization or system administrator can upload templates to be available in multiple projects.

To upload a template:

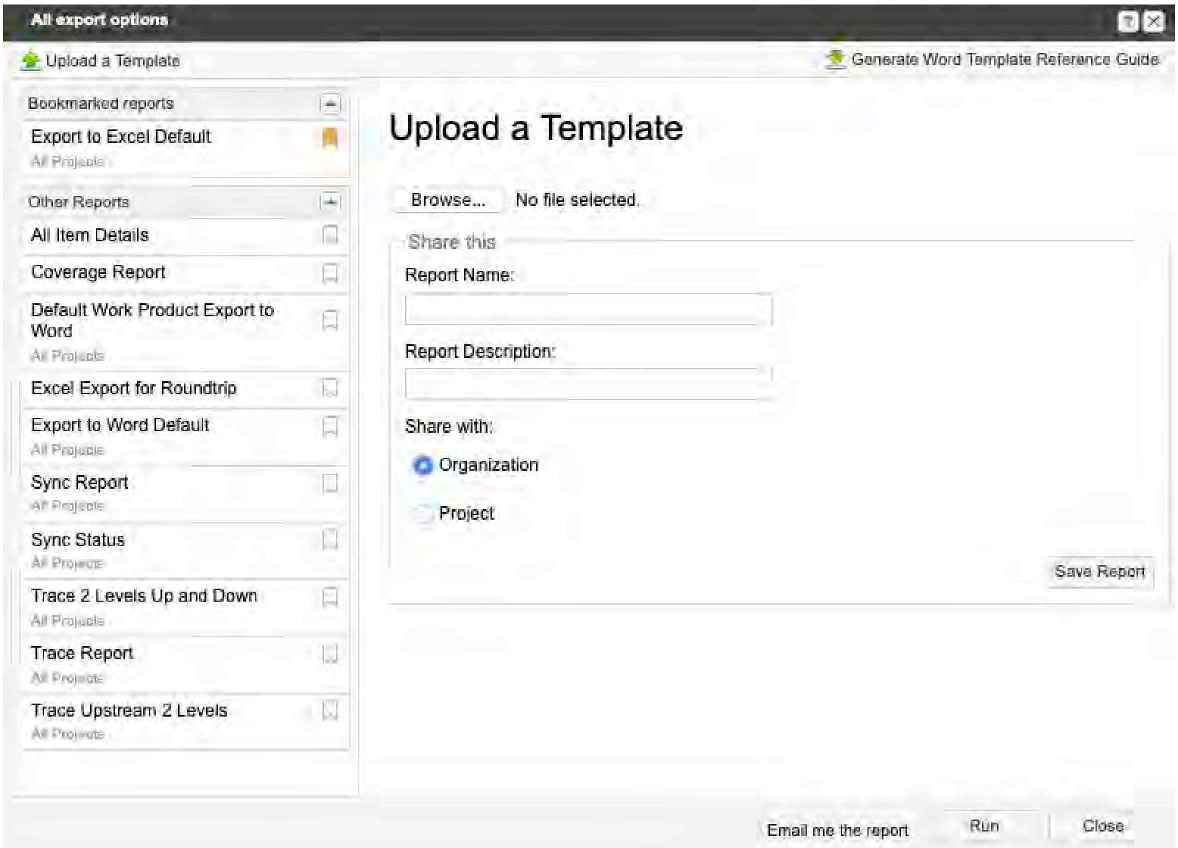
1. Save the template you want to upload to your desktop computer.
2. Select **Export > View all export options**.



3. In the window that opens, select **Upload a Template**.



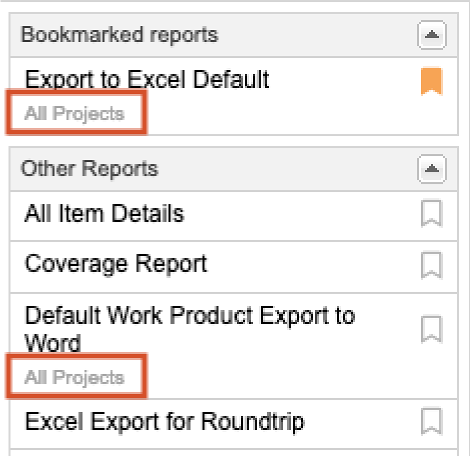
4. Select **Browse** and select the template you want to upload.



5. Enter a name and description.

> **TIP**
>
> Include the following field tags in your template to make the template name and description visible in your export:
>
> ```
> Report Name: «reportName»
> Report Description: «reportDescription»
> ```
>
> For a list of other available field tags you can include in your templates for the current project, download the Word Field Reference Guide [310].

6. If you want this export template so it's available to other users *only in this project*, select **Project**. If you want this template so it's available to users *in any project*, select **Organization**. Export templates that are shared with the organization are visible in the left column of the **Office Tem-plates**window with the label **All Projects**.

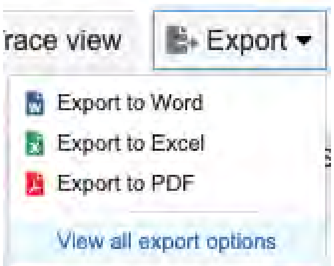


7. Select **Save Report**.

All Item Details Export

The All Item Details Export displays all item details for the selected project. It was designed in Velocity for output in Microsoft Word and HTML. It's a useful export for sharing details of a set of requirements or other group of artifacts with others outside of Jama Connect.

Once the main panel in Projects shows the correct data set, then select **Export > View all export options**.

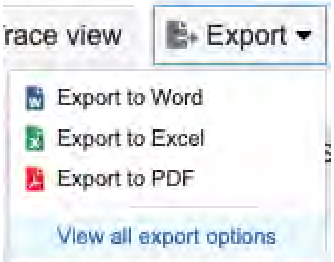


In the All export options window, select **All Item Details**, select a format, choose the parameters you need ("Include relationships" and/or "Include tags"), and select **Run**.

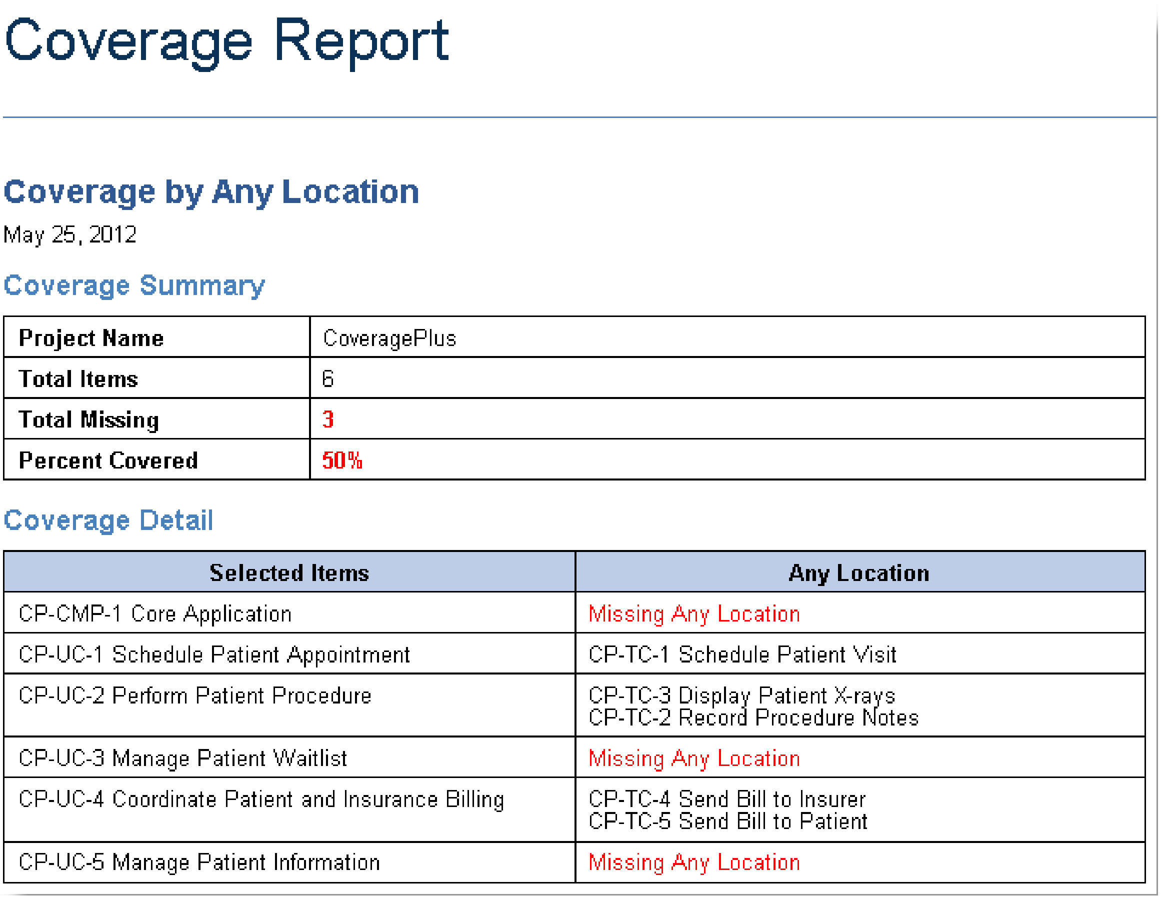
Coverage Report

The Coverage Report displays downstream relationships to the selected set in HTML, Microsoft Word, or Microsoft Excel. It provides summary and detailed information on the traceability coverage for the selected items.

1. Select the data you want to export using the Explorer Tree or an advanced filter.
2. Select **Export > View all export options**.



3. In the All export options window, select **Coverage Report**.
4. Select a format, choose the parameters you need (**Missing coverage only**, **Downstream item location**), and select **Run**. Selecting no parameters provides a report like the one shown here. If you want to see a more specific set of relationships, then select one or both of the parameter options.



Coverage Report

Coverage by Any Location

May 25, 2012

Coverage Summary

Project Name	CoveragePlus
Total Items	6
Total Missing	3
Percent Covered	50%

Coverage Detail

Selected Items	Any Location
CP-CMP-1 Core Application	Missing Any Location
CP-UC-1 Schedule Patient Appointment	CP-TC-1 Schedule Patient Visit
CP-UC-2 Perform Patient Procedure	CP-TC-3 Display Patient X-rays CP-TC-2 Record Procedure Notes
CP-UC-3 Manage Patient Waitlist	Missing Any Location
CP-UC-4 Coordinate Patient and Insurance Billing	CP-TC-4 Send Bill to Insurer CP-TC-5 Send Bill to Patient
CP-UC-5 Manage Patient Information	Missing Any Location

Download the Field Reference Guide

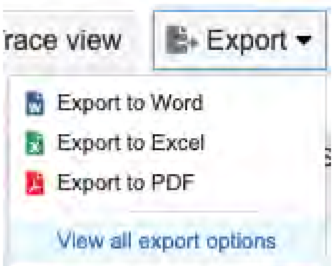
The Field Reference Guide is helpful when you're creating or editing templates. It provides a dynamic reference of all the field tags that you can use to surface information in your export templates.

This guide is unique to each project in Jama Connect. Downloading the guide provides an up-to-date list of all the field tags available for items in the currently selected Jama Connect project.

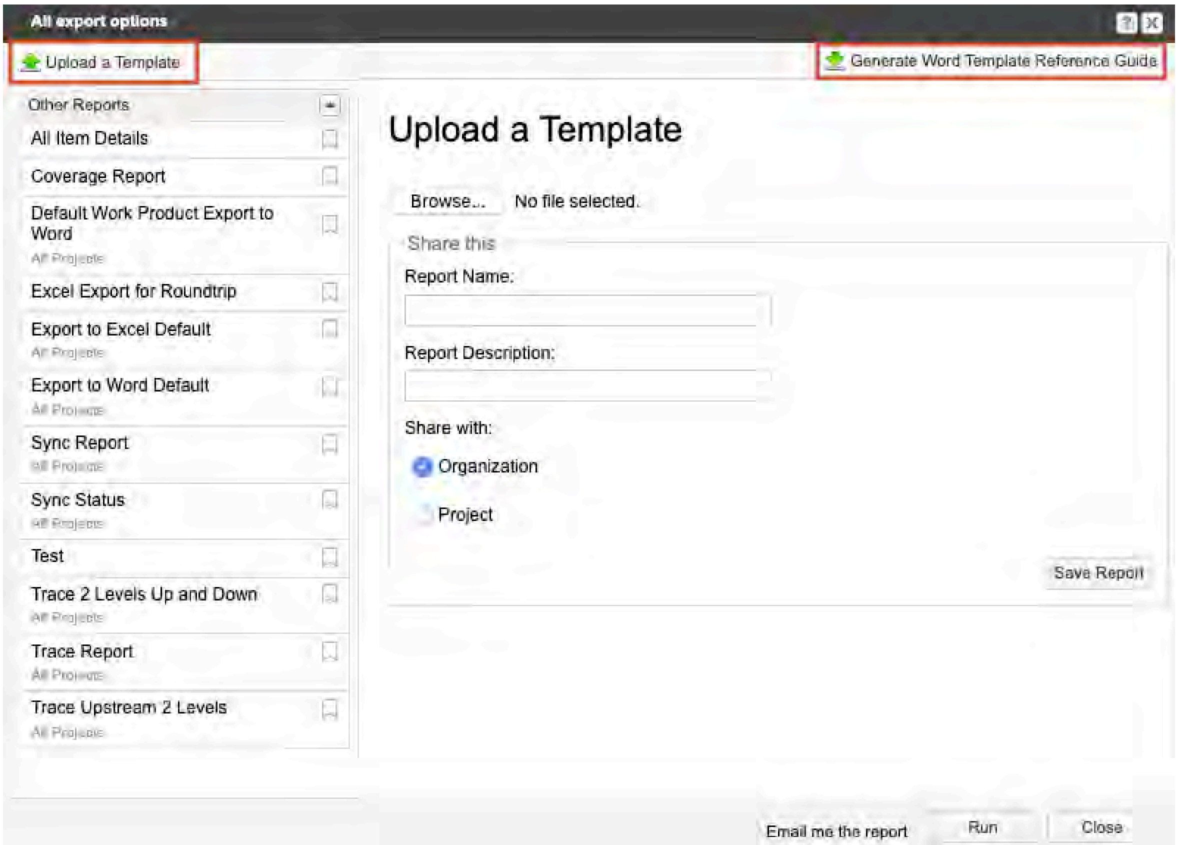
You can copy and paste from this reference guide when creating a new template.

To download the guide:

1. In Projects List View or Single Item View select **Export** > **View all export options**.



2. In the All export options window, select **Upload a Template**, then select **Generate Word Template Reference Guide**.



3. If any fields change in your project, download a new guide to see how the changes affect export templates.

Embed custom fonts in exports

You can embed custom fonts into Word or PDF exports.

1. Download the template [305] for the existing export that you want to publish with a custom font.
2. Convert that template to DOCX format by selecting **File > Save As > Word Document (.docx)** in Microsoft Word.
3. Select all of the text in the document and change it to use your custom font.

> **NOTE**
> The custom font must be in the TrueType Font format (TTF).

4. Enable embedded fonts in the document.
5. Upload the template [306] to an existing or new export in Jama Connect.
6. Export the document [304] in Word or PDF format.

Categories

In Jama Connect, the *Categories* feature allows you to organize and view cross-project items based on classifications like configurations, allocations, releases, or features.

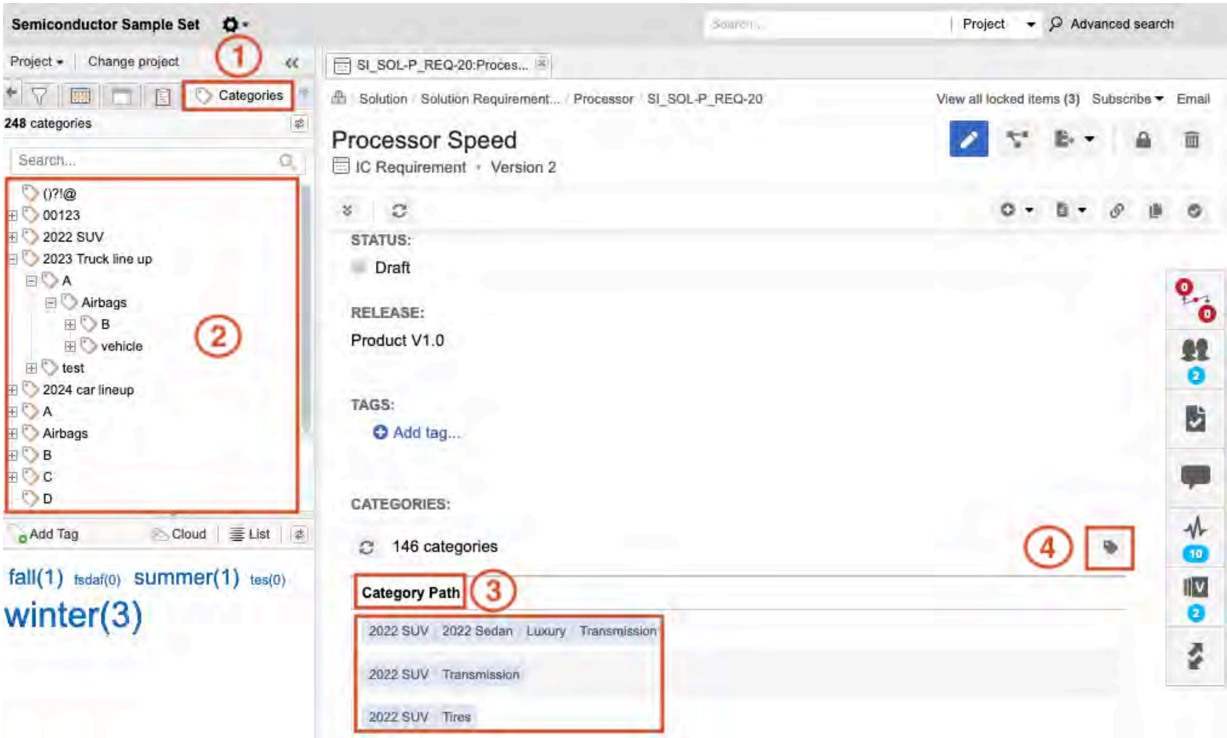
Use the Categories feature to assign cross-project items like requirements, test cases, or use cases to customer-defined groupings. You can assign a single category or multiple categories.

Important considerations

- The Categories option is disabled by default. The organization admin must enable it for the option to appear in Jama Connect and be available for users with read/write permissions to make edits. For more information, see Enable categories [562].
- Rather not see the Categories tab? Like the other tabs in the Explorer Tree, you can hide the Categories tab for a project in the Page layout settings (**gear icon > Change layout**).

Categories UI

Depending on your view — List View, Reading View, or Single Item View — the Categories feature consists of multiple parts.



1. **Categories** tab in the Explorer Tree — Select it to open the categories UI.
2. **Category** tree — Select a category to view specific details about a category like the Category Path. You can also expand the tree to see how your organization admin has organized the hierarchy for the categories they created.
3. **Category Path** and **List of variations** — Displays the category variation paths and Category Path IDs.
4. **Manage categories** button — Select it to open the Manage categories window where you can apply and unapply categories.

Roles for the Categories feature

Your role determines which tasks you can perform when you use the Categories feature.

Role	Responsibilities and actions
User with read permissions	• View categorized items in the Category tree. • See a list of cross-project items. • View Category paths. • View Category path IDs.

Role	Responsibilities and actions
User with read/write permissions	• Organize your requirements across projects. • Apply a category to items from Single Item View, List View, or Reading View. • View categorized items in the Category tree. • See a list of cross-project items. • View Category paths. • View Category path IDs.

Organization admin	• Control and manage the Category admin tree:
	  • Add, move, copy, and merge categories.
	  • Edit and delete categories.
	• See category details like description and when it was created.
	• View Category paths.
	• View Category path IDs.
	• View Category IDs.
	
	Changes to the Categories admin tree affect any items allocated in your projects.

Apply or unapply categories

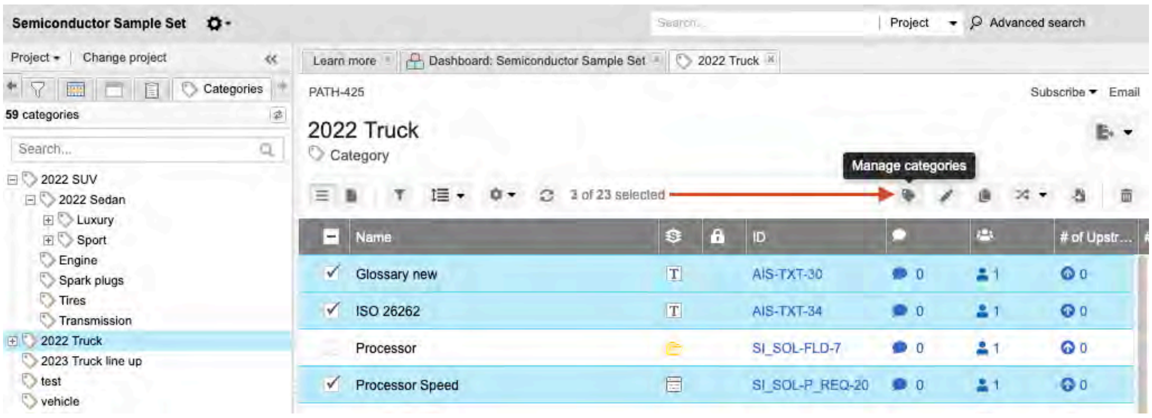
When the Categories feature is enabled, you can apply categories to items or unapply them as needed.

Important considerations

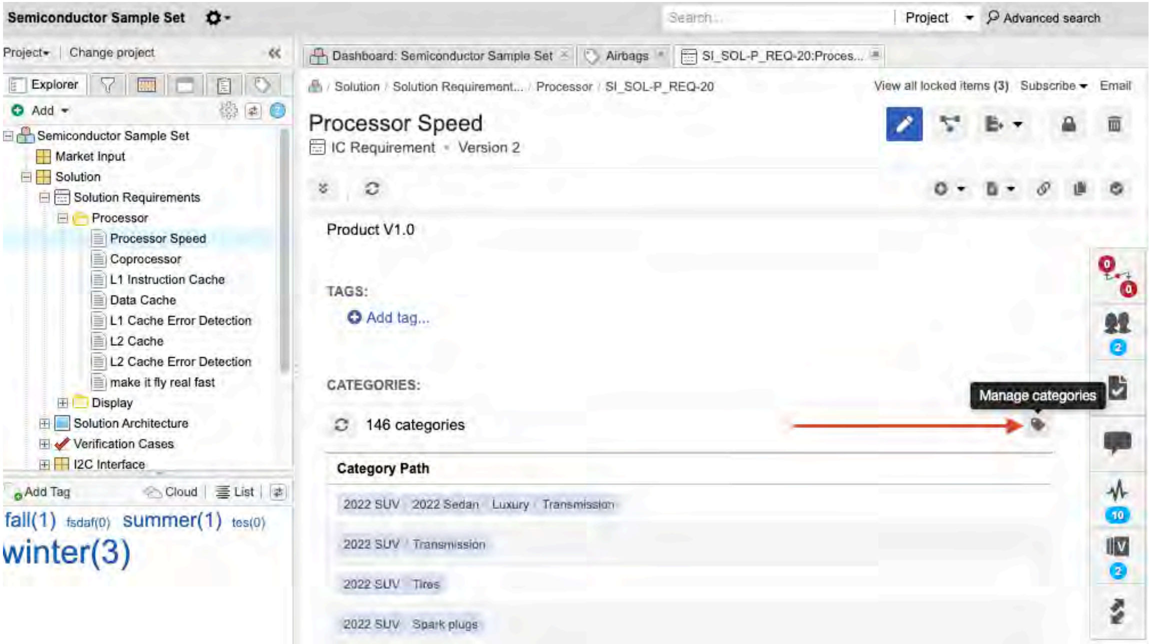
- You must have read/write permissions to use the Categories feature.
- You can select no more than 50 items at a time.
- System-locked or items locked by another user can't be associated with a category.

To apply and unapply categories:

1. Select the items where you want to apply or unapply categories.
2. Open the Manage Categories page depending on your view.
    - **List View or Reading View** — Select **Manage categories** (categories icon) from the header.



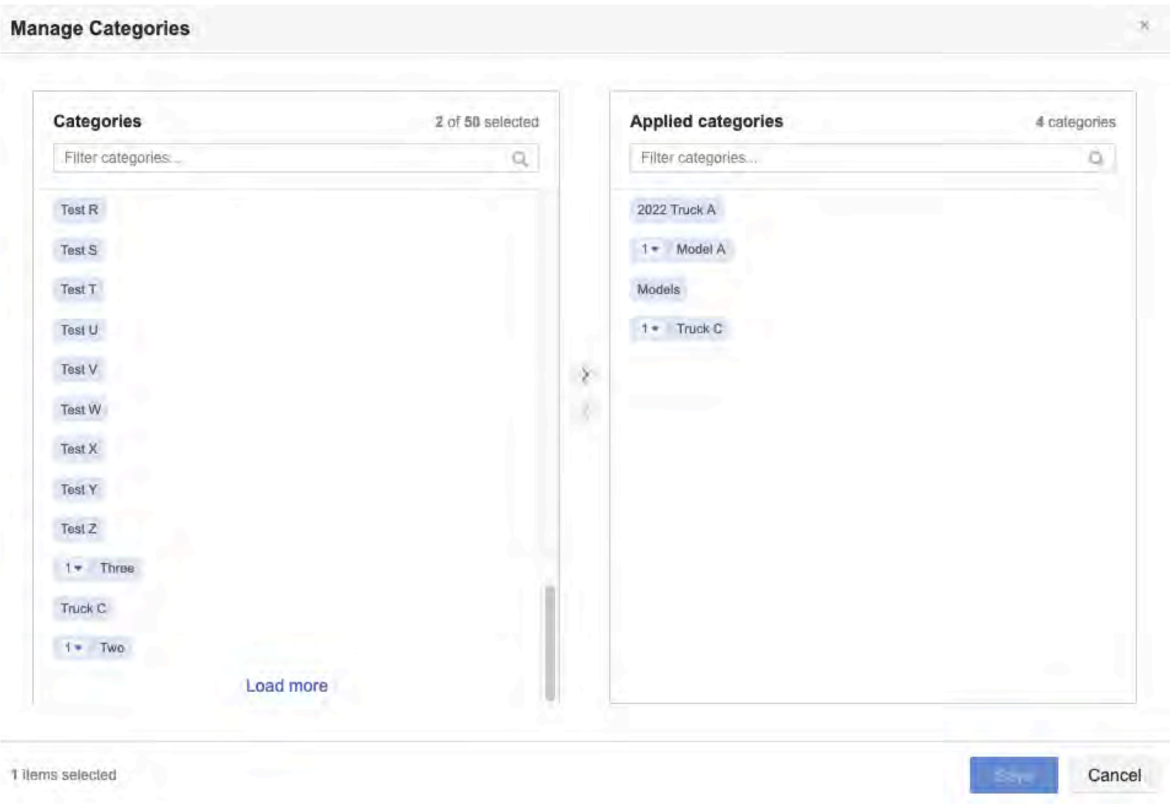
    - **Single Item View** — Select **Manage categories** (categories icon) from the Category Path table.



On the Manage Categories page that opens:

- **Categories** column lists categories available to be applied to the items you selected.
- **Applied categories** column lists categories already applied to the items you selected.

3. From the **Categories** column, select the categories you want to apply.
   You can also select categories by entering any part of the category name in the **Filter categories** field to see a list of matching category options.



- **Single category** — Double-click a single category or use the arrows to move it to the Applied categories column.
- **Multiple categories** — Select multiple categories and use the arrows to move them to the Applied categories column.

The selected categories are highlighted in yellow until you save your changes.

The bottom of the page lists the number of categories that will be applied or unapplied and the number of items that will be impacted.

4. From the **Applied categories** column, select the categories you want to unapply.
   - **Single category** — Double-click one category or use the arrows to move it to the Categories column.
   - **Multiple categories** — Select multiple categories and use the arrows to move them to the Categories column.

   The selected categories are highlighted in yellow until you save your changes.

   The total number of applied categories decreases.
5. Click **Save** to apply your changes.

Test

You can use tests in Jama Connect to validate and verify the quality of your product and provide reports to show connections between regulations, requirements, and tests.

A typical workflow looks like this:

- Create test cases [316] that meet the needs of a particular project or multiple projects across your organization. Test cases describe the specific tests you plan to use and their steps [318].
- Create a test plan [326] that gives an overview of how you want to test requirements.
- Associate the cases you want to use into that plan using groups [329] to organize them.
- Get ready for testing, by moving those groups into cycles [337] where you can see a list of all the tests you want to run.
- Execute the test runs and log defects [344] as needed.
- Resulting test run statuses roll up to calculate the overall test case status [320]. You can then generate a report showing results, such as the Test Plan Summary Report [371] or the Test Plan Detail Report [369].

IMPORTANT

You must have at least a test runner license to be able to add and edit defects and items, create test plans and runs, and manage relationships and attachments. However, test runners can only affect items that are used as defects [318]. More extensive permissions require a different license [578].

Test cases

Test cases are items that contain the tests needed to validate or verify product features or systems.

Test cases contain essential information about your tests. Depending on how you want to use them you can make standalone tests, or specific tests aligned with your use cases and requirements to assist with validation and verification.

Creating test cases is the first step in getting tests set up for your organization. Although Jama Connect comes with a default item type of Test Case, you can use any item type as a test case [594]. You can add a new test case in the same way you would add any other item [66].

Here are three ways you might want to organize test cases:

- **By project:** Keep all the test cases in the same location as your project so the team goes to the same place to collaborate, and can see a similar mirrored structure between your tests and requirements. This makes it easy to manage permissions for users and contain the test case and test run status in your reports.
- **By library:** You can create a single library of tests in a separate project and reuse test cases in different projects. This can be useful to standardize the testing setup and to allow the entire organization to use the same test cases. However, with test cases being reused in multiple plans and projects, reports are more likely to rely on test run status than test case status.
- **Adhoc:** You can pull test cases from multiple projects into any plan. You can find test cases across multiple projects by using a filter.

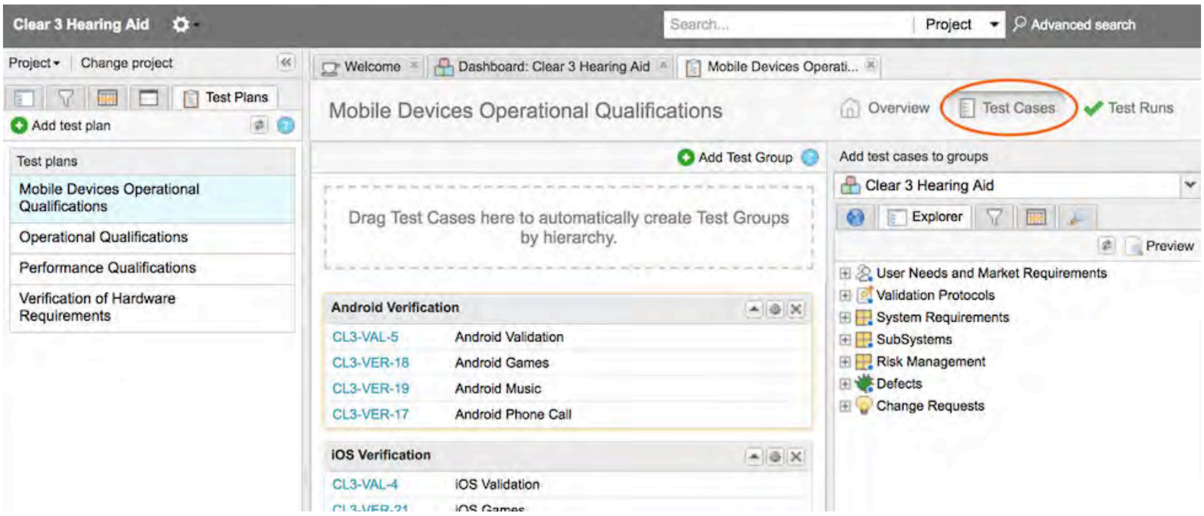
Test cases are where you create test steps [318] that are used every time that case is run.

Test cases contain an automatically calculated (and uneditable) test case status [320] field.

Test cases quick find

You can find test cases using one of these methods.

- Look for test cases in the **Explorer Tree** [47].
- **Projects > Trace View [52]** where they appear in relationship to items they test, along with associated test runs.
- **Projects > List View** [51] where you can filter by item type name to find test cases.
- **Test Plans** where you can see them in the test cases section of the plan by selecting **Test Cases**.



Import test cases

You can import multiple test cases and their corresponding test steps by importing them from a spreadsheet. Use one-way import [113] to quickly bring legacy test cases into Jama Connect.

You can also use a round-trip import [117] so you can work with content outside of Jama Connect and bring changes back in safely.

TIP

Although you can import test cases using Microsoft Word, you can only map the **Name** and **Description** fields, not the individual steps. Instead, use Excel for test case imports.

When importing test cases:

- Your Excel spreadsheet must contain the following column headers: Test case name, Action, Expected results, and Notes.
- Add columns to represent additional fields as part of the import, which is consistent with how other imports to Excel work.
- Each row with the same test case name imports as a new test step for that case.
- You can't use a round-trip [117] to edit the test case status [320] because that field is automatically calculated from test run statuses.
- To add a test step in Excel, copy a pre-existing row and insert that row where you want it. Change the content of the cells as needed to create the new step. The numbering of the steps appears off but re-numbers on import.

- To remove a step in Excel, delete a row anywhere in the sequence of steps. Re-numbering takes effect upon import.

Special use of item types for test

Any item type can be set up by an organization administrator [594] to work in the following test-specific ways.

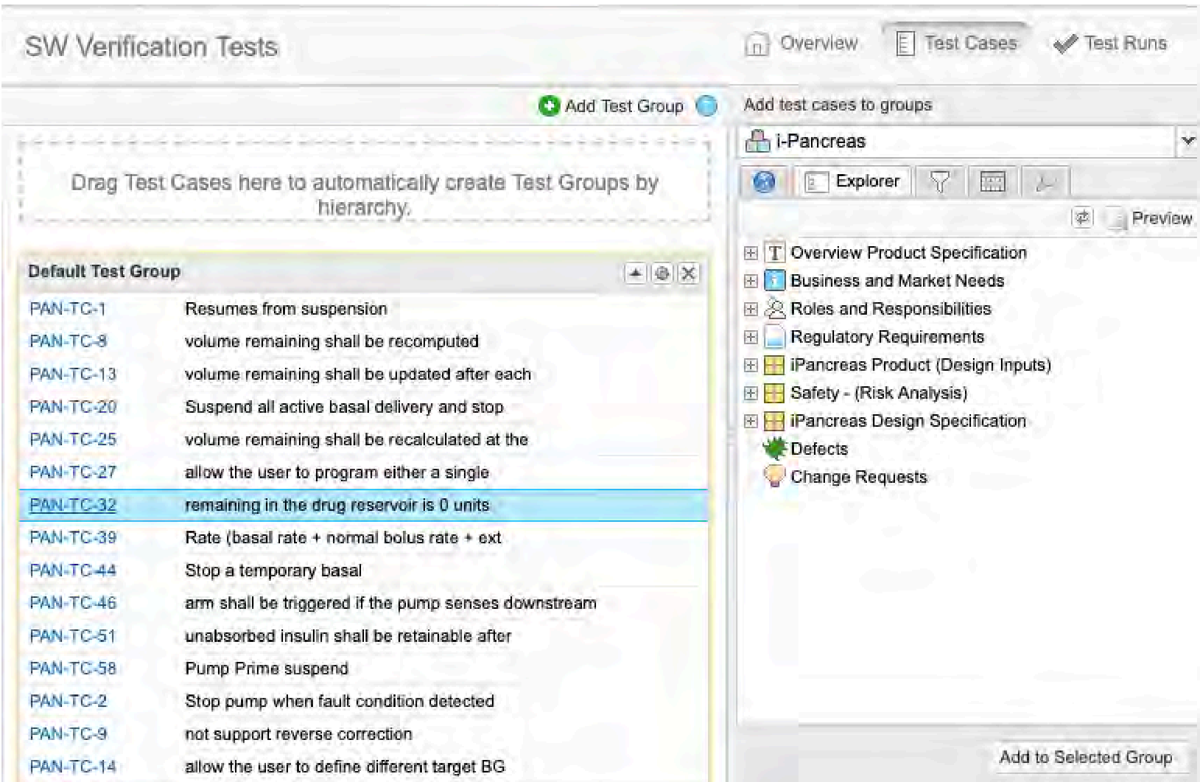
- **Test case** — Items used as a test case can have **test steps [318]** and **test case status [320]** fields, as well as work in test plans for those with a creator license.
- **Defect** — Items you use as defects work in testing for those with a test runner license [579] or a creator license.

View and edit test case details

Test cases are created in the Explorer Tree for a project and edited like any other item [70]. They can be opened from the Explorer Tree, Reading View, List View, or found using search or filter.

You can also view and edit test cases in these other ways:

- View test cases in groups. Select the test case ID to open and edit it in Single Item View.



- Access test cases from test runs. When you're viewing a test run in Single Item View, select the test case button on the side toolbar to open a bottom panel with details about the test case. Then select the ID to open and edit that test case.

Test steps

Test steps are distinct steps used to run a test.

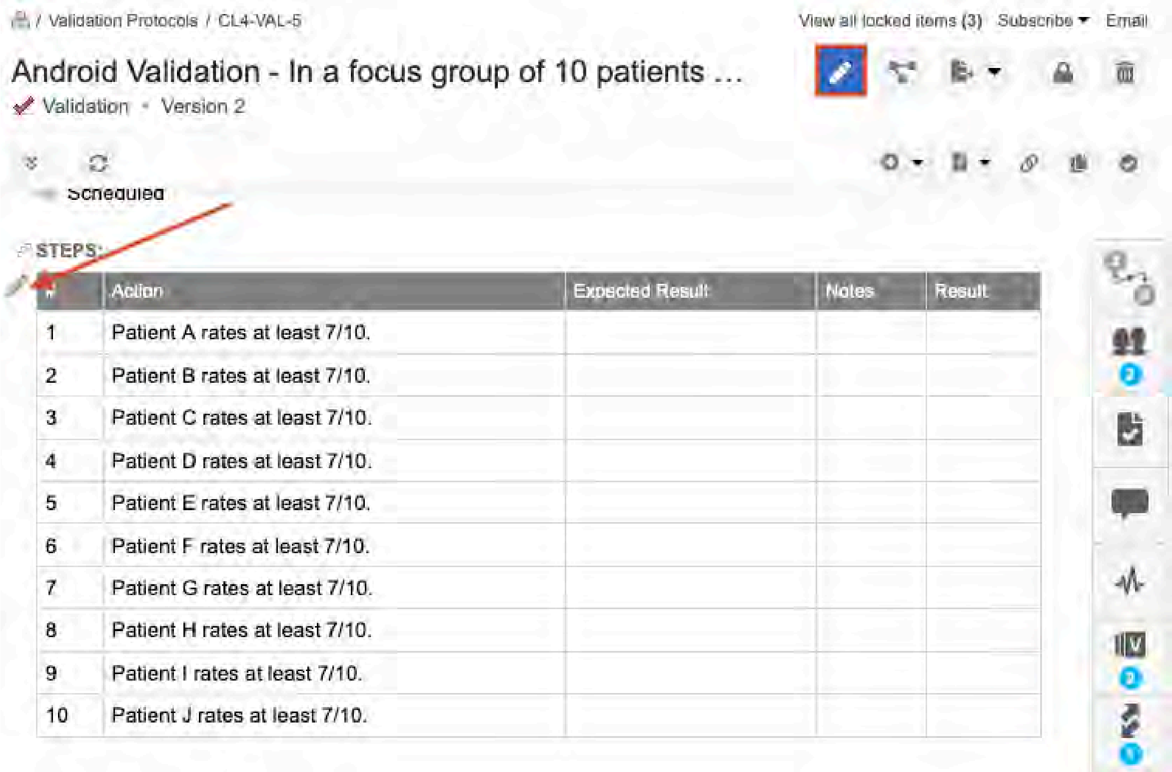
When running a test, you can indicate the success or failure of each step. The test steps field is available in any item whose item type is used as a test case [594].

Add and edit test steps

Test steps are plain text by default. When an organization administrator enables rich text in test steps [595], you can edit with rich text by selecting the pencil icon or double-clicking on the **Steps** field. Selecting **Edit** in the toolbar only allows plain text or html edits.

You can't edit test steps when editing a test run.

1. View details of the test case [318] where you want to add steps, or create a new test case [316].
2. Select **Edit** in the toolbar, the pencil icon next to the field, or double-click in the field to make it editable. In the steps field, select **Add step**.



3. Enter text in the **Action**, **Expected result**, and **Notes** fields, if you want. You can use the Tab key to move between fields. Use the rich text editor [319] to format text or to add images in the steps.
4. Use the **up** and **down** arrows to re-order the steps. You can also grab the handle by the row number to drag it to the right position.

5. Use the **insert** icon to insert a step. Delete a step with the **trash can** icon.
6. Select **Save** to include the test steps in the test case.

Add images to test steps

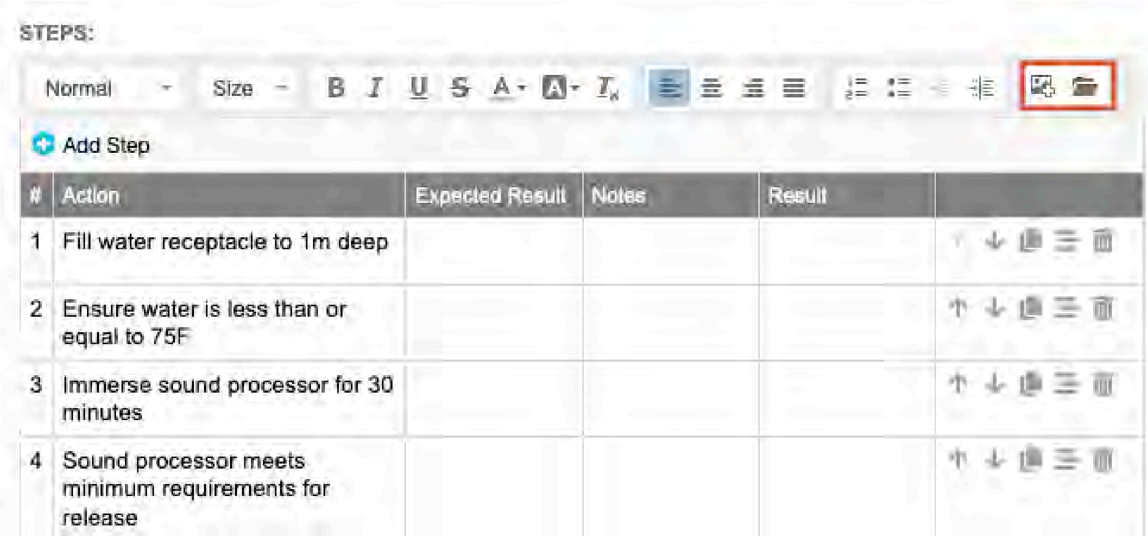
Test steps are plain text by default. An organization administrator can enable rich text for basic formatting and embedded images. [595]

To add an image:

1. Edit a test case.

> **IMPORTANT**
> You must save a test case first before adding images to test step fields.

2. Select **Edit** in the toolbar, the pencil icon next to the field, or double-click in the field to make it editable. Place your cursor in the step where you want to add the image.
3. Select the **add image** icon, then select the image from your browser. You can also select the **file folder** icon, then select the image from those already saved onto the application server as attachments.



4. Large images are resized automatically to fit the width of the cell. To view the full-sized image, navigate to the image location by right-clicking on the image.

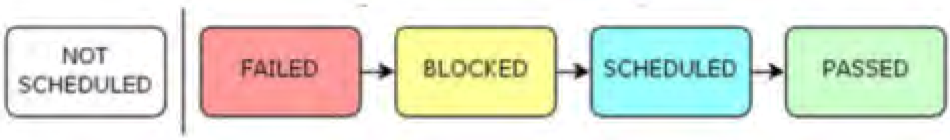
Test case status

Test case status is an automatically calculated status that indicates the state of the last edited test run associated with that test case.

By default, this status is calculated using all available test runs associated with the test case, including runs that aren't scheduled. An organization administrator can disable this option [618] so that unexecuted runs aren't included in the calculation.

The status is calculated in one of these methods:

- If the test case is used in only **one test plan**, the latest status is reported on the test case.
- If the test case is used in **multiple test plans**, test case status shows the most urgent test run status based on the following hierarchy, *regardless of when it ran*: Not Scheduled, Failed, Blocked, Scheduled, Passed.



The status is visible in Single Item View of each test case.

NOTE

Because test case status is automatically calculated, it can't be manually updated when editing a test case.

TIP

If a test case is used in multiple plans and it's picking up the status of a plan that's no longer relevant, one option is to archive that plan [336]. Doing so removes that plan's test run statuses from the test case status calculation.

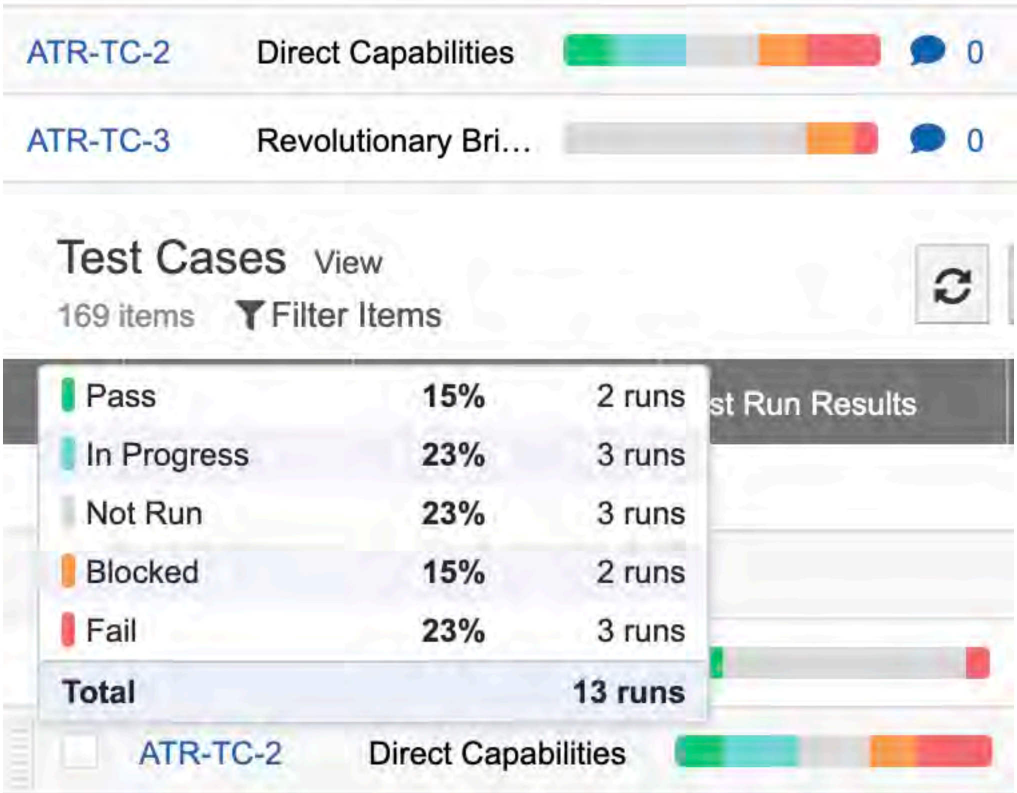
You can also use archiving to trigger a recalculation of all test cases in a plan. When a user archives and then un-archives the test plan, this results in a re-calculation of the status for all test cases in that plan. This can be useful if you change the admin setting to include unexecuted test runs [618] (which isn't retroactive) and want to recalculate test case status with the new setting.

View test run results

You can add a **Test Run Results** column to Test Cases in reviews, List View, Reading View, and Trace View. The column displays the status of all Test Runs that are downstream.

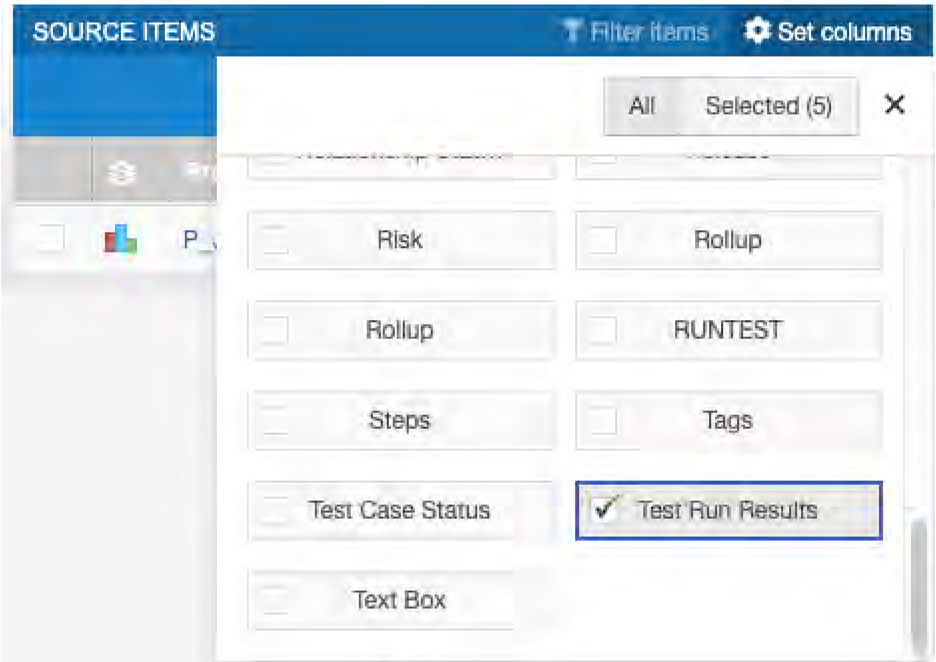
Add column in List View or Reading View

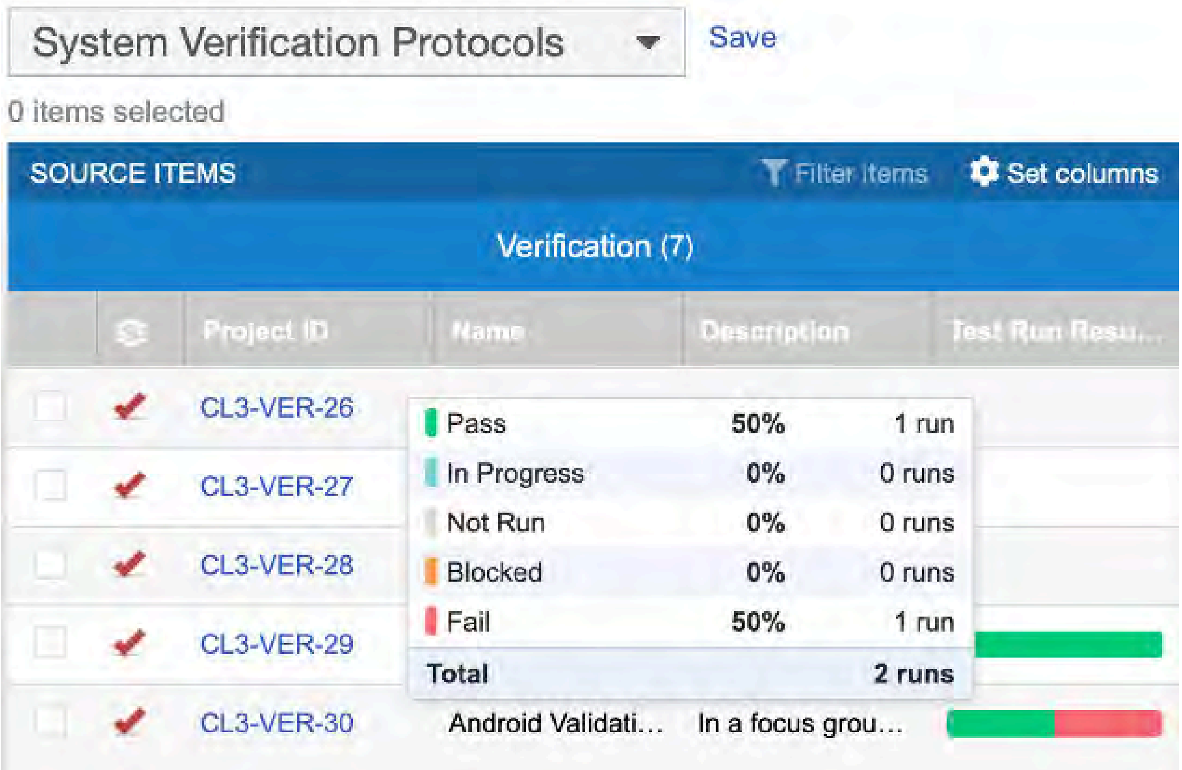
1. From the gear icon, select **Test Run Results**.
2. Hover over the color bar to view the status for each test run.



Add column in Trace View

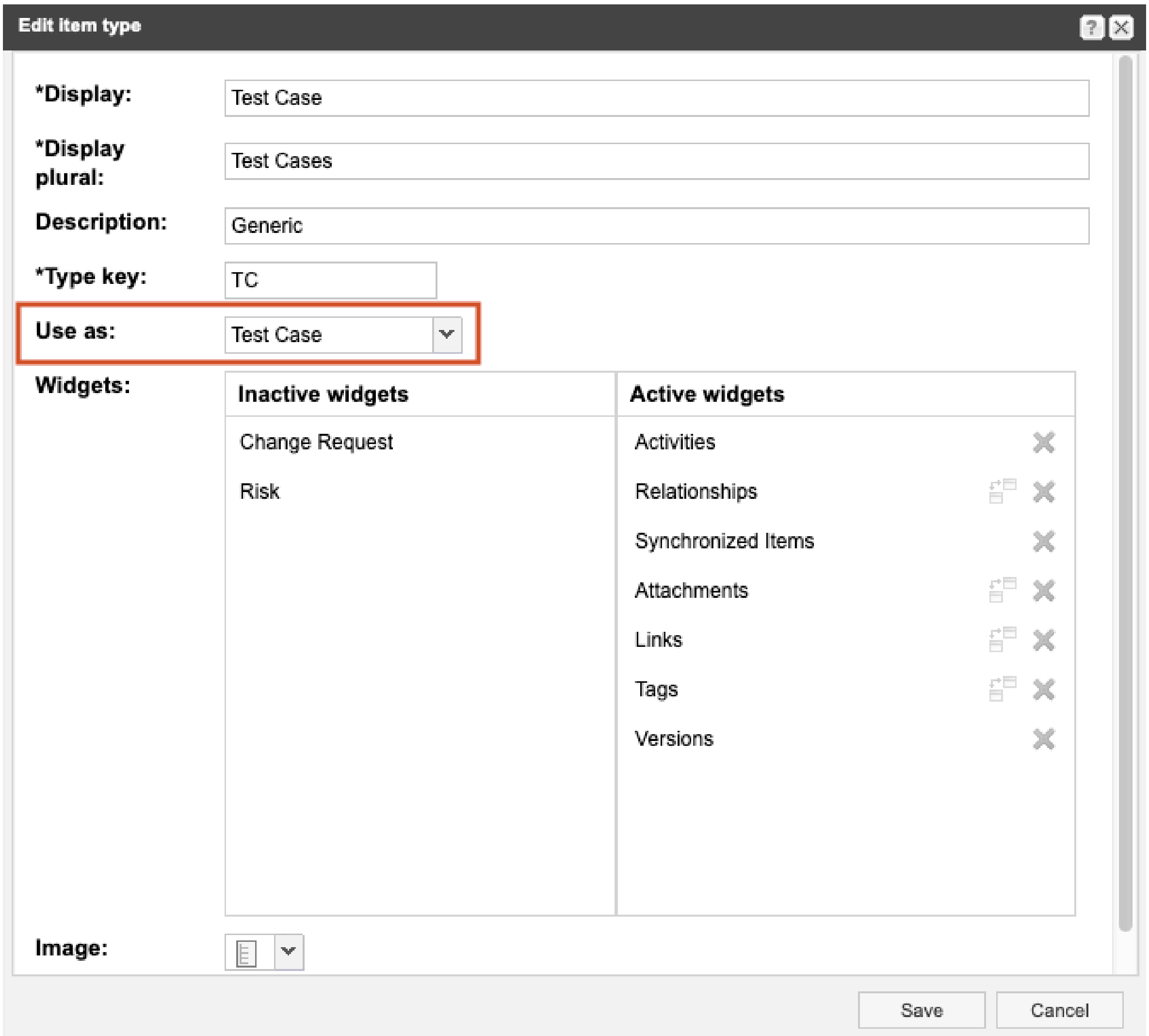
1. From the gear icon, select **Test Run Results**.
2. Hover over the color bar to view the status for each test run.



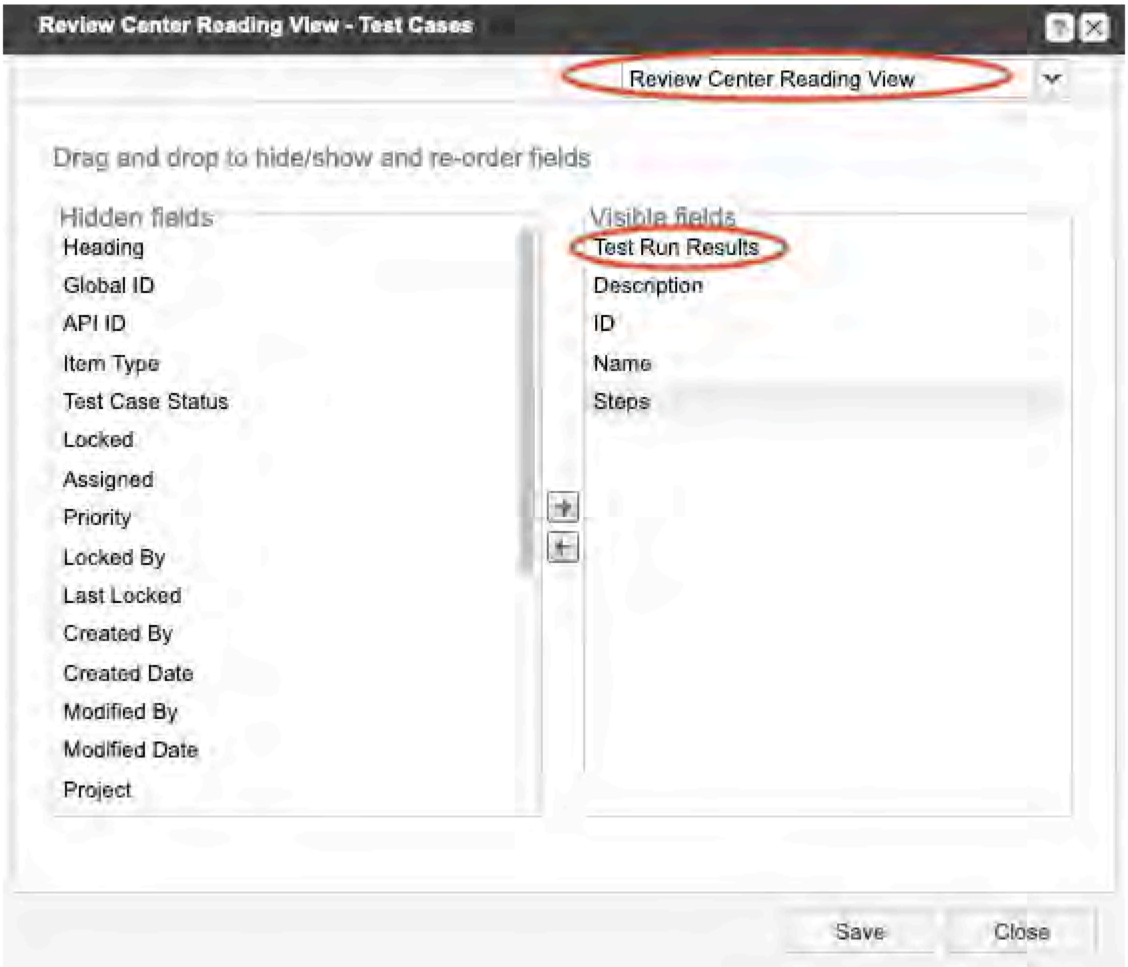


Add column in reviews

1. Select **Admin > Organization**, then select **Item types**.
2. On the Item types page, select **Test Case > Edit**.
   Note: Your administrator might use a different name for Test Case, like "verification." To confirm the item type, look at the "Use as" section in the Edit Item Type window.



3. Click **Save**.
4. Select **Test Case > Views** and enable the **Test Run Results** field for Reading View and Single Item View.



In a review with Test Case items, the results rollup bar now appears.

5. Hover over the color bar to view the status for each test run.

Export test cases to Microsoft Excel

You might want to export test cases to Excel for manual testing or for audit purposes when the documents need to be saved in a formal repository.

The content that appears in the final output depends on the items you select. For example, if you select **Name** and **Modified by**, those are the only fields that appear in the output.

> **NOTE**
> You can also export test cases [300] to a Microsoft Word document.

Things to know before selecting Steps

Each step is assigned its own row in Excel output. Also, each step row includes the same non-step data for that case. The repeated data impacts the item count in the spreadsheet.

Compare the results with and without Steps:

With Steps

	A	B	C	D	E	F	G	H	I
1									
2	Folder				Produced by:	Shawnna Williams		MediKiosk	
3	Patient Information				on:	05/23/2013		Jama Software	
4	ID	Item Type	Locked	Name	Assigned	Priority	Test Case Status	Step #	Step Action
5		Test Case	FALSE	Edit Patient Info	Will French	Unassigned	Passed	1	Select "Edit Info" on patient rec
6		Test Case	FALSE	Edit Patient Info	Will French	Unassigned	Passed	2	Enter a new last name
7		Test Case	FALSE	Edit Patient Info	Will French	Unassigned	Passed	3	Click "Save"
8		Test Case	FALSE	Edit Patient Info	Will French	Unassigned	Passed	4	View updated record
9		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked	1	Search for patient or select fr
10		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked	2	Select tooth, procedure or gei
11		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked	3	Enter in text. Select from pre-
12		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked	4	Open existing note and make
13		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked	5	Search by date, procedure, to
14		Test Case	FALSE	Validate insurai	Will French	Unassigned	Scheduled	1	Navigate to a patient record
15		Test Case	FALSE	Validate insurai	Will French	Unassigned	Scheduled	2	Select "Update Insurance"
16		Test Case	FALSE	Validate insurai	Will French	Unassigned	Scheduled	3	Enter inaccurate insurance info
17		Test Case	FALSE	Schedule Patie	Sean Adley	Medium	Failed	1	Enter in date, needed time, dat
18		Test Case	FALSE	Schedule Patie	Sean Adley	Medium	Failed	2	Compare against database set
19		Test Case	FALSE	Schedule Patie	Sean Adley	Medium	Failed	3	Pick one of the available times

> **TIP**
> All step fields are included: Step #, Step Action, Step Expected Results, and Step Notes. These columns can't be configured in Jama Connect and must be adjusted after the export.

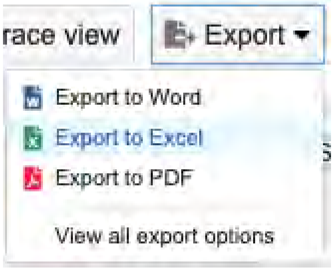
Without Steps

	A	B	C	D	E	F	G	H	I
1									
2	Folder				Produced by:	Shawnna Williams		MediKiosk	
3	Patient Information				on:	05/23/2013		Jama Software	
4	ID	Item Type	Locked	Name	Assigned	Priority	Test Case Status		
5		Test Case	FALSE	Edit Patient Info	Will French	Unassigned	Passed		
6		Test Case	FALSE	Record Proced	Sean Adley	High	Blocked		
7		Test Case	FALSE	Validate insurai	Will French	Unassigned	Scheduled		
8		Test Case	FALSE	Schedule Patie	Sean Adley	Medium	Failed		
9		Test Case	FALSE	Create family g	Will French	Medium	Passed		
10									
11	Total Items:	0							

To export test cases:

1. From the Explorer Tree, select the set or folder for the test cases that you want to export. If the test cases are in multiple locations, you must use a filter to select the test cases.
2. Select **List View**.

3. Select the gear icon to open a drop-down menu and select what you want to include in the Excel spreadsheet.
4. In the toolbar, select **Export > Export to Excel**.



Test plans

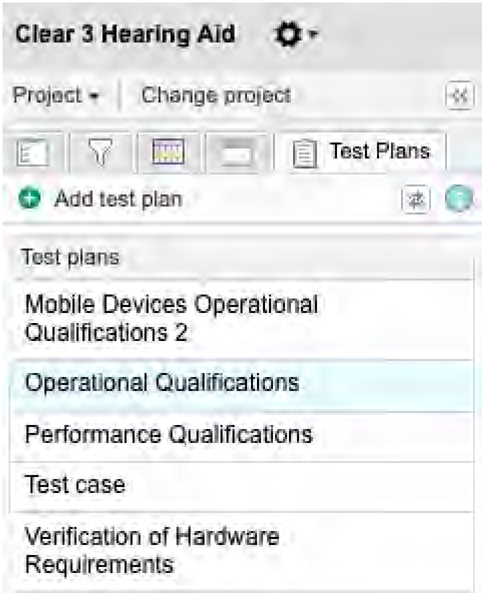
A test plan is an item that documents the overall strategy for validating or verifying that a product or system meets its design specifications and requirements.

Test plans quick find

Although test plans are items, they aren't visible in the Explorer Tree.

To find test plans and their details:

1. Select the **Test Plans** tab at the top of the Explorer Tree.



2. Select the plan you want to use to view details [331] of that plan.
3. View and comment on test plans in review [333], as needed.

TIP

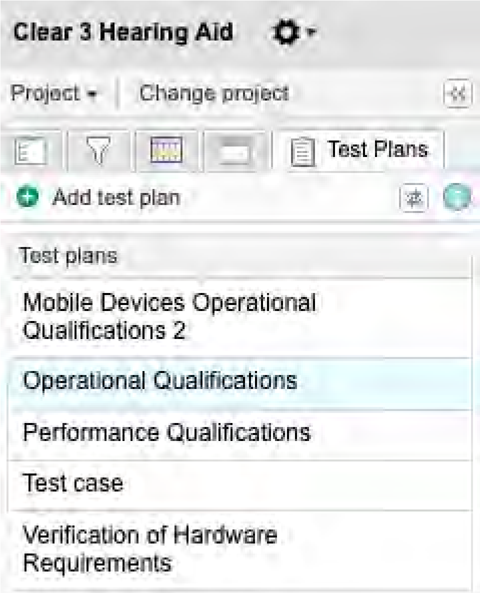
Although test plans don't appear in the Explorer Tree, you can surface them with an advanced filter [135].

Add a test plan

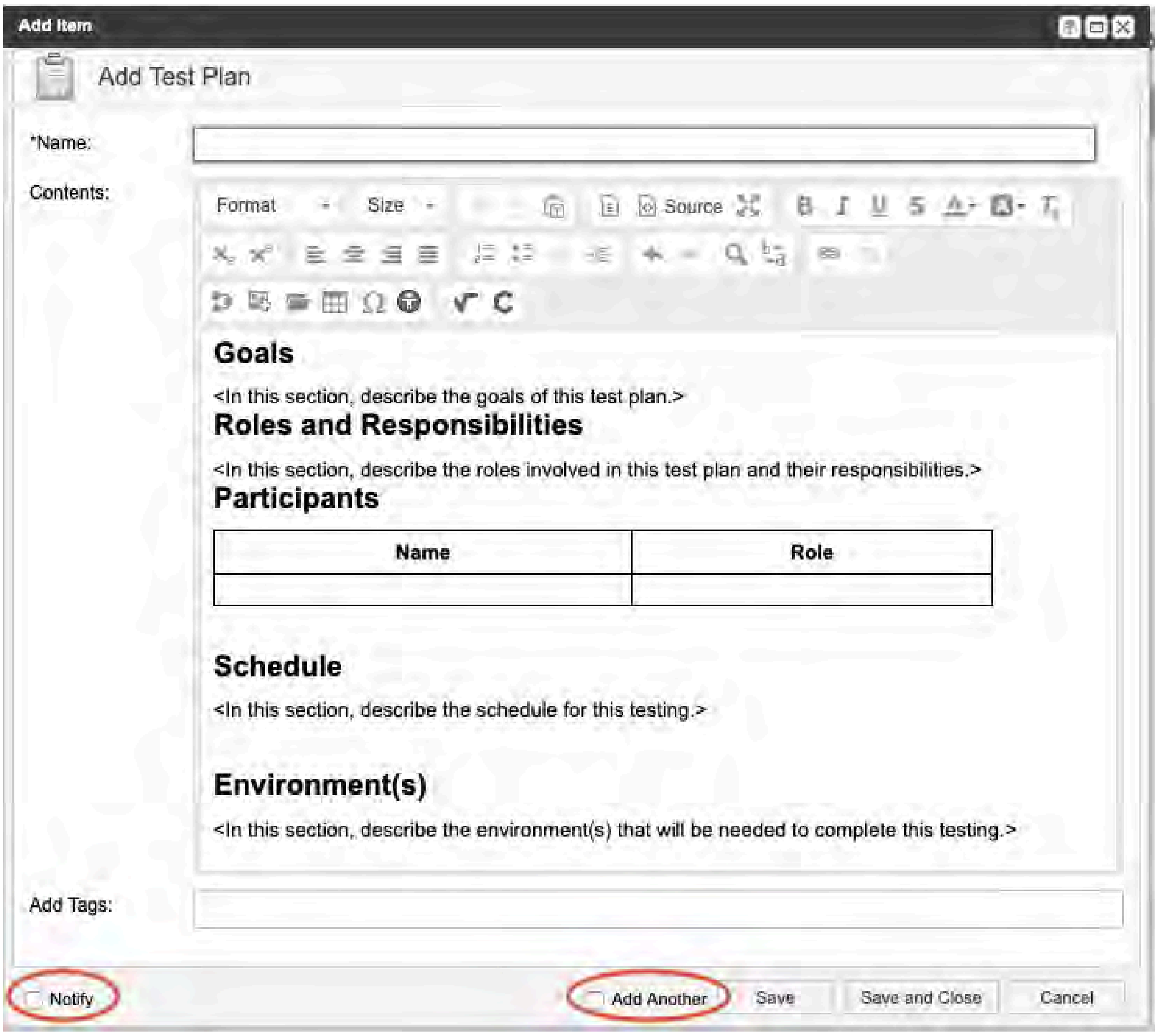
NOTE

You must have read/write permissions for the entire project in order to create a test plan.

1. Select the **Test Plans** tab in the left panel.



2. Select **Add test plan**.
3. In the **Add item** window that opens, enter the name and description of your new plan, and add any tags. An organization administrator can edit the default template [608] included in the test plan description.



TIP

If you select **Add another**, when you save this plan a new **Add item** window opens for you to create another plan.

If you select **Notify** in the lower left corner of the window, you can leave a comment and notify a particular person or group by email that this plan was created.

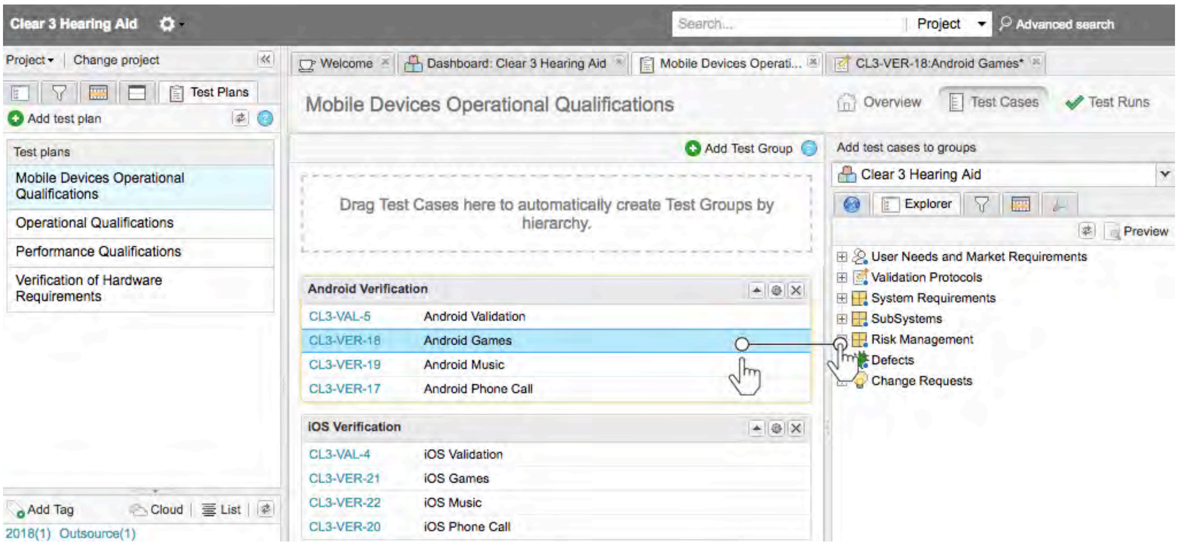
4. Select **Save and close**.

Add test cases to a plan

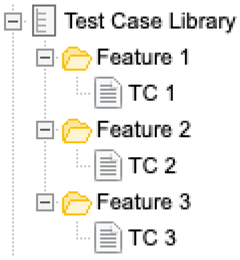
Once you have created test cases, you can add them to a plan in groups. For example, you might group all the cases for a specific aspect of the product, test location, or tester. You can use groups later to create a similar cycle of runs [338].

You can only add a test case to one group in a test plan.

1. Select the **Test Plans** tab in the left panel, and the name of the plan where you want to add the cases.
2. In the upper right toolbar of the center panel, select **Test cases** for that plan.
3. The right panel shows an Explorer Tree for your project. In the center panel you can view (or create) groups [329] for organizing your test cases.



4. Select any component, set, or folder of test cases, or an individual test case from the tree on the right. You can also use the **Releases**, **Filters** , or **Search** tabs to find the test cases you want to add. Drag it to an existing group to add cases to that group.
   Alternatively, grab test cases and drag to the dashed line box at the top of the center pane to create a new group. If you drag a component, set or folder that contains test cases, the hierarchy is preserved. For example, if you drag this set of test cases to the top of the center panel:



   ... it results in the creation of these three groups:

Test groups

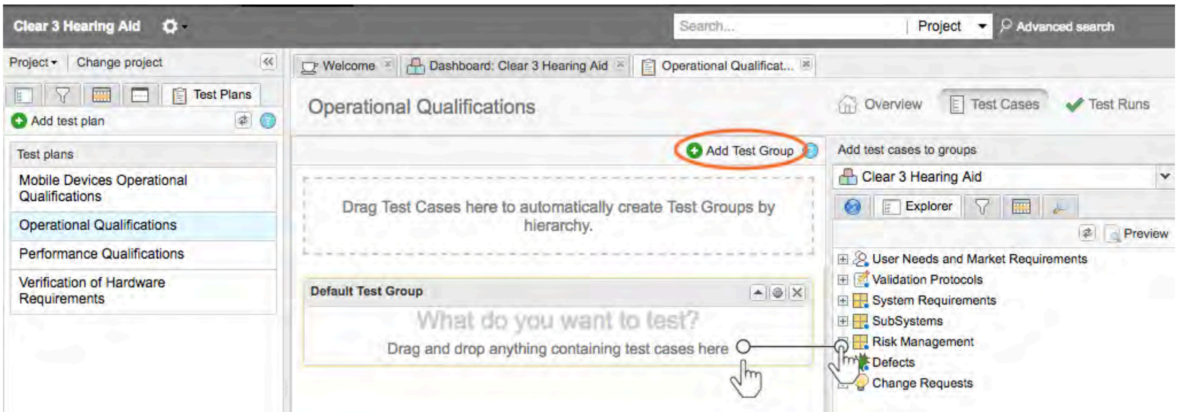
Test groups let you combine and label similar tests in a test plan.

Test cases are added to a plan in groups. Organizing test cases this way makes it easier for others to understand and run your test plan. For example, you might want to put all the cases for a specific aspect of the product, test location, or tester in the same group.

Add, edit, or delete a test group

When adding test cases to a plan [328], they are added in groups. In addition to the default test group, or automatic groups that are created by dragging test cases, you can also manually create a new group.

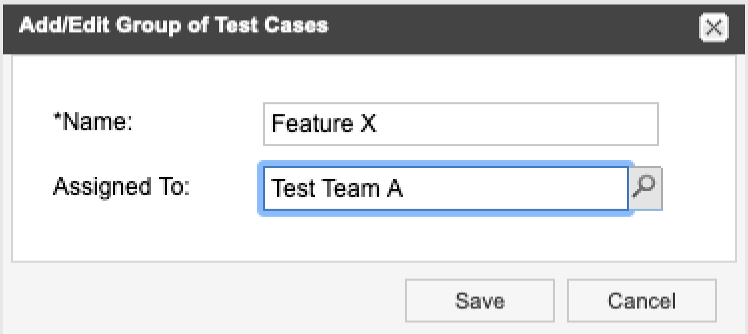
1. Select **Test cases** [146] for the plan you want to see.
2. Select the green **Add Test Group** button.



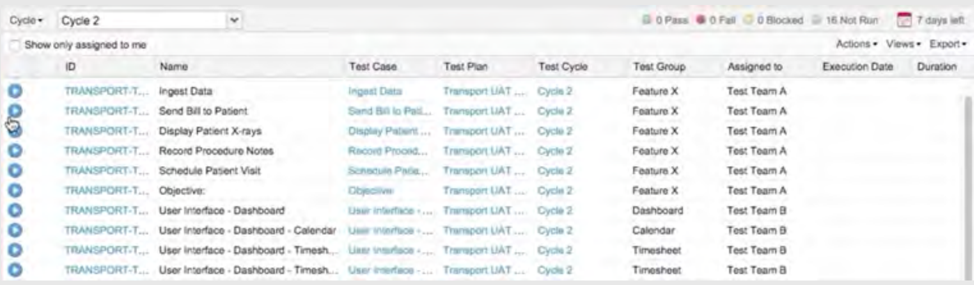
3. In **Add/Edit Group of Test Cases**, enter the name of the group.
4. Select the magnifying glass icon to open the **Add users** window. Select the name of the person you want to assign to run the tests in this group. Use **Select user** to complete the action. This also automatically assigns any runs created from this group to that person.

TIP

Some organizations create a user as a placeholder for a particular team, such as "Test Team A" and assign groups to that team.

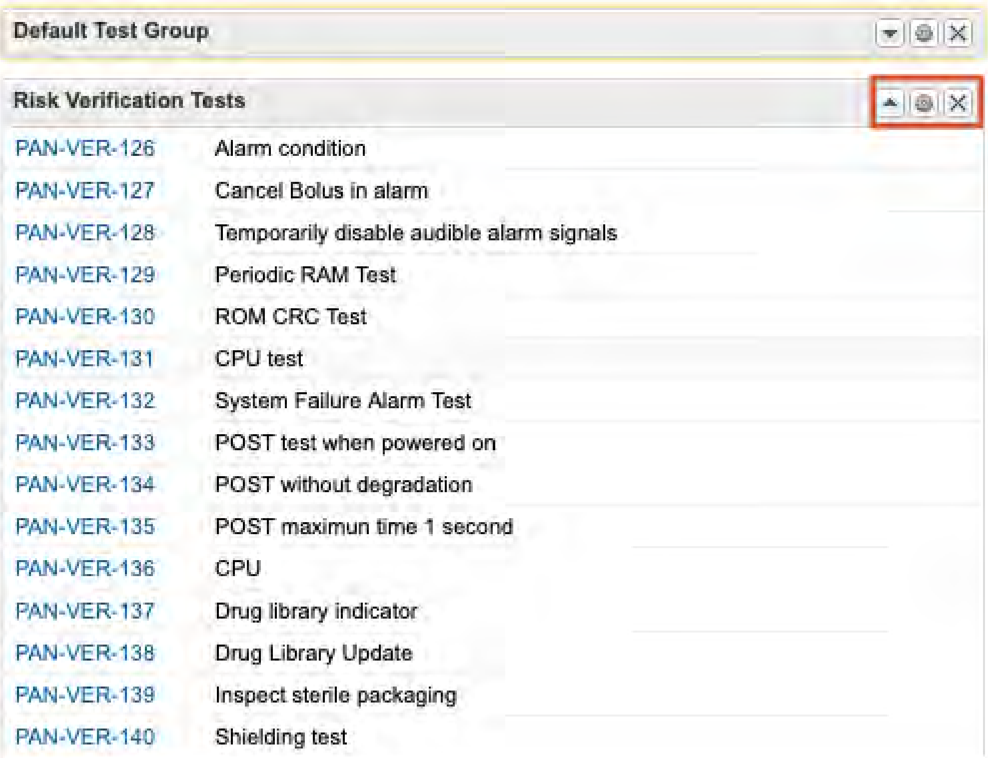


This does require an active license, but it allows members of the team to see all the runs that are assigned to their team in a cycle.



When you execute a run that was assigned to another user (such as "Test Team A") you can reassign that run to yourself.

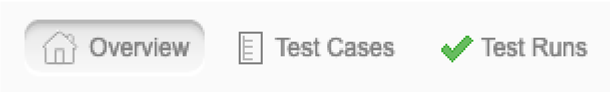
5. Select **Save** on the **Add/Edit groups of test cases** window.
6. To edit an existing test group, select the **settings icon** in the corner of the group to open the **Add/Edit window**. You can also use the **triangle** to collapse or expand groups, or the **X** to delete groups.



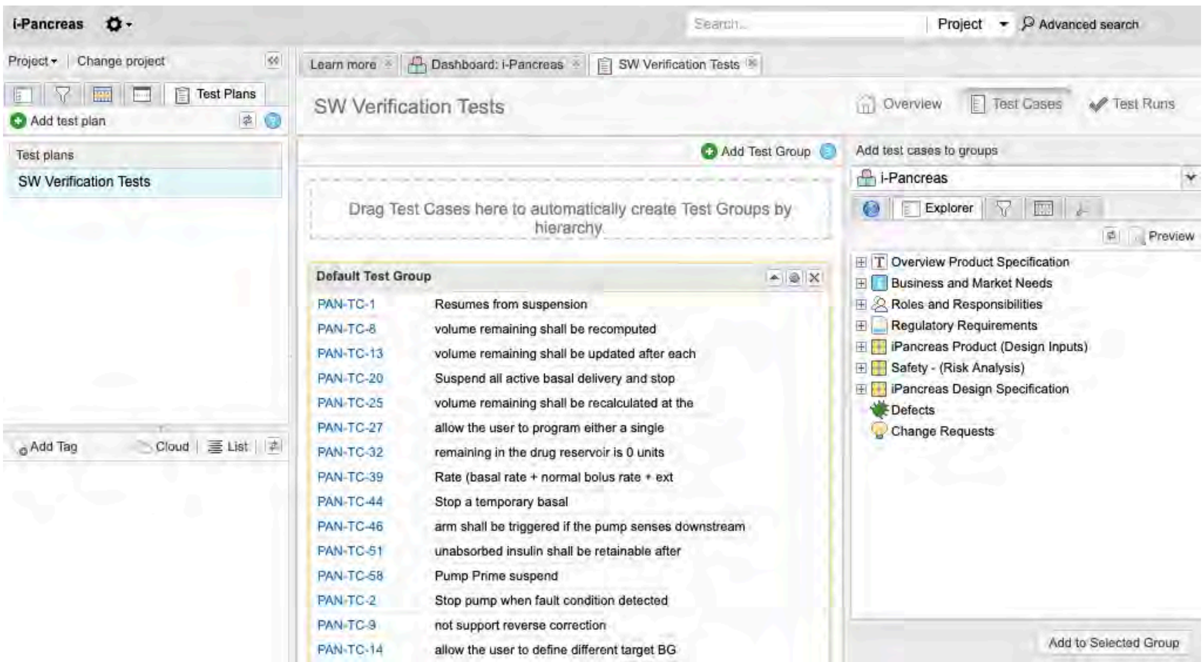
View test plan details

Select the name of a plan to open it. In the center panel, you can toggle between these three views:

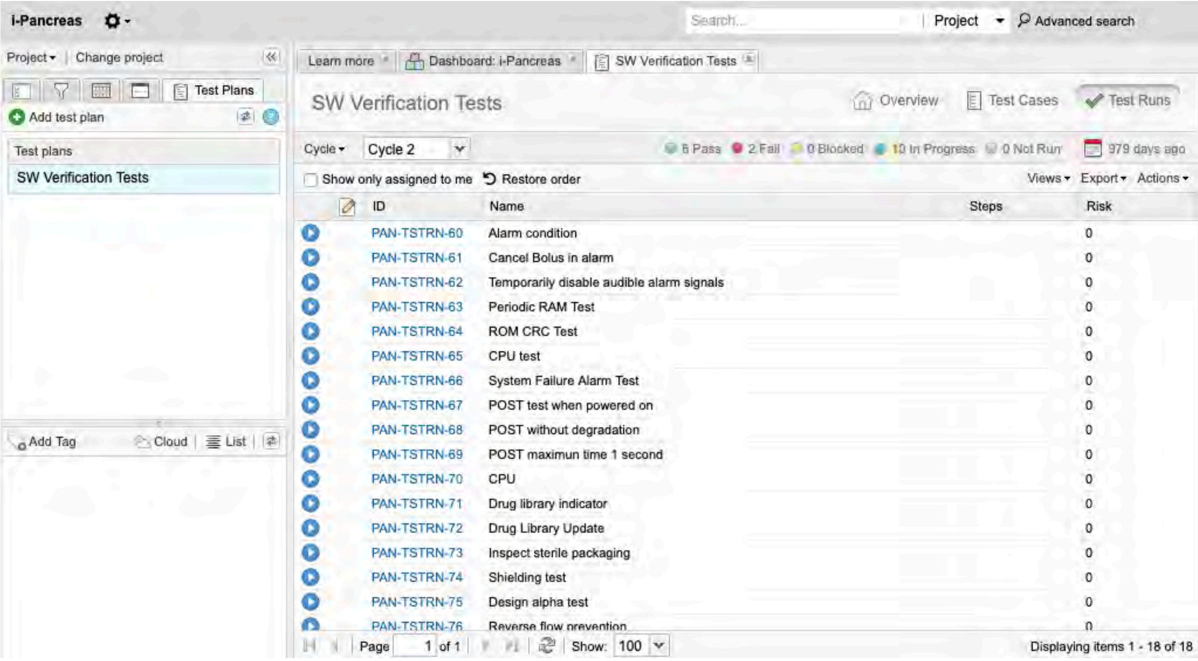
- **Overview**
  Describes the testing goals and purpose. It's displayed as a Single Item View [55] of the test plan. An organization administrator can configure which fields are displayed for this item type [598].



- **Test cases**
  Select **Test Cases** to add groups of test cases to a plan.



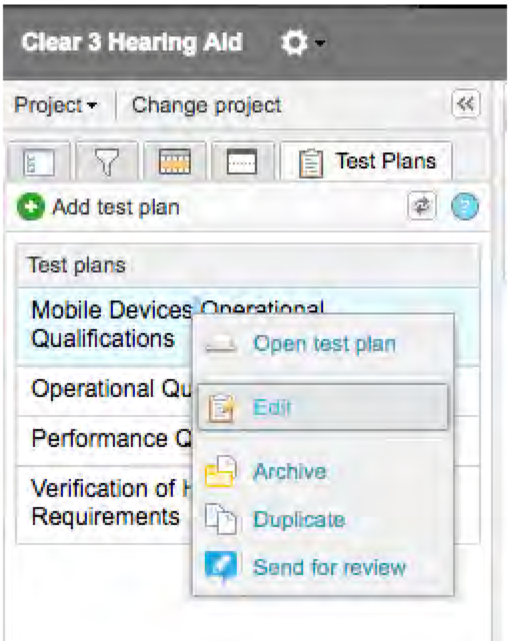
- **Test runs**
  Select **Test Runs** to add and perform a cycle of test runs.



Edit a test plan

Once you find the test plan you want to use, decide which way to edit the overview section of a plan.

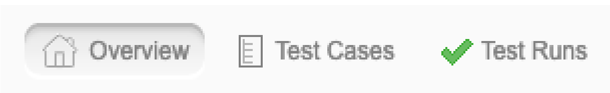
1. Right-click on the plan you want to edit.
2. Select **Edit** to open the **Edit item** window.



3. Make changes to the test plan overview and select **Save**.

Alternatively, you can:

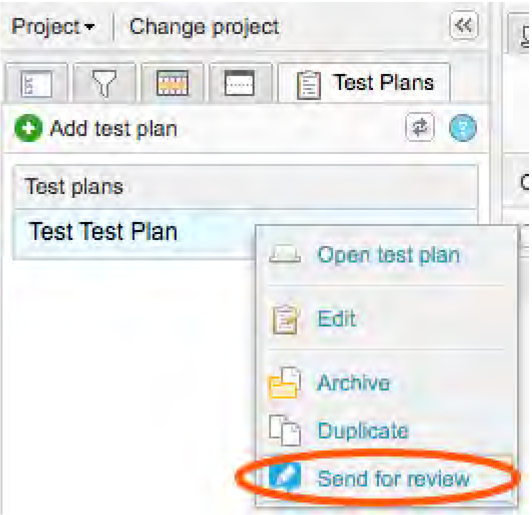
1. Select the plan name to open it in Single Item View. **Overview** must be selected in the toolbar.



2. Select the gray pencil icon next to the field you want to edit.
3. Make changes to the test plan overview and select **Save**.

Send a test plan for review

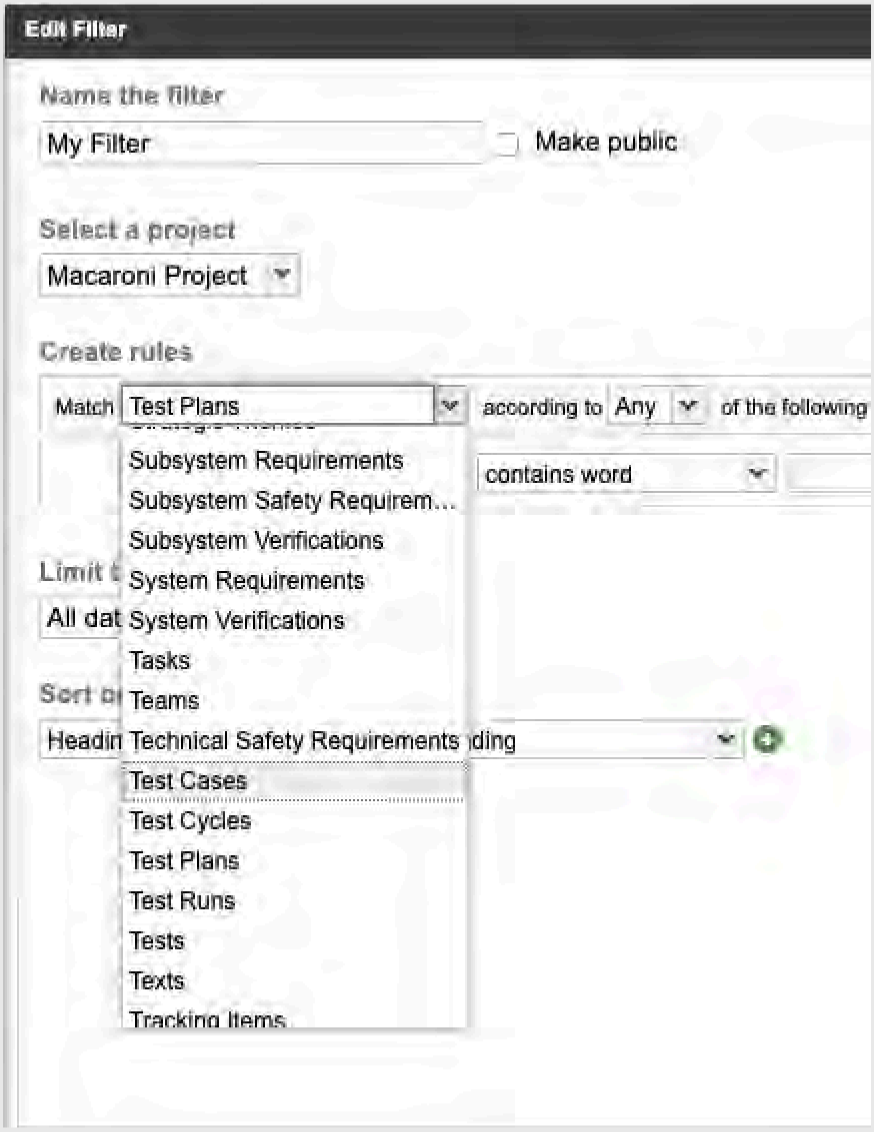
1. Select the test plan [326] you want to use.
2. Right-click on the test plan you want to review and select **Send for review**.



3. Initiate a review [153] as usual.

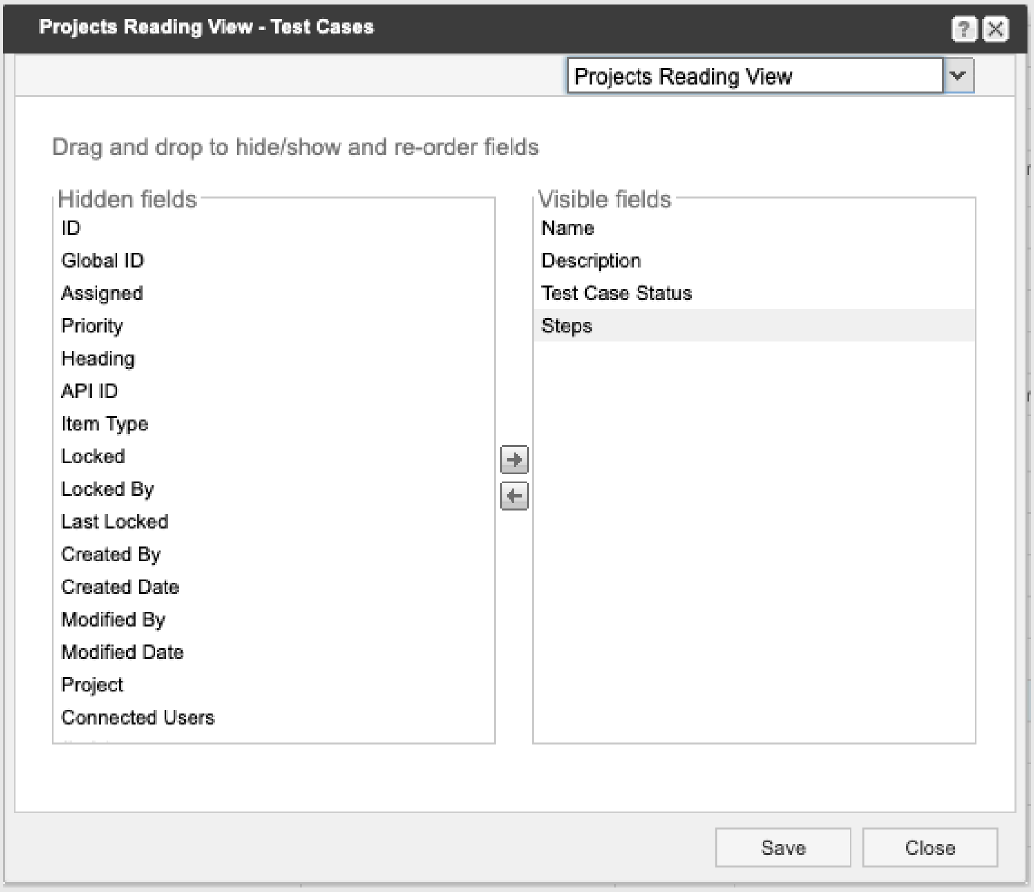
TIP

You can also create an advanced filter [135] that contains any combination of test plans, cycles, cases and runs and send that to review.



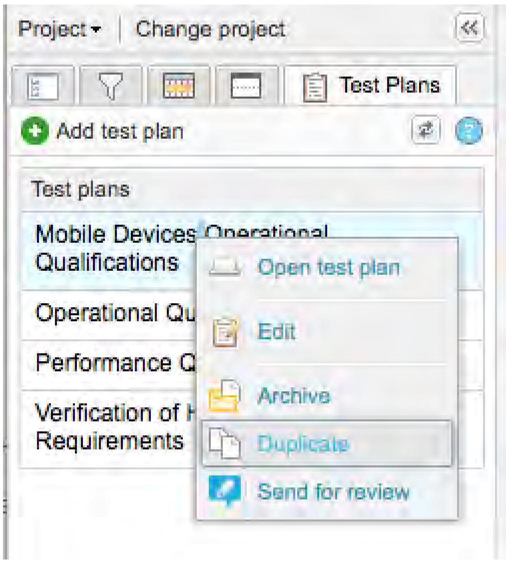
TIP

When sending test items to review, not all relevant fields might appear in Reviews Single Item View or in Reviews Reading View. An organization administrator can configure views [609] for an item type to include the necessary fields.



Duplicate a test plan

Right-click on the test plan you want to duplicate (active or archived) and select **Duplicate**.

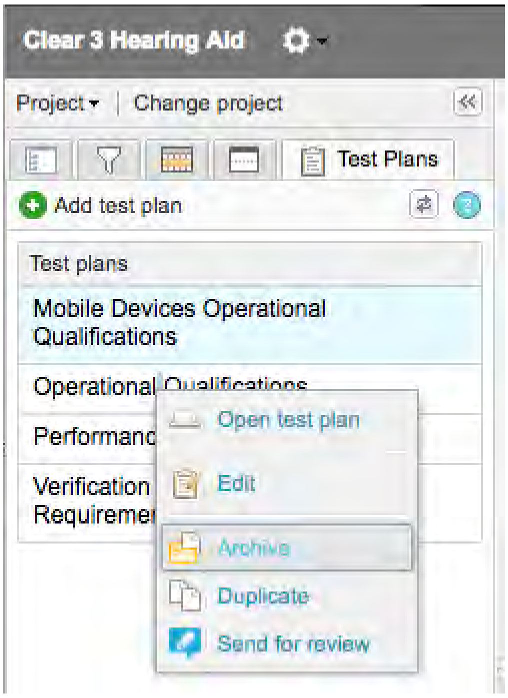


This creates an active copy of the selected test plan.

IMPORTANT
The copy contains the same details as the original and the same groups of test cases, but doesn't contain the test runs or test cycles from the original.

Archive a test plan or run

1. Right-click on the test plan that you want to archive and select **Archive**.



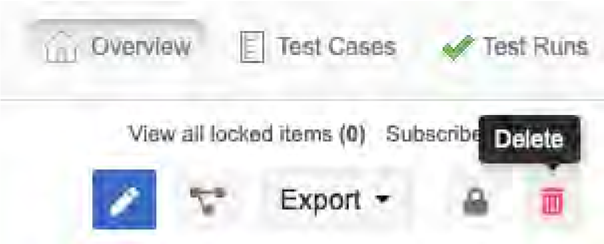
2. Archived test plans move into a group at the bottom of the list of test plans.
3. To unarchive a test plan, right-click an archived test plan and select **Unarchive** to make it active.

NOTE
The only way to archive a test run is to archive the associated test plan. When you archive a test plan, the associated test runs no longer appear in the associated test case, and the test case status reverts to "not scheduled." You can unarchive test runs and recalculate test case status by unarchiving the associated test plan.

Delete a test plan

CAUTION
When you delete a test plan, you also delete all associated test cycles and runs. If you do this, test cases associated with deleted test runs can change status. If a plan has any associated test runs, consider archiving the test plan [336] rather than deleting it.

1. View details [331] of the plan you want to delete.
2. In the toolbar, select **Delete (trash icon)**.

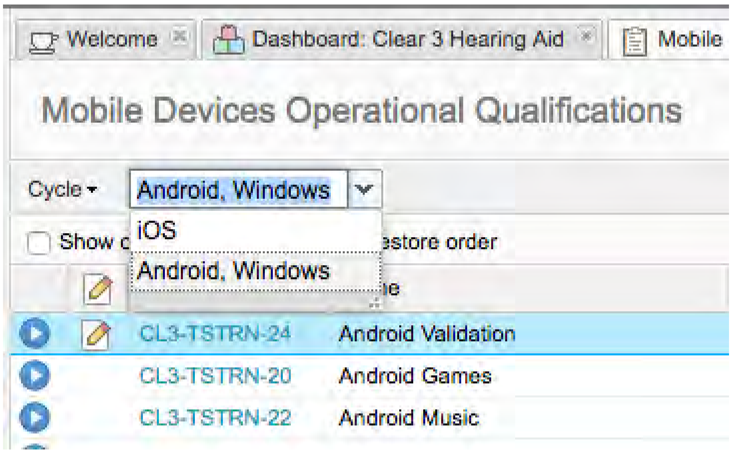


Test cycle

Test cycles convert groups of test cases into a series of test runs that are ready for execution.

Inside of a test plan, you can add a test cycle [338] to help you manage and execute runs [344]. You can also send a test cycle for review [340].

Test cycles can include tests for a particular team, from a particular test case, tests you want to run on the same day or at the same location.

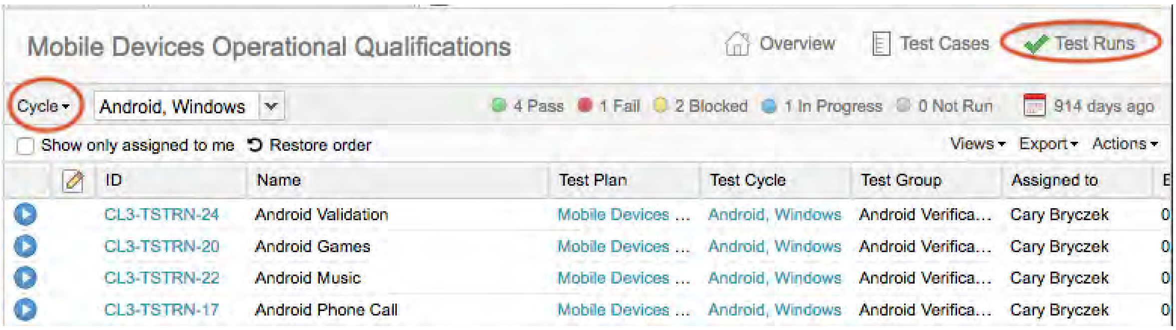


TIP
You can't add a test case directly to a cycle; it must first be included in a group.

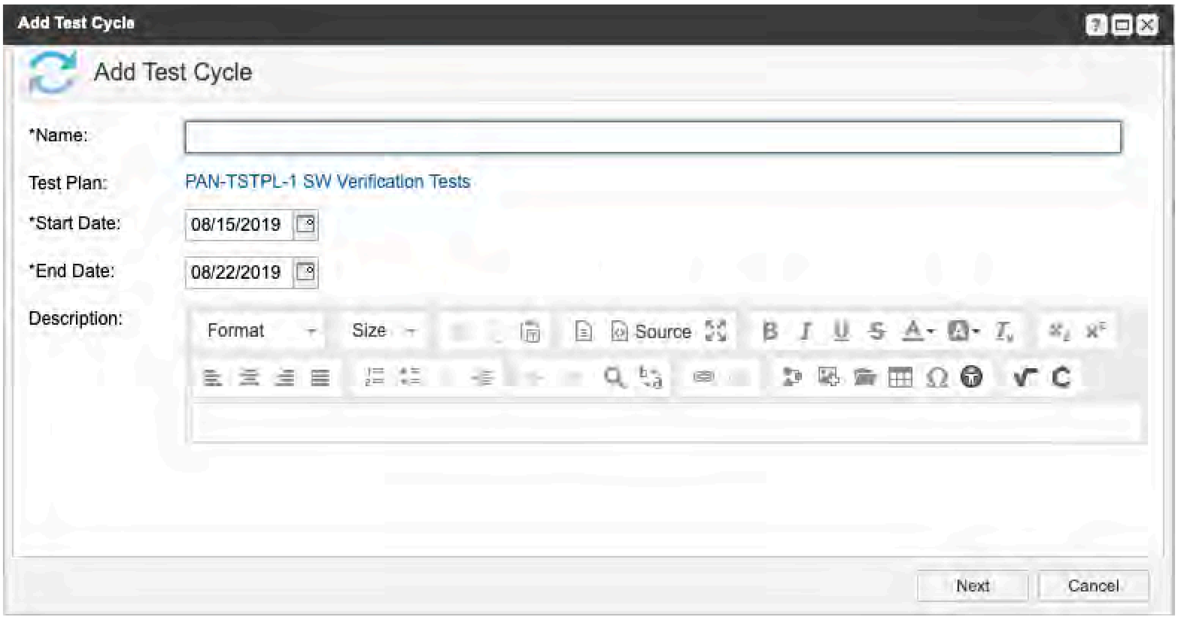
Add a test cycle

Cycles are created from groups of test cases. Add a test cycle to hold the test runs that you want to execute together.

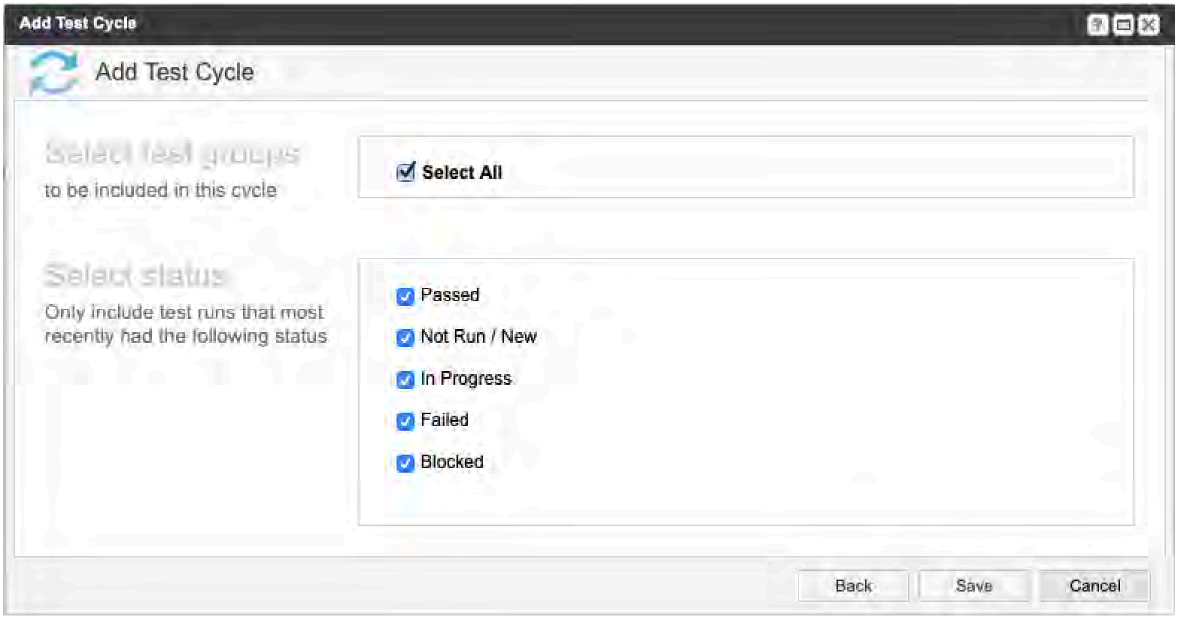
1. Inside of a plan, select **Test runs** from the toolbar. On the left side of the toolbar you see the name of the cycle. The runs associated with that cycle are displayed here.



2. In the upper left toolbar, select the small arrow next to **Cycle** to open the drop-down menu. From this menu you can view cycle details, add, edit or delete a cycle, or send a cycle for review [340].
3. To add a cycle, select **Add Cycle**. If this is the first cycle you're adding, you see a green **Add first cycle** button.
   If you want to edit an existing cycle, select the **name of the cycle** you want to edit from the pull-down, then select **Cycle > Edit cycle**.
4. Enter the test cycle details in the **Add test cycle** window.



5. Click **Next**.
6. Select the groups you want to include in the cycle. Select **Select all** if you want to include all test groups in this cycle.
   You can also **filter the status** of which test runs you want to include. For example, it's possible to only add failed or blocked test runs.

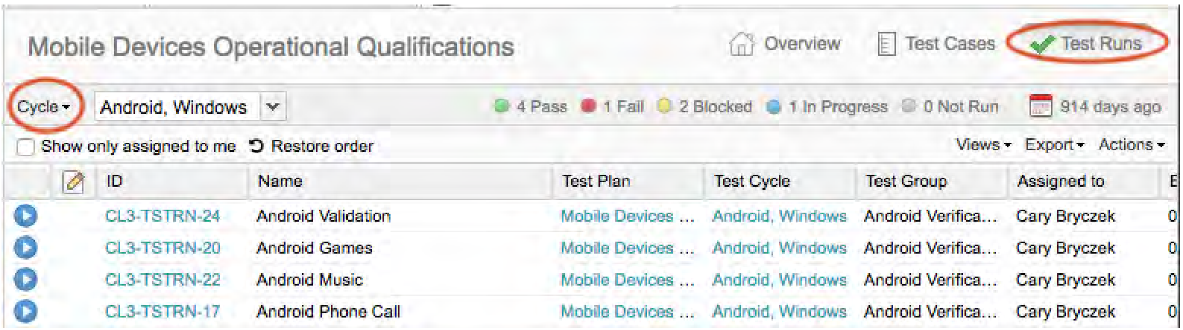


7. Click **Save**.

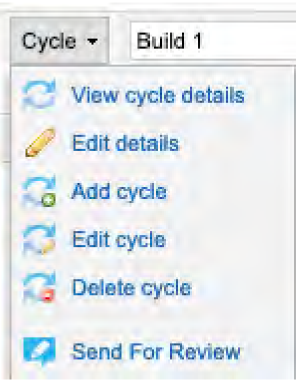
Edit a test cycle

Cycles are created from groups of test cases. You can edit the name and description of a test cycle without impacting the cycle's contents.

1. In a test plan, select **Test Runs** from the toolbar. On the left side of the toolbar you see the name of the cycle. The runs associated with that cycle are displayed here.



2. Select **Cycle** to open the drop-down menu, then make your changes.
   - Select **Edit cycle** to make changes to the contents associated with the test cycle.
   - Select **Edit details** to change the name and description without impacting the cycle's contents.



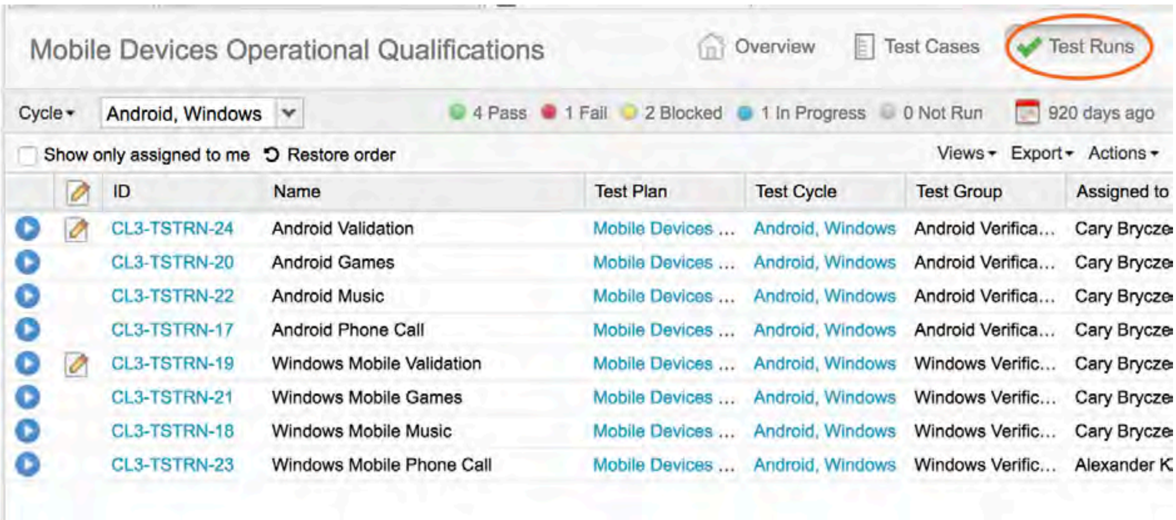
3. Click **Next**.

A pop-up message confirms that the changes were successful.

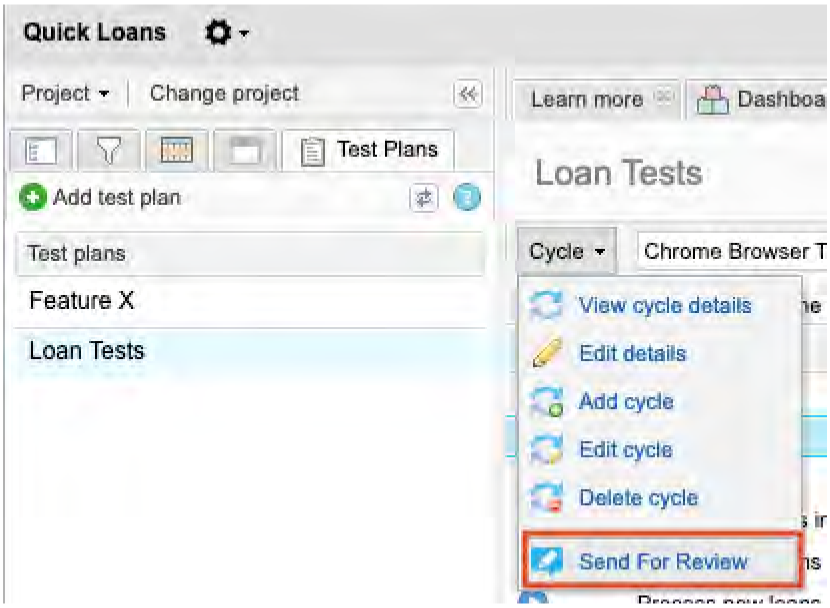
Send a test cycle for review

When sending test items to review, not all relevant fields might appear in Reviews Single Item View or in Reviews Reading View. An organization administrator can configure views [609] for an item type to include the necessary fields.

1. Select the test plan [326] that you want to use.
2. Select **Test Runs** in the toolbar.



3. Select the name of the cycle you want to send to review.
4. Select the small arrow next to **Cycle** to open a drop-down menu, then select **Send for review**.



5. Initiate a review [153].

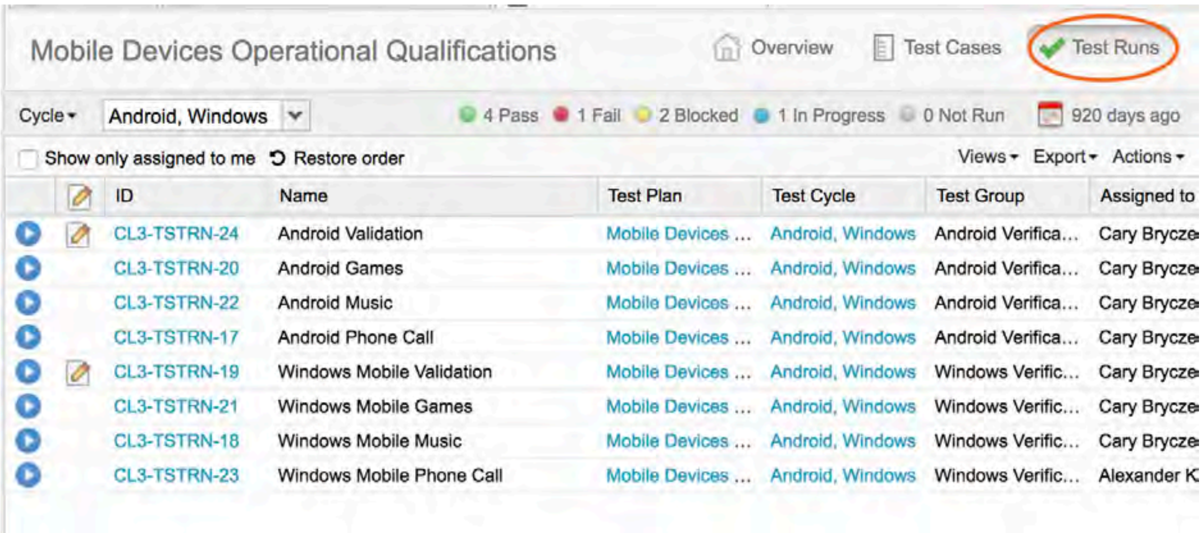
Test runs

A test run is an item used to record results for a test case you ran against your product.

Find and manage test runs

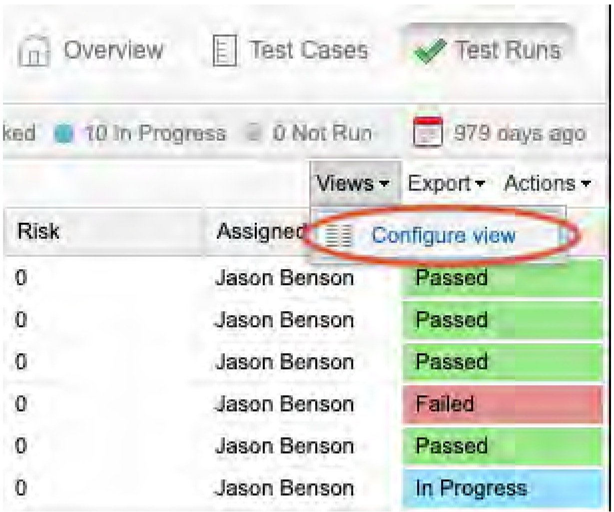
By selecting Test runs in the toolbar, you can manage all the runs in the cycles for a plan.

- For the plan you're using, select **Test runs** in the upper right toolbar.



- Test runs are displayed in a configurable List View in the center panel. Select **Views > Configure view** in the upper right toolbar to make the fields you want to see visible.

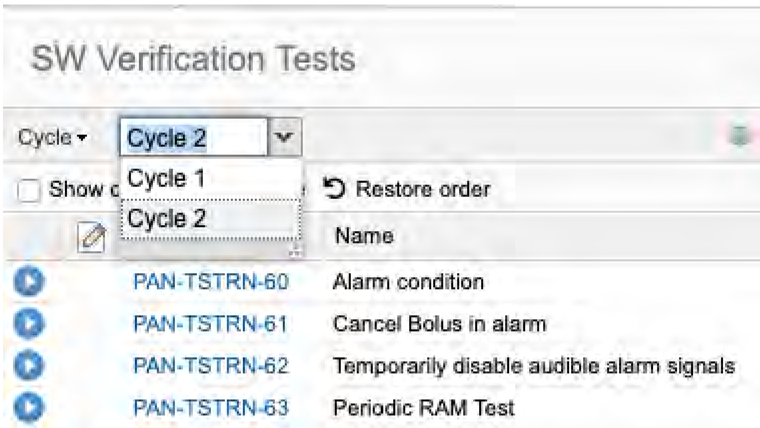
> **NOTE**
>
> If you select **Test Case** as one of the visible columns, the Test Case column shows the ID in front of the name.



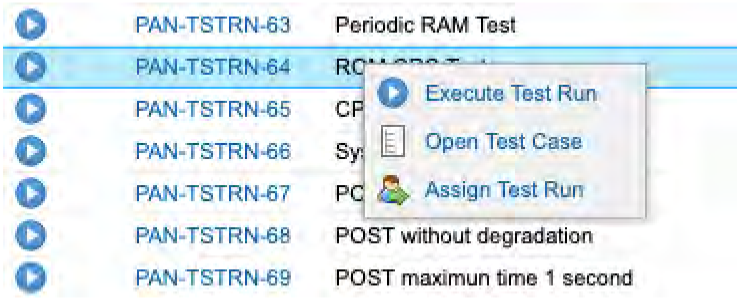
- Select the column header to sort columns. Return them to their original order by selecting **Restore order**. For older data, a project reindex [649] might be required to properly restore the order.

> **NOTE**
>
> The **Test group** column order is based on the hierarchy of groups [329]. The names themselves can't be sorted in List View.

- Use the drop-down menu next to **Cycles [337]** to display the test runs for a cycle.



- To execute a run, select the **blue circle** at the left of each row, or right-click and select **Execute test run**.



- You can also right-click on a test run and select **Open test case** to see the test case associated with this run or **Assign test run** to select an assignee.
- Select **Show only assigned to me** in the upper left toolbar to filter the List View for test runs assigned only to you.
- Select **Export** to export the test runs shown as a standard Word, Excel, or custom format document (Office Templates).

TIP

You can see and analyze test runs in Trace View [52] if you view their associated test cases there.

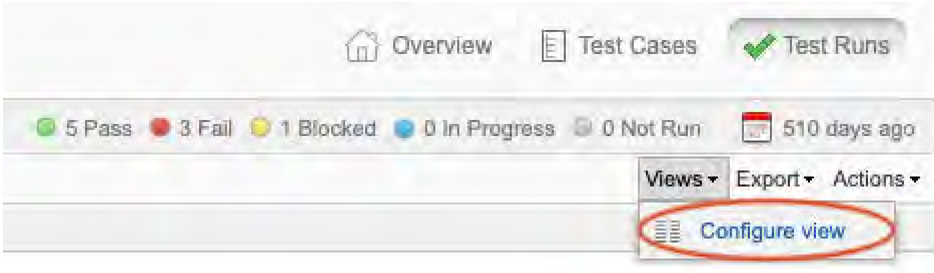
View test run details

1. In the test plan, select **Test runs** from the upper right toolbar to display test runs in List View.
2. Select the name of a test run to view its details.
3. From the toolbar on the right, you can view and add relationships, comments, and connected users. You can also check the activity and version history for the test run or open the associated test case.
4. Double-click on any of the fields to edit the test run.

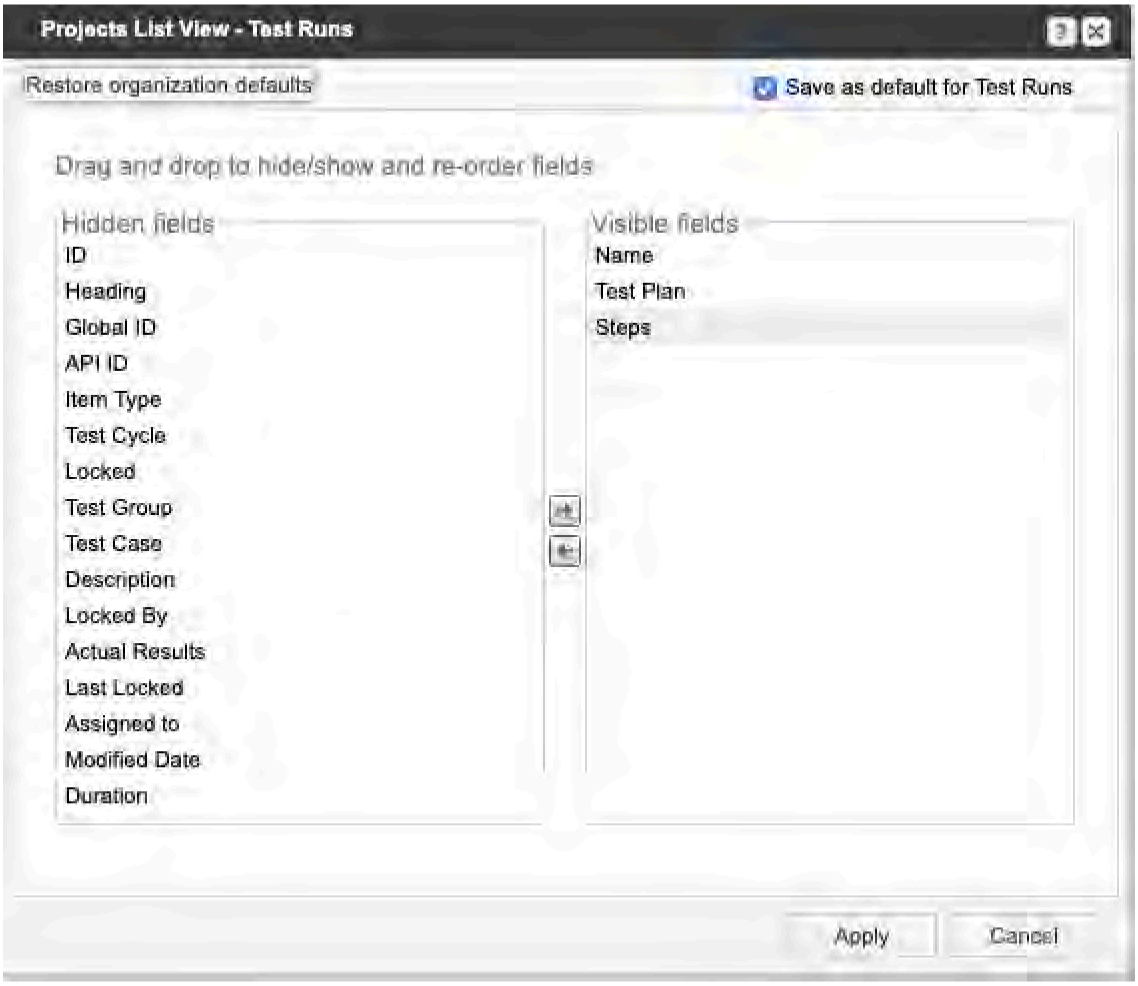
Configure test run view

You can choose which columns are displayed under test runs. These settings only apply to you.

1. Select a test plan, then select **Test runs** in the top right menu.
2. Under **Views**, select **Configure view**.



3. In the window that opens, double-click on the field name, drag and drop, or use the arrows in the middle to move the field names between **Hidden fields** and **Visible fields**.



4. Select **Restore organization defaults** if you want to return to the default settings. An organization administrator can configure the default view settings for test run item types [609].
5. Select **Save as default for test runs** if you want to use this configuration for all test runs that you view in Jama Connect. If you uncheck this box, your settings are only applied during this session and return to default settings when you log in again.
6. Select **Apply**.

Assign test runs

1. Inside of the plan you're using, select **Test Runs** in the upper right toolbar.
2. Select the **Runs** you want to assign in the List View. You can use **Ctrl** or **Shift** to select more than one.
3. Select **Actions > Assign Test Runs** in the upper right toolbar, or right-click on the run you want to assign and select **Assign Test Runs**.

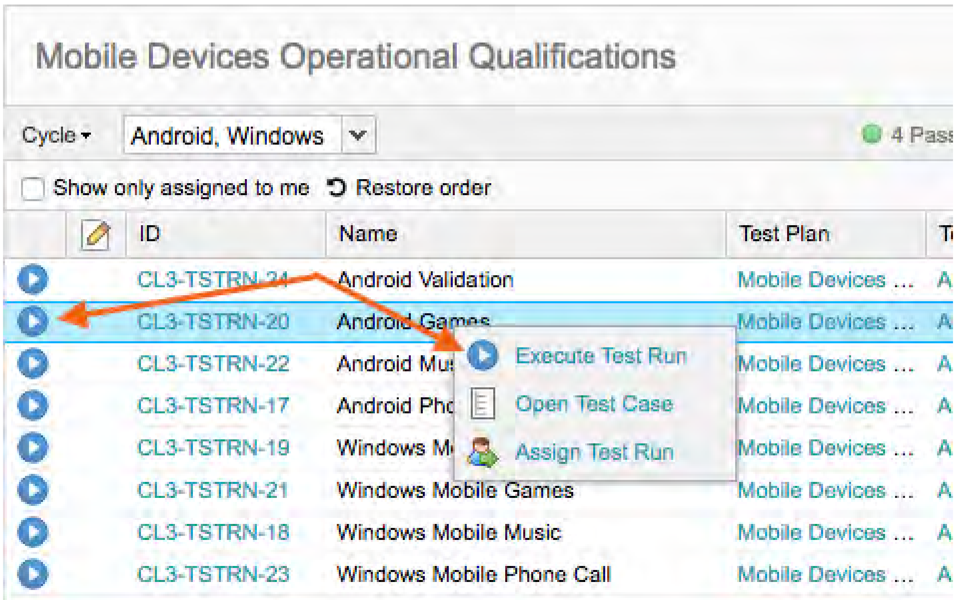
4. In the **Assign Test Runs** window, enter the name of the person you want to assign. You can use the magnifying glass icon to open the **Select a user** window, select the name you want, then use **Select user** to complete the action.
5. Select **OK**.

Execute a test run

Important considerations

- Selecting **Pause** doesn't save results and results (pass/fail) don't automatically save. You must click **Save and Done** to save the recorded results or "actual results" values.

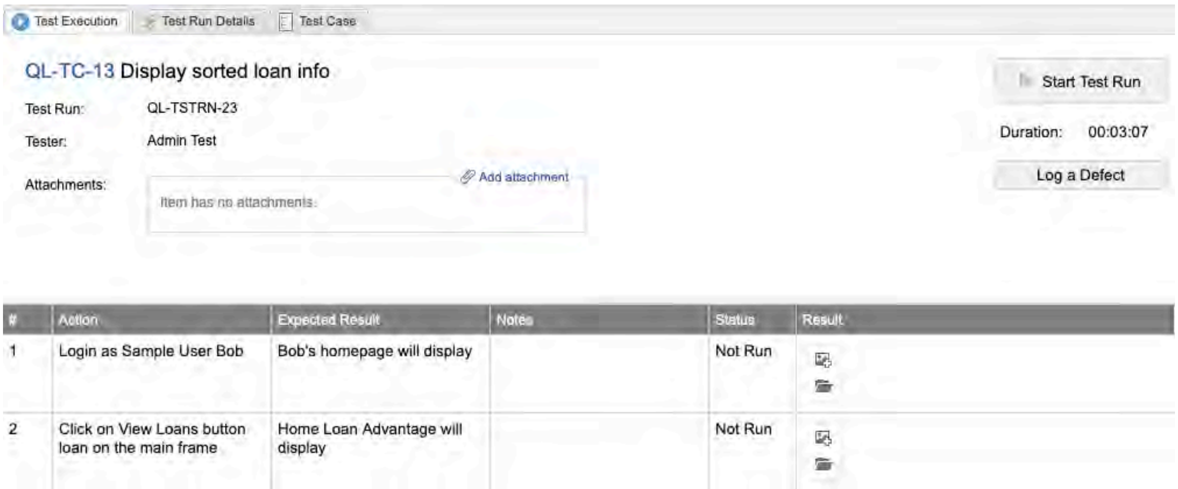
1. In the project you want to test, select **Test Plans**.
2. Select the **blue button** next to the run you want execute or right-click and select **Execute Test Run**.



3. In the **Execute Test** window, use the three tabs at the top to execute the test, view run details, or view the associated test case.

> **NOTE**
>
> If you try to execute a test run that isn't assigned to you, you are prompted and asked to reassign it to yourself.

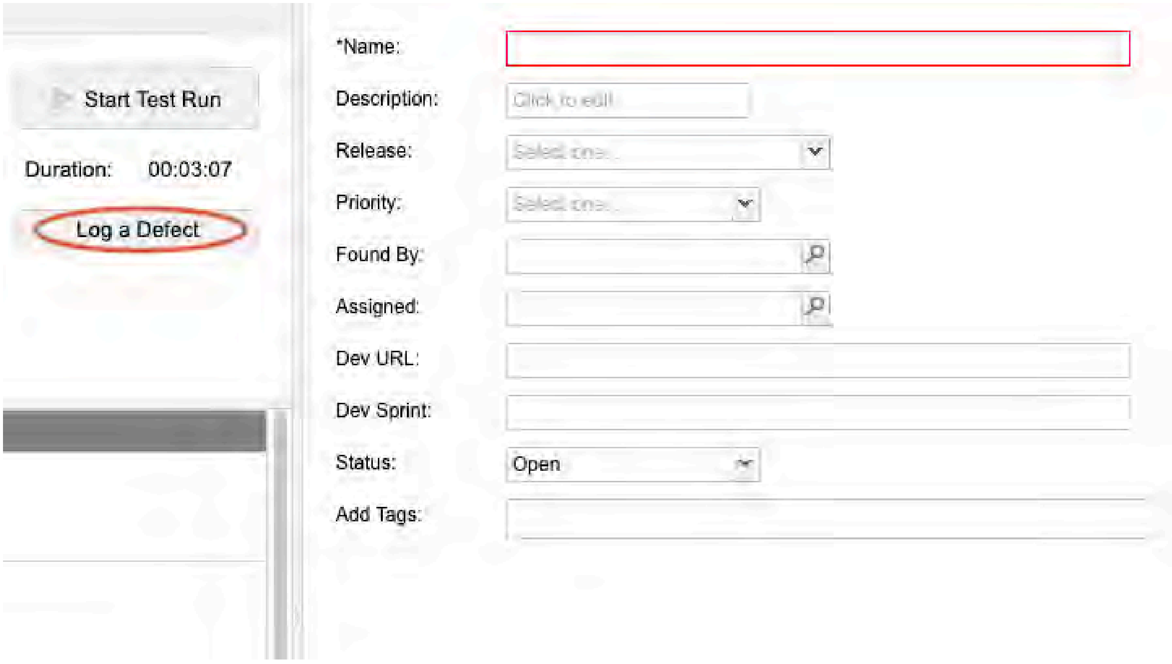
4. Under the **Test Execution** tab, select **Start Test Run** to start the duration timer.



NOTE

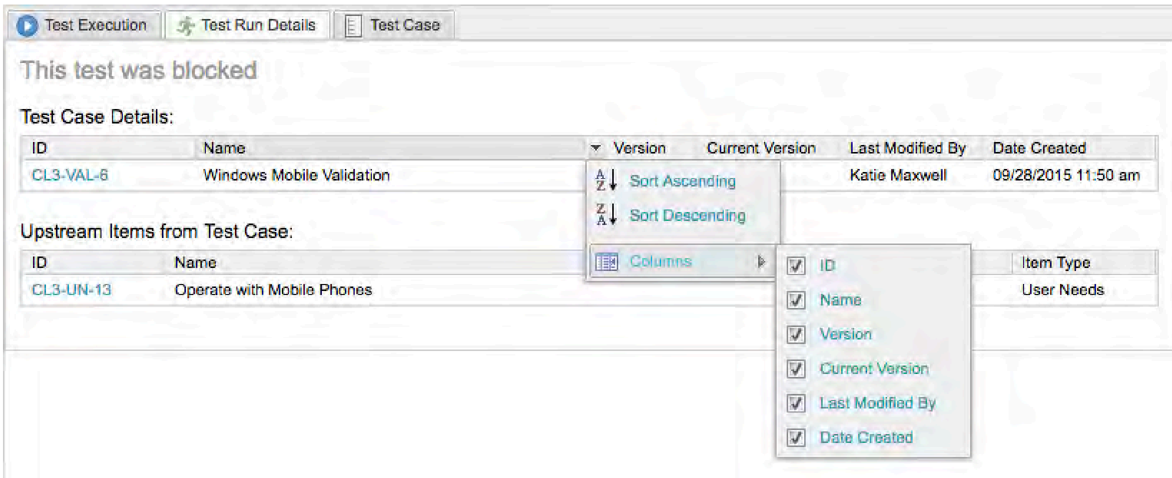
Unless the field is configured to read-only, you can double-click on the duration field and change the timer to reflect the actual testing time.

5. If you discover a defect while running a test, select **Log a Defect** to open the right panel, fill in the information and select **Save Defect**. A project administrator can determine where these defects are saved [648]. When you add a defect from the **Test Execution** window it's automatically related to that test run.



6. Once you start the time and begin the test, you can mark each step as **passed** (green check) or **failed** (red x). You can add results for each step in the results field. If no steps were added to the original test case, you see a single pass/fail button.
   You can also add or upload an attachment by clicking **Add attachment**. These attachments aren't accessible from any defect items created during the test run. Attachments or screenshots for a defect must be recorded separately on the defect item.
7. (Optional) Include images in the **Results** column of the test steps, or provide feedback in the **Actual results** section below the test steps table.

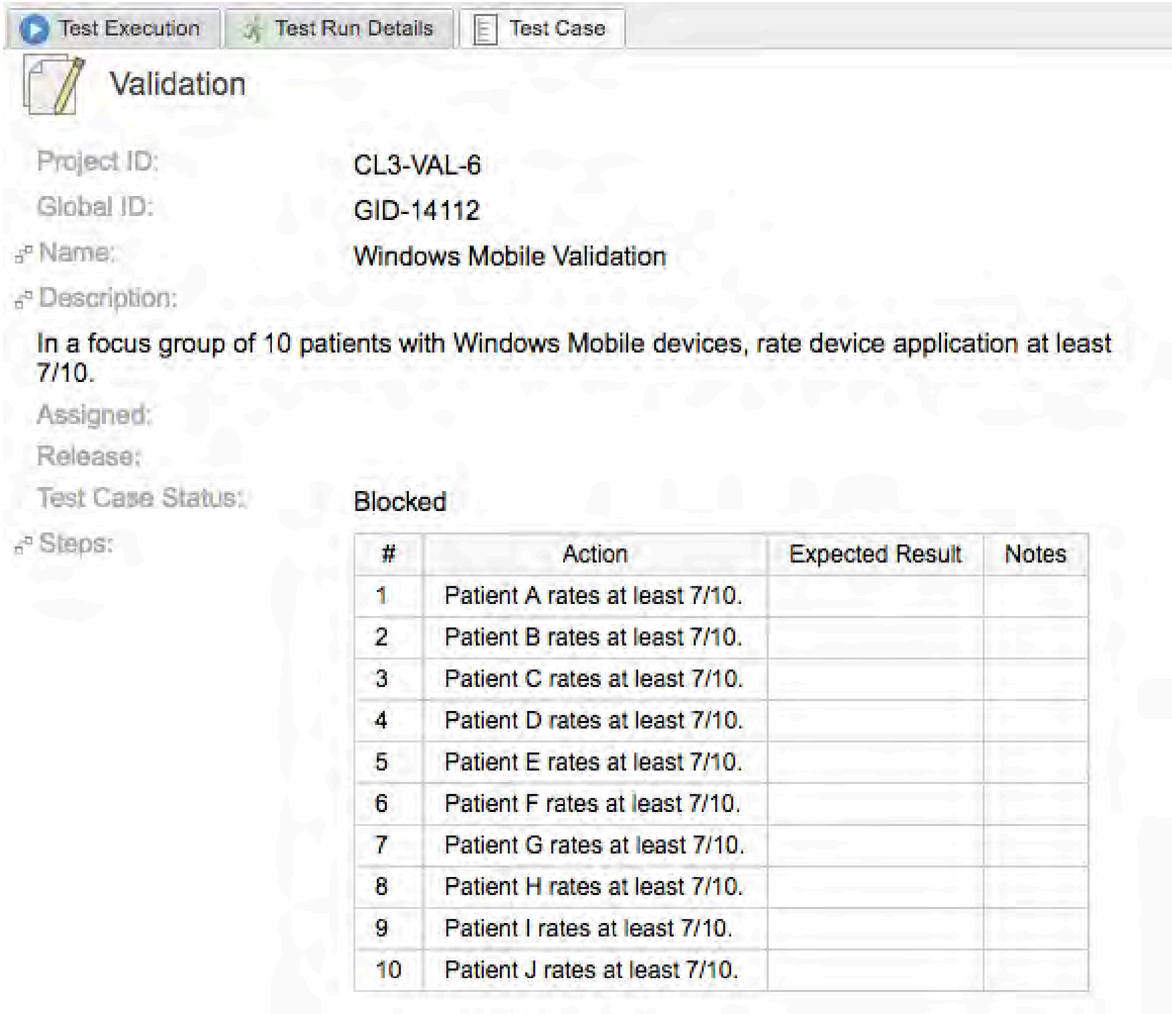
8. The test case status [320] (in progress, passed, failed, blocked) is shown at the bottom of the status column. If at least one step failed, you can select **Mark as blocked**, (when something prevented performing all the steps) or **Pass with errors**.
9. Select the **Test run details** tab to view details about the run. Select the arrow in a column header to use the drop-down menu to sort the column or to select which columns are visible.



You can see the following items in this window:

- **The test case that generated this test run**
  Select the ID to open up a new window that displays the details of the derived item, such as the goal of the test case, pre-conditions, steps in the case, and the duration of the test run.
- **Upstream items related to this test run**
  Select the item ID to view detailed information about the related items in a separate window.

10. Select the **Test case** tab to view details about the test case that generated this test run.



11. Select **Save and Close**.

Configure custom fields to appear during test execution

Custom fields added to the **Test Run** item type appear in the **Test Execution** window during testing. Similar to the **Actual Results** field, these custom fields can be filled in during test execution.

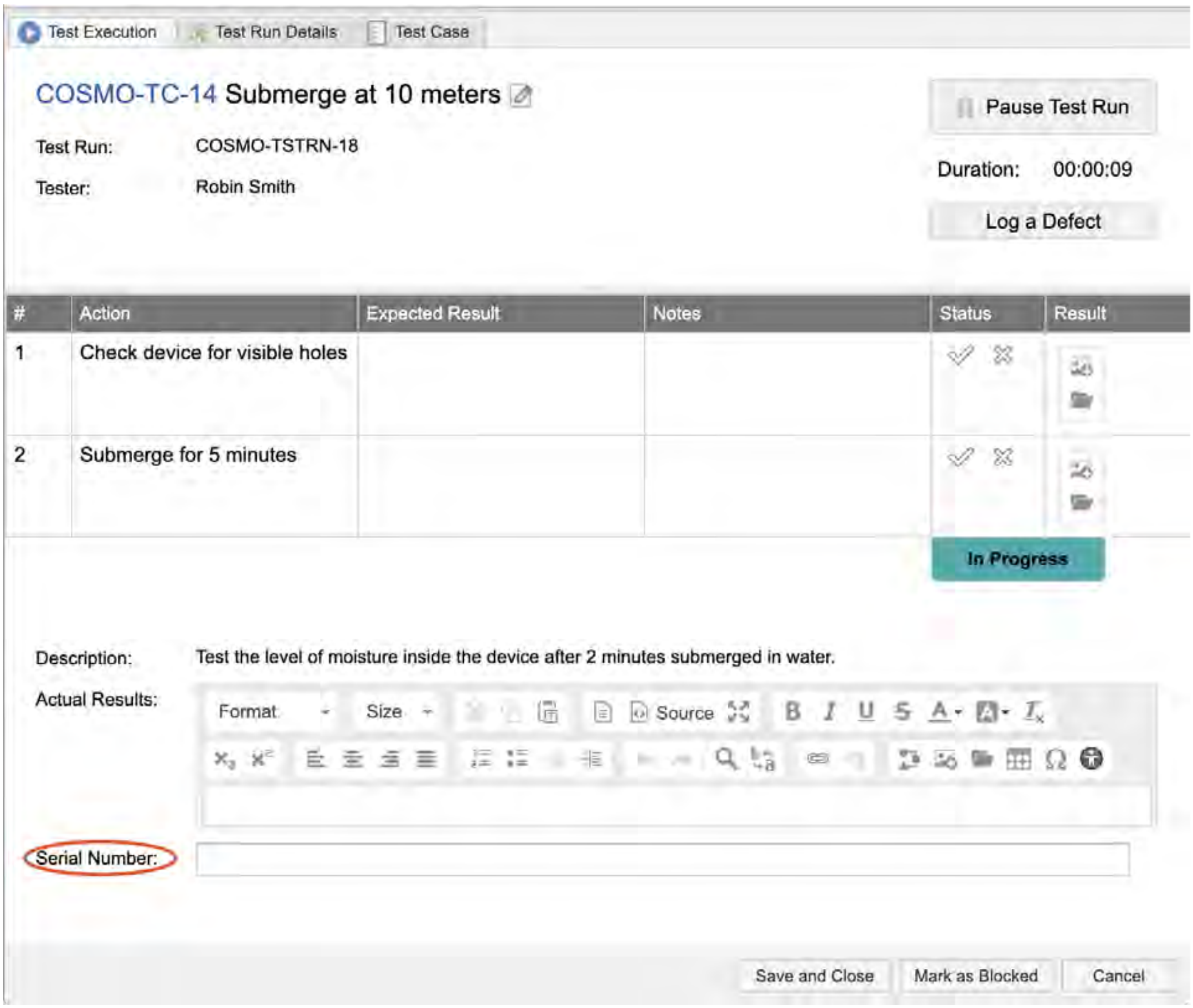
Supported custom field types

Other custom field types don't appear on the test run execution panel.

- Date
- Flag (boolean)
- Integer
- Multi-select
- Picklist
- Text box (plain text)
- Text box (rich text)
  Note: You can use Editor Templates in custom rich text fields. To export the Editor Template information for a Test Run item: From Single Item View, select **Export > View all export options > All Item Details**, then click **Run**.
- Text field
- URL

1. Click **Admin > Item Types >Test Runs**, then select **Fields**.
2. Select **Add field** to add field types, then click **Save**.
   On the next test run, the custom fields are displayed and can be edited.

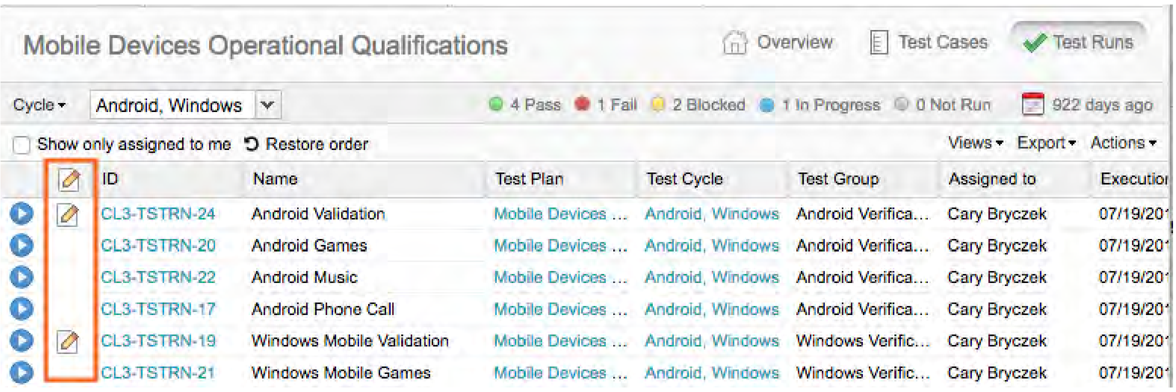
Example: Add a test field to capture the serial number for a product being tested during that test run's execution.



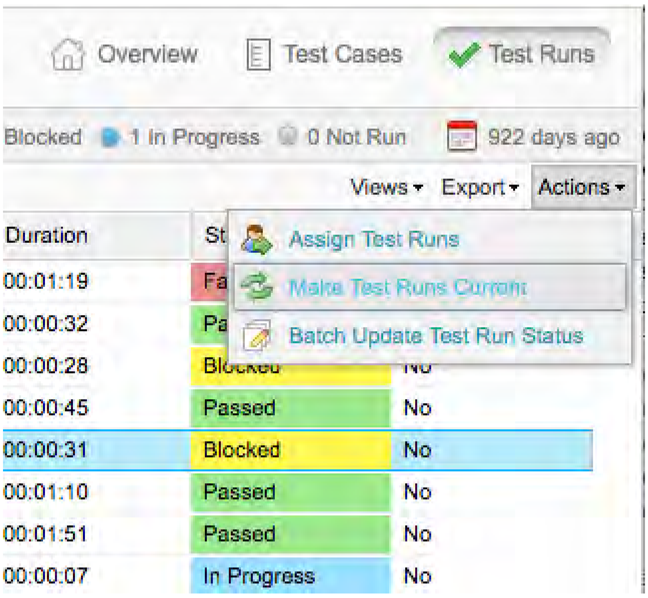
Make test runs current

When creating test runs, a copy of the test case is put into the test run. But if a change is made to the test case after that, the change isn't reflected in the test run.

1. You will know if a test case has changed since the test cycle was created, because a pencil and paper icon appears in the second column if the test case has changed.



2. Select test runs you want to make current (using the **Shift** key to select multiple), then select **Actions > Make test runs current**.



3. In the **Make test runs current** window, select whether you want to make all items current or only those you selected.
4. You are asked to confirm. Select **Commit** to make test runs current.
5. Only runs associated with test cases that were changed are updated. The previous versions are deleted and the updated version is added. Any previous progress, results, or statuses are also removed from the updated test runs. Any test runs that didn't change still retains progress, results, and statuses.

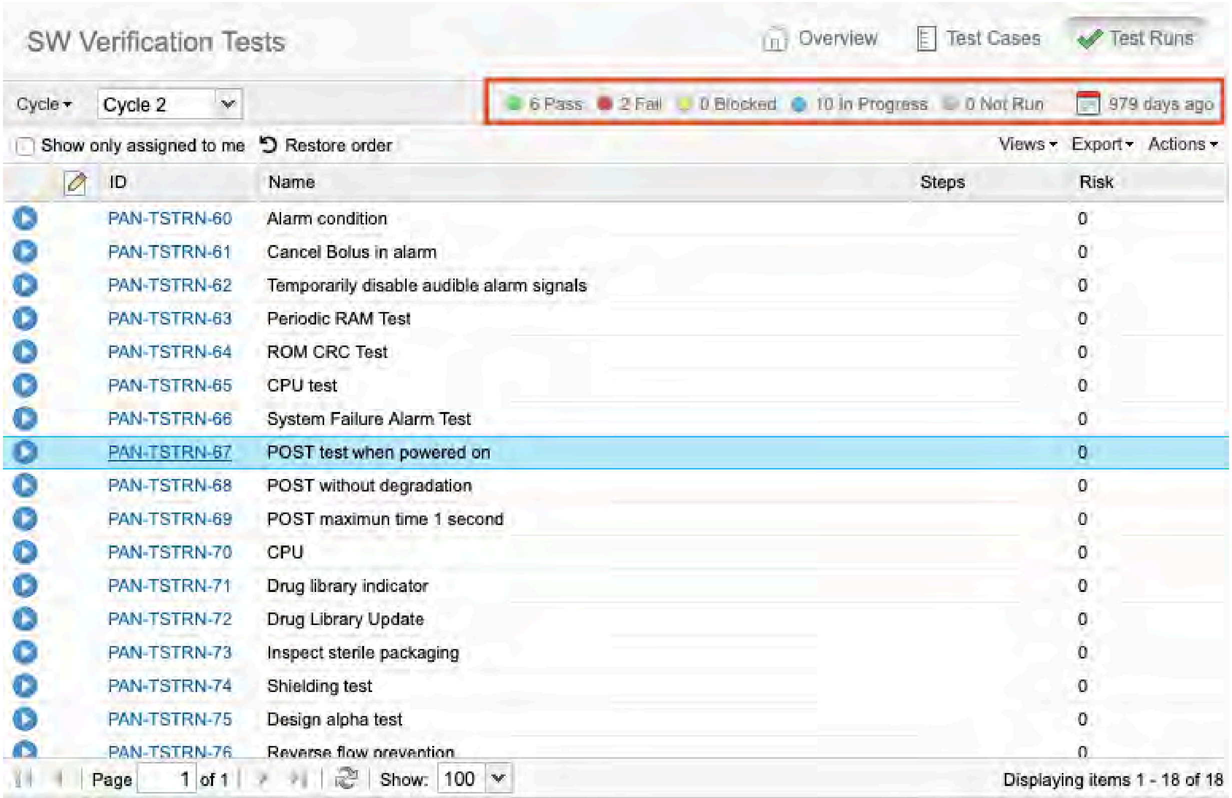
NOTE
If you don't have read/write access to an item or if it's locked by someone else, it isn't updated.

Test run status

Test run status indicates the current state of a test run, and is used in calculating test case status.

Test run status is visible in the test run execution window and in Single Item View.

You can also use a rollup of test run status for all tests in a cycle. You can see it above the cycles when you select **Test runs** in the toolbar.



Possible states are:

- Pass
- Fail
- Blocked
- In progress
- Not run

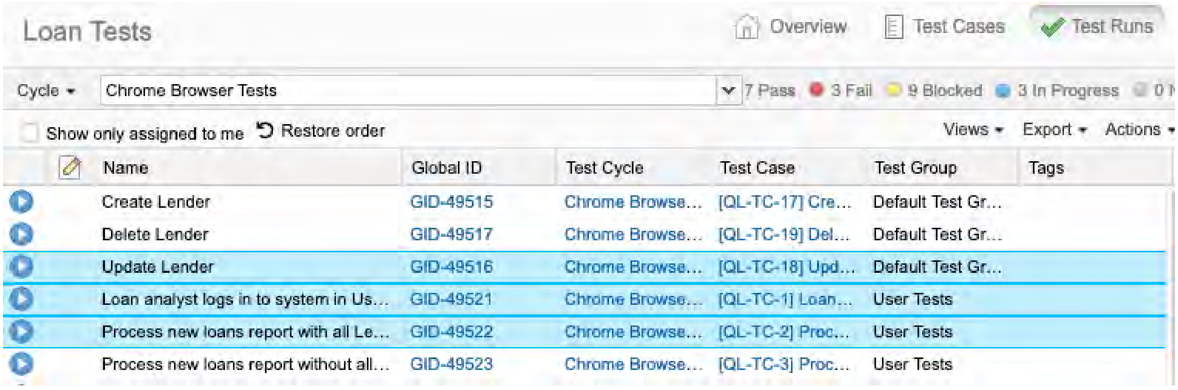
NOTE

If you need to reset the test run to a status of **Not run**, you can batch update test run status [350] or unmark steps that were marked as pass or fail, and set the test run duration to 0. This automatically resets the status to **Not run**.

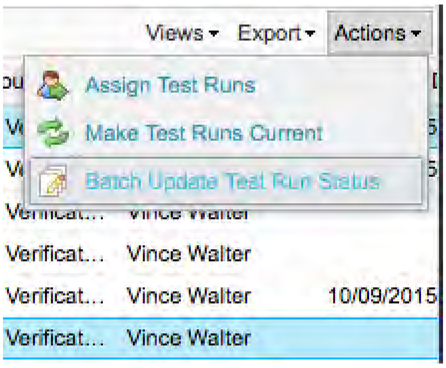
Batch update test run status

As long as test runs aren't locked and you have write permissions, you can batch update the test run status.

1. Select **Test Runs** in the upper right toolbar.
2. Select the test runs you want to update in the center panel. Use the **Ctrl** or **Shift** keys to select multiple.

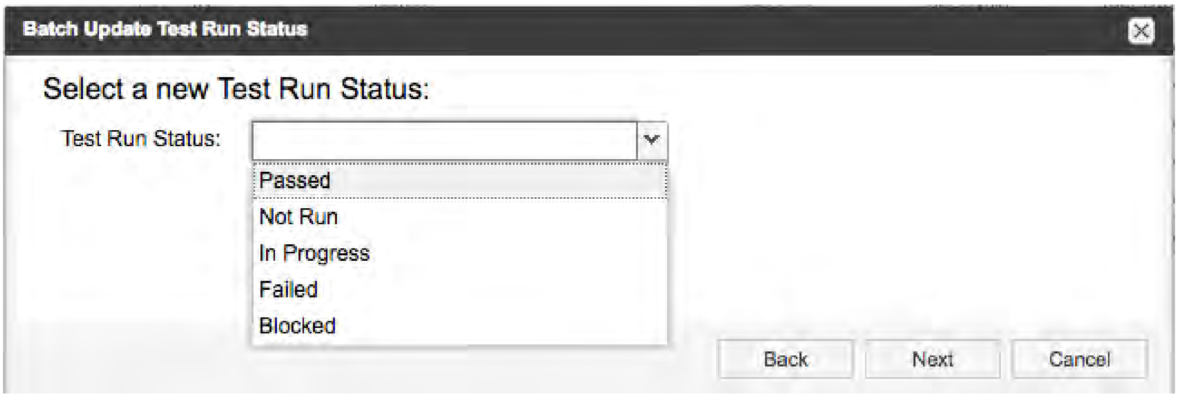


3. Select **Actions > Batch Update Test Run Status**.

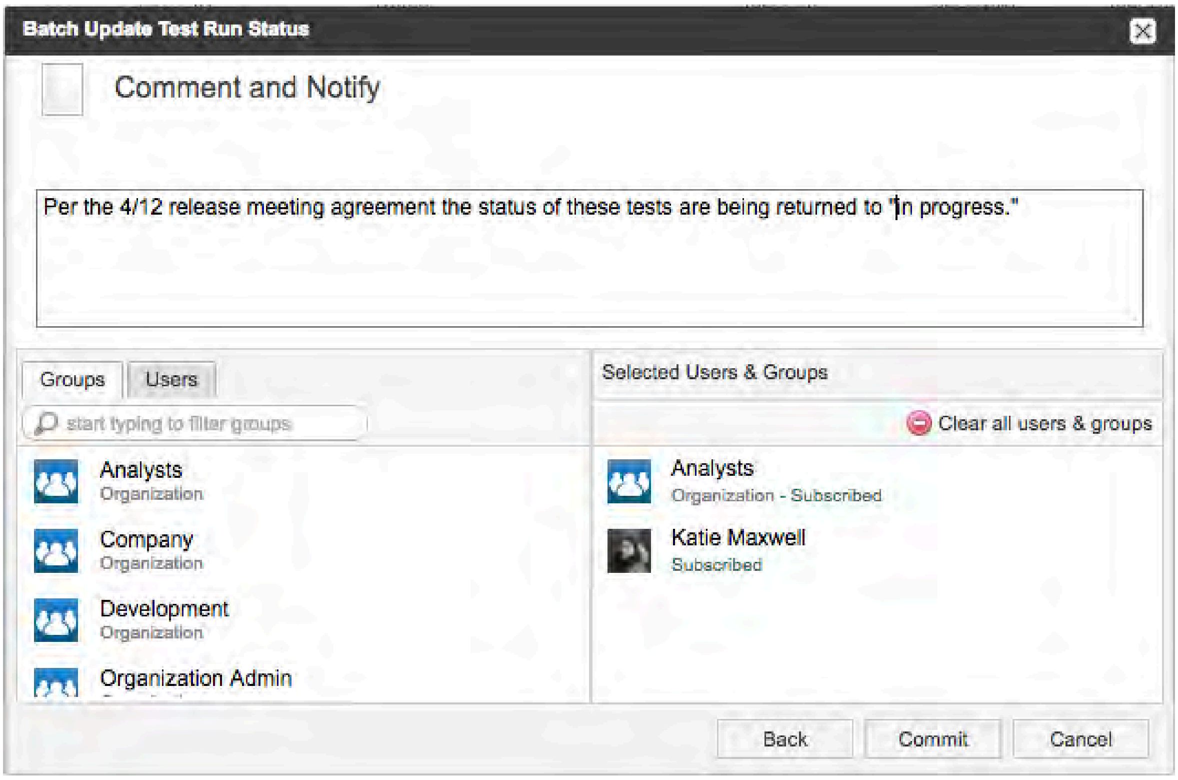


4. This opens a window for you to confirm the number of runs selected. Select **Next**.

5. Select the new status you want for the selected runs. Select **Next**.



6. In the next window, you can select users or groups and send a notification alerting them to this batch update. When you're done, select **Commit**.



IMPORTANT

You can only batch update test runs in the **Test runs** window. You can't use advanced filters to batch update test runs.

Analysis — Monitoring your project

Jama Connect includes tools that give you the big picture of your project and that help you gain insight on different areas of your product development.

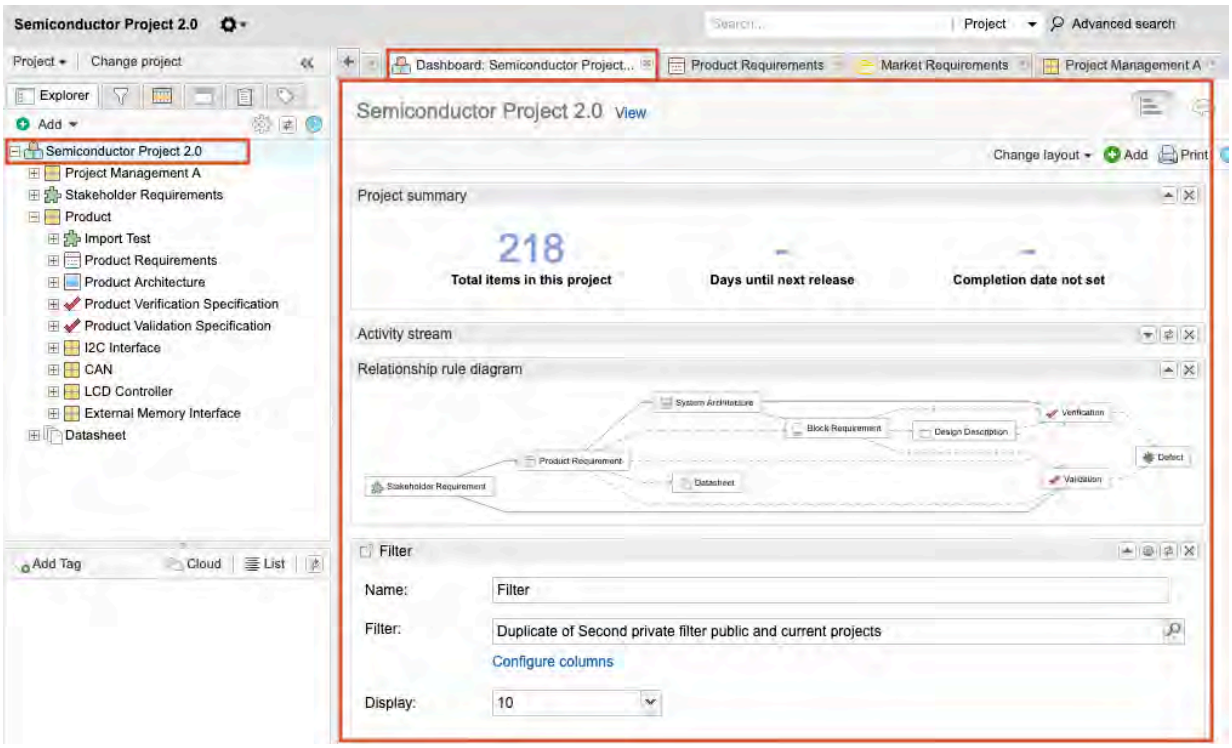
- Dashboard [353]
- Reports [357]
- Coverage and traceability tools [253] — Find out how mature the product development is. For example, if 100% of requirements have a traced verification, development is in a mature and complete state and can claim compliance.
- Exports [298] — Analyze data in tools like Excel. Jama Connect provides dashboards for a visual at-a-glance display of your project. Users with organization admin or project admin permissions can configure a project dashboard.

You can select dashboard options that display a project's key metrics, so you can see which parts of your project need attention.

Examples dashboard options include:

- Pie chart — Shows all requirements by status. For example, 25% are in draft state, 75% are in review state.
- Bar chart — Shows count of all requirements missing a downstream verification test.

Dashboards are customized per project, not per user. See a list of dashboard options [353] that can be added to the dashboard [355].



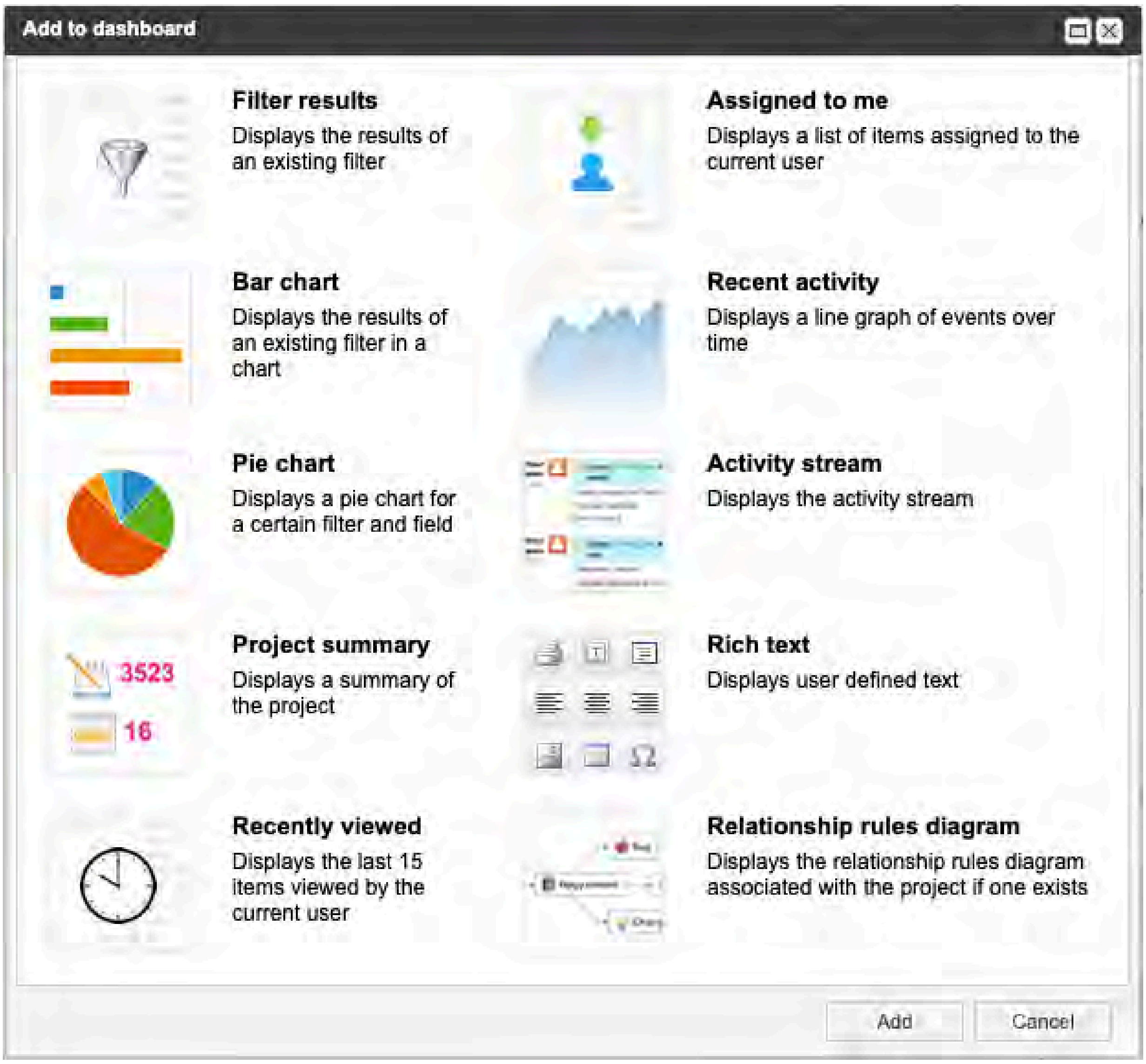
Dashboard options

You can customize a project dashboard to display the information needed by project members. Dashboard changes are made at the project level.

CAUTION

To manage the dashboard [355], you must have organization admin or project admin permissions.

The following options can be added to the dashboard.



Filter results		Displays the results of an existing filter. • Name the window. • Select a filter and which columns to display. • Select how many items to display.
Bar chart		Displays the results of an existing filter as a bar chart. • Configure the name, filter, field shown, and number of elements with the gear icon in the top right. • Select individual bars in the bar chart to view those items in a new tab.

Pie chart		Displays a pie chart for a filter and field that the user selects. • Configure the filter and field with the gear icon button in the top right. • Select the individual items in the pie chart to open those items in a new tab.
Project summary		Displays a summary of the entire project, including: • Total number of items in the project. • Number of days until next release. • Number of days until project completion.
Recently viewed		Displays the last 15 items viewed by the current user. • Select a recently viewed item to open it in a new tab.
Assigned to me		Displays a list of items assigned to the current user. • Select the gear icon in the top right to edit the settings. • Name the window. • Select a filter and which columns to display. • Select how many items to display.
Recent activity		Displays a line graph of recent activity over a period of time. • Configure the time period. • Change the name with the gear icon in the top right.
Activity stream		Displays the current activity stream of the project. • View all current activity including comments, edits made, new items created, and assignment changes. • Use the filters at the top right to filter only comments, activities, or search for specific items.
Rich text		Displays user-defined text, images, diagrams, and equations. • Select the gear icon to insert text, pictures, and tables with the same rich text options as an item description field [87].
Relationship rules diagram		Displays the relationship rules [144] applied to the project.

Manage the dashboard

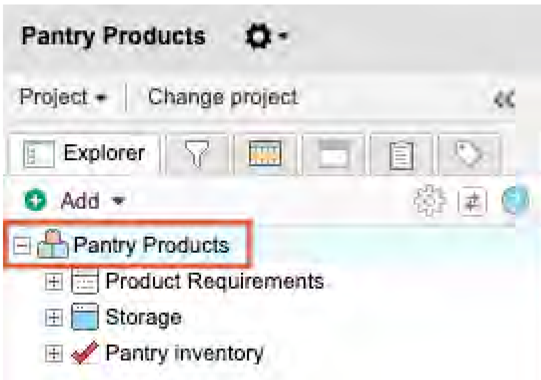
Use the dashboard to give your team insight into the progress of each project.

CAUTION

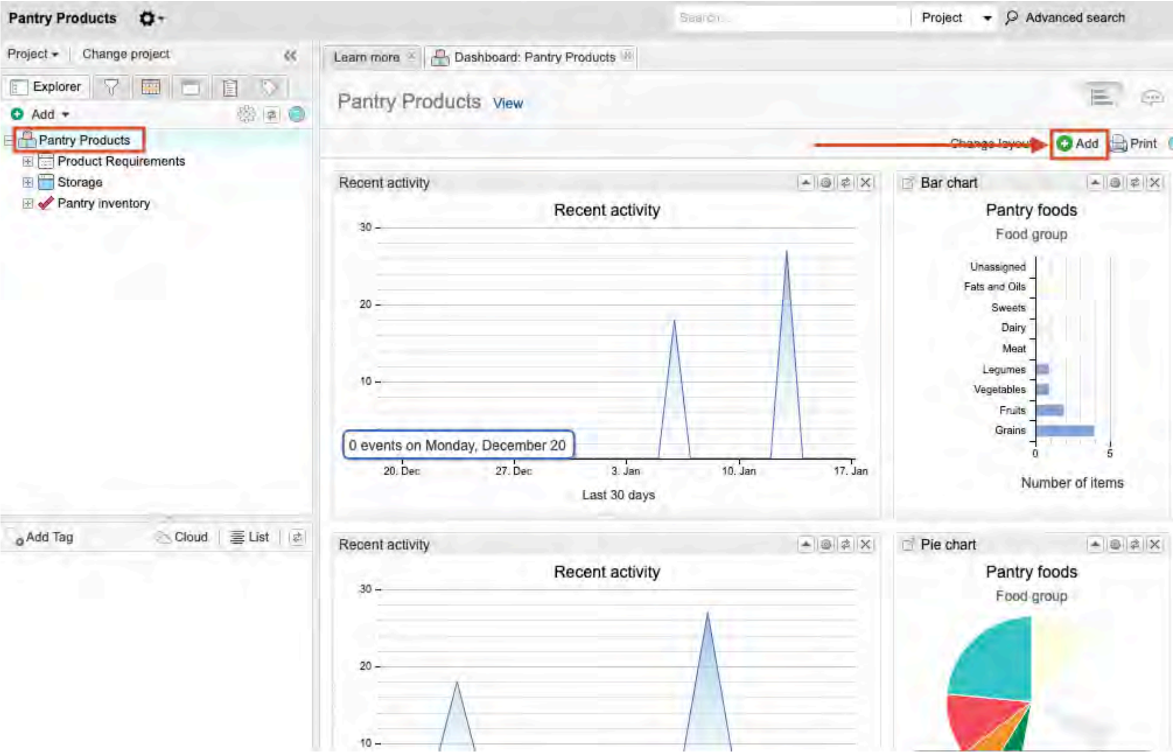
Users with project admin or organization admin permissions can modify the dashboard. Changes are made at a project level.

To set up the dashboard:

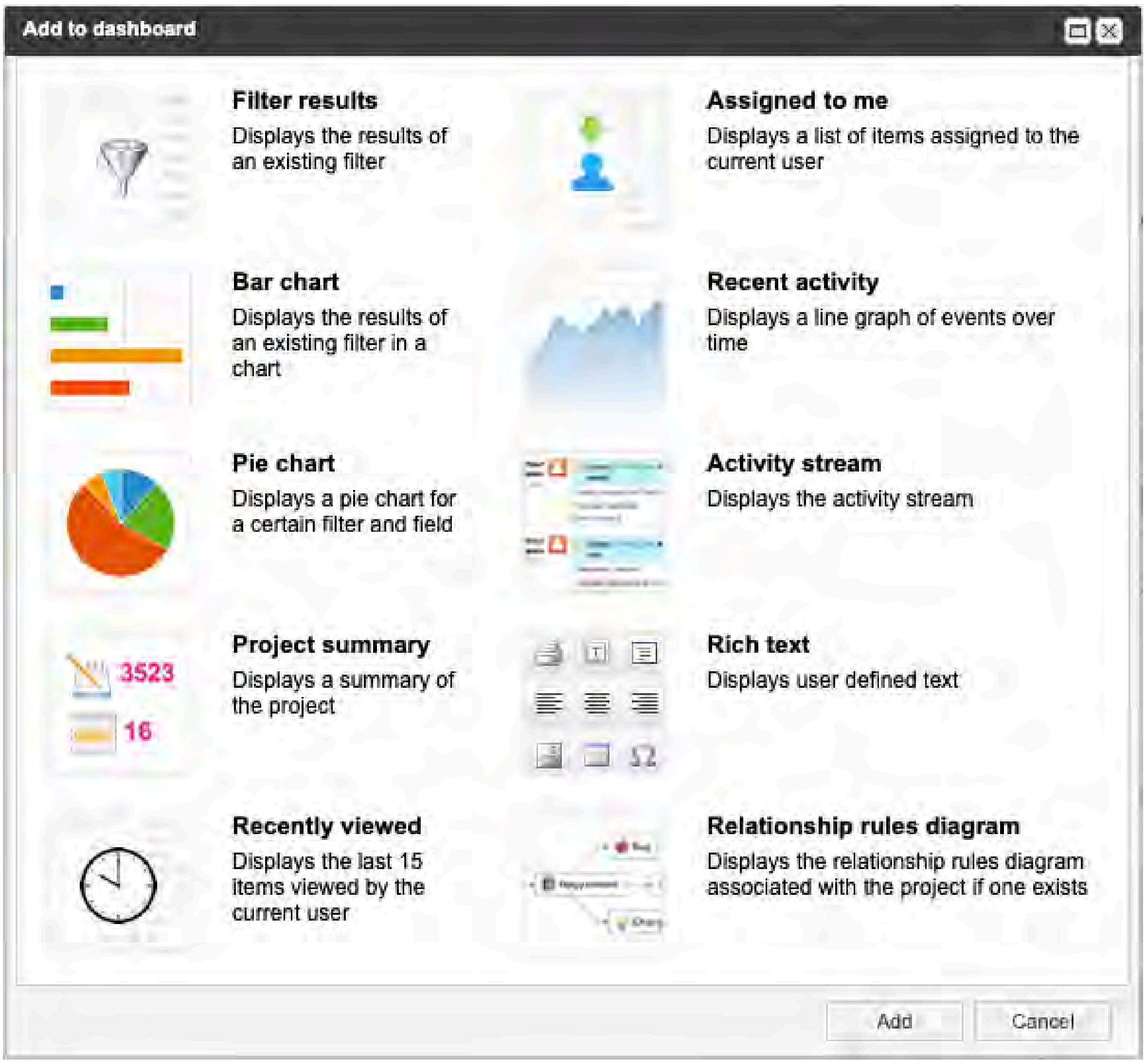
1. From the Explorer Tree, open your project dashboard by selecting the project name.



2. Select **Add** in the top right toolbar of the dashboard.



3. In the **Add to dashboard** window, select the icon for the dashboard options [353] you want, then click **Add**.



4. Select **Change layout** in the toolbar, then choose how you want the windows to appear on the dashboard.

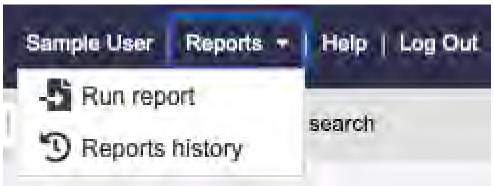
5. (Optional) Select **Print** to print the contents of your dashboard. For best results, use a landscape page setup and enable printing of background images in your browser settings.

Reports

A report is a document that helps you analyze the current status and progress of your project. Reports can include graphs, tabular data, metrics, and other roll-ups.

Reports can refer to specific data within a project, to an entire project, or they can apply across multiple projects.

To access reports, select **Projects > Reports** in the upper-right header. From there, you can run a report [358].



Jama Connect includes default reports that were created with BIRT or Velocity. You can also create custom reports.

- **Cloud customers** — Contact jamareports@jamasoftware.com for help uploading custom reports.
- **Self-hosted customers** — Create custom reports [374] that can be uploaded by a system administrator [558] so they are visible under Reports.

Jama Connect includes these default reports:

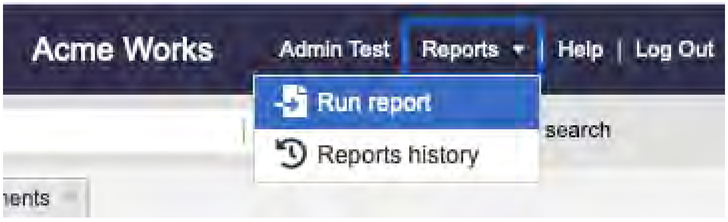
Report type	Displays...
Baseline Compared to Current	Side-by-side comparison of items and relationships in a baseline and their current versions.
Baseline Comparison	Side-by-side comparison of items and relationships in two baselines.
Bidirectional Traceability	Upstream and downstream relationships for a selected container of items.
Items in a Set	Tabular list of items in a set.
Release Status	Current state of the items within a release.
Task List with Estimates	All item types and sums and totals their estimates if applicable.
Test Plan Detail	Details of a test plan.
Test Plan Summary	Summary of the test plan with graphs and charts, by cycle and build.
Trace Relationships	Items with their downstream relationships.
User List	List of all the active and inactive users associated with the organization.
Review Center Stats	Progress of a specific review.

Run a report

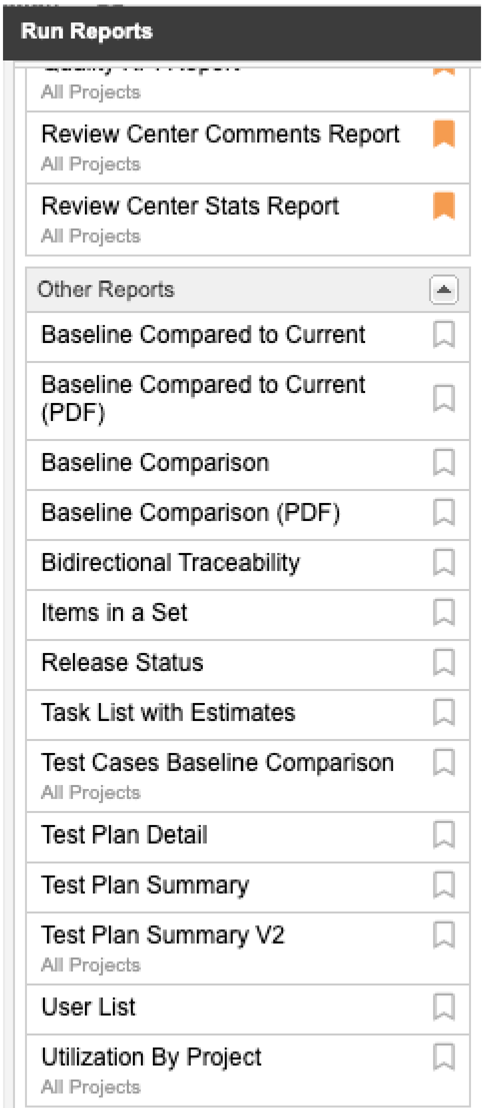
Reports can refer to specific data within a project, to an entire project, or they can apply across multiple projects.

To generate a report:

1. From the Jama Connect header, select **Reports > Run report**.

   Jama Connect lists all default reports and any custom reports [374] you have added. Bookmarked reports appear at the top of the list.



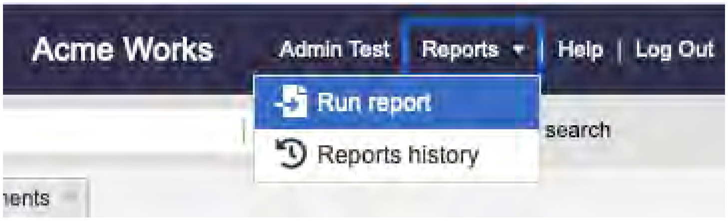
2. (Optional) To add a report to your bookmarked reports, select its bookmark icon.
3. From the list of reports, select the one you want to run, then define the options for that report. For details on defining the report options, see the task for running that specific report.
4. Select **Run Report**.

Run a Baseline Compared to Current report

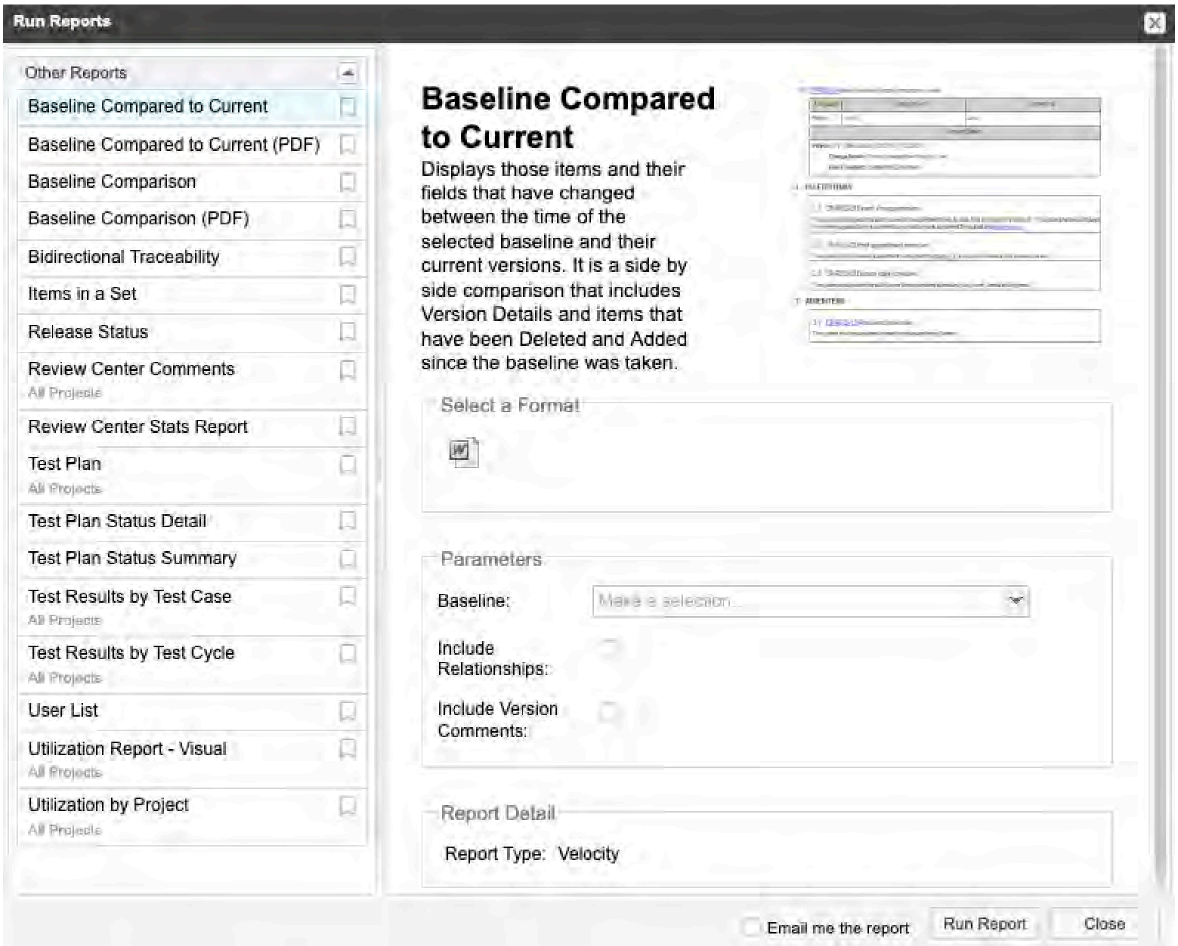
The Baseline Compared to Current report compares items and relationships in a baseline to their current versions, displayed in side-by-side columns.

To run this report:

1. From the project with the baselines you want to compare, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select an option for this report:



- **Baseline Compared to Current** — Word format
- **Baseline Compared to Current (PDF)**

3. Define the report:
   a. Select the format for the report (available formats are listed).
   b. Navigate to and select the baseline you want to compare to the project's current state.
   c. (Optional) Include relationships and version comments.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

Baseline Compared to Current shows a table that compares the baseline items and relationships side by side.

Field Label	Baseline v3		Current v4	
Description	The problem of	Dental software being clunky and focused heavily on administrative tasks. This results in dentists trying to manage procedures and images within calendaring programs that expect the user to be sitting at a desk interacting with a system using a mouse and keyboard.	The problem of	Dental records software being clunky and focused heavily on administrative tasks. This results in dentists trying to manage procedures and images within calendaring programs that expect the user to be sitting at a desk interacting with a system using a mouse and keyboard.
	The impact of which is	Dentists cannot free themselves to focus on a patient's dental needs and must go between a surgical environment to one that is best accessed from within a cubicle.	The impact of which is	Dentists cannot free themselves to focus on a patient's dental needs and must go between a surgical environment to one that is best accessed from within a cubicle.
			A successful solution would be	Software that is user-friendly and focused more on clinical needs. The system

Run a Baseline Comparison report

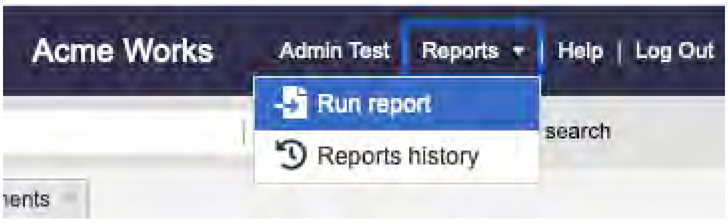
The Baseline Comparison report displays a side-by-side comparison of items and relationships in two baselines.

This report compares two specific states of selected items at a certain point in time. For example, to see what has changed between two baselines, you can compare the baseline that's created when you open a review with the baseline of the completed review.

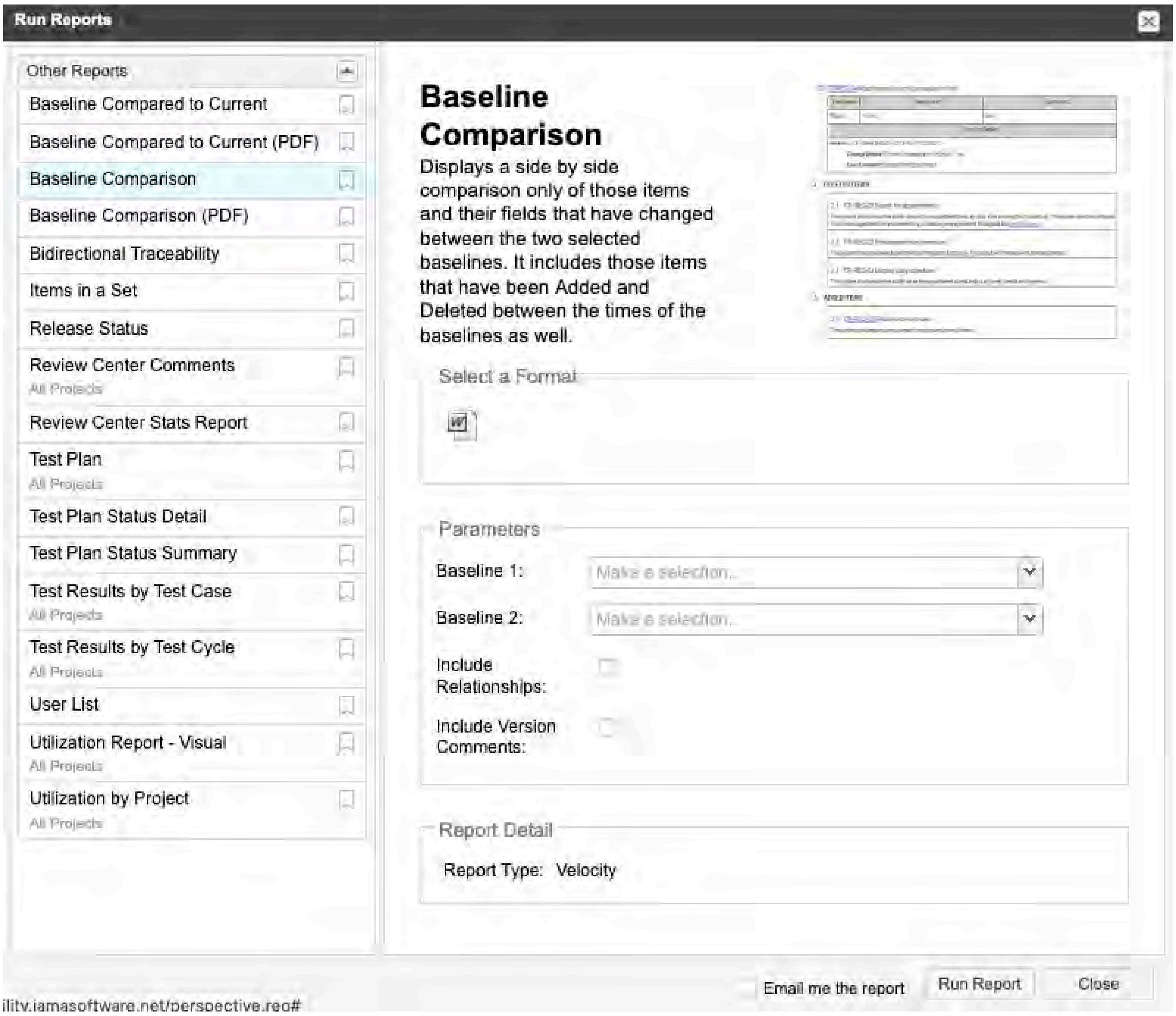
> **NOTE**
> When comparing baselines, the hierarchical order must be the same between the two baselines. If items are reordered in the Explorer Tree from one baseline to the next, the report shows incorrect or no results.

To run this report:

1. From the project with the baselines you want to compare, select **Reports > Run report** in the upper-right corner of the header to open the Run Reports window.



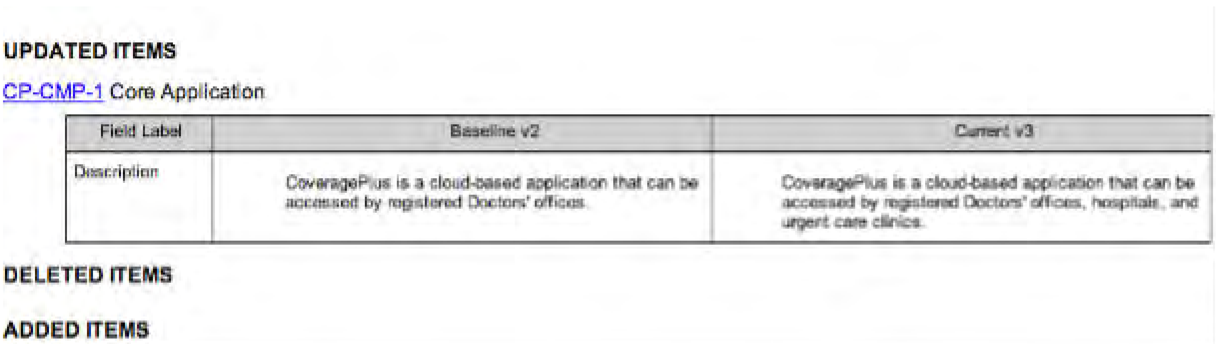
2. From the list of reports in the Run Reports window, select an option for this report:



- **Baseline Comparison** — Word format
- **Baseline Comparison (PDF)**

3. Define the report:
   a. Select the format of the report.
   b. Navigate to and select the two baselines you want to compare.
   c. (Optional) Include relationships and version comments.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

Items added or deleted between the compared baselines are noted at the top of the report.


UPDATED ITEMS

CP-CMP-1 Core Application

Field Label	Baseline v2	Current v3
Description	CoveragePlus is a cloud-based application that can be accessed by registered Doctors' offices	CoveragePlus is a cloud-based application that can be accessed by registered Doctors' offices, hospitals, and urgent care clinics

DELETED ITEMS

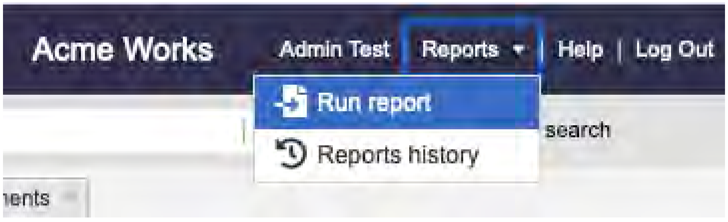
ADDED ITEMS

Run a Bidirectional Traceability report

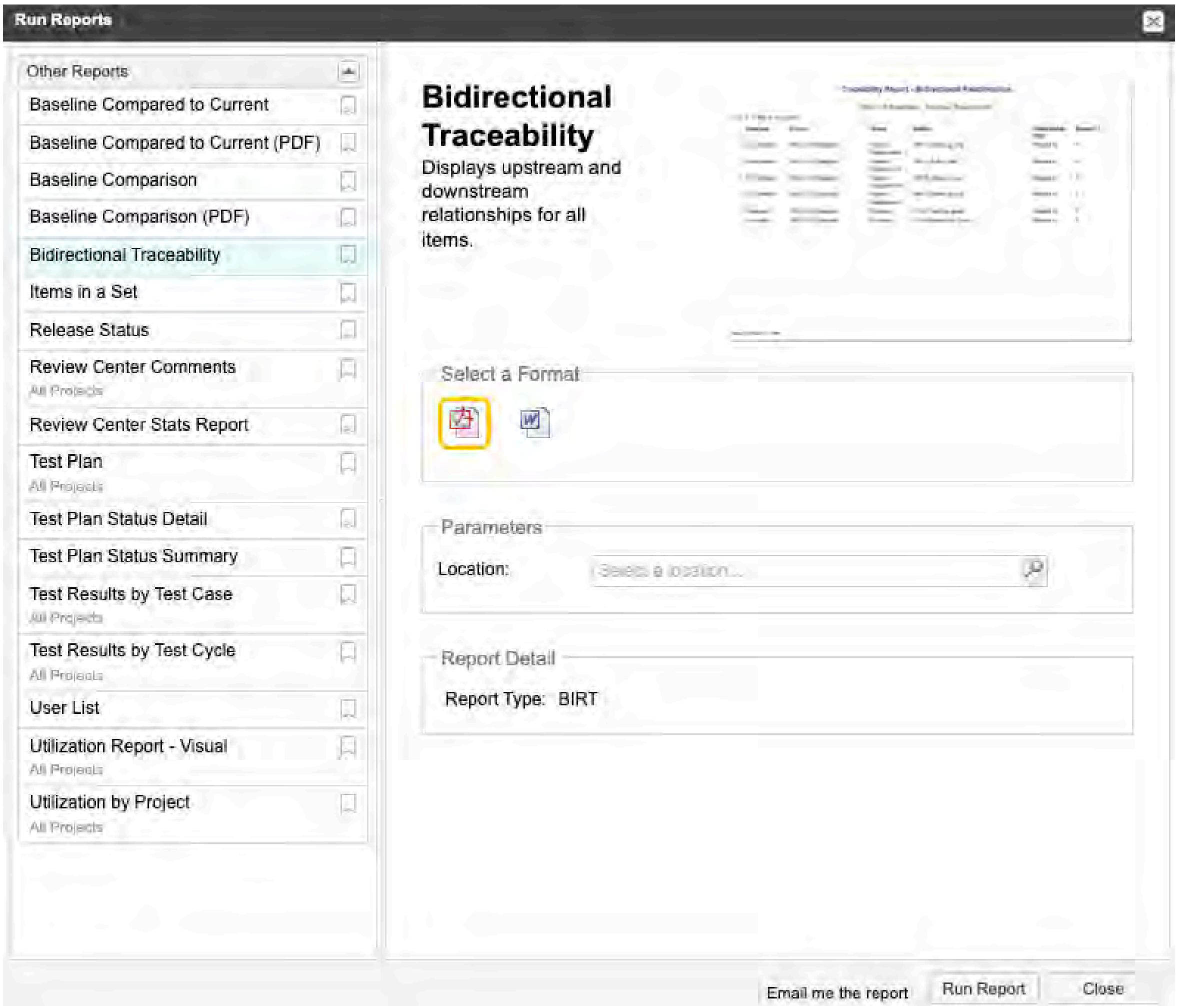
The Bidirectional Traceability report displays upstream and downstream relationships for a selected container of items.

To run this report:

1. From the project with the relationships you want to include, select **Reports > Run report** in the upper-right corner of the header to open the Run Reports window.



2. From the list of reports in the Run Reports window, select **Bidirectional Traceability**.

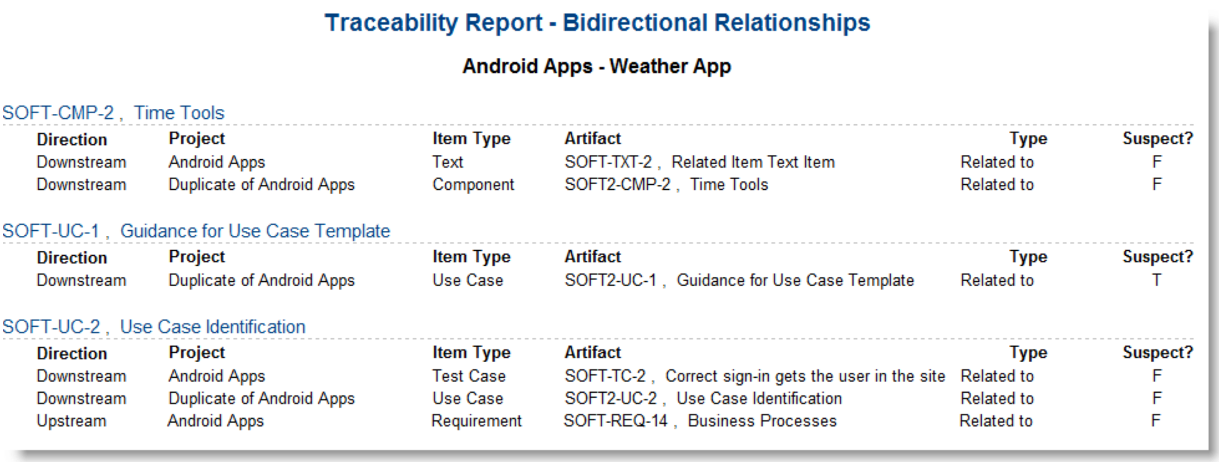


3. Define the report:
   a. Select a default format (HTML, PDF, WORD, or XLS).
   b. Select the location of the items you want to include.

> **NOTE**
> You must choose a container of items to analyze for upstream and downstream traceability. The report doesn't work on single items.

4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

The report displays all items that have relationships from the selected location. Both downstream and upstream relationships are displayed for each item. The report also indicates whether any related artifacts are marked as suspect: T = True (suspect), F = False (not suspect).



Traceability Report - Bidirectional Relationships

Android Apps - Weather App

SOFT-CMP-2 , Time Tools

Direction	Project	Item Type	Artifact	Type	Suspect?
Downstream	Android Apps	Text	SOFT-TXT-2 , Related Item Text Item	Related to	F
Downstream	Duplicate of Android Apps	Component	SOFT2-CMP-2 , Time Tools	Related to	F

SOFT-UC-1 , Guidance for Use Case Template

Direction	Project	Item Type	Artifact	Type	Suspect?
Downstream	Duplicate of Android Apps	Use Case	SOFT2-UC-1 , Guidance for Use Case Template	Related to	T

SOFT-UC-2 , Use Case Identification

Direction	Project	Item Type	Artifact	Type	Suspect?
Downstream	Android Apps	Test Case	SOFT-TC-2 , Correct sign-in gets the user in the site	Related to	F
Downstream	Duplicate of Android Apps	Use Case	SOFT2-UC-2 , Use Case Identification	Related to	F
Upstream	Android Apps	Requirement	SOFT-REQ-14 , Business Processes	Related to	F

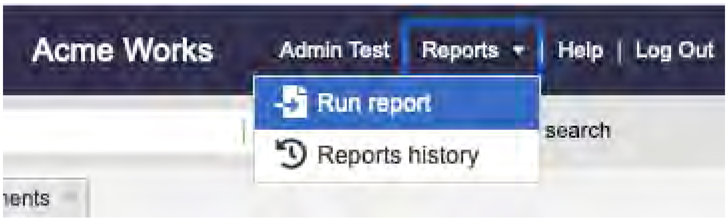
Run an Items in a Set report

The Items in a Set report displays a tabular list of items included in a set.

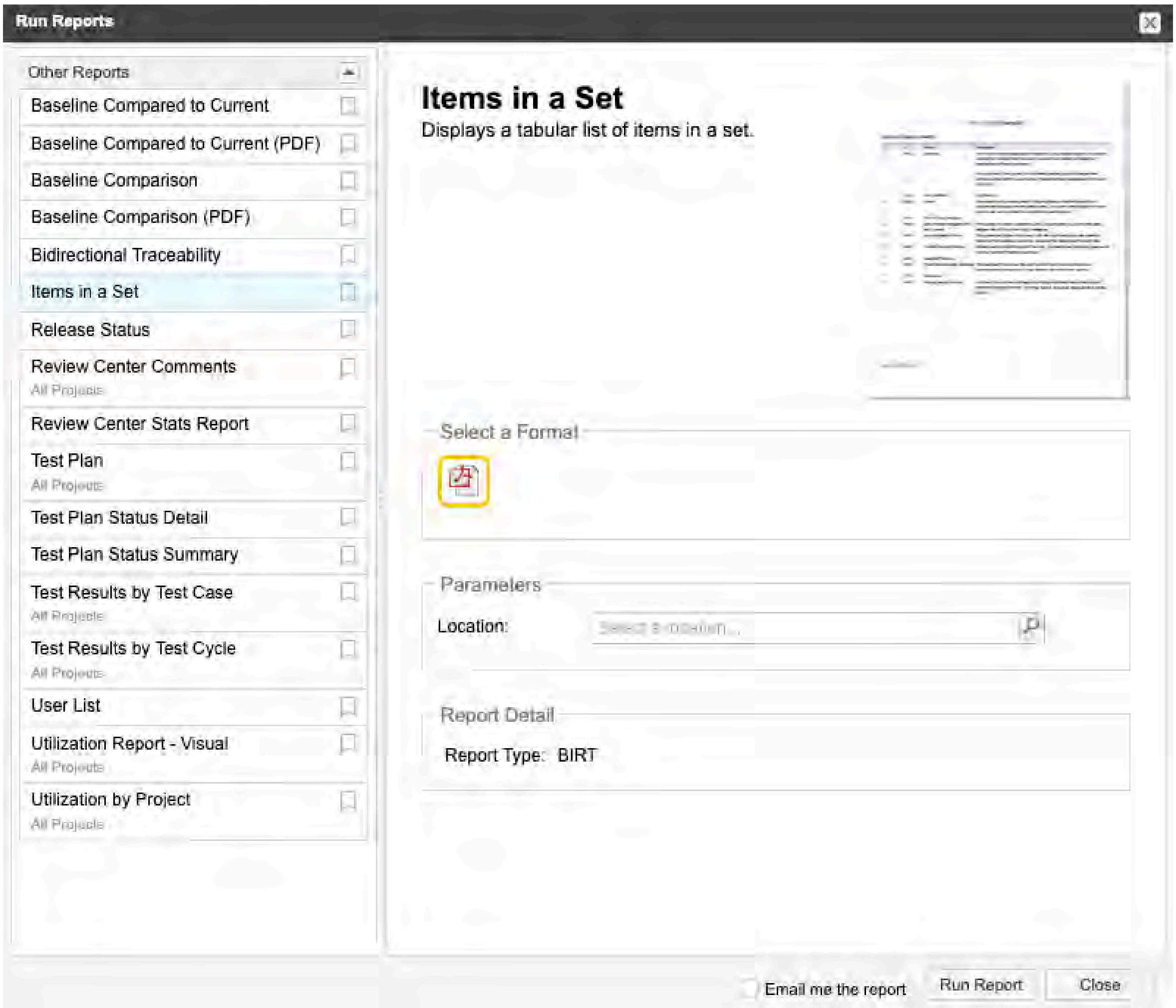
The report is displayed as a table that includes these columns: **Header** (hierarchy), **ID**, **Name**, and **Description**.

To run this report:

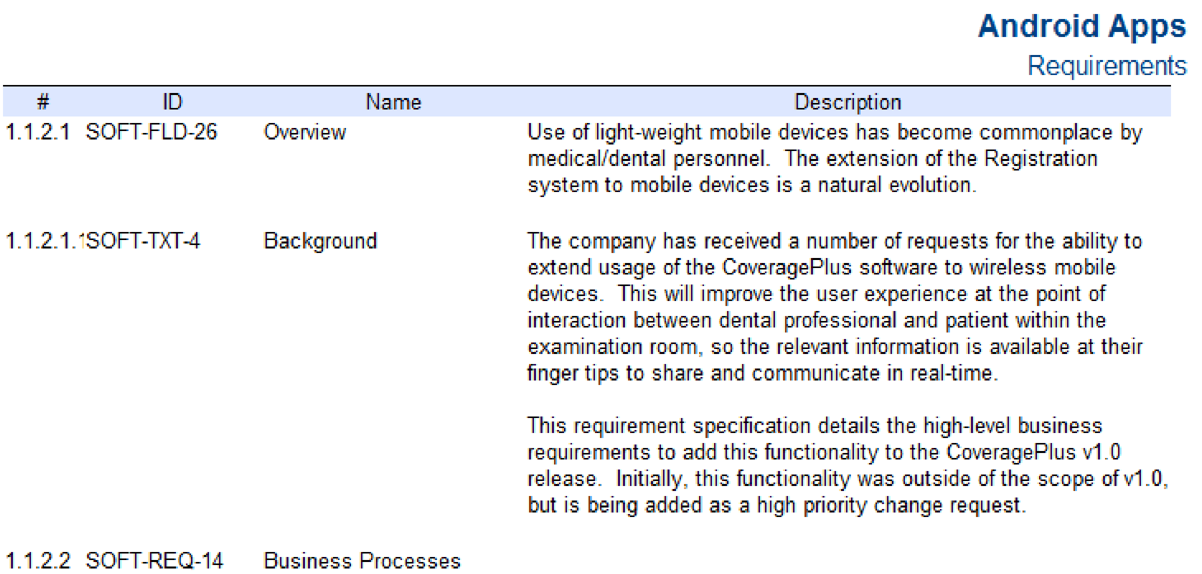
1. From the project with the items you want to include, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select **Items in a Set**.



3. Define the report:
   a. Select the format of the report.
   b. Select the location of the items you want to include.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.



Android Apps
Requirements

#	ID	Name	Description
1.1.2.1	SOFT-FLD-26	Overview	Use of light-weight mobile devices has become commonplace by medical/dental personnel. The extension of the Registration system to mobile devices is a natural evolution.
1.1.2.1.1	SOFT-TXT-4	Background	The company has received a number of requests for the ability to extend usage of the CoveragePlus software to wireless mobile devices. This will improve the user experience at the point of interaction between dental professional and patient within the examination room, so the relevant information is available at their finger tips to share and communicate in real-time. This requirement specification details the high-level business requirements to add this functionality to the CoveragePlus v1.0 release. Initially, this functionality was outside of the scope of v1.0, but is being added as a high priority change request.
1.1.2.2	SOFT-REQ-14	Business Processes	

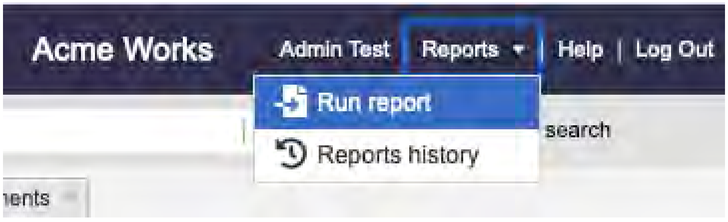
Run a Release Status report

The Release Status report displays the current state of the items within a release.

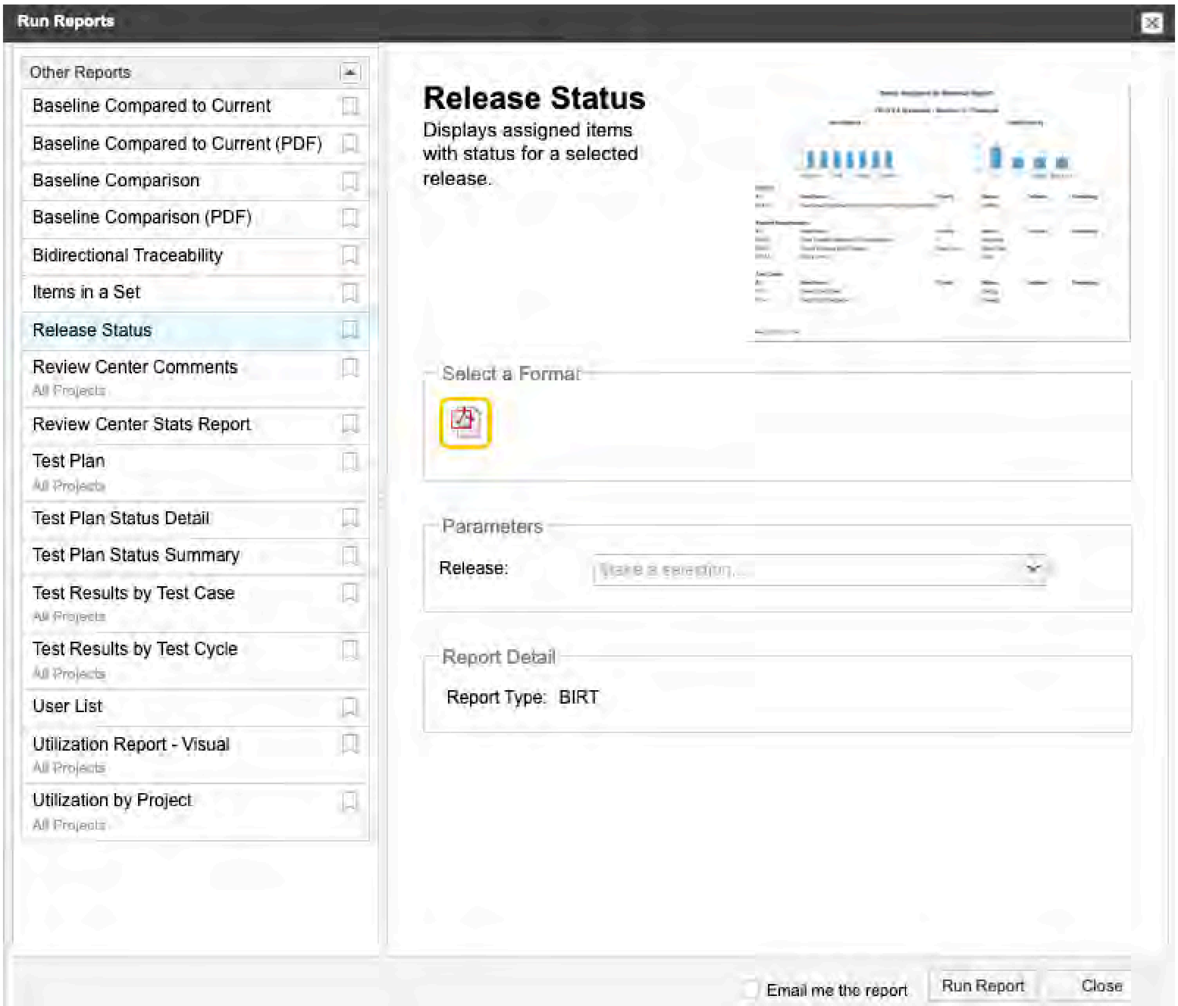
It shows graphs of item status and priority, as well as a table with priority, status, estimate, and amount remaining.

To run this report:

1. From the project with the items you want to include, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select **Release Status**.



3. Define the report:
   a. Select the format of the report. The default format is PDF.
   b. Select the location of the items you want to include.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

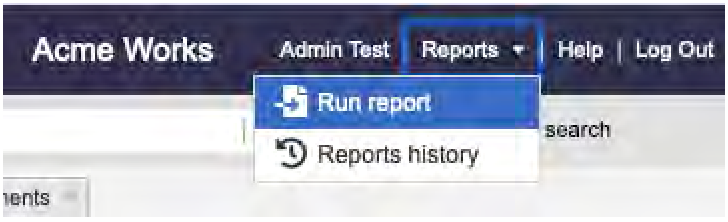
> **NOTE**
> If you have data in the Estimate and Remaining fields, those numbers are totaled at the bottom of the report.

Run a Review Center Stats report

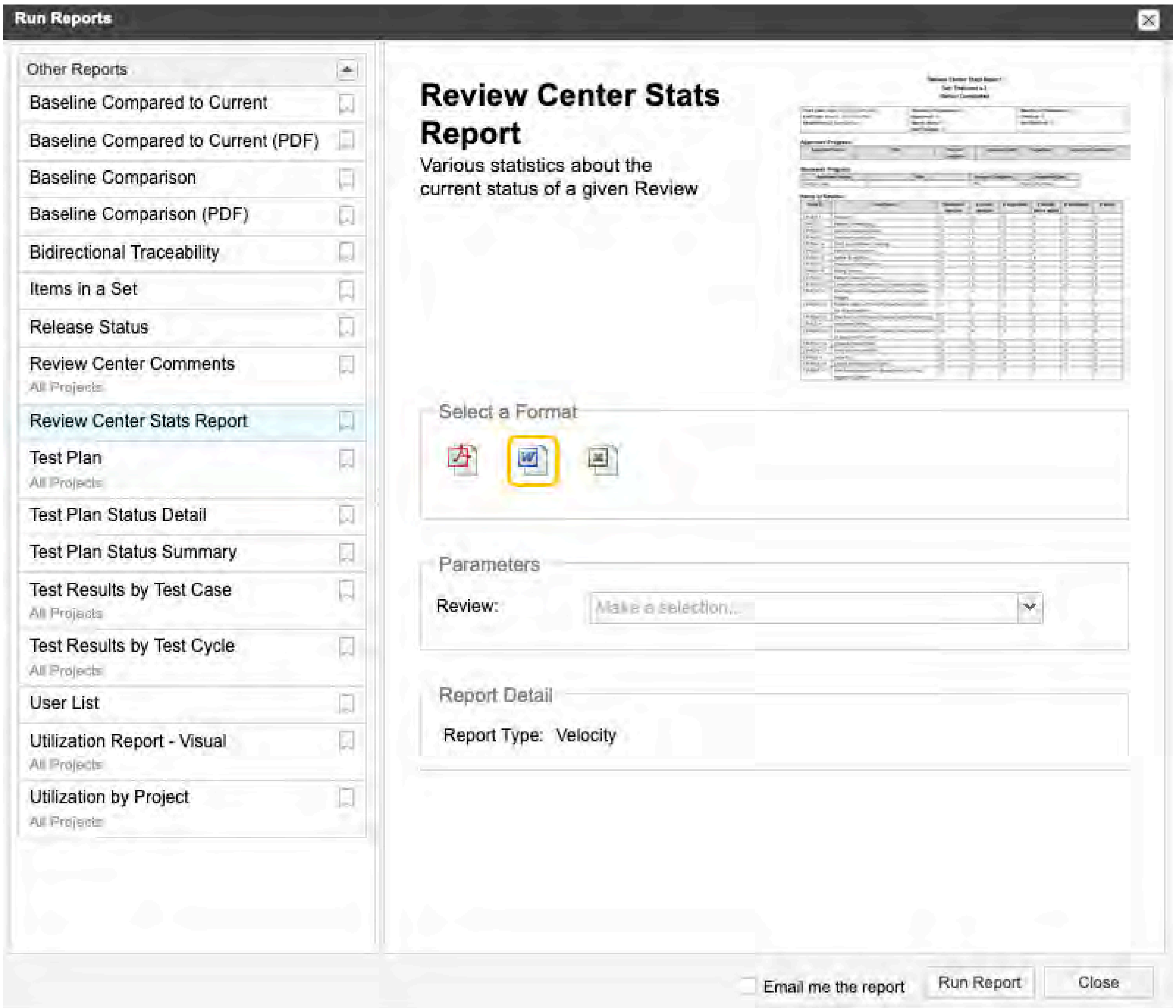
The Review Center Stats report displays the progress of a specific review in a table that shows activity per reviewer and per review item.

You must be a reviewer, approver, or moderator of a review to run the report or to be able to see the review listed in the menu. Public reviews aren't listed unless you're specifically assigned to the review.

1. From the project with the review you want to include, select **Reports > Run report** in the upper-right corner of the header to open the Run Reports window.



2. From the list of reports in the Run Reports window, select **Review Center Stats Report**.



3. Define the report:
   a. Select the format of the report (available formats are listed).
   b. Select the review you want to use.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

Review Center Stats Report
Review Center Stats Report v.1
Status: In Progress

Start Date: January 31, 2022 at 6:41:10 PM UTC **End Date:** February 8, 2022 at 1:00:41 AM UTC **Moderator(s):** Admin Test	**Number of Approvers:** 1 **Approved:** 0 **Rejected:** 0 **Not Finished:** 1	**Number of Reviewers:** 0 **Finished:** 0 **Not Finished:** 0

Approver Progress

Approver Name	Title	Percent Complete	Approval Date	Signature	Signature Comments
Admin Test		0%	Not completed	N/A	

Reviewer Progress

Reviewer Name	Title	Percent Complete	Completed Date

Items in Review

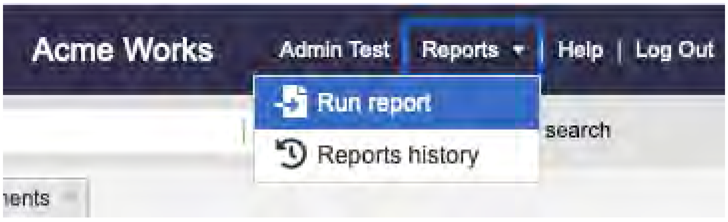
Item ID	Item Name	Reviewed Version	Current Version	# Approved	# Needs More Work	# Reviewed	# Votes
SI_S2_P-VAL-10	Polygons / Second	1	1	0	0	0	0
SI_S2_P-VAL-11	OpenGL	1	1	0	0	0	0
SI_S2_P-VAL-12	Direct3D	1	1	0	0	0	0
SI_S2_P-CMP-24	I2C Interface	1	1	0	0	0	0
SI_S2_P-INFO-8	Test 2	1	1	0	0	0	0

Run a Task List with Estimates report

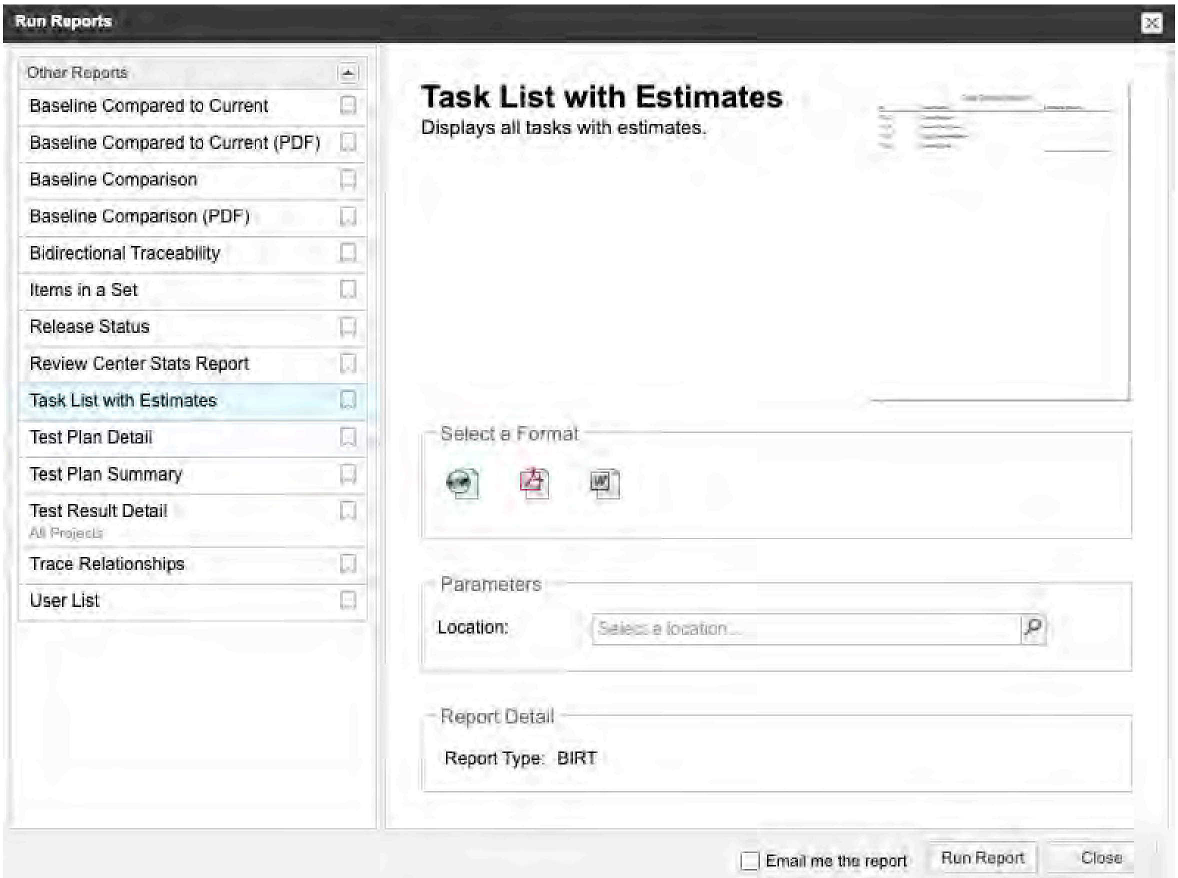
The Task List with Estimates report displays all item types and totals their estimates if applicable.

To run this report:

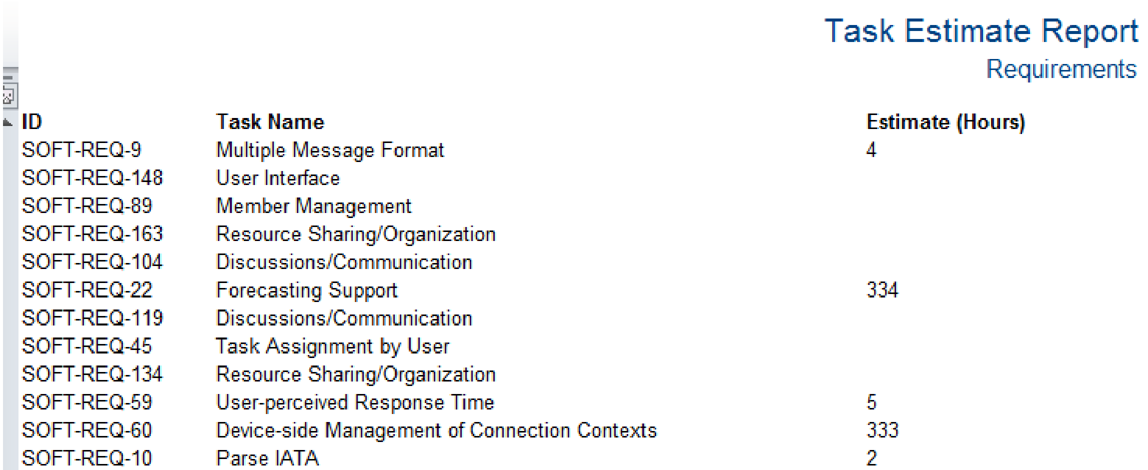
1. From the project with the items you want to include, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select **Task List with Estimates**.



3. Define the report:
   a. Select the format of the report (available formats are listed).
   b. Select the location of the items you want to include.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.



Task Estimate Report

Requirements

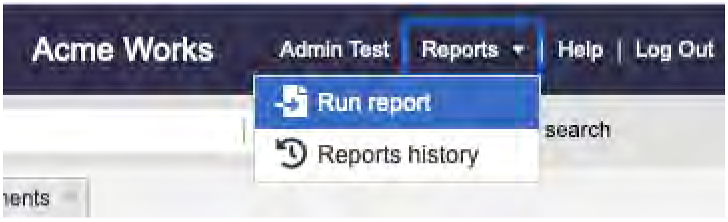
ID	Task Name	Estimate (Hours)
SOFT-REQ-9	Multiple Message Format	4
SOFT-REQ-148	User Interface	
SOFT-REQ-89	Member Management	
SOFT-REQ-163	Resource Sharing/Organization	
SOFT-REQ-104	Discussions/Communication	
SOFT-REQ-22	Forecasting Support	334
SOFT-REQ-119	Discussions/Communication	
SOFT-REQ-45	Task Assignment by User	
SOFT-REQ-134	Resource Sharing/Organization	
SOFT-REQ-59	User-perceived Response Time	5
SOFT-REQ-60	Device-side Management of Connection Contexts	333
SOFT-REQ-10	Parse IATA	2

Run a Test Plan Status Detail report

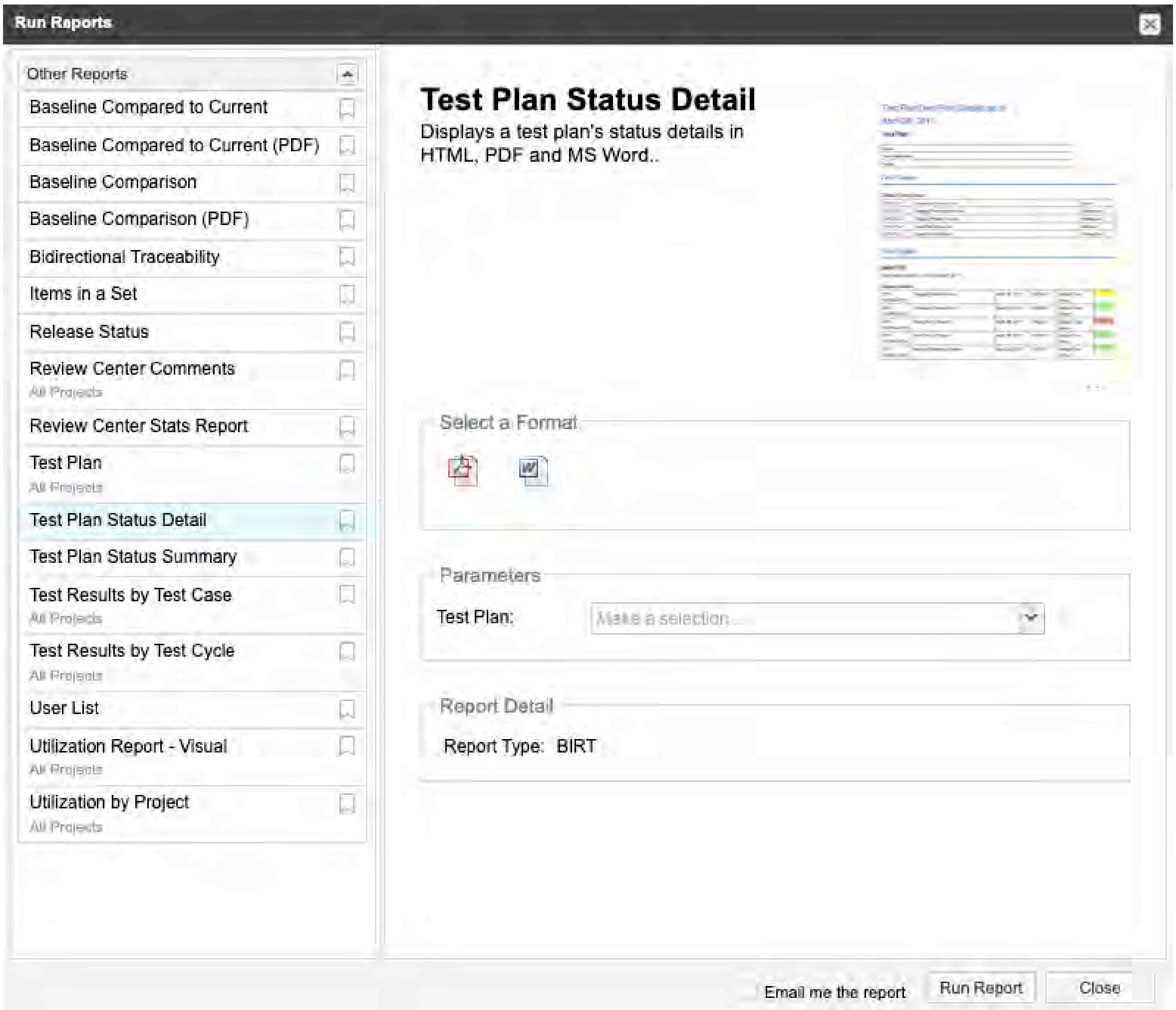
The Test Plan Status Detail report displays the details of a test plan.

To run this report:

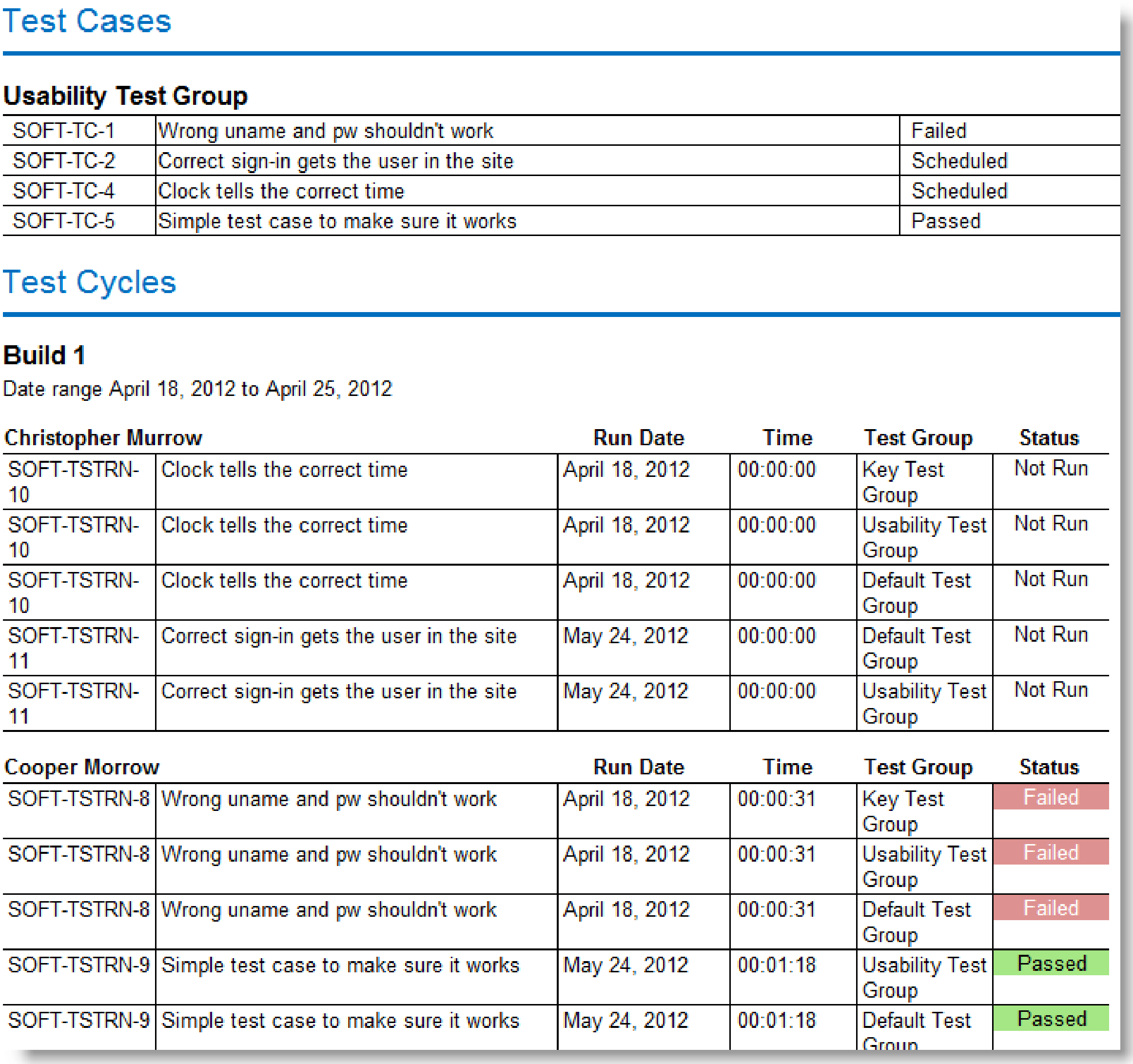
1. From the project with the test plan you want to include, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select **Test Plan Status Detail**.



3. Define the report:
   a. Select the format of the report (available formats are listed).
   b. Select the test plan you want to use.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.



Test Cases

Usability Test Group

SOFT-TC-1	Wrong uname and pw shouldn't work	Failed
SOFT-TC-2	Correct sign-in gets the user in the site	Scheduled
SOFT-TC-4	Clock tells the correct time	Scheduled
SOFT-TC-5	Simple test case to make sure it works	Passed

Test Cycles

Build 1

Date range April 18, 2012 to April 25, 2012

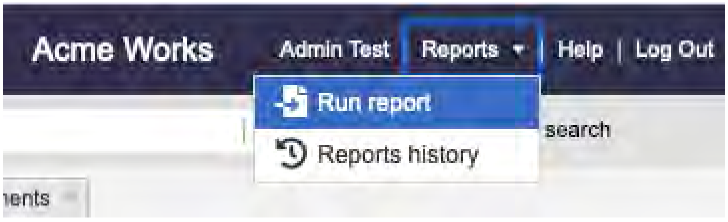
Christopher Murrow		Run Date	Time	Test Group	Status
SOFT-TSTRN-10	Clock tells the correct time	April 18, 2012	00:00:00	Key Test Group	Not Run
SOFT-TSTRN-10	Clock tells the correct time	April 18, 2012	00:00:00	Usability Test Group	Not Run
SOFT-TSTRN-10	Clock tells the correct time	April 18, 2012	00:00:00	Default Test Group	Not Run
SOFT-TSTRN-11	Correct sign-in gets the user in the site	May 24, 2012	00:00:00	Default Test Group	Not Run
SOFT-TSTRN-11	Correct sign-in gets the user in the site	May 24, 2012	00:00:00	Usability Test Group	Not Run

Cooper Morrow		Run Date	Time	Test Group	Status
SOFT-TSTRN-8	Wrong uname and pw shouldn't work	April 18, 2012	00:00:31	Key Test Group	Failed
SOFT-TSTRN-8	Wrong uname and pw shouldn't work	April 18, 2012	00:00:31	Usability Test Group	Failed
SOFT-TSTRN-8	Wrong uname and pw shouldn't work	April 18, 2012	00:00:31	Default Test Group	Failed
SOFT-TSTRN-9	Simple test case to make sure it works	May 24, 2012	00:01:18	Usability Test Group	Passed
SOFT-TSTRN-9	Simple test case to make sure it works	May 24, 2012	00:01:18	Default Test Group	Passed

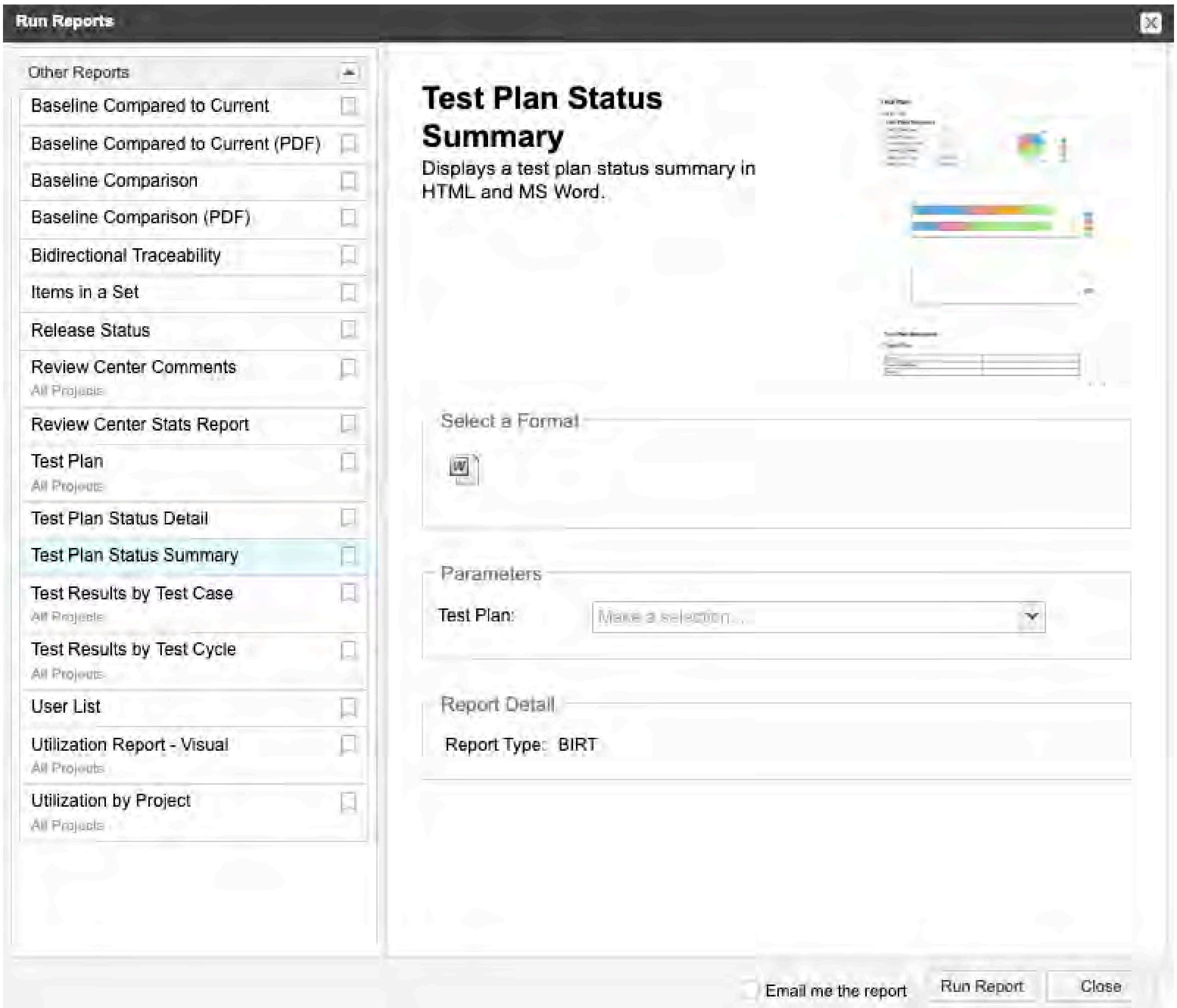
Run a Test Plan Status Summary report

The Test Plan Status Summary report displays a summary of the test plan with graphs and charts, by cycle and build.

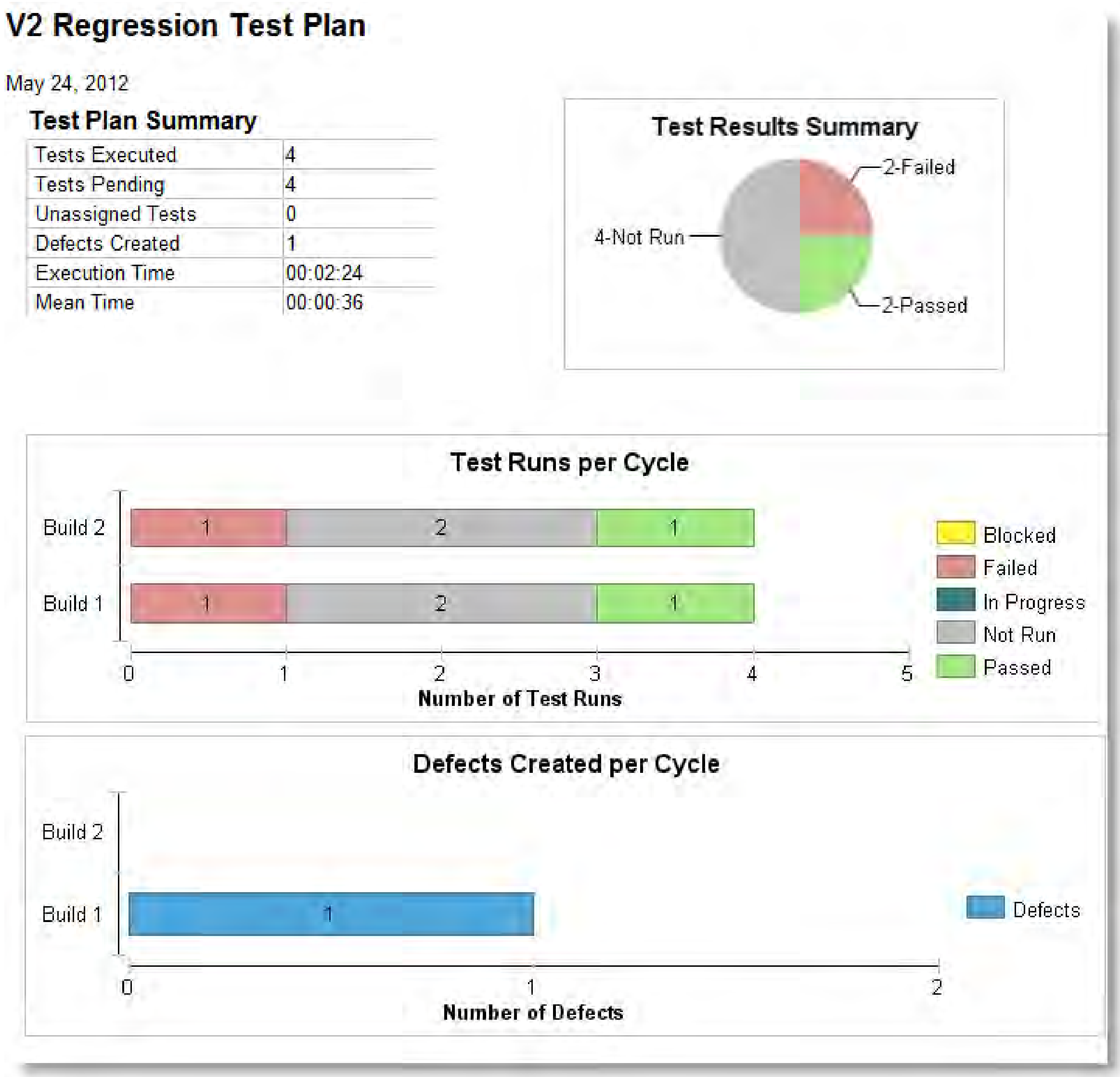
1. From the project with the test plan you want to include, select **Reports > Run report** in the upper-right corner of the header to open the **Run Reports** window.



2. From the list of reports in the Run Reports window, select **Test Plan Status Summary**.



3. Define the report:
   a. Select the format of the report.
   b. Select the test plan you want to use.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.



Run a User List report

The User List report displays a list of all the active and inactive users associated with the organization.

The report includes:

- Username
- Full name
- Disabled (Inactive) status
- Email
- License type

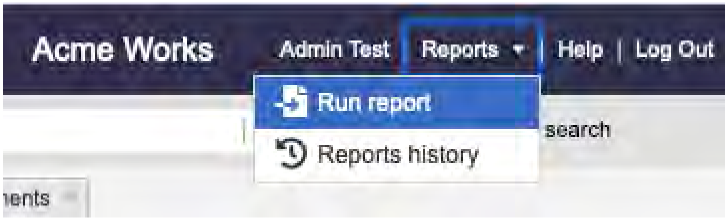
Table 1. License type key for User List Report

Creator (named)	N
Creator (float)	C
Test runner	TR
Stakeholder	S
Temporary	ET
Reviewer (named)	NV
Reviewer (float) - *legacy*	V

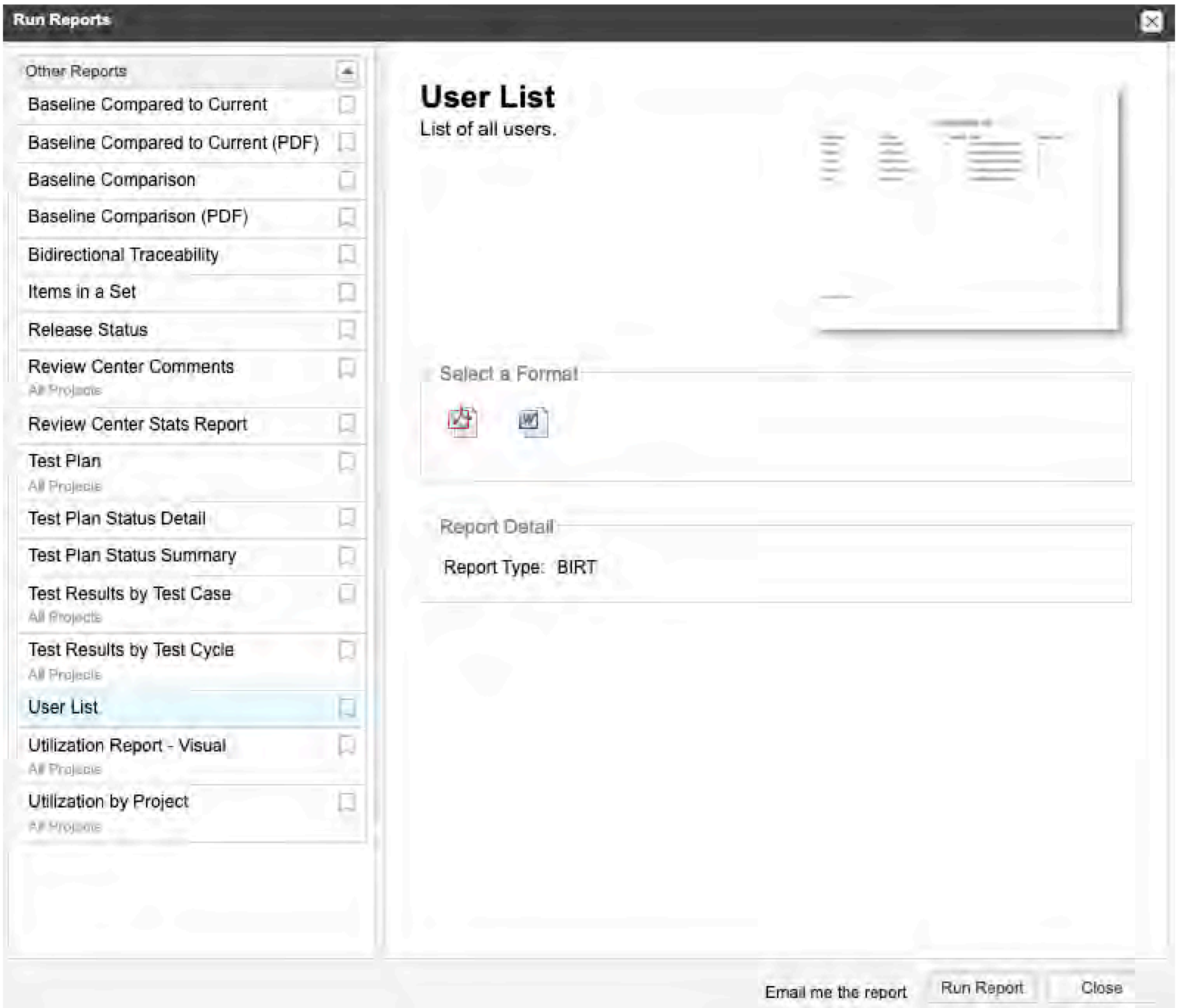
Reserved reviewer - *legacy*	RV
Reserved collaborator - *legacy*	R
Collaborator (float) - *legacy*	FC
Inactive	I

To run the User List report:

1. From the project with the data you want to include, select **Reports > Run report** in the upper-right corner of the header to open the Run Reports window.



2. From the list of reports in the Run Reports window, select **User List**.



3. Define the report by selecting the format of the report.
4. (Optional) Select **Email me the report** to receive it by email.
5. Select **Run Report**.

Custom reports

If your reporting needs go beyond built-in default reports [357], exports [298], and Office Templates [302] you can create custom reports.

Jama Software Consulting Services can help in creating:

- Reports with logic
- Reports with charts and graphs
- Reports with custom formatting

To get help, contact your account manager or Jama Software support at support@jamasoftware.com.

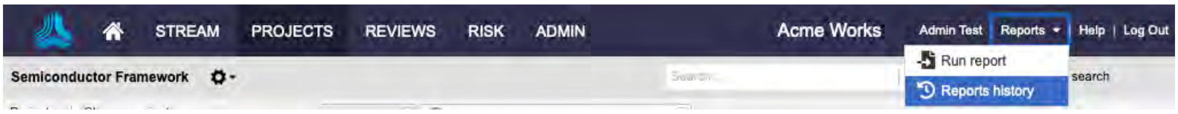
For information about creating custom Baseline Diff reports, see Baseline Diff Reports and Baseline Compared to Current and Baseline Comparison Reports.

View reports history

Use the Reports history page to view and download reports. You can also see the status of reports that are generated.

> **NOTE**
> Organization admins see all reports. Users see only reports they create.

1. From the Jama Connect header, select **Reports > Reports history**.



2. **To download a report** — In the Actions column, select the **down arrow icon**.
3. **To remove a report** — In the Actions column, select the **trash icon**.

Export Velocity reports to Excel

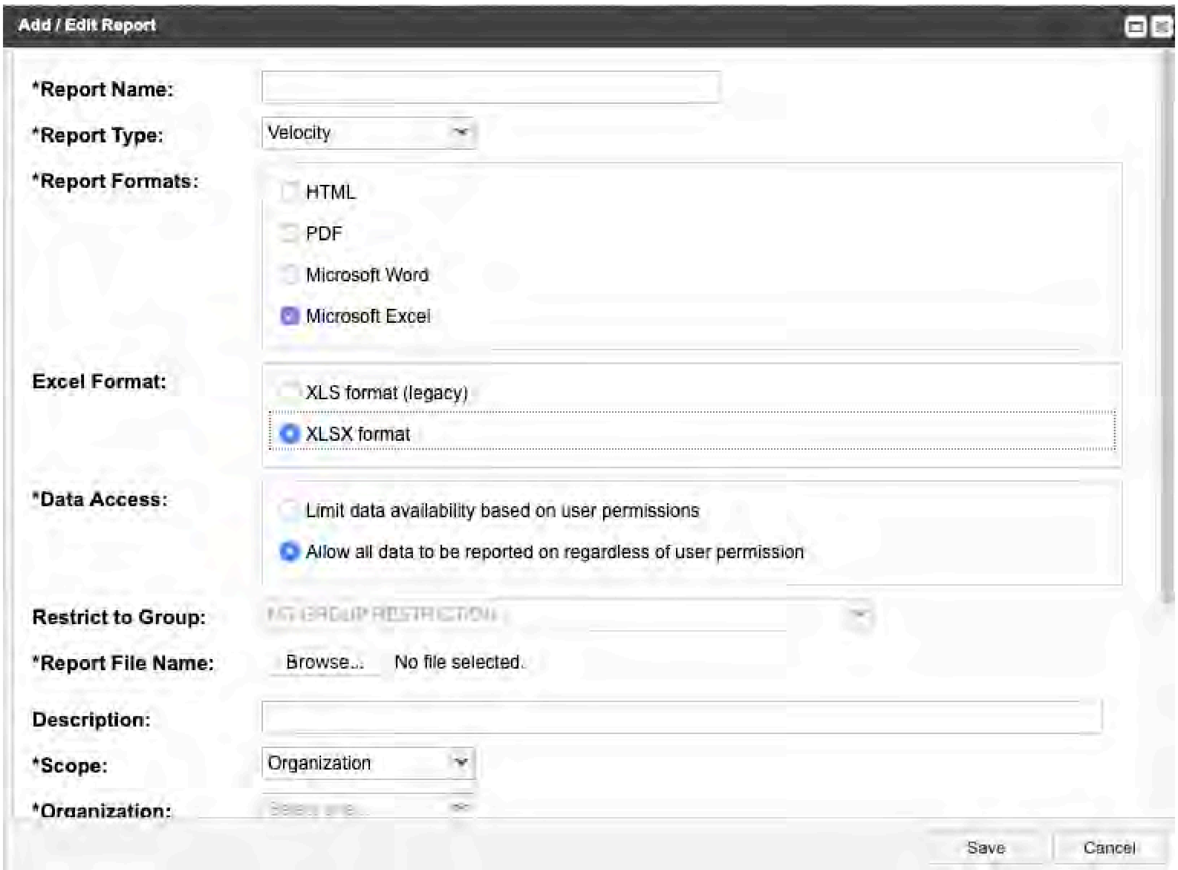
As a root user, you can configure settings that allow users to export a Velocity report to Excel in XLSX format. This option lets users export directly to Excel rather than using the legacy XLS format.

Important considerations

- This option is available only for Velocity reports.
- You must configure this option for each report.

To enable the Velocity report option:

1. Log in to Jama Connect as root user.
2. Select **Reports > Add Report**.
3. In the Add/Edit Report window, enter the following information:

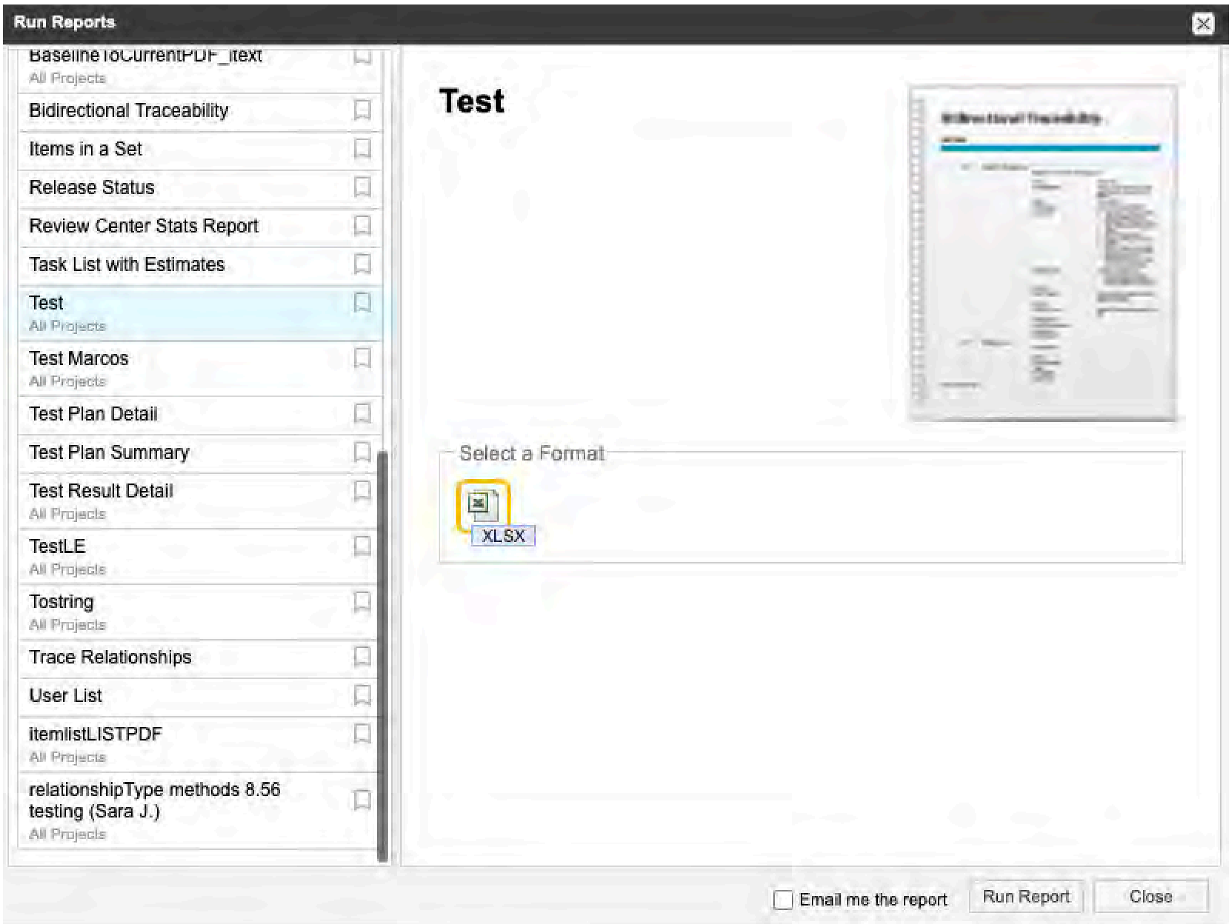


- **Report Name** — Enter a name
- **Report Type** — Velocity
- **Report Format** — Microsoft Excel
- **Excel Format** — XSLX format

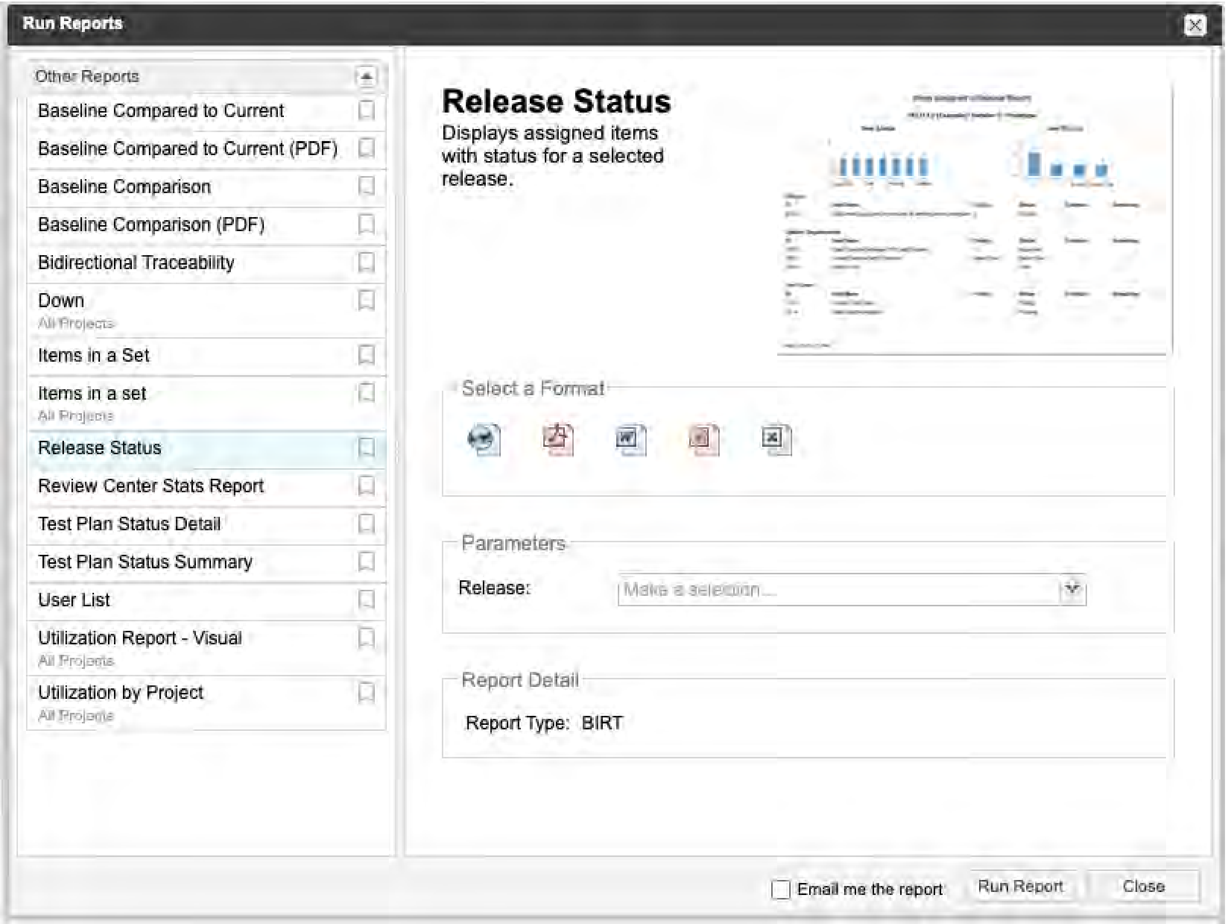
4. Click **Save**.

When a user runs a report, they can now see the Excel format type when they hover over the "Select a format" icons.

XLSX format example



XLS format example



From the Jama Connect header, select **Reports** to view the Reports history section. You can see the XLS and XLSX format options and if a report type is Velocity. For more information, see Reports history [375].

Risk

With Risk Management, your organization can use Jama Connect to organize and conduct a risk analysis for your products.

The default starter templates are based on the FMEA and ISO 14971 standards and follow a common risk management process [379]. However, they can be adjusted to better meet your needs.

Once your organization has purchased the additional licensing, you can find risk analyses by selecting **Risk** in the header.

NOTE

Risk Management requires additional licensing for your organization, as well as creator, stakeholder or test runner licenses for all risk management participants. Contact your Jama Software account manager for more information.

Risk management process

Risk Management in Jama Connect is intended to help your organization assess and mitigate risk based on the requirements for your product. In general, the risk analysis process follows this format:

1. A risk administrator [382] creates a risk template [383] to standardize how risks are captured and evaluated for their organization, or for a certain type of product.
2. Moderators [402] create a risk analysis based on a risk template and invite participants to view or work on the analysis.
3. Participants assigned to a risk analysis work together to:
   - Define risks [379]
   - Set rankings [379]
   - Mitigate risks [380]
   - Adjust rankings [381]
   - Perform risk-benefit analysis [382]

Define risks

Once a moderator invites participants to an analysis [405], the risk management process begins with defining risks. Participants identify risks and potential consequences in the first part of a risk analysis.

Participants can all view the same risk analysis. Contributors can edit the analysis, entering a single risk on each row and the values that correspond to that risk. While editing, the analysis locks [412] to avoid prevent edits by other users.

Each risk corresponds to a separate row and is marked with a unique risk ID [426]. The analysis can be configured to add multiple harms [387] per hazardous situation. Contributors can also link items [410] to this risk in any text field. From Single Item View you can see which risks link to a particular item [421].

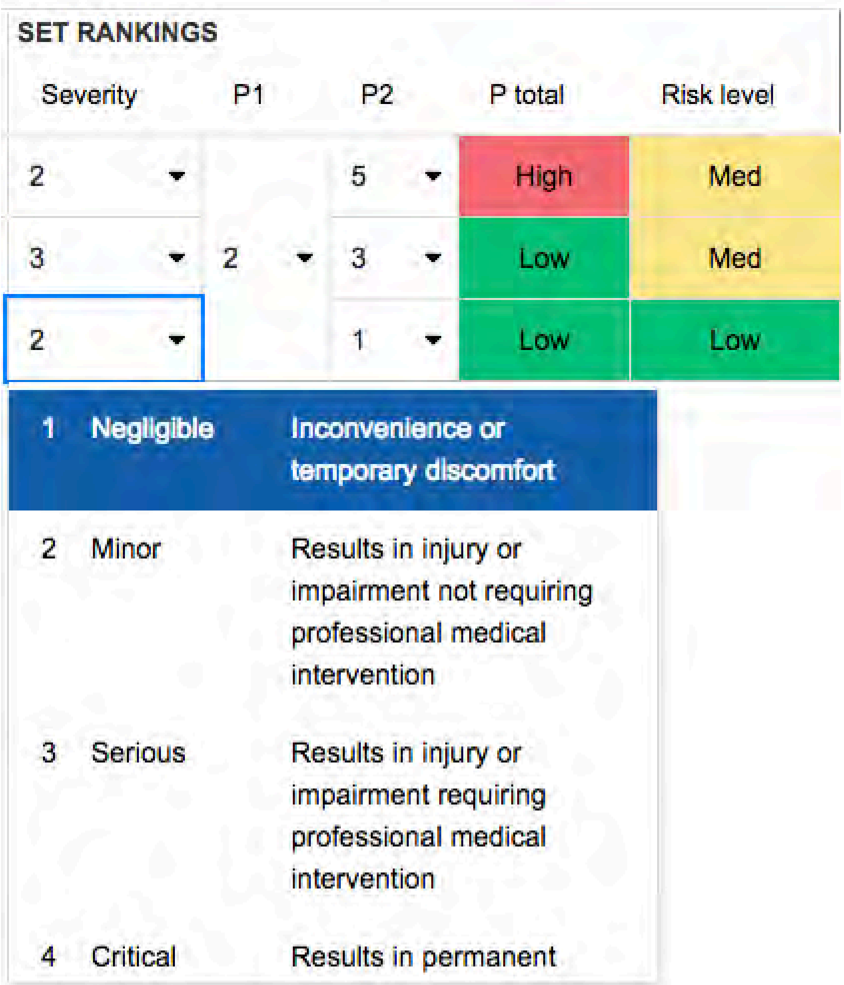
Set rankings

After defining risks [379], participants can rank them to determine risk levels for the product.

In a risk analysis, participants often rank:

- Severity of the harm
- Probability of a hazardous situation occurring (P1)
- Probability of a hazardous situation leading to harm (P2)

To set rankings, participants select values from a drop-down scale.



Selecting severity and probability values automatically generates risk levels. Based on what's acceptable risk for the product, participants can use this information to consider how to mitigate risk and make the product safer.

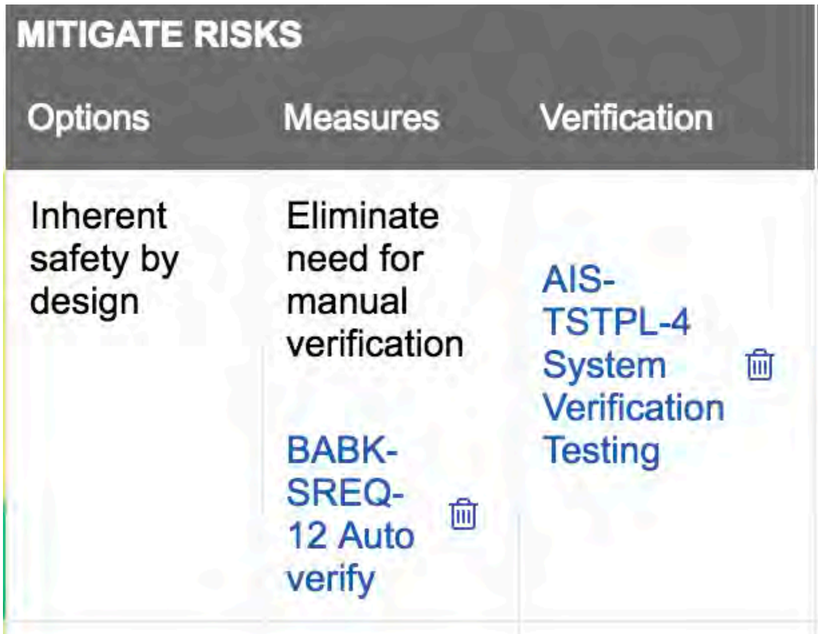
TIP

A risk administrator sets default values for scales and matrices, as well as the way that P total and Risk level are calculated [384].

Mitigate risks

Once participants set rankings [379] for the defined risks, it becomes apparent which risks exceed an acceptable level. Participants can suggest ways to make the product safer. Often, these are additional product requirements that must be defined, tested and added to the risk analysis for traceability.

When mitigating risks, participants document the options, measures, and verification used.



- Under **Options**, participants select the best path for reducing a specific risk. Typically, organizations have a short list of options from which they choose, for example, the ISO 14971 standard uses:
  - Inherent safety by design
  - Protective measures in the product or manufacturing process
  - Information for safety
- Under **Measures**, participants enter the procedures or requirements implemented to reduce risk.
- Under **Verification**, participants confirm that new product requirements are successfully tested.

Contributors can also link items [410] to this risk in any field. From Single Item View, you can see which risks link to a particular item [421].

Adjust rankings

After mitigating risks [380], participants evaluate again to see if they successfully lowered risk to acceptable levels.

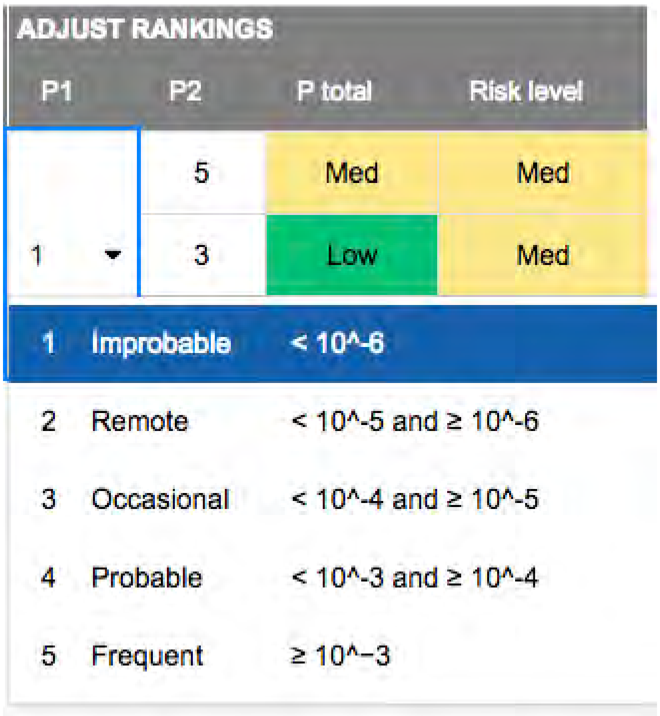
They may adjust rankings for:

- Probability of a hazardous situation occurring (P1)
- Probability of a hazardous situation leading to harm (P2)
- Severity

NOTE

Some data under **Adjust rankings** might not be visible or editable, depending on your process. Risk administrators can control which values are displayed or can be edited [401]. All others can see which values are visible or editable in **Definitions**. When a value isn't editable in **Adjust rankings**, it's carried over from **Set rankings** to determine final risk levels.

To adjust rankings, participants select values from a drop-down scale.



These adjustments are shown in the corresponding **P total** and residual **Risk level**. Participants can repeat the cycle of mitigation and adjustment until risk levels are acceptable for the product.

Perform risk-benefit analysis

When rankings are adjusted and final risk levels are set, participants use a a risk-benefit analysis to determine whether the benefits of a product or procedure outweigh the possible risks.

During this process, participants evaluate risks [413] and seek agreement that risks are mitigated as far as possible, that these risks are acceptable, and that the benefits outweigh the risks.

Risk administrator

> **NOTE**
> You must have a creator license to be a risk administrator.

As a risk administrator, you have full permissions to create and edit risk templates and you can manage participants for any analysis. By adding yourself as a participant, you can also act as a moderator [402], contributor [408], or viewer [414] for any analysis.

You also have these unique abilities as a risk administrator:

- View all of the templates and analyses that were created
- Create templates [383]
- Edit templates [384]
- Delete templates [402]

NOTE

An organization administrator grants risk administrator permissions by assigning risk administrator permissions to a user group [586].

Create a template

NOTE

You must be a risk administrator [382] to create a risk management template.

Risk management comes with two default templates:

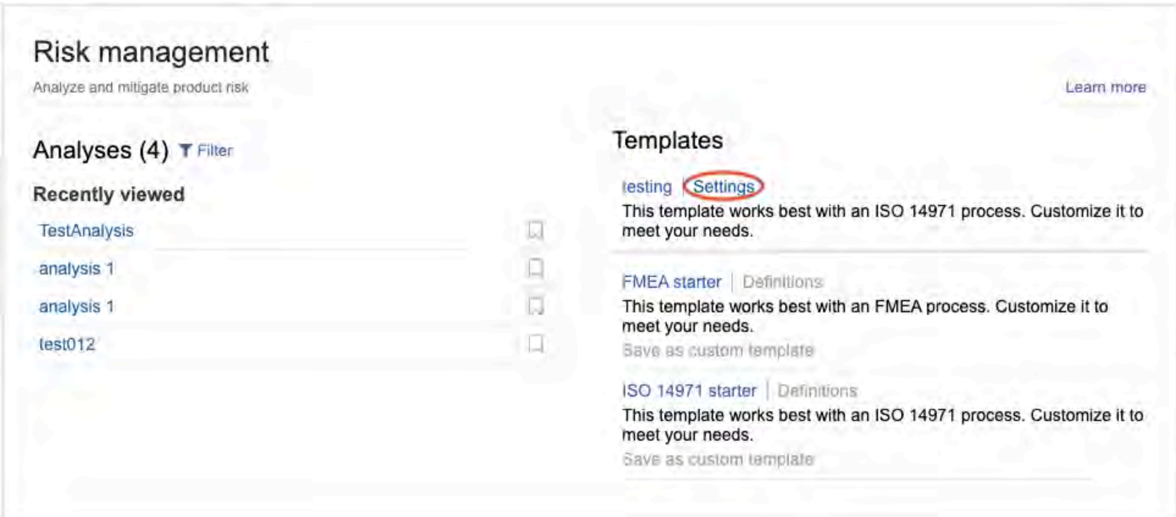
- FMEA starter template
- ISO 14971 starter template

You can use these templates (located at the bottom of the list of templates), or modify them to create additional templates.

When you create a new template, you can adjust language and settings for a risk analysis and save the result for others to use.

To create a new risk management template do the following:

1. Select **Risk** in the header.
2. Select **Definitions** next to **FMEA starter** or **ISO 14971 starter**.



3. Select **Save As**.
4. Enter a name for the new template and select **Save**.

5. To build your new template, edit the settings, then save the result as a new template.

Edit template settings

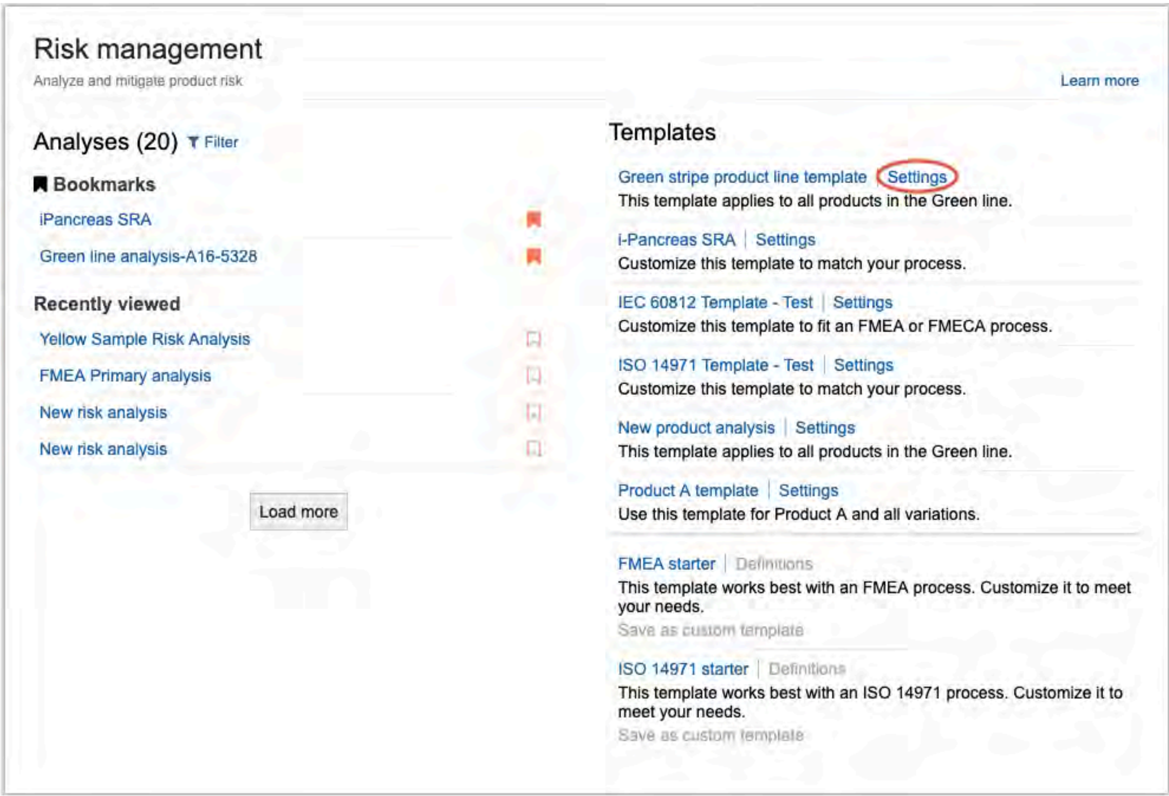
> **NOTE**
> You must be a risk administrator [382] to edit template settings.

If you remove all fields from a section in a risk template, the section header and risk analyses don't appear in the template. Also, the section itself is no longer visible to users when they view definitions in the risk analysis.

> **NOTE**
> The Adjust Rankings section is an exception to this rule. If you enable a ranking field before mitigation, the section is still displayed.

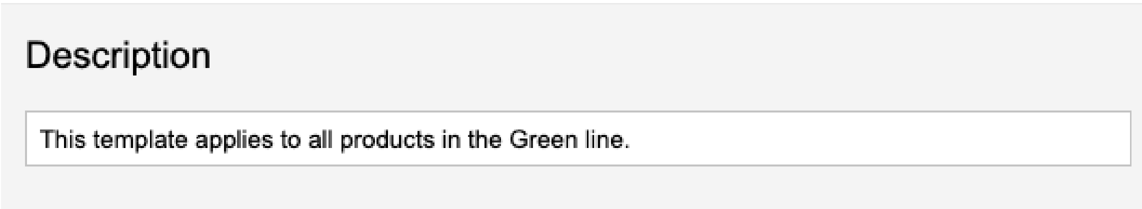
To edit template settings:

1. Select **Risk** in the header.
2. In the list of templates, select **Settings** next to the template you want to edit.



3. Here you can:
   - Enter a template description [387]

     Add a description to help moderators choose the right template.

   - Edit display text [387]

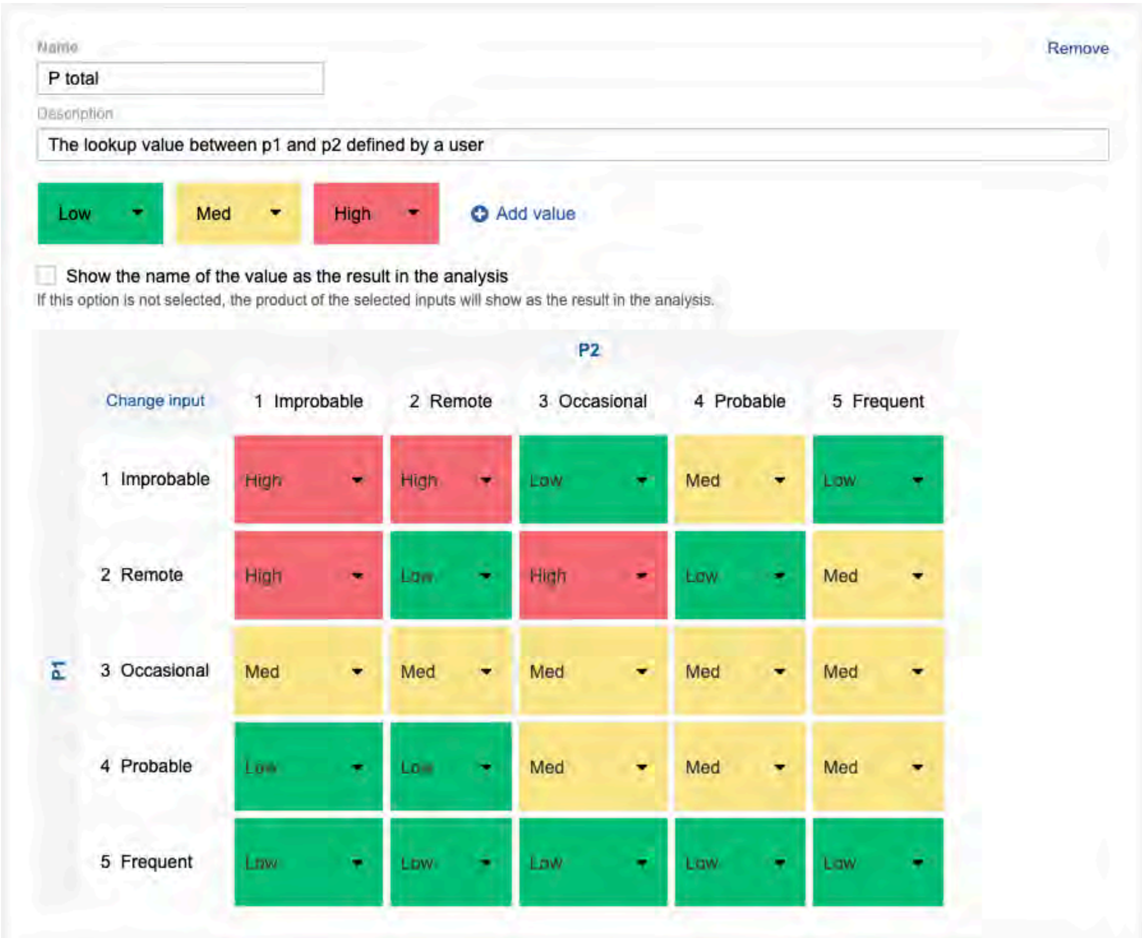
     Add or remove a text column, change column headers and descriptions for text columns, allow users to add multiple harms, allow users to add links.

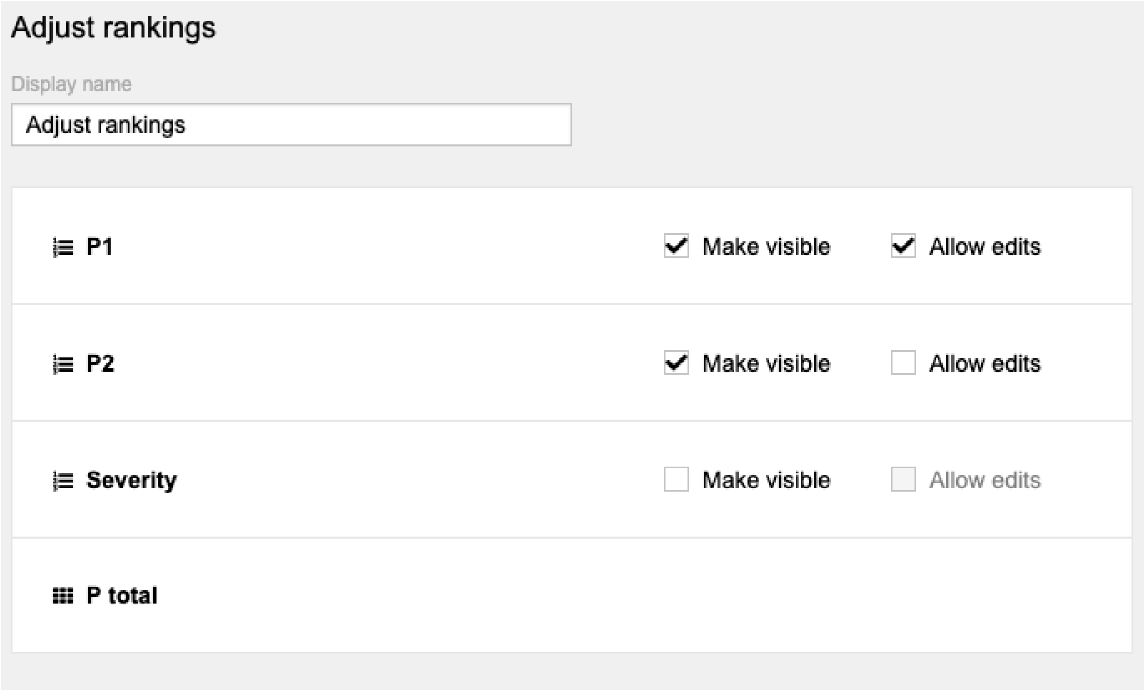
   - Edit scales [390]

     Add or remove a scale, change column headers, descriptions and drop-downs for scale columns.

- Edit matrices [395]
  Add or remove a matrix, change column headers, descriptions and field values for matrix columns.



- Hide data or make it read-only [401]
  Show or hide certain columns of the analysis, or make them read only.



4. Scroll to the bottom of the **Settings** page and select **Save**.

NOTE

The starter templates' settings can't be modified: you can only use them to create a new template. You can select **Definitions** to see how a starter template is set up.

Edit display text

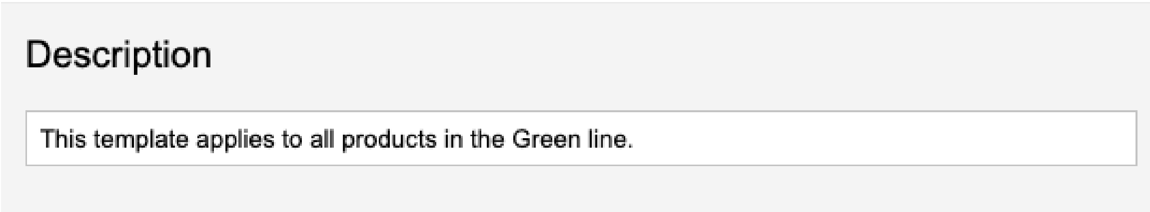
NOTE

You must have risk administrator [382] permissions to edit display text settings.

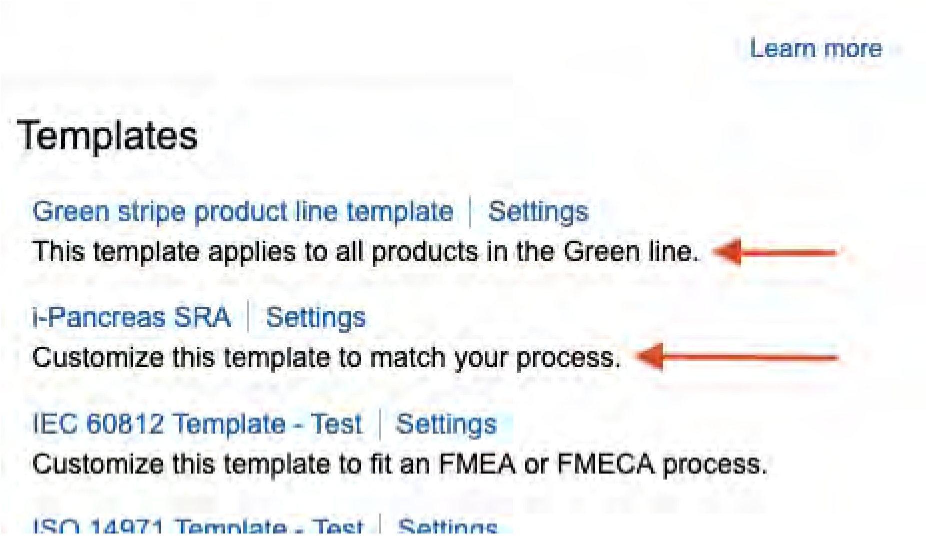
You can edit the following aspects of a template to better meet the needs of your risk management team.

To do this:

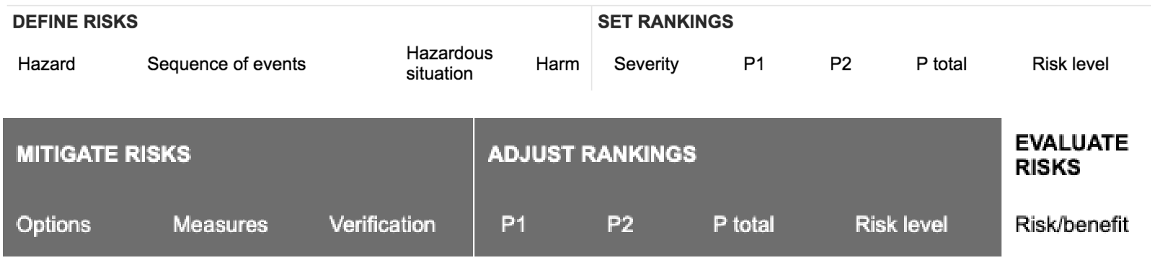
1. Select **Settings** next to the template you want to edit, allowing you to change the following:
   - **Template description**
     Enter text that describes how to use this template. Select **Save**.



This text appears below the template name in the list of templates.

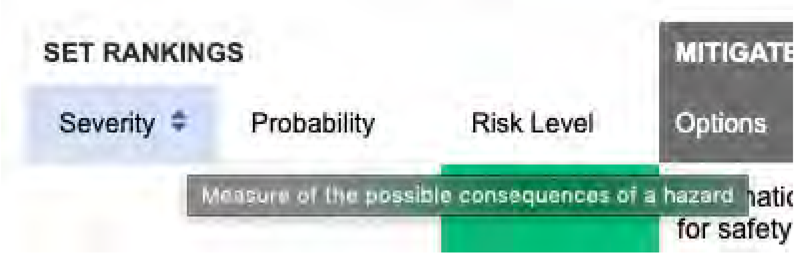


- **Section names**
  You can change five section names in **Settings**. This text appears at the top of the analysis. By default, the names are **Define risks**, **Set rankings**, **Mitigate risks**, **Adjust rankings**, and **Evaluate risks**.



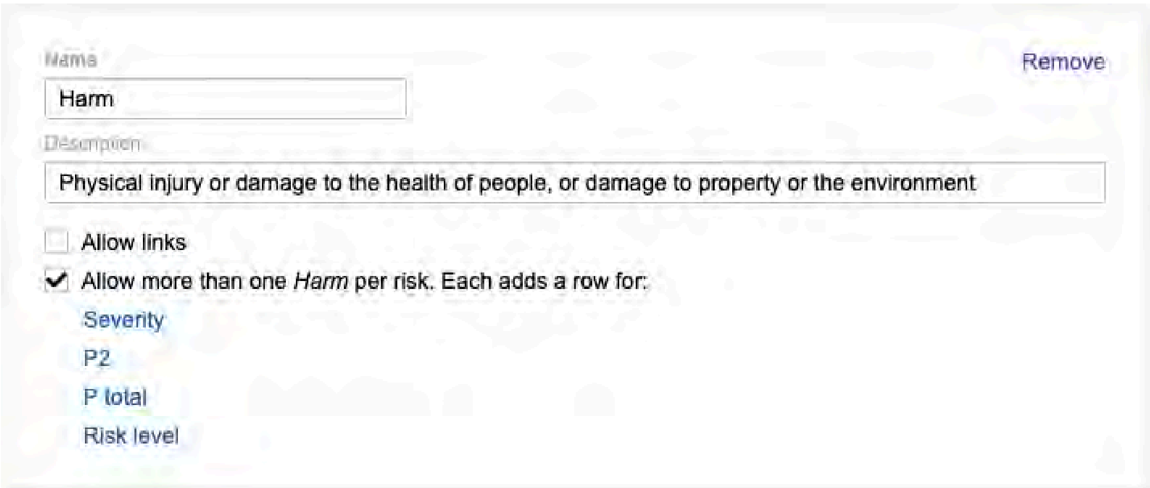
To edit this text, replace the corresponding default text under **Display name** and select **Save**.

- **Column header and description**
  For any column, you can edit the header or description, or allow users to add links in that column. Descriptions of column headers appear as hover tips in analyses made from this template.



Edit names and descriptions on the **Settings** page below each column header name. Select **Allow links** if you want to allow users to add links to that column in the analysis.

You can enable two special fields so that participants can add multiple harms per risk. By default, these are labeled **Harm** and **Cause** in the starter templates, although you can rename them.



- **Remove columns**
  Remove text, scale or matrix columns from the template by selecting **Remove** next to the column name. You can also restore these columns by selecting **Add**.

NOTE

The risk ID column can't be removed or edited.

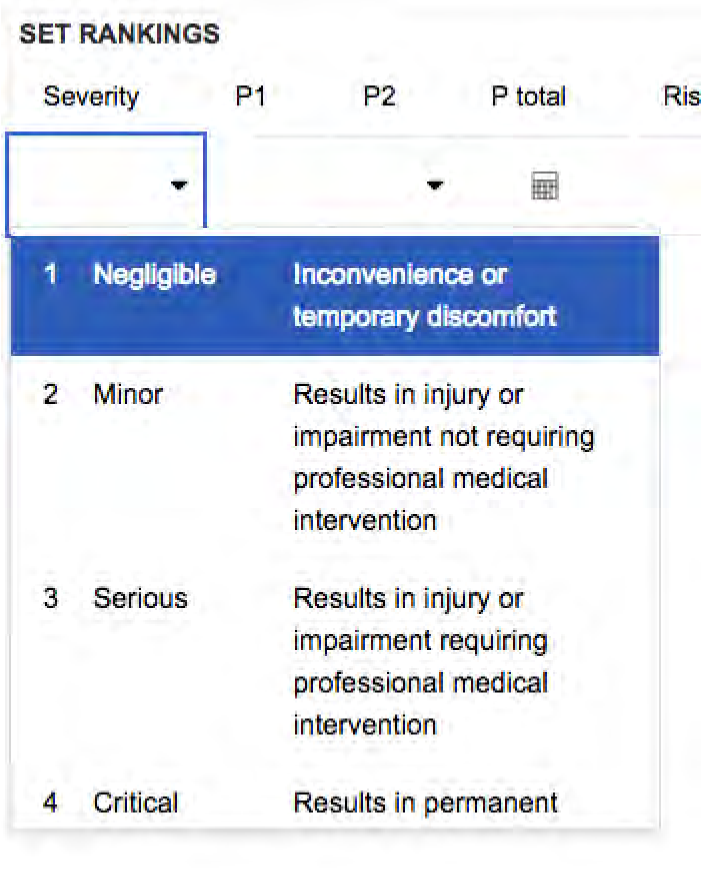
2. Select **Save**.

Edit scales

NOTE

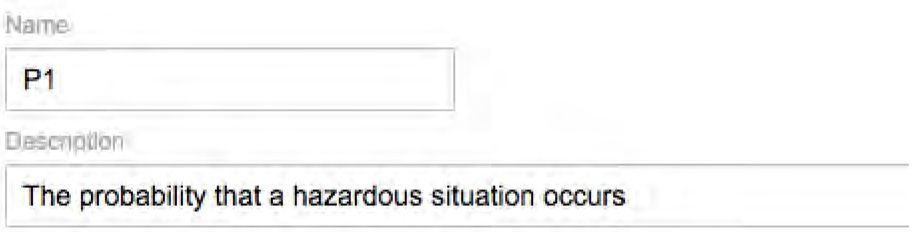
You must have risk administrator [382] permissions to edit matrix settings.

On the settings page, you can adjust the values for scales (such as **P1, P2** and **Severity**). The values from these scales appear in drop-down menus the corresponding columns of the analysis.

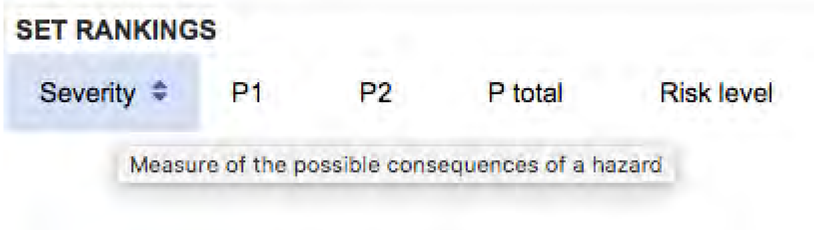


You can edit scales in the following ways:

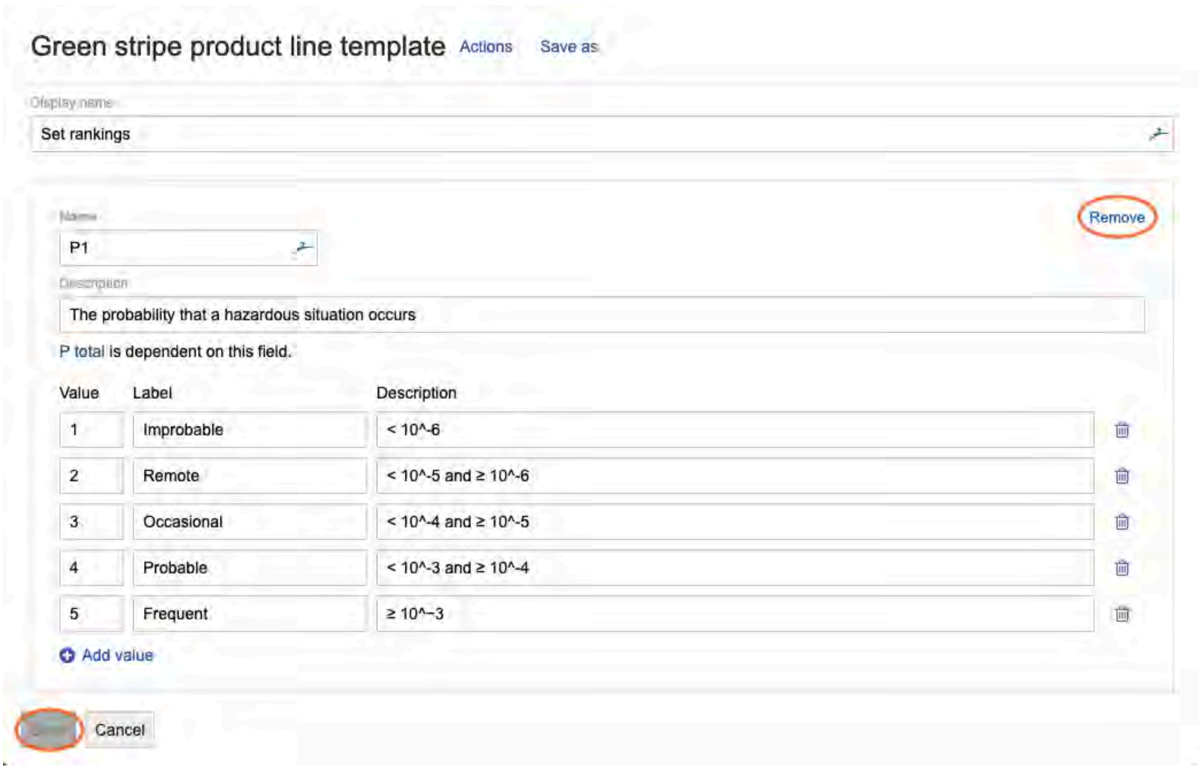
- **Edit scale name and description**
  In template **Settings**, enter a name and description for each scale, then select **Save**.



The scale name appears as the column header and the description as a hover tip in any analyses made from this template.



- **Remove scales**
  Select **Remove** next to the name of the scale you want to remove from the template. Then select **Save**. This removes the corresponding column from this template.



NOTE

A note appears below the scale description to alert you if another scale or matrix depends on the one you're editing. If you try to remove a scale with dependencies, you are prompted to confirm deletion.

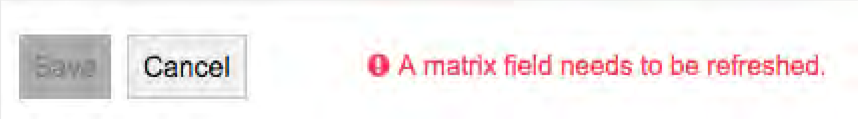
If you remove a scale with dependencies, dependent matrices are also removed.

- **Edit scale values**
  Each scale has a **Value**, **Label** and **Description** that you can edit. Select **Add value** to add a value. You can change the **values** to any number from 1–99. Values control the display order from lowest to highest. Use the **trash can icon** to delete a value. Select **Save** when you're finished editing.


Green stripe product line template
Actions
Save as
Display name
Set rankings
Name
P1
Remove
Description
The probability that a hazardous situation occurs
P total is dependent on this field.
Value
Label
Description
1
Improbable
< 10^-6
2
Remote
< 10^-5 and ≥ 10^-6
3
Occasional
< 10^-4 and ≥ 10^-5
4
Probable
< 10^-3 and ≥ 10^-4
5
Frequent
≥ 10^−3
Add value
Cancel

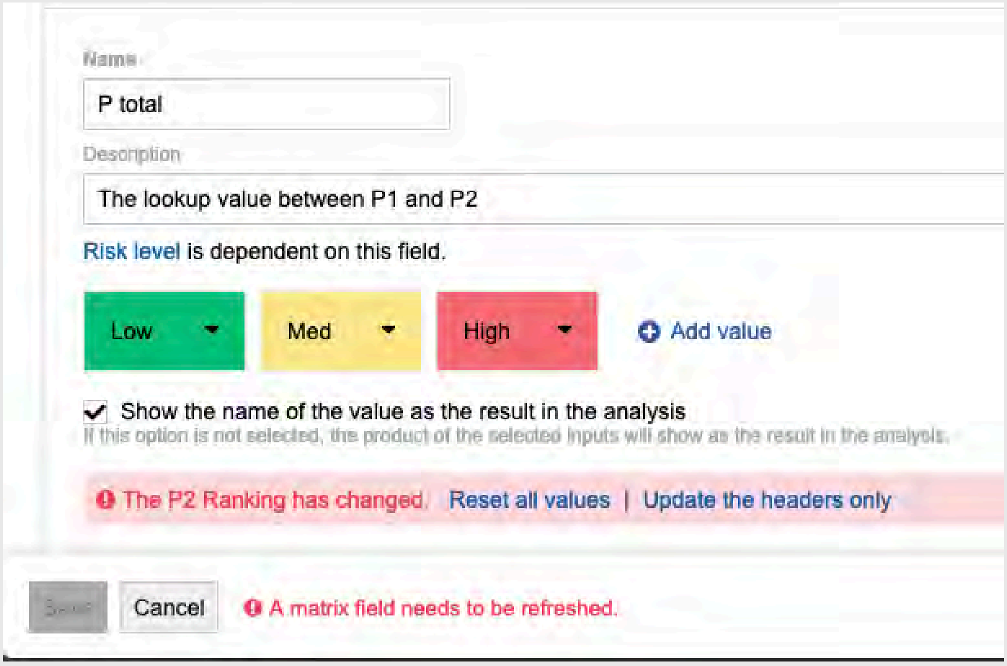
NOTE

If you edit a scale that has a dependent matrix, you see a message with a request to update the dependent matrix. You can't save changes until you reconcile this.



To correct the error, edit the affected matrix.

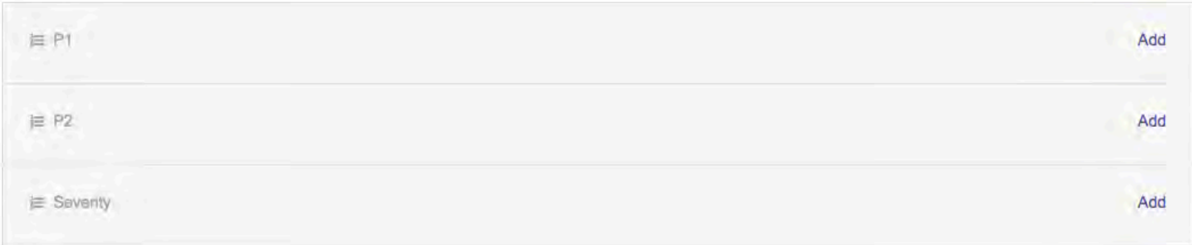
Select **Reset all values** to clear and reset all values in the matrix, or select **Update the headers only**. You only need to set values for the affected area.



You must enter a value for each matrix field before saving. You can use the tab and arrow keys to select values.

When you're finished, select **Save**.

- **Restore a scale**
  The default starter template comes with three scales. If you remove a scale and want to add it back, select **Add**. Edit the scale as needed, then select **Save**.



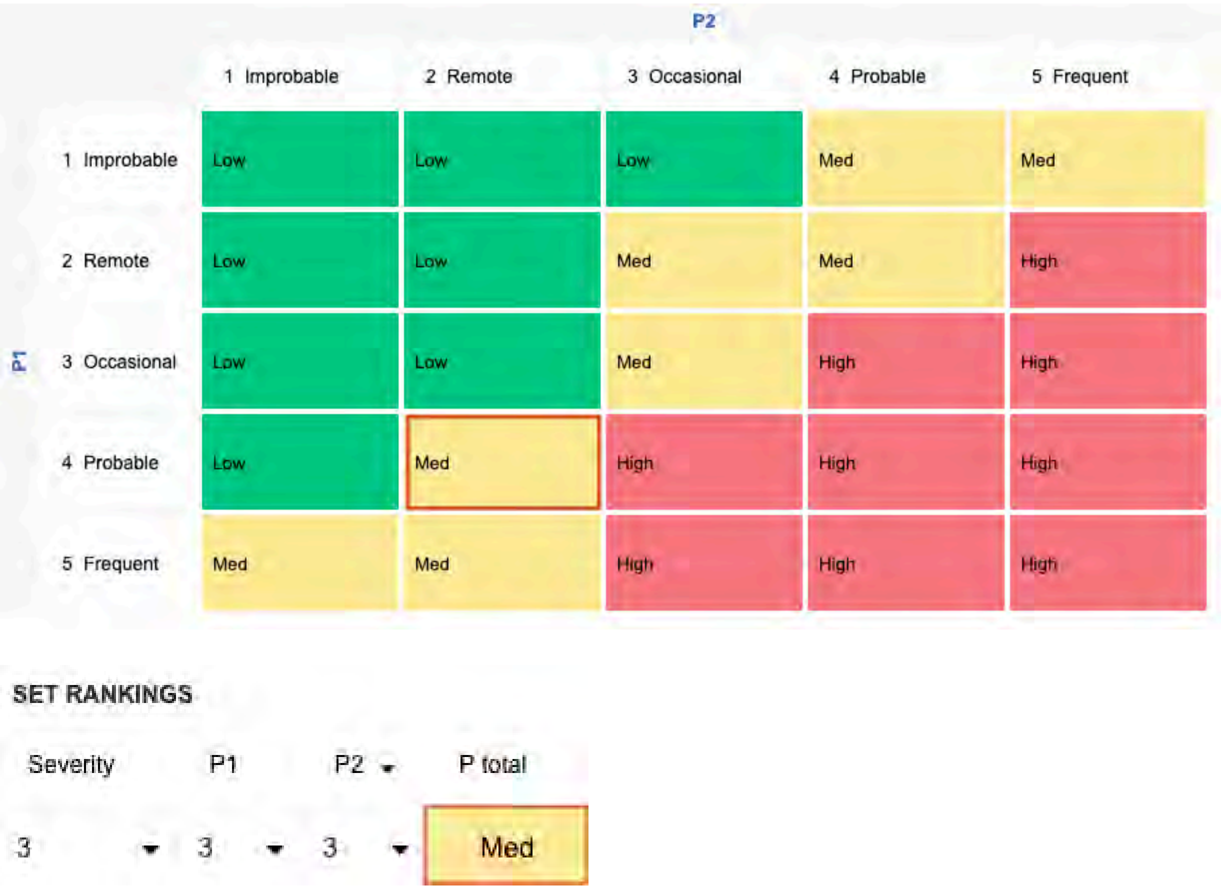
Edit matrices

You can edit the existing matrices in a template or add a new matrix.

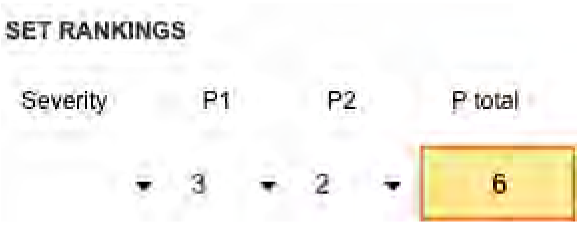
> **NOTE**
> You must have risk administrator [382] permissions to edit matrix settings.

Matrices are based on input from scales. Each field in the matrix is determined by the product of the two corresponding inputs.

The resulting calculated fields from this matrix display in the corresponding column in the analysis.

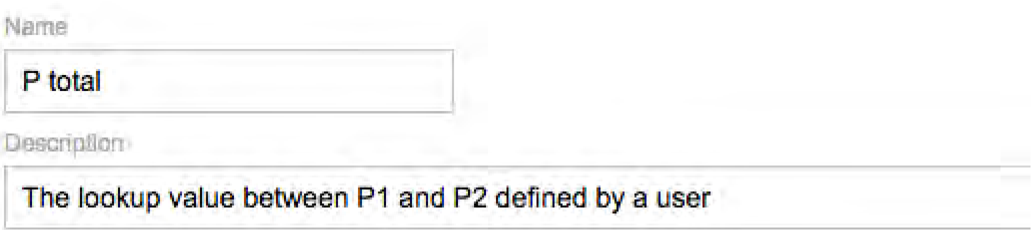


To save a matrix, you must assign text values (like low, medium, high) to each of the matrix fields. However, you can choose whether to display that text, or the actual numerical product for that field in the analysis.

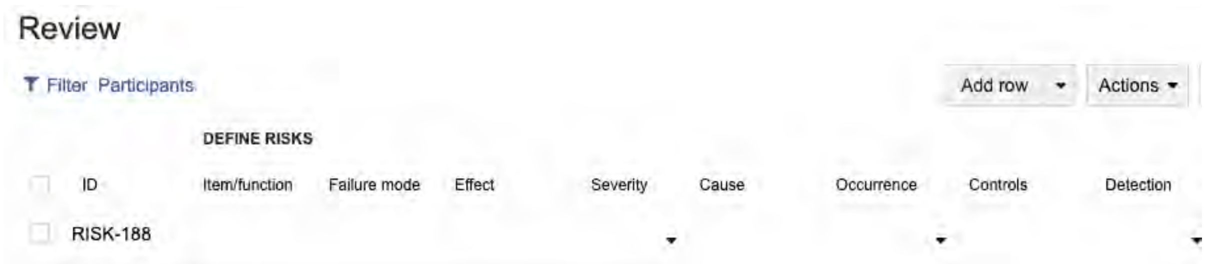


To edit matrix settings, select **Settings** next to the template you want to edit, and choose any of the following aspects to edit:

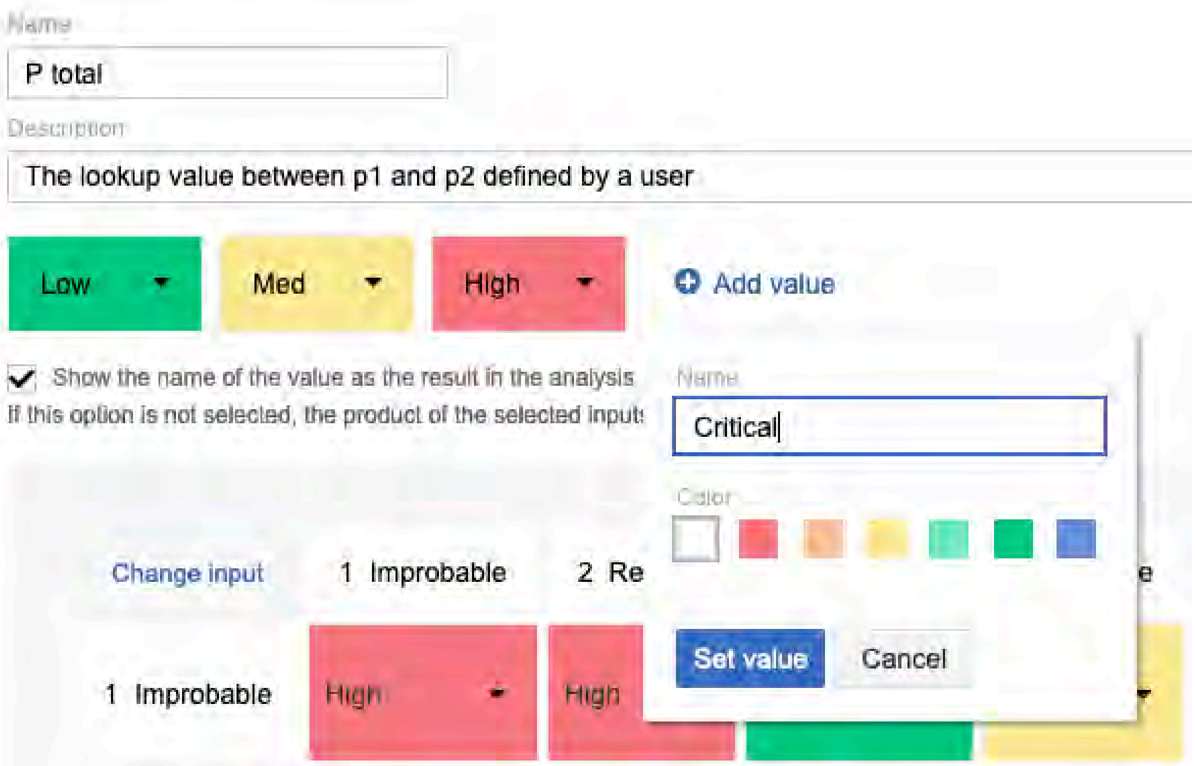
- **Edit matrix name and description**
  Enter a name and description for each matrix, then select **Save**.



The matrix name appears as the column header and the description as a hover tip in any analyses made from this template.

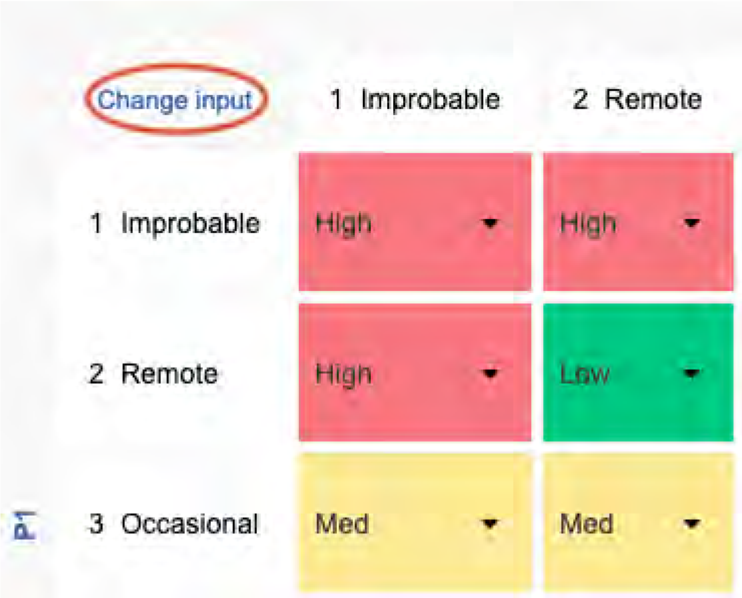


- **Edit matrix values**
  To add new values, select **Add value**. To edit existing values, use the drop-down arrow to edit the name and color of these default values, then select **Set value**. Select **Delete** in the drop-down menu to remove a value. Select the checkbox to display text values in any analyses made from this template, or leave it unchecked to display numerical products. Select **Save** at the bottom of the **Settings** page to save these changes.



To edit the values within the matrix, select the value you want to edit and use the drop-down to choose a new value.

- **Edit matrix inputs**
  You can adjust the risk level matrix to use different scales. For example, you might only want a matrix that balances probability and severity. To edit matrix inputs, select **Change input** at the top left corner of the matrix.

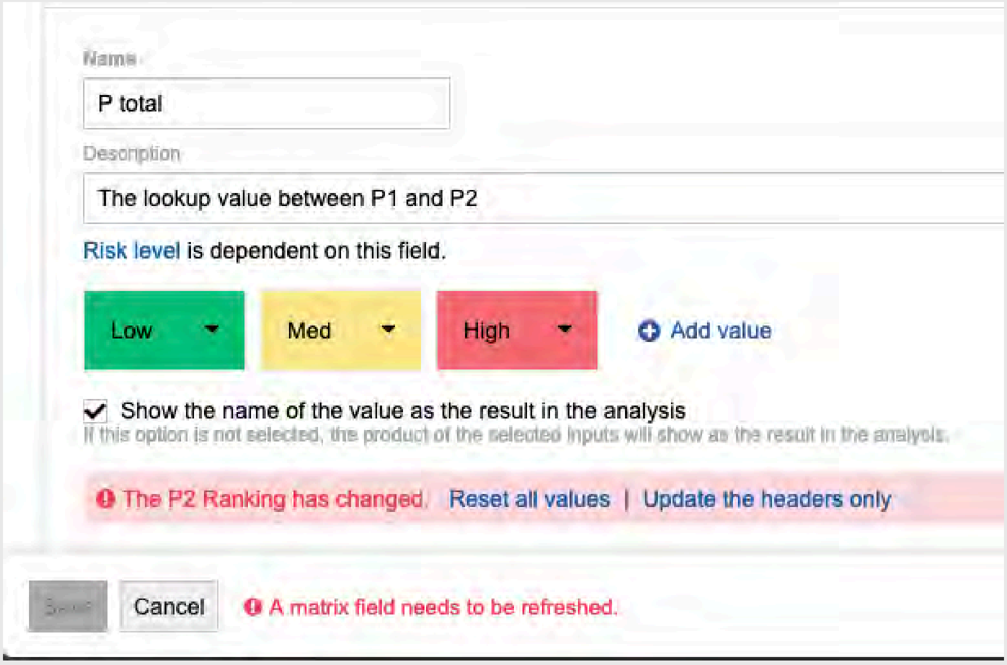
  

  In the window that opens, select the scales or matrices that you want to use as inputs from the drop-down menus. Select **Save**.

  > **NOTE**
  > You can't use the same matrix or scale as an input for more than one matrix in the same template.

NOTE

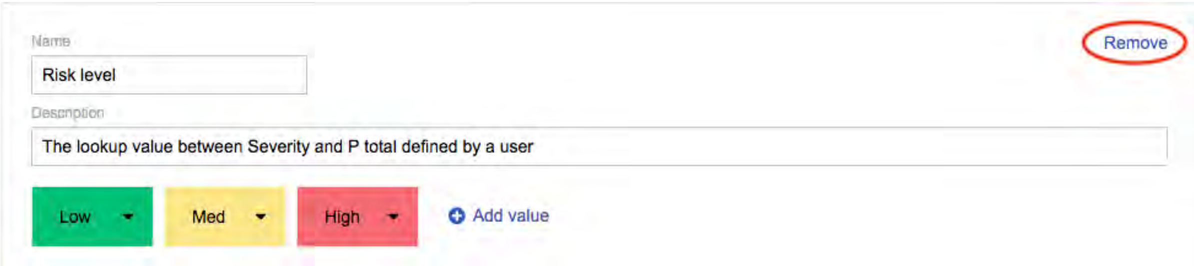
If you edit a matrix that has a dependent matrix or scale, you will see an error message with a request to update the dependent matrix or scale. You can't save changes until you reconcile this error.



To correct the error, select **Reset all values** to clear and reset all values in the matrix or, select **Update the headers only**. You only need to set values for the affected area.

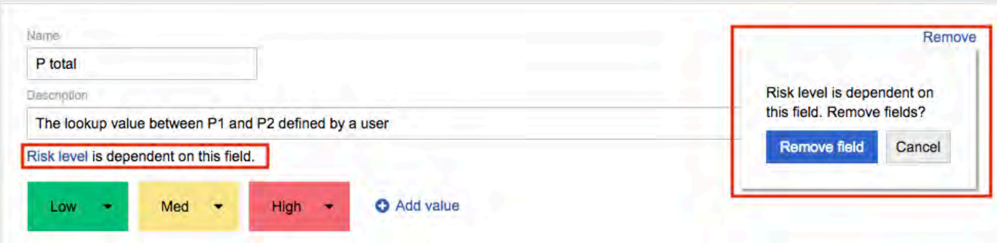
You can also use the tab and arrow keys to navigate and select values you want to set.

- **Remove a matrix**
  Select **Remove** next to the name of the matrix to remove it from the template. Then select **Save**. This also removes the corresponding column from this template.



NOTE

A note appears below the matrix description to alert you if another matrix depends on the one you're editing. If you try to remove a matrix with dependencies, you are prompted to confirm deletion.



If you remove a matrix that has dependencies, you will also remove those dependent scales and matrices.

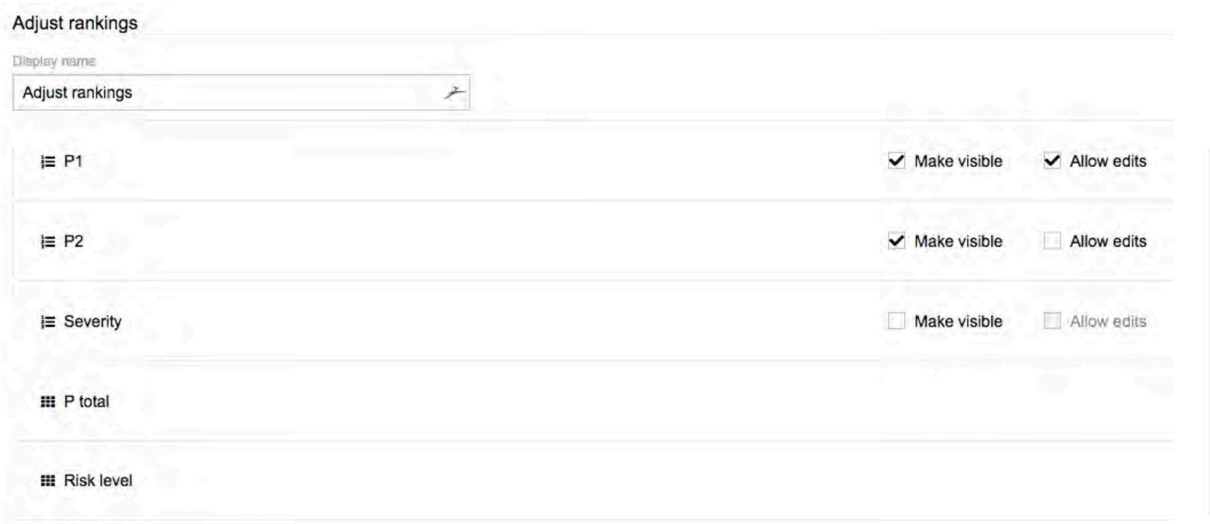
- **Restore a matrix**
  To restore a matrix that was removed, scroll to the last existing matrix and select **Add** in the gray matrix bar. Edit the matrix as needed, then select **Save**.

> **NOTE**
> You must enter a value for *all fields* in the matrix before you can save it.

Show, hide, or lock data

> **NOTE**
> You must have risk administrator [382] permissions to show, hide, or lock data.

For certain data under **Adjust Rankings**, you can decide whether to make it visible or editable. To find these options, scroll to the bottom of the **Settings** page and select the checkboxes you prefer:



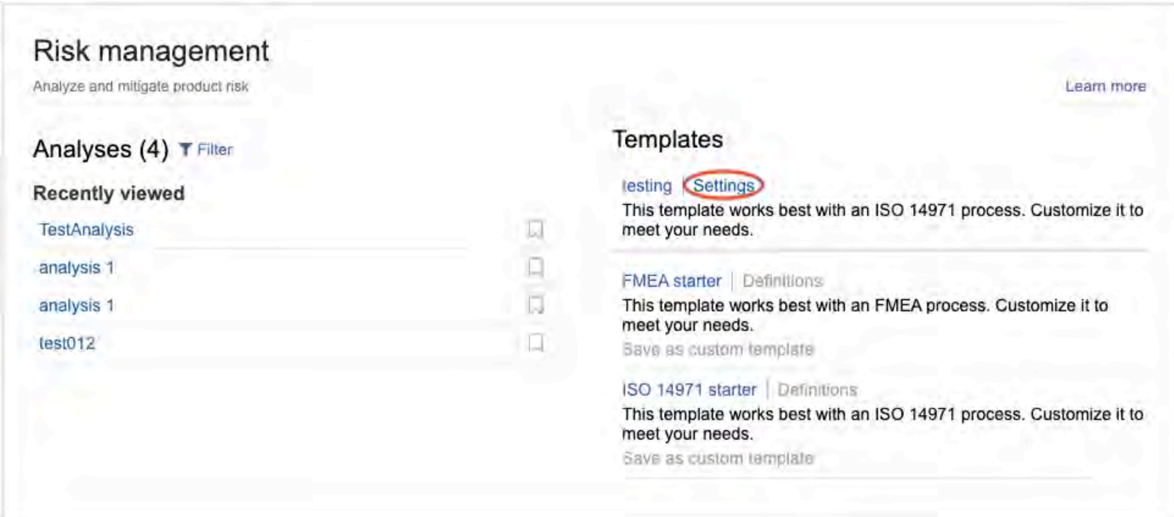
Scales marked **Make visible** are shown as columns in the analysis. If you mark **Allow edits**, the analysis shows a small arrow that opens a drop-down menu for editing.

Delete a template

NOTE
You must have risk administrator permissions to delete a template.

To delete a risk management template:

1. Select **Risk** in the header.
2. Next to the template you want to delete, select **Settings**.



3. On the **Settings** page, select **Actions** at top of the page.
4. In the **Actions** window, select **Delete template**.
5. Selecting **Delete** to confirm that you want to delete the template.

NOTE
You can't delete the ISO 14971 default starter template.

Moderator

NOTE
You must have a creator license to be a moderator.

A risk moderator initiates and manages a risk analysis.

If you initiate a risk analysis, you become the risk moderator by default.

A moderator can do everything that contributors [408] and viewers [414] can do.

A moderator can:

- Initiate an analysis [403] (this is how they become a moderator)
- Add participants [405]
- Edit an analysis name [405]
- Delete an analysis [408]

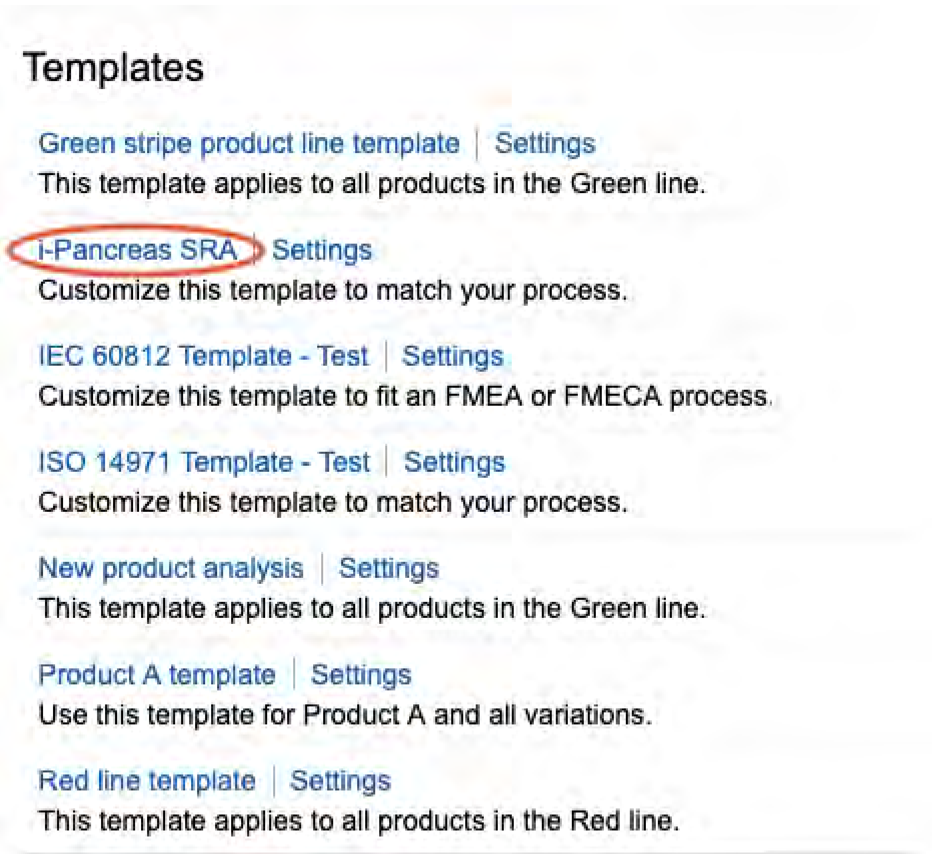
TIP
A risk analysis can have more than one moderator. Moderators or risk administrators can add other participants as moderators, if needed.

Initiate a risk analysis

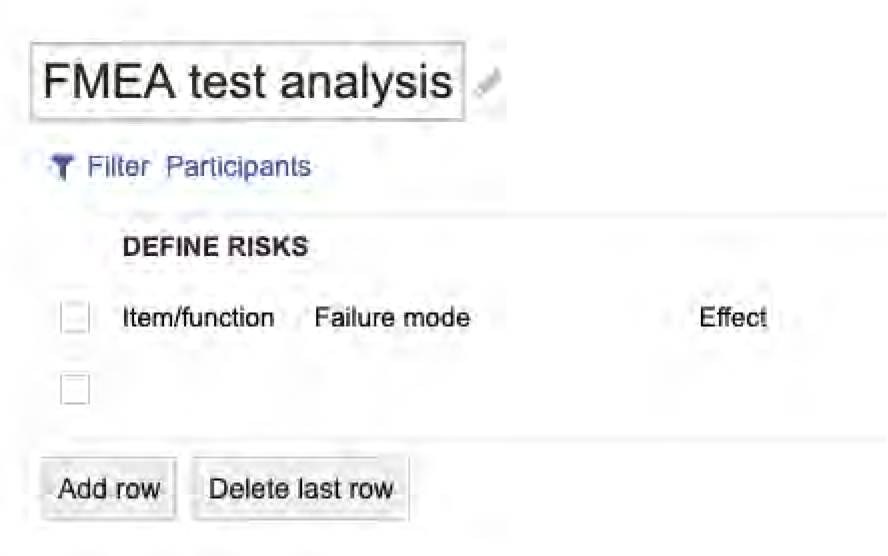
NOTE
You must have a creator license to initiate an analysis. By default, you become the moderator for any analysis you create.

To initiate a risk analysis:

1. Select **Risk** in the header.
2. Decide which template you want to use and select it.



3. Type the analysis name and click **Save**.
4. This opens the new analysis. Select the title at the top of the page to edit the analysis name [405].



5. Select **Participants** to add participants [405].
6. The analysis is only be visible to any users you added as participants. Participants see the analysis when they select **Risk** in the header.

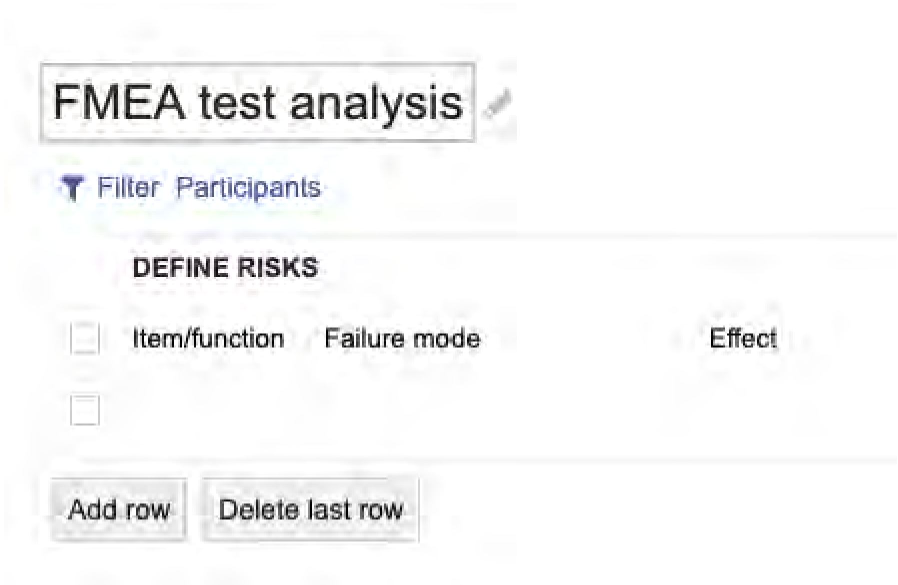
Edit analysis name

NOTE

You must be a moderator [402] to edit an analysis name.

To edit a risk analysis name:

1. Select **Risk** in the header.
2. Find and select the analysis you want to rename.
3. When the analysis opens, select the name at the top of the page and the field becomes editable.



4. Changes to the name are shown in the header at the top of the analysis, as well as in the list of analyses when you select **Risk** in the header.

Add participants

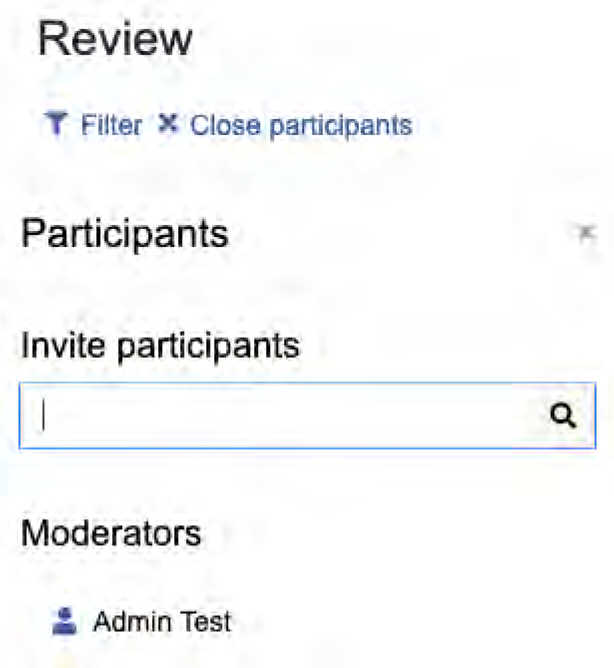
NOTE

You must be a moderator or risk administrator to add or update risk analysis participants.

To add participants to an analysis:

1. Open the analysis [415].
2. Select **Participants**.

3. In the panel that opens, enter the name of the person you want to invite and select their name from the drop-down menu.



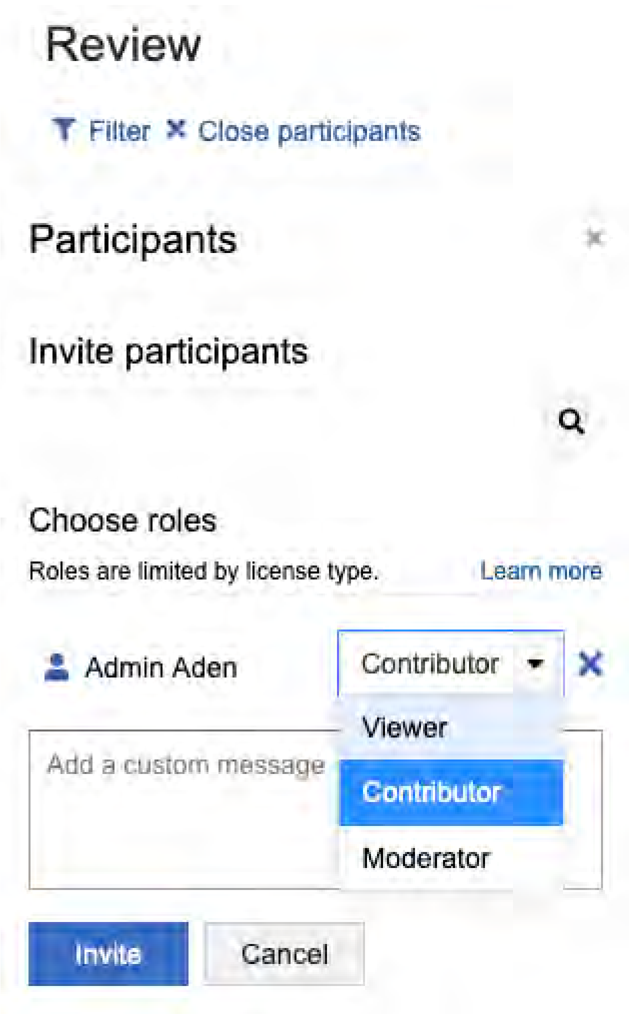
IMPORTANT

You can only select Jama Connect users with a creator, stakeholder, or test runner license. To invite participants who don't appear here, contact your organization administrator to add users [571] or update license types [576].

NOTE

You can't add users who are currently participants. If you want to change a user from one role to another, you must first remove them from their current role, then invite them to the new role.

4. Once you select a name, use the drop-down menu to select a role for the new participant:
   - Moderator [402]
   - Contributor [408]
   - Viewer [414]



NOTE

Risk analyses can have multiple moderators, contributors, and viewers.

5. Add a message to the participant, if you like, and select **Invite**. An email is sent to this user to invite them to the analysis. When they select **Risk** in the header, the analysis is available for them to use. After you invite new participants, you see them listed in the Participants panel. You can remove participants from this panel, too.
6. To delete a participant, select **Remove**.
7. Select the **X** at the top of the panel or **Close participants** to close this panel.

TIP

In the event that an analysis has a single moderator who isn't available to manage an analysis, a risk administrator can assign a new moderator.

Delete an analysis

> **NOTE**
> You must be a moderator or a risk administrator to delete a risk analysis.

To delete a risk analysis:

1. Select **Risk** in the header.
2. Select the name of the analysis you want to delete.
3. Select **Actions > Delete analysis** in the top right menu.

4. Select **Delete** to confirm that you want to delete the analysis. You can't restore an analysis or its data once you delete it.

Contributor

> **NOTE**
> You must have a creator license to be a contributor.

A contributor changes content and values in an existing analysis. A moderator adds contributors to a risk analysis.

As a contributor, you can do everything a viewer can do [414], plus the following:

- Add, edit and delete risks [408]
- Lock and unlock an analysis [412]
- Link items to an analysis [410]

Add, edit, and delete risks

> **NOTE**
> You must have contributor or moderator permissions to complete this task. Viewers can't add, edit, or delete risks.

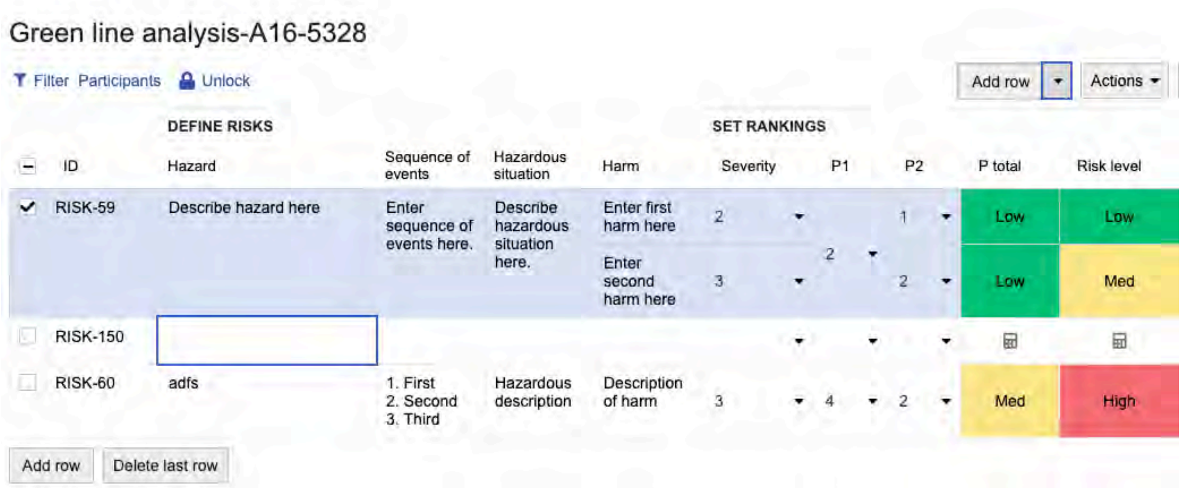
To add a risk to an analysis:

1. Add a row for the new risk.
   Select **Add row** at the bottom of the analysis or in the top right toolbar, to add a new row to the analysis.

   > **TIP**
   > You can also use the **Tab** key to add rows to the bottom of the analysis. Tabbing through the last row land your cursor on the **Add row** button, and you can use **Enter** to add a new row.

   To specify where to add a new row, select the row above it. Then use the **Add row** drop-down menu in the top right toolbar and select **Insert after selected**.

   The new row appears with an automatically generated risk ID [426].



2. The analysis locks [412] when you're editing to prevent others from overwriting your work. Your data is autosaved as soon as you move from one cell to the next. Select **Unlock** when you're done editing so others can edit.
3. To delete a risk from an analysis, select the box at the beginning of the row you want to delete, then use the drop-down arrow next to **Add row** to select **Delete**.
   To delete the last row, select **Delete last row** at the bottom of the page.

Link items to an analysis

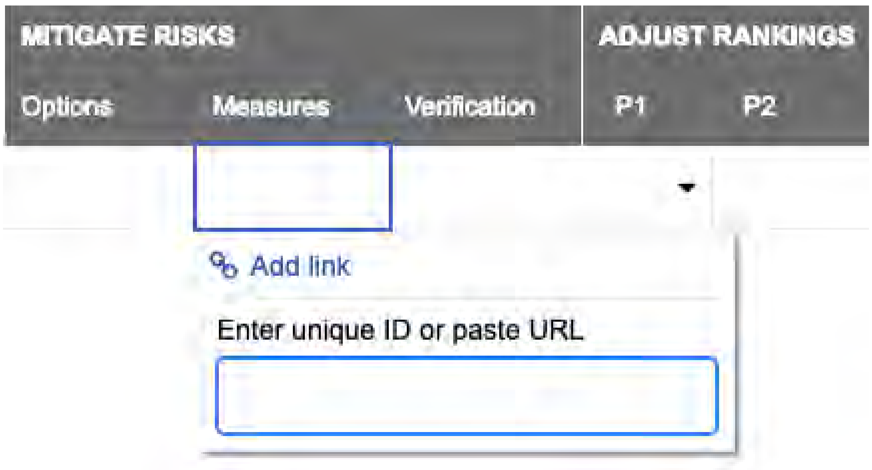
> **NOTE**
> You must be a moderator [402] or contributor [408] to link items to an analysis.

> **NOTE**
> For you to add a link to a particular field in an analysis, a risk administrator must configure the template [387] to allow this.

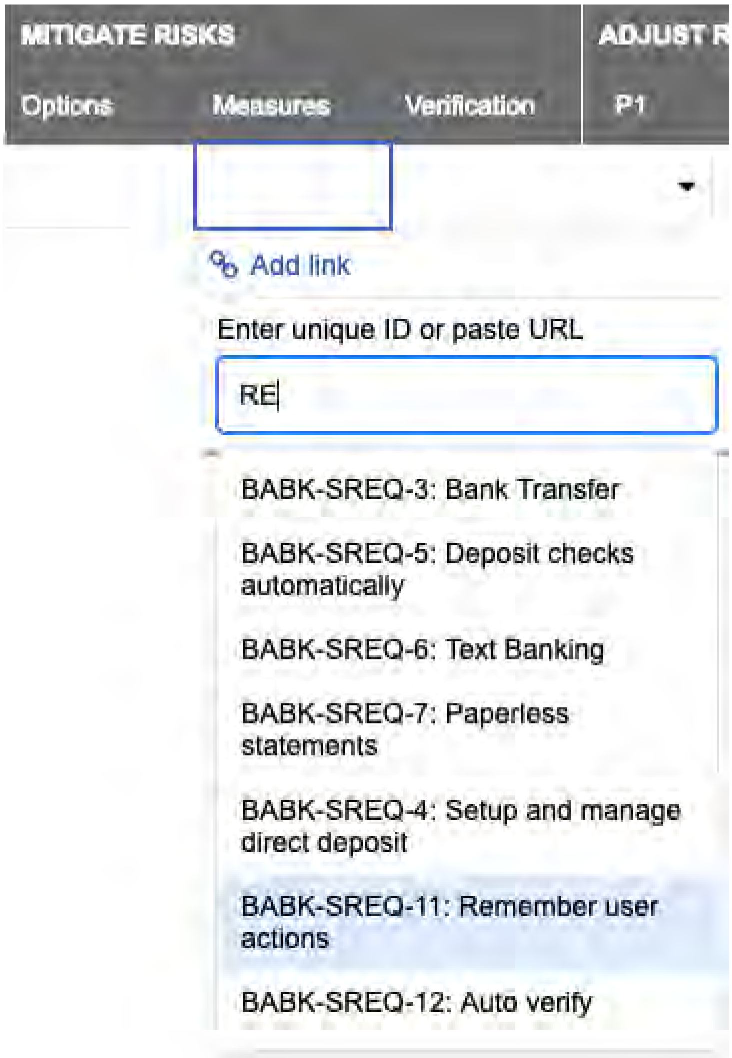
You can link from any text column of an analysis to Jama Connect.

1. Select the field where you want to add a link to open the **Add link** option.

2. Select **Add link** to open a drop-down menu. Begin typing any part of the unique ID [637] of the item, container, or attachment you want to link.



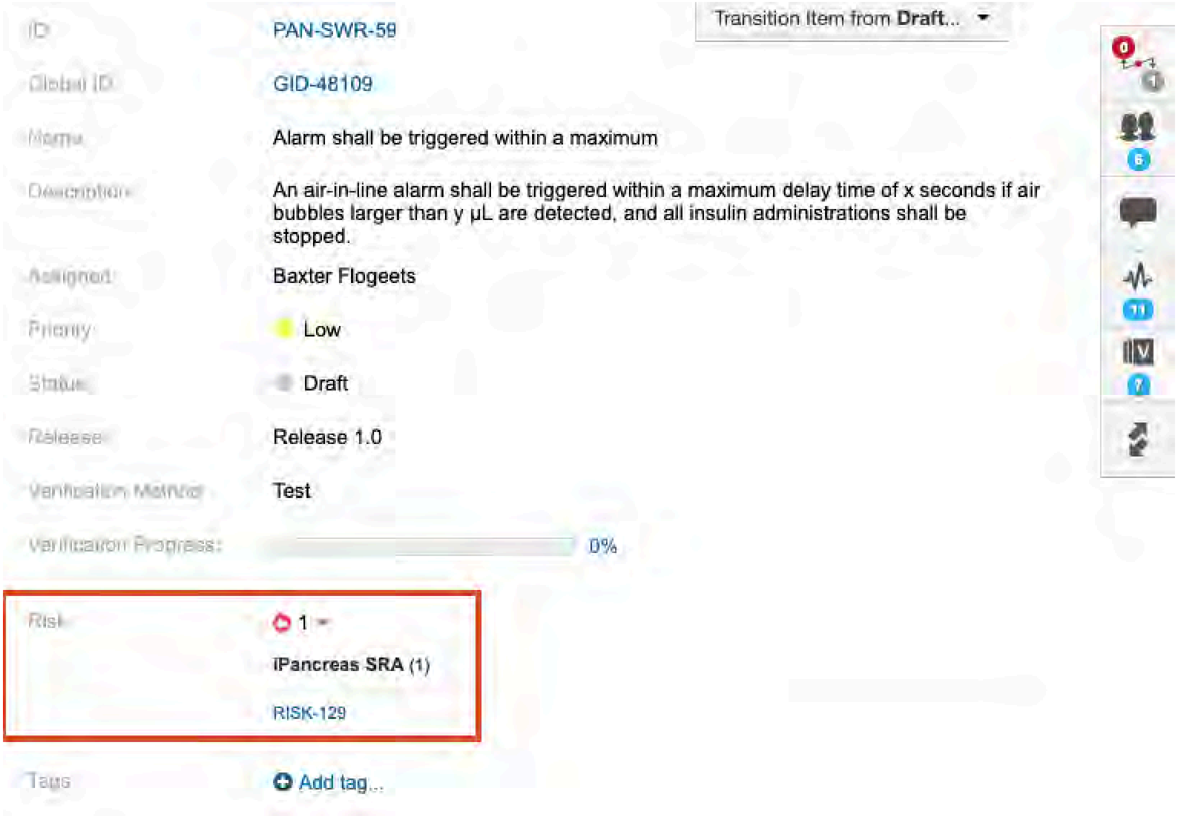
3. Select the link from the drop-down menu.



TIP

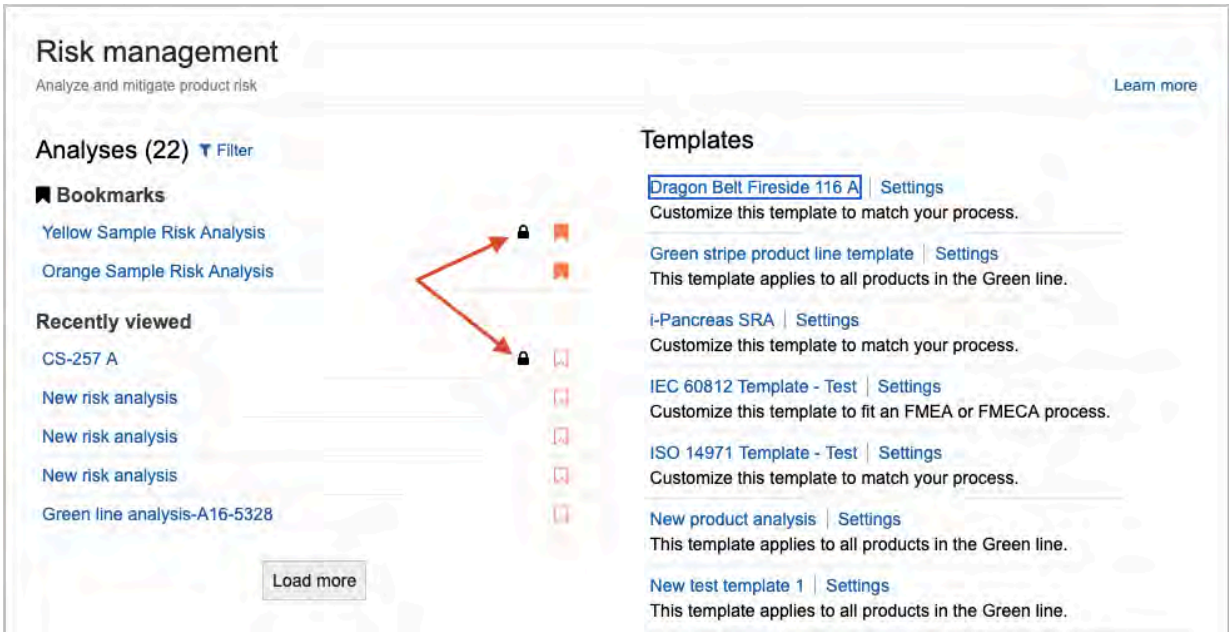
If you can't find the item you want to link in the drop-down menu, you can copy the link to that item from your browser and paste it in the drop-down field. You can add up to five item links per field.

4. Once a link to an item is added, anyone with permission to that item can view the linked analyses and risks [421].



Lock and unlock an analysis

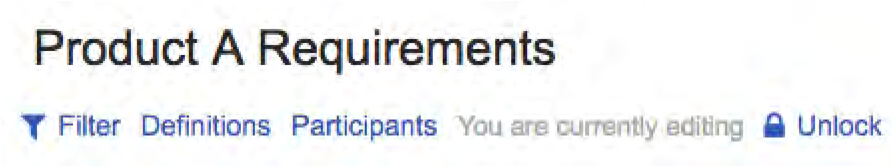
Select **Risk** in the header to see a list of all analyses that you can access. If an analysis has a lock icon next to it, it's locked and you can view it, but not edit it.



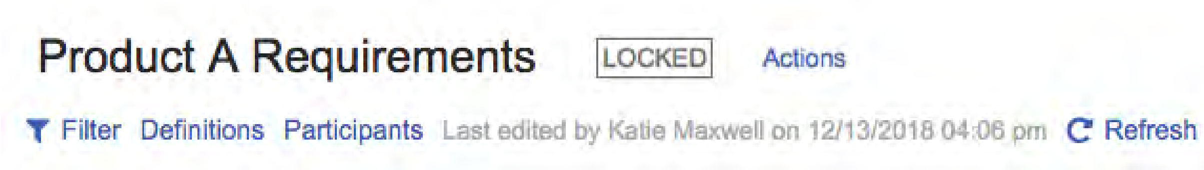
An analysis is locked whenever a moderator or contributor does any of the following:

- Enters text into any field
- Selects a value from a scale
- Adds or removes a link
- Adds or removes a row

To unlock an analysis, select **Unlock** when you have finished editing. This allows other participants to edit the analysis.



While you're editing an analysis, other participants see a LOCKED notification next to the analysis name, along with information about who is editing the analysis and when it was last edited. They can select **Refresh** to update that information.

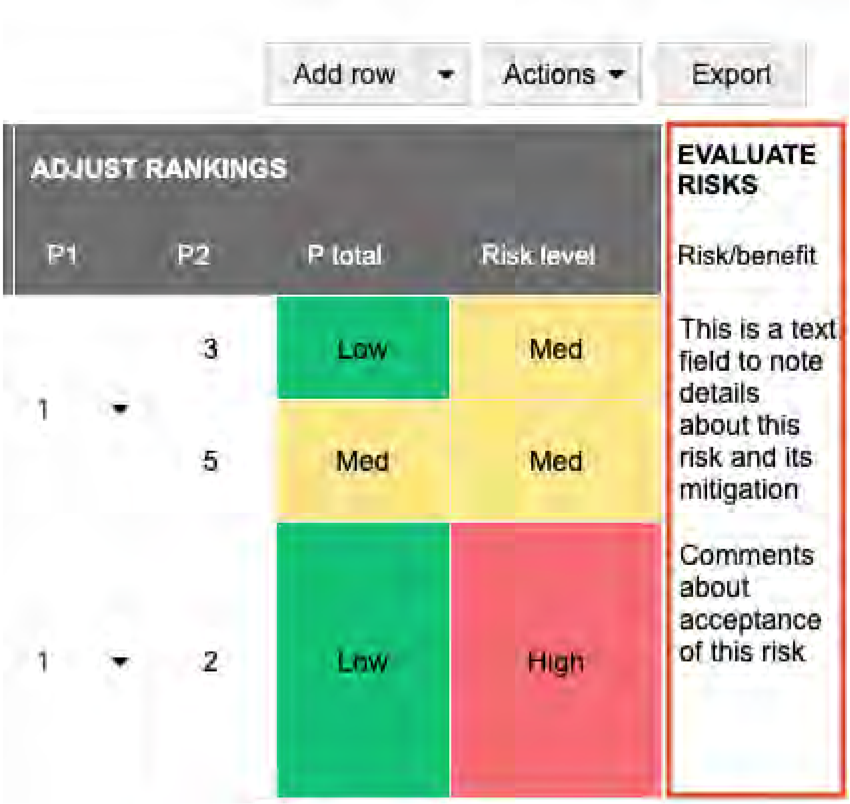


> **WARNING**
>
> The only person who can unlock an analysis before it times out, is the person who locked it.
>
> Otherwise, the lock times out 60 minutes after the last edit and the analysis becomes available for others to edit. This happens even if the user is still working in other areas of Jama Connect.
>
> If another user edits the analysis after the lock times out, any unsaved data the first user entered is lost. Data is automatically saved when a user moves from one cell to another.
>
> If the same user returns to edit the analysis before other users, any changes are saved when they make another edit.

Evaluate risks

During a risk-benefit analysis, you might want to add comments about how the final risk level was determined and its acceptance. You can also add a link to a Jama Connect item in this field.

Analyses created with the ISO 14971 starter template, or any template that was customized by a risk administrator [387] can include a column to the right of the final risk level where participants can add comments about that risk and its acceptance.



Viewer

> **NOTE**
> You must have a stakeholder, test runner, or creator license to be invited to an analysis as a viewer.

A viewer can read, but not edit, a risk analysis.

A moderator or contributor can also do everything that a viewer can do.

For example, all participants (viewers, moderators, and contributors) can:

- View an analysis [415]
- Bookmark an analysis [416]
- View risk definitions [417]
- Filter risk analyses [418]
- Filter and sort risks [419]
- View risks and analyses for an item [421]
- View and sort risk IDs [426]
- Export a risk analysis [426]

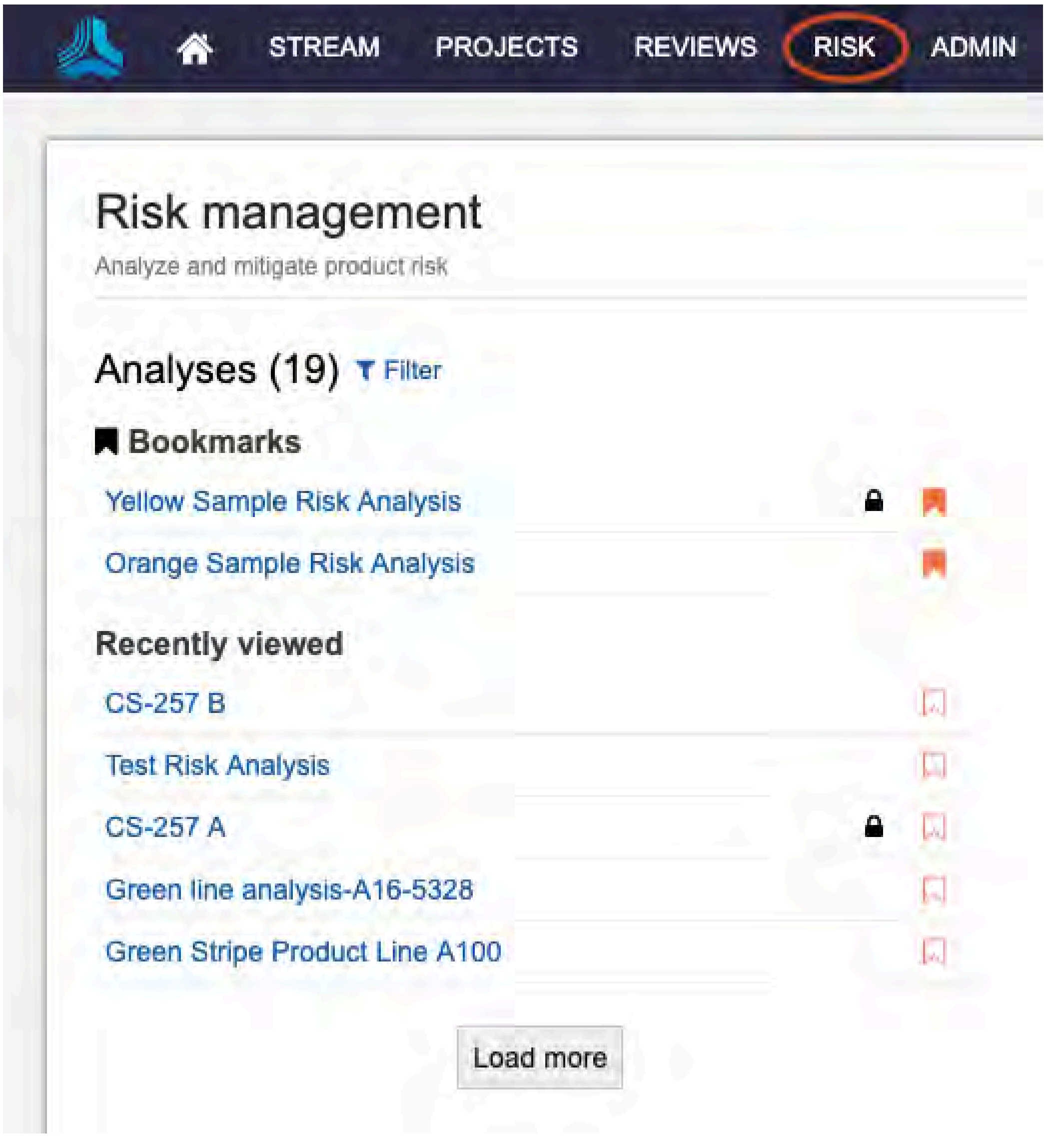
View a risk analysis

NOTE

To view a risk analysis, you must be invited [405] to that analysis, be the moderator [402] of that analysis, or have risk administrator permissions [382].

To view a risk analysis:

1. Select **Risk** in the header.
2. In the list of analyses, find the analysis you want to open and select it. Analyses are listed in the order they were created. Any bookmarked analyses are at the top of the list. Any locked analyses [412] show a lock icon. To see more analyses, select **Load more**.



TIP

You can filter [418] and bookmark [416] analyses to find them more easily.

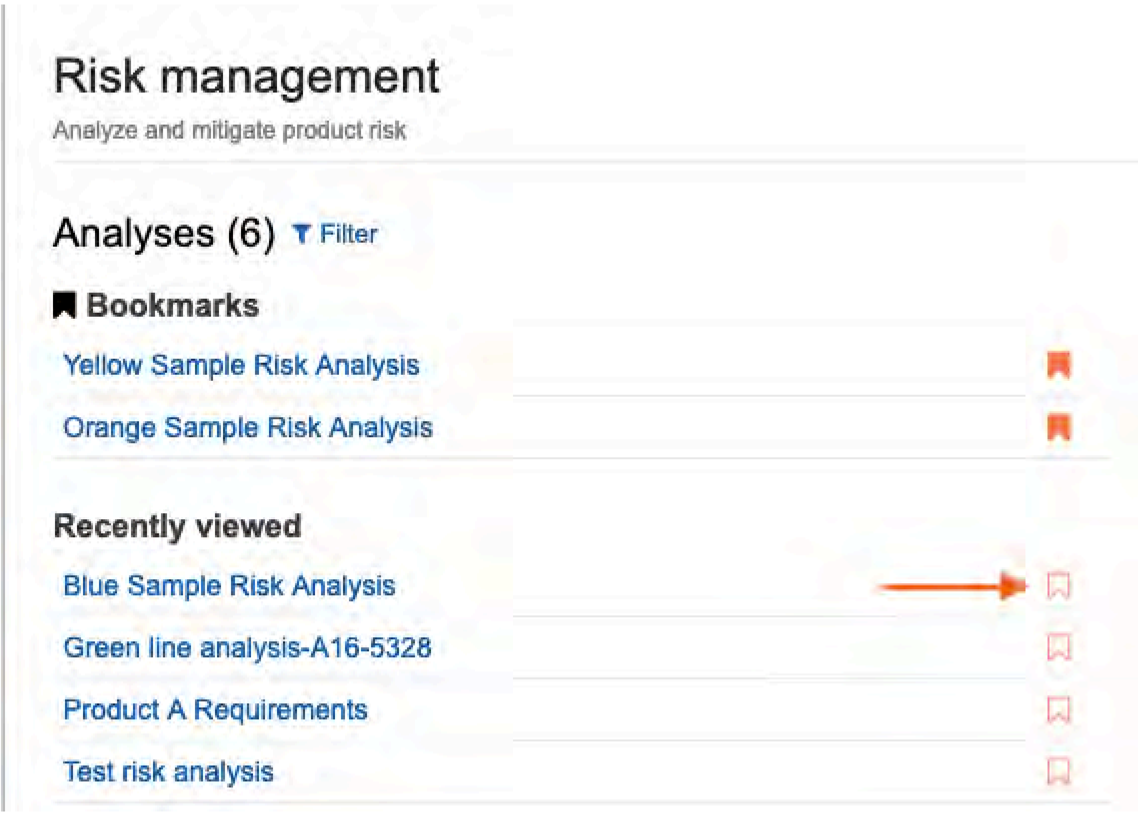
3. If you're invited to an analysis, you receive an email with a link to view it. Any participant can use that same link to view the analysis.

> **NOTE**
> You only see the analyses for which you're a participant. Risk administrators [382] are the only ones who can see all the analyses.

Bookmark an analysis

You can bookmark a risk analysis to keep it near the top of your list and make it easy for you to find.

1. Select **Risk** in the header.
2. In the list of recently viewed analyses, select the bookmark icon next to the analysis you want to bookmark.



3. The analysis that you bookmarked moves to the list of bookmarks at the top of the page.

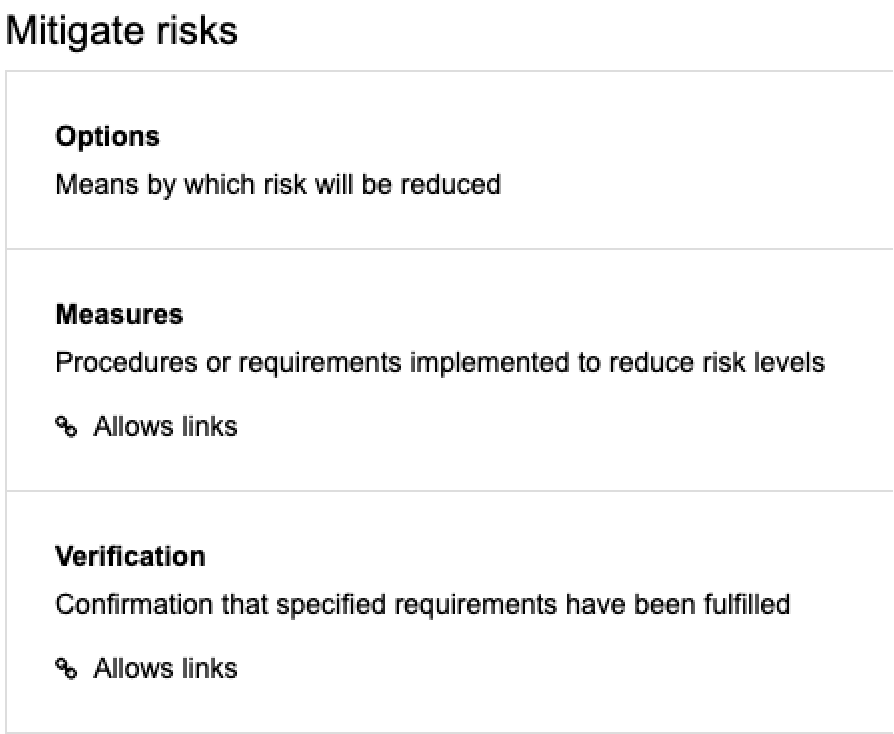
> **TIP**
> You can also bookmark projects, components, folders, sets, filters, and Trace Views to your homepage [43].

View risk definitions

The risk administrator creates templates for the analysis and makes decisions about how the analyses are set up. This includes setting rankings in the scales, configuring matrices and making certain fields visible or editable.

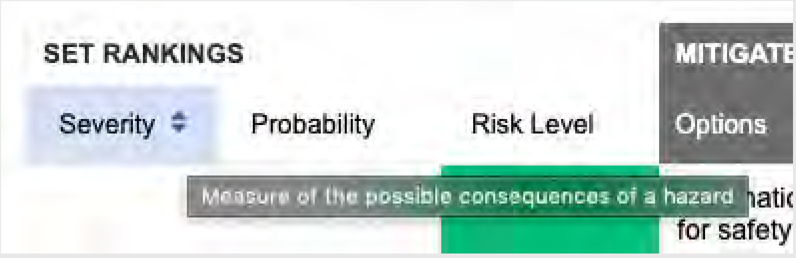
Select **Actions > View definitions** to understand how an analysis works. This page gives context about how this analysis was set up. Anyone with access to an analysis can view definitions.

In addition to specific descriptions for scale rankings and matrix values, the definitions page also shows which fields allow links and which fields are editable.



TIP

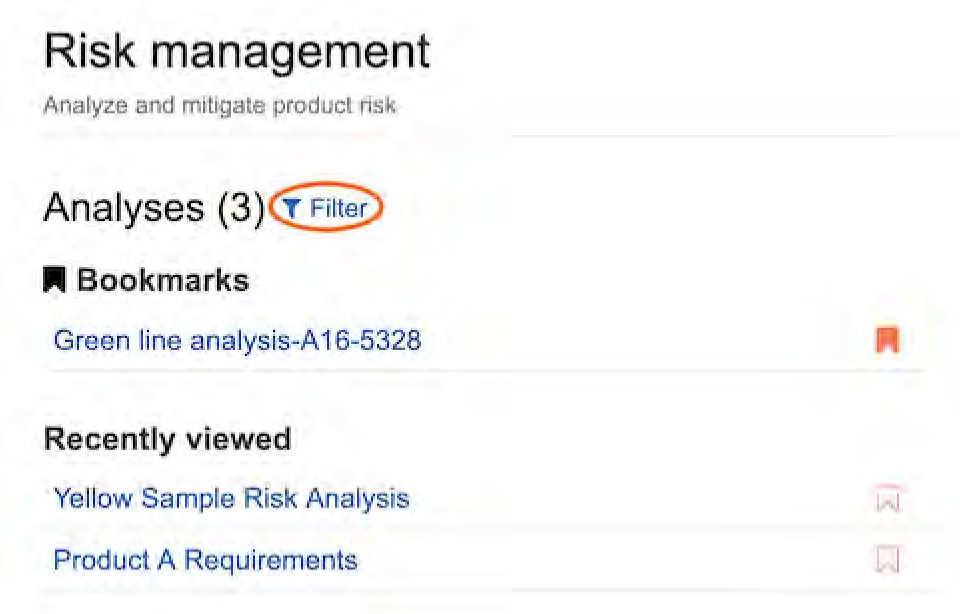
You can also hover your mouse over the column headers to see the definition for each one.



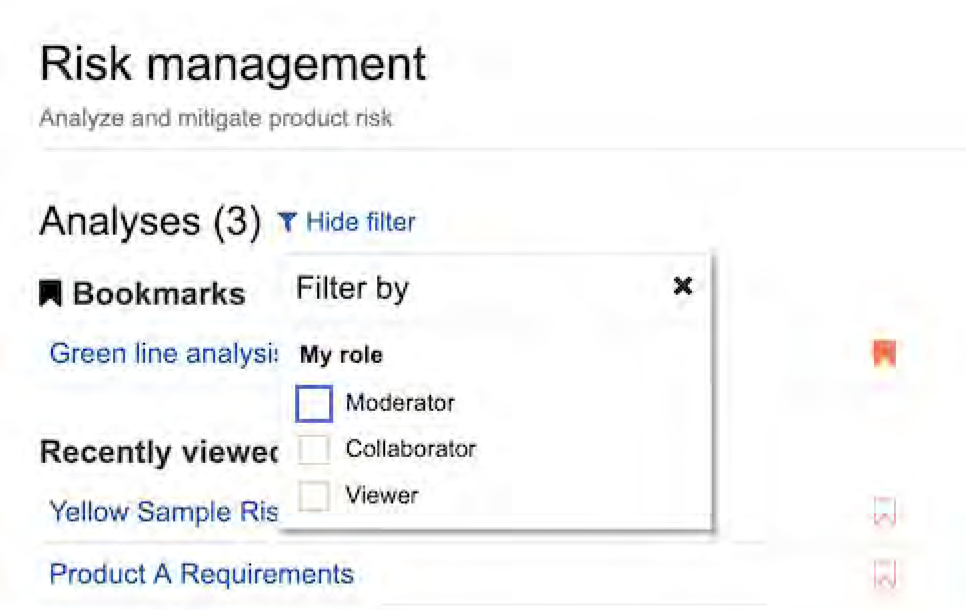
Filter risk analyses

When you select **Risk** in the header, you see a list of all active risk analyses. You can filter the list of analyses by your role to find the analysis you're looking for more easily.

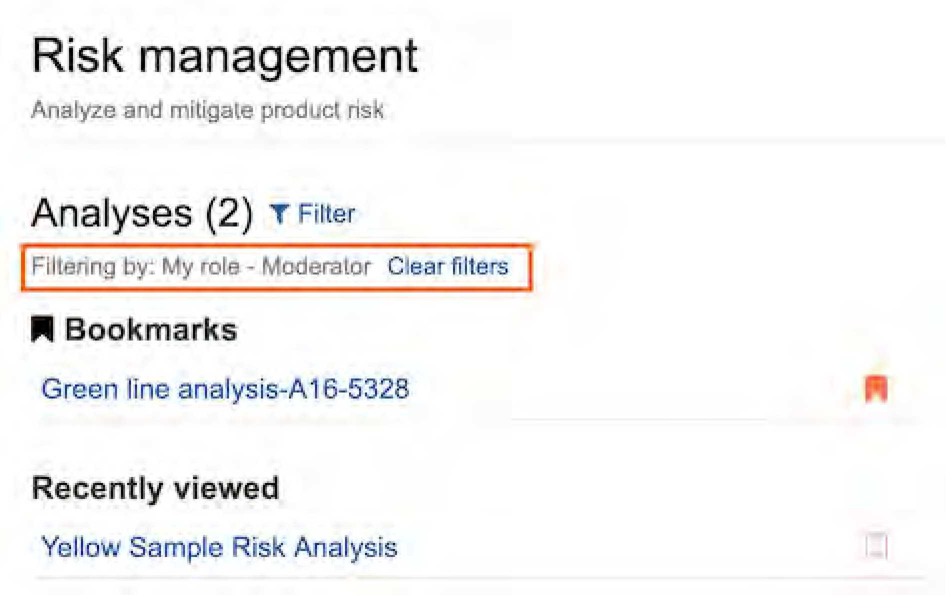
1. Select **Filter** next to the **Analyses** header.



2. In the drop-down menu select a role. The filter is applied to bookmarked and recently viewed analyses.



3. The **Analyses** header now includes the number of results returned. Text below the header shows which filters are being applied.



4. To clear the filter, select **Clear filter**.

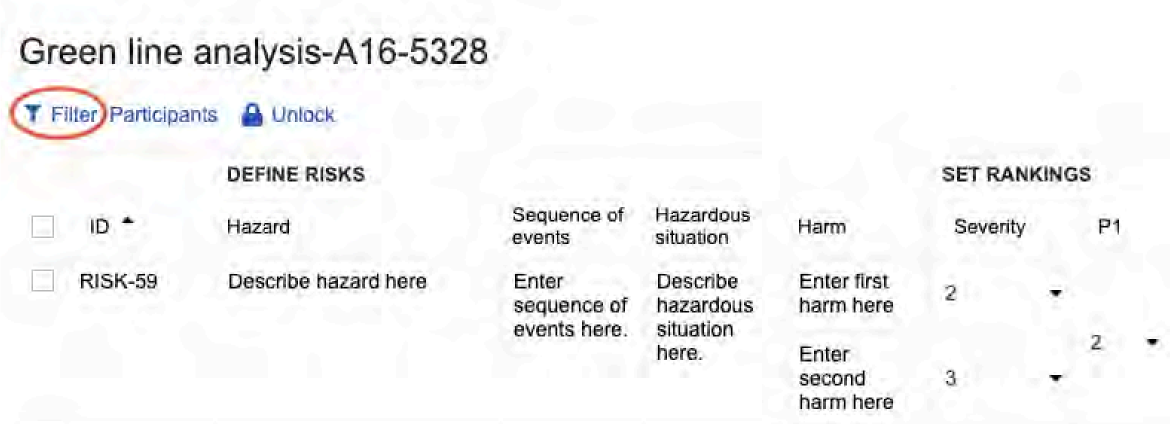
> **TIP**
> You can also bookmark analyses [416] to keep them at the top of the list.

Filter and sort risks

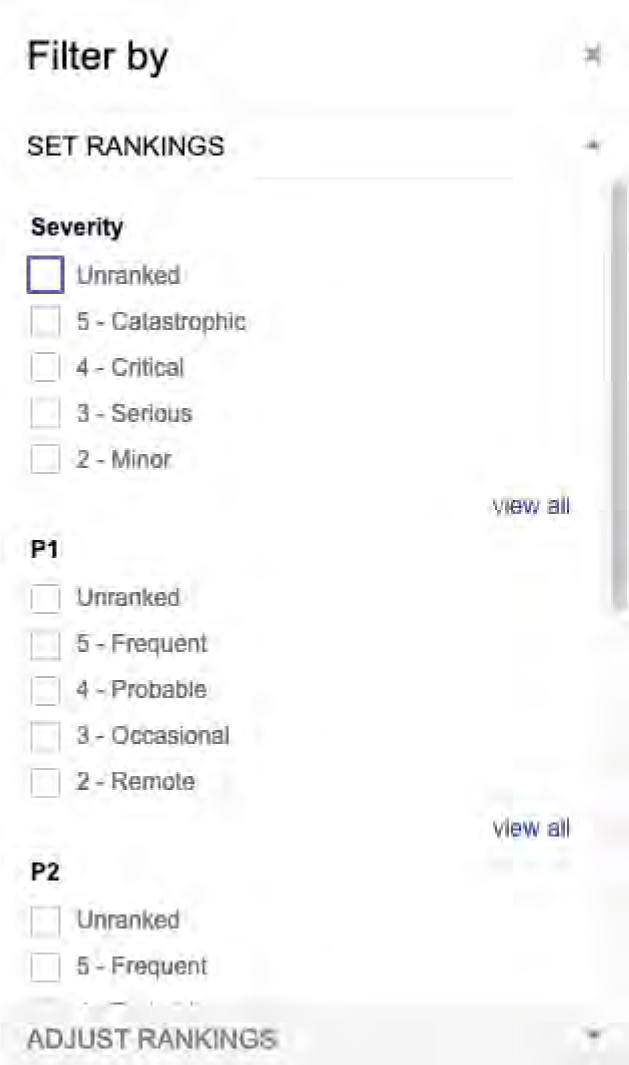
You can filter and sort the risks in an analysis by scale and matrix values to find what you need.

To filter risks:

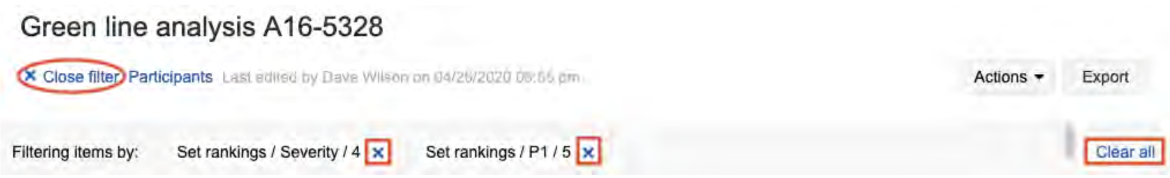
1. Select **Filter**.



2. The filter panel shows all the values you can use, grouped by scale, or matrix. Select the boxes for the values you want to see in your filtered results.



3. Selected filters are displayed as tags at the top of the risk analysis. Active filters are shown at the top of the page. Select **X** to remove a filter or **Clear all** to remove all filters.



IMPORTANT

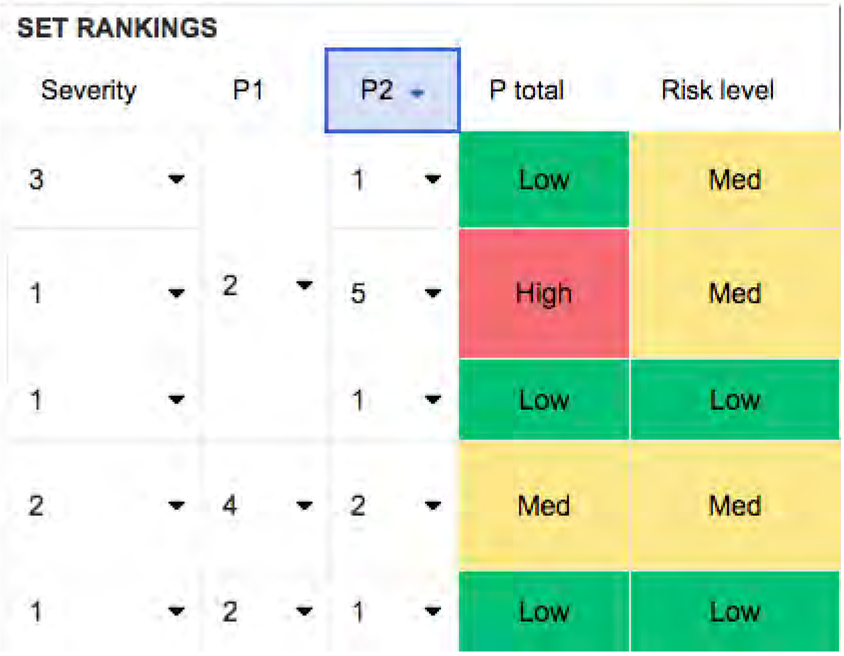
Filters can only block or show entire rows. If you have multiple harms per risk, the filter displays *all* of the harm values if any one of them meets the criteria.

4. Select **Close filter** to hide the filter panel. Filters remain active until you release them.

NOTE

You can't add rows while an analysis is being filtered.

5. You can also sort values for scale or matrix columns. Select the header to toggle between ascending, descending or unsorted order (indicated by small black arrows next to the header name).



TIP

To resize columns, hover between two column headers, click and drag to the right width.

IMPORTANT

For risks with multiple harms, sorting on values uses the harm with the highest value for the entire row.

View risks in Single Item View

Contributors can add links to items in text fields in an analysis as a way of linking requirements, mitigations, or verifications to a particular risk.

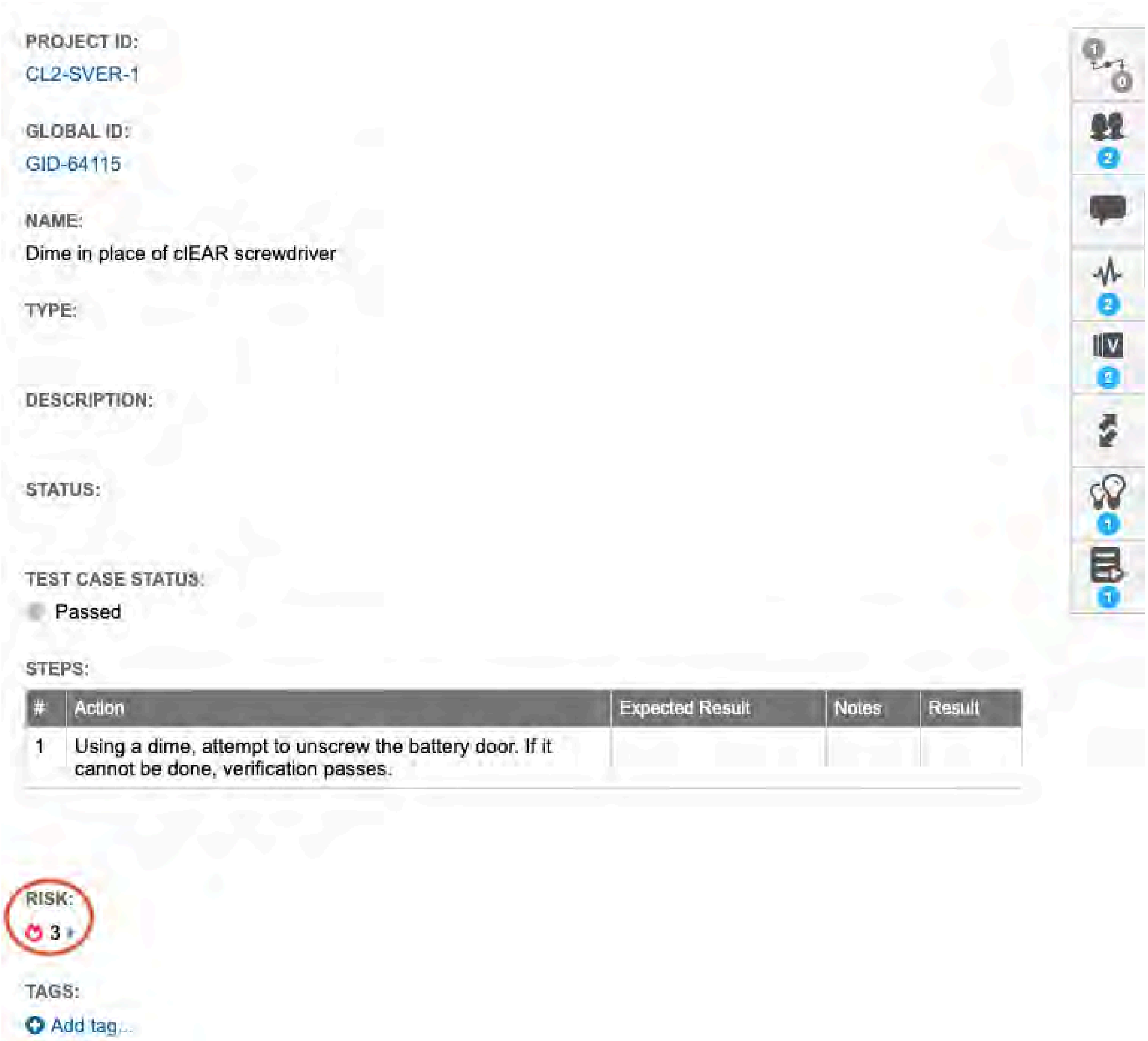
You can see which risks or analyses link to a particular item when viewing that item in Single Item View [55].

IMPORTANT

An organization administrator must enable the risk widget [593] for the item type before risk is visible in single item view.

Your organization must have active risk licensing and you must be an invited participant in order to view a risk analysis.

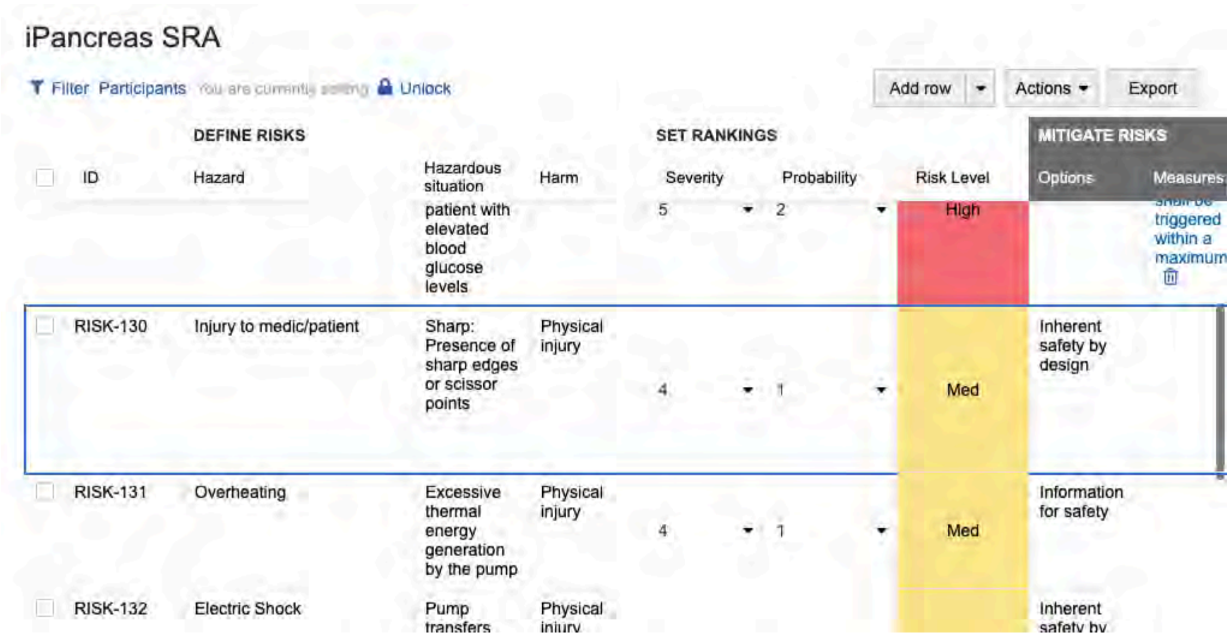
When the widget is enabled, you see a flame icon next to the number of risks that correspond to that item.



Select the small arrow next to the number to view details about the analyses and risks that refer to this item.

The names of analyses are listed in bold, followed by the number of risks in that analysis that refer to this item. The risks IDs [426] are listed below each analysis name.

As long as you are invited to the analysis, you can select the analysis or the risk ID to view the item in context. When you select the risk ID you see the risk that links to the item outlined in blue.



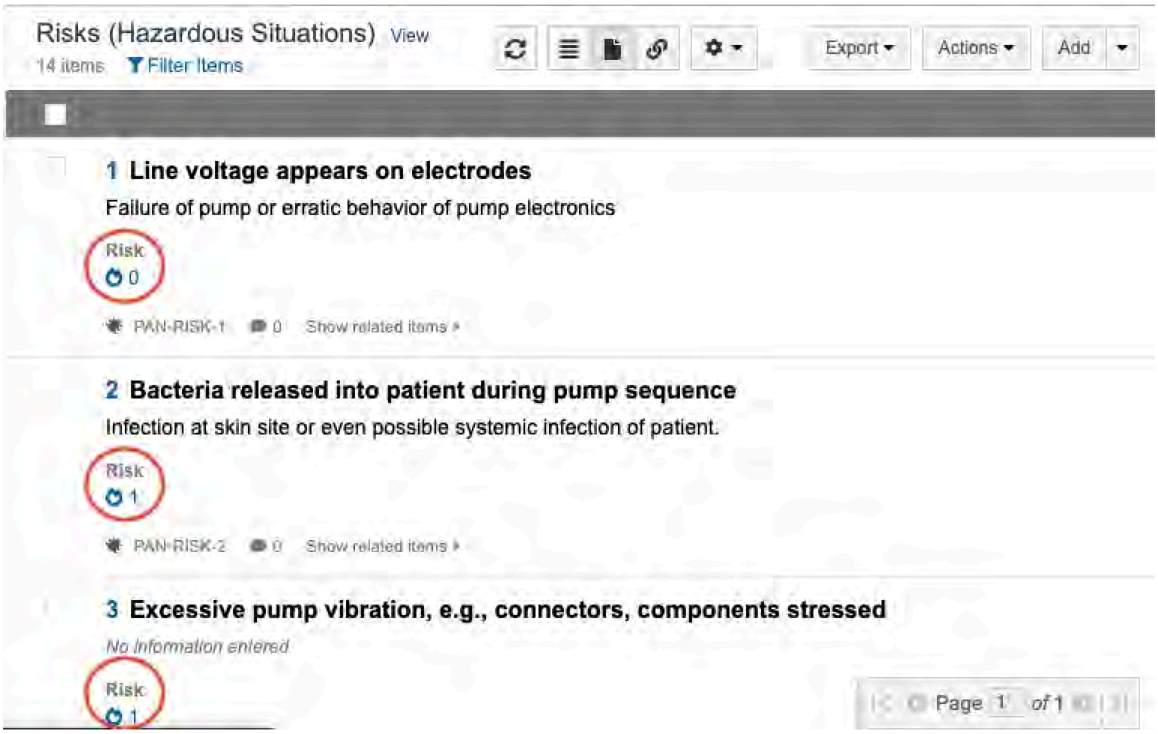
> **TIP**
> You can also see risks in other areas of the application [423], even when the risk widget hasn't been enabled for that item type.

View risks across the application

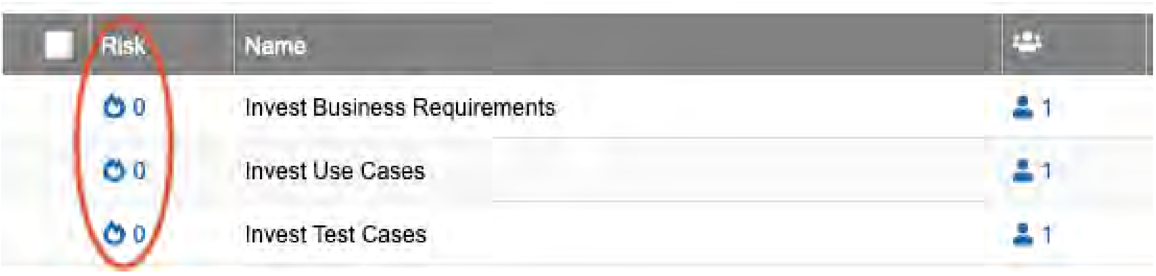
> **NOTE**
> Your organization must have active risk licensing and you must be an invited participant in order to view a risk analysis.

You can tell when an item is linked to a particular risk in a risk analysis when viewing the item in Single Item View [421], or when viewing multiple items. For example, in Reading, List, or Trace View.

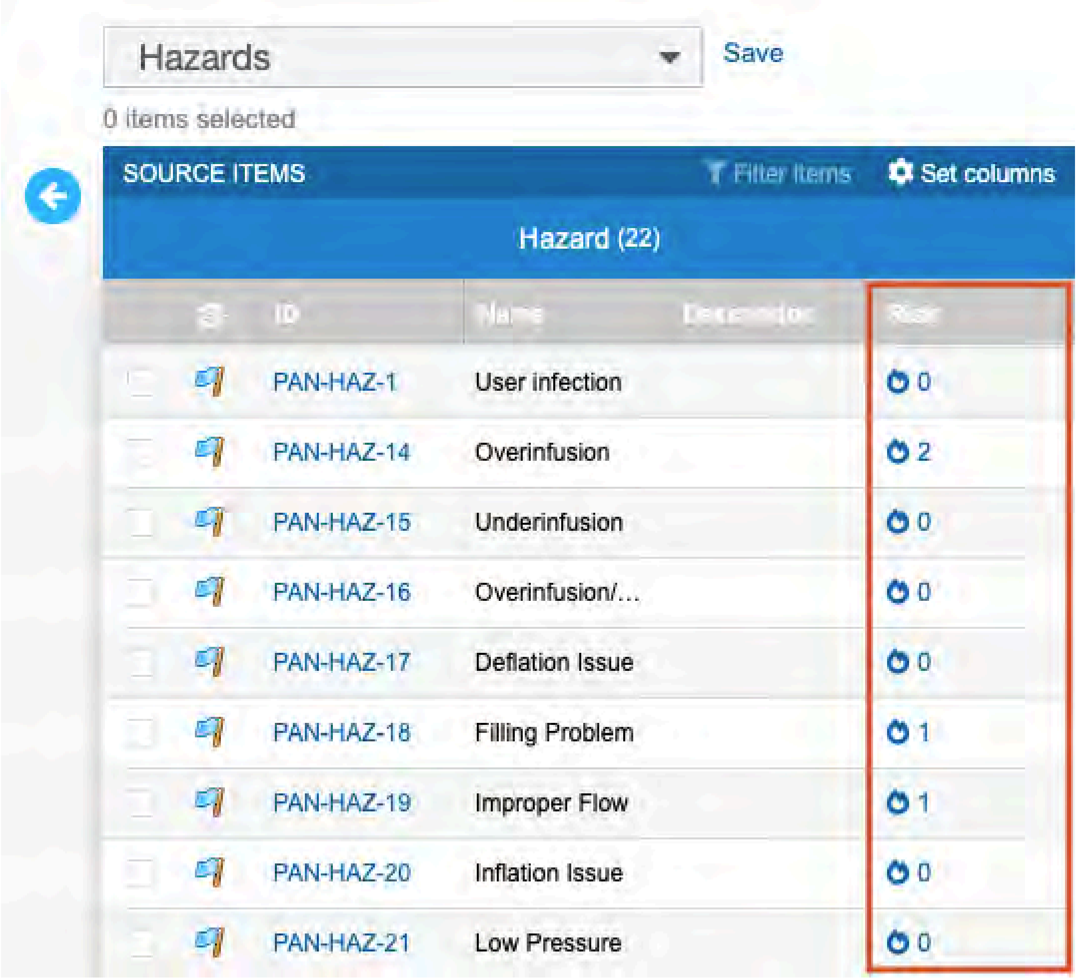
1. Select **Configure fields** and select Risk as a field you want to display [54].
2. You see a risk icon with a count of risks associated with that item in each of the following views:
   - Reading View



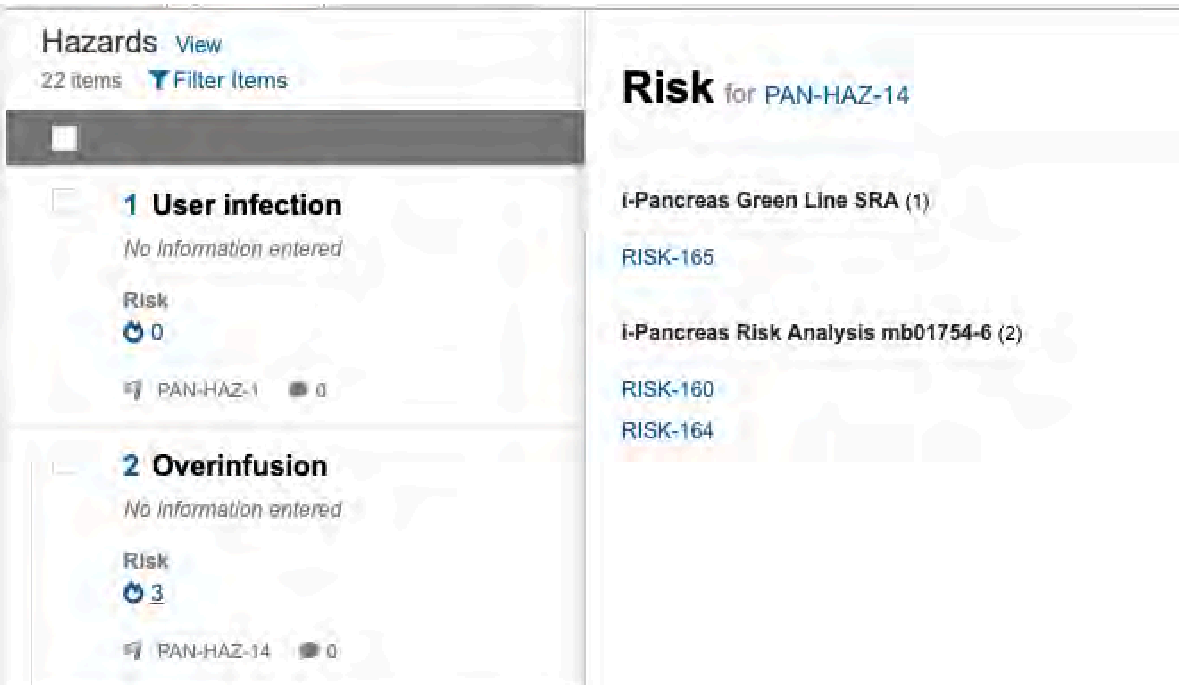
   - List View



   - Trace View



3. Select the risk icon to open a side panel with detailed information about the risks that are linked to that item. Select the risk ID or the analysis name in the side panel to go directly to the risk or analysis.



TIP

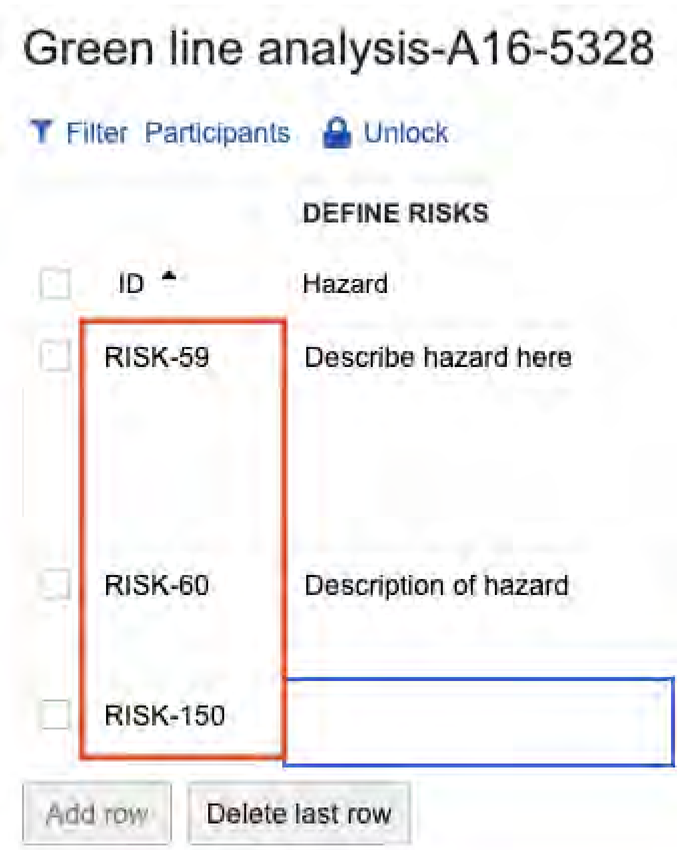
You can configure fields to show risk in the following areas of the application: Reading View [52], List View [51], Trace View, [52] Test cycles [337], Dashboard [353], Releases [236], Coverage Explorer [274].

Risks aren't visible in Reviews [149], baselines [239], sync items compare view [296], or compare item versions [231].

View and sort risk IDs

Risk IDs are unique IDs assigned to each row in an analysis. Risk IDs are automatically generated across all analyses and numbered sequentially in the order they were created.

Risk IDs are visible in the left column of every analysis. This column can't be moved or edited. However, you can select the column header to sort risk IDs in ascending or descending order.



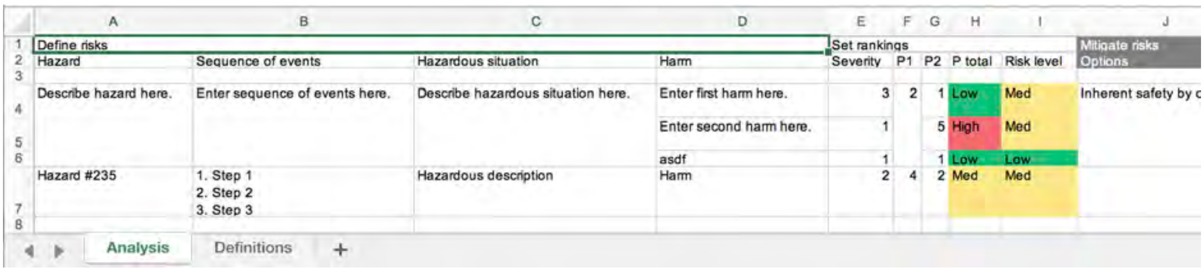
Export a risk analysis

You can export a risk analysis to Excel at any point during the analysis process. To do this, select **Export** at the top right corner of the risk analysis.

The export downloads directly to your computer, based on your browser settings.

Open the exported Excel file, and you see two worksheets labeled:

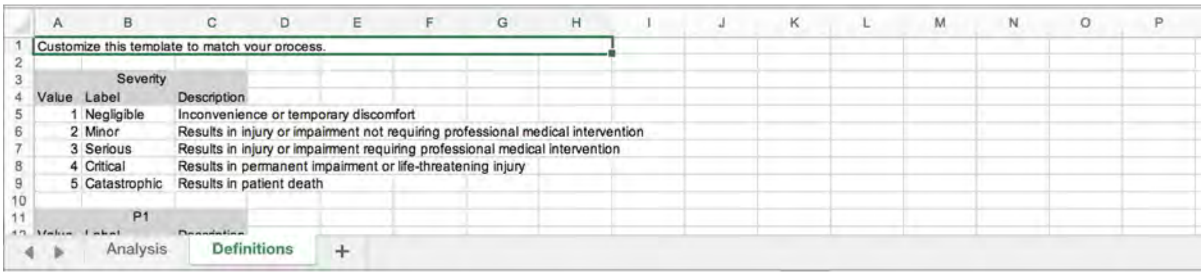
- **Analysis**
  This worksheet contains the content of the risk analysis.



Define risks				Set rankings					Mitigate risks
Hazard	Sequence of events	Hazardous situation	Harm	Severity	P1	P2	P total	Risk level	Options
Describe hazard here.	Enter sequence of events here.	Describe hazardous situation here.	Enter first harm here.	3	2	1	Low	Med	Inherent safety by c
			Enter second harm here.	1		5	High	Med	
			asdf	1		1	Low	Low	
Hazard #235	1. Step 1 2. Step 2 3. Step 3	Hazardous description	Harm	2	4	2	Med	Med	

Analysis | Definitions

- **Definitions**
  This worksheet contains information about the text fields, scales, and matrices used in the analysis.



Customize this template to match your process.

Severity		
Value	Label	Description
1	Negligible	Inconvenience or temporary discomfort
2	Minor	Results in injury or impairment not requiring professional medical intervention
3	Serious	Results in injury or impairment requiring professional medical intervention
4	Critical	Results in permanent impairment or life-threatening injury
5	Catastrophic	Results in patient death

P1

Analysis | Definitions

Installing Jama Connect

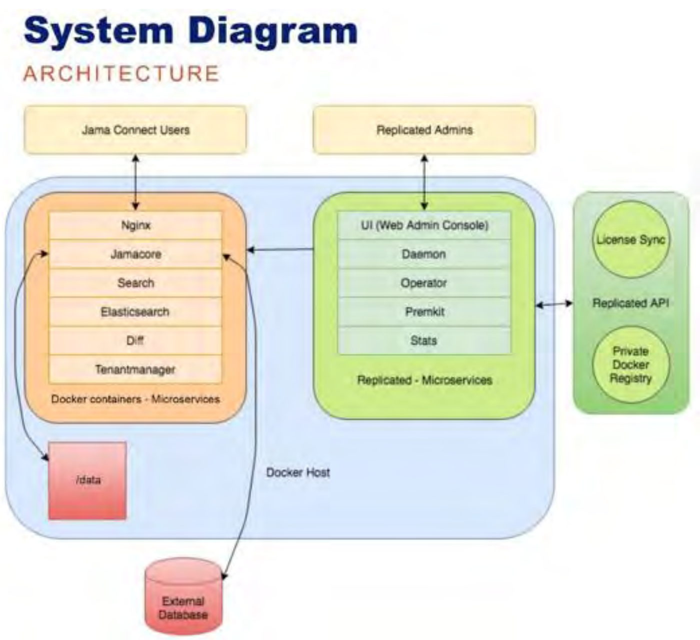
Jama Connect is a Linux-based application that runs on Docker containers and uses Replicated software to "orchestrate" deploying applications. The process of installing Jama Connect includes installing and configuring the software. These tasks deliver the components necessary to run Jama Connect.

Components and what they do

Replicated — A container-based platform for easily deploying cloud native applications inside customers' environments to provide greater security and control. The Admin Console is the interface for installing and administering the Jama Connect application. See https://www.replicated.com/ for details.

Docker containers — A standalone executable package of software that includes code, runtime, system tools, system libraries, and settings. See https://www.docker.com/resources/what-container for details.

Jama Connect license — The license included in your Welcome email. You upload the license to your application server, then begin installing Jama Connect.



- Jama Connect users access Jama Connect by browsing to the instance URL (https://jamainstanceurl.customer.com/).
- Replicated administrators browse to the Admin Console by browsing to the same instance URL, but on port 8800 (https://jamainstanceurl.customer.com:8800/).
- Replicated updates Jama Connect and the license via API calls for internet-enabled environments. Our airgap option removes the need for remote API calls.
- Any content added to your Jama Connect instance is stored in the database. Uploaded artifacts, such as attachments and report templates, are stored in the file system in the /data directory.

Which type of installation do you need?

Decide which type of installation you need to perform, then follow the instructions for that type.

Installation types

Installation workflow

Planning your installation

Before you install the Admin Console and Jama Connect, make sure you have the following.

All installations

- The license file sent from Jama Software (included in the Welcome email)
- An application server with the necessary preparation and requirements:
  - **Standard installation** — See Preparing your application server [432] and Application server requirements [430]
- A database server with the necessary preparation [433]
- Supported 64-bit Linux distribution with a kernel of:
  - 4.x or greater (recommended)
  - 3.10 (minimum)
- Supported version of Docker (standard installation only)

Airgap installations

If you are using the airgap method to install Jama Connect, you must have the following items.

- URL to the airgap-safe portal (included in the Welcome email) for downloading the Jama Connect application file

- A unique password (included in the Welcome email) to access the airgap-safe portal
- PDF of this installation guide for the version of Jama Connect you are installing

> **IMPORTANT**
> If you lose the URL and password, contact support to generate new ones.

Optional

- TLS certificate and private key to secure the Admin Console and Jama Connect application

System requirements

Make sure that your environment conforms to all requirements and recommendations before installing Jama Connect software.

For a list of current requirements, see supported software and system requirements and follow the link for your version of Jama Connect.

For the supported authentication types, see Authentication methods [469].

Application server requirements

To install and run Jama Connect successfully, your application server must meet these requirements.

Requirement	Notes
Be a dedicated application server	Aside from Jama Connect, make sure that no other applications are running on the application server. Any external services affect the stability of the application. For example, diminishing memory resources.
Have sufficient storage, CPU, and memory	Usage patterns and data size can be varied and complex, and application performance depends on the amount of CPU and memory provided. • **Standard installation** — Use the tables in Resource sizing for your application server [430] to estimate the appropriate size and resources for your application server.
Have administrative rights to that server	An administrator must be able to maintain the application, perform upgrades, and access the server for regular maintenance.
Use compatible software and environments	Verify that you're using compatible and supported software and environments with our most recent self-hosted release.

Resource sizing for servers (standard installation)

For optimal performance, we recommend that you estimate the needs of your environment's servers before installing Jama Connect.

Use the following tables to determine resources for your application server and database server. Monitor usage [525] and adjust your settings [485] as necessary.

If you're approaching the **Enterprise** threshold, contact support for customized recommendations and advanced, multi-server setup.

Application server

	Small	Medium	Large	Enterprise
Active items in system	Up to 600,000	Up to 2 million	2–4 million	4 million+
Active projects	Up to 100	Up to 500	Up to 1,000	1,000+
Concurrent users	50 or fewer	Up to 500	Up to 1,000	1,000+

	Small	Medium	Large	Enterprise
CPU cores	4	8	16	Contact Support
Total system RAM	16 GB	24 GB	32 GB	Contact Support

Database server

	Small	Medium	Large	Enterprise
Active items in system	Up to 600,000	Up to 2 million	2–4 million	4 million+
Active projects	Up to 100	Up to 500	Up to 1,000	1,000+
Concurrent users	50 or fewer	Up to 500	Up to 1,000	1,000+
CPU cores	4	8	16	Contact Support
Total system RAM	16 GB	32 GB	64 GB	Contact Support

Total system RAM can vary if you're using memory intensive workflows such as reuse [279], exporting [298], move items [79], integrations [631], and batch updates [72].Database sizing is based on your usage patterns and platform. You must have a minimum of 4–8 cores and 16–24 GB of memory. Consult with your database administrator when determining database size.

The memory allocation allows for minimum headroom. If you need to run additional software for monitoring and analysis, consider the additional system requirements for that software. Configure dynamic memory settings [485] as needed in the Admin Console.

We recommend setting up dedicated volumes for the data your application is going to write. For information about setting up these volumes, see Preparing your application server, Example: Setting up dedicated volumes [432].

The storage calculator can help you determine your particular needs for the application server.

Item	Default location	Recommended file system type	Explanation	Small example	Enterprise example	Calculate your own
Operating system	N/A	N/A	Not included in this calculation	N/A	N/A	______ GB
Docker images	/var/lib/docker	XFS with ftype=1, or EXT4	Variable	30 GB	50 GB	______ GB
User data	/data	NFS	Filesystem can vary, but consider size of attachments you're storing	40-100 GB	100 GB	______ GB
Replicated	/var/lib/replicated/	EXT4	Tip: Configure snapshots to be stored in /data/replicated/snapshots/ to ensure backup	20 GB	30 GB	______ GB
Log files	/logs	EXT4	10 GB (fixed)	10 GB	10 GB	10 GB
			Total:	**100 + GB**	**160+ GB**	**______ GB**

Important considerations

- To avoid performance issues, use XFS with the *dtype* option of *ftype=1* or use EXT4. For Docker's default data root directory, /var/lib/docker, if an XFS filesystem doesn't have the *dtype* attribute set to *ftype=1*, performance can degrade for container creation at startup.
- Jama Software supports internally hosted network storage mounts (NFS). EBS is suggested in cloud-based environments. Cloud NFS (like EFS) isn't supported because Docker doesn't work with EFS.

Database server requirements

The database must be hosted on a server separate from the Jama Connect application. This server can host other databases, but we don't support other applications running on the same server as the database.

- MySQL 5.7 and 8 (recommended)
- Microsoft SQL 2016, 2017, and 2019

What is NOT supported

- Azure database
- MariaDB
- Custom configurations of Jama Connect databases. Customizations such as query optimization and additional indexes that aren't shipped with Jama Connect aren't supported.

Things to do before installation

Whether your environment is internet-enabled or airgap, make sure that your application server and database server are ready before installing Jama Connect.

- Prepare your application server (standard installation) [432]
- Prepare your database server [433]
- Install and configure your database (MySQL [434] or SQL Server [435])
- Configure custom memory settings for Elasticsearch [438]

Preparing your application server (standard installation)

Make sure your application server meets all requirements. See Supported software and system requirements.

For users and administrators to properly access Jama Connect, the following ports must be accessible to inbound traffic. Work with your network administrator to ensure your network is configured properly.

- **Port 22** — The SSH port. This allows administrators to make remote connections to the application server using SSH.
- **Port 8800** — The Admin Console port. This is needed for administrators to access the Admin Console used to configure, install, and upgrade Jama Connect.
- **Port 80** — The Jama Connect port for clear text communication (HTTP). This port can be used to access Jama Connect. It can be disabled, or the port number can be reconfigured.
- **Port 443** — The Jama Connect port for SSL/TLS communication (HTTPS). This port can be used to access Jama Connect. It can be disabled, or the port number can be reconfigured.

For Jama Connect to successfully run its processes, the following User IDs must be available and unused on the application host.

- **User ID 91** — UID 91 is used by Tomcat to read and write to directories under /data.
- **User IDs 480 – 499** — These ports are used by the various services.

To ensure accurate time on the application server, sync the time on a routine schedule (for example, set a cron job to sync time every day or hour). To set up the cron job, use the command:

```
ntpdate pool.ntp.org
```

Important considerations

- To improve resolution time of any issues, keep ports open. Closing access to ports for communication within the server isn't supported and risks application accessibility.
- Docker pre-routes traffic so be sure to set rules in the DOCKER-USER table, not the INPUT table.

- To avoid blocking issues when installing on RHEL or CentOS Linux distributions, disable firewall or add the docker0 interface to the "trusted" zone.
- We recommend setting up dedicated volumes for the data your application is going to write.

Example: Setting up dedicated volumes

Use this example to partition the logical volumes on your application server.

Start with a 100 GB disk.

1. Create a mountpoint:

   ```
   mkdir /data /logs /var/lib/docker /var/lib/replicated
   ```
2. Create a physical volume:

   ```
   pvcreate /dev/<your-disk-name>
   ```
3. Create a volume group:

   ```
   vgcreate vg_jama /dev/<disk-name>
   ```
4. Create logical volumes:

   ```
   lvcreate -L 30G -n lv_docker vg_jama
   lvcreate -L 20G -n lv_replicated vg_jama
   lvcreate -L 10G -n lv_logs vg_jama
   lvcreate -l 100%FREE -n lv_data vg_jama
   ```
5. Write file systems:

   ```
   mkfs.xfs -L docker -n ftype=1 /dev/vg_jama/lv_docker
   mkfs.ext4 -L replicated /dev/vg_jama/lv_replicated
   mkfs.ext4 -L data /dev/vg_jama/lv_data (ext4 or NFS)
   mkfs.ext4 -L logs /dev/vg_jama/lv_log
   ```
6. Edit the file /etc/fstab to include the following lines:

   ```
   LABEL=docker /var/lib/docker xfs defaults 0 0
   LABEL=replicated /var/lib/replicated ext4 defaults 0 0
   LABEL=data /data ext4 defaults 0 0
   LABEL=logs /logs ext4 defaults 0 0
   ```
7. Mount all volumes:

   ```
   mount -a
   ```
8. Confirm that all volumes were mounted properly:

   ```
   df -h
   ```

Preparing your database server

The following information is needed when connecting the application server to the database server.

Information	Requirements
Type/vendor	Database must be one of the following: • MySQL (recommended) — Install and configure MySQL [434] • Microsoft SQL Server — Install and configure Microsoft SQL Server [435]
Database hostname	Example: *jama.companydb.com*
Listening ports	The application server must be allowed to communicate, remotely, with the database server over the listening ports. Default ports are: • MySQL = 3306 • Microsoft SQL Server = 1433

Information	Requirements
Database schema name	The database owner must be able to either: • Create a new database schema. • Create tables inside an existing database schema of the given name. The database name must follow these rules: • Start with a letter (a–z). • Contain any number of characters: a–z, 0–9 or an underscore ("_"). • Letters must be lowercase.
Username	*jamauser*
Password	
Connections	The database must be able to accept a minimum of 300 concurrent connections.
SAML schema user-name	*samluser*
OAuth database user-name	*oauthuser*

The username and password for SAML and OAuth must match what's entered in the Microsoft SQL Server upgrade preparation script. See Upgrade and configure Microsoft SQL Server [461] for more details.

Install and configure MySQL

MySQL is the recommended database server. Follow these steps to install and configure it.

If you want to upgrade MySQL, see Upgrade and Configure MySQL [460].

1. Make sure that the InnoDB engine is enabled.
2. Download and install a supported version of MySQL. To find out which version of MySQL you need, see Supported software, environments, and system requirements and click the link for your version of Jama Connect.
3. Create an empty Jama Connect schema / database that uses UTF8.

   ```
   create database jama character set utf8;
   ```
4. Use the following commands to create a user called "jamauser" with the ability to access, create, and update tables within the database.

   IMPORTANT

   Before installing Jama Connect 8.62.x, you must create two additional database schemas for the installation/upgrade to succeed. To create the database schemas, run these SQL commands on the MySQL database server:

   ```
   CREATE DATABASE jama character set utf8;
   CREATE DATABASE saml;
   CREATE DATABASE oauth;
   CREATE USER 'jamauser'@'%' IDENTIFIED BY 'password';
   CREATE USER 'oauthuser'@'%' IDENTIFIED BY 'password';
   CREATE USER 'samluser'@'%' IDENTIFIED BY 'password';
   GRANT ALL PRIVILEGES ON jama.* TO 'jamauser'@'%';
   GRANT ALL PRIVILEGES ON oauth.* TO ‘oauthuser’@‘%’;
   GRANT ALL PRIVILEGES ON saml.* TO ‘samluser’@‘%’;
   ```
5. Restart the database server.

The following recommended settings require 8 GB of memory allocated to MySQL Server for a typical installation and 16 GB for an enterprise installation.

Depending on your database server's operating system, this can be added to your my.cnf file (Linux) or my.ini file (Windows). You can also make these changes directly to the database.

Property	Typical Installation	Enterprise Installation
max_allowed_packet	1 GB	1 GB
query_cache_type	1	1
query_cache_size	256 MB	256 MB
tmp_table_size	2 GB	2 GB
max_heap_table_size	2 GB	2 GB
table_open_cache	512	512
innodb_buffer_pool_size	2 GB	12 GB
innodb_log_file_size	256 MB	256 MB
innodb_log_buffer_size	12 MB	12 MB
innodb_thread_concurrency	16	16
max_connections	151	351
wait_timeout	259200	259200

Here is a sample text config file at an **enterprise** level. You must add the following values for your environment:

```
ignore_builtin_innodb
bind-address=0.0.0.0
key_buffer_size=16M
max_allowed_packet=1G
thread_stack=192K
thread_cache_size=8
myisam-recover-options=BACKUP
query_cache_type=1
query_cache_size=256M
tmp_table_size=2G
max_heap_table_size=2G
table_open_cache=512
innodb_buffer_pool_size=12G
innodb_log_file_size=256M
innodb_log_buffer_size=12M
innodb_thread_concurrency=16
max_connections=351
wait_timeout=259200
```

Install and configure Microsoft SQL Server

If you are using Microsoft SQL Server for your database, follow these steps to install and configure it.

You must have full database admin permissions to the SQL Server.

If you want to upgrade the Microsoft SQL Server, see Upgrade and configure Microsoft SQL Server [461].

> **IMPORTANT**
>
> Before installing or upgrading to Jama Connect 8.62.x, you must:
>
> - Install Microsoft SQL 2016–2019 for the database server.
> - Create an empty Jama Connect database and two additional database schemas for the installation/upgrade to succeed.
>
> For the upgrade to complete, organizations using Microsoft SQL Server must enter database users in Replicated. Without these entries, the installation or upgrade will fail.
>
> Organizations that do not create the new schema will successfully install/upgrade; however, the system will continue to attempt to connect to the databases and produce log failures. After you create the database schemas, you must restart Jama Connect.
>
> For more information, go to Supported software, environments, and system requirements and select your version of Jama Connect.

Follow these steps for a first-time installation of Jama Connect.

1. Use a SQL management application (such as SQL Server Management Studio) to connect to the SQL Server.
2. Replace the following values in the installation script: **<JAMA_LOGIN_Psswd>, <SAML_LOGIN_Psswd> & <OAUTH_LOGIN_Psswd>**.

   > **NOTE**
   >
   > Copy and store the passwords you create here. You will need them later to configure the Admin Console settings.

3. In a new query window, run the following SQL query code:

```
-- Fresh Install Preparation SCRIPT
/*
Jama Connect Preparation Commands for a fresh install. It is required to
run
 these command / script on the Microsoft SQL Server BEFORE running the
Jama
Connect 8.62.x install
for ON-PREM installation using Microsoft SQL Server 2016 - 2019
DATE: 05/10/2021
NOTES:
This script assumes this is a new Installation of JAMA Connect. DO NOT
RUN
THIS SCRIPT ON AN EXISTING JAMA INSTALLATION.
The script will create a new empty JAMA database, add 2 new schemas
(empty) to
the Jama Database, 2 new DB Logins and Database users to support the
Multi-
Auth functionality released in Jama Connect 8.62.0.

INSTRUCTIONS:
This script must be run prior to Jama installation or installation may
fail to
```

```
complete.
Modify the <JamaUser_LOGIN_Psswd>, <SAML_LOGIN_Psswd> &
<OAUTH_LOGIN_Psswd>
values in the script below before Execution.
Passwords must be enclosed in single quotes.
*/

USE master;
CREATE LOGIN jamauser with password = 'password';
CREATE LOGIN samluser with password = 'password';
CREATE LOGIN oauthuser with password = 'password';
GO

USE master;
CREATE DATABASE jama;
GO
ALTER DATABASE jama SET READ_COMMITTED_SNAPSHOT ON WITH ROLLBACK IMMEDIAT
E
GO

USE jama;
EXEC ('CREATE SCHEMA oauth');
EXEC ('CREATE SCHEMA saml');
GO

USE jama;
CREATE USER jamauser for LOGIN jamauser;
CREATE USER samluser for LOGIN samluser with DEFAULT_SCHEMA=saml;
CREATE USER oauthuser for LOGIN oauthuser with DEFAULT_SCHEMA=oauth;
GO

EXEC sp_addrolemember N'db_owner', jamauser;
EXEC sp_addrolemember N'db_owner', samluser;
EXEC sp_addrolemember N'db_owner', oauthuser;
GO
```

4. Confirm that these actions were successful:
   1. **Script completed** — Check the Query Execution results for errors.
   2. **Users created** — Run the following SQL script in a new query window.

      ```
      USE jama
      SELECT * from master.sys.sql_logins
      SELECT * from Jama.sys.sysusers
      ```

      The results include **jamauser**, **samluser**, and **oauthuser** in the "Name" column of the result panes.
   3. **Users granted the DB_owner role** — Run the following SQL script in a new query window.

      ```
      USE jama
      SELECT DP1.name AS DatabaseRoleName,
      isnull (DP2.name, 'No members') AS DatabaseUserName
      FROM sys.database_role_members AS DRM
      RIGHT OUTER JOIN sys.database_principals AS DP1
      ON DRM.role_principal_id = DP1.principal_id
      LEFT OUTER JOIN sys.database_principals AS DP2
      ON DRM.member_principal_id = DP2.principal_id
      ```

```
WHERE DP1.type = 'R'
ORDER BY DP1.name;
```

The results will show that db_owner role is granted to **jamauser**, **samluser**, and **oauthuser**.

5. Run the following query to keep the database from locking users' accounts while they are logging in or working in Jama Connect. You must have db_owner permissions.

   ```
   ALTER DATABASE jama SET READ_COMMITTED_SNAPSHOT ON WITH
   ROLLBACK IMMEDIATE;
   ```
6. Run this question to make sure the flag was successfully enabled:

   ```
   SELECT is_read_committed_snapshot_on FROM sys.databases WHERE
   name='jama';
   ```

   If the returned value is 1, the flag is on.

Configure custom memory settings for Elasticsearch

To prepare for installing Jama Connect, you must first update the system that hosts the application. The update consists of configuring memory settings for Elasticsearch.

1. Open the /etc/sysctl.conf file, add the following line to the file, then save the file.

   ```
   vm.max_map_count=262144
   ```
2. Reload the sysctl.conf file:

   ```
   sysctl -p
   ```
3. To confirm, type this command:

   ```
   sudo sysctl -a | grep max_map_count
   ```

   The system responds with:

   ```
   vm.max_map_count=262144
   ```

Installing Jama Connect (standard installation)

Whether your organization is internet-enabled or airgap, follow these instructions for a standard installation. The software includes Admin Console (Replicated), Docker, and Jama Connect.

Installing the standard software (internet)

If your organization is internet-enabled, follow these instructions to download, install, and configure the software you need for your Jama Connect instance. The software includes Admin Console (Replicated), Docker, and Jama Connect.

Jama Software sends a Welcome email that includes your Jama Connect license (.rli) file.

The installation process consists of these tasks:

Prepare	• Prepare application server and database server • Install database • Download Replicated and Docker • Configure memory settings for Elasticsearch
Install	• Install Admin Console (Replicated) • Install Jama Connect
Set up	• Add organization admin account • Configure email/collaboration settings • Configure authentication • Configure backups

Downloading Replicated and Docker (internet)

You can download the Admin Console (Replicated) and Docker files to your desktop system, then move and extract them to the /data/install directory on your application server.

Replicated

https://community.jamasoftware.com/blogs/kristina-king/2016/11/11/standard-channel-on-premises-release-notes

Click **Notes for Administrators** for your version of Jama Connect to get the correct cURL command to install Replicated.

Docker

https://help.replicated.com/community/t/installing-docker-enterprise-edition-ee/58

If you are using Docker Enterprise Edition, you must:

- Follow the installation instructions in the Mirantis Container Runtime (MCR) Deployment Guide: https://docs.mirantis.com/mcr/20.10/install.html
- Use a supported version of Docker: 1.10.3 – 19.03.8-ce

Install the Admin Console (internet)

The Admin Console (Replicated) is the interface used to install the Jama Connect application and Docker. You can use the Replicated installation script to install the latest supported version of Docker and Replicated.

Important considerations

- During installation, the application server must have access to the internet, including the Replicated listed domains.
- The Admin Console isn't compatible with Internet Explorer.
- If you receive a warning that Docker is using the devicemapper storage driver, cancel the installation and configure Docker to use the overlay2 storage driver.
- The Release Notes might include the unique cURL command for your version of Jama Connect.
- The supported software page in the Community specifies which versions were used during regression testing of the version of Jama Connect you want to install.

To install the Admin Console:

1. Connect to the command shell of the application server using SSH.
2. As root user or a user with sudo bash privileges, download and install the Admin Console using one of these methods:
   - Use the cURL command from the Release Notes.
   - Download and install a specific version of the Admin Console with this command:

     ```
     curl -sSL "https://get.jamasoftware.com/docker?
     replicated_tag=<REPLICATED_VERSION>"| sudo bash -s no-auto
     ```
3. Replace **<REPLICATED_VERSION>** with the Replicated versions recommended in the Release Notes for your version of Jama Connect. For example:

   ```
   curl -sSL "https://get.jamasoftware.com/docker?replicated_tag=2.38.1" |
   sudo bash -s no-auto
   ```

   If the cURL command displays the following message, the Admin Console must be installed manually.

   ```
   Either your platform is not easily detectable, is not
   supported by this installer script, or does not yet have
   ```

```
a package for Replicated.Please visit the following URL
for more detailed installation instructions:

https://www.replicated.com/docs/distributing-an-application/installing/
```

NOTE

The **no-auto** option is only used to make sure that questions during the installation don't time out (default timeout setting is 20 seconds).

4. Follow the installation prompts, then you can leave the installation unattended.

IMPORTANT

The prompts are displayed for 20 seconds unless you chose the no-auto option. If you skip the step to choose an IP address, the URL that you see at the end of this step doesn't work. You must run the cURL command again and select an IP address.

```
Please choose one of the following network interfaces:

[0] eth0 10.0.2.15
[1] eth1 172.28.128.3
[2] docker0 172.17.0.1
Enter desired number (0-2):
```

- Enter the number (0–2) of the network used to access Jama Connect (your DNS entry also routes to this network). The same network is used to access the Admin Console and the Jama Connect application.

  ```
  Does this machine require a proxy to access the Internet?
  (y/N)
  ```
- If using a proxy, enter **Y** and input the proxy information. If your server is set up to use a proxy, the user environment auto-detects that configuration and asks if you want the installer to configure the proxy for you.
- When prompted for a service IP address, leave it blank and press **Enter**.

When the installation is complete, you see the following message:

```
==> default: To continue the installation,
visit the following URL in your browser:
https://<your_ip_address>:8800
```

5. Take note of the URL of the Admin Console; you will need it when you configure Replicated settings.
6. In the /data directory, create a custom **Replicated snapshots** folder and change the ownership to the replicated user with the following command. Later you can configure the Admin Console to store snapshots there.
7. Change the ownership of the folder to the Replicated user with this command:

```
mkdir -p /data/replicated/{snapshots,statsd,support-bundle}
chown -R replicated /data/replicated
```

After changing ownership to Replicated with the command, the permissions look something like this:

```
# ll /data/replicated/
total 20
```

```
drwxr-xr-x 5 replicated root 4096 Oct 21 21:27 ./
drwxrwxrwx 10 root root 4096 Nov 7 18:48 ../
drwxr-xr-x 5 replicated root 4096 Oct 21 21:29 snapshots/
drwxr-xr-x 6 replicated docker 4096 Oct 21 22:11 statsd/
drwxr-xr-x 2 replicated root 4096 Oct 21 21:27 support-bundle/
```

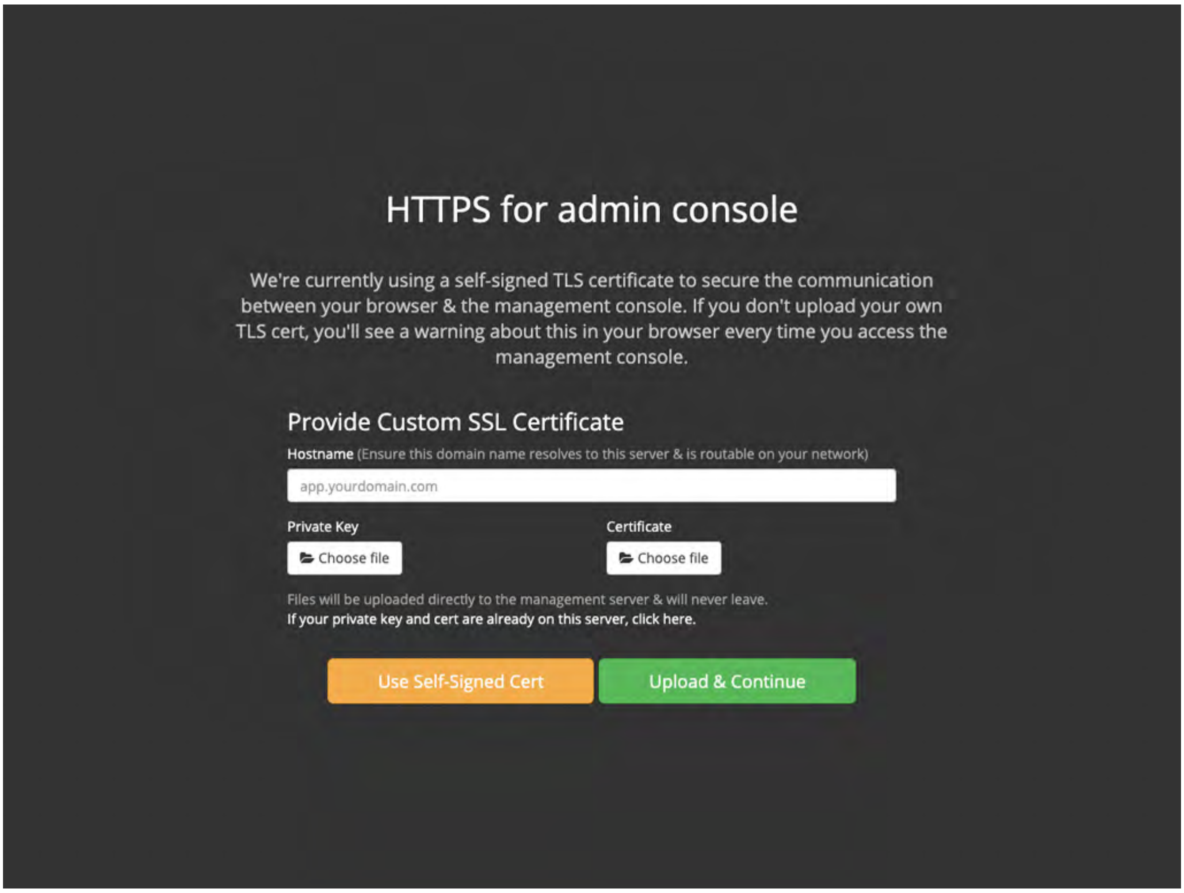
Later you can configure the Admin Console to store snapshots in the Replicated snapshots folder.

Install Jama Connect (internet)

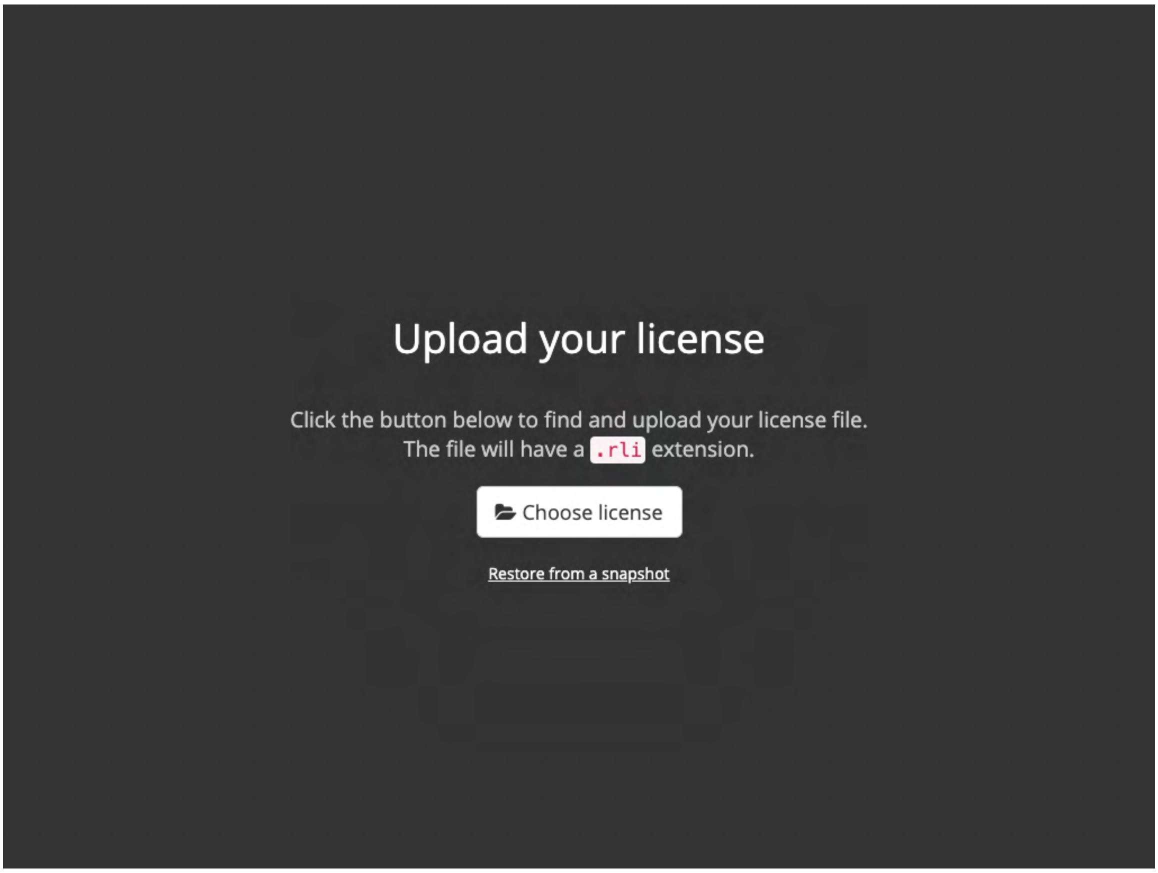
The installation script walks you through the process of uploading the license file, installing Jama Connect, and configuring the Admin Console. To start the process, you use the URL that was generated when you installed Replicated.

The license file is attached to the Welcome email you received from Jama Software.

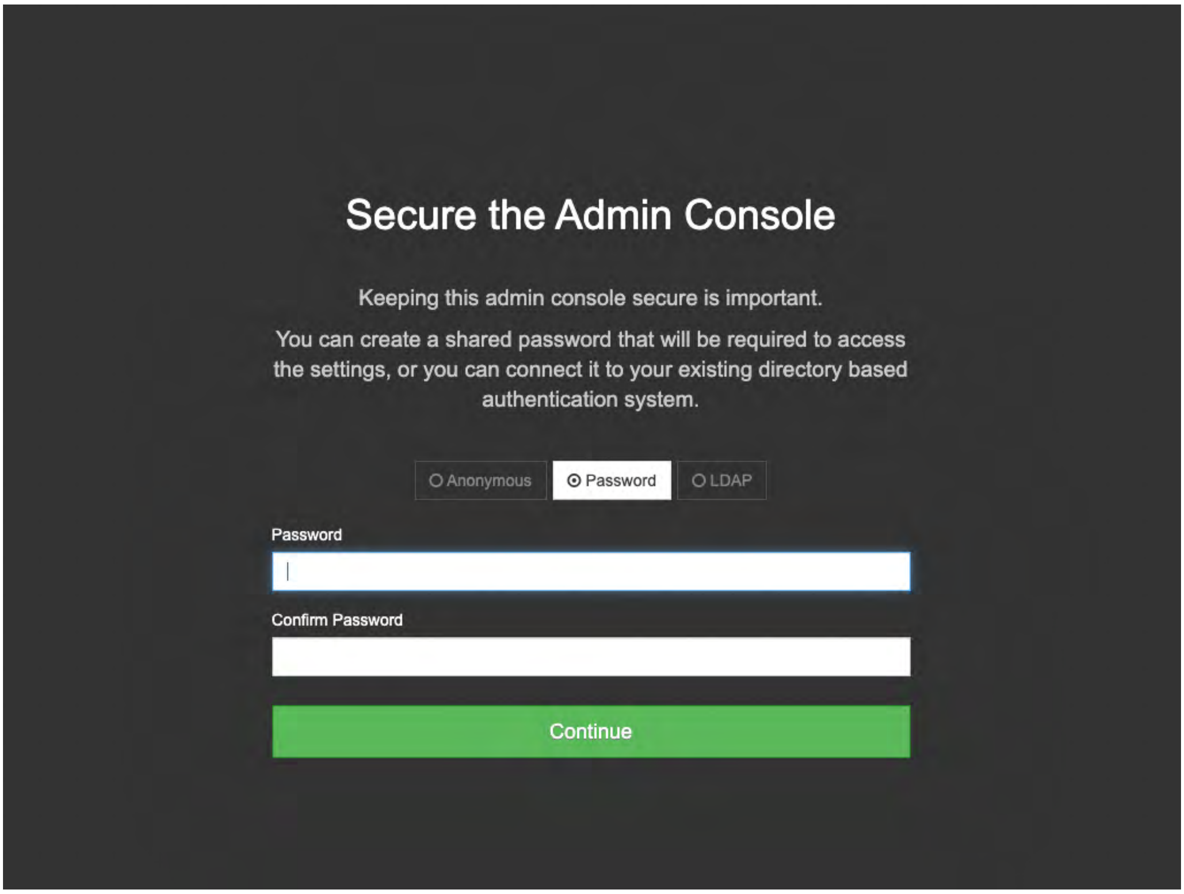
1. Open the Welcome email and download the attached license file to you local system.
2. In a supported browser, enter the URL for the Admin Console, which was generated when you installed Replicated.



3. Enter your hostname.
4. Do one of the following, depending on whether you have a private key and certificate:
   - **Have key/certificate** — Select **Choose file** under Private key and Certificate, navigate to the files, then click **Upload & Continue**.
   - **No key/certificate** — Click **Self-Signed Cert**.



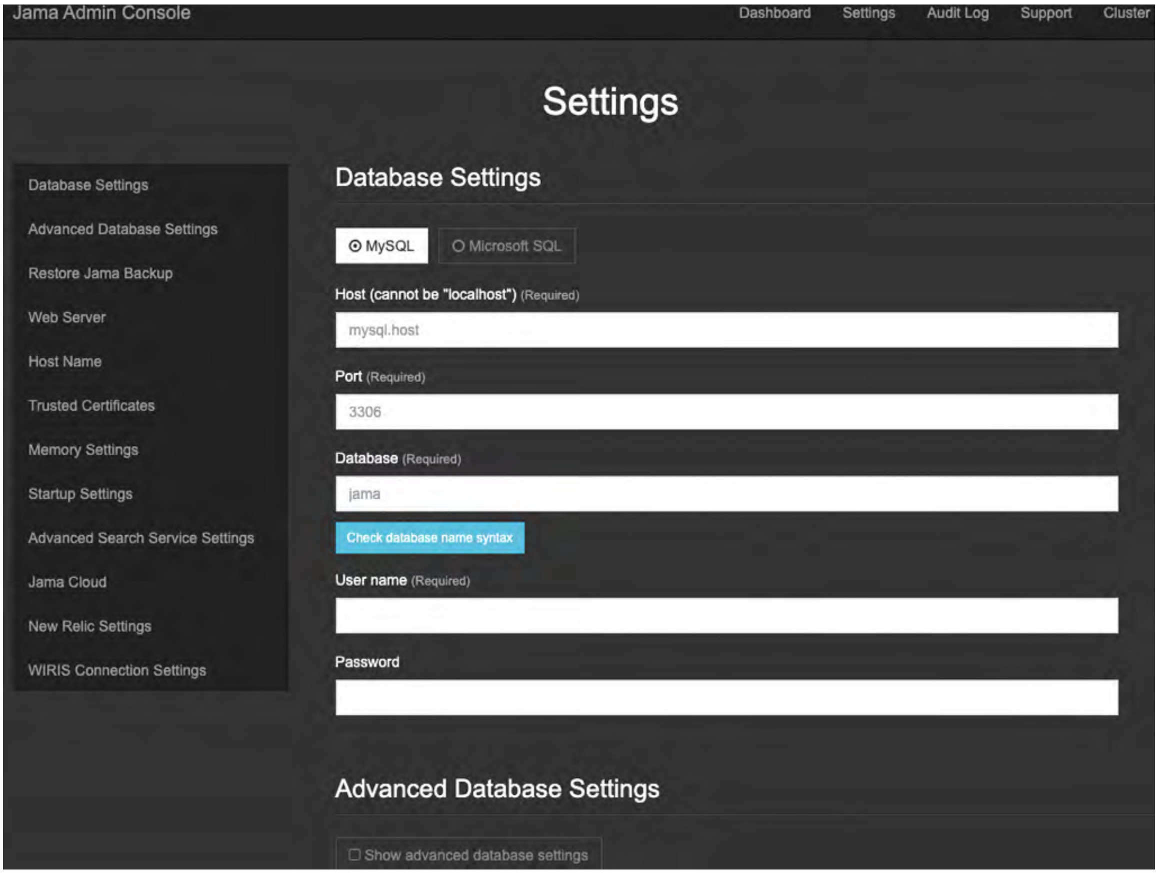
5. Click **Choose license** to upload your license file.



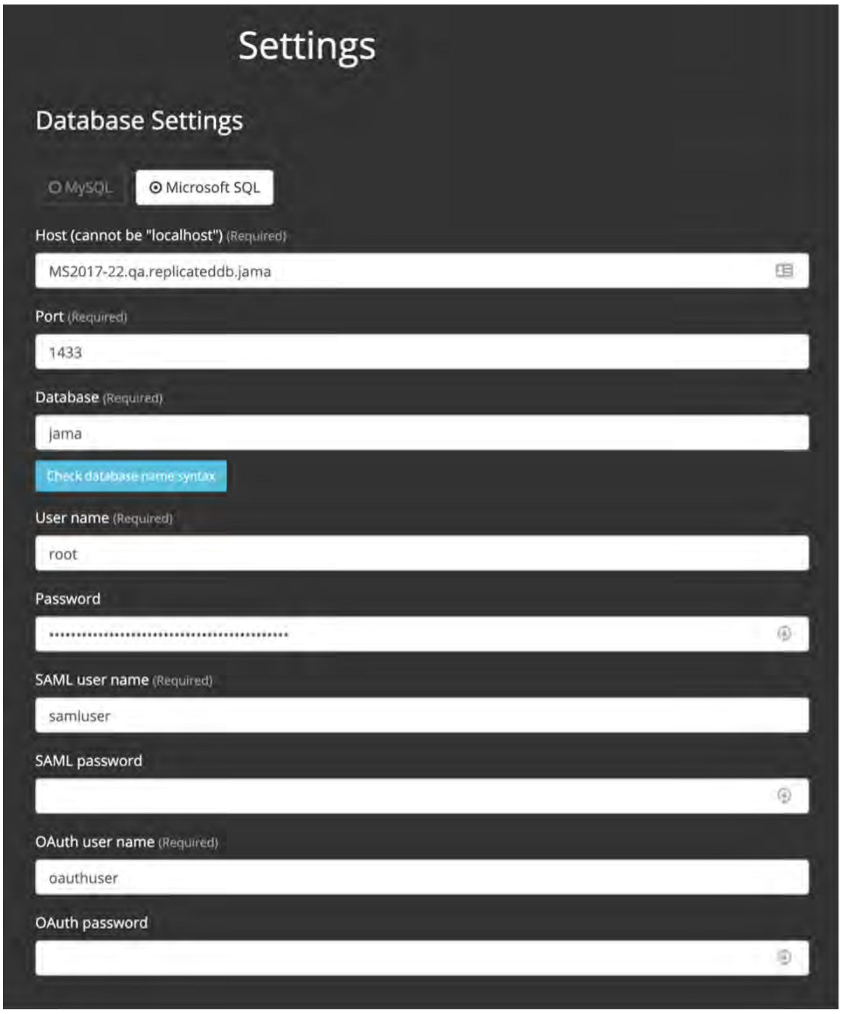
6. Enter and confirm a password for access to the Admin Console, then click **Continue**.

The system performs the preflight checks.

7. When the preflight checks are complete, click **Continue**.
   The Settings page for the Admin Console opens.
8. Configure the settings for each group, as needed. Scroll down to see each group of settings.
   Database Settings — Use the information from Preparing your database server [433].
   - **MySQL**

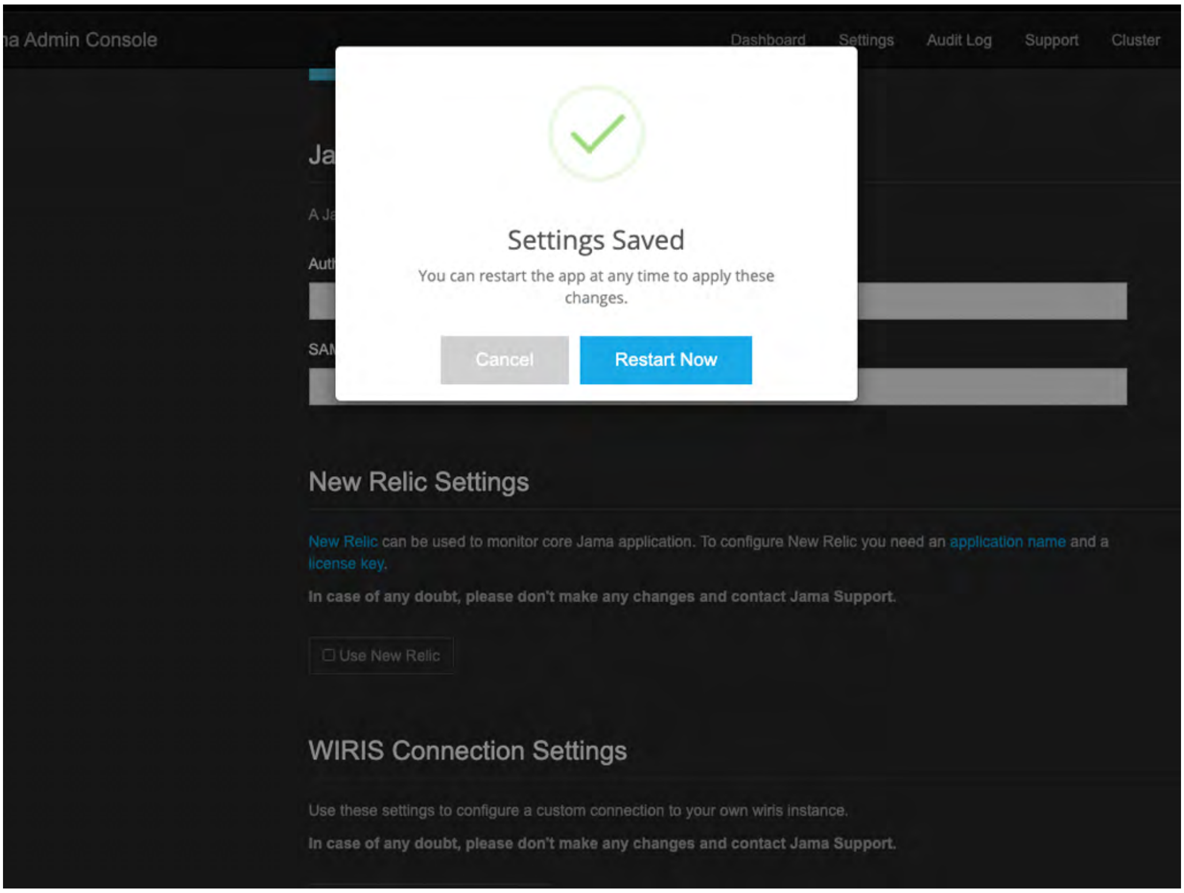


   - **Microsoft SQL Server**

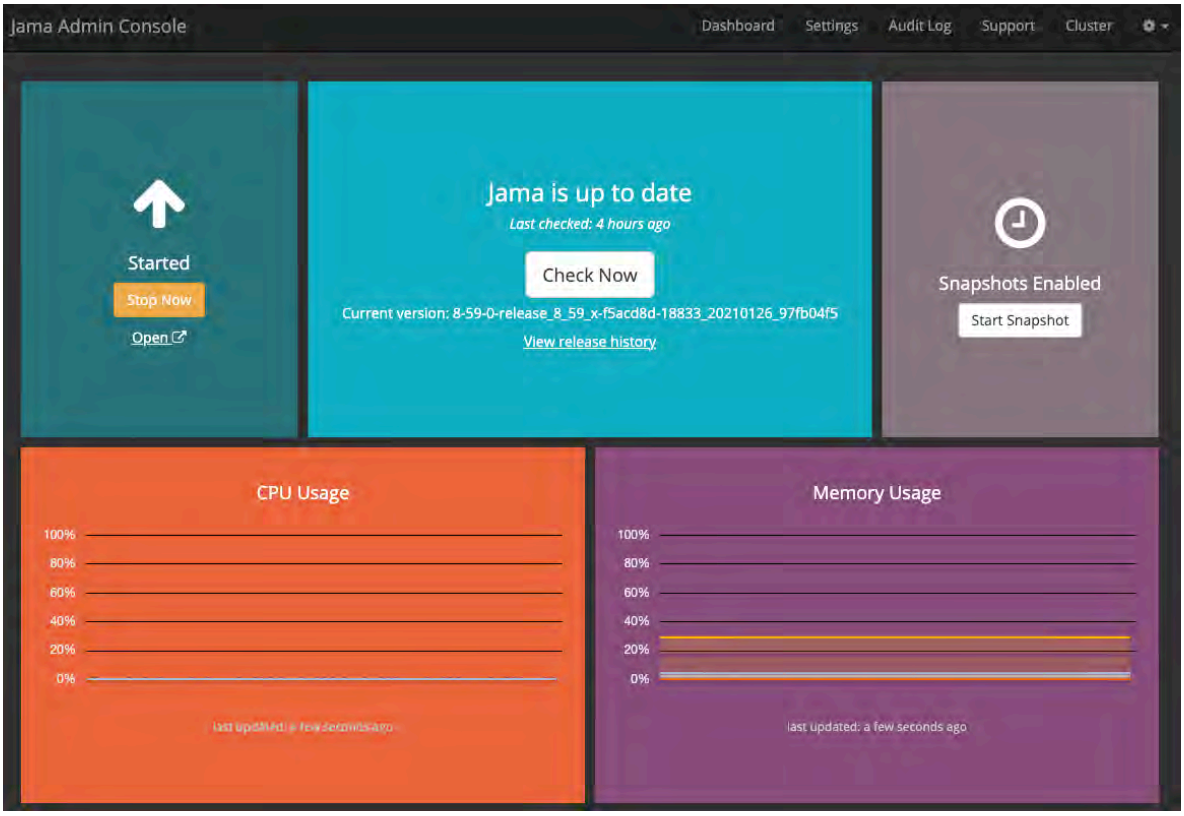


TLS Key & Cert — (Optional) If you have the key and certificate, click **Choose file** to select them.

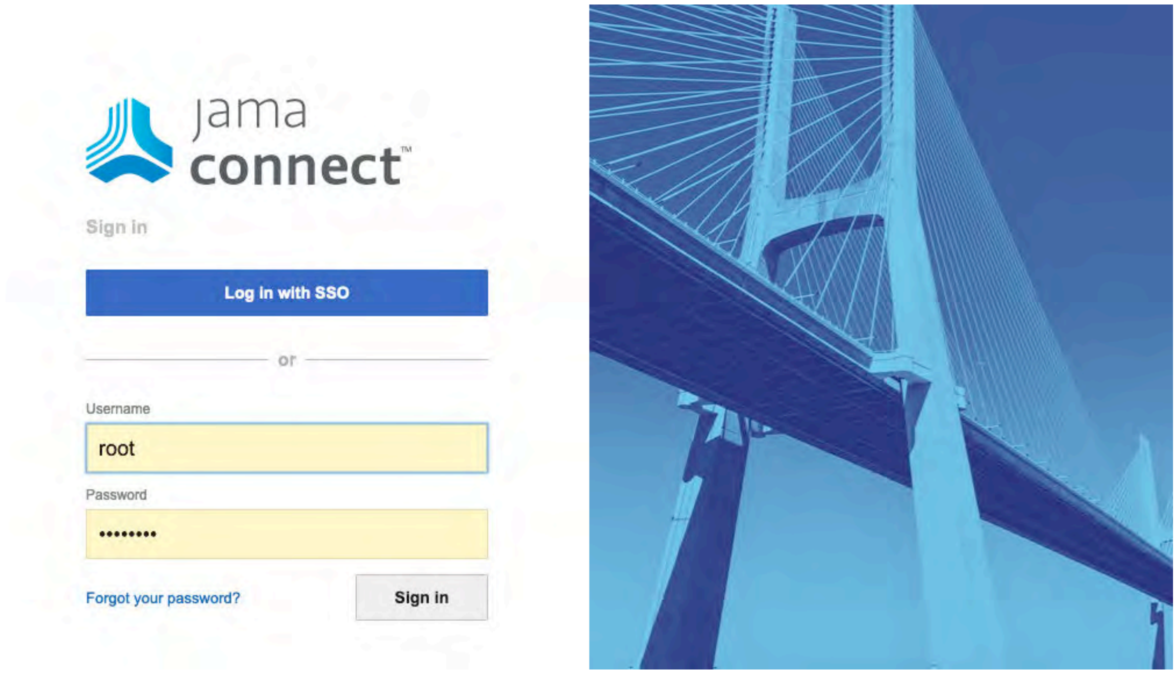
9. Scroll to the bottom of the page and click **Save**. You see a confirmation that your settings were saved.



10. Select **Restart now**.
    The system restarts and opens the Admin Console.



11. Log in to Jama Connect as root [492].



Your installation of Jama Connect is complete.

Installing the standard software (airgap)

If your organization needs the extra security of an airgap installation, Jama Software provides access to an airgap-safe portal.

Jama Software sends a Welcome email that includes:

- Special URL to the airgap-safe portal
- Password
- Your Jama Connect license (.rli) file

You must also download the software for Admin Console (Replicated) and Docker.

Once you have access to the airgap-safe portal, you can download the Jama Connect images, move them to your server, and run the installation script to install the software.

An airgap installation consists of these tasks:

Prepare	• Prepare application server and database server • Install database • Download Replicated and Docker • Configure memory settings for Elasticsearch • Retrieve Jama Connect images
Install	• Install Admin Console (Replicated) • Install Jama Connect
Set up	• Add organization admin account • Configure email/collaboration settings • Configure authentication • Configure backups

Retrieve Jama Connect images (airgap installation)

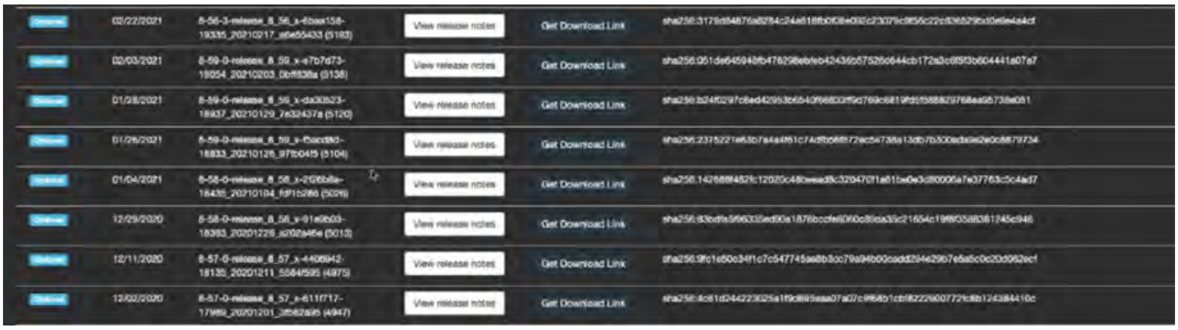
Before you can install the software in an airgap environment, the Jama Connect images must be downloaded to a desktop system, then transferred to the /data/install directory on your airgap application server.

TIP

Because the download might take a long time, we recommend doing this on a different day than when you install the software.

To retrieve the images, you need the airgap-safe portal URL and password provided in the Welcome email sent from Jama Software.

1. Open the Welcome email to access the airgap-safe portal URL and password.
2. In a supported browser, enter the URL and the password.
3. You see a list of available releases since your license was issued, along with a download link and a checksum for each.
4. Find the version you want to install and select **Get Download Link** to generate a new temporary download link.



5. Select **Download** to download the files directly to your desktop system.

6. Move the downloaded airgap files to your application server host in the following directory:

```
/data/install
```

Downloading Replicated and Docker (airgap)

You can download the Admin Console (Replicated) and Docker files to your desktop system, then move and extract them to the /data/install directory on your application server.

Replicated

https://s3.amazonaws.com/replicated-airgap-work/stable/replicated-2.48.0%2B2.48.0%2B2.48.0.tar.gz

Docker

https://help.replicated.com/community/t/installing-docker-in-airgapped-environments/81

If you are using Docker Enterprise Edition, you must:

- Follow the installation instructions in the Mirantis Container Runtime (MCR) Deployment Guide: https://docs.mirantis.com/mcr/20.10/install.html
- Use a supported version of Docker: 1.10.3 – 19.03.8-ce

Install the Admin Console and Docker (airgap)

Once you have retrieved the Jama Connect images [446] and transferred them to the data/install directory of your airgap application server, install the Admin Console (Replicated) and Docker in the same directory.

1. Make sure the Admin Console (Replicated) and Docker files have been transferred to the /data/install directory on your application server and extracted there.
2. At the server's command line, enter the following command:

   ```
   tar -xzvf replicated.tar.gz
   ```

   You see this output:

   ```
   install.sh
   operator_install.sh
   replicated-operator.tar
   replicated-ui.tar
   replicated.tar
   ```
3. In the same directory, use this command to execute the application installation script, which identifies the airgap installation file.

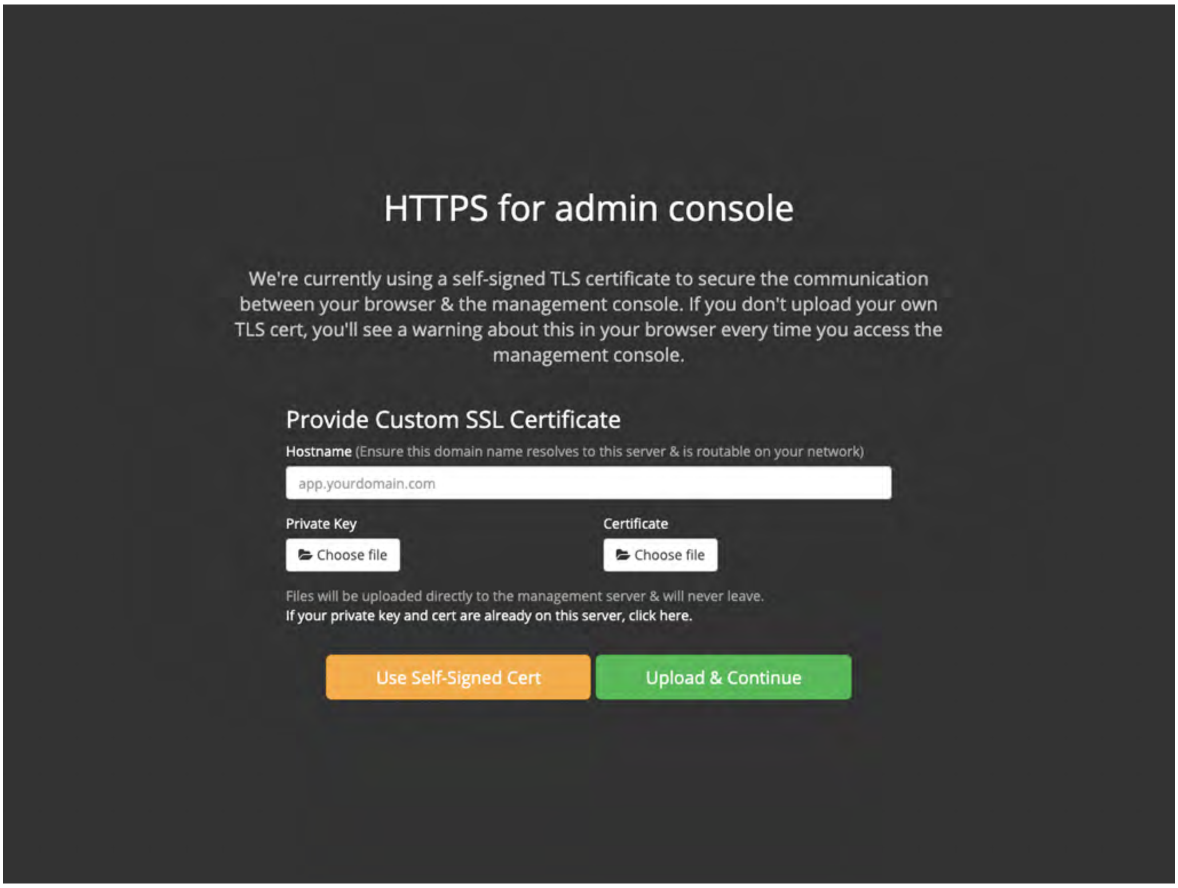
   ```
   cat ./install.sh | sudo bash -s airgap
   ```
4. Complete these questions as the script runs:
   - **Network interface** — Enter the number (**0–2**) of the network used to access Jama Connect. The same network is used to access the Admin Console and the Jama Connect application.
   - **Proxy (Y/N)** — Enter **N** (not needed for an airgap system).
5. Copy the URL to use when you install Jama Connect (airgap).

Install Jama Connect (airgap)

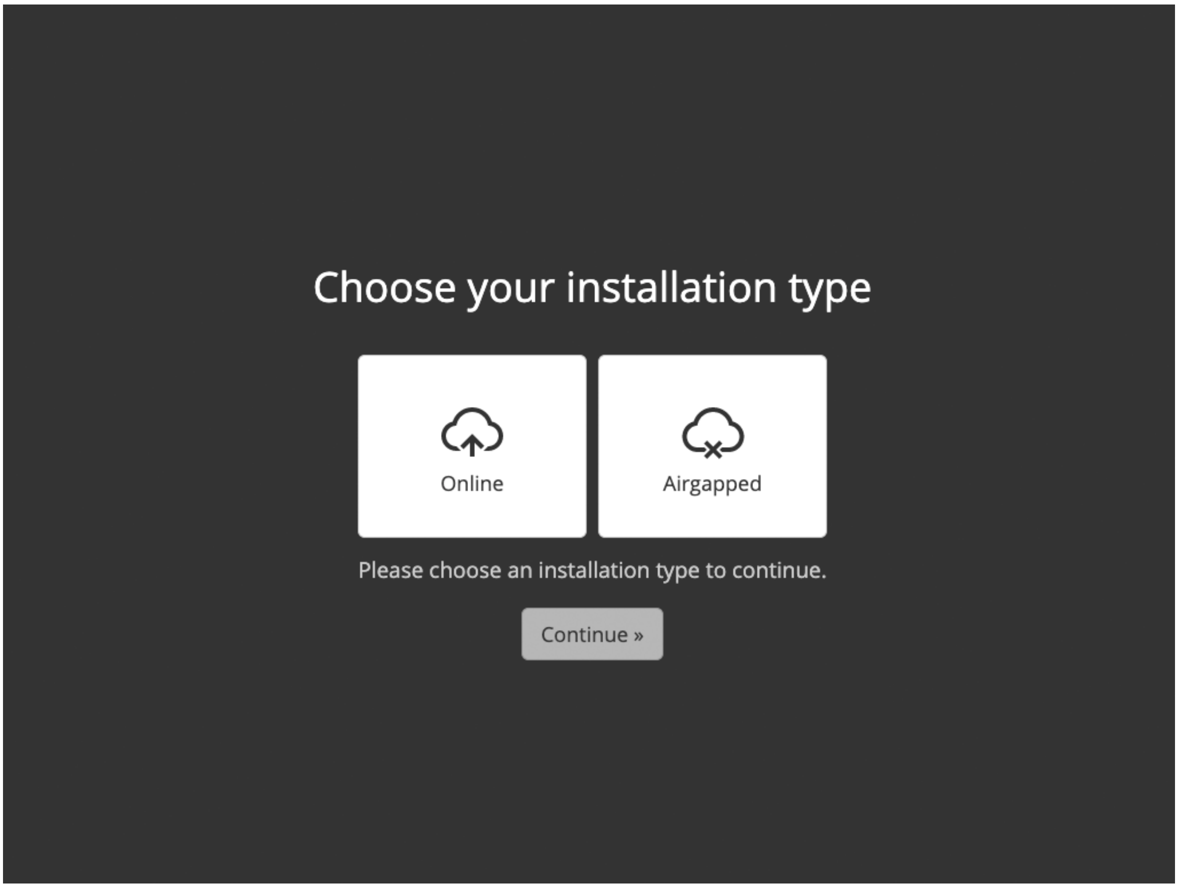
An installation wizard walks you through the process of uploading the license file, installing Jama Connect, and configuring the Admin Console. To start the wizard, you use the URL that was generated when you installed the Admin Console [448].

The license file is attached to the Welcome email you received from Jama Software.

1. Open the Welcome email and save the license file to the /data/install directory on your application server.
2. In a supported browser, enter the URL for the Admin Console, which was generated when you installed Replicated.

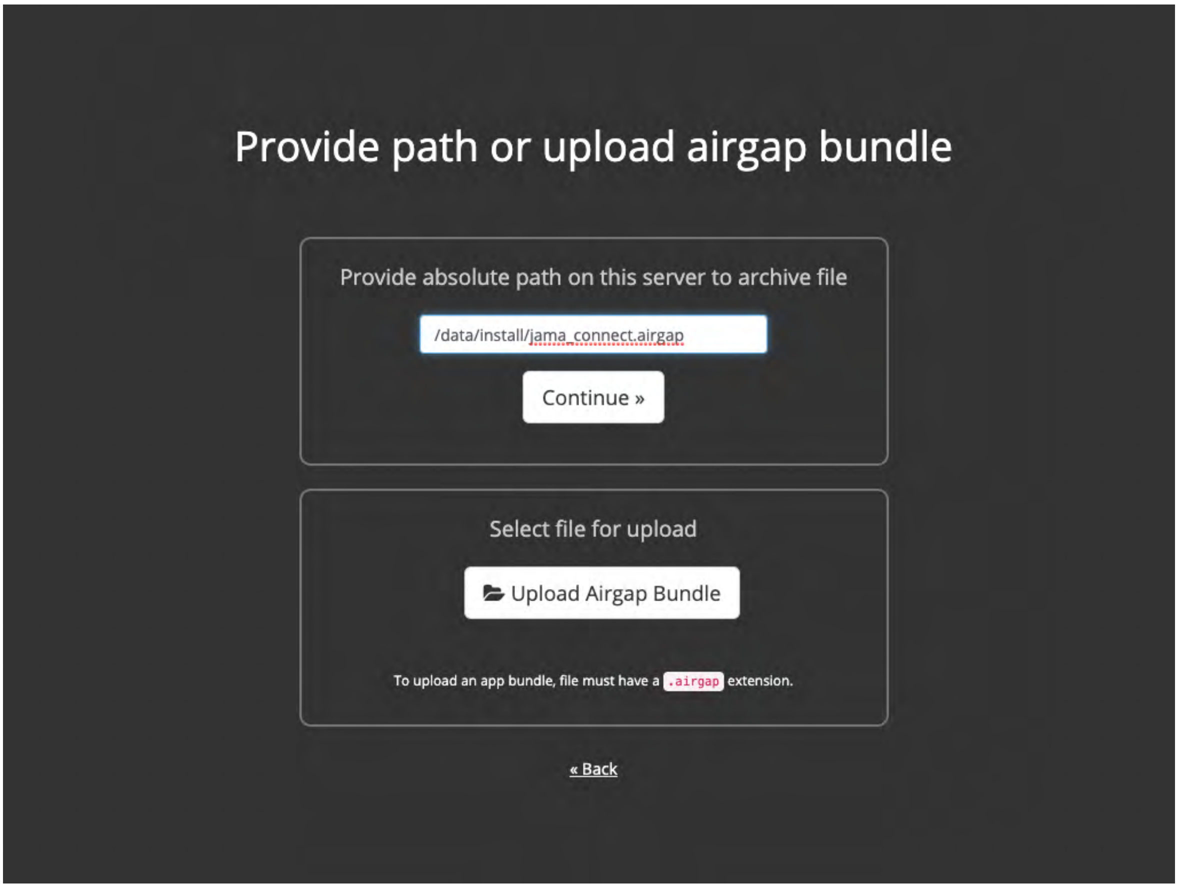


3. Enter your hostname.
4. Do one of the following, depending on whether you have a private key and certificate:
   - **Have key/certificate** — Select **Choose file** under Private key and Certificate, navigate to the files, then click **Upload & Continue**.
   - **No key/certificate** — Click **Use Self-Signed Cert**.
5. Click **Choose license** to upload your license file.



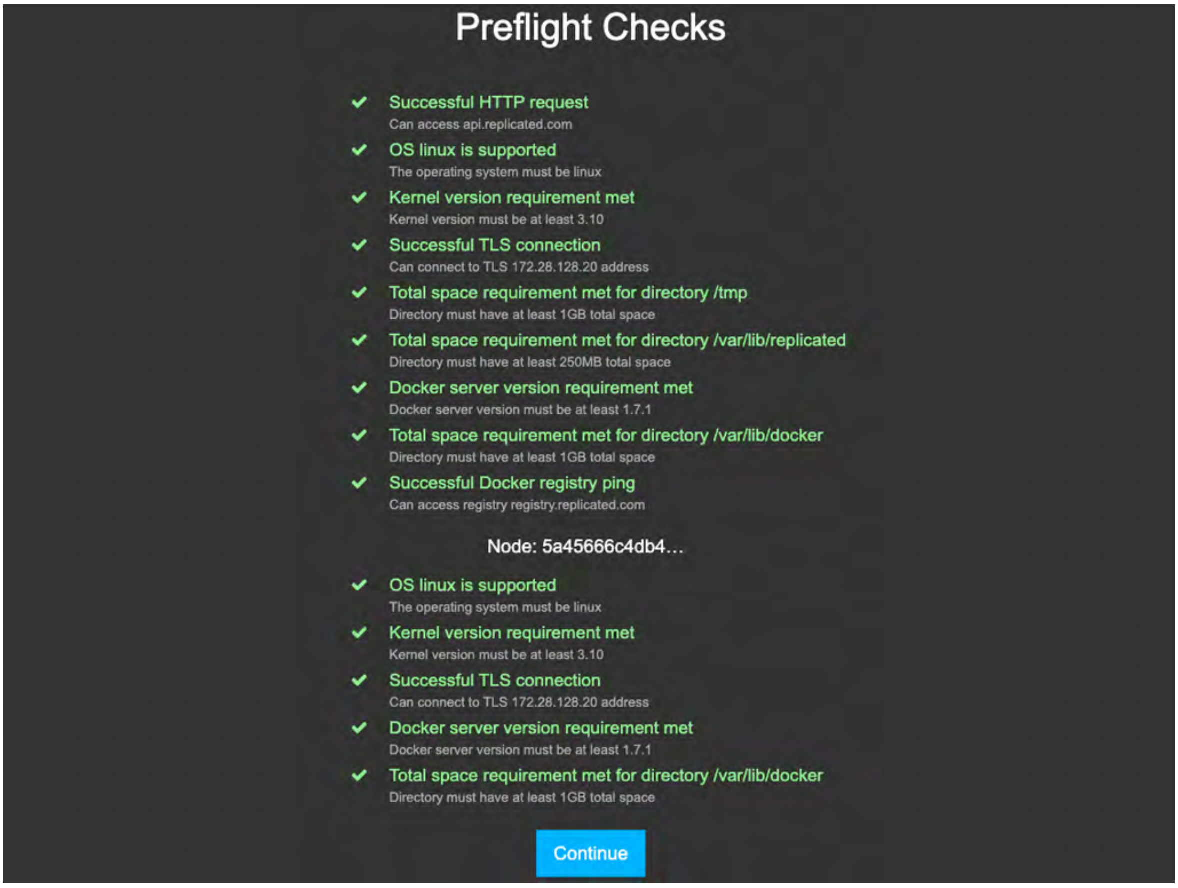
6. Select **Airgapped** for your installation type, then click **Continue**.

> **IMPORTANT**
> If you select **Online** as your installation type, an internet installation begins. The only way to correct this is to uninstall Replicated, reinstall it, and start this task again from the beginning.

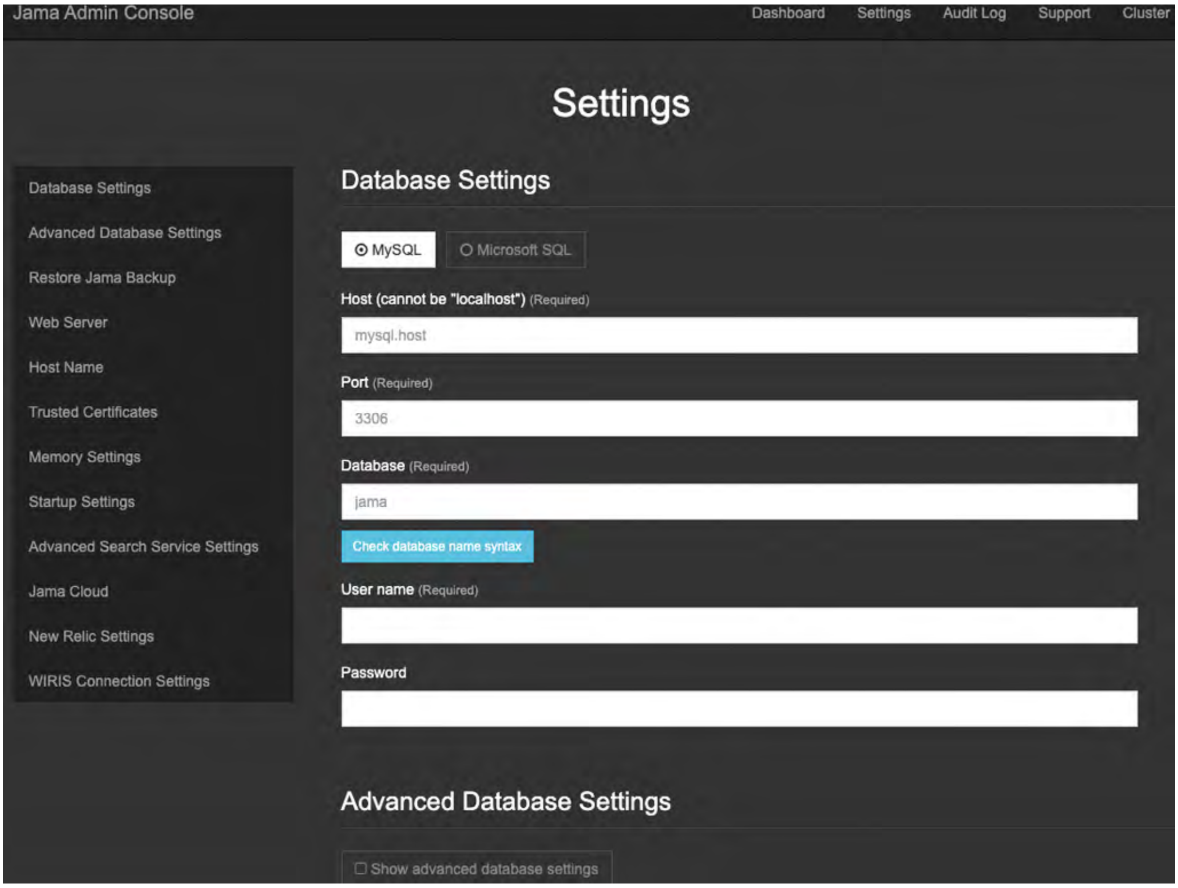


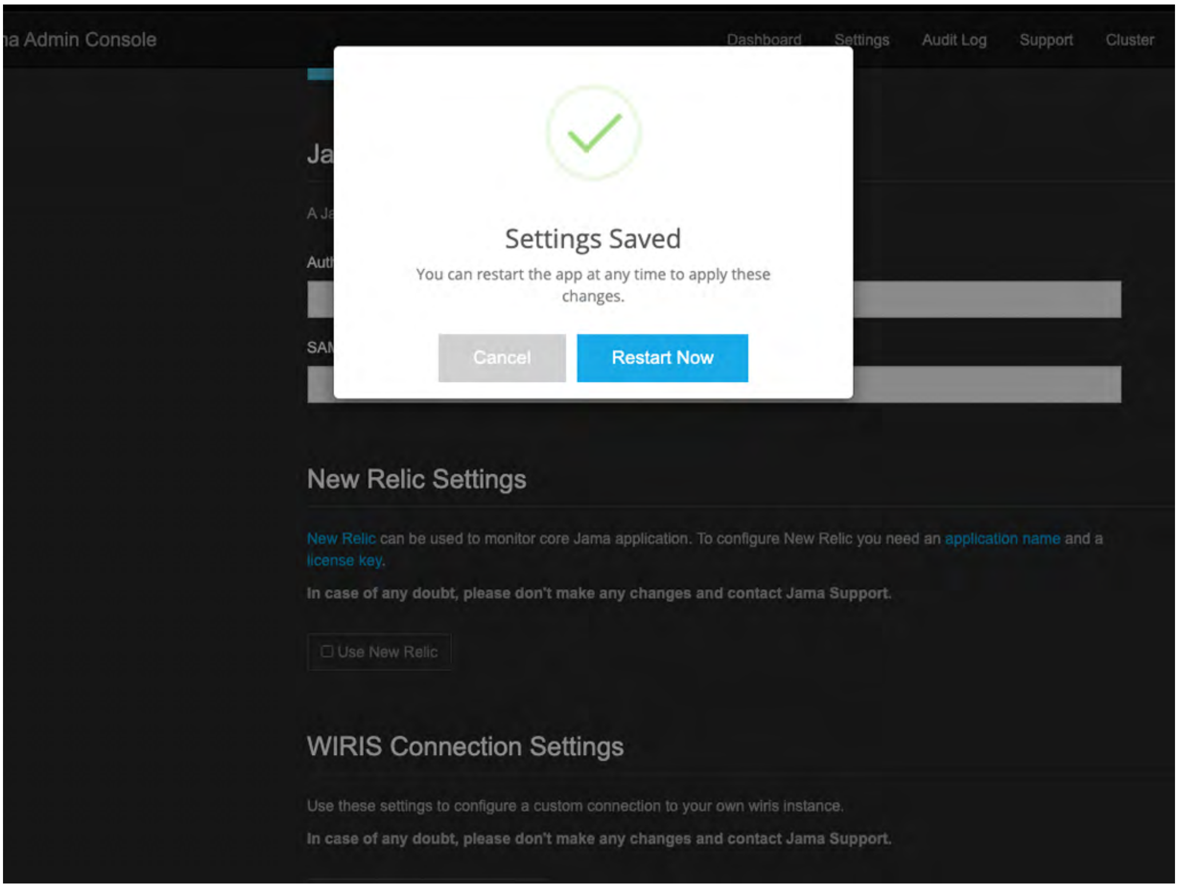
7. Upload your license using one of these methods:
   - Enter **/data/install** (the path of directory where you saved the license file on your application server), then click **Continue**.
   - Click **Upload Airgap Bundle**.

   The system installs the airgap package, then performs the preflight checks.

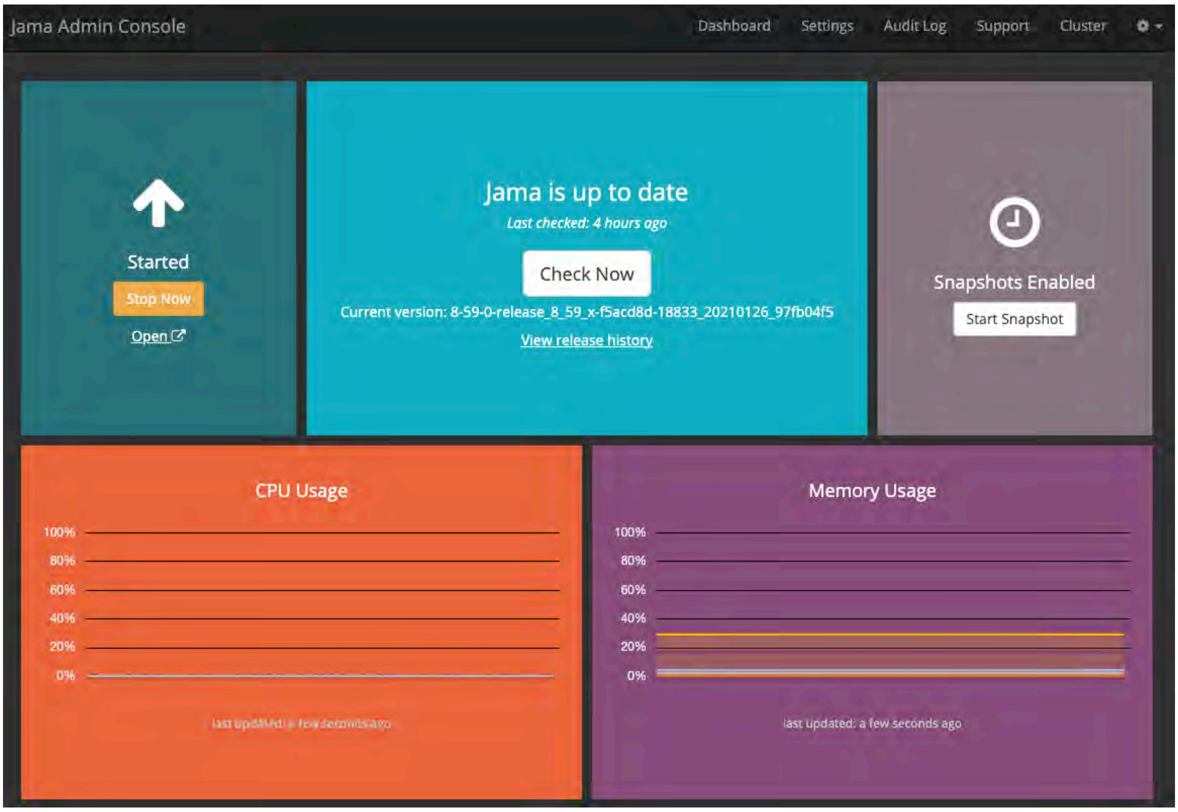


8. When the preflight checks are complete, click **Continue**.
   The Settings page for the Admin Console opens.

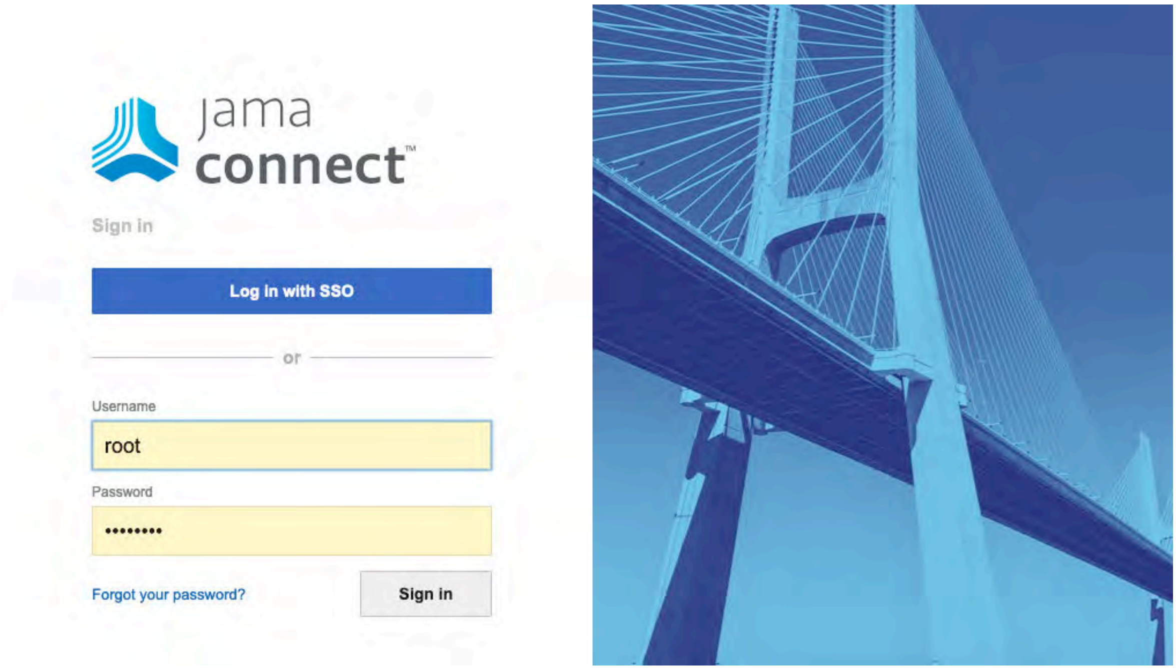


9. Configure the settings for each group, as needed. Scroll down to see each group of settings.
   - **Database Settings** — Use the information from Preparing your database server [433].
   - **TLS Key & Cert** — (Optional) If you have the key and certificate, click **Choose file** to select them.
   - **Airgapped Settings** — (Optional) Enter a new path for airgap update packages and for the license file.
10. Scroll to the bottom of the page and click **Save**.
    You see a confirmation that your settings were saved.
    

11. Select **Restart now**.
    The system restarts and opens the Admin Console.



12. Log in to Jama Connect as root [492].



Your installation of Jama Connect is complete.

After installing Jama Connect

Whether your environment is internet-enabled or airgap, after you install Jama Connect you can continue to set up your Jama Connect environment.

Follow any post installation instructions that apply to your organization.

The setup tasks to configure your environment include:

If you have further questions about Jama Connect installation and setup, visit the Jama Support Community or contact support.

Appendix

Troubleshooting your installation

If any errors occurred during installation, use this table to fix the issues.

Error message	Solution
This webpage is not available	Verify that the "Host Name" section of the settings was correctly entered to point to the application server.
Not private or *Not secure*	This might happen if you chose a self-signed certificate or uploaded an invalid certificate. Verify that you correctly entered the **Custom TLS configuration** in the **Host Name** window. If this happens only for other users and not the system administrator, and the Admin Console is using a self-signed certificate, you might have already told your web browser to "Proceed ... (unsafe)" or "Add exception," while other users haven't. Verify that you selected the setting you want for **Reuse admin console TLS configuration** in the **Host Name** window.
Problem: Cannot create database jama: Connections could not be acquired from the underlying database!	Most likely, something is wrong with your Admin Console database settings (for example, bind-address, DBO credentials), or the connection between the application server and the database server. Double-check your database settings in the Admin Console.

Sample airgap installation script

A full airgap installation script looks like this example script.

```
tar -xzvf replicated.tar.gz$ cat ./install.sh | sudo bash -s airgapThe
installer was unable to automatically detect the private IP address
of this machine.Please choose one of the following network interfaces:
[0] eth0 10.0.2.15[1] eth1 172.28.128.3[2] docker0 172.17.0.1Enter
desired number (0-2): 1The installer will use network interface 'eth1'
(with IP address '172.28.128.3').Does this machine require a proxy
to access the Internet? (y/N) nWARNING: No swap limit supportLoading
replicated and replicated-ui images from package2314ad3eeb90:
Loading layer [==================================================>]
5.037 MB/5.037 MB20cf0ca78550: Loading
layer [==================================================>]
1.395 MB/1.395 MB79da1e49a9ec: Loading
layer [==================================================>]
39.57 MB/39.57 MB10127b12860b: Loading
layer [==================================================>]
2.56 kB/2.56kB54c848181027: Loading layer
[==================================================>] 1.024
kB/1.024 kBf8559cfb1d7e: Loading layer
[==================================================>] 1.024
```

```
kB/1.024 kBd07f68c6454a: Loading layer
[==================================================>] 3.072
kB/3.072 kBe7ebe443cebe: Loading layer
[==================================================>] 1.024
kB/1.024 kBe26ab0a00993: Loading layer
[==================================================>] 1.024
kB/1.024 kB2314ad3eeb90: Loading layer
[==================================================>] 5.037
MB/5.037 MB20cf0ca78550: Loading layer
[==================================================>] 1.395
MB/1.395 MB90dd48adb644: Loading layer
[==================================================>] 2.56
kB/2.56kBbcfb6537f172: Loading layer
[==================================================>] 40 .86
MB/40.86 MB9f84694e322f: Loading layer
[==================================================>] 11.78
kB/11.78 kBd88f3b6fbcb2: Loading layer
[==================================================>] 11.73
MB/11.73 MBab1f2e0fdc51: Loading layer
[==================================================>] 1.024
kB/1.024 kBe0dd0d7697b0: Loading layer
[==================================================>] 1.024
kB/1.024 kBc58a11ad5860: Loading layer
[==================================================>] 1.024 kB/1.024
kBStopping replicated and replicated-ui serviceInstalling replicated
and replicated-ui serviceStarting replicated and replicated-ui
servicereplicated start/running, process 21870replicated-ui start/running,
process 21879Installing replicated command aliasInstalling local
operatorLoading replicated-operator image from package2314ad3eeb90: Loading
layer [==================================================>] 5.037 MB/5.0
37 MB20cf0ca78550: Loading layer
[==================================================>] 1.395
MB/1.395 MB94be066a32a4: Loading layer
[==================================================>] 12.04
MB/12.04 MB10f95420dba3: Loading layer
[==================================================>] 1.024 kB/1.024
kBStopping replicated-operator serviceInstalling replicated-operator
serviceStarting replicated-operator servicereplicated-operator start/
running, process 22155Operator installation successfulTo continue
the installation, visit the following URL in your browser:https://
<this_server_address>:8800To create an alias for the replicated cli command
run the following in your current shell or log out and log back
in:source /etc/replicated.alias
```

Configure proxy settings

If using a proxy server, you must add the Jama Connect application server's IP to the no_proxy Docker variable to prevent traffic from the application server from being proxied. Work with your Linux system administrator to set this value.

The steps to do this depend on your operating system.

NOTE

The steps related to Replicated are only necessary if you have already installed the Admin Console.

1. Stop Replicated with the following commands:
   - For Red Hat-derived systems version 7 and later:
     ```
     sudo systemctl stop replicated replicated-ui replicated-operator
     ```
   - For all other distributions:
     ```
     sudo service replicated-operator stop
     sudo service replicated-ui stop
     sudo service replicated stop
     ```
2. Follow the instructions from Docker on configuring the no_proxy settings, setting the appropriate IPs and hostnames that identify the Jama Connect server.
3. Restart Replicated with the following commands:
   - For Red Hat-derived systems version 7 and greater
     ```
     sudo systemctl start replicated replicated-ui replicated-operator
     ```
   - For all other distributions
     ```
     sudo service replicated start
     sudo service replicated-ui start
     sudo service replicated-operator start
     ```

Uninstall Jama Connect

If for any reason you need to uninstall your instance of Jama Connect, follow this procedure.

IMPORTANT

Uninstalling removes the Admin Console, the installed components that make up Jama Connect, the default snapshot directory, /var/lib/replicated/snapshots, snapshots (if they were left in the default directory), and your license. It doesn't remove user data or log files.

1. Stop the Jama Connect application [524].
2. Connect to the shell of the application server using SSH.
3. Make sure any snapshots that you need are in a safe location.
4. Execute the following commands for your flavor of Linux.
   - **Debian and Ubuntu**
     ```
     service replicated stop
     service replicated-ui stop
     service replicated-operator stop
     docker stop replicated-premkit
     docker stop replicated-statsd
     docker rm -f replicated replicated-ui replicated-operator replicated-
     premkit replicated-statsd
     ```

```
docker images | grep "quay\.io/replicated" | awk '{print $3}' | xargs
sudo docker rmi -f
apt-get remove -y replicated replicated-ui replicated-operator
apt-get purge -y replicated replicated-ui replicated-operator
rm -rf /var/lib/replicated* /etc/replicated* /etc/init/
replicated* /etc/init.d/replicated* /etc/default/replicated* /var/log/
upstart/replicated* /etc/systemd/system/replicated*
```

> **NOTE**
> You might see an error while running the apt-get commands regarding packages not being located. These errors won't cause issues with the commands.
>
> While running the apt-get commands, if you see an error about packages not located, you can ignore it.

- **RHEL, CentOS and Fedora**

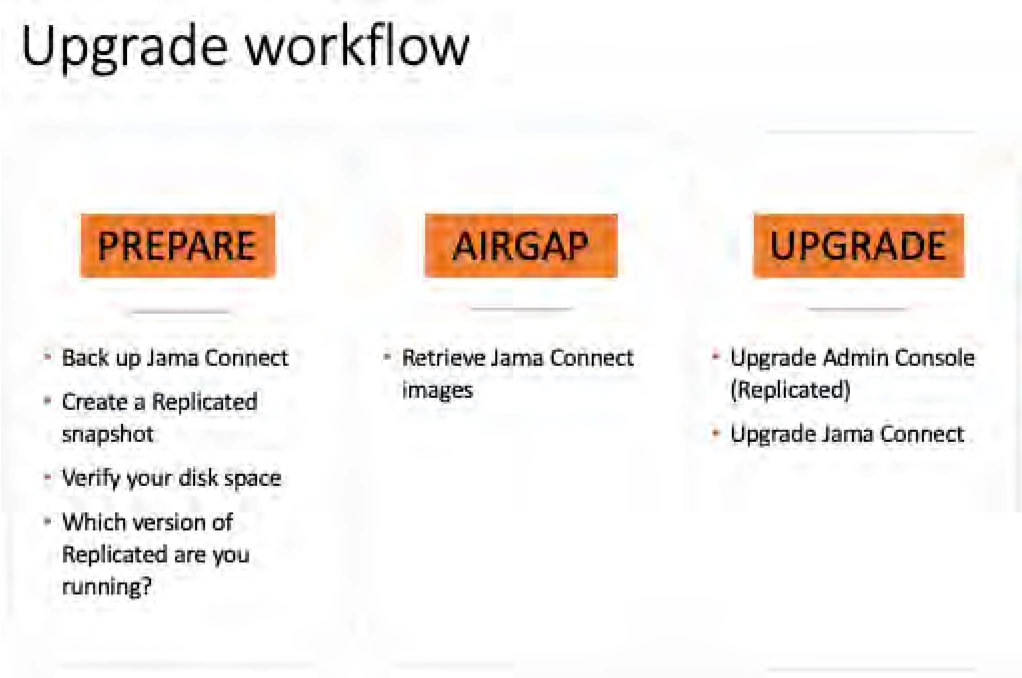
```
systemctl stop replicated replicated-ui replicated-operator
service replicated stop
service replicated-ui stop
service replicated-operator stop
docker stop replicated-premkit
docker stop replicated-statsd
docker rm -f replicated replicated-ui replicated-operator replicated-
premkit replicated-statsd
docker images | grep "quay\.io/replicated" | awk '{print $3}' | xargs
sudo docker rmi -f
yum remove -y replicated replicated-ui replicated-operator
rm -rf /var/lib/replicated* /etc/
replicated* /etc/init/replicated* /etc/default/replicated* /etc/
systemd/system/replicated* /etc/sysconfig/replicated* /etc/systemd/
system/multi-user.target.wants/replicated* /run/replicated*
```

When the final command completes, Jama Connect is uninstalled.

> **IMPORTANT**
> Uninstalling removes the Admin Console, the installed components that make up Jama Connect, snapshots (if they were left in the default /var/lib/replicated/snapshots directory), and your license. It doesn't remove user data or log files [534].

Upgrading Jama Connect

Whether your organization is internet-enabled or airgap, follow these instructions to download and install the upgrade software you need for your Jama Connect instance.



If your organization needs the extra security of an airgap installation, Jama Software provides access to an airgap-safe portal to retrieve your Jama Connect images.

You might need to upgrade only the Jama Connect application. Or you might need to upgrade Jama Connect and the Admin Console (Replicated) at the same time.

Before upgrading, be aware of the supported software for your current installation and the production system requirements [430].

> **IMPORTANT**
> Before installing or upgrading to Jama Connect 8.62.x, you must:
>
> - Create two additional database schemas [461] for the installation/upgrade to succeed.
> - Be running a version of Jama Connect (8.62.x or earlier) that uses Microsoft SQL 2016-2019 for the database server.
>
> For more information, go to Supported software, environments, and system requirements and select your version of Jama Connect.

Important considerations

- Always perform the upgrade in a test environment before upgrading your production environment.

- Jama Connect versions 8.0 and later don't work in a Windows Server environment or with an Oracle database. For details, see Application server requirements [430].
- If you're on a version of Jama Connect earlier than 8.36.0, you must perform a step upgrade. First upgrade to version 8.36.0, then upgrade to version 8.49.0. You can't skip the step upgrades. See Incremental Step Upgrade for Jama 8.x and Beyond for details.

Things to do before upgrading

- Upgrade and configure Microsoft SQL Server [461].
- Create a backup of Jama Connect [521].
- Create a Replicated snapshot [474].
- Make sure you have enough disk space for the upgrade:
  - Remove old Docker images [532].
  - Remove or move old Replicated snapshots.
- Determine your version of Replicated.
- ***Airgap only*** : Retrieve the Jama Connect images.

Upgrade and Configure MySQL

MySQL is the recommended database server. Follow these steps to upgrade and configure it.

If you want to install MySQL for the first time, see Install and configure MySQL [434].

> **IMPORTANT**
>
> Before upgrading Jama Connect 8.62.x, you must create two additional database schemas for the installation/upgrade to succeed. To create the database schemas, run these SQL commands on the MySQL database server:
>
> ```
> CREATE DATABASE saml;
> CREATE DATABASE oauth;
> CREATE USER 'oauthuser'@'%' IDENTIFIED BY 'password';
> CREATE USER 'samluser'@'%' IDENTIFIED BY 'password';
> GRANT ALL PRIVILEGES ON oauth.* TO ‘oauthuser’@‘%’;
> GRANT ALL PRIVILEGES ON saml.* TO ‘samluser’@‘%’;
> ```

1. Make sure that the InnoDB engine is enabled.
2. Download and install a supported version of MySQL. To find out which version of MySQL you need, see Supported software, environments, and system requirements and click the link for your version of Jama Connect.
3. Create an empty Jama Connect schema / database that uses UTF8.

   ```
   create database jama character set utf8;
   ```
4. Use the following commands to create a user called "jamauser" with the ability to access, create, and update tables within the database.

   ```
   CREATE USER 'jamauser'@'%' IDENTIFIED BY 'password';
   GRANT ALL PRIVILEGES ON jama.* TO 'jamauser'@'%'.
   ```
5. Restart the database server.
   The following recommended settings require 8 GB of memory allocated to MySQL Server for a typical installation and 16 GB for an enterprise installation.
   Depending on your database server's operating system, this can be added to your my.cnf file (Linux) or my.ini file (Windows). You can also make these changes directly to the database.

Property	Typical Installation	Enterprise Installaton
max_allowed_packet	1 GB	1 GB
query_cache_type	1	1
query_cache_size	256 MB	256 MB
tmp_table_size	2 GB	2 GB
max_heap_table_size	2 GB	2 GB
table_open_cache	512	512
innodb_buffer_pool_size	2 GB	12 GB
innodb_log_file_size	256 MB	256 MB
innodb_log_buffer_size	12 MB	12 MB
innodb_thread_concurrency	16	16
max_connections	151	351
wait_timeout	259200	259200

Here is a sample text config file at an enterprise level. You must add the following values for your environment:

```
ignore_builtin_innodb
bind-address=0.0.0.0
key_buffer_size=16M
max_allowed_packet=1G
thread_stack=192K
thread_cache_size=8
myisam-recover-options=BACKUP
query_cache_type=1
query_cache_size=256M
tmp_table_size=2G
max_heap_table_size=2G
table_open_cache=512
innodb_buffer_pool_size=12G
innodb_log_file_size=256M
innodb_log_buffer_size=12M
innodb_thread_concurrency=16
max_connections=351wait_timeout=259200
```

Upgrade and configure Microsoft SQL Server

If you are using Microsoft SQL Server for your database, follow these steps to upgrade and configure it.

You must have full database admin permissions to the SQL Server.

If you want to install the Microsoft SQL server for the first time, see Install and configure Microsoft SQL Server [435].

IMPORTANT

Before installing or upgrading to Jama Connect 8.62.x, you must:

- Be running a version of Jama Connect that's earlier than 8.62.x and using Microsoft SQL 2016-2019 for the database server.
- Create two additional database schemas for the installation/upgrade to succeed.

For the upgrade to complete, organizations using Microsoft SQL Server must enter database users in Replicated. Without these entries, the installation or upgrade will fail.

Organizations that do not create the new schema will successfully install/upgrade; however, the system will continue to attempt to connect to the databases and produce log failures. After you create the database schemas, you must restart Jama Connect.

For more information, go to Supported software, environments, and system requirements and select your version of Jama Connect.

1. Use a SQL management application (such as SQL Server Management Studio) to connect to the SQL Server.
2. Replace the following values in the installation script: **<SAML_LOGIN_Psswd> & <OAUTH_LOGIN_Psswd>**.

   NOTE

   Copy and store the passwords you create here. You will need them later to configure the Admin Console settings.
3. In a new query window, run the following SQL query code:

```
-- UPGRADE SCRIPT
/*
Jama Connect Upgrade Commands. Required to run these on the
Microsoft SQL Server BEFORE running the Jama Connect 8.62.x Upgrade
for ON-PREM installation using Microsoft SQL Server
DATE: 05/10/2021
NOTES: This script assumes it is running against a pre-existing
installation
with the JAMA Database already present on the Server.
The Script will add 2 new schemas (empty) to the Jama Database, 2
new DB Logins and Database users to support the Multi-Auth
functionality released in Jama Connect 8.6.2.
This script must be run prior to actual Jama Upgrade or the upgrade
installation may fail to complete.
INSTRUCTIONS: Ensure a Full backup of the Jama database is made before
execution.
Modify the <SAML_LOGIN_Password> & <OAUTH_LOGIN_Password> values in the
script below before Execution. Passwords must be enclosed in single
quotes.

USE master;
CREATE LOGIN samluser with password = 'password';
CREATE LOGIN oauthuser with password = 'password';
GO
```

```
USE jama;
EXEC ('CREATE SCHEMA oauth');
EXEC ('CREATE SCHEMA saml');
GO

USE jama;
CREATE USER samluser for LOGIN samluser with DEFAULT_SCHEMA=saml;
CREATE USER oauthuser for LOGIN oauthuser with DEFAULT_SCHEMA=oauth;
GO

EXEC sp_addrolemember N'db_owner', samluser;
EXEC sp_addrolemember N'db_owner', oauthuser;
GO
```

4. Confirm that these actions were successful:
   a. **Script completed** — Check the Query Execution results for errors.
   b. **Users created** — Run the following SQL script in a new query window.

      ```
      USE jama
      SELECT * from master.sys.sql_logins
      SELECT * from Jama.sys.sysusers
      ```

      The results include **samluser** and **oauthuser** in the "Name" column of the result panes.
   c. **Users granted the DB_owner role** — Run the following SQL script in a new query window.

      ```
      SELECT DP1.name AS DatabaseRoleName,
      isnull (DP2.name, 'No members') AS DatabaseUserName
      FROM sys.database_role_members AS DRM
      RIGHT OUTER JOIN sys.database_principals AS DP1
      ON DRM.role_principal_id = DP1.principal_id
      LEFT OUTER JOIN sys.database_principals AS DP2
      ON DRM.member_principal_id = DP2.principal_id
      WHERE DP1.type = 'R'
      ORDER BY DP1.name;
      ```

      The results will show that db_owner is granted to **oauthuser** and **samluser**.
5. Run the following query to keep the database from locking users' accounts while they are logging in or working in Jama Connect. You must have db_owner permissions.

   ```
   ALTER DATABASE jama SET READ_COMMITTED_SNAPSHOT ON WITH ROLLBACK
   IMMEDIATE;
   ```
6. Run this question to make sure the flag was successfully enabled:

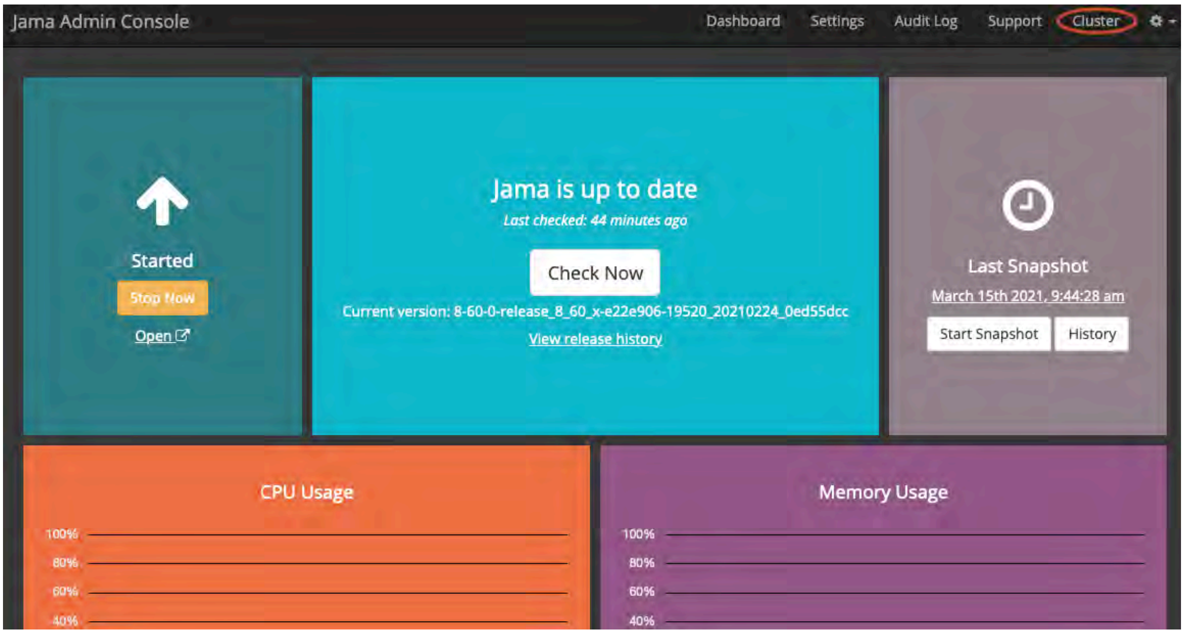
   ```
   SELECT is_read_committed_snapshot_on FROM sys.databases WHERE
   name='jama';
   ```

   If the returned value is 1, the flag is on.

Determine your version of Replicated

To be able to upgrade the Admin Console to the latest version, you must be running Replicated 2.x.

1. In the Admin Console, click the **Cluster** link.



The first entry on the Cluster page lists your version of the Admin Console (Replicated).

2. To upgrade your version of the Admin Console (Replicated):
   - Version 2.x
     - Upgrade the Admin Console (internet) [464]
     - Upgrade the Admin Console (airgap) [465]

Upgrade the Admin Console (internet)

The Admin Console (Replicated) can be updated whenever a new version is available. When upgrading both Replicated and Jama Connect, upgrade Replicated first.

These steps upgrade Replicated in an internet-enabled environment. If Docker is out of date, it is also updated.

1. In the Admin Console, select **Dashboard** to view whether a new version is available.
2. Check the supported software page to find the correct version of Replicated to use for your installation of Jama Connect.
3. As root user or a user with sudo bash privileges, download and install the Admin Console using one of these methods:
   - Use the cURL command from the Release Notes.
   - Download and install a specific version of the Admin Console with this command:

```
curl -sSL "https://get.jamasoftware.com/docker?
replicated_tag=<REPLICATED_VERSION>" | sudo bash -s no-auto
```

Replace **<REPLICATED_VERSION>** with the Replicated versions recommended in the Release Notes for your version of Jama Connect. For example:

```
curl -sSL "https://get.jamasoftware.com/docker?replicated_tag=2.38.1"
| sudo bash -s no-auto |
```

4. Follow the installation prompts, then you can leave the installation unattended.
5. Once the process is finished, go to the Admin Console and confirm that Replicated was upgraded to the correct version.

Upgrade the Admin Console (airgap)

The Admin Console (Replicated) can be updated whenever a new version is available. To do so for an airgap installation, you first download the files to an internet-enabled system, then move and extract them to the /data/install directory on your airgap application server.

When upgrading both Replicated and Jama Connect, upgrade Replicated first.

These steps upgrade Replicated in an airgap environment. If Docker is out of date, it is also updated.

1. Use this URL to download the Replicated files to an internet-enabled system.
   https://s3.amazonaws.com/replicated-airgap-work/stable/replicated-2.48.0%2B2.48.0%2B2.48.0.tar.gz
2. Transfer the Replicated files to the same location on your airgap application server as your original airgap installation files.
3. Execute the following command in the same directory where the airgap installation files were originally installed.

   ```
   tar -xzvf replicated-A.BC.D+A.BC.D+A.BC.D.tar.gz --overwrite
   ```

   To find the original file, look in the Admin Console:
   Gear icon > Console settings > Airgap settings
   Note the update path. The filename looks like this, where A.BC.D is the version ID:
   "replicated-A.BC.D+A.BC.D+A.BC.D.tar.gz"
4. Run the installation script in the same directory where the files were extracted. You must have system administration permissions to do this.

   ```
   cat ./install.sh | sudo bash -s airgap
   ```
5. Follow the installation prompts, then you can leave the installation unattended.
6. Once the process is finished, go to the Admin Console and confirm that Replicated was upgraded to the correct version.

Retrieve Jama Connect images (airgap upgrade)

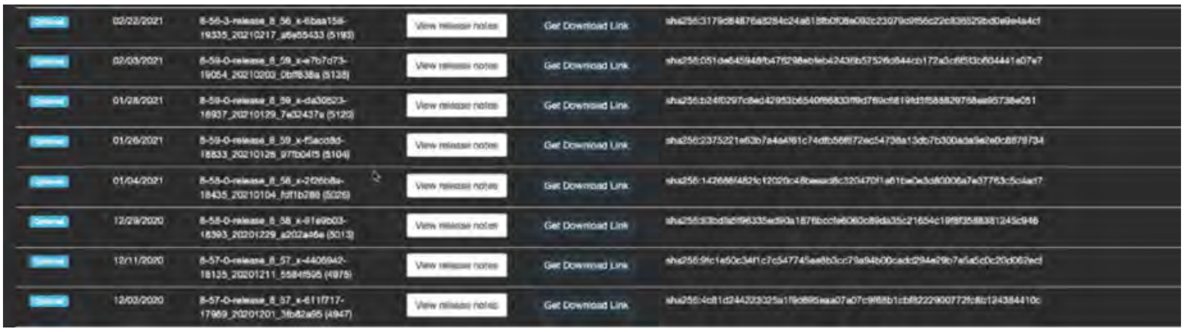
Before you can upgrade the software in an airgap environment, the Jama Connect images must be downloaded to a desktop system, then transferred to the /data/install directory on your airgap application server.

TIP

Because the download might take a long time, we recommend doing this on a different day than when you upgrade the software.

To retrieve the images, you need the airgap-safe portal URL and password provided in the original Welcome email sent from Jama Software.

1. In a supported browser, enter the URL and the password for the airgap-safe portal.
   You see a list of available releases since your license was issued, along with a download link and a checksum for each.



2. Find the version you want to install and select **Get Download Link** to generate a new temporary download link.
3. Select **Download** to copy the files directly to your desktop system.
4. Log in to the application host via SSH and move the downloaded files to the /data/install directory.

Upgrade Jama Connect

Whether your environment is internet-enabled or airgap, you can upgrade an existing installation of Jama Connect to a newer version using the Admin Console.

An installation script walks you through the process of upgrading Jama Connect. To start the wizard, you use the URL that was generated when you installed or upgraded the Admin Console (Replicated).

Important considerations

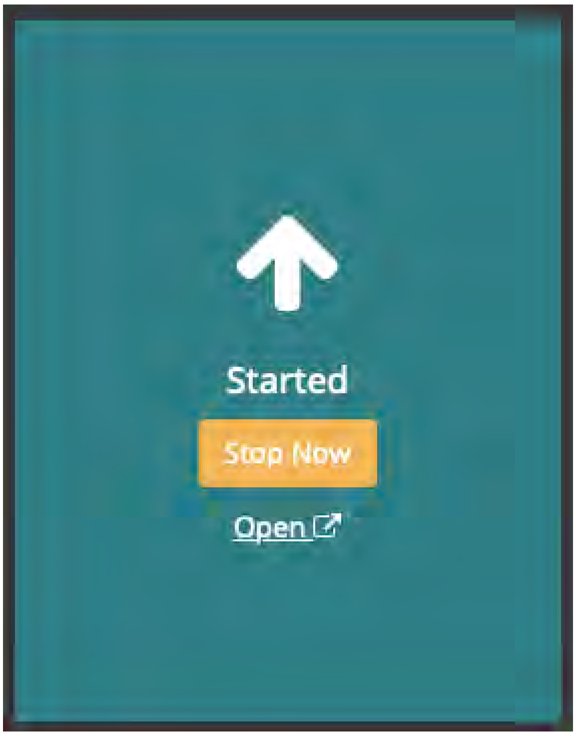
- If you are upgrading both the Admin Console (Replicated) and Jama Connect, upgrade the Admin Console first.
- If you're on a version of Jama Connect earlier than 8.36.0, you must perform a step upgrade. First upgrade to version 8.36.0, then upgrade to version 8.49.0. You can’t skip the step upgrades. See Incremental Step Upgrade for Jama 8.x and Beyond for details.
- ***Airgap only:*** Before you can upgrade the application in an airgap environment, you must first retrieve Jama Connect images [465] and transfer them to your application server.

To upgrade Jama Connect:

1. Use a browser to navigate to **Admin Console > Dashboard** and make sure that the Admin Console is up to date.
2. Depending on whether an update is available, select the following:
   - If an update was already discovered, the dashboard reads "There is an update available." Select **View update**.
   - If no update was already discovered, the dashboard reads: "Jama is up to date." Select **Check now**.

If an update is then discovered, the dashboard reads "Update Available." Select **View update**.

3. Review the proposed update or updates and select **Install Update**.
4. Go to the dashboard, which displays the progress of the upgrade.
   - **Updating** — The Jama Connect components are downloaded from our private and secure registry on the Internet.
   - **Starting... Queued** — The components are started and initialized, as well as the database is updated.
5. When the dashboard reads “Started,” the update is complete. Select the **Open** link under Started to open Jama Connect in a new browser window.



6. Log in to Jama Connect [492].
7. Rebuild the search index [534].

Upgrade from a version prior to 8.0

If you are upgrading from a version of Jama Connect prior to 8.0 (for example, 2015.5), the upgrade process is different from previous upgrades because the deployment model has changed.

> ⚠ **CAUTION**
> Perform the upgrade in a test environment before upgrading your production environment.

Prerequisites

1. Configure a supported environment with proper application server preparation [432].
2. Choose your upgrade channel.
3. Locate your production and staging environment licenses.
4. Make sure that your current version of Jama Connect doesn't have a build date older than 2015/11/20. If you are running an older version of Jama Connect, the upgrade won't be able successful.

Note: Our recommended upgrade path is **3.x > 4.x > 4.2.x > 2014.x > 2015.x > 2015.5 >**

Upgrade

Depending on your current environment setup, the steps in the upgrade process to vary. Before upgrading, review the Supported Software for your channel and the Production System Requirements [430]. Jama Connect 8.0 and earlier won't work in a Windows Server environment or with an Oracle database.

Migrating from Oracle

If you are upgrading from a version of Jama Connect using Oracle, you must migrate to a supported database before upgrading to . See Migrating Databases [538] for more information on the process.

Migrating from Windows

If you are upgrading a version of Jama Connect running on Windows, you must migrate to a supported Linux operating system [430]. Once the Linux environment is properly configured, move on to **Migrating to** .

Migrating to

Since this is your first time upgrading to Jama Connect version , this process will consist of a migration.

Migrating on the same server

If Jama Connect is running a supported OS, you can stage the new installation on the same server. However, your environment must meet these requirements:

1. Your previous version of Jama Connect must not be running at the time of installation.
2. No other applications can run on the server.
3. Once you have completed the migration, you must remove your previous Jama Connect installation.

Migration process

1. Migrate existing data [537] from **[contour_home]** on your current Jama Connect server to **/data/contour/** on the Jama server.
2. If you are migrating your database, see Migrating database server [538].
3. Follow the installation instructions [428].
   Follow the installation instructions for airgap [446].
4. Verify that the installation was successful.
5. Remove any previous installations of Jama Connect from the server.

Once Jama Connect is successfully installed, upgrading [459] to future releases is done from the Admin Console.

Administration

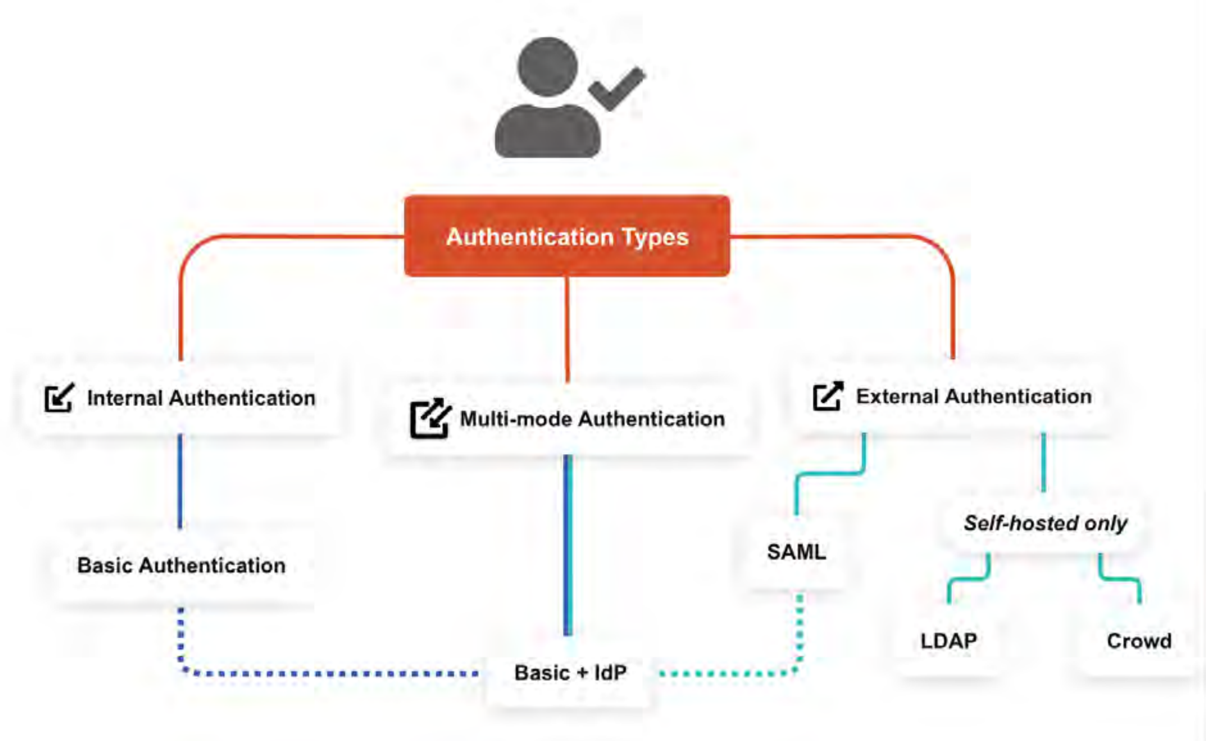
Jama Connect administrators have special roles in working with your organization's content.

A role is a set of permissions granted to a user so that they can perform particular functions.

- System administrators [471] set up and install Jama Connect. They are able to access the server settings and log in as the root user. Jama Connect manages system administration for hosted customers. For self-hosted customers, this role holds the initial license and can't be assigned.
- Organization administrators [544] have the highest level of permissions in Jama Connect and can configure settings for the organization. All Jama Software customers have at least one organization administrator, and there might be multiple within a single organization. They must have a creator license.
- Project administrators [633] have the necessary permissions to manage many aspects of a project that those with create/edit permissions can't. They must have a creator license.
- Review administrators [177] have the necessary permissions to manage reviews. They must have a creator or reviewer license.
- Reuse administrators [286] have the necessary permissions to create advanced reuse and synchronization rules. They must have a creator license.
- Process administrators [589] have the necessary permissions to configure content and connections in Jama Connect. They must have a creator license.
- User administrators [568] have the necessary permissions to manage licenses, users, and groups. They must have a creator license.
- Risk administrators [382] have full permissions to create and edit risk templates and can manage participants for any analysis.
- Report administrators [558] have the necessary permissions to upload and manage reports and exports. They must have a creator license.

Authentication methods

Jama Connect supports a wide range of authentication methods to keep your data safe and secure by authenticating users. The default method, Basic authentication, verifies users with the login data that is stored in the Jama Connect database. However, different integrations are available for cloud or self-hosted environments.



Supported combinations for self-hosted and cloud

- SAML for SSO and OAuth for REST
- Multi-mode for user authentication and OAuth for REST

For information about using the Jama Connect REST API with OAuth, see Set API credentials [38].

Supported third-party authentication methods

- SAML — Cloud and self-hosted option. Open standard for transferring identity data between two parties: an identity provider (IdP) and a service provider (SP).
  Electronic signatures are enabled by default, but can be disabled by a system administrator.
  To set up SAML, your company must meet these requirements:
  - Have a **SAML 2.0-compliant** Identity Provider (IdP).
  - Identify a technical person, often an IT administrator, who can provide the URL of the Identity Provider. Name this person before engaging with Jama Software and, for testing purposes, provide them access to Jama Connect.
  - Cloud customers — You must contact support to schedule enablement.
  - Self-hosted customers — If you're on a version of Jama Connect earlier than 8.62, you must follow instructions for that release instead of the instructions here. Contact support for help accessing the correct instructions and with the process.
- LDAP — Self-hosted option. Centralizes the management of user accounts. Jama Connect includes a built-in integration of LDAP and Microsoft Active Directory.
- Crowd — Self-hosted option from Atlassian. Manages users and groups within a single a system. Jama Connect accepts user details from Crowd, then syncs them with authentication data in the application.

Internal authentication methods

- Basic — The default authentication for Jama Connect. Basic authentication uses a username and password that's stored in the Jama Connect application database.
- Basic + IdP — The combination of Basic and SAML creates **multi-mode authentication**, so you can separate your internal users from your external partners, vendors, and contractors. Multi-mode au-

thentication provides access for external users so they can be part of the requirement, approval, and tracking process in Jama Connect.

> **NOTE**
> To use multi-mode authentication [504], you must be running Jama Connect 8.62 or later.

As a self-hosted user, you can update or change the authentication type for an organization. To do this, log in as root user and select **System Properties > Authentication Properties**.

REST API

Jama Software REST API is an application program interface to assist developers in a clean, straightforward integration with the application.

A system administrator can enable REST API in system properties [498].

Get more information about REST API, features and documentation.

Supported image extensions and attachment types

Jama Connect only allows attaching file types that exist in the Allow List, which provides improved security and prevents uploading harmful file types that aren't blocked.

To prevent uploading file types that might be harmful, Jama Connect filters the file types that you can upload as an attachment.

Uses this method to filter attachment types...	Supported version
Allow List	Cloud, Jama Connect 2015.2 and later
Block List	Jama Connect 2015.1 and earlier

Jama Connect allows these attachment types. We collected this list based on the usage pattern of our current customers. Each type has been screened for potential security risks.

APK, AVI, BMP, CSV, DOC, DOCM, DOCX, DOT, DOTX, DWG, GIF, GZ, JAMA, JPEG, JPG, MD, MOV, MP3, MP4, MPEG, ODG, ODP, ODS, ODT, PAGES, PDF, PGP, PNG, PPT, PTM, PPTX, RAR, RTF, TGZ, TIF, TIFF, TRA, TXT, VCS, VSD, VSDX, VSS, WAR, WAV, WMA, WMV, WPS, XCF, XLS, XLSB, XLSM, XLSX, XLT, XPS, ZIP, ZIPX

System administrator (self-hosted only)

> **NOTE**
> This information applies to self-hosted environments only.

System administrators are in charge of the following tasks.

- Logging in to the application server operating system and Jama Connect as root user
- Installing, updating, and maintaining the Jama Connect platform
- Setting up the database and application servers
- Installing the admin console and Jama Connect

- Configure settings such as authentication and mail servers
- Regular maintenance such as updates and uploading custom reports

Ideally a system administrator has expertise in these areas of administration:

- **Database**
  System administrators set up and administer the database including database sizing, resource allocation, recommended backups, and availability of the database engine.
- **Linux**
  Jama Connect must be installed on a Linux based system. System administrators need to use Command Line Interface (CLI) for basic navigation, file manipulation, permissions, and network configuration when they are installing, upgrading, allocating resources, and maintaining availability and security of the server.
- **Directory server**
  If you're not using Jama Connect native authentication, system administrators must perform setup and administration or your organization's supported directory server [501].
- **Mail server**
  If you're using these functions in Jama Connect, system administrators perform setup and administration of your organization's mail server.

System administration are necessary for customers who are self-hosting Jama Connect. For cloud customers, Jama Software manages system administration. If you're interested in an implementation that doesn't require system administration at your organization, contact your sales representative regarding our cloud solution.

Configuring the Admin Console settings

> **NOTE**
> This information applies to self-hosted environments only.

Jama Connect uses Replicated technology to deliver all microservices to self-hosted customers. Replicated software is a container orchestration tool that provides the interface, **Admin Console**, for Jama Connect.

Replicated and Jama Connect are hosted on the same application server, running on different ports.

The Admin Console stores settings, such as SSL certificates and database connection information, that Jama Connect uses to start and run correctly. Some of its functions include:

- Manage the run state of Jama Connect
- Perform upgrades
- Synchronize license renewals

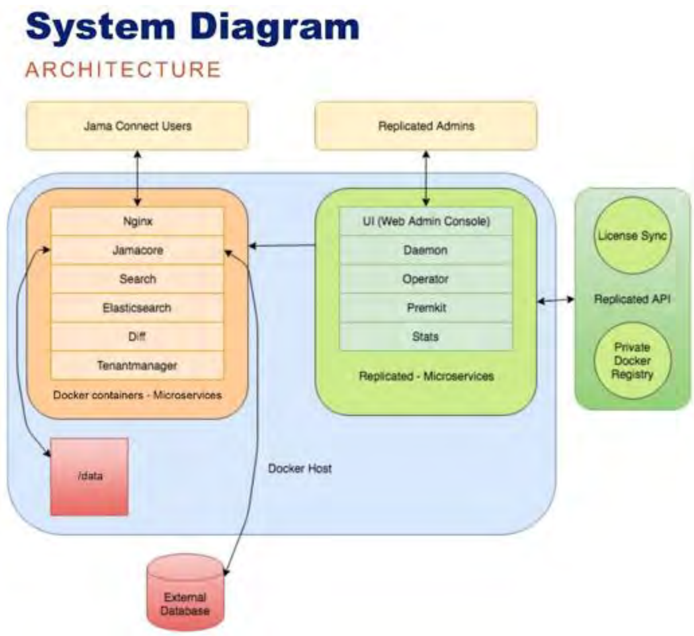
Many of the settings for the Admin Console are configured during installation. However, you can make changes to the settings whenever you need.

Application server overview

Your application server hosts the Jama Connect application, Docker containers, and the Admin Console (Replicated software). It also stores data such as attachments, images, reports, and a micro-service cache.

Docker containers — A standalone executable package of software that includes code, runtime, system tools, system libraries, and settings. See https://www.docker.com/resources/what-container for details.

Replicated — A container-based platform for easily deploying cloud native applications inside customers' environments to provide greater security and control. The Admin Console is the user interface for installing the Jama Connect application. See https://www.replicated.com/ for details.



- Jama Connect users access Jama Connect by browsing to the instance URL (https://jamainstanceurl.customer.com/).
- System administrators access the Admin Console by browsing to the same instance URL, but on port 8800 (https://jamainstanceurl.customer.com:8800/).
- Replicated updates Jama Connect and the license via API calls for internet-enabled environments. Our airgap option removes the need for remote API calls.
- Any content added to your Jama Connect instance is stored in the database. Uploaded artifacts are stored in the file system in the /data directory.

Restart the Admin Console

Occasionally, you might need to restart the Admin Console. For example, when you need to sync a new license.

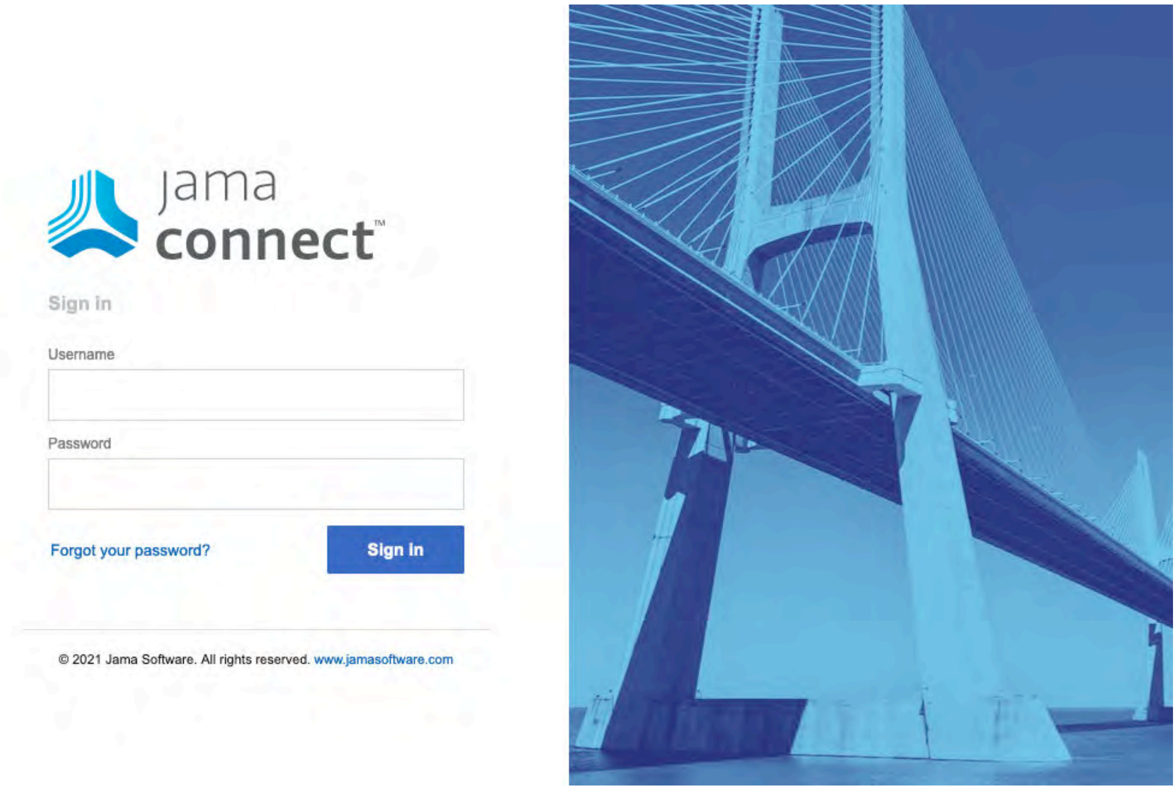
The commands to restart the Admin Console depend on the flavor of Linux you're using.

1. To restart the Admin Console on **Debian** or **Ubuntu** systems, execute these commands:

   ```
   sudo service replicated restart
   sudo service replicated-ui restart
   sudo service replicated-operator restart
   ```
2. To restart the Admin Console on **CentOS**, **RHEL**, or **Fedora** systems, execute these commands:

   ```
   sudo systemctl restart replicated replicated-ui replicated-operator
   ```

Once restarted, the Admin Console displays the login page.



Create a Replicated snapshot

A Replicated snapshot is a backup of the Admin Console environment. It includes the Replicated database, registry images, and container volumes (when specified).

A Replicated snapshot can be taken while Jama Connect is running without interruption.

> **IMPORTANT**
>
> Replicated snapshots don't include the contents of the Jama Connect database, the contents of the /data directory, or the log files. To back up those items, see Back up to .jama or XML file [521].

When to create a snapshot

- When migrating Jama Connect to new hardware [537]. When you replace one server with another (create a clone), you can perform a fresh installation of Docker and Replicated, then restore from the snapshot.
- During disaster recovery.
- Before upgrading your software (Jama Connect or Replicated).

Snapshot location

By default, Replicated snapshots are stored in this location:

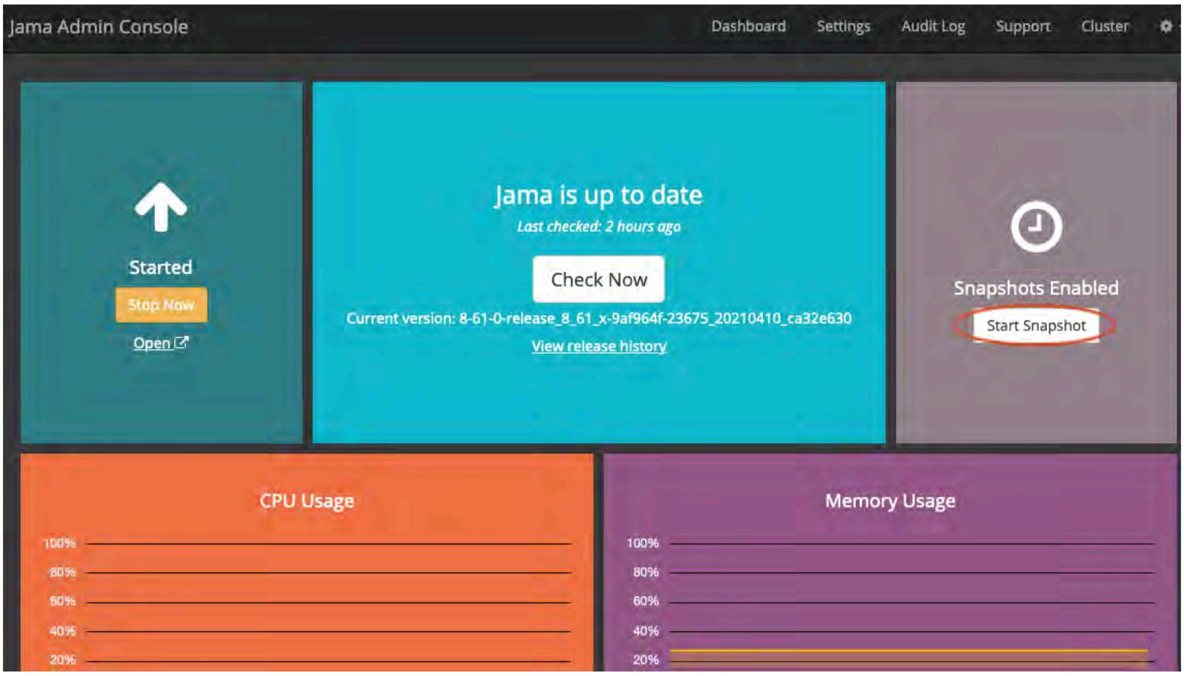
```
/var/lib/replicated/snapshots
```

To include the Replicated snapshots in your regular backups of Jama Connect, you can change the location for the snapshots, like this:

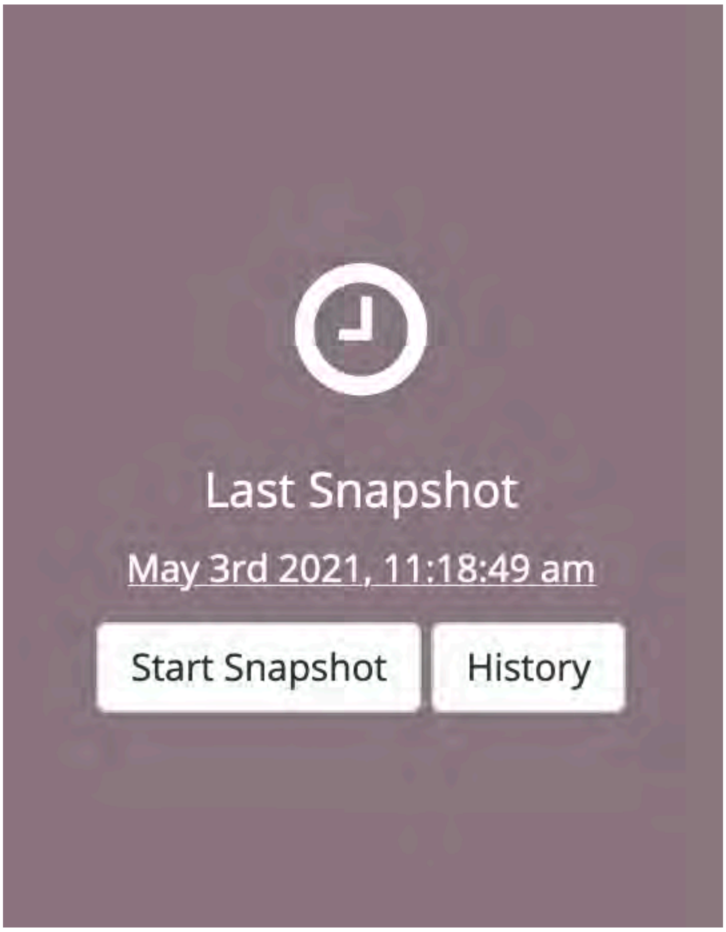
```
/data/replicated/snapshots
```

To create a Replicated snapshot:

1. (Optional) Identify and configure a custom directory for your snapshots: Select **Admin Console > Settings** (gear icon) **> Console Settings > Snapshots**.
2. Create a snapshot: Open the Admin Console and select **Start Snapshot**.



Snapshots Enabled changes to **Snapshotting** and a progress spinner appears while it backs up the registry data and container volumes. When the snapshot is ready, you see a timestamp for the last snapshot.



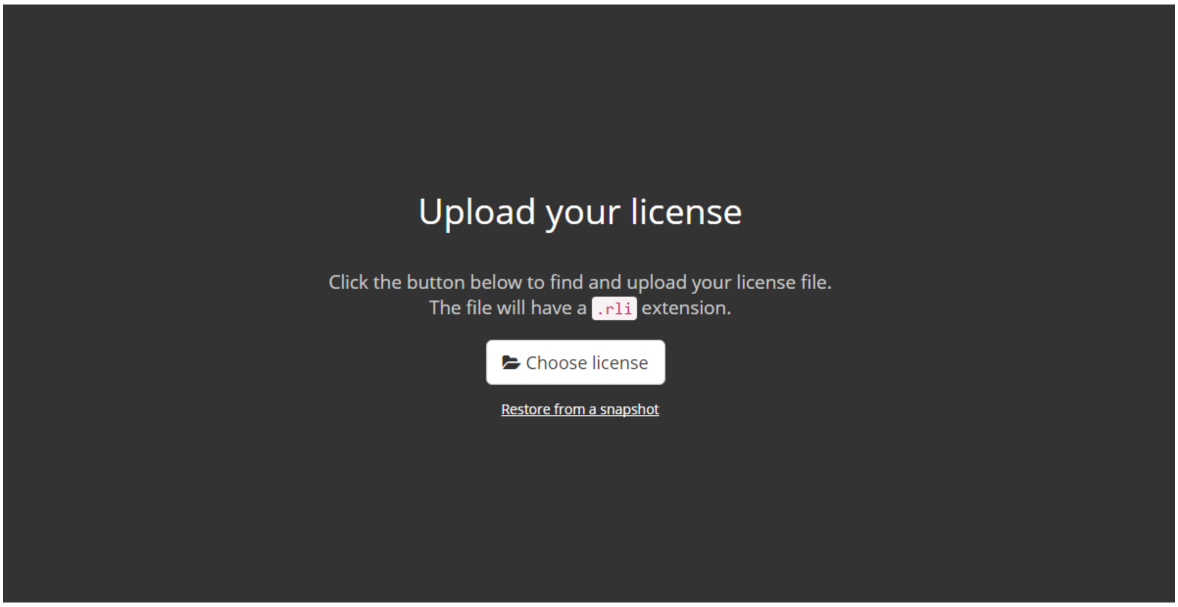
If the Replicated snapshot fails, the dashboard displays an error message with technical detail of the failure, including the file or folder involved. This error message is generated from the underlying file system (for example, readdirent: errno 523), which means the problem is likely with the underlying file system and not the Jama Connect installation.

Restore all settings from a Replicated snapshot

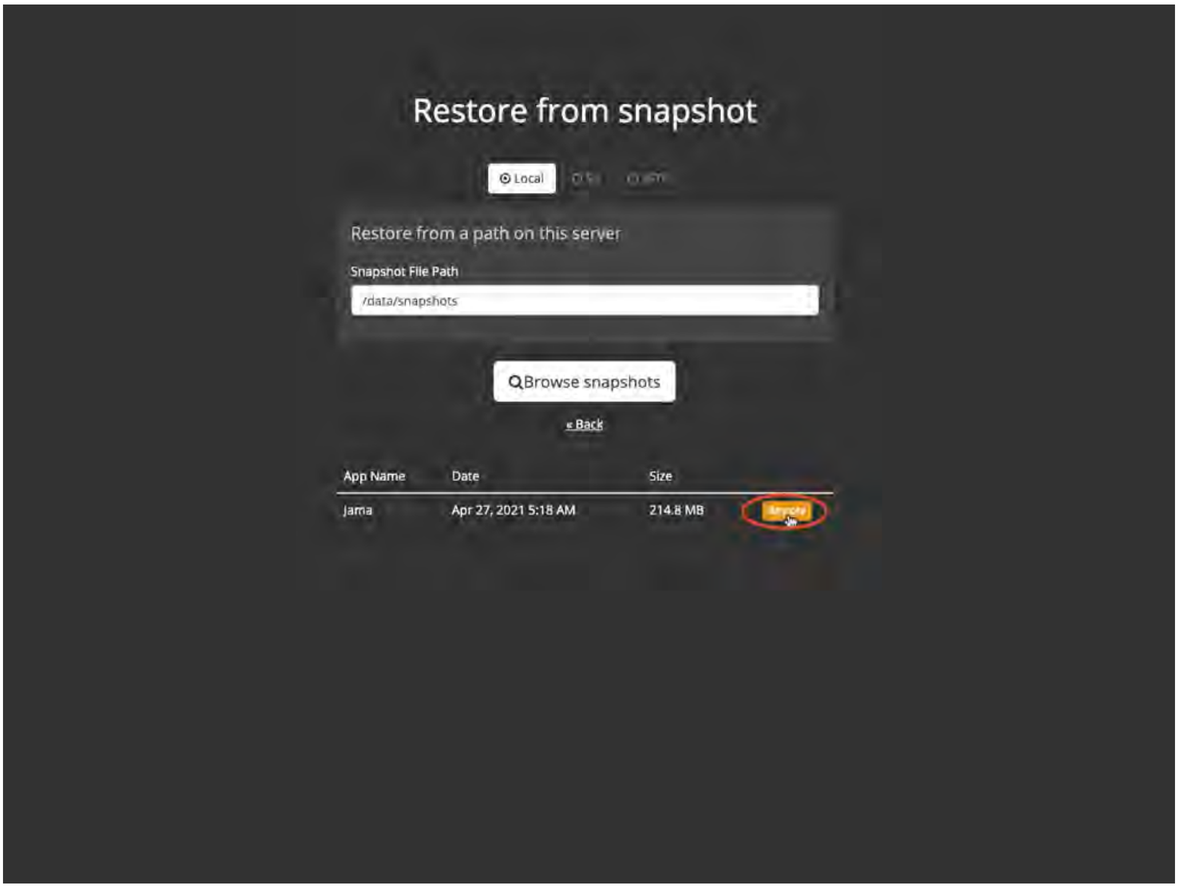
When you set up a new application server for Jama Connect, you can restore the Admin Console settings that you saved in a Replicated snapshot.

Snapshots include the Replicated database, registry images, and container volumes (when specified).

1. Install Jama Connect on the new server.
2. When the page Upload your license is displayed, select **Restore from a snapshot**.



3. When the Restore from snapshot page is displayed, enter the path to your snapshot and click **Restore**.
Use the same path on the new server as you did on the old server. For example, **/var/lib/replicated/snapshots** or **/data/snapshots**.



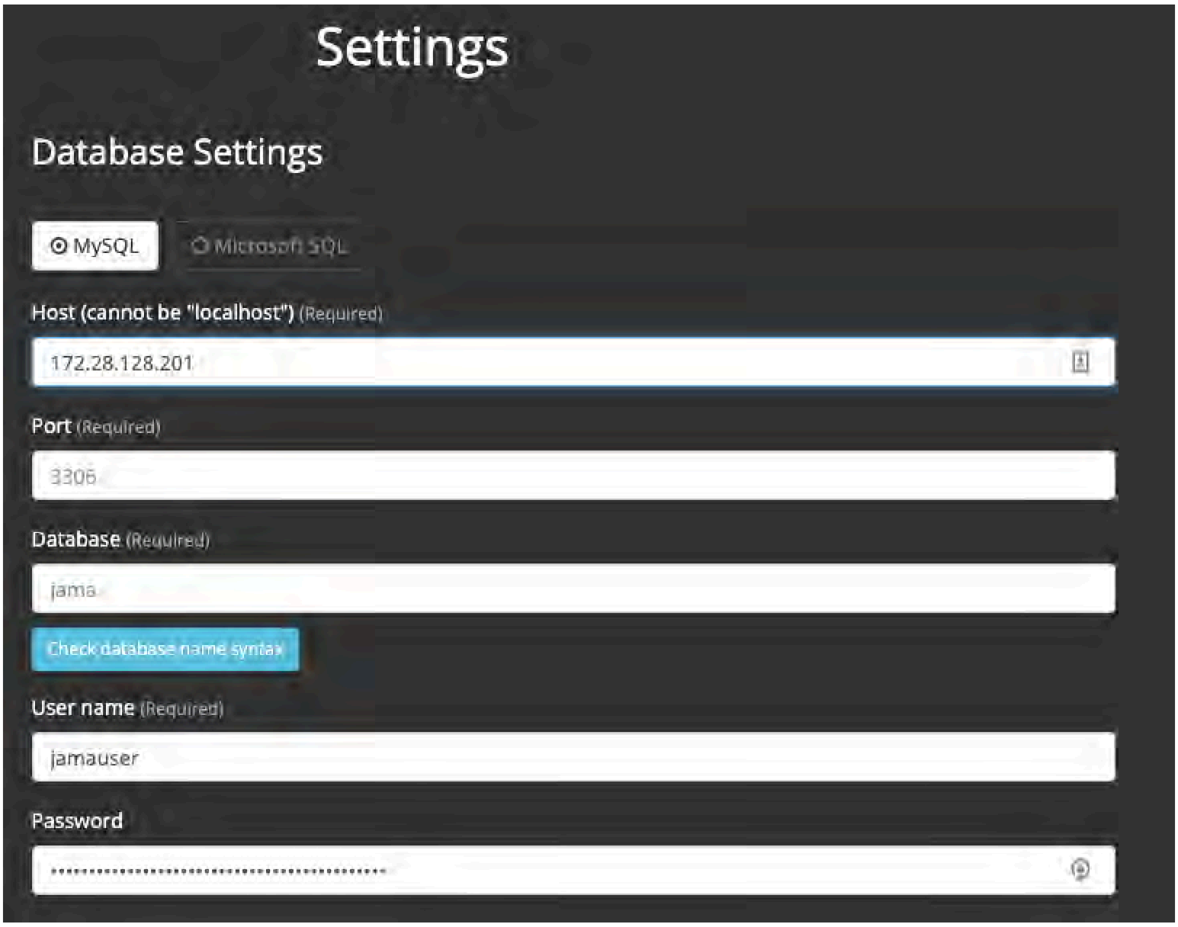
4. On the Restore Cluster page, click **Restore**.

The system displays a progress page as it restores your data from the snapshot.

Configure database settings

Database settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll to the **Database Settings** section of the page.

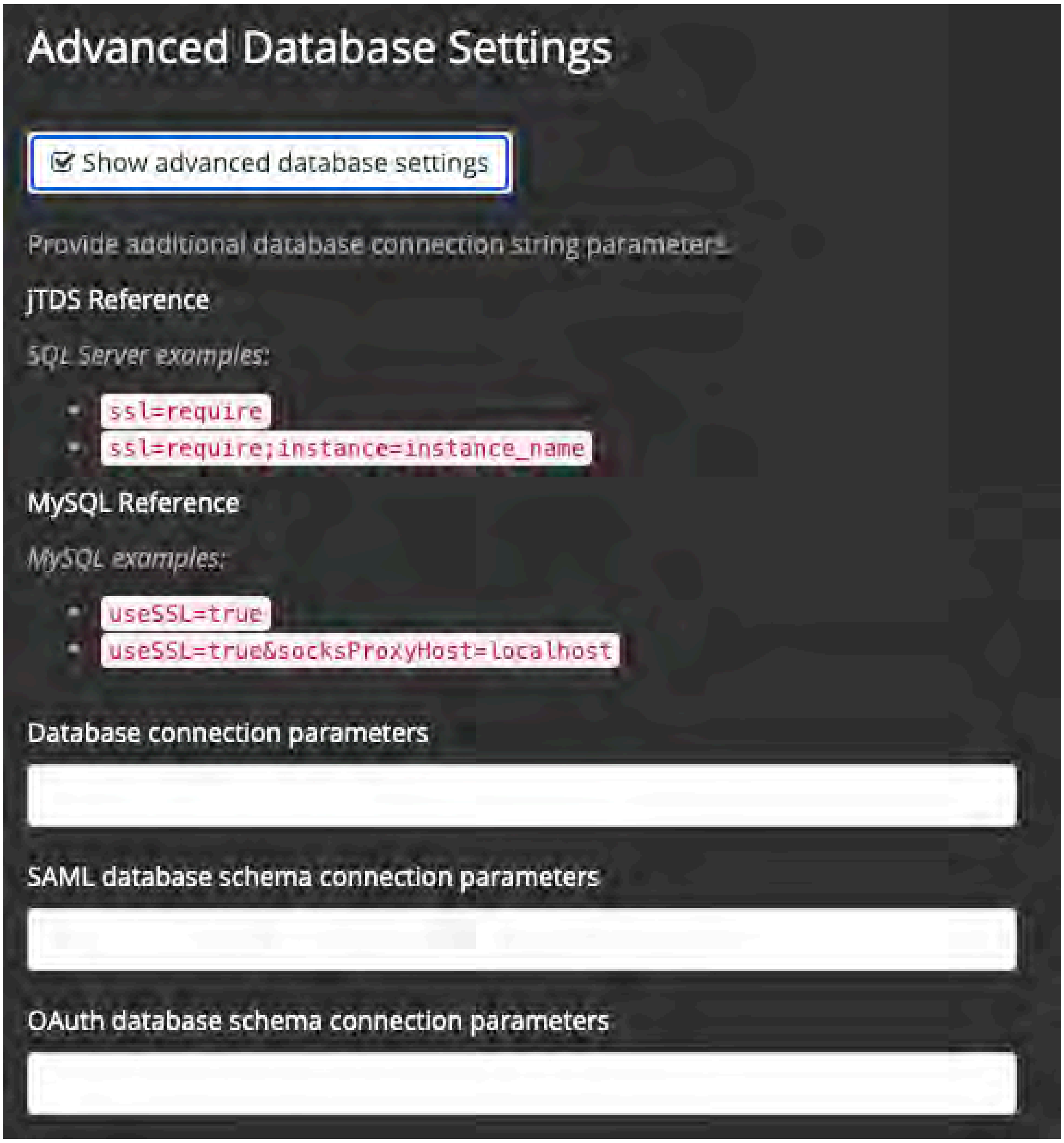


3. Select the type of database you're using, MySQL [434] or Microsoft SQL [435], then complete or change the database settings as needed.
4. (Optional) If you need to connect to your database through an SSL-encrypted connection, provide additional connection string parameters. These parameters specify key/value pairs in the format appropriate to your database.
   - **MySQL**

     ```
     useSSL=true&requireSSL=tru
     ```
   - **SQL Server**

     ```
     ssl=require;appName=jama;bufferMinPackets
     ```

     More options are available for MySQL and SQL Server



5. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

Configure web server settings

Web server settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

The web server configuration allows the use of SSL (TLS) or plain text connections.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Web Server** section of the page.
3. Enter the context path for Jama Connect, for example, https://<hostname>. Don't use this configuration unless you need to specify a sub-path or sub-directory.
4. (Optional) Select **Check context path syntax**.

5. (Optional) Set the TLS and plain text port as needed.
6. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
7. To apply settings, you must restart the application:
   - Immediately — select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

Configure host name

Your Host Name settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

If possible, choose a host name that's meaningful to users. Be sure the domain name matches your TLS certificate.

If you need to change this host name, you must also change the base URL. [530]

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Host Name** section of the page.

3. Enter or change the host name.
4. (Recommended) Select **Reuse admin console TLS configuration** to use the same certificate configured in the Admin Console.
5. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

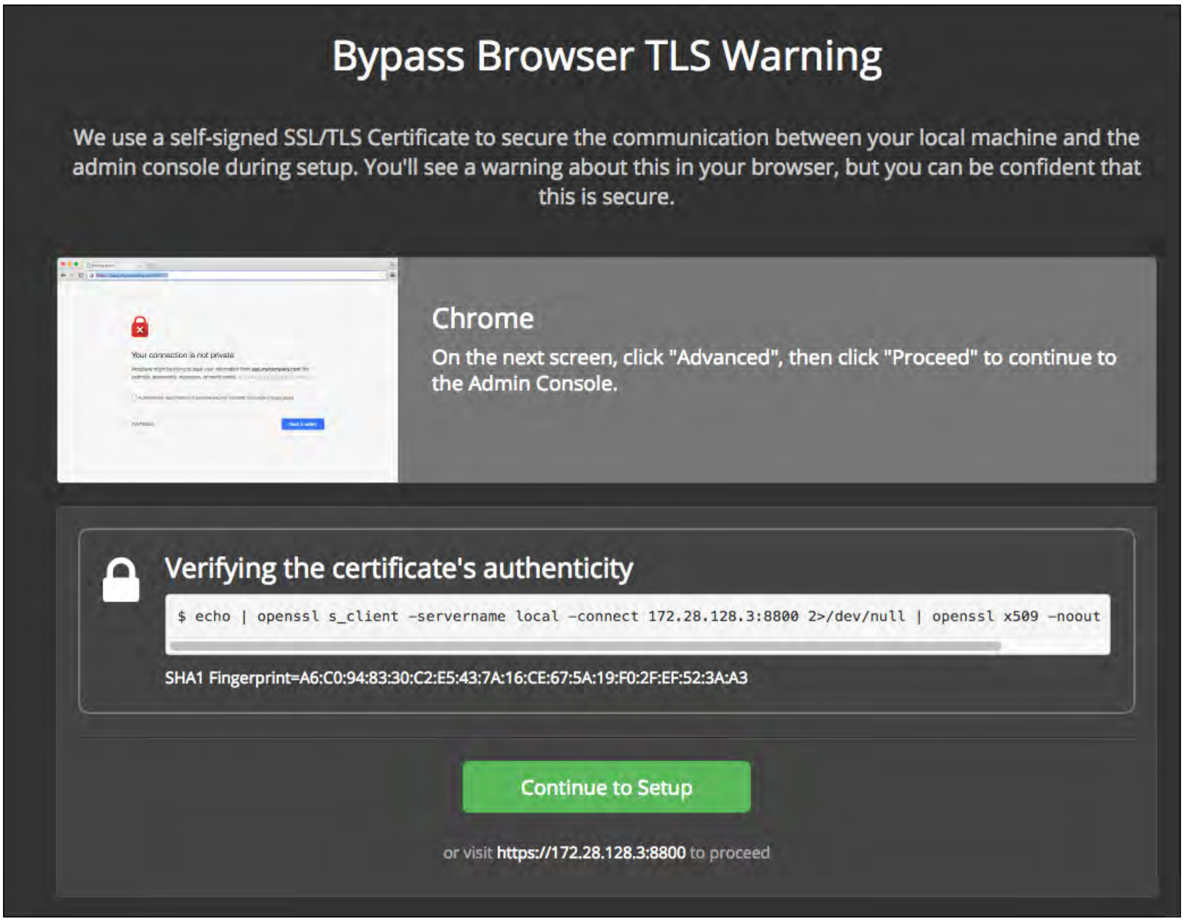
Bypass browser TLS warning

A Transport Layer Security (TLS) or Secure Sockets Layer (SSL) certificate is required to establish a link between the Admin Console (Replicated) and your browser.

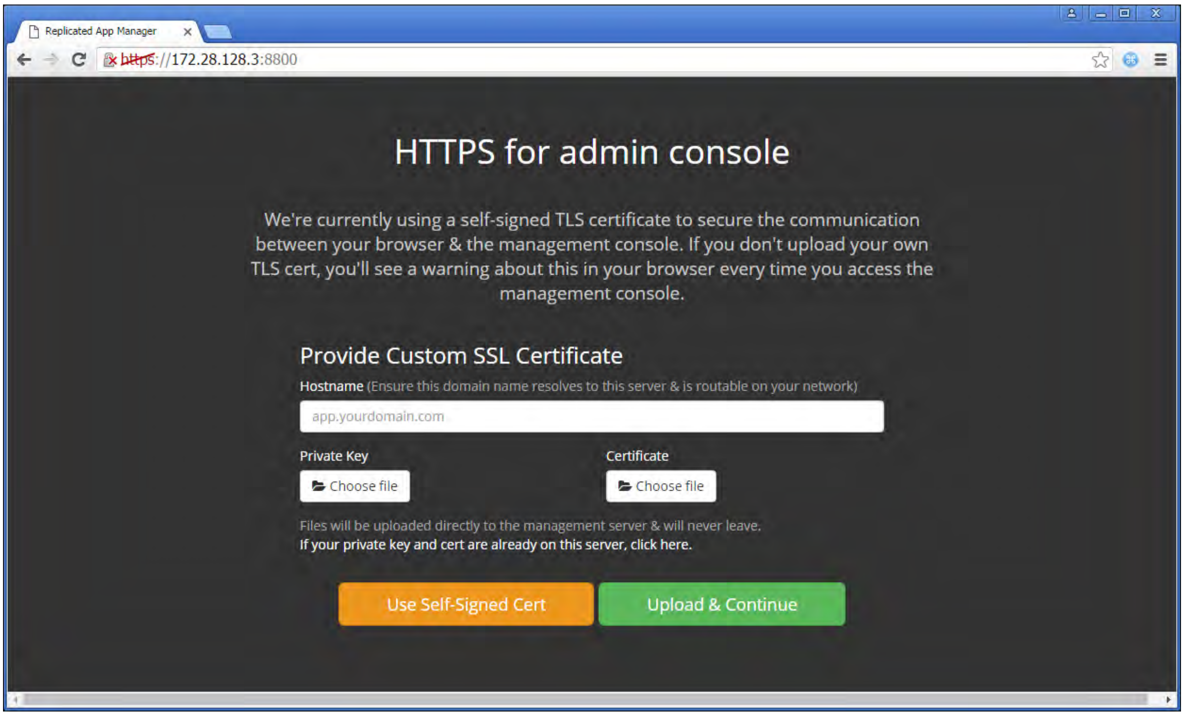
When configuring the Admin Console for the first time, you see a TLS warning with an option to bypass it with a self-signed certificate. If you have a trusted certificate, you can configure the certificate at any time [484]. If you continue with the self-signed certificate, you see a warning every time you access the Admin Console.

You can upload a TLS certificate and provide a private key if you have one. Private keys can't be password-protected. The key and primary certificate must be in PEM format, that's a base64 encoded x509 certificate.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Bypass Browser TLS Warning** section of the page.



3. Click **Continue to Setup** to upload a TLS certificate.



4. Click **Choose file** to select the key and certificate, then click **Upload & Continue**.
5. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.

- Later — Select **Cancel** and **Restart later**.

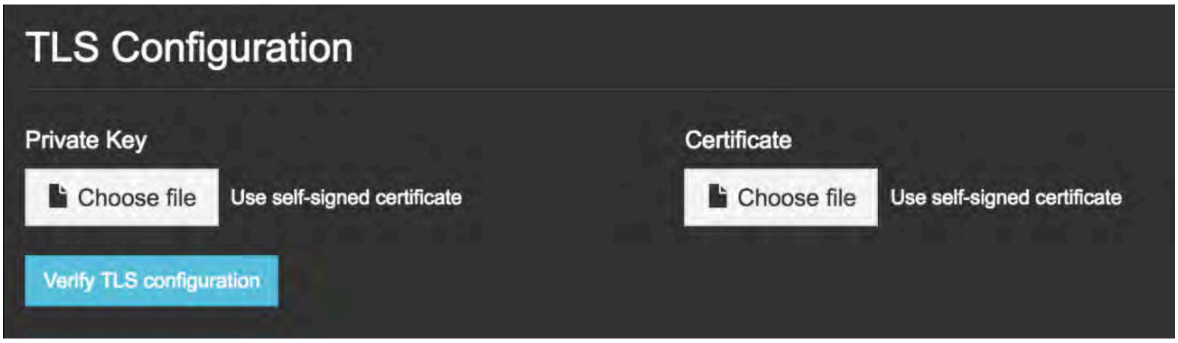
Configure TLS certificate

The settings for the TLS certificate can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

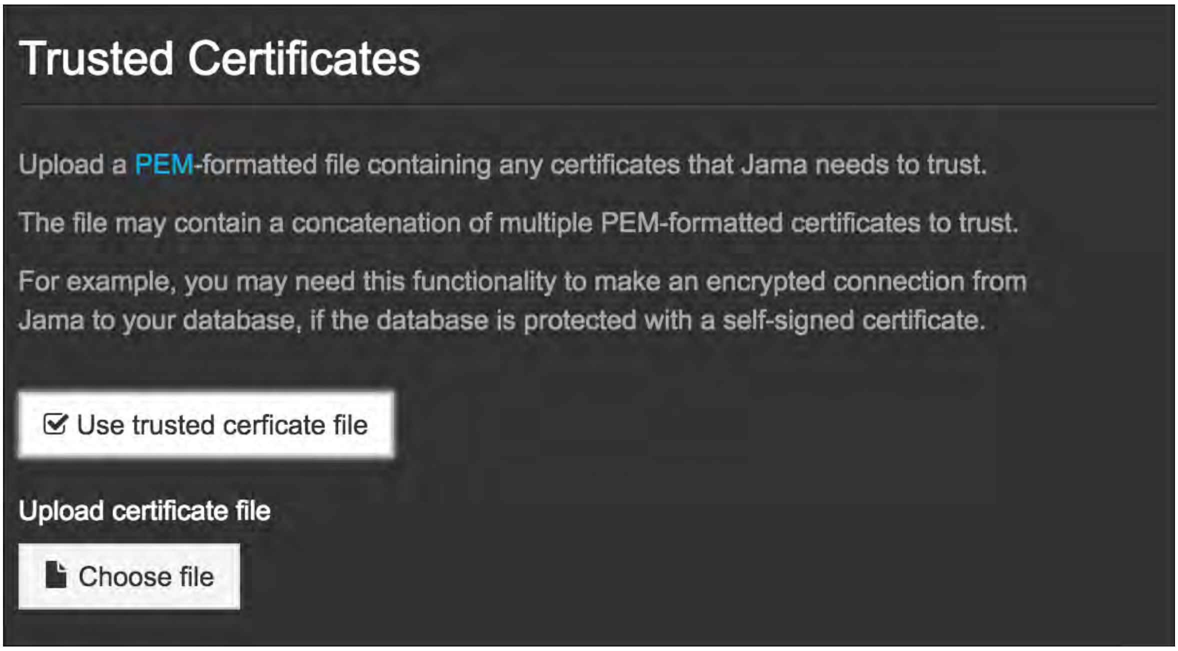
You can provide custom private key and TLS certificates to secure the application, or you can reuse the Admin Console certificate. You can also update your certificate [529] if it expires.

The certificate ensures that Jama Connect trusts the issuer.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **TLS Configuration** section of the page.



3. To link Jama Connect to a service protected by a certificate (self-signed or issued by a local authority):
   - **Private Key** — Click **Choose file** and select your private key.
   - **Certificate** — Click **Choose file** and select your self-signed certificate.
4. Select **Use trusted certificate file** to upload a PEM-formatted public certificate or multiples that are concatenated into a single file. These certificates are added to the default Java trust store. You might need this functionality to connect to your MySQL, SQL Server, LDAP, Crowd, IMAP, SMTP, or other internal servers from Jama Connect.



5. Scroll down to the bottom of the page and click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.

- Later — Select **Cancel** and **Restart later**.

Configure memory settings

Memory settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

Use the advanced memory settings to change the memory allocation of containers that are running Java processes.

jamacore service	Uses 6.5 GB plus a portion of the remaining total memory. *Recommended:* 6.5 GB + ($total-15 GB)*50%
Search service	Uses 1 GB plus a portion of the remaining total memory. *Recommended:* 1 GB + ($total-15 GB)*5%
Diff service	Default recommendation is 128 MB.
Elasticsearch	Uses 3.5 GB plus a portion of the remaining total memory. *Recommended:* 3.5 GB + ($total-15 GB)*20%
SAML service	Uses 1 GB plus a portion of the remaining total memory.
OAuth service	Uses 512 MB plus a portion of the remaining total memory.

Memory settings can be expressed as a simple formula, using:

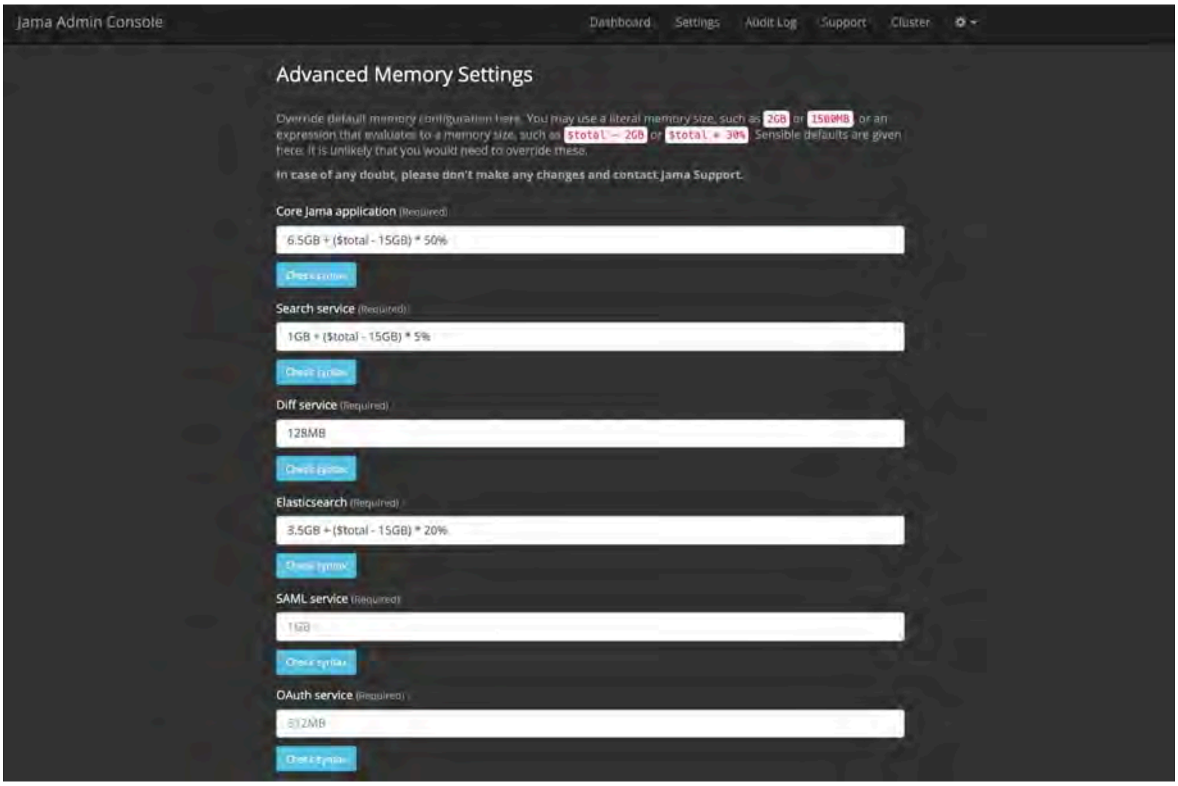
Operators	+ - / *
Brackets	( ) to specify order of operations
Variable	$total to reference the total memory of the application server
Numbers	with units KB, MB, or GB
Numbers	with percentages %

NOTE

When changing memory settings, make sure you don't over-allocate the total memory of the application server [430]. Monitor usage [525] and make sure to leave enough memory for system processes to run smoothly. For information, see Resource sizing for your application server [430].

To configure memory settings:

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Advanced Memory Settings** section of the page.



3. Use the default values. If you have performance issues, contact Support for help configuring these values.
4. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
5. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

Configure advanced startup settings

Startup settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

Enable Java Management Extensions (JMX) and set additional Java Virtual Machine JVM options (JAVA_OPTS) for the following containers that are running Java processes:

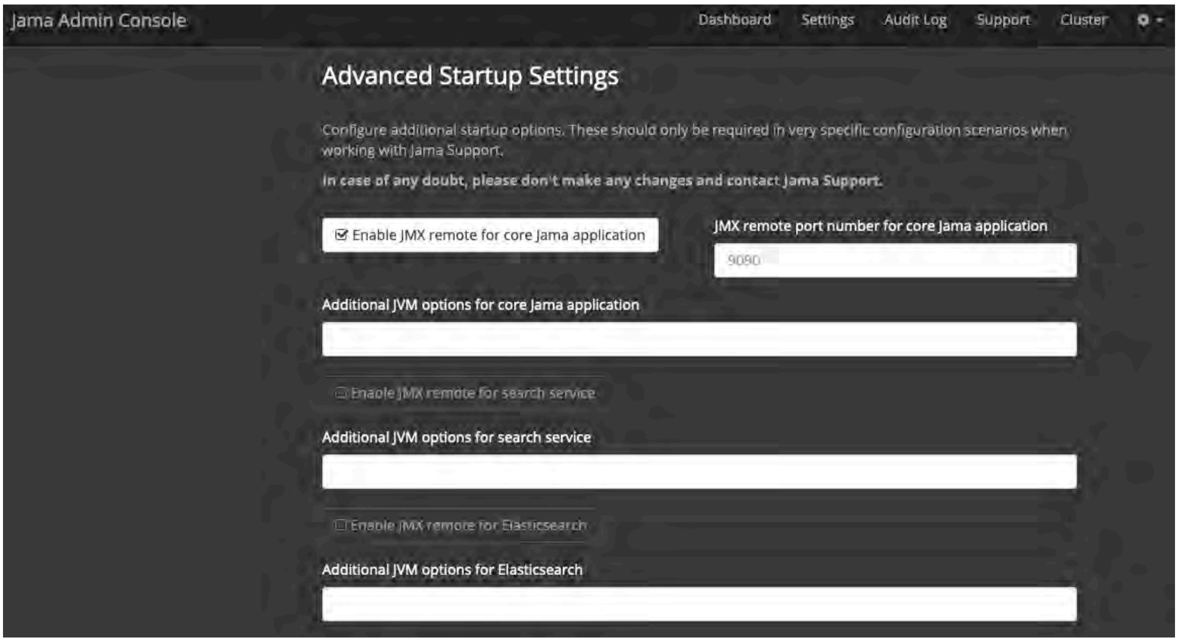
- The jamacore application
- Search service
- Elasticsearch

> **IMPORTANT**
> Each of these containers already adds a number of their own JVM options that might clash with additional JVM options configured here.

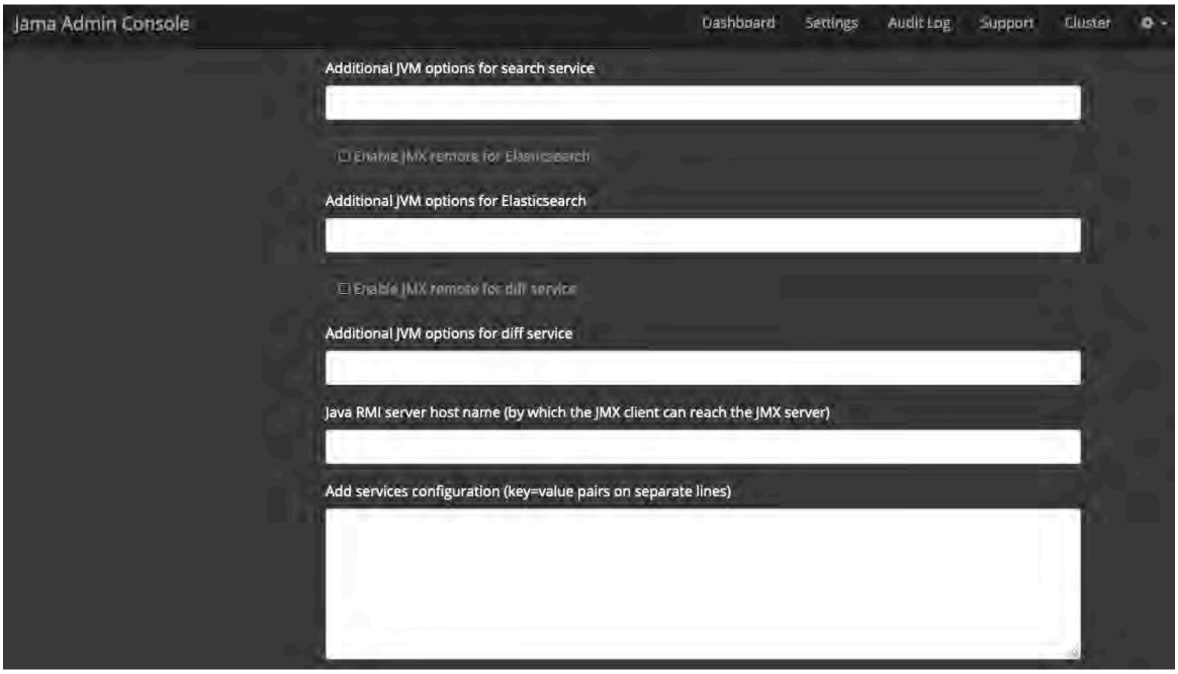
Use JMX support in a secure environment, because JMX ports have no authentication on the JMX ports when JMX is enabled. A formula can also be used [485] to set an exact memory amount.

To configure advanced startup settings:

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Advanced Startup Settings** section of the page.



3. Select **Enable JMX remote for core Jama application**.
4. Enter the JMX remote port number for the core Jama application.
   Don't overlap JMX ports between containers and don't overlap other ports that are already in use on the application server.
5. (Optional) Enter additional Java JVM options for Jama core, search service, and Elasticsearch.



6. Enter a Java RMI server hostname.
   A single Java RMI server hostname can be given that works across all containers that have JMX enabled. The host IP address is used by default. However, if the host IP address isn't accessible by the JMX client for the configured JMX ports, the public hostname or the public host IP is set here. If an SSH tunnel is used, set the hostname to "localhost."
7. (Optional) In the **Add services configuration** field, add services configuration specific to Jama Connect, such as throttling.
8. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
9. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.

- Later — Select **Cancel** and **Restart later**.

TIP

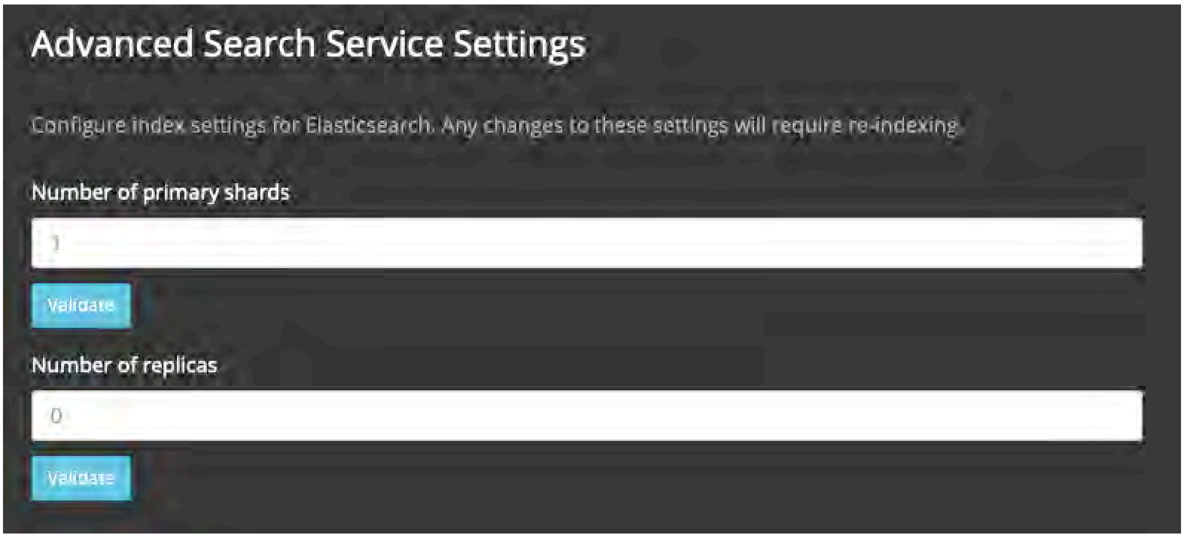
Garbage collection logging (GC logging) is automatically enabled for containers that are running Java processes. GC log files are available alongside other log files for the respective container [534]. When you restart Jama Connect [524], previous GC log files are packaged as a ZIP file. Typically, the default GC logging configuration is sufficient, but it's possible to override GC logging parameters through the **Additional JVM options for Jama core** field in admin console advanced startup settings [486].

Configure Advanced Search Settings

Advanced Search settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

Configure index settings for Elasticsearch. Making changes to these settings requires re-indexing.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **Advanced Search Service Settings** section of the page.

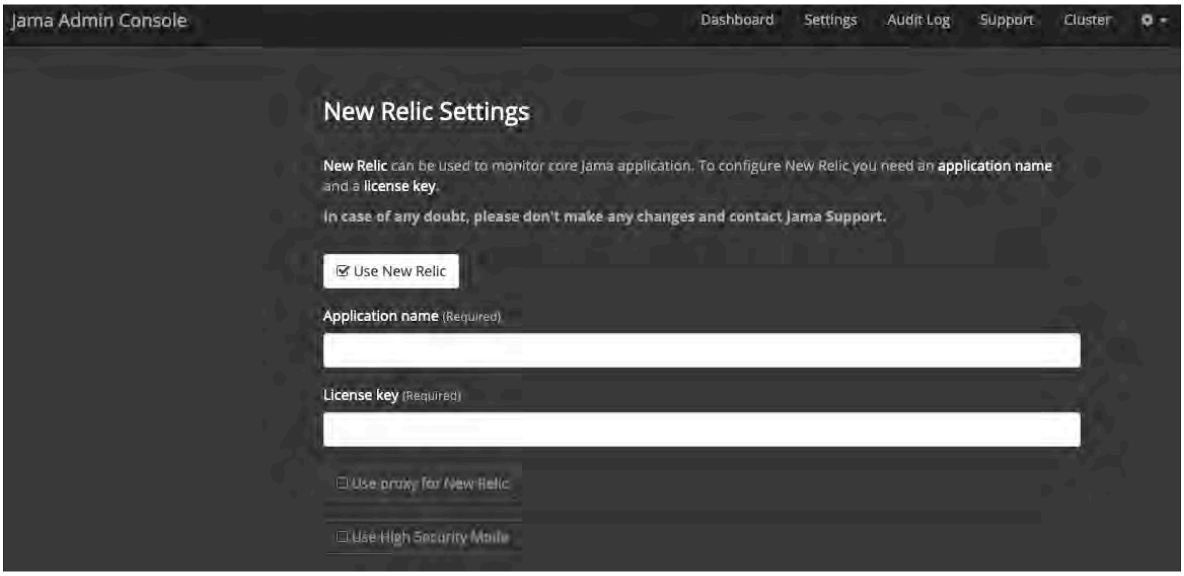


3. Accept the default values.
4. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
5. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

Configure New Relic settings

New Relic settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

1. In the header of the Admin Console, select **Settings** to open the Settings page.
2. Scroll down to the **New Relic Settings** section of the page.
   The "Application name" and "License key" are required to connect jamacore to New Relic.
3. For the Application name, enter **Jama**. If unsure where to find your license key, see the New Relic instructions.
4. (Optional) Select **Use proxy for New Relic** to expand the proxy settings. If you're using High Security Mode, make that selection to expand the settings.



5. Click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

Set a custom location for the MathType Equations Editor

Settings for the MathType Equations Editor can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

> **NOTE**
> The MathType Equations Editor requires a separate license. After your organization has purchased the license, and the system administrator sets up a location for the editor, users can access the editor in the Rich Text Editor [91] in Jama Connect.

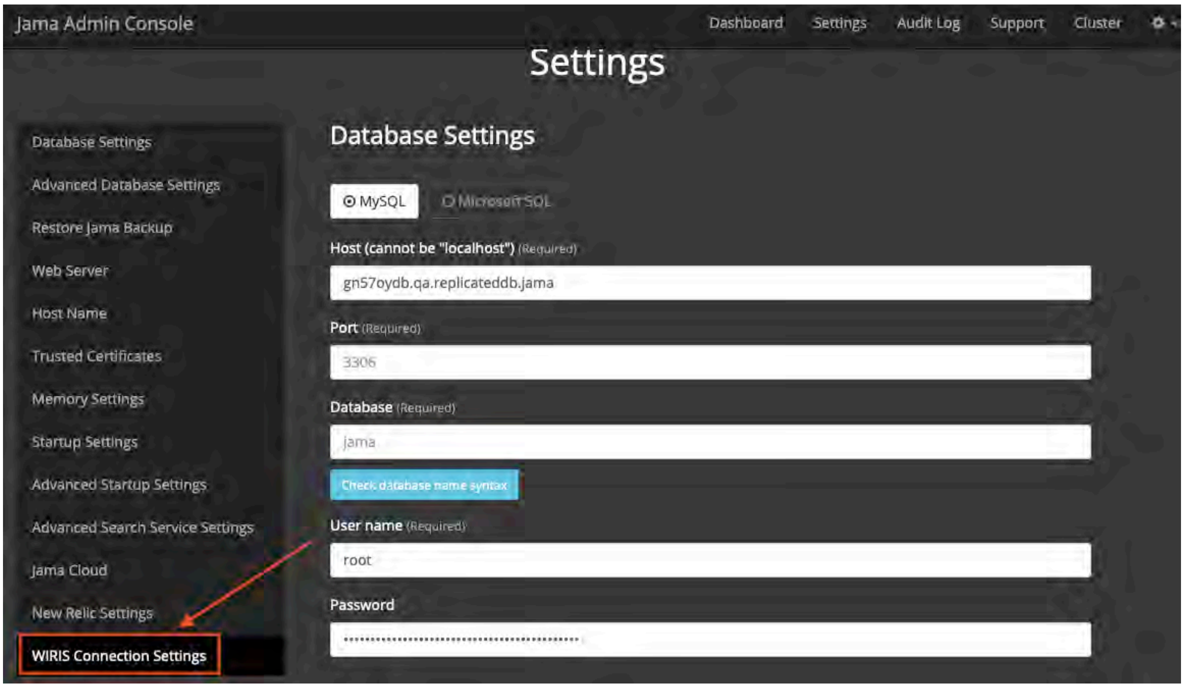
Airgap or self-hosted instances of Jama Connect can add math and chemical equation options to the rich text editor without making calls to an external server.

Before enabling the MathType Equations Editor, you must:

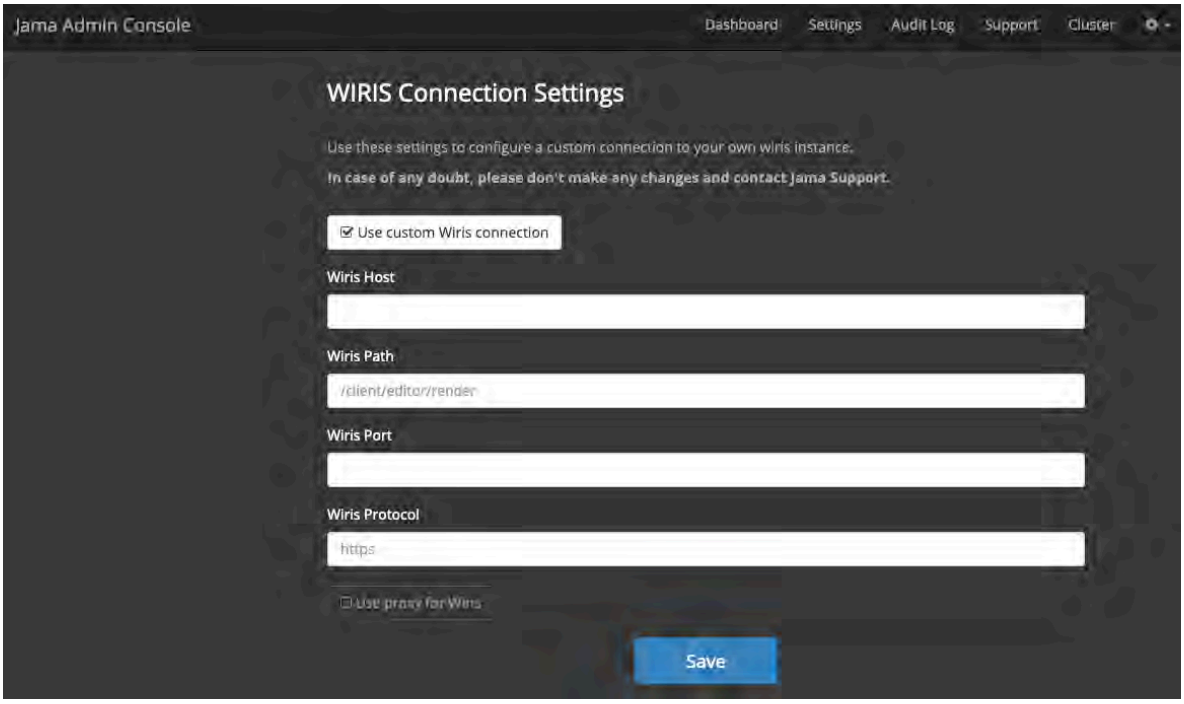
- Designate a server inside your environment that can listen for MathType calls and responses. Check for the latest supported version on the Community.
- Acquire a MathType license from Jama Software.

To configure settings for MathType Editor:

1. Log in to the Admin Console.
2. In the side panel, select **WIRIS Connection Settings**.



3. Select **Use custom WIRIS connection** to override default settings for communication with the WIRIS cloud servers.



4. Enter the following information for your designated MathType server:
   - **WIRIS host** (Required) — Enter the hostname of your MathType server. This must be accessible from both the Jama Connect application server and the user's browser. Don't include the port or protocol.
   - **WIRIS path** — Enter the context path followed by "render." Depending on how your server is set up, it might look like this:

     ```
     /editor/render
     ```
   - **WIRIS port** — The defaults are 80 for http and 443 for https. You can override these values by entering a different port number.

- **WIRIS protocol** — This is https or http. If you use https to link to Jama Connect, you must also use https for WIRIS.

  NOTE

  Additional settings for proxy are available but haven't been fully tested. You can use these settings if your Jama Connect instance needs to use a proxy to connect to the MathType server. However, these settings don't change how your browser connects to the MathType server.

5. Scroll to the bottom of the page and click **Save**. A message confirms that your settings were saved.
6. To apply settings, you must restart the application:
   - Immediately — Select **Restart now**.
   - Later — Select **Cancel** and **Restart later**.

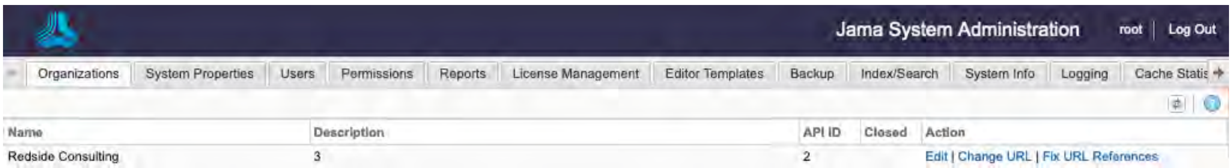
Setting up Jama Connect

NOTE

This information applies to self-hosted environments only.

Once you finish installing Jama Connect, continue with a few tasks for the initial setup of the application.

When logged in as root, you can access the System Administration page. From there you can complete the tasks for setting up and maintaining Jama Connect.



Administrator tasks

System administrators complete basic setup and maintenance tasks in the System Administration page. Some of these tasks can also be completed by an organization administrator.

Task	System admin	Org admin
Modify organization details [496]	X	
Configure general properties [498]	X	
Configure authentication properties [526]	X	
Manage users [568]	X	X
Manage permissions [657]	X	X
Manage reports [357]	X	
Monitor license usage [580]	X	X
Create editor templates [608]	X	X
Create a backup [516]	X	
Reindex search [534]	X	
Access system information [494]	X	
View log and profile [541]	X	

Task	System admin	Org admin
Clear cache [533]	X	
View scheduled jobs [533]	X	
View applied patches [533]	X	

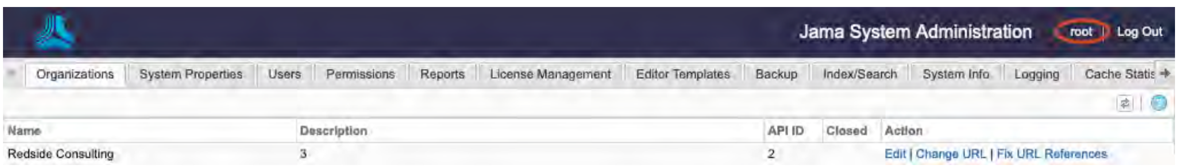
Log in as root for the first time

As a system administrator, you are the root user with a unique set of permissions [578] that allow you to access the System Administration page in Jama Connect.

The first time you log in as root, change the default password for the root user and edit any details in the My Profile page, such as email address, phone number, or location.

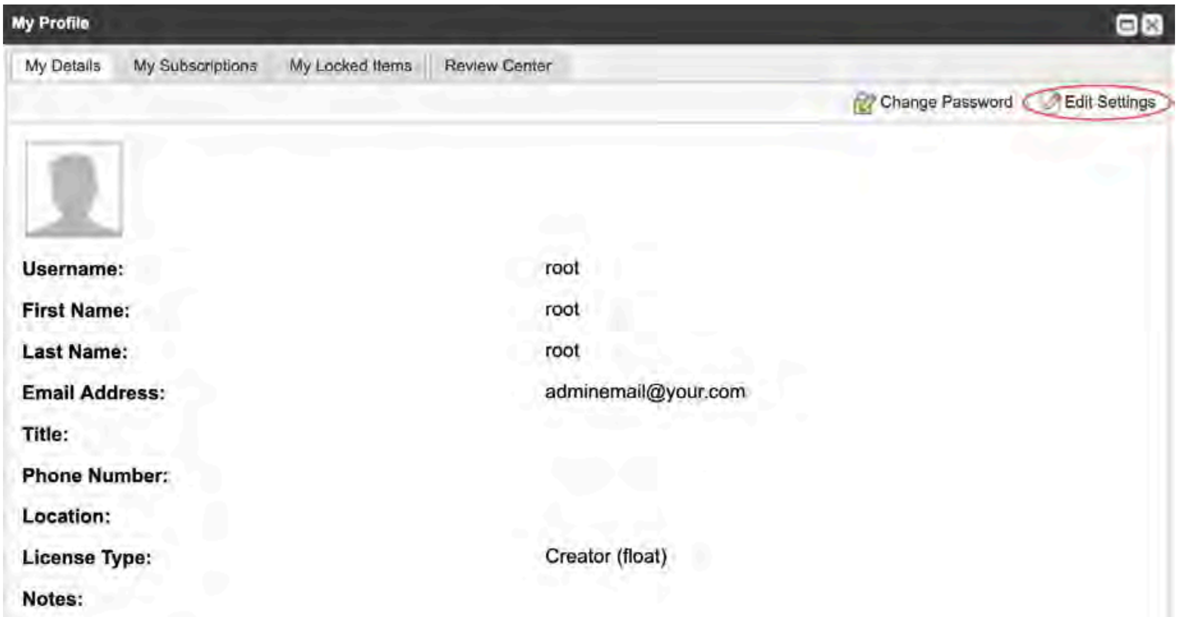
1. At the Jama Connect login page, enter the default credentials for root, then select **Sign In**.
   - **Username** = root
   - **Password** = password

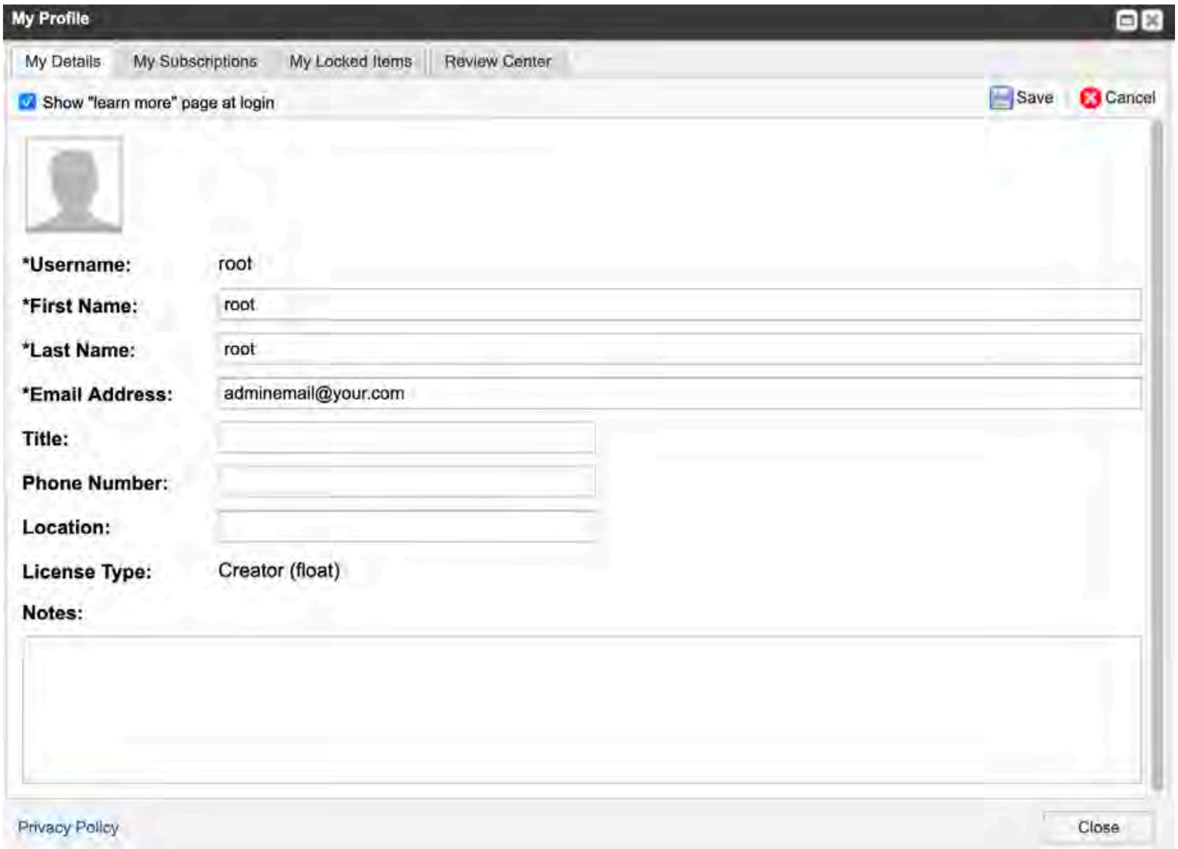
2. In the top right header, select **root**.



3. On the root user's My Profile page, select **Change Password**.

4. Enter the existing password, enter and confirm a new secure password, then select **Save**.
5. (Optional) Select **Edit Settings** to configure the root user email and any other details as needed.





6. Select **Save**, then select **Close**

Assign a new user as organization admin

Only system and organization administrators can assign roles or grant permissions to other users. If you configure an organization admin right after you install Jama Connect, you can share the tasks of setting up user accounts and permissions.

You must be have system administrator permissions to complete this task.

1. Log in to Jama Connect as the root user [492] or as an organization admin.
2. Select **Users > Add user**.

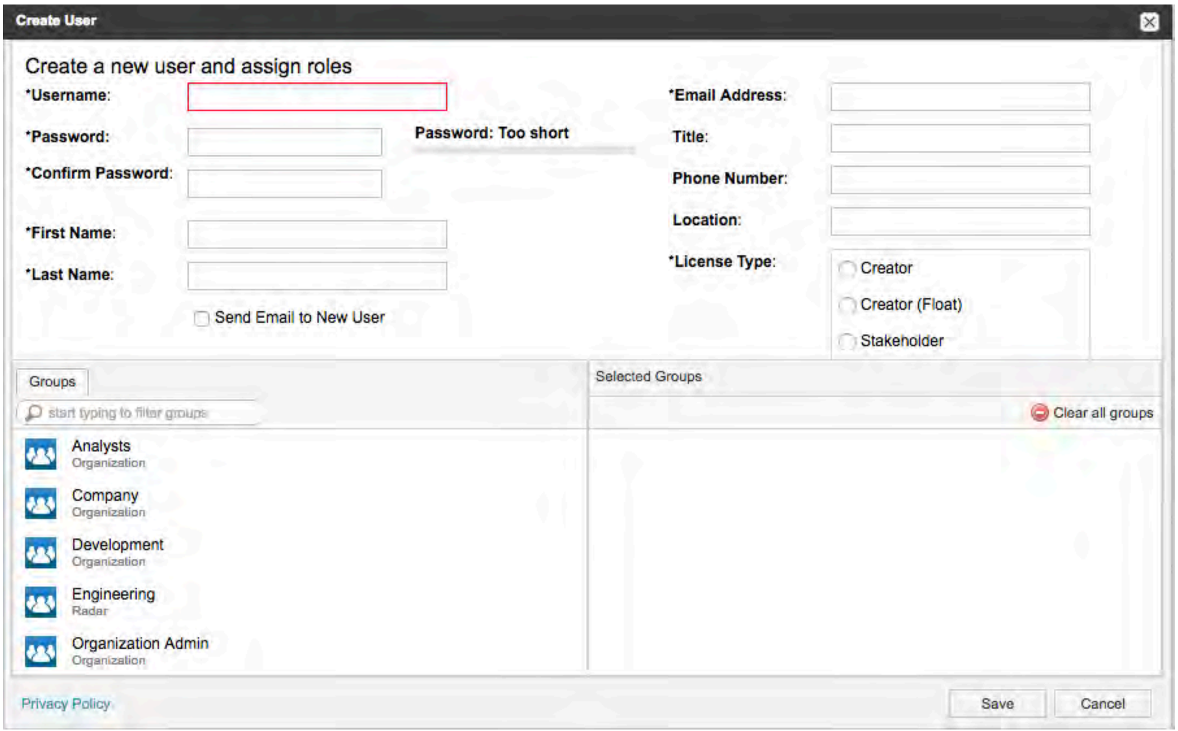
3. Select a user if LDAP is enabled:
   1. From the LDAP column that is added, select **Add user from LDAP**, enter the name of an existing LDAP user in the search box, then press **Enter**.

      TIP

      You can add wildcards to a search but don't add them at the beginning of a search term. Wildcards at the beginning can result in slow performance. For large directories, expect several minutes.

   2. From the search results, choose a user, then select **Add**.

4. Select a user if LDAP isn't enabled — Select **Add user**.
5. In the Create User page that opens, complete the information for a single user.



6. For License Type, select **Creator**.
7. Under Groups, select **Organization Admin** from the list.
8. Select **Save**.

Grant permissions to users

Permissions allow users access to create, read, and edit items. They are granted at different levels in your environment.

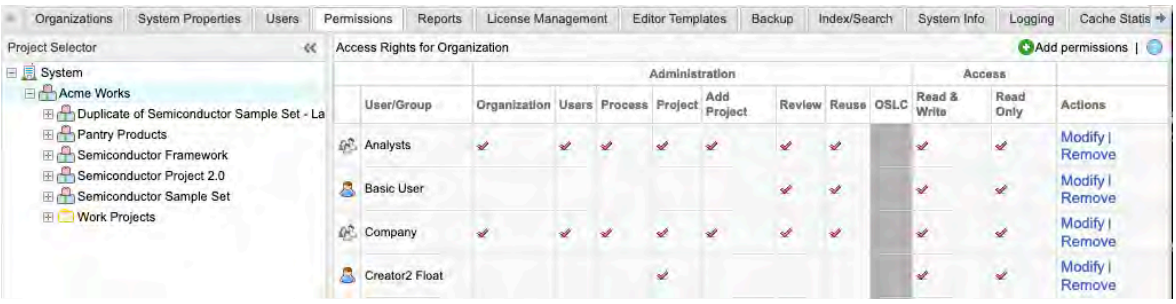
Types of permissions	Level	Notes
Roles [586] and access permissions	Organization level	Org-level permissions are passed on to lower levels.
Project admin permissions	Project level	
Access permissions	Container level and above	

TIP

Organization admin permissions can't be overridden. In releases prior to Jama Connect 8.62, there was the appearance that you could control an organization admin's access. However, that user could still see all projects and content, and if they wanted they could give themselves access. The addition of User, Process, and Add project roles decreases the need for a large group of organization admins. No updates or overrides that you created in the past have been removed, so we recommend that you remove them as your organization adopts these new admin roles.

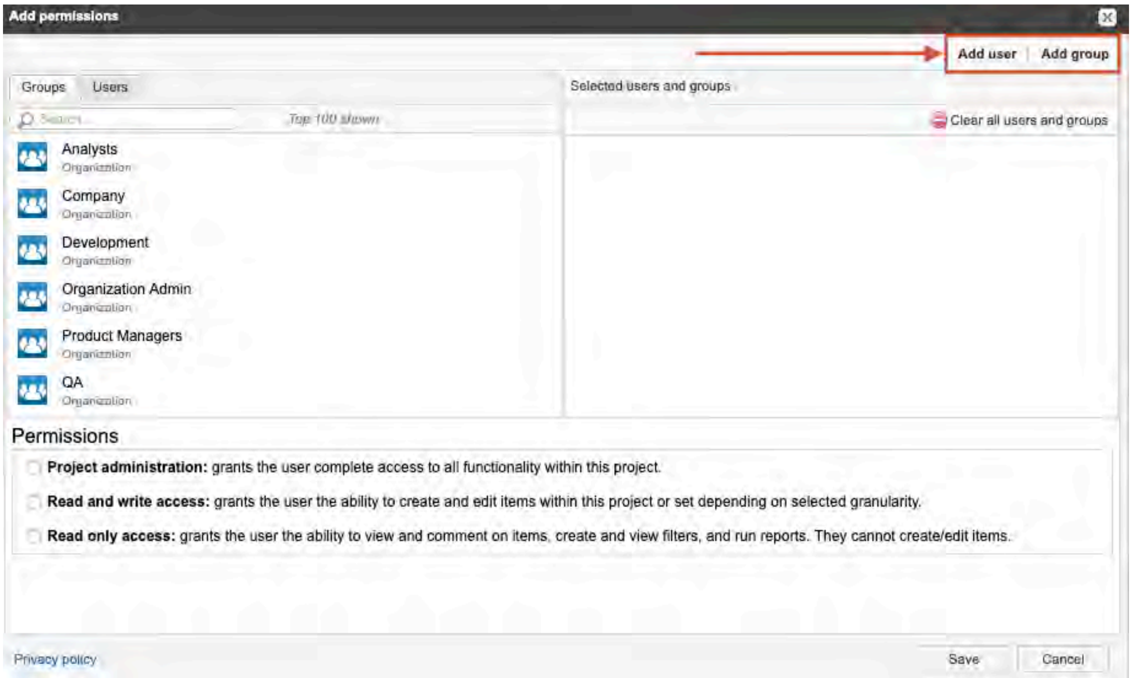
You can create new permissions for a user or group as well as modify existing permissions.

1. Log in to Jama Connect as the root user [492] or as an organization admin.
2. Select **Admin > Permissions**.



3. In the Project Selector on the left, choose the level where you want to access permissions.
   - Organization (**System**)
   - Individual project
   - Container

   The main page displays current permissions.
4. To change existing permissions for a user or group:
   1. Select **Modify** in the row of the user or group you want to change, select the permissions you want to include, and deselect what you don't want to include.
   2. Select **Remove** in the row of the user or group where you want to delete permissions.
5. To add permissions for a user or group:
   1. Select **Add permissions** in the top right.
   2. In the Add permissions page that opens, select **Add user** or **Add group**.

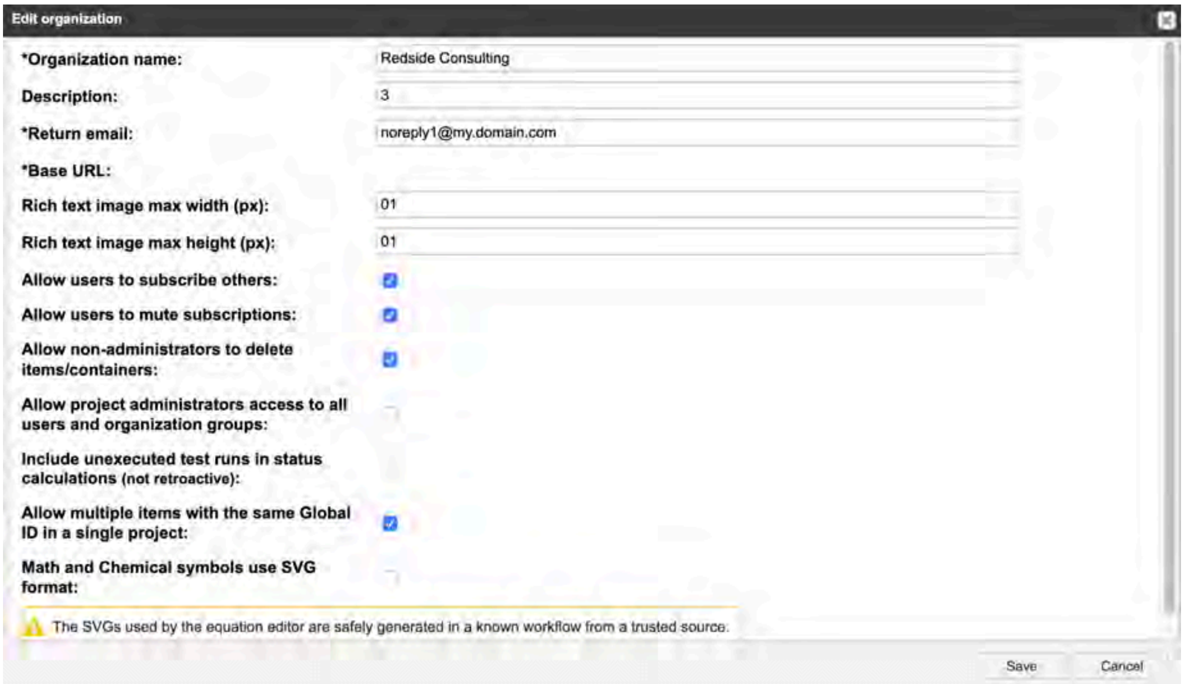
   

   - **Existing user or group** — Select a user or group from the list on the left, then under Permissions, select the role (access permissions) for that user or group.
   - **New user or group** — Select **New user** or **New group** in the top right corner of the page. Then under Permissions, select the role or access permissions for that user or group.
   3. Select **Save**.

Edit organization details

As a system administrator, you can change your organization’s information such as the name, description, or return email address.

1. Log in to Jama Connect as the root user [492].
2. Select **Organizations > Edit**.



3. Enter or change any of the following information:
   - **Organization name** — Typically the name of your company or team. This name appears in the application as well as in reports.
   - **Description** — Additional information about your company.
   - **Return email** — Email notifications automatically sent by the application. Typically, the organization administrator's email address is used or noreply@example.com.
   - **Base URL** — The base URL is used to create URLs sent in email notifications and embed images in exports.
   - **Rich text image max width (px)** — Maximum pixel width setting that shrinks all images embedded into rich text fields. Default 0 means no max width is applied.
   - **Rich text image max height (px)** — Maximum pixel height setting that shrinks all images embedded into rich text fields. Default 0 means no max height is applied.

   > **NOTE**
   >
   > Images retain their aspect ratio when adjusted to fit the maximum setting of height or width. The adjustment only happens during an upload or document import. Images that already exist on the server are not adjusted. Compression is based on the width and height setting applied.

   - **Allow project admins to subscribe to others** — Allows project administrators to subscribe other users to items.
   - **Allow users to mute subscriptions** — Allows users to turn off a subscription that was subscribed to by another user.
   - **Allow non-administrators to delete items/containers** — Allows a user to delete items even if they don't have organization admin permissions. Default is On.
   - **Include unexecuted test run in status calculations (Not retroactive)** — Jama Connect uses all associated test runs to automatically calculate test case status.

> **NOTE**
> For test cases associated with a single plan, test case status reflects the status of the test run with the *most recent activity*, which includes unexecuted tests (if enabled). When the case is associated with multiple plans, the *most urgent status* is chosen in this priority order: unexecuted, failed, blocked, scheduled, passed.

Select this box to include unexecuted test runs in the calculation of test case status (default). Uncheck this box to remove unexecuted test runs from the status priority order.

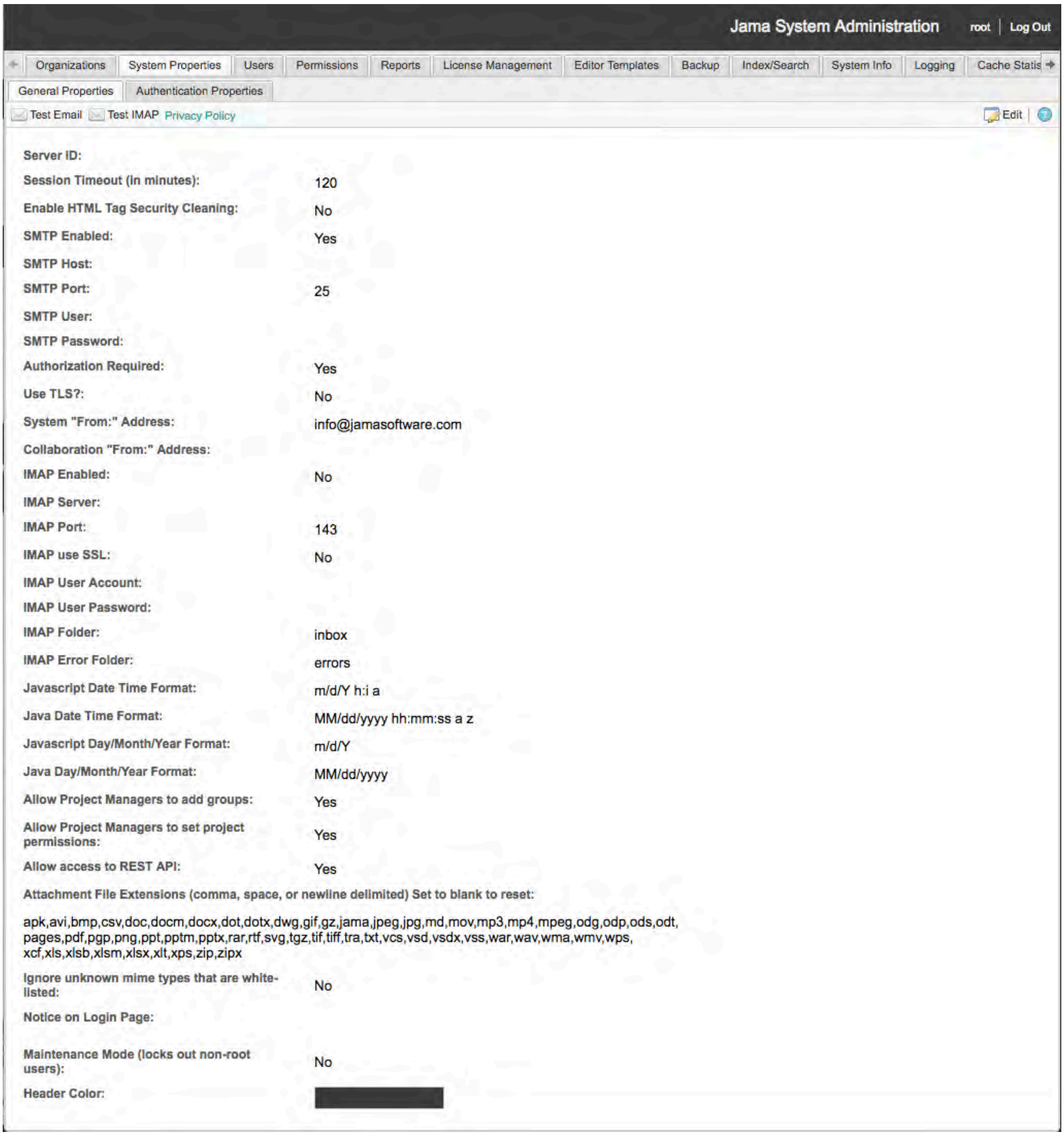
If you don't include unexecuted test runs and there are no executed test runs, the system defers to including unexecuted test runs.

- **Allow multiple items with the same Global ID in a single project** — Allows items to be reused multiple times within one project. Default is off.

Configure general properties

The general properties need to be configured for all Jama Connect installations. Properties include configuring email, the session timeout value, and any messages you want to display on the login page.

1. Log in to Jama Connect as the root user [492].
2. Select the **System properties** tab in the Jama System Administration panel, then select **Edit** in the top, right corner.



3. Change any of the following settings.
   - **Session timeout** — Automatically disconnects idle users after a set time (default is 120 minutes). When a session times out, the user is prompted to log in and their license is released. Recommended when using floating licenses.
   - **Enable HTML tag security cleaning** — Prevents suspicious HTML tags from being added to new and modified rich text fields and test steps. Doesn't clean up data retroactively. Enabled by default.
   - **SMTP settings** — Settings that affect notifications and subscriptions.

SMTP Enabled	Select **Yes** to use SMTP.
SMTP Host	The domain address of your SMTP server.
SMTP Port	The port for SMTP access.
SMTP User	User account to access SMTP.
SMTP Password	Password for the user account.
Authorization Required	Select **Yes** if authorization is required for the SMTP server.
Use TLS	Select **Yes** if your mail server uses TLS. Jama Connect supports only Explicit (Opportunistic) SSL/TLS connections for SMTP.

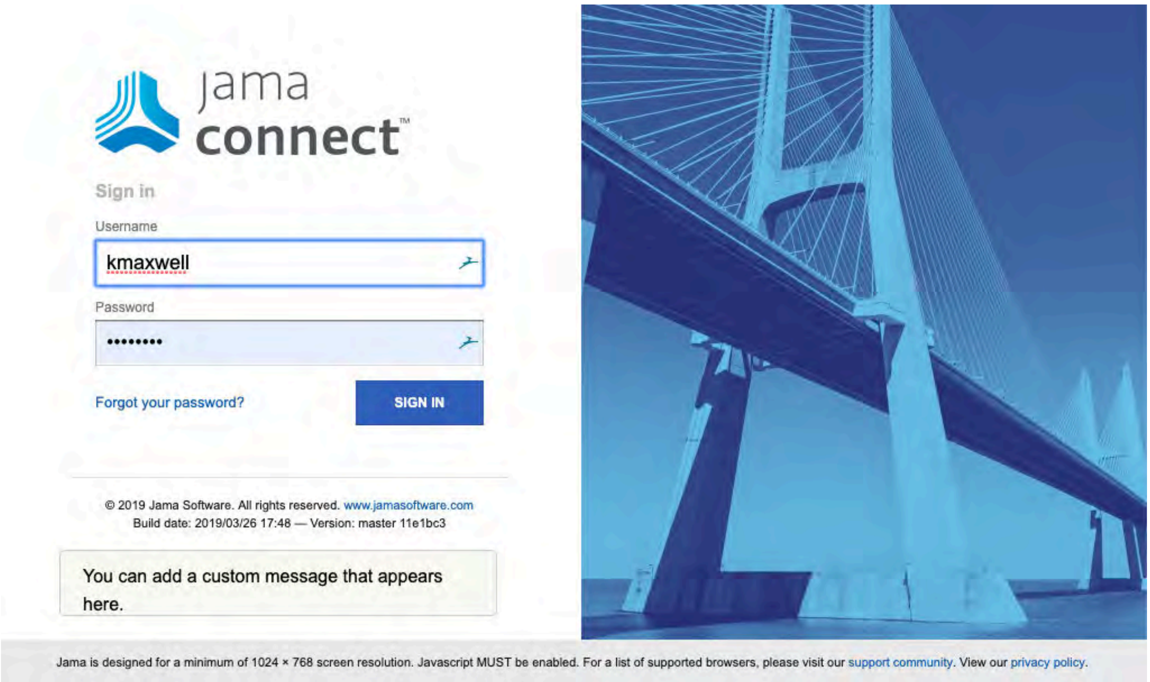
- **Collaboration from Address/IMAP** — IMAP must be supported to enable reply-to e-mails in the stream [214].

System "From" address	Enter an address for the system to use when it sends notifications or other system messages (for example, info@mycompany.com).
Collaboration "From" address	Must match the email address used for IMAP, so replies to stream emails are sent to the same account that processes incoming mail (for example, replyto@mycompany.com).
IMAP enabled	Select **Yes** to use IMAP and stream emails.
IMAP server	Enter the domain address of your email server (for example, imap.gmail.com).
IMAP port	The port for IMAP access, typically different from SMTP. Standard ports are Non-SSL:143, SSL:993.
IMAP use SSL	Select **Yes** to use SSL.
IMAP user account	Enter a user account for someone with access to the folder where IMAP emails are saved.
IMAP user password	Enter the password for the user account.
IMAP folder	Folder where collaboration emails are sent or saved (for example, Inbox). Must be accessible to the person with the IMAP user account.
IMAP error	Folder where IMAP collects parsing issues or errors.

- **Time and date formatting** — Set the time to meet the needs of your users.
  Set the time to meet the needs of your users.
  Java and JavaScript do not use the same date-time syntax. Review the difference before setting the values. Some typical formats for JavaScript are **m/d/Y h:I a** and **m/d/Y**. Some typical formats for Java are **MM/dd/yyyy hh:mm:ss a z** and **MM/dd/yyyy**.
  If you use Windows, enable **Adjust for daylight saving time automatically** is in Windows **Date and time** settings so that the time zone is displayed correctly in reviews.
  The Trace View date format is inherited from a different format than other items in the application. To match formats, you must have the Javascript Day/Month/Year format and Javascript Date/Time format in the same order. This is most notable when using a European date format.
- **Allow project administrators to add groups** — Select **Yes** for project administrators to add groups [651]. Otherwise, only system and organization administrators can add groups.
- **Allow project administrators to set project permissions** — Select **Yes** for project administrators to grant project permissions [653]. Otherwise, only system and organization administrators can grant permissions.
- **Allow access to REST API** — Enables users to perform actions in Jama Connect from outside the user interface.
- **Attachment file extensions** — List of file types (lowercase, separated by commas, periods, spaces, or newline characters) that can be uploaded as an attachment.

> **NOTE**
>
> Files are rejected if the content of the file doesn't match the file extension, or if the MIME type is not understood by the system, even if the file type is listed here. To allow files of an unknown type, set the option to a blank string.
>
> File extensions must be lowercase even if the actual extension on the file is uppercase. Learn more.

- **Notice on login page** — Displays a notice to users below the login page and in a yellow bar at the base of the application page.



NOTE

This login page might not be visible if you are using SSO or SAML logins.

- **Maintenance mode** — Logs out and locks out all users except the root user until this option is disabled.
- **Set header color** — Helps to differentiate test or staging instances from the production instance of Jama Connect.

4. Select **Save**.

Configure Basic authentication

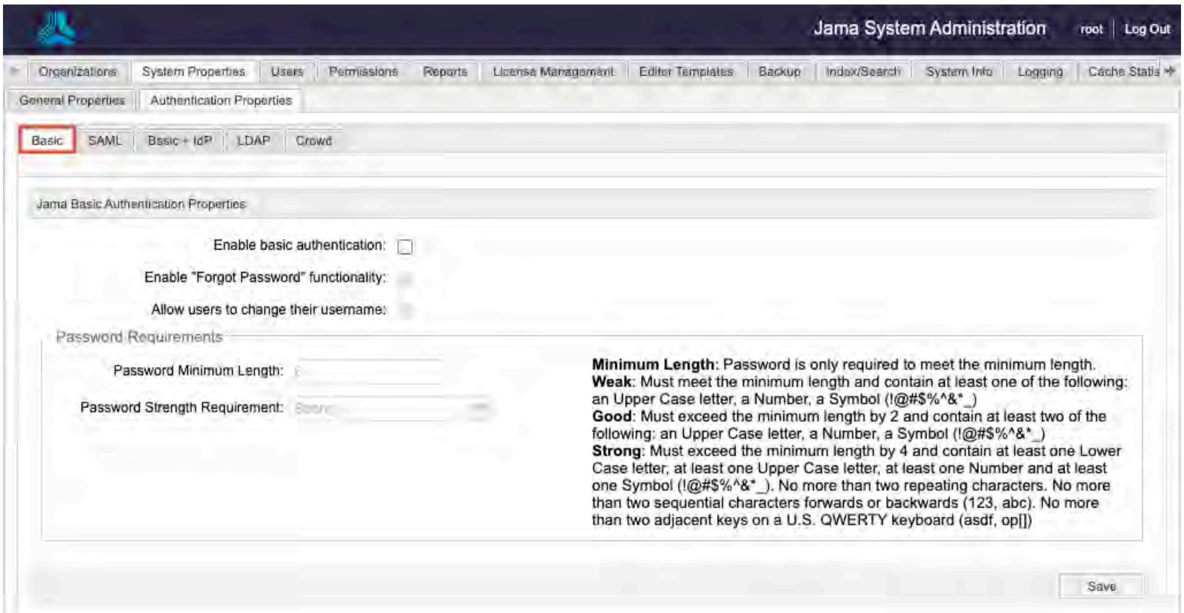
The default authentication method is Jama Connect Basic, which authenticates users by their username and password that are stored in the Jama Connect database. Passwords are encrypted before they are stored in the database.

NOTE

You must be a system administrator to complete this task.

To configure the Basic authentication properties:

1. Log in to Jama Connect as the root user [492].
2. Select **System Properties > Authentication Properties > Basic**.



3. Configure the authentication properties for the method you are using.
   - **Enable basic authentication** — Enabled by default. You must deselect this option to use LDAP or Crowd.
   - **Enable "Forgot Password" functionality** — Users who forget their password can request a new password without notifying the system admin.
   - **Allow users to change their username** — Users can change their username when they manage their profile [37].
   - **Password requirements** — Set the required password strength for all future passwords. New user passwords must meet the required password strength to be saved. Changes to these settings do not affect passwords already in the system.
4. Click **Save**.

Configure SAML authentication

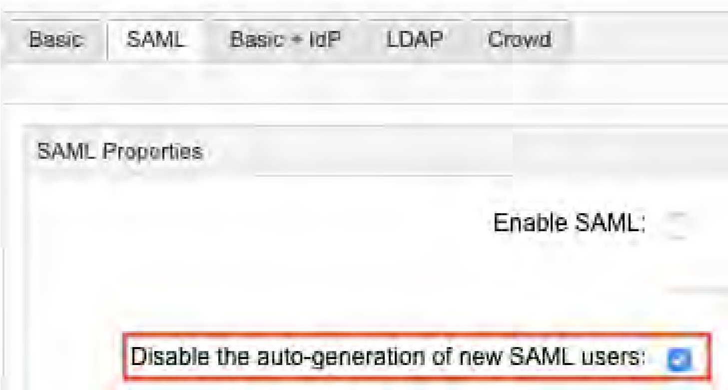
To configure SAML authentication, you must first update the authentication properties.

Important considerations

- **Cloud customers** — Contact support to schedule enablement.
- **Self-hosted customers** — Follow these steps to configure multi-mode authentication.
- To connect multiple instances of Jama Connect to the SAML service, you must create unique metadata or applications for each instance through the identity provider. This is true for any combination of production, sandboxes, or self-hosted instances. The entity ID is a unique value that allows the service and identity provider to locate each other and send users to the correct Jama Connect instance.
- We recommend testing an integration instance before using SAML on a production instance. For example, disable a sandbox instance from SAML before connecting on a production instance.
- Starting with Jama Connect 8.48, organizations that use SAML can use electronic signatures [225], which are enabled by default. If your identity provider (IdP) can't process the re-authentication, you can disable signatures.
- You can enable a different authentication method at any time. If you do, SAML is disabled.
- You can control the auto-provisioning of new SAML users in both single SAML and multi-mode. If your users are set up in SAML but not yet added to your Jama user table, this option allows you to control whether users can auto-provision in Jama Connect.

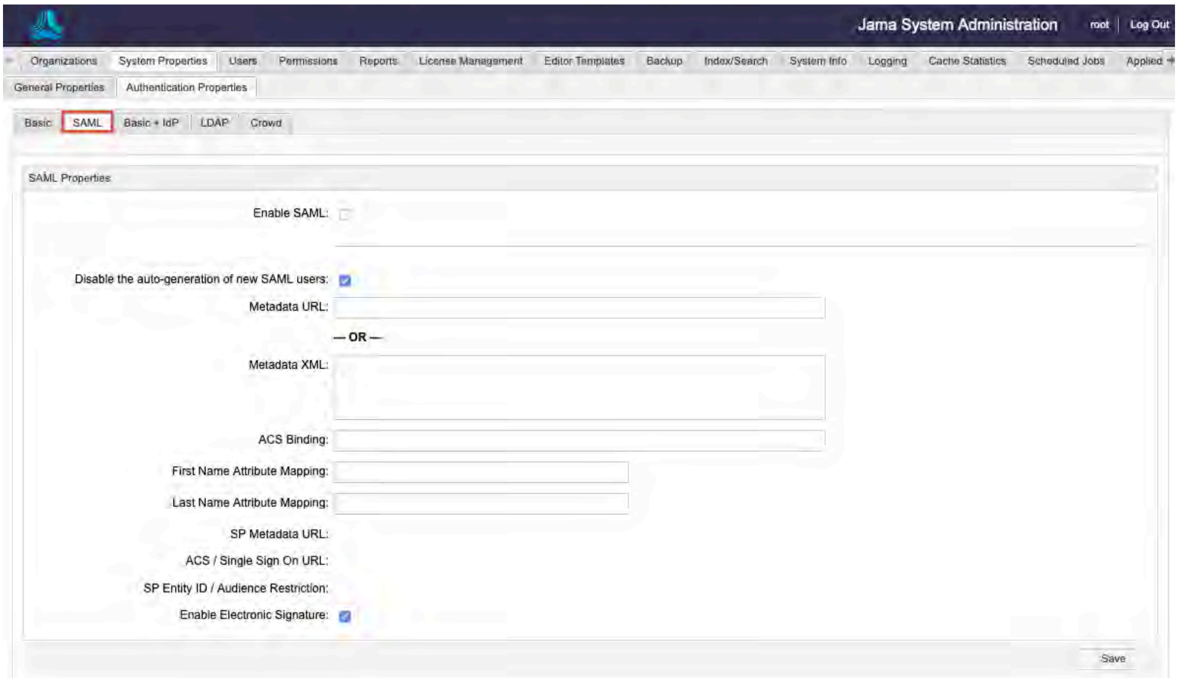
  When this option is selected and properties are saved, your SAML users (SAML and multi-mode) can’t sign in to Jama Connect until you add them to the Jama user table. A message tells them to finish the authentication process with their administrator.

This option is selected by default after you upgrade to 8.62.



To configure SAML authentication:

1. Log in to Jama Connect as the root user [492].
2. Select **System Properties > Authentication Properties > SAML**.
3. *Before you enter data*, select **Enable SAML**, then click **Save**.



4. Contact your identity provider for the metadata URL or XML, then paste it in the appropriate field. If a connection is established, the last three read-only fields are auto-populated with a URL.
   - **SP metadata URL** — https://saml-or.jamacloud.com/saml/metadata/alias/defaultAlias
   - **ACS / single-sign-on URL** — https://saml-or.jamacloud.com/saml/SSO/alias/defaultAlias
   - **SP entity ID / Audience restriction** — https://saml-or.jamacloud.com/saml/metadata/alias/defaultAlias

   If the connection doesn't work, you might need to adjust the information in the **ACS binding**, **First name attribute mapping**, and **Last name attribute mapping** fields or contact support.

TIP

The mapping fields serve as the key that connects user identity between Jama Connect and your identity provider. If name attribute mapping fields aren't specified, then a new user's full name defaults to their email address.

5. Click **Save**.

Once SAML is enabled, Jama Connect redirects all users to the identity provider's login page. The Jama Connect login page is only accessible for system administrators if they log in as the root user with this URL:

```
https://your-jama-url/casper/login.req
```

Configure multi-mode authentication

The combination of Jama Connect Basic and SAML authentication (**Basic + IdP**) provides extra security by separating your internal users from external partners.

Important considerations

- **Cloud customers** — Contact support to schedule enablement.
- **Self-hosted customers** — Follow the steps in this task to configure multi-mode authentication.

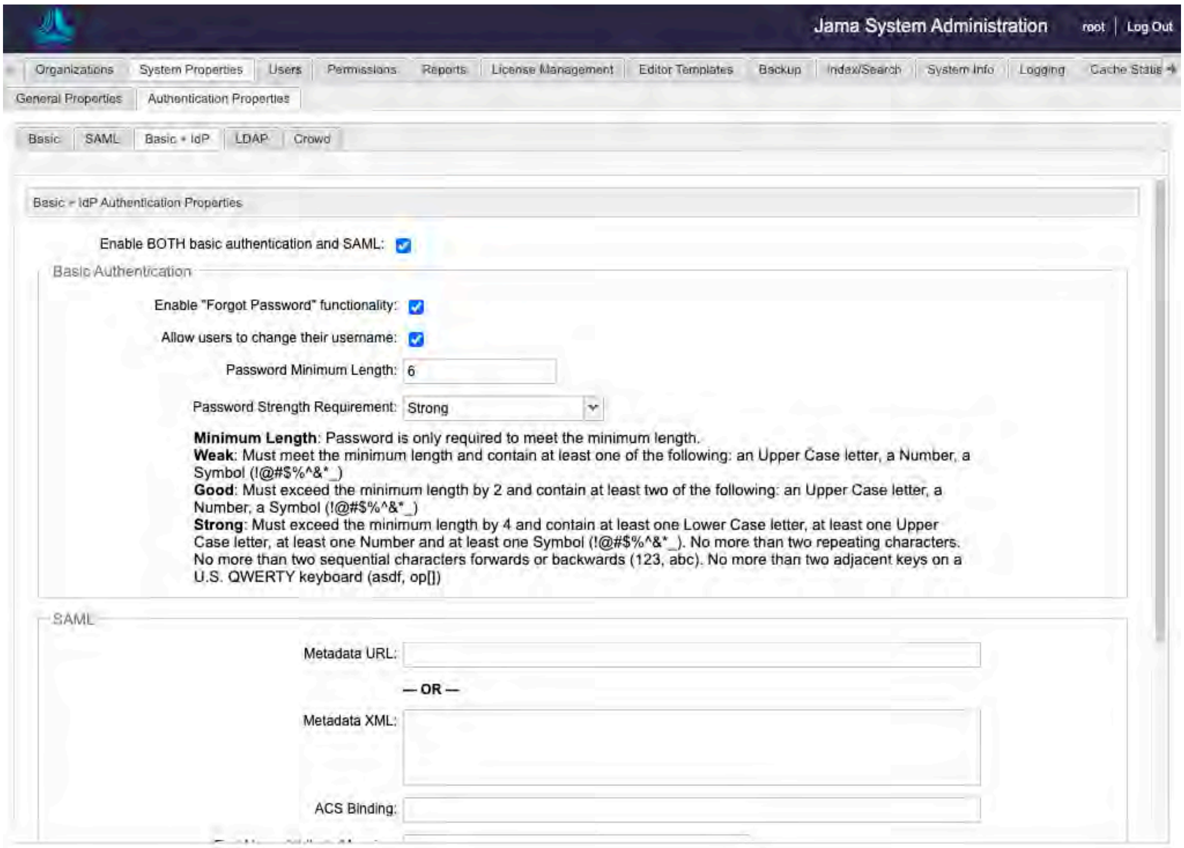
To configure multi-mode authentication:

1. If you haven't entered the SAML metadata in the root menu, go to the SAML tab and enter it there.
   - Contact your identity provider for the metadata URL or XML, then paste it in the appropriate field. If a connection is established, the last three read-only fields are auto-populated with a URL.
     - **SP metadata URL** — https://saml-or.jamacloud.com/saml/metadata/alias/defaultAlias
     - **ACS / single-sign-on URL** — https://saml-or.jamacloud.com/saml/SSO/alias/defaultAlias

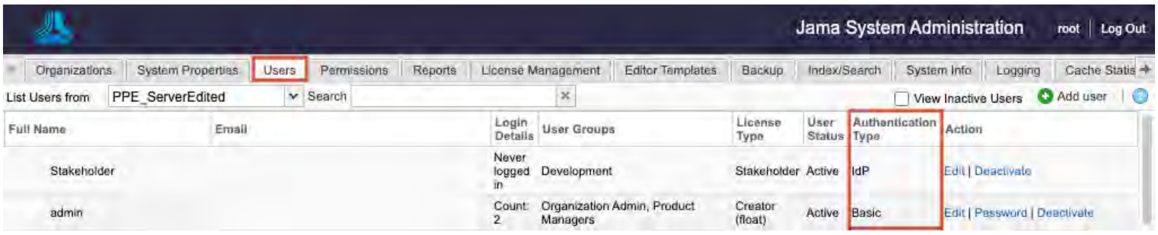
- **SP entity ID / Audience restriction** — https://saml-or.jamacloud.com/saml/metadata/alias/defaultAlias
  If the connection doesn't work, you might need to adjust the information in the **ACS binding**, **First name attribute mapping**, and **Last name attribute mapping** fields or contact support.

> **TIP**
> The mapping fields are the key that connects user identity between Jama Connect and your identity provider. If name attribute mapping fields aren't specified, a new user's full name defaults to their email address.

2. Log in to Jama Connect as the root user [492].
3. Select **System Properties > Authentication Properties > Basic + IdP**.



4. Select **Enable BOTH Basic authentication and SAML**, then click **Save**.
   The Basic + IdP tab transitions can now accept input. While the Basic and SAML tabs are now read-only This type of input is the same on both tabs: Basic and SAML.
5. Complete the Basic and SAML sections in the Basic + IdP tab:
   Basic — Fill out the the Basic Authentication section.
   SAML — If you haven't entered the SAML metadata in the root menu, complete the following steps in the SAML section of the Basic + IdP tab.
6. Click **Save**.
7. Confirm the configuration was successful.
   - Select the **Users** tab, then verify that the Authentication Type column appears in the table.
     If you see the Authentication Type column, Basic + IdP authentication is now enabled.



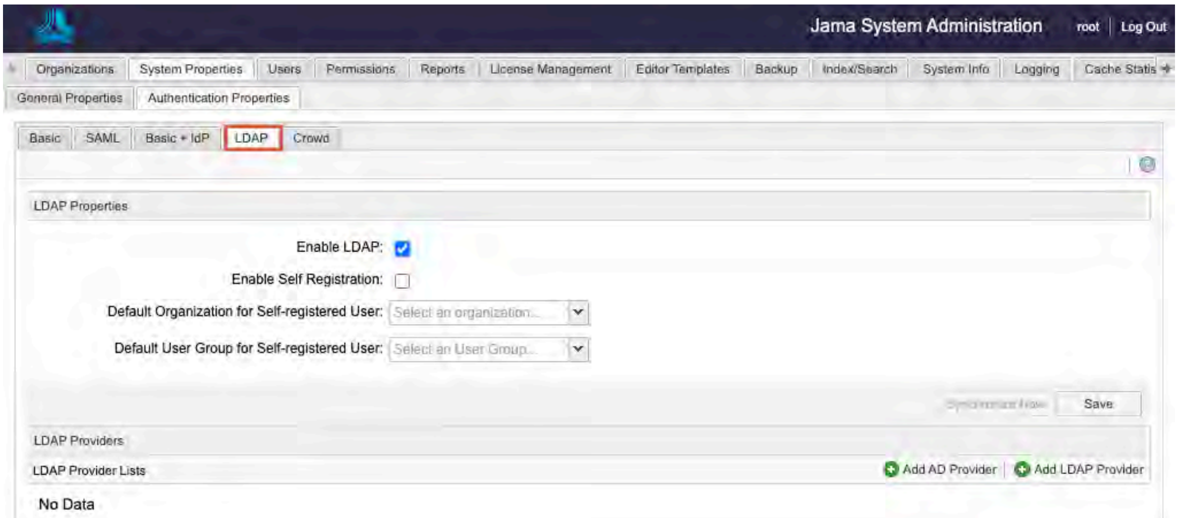
Configure LDAP authentication

LDAP (Lightweight Directory Access Protocol) is a tool for organizations to centralize the management of user accounts. Jama Connect includes a built-in integration for LDAP and Microsoft Active Directory.

LDAP must be configured before it can be used in Jama Connect to authenticate users against your LDAP server.

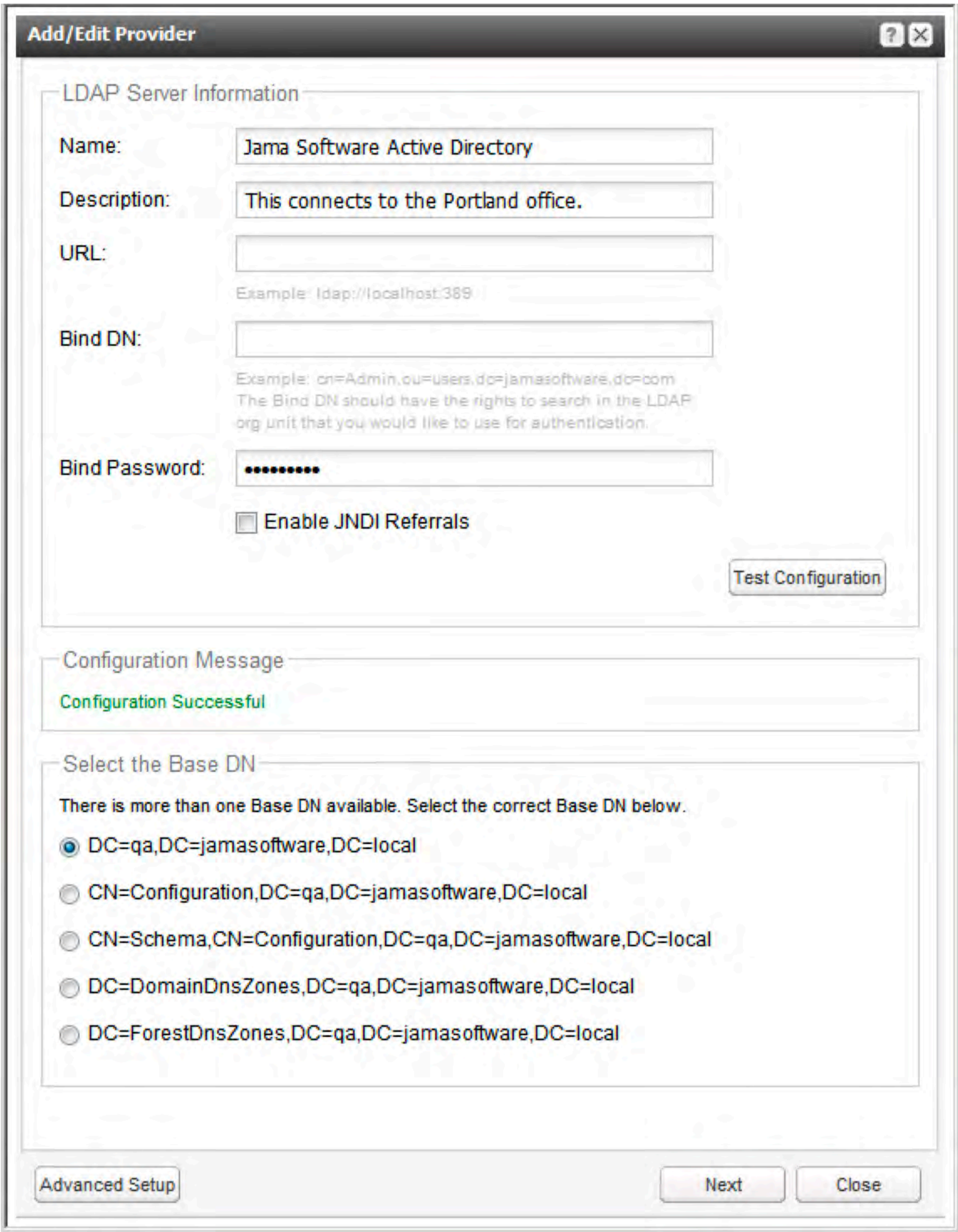
To configure LDAP authentication:

1. Log in to Jama Connect as the root user [492].
2. Select **System Properties > Authentication Properties > LDAP**.



3. Configure the authentication properties for the method you are using.
   - **Enable LDAP** — Select this to enable LDAP and disable the default Jama Connect authentication. Save the settings for changes to take effect.
   - **Enable Self Registration** — Users can register themselves by logging in to Jama Connect using their LDAP credentials. If successfully authenticated, they get a prompt to register for Jama Connect. Without self-registration, users must be added manually by an organization administrator. Once registered, users will be assigned a license type based the rules below. An organization or project administrator must then assign permissions for that user.
     - If there are available creator licenses, they are assigned a creator license.
     - If there are no named creator licenses, users are assigned floating creator licenses (shared among others).
     - If there are no creator or floating creator licenses available, you can still create users, but they are set to inactive. An organization administrator must manually assign the user an active license when one becomes available.
   - **Default organization for self-registered user** — Select the organization that self-registered users are assigned by default. There should only be one option.
   - **Default user group for self-registered user** — Select the default group to which a self-registered user should be assigned. Organization administrators will need to assign permissions to self-registered users.
4. You can configure multiple directories with LDAP authentication. To add a new provider, select **Add AD Provider** or **Add LDAP Provider**, depending on the LDAP tool you use.

5. In the window that opens, provide the following server information used to connect to the Active Directory or LDAP server, then click **Next**.

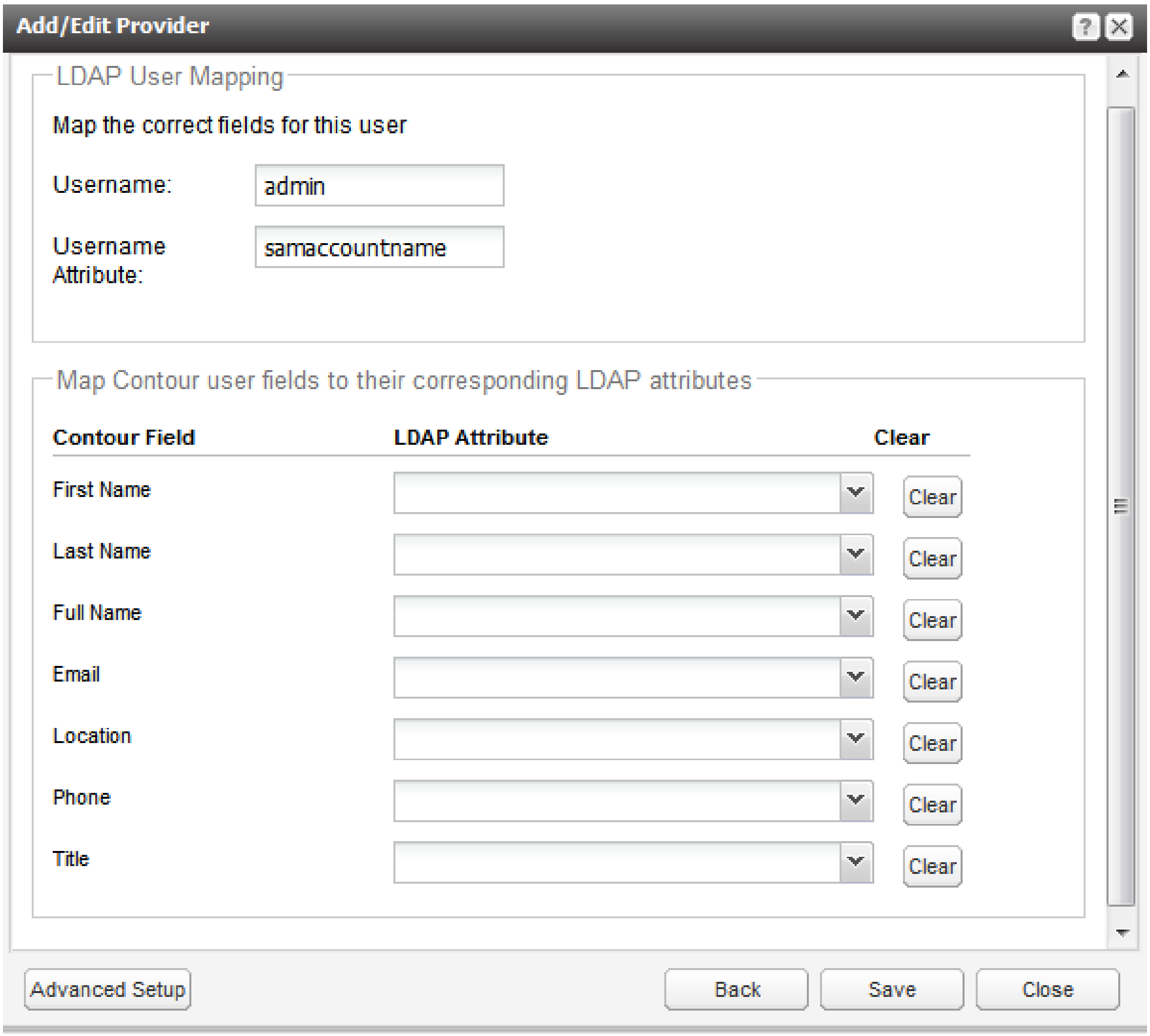


- **Name** — Name of the connection that will appear in the Jama Connect interface.
- **Description** — Description of the connection that will appear in the Jama Connect interface.
- **URL** — The URL to the Active Directory or LDAP server.
- **Bind DN** — The reference to the account that Jama Connect will use to perform all actions against the Active Directory or LDAP server. This field accepts the Distinguished Name of the account ("cn=John Doe,ou=Users,dc=jamasoftware,dc=com").

Some Active Directory servers support the use of Full Name ("John Doe") or Email ("jdoe@domain.com").

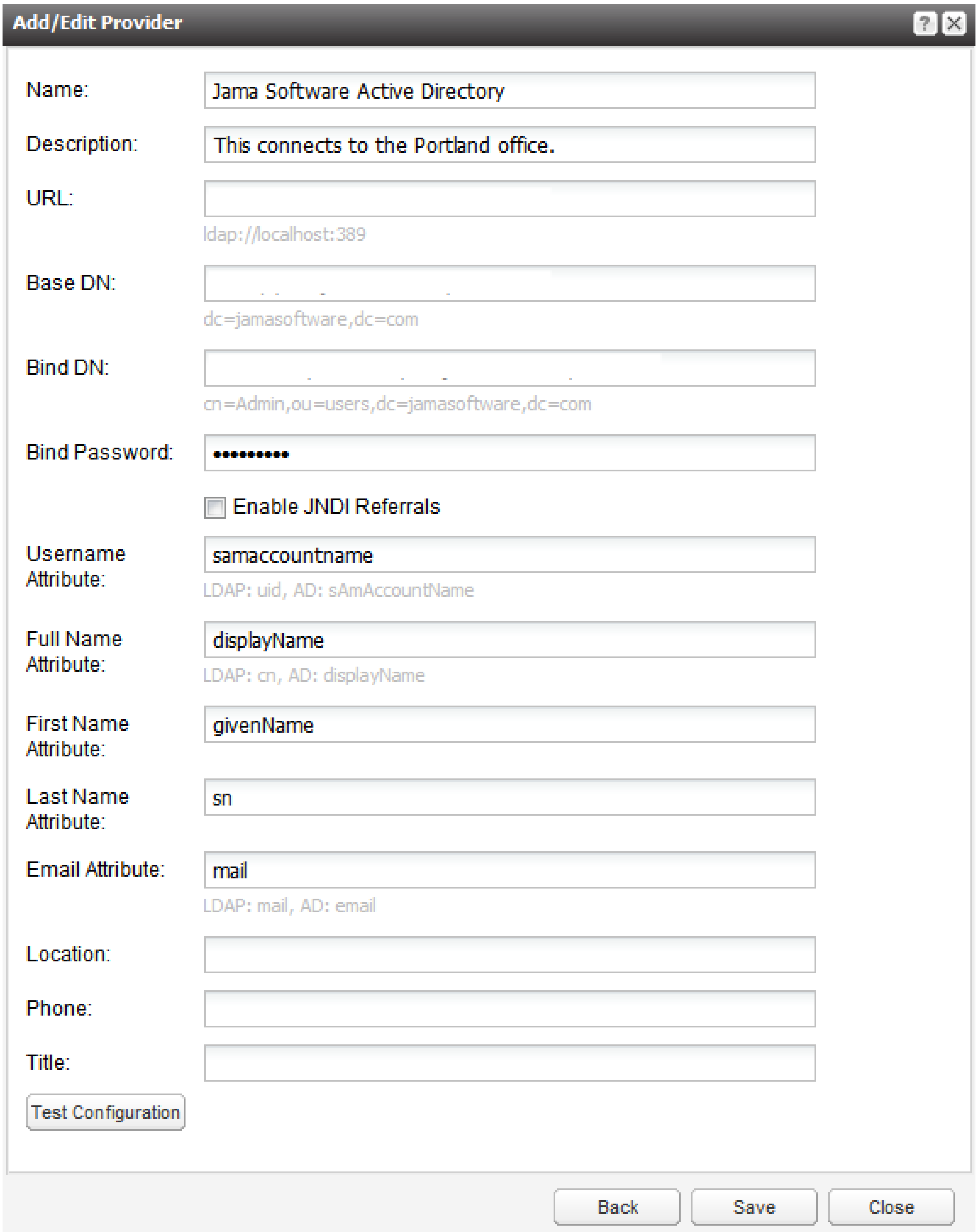
- **Bind Password** — The password of the Bind DN account.
- **Test Configuration** — Select **Test configuration** to test for a successful connection to the specified server and bind account information. If successful, a "Configuration Successful" message will display in the window and the Base DN selection screen will expand.
- **Select the Base DN** — The Base DN is the directory where users in Active Directory or LDAP exist that need to be added to Jama. Successfully tested configurations will load a radio button selection list of all available Base DNs.

6. Specify the attributes in Active Directory and LDAP that automatically populates the Jama Connect user attributes.



- **Username** — Enter the username of a sample user that exists in the specified Base DN.
- **Username Attribute** — Enter the attribute where the username value is stored (for example, Active Directory commonly uses "samaccountname").

7. Select **Next** to validate that the provided username and username attribute exist. If successful, the window expands to show a selection list of all available attributes for each of the Jama Connect user attributes.
   - **Jama User Attributes** — First Name, Last Name, Full Name, Email, Location, Phone, Title.
   - **LDAP attribute** — The selection drop-down shows all available directory attributes that are connected to the provided username. Select the correct value in the selection list that matches the Jama Connect user attribute.
8. Select **Advanced setup** if you know all the details of the connection and user attribute values. If you choose this option, you must add the **Full Name Attribute** or errors will result.



9. After saving the connection, select **Synchronize Now** to manually sync all existing users in Jama Connect to LDAP. This updates user information with attributes from LDAP.

Any Jama Connect users who are not registered in LDAP are deactivated. Users in LDAP that do not already exist in Jama Connect aren't synchronized. New users must be added manually [494] with existing LDAP credentials.

Troubleshooting LDAP errors

If any errors occurred during installation, use this table to troubleshoot the issues.

Error message	Reason
Unable to communicate with LDAP server; nested exception is javax.naming.CommunicationException: localhost:389 [Root exception is java.net.ConnectException: Connection refused: connect]	Can't connect to the server. Check the URL and make sure port 389 is open.
Operation failed; nested exception is javax.naming.AuthenticationException: [LDAP: error code 49 - Invalid Credentials]	The BindDn or password is incorrect.
Can't find user	Indicates that the Base Dn, Bind Dn, and Bind Password can be connected to accurately (a good connection to LDAP). Either the Login Name Attribute was not filled in correctly or the Sample User does not exist in the Base Dn indicated.
Can't authenticate user	The sample user password is incorrect. However, this message indicates a successful connection to LDAP and that the sample user was found in the Base Dn.
Operation failed; nested exception is javax.naming.PartialResultException: Unprocessed Continuation Reference(s); remaining name	The cause is usually the base URL is incomplete (too broad).
Operation failed; nested exception is javax.naming.ServiceUnavailableException: adunit:636; socket closed. Port 636 is for SSL.	Either SSL isn't supported by Spring LDAP or the certificate is incorrect. Solution: Try using ldap protocol. For example: ldaps://myserver.example.com:636.

Make sure you entered the correct information for the type of LDAP you are configuring:

- **Active Directory**
  URL: 'ldap://localhost:389'
  Base Dn: 'ou=Users,dc=<domainname>,dc=com'
  Bind Dn: 'cn=Admin,ou=Admin Users,dc=<domainname>,dc=com'
  Bind Password: 'password'
  Login Name Attribute: 'sAmAccountName'
  Email Attribute: 'email'
  User Name Attribute: 'displayName'
  Sample User: 'admin'
  Sample User Password: 'password'
- **LDAP**
  URL: 'ldap://localhost:389'
  Base Dn: 'ou=Users,dc=<domainname>,dc=com'
  Bind Dn: 'cn=Admin,ou=Admin Users,dc=<domainname>,dc=com'
  Bind Password: 'password'
  Login Name Attribute: 'uid'
  Email Attribute: 'mail'
  User Name Attribute: 'cn'
  Sample User: 'admin'
  Sample User Password: 'password'

IMPORTANT

If you are using SSL, you must use the ldaps protocol. For example, ldaps://myserver.example.com:636

The Base Dn and Bind Dn values won't accept a domain-only value. At least one additional level is required, such as the 'ou=Users' shown in the example above.

Take note of the "Can't find/authenticate user" errors. Errors often indicate a successful connection, but the Sample User/Password are incorrect.

IMPORTANT

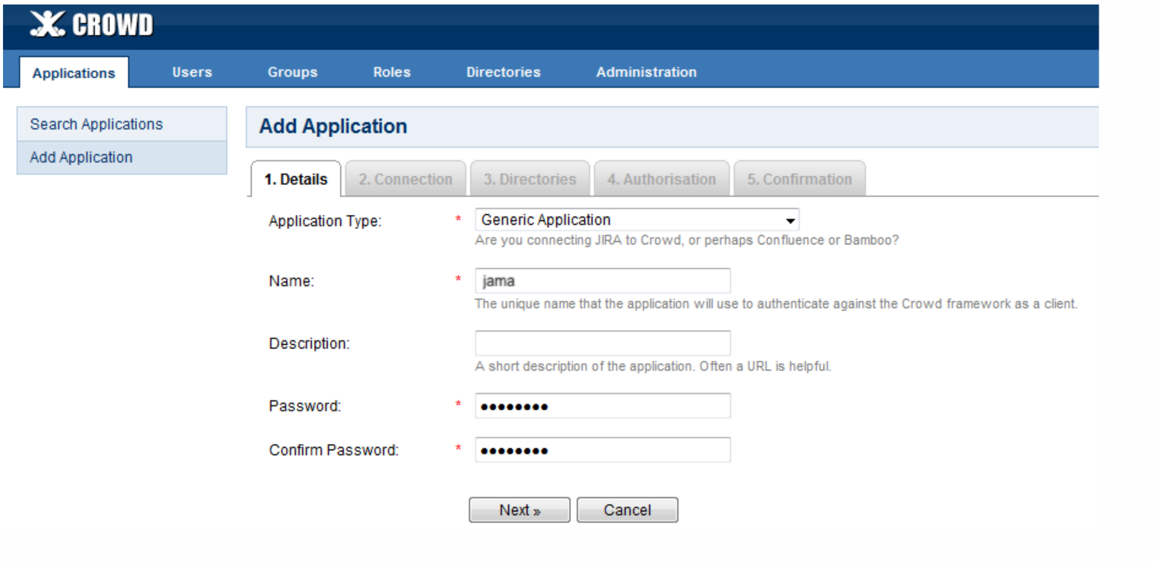
The Sample User and Password fields are deleted every time the configuration window is closed.

Configure Crowd authentication

Use Crowd to manage users and groups within a single system. Jama Connect can accept user details from Crowd and sync them with authentication data in Jama Connect.

To configure Crowd authentication:

1. Log in to Crowd as an administrator.
2. Select **Applications > Add Application**, fill in the fields for a new application and select **Next**.



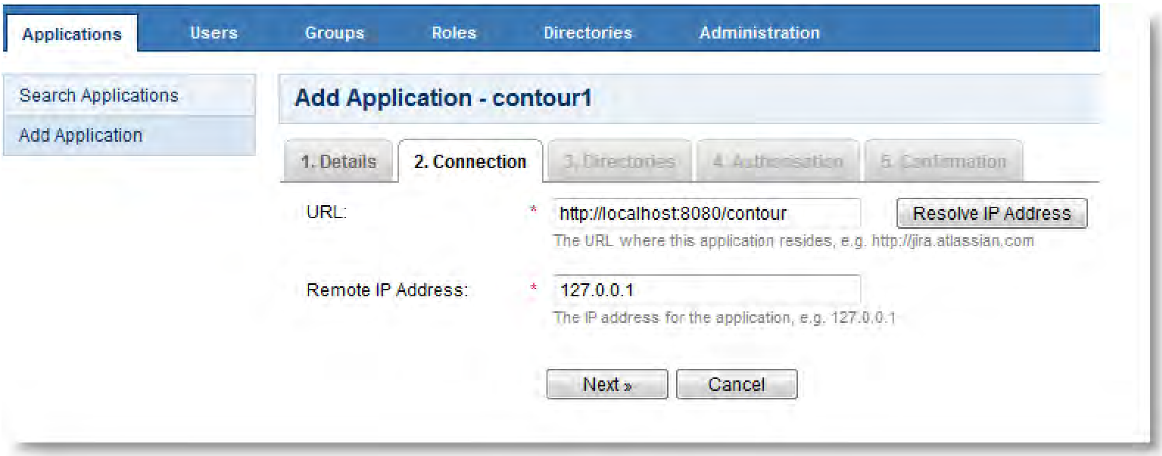
- **Application type** — Generic Application.
- **Name** — "jama" or any other unique name that identifies Jama Connect as the application.

NOTE

The name must match. For example, lower case "jama" in the above example.

- **Description** — (Optional) Provide a short description of the application.
- **Password** — Create a new password that Jama Connect uses to access Crowd.

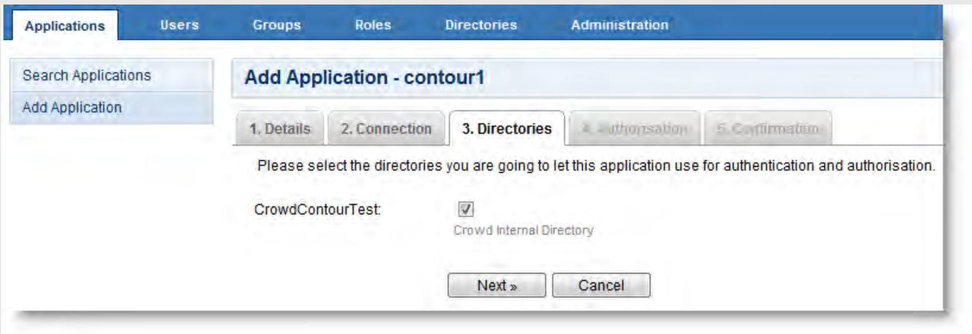
3. Enter the URL and IP address for Jama Connect, then select **Next**.



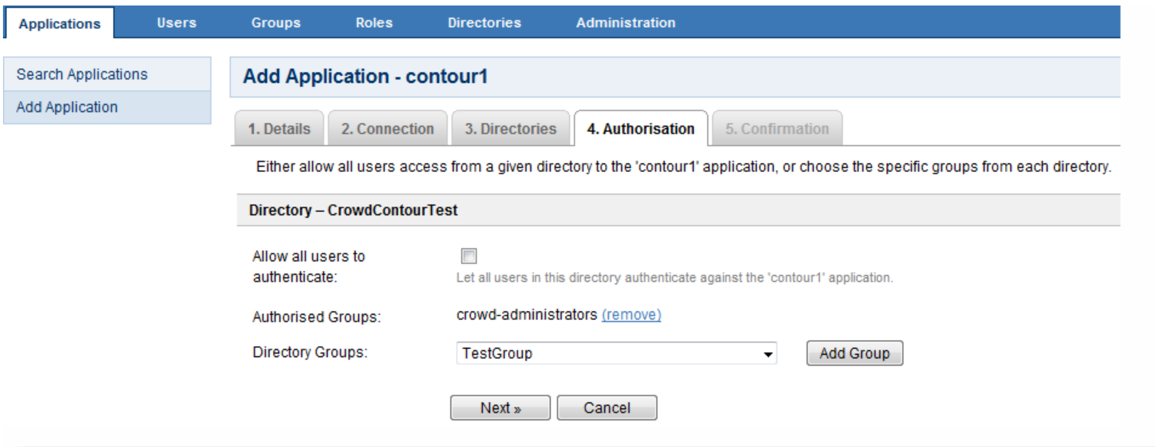
4. Select the directories that control access to Jama Connect, then select **Next**.

NOTE

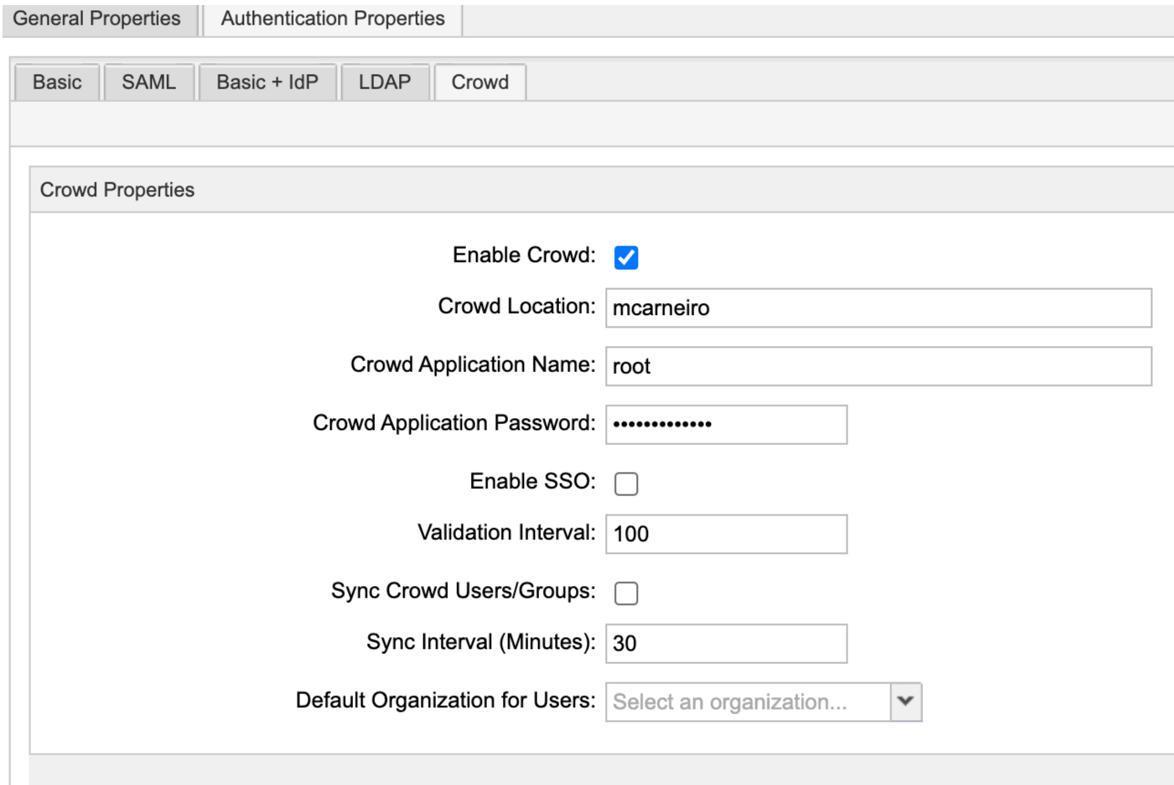
These directories must exist prior to inclusion.



5. Select the particular groups in the Crowd Directory you want to have access to Jama Connect, or choose "all users in the directory" if you want all users to have access, then select **Next**.



6. Review your configuration, then select **Save**.
7. Log in to Jama Connect as the root user [492].
8. Select **System Properties > Authentication Properties** and complete the following fields.



- **Enable Crowd** — Select to enable or disable Crowd Connector. When disabled, the Jama Connect database is used for users and passwords.
- **Crowd location** — Enter the URL for the Crowd server.
- **Crowd application name** — Name of the application created in step 2 above.
- **Crowd application password** — Enter the password for Jama Connect that was created in Crowd.
- **Validation interval** — The amount of times a user can access the application prior to re-authenticating. The larger the number, the less communication with Crowd.
- **Sync Crowd users and groups** — Select this option to push Crowd Groups and Users into Jama Connect at regular intervals. Make sure you understand how users and groups in Crowd interact with Jama Connect [515] before you do this.
  When syncing with Crowd, Jama Connect assigns licenses as follows:
  - If there are available named creator licenses, users are assigned a named creator license.
  - If there are no available creator licenses, users are assigned a float license.
  - If there are no available creator or float licenses, the user is skipped and it appears in the log.

  When Crowd is synced, Jama Connect runs through its list of users, adds new users, and modifies existing users in the Jama Connect userbase. When that's complete, Jama Connect runs through the list again to see if there are any existing users in the Jama Connect userbase that need to be deactivated.
  Since Jama Connect makes two passes at adding and deactivating users, you might need to sync twice consecutively for it to work. For example, if you reach your license threshold, don't use float licenses, try adding a new user and deactivating an existing user, or must sync twice consecutively before the new user is given a named license.

IMPORTANT

You can also select **Manual Sync** at the bottom of the window to manually synchronize all users and groups. Manual sync removes all Jama Connect configured Users and Groups and insert Crowd users and groups.

- **Sync interval** — Enter the timing interval you would like for Crowd to synchronize groups and users with Jama Connect. This defaults to 30 minutes.
- **Default Organization for User** — Only required when multiple organizations are setup with Jama Connect.

9. Select **Save**.
10. Select **Test Connection** to test if the configuration values are valid.

Users who are registered in Jama Connect, but not in Crowd, can't access Jama Connect. Other users won't be able to add disabled users to reviews or notifications.

How users and groups work in Crowd

How users and groups function is impacted when you synchronize users and groups in Crowd connector [512].

The following actions change:

- All groups and users in Crowd that aren't in Jama Connect are added to Jama Connect. New users are assigned the most licenses available. When no licenses are available, users are created and **Inactive**.
- All groups in Jama Connect that aren't in Crowd are removed.
- All users that are in Jama Connect, but not in Crowd, are deactivated.
- Going forward, all user and organizational group management activities are performed in Crowd.
- Organization administrators no longer create or edit users and organizational groups in Jama Connect because they are automatically created from Crowd.

The following actions stay the same:

- Organization administrators retain the ability to assign a license type [576] to users.
- Users can continue to upload avatar icons [37].
- Organization administrators and project administrators continue to manage project groups [651] within individual projects.

IMPORTANT

Project level project groups are only managed in Jama Connect and aren't visible in Crowd.

- An organization or project administrator continues to manage user and group permissions [583] in Jama Connect.

Action in Crowd	Result in Jama Connect
Group(s) added to “Jama” Application in Crowd	Group created. The name of the group is reused if it already exists.
Users added to the "Jama" group in Crowd	Users added. Attributes in Jama Connect are overwritten by values from Crowd if a user already exists.
Group attributes modified	Group attributes are modified.
User attributes modified	User attributes are modified.
User added to group	User is added to group.
User removed from group	User is removed from group.
Group deleted	Group is deleted.
User is deactivated	User is deactivated.

Action in Crowd	Result in Jama Connect
User activated	User is activated. If the user doesn't exist, a new user is created. The new user is assigned the highest available license. If a license isn't available, the user is inactive.

Backing up and restoring your data

Backing up your data is an essential part of maintaining and securing your self-hosted environment. With regular backups, you can easily restore settings and content when you update your application server hardware or if you lose data.

NOTE
This information applies to self-hosted environments only.

You can back up and restore your data using several methods:

- **Replicated snapshot** — A function of Replicated software that creates a backup of the Admin Console environment. It includes all Admin Console settings, the Replicated database, Docker images, and Docker container volumes.
- **.jama or XML file** — A method with built-in automation, recommended for migrations and refreshes. A .jama file includes the database and /data directory. An XML file includes only the database.
- **Native database backup** — The proprietary backup/restore system for MySQL and SQL Server databases. Recommended only if your database is extremely large.
- **Backup of user data directories [534]** — Where all physical artifacts are stored.

IMPORTANT
Create a backup regularly: daily, weekly, or monthly. Include in your regular backup a Replicated snapshot (Admin Console environment) and a .jama or XML file backup (database and /data directory).

Create a Replicated snapshot

A Replicated snapshot is a backup of the Admin Console environment. It includes the Replicated database, registry images, and container volumes (when specified).

A Replicated snapshot can be taken while Jama Connect is running without interruption.

IMPORTANT
Replicated snapshots don't include the contents of the Jama Connect database, the contents of the /data directory, or the log files. To back up those items, see Back up to .jama or XML file [521].

When to create a snapshot

- When migrating Jama Connect to new hardware [537]. When you replace one server with another (create a clone), you can perform a fresh installation of Docker and Replicated, then restore from the snapshot.
- During disaster recovery.
- Before upgrading your software (Jama Connect or Replicated).

Snapshot location

By default, Replicated snapshots are stored in this location:

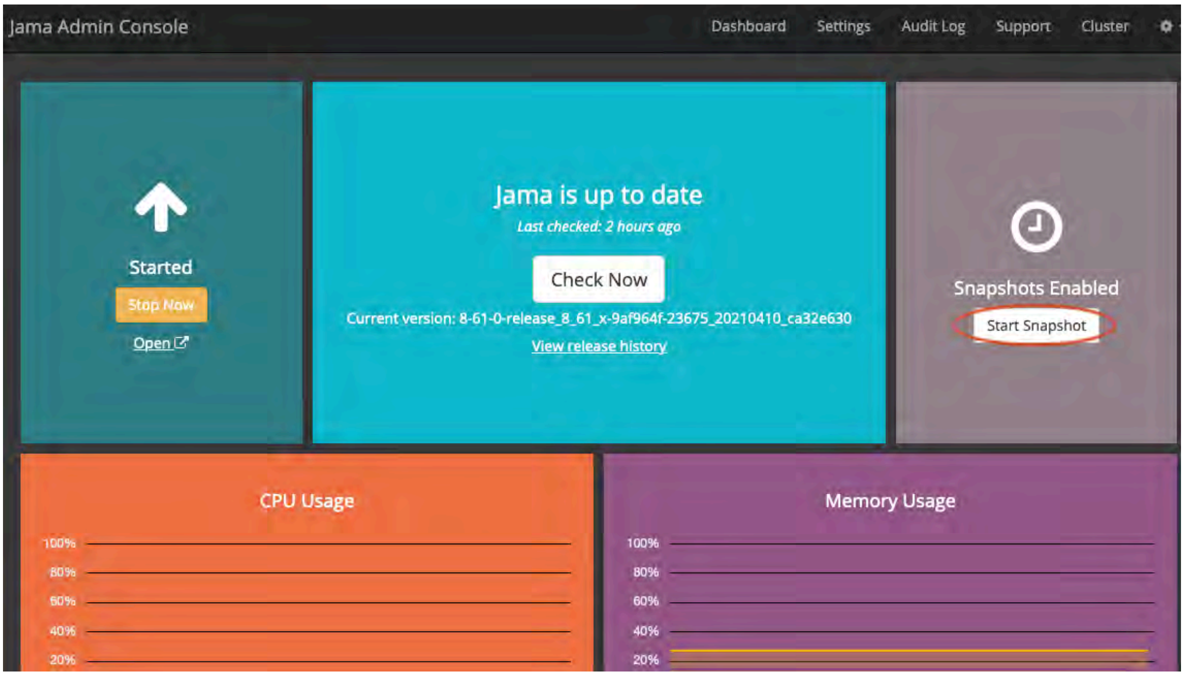
```
/var/lib/replicated/snapshots
```

To include the Replicated snapshots in your regular backups of Jama Connect, you can change the location for the snapshots, like this:

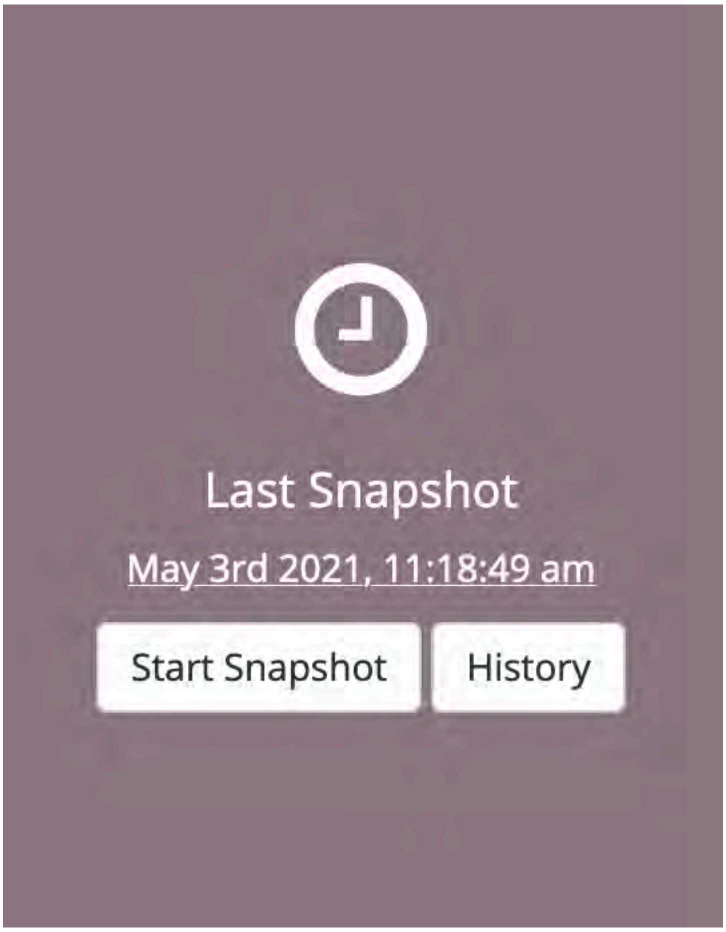
```
/data/replicated/snapshots
```

To create a Replicated snapshot:

1. (Optional) Identify and configure a custom directory for your snapshots: Select **Admin Console > Settings** (gear icon) **> Console Settings > Snapshots**.
2. Create a snapshot: Open the Admin Console and select **Start Snapshot**.

   Snapshots Enabled changes to **Snapshotting** and a progress spinner appears while it backs up the registry data and container volumes. When the snapshot is ready, you see a timestamp for the last snapshot.



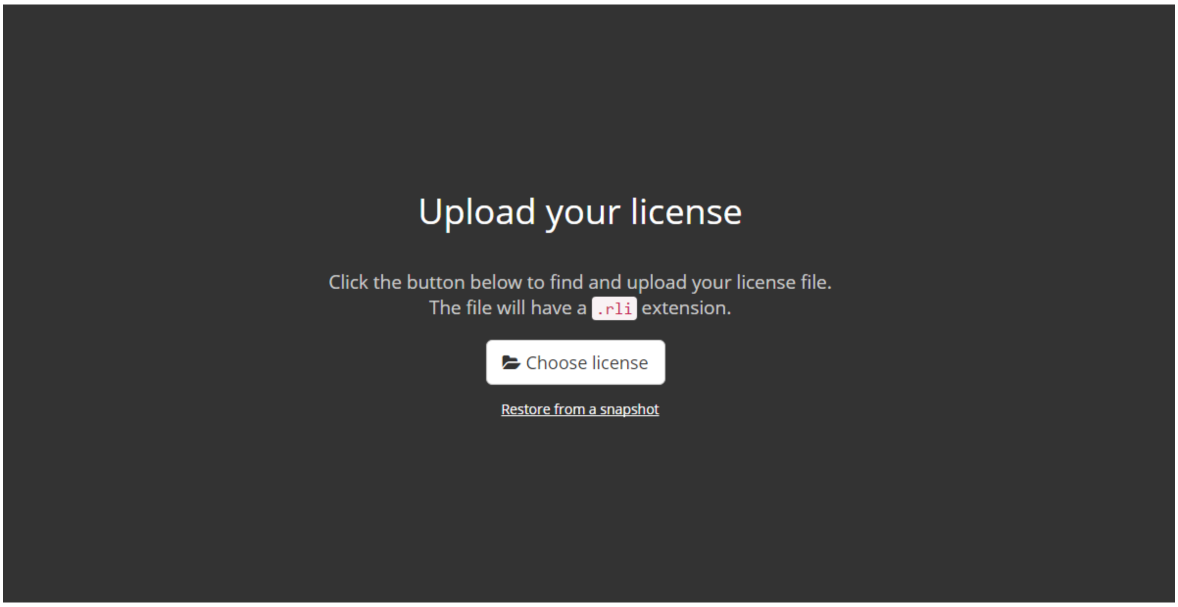
If the Replicated snapshot fails, the dashboard displays an error message with technical detail of the failure, including the file or folder involved. This error message is generated from the underlying file system (for example, readdirent: errno 523), which means the problem is likely with the underlying file system and not the Jama Connect installation.

Restore all settings from a Replicated snapshot

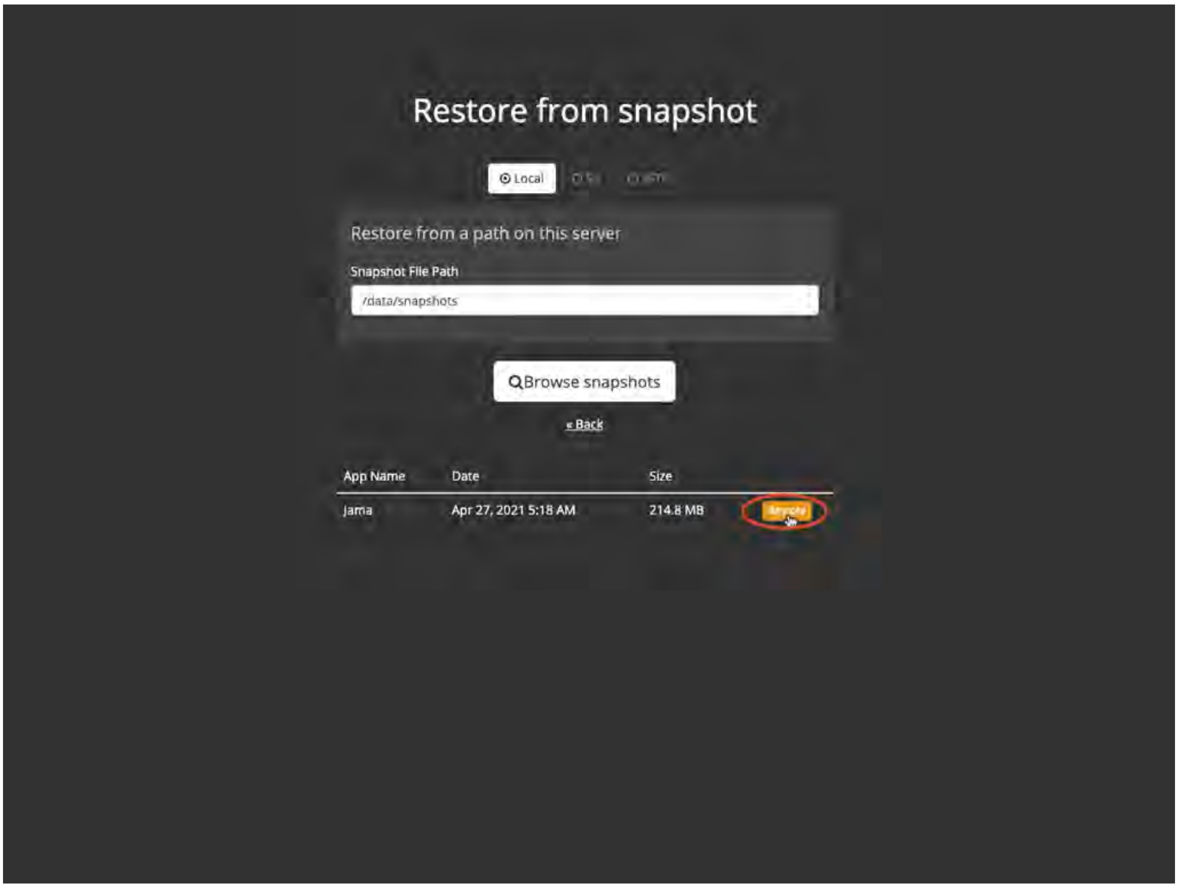
When you set up a new application server for Jama Connect, you can restore the Admin Console settings that you saved in a Replicated snapshot.

Snapshots include the Replicated database, registry images, and container volumes (when specified).

1. Install Jama Connect on the new server.
2. When the page Upload your license is displayed, select **Restore from a snapshot**.



3. When the Restore from snapshot page is displayed, enter the path to your snapshot and click **Restore**.
   Use the same path on the new server as you did on the old server. For example, **/var/lib/replicated/snapshots** or **/data/snapshots**.



4. On the Restore Cluster page, click **Restore**.

The system displays a progress page as it restores your data from the snapshot.

Back up to .jama or XML

We recommend backing up to a .jama or XML file for migrations and refreshes because this method has built-in automation. You can avoid manual changes which can impact the integrity of the data.

A .jama file backup includes the database and /data directory. An XML file backup includes only the database.

Important considerations

- If SAML is enabled, disable it before backing up your data. After you restore your instance of Jama Connect, you must re-enable SAML.
- Backups must be done manually; they can't be scheduled automatically.
- Make sure you have enough available disk space [525].
- Make sure Jama Connect is in maintenance mode [498] before you create a backup.
- If you are using a version of Jama Connect prior to version 8, generate backups during a maintenance window and inform users, including API users, not to use the application.
- Regardless of what version you are using, all integrations must be disabled.

To back up to a .jama or XML file:

1. Log in to Jama Connect as the root user [492].
2. Select the **Backup** tab to see the backup options.

3. Choose a backup method (listed here in recommended order).

Method	Scenario	Select...
Save .jama file to the application server.	Migrating between versions later than 8.0.	**Save .jama File to server**
Save XML file to the application server.	• Migrating between different types of databases [538] • Migrating version earlier than 8.0	**Save XML File to Server**
Download XML database backup to your workstation.	• If you can't access the application server • For smaller databases	**Download XML**
Download document type definition (DTD) to your workstation.	If all other methods fail	**Download DTD**

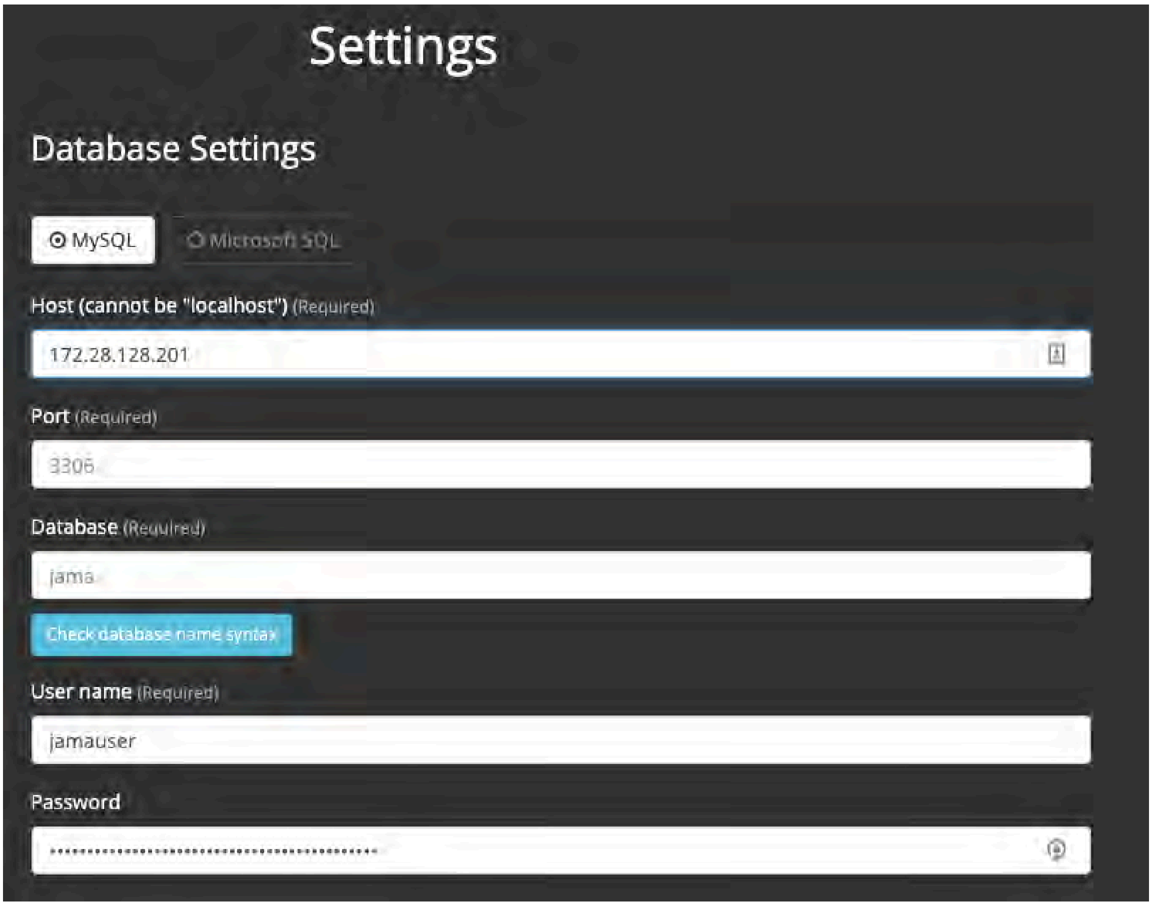
The backup process is complete.

Restore to a new server from .jama or XML

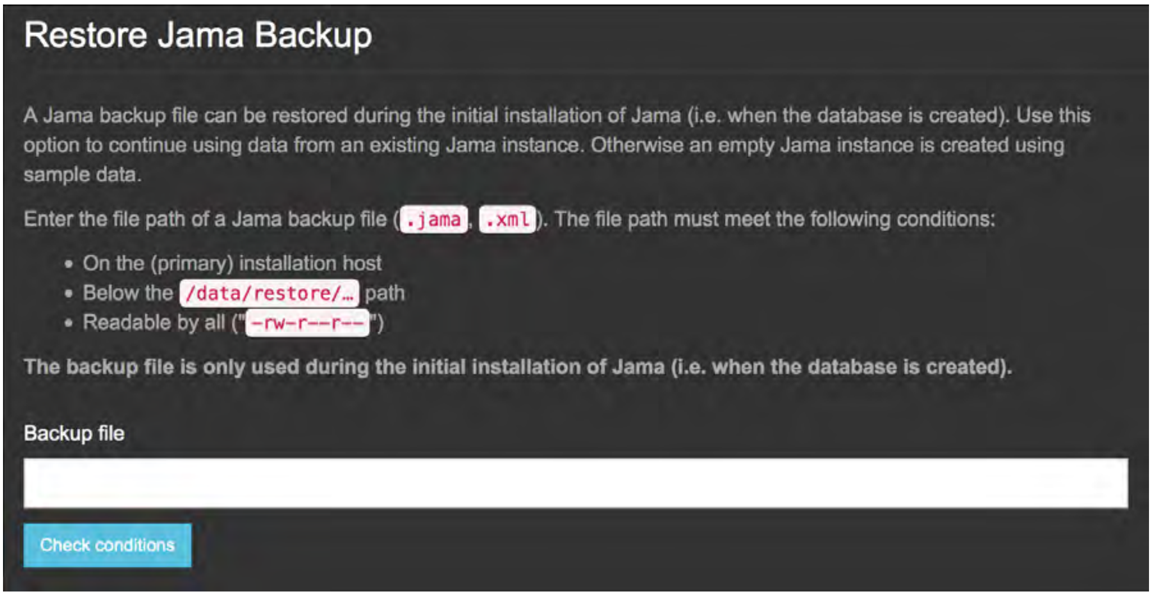
When you set up a new server, you can install Jama Connect and restore data using the .jama or XML file backup you created. See Back up to .jama or XML file [521].

> **IMPORTANT**
> If you use SAML in your environment, it was disabled before you created the .jama or XML backup. When you install Jama Connect on a new server, it will be running Basic authentication. You must re-enable SAML to use that authentication method.

1. Log in to Jama Connect as the root user [492] on the new server.
2. Install Jama Connect [441]:
   - On the Settings page under **Database settings**, select the database you are using: **MySQL** or **SQL Server**.

   - Under **Restore Jama Backup**, enter the file path for the backup you created, (for example, /data/restore/your_backup.xml). Select Check conditions to make sure the path to your backup file meets the conditions listed onscreen.



IMPORTANT

You must have an empty database for the restore process to complete.

3. For non-.jama file backups: Move existing data folders to the new application server.
4. Save and restart Jama Connect [524].
5. Log in to Jama Connect as the root user [492].
6. If your new application server has a different URL than the old one, update the base URL to reflect the change.
7. To sync your indexes with the database, index all items.

Backing up MySQL or SQL Server database

If your MySQL or SQL Server database is extremely large, use the native backup method that comes with your database. Doing so avoids possible data corruption.

Follow instructions for whichever system you are using, MySQL or SQL Server.

IMPORTANT

If you are migrating from one type of SQL server to another, for example SQL Server to MySQL, use the .jama or XML file backup [521].

Maintaining your Jama Connect environment

A system administrator is responsible for keeping the system up and running and at peak performance.

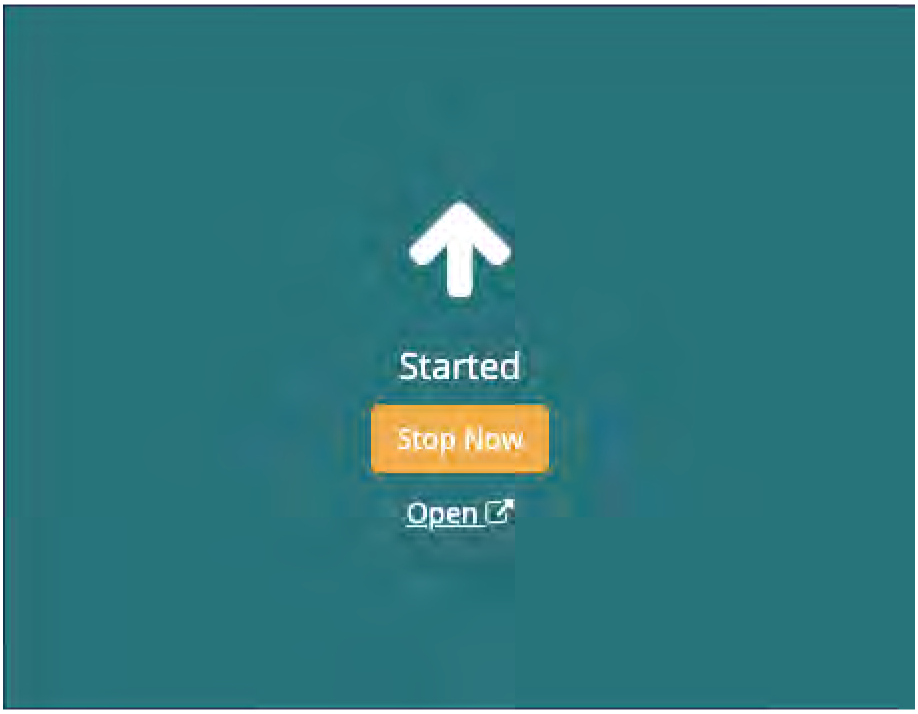
Maintaining your environment consists of ongoing tasks that are done regularly and important tasks that are done infrequently.

Ongoing/regular tasks	Infrequent but important tasks
• Monitor memory usage [525] • Back up your data [516] • View scheduled jobs [533] • Clear cache [533] • Remove old Docker images [532] • View applied patches [533] • Stop and restart Jama Connect services [524] • Reset Admin Console password [526] • Deactivate and reactivate users [526]	• Update the license (internet [527] or airgap [528]) • Update the certificate [529] • Update the application's IP address [529] • Change [530] or fix URL [531] • Delete an organization [532] • Reindex all items [534] • Upgrade the Admin Console [464] • Upgrade Jama Connect [459]

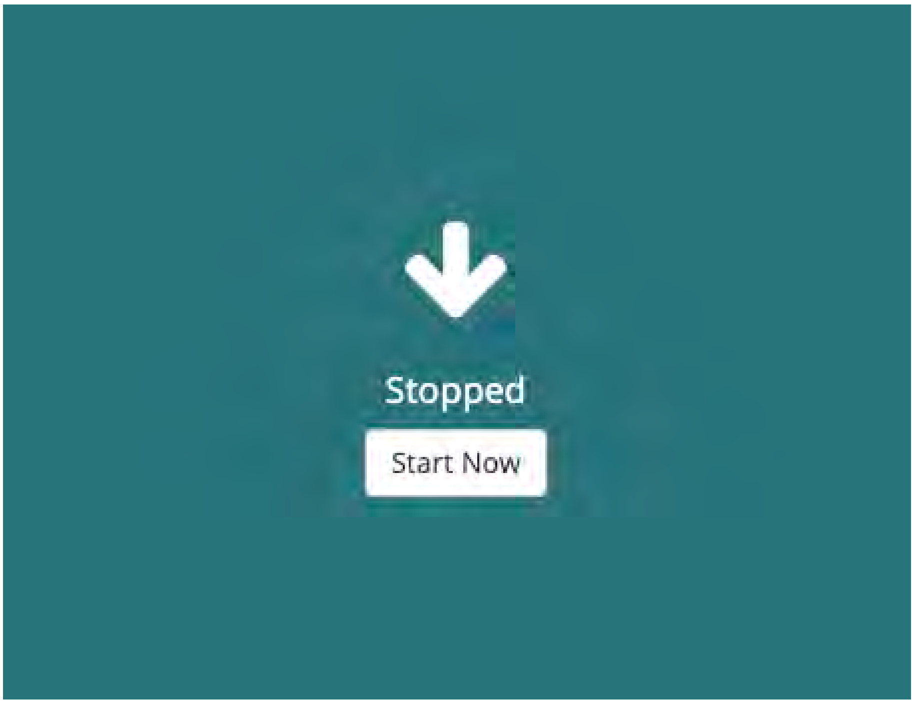
Stop and restart Jama Connect services

Some tasks require that you stop and restart the Jama Connect services. For example, when you make changes to the application, they don't take effect until you restart Jama Connect.

1. In the Admin Console, select **Stop Now**.



2. Wait until the screen shows "Stopped", then complete your tasks.



3. Select **Start Now** to restart Jama Connect services.
4. Wait for the components that make up Jama Connect to be started and initialized.

The dashboard displays the status in this order: **Starting**, **Queued**, then **Started**.

Monitoring memory usage

Make sure you have allocated an appropriate amount of memory for your organization's usage. Check and adjust usage regularly to keep your environment running for best performance.

Several factors affect the amount of memory that Jama Connect requires, including:

- Size of your dataset
- Number of concurrent users
- Users' common workflows

If any of the containers' memory consumption is close to the maximum available memory, you can adjust those values. These containers in order require the most memory:

- jamacore
- elasticsearch
- searchservice

Make sure that you don't over-allocate the total memory of the application server. Also, leave approximately 5 GB of available memory (headroom) for system processes. For help in estimating your application server size, use the tables in Resource sizing for your application server [430].

Use one of these methods to monitor usage, then adjust your memory settings [485] as needed.

- Log in to Jama Connect as the root user.
- Select the **License management** tab to view usage by license type.
- Use the Admin Console monitoring graphs.
- Use any Java application monitoring tool that supports JMS.
- Use JavaMelody, which comes preconfigured with the Jama Connect application. To access JavaMelody, log in to Jama Connect as the root user [492] and navigate to **[your.jama.url]/javamelody**.

Deactivate and reactivate users

Users can't be deleted from Jama Connect, but you can deactivate users if they are no longer active members of the team. When you deactivate a user, their account becomes inactive and their named license is freed up for another user. You can also reactivate the user as needed.

> **IMPORTANT**
>
> You must have organization or system administrator permissions to deactivate and reactivate a user.

1. Log in to Jama Connect as the root user [492].
2. Select the **Users** tab.
3. To deactivate a user, select **Deactivate** in the Action column next to the user you want to deactivate.

   Deactivated users disappear from the list.
4. To reactivate a deactivated user:
   1. Select **View inactive users** to view all users, then select **Activate** in the Action column next to the user you want to reactivate.

   2. In the User license type window, select a license type and select **Save**.

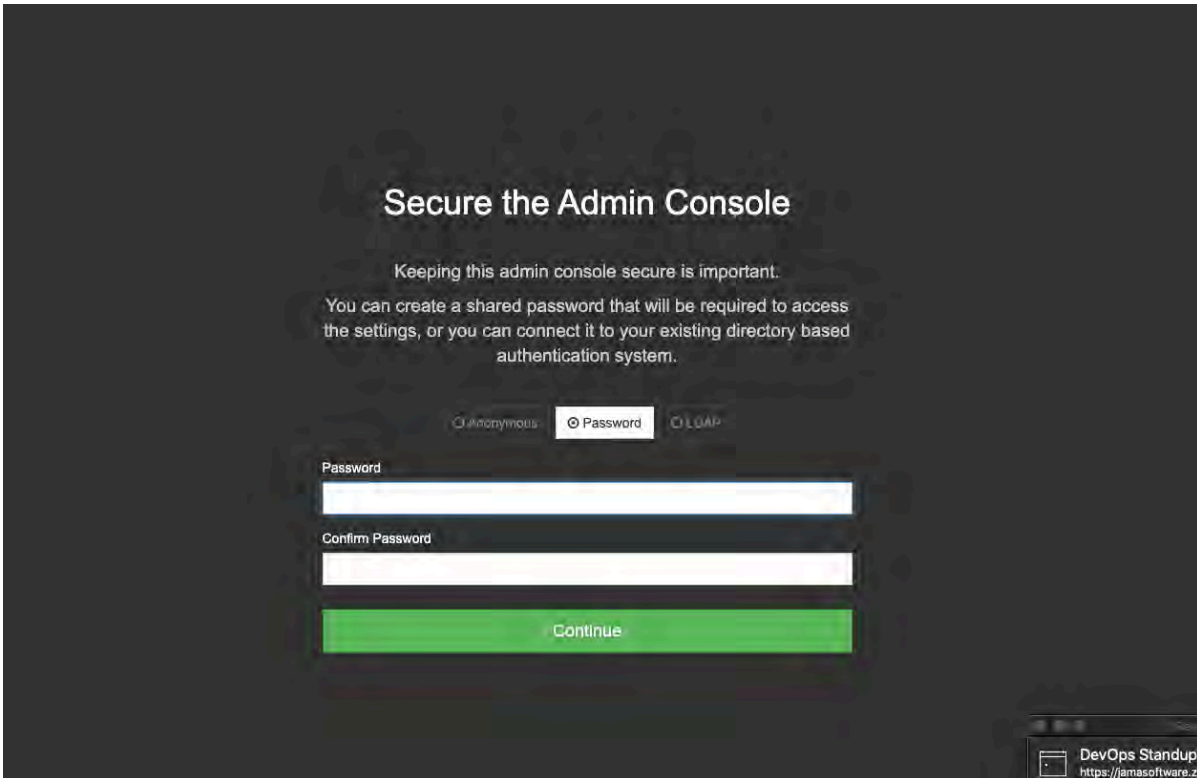
Reset Admin Console password

You can reset the password for the Admin Console if, for example, the administrator forgot it.

1. To remove the current password, run this command on the application server:

   ```
   replicated auth reset
   ```
2. To create a new password, enter this URL in a browser:

   https://[your.admin.console.ip]:8800/create-password



3. Select **Password**, then type a new, secure password for access to the Admin Console.

The new password takes effect immediately.

Update the license (internet)

When you renew your license or change the number of available seats, you must update your license. You receive a single key for your organization, called a *license key*, which specifies the type and number of licenses you have.

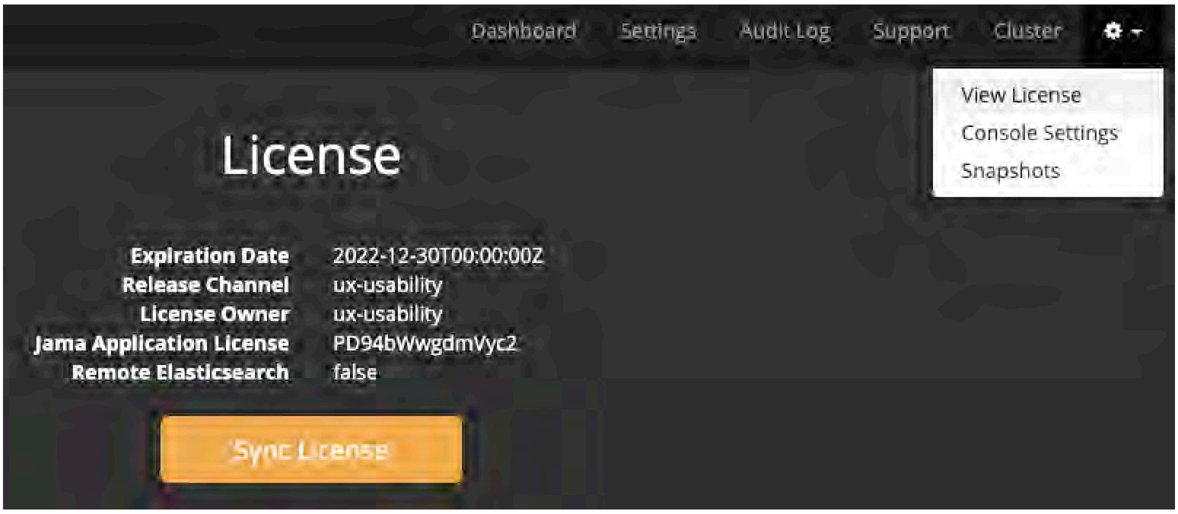
Your application server must be able to access the internet (except for airgap [528]customers).

TIP

Schedule a license update during a maintenance window because the process involves an interruption to the Jama Connect application.

To sync your license:

1. In the header of the Admin Console, select the **gear icon > View License**.
2. Select **Sync License**.



3. Stop and restart Jama Connect [524] for changes to take effect.

Update the license (airgap)

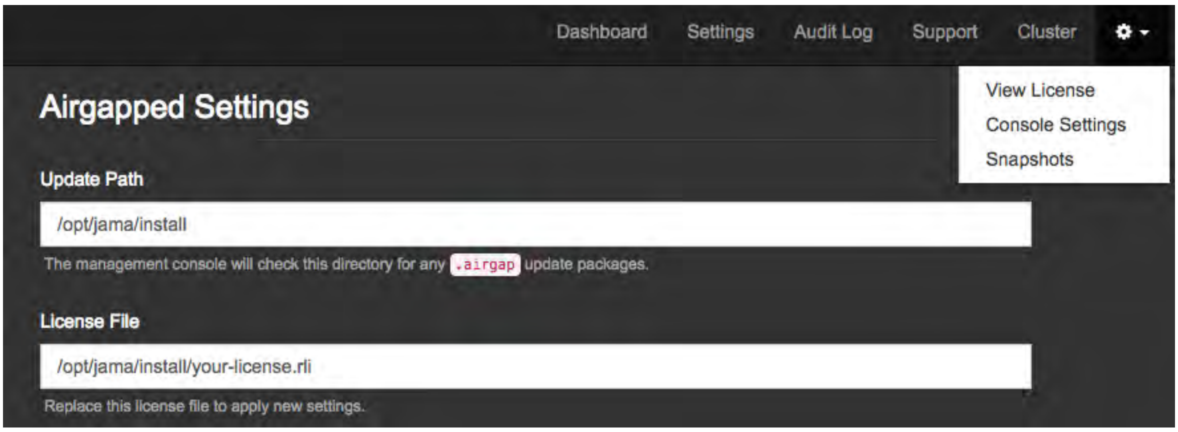
When you renew your license or change the number of available seats, you must update your license. You can ask your account manager for a new .rli license file, which Jama Software sends you via email.

TIP

Schedule a license update during a maintenance window because the process involves an interruption to the Jama Connect application.

To sync your license:

1. Open the email from Jama Software with the new .rli license file.
2. In the header of the Admin Console, select the **gear icon > Console Settings** and verify the location of the current license (for example, /data/install). Place your new license in that same location.



3. If the name of the new .rli file differs from the original, update the name in the **License File** field. Don't use spaces in the filename.
4. In the header of the Admin Console, select the **gear icon > View License**, then select **Sync License** at the bottom of the page.
5. Scroll to the bottom of the page and select **Save**.
6. Stop and restart Jama Connect [524] for changes to take effect.

TIP

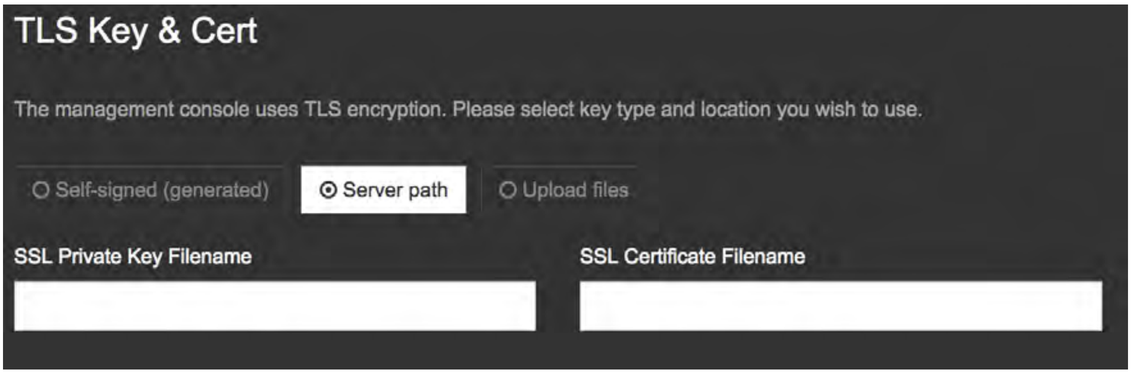
You can also sync a new license with this command:

```
curl -o jama_8-#-#.airgap -O
```

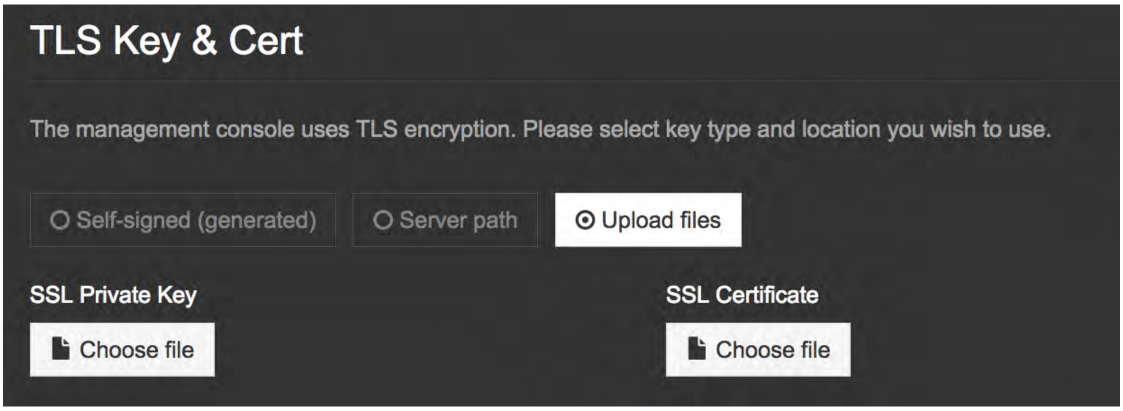
Update the certificate

If a certificate expires, it becomes invalid and must be replaced.

1. In the header of the Admin Console, select the **gear icon > Console Settings**.
2. Under **TLS Key & Cert**, select the location of the SSL private key and certificate.
   - If the SSL key and certificate are on the application server, select **Server path**, then enter the file locations.



   - If the SSL key and certificate are on the computer you use to access the Admin Console, select **Upload files** to upload the key and certificate files, then select **Choose file** for SSL Private Key and SSL Certificate.



3. Scroll to the bottom of the page and select **Save**. A message confirms that your settings were saved.
4. To apply settings, you must restart the application:
   - **Immediately** — Select **Restart now**.
   - **Later** — Select **Cancel** and **Restart later**.

Update the IP address for the application server

If you need to update the IP address or hostname of your application server, you must also edit the Replicated configuration files to reflect this change.

If you previously used an IP address, continue using an IP address. If you previously used a hostname, continue using a hostname.

> **NOTE**
> If you are using DNS and the hostname for this server isn't changing (just the underlying IP), you don't need to edit any files.

1. Make the IP/hostname changes in your network and on the server.
2. Stop the Jama Connect services [524].
3. Stop Replicated (Admin Console):
   - **CentOS, RHEL 7+, and Fedora**
     ```
     sudo systemctl stop replicated replicated-ui replicated-operator
     ```
   - **Debian, Ubuntu, and thers**
     ```
     sudo service replicated stop
     sudo service replicated-ui stop
     sudo service replicated-operator stop
     ```
4. Edit the Replicated configuration files to replace all occurrences of the old IP address or hostname with the new IP address or hostname.
   - **Fedora/CentOS/RHEL**
     /etc/sysconfig/replicated and **/etc/sysconfig/replicated-operator**
   - **Debian/Ubuntu**
     /etc/default/replicated and **/etc/default/replicated-operator**
   - **Others**
     Contact support at support@jamasoftware.com if you can't locate the Replicated configuration files.
5. If you have a firewall in place or use a proxy and configured no_proxy settings in Docker, update these settings with the new IP address [456].
6. Restart Docker.
   - **Fedora/CentOS/RHEL 7+**
     ```
     sudo systemctl restart docker
     ```
   - **Debian/Ubuntu and Others**
     ```
     sudo service docker restart
     ```
7. Start the Replicated service (Admin Console).
   - **Fedora/CentOS/RHEL 7+**
     ```
     sudo systemctl start replicated replicated-ui replicated-operator
     ```
   - **Debian/Ubuntu and Others**
     ```
     sudo service replicated start
     sudo service replicated-ui start
     sudo service replicated-operator start
     ```
8. Once the Replicated containers are up, navigate to https://{new_ip_address}:8800, then enter the new IP address or hostname under **Settings > Hostname**.
9. Log in to Jama Connect as the root user [492].
10. Change the URL [530] to reflect the new IP address.
11. Run Fix URL references [531] to change any existing references in the text of items that were already created.

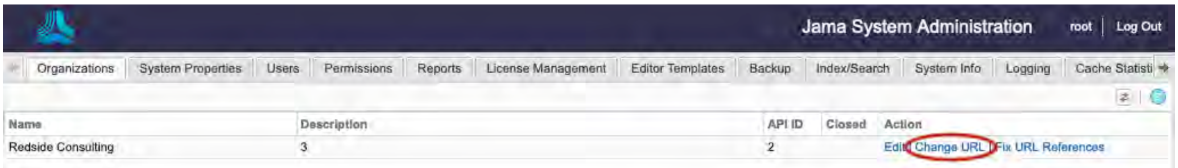
Change URL

The Base URL is the first part of all web addresses that Jama Connect installations use, beginning with http and ending with a slash (/).

You might want to change your Base URL if a company changes its name or if you need to create a test instance.

To change your Base URL:

1. Log in to Jama Connect as the root user [492].
2. Select the **Organizations** tab.
3. Select **Change URL** from the Action column.



4. Enter the new URL in the **New Base URL** text box.
5. Select **Change URL**.
6. Update all URL references [531] in the application to the new value.
   If this step isn't completed, the application still contains old URL references, which can result in unpredictable behavior such as images not being displayed in exports.
7. If you're using SAML authentication, disable and re-enable SAML settings to update the base URL in our SAML services.

The new URL is updated and active.

Update URL references after changing URL

The option **Fix URL References** updates all URL references in the application to reflect a new URL. After you change a URL [530], always run this function.

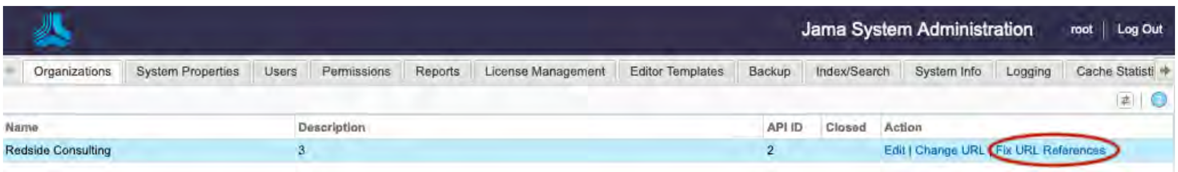
> **IMPORTANT**
>
> The **Fix URL References** option doesn't modify items in archived projects. It also doesn't change the URL used to connect the application server to your database server; that URL is stored in your database.properties file. The Base URL (baseurl field) is only updated in the database organization table by the Change URL [530] option.

Use the **Fix URL References** option if:

- You notice images are not being displayed in exports.
- A login prompt appears after URL redirection.
- An error message is displayed when you run exports.

To update all URL references in the application:

1. Log in to Jama Connect as the root user [492].
2. Select **Organizations > Fix URL References**.
3. Select **Fix URL References** from the Action column.



4. Enter the new URL in the text box, **To this URL**.

5. Select **Fix URL References**.
6. When prompted, select **Yes** to finish.

Delete an organization

Deleting an organization is an activity that is done only when more than one organization exists.

> **NOTE**
> Before version 4.3, users had the option to add multiple organizations. However, this option was removed in the spring of 2014. As of release 8.10, if you have multiple organizations, delete all but your production organization.

Overall system performance might be affected during the delete process depending on the size of the organization to be deleted. Schedule the deletion during off-peak hours.

Deleting an organization completely removes all data about the organization including projects, settings, and users. Deleted organizations can’t be recovered. If you need to preserve the non-production organizations, contact your account representative.

1. Back up your data [521].
2. Log in to Jama Connect as the root user [492].
3. Enable maintenance mode [498] under the **System properties** tab. If maintenance mode isn't enabled, the option to delete organizations isn't available.
4. Under the **Organizations** tab, select the **Delete** action in the row of the organization to be deleted.
5. When prompted, select **Yes** to confirm you are deleting the organization.

Remove old Docker images

Old Docker images from previous versions of Jama Connect use up storage space and might cause indexing to fail. To avoid this, periodically remove old Docker images from your system to keep it running smoothly.

You also want to remove *dangling volumes*, which are volumes associated with a container that no longer exists. Jama Connect creates new containers and volumes when you restart the application. These volumes can fill up your disk space.

> **IMPORTANT**
> Make sure Jama Connect is running so that only images not in use are deleted. These commands clean only images and volumes loaded with the Docker storage driver in use. Files that were written with other storage drivers remain on the volume until separate commands are run for that storage driver.

Use these commands to clean up your volumes:

1. Identify how much space is being used on your server:

   ```
   sudo docker system df
   ```
2. List out all Docker images on your server:

```
sudo docker images
```

Images are displayed on the screen, listed by their ID in the IMAGE ID column.

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
quay.io/replicated/replicated-operator	latest	c5ea60b58967	5 weeks ago	33.12 MB
quay.io/replicated/replicated	latest	b590f45795f8	5 weeks ago	114.8 MB
172.28.128.3:9874/tenantmanager	e41194c	de4e2e0b47c0	5 weeks ago	442 MB

3. Remove an image by its ID:

```
sudo docker rmi IMAGE_ID
```

4. Remove any dangling volumes from the Docker data root directory:

```
docker volume rm $(docker volume ls -qf dangling=true)
```

5. Identify the volumes being removed:

```
docker volume ls -qf dangling=true
```

NOTE

When you run the commands above to remove an image that is currently in use, you will get an error. For self-hosted customers with internet access, any missing images download again when you restart Jama Connect. For airgap customers, you'll need to manually load the images.

View scheduled jobs

Some jobs can impact performance. When you view scheduled jobs, you can identify which jobs are currently running, when jobs are scheduled to run, and how much memory they require. Knowing this information helps you prepare for any performance hit.

1. Log in to Jama Connect as the root user [492].
2. In the Jama System Administration panel, select **Scheduled jobs** to view jobs, their group, class, and firing time.

View applied patches

You might need to check which patches have been installed on your application server. For example, you can see if any patches were missed, or you might need to let support know about your current environment.

1. Log in to Jama Connect as the root user [492].
2. In the Jama System Administration panel, select **Applied Patches** to view the unique ID, run date, and status.

Clear cache

If you notice latency or slow performance of Jama Connect, you can free up disk space and memory by clearing the cache.

1. Log in to Jama Connect as the root user [492].
2. In the Jama System Administration panel, select **Cache statistics.**
3. Clear items from the cache:
   - **All items** — Select **Clear all cache** to clear all cache items from the cache.
   - **Specific item** — Select **Clear Cache** on a specific cache item to clear it from the cache.

Reindex all search items

Search indexes get out of sync with the database due to large batch updates, API updates, or database updates. During a full index, all search indexes are rewritten to the current values in the database.

> **NOTE**
> You must have system administrator permissions to complete this task while logged in as root. While organization admins and project admins can index project items [649], they can't index all search items.

Important considerations

- Files over 25 MB aren't indexed, so their content isn't searchable.
- Filetypes that can be indexed: PDF, DOC, DOCX, PPT, PPTX, TXT, RTF.
- Filetypes that can't be indexed: XLSX, XLS, XML, HTML, HTM.
- During the index process, the application automatically enters maintenance mode [498]. Users can’t log in during this time and users who are already logged in receive a message about the maintenance.

To sync your search indexes:

1. Notify users before initiating an index.
2. Disable all integrations including legacy connectors and the Jama/Tasktop Integration Hub.
   DWR, SOAP, and REST API calls are automatically blocked during the reindex.

   > **NOTE**
   > The system administrator doesn't have access to disable integrations. Work with an organization admin or integrations admin [631] to disable those services.

3. Log in to Jama Connect as the root user [492].
4. Select the **Index/Search** tab and select **Index items**.
   The system displays a count of items in the application and the estimated time to complete the index.
5. Select **Yes** to continue.

You see an alert when indexing is complete and maintenance mode is automatically disabled.

Folder locations

You can use an exported filesystem, such as NFS, for mounting the following directories, provided the path remains the same. Mounting these directories in the cloud is not supported.

The following two directories are on the application server:

- **/data**
  Stores physical artifacts, like attachments, reports, avatars, diagrams, and metrics. Exported file systems, like NFS, are supported for use with the /data directory.
- **/logs**
  Contains all log files of the Jama Connect components such as the following:
  - **/logs/tomcat**
    Apache Tomcat log files, logs all activities [209] in the application

- **/logs/tomcat/contour**
  Core Jama Connect log files
- **/logs/elasticsearch**
  Elasticsearch log files
- **/logs/search**
  Search service log files
- **/logs/nginx**
  Nginx log files (note that currently only error logging is provided for Nginx)

NOTE

You cannot change the location where log files are written to, however, you can change the appenders and logging levels for different components of the Jama Connect application. The core Jama Connect application log configuration can be updated in:

```
/data/log4jconfig/log4j.properties
```

The log configuration for Elasticsearch and search service can also be found in

```
/data/config
```

Changes to these configuration files persist when you restart Jama Connect and are applied in a few seconds.

IMPORTANT

Replicated snapshots are stored in the following location by default:

```
/var/lib/replicated/snapshots
```

However, if you change the path to include /data it will be easier to include these snapshots in your regular backups of Jama Connect data at /data/directory, as such:

```
/var/lib/replicated/data/snapshots
```

Note that /snapshots should have three times the space allocated as the rest of /data.

Migrating your data

To use Jama Connect 8.x, your application server must be running on a Linux platform; Windows server is no longer supported. Also, because Oracle database is no longer supported, you must migrate to either Microsoft SQL Server or MySQL before upgrading to version 8.x.

You must also migrate your existing data when you upgrade the platform (physical or virtual) for your database server or application server.

NOTE
This information applies to self-hosted environments only.

Migrate Jama Connect data when you:

- Upgrade Jama Connect from pre-8.0 version [467]
- Upgrade from Oracle database on pre-8.0 Jama Connect
- Migrate the application to a new server [537]
- Migrate the database to a new server [538]
- Set up or update a test server [538]

Migrating...	Details
From Oracle database	Jama Connect 8.x no longer supports Oracle database. You must migrate to a supported database before upgrading to 8.x.
From Windows server	Jama Connect 8.x no longer supports Windows platform. You must migrate to a supported Linux operating system, then migrate your application and data.

IMPORTANT
If you restore data from an XML or .jama file, your image file automatically references the new server's name or location. But if you use any other method to restore data (such as proprietary tools for MySQL or Microsoft SQL Server), you must run the **Fix URL** option to update references manually [531].

Migration overview

The basic process for migrating your application and data involves creating a backup of your /data directory, then creating a snapshot of your Replicated Admin Console settings. Once that is done, you install Jama Connect on a new server and migrate the /data directory backup to the new server. When the new server is online and functioning, you then remove Jama Connect from the original system.

Depending on your current environment, you might also need to:

- Upgrade to Jama Connect 8.x if you're running a pre-8.x version.
- Migrate to a supported Linux system if you're running on a Windows server.
- Migrate to a supported database (MySQL or SQL Server) if you're running an Oracle database.

Migration process

1. Make a backup of your current Jama Connect installation using one of these methods:
   - Jama Connect backup (.jama file or XML file)
   - Proprietary database backup for SQL Server or MySQL
2. Make sure you are running:
   - Jama Connect 8.x or later on a supported Linux system
   - A supported database, SQL Server or MySQL
3. Migrate existing data, using .jama file, XML file, or proprietary SQL database file.
4. Remove previous installation of Jama Connect.

Migrate existing directories

If you created your backup with a Jama Connect XML file or with SQL proprietary database software, you must manually migrate certain directories (folders).

A .jama backup file includes the database plus all necessary directories. However, an XML backup file or a proprietary database backup includes only the database.

1. In the **/data** directory, delete these directories:
   - **tenant**
   - **ActiveMQData**
   - **elasticsearch**

   These directories are restored when you restart Jama Connect on the new server.
2. Migrate these directories accordingly:

Directories	Details
/attachments/**	Move to the new application server at /data/contour/attachments/**
/avatars/**	Move to the new application server at /data/contour/avatars/**
/diagrams/**	Move to the new application server at /data/contour/diagrams/**
/metrics/**	Move to the new application server at /data/contour/metrics/**
/reports/**	Move to the new application server at /data/contour/reports/**

   ** All directories and files below the given folder
3. On the new application server, set permissions and ownership for all directories with these commands:

   ```
   chown -R 91:91 /data/contour
   chmod -R u+rwX /data/contour
   ```

Migrate the application to a new server

If you have a new server (physical or virtual) for your existing Jama Connect 8.x installation, you must first create a backup and snapshot on the original server, then migrate data and restore the snapshot on the new server.

> **IMPORTANT**
> The snapshot contains the license from the original server. Only use a production server snapshot on a new production server, and a test server snapshot on a new test server.

1. Log in to Jama Connect as the root user [492].
2. Enable maintenance mode [498]:
   1. Select the **System properties** tab in the Jama System Administration panel, then select **Edit** in the top right corner.
   2. Scroll to the bottom of the page and select **Yes** for maintenance mode.
3. On the original server:
   1. Create a Replicated snapshot [474] from the Admin Console.
   2. Create a backup (.jama file, XML file, or proprietary SQL backup) and download it from the root menu. Move to the new server under /data/restore.
4. On the new server:
   1. Migrate the existing data [537], including the /data directory and its contents from the old server to the new server, preserving the structure and permissions of the contents.

2. Move the snapshot from the original server to the same directory on the new server.
3. Restore the snapshot [476]. When prompted for the license, select **Restore from a snapshot**.
4. If the IP address of the two servers are different, update the IP address of your application server [529].

Migrate existing database to a new server

If you have a new server (physical or virtual) for your existing database, you must create a backup of the original database, then migrate and restore it on the new database server.

Important considerations

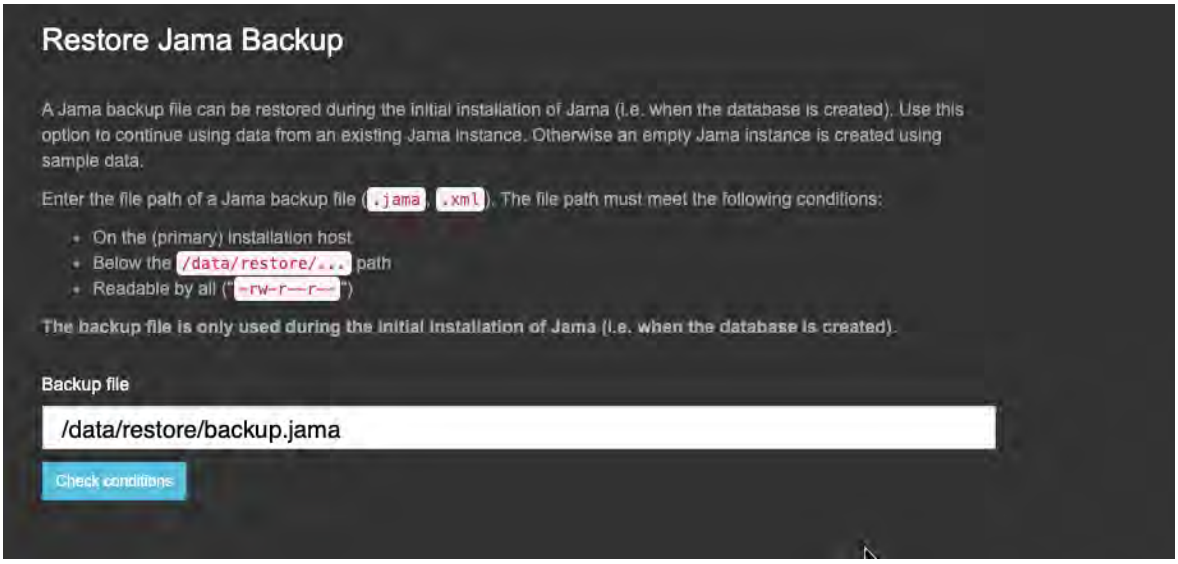
- If migrating from the same database type, such as MySQL to MySQL, perform a proprietary backup and restore [523], to avoid converting the data.
- If migrating between different database types, such as MySQL to SQL Server, generate a backup [521] of your database using your current installation of Jama Connect.
- If migrating from a pre-8.0 version of Jama Connect, generate a backup [521] of your database using your current installation of Jama Connect. You must use an XML file for the backup.
- If migrating from an 8.x version of Jama Connect, use a .jama file for the backup.

To migrate your database to a new server:

1. Generate a backup on your application server, using a .jama file (recommended), XML file, or a proprietary database backup.
2. If using a .jama file or XML file:
   a. Wait for the backup file to be written to the /data/contour/backup directory on the application server.
   b. Move the backup file to the /data/restore directory on the destination application server.
3. Create a new database following the instructions appropriate for MySQL or SQL Server.
4. Delete filesystem assets on the destination server:

```
rm -rf /data/{activeMQData,| config, contour, elasticsearch, tenant}
```

5. On the respective destination servers, configure the Admin Console, and when prompted, select **Restore from backup file**.



6. Save the settings and restart Jama Connect.

Setting up a test server

If configuring a test server, you must disable the following features before you create the backup on the original server. Disabling these features prevents duplicate information from being sent out from both your test and production environments.

Make sure to disable these features:

- Legacy connectors such as the JIRA, TFS, and Rally connectors
- SMTP or IMAP

Troubleshooting

> **NOTE**
> This information applies to self-hosted environments only.

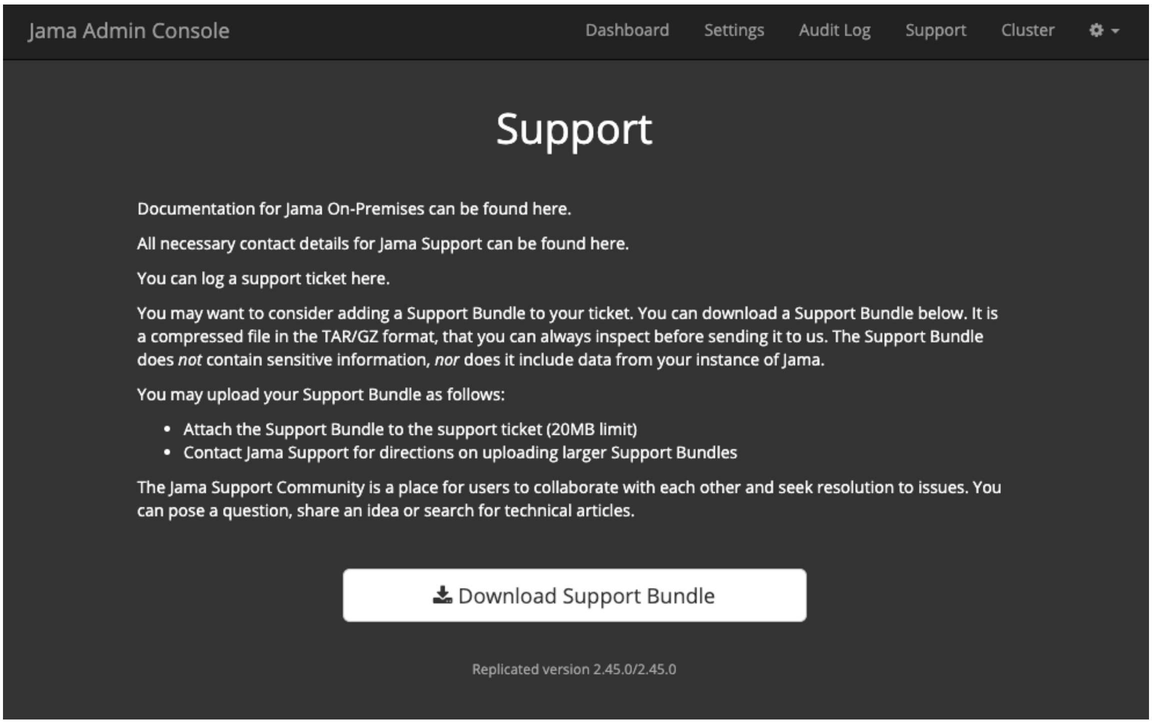
You can avoid troubleshooting by following regular maintenance practices [523], but if you run into problems here are some resources that might help:

- For issues with installation, log in to the Jama Connect as root user [492] and select the **System Info** tab to see a quick overview of your installation.
- View log and profile [541]
- Clear cache [533]
- View scheduled jobs [533]
- Index all items [534]
- Remove old Docker images [532]
- Reconnect to the Wiris server [543]
- Generate a support bundle [539] and contact

Generate a support bundle

A Support Bundle contains information about the application server and the Jama Connect installation. The bundle, which includes support troubleshoot issues in your environment, includes thread dumps [540], log files from the Admin Console, and the components that make up Jama Connect.

1. Generate a Support Bundle from the UI or command line of the application server.
   - **From the UI** — In the header of the Admin Console, select **Support**, then select **Download Support Bundle**.



- **From the command line:**

  ```
  replicated apps
  replicated support-bundle <app_id>
  ```

  <app id> is the ID of your application taken from the output of the first command.

2. Upload the Support Bundle to Jama Support: support@jamasoftware.com

For more information, see the community article: Jama Support Bundle: How do I get it, what's in it, and which logs should I care about?

Thread dump

A thread dump is a snapshot of the state of your Jama Connect processes at a point in time.

Jama Support might request a thread dump for troubleshooting performance issues.

Any time you generate a Support Bundle [539], the bundle includes three thread dumps taken at 5-second intervals.

> **TIP**
> Take multiple thread dumps over an interval of time. A single thread dump on its own doesn’t provide complete information about an issue.

You can create a thread dump from the command line or the from the Logging Configuration window.

Manually (command line)	Logging configuration window [541]
`jamacli jamacore-thread-dump`	Select **Logging > Configuration**

NOTE
You can create thread dumps only for containers that are the core Jama Connect application.

View and configure logging

Log files record information from the application and can help with troubleshooting. Information is captured in the contour.log file.

Entries in the log file are noted by the [jama.AccessLog] package and include this information:

- Date of request
- Server processing time to handle the request
- The user who submitted the request
- The organization ID of the user who submitted the request
- The user session ID of the user who made the request
- The server address that the request was made to

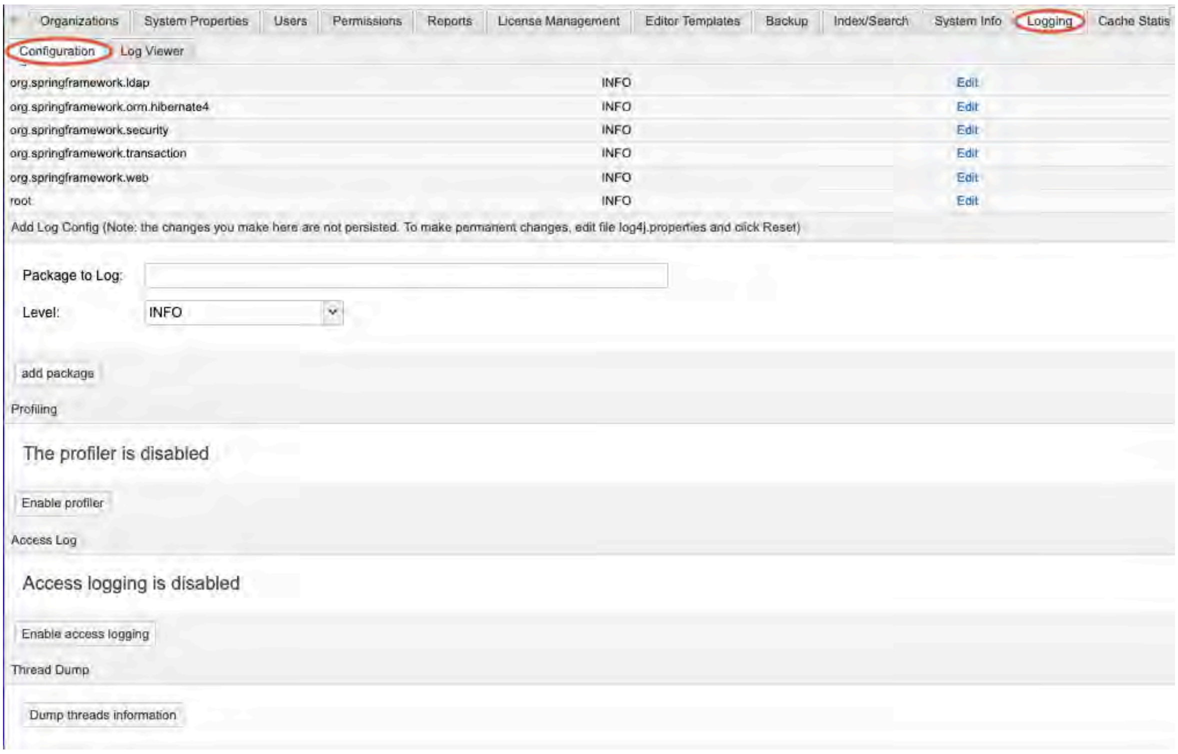
Enabling the profiler logging enhances logging in Jama Connect. However, profiler logging might require additional resources to generate this content. For best performance, use the profiler for troubleshooting purposes.

The profiler prints out the following information:

- The user who submitted the call
- The organization the user belongs to
- The java thread ID of the call
- A stack trace of the call that includes processing time and memory usage of each trace

To view the log and configure logging:

1. Log in to Jama Connect as the root user.
2. Select **Logging > Log Viewer** to view the log. As needed, select **Refresh** at the top right to refresh the log.
3. Select **Logging > Configuration**.



TIP

By default all logging levels are set to info and will reset to that default when the application is restarted [524].

To permanently change the logging level and appenders, edit the file:

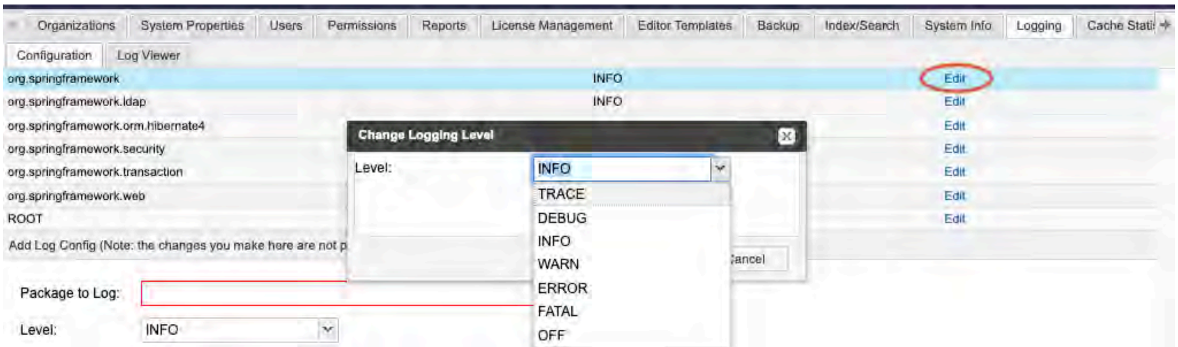
`/data/config/log4j.properties`

The log configuration for Elasticsearch and search service can also be found in:

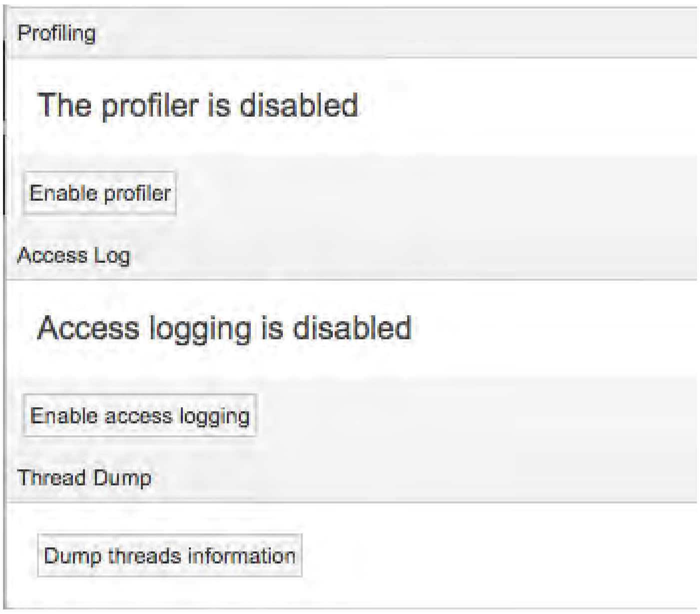
`/data/config`

You cannot change the location to where log files are written. Changes to these configuration files are applied within a few seconds and are persisted across restarts the application.

4. To change the logging level from the default setting of Info, select **Edit**.



5. To log additional content for every log entry in the contour.log file, scroll to the bottom of the page and select **Enable profiler** under Profiling.



Profiling is indicated in the log file as the [jama.Profiler] package.
Here is a sample log entry:

```
2011-04-28 09:37:19,865 INFO [org.directwebremoting.impl.DefaultRemoter]
- Exec: projectSvc.getExtTreeNodeForProject()
2011-04-28 09:37:19,869 INFO [jama.Profiler] - user:admin org:2
thread:96 start:2011-04-28 09:37:19,866
[3ms] [+88K/-88K 837755K/254041K]-
com.jamasoftware.Jama.dwr.impl.DwrProjectServiceImpl.getExtTreeNodeForPro
ject
[3ms] [+88K/-88K 837755K/254041K]-
com.jamasoftware.contour.service.impl.ProjectServiceImpl.getExtTreeNodeFo
rProject
[2ms] [+88K/-88K 837755K/254041K]-
com.jamasoftware.contour.service.impl.DocumentTypeServiceImpl.getAvailabl
eDocumentTypesForProject
```

6. To capture information for all user requests and all locked-out users in Jama Connect, select **Access log**, then select **Enable access logging**.
   Information is captured in the contour.log file. Here is a sample log entry:

```
2014-08-29 16:24:59,370 INFO http-bio-8080-exec-17 [jama.AccessLog]
- [3 ms] PRBDIJN9 1 - 083BBE5B1E8C481033DA7AFBBEF023A5 160 http://
localhost:8080/contour/
```

7. To capture a one-time dump of the current running java threads being executed, select **Dump threads information** under Thread dump.
   Information is captured in contour-threaddump.log.
   This information is useful for identifying long running processes. If Jama Connect seems to hang, run a thread dump and send the log file to .

Reconnect to the Wiris server (self-hosted only)

If your connection to the Wiris server is interrupted, you can fix the issue by modifying the Wiris settings, restarting your system, then returning the settings to their original values.

1. Modify the Wiris settings:
   a. In the Admin Console, select **Settings > WIRIS Connection Settings**.
   b. Select **Use custom Wiris connection**.
   c. Make the following changes:

- **Wiris Host** — Add “xx” to the end of the string
- **Wiris Path** — Add “xx” to the end of the string
- **Wiris Port** – Change to 44311

d. Select **Save** and restart your system.

2. **Test the connection**. Use Jama Connect in a field that calls the Wiris MathType Editor:
   a. In Jama Connect, select **Projects**, and select the item you want to modify.
   b. From the Add drop-down menu, select **New item > Text**.
   c. In the Add item window, select the Math Editor icon.
   d. Add an equation using the equation editor. As expected, this action fails.
3. In the Admin Console, reset the modified Wiris setting to the original values.
4. Select **Save** and restart your system.
5. **Test the connection**. Use Jama Connect in a field that calls the Wiris MathType Editor:
   a. In Jama Connect, select the item you want to modify.
   b. From the Add drop-down menu, select **New item > Text**.
   c. In the Add item window, select the Math Editor icon.
   d. Add an equation using the equation editor. This action now succeeds

Organization administrator

An organization administrator controls all aspects around the configuration of Jama Connect and the user and groups. This is a role that can be assigned to an individual or a group.

An organization administrator can manage users [568], content [545], collaborations [618], and integrations [631].

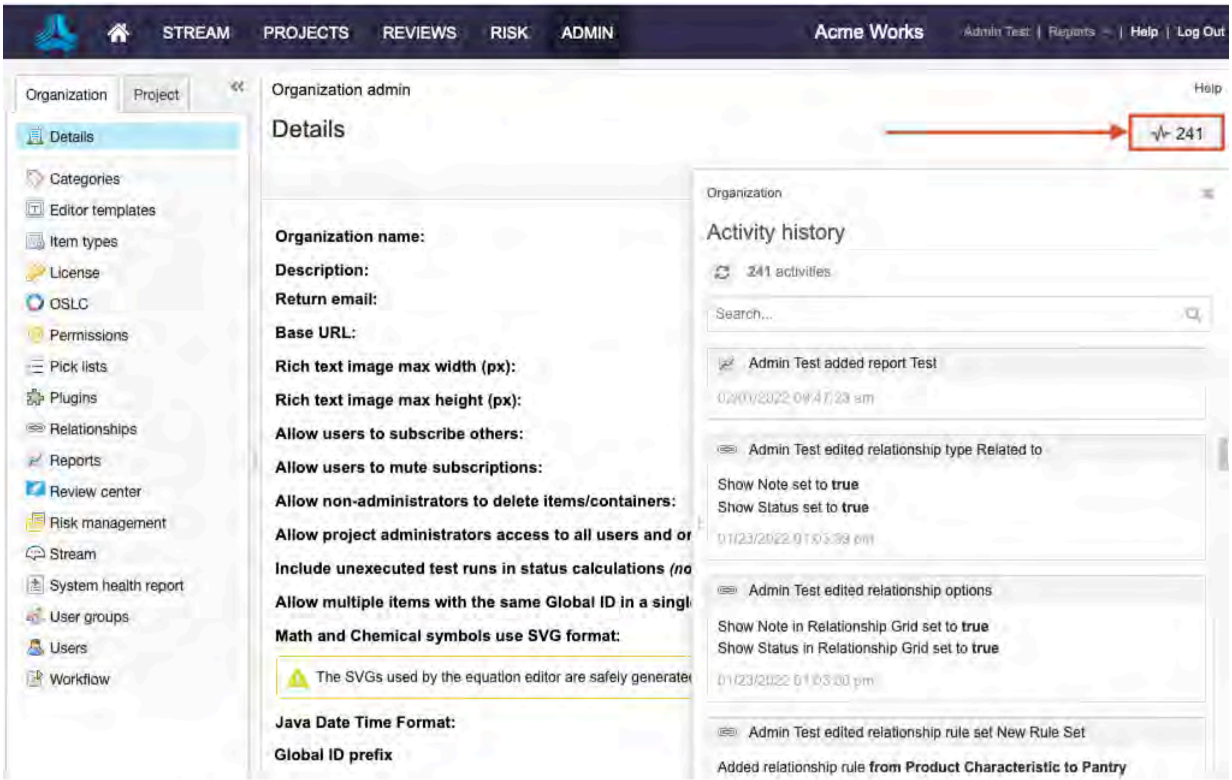
Most of the organization administrator tasks can be found under **Admin** in the top-level navigation. If you don't see this, you don't have organization administrator permissions.

Many changes made in the organization administration pages require signing out before they take effect. By default, Jama Connect creates a group called Organization Admin and assigns it Administrator and Manage project rights to the organization.

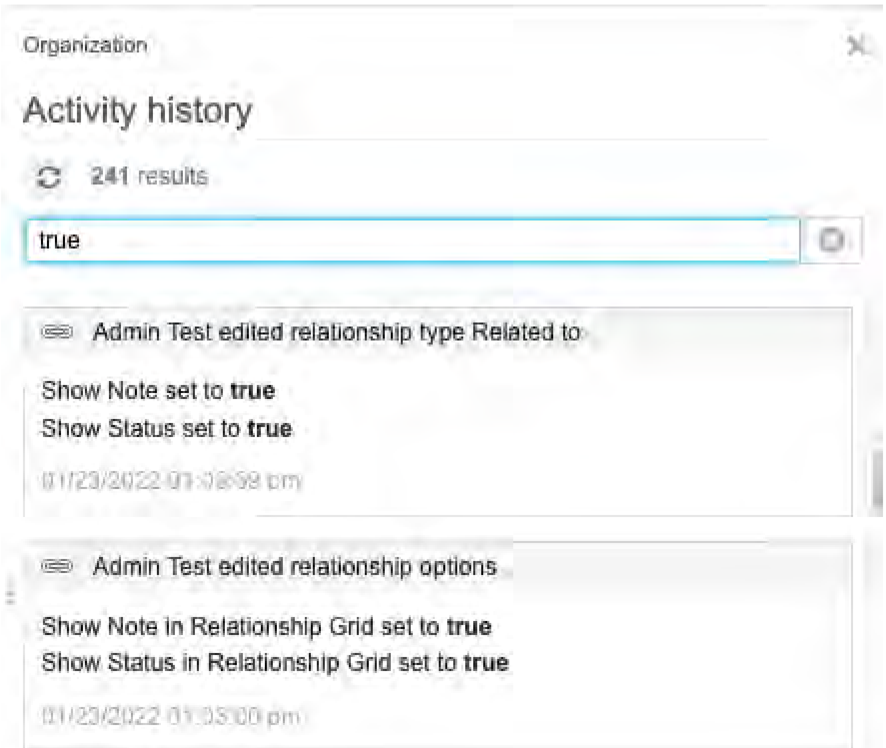
Monitoring changes with the Admin Activity stream

The Admin Activity stream provides an audit trail of updates made by organization and project administrators.

To open the Activity stream panel, select **Admin**, then select the **Activity stream** button on the right side of the panel.



Need to find something quickly? Search for activities by entering the search term, like the name of a pick list or the user who performed the action.



Manage content

There are many areas of the application that require organization administrator permissions to set up and maintain content for the broader group of users.

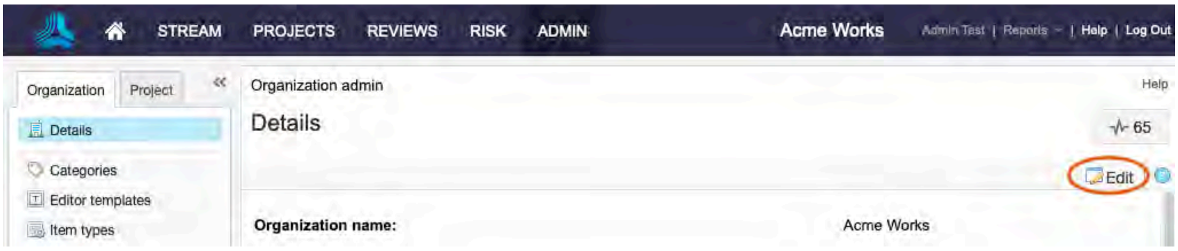
Change Global ID

Global IDs are unique identifiers of items that are connected through synchronization. While every item has its own unique ID [637], two items that are synchronized can share a global ID.

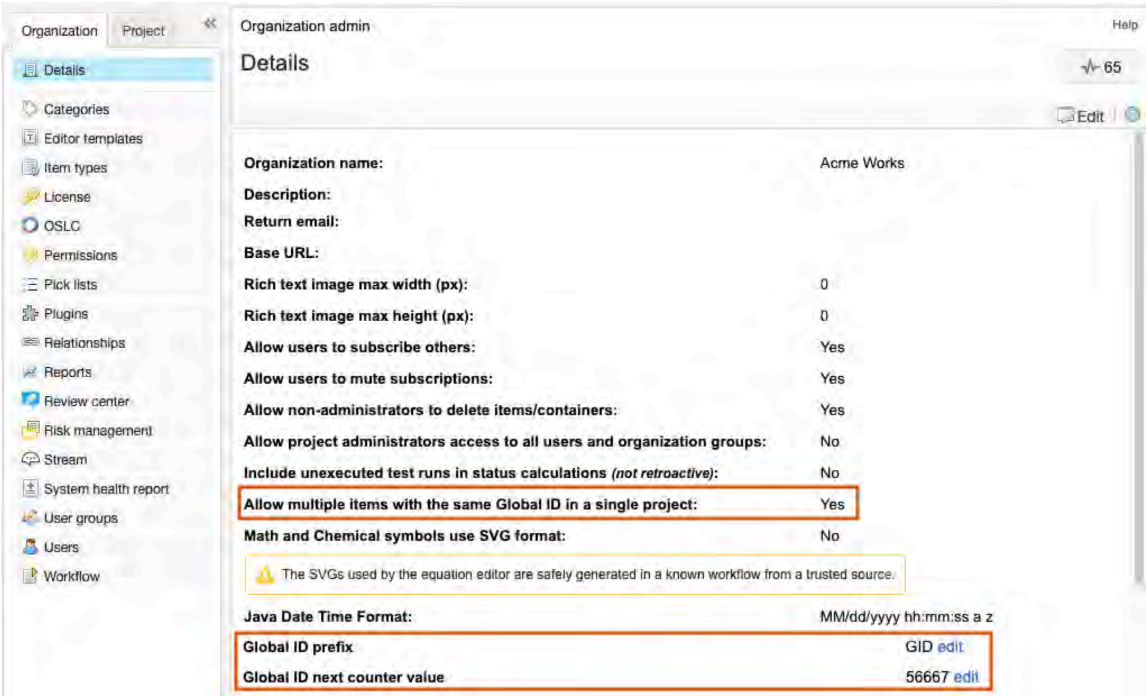
> **NOTE**
> You must have organization administrator permissions to complete this task.

You can change or add a prefix, as well as an optional item type key, in front of the Global ID assigned to items.

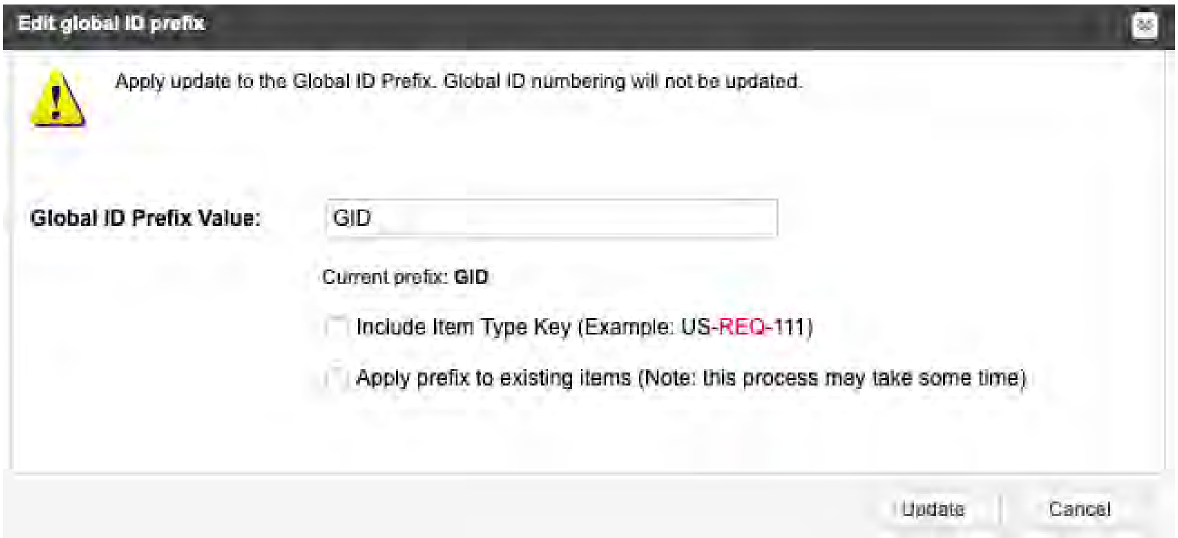
1. Select **Admin > Details**, then select **Edit**.



2. Confirm if you want to **allow multiple items with the same Global ID in a single project**.
   - **Yes** — One item can be synchronized with one or more items in the same project.
   - **No** — Items can only be synchronized to items in other projects. The default setting is **No**.



3. To change the **Global ID Prefix Value** and **Item Type Key**, select **Edit**.



- **Change only future prefixes**: Change the Global ID Prefix and select **Update**. No current IDs are affected. Future IDs include the new prefix.
- **Change ALL prefixes (past and future)**: Select **Apply prefix to existing items**. All existing prefixes are changed if they match the old prefix, and new IDs will contain the new prefix. If the past Global IDs didn't have a prefix, the new one is appended to those IDs.

Old Prefix	Old ID	New Prefix	New ID
US	US-REQ-1023	NZ	NZ-REQ-1023
US	EU-REQ-1023	NZ	EU-REQ-1023
No prefix	REQ-1023	NZ	NZ-REQ-1023
No prefix	US-1023	NZ	NZ-US-1023
US	US-REQ-1023	No prefix	REQ-1023
US	US-1023	No prefix	1023
US	1023	No prefix	1023

- **Include item type in the global ID**: Select **Include Item Type Key**. To change the item type key, you must configure the item type [589].

4. To change the **Global ID next counter value**, select **Edit**.
5. Set the counter that assigns Global IDs, then select **Update**. If you set the counter to a value that's being used, the counter uses the next available ID as its starting point when the next item is assigned.

Your changes appear in the Organization Details page.

Unlock items locked by another user

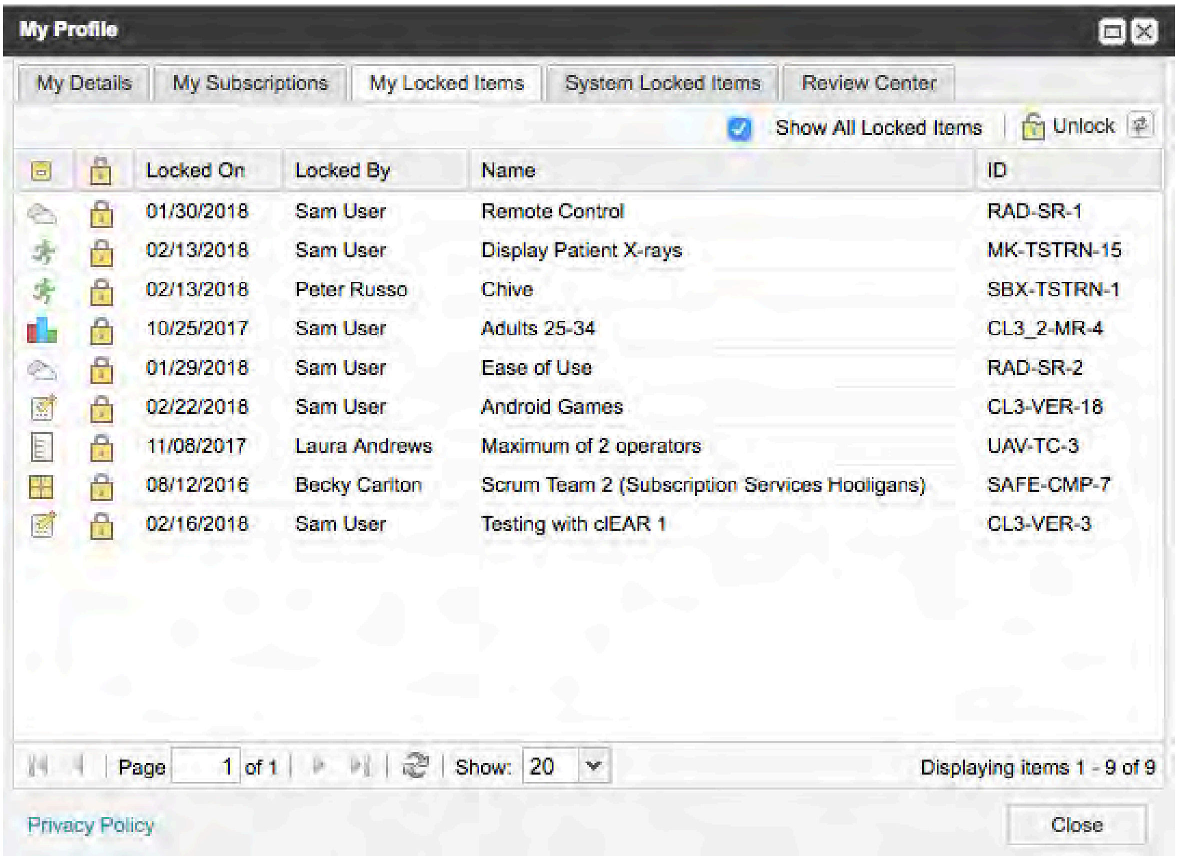
You must have organization and project administrator permissions to unlock items that are locked by another user.

NOTE

Project admins can only batch unlock items from List View and Single Item View.

To unlock items that others have locked as an organization admin:

1. Select the link with your name in the header to open the **My profile** window. This button is disabled if you have the **Admin** button selected in the header.
2. Select the **My locked items** tab and check the box next to **Show all locked items**.

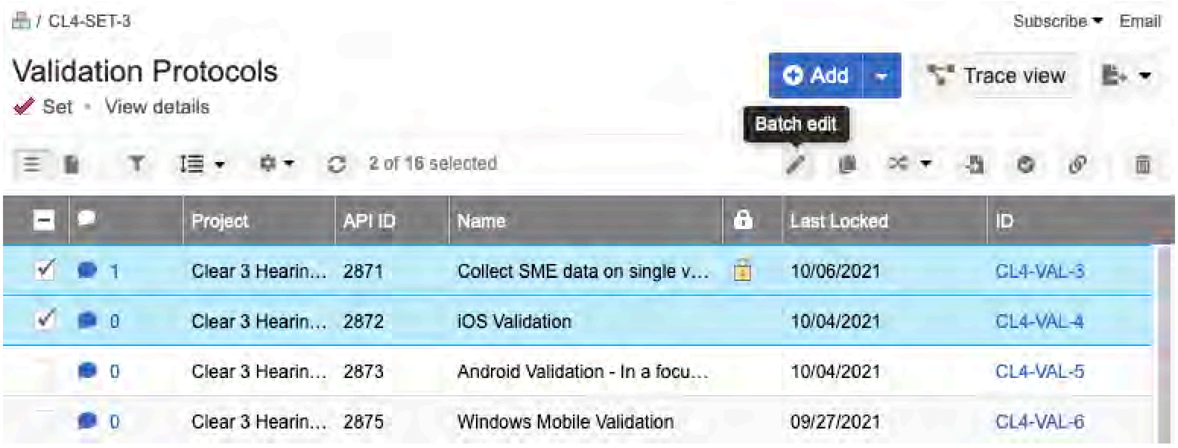


3. Locate the item in the list you want to unlock and select it. Select the **Unlock** button.

To unlock items that others have locked as a project or organization admin:

From List View

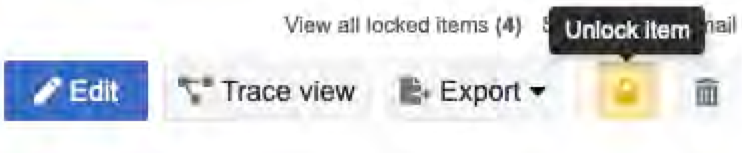
1. Select the item you want to unlock, then click **Batch edit**.



2. In the Batch update window, select **Locked Status > Unlock all items**, then click **Next**.
3. (Optional) Add a comment and notify users.
4. Click **Commit**.

From Single Item View

- Select the item you want to unlock, then select **Unlock item**.



TIP

If you are an organization or project administrator, you can also access the system-locked items tab to unlock system locked items [549].

Unlock system-locked items

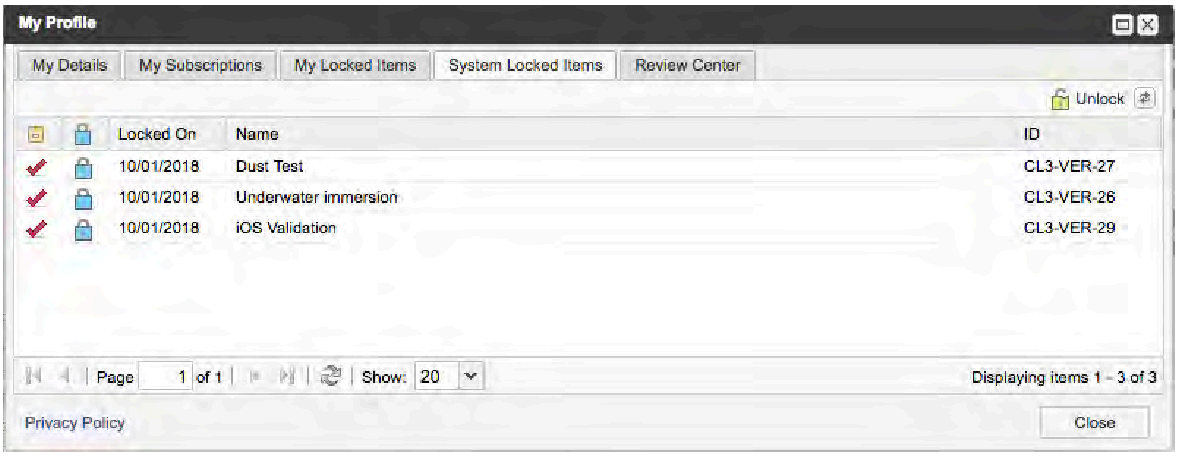
Anyone can view the list of system-locked items regardless of permissions.

IMPORTANT

Organization admins can unlock system-locked items.

System-locked items can be unlocked by a project admin with admin permissions for those items.

1. Select your name in the header to open the **My Profile** window.
2. Select **System Locked Items** to see all items that were automatically locked [202] (blue lock).



3. Select the items you want to unlock, then select the **Unlock** button in the top right corner of the window.

Configure reuse and synchronization

You must have write permissions [583] to modify items through synchronization. Items with a user lock [547] or system lock [549] can't be modified through synchronization.

> **NOTE**
> You must have organization administrator [544] permissions to complete this task.

As an organization administrator you can:

- Grant permissions to a reuse administrator [583]
- Configure global ID [546]
- Sync or remove Compare Views [293]
- Enable synchronization of widgets [593]
- Prevent users from synchronizing items [288]

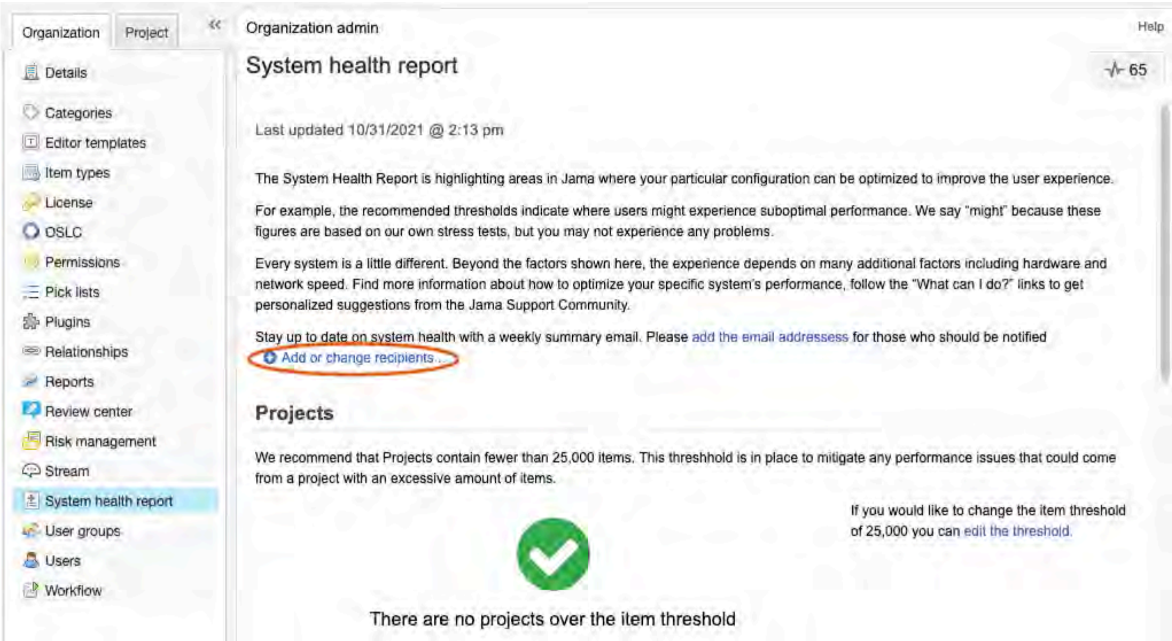
System health report

The system health report is an optional feature that notifies you of areas in the application that can affect performance and user experience.

Projects that are too large, reports that contain too many items, and syncing too many items at a time are just a few of the things that can slow Jama Connect down and cause problems. This report can be emailed to designated users weekly.

> **NOTE**
> You must have organization administrator permissions to view the system health report.

1. To view the report, select **Admin > Organization**, then select **System health report**.
2. Select **Add or change recipients** to add or modify who receives the report.



3. You can set a threshold for each of the areas (Projects, Reviews, Reports, and Test Plans) by selecting **Edit the threshold**.

Plugins

IMPORTANT

You must be an organization administrator to complete this task.

There are two plugins you can install:

1. User import plugin [555]
2. Import relationship plugin [551]

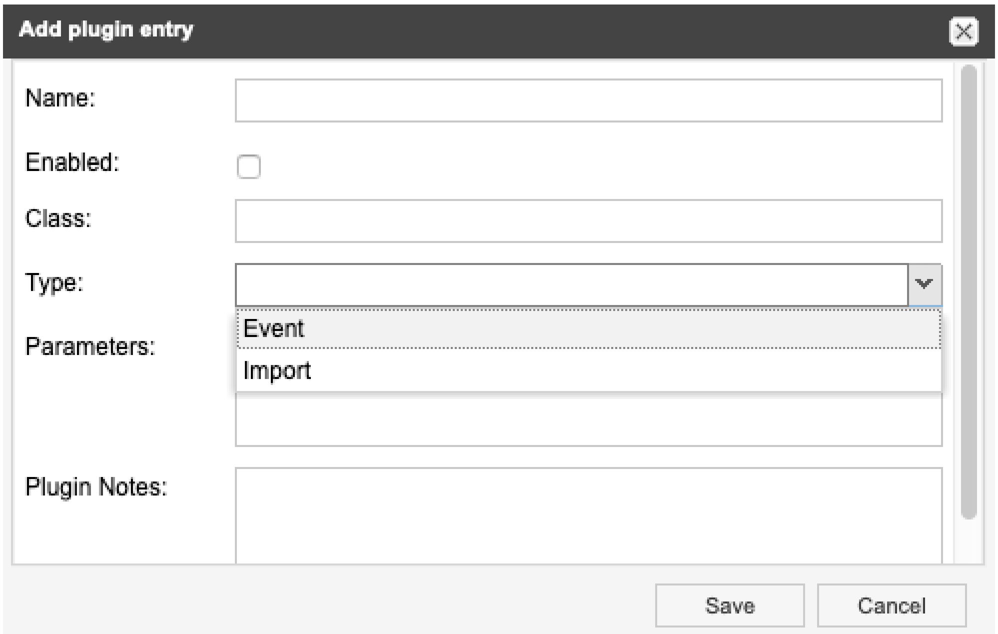
Configure Import Relationships Plugin

The Import Relationships Plugin helps you batch create relationships between existing items in the application.

NOTE

You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Plugins > Add plugin entry**.
2. In the **Add plugin entry** window, enter the following information and select **Save**.



   - **Name:** Import Relationships (or whatever name you want visible to users)
   - **Enabled:** Check this box to make the plugin available to users.
   - **Class (case sensitive):** Enter the name of the object defined in the source code. For a single project enter:

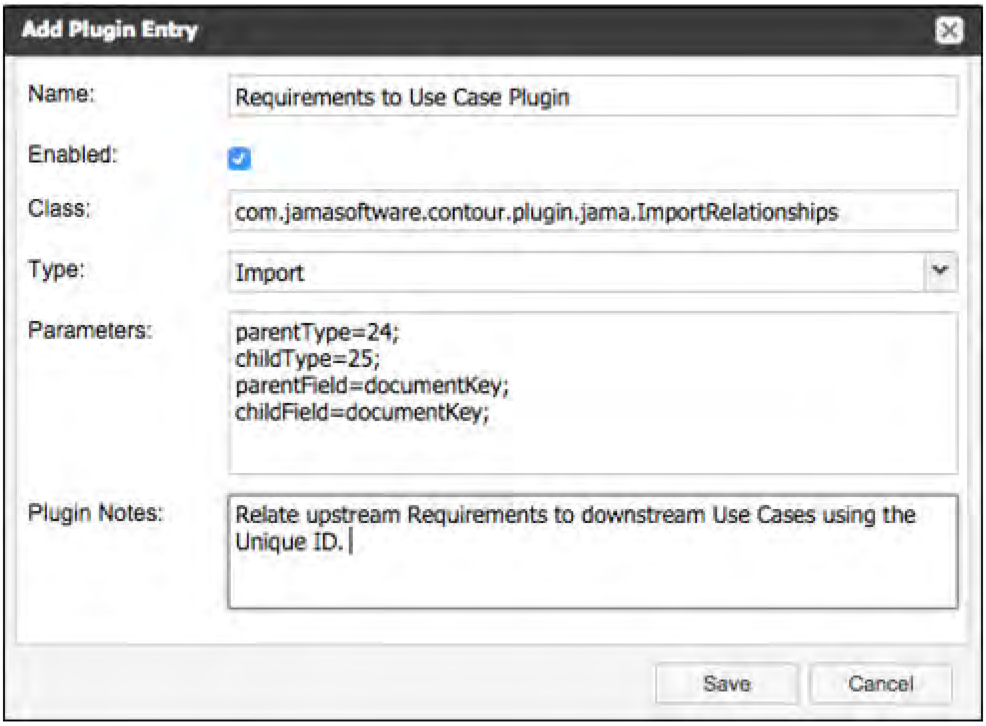
     ```
     com.jamasoftware.contour.plugin.jama.ImportRelationships
     ```

     For cross-project imports enter:

`com.jamasoftware.contour.plugin.jama.ImportRelationshipsCrossProject`
- **Type:** Import
- **Parameters:** Set relationship parameters [552]
- **Plugin notes:** Add any notes you have here. This will not be visible to end users.

3. When the information is correct, select **Save**.

> **TIP**
>
> For a sample entry of a cross-project import, see Set relationship parameters [552].

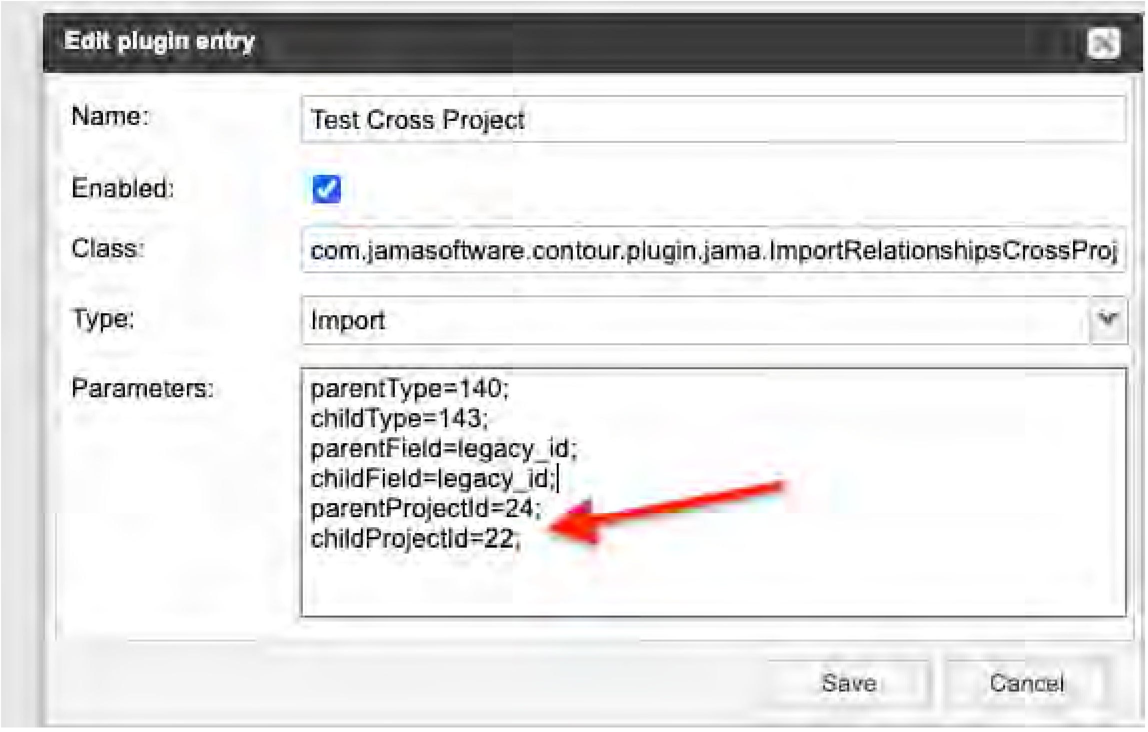


Set relationship parameters

Depending on whether you want to import relationships in a single project or multiple projects, there will be four or six parameters to complete.

> **NOTE**
>
> You must have organization administrator permissions to complete this task.

Cross-project import sample entry



These parameters are used when configuring the Import Relationships Plugin [551]:

- **parentType**: Defines which item type to use for the parent (upstream) relationship.
- **childType**: Defines which item type to use for the child (downstream) relationship.
- **parentField**: Defines which field to use to find the the parent (upstream) item.
- **childField**: Defines which field to use to find the child (downstream) item.
- **parentProjectId**: Defines the project that contains the parent (upstream) item. **Only for the cross project plugin**.
- **childProjectId**: Defines the project that contains the child (downstream) item. **Only for the cross project plugin**.

Parameters can be written in any order, as long as they follow correct formatting. Each parameter is case sensitive and requires a semicolon at the end.

Gathering parentType and childType values

To specify the item Types, you need the API IDs of the item Types to be related. You can find the API ID under **Admin > Item Types**.

Image	Display	Plural	Key	Description	API-ID	System	Action
	Attachment	Attachments	ATT	Attachment Type	22	Yes	Config | Configure View
	Feature	Features	FEAT		23	No	Edit | Config | Configure View | Delete
	Requirement	Requirements	REQ		24	No	Edit | Config | Configure View | Delete
	Use Case	Use Cases	UC		25	No	Edit | Config | Configure View | Delete
	Test Case	Test Cases	TC		26	No	Edit | Config | Configure View | Delete
	Defect	Defects	BUG		27	No	Edit | Config | Configure View | Delete
	Change Request	Change Requests	CR		28	No	Edit | Config | Configure View | Delete
	User Story	User Stories	STY		29	No	Edit | Config | Configure View | Delete
	Component	Components	CMP	Component type	30	Yes	Edit | Config | Configure View
	Set	Sets	SET	Set type	31	Yes	Edit | Config | Configure View
	Folder	Folders	FLD	Folder type	32	Yes	Edit | Config | Configure View
	Text	Texts	TXT	Text type	33	No	Edit | Config | Configure View
	Core	Core	CORE	Item Type used to map fields as "core" fields, that we can show across Item Types	34	Yes	Config | Configure View
	Test Plan	Test Plans	TSTPL	Fields that apply to Test Plans	35	Yes	Edit | Config | Configure View
	Test Cycle	Test Cycles	TSTCY	Fields that apply to Test Cycles	36	Yes	Config | Configure View

For example, if you wanted to create relationships for upstream Requirements to downstream Use Cases, you join the item Type with the corresponding API-ID:

parentType=24;

childType=25;

Gathering parentField and childField values

The CSV file used for import needs to contain an identifying field for each item, such as the Name or Global ID. To specify which field in the parent and child item will be used for this identification, use the system Field value. You can see which fields are available to use under **Admin > Item Types > [Highlight the item type to be used] > Config**.

Item type fields — Add field

Order	Label	Unique Field Name	Field Type	Control	Pick List	Read Only	Allow API Overwrite	Required	Suspect	Sync	API ID
1	Project ID	documentKey	Text Field			✓		✓			72
2	Global ID	globalId	Text Field			✓		✓			73
3	Name	name	Text Field					✓	✓	✓	73
4	Description	description	Text Box	Rich Text					✓	✓	73

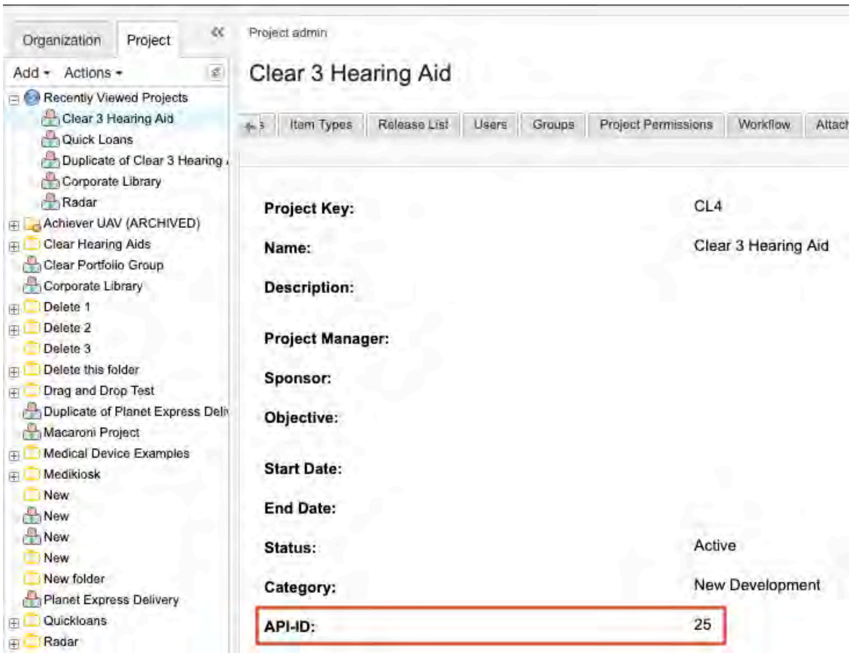
For example, if you wanted to use the ID (also known as the Unique ID) for your parentField and childField, your parameters need to join the field type with the field value:

parentField=documentKey;

childField=documentKey;

Gathering parentProjectId and childProjectId values

To specify which projects the parent and child items are associated with, you need the API-IDs of both projects. You can get the project API-ID under **Admin > Project > [select the project to be used] > API-ID**.



For example, if you wanted to import relationships between a parent project with API-ID 20258 and a child project with API-ID 31548, your parameters need to join the item with the corresponding project API-ID:

parentProjectId=20258;

childProjectId=31548;

Configure User Import Plugin

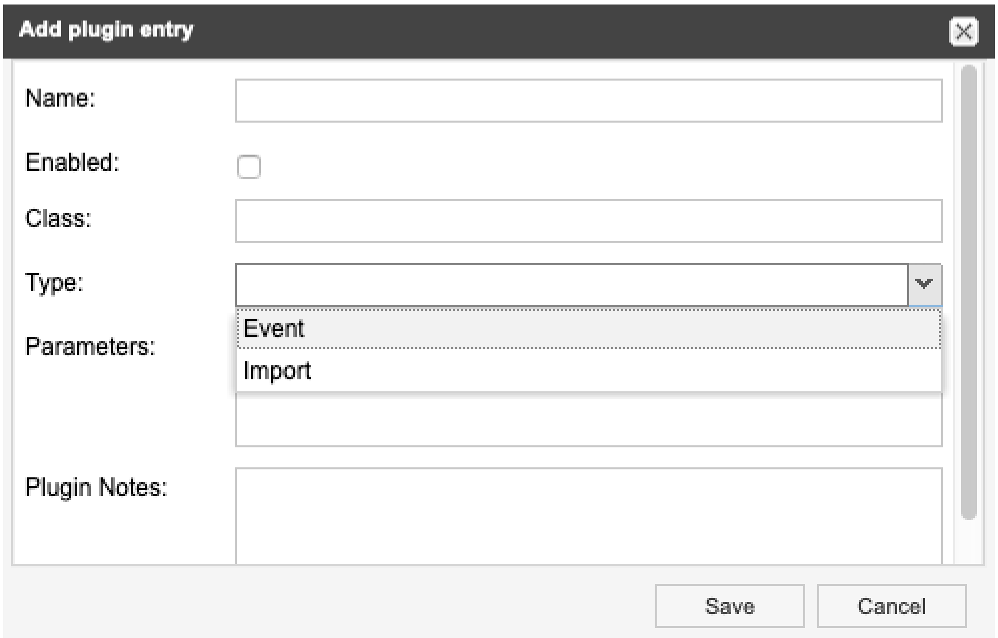
With the User Import Plugin, organization administrators can add multiple users at once by importing a spreadsheet. Imports don't delete users from Jama Connect.

> **NOTE**
> You must have organization administrator permissions to complete this task.

With the User Import Plugin, organization administrators can add multiple users at once by importing a spreadsheet.

1. Select **Admin > Organization**, then select **Plugins > Add plugin entry**.

2. In the **Add plugin entry** window, enter the following information and select **Save**.



- **Name:** User Import
- **Enabled:** Make the plugin available to users
- **Class (case sensitive):** Enter the name of the object defined in the source code:

  `com.jamasoftware.contour.plugin.jama.UserImportPlugin`
- **Type:** Event or Import
- **Parameters:** Leave this field blank
- **Plugin Notes:** Add any notes you have here. This isn't visible to the end user.

3. Create a CSV document with no header row that contains the following values in columns A through K:
   - **Username**
     If LDAP or CROWD is enabled, the username must match what is listed in the directory.
   - **First name**
   - **Last name**
   - **Email**
   - **Password**
   - **Title**
   - **Location**
   - **Phone number**
   - **License type**
     Values must be one of the following:

Value	Meaning
N	Named creator
C	Float creator
FC	Float collaborator
S	Stakeholder
R	Reserved collaborator
V	Float reviewer
RV	Reserved reviewer
NV	Named reviewer
TR	Test runner

   - **Add/Update**
     Values must be one of the following:

Value	Meaning
Add	Add as a new user
Update	Update an existing user

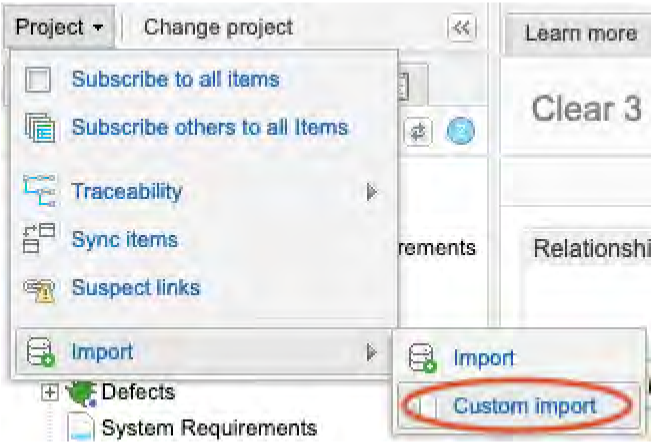
- **Company**
- **Groups**

  If a user belongs to multiple groups you can add them in columns L and up.

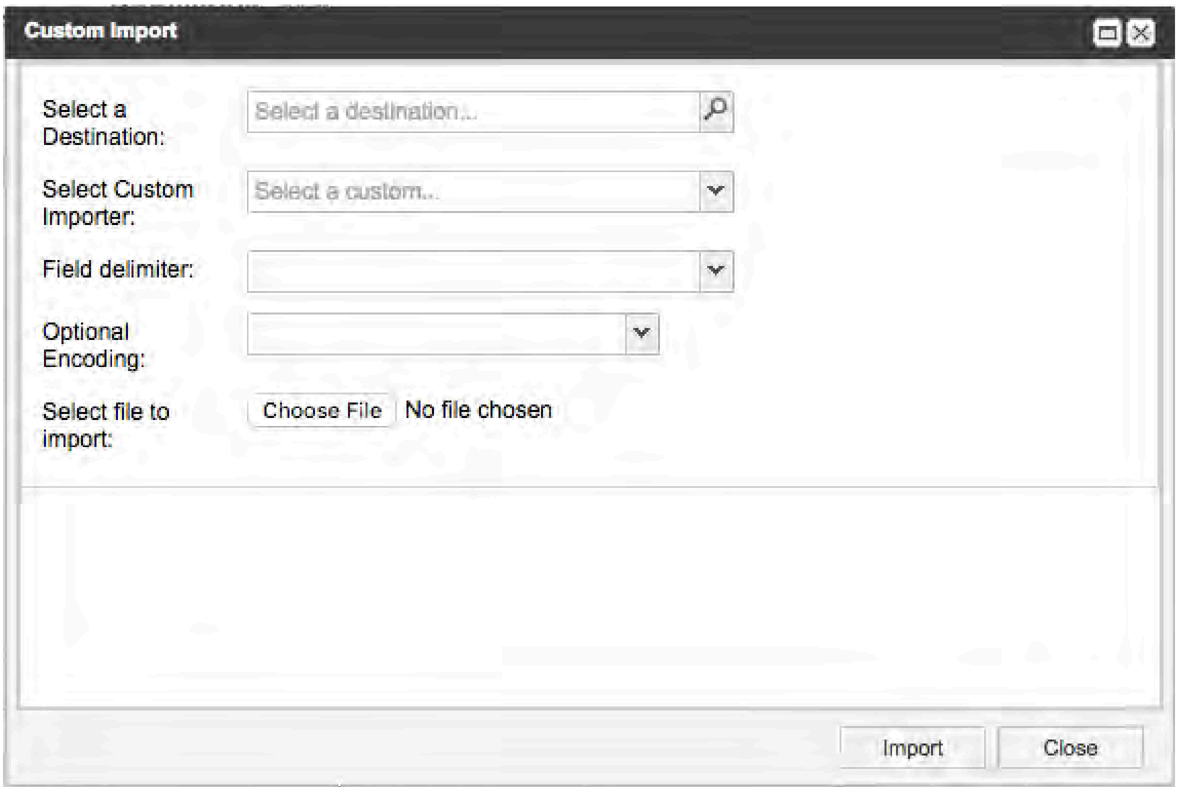
For example:

A	B	C	D	E	F	G	H	I	J	K	L	M
kmaxwell@redside.com	Katie	Maxwell	kmaxwell@redside.com	Alphal@#	Dr.	Central	555-123-1234	C	Add	Company		
suser@redside.com	Sam	User	suser@redside.com	Betal@#	Mr.	West	555-123-1235	C	Update	Company	Organization Admin	Engineering
bflogeets@redside.com	Baxter	Flogeets	bflogeets@redside.com	Gammal@#	Sir	East	555-123-1236	NV	Add	Company	Development	

4. Select **Project > Import > Custom import** to open the **Custom Import** window.



5. Enter the following information in the **Custom import** window:



- **Select a destination:** This is a required field. Your selection doesn't affect the outcome.
- **Select Custom Importer:** User Import
- **Field Delimiter:** Comma

- **Optional Encoding:** UTF8
- **Select file to import:** Choose the CSV file you created in step 3, that contains the list of users to be imported.

6. Select **Import**. Each user that's added with the user import plugin receives a welcome email with the Jama Connect URL.

IMPORTANT
If the import fails it might be because:

- A user that already exists was set to add (rather than update).
- A user that does not exist was set to update (rather than add).
- One or more of the records is incorrect.
- A required field was missing.

Upload custom reports or exports

You can upload reports [357] or exports [298] so that other users can access them.

NOTE
Self-hosted customers with system, organization, or report admin permissions can complete this task.

Cloud customers must contact support for help uploading custom BIRT or Velocity reports. For more information, see Self-Service Reports Development on your Cloud Environment.

- If you're uploading a Velocity or Office Template export that uses pre-selected data in the main panel, the exports appear under **Exports > View all export options**.
- If you're uploading BIRT or Velocity reports that pull data at a project or cross-project level, the exports appear under **Reports** in the Jama Connect header.
  For more information, read about Jama Connect and Velocity here.

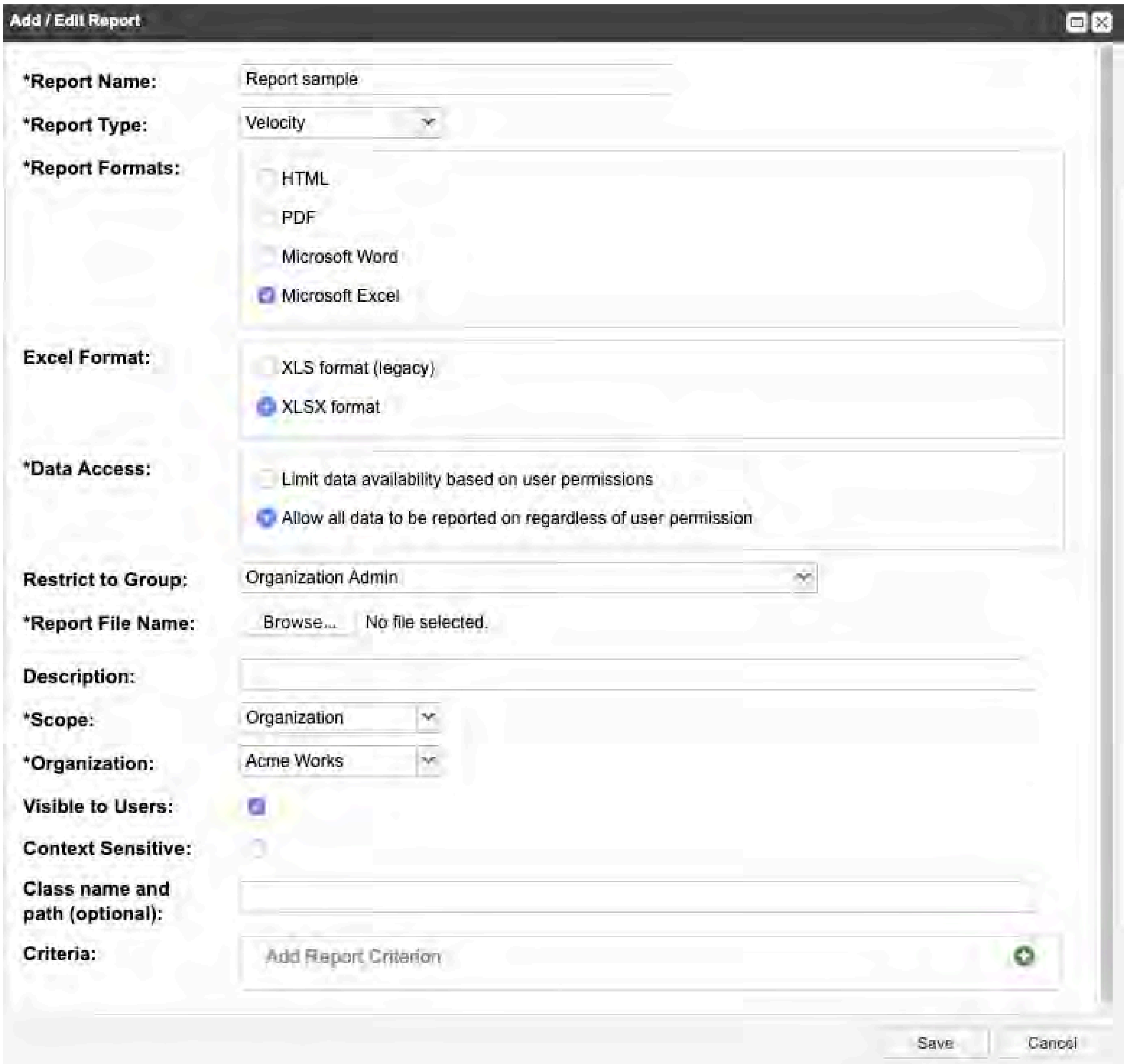
TIP
Report criteria is unique to each one. Before uploading a report or export, check with the person who created it about the best settings to use.

To upload custom reports or exports:

1. Log in as root user [492] and select **Reports**.
   If you're an organization administrator for a self-hosted instance, select **Admin > Reports**.

This shows a list of all currently available reports or export templates.

2. Select **Add report** in the top right corner to open the **Add/Edit Report** window.
3. Define the report:



- **Report Name** — Enter a name so that other users can identify the custom report or export template.
- **Report Type** — Select a type (BIRT, Velocity, or Microsoft Office Template).
  For templates with Microsoft Word or HTML formats, you can also export to PDF. For Office Templates, any user with a creator license can add a custom export [306] , which makes it visible under **Export > View all templates**.
- **Report Formats** — Select a format (PDF, Microsoft Word, or Microsoft Excel).
- **Data Access** — Select a type to define availability for reporting.
- **Restrict to Group** — Select whether and how to limit access (by user permissions or user group) to run custom reports.

To reduce exposure to potentially sensitive data, reports admins do not have access to this setting.

- **Report File Name** — Select **Choose File** and select the report or export template to upload. BIRT reports have file extension .rptdesign and Velocity reports have file extension .vm.
- **Description** — Enter a description that helps users understand the output.
- **Scope** — Define whether the report or export template is available to all users (**Organization)** or to only users in a particular project (**Project**). Default for Jama Connect reports is **System**.
  Report admins can only apply the scope setting to projects where they have project admin rights.
- **Visible to Users** — Select for this option to appear in the application.
- If uploading a Velocity export that applies only to data referenced on the user's main panel, select **Context Sensitive**. This export appears in the window that opens when users select **Exports > View all templates**.
- (Optional) Select **Class name and path** only for custom plug-ins for BIRT or Velocity reports; otherwise, leave blank.
- For Office Templates, set the parameters you want to use.

4. In the **Criteria** section, select the plus sign to add criteria.

a. From the drop-down menu, select the type of data you want to include.
   - **Release** — Shows all project releases in a pick list. The user can select release parameters as needed.
   - **Location** — Shows the project hierarchy in a pick list. The user can select a location for each location parameter.
   - **Baseline Parameter** — Shows all project baselines in a pick list. The user can select one baseline for each baseline parameter.
   - **String Parameter** — Presents a text field to enter a string.
   - **Date Parameter** — Presents a text field to enter a date.
   - **Boolean** — Presents a checkbox whose value ("true" or "false") is sent to the reporting engine.
   - **Test Plan** — Presents a pick list of test plans in the selected project. Jama Connect passes the database ID to the report.
   - **Review** — Presents a pick list of reviews in the selected project. Jama Connect passes the ID to the report.

b. For **Display**, enter the label you want users to see when publishing the report and exporting from Jama Connect.

c. For **Name**, enter a case-sensitive name that is passed to the report or export template. Each parameter name must be unique.
   When users publish a report or export Jama Connect content, these parameters are displayed in alphabetical order by the name field, not in the order shown in the report setup screen.

TIP

If you change the Name criteria, you must also change the reference to the criteria in your report or export template. Otherwise, the report or export template breaks.

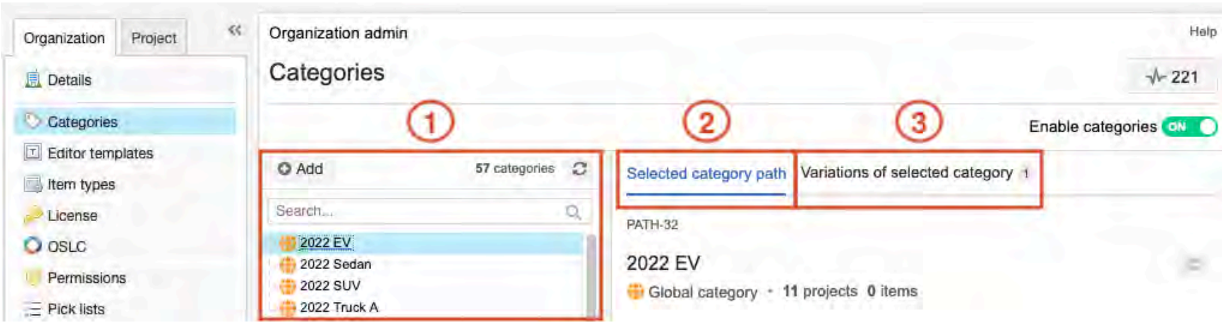
5. Select **Save** to upload the report or export template and save your changes.

Managing the Categories feature

The Categories feature allows you to organize and view items in a cross-project hierarchy. Use this option to see how items and components can build a final product.

The Categories option is disabled by default. You must enable it for the option to appear in Jama Connect and be available to users.

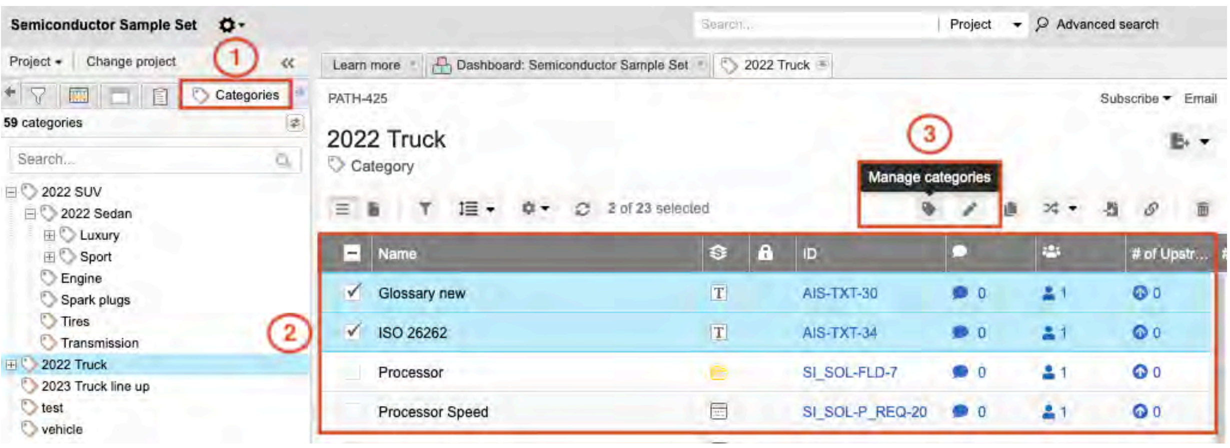
When enabled, organization admins can interact with:



1. **Categories** admin tree
   - Create a hierarchy that is specific to your company's workflow
   - Add, move, copy, and merge categories
2. **Selected category path** option
   - View category details like description and when it was created
   - Remove category
3. **Variations of selected category** option
   - Edit and delete a category
   - View category paths, associated variation path, and category IDs

Example Category ID: CAT-123 Category ID encompasses all variations of a category
Example variation path ID: PATH-123 Variation path ID is specific to each path

When enabled, users with read/write permissions can interact with:



1. **Categories** tab in the Explorer Tree
2. **Categories** table in Single Item View

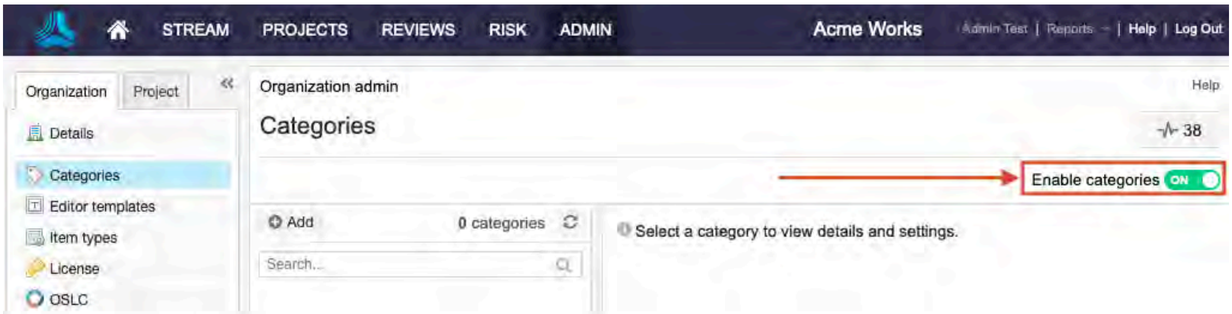
3. **Manage categories** button in Single Item View, Reading View, and List View

Enable Categories feature

You must enable the Categories feature before users with read/write permissions can apply categories to items. By default, this feature is disabled.

> **NOTE**
> You must have organization administrator permissions to complete this task.

To enable Categories:



1. From the Jama Connect header, select **Admin > Categories**.
2. Next to **Enable categories**, select **On**.

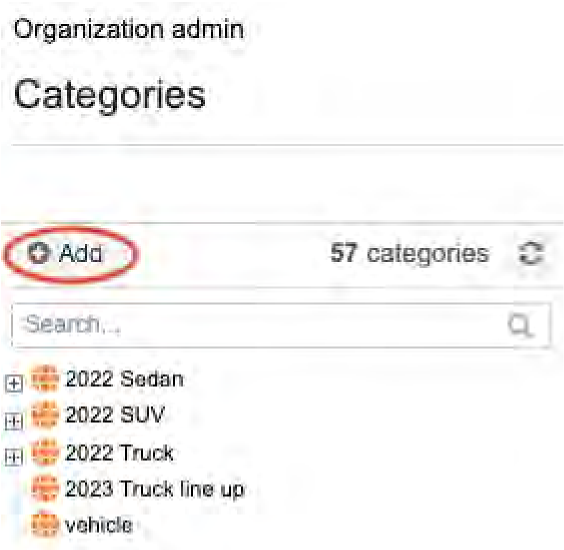
Add a new category

Create a hierarchy or a list of categories that can be used to organize project requirements.

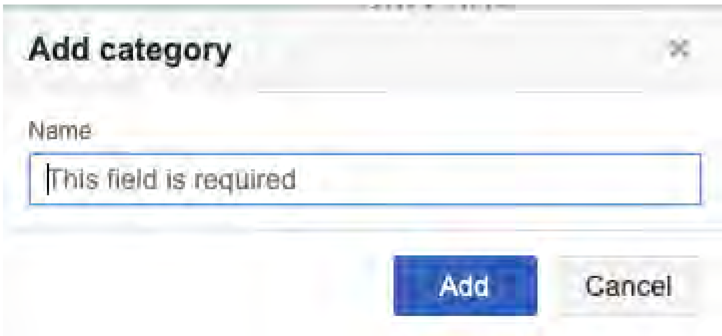
> **NOTE**
> You must have organization admin permissions to complete this task.

To add a new category:

1. From the Jama Connect header, select **Admin > Organization > Categories**.
2. In the Categories admin tree, click **Add**.



3. In the Add category window, enter a name, then click **Add**.



Your new category appears in alphabetical order in the tree and is immediately visible in all Jama Connect projects.

Edit category properties

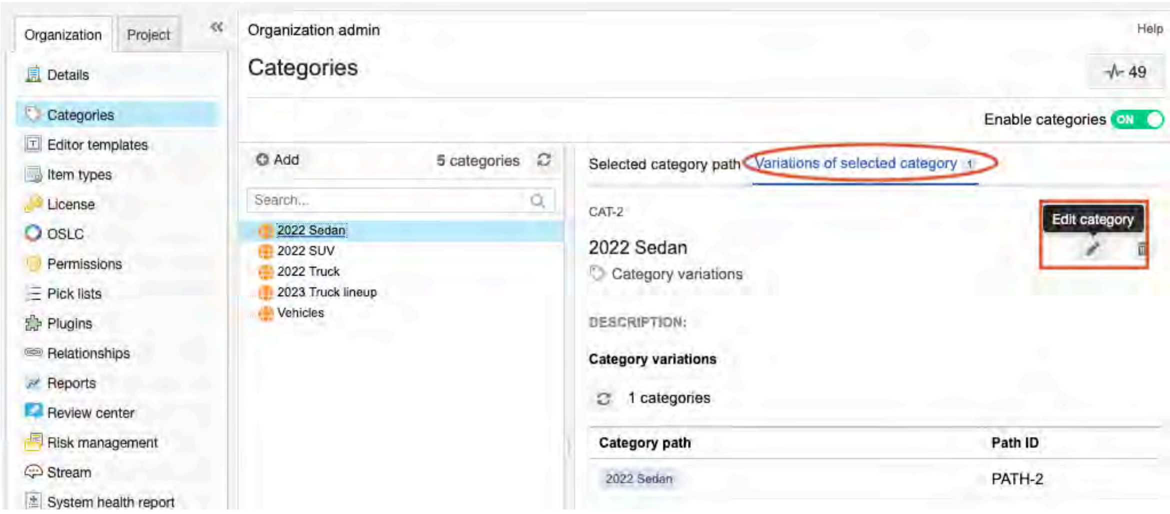
You can edit the name and add an optional description of an existing category.

When you edit a variation of a category, all variations are changed.

> **NOTE**
> You must have organization admin permissions to complete this task.

To edit category properties:

1. From the Jama Connect header, select **Admin > Organization > Categories**.
2. In the Category admin tree, select the category that you want to edit.
3. Click **Variations of selected category**, then select the **pencil icon**.



4. In the Edit category window, enter a new name or description, then click **Save**.

The change appears in the Category admin tree and is immediately visible in all Jama Connect projects.

Remove a category variation

Remove a category variation to disassociate requirements related to a category or to update your hierarchy.

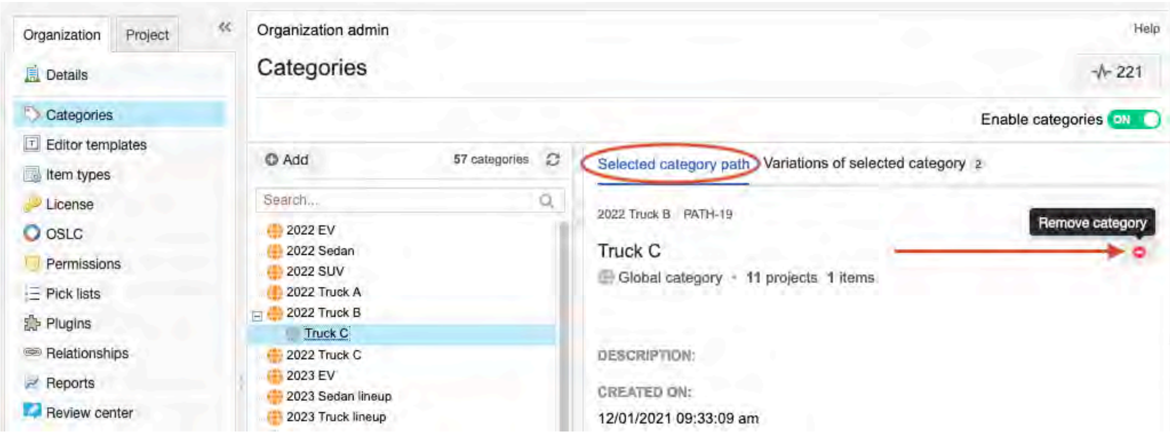
Removing a category variation removes only that single variation. For example, if you have two variations of a category called “Transmission,” you can remove the variation that is no longer needed, and the other variation remains unchanged. To remove all variations of a category, see Delete a category [565].

Important considerations

- Categories that no longer belong to a variation are deleted.
- Nested categories are removed.
- Nested categories that are orphaned are deleted.
- Organization admins must delete a category [565] with only one variation. When you delete the only variation of a category, the Category ID is deleted along with the remaining Category Path ID.
- All items, including locked items, are updated to reflect the category changes made by the organization admin.

NOTE
You must have organization admin permissions to complete this task.

1. From the Jama Connect header, select **Admin > Organization > Categories**.
2. From the Category admin tree, select the variation you want to remove.
3. Click **Selected category path**, then select the **minus icon**.



4. When prompted to confirm, click **Yes**.

The selected category is removed. Nested categories are removed and descendant categories that are orphaned are deleted. All items associated with these categories are updated.

Delete a category

When you delete a category, all variations of that category are deleted as well.

For example, if you have two variations of a category called "Transmission," and you delete either variation, both variations are deleted from the Category admin tree along with the associated Category ID.

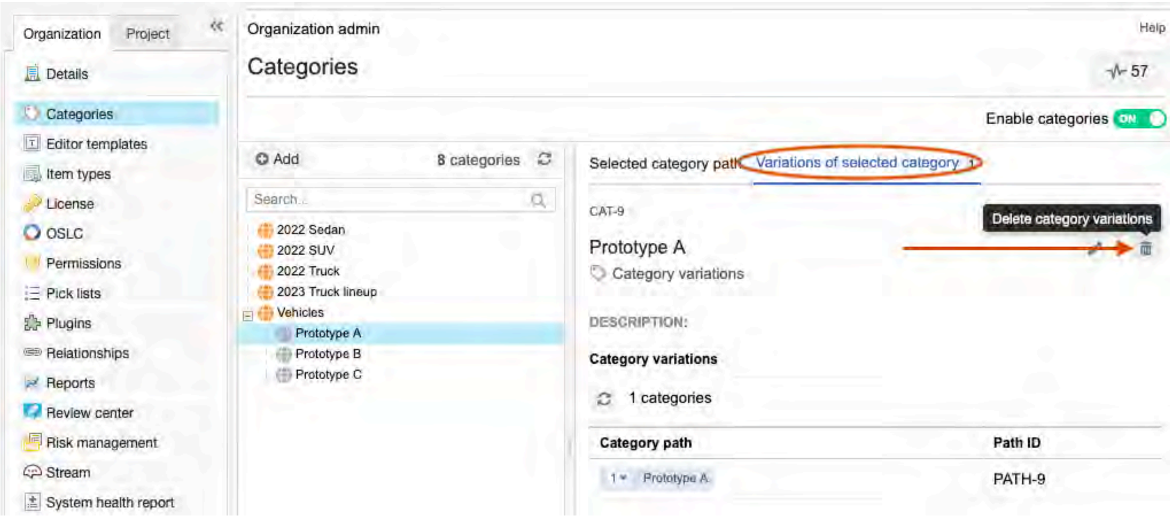
To remove only one variation of a category, see Remove a category variation [564].

Important considerations

- Deleting a category affects all variations of a category and can have a widespread impact on your category hierarchy.
- Nested categories are removed.
- Nested categories that are orphaned are deleted.
- Categories that no longer belong to any other variation are deleted.
- All items, including locked items, are updated to reflect the category changes made by the organization admin.

NOTE
You must have organization admin permissions to complete this task.

1. From the Jama Connect header, select **Admin > Organization > Categories**.
2. In the Category admin tree, select the variation that you want to delete.
3. Click **Variations of selected category**, then select the **trash icon**.



4. When prompted to confirm, click **Yes**.

The selected category and all variations are deleted. Nested categories are removed and descendant categories that are orphaned are deleted. All items associated with these categories are updated.

Organize the Category admin tree

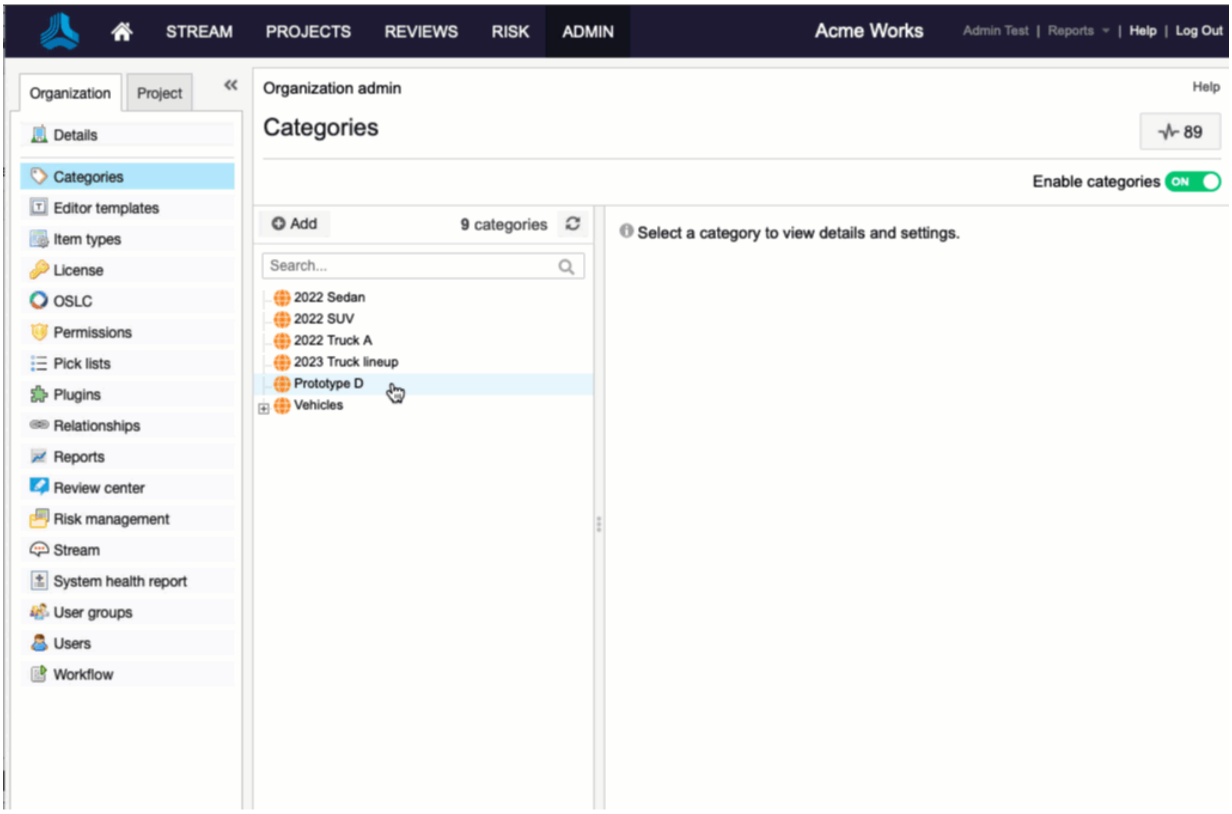
You can organize the Category admin tree to reflect how your items are structured. After completing a move, copy, or merge, items with those applied categories are updated to reflect the new hierarchy.

Important considerations

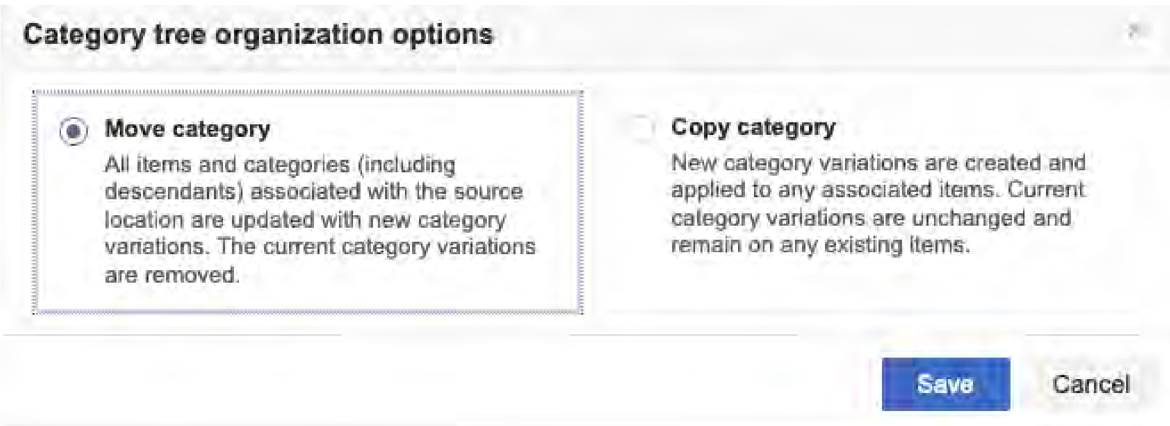
- When you drag a category to an existing category, it will be nested under the category you selected. A new variation is created. Items with those categories are updated to reflect the new hierarchy.
- Copying a category duplicates it and its nested categories to the area you selected in the Category admin tree. New variations and Category path IDs are created. Items with those categories are updated to reflect the new hierarchy.
- Merging two categories, from the move or copy actions, duplicates the selected categories and its nested categories to the area you selected in the Category admin tree. New variations and Category path IDs are created. Items with those categories are updated to reflect the new hierarchy.

NOTE

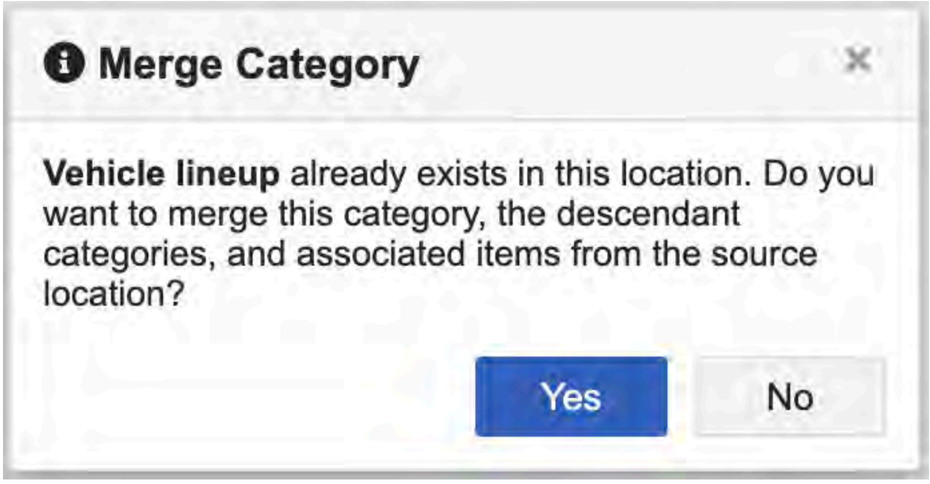
You must have organization admin permissions to complete this task.

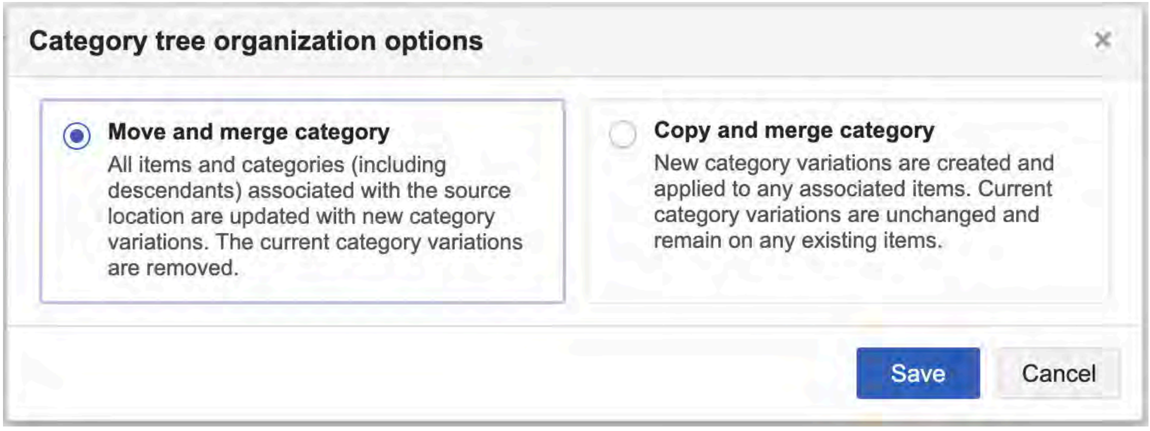


1. From the Jama Connect header, select **Admin > Organization > Categories**.
2. From the Category admin tree, select the category you want to update, then do one of the following:



- **Move** — Drag and drop it to the new location in the Category admin tree, then select **Move category**.
  If a duplicate category exists in the location you selected, you have the option to merge them.
- **Copy** — Drag and drop it to the new location in the Category admin tree, then select **Copy category**.
  If a duplicate category exists in the location you selected, you have the option to merge them.
- **Merge** — Click **Yes**, then select **Move and merge category** or **Copy and merge category**.





3. Click **Save**.

All items associated with these categories are updated.

Manage users

As an organization or user admin, you can set up user access for your organization.

- Add user groups [569]
- Add users [571] and assign them to one or more groups
- Open projects and assign users and groups access rights [653]
  You can also assign this task to a project administrator.

User groups

User groups are an efficient way to manage notifications, permissions, access, and actions for multiple users at a time.

You can create groups based on the users' roles, permissions or position so you can efficiently:

- Grant access permissions [583]
- Grant role permissions [586]
- Initiate a review [153]
- Subscribe users to items [197]
- Notify users of changes [196]
- Send workflow notifications [643]
- Grant access to projects workflow [607]
- Add signer roles to reviews [227]

TIP
Users can be assigned to multiple groups.

Jama Connect includes two types of groups:

- **Organization group** — These groups have no project context and are available to all projects in the organization when adding permissions.
- **Project group** — These groups are created in the context of a project and are available to that specific project when adding permissions.

Name groups in a way that works well for your organization. You might use your internal structure (such as job title or work group), or name groups by access permission (read only, read/write), or roles (reuse admin, review admin, project admin). If you're using signer roles [227] for electronic signatures [225], the group name is used as the signer role.

By default, Jama Connect comes with a number of pre-defined organization and project user groups. For example, the group **Organization Admin** is a default group that has organization and project rights.

Add, edit, or delete user group

Organization administrators can delete a group or make changes to an existing group's members, details, or subscriptions.

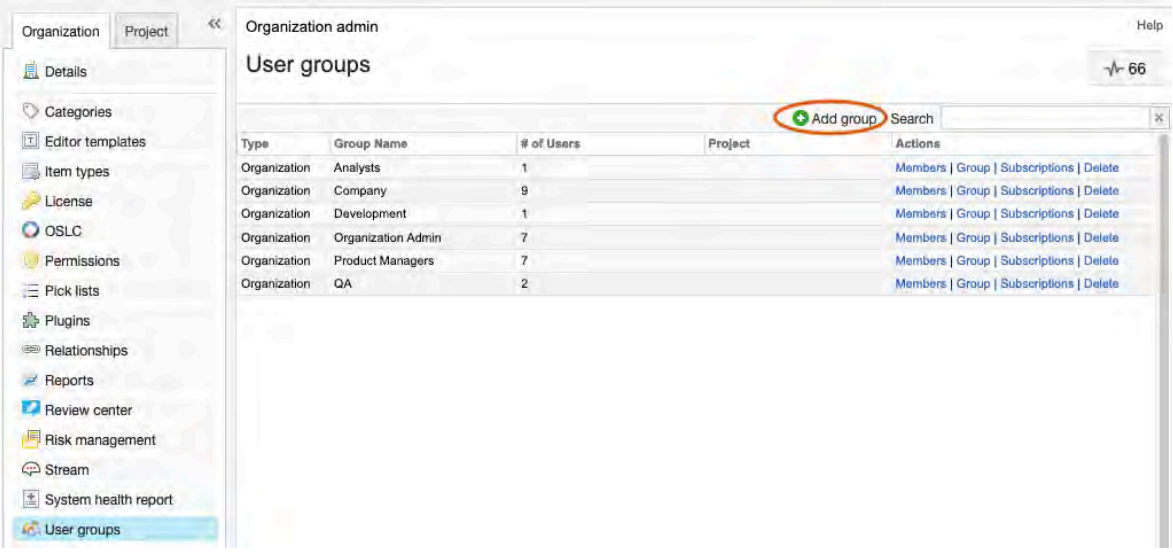
NOTE
You must have organization administrator permissions to add or delete user groups available to all projects.

A system administrator can also add groups by following the steps below.

A project administrator can also add groups at a project level [651].

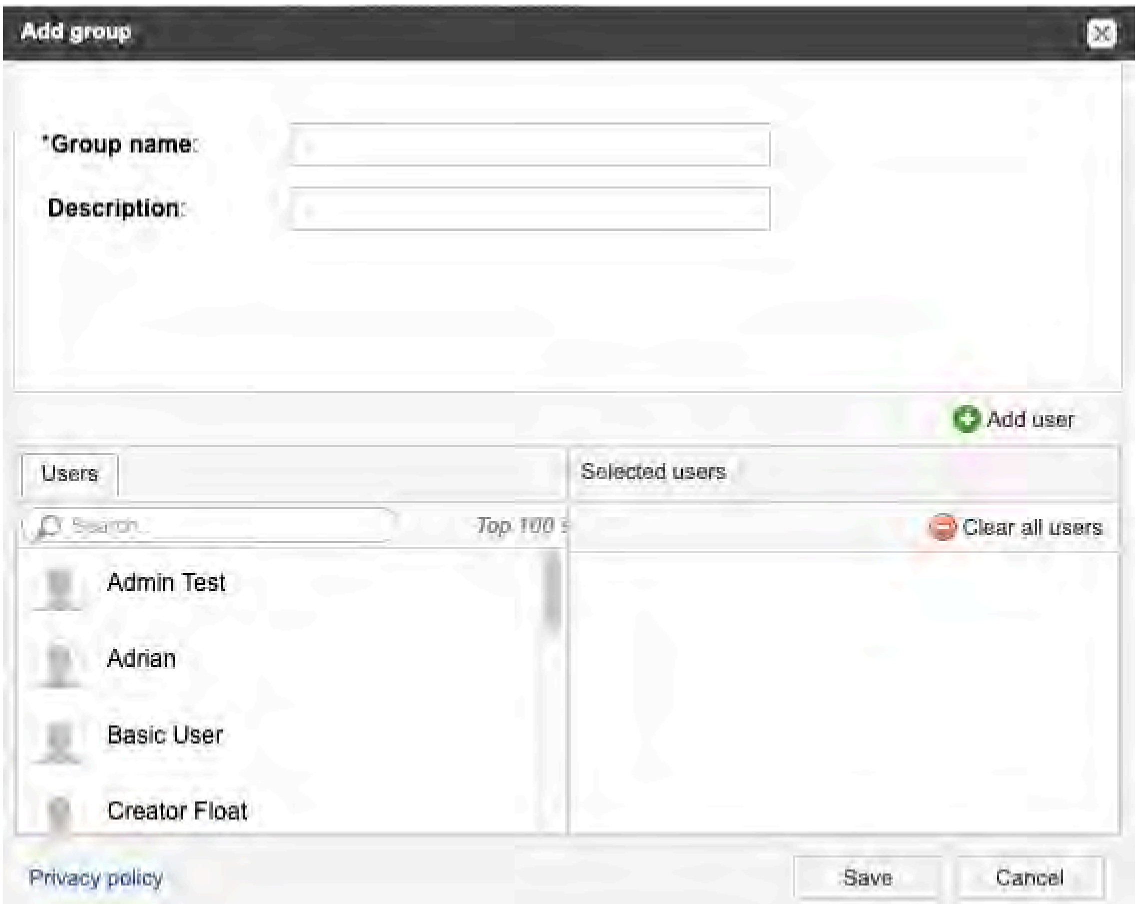
User administrators can only manage members of a group where they are also a member. This restriction ensures they don't unintentionally provide or remove access to unknown or existing projects.

1. Select **Admin > Organization > User groups**, then select **Add group**.



Note: Project groups that a member of the project is in determine which groups are available for the signer roles.

2. In the **Add group** window, enter a name and description for the group, and select members by their username. Large lists are searchable.



3. Select **Save**.

   The new group appears in the table.

The review moderator now has the ability to edit a review and give a user a signer role [227].

Add new user

If this is a new installation, it's better to add user groups [569] before you add individual users, so you can manage users, permissions, and security more efficiently.

> **NOTE**
> You must have organization administrator permissions to complete this task. A system administrator can also add new users [494].

To add multiple new users, configure the user import plugin [555].

To add users individually:

1. Select **Admin > Organization**, then select **Users** to display a list of active users.
   If you don't see the user you're looking for, select **View inactive users**.
2. If LDAP is enabled [507], you can select **Add user from LDAP** and search for an existing LDAP user in the search box. Jama Connect searches LDAP against the configured "Login Name Attribute" and the "User Name Attribute." You can add wildcards to a search, but if you add them at the beginning of a search term, they can result in slow performance. For large directories, expect several minutes.
3. From the toolbar, select **Add user**.
4. In the Add user window, fill in the required fields, then select **Save**.
   - **Username**
     The username must be unique so using an email address is recommended.
   - **License type**
     Keep in mind the number of licenses purchased [578] and the expected usage [580] by the user when assigning license types.
   - **User groups**
     Consider how you use groups to manage users, permissions, and security [569], then select the appropriate groups for this user.
   - **Send email to new user**
     Send an email to the user with their username, password, and URL to log into the system.

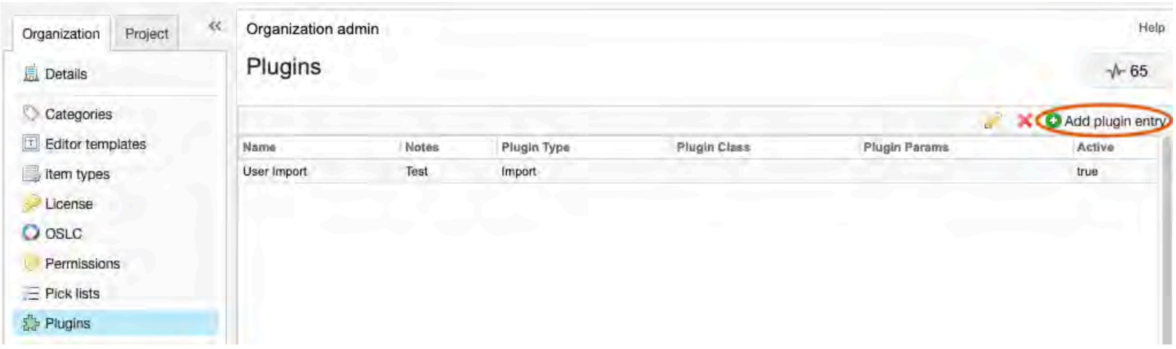
Configure User Import Plugin

With the User Import Plugin, organization administrators can add multiple users at once by importing a spreadsheet. Imports don't delete users from Jama Connect.

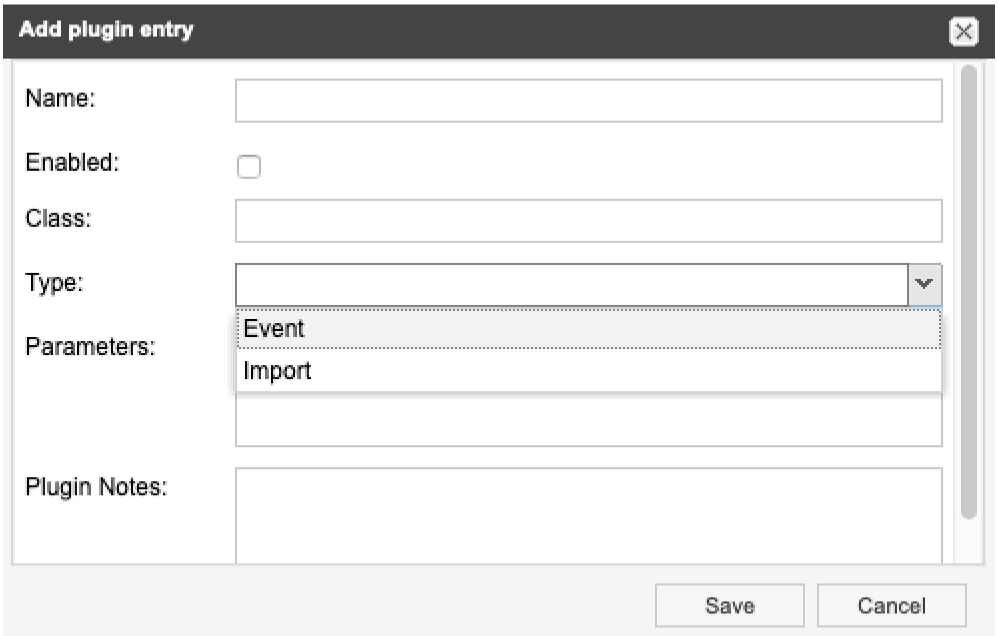
> **NOTE**
> You must have organization administrator permissions to complete this task.

With the User Import Plugin, organization administrators can add multiple users at once by importing a spreadsheet.

1. Select **Admin > Organization**, then select **Plugins > Add plugin entry**.



2. In the **Add plugin entry** window, enter the following information and select **Save**.



- **Name:** User Import
- **Enabled:** Make the plugin available to users
- **Class (case sensitive):** Enter the name of the object defined in the source code:

  `com.jamasoftware.contour.plugin.jama.UserImportPlugin`
- **Type:** Event or Import
- **Parameters:** Leave this field blank
- **Plugin Notes:** Add any notes you have here. This isn't visible to the end user.

3. Create a CSV document with no header row that contains the following values in columns A through K:
   - **Username**

     If LDAP or CROWD is enabled, the username must match what is listed in the directory.
   - **First name**
   - **Last name**
   - **Email**
   - **Password**
   - **Title**
   - **Location**
   - **Phone number**
   - **License type**

     Values must be one of the following:

Value	Meaning
N	Named creator
C	Float creator
FC	Float collaborator
S	Stakeholder
R	Reserved collaborator
V	Float reviewer
RV	Reserved reviewer
NV	Named reviewer
TR	Test runner

- **Add/Update**
  Values must be one of the following:

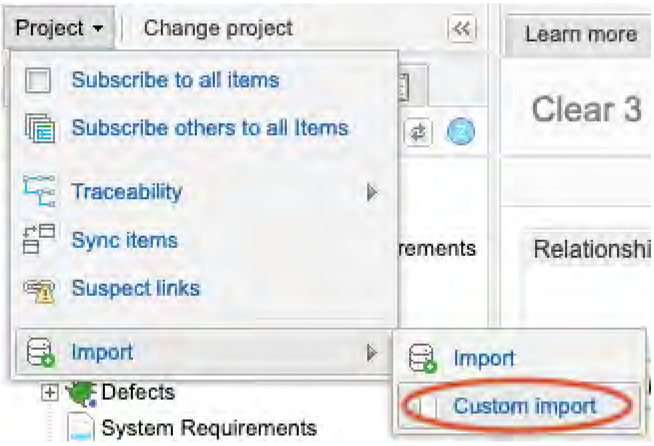
Value	Meaning
Add	Add as a new user
Update	Update an existing user

- **Company**
- **Groups**
  If a user belongs to multiple groups you can add them in columns L and up.

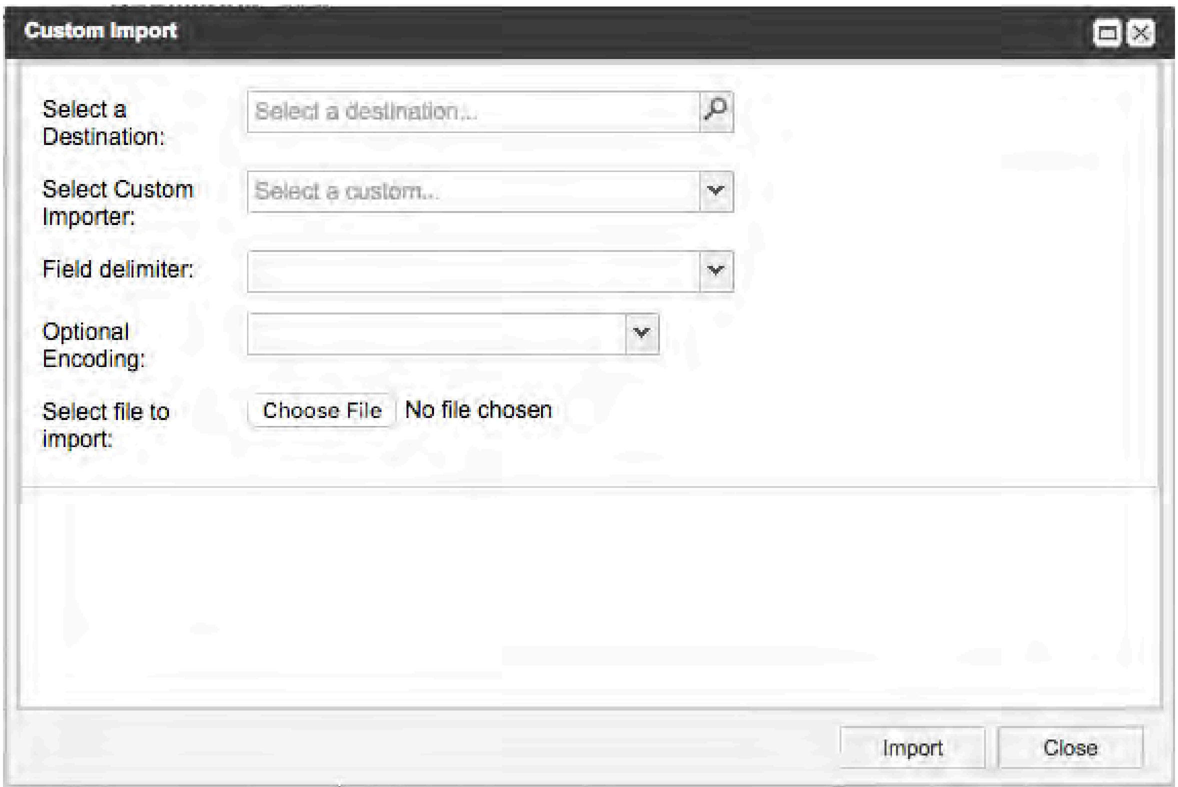
For example:

A	B	C	D	E	F	G	H	I	J	K	L	M
kmaxwell@redside.com	Katie	Maxwell	kmaxwell@redside.com	Alpha!@#	Dr.	Central	555-123-1234	C	Add	Company		
suser@redside.com	Sam	User	suser@redside.com	Beta!@#	Mr.	West	555-123-1235	C	Update	Company	Organization Admin	Engineering
bflogeets@redside.com	Baxter	Flogeets	bflogeets@redside.com	Gamma!@#	Sir	East	555-123-1236	NV	Add	Company	Development	

4. Select **Project > Import > Custom import** to open the **Custom Import** window.



5. Enter the following information in the **Custom import** window:



- **Select a destination:** This is a required field. Your selection doesn't affect the outcome.
- **Select Custom Importer:** User Import
- **Field Delimiter:** Comma
- **Optional Encoding:** UTF8
- **Select file to import:** Choose the CSV file you created in step 3, that contains the list of users to be imported.

6. Select **Import**. Each user that's added with the user import plugin receives a welcome email with the Jama Connect URL.

IMPORTANT

If the import fails it might be because:

- A user that already exists was set to add (rather than update).
- A user that does not exist was set to update (rather than add).
- One or more of the records is incorrect.
- A required field was missing.

Add users to multi-mode authentication

Multi-mode authentication allows you to add a new Basic user, so you can differentiate between IdP and Basic users.

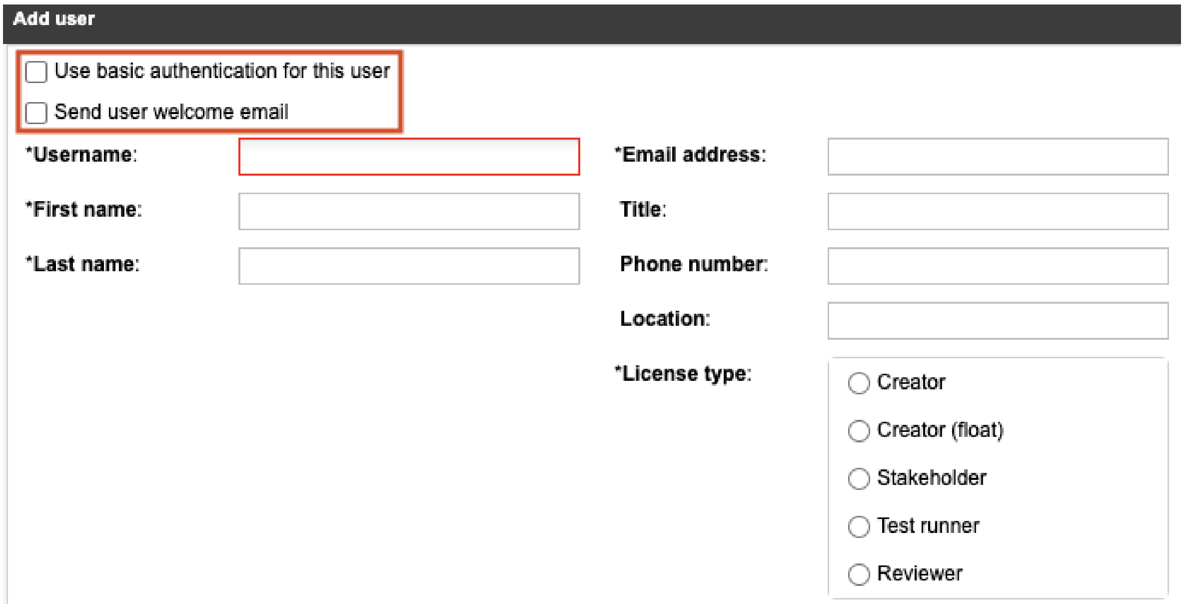
Important considerations

- Authentication methods must match to use electronic signatures in baselines and reviews. An organization admin can change authentication methods.
- Users can't use the same email between the two different authentication types.

> **NOTE**
> You must have organization admin permissions to complete this task.

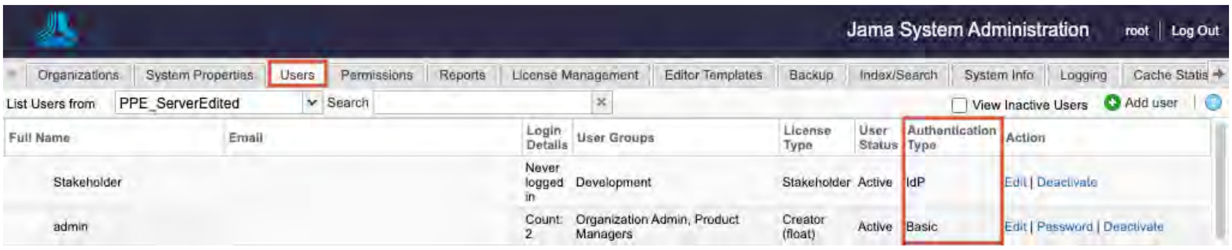
1. Select **Admin > Organization**, then select **Users** to display a list of active users.
2. Select **Add user**.

3. In the Add user window, select the authentication type you want for this user:
   - **Basic authentication** — Select **Use basic authentication for this user**.
   - **IdP authentication** — Deselect **Use basic authentication for this user**.

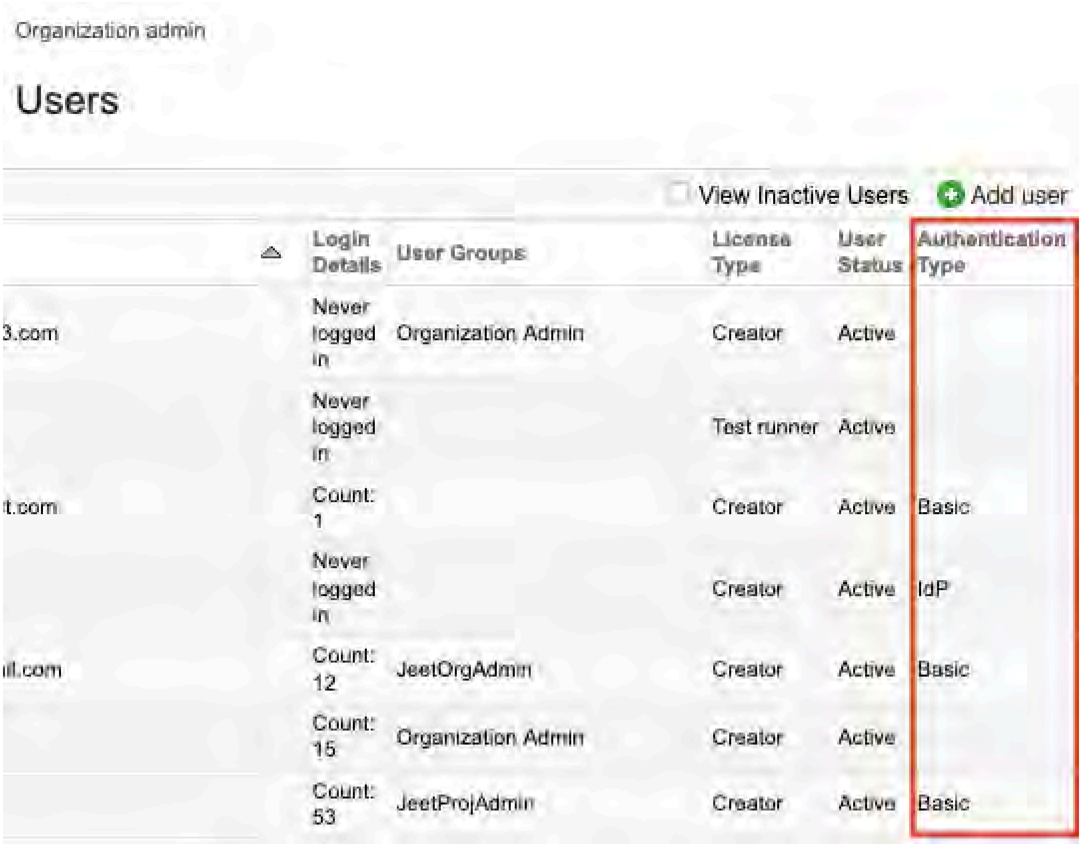


4. Click **Save**.

Jama Connect runs a check to see which authentication method was used. Initially, the Authentication Type for the user you added is blank. When they log in for the first time, the column is populated with Basic or IdP.



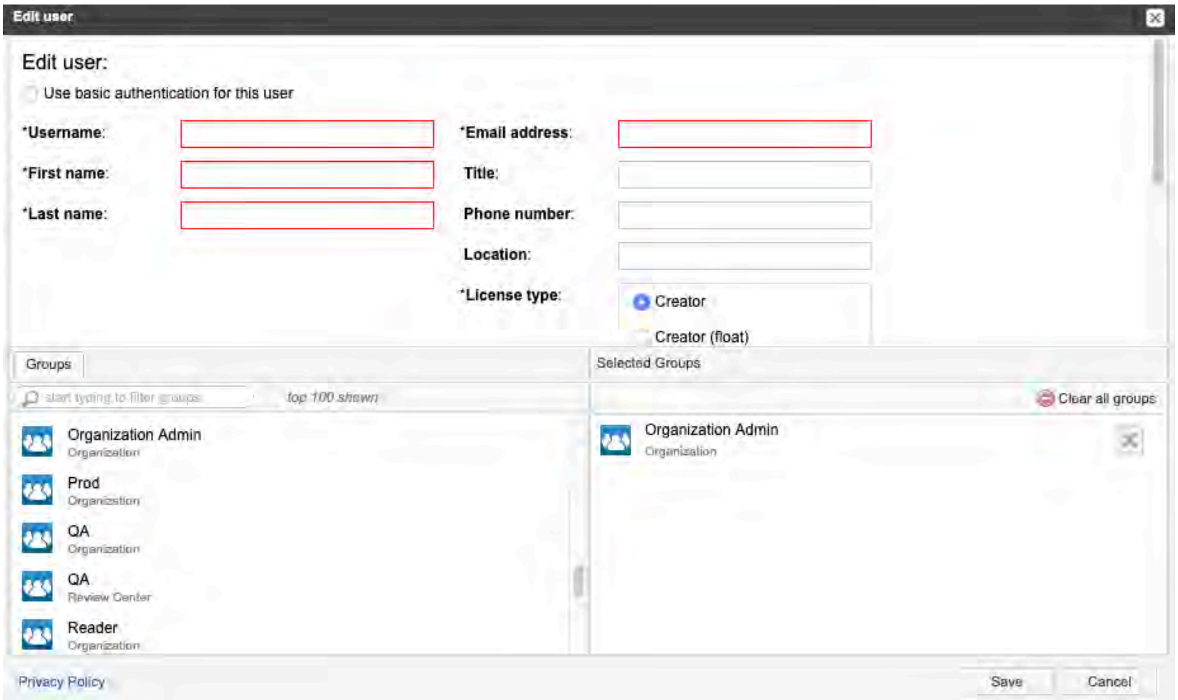
You can also verify the Authentication Type from **Admin > Organization > Users**.



Edit user details

> **NOTE**
> You must have organization or user administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users** to display a list of active users. If you can't find them, select **View Inactive Users**.
2. Select **Edit** in the Action column of the user you want to edit. This opens the **Edit User** window.



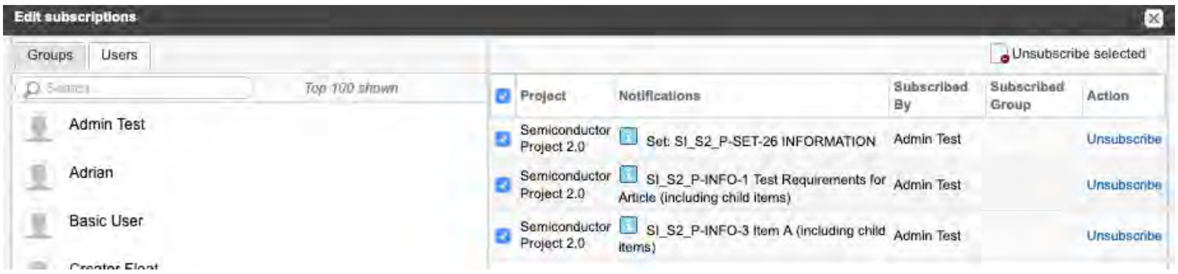
3. Select **Save**.

Edit user or group subscriptions

Users can subscribe to email notifications. Administrators don't have control over a user's own subscriptions, only to subscriptions added by others. Only the user can control their subscriptions.

> **NOTE**
> You must have organization or project administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users**.
2. Select **Subscriptions** in a user row to open the **Edit subscriptions** window.



3. Select the user you want to edit from the left column. On the right you see a list of their current subscriptions.
4. If you're an organization administrator, select **Unsubscribe** in the **Action** column or to remove multiple subscriptions, select the subscriptions you want to remove, then select **Unsubscribe selected**. If you're a project administrator, select the items you want to mute and select **Mute subscriptions**.

TIP

Organization administrators can also edit group subscriptions by selecting **Admin > Organization > User groups > Subscriptions**.

Reset user password

NOTE

You must have system, organization, or user administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users** to view a list of users.
2. Select **Password** in the **Action** column for the user whose password you want to change.
3. In the **Edit password** window, enter and confirm a password that meets the default authentication requirements.

License types and permissions

The license type limits the possible permissions and roles that can be granted to a user. For example, creator, stakeholder, test runner, and reviewer.

Each user, regardless of license type, has a unique login (username and password). Organization and user administrators can view the current license [582] or assign users license types [576].

Creator and reviewer licenses can be named or float licenses, whereas test runner and stakeholder are named only.

These are the available user license types:

- **Creator**
  A creator license is a named or floating license that gives full read and edit rights, and full access to reviews, for those who are active users managing items and projects on a daily basis.
- **Test runner**
  A test runner license is a named license that focuses on users whose primary goal is execution and recording test results. This includes basic permissions to read and review, as well as the additional ability to create test plans and defects, and execute test runs. They can also add attachments to test runs during execution.
- **Collaborator**
  A collaborator license is a legacy license that can be a named or floating license that gives read-only privileges to those who need visibility into a project, but don't need editing rights. These users can view items, provide comments, participate in (but not create) reviews, execute test runs, and log defects. The stakeholder license is recommended for users who only need read access, and the test runner is recommended for users who need full access to test center and defect recording capabilities.
- **Stakeholder**
  A stakeholder license is a named license that gives read-only privileges to those who need visibility into a project, but don't need editing rights. Stakeholders can view items, provide comments and act as reviewers.
- **Reviewer**

A reviewer license is a named or floating license that grants permission to participate in reviews, act as approvers, moderators, or review administrators, and respond to comments in the stream. A reviewer license doesn't allow users to initiate reviews or access items in the core project.

- **Temporary**
  A temporary license is a 30-day full creator license, automatically granted to a non-licensed individual whose email address is used to invite them to a review or to comment in the stream. It has no default permissions except for the discussion thread or review to which they were invited, although an organization administrator can add permissions.

Permissions by license type

Your license type defines your permissions, which determine your ability to create and edit items or access them as read-only.

If you have a Creator license and read-only permissions to a project, you can:

- Execute test runs
- Log defects from the test run execution window

PERMISSIONS	LICENSE TYPE				
	Creator	Stakeholder	Collaborator	Test runner	Reviewer
Read/Write					
Create test plans	X			X	
Execute test runs	X		X	X	
Log defects (from test run window)	X		X	X	
Manage attachments	X			X**	
Manage relationships	X			X**	
Add baselines	X				
Edit, delete, restore user-created baselines	X				
Add and edit items	X				
Read-only					
Share filters	X				
Share custom report templates	X				
View baselines	X	X	X	X	
Create filters	X	X	X	X	
Export reports	X	X	X	X	
Read and initiate stream threads	X	X	X	X	
Comment on items	X	X	X	X	
View items in projects	X	X	X	X	
View dashboards	X	X	X	X	
Review					
Initiate	X				
Moderate	X			X	
Participate	X	X	X	X	X
Approve	X	X	X	X	X
Electronically sign	X	X	X	X	X
Reply to stream comments	X	X	X	X	X
Risk					
Initiate	X				
Moderate	X				
Participate	X				
View (if invited)	X	X	X	X	

** Permissions that are included with each license type.

Configure Jama Connect for test runner license

Users with a test runner license can only manage attachments and relationships, and edit certain items for tests. For example, test plans, cycles, groups, runs, as well as item types used as defects [318]. They don't have permissions to manage attachments and relationships, or to edit items in the rest of the project.

> **IMPORTANT**
> You must have organization or user administrator permissions to configure Jama Connect for the test runner license type.

If your organization has purchased a test runner license type, you must make the following changes in Jama Connect:

- Configure item types to be used as a defect [594]
- Assign access permissions [583]

Batch update license types

Occasionally, you might want to update many users at once. For example, several users might be assigned a temporary license that's about to expire and you need to assign creator licenses.

If you select more users than the number available of your selected license type, that license type isn't available when batch updating.

> **NOTE**
> You must have organization or user administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users**.
2. Sort the users by license type by selecting the field name header at the top of the user grid.
3. Highlight the users to be updated. Use **Shift** or **Cmd-click** to select multiple.
4. **Right-click** or **Ctrl-click** and select **Batch Update User(s)**.

5. In the window that opens, select the license type, then select **Commit**.

Monitor license usage

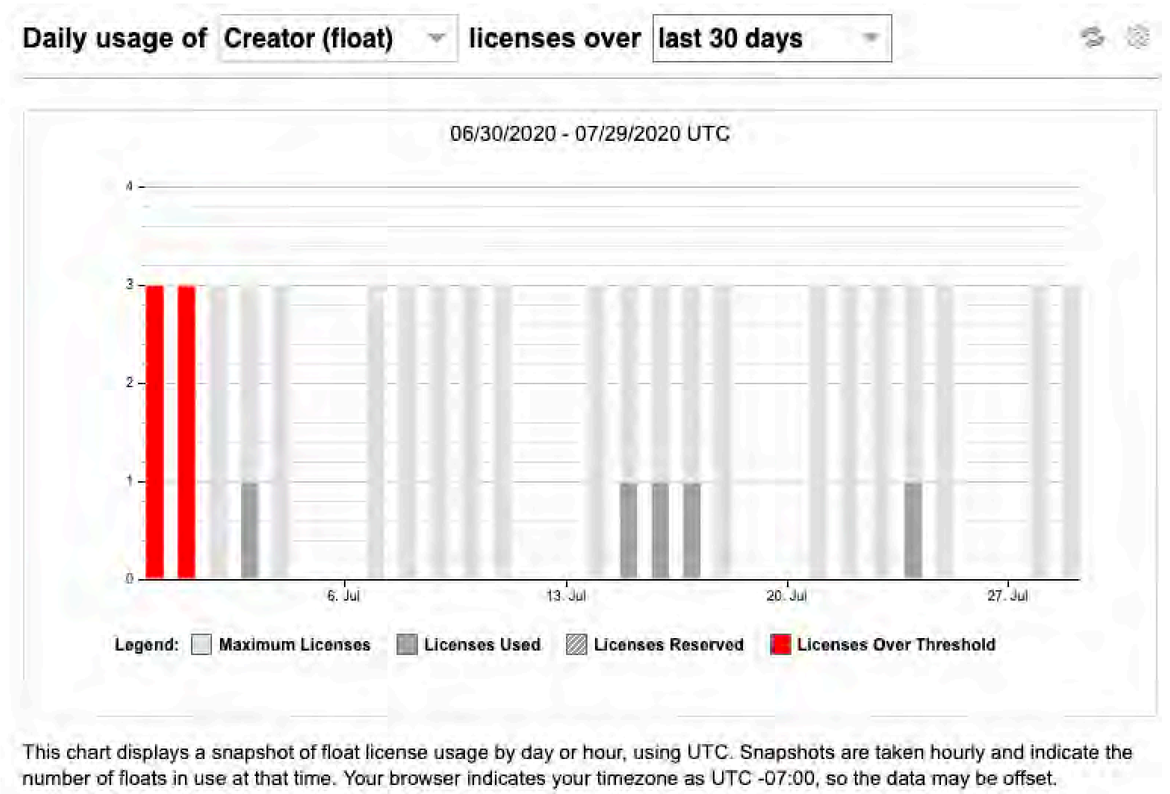
> **NOTE**
> You must have system, organization, or user administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **License**.
2. In the center panel you can see a display of daily usage by floating license type for a particular time period, as well as detail of current usage.
   You can view stats from the last 7, 30, or 90 days, including the number of float licenses being used on a daily basis, the number of days where you reached your maximum threshold, and if

any users were denied access due to a lack of float license availability. Use the menus in the header to select the type of license and the time period you want displayed.

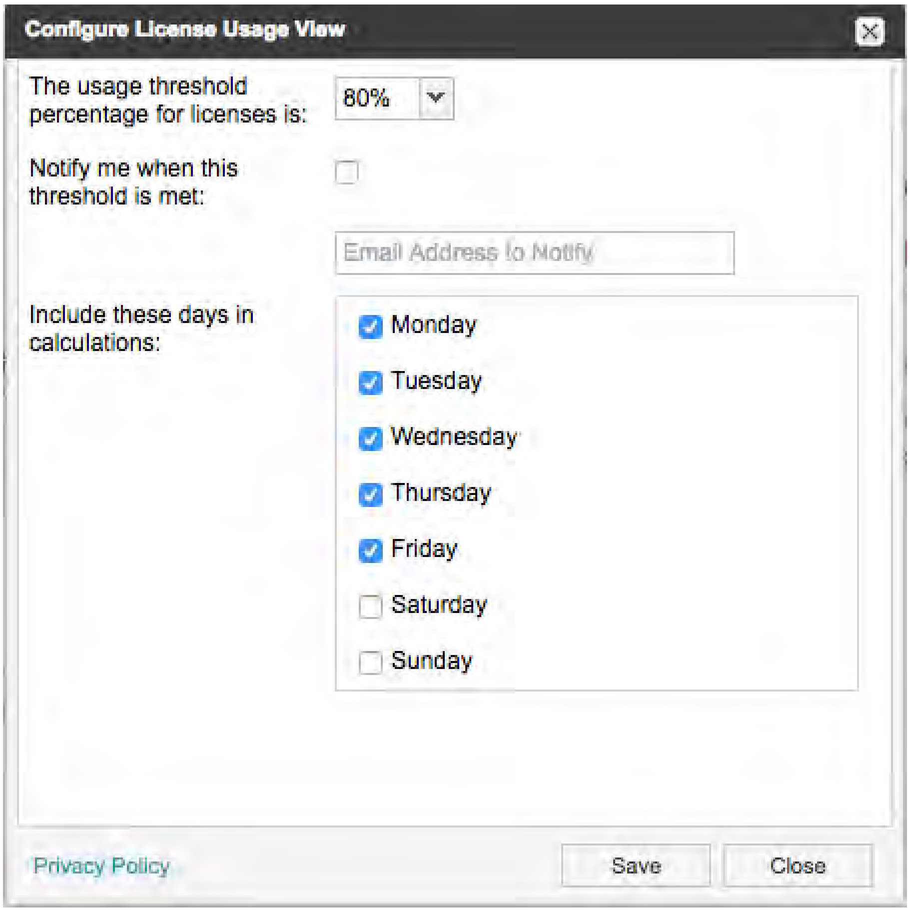
Each gray bar represents the highest number of floating licenses that were concurrently in use on a given day. By clicking on one of the gray bars, you are able to see an hourly breakdown of license usage throughout that day.

> **NOTE**
> This chart isn't a a live look at license usage. It provides an hourly snapshot of the licenses that are in use at that time. The data is also stored in UTC time, so when viewing the hourly breakdown you must adjust for your current time zone.



Scroll down to see all of your license information such as license type, expiration date, how many licenses are owned, as well as any integrations the organization has purchased. For more information, see View license [582].

3. Select the **gear icon** in the upper right to open the **Configure License Usage View** window. Select **Notify me when this threshold is met** and enter an email address to send notifications when usage surpasses a specified threshold.

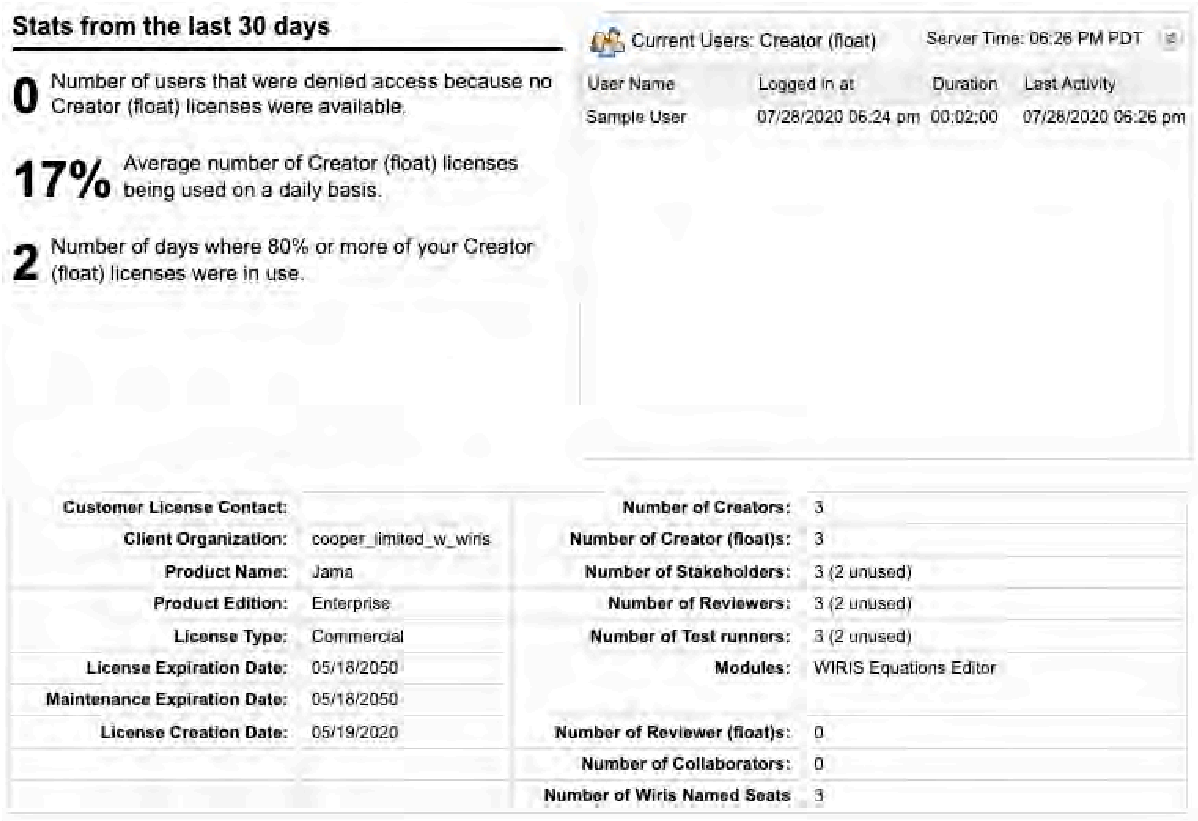


View license

View details about your license, such as the type and expiration date.

> **NOTE**
> You must have system, organization, or user administrator permissions to view the licenses.

- To view your current license information, select **Admin > Organization**, then select **License**.
  For organizations with floating licenses, information about float license usage is available above the table (more information is available here [580]).
  The table provides details about the license, such as the type and expiration date. Counts are also provided by specific user license type, as shown in this example:



Grant permissions

Permissions allow users to do things such as access, modify, and delete items or perform other specific tasks. Permissions control how users experience Jama Connect by restricting actions they can perform or content they can see.

NOTE

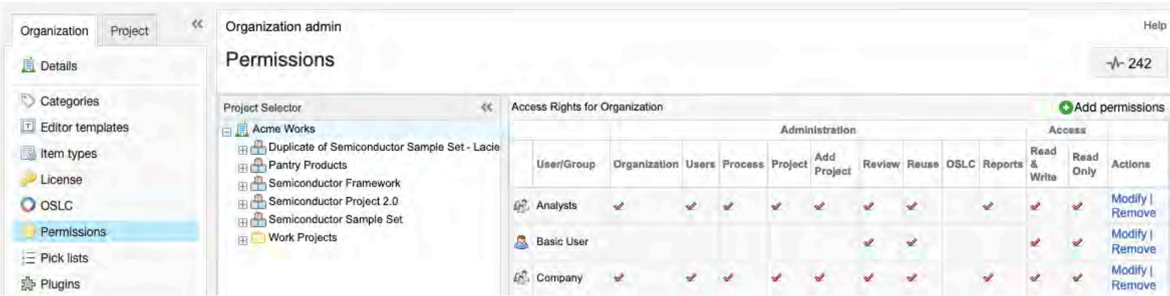
To grant most permissions, you must be an organization or user administrator. A system administrator [495] grants limited permissions and a project administrator [653] grants only project-level permissions. Project administrators can access users outside of their project to give access when the Organization detail configuration **Allow project administrators access to all users and organization groups** is enabled.

IMPORTANT

Risk administrator permissions are managed separately [586].

Risk Management [378] requires additional licensing for your organization, as well as creator, stakeholder or test runner licenses for all risk management participants. Contact your Jama Software account manager for more information.

1. Select **Admin > Organization**, then select **Permissions**.



2. In Project Selector on the left, select the organization, an individual project, or container, depending on the level you want to grant permissions.

   TIP

   Permissions set at the organizational level are passed on to lower levels, but might be overridden for individual projects, components or sets. For simplicity, we recommend setting permissions at the highest acceptable level.

   Organization administrators can also grant project permissions in the configure project window [653].

3. The main panel displays current permissions that were granted. Select **Modify** or **Override** to edit current user or group permissions. To add a new user or group, select **Add permissions** in the top right.

   NOTE

   Permissions are inherited from higher levels in the organization structure. For example, if you assign a group access at the organization level, all projects, components, and sets within the organization inherit the permissions.

   When a group or user's **Inherited** column contains the value "true" and is highlighted in green, that user or group has received its permissions from a higher level. Select **Override** to change their permissions.

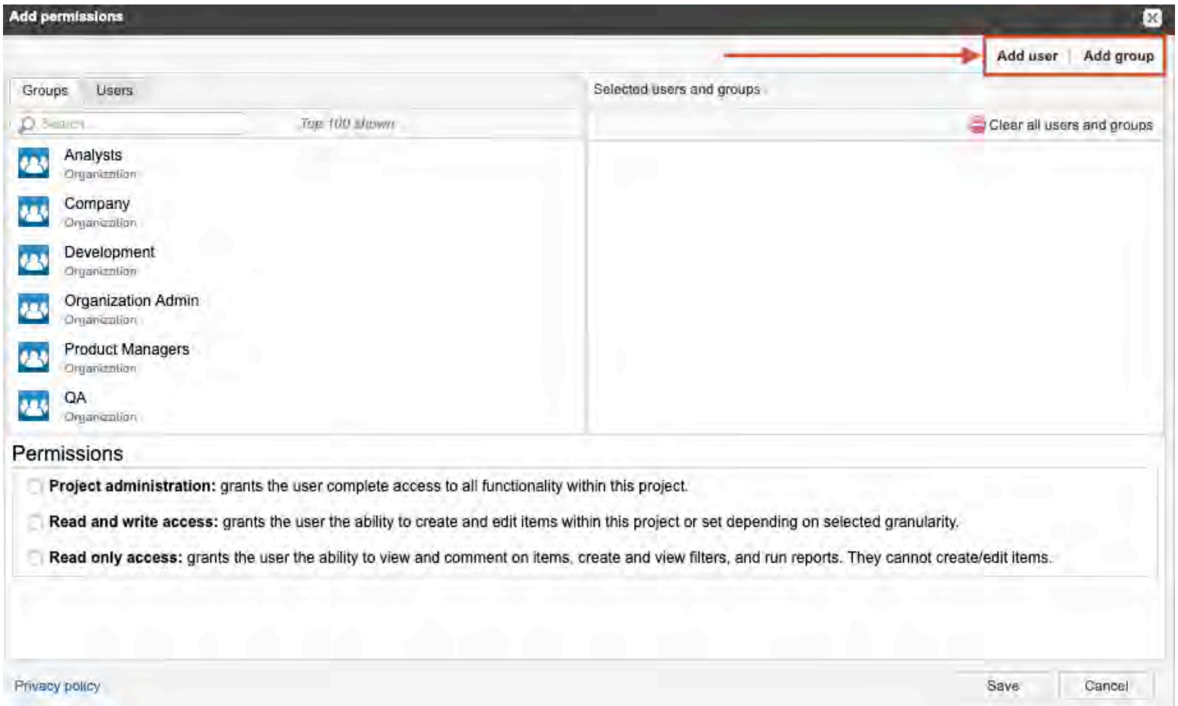
   Also, certain permissions are allowed with each license type [578]. You might need to assign the correct license type [576] to change permissions. Also, be aware of how permissions work with related items [269].

4. If you select **Add permissions**, the **Assign permissions** window opens, and you can select the groups or users you want to add.

   TIP

   Before assigning permissions, consider setting up groups [569] to make this task more efficient.

   You can also add a new group or user by selecting **Add user** or **Add group** in the top right corner of the window. Then select the role or access permissions [655] you want to add at the bottom of the window and select **Save**.



NOTE

Roles [586] and access permissions can be granted at an organizational level. Project administrator permissions can be granted at a project level. Access permissions can be granted at a container level and greater.

5. Alternatively, select **Remove** at the level that access was granted to remove access to a project, component, or set completely by unselecting all permissions.

IMPORTANT

Remove functions differently at lower levels in the hierarchy. If the user or group's permissions were previously overridden at that level, the **Inherited column** shows "false," and selecting **Remove** reverts the permissions back to the original inherited permissions. If the user or group's permissions haven't been previously overridden, the **Inherited column** shows "false," and selecting **Remove** completely removes the group or user from a project or set. If the group or user's permissions are inherited, the **Inherited column** reads "true" and permissions can only be removed at the higher level where they were assigned.

NOTE

If a user is part of multiple user groups with conflicting permissions, the user's given the highest permissions that are set.

IMPORTANT

While items within sets fall under the permission rules of the set, *attachments to those items don't*. Attachments can still be accessed by outside users who have access permission to the project while adding attachments [85] or inserting rich text links [89].

Assign risk administrators

A risk administrator has full permissions to create and edit risk templates, analyses, and manage participants.

NOTE

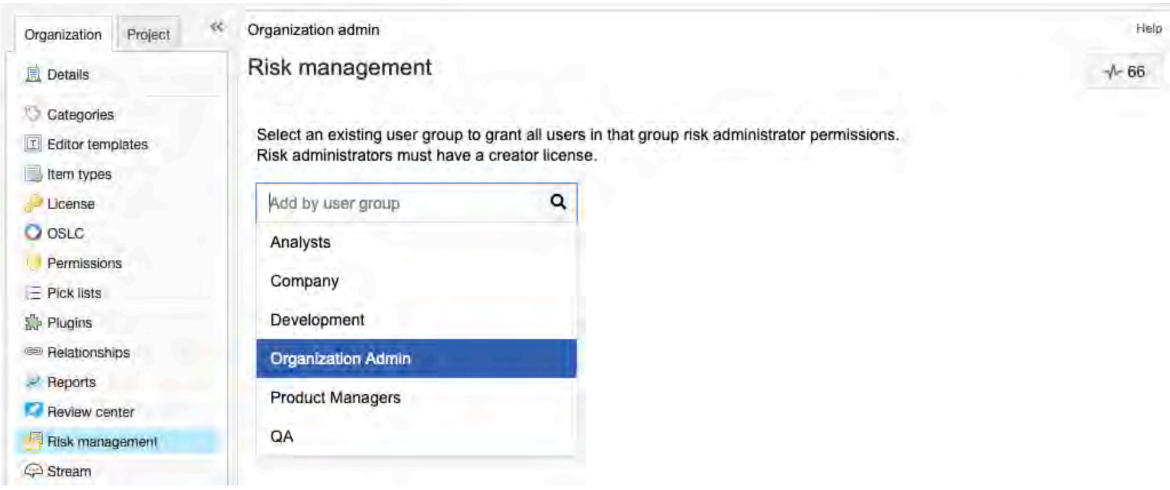
You must be an organization administrator to assign a group of users to be risk administrators.

A risk administrator [382]:

- Must have a creator license.
- Has full permissions to create and edit risk templates and analyses and manage participants.
- Can view and manage all risk analyses created in the system.

To assign risk administrators:

1. Choose an existing group (or first create a new group [569]) for risk administrators.
2. Select **Admin > Organization**, then select **Risk management**.



3. Select a group from the drop-down menu. You can grant risk administrator permissions to multiple groups.
   The groups appear below the drop-down menu on the Risk management page.

Roles

A role is a set of permissions granted to a user so that they can perform particular functions.

NOTE

Permission roles are different than review roles [149], risk roles [405], and signer roles [227].

The permissions included with each role [658] can be granted by an administrator [655] to an individual or a group.

These are the roles and the type of license they require:

- System administrator [471]
  The system administrator handles the overall installation, setup, and configuration of Jama Connect, and doesn't have access to projects. The system administrator is a special user and not a role that can be provided to other users. This user doesn't require a license and logs in to the system with the username "root."
- Organization administrator [544]
  An organization administrator controls all aspects around the configuration of Jama Connect and the user and groups. This is a role that can be assigned to an individual or a group.
- User administrator [568]
  The user administrator provides the ability to manage licenses, users, and groups. This is a role that can be assigned to an individual or a group. This user can see all users and organization groups in the system.
  The user administrator can only set permissions for groups/users on projects where they are a project administrator. They are also limited to managing organization group membership for only groups where they are a member, which prevents a user admin from giving access to projects where they don't have access.
  User administrators can't make changes or additions to users or groups that have been assigned to organization and process administrators with the exception of activation/deactivation and license management.
  User administrators can only manage members of a group where they are also a member. This restriction ensures they don't unintentionally provide or remove access to unknown or existing projects.
- Process administrator [589]
  The process administrator role focuses on the configuration of content and connections within Jama Connect.
  - Item types
  - Pick lists
  - Relationship rules
  - Review Center
  - Risk management
  - Workflow
- Project administrator [633]
  A project administrator is a role that can be provided for all projects or on a specific project with a focus on permissions, project groups, and workflow customization.
- Add Project
  The **Add Project** is a very specific role that is meant to exist between the organization administrator and the project administrator. With this role, a user can create a new project or duplicate an existing project where that user is a project administrator.
- Review administrator [177]
  A review administrator is a role with the permissions needed to manage reviews.
  Review administrators can view all reviews and perform administration tasks for those reviews, regardless of whether they were invited to the review. A review administrator is the only one who can delete a review

- Reuse administrator [286]
  A reuse administrator is a role with the permissions needed to manage reuse.
  In addition to reuse permissions, a reuse administrator needs read access for visibility of any synchronized items they are working with, and write permissions for making edits, synchronizing, reusing, or duplicating.
- Risk administrator [382]
  A risk administrator can create and edit risk templates, as well as manage analyses and participants. An organization administrator can grant risk administrator permissions [586].
  Risk Management [378] requires additional licensing for your organization, as well as creator, stakeholder or test runner licenses for all risk management participants. Contact your Jama Software account manager for more information.
- Report administrator [558]
  A report administrator provides the ability for the report developer to upload and manage BIRT, Velocity, and Word templates. Controls are in place to reduce exposure to groups and projects.

IMPORTANT

Users must have the license type [578] that allows for the permissions granted with each role.

Deactivate and reactivate users

When you deactivate a user, the user becomes inactive and frees up named assigned licenses associated with that user.

IMPORTANT

You must have organization or user administrator permissions to deactivate a user.

Users can't be deleted from Jama Connect.

1. Select **Admin > Organization**, then select **Users**.
2. In the Action column for the user you want to deactivate, select **Deactivate**.

3. Deactivated users disappear from the list until you select **View inactive users** to view all users.
4. Alternatively, to reactivate a deactivated user, select **Activate**.
5. In the **User license type** window, select a license type and select **Save**.

Manage process

Best practices are a great starting place, but every organization has unique needs and Jama Connect can be configured to align your processes and artifacts. To address these needs, Jama Connect provides the ability to control fields, picklists, relationships, templates, and workflow.

These settings tend to evolve over time as teams mature and new groups are brought into Jama Connect. An admin role is available to delegate these responsibilities to the appropriate users and groups.

- Item types [589]
- Fields [597]
- Set up editor templates [608]
- Configure views [609]
- Manage relationships [610]
- Manage tests [618]

Item types

Item types are the templates for sets used within each project.

While sets are unique to each project, item types can be used in projects [635] across the entire organization. Item types cannot be customized for individual projects.

Each item type can be configured [589] to best fit your organization and methodology. The fewer item types that your organization creates the easier it will be to manage items.

Additionally, every item type is automatically assigned an API ID for reporting purposes. That API ID cannot be specified or changed.

Add and edit item types

Changes to item types affect all projects in your instance of Jama Connect. You can define an item type once, and all projects have access to that type. Item types can't be customized for individual projects.

NOTE

You must have organization administrator permissions to add and edit item types.

You can create a new item type, add or delete fields [598] in an existing item type, or change the item type details.

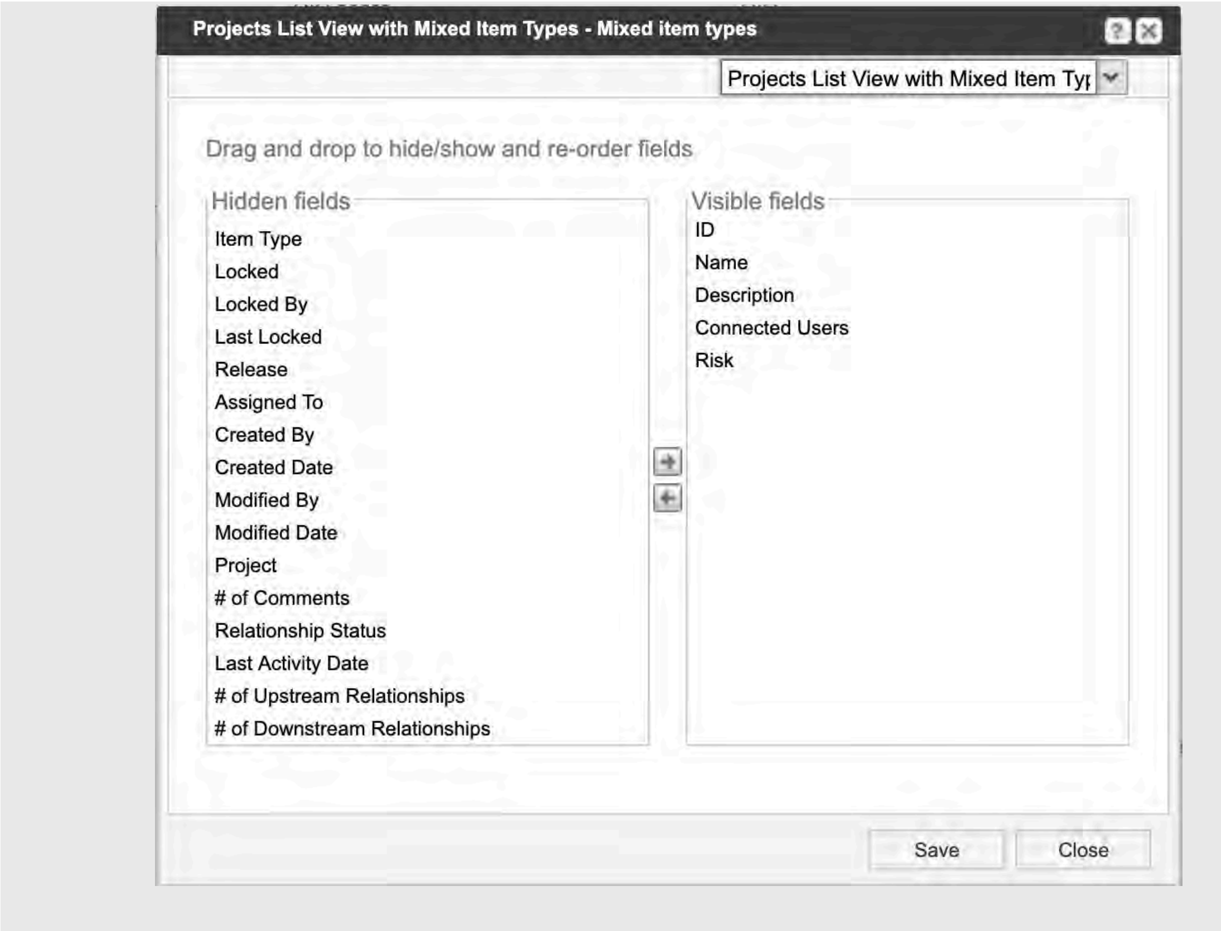
TIP

The fewer item types that your organization creates, the easier it is to manage items and report on the sets based on those item types.

Jama Connect comes with a set of core item types that cannot be deleted. You can tell which item types these are by selecting **Admin > Organization > Item types** and viewing which item types don't have a delete option.

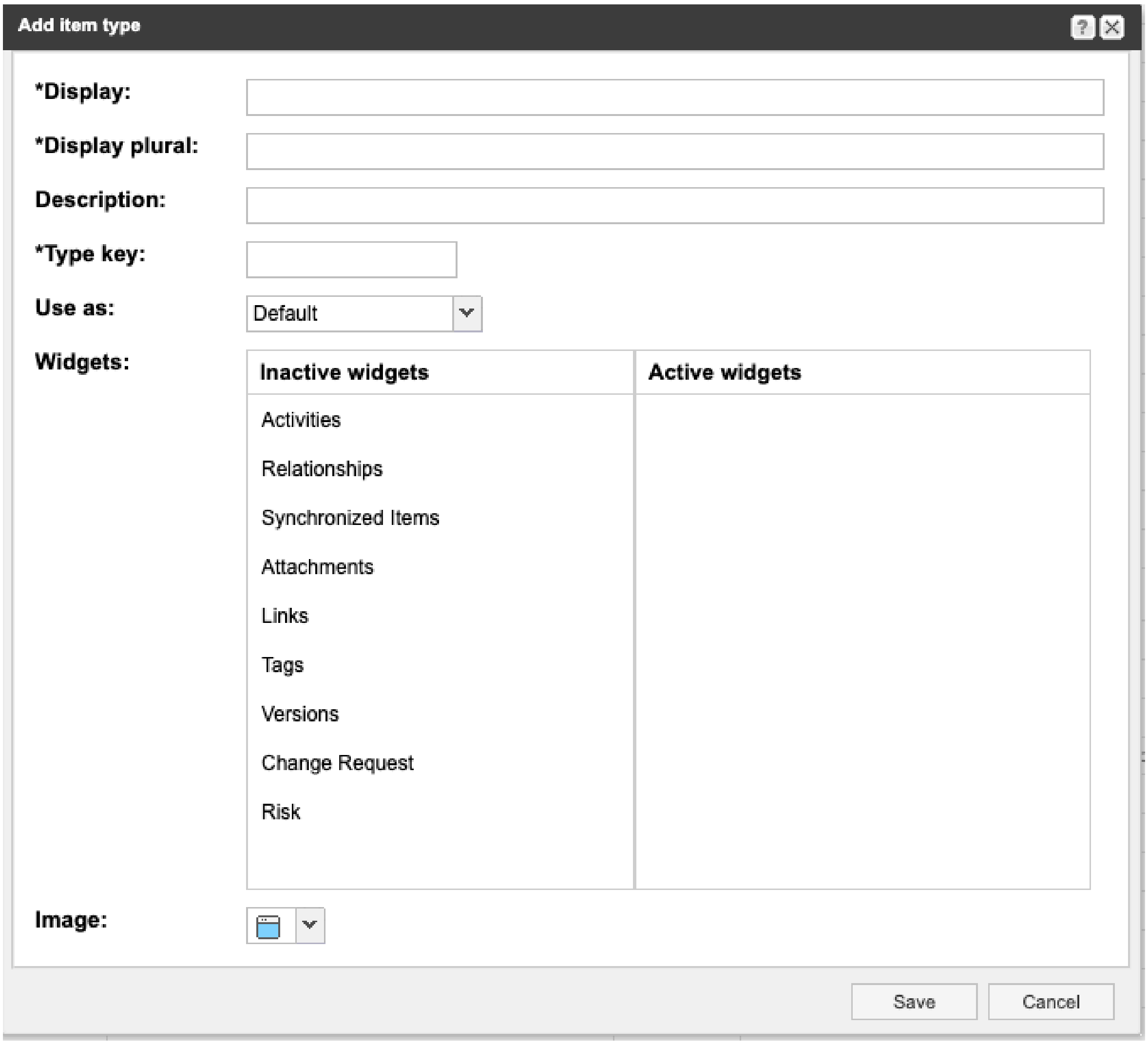
Action
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Fields | Views
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete
Edit | Fields | Views
Fields | Views
Edit | Fields | Views | Delete
Edit | Fields | Views | Delete

You can see a list of core item type fields in **Admin > Organization > Item Types > Core > Views > Projects List View -Mixed Item Types**. Custom fields can't be selected for visibility in mixed item type views.



1. Select **Admin > Organization**, then select **Item types**.
2. To add a new item type, select **Add item type**, or to edit an existing item type select **Edit** for the item type you want to modify.

3. This opens the **Add item type** window where you can select or modify the following options:



- **Display**
  Display name for a single item of this item type (Required).
- **Display plural**
  Display name for multiple items of this item type (Required).
- **Description**
  For others who may at a later point want to know internally how this item type is used or how it is distinguished from other item types.
- **Type key**
  This is the default ID Prefix that will be shown when creating a set using the item type. It can be overwritten. (Required).
- **Use as**
  Select an option only if you are using this item type for special use for test [318]. (If you are using the REST API to create an item type, it refers to this as a Category)
- **Widgets**
  Read more about item type widgets [593] or how to enable or disable them [593].
- **Image**
  Display icon to use for this item type (this is required). Icons are used as the set icon, the list view icon and the icon at the upper-left of the item view.
- **API ID** A new item type will automatically be assigned a reference ID for API reporting purposes. You can see this ID by selecting **Admin > Item types**, but it cannot be specified or changed.

4. Select **Save**.

NOTE

In order to use item types in a particular project, a project or organization administrator must add the item type to the project [635].

IMPORTANT

You can delete an item type, however you will be asked to delete any existing items of that type prior to deletion. To delete, select the item type you want to delete and select **Delete**.

	Attachment	Attachments	ATT	Attachment Type	22	Yes	Fields | Views
	Automotive Cause	Automotive Cause	CAUS	Automotive	140	No	Edit | Fields | Views | Delete
	Automotive Failure Mode	Automotive Failure Mode	FM	Used in Automotive FMEA	142	No	Edit | Fields | Views | Delete

Item type widgets

Widgets are small embedded applications that add functionality to item types. Available widgets include:

- Activities [209]
- Attachments [84]
- Change request [232]
- Relationships [259]
- Risk [421]
- Synchronized items [288]
- Tags [83]
- Versions [230]

Enable or disable item widgets

NOTE

You must have organization administrator permissions to complete this task.

To enable or disable widgets:

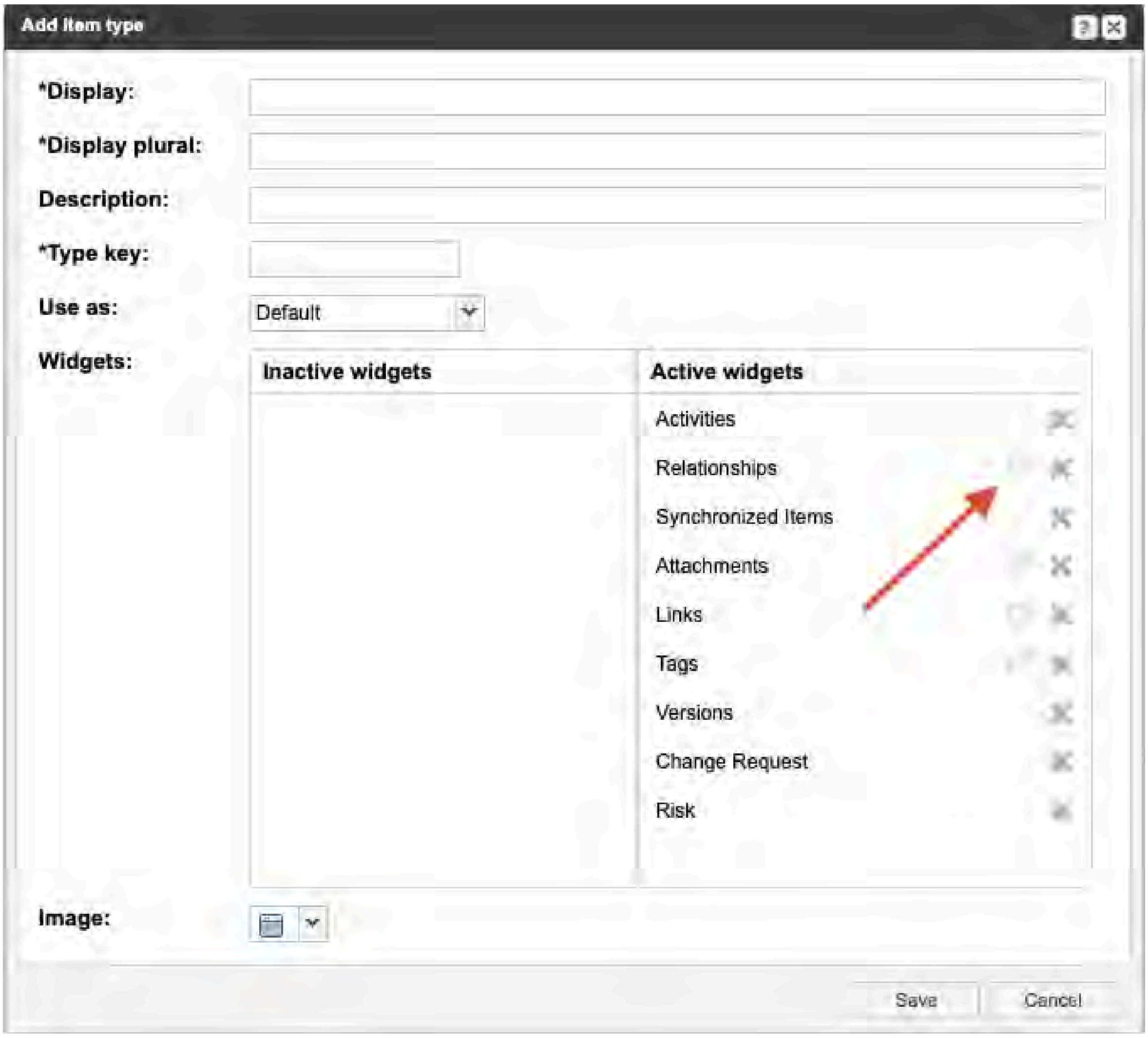
1. Follow instructions to edit an item type [589].
2. Enable widgets by selecting the widget's name [593] in the **Inactive widgets** column. It will move over to the **Active widgets** column.

   NOTE

   The change request item type should only be used for change requests [232].

> **NOTE**
>
> Adding the relationship widget will automatically add the the Relationship Status Indicator [269] as well. They can not be used separately.

3. In the **Active widgets** column, the links, tags, attachments and relationships widgets have a gray **synchronize toggle** button next to their name. To indicate whether or not each widget can be synchronized, use the **synchronize toggle** button for each item. When the button is darker, it indicates that the widget can be synchronized.



> **NOTE**
>
> If you disable synchronization for a specific widget, when an item of that type is synchronized, that widget will not be included in synchronization, nor will that widget be taken into account when sync status is calculated.

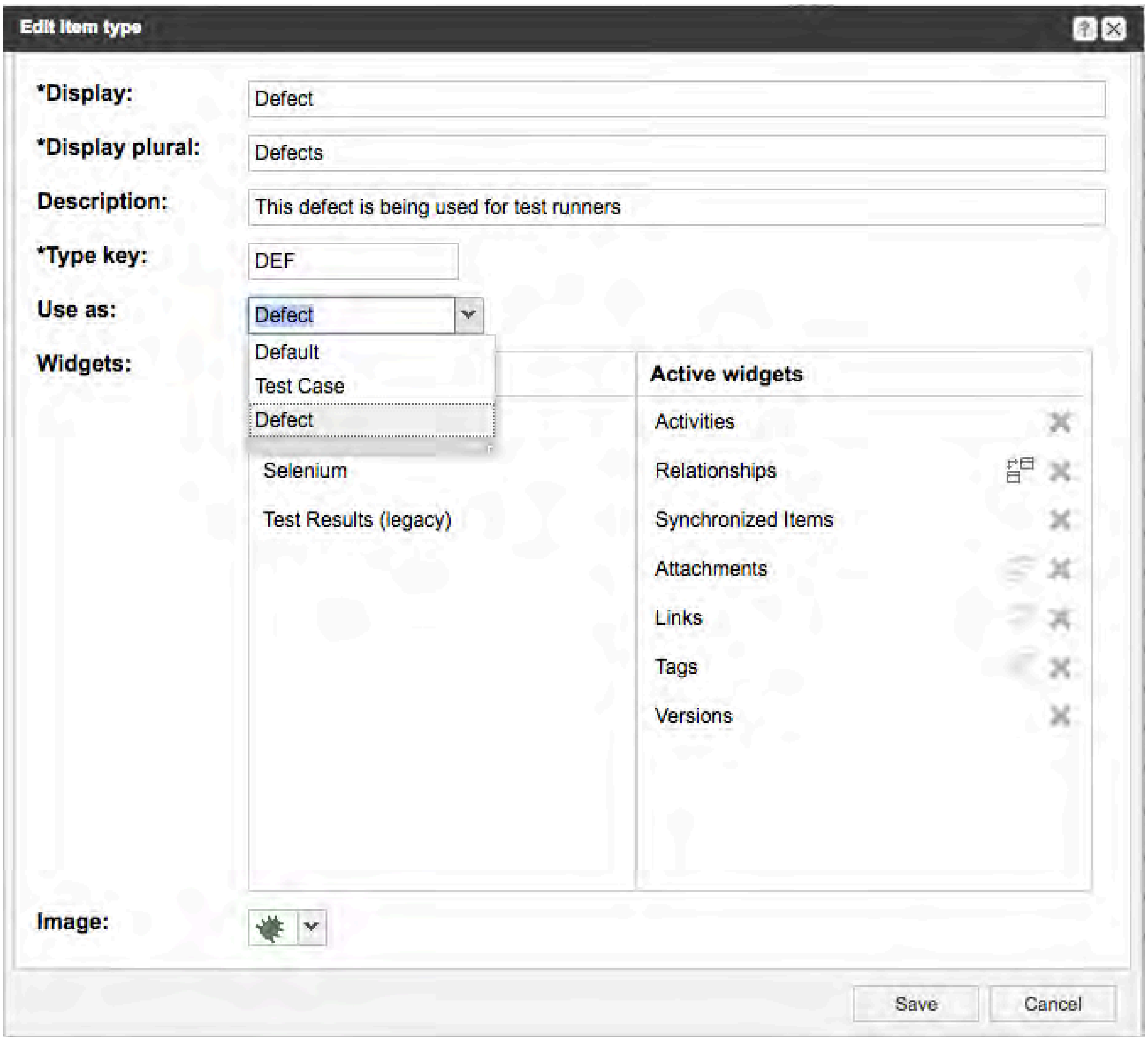
4. To disable a widget select the **X** next to the widget's name in the **Active widgets** column.

Use a different item type as a test case or defect

You can use any item type as a defect or a test case. By selecting test case, this adds test steps and test case status to that item type.

NOTE
You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization > Item types**.
2. In the same row as the item type you want to change to a test case, select **Edit**.
3. In the **Add/Edit item type** window that pops up, select the pull-down menu next to the **Use as** field and select one of the options. Select **Test case** or **Defect**.



4. Select **Save**.

Enable rich text in test steps

NOTE
You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization > Item types**.
2. Find the item type you want to use. You can use any item type that is a Test Case type (this may be an item that's used as a Test Case [318]). Select **Fields** in that row.
3. In the right panel, select the **Steps** field, then select the **Edit** pencil icon.

4. In the **Edit field** window, select **Allow Rich Text** and click **Save**.

IMPORTANT

To disable rich text in test steps, follow the same steps, unchecking the Allow rich text box.

If you do so, no data will be lost, but images and rich text will be replaced with HTML tags.

Users will not see any existing steps break and the content will still render. It is up to the users to decided what formatting tags to remove. The application does not automatically strip tags, and renders correct HTML tags in steps with or without the rich text mode enabled.

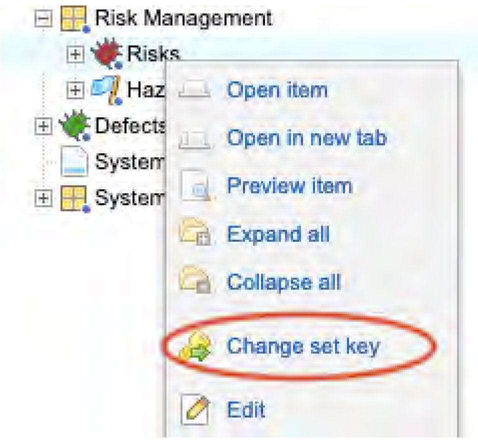
Change a set key

You can edit a set ID or renumber items in a set at any time.

NOTE

You must have organization or project administrator permissions to complete this task.

1. Select **Projects**, right-click on the set you want to modify, then select **Change set key**.



2. In the **Confirm Set Key Change** window that opens, enter the new set key, which must be 1–16 characters long, consisting of only letters, numbers, or underscores.
3. Select **Regenerate Item IDs** to reset the counter and apply new numbering to all existing items. Item counters start over at 1.

> **CAUTION**
> Don't select **Regenerate Item IDs** if you want to restart numbering on newly created items. Leave existing items as they are.

Fields

A field holds a basic unit of data in an item type.

Fields contain values. In List View, each column represents a different field. Individual users can configure which fields they see. For more information, see Configure Compare View for synchronized items [296] and Configure fields [54].

An organization administrator can add new fields to an item type [598] and configure the behavior for those fields.

There are three types of fields in Jama Connect:

- **Predefined fields**
  An organization administrator can add predefined fields [601]. They are indexed and can be searched without using the database field name.
- **Custom fields**
  An organization administrator can add custom fields [602]. They can be similar to predefined fields, or can be multi-select fields, URL fields, rollup, and item of type fields.
- **System fields**
  System fields (like, name, test steps [318], test case status [320] and review status [150]) are automatically created to provide system functionality and cannot be disabled or deleted.

> **TIP**
> Predefined fields can be very similar to custom fields. If you plan on doing a lot of reporting with your data, predefined fields will simplify the document type's underlying schema and make it simpler to use those fields in reporting.

Add, edit, and delete fields

When editing an item type [589], you can add, edit, and delete fields.

NOTE
You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization > Item types**.
2. Select **Fields** for the item type you'd like to change to open an Item type fields panel on the right.
3. You see a list of existing fields with information about each one. Here you can select a row to highlight it in blue, then select one of the icons in the top toolbar:

Order	Label	Infotip	Unique Field Name	Field Type	Control	Pick List	Read Only	Allow API Overwrite	Required	Suspect	Sync	AP ID
1	Attachment		attachment	Integer						✓		18
2	Global ID		globalId	Text Field			✓		✓			32
3	Name		name	Text Field					✓	✓	✓	18
4	Description		description	Text Box	Text Box					✓	✓	18

- **Edit a field**
  Select the **pencil** icon to open the **Edit field** window.
- **Reorder fields**
  Use the green **up and down arrow** buttons.
- **Delete a field**

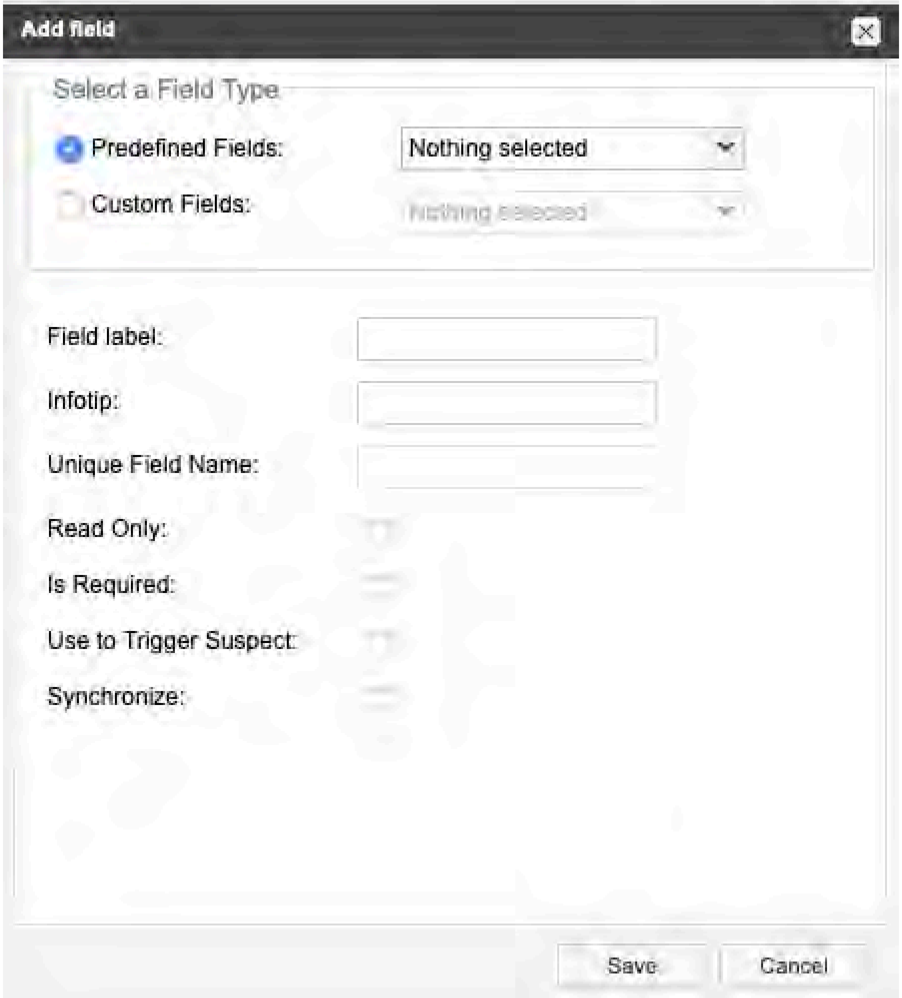
  CAUTION
  Review the following before deleting a field:

  - Once a field is deleted, all values related to that field will be deleted from the database and cannot be recovered.
  - If the field was used to relate synced items (JIRA KEY, proxy, etc.), a duplicate item will be created if you try to create the sync again.
  - If the field is mapped in an integration, that field will no longer update and could cause errors in your integration tool.
  - If filters used the field, filter results will become inaccurate. The filter should be updated before removing the field.
  - If the deleted field raised suspect links, relationships will be affected. Because the field no longer exists, users will not be able to see the changes that created the suspect link.
  - If you attempt to restore a previous version of an item that still contains the deleted field, the field's contents will not be restored. Even if you recreate the field prior to the version rollback, data will not be restored.
  - If you still want to delete a custom field, consider exporting a copy of those field values via a report or the API.

  To delete a field select the field then select the **red x** icon.

- **Add a field**
  Select the green **Add field** icon to open the **Add field** window.

4. If you selected **Add** or **Edit**, a window will open where you can select the following options:



- **Select a field type**
  If you are adding a new field, you must first indicate what type of field. Select either a predefined field or custom field. Both field types can be used in the same item type. (This section does not appear when editing fields).

> **IMPORTANT**
> You can only use the system predefined **Release** field to show items in the **Releases** tab. If you use a custom **Release** field to designate an item to a release, that item will not appear in the **Releases** tab.

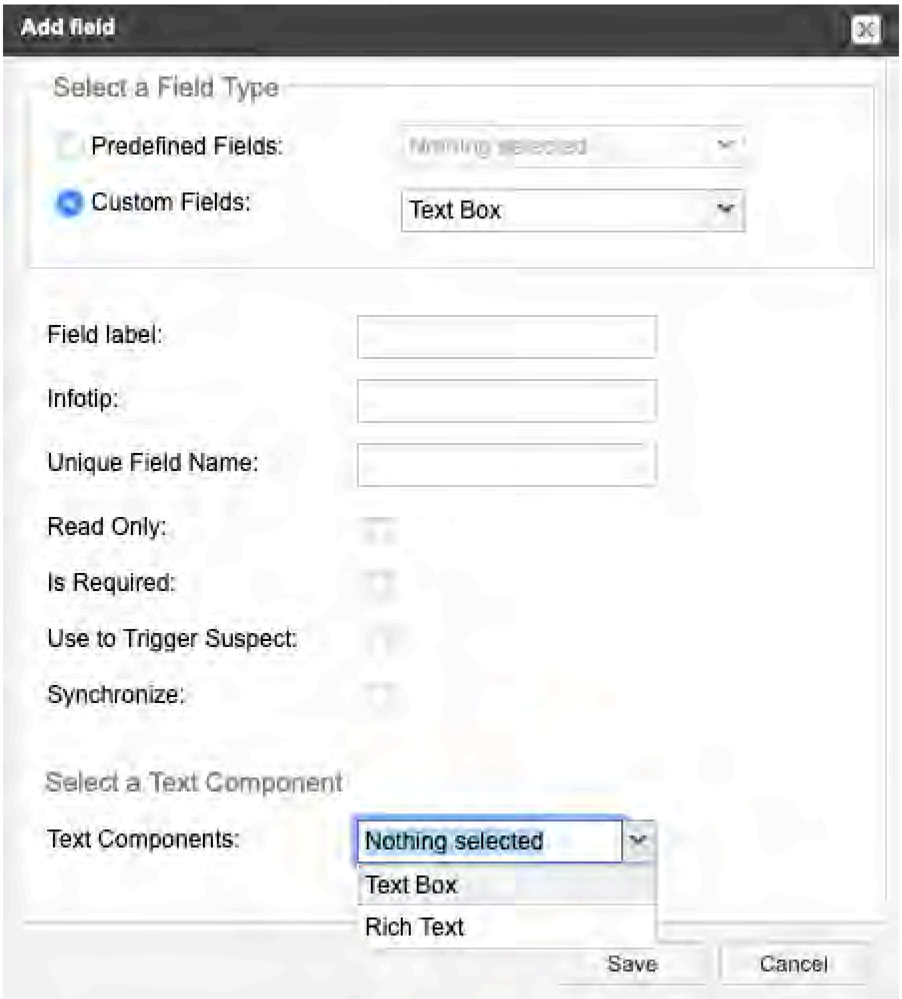
- **Field label**
  This is the field name that users will see.

CAUTION

When creating a new field, the application automatically uses the **field label** that you enter to name the **unique field name** in the database. Once it has been saved, even though you can change the **field label**, you can't change the **unique field name** in the database.

Avoid leading with an underscore when naming fields. There are some unique field names that may conflict with Elasticsearch fields (like "_source" and "_ID") and prevent proper functioning.

- **Infotip**
  (Optional) Text entered here will be visible to users when they hover over this field label.
- **Unique field name**
  This is the name of the field in the database.
- **Read only**
  Select this box to prevent users from editing the field.
- **Allow API overwrite**
  Fields that are configured to be read-only have the option to be editable via the REST API. System fields like modifiedDate or rollup do not allow the option to overwrite.
- **Is required**
  Required fields are string, text or date fields that are configured so that the user must enter data into the field before saving an item.
- **Use to trigger suspect**
  Suspect links [270] is triggered when specific fields update in an item. This option lets you determine which field changes will flag an item as suspect.
- **Synchronize**
  When items are synchronized to other items, a change in a field with this checkbox will flag this item as out of sync in the synced items window and in Single Item View [277].
- **Text components**
  If you chose to add a text box field, you will need to choose if you want it to have rich-text capabilities.



- **Pick list**
  If you choose to add a field that controls user input with a lookup or pick list, you must select the pick list from the drop-down menu. If you have not already created a pick list, close the window and add a pick list [606]before making the field.

5. Select **Save**. By default, new fields are added to the bottom of the item type fields list, but you can reorder using the green arrows.

Predefined fields

An organization administrator can add predefined fields [597]. They are indexed and can be searched without using the database field name.

When you are adding fields [598], you must select the database location where the lookup value will be stored from predefined fields; this selection will not affect the users. However, custom report writers will need to know the mapping of the fields to the database.

There are several predefined fields you can choose from including:

- **Text**
  Optionally, you can enable rich text in these fields.
- **Dates**
  Each field (date1 through date5) will limit the user entry to a valid date and will provide a pop-up calendar picker.
- **Integer**
  The fields originalEstimate, remainingEstimate and timeSpent all only allow the entry of whole number positive integers.

- **Flag**
  Flag fields will be displayed as check boxes to the users working with the item type. By default all flags are marked as No (False).
- **String**
  Includes the Predefined Fields: Short Name, ID, string1 through string15.
- **Pick list**
  Fields such as status, priority and lookup 1-10 will prompt you for a pick list in the **Add field** window. If that option is not available, then you have selected a non-pick list type from the predefined fields drop-down. Once a predefined field has been used for a pick list it will no longer be available in the list. If additional fields are needed, use custom fields.
- **Release**
  Each pick list is populated by the list of releases created within each individual project. Some item types are configured with a release field [236] by default. If the release field is removed from the item type, it will become available in the predefined field list.
- **User**
  Item types that include a user field will present the user with a pop-up list of users to select from. The user will only be allowed to select one user from the list.

Custom fields

An organization administrator can add custom fields that are unique to their organization. Custom fields can be similar to predefined, multi-select, URL, rollup, and item of type fields.

To find a field, search using the field name because they aren't indexed.

When adding a custom field [598], these are the types you can choose:

- **Item of type**
  Use this to create a new pick list field that is populated by a list of existing items in the current project that are of the specified item type. Users can reference items of another type in this manner. Only one item can be selected in an item of type pick list.
- **Flag**
  Flag fields are displayed as checkboxes to those working with the item type. By default, all flags are labeled **No** (False).
- **Integer**
  Allows only the entry of whole number positive integers.
- **Release**
  Each pick list is populated by the list of releases created within each individual project. Some item types are configured with a release field by default. If the release field is removed from the item type, it's available in the predefined field list.
- **Pick List**
  Pick lists are a set of specific values that can be entered in a field.
- **Float**
  Use float fields to accurately capture numeric values. The float field follows IEEE 754. These fields can be positive or negative.
- **Multi-select pick list**
  Use the multi-select pick list field to allow the user to select multiple values in a pick list.
- **URL**
  A URL field is similar to a regular text box. It performs some minor validation of text entered in the field to check that it is a URL and will display the text as a link when submitted.
- **Text**
  A text field is designed to hold plain text strings with no line breaks. If line breaks are required, use the text box field.
- **Text box**
  A text box field is designed to hold more data than a typical text field. It can store plain text or rich text and can also have a template applied to it.

- **Rollup**
  A rollup field shows progress being made on downstream items without having to open each downstream item individually. You can select the progress bar to open a filter with any downstream items that are included in the rollup calculation.

  Progress on the downstream item is tracked by a pick list (often a Status pick list).
  You will need to indicate the **downstream item type**, the **pick list field** on that downstream item type, and the **pick list value** that indicates progress is complete.
- **Calculated**
  A calculated field allows the user to add, multiply or automatically average several integer or pick list fields. You can also create Weighted Shortest Job First (WSJF) fields to help prioritize items in Jama. You can add calculated field results to the List View and use them for sorting and filtering.
  You must select the following options:
  - **Calculation type**
    Average, Multiply, Sum or Weighted Shortest Job First
  - **Calculation source**
    This item or Related item(s)
  - **Related item type**
  - **Relationship direction**
    Upstream or Downstream
  - **Fields upon which to base the calculation**
    This will display pick list, multi-select, integer, other calculated fields from the same item, number of upstream or downstream relationships, and the number of comments fields.

- If a pick list field is chosen, the value field is used in the calculation.
- If a multi-select field is chosen, the value used is the sum of the value of each selected item.
- If a calculated field is chosen, the result of the calculated field is used in the calculation. Once a calculated field is chosen as an input for a calculated field, it can't be used as an input in additional calculated fields.

- **Number of decimals to display** (up to 4)
- **Whether to require all values to be present before the calculation is performed**
  If you do not select this option, the calculation will be performed each time a value is entered into one of the selected fields.

> **NOTE**
> American or British-style decimals must be used in the fields from which the calculations are derived. Errors will occur if non-American or British style decimals are entered.
>
> If a calculation is based on a related item, the calculated field will not update until the item containing the calculated field is edited.

Enable rich text in test steps

> **NOTE**
> You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization > Item types**.
2. Find the item type you want to use. You can use any item type that is a Test Case type (this may be an item that's used as a Test Case [318]). Select **Fields** in that row.
3. In the right panel, select the **Steps** field, then select the **Edit** pencil icon.


Item type fields | Add field

Order	Label	Infotip	Unique Field Name	Field Type	Control	Pick List	Read Only	Allow API Overwrite	Required
1	Project ID		documentKey	Text Field			✓		✓
2	Global ID		globalId	Text Field			✓		✓
3	Name		name	Text Field					✓
4	Description		description	Text Box	Rich Text				
5	Steps		testCaseSteps	Steps	Rich Text				
6	Assigned		assignedTo	User					

4. In the **Edit field** window, select **Allow Rich Text** and click **Save**.

IMPORTANT

To disable rich text in test steps, follow the same steps, unchecking the Allow rich text box.

If you do so, no data will be lost, but images and rich text will be replaced with HTML tags.

Users will not see any existing steps break and the content will still render. It is up to the users to decided what formatting tags to remove. The application does not automatically strip tags, and renders correct HTML tags in steps with or without the rich text mode enabled.

Pick lists

Pick lists are a set of specific values that can be entered into a field.

This can be particularly useful when you want to be sure field content is entered exactly between users, or when you are creating calculated fields.

Each pick list can be assigned a name and a description. Descriptions can be useful to define how you are using that pick list.

Each option in a pick list can be assigned the following:

- **Order**
  Designates what order the option will appear in a field pull down.
- **Display**
  Determines what words users see when selecting pick list options.
- **Infotip**
  (Optional) Custom text that provides additional context for that value and is visible to users when they hover over this field label.
- **Description**
  Useful to define what each option means internally or to other admins. For example a display of " High" could have a description of "over 5000 items", "625-750 degrees" or "at least 72 miles".
- **Value**
  This option can put a numerical value or weight on each option and is useful in creating calculated fields.
- **Color**

Color can be used to visually distinguish pick list options at a glance and can be seen in different views across the application. For example the test case status [320] field is set to have a passing color of green, a failing status of red and a blocked status of orange.

- **Default status**
  Determines which value appears by default. A pick list can only have one default status.

Manage pick list values

A pick list can have multiple values that can be organized, color coded, and set as a default.

(Optional) Values can include *infotips* — custom text that provides additional context for that value.

Important considerations

- **Changing pick list values** — Other fields might be affected if the value is included in a calculated field.
- **Archiving a pick list value** — Removes the option from a selectable option, but preserves the historical selection of the value. Archived pick lists can't be unarchived.
- **Deleting a pick list value** — Removes the selected value from all items in the system. Each item is versioned and updated with the replacement value. Previous versions retain the deleted value. The deleted value isn't available for filtering. Each pick list must retain at least one value and that value can't be deleted.

NOTE

You must have organization administrator permissions to change pick list values.

1. Select **Admin > Organization > Pick lists**.
2. In the **Action** column of the pick list you want to edit, select **Values**.

3. In the Pick List Items table, select the item row you want to modify, then select one of the following options:

Pick List Items

Order	Display	Infotip	Value	Color	Default
1	Unassigned				
2	Improbable (1)	Event is predicted to be non-existent or to occur very rarely	1		
3	Remote (2)	Event is predicted to occur at a low frequency	2		
4	Occasional (3)	Event is predicted to occur at a moderate frequency	3		
5	Probable (4)	Event is predicted to occur at a high frequency; it will occur with some regularity, but not in major proportions	4		
6	Almost Certain (5)	Event is predicted to occur at high frequency; it is certain to occur and will likely do so in major proportions	5		

- **Add item** (plus icon) — Enter the name and optional characteristics like infotip, description, value, and color.
- **Edit item** (pencil icon) — Make your changes.
- **Archive item** (box icon) — If you archive an item, the value's row is removed from view. This action can't be undone and will only be visible on versions of items before it was archived.
- **Remove item** (X icon) — Select a replacement value, then click **Delete**.

  The value is saved to items in the system where the deleted value is selected.

4. Click **Save**.

The table is updated to reflect your changes.

Configure workflow

Workflows are not project-specific. When the organization administrator configures a workflow it applies to the item type across projects.

NOTE

You must have organization or process administrator permissions to complete this task.

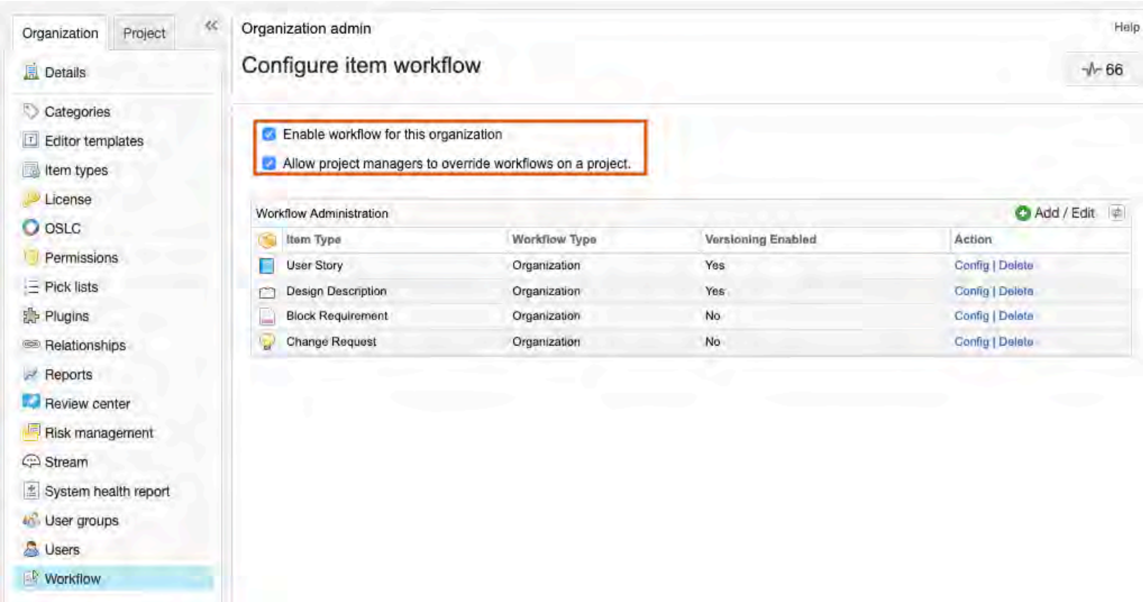
Important considerations

- If the organization administrator selects **Allow project managers to override workflows on a project**, the project administrator for each project can set up the workflows.
- If you disable a workflow, Jama Connect stores your settings for later use.
- An organization administrator can disable a workflow from the Workflow Administration section.

1. Select **Admin > Organization**, then select **Workflow**. If you disable a workflow, Jama Connect stores your settings for later use.
   - Select **Enable workflow for this organization**.
   - (Optional) Select **Allow project managers to override workflows on a project**.

   IMPORTANT

   If you select or deselect either option, it could trigger a long transaction that might impact system performance.

   This enables workflow for all projects using this item type. It can't be disabled at a project level.
2. In the Workflow Administration section, select **Add/Edit** to start a new workflow, or select an existing workflow and then **Config** in the **Action** column to edit it.

3. A project or organization administrator can continue setting up the workflow [643] from here.

Set up editor templates

Editor templates can be applied to any rich text field and must be configured before use.

NOTE

You must have system or organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Editor templates**.
   - To open the new template with a rich text editor, select **Add editor template**.
   - To edit templates, select an existing template, then select **Edit**.

2. Give the template a name and description.
3. Create the template as you want it to appear in other items.
4. Select **Save**.

The template is now available for other users [92].

Configure views

You can configure the default fields in Projects List View, Projects Reading View, Reviews Single Item View, and Reviews Reading View.

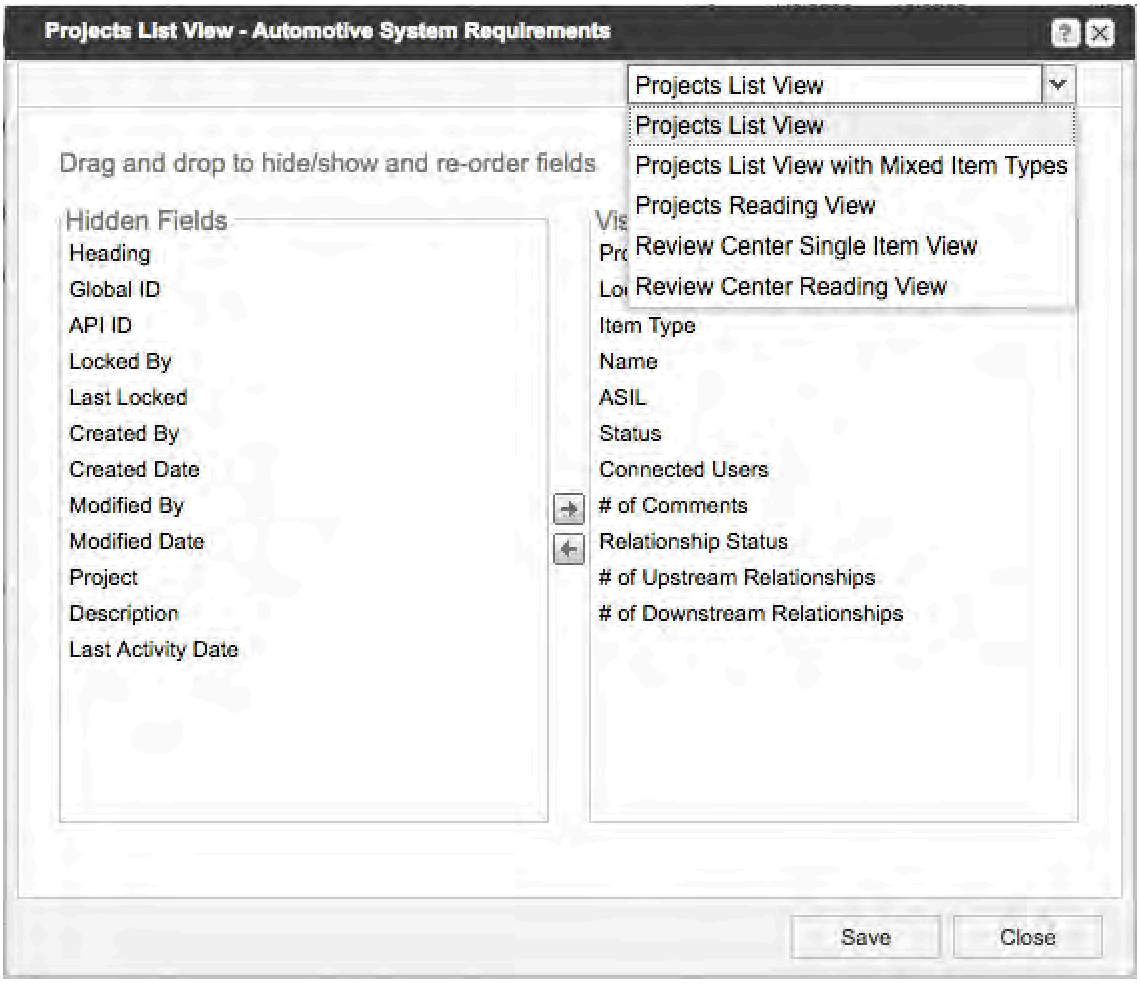
You can also configure views in Projects that contain mixed item types, such as views created from a tag, filter, or component, by selecting **Projects List View with mixed item types**.

> **NOTE**
> You must have organization administrator permissions in order to configure default views.

Configuring fields for a view [54] overrides the default and becomes the standard order of visible fields for that user, in all similar views, for that item type.

1. Select **Admin > Organization**, then select **Item types > Views**.

2. In the **Project List View** window, select the view you want to configure.



3. Double-click a field name or use the arrows to move fields between the **Hidden** and **Visible** columns. Select and drag field names up or down to reorder them.
4. Click **Save**.

NOTE

You can only select core item type fields when you configure List View for mixed item types. For a list of core item type fields see **Admin > Item types > Core > Views**.

Manage relationships

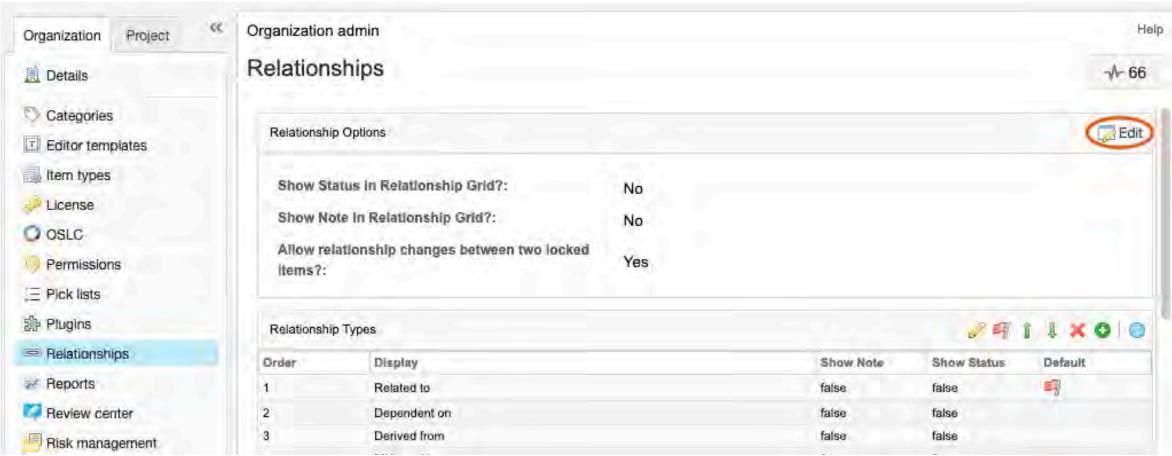
As an organization administrator you can do the following to manage relationships:

- Edit relationship widget [593] in an item type
- Set the relationship types [611]
- Configure the Import Relationships Plugin [551]
- Set up relationship rules [614] at an organizational level

Configure relationships

> **NOTE**
> You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Relationships > Edit**.



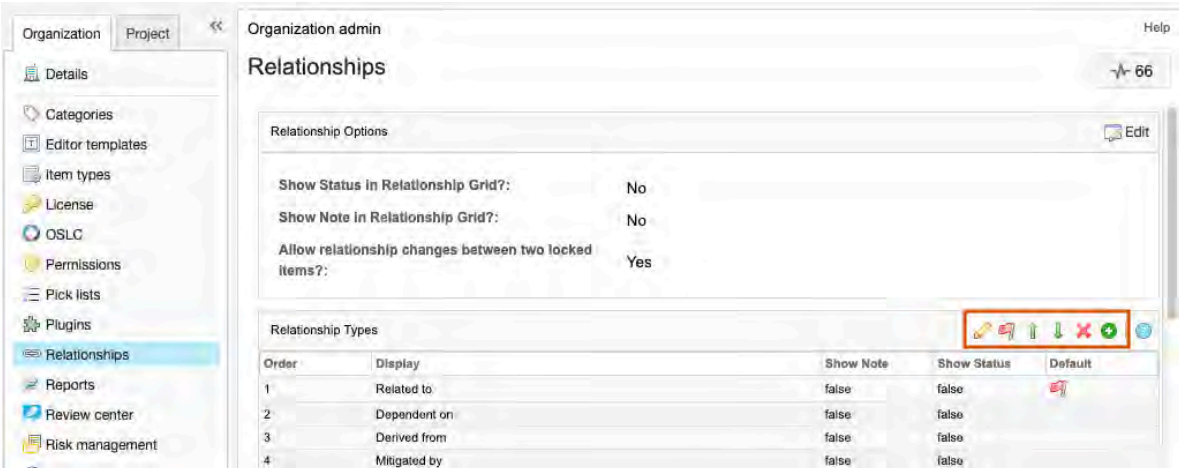
2. To change the relationship options from **No** to **Yes**, select the checkbox next to each option:
   - **Show Status in Relationship Grid?**
   - **Show Note in Relationship Grid?**
   - **Allow relationship changes between two locked items?**

   Note and **Status** columns are added to the table in the bottom panel.
3. Configure **Relationship types**:
   The **Note** and **Status** fields are only editable when the Relationship type is set to **Show Note** and **Show Status**. In the Relationships widget of an item, double-click on a relationship to edit its type, direction, status, and note.
   - Use the toolbar at the top of this panel to edit, add, or delete types.
   - Include a description to specify how and when this type is to be used.
4. Set up relationship rules [614].

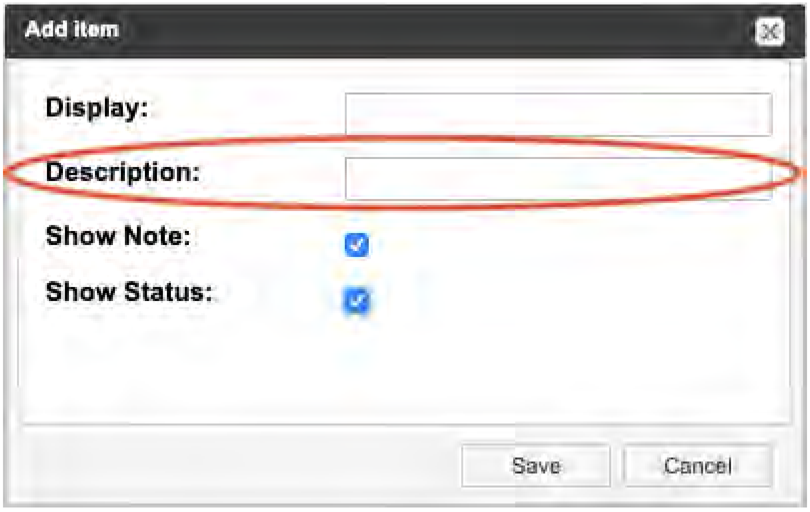
Set relationship types

> **NOTE**
> You must have organization administrator permissions to set relationship types.

1. Select **Admin > Organization**, then select **Relationships**.
2. Under **Relationship Types** use the buttons to add, edit, delete or reorder relationship types.



3. When adding a new relationship type you can enter a display name, description. The description is only visible in this edit window.



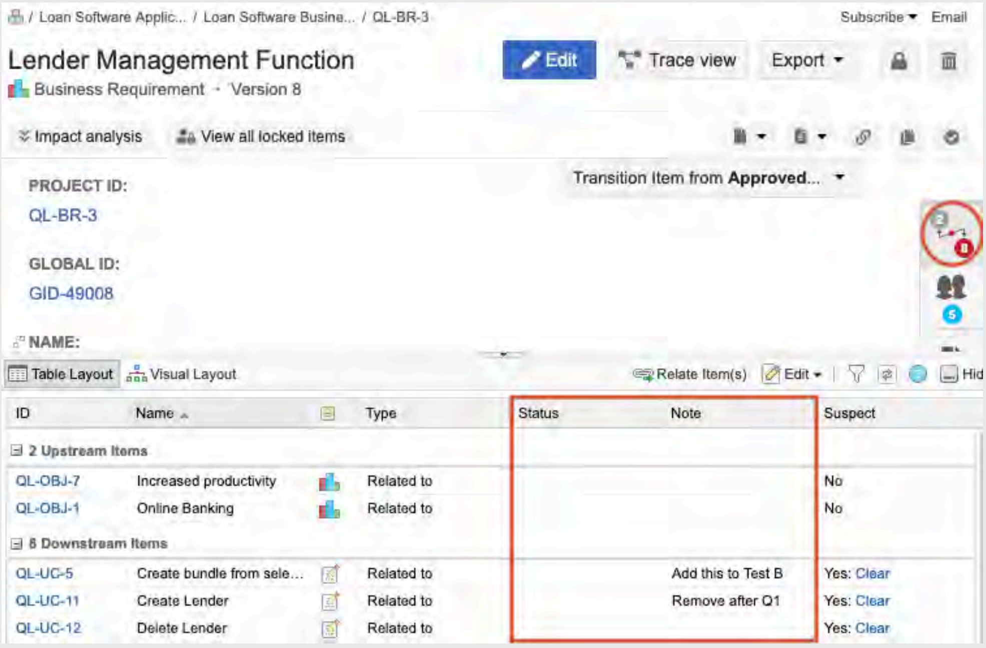
If you select **Show note** and **Show status** users who create a new relationship using this relationship type will be given the option to enter a note and a status for that relationship.

TIP

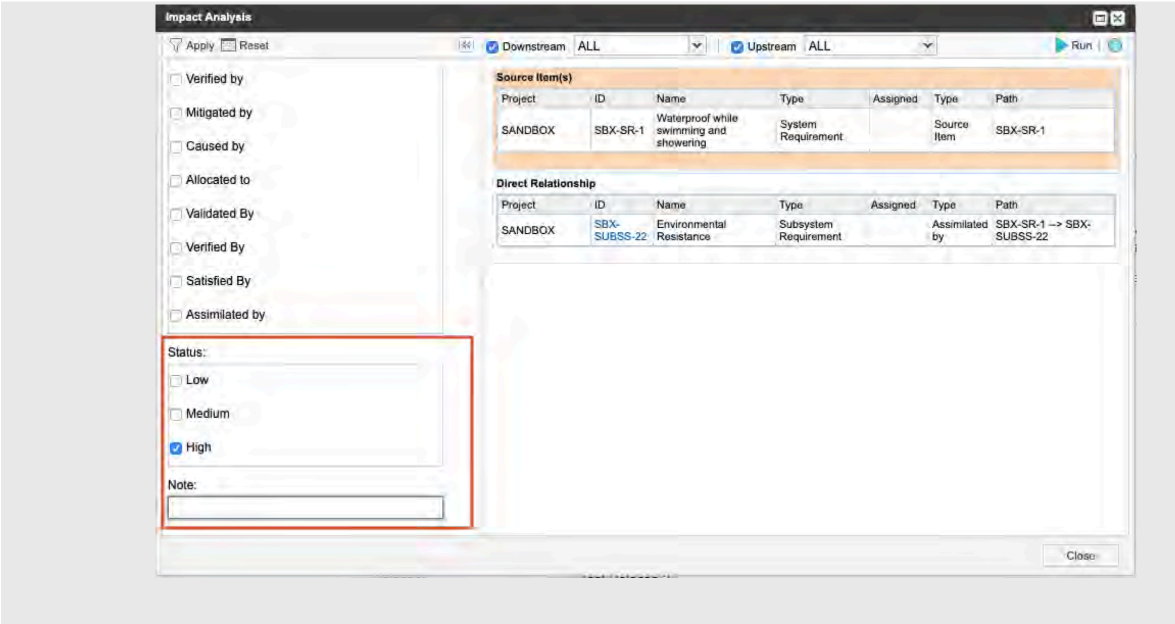
Status and notes are visible any time you reopen the **Add/edit relationship** window.

Also, when notes and status are enabled under **Relationship options** in **Admin > Relationships**...

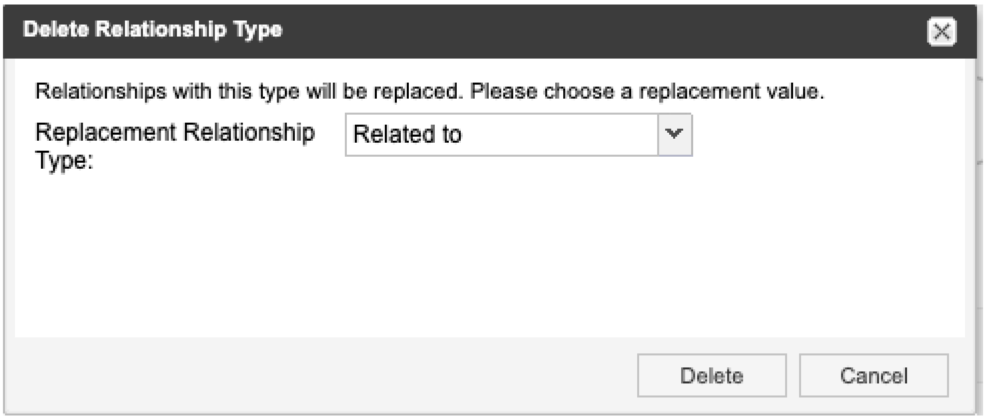
... you will see them in the bottom panel of Single Item View when **Relationships** is selected.



You can also filter by status or note in an impact analysis [273].



4. If you delete a relationship type, you will be asked to choose a replacement type for affected relationships.



Set up relationship rules

NOTE

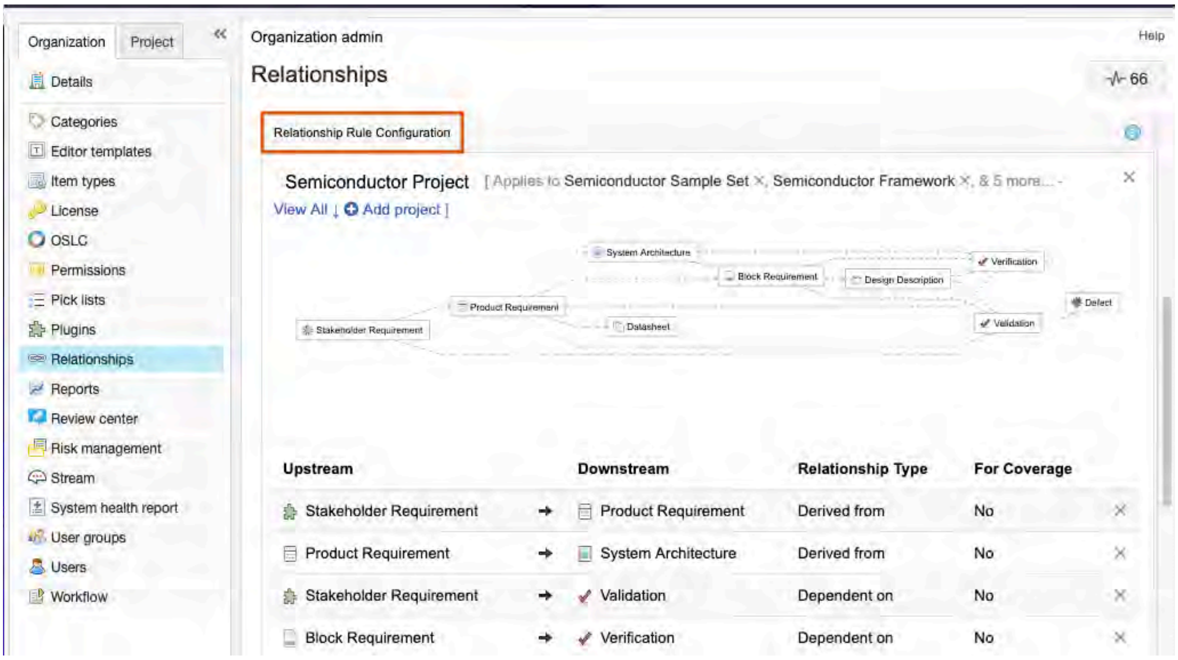
You must have organization administrator permissions to complete this task.

Relationship rules help maintain the project structure by preventing problems with relationships [259]. The rules help users know when relationships are required and in which directions.

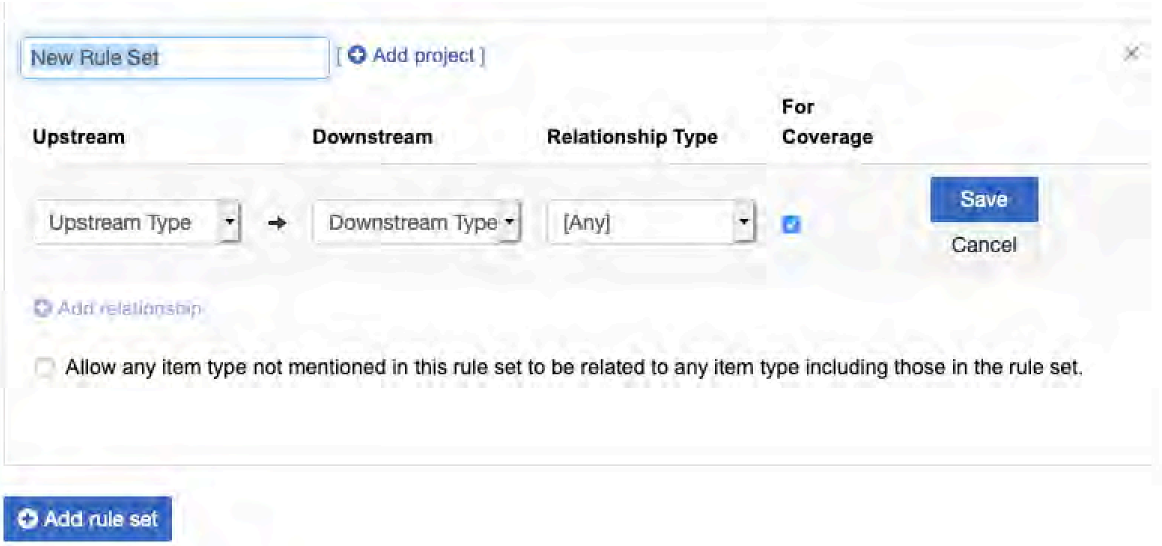
When these rules are set up, the Relationship Status Indicator [269] alerts users to easily see when their relationships do not match the relationship rules.

Rule sets are created at the organization level, and can then be applied to one or more projects.

1. Decide with your team what relationships will be included, the relationship types, as well as whether the rules should be exclusive and included in coverage calculations for the project.
2. Select **Admin > Organization > Relationships** and scroll down to the section labeled **Relationship rule configuration** to see any previously created rule sets.



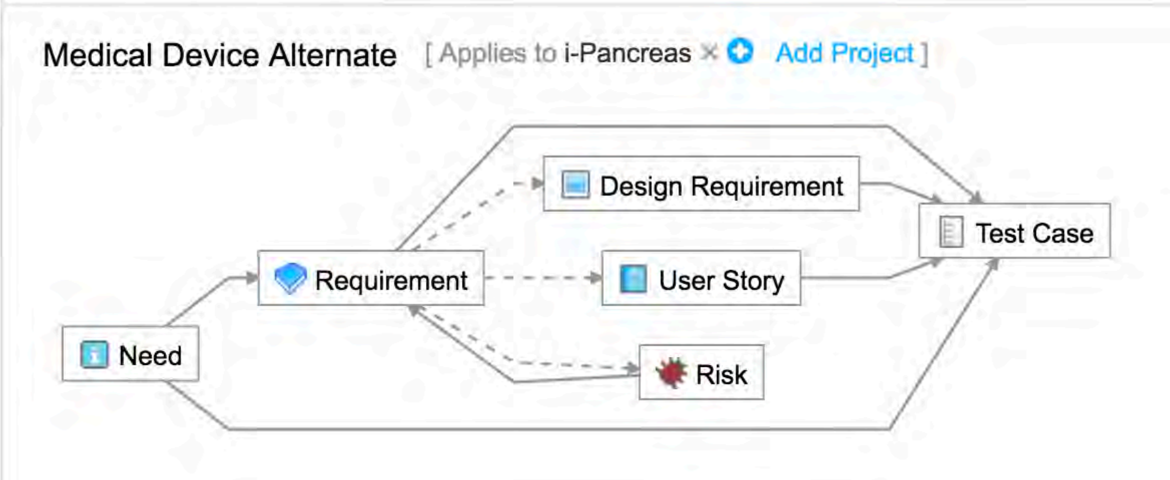
3. Scroll to the bottom and select **Add rule set**.
4. Select **New Rule Set** and edit the name to describe your set.



5. Add a rule by selecting the **Upstream item type**, **Downstream item type**, **Relationship type** from the drop-down menus. Select the box under **For coverage** if this relationship should be included for coverage.

> **NOTE**
> Configure the same rule set across projects that share relationships. If you relate items across projects with different rule sets, the source project's rule set is applied.

6. Select **Save** to save the rule. As the rule is saved, it is added to the diagram to show the relationship visually. Select **Add another relationship** if you want another for this rule set.
7. As rules are created, the diagram is updated to show the relationships. Solid lines between items indicate a coverage (required) relationship. Dashed lines indicate relationships that are not for coverage.



TIP

Once you have set relationship rules for a project, you can also view the relationship rules diagram in Single Item View or on the dashboard [144].

8. To delete a rule, select the **X** at the end of the rule's row. To delete an entire rule set, select the **X** at the top right of the rule set. After editing or deleting a rule, the rule set diagram will update with any changes made.
9. Select **Add project** to apply the rule set to one or more projects. If a rule set is applied to a project with existing items, nothing will change in that project, even if the existing relationships break the new rules. Only future relationships will be required to conform with the rule set.

IMPORTANT

A project can only have one rule set. If a rule set has already been applied to a project and you attempt to apply a second rule set, the application will remove the first rule set from the project and apply the second one instead.

10. If you select the box next to **Allow any item type not mentioned in this rule set to be related to any item type including those in the rule set**, users can create relationships outside of the rule set you applied to the project.
Rules are between item types. If you do not define a rule for a particular item type, that item type can have a relationship with anything, or nothing if the user chooses, even if the rule set is exclusive.

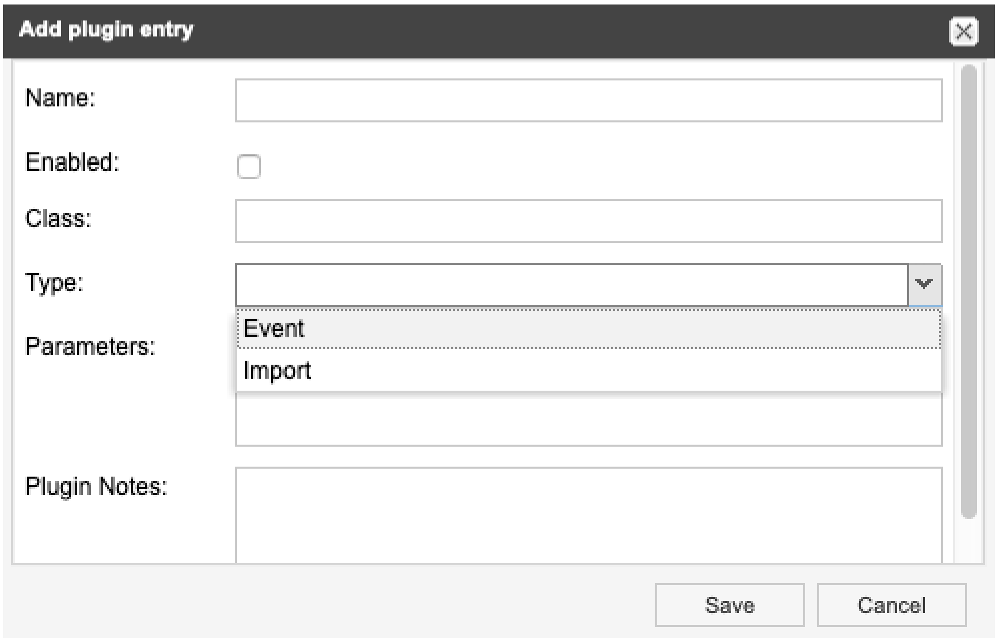
Configure Import Relationships Plugin

The Import Relationships Plugin helps you batch create relationships between existing items in the application.

NOTE

You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Plugins > Add plugin entry**.
2. In the **Add plugin entry** window, enter the following information and select **Save**.



- **Name:** Import Relationships (or whatever name you want visible to users)
- **Enabled:** Check this box to make the plugin available to users.
- **Class (case sensitive):** Enter the name of the object defined in the source code. For a single project enter:

  ```
  com.jamasoftware.contour.plugin.jama.ImportRelationships
  ```

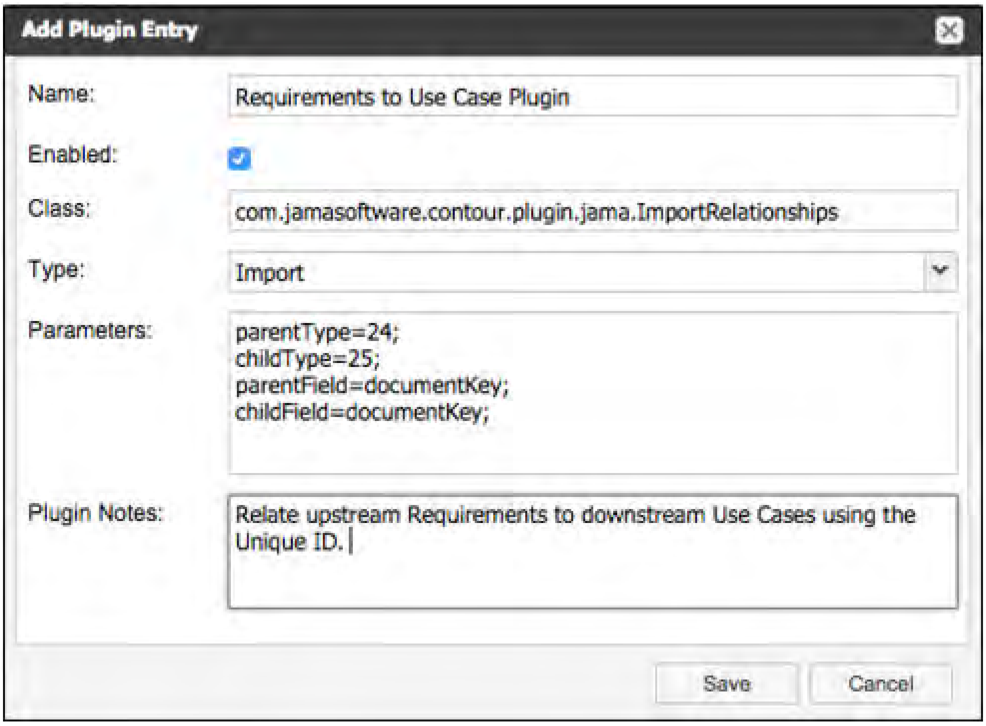
  For cross-project imports enter:

  ```
  com.jamasoftware.contour.plugin.jama.ImportRelationshipsCrossProject
  ```
- **Type:** Import
- **Parameters:** Set relationship parameters [552]
- **Plugin notes:** Add any notes you have here. This will not be visible to end users.

3. When the information is correct, select **Save**.

TIP

For a sample entry of a cross-project import, see Set relationship parameters [552].



Manage tests

As an organization administrator you can do the following to manage tests:

- Include unexecuted test runs in status calculations [618]
- Enable rich text in test steps [595]
- Use an item type as a test case or defect [594]

Manage collaboration

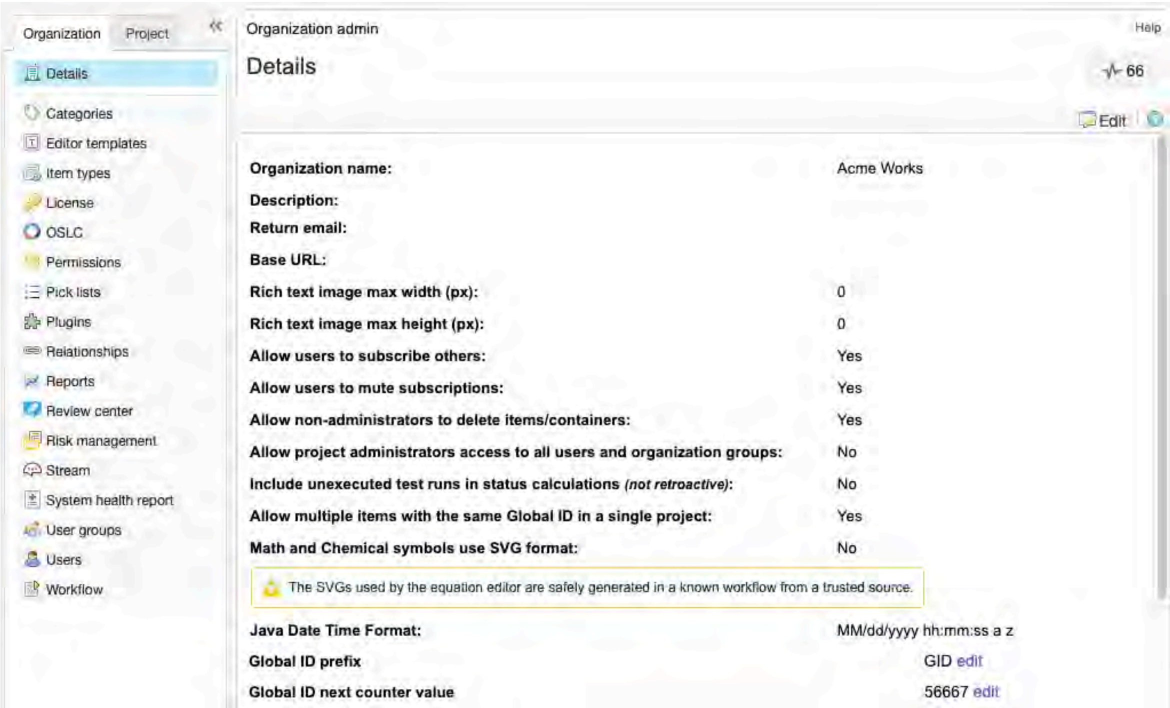
Collaboration includes emails [196], electronic signatures [225], the stream [203], reviews [149], and workflows [198].

Configure organization detail

NOTE

You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Details**.



2. Make selections for the following details:
   - **Organization name**
     The name of your company or team. Each instance of Jama Connect can have only one organization. Organization name is also used for reports.
   - **Description**
     Additional information about your company.
   - **Return email**
     Used as a return address for email notifications. Typically the organization administrator's email address is used or a noreply@example.com.
   - **Base URL**
     Email notifications usually include links to items. The base URL is used to create the URL's sent in the email notifications. Enter the base URL for your Jama Connect installation. Example - http://localhost:8080/contour. Note that attachments (images etc) are dependent on this setting being accurate.
   - **Rich text image max width (px)**
     Maximum pixel width setting that will shrink all images embedded into rich text fields. Default of 0 means no max width will be applied.
   - **Rich text image max height (px)**
     Maximum pixel height setting that will shrink all images embedded into rich text fields. Default of 0 means no max height will be applied.

     > **IMPORTANT**
     > Images will retain their ratio when adjusted to fit the maximum setting for height or width. The adjustment only happens during an upload or document import. Images that already exist on the server aren't adjusted. Compression occurs based on the width and height settings.

   - **Allow users to subscribe others**
     Allows users to subscribe other users to items.
   - **Allow users to mute subscriptions**
     This feature allows users to mute (turn off) a subscription that has been subscribed to them by another user.

- **Allow non-administrators to delete items/containers**
  When enabled, this setting grants users with create/edit permissions the ability to delete items. When disabled, only organization administrators can delete items.
- **Include unexecuted test runs in status calculations (not retroactive)**
  Jama Connect uses all associated test runs to automatically calculate test case status.
  Select this box to include unexecuted test runs in the calculation of test case status (default).
  If you don't include unexecuted test runs, and there are no executed test runs, the system defers to including unexecuted test runs.

  > **NOTE**
  > For test cases associated with a single plan, test case status will reflect the status of the test run with the *most recent activity*, which would include unexecuted tests if this is enabled.
  >
  > When the case is associated with multiple plans, the *most urgent status* is chosen, in this priority order: unexecuted, failed, blocked, scheduled, passed.
  >
  > Uncheck this box to remove unexecuted test runs from that priority order.

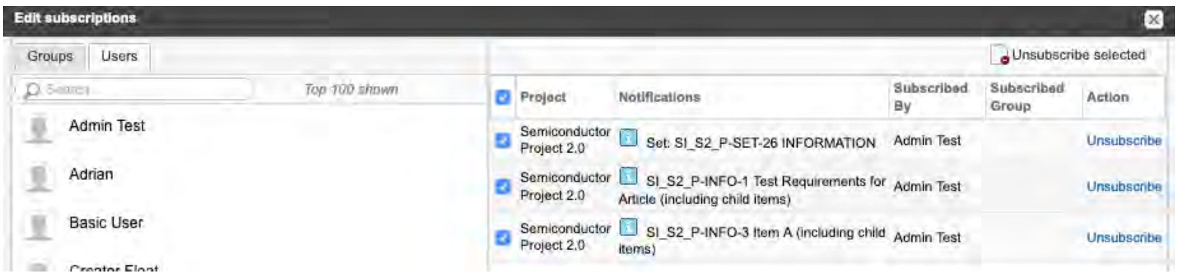
- **Allow multiple items with the same global ID in a single project**
- **Math and Chemical symbols use SVG format**
- **Java Date Time Format**
  The default setting is month/day/year, but can be changed to year/month/day or day/month/year.
- Change global ID [546]

Edit user or group subscriptions

Users can subscribe to email notifications. Administrators don't have control over a user's own subscriptions, only to subscriptions added by others. Only the user can control their subscriptions.

> **NOTE**
> You must have organization or project administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users**.
2. Select **Subscriptions** in a user row to open the **Edit subscriptions** window.



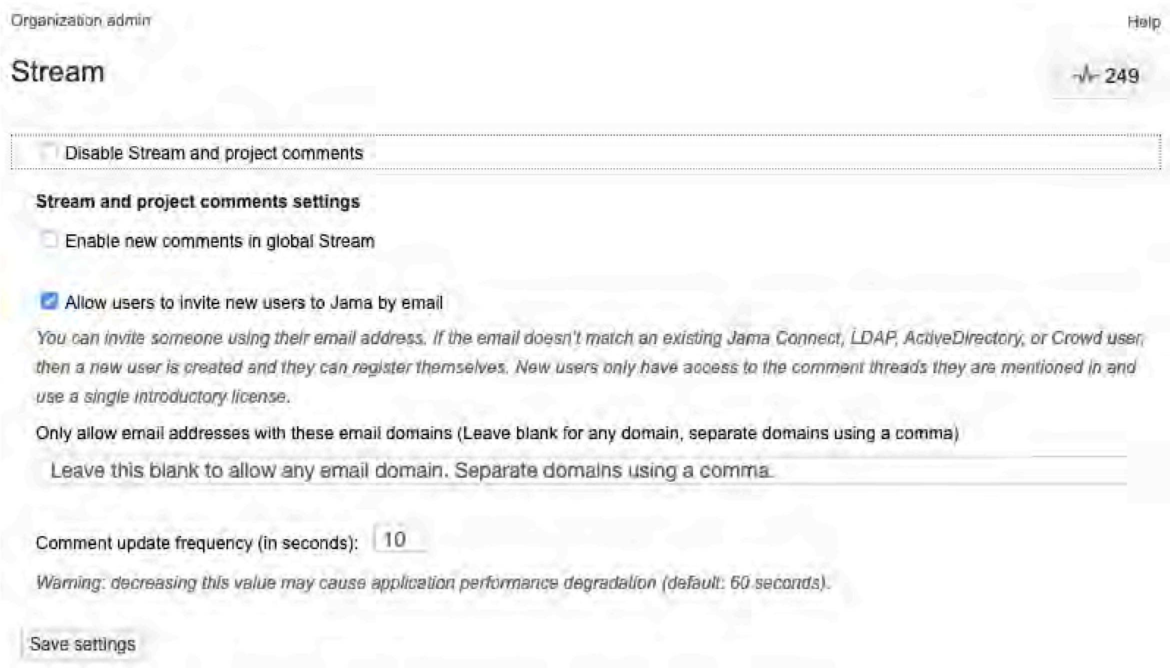
3. Select the user you want to edit from the left column. On the right you see a list of their current subscriptions.
4. If you're an organization administrator, select **Unsubscribe** in the **Action** column or to remove multiple subscriptions, select the subscriptions you want to remove, then select **Unsubscribe selected**. If you're a project administrator, select the items you want to mute and select **Mute subscriptions**.

> **TIP**
> Organization administrators can also edit group subscriptions by selecting **Admin > Organization > User groups > Subscriptions**.

Manage stream comments

> **NOTE**
> You must have organization administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Stream**.



> **NOTE**
> You must separate domains with a comma and avoid adding a space between the comma and next domain.

2. Configure settings as needed:
   - Select **Disable Stream and project comments** to turn off the stream.
   - Select **Enable new comments in global Stream** for new comments from the global Stream page to appear when you access the stream from the header.
   - Select **Allow users to invite new users to Jama Connect by email** if you want users to be able to @mention and invite others who are not registered Jama Software users to their discussion.

     Those who accept invitations automatically receive a temporary license [578] but only have rights to view the discussion threads to which they have been invited. Organization administrators can give them more rights, but will need to change the license type to a permanent one before

their 30 day license expires. An organization has unlimited temporary licenses, which have full creator permissions.
- Enter a domain in the field below this to restrict invitations to email addresses within a specific domain. Enter the domain(s) separated by commas (for example, jamasoftware.com, yourcompany.com).
- Enter a number of seconds in the **Comment update frequency** to control how often the stream is updated with new comments.

3. Select **Save settings**.

Manage reviews

As an organization administrator, you can do the following to manage reviews:

- Grant permissions to a review administrator [583] to view any review and perform certain administrative tasks whether or not they were invited to the review.
- Assign reviewer licenses [576]

> **IMPORTANT**
> Users with reviewer, test runner, collaborator and stakeholder licenses can participate in reviews, but cannot create reviews. If a user is invited to participate in a review they automatically get a reviewer license. Reviewer licenses do not automatically grant read or write access to project data.

- Configure access to reviews [622]
- Configure item workflow for Approval Reviews [623]
- Determine which default fields are visible in reviews [609]
- Manage permissions by license type [578]

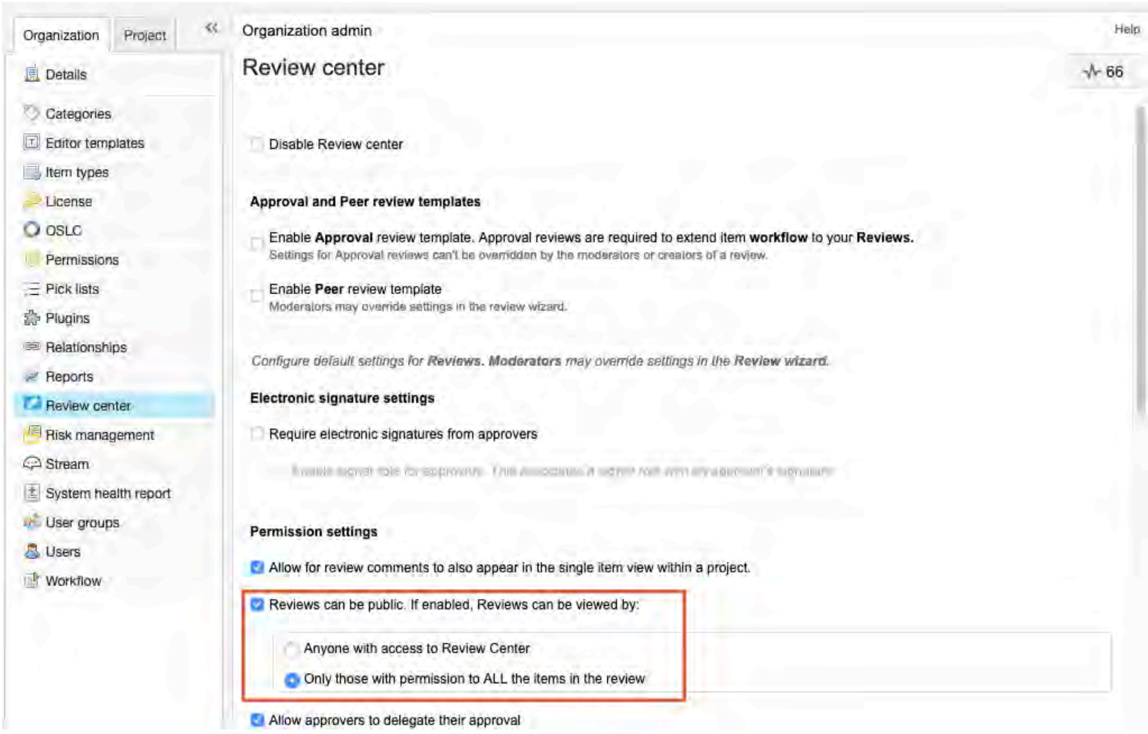
Configure review access

You must be an organization administrators to configure review settings.

For information about license types and reviewer roles, see Permission by license types [578].

1. Select **Admin > Organization**, then select **Review center**.
2. Select the options you want and select **Save settings**.
   - **Disable reviews**
     Check this box to disable access to reviews.
   - **Reviews can be public**

> **IMPORTANT**
> - Reviews created before Jama Connect 8.61.x with the setting **Reviews can be public** disabled and later enabled, *those reviews become public*.
> - Reviews created after Jama Connect 8.61.x with the setting **Reviews can be public** disabled and later enabled, *those reviews will remain private*.
>
> To change the visibility of one review, see Settings [156].



Check this box to allow users with review access to have read-only access to any review marked public. This is the default. If enabled, you must select who can see public reviews.

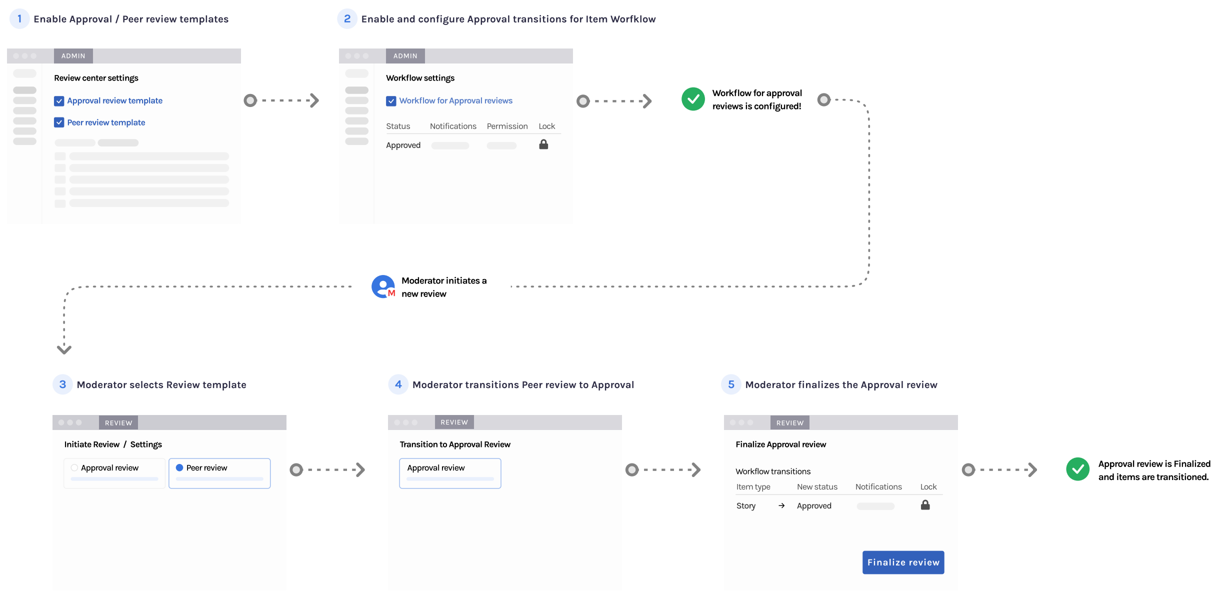
- **Anyone with access to reviews**
  Anyone, regardless of project permissions, can see all items in the review.
- **Only those with permission to ALL items in the review**
  This option only lets users see a public review if they have access to all items in the review.

- **Enable review moderators to invite users outside their project**
  Review moderators can give users who don't have permission to particular items in a project access, so they can review of those items.
- **Allow approvers to add other reviewers and approvers**
  Check this box so that moderators can allow approvers to add more approvers or reviewers. This is the default option.
- **Allow approvers to delegate their approval**
  Check this box so that moderators can allow approvers to delegate their approval role to another reviewer. This is the default option.
- **Allow review moderators to invite new users to Jama by email**
  Check this box so that moderators can invite people without Jama Connect accounts to participate in reviews. If they accept, they are automatically granted a reviewer license.
  - **Only allow email addresses with these email domains**
    This limits who can be invited to those with email addresses you enter here. Leave it blank to allow any domain to be emailed.

Item workflow for Approval Reviews

Integrating Approval Reviews with your item workflow provides a streamlined approach, ensuring reviews are consistent and up to date. When enabled by an organization admin, moderators can use templates for Approval and Peer reviews.

How does the process for using item workflow with review templates work? Review this high-level overview to learn more.



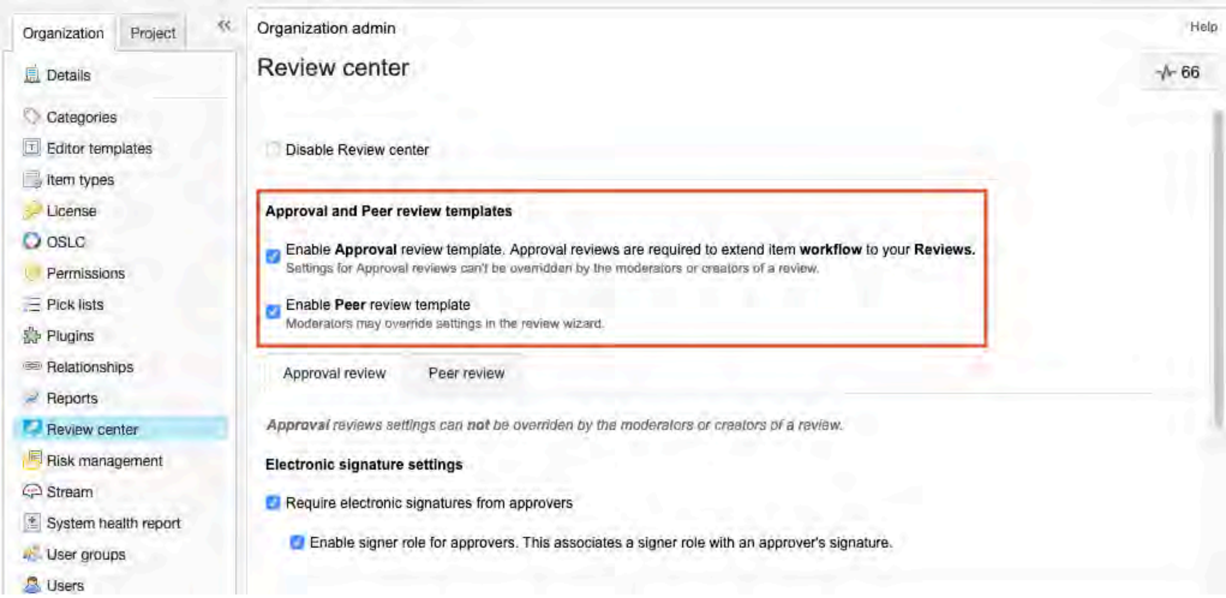
Note: You must be an organization administrator to configure the item workflow for Approval Reviews.

1. From **Admin > Organization > Review center**:
   a. Select **Enable Approval review template**. Approval reviews are required to integrate the workflow for your review process
   b. (Optional) Select **Enable Peer review template**. Peer reviews can be transition to Approval reviews.
   c. Click **Save settings**.
2. From **Admin > Organization > Workflow**:
   a. Select **Enable a workflow transition to be enabled by a finalized Approval review**.
   b. Configure the workflow transition status, notifications, lock state, and permissions that apply to the new approval review transition.
3. Moderator creates a review, then selects the Peer review template in the review wizard.
4. Moderator views a Peer review and transitions it to an Approval review.
5. When the Approval review is done, the moderator selects **Finalize Approval review**.
6. After viewing the review overview and workflow transitions, the moderator selects **Finalize review** to confirm the transition.

Review template types

The review templates are optional. You can use none, one, or both types. You don't need a Peer review template to finalize an Approval review.

> **NOTE**
>
> By default, the review templates are disabled. You must enable the Approval and Peer review templates to use them.



- **Approval review template** — Use when you want to collect signatures and need a review signed off. If workflow is enabled, you can batch update items [72] to an approved state.
- **Peer review template** — Use when you have a review with ongoing iterations and when changes to items are always in the “ready for approval” state.

Organize projects

A project is a way of organizing your data in Jama Connect and is made up of items, filters, baselines, releases, reports and tests.

As an organization administrator you can grant project administrator permissions to someone [633] who will manage a particular project and its users. Alternatively, an organization administrator can also complete the project-level tasks of a project administrator.

However, there are some tasks related to projects, that must be done by an organization administrator, such as:

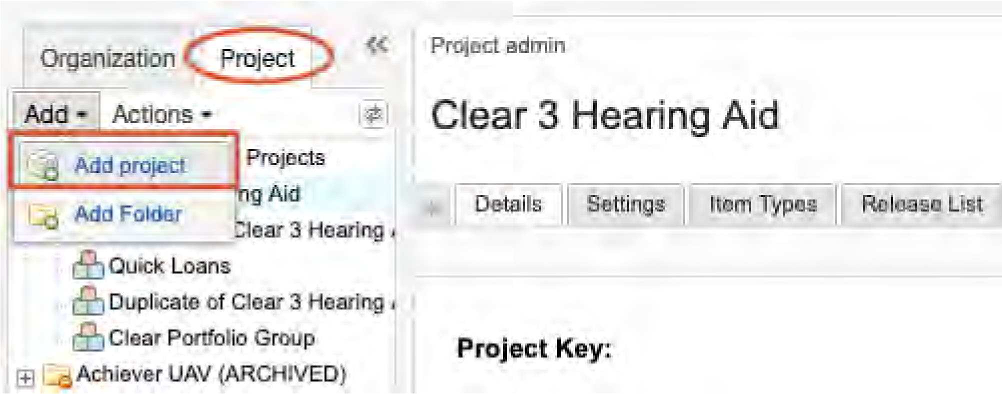
- Add a project [625] (available for project admins with Add Project role)
- Duplicate a project [627] (available for project admins with Add Project role)
- Archive a project [629]
- Grant project permissions [653] (if disabled for project administrators)
- Add or delete groups [569] (if disabled for project administrators)
- Set up projects workflow [643]
- Set up relationship rules [614]

Add a project

If your organization has a lot of projects or products, create a folder called "Product Line" with projects for major releases. You can also create a project to hold a library of common requirements or documents that you can reuse [278].

> **NOTE**
> You must be an organization admin or project admin with the Add Project role to complete this task.

1. Select **Admin > Project**, then select **Add project**.

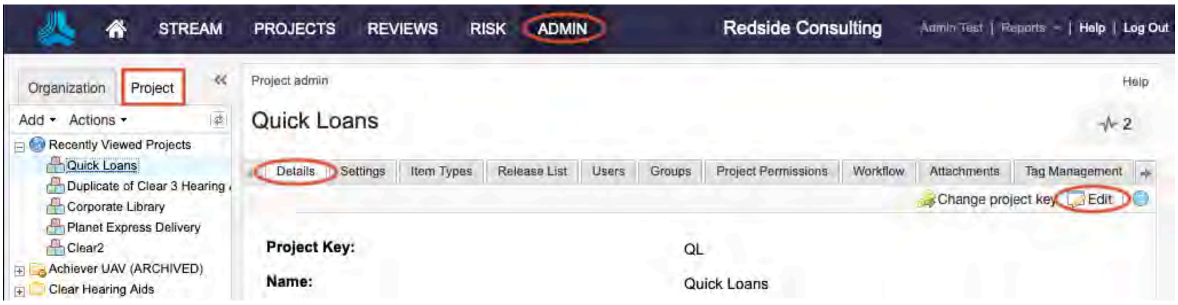


2. (Optional) Add a folder to organize your projects.
3. Set up relationship rules for the project. [614] Only one rule set can be applied to each project.
4. Set up project's workflow [643] as needed.

Edit project details

> **NOTE**
> You must have project or organization administrator permissions to edit project details.

1. Select **Admin > Project**, then select **Details > Edit**.



2. Make your changes, then click **Save**.

> **NOTE**
> The Project Summary widget on the project dashboard uses the **End date** in the **Project Details** window to calculate the number of days until the project is complete.

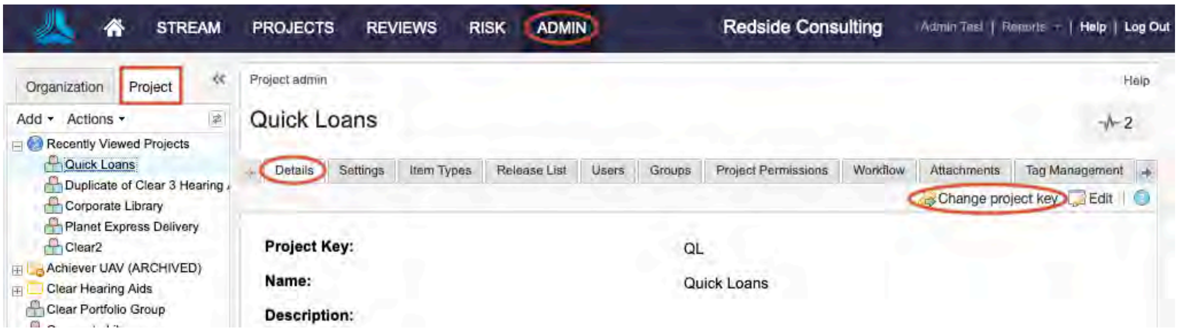
Change a project key

Updating a project key regenerates the ID for all items in the project.

NOTE

You must have project or organization administrator permissions to change a project key.

1. Select **Admin > Project**, navigate to the project with key you want to change, then select **Details > Change project key**.



2. Enter the new project key. Keys must be 1–16 characters long, consisting of letters, numbers, and underscores.
3. Select **Submit**. Unique ID [637] of all items within that project are updated to contain the new key.

Once the project key is updated, the Unique ID [637] of all items within that project are updated to contain the new key.

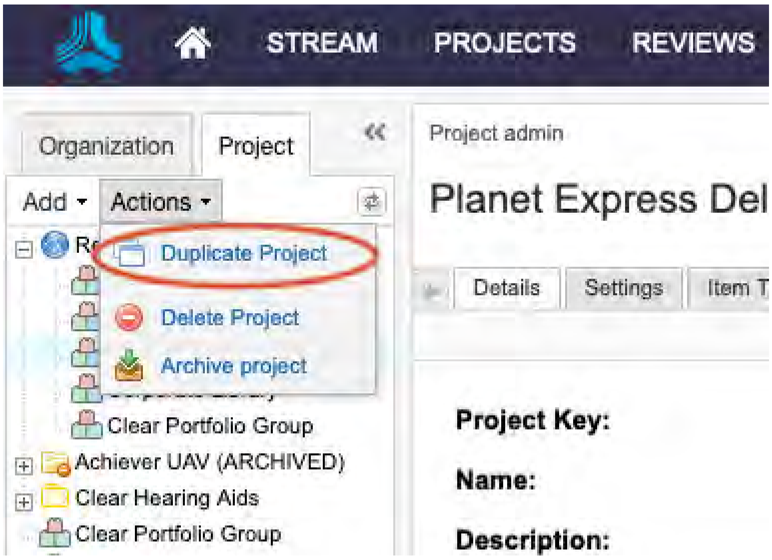
Duplicate a project

You can duplicate a project to reuse requirements, permission settings, tags and attachments, or start a new project from a template.

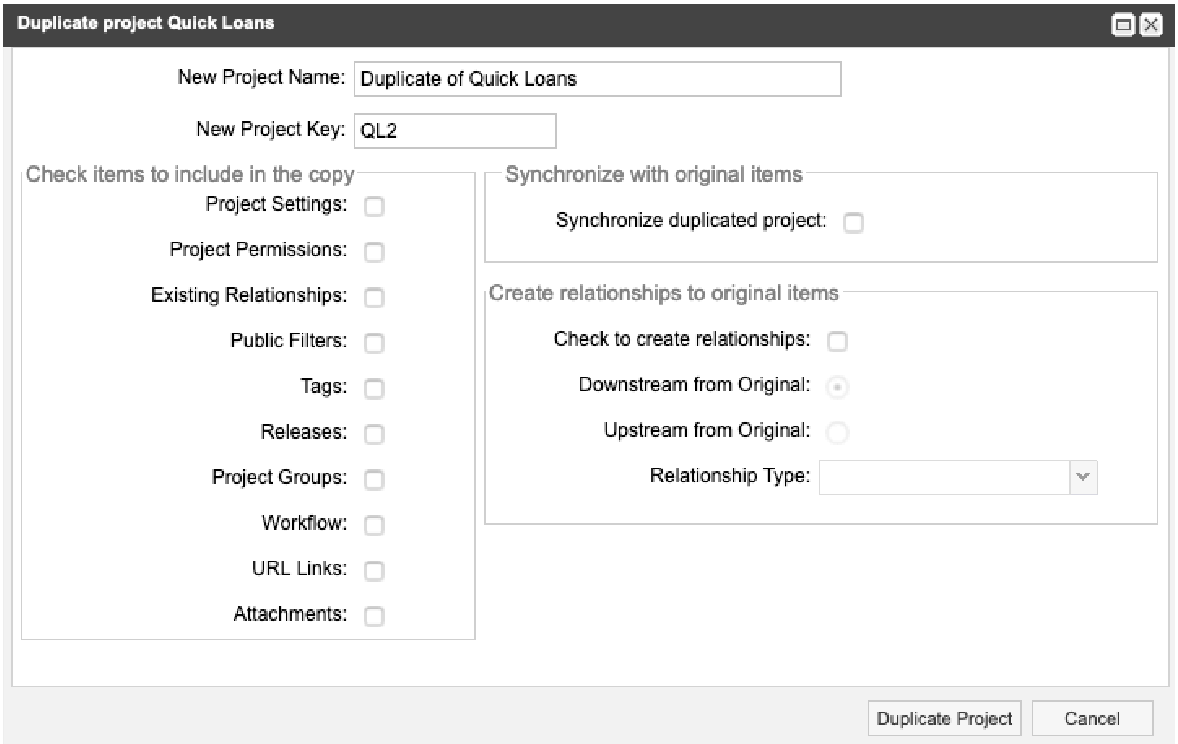
NOTE

You must be an organization admin or a project admin with the Add Project role to duplicate projects.

1. Select **Admin > Project**, then select the project you want to duplicate.
2. Select **Actions > Duplicate Project**.



3. Select the items you want to copy and choose to synchronize these items.



- **Project Settings** — Settings in the **Admin > Project** area. For example, visible item types, relationship rule, and Explorer Tree maximum count.
- **Project Permissions** — Project-level permissions that were applied are carried over to the copied project.
- **Existing Relationships** — Relationships between items in the project are copied to the new project.
- **Public Filters** — Public filters created by users or project admins are copied to the new project.
- **Tags** — Tags created by users are copied to the new project.
- **Releases** — Release values in the Releases tab are copied to the new project, which also maintains the release values in the standard “Release” field on items.
- **Project Groups** — Project-level groups are copied to the new project.
- **Workflow** — Workflow customizations (notifications, lock settings, transition permissions) are copied to the new project.

- **URL Links and Attachments** — Hyperlinks and attachments to items, using the links/attachments widget, are copied to the new project.
- **Synchronize Duplicated Project** — All copied items receive a new project ID but maintain the same Global ID as the original project. This allows teams to compare differences between the source project and copied project. Common use cases are for parallel development of variant products or branches of a products release.
- **Create Relationships** — All copied items include a trace relationship to the original item. You can set the direction and relationship type.

4. Click **Duplicate Project**.

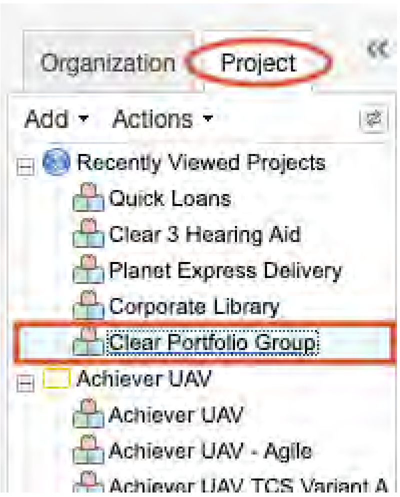
A message appears confirming the project was successfully duplicated.

Archive a project

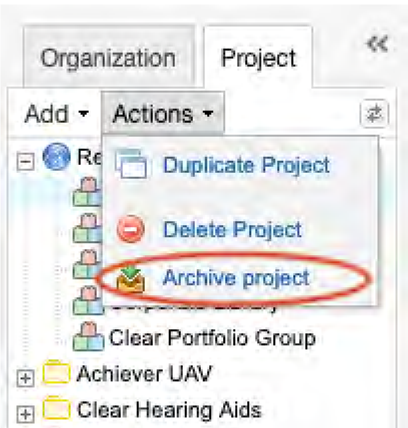
Archiving a project hides it from immediate view from most users, but organization administrators still see the archived project in the project tree with "(ARCHIVED)" in the title. Archiving a project doesn't remove it from the database.

NOTE
You must have organization administrator permissions to complete this task.

1. Select **Admin > Project**, then select the project you want to archive.



2. Select **Actions > Archive project**.



3. Select **Yes**.

Tips and more

- Archived projects and their content don't appear in filters or search results. When a project is archived, all releases associated with the project are archived.
- Project groups aren't deleted when a project is archived. If no longer needed, delete project before a project is archived.
- Select **Actions > Unarchive** to unarchive a project.

Delete a project

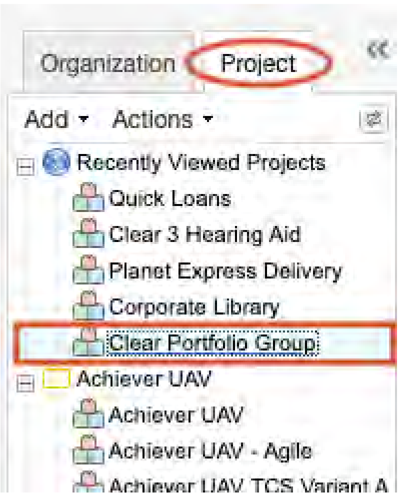
Once a project is deleted, there's no way to restore the project. When a project is deleted, all the data in that project is deleted. However, this doesn't automatically free up space in the database. A database administrator must manually compact the database.

> **NOTE**
> You must have organization administrator permissions to delete a project.

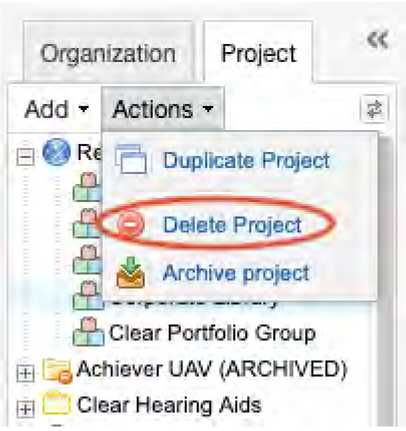
Quick tips

- Archive a project to clean up your workspace or remove a project from view.
- Delete a project to completely remove the project and all its data.
- Projects can be stored in empty folders.
- Project folders must be empty before they can be deleted.

1. Select **Admin > Project**, then select the project you want to delete.



2. Select **Actions > Delete Project**.



3. Review the list of items, confirm the deletion, then select **Delete Project**.

The project slowly deletes in the background, so you can continue working. You receive an email when the deletion is finished.

> **NOTE**
> The project isn't removed immediately. A daily task runs at midnight UTC to permanently remove data from the database. Once the project is permanently removed from the database, you can remove item types associated with that project.

Integrations

In an effort to best support product development teams, we offer a number of integration platforms for customers to connect to other application lifecycle management (ALM) software. Jama Software currently offers OpsHub Integration Manager (OIM) and Tasktop Integration Hub (TIH) which are able to provide the necessary platform to create configuration that will manage the integration. These integrations hubs will manage information between Jama Connect and the third-party applications of your choice in a bi-directional manner.

For more information on integrations visit the Community.

These solutions can be managed on-premises or, in the case of the OIM, hosted by OpsHub in their cloud. If you have questions or are interested in purchasing either of these solutions please contact `<sales@jamasoftware.com>`

Integrate OSLC Model Connector with Jama Connect

Open Services for Lifecycle Collaboration (OSLC) is an open-source set of specifications that enables and simplifies tool integration in software development.

The integration of OSLC provides traceability between Jama Connect and OSLC domains, applications, and organizations. The partnership between the Smartfacts Model-Based Systems Engineering (MBSE) platform and Jama Connect helps product development teams increase their level of collaboration and communication.

The result of this collaboration is the OSLC Model Connector, which provides:

- Complete traceability for requirements throughout the product development lifecycle
- Clear visibility into MBSE design artifacts in real-time
- Ability to link requirements to various modeling tools

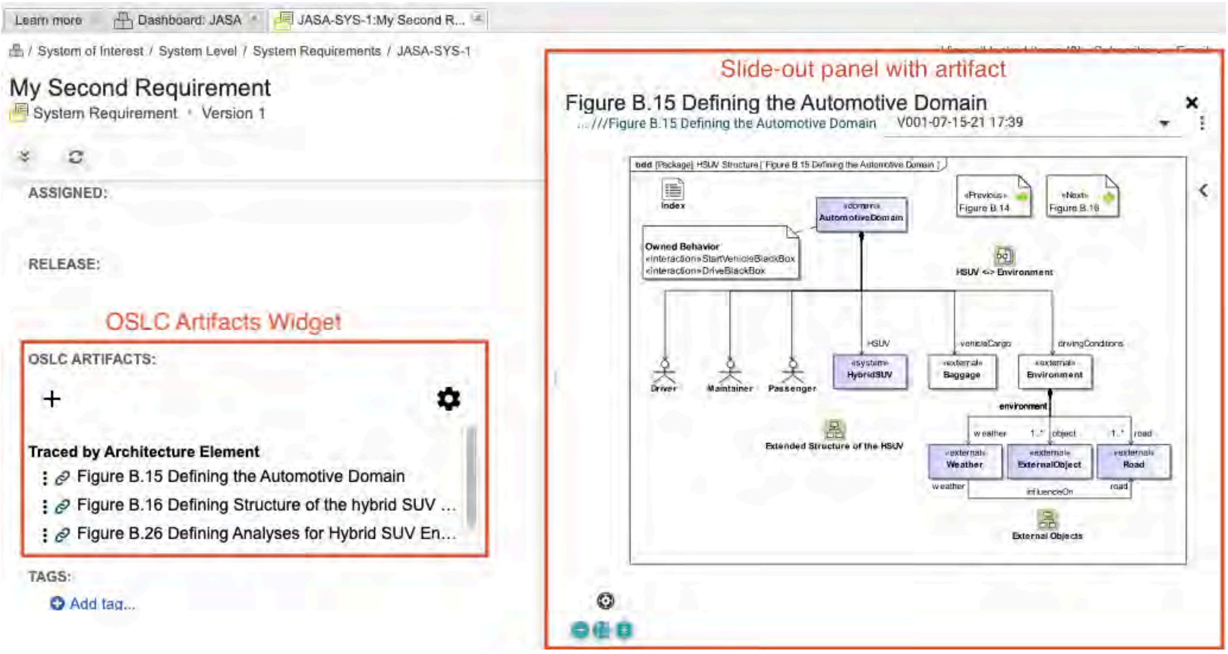
For more information, see Jama Connect OSLC Model Connector Datasheet.

> **IMPORTANT**
>
> You must contact your Jama Software account manager to set up access to the OSLC Model Connector and to MID Smartfacts.
>
> You must have organization admin permissions to enable the OSLC Model Connector and give access to users in your organization.

To set up and use the OSLC Model Connector:

To...	Do this...
Enable OSLC Model Connector	1. Log in to Jama Connect, then select **Admin > Organization > OSLC**. 2. Select **Enable OSLC > Save settings**. A pop-up message confirms that OSLC was successfully enabled.
Grant OSLC Model Connector permissions	1. Select **Admin > Organization > Permissions**. 2. In the row for the user or group you want to provide access, select **Modify**. 3. In the Edit permissions window, select **OSLC**, then click **Save**. A checkmark is displayed in the OSLC column for that user or group. The OSLC permission automatically inherits the permissions that are set for those users or groups.
Configure specific item types for OSLC Model Connector	1. Select **Admin > Organization > Item types**. 2. In the row for the item type you want to configure, select **Edit**. 3. In the Inactive widgets column of Widgets table, select **OSLC Artifacts**. OSLC Artifacts move to the Active widgets column. 4. Click **Save**. That item type now includes the OSLC Artifacts widget.
Use OSLC Model Connector with Jama Connect	1. After the organization admin configures your OSLC permissions, open your project and right-click on the item where you want to add a new item. 2. Click **Add > New item > <item type>**. 3. In the Add item window, enter a name for the item, then click **Save and Close**. The OSLC Artifacts widget appears in Single Item View. 4. In the OSLC Artifacts widget, select **+** to add links to OSLC Artifacts that you configured in Smartfacts. You now see links in the OSLC Artifacts widget. 5. Select a link. A panel slides out to display the artifact.

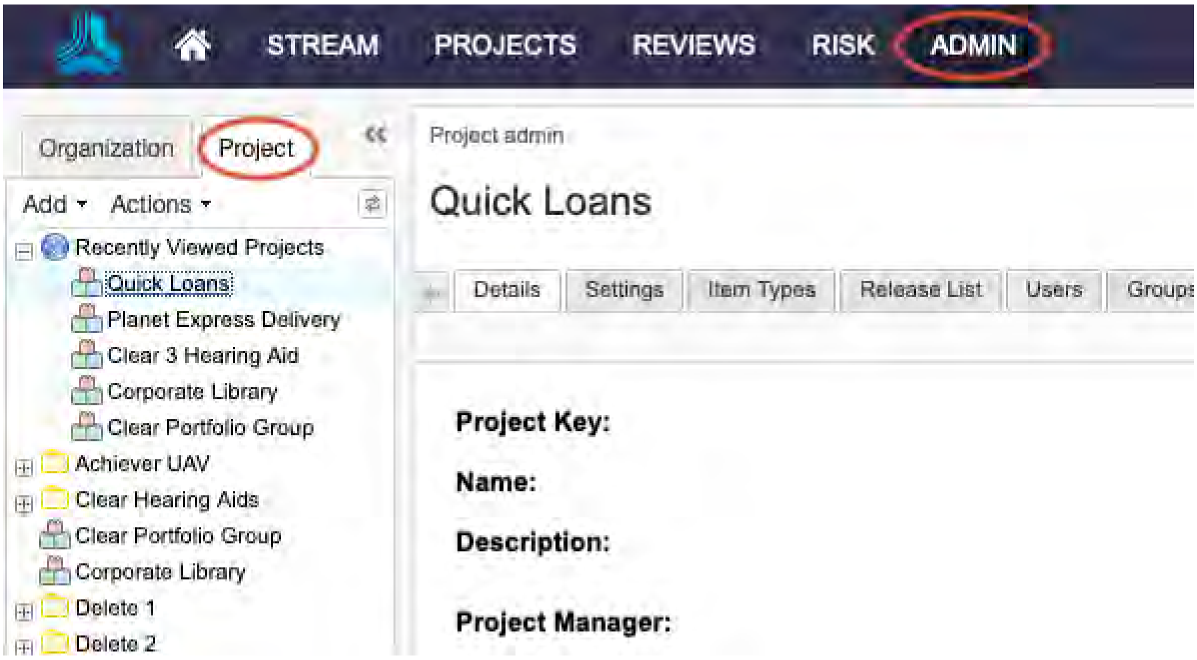
Example of the OSLC Artifacts Widget in Jama Connect



Project administrator

A project administrator is a role that can be provided for all projects or on a specific project with a focus on permissions, project groups, and workflow customization.

Select **Admin > Project** to configure your projects.



As administrator, all your projects are available from the **Project** tab. The last project you viewed is selected by default.

As a project administrator you can:

- Manage project releases [639]
- Configure project item types [635]
- Manage project users [650]

- Manage project groups [651]
- Manage project permissions [653]
- Manage project attachments [641]
- Manage project tags [641]
- Perform a project cleanup [649]
- Index project data [649]

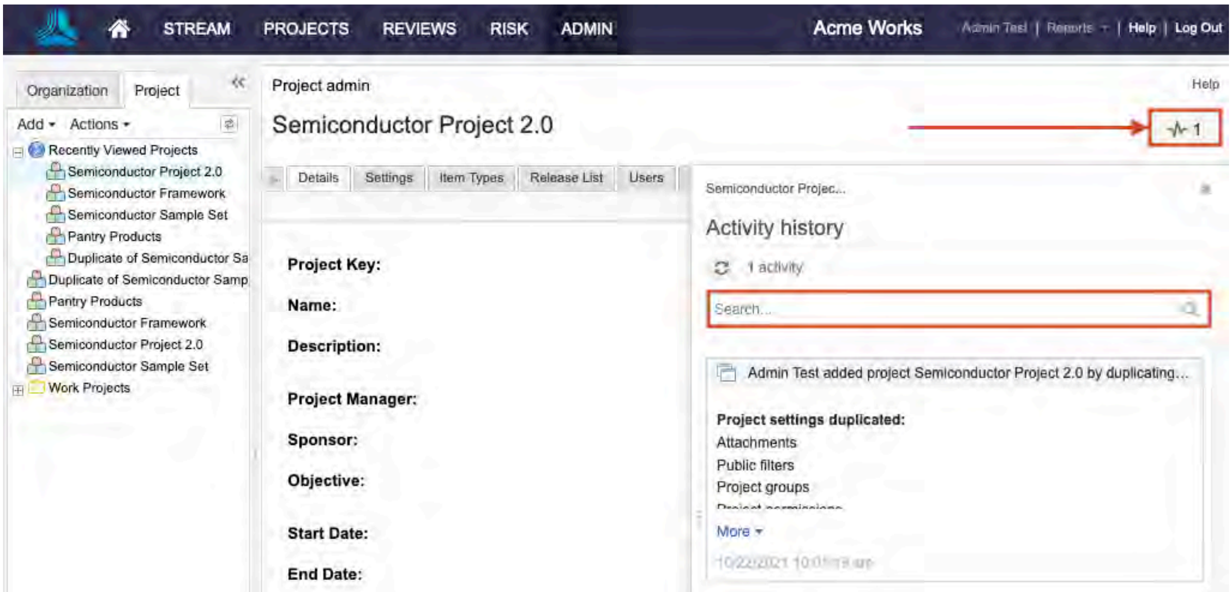
Monitoring changes with the Admin Activity stream (project admin)

The Admin Activity stream provides an audit trail of updates made by project administrators.

To open the Activity stream panel:

1. Select **Admin > Project**, then select the project you want to view.
2. Select the **Activity stream** button on the right side of the panel.

The Activity stream opens. You can search for activities by entering a search term.



The Project admin Activity stream includes the following actions:

Tab	Available information
Settings	Changes in version items; maximum number of items displayed in the Explorer Tree; where to save test run defects.
Item Types	Item types that transition from visible to hidden and from hidden to visible.
Release List	What was added, edited, deleted, archived, and unarchived in a project release.
Project Permissions	Modifications to inherited permissions; added and removed permissions at the project level.
Workflow	Overriden items and who overrode them; removed and configured workflows per item type in a project.
Attachments	Attachments added from the Attachments tab of the Project admin panel.
Tag Management	What was added, deleted, and edited to a tag in a project.
Index	When a project level index was initiated.
Clean up	When project cleanup and project baselines cleanup are initiated.

Manage projects

As project administrator you have permissions to modify, set up, and organize various aspects of the project and content. You can also manage users [650] that participate in the project.

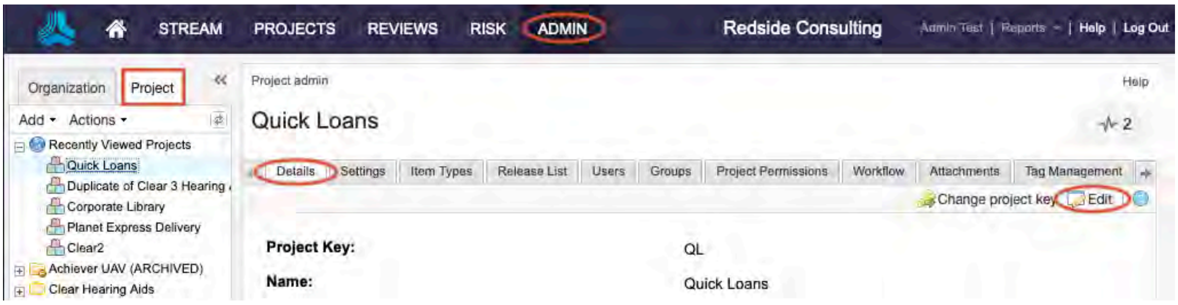
You can also choose to manage the project dashboard [355], although that doesn't require project administrator permissions.

Edit project details

NOTE

You must have project or organization administrator permissions to edit project details.

1. Select **Admin > Project**, then select **Details > Edit**.



2. Make your changes, then click **Save**.

NOTE

The Project Summary widget on the project dashboard uses the **End date** in the **Project Details** window to calculate the number of days until the project is complete.

Configure project item types

A hidden item type prevents users from creating new items or sets of that type. Sets or items that are created under a visible item type, and are then hidden, are still functional in Jama Connect.

Quick tips

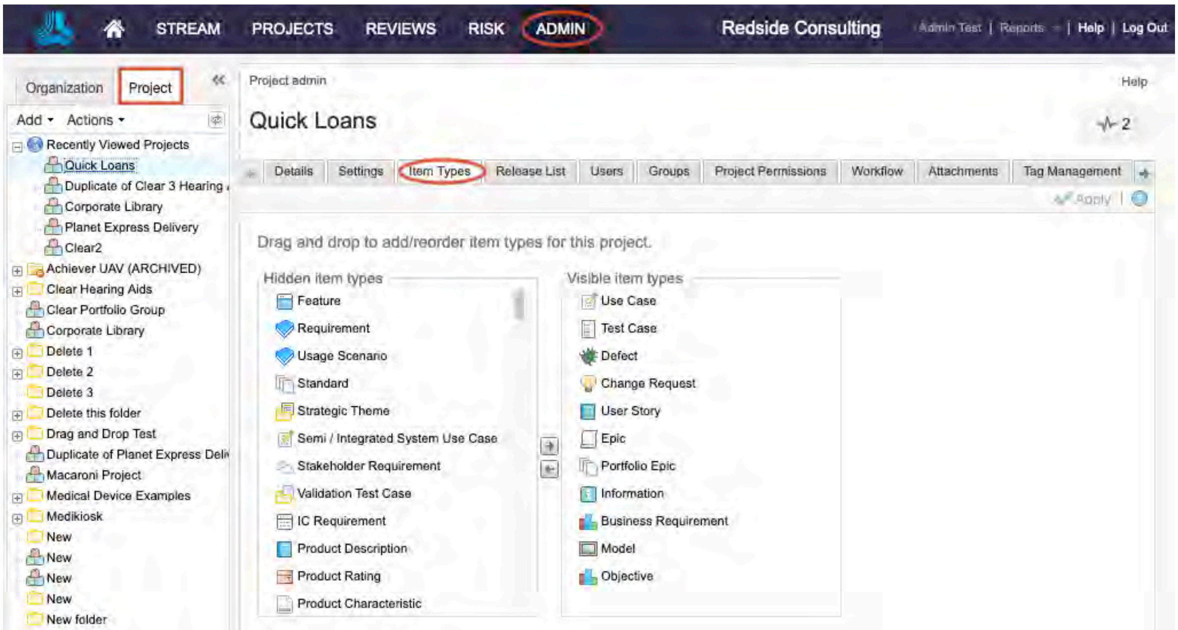
- By default, a moved item type places itself at the end of the list. Drag and drop item types to reorder them.
- An organization administrator can also configure views [609] for all projects, and an individual user can configure fields [54] for their personal settings.

IMPORTANT

You must have organization or project administrator permissions to configure project item types.

You can hide item types from a particular project with the following steps:

1. Select **Admin > Project**, then select **Item Types**.

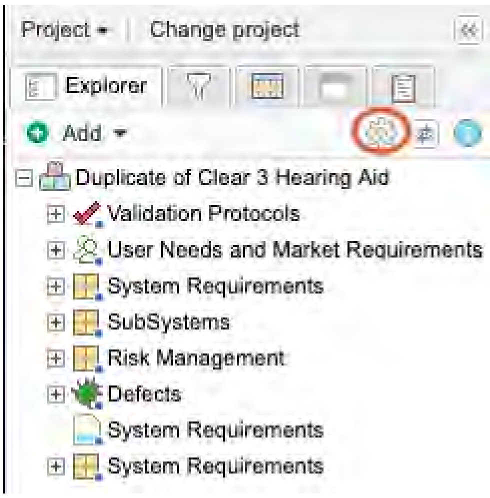


2. Double-click on any item type to move it between the **Hidden item types** and **Visible item types** columns.
3. Click **Apply** to save your changes.

Configure default Explorer Tree settings

> **IMPORTANT**
> You must have organization or project administrator permissions to configure default Explorer Tree settings.

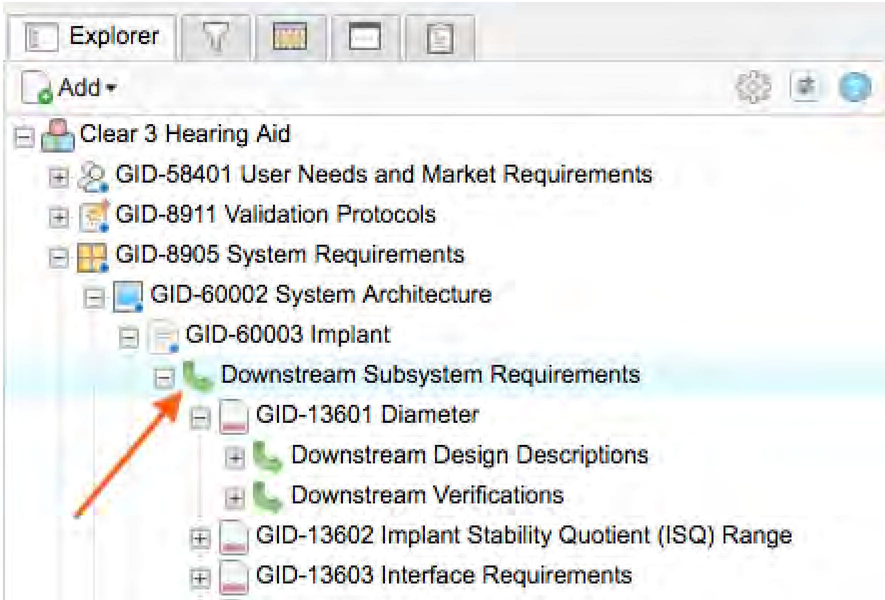
1. Select the **gear icon** at the top of the Explorer Tree.



2. Select the **Default settings** tab, then select the default settings.
   - **Show item IDs**
     This displays the unique ID [637] (as in PROJ-REQ-25) before each item.
   - **Display global ID**

This displays the global ID (as in GID-8845) before each item. This can be helpful if the item is copied and synchronized.

- **Show only folders / hide items**
  This hides items from view in the Explorer Tree. Components, sets, and folders are still displayed. This can improve performance when your project has a large number of items.
- **Show outline numbering**
  This displays a number scheme of order and depth in the Explorer Tree. Root level items have numbers like 1, 2, or 3. Child items contain the parent item number as well as its own number, like 1.1, 1.2, or 1.1.5.
- **Show relationships in Explorer Tree**
  This displays downstream relationships of items in the Explorer Tree. Select the green downstream arrow to open the related items in List View.



> **CAUTION**
> If you relate items back to themselves, you might create an infinite loop that causes the Explorer Tree to expand. To avoid this, don't relate items in a way that creates an infinite loop.

3. Select **Apply** and **Close** to give other users the option to select these default settings.

Project key

The project key is a unique identifier, automatically created with each project, that makes up the first part of each item's Unique ID.

Project or organization administrators can change a project key. [626]

Unique ID

Unique IDs, or item IDs, identify an item with a project key, set key and a set counter. Unique IDs remain the same even if item name or content is changed. They can't be edited or duplicated.

- **Project key**
  A project key identifies which project an item belongs to. Project keys must be unique to each project, and must be 1–16 characters long, consisting of letters, numbers, or underscores. A project or organization administrator can change the project key [626], but that doesn't reset the numbering of items.

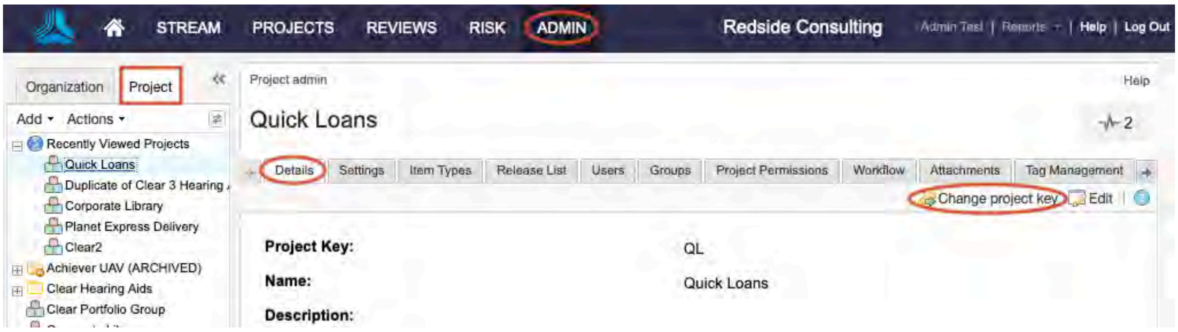
- **Set key**
  A set key identifies item sets for each project. You can use the same set key across sets or projects. Project or organization administrators can change a set key [596] to better meet your organization's needs.
- **Set counter**
  The set counter is a number automatically added to the item. Unlike the Global ID counter, you can reset the set counter when you change the set key.

NOTE
It's possible to use the set key across multiple sets of the same item type. However, keep in mind that the set counter is shared across all items using the same set key.

Change a project key

Updating a project key regenerates the ID for all items in the project.

NOTE
You must have project or organization administrator permissions to change a project key.

1. Select **Admin > Project**, navigate to the project with key you want to change, then select **Details > Change project key**.


2. Enter the new project key. Keys must be 1–16 characters long, consisting of letters, numbers, and underscores.
3. Select **Submit**. Unique ID [637] of all items within that project are updated to contain the new key.

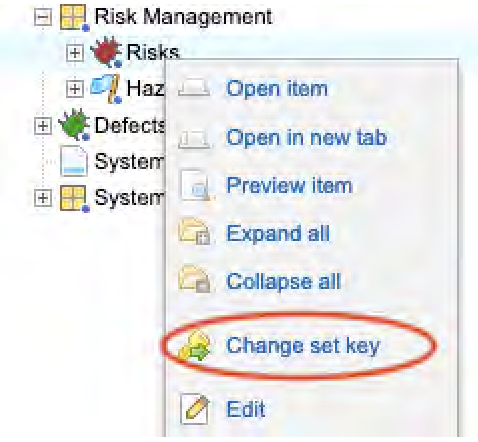
Once the project key is updated, the Unique ID [637] of all items within that project are updated to contain the new key.

Change a set key

You can edit a set ID or renumber items in a set at any time.

> **NOTE**
> You must have organization or project administrator permissions to complete this task.

1. Select **Projects**, right-click on the set you want to modify, then select **Change set key**.



2. In the **Confirm Set Key Change** window that opens, enter the new set key, which must be 1–16 characters long, consisting of only letters, numbers, or underscores.
3. Select **Regenerate Item IDs** to reset the counter and apply new numbering to all existing items. Item counters start over at 1.

> **CAUTION**
> Don't select **Regenerate Item IDs** if you want to restart numbering on newly created items. Leave existing items as they are.

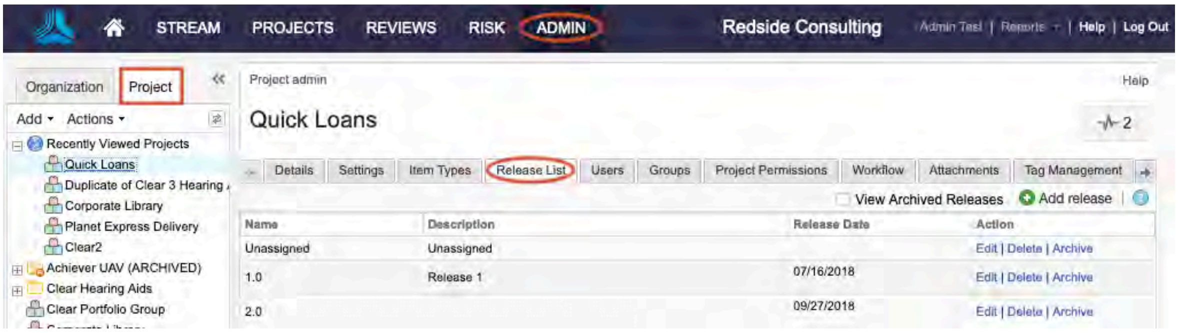
Manage releases

A release is a group of items that are developed together and mapped to a specific completion date. Users can view releases and use them to assign items to a release.

> **NOTE**
> You must have project or organization administrator permissions to manage releases.

Project and organization administrators can set up and manage releases that others use. The releases in the release list are used to populate the pick list for the **Release** field on an item. Releases are automatically sorted by release date in the release list and in pick lists.

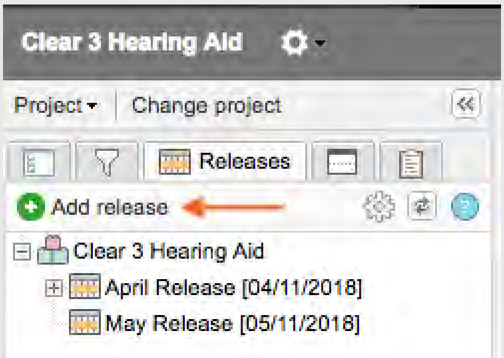
1. Select **Admin > Project**, then select **Release List**.



2. Select the option you need:
   - **Add a release**
     Select the green **Add release** button in the toolbar to open the **Add/edit release** window. Add the name, description, release date, then select **Save**.

TIP

You can also add a release from the **Releases** tab at the top of the left panel.



   - **Edit a release**
     Select **Edit** in the **Action** column for the release you want to edit. This opens the **Add/edit release** window where you can edit the name, description and release date and select **Save**.
   - **Delete a release**
     Select **Delete** in the **Action** column for the release you want to delete. Select **Yes** to confirm. Releases can't be deleted if any items are assigned to them. To remove all assigned items, select the **Releases** tab and move all assigned items from that release to another release.
   - **Archive a release**
     Select **Archive** in the **Action** column for the release you want to archive. Select **Yes** to confirm. You can view archived releases by selecting **View archived releases** in the toolbar where you can select **Unarchive**.
     Archived releases don't appear in filters or search results, but items assigned to any archived release do. The **Release** field for these items is populated and has "(Archived)" appended to the release's version field.

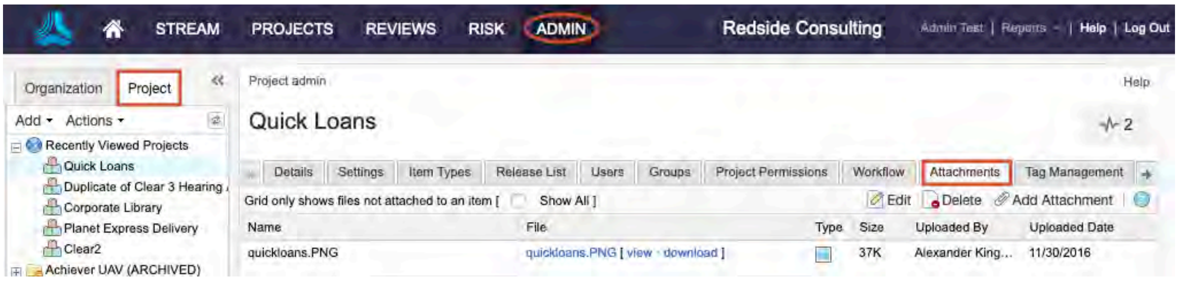
NOTE

Administrators can also configure default release settings [237] that show how releases are displayed.

Manage attachments

> **NOTE**
> You must have project or organization administrator permissions to manage attachments.

1. Select **Admin > Project**, then select **Attachments**.



2. From the toolbar, you can add, edit, or delete attachments.

3. In the **Add/Edit File Attachment** window, add or edit information about that attachment. Select the History bar at the bottom of the window to pull up a version history for that attachment to compare versions.
4. Select **Upload and Save**.

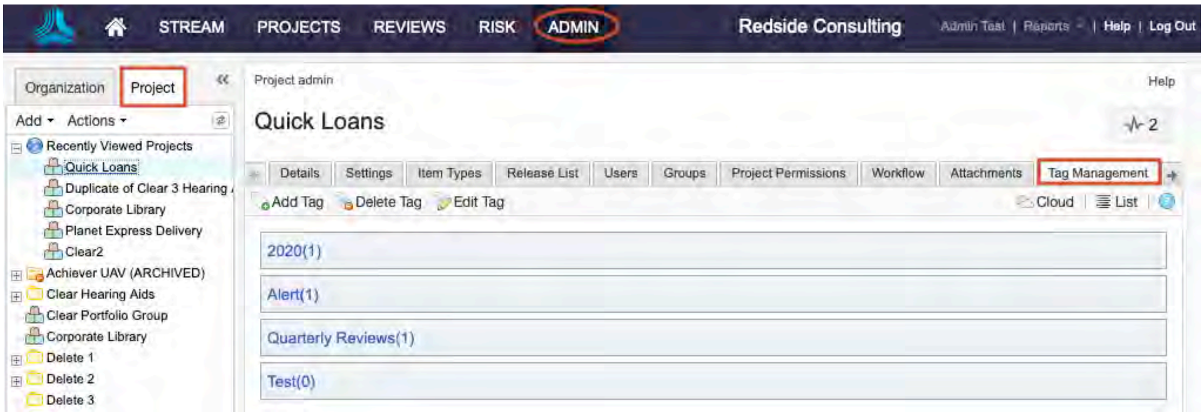
From Single Item View, any user can now add that attachment [85].

Manage tags

From the **Tag Management** tab, you can view, edit, and create tags.

> **NOTE**
> You must have project or organization administrator permissions to manage tags.

- Select **Admin > Project**, then select **Tag Management** to add, edit, or delete tags.



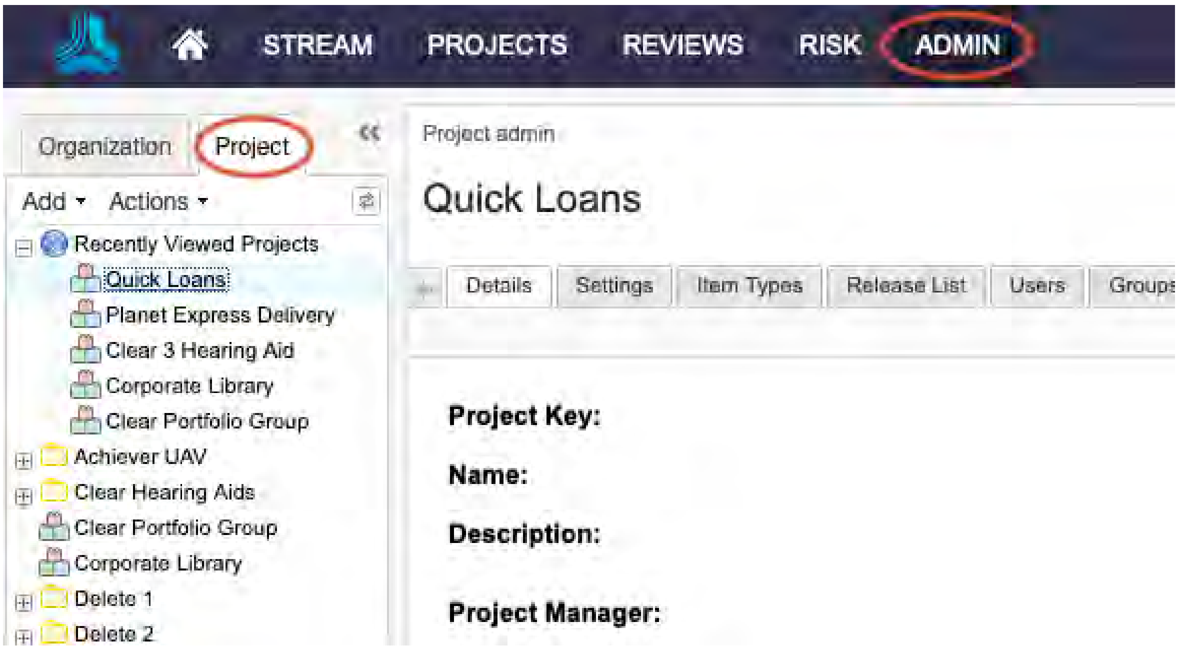
From Single Item View, any user can add that tag [84].

Manage workflows

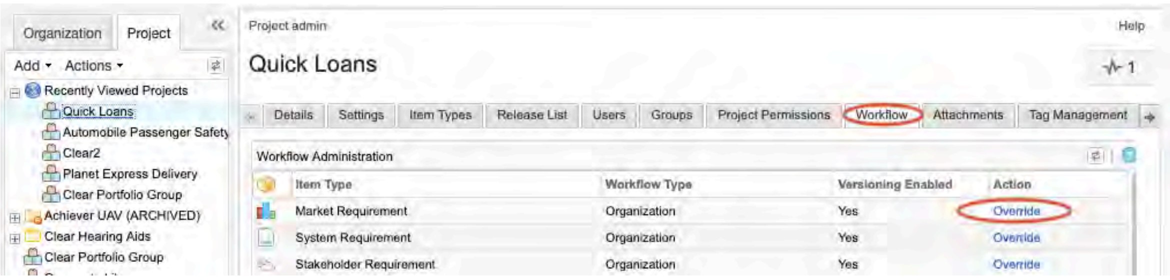
NOTE

You must have project or organization administrator permissions to manage workflows.

1. To manage workflows as a project administrator, select **Admin > Project**.



2. Select the **Workflow** tab, then select **Override** for the workflow you want to edit.

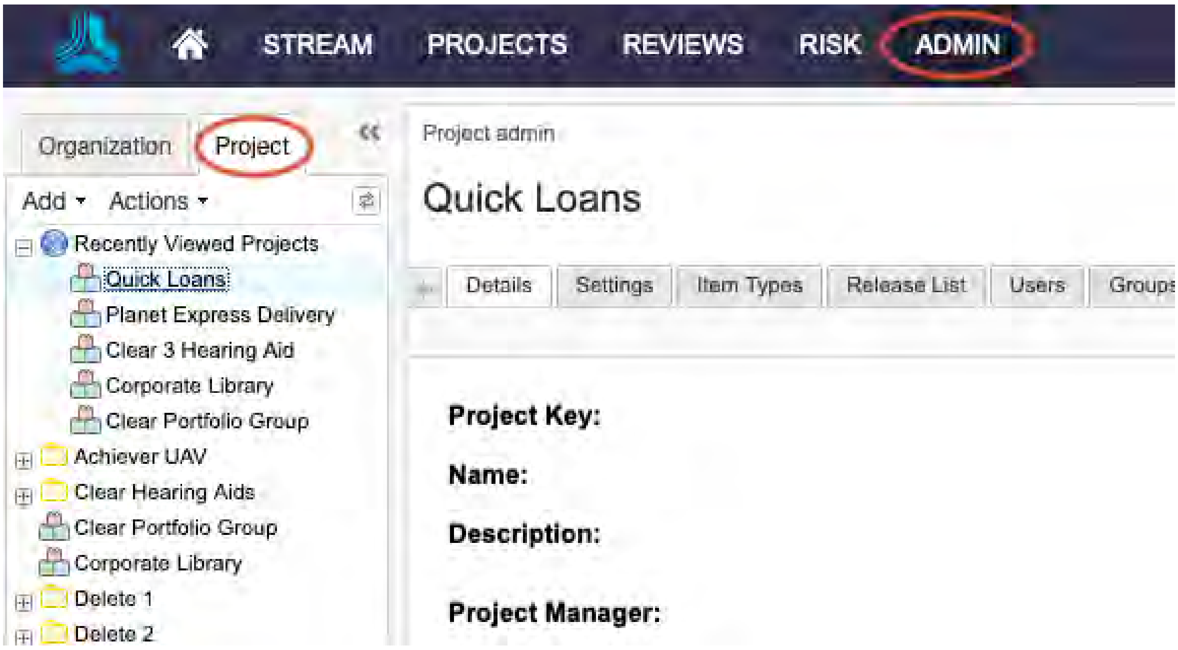


3. In the Workflow Configuration section, set up a project workflow [643], then click **Save**.

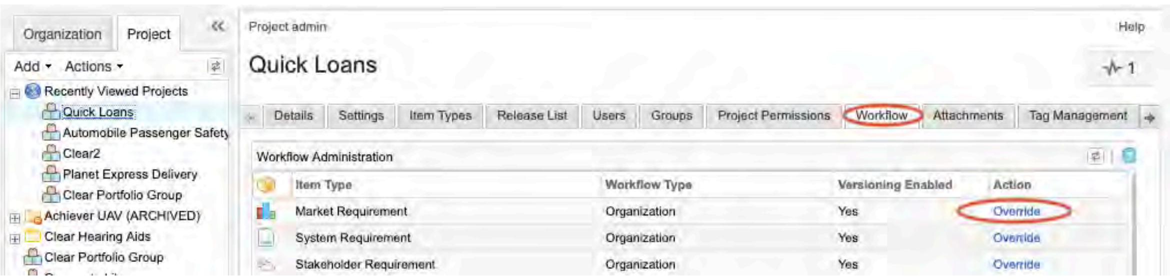
Set up projects workflow

> **NOTE**
> You must have project or organization administrator permissions to set up projects workflow.

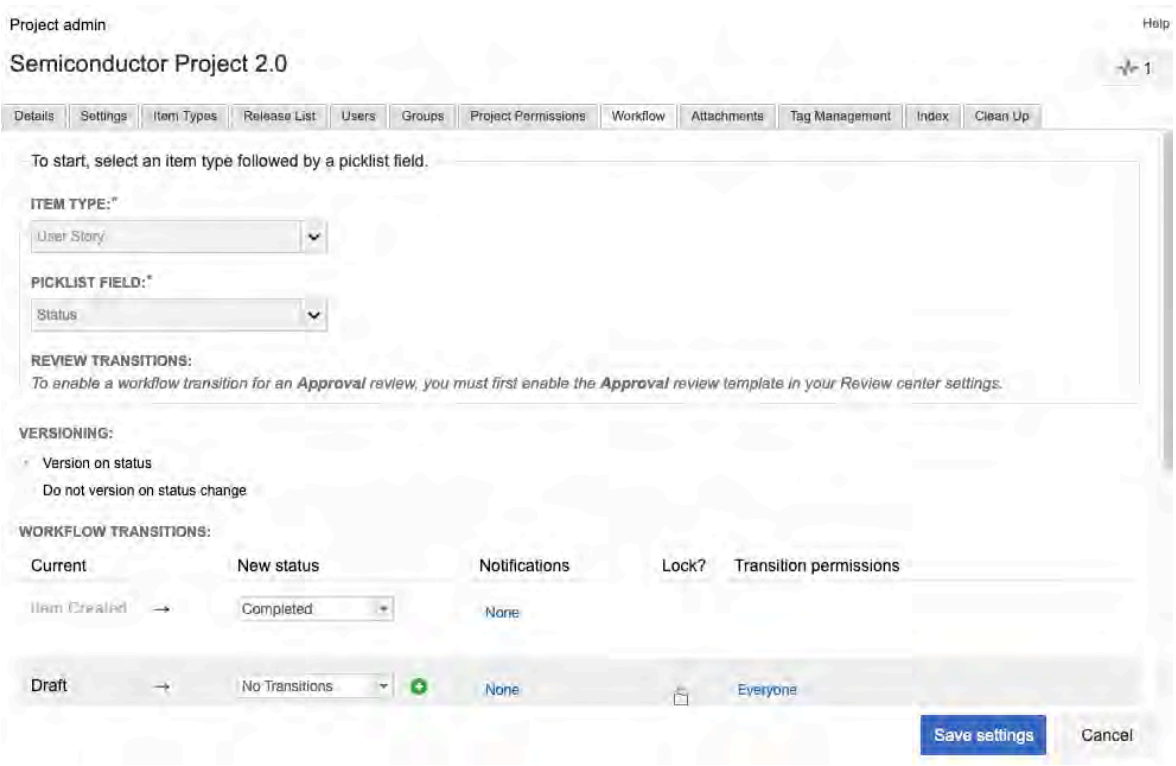
1. To manage workflows as a project administrator, select **Admin > Project**.



2. Select the **Workflow** tab, then select **Override** for the workflow you want to edit.
   If the organization administrator has configured it [607], select **Override** to make changes to any workflow.



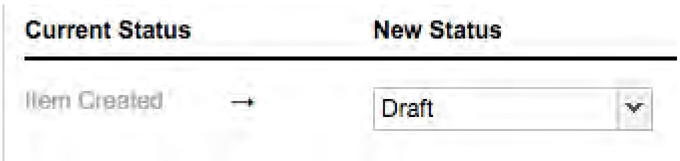
   You are prompted to confirm the changes.
3. In the Workflow Configuration section, select the following options for the workflow you're creating.
   - **Enable workflow for this organization**
   - **Allow project managers to override workflows on a project**
     Important: If you don't enable this option, performance might be impacted and it could trigger a long transaction if the organization has over 10 workflows.
   - **Workflow for Item Type**
   - **What picklist field should workflow apply to**
   - **Version items on workflow status change**



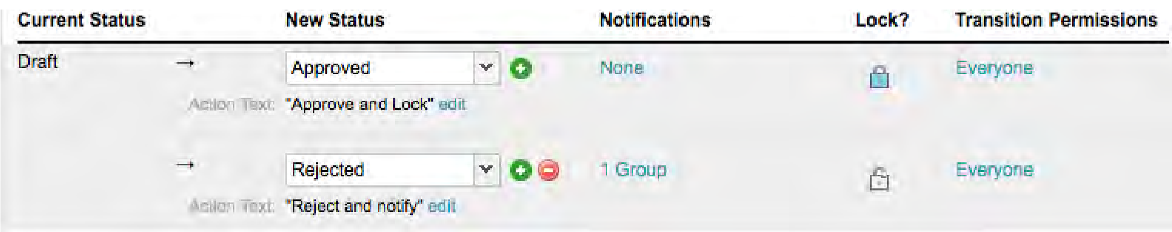
NOTE

You can only associate one pick list field per item type. The field you associate must be a pick list field; multi-select lists don't work.

4. In the first row of the Current Status table, specify an initial state for the item when it's created. This is the default status of the item, and it overwrites the default field status if one is set.



5. In the following rows, specify the workflow, who is allowed to make those transitions, and the actions that occur when an item changes status. For example, like locking the item or sending an email.



TIP

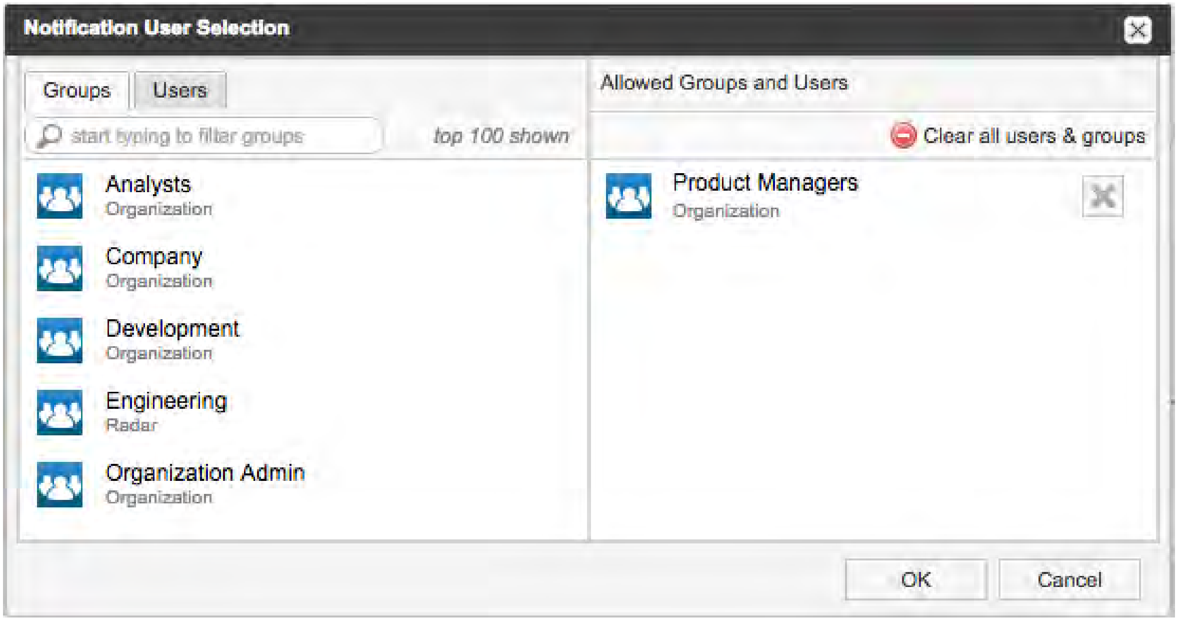
Use the pull-down to move the current status to a new status and trigger related actions or notifications.

6. Edit the **Action text** to make messaging more useful or clear.
7. Use the **green plus button** or the **red minus button** to add or remove transitions in your workflow.

8. Select the **lock icon** to lock or unlock the item when it reaches a certain status (like "draft," "approved" or "complete").

> **NOTE**
> This lock is a "system lock" that's slightly different from a user lock. A user lock can still be edited by the user who locked it and easily unlocked by the same user or an admin. If an item is in a system lock, no one can edit the item. Admins can still unlock the item, but we recommend using transitions to move an item to a state where it can edited again.

9. Select the **link in the Transition permissions column** to choose who can make these transitions.
10. Select the **link in the notifications column** to send an email notification when a user transitions the status of an item.



If you send a notification, a message appears where you can document the transition and reason for changing the status.
11. Click **Save**.

Configure workflow

Workflows are not project-specific. When the organization administrator configures a workflow it applies to the item type across projects.

> **NOTE**
> You must have organization or process administrator permissions to complete this task.

Important considerations

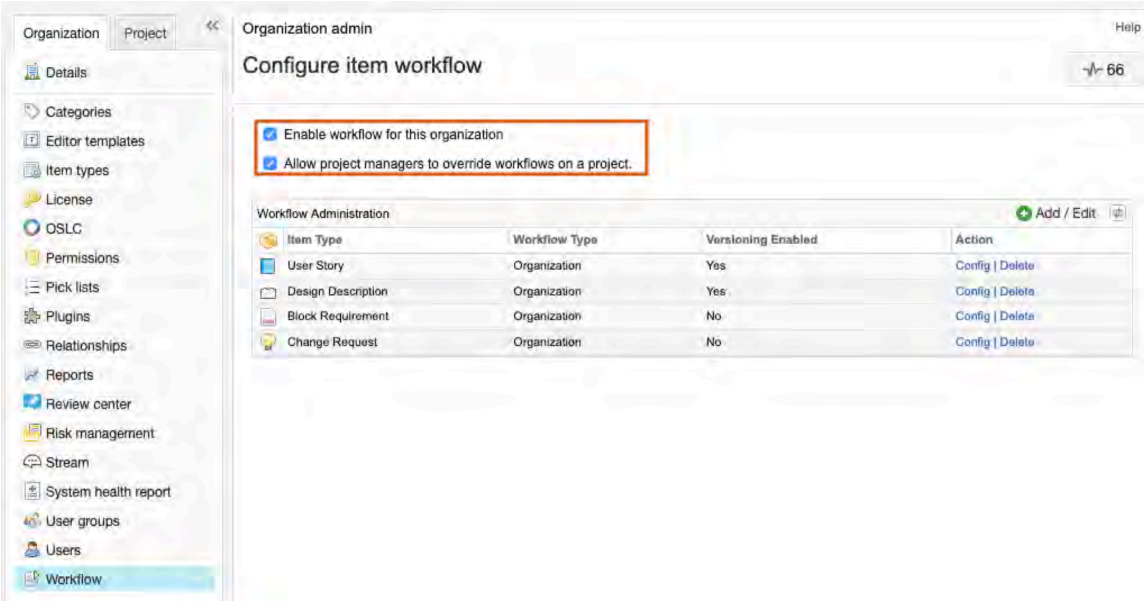
- If the organization administrator selects **Allow project managers to override workflows on a project**, the project administrator for each project can set up the workflows.
- If you disable a workflow, Jama Connect stores your settings for later use.

- An organization administrator can disable a workflow from the Workflow Administration section.

1. Select **Admin > Organization**, then select **Workflow**. If you disable a workflow, Jama Connect stores your settings for later use.
   - Select **Enable workflow for this organization**.
   - (Optional) Select **Allow project managers to override workflows on a project**.

   IMPORTANT

   If you select or deselect either option, it could trigger a long transaction that might impact system performance.

   This enables workflow for all projects using this item type. It can't be disabled at a project level.
2. In the Workflow Administration section, select **Add/Edit** to start a new workflow, or select an existing workflow and then **Config** in the **Action** column to edit it.

3. A project or organization administrator can continue setting up the workflow [643] from here.

Lock items in a workflow

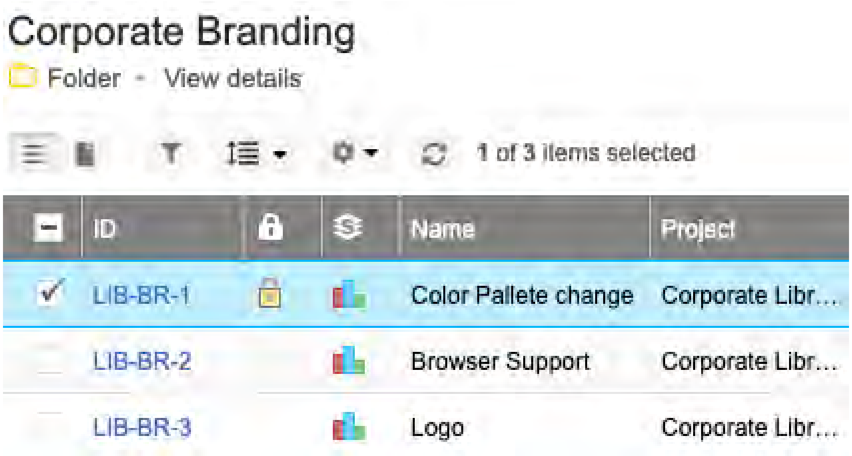
Locking items in a workflow can help avoid unwanted changes. For example, a project administrator might want to leave items unlocked while in "draft" status, but lock them when they reach "approved" status.

NOTE

You must have organization or project administrator permissions to configure workflow.

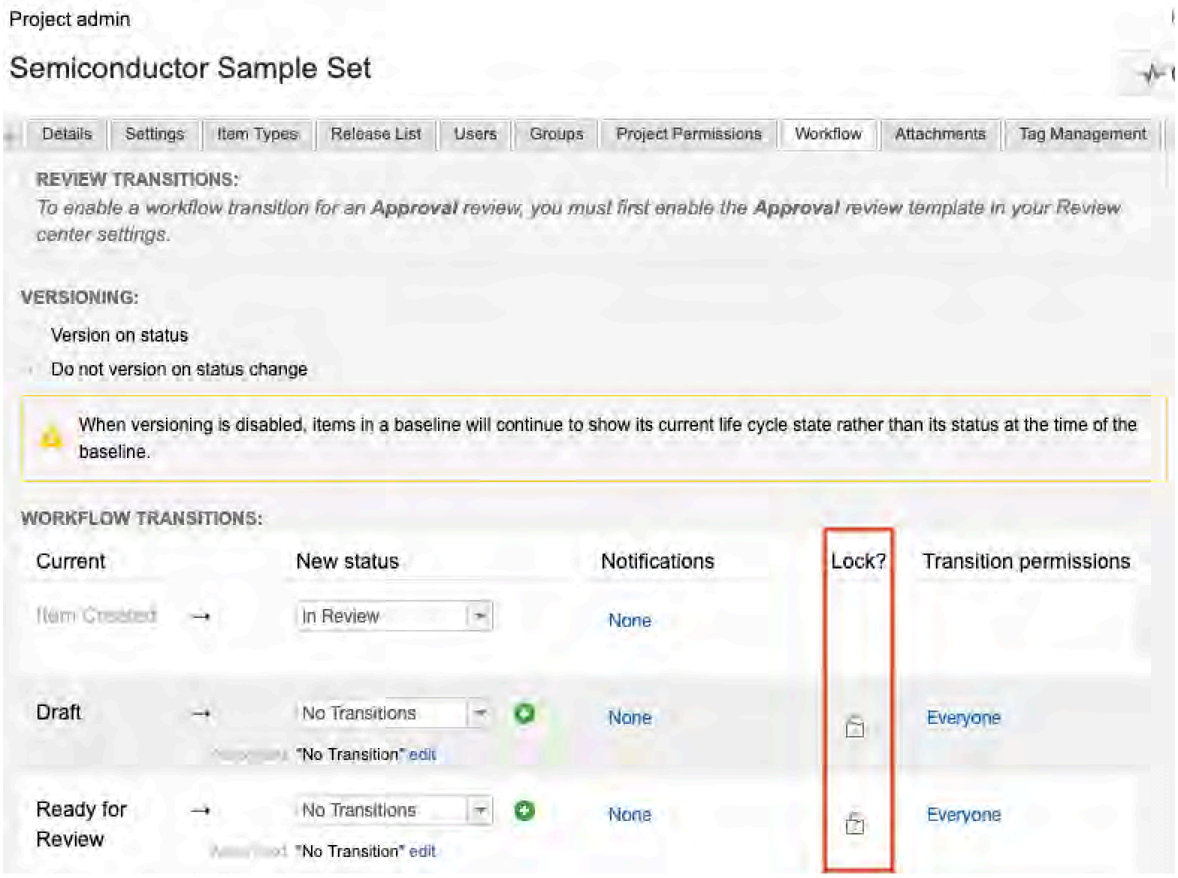
Items can also be automatically locked by the workflow [198]. These items show a gray lock after their name and a blue lock in List View.

System-locked items unlock when transitioned through the workflow or by an organization or project administrator.



To add an automatic lock to the workflow:

1. Select **Admin > Project > Workflow**.
2. For the item you want to lock, select **Override**.
3. In the **Lock?** column, select the lock icon to include (or remove) an automatic lock in the workflow.



4. Click **Save settings**.

Unlock system-locked items

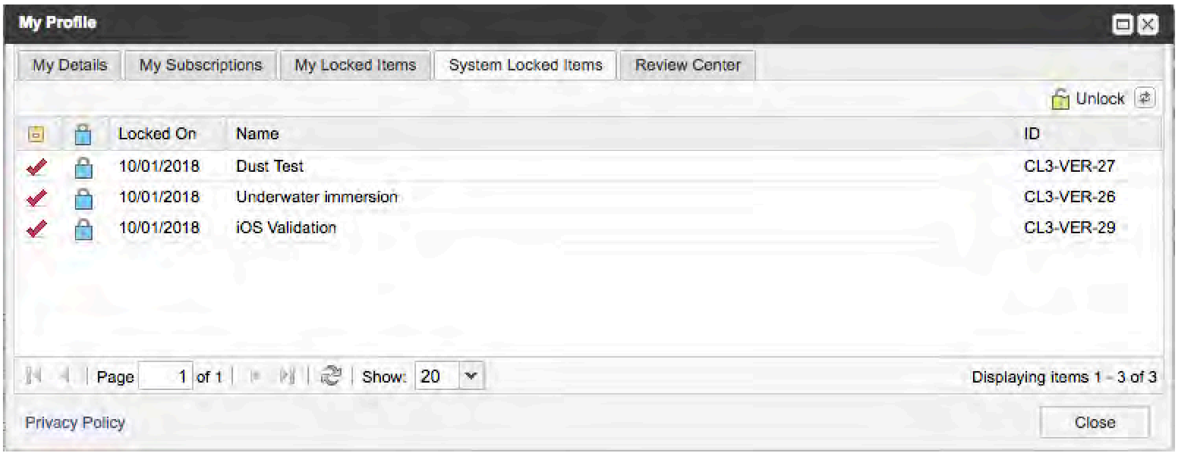
Anyone can view the list of system-locked items regardless of permissions.

IMPORTANT

Organization admins can unlock system-locked items.

System-locked items can be unlocked by a project admin with admin permissions for those items.

1. Select your name in the header to open the **My Profile** window.
2. Select **System Locked Items** to see all items that were automatically locked [202] (blue lock).



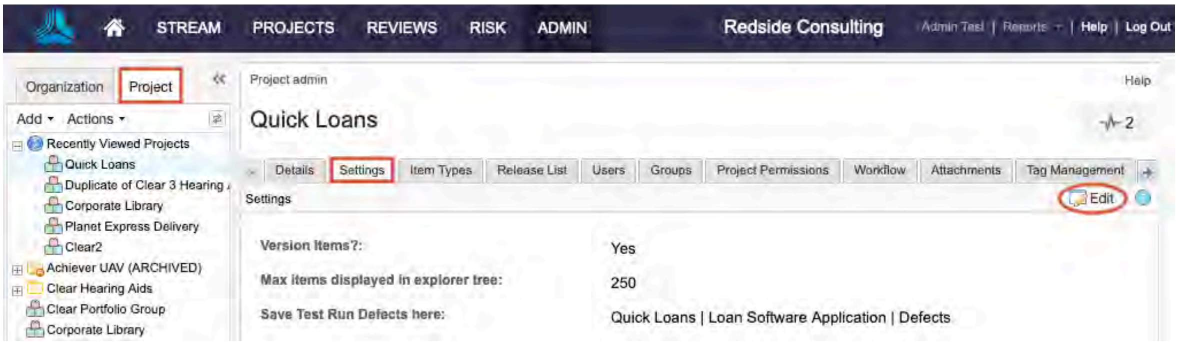
3. Select the items you want to unlock, then select the **Unlock** button in the top right corner of the window.

Configure project settings

IMPORTANT

You must be a project or organization administrator to complete this task.

1. Select **Admin > Project > Settings**, then select **Edit**.



2. On the Settings page, you can make the following changes:
   - **Version items**
     Turns automatic versioning on and off when using the **Save and close** option. You might want to turn versioning off while initially creating and organizing the project.
   - **Max items displayed in Explorer Tree**

Sets the maximum number of items that are displayed per container (project, component, set, or folders) when using the Explorer Tree. After an import there might be thousands of items so this can be configured to improve performance when working with large data sets.

- **Save test run defects here**
  Defects that are recorded in the **Test execution** window are automatically sent to this location in the project. The Defect item types must be a Visible item type for them to appear. For more information, see Configure project item types [635].

Project and baseline cleanup

Project cleanup can be used to remedy issues that occur from inconsistent references or inactive items.

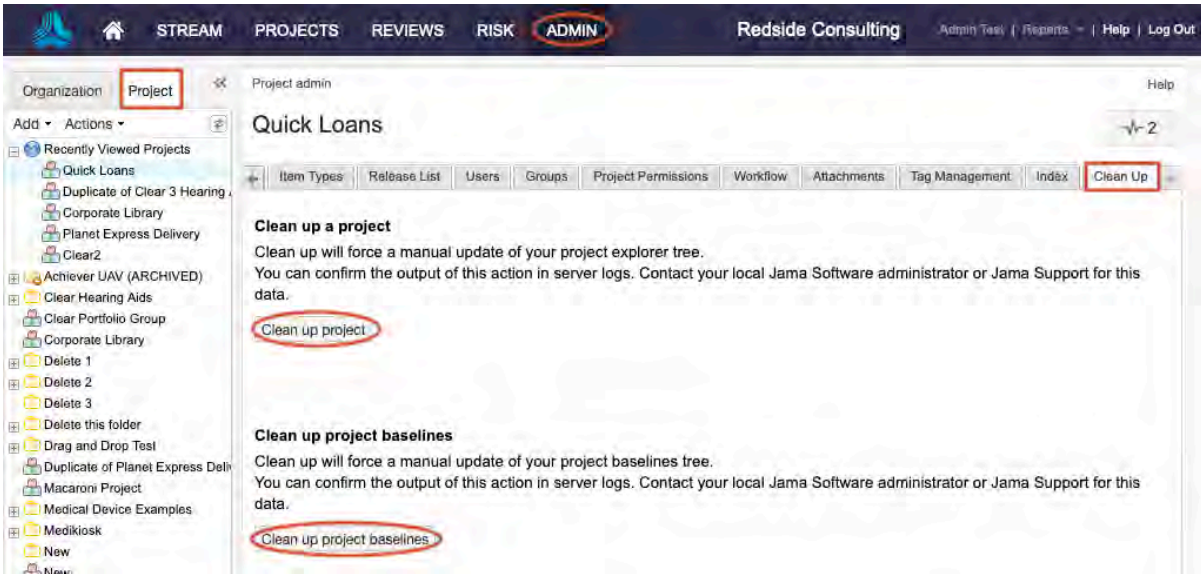
For example, users might experience inconsistencies between the Explorer Tree, List View, filter results, or see these messages:

- "This item was deleted."
- "You don't have permission to perform this action."

Project cleanup recalculates sort orders and compares them with the database to solve these problems. It doesn't require re-indexing or downtime.

TIP
Perform a cleanup at a time of low usage.

- Select **Admin > Project > Clean Up**, then select **Clean up project** or **Clean up project baselines**.



A confirmation message appears when the process is finished.
Self-hosted customers can ask a system administrator to verify the results in the log.

Index project items

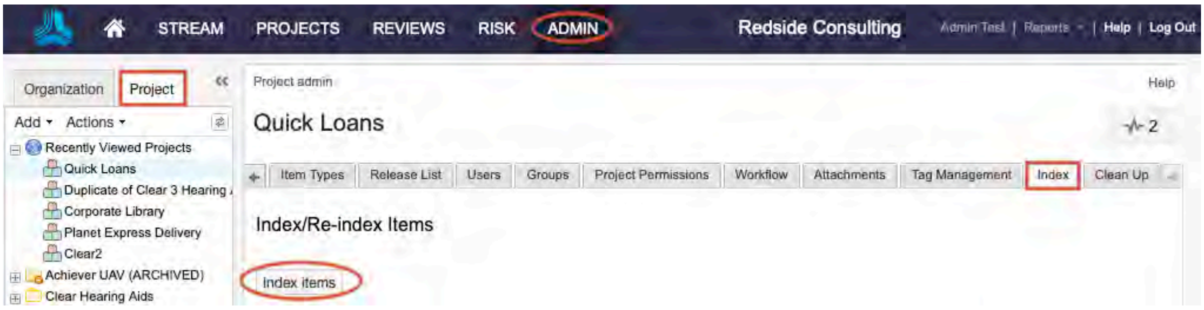
Sometimes project indexes get out of sync due to field configuration changes, large batch updates, API updates, and various other functions.

Index project data if you see data that's incorrect or doesn't exist. For example, failed batch updates, or an item that shows a value in a field, but a search for that field value doesn't return the item.

NOTE

You must have project or organization administration permissions to index project items.

- As a project administrator, select **Project** > **Index** and click **Index items**.



If this doesn't resolve the problem, the system administrator can try doing a full index of items [534].

TIP

Large files over 25 MB aren't indexed and therefore, their content isn't searchable. The following filetypes are indexable: PDF, DOC, DOCX, PPT, PPTX, TXT, RTF. The following filetypes aren't indexable: XLSX, XLS, XML, HTML, HTM.

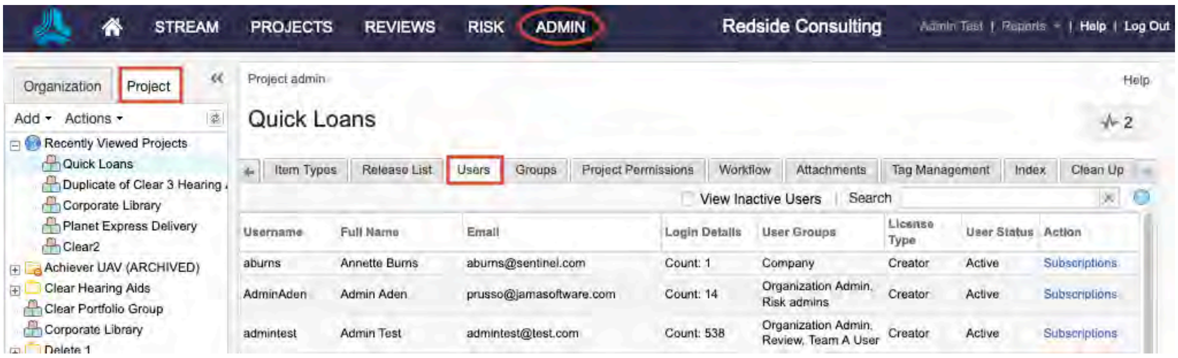
View project users

From the Users tab, you can view information about each user, such as email, license type, login information, and user status.

NOTE

You must have project or organization administrator permissions to do this.

1. Select **Admin > Project**, then select **Users**.



2. (Optional) select **Subscriptions** to unsubscribe notifications for individuals or groups.

TIP

Individual users can manage their own subscriptions in their profile [39].

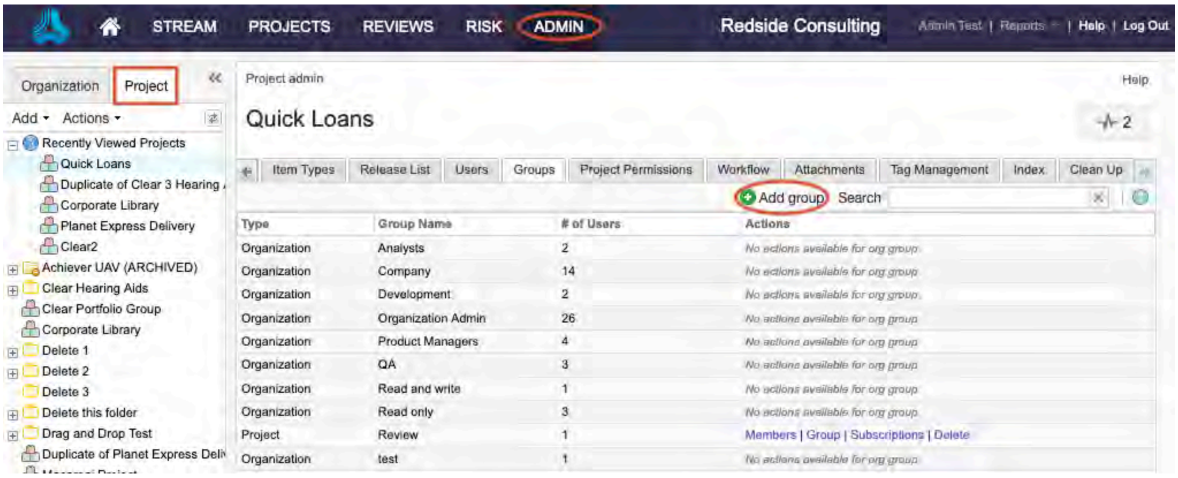
Manage project groups

As a project administrator, you can manage groups of users that already have access to a project. These groups are valuable when fine tuning permissions or creating email lists.

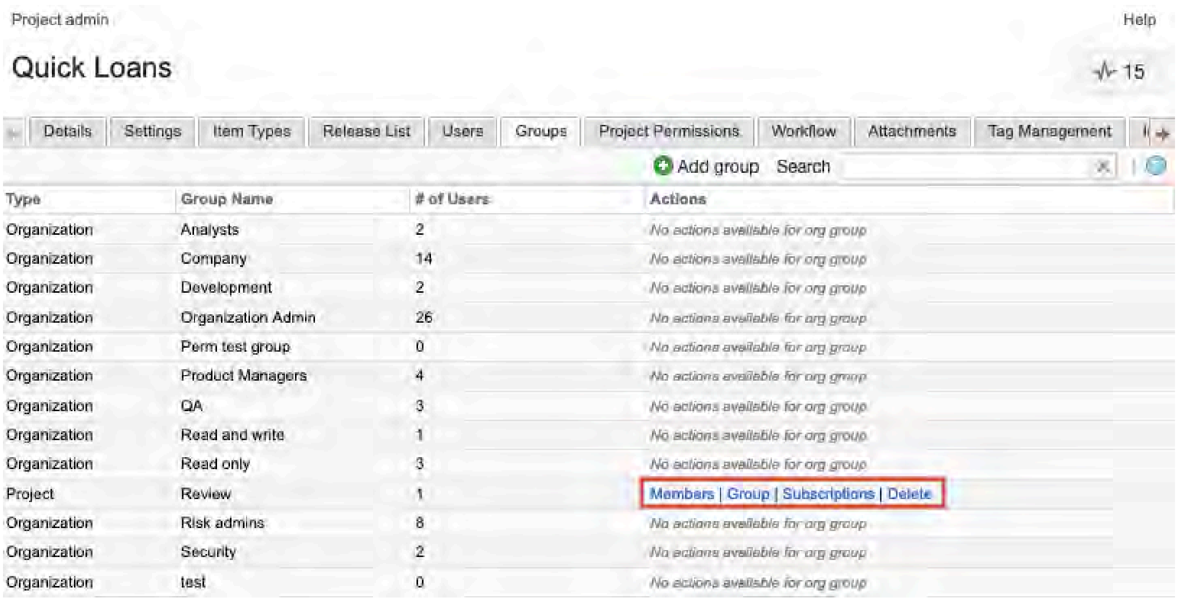
NOTE

You must have project administrator permissions to manage groups at a project level. You must have organization administrator permissions to add, delete or edit groups [569] at an organizational level.

1. Select **Admin > Project**, then select **Groups**.



2. Select **Add Group** in the top right toolbar.
3. In the window that opens, give the group a name and description, then select users for the group and select **Save**.
4. For project level groups, you can edit the group name, description, or members, as well as editing a group's subscriptions. You can also delete the group. Use the buttons in the **Actions** column of the group you want to edit.



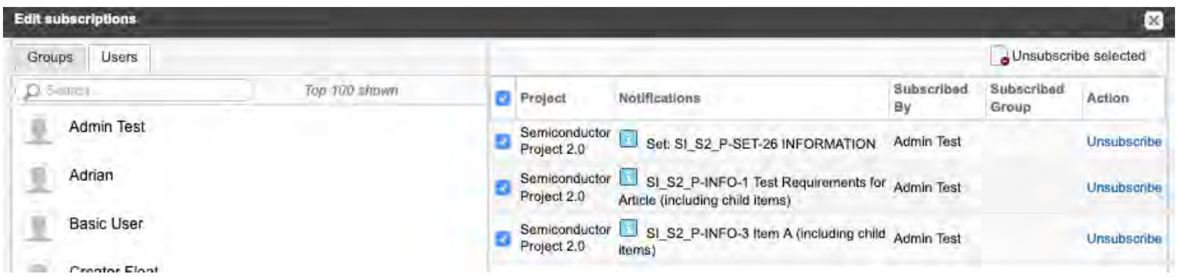
> **NOTE**
>
> A system administrator can disable or enable the project administrator's ability to add groups [498].

Edit user or group subscriptions

Users can subscribe to email notifications. Administrators don't have control over a user's own subscriptions, only to subscriptions added by others. Only the user can control their subscriptions.

> **NOTE**
>
> You must have organization or project administrator permissions to complete this task.

1. Select **Admin > Organization**, then select **Users**.
2. Select **Subscriptions** in a user row to open the **Edit subscriptions** window.



3. Select the user you want to edit from the left column. On the right you see a list of their current subscriptions.
4. If you're an organization administrator, select **Unsubscribe** in the **Action** column or to remove multiple subscriptions, select the subscriptions you want to remove, then select **Unsubscribe selected**. If you're a project administrator, select the items you want to mute and select **Mute subscriptions**.

TIP

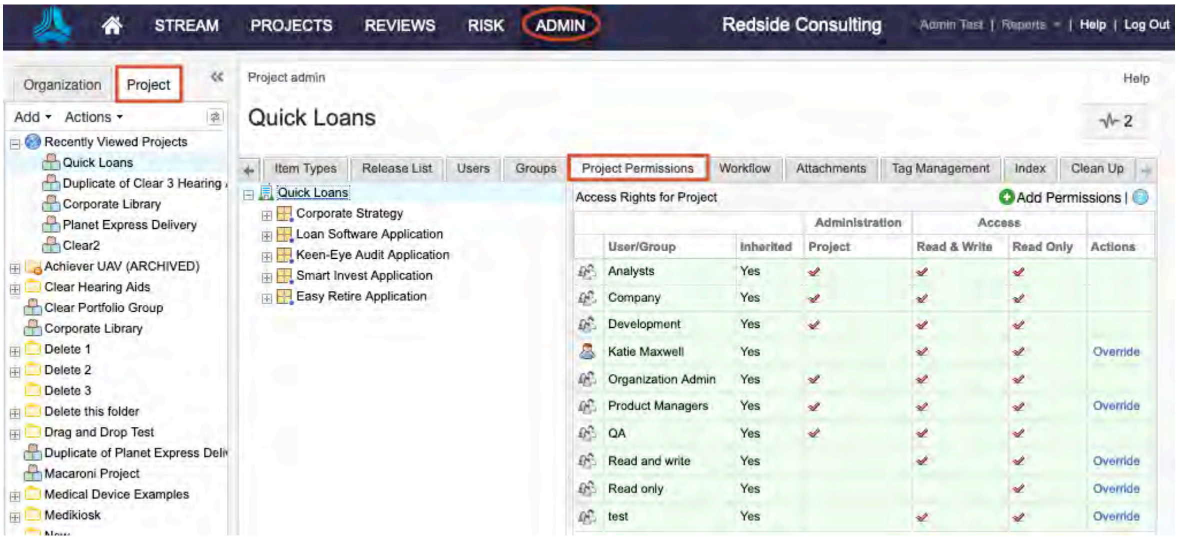
Organization administrators can also edit group subscriptions by selecting **Admin > Organization > User groups > Subscriptions**.

Grant project permissions

NOTE

You must have at least project administrator permissions to complete this task. An organization administrator [583] or system administrator [495] can also grant permissions at an organization or project level. A system administrator can enable or disable the project administrator's ability to grant project permissions [498].

1. Select **Project > Project Permissions**.



2. Select the project, component, set or item for which you want grant permissions in the project selector on the left. From here, you can use the toolbar to:
   - Select **Add permissions** to add a new user or group.
   - Select **Modify** in the row of a user or group you want to edit.
   - Select **Remove** in the row of any user or group for which you want to delete permissions.
   - Select **Override** to override the inherited permissions for this user or group.

   TIP

   When a row contains the value **True** in the **Inherited** column and is highlighted in green, this means the group or individual has received its permissions from a higher level. Select **Override** in the **Actions** column to change these inherited permissions.

3. In the **Add/Edit access** window, you can grant the set of permissions that come with the role of project administrator, or you can grant access permissions for the selected item, set, component. Select **Save**.

4. Alternatively, select **Remove** to take away all permissions from the user or group for that project, set, or folder.

Reference

Use these tools to help find quick answers whether you're a new or experienced user:

- Glossary of terms [668]
- Quick find [140]
- Best practices and guardrails [661]
- Application performance testing [663]
- Keyboard shortcuts [662]
- Permissions by license type [578]
- Get help [666]

Permissions

Permissions allow users to do things such as access, modify, and delete items or perform other specific tasks.

The permissions that a user has depends on:

- The license type [578] they are assigned
- The roles [658] (permission sets) they're granted
- The access permissions [661] (read/write or read only) to specific projects or containers they're granted

You can grant permissions if you are:

- System administrator [495]
- Organization administrator [583]
- Project administrator [653]

License types and permissions

The license type limits the possible permissions and roles that can be granted to a user. For example, creator, stakeholder, test runner, and reviewer.

Each user, regardless of license type, has a unique login (username and password). Organization and user administrators can view the current license [582] or assign users license types [576].

Creator and reviewer licenses can be named or float licenses, whereas test runner and stakeholder are named only.

These are the available user license types:

- **Creator**
  A creator license is a named or floating license that gives full read and edit rights, and full access to reviews, for those who are active users managing items and projects on a daily basis.
- **Test runner**
  A test runner license is a named license that focuses on users whose primary goal is execution and recording test results. This includes basic permissions to read and review, as well as the additional ability to create test plans and defects, and execute test runs. They can also add attachments to test runs during execution.
- **Collaborator**
  A collaborator license is a legacy license that can be a named or floating license that gives read-only privileges to those who need visibility into a project, but don’t need editing rights. These users can view items, provide comments, participate in (but not create) reviews, execute test runs, and log defects. The stakeholder license is recommended for users who only need read access, and the

test runner is recommended for users who need full access to test center and defect recording capabilities.

- **Stakeholder**
  A stakeholder license is a named license that gives read-only privileges to those who need visibility into a project, but don't need editing rights. Stakeholders can view items, provide comments and act as reviewers.
- **Reviewer**
  A reviewer license is a named or floating license that grants permission to participate in reviews, act as approvers, moderators, or review administrators, and respond to comments in the stream. A reviewer license doesn't allow users to initiate reviews or access items in the core project.
- **Temporary**
  A temporary license is a 30-day full creator license, automatically granted to a non-licensed individual whose email address is used to invite them to a review or to comment in the stream. It has no default permissions except for the discussion thread or review to which they were invited, although an organization administrator can add permissions.

Permissions by license type

Your license type defines your permissions, which determine your ability to create and edit items or access them as read-only.

If you have a Creator license and read-only permissions to a project, you can:

- Execute test runs
- Log defects from the test run execution window

PERMISSIONS	LICENSE TYPE				
	Creator	Stakeholder	Collaborator	Test runner	Reviewer
Read/Write					
Create test plans	X			X	
Execute test runs	X		X	X	
Log defects (from test run window)	X		X	X	
Manage attachments	X			X**	
Manage relationships	X			X**	
Add baselines	X				
Edit, delete, restore user-created baselines	X				
Add and edit items	X				
Read-only					
Share filters	X				
Share custom report templates	X				
View baselines	X	X	X	X	
Create filters	X	X	X	X	
Export reports	X	X	X	X	
Read and initiate stream threads	X	X	X	X	
Comment on items	X	X	X	X	
View items in projects	X	X	X	X	
View dashboards	X	X	X	X	
Review					
Initiate	X				
Moderate	X			X	
Participate	X	X	X	X	X
Approve	X	X	X	X	X
Electronically sign	X	X	X	X	X
Reply to stream comments	X	X	X	X	X
Risk					
Initiate	X				
Moderate	X				
Participate	X				
View (if invited)	X	X	X	X	

** Permissions that are included with each license type.

Roles

A role is a set of permissions granted to a user so that they can perform particular functions.

> **NOTE**
> Permission roles are different than review roles [149], risk roles [405], and signer roles [227].

The permissions included with each role [658] can be granted by an administrator [655] to an individual or a group.

These are the roles and the type of license they require:

- System administrator [471]
  The system administrator handles the overall installation, setup, and configuration of Jama Connect, and doesn't have access to projects. The system administrator is a special user and not a role that can be provided to other users. This user doesn't require a license and logs in to the system with the username "root."
- Organization administrator [544]
  An organization administrator controls all aspects around the configuration of Jama Connect and the user and groups. This is a role that can be assigned to an individual or a group.
- User administrator [568]
  The user administrator provides the ability to manage licenses, users, and groups. This is a role that can be assigned to an individual or a group. This user can see all users and organization groups in the system.
  The user administrator can only set permissions for groups/users on projects where they are a project administrator. They are also limited to managing organization group membership for only groups where they are a member, which prevents a user admin from giving access to projects where they don't have access.
  User administrators can't make changes or additions to users or groups that have been assigned to organization and process administrators with the exception of activation/deactivation and license management.
  User administrators can only manage members of a group where they are also a member. This restriction ensures they don't unintentionally provide or remove access to unknown or existing projects.
- Process administrator [589]
  The process administrator role focuses on the configuration of content and connections within Jama Connect.
  - Item types
  - Pick lists
  - Relationship rules
  - Review Center
  - Risk management
  - Workflow
- Project administrator [633]
  A project administrator is a role that can be provided for all projects or on a specific project with a focus on permissions, project groups, and workflow customization.
- Add Project

The **Add Project** is a very specific role that is meant to exist between the organization administrator and the project administrator. With this role, a user can create a new project or duplicate an existing project where that user is a project administrator.

- Review administrator [177]

  A review administrator is a role with the permissions needed to manage reviews.

  Review administrators can view all reviews and perform administration tasks for those reviews, regardless of whether they were invited to the review. A review administrator is the only one who can delete a review
- Reuse administrator [286]

  A reuse administrator is a role with the permissions needed to manage reuse.

  In addition to reuse permissions, a reuse administrator needs read access for visibility of any synchronized items they are working with, and write permissions for making edits, synchronizing, reusing, or duplicating.
- Risk administrator [382]

  A risk administrator can create and edit risk templates, as well as manage analyses and participants.

  An organization administrator can grant risk administrator permissions [586].

  Risk Management [378] requires additional licensing for your organization, as well as creator, stakeholder or test runner licenses for all risk management participants. Contact your Jama Software account manager for more information.
- Report administrator [558]

  A report administrator provides the ability for the report developer to upload and manage BIRT, Velocity, and Word templates. Controls are in place to reduce exposure to groups and projects.

> **IMPORTANT**
>
> Users must have the license type [578] that allows for the permissions granted with each role.

Permissions by roles

Some permissions are included with the user's license type [578]. In addition, users can be assigned roles [586] that grant them additional permissions shown in this table.

PERMISSIONS	ROLES									
	System	Organization	User	Process	Project	Add Project	Review	Reuse	Risk	Report
Setup										
Install the application	X									
Configure email servers	X									
Re-index system	X									
Configure authentication	X									
Upload reports (self-hosted)	X	X								
Write										
Add, edit, delete reuse rules								X		
Add and edit item types		X		X						
Add users	X	X	X							
Add projects		X				X				
Configure reports (self-hosted)	X	X								X
Configure organization	X	X								
Configure process (item types, picklists, rules)		X		X						
Set project permissions	X	X	X		X					
Edit, delete, or recover any baseline		X			X					
Delete or recover baseline sources		X			X					
Add releases		X			X					
Create dashboards		X			X					
Select item types for projects		X		X	X					
Manage permissions for existing users		X	X		X					
Review										
Recover a deleted review		X					X			
Risk										
View all analyses									X	
Edit templates									X	

Users must have the required license type for role-related permissions to work.

	REQUIRED LICENSE TYPE					
ROLES	Creator	Stakeholder	Collaborator	Test Runner	Reviewer	None
System administrator						X
Organization administrator	X					
Project administrator	X					
Reuse administrator	X					
Review administrator	X				X	
Risk administrator	X					
Report administrator	X					

Roles and permissions

Permissions and roles control how users experience Jama Connect by restricting the actions they perform or content they can see.

Roles provide access to administrative features of Jama Connect. They are assigned by administrators to individual users or to groups.

Permissions control read and write access to your project. You can be granted permission to an entire project, to a project's folders, or to a collection of items in a project. Permissions are assigned to individual users or to groups.

Permissions are inherited from higher levels in the organization structure and can be set at the organization level, folder level, or project level. Once permissions are set on a project, they can be adjusted based on the organization of the project Explorer Tree.

Note: You must set the permissions before adjusting a set or component to access the project or the user won't be able to access the project.

Best practices

- Set permissions at the highest level possible.
  Benefit: Helps you track existing permissions for a user or group when many one-off changes are made.
- Use groups instead of individual users.

Benefit: Reduces the volume of entries and ensures consistent setup of users who require similar access.

Permission questions and scenarios

Questions and scenarios	Answers
I want to provide general user management to my IT group, but I have sensitive projects and project groups. How do I restrict access to those?	Assign the user admin role. This role is limited to viewing and administering project-level permissions on only projects where they are a project administrator. They can still create new users, deactivate existing users, manage their participation in organization groups, and configure licenses.
Can a user administrator grant themselves or others the process role or org admin role? Can they change their own permissions?	No, only an org admin can set the org and process roles. A user admin will need to be a project admin to adjust permissions to a project. If they remove their own project admin role, they will no longer have access to that project's permissions.
Why aren't there any options to override permissions on certain users or groups?	This restriction controls visibility and access across projects that might belong to different divisions or contains sensitive information that shouldn't be exposed to all users. If you want your user admin (user or group) to have access to all projects and project groups, assign the project admin role at the organization level.
Why can't my user admin see all groups where a user is assigned?	By default, user admins can't access all projects. The user must be a project admin to access the groups for that project.
Why can't my user admin manage the membership in an organization groups?	User admins can only provide access to projects they can access. To access a project, they must be a member of that project's organization group. When they aren't a member of the organization group, the project isn't visible to them and they can't provide access.
Why am I getting a no permissions error when attempting to add a user to a group?	The group might have permission to access projects that you do not.
Why can't my process admin see all projects when assigning relationship rules?	Some projects might contain sensitive information, so access is restricted. The list of projects is filtered to show only projects where the process admin is also a project admin. If you want your process admin (user or group) to have access to all projects and project groups, assign the project admin role at the organization level.
Is there a way to limit the item types that a process admin can see?	Not at this time. This is a future option under consideration.
Why is this user I've just made an org admin still unable to access certain projects?	The option to override an org admins access is no longer available. Previously this was an option, however it did not ultimately restrict the org admin from seeing the projects and giving themselves access directly or through another group. We did not want to remove or alter any permissions as part of introducing the new roles. We recommend removing any overrides on org admin users/groups made in the past to remove confusion.
Does the process admin have access to all projects and users?	The process admin only has access to the projects where they are a project admin. The process admin does have access to users and organization groups for assigned workflow transitions.
The @mention feature isn't working for my users, regardless of project permissions on the Stream page.	The top-level option to create new comments has a new configuration that disables this option by default. We've determined that context free comments (not made from a project or item) were creating confusion and exposing users and groups that all users in the system should not have access to. The @mention from the Stream page is now limited to include only users and groups that align with the commentor's project permissions. This change tightens security and eliminates accidental exposure of users or groups.
As a project administrator, why can't I add users to my project if they are in the system?	Your organization has configured the settings for Jama Connect to restrict project admins' visibility of users and groups to only their project's permissions. If you want to your project admins to have access to all users and groups, your organization admin can configure the setting on the Organization Detail page.
I've given a user with read/write permissions access to a set in my project, but they still can't see the project?	Permissions must first be set on the project. Once the user has read or read/write permissions on the project, they can access the set. You can provide or remove permissions to other sets or components in the project to modify access.

Questions and scenarios	Answers
I need my team leads to be able to create new projects, but I can't make them organization admins. What do I do?	The Add Project role lets users create new projects and duplicate any projects where they have project admin access.
I've removed a user's access to a Component, why can they still see it?	Users receive the highest level of rights assigned to them. If a user is part of a group that has permissions to a component, you can make one of the following changes: • Change that group's permissions to exclude the component. • Remove the user from the group so the individual entry is now the highest level of rights assigned.

Access permissions

Access permissions allow a user to create, read, and edit items.

Access permissions have two levels:

- Read/Write
  A user with these access permissions can read write edit and delete
- Read-only
  A user with these permissions can read, but not create or edit items.

An organization administrator can grant access permissions at an organizational level [583]. A project administrator can grant access permissions at a project level [653].

Access permissions and relationships

How you interact with relationships depends on the access permissions you have for each of the related items. Read more about permissions [578].

If you have these access permissions for the current item...	and these access permissions for the related item...	you can....
Read/Write	Read only	... view trace relationships as well as the ID and name of the related item. You can modify relationships and create new ones. You can also navigate to the related item and clear suspect links.
Read only or Read/Write	No permission	... view trace relationships, but not modify or create new relationships. You can see the ID and name, but can't navigate to the related item.
Read only	Read/Write	... view trace relationships. You can modify relationships and create new ones. You can also navigate to the related item and clear suspect links.
Read/Write	Read/Write	... create, modify, or delete relationships as well as navigate to related items.
Read only	Read only	... view trace relationships and navigate to related items. You can't create or modify relationships between the two items.

Best practices and guardrails

Explorer Tree settings

To improve performance when your project has a large number of items, you can set the Explorer Tree settings to only show folders and components [47].

Filters

Filters that run against all projects find and display results for all items in your Jama Connect application. Filters like these can return large data sets and degrade performance. To assure quality performance, make filters more specific to return only the results you need.

Items and attachments

When working with large numbers of items (more than 1,000 per folder), hide items in the Explorer Tree [47] and work with them in List View [51] in the center panel. To move multiple items, rather than multi-select in the Explorer Tree, multi-select in the List View and drag them to their new location in the Explorer Tree.

Large files over 25 MB aren't indexed and therefore, their content isn't searchable. The following file-types are indexable: PDF, DOC, DOCX, PPT, PPTX, TXT, RTF. The following filetypes aren't indexable: XLSX, XLS, XML, HTML, HTM.

Field content

Typically, item fields contain fewer than 10,000 characters (2,000 words). When you compare review versions, the applications might skip fields with lengthy content.

Reuse and synchronization of hundreds of items can affect system performance, causing it to feel slower than usual for users and decrease performance for other processes such as exporting.

Reuse and synchronization

If you try to reuse and synchronize a very large number of items, a warning appears if it’s likely to impact performance.

If you still want to do this, consider reusing items in smaller batches or starting a large reuse and synchronize process during off hours when there is less competition for resources.

Keyboard shortcuts

Use the following shortcuts to navigate throughout the Jama Connect application.

NOTE

In general, Mac users can substitute the **Cmd** key for the **Ctrl** key and the **Option** key for the **Alt** key. Depending on your keyboard, you might also have to press the **Fn** key.

Table 2. General navigation

Key command	Function
Esc	Closes an open window
Tab	Navigates from field to field in List or Single Item View
Enter	Selects a highlighted button, or opens a selected item
Arrow keys	Scroll through items, tags, releases, baselines or test plans in the left panel

Table 3. Inline editing in List View

Key command	Function
Esc	Cancels unsaved changes
Tab	Moves cursor between editable fields
Enter	Saves changes and moves to next item in list

Use the following shortcuts in fields that use the rich text editor [87]:

Table 4. Rich text accessibility

Key command	Function
Alt + 0	Opens window with accessibility instructions

Key command	Function
Alt + F10	Enters the toolbar or the tab list of the currently open dialog window
Ctrl + right-click (Windows) **control + command + click** (Mac)	Access native browser spell check menu
Tab	Move to the right between groups of toolbar buttons
Shift + tab	Move to the left between groups of toolbar buttons
Right arrow	Move to the next button to the right
Left arrow	Move to the next button to the left
Enter	Activates a selected button or menu option

Table 5. Rich text navigation

Key command	Function
Home	Jumps to the beginning of the line
Ctrl + Home	Jumps to the beginning of the document
End	Jumps to the end of the line
Ctrl + End	Jumps to the end of the document
PgDn	Scrolls down the document by the length of the editing area
PgUp	Scrolls up the document by the length of the editing area
Ctrl + L	Opens the link window

Table 6. Rich text writing and formatting

Key command	Function
Shift + Enter	Adds a line break
Ctrl + Z	Undo the last change
Ctrl + Y	Redo the last change
Ctrl + C	Copies a text fragment to the clipboard
Ctrl + V, Shift + Insert	Pastes a text fragment from the clipboard
Ctrl + X, Shift + Del	Cuts a text fragment to the clipboard
Ctrl + B	Applies or removes bold formatting
Ctrl + I	Applies or removes italic formatting
Ctrl + U	Applies or removes underline
Ctrl + A	Selects all field contents
Shift + Arrow	Selects text letter by letter
Ctrl + Shift + Arrow	Selects text word by word
Shift + End	Selects a text fragment from the cursor to the end of the line.
Shift + Home	Selects a text fragment from the beginning of the line to the cursor.
Ctrl + Shift + End	Selects a text fragment from the cursor to the end of the document
Ctrl + Shift + Home	Selects a text fragment from the beginning of the document to the cursor
Shift + PgDn	Selects a text fragment of approximately the length of the editing area, starting from the cursor and going down
Shift + PgUp	Selects a text fragment of approximately the length of the editing area, starting from the cursor and going up

Table 7. Review navigation

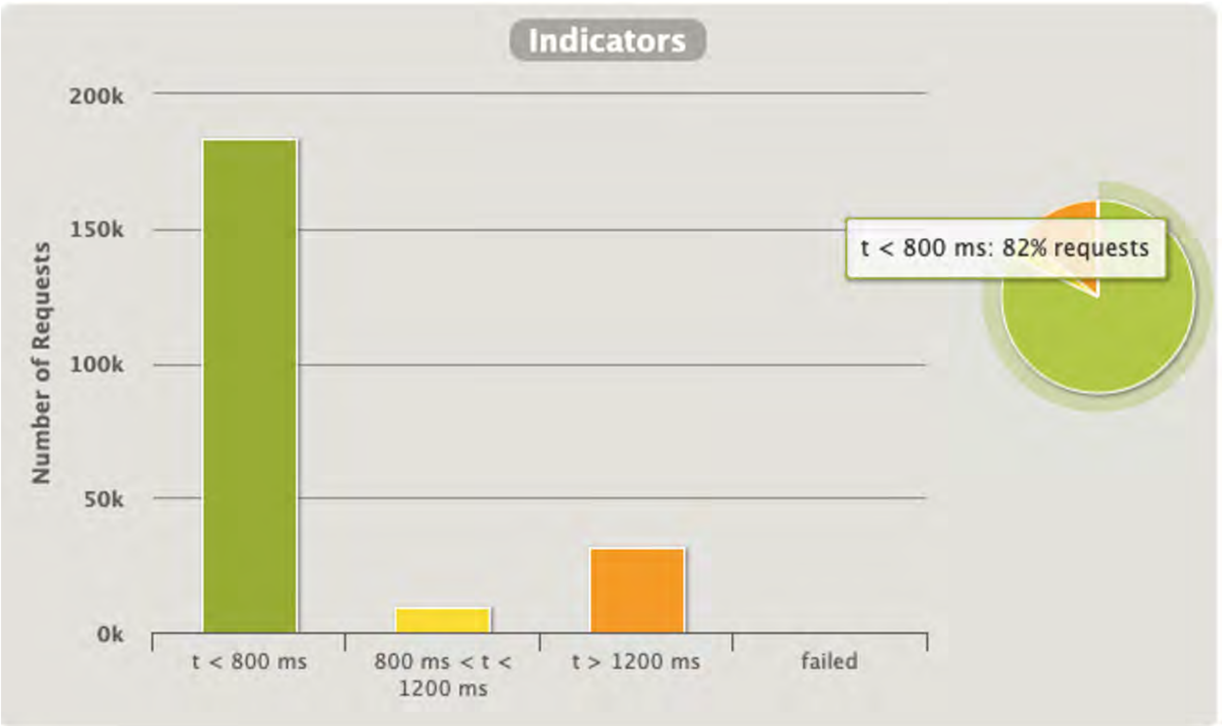
Key command	Function
Tab	Move from one highlighted comment to another

Application performance testing

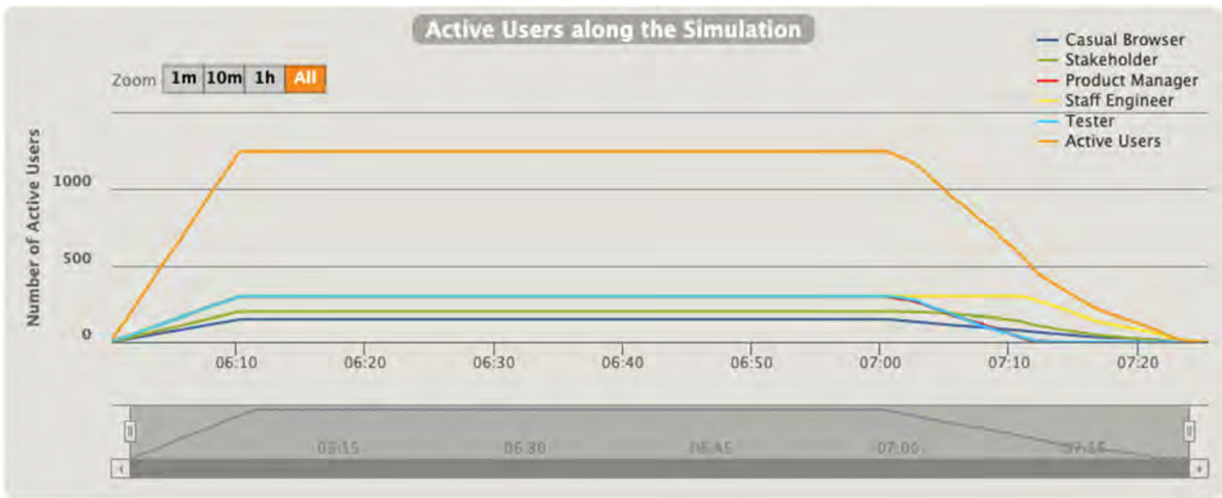
Jama Software runs daily performance testing of Jama Connect in a self-hosted setup and continuously monitors performance in our cloud environment.

Self-hosted performance test results

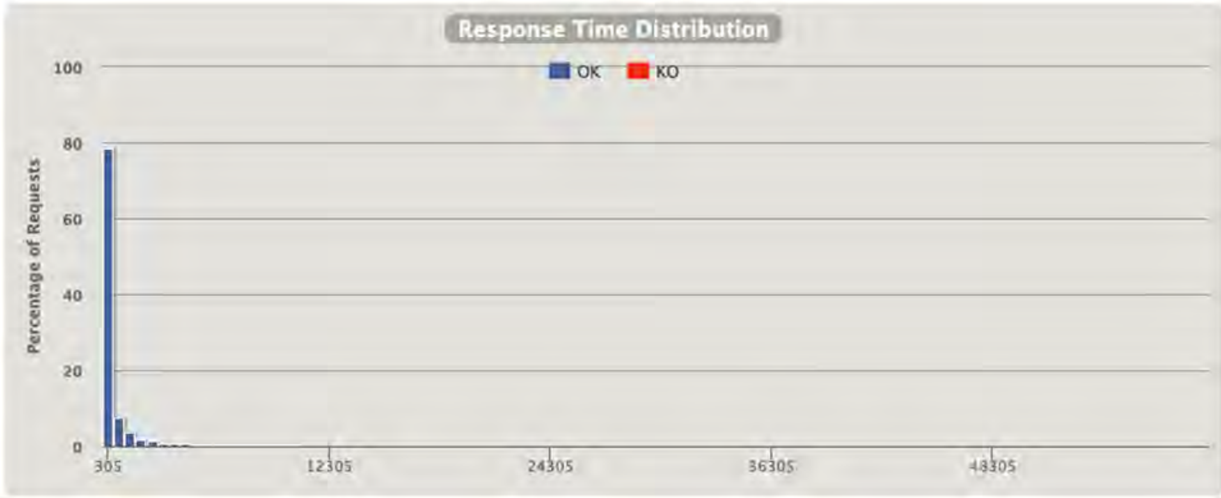
These performance test results indicate a large self-hosted environment with 1,250 concurrent users.



- All requests were serviced during the testing period of 90 minutes with no un-intentional errors.
- 82% of requests were serviced in under 1 second.
- Longer running operations (like bulk updates and copies) were serviced within tolerances.



- Performance tests consider different user personas commonly found in our customer base, with the most common and active users being Staff Engineers and Testers (Creators [655]).
- The total of unique, concurrent users spread across the personas was 1,250.

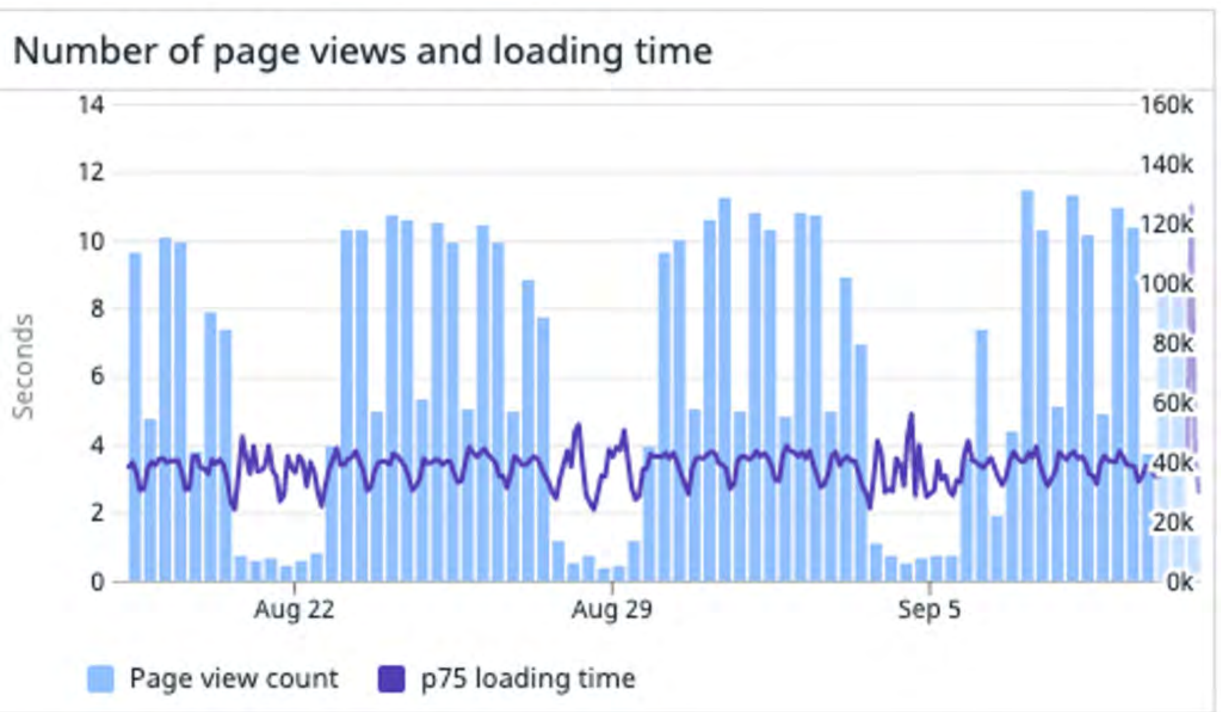


- This graph shows the distribution of serviced requests during the test with response times expressed in milliseconds (ms).
- 79% of requests were serviced in under 305ms with 99.5% of requests serviced in the consumer web target of under 3 seconds.

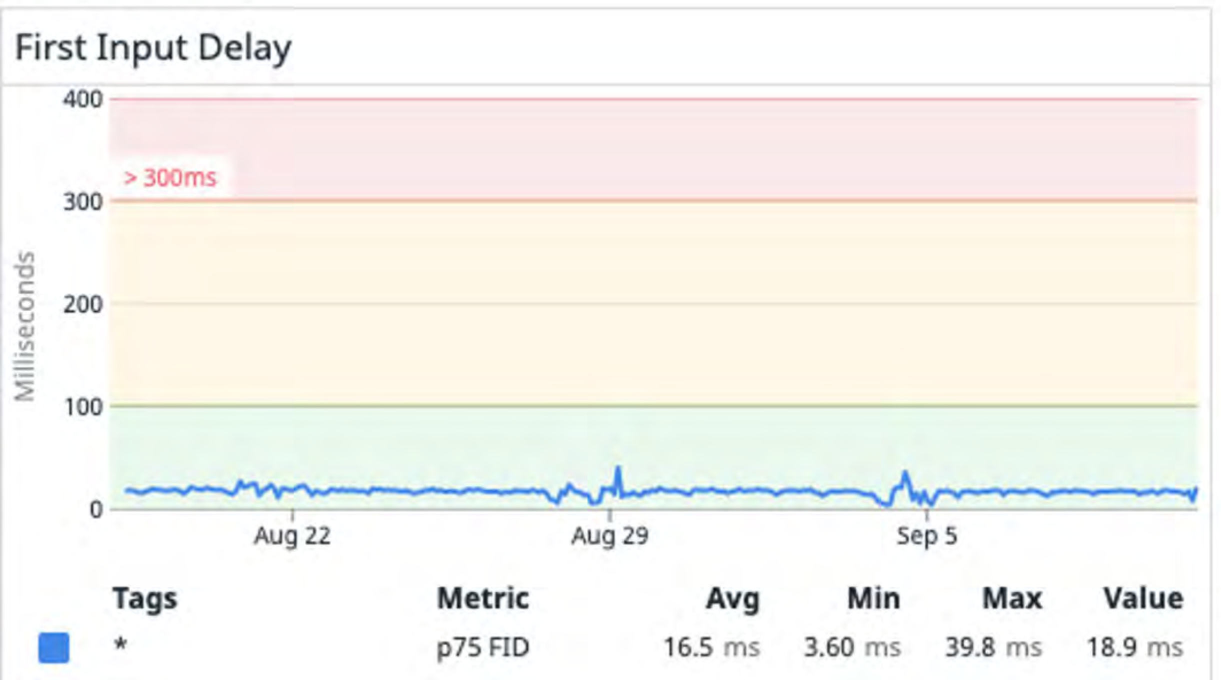
Cloud performance test results

Jama Software continuously monitors application performance in the cloud. We utilize Real User Monitoring (RUM) technology to understand performance at the end-user level.

This performance monitoring includes network latency and transmission of the entire user request across our global customer base.



- The Jama Connect cloud environment serves an average of over 6 million pages per month with hundreds of millions of total requests.
- The P75 total page load time (from request to full browser paint) averages 3.41 seconds.
- The P75 total page load time (from request to full browser paint) averages 3.41 seconds. The cumulative average of all page loads is under 3 seconds (2.66).



- We gauge cloud performance on a consumer web scale, which is superior to most enterprise B2B applications.
- First Input Delay (FID) averages 16.5ms across the cloud environment and is a critical component of a responsive web experience.

Get help

Do you have a question that's not covered in the *Jama Connect User Guide*?

Visit our Support Community where you can find answers, start discussions, share ideas, and access developer documentation.

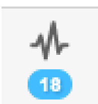
As part of your contract, your organization can get additional help from our support staff. Your organization's named support contact can submit tickets directly to our support staff.

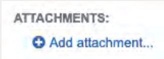
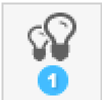
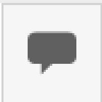
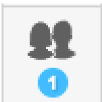
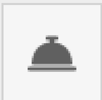
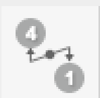
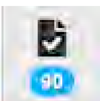
If you have a large team to train quickly, need to integrate Jama Connect with other tools, or want to go beyond the basics, Jama Software offers training courses and other professional services to help you be more successful.

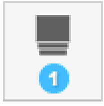
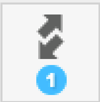
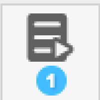
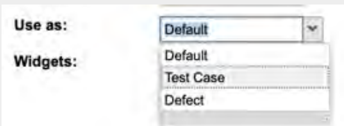
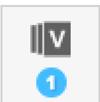
- Education and Tutorials
- How-To Videos and other Resources
- Business Services

Let us know how we can help you.

Widgets

Widget	Definition
Activities* 	Lists all the changes users make to an item: adding, relating, editing, deleting, and restoring. Activities are listed in chronological order. Users can search their activity history and filter on activity types.

Widget	Definition
Attachments* 	Shows external files attached to an item: images, documents, and spreadsheets. **NOTE** If your organization has a document management system, we recommend linking from a Jama Connect item to the file in your document management system, rather than duplicating files in Jama Connect.
Change Request* 	Indicates that the item is linked to one or more change requests. **Example**: If the icon includes a number, the item is linked to that many change requests and is automatically added if the item is linked to a change request.
Comments 	Indicates that a user made comments on the item. Generally used for day-to-day collaboration with colleagues and tracking questions, decisions, and issues about items. These comments are only visible to users with permission to see the Jama Connect project. Comments from reviews are separate and not included here. Enabled by default.
Connected Users 	Shows a creator, editor, or someone who has commented, subscribed, or is @mentioned in an item. Also shows users on upstream or downstream traced items. Enabled by default.
Items to be changed 	Indicates when a user links to requirements, tests, and other items that require a change. Visible only on item types where the Change Request widget is enabled.
Links* 	Adds links to an item by associating a link with that item or embedding a link in a rich text field within the item. **NOTE** Hyperlinks can also be added in any rich text field.
Relationships* 	Shows items that are related for traceability. **Example**: A requirement might be linked to upstream customer needs multiple downstream test cases.
Review comments 	Shows comments for reviews where this option is enabled.
Risk* 	Shows the link from requirements, mitigations, or verifications to a particular risk.

Widget	Definition
Sub items 	Shows the number of items directly under a currently viewed item in the Explorer Tree. **Example**: The "System" component has five sub items: 
Synchronized Items* 	Monitors differences between re-used items and containers. The number of items that an item is synchronized with is displayed in the blue circle. **Example**: If a source item version changes, all re-used items are flagged as "out of sync" allowing users to compare any differences.
Tags* TAGS: Add tag...	Labels items so you can find similar items quickly. Any user with create and edit permissions can add a new tag. Users with Project Administrator permissions can edit or delete existing tags.
Test Runs 	Shows the results from a Test Plan and Test Cycle. Jama Connect allows one Test Case to many Test Run results. The number indicates the number of active Test Runs. Visible only on item types where the "Use as" setting is Test Case: 
Versions* 	Shows the number of versions. A new version is created each time you change an item. You can compare versions or revert to a past item.

* Widget is only visible on item types where an organization admin has enabled [593] it.

Recommended

At minimum, enable these widgets:

- Activities
- Relationships
- Synchronized items
- Versions

Glossary

actions	Actions help clarify and surface important conversations in the stream by identifying a comment as one of three types: decision, question, or issue.
approver	An approver reviews content against a standard and approves or rejects an item for correctness or completeness.

attachment	Attachments are external files such as images, documents and spreadsheets that can be attached to an item.
baseline	A baseline captures the state of selected items and their relationships within a project at a certain point in time.
Baseline Compared to Current Report	The Baseline Compared to Current Report displays a side-by-side comparison of items and relationships in a baseline and their current versions.
Baseline Comparison Report	The Baseline Comparison Report displays a side-by-side comparison of items and relationships in two baselines.
baseline ID	Baseline IDs are unique IDs assigned to each baseline. Baseline IDs are automatically generated and numbered sequentially in the order they were created. They can't be edited or duplicated.
batch transitions	With batch transitions, you can select multiple items of the same item type and transition them to a different workflow status.
Bidirectional Traceability Report	The Bidirectional Traceability Report displays upstream and downstream relationships for a selected container of items.
bookmarks	Bookmarks are links to content you view frequently at the top of your homepage.
bottom panel	This panel slides in from the bottom of the center panel to give more detail on items such as relationships, the activity stream, version history, and merged items.
change request	Change requests are items that call for a change to a specific product or system.
child item	An item that falls hierarchically below a parent item of the same item type.
collaborator license	A collaborator license is a named or floating license that gives read-only privileges to those who need visibility into a project, but don’t need editing rights. These users can view items, provide comments, participate in (but not create) reviews, execute test runs and log defects.
comments	Comments are user-created messages found in the stream or in reviews.
Compare View	Compare View shows side by side content so you can compare differences between different item versions.
component	A component is a structural container used to organize a project into more manageable pieces.
container	Jama Connect uses three container types to help with organization of document items: components, sets and folders.
contributor	A contributor in a risk analysis can open, view, and edit any analysis to which they are invited. Contributors must have a creator license in Jama Connect.
coverage	Coverage is the extent to which items are validated by another item.

Coverage Explorer	The Coverage Explorer is tool to view or export a set of items, including related items that provide needed coverage.
creator license	A creator license is a named or floating license that gives full read and edit rights, and full access to reviews, for those who are active users managing items and projects on a daily basis.
dashboard	The dashboard can be configured to show key metrics about your project, so you can see which areas of your work need attention.
dashboard widget	Dashboard widgets are small embedded applications that compile and display data from a single project or filter.
downstream	In a relationship, the item that might be impacted by another is downstream from that item.
electronic signatures	Electronic signatures consist of a username and password. In the case of a review, a moderator can require electronic signatures to show that a particular person in a particular role approves of the review. Electronic signatures can also be added to baselines.
Explorer Tree	The Explorer Tree organizes the sets, components, folders and items in your project hierarchy.
export	You can export data from Jama Connect as Word or Excel documents. You can also customize the format of your export with Office Templates.
field	A field holds a basic unit of data in an item type.
filter	A filter is a subset of items, users, or reviews from a larger collection. These are available as simple or advanced filters.
folder	A folder is used to organize your work. Jama Connect uses item folders, baseline folders, and project folders.
global ID	Global IDs are unique identifiers of items connected through synchronization.
harm	Harm is a physical injury or damage to the health of people, or damage to property or the environment.
hazard	A hazard is the potential source of a harm.
hazardous situation	A hazardous situation is a circumstance in which people, property, or the environment are exposed to one or more hazards.
homepage	The homepage can show links to your most relevant content, like bookmarks, recent views, open reviews and stream comments or actions.
Impact Analysis	Impact Analysis shows you the entire picture of all upstream and downstream related items that might be affected by changes.
import	You can import data into Jama Connect from Microsoft Word, Excel, and IBM Doors.
Import Relationships Plugin	The Import Relationships Plugin helps you batch create relationships between existing items in the application.

index	The index is a list of information about each item that ensures proper display, sorting, filtering, and searching of data.
item	Items are the building blocks of Jama Connect. Projects are made up of items. Items are made up of fields. Items can be containers (sets, folders, components or parent items) or documents (features, requirements, test cases, tasks, defects).
item counter	The item counter automatically assigns numbers to items as part of their ID.
item ID	Item IDs are unique identifiers for each item that, unlike a Global IDs, can't be duplicated.
Items in a Set Report	The Items in a Set Report displays a tabular list of items in a set.
item types	Item types are the templates for sets used within each project.
item widget	Item widgets add functionality to item types (for example, add links, attachments, relationships and tags)
left panel	The left panel is where you can find and organize your data. It contains the Explorer Tree, advanced filters, releases, baselines, tests and tags.
license	The license gives permission to an organization to install and run the Jama Connect application.
license type	The license type limits the possible permissions and roles that can be granted to a user (for example, creator, stakeholder, test runner and reviewer).
List View	List View shows data from multiple items in a table with a different field in each column so you can sort, select and compare items at a glance.
lock	A lock makes items read-only. Locks can be set automatically or manually.
moderator	A review moderator is a user who creates and manages a review. A risk moderator is a user who creates and manages a risk analysis. Moderators must have a creator license type.
notifications	Notifications are optional emails sent to groups or individuals alert you when certain changes are made.
Office Templates	Microsoft Office Templates are Word documents and Excel spreadsheets that allow you to add formatting to your exports.
organization	An organization represents the entire group of users who have access to your instance of Jama Connect as well as all the projects, items, and data.
organization administrator	An organization administrator has administrative control of the Jama Connect application. An organization might have one or more organization administrators.
P1	The probability that a hazardous situation occurs.
P2	The probability that a hazardous situation results in harm.

permissions	Permissions allow users to do things such as access, modify and delete items or perform other specific tasks.
pick lists	Pick lists are a set of specific values that can be entered into a field.
project	A project is a way of organizing your data in Jama Connect and is made up of items, filters, baselines, releases, reports and tests.
project administrator	A project administrator is a role that has the necessary permissions to manage a particular project.
project key	The project key is a unique identifier, automatically created with each project, that makes up the first part of each item's Unique ID.
Projects workflow	You can set up a workflow in Projects, so that users at your organization can move items in your project along a similar path as they progress.
Reading View	Reading View shows text and images for a particular group of items so you can read through selected items like a document.
relationship	Relationships link items together and can help assess the impact an item or group of items can have on other items.
Relationship Status Indicator	The Relationship Status Indicator shows how many relationships an item has, as well as whether those relationships meet the project's relationship rules.
release	A release is a group of items that are developed together and mapped to a specific completion date.
Release Status Report	The Release Status Report displays the current state of the items within a particular release.
Replicated snapshots	Replicated snapshots are backups of the admin console settings, Docker containers and the Jama Connect license.
report	A report is a document that helps you analyze the current status and progress in your work. Reports can include graphs, tabular data, metrics and other roll-ups.
required fields	Required fields are string, text or date fields that are configured so that the user must enter data into the field before saving an item.
REST API	Jama Software REST API is an application program interface to assist developers in a clean, straightforward integration with the application.
reuse	Reuse is the duplication of an item within a project or to a different project where it can be modified without affecting the original item.
reuse administrator	A reuse administrator is a role with the permissions needed to manage reuse.
review	Reviews help teams, stakeholders and customers collaborate in Jama Connect discuss, review, revise and approve information.
review administrator	A review administrator is a role with the permissions needed to manage reviews.

Review Center Stats Report	The Review Center Stats Report displays the progress of a specific review.
reviewer	A reviewer participates in a review to provide feedback.
reviewer license	A reviewer license is a named or floating license that grants permission to participate in reviews, act as approvers, moderators, or review administrators, and respond to comments in the stream. A reviewer license doesn't allow users to initiate reviews or access items in the core project.
Reviews workflow	A reviews workflow is a tool for moderators to update the status of reviewed items. When configured, the reviews workflow automatically updates field values for review items of the same type and review status.
right panel	The right panel slides out to provide more specific information about the data you selected.
risk administrator	A risk administrator has full permissions to create and edit risk templates and analyses and manage participants.
risk control measures	The procedures or requirements implemented to reduce risk levels.
risk control options	The means by which a risk is reduced.
risk control verification	Confirmation that specified requirements were fulfilled.
risk ID	Risk IDs are unique IDs assigned to each row in an analysis. Risk IDs are automatically generated across all analyses and numbered sequentially in the order they were created.
risk management	Risk management is the systematic application of management policies, procedures and practices to the tasks of analyzing, evaluating, controlling and monitoring risk. (ISO 14971)
role	A role is a set of permissions granted to a user so that they can perform a particular job.
search	You can search an index of all database fields, as well as text within Word, PDF or text attachments, to bring up a list of resulting items.
sequence of events	The events that lead to a hazardous situation.
set	A structural container with configurable access rights, used to group items of the same type. It can also contain folders, text Items, child text items and child items of the same type.
set key	The set key identifies item sets within your project and doesn't have to be unique across sets or projects.
severity	Severity is the measure of the possible consequences of a hazard.
signature meaning	Signature meaning is a system setting that states the meaning of the electronic signature. It's required for FDA 21 CFR Part 11 compliance. In Jama Connect, it defaults to "I approve this review" and can't be modified. The signature meaning is visible in review invitations.

signer role	A signer role indicates the capacity in which an approver provided their electronic signature in a review. Signer roles are created from user group names.
Single Item View	Single Item View displays the information about one item in the center panel.
stakeholder license	A stakeholder license is a named license that gives read-only privileges to those who need visibility into a project, but don't need editing rights. Stakeholders can view items, provide comments and act as reviewers.
stream	The stream is a collection of the most recent comments and activities (adds, deletes, or edits).
suspect links	Suspect links on an item mean it might no longer be correct or complete, because changes were made to items upstream.
synchronization	Synchronization monitors for differences between reused items and containers. When differences exist, users can update the data for those items or containers.
system administrator	The system administrator handles the overall installation, setup, and configuration of Jama Connect, and doesn't have access to projects. They don't require a special license and are the only user who can log in to the system as "root user."
system fields	System fields (like, name, test steps, test case status, and review status) are automatically created to provide system functionality and can't be disabled or deleted.
system health report	The system health report is an optional feature that notifies administrators of areas of the application that can affect performance and user experience.
tags	Tags are labels you can attach to items that can help you find items that have something in common.
Task List with Estimates Report	The Task List with Estimates Report displays all item types and sums their estimates if applicable.
temporary license	A temporary license is a 30-day full creator license, automatically granted to a non-licensed individual whose email address is used to invite them to a review or to comment in the stream. It has no default permissions except for the discussion thread or review to which they were invited, although an organization administrator can add permissions.
test case	Test cases are items that contain the tests needed to validate or verify product features or systems.
test case status	Test case status is an automatically calculated status that indicates the state of the last edited test run associated with that test case.
test cycle	Test cycles convert groups of test cases into a series of test runs that are ready for execution.
test group	Test groups let you combine and label similar tests in a test plan.

test plan	A test plan is an item that documents the overall strategy for validating or verifying that a product or system meets its design specifications and requirements.
Test Plan Detail Report	The Test Plan Detail Report displays the details of a test plan.
test run	A test run is an item used to record results for a test case you ran against your product.
test runner license	A test runner license is a named license that includes basic permissions to read and review, as well as the additional ability to create test plans and defects, and execute test runs.
test run status	Test run status indicates the current state of a test run, and is used in calculating test case status.
test steps	Test steps are distinct steps used to run a test.
text item	Text items are unique; some rules apply while others do not. They live outside the boundary of other item types and aren't designed to function as a full feature. For example, text items can be used as part of a mixed item set, unlike other types.
thread dumps	A thread dump is a snapshot of the state of your application instances' processes at a point in time.
toolbar	The toolbar is located at the top of the center panel.
traceability	Traceability shows the relationship between items that depend upon and define each other. You can always travel upstream or downstream to get more context and trace product definition from high level requirements all the way through final tests.
trace matrix	The trace matrix is a visual representation of relationships within a project.
Trace Relationships Report	The Trace Relationships Report displays items with their downstream relationships.
Trace View	Trace View shows related upstream and downstream items, missing relationships, and item details in context of their relationship.
trial license	A trial license is a 30-day license granted to new users who sign up for a trial of Jama Connect on jamasoftware.com.
unique ID	Unique IDs, or item IDs, identify an item with a project key, set key, and a set counter. Unique IDs remain the same even if item name or content is changed. They can't be edited or duplicated.
upstream	In a relationship, the item that can impact another item is said to be upstream from that item.
user	A user is a basic role associated with a unique Jama Connect login. Each user has their own license type, groups, and permissions.
user group	User groups are an efficient way to manage notifications, permissions, access, and actions for multiple users at a time.
User Import Plugin	With the User Import Plugin, organization administrators can add multiple users at once by importing a spreadsheet.

User List Report	The User List Report displays a list of all the active and inactive users associated with the organization.
version	A version is one of a sequence of copies of an item, each incorporating new modifications. There are versions of reviews and versions of items.
viewer	A viewer can read, but not edit, a risk analysis.
widgets	Widgets are small embedded applications that add functionality to the dashboard or item types.
workflow	A workflow is an automated set of transitions from one status to another, over the course of an item's lifespan.