System administrator (KOTS)

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 [27].
- **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 is 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

Jama Connect uses Replicated KOTS 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, Kubernetes pods and accompanying stateful sets, 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 KOTS — A Kubernetes Off-The-Shelf (KOTS) 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 saved inside a Kubernetes volume. To extract them, you must run kubectl commands.

Create a Replicated Snapshot (KOTS)

Taking a full snapshot creates a backup of the KOTS Admin Console and application data. It can be used for full Disaster Recovery by restoring over the same instance or in a new cluster. Tenant assets are included in the snapshot. Elasticsearch data is included by default.

A Replicated Snapshot can be taken while Jama Connect is running without interruption.

Requirements

- Replicated Snapshots must be enabled for your Replicated customer license.
- KOTS Admin Console 1.79 and later.
- Replicated Snapshots don't include your database. You must use a proprietary backup/restore system for your type of database, MySQL or SQL Server.

Important considerations

- When restoring from a snapshot in a new cluster, you must reinstall KOTS.
- *Recommended* — Include Elasticsearch data in snapshots to avoid having to reindex your data after performing a restore. However, if your snapshot is not recent, we recommend reindexing your data.
- Replicated Snapshots don't support IAM authentication against EFS. Saving Replicated Snapshots in EFS requires that you use the default file system policy to allow all nodes in the cluster to mount the EFS.

To create a Replicated snapshot:

1. Capture the KOTS installer.
2. (Recommended) Include Elasticsearch data in snapshots: From the KOTS Admin Console under the Elasticsearch Settings section, select **Include Elasticsearch in Replicated Snapshots**.
3. *Airgap only* — Capture the IP address of the private registry, which is the IP address value in the Cluster-IP column:

   ```
   kubectl get service/registry -n kurl
   ```
4. Configure the storage destination:
   a. In the KOTS Admin Console, select **Snapshots > Settings & Schedule**.
   b. From the Destination drop-down menu, select a storage destination for your snapshots.
      - **For AWS S3** — The IAM role assigned to the underlaying servers or the user associated with the credentials (access and secret key) must have the Policy template attached.
        Use the following template to create a policy, replacing the **<arn-S3>** parameter with ARN of the S3 bucket. For example: arn:aws:s3:::jama-snapshots.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "s3:PutObject",
                "s3:GetObject",
                "s3:AbortMultipartUpload",
                "s3:DeleteObject",
                "s3:ListMultipartUploadParts"
            ],
            "Resource": "<arn-s3>/*"
        },
        {
            "Effect": "Allow",
            "Action": "s3:ListBucket",
            "Resource": "<arn-s3>"
        }
    ]
}
```

- **For NFS** — If using EFS as an NFS server, the **Server** field = the **DNS name** of the EFS and the **Path** field = a directory inside the EFS, writable by the user:group 1001:1001.

c. Click **Update storage settings** to save your preferences.

5. Schedule Full Snapshots:
   a. In the KOTS Admin Console, select **Snapshots > Settings & Schedule**.
   b. Select **Enable automatic scheduled snapshots**, then click **Update schedule**.
6. Create a Full Snapshot (follow the steps provided by Replicated).

Restore KOTS Admin Console and Jama Connect from a Replicated Snapshot (KOTS)

When you set up a new application server for Jama Connect, you can restore the KOTS Admin Console settings that you saved in a Replicated Snapshot.

Snapshots include the registry images and data for Jama Connect.

Requirements

If restoring to a new cluster, it must match these specifications and settings of the cluster where the backup was taken:

- Number of nodes
- Inbound and outbound traffic rules
- Virtual memory settings for Elasticsearch
- Connectivity to external services and resources (for example, AWS EFS, AWS S3)

To restore from a snapshot:

1. Configure servers for a new cluster:
   a. After the servers for the cluster are provisioned, install KOTS on one node using the captured KOTS Installer. You must pass the same flags to the installation script that were passed to the original cluster.
      - **Restoring an online cluster** — Run the appropriate installation script that was generated from the captured KOTS installer.
      - **Restoring an airgap cluster** — Download the appropriate KOTS installer bundle, replacing **<ip>** with the IP address of the private registry from the original cluster:

```
cat install.sh | sudo bash -s airgap kurl-registry-ip=<ip>
```

   b. When the installer has finished, run the command displayed on the screen so the other servers join the cluster. If required, label the nodes dedicated for Elasticsearch.
   c. Install any add-ons that were manually installed in the cluster. For example, the EFS Driver.

2. Configure the storage destination: From the KOTS CLI, point the cluster to the storage destination where the Replicated Snapshots were saved.

AWS S3	See configure-aws-s3.
Azure	See configure-azure.
GCP	See configure-gcp.
S3-Other	See configure-other-s3.
NFS	See configure-nfs. If the cluster uses EFS or NFS, also see Configuring an NFS Storage Destination. **Note:** If using EFS as an NFS server, **Server** field = **DNS name** of the EFS and **Path** field = a directory inside the EFS, writable by the user:group 1001:1001.

3. Locate the snapshot and restore it: From the KOTS CLI, run a backup ls and full restore.

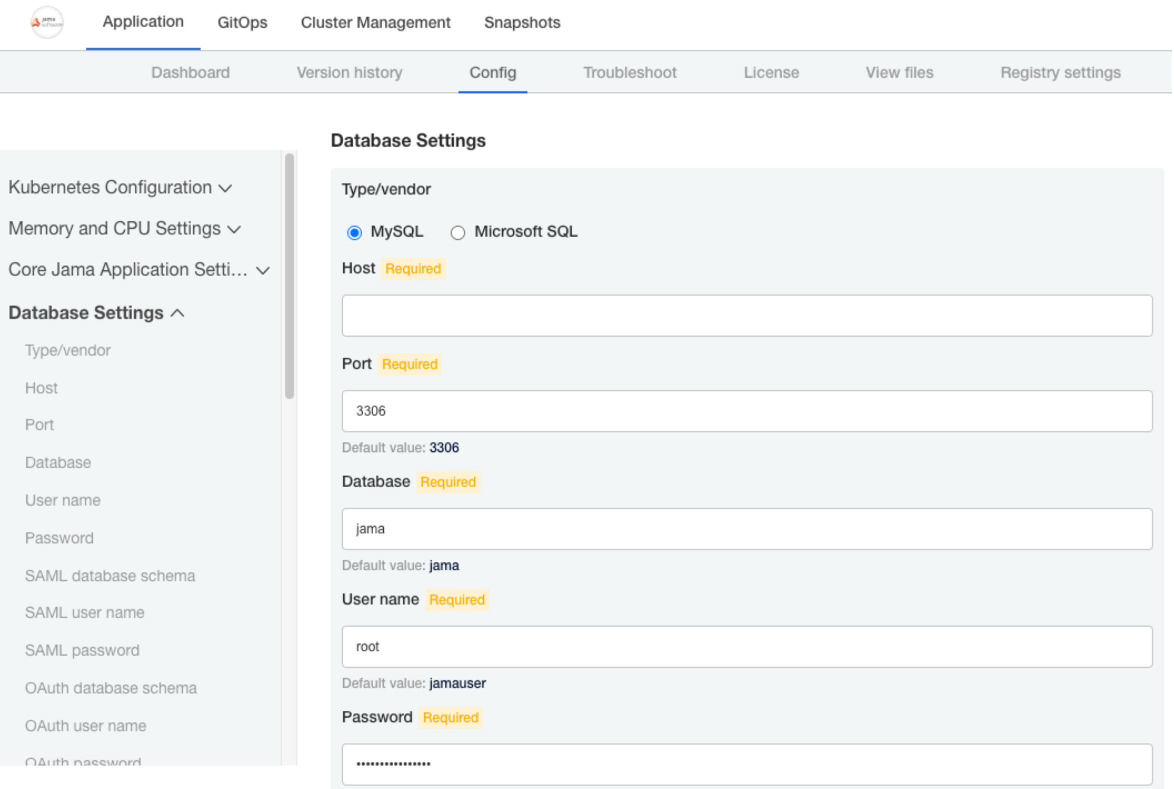
   ```
   backup ls
   ```

   This can take a few minutes. If the snapshots don’t appear, rerun this command.
4. If you changed the host name for Jama Connect:
   a. Update the Host Name field in the KOTS Admin Console and deploy the change.
   b. From your browser, log in to Jama Connect and change your URL [52].
5. View scheduled jobs [54] to verify that the list isn't empty.
6. If the Elasticsearch data wasn't included in the snapshot or if the snapshot isn't recent, reindex all search items [55].
7. Verify that you can locate your assets.

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 KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll to the **Database Settings** section of the page.



Database Settings

Type/vendor

● MySQL ○ Microsoft SQL

Host Required

Port Required

3306

Default value: 3306

Database Required

jama

Default value: jama

User name Required

root

Default value: jamauser

Password Required

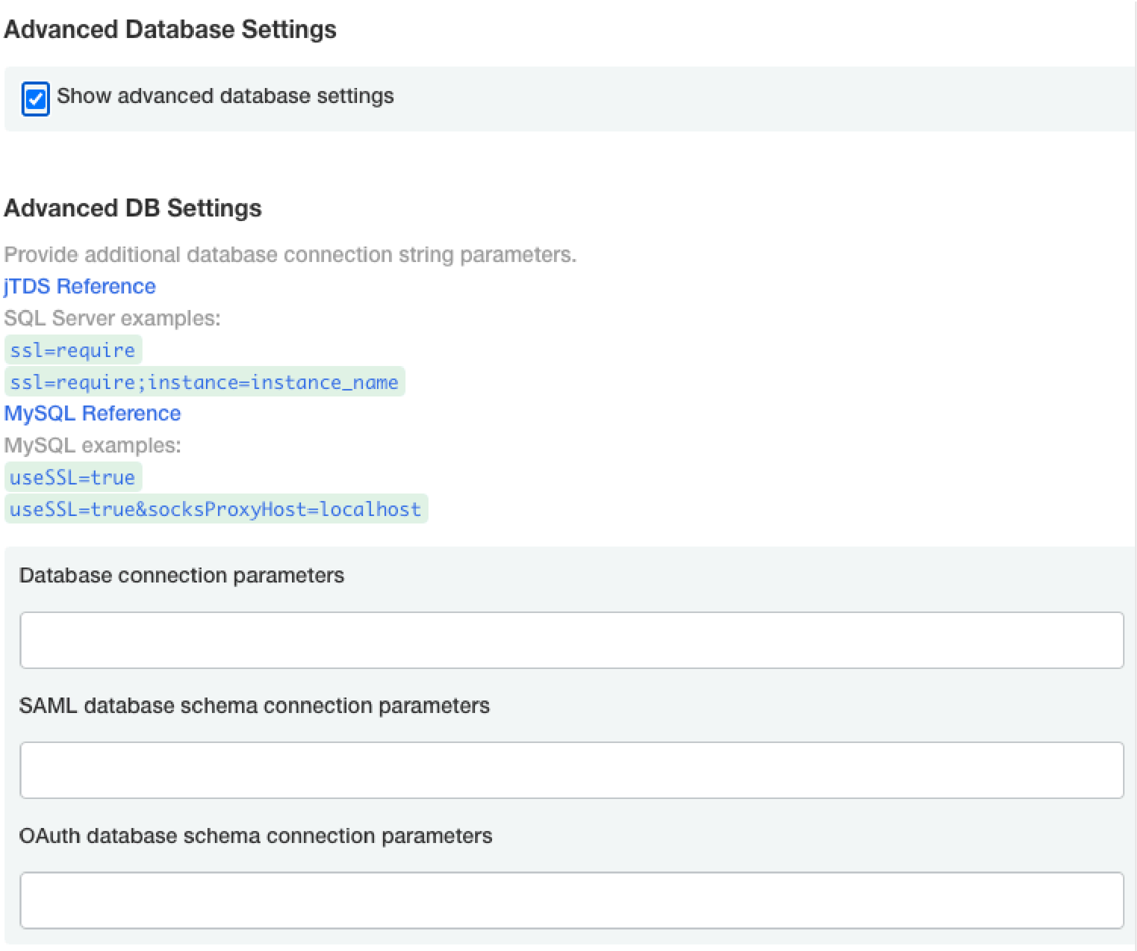
••••••••••••••••

3. Select the type of database you're using, MySQL or Microsoft SQL, 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=true
     ```
   - **SQL Server**

     ```
     ssl=require;appName=jama;bufferMinPackets
     ```

     More options are available for MySQL and SQL Server



Advanced Database Settings

☑ Show advanced database settings

Advanced DB Settings

Provide additional database connection string parameters.
jTDS Reference
SQL Server examples:
`ssl=require`
`ssl=require;instance=instance_name`
MySQL Reference
MySQL examples:
`useSSL=true`
`useSSL=true&socksProxyHost=localhost`

Database connection parameters

SAML database schema connection parameters

OAuth database schema connection parameters

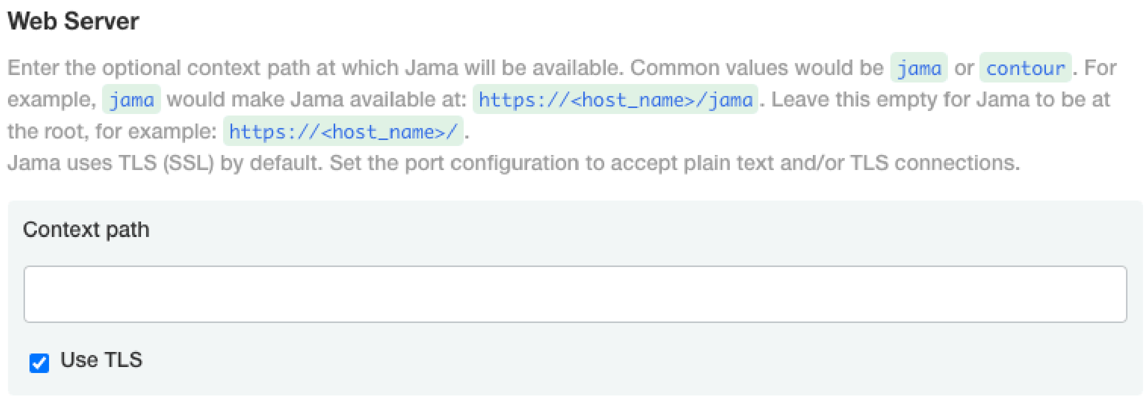
5. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

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 KOTS Admin Console, select **Application > Config** 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://<host_name>/. Don't use this configuration unless you need to specify a sub-path or sub-directory.
4. (Optional) Enter the context path.



Web Server

Enter the optional context path at which Jama will be available. Common values would be `jama` or `contour`. For example, `jama` would make Jama available at: `https://<host_name>/jama`. Leave this empty for Jama to be at the root, for example: `https://<host_name>/`.
Jama uses TLS (SSL) by default. Set the port configuration to accept plain text and/or TLS connections.

Context path

☑ Use TLS

5. (Optional) Set the TLS and plain text port as needed.
6. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

Configure host name

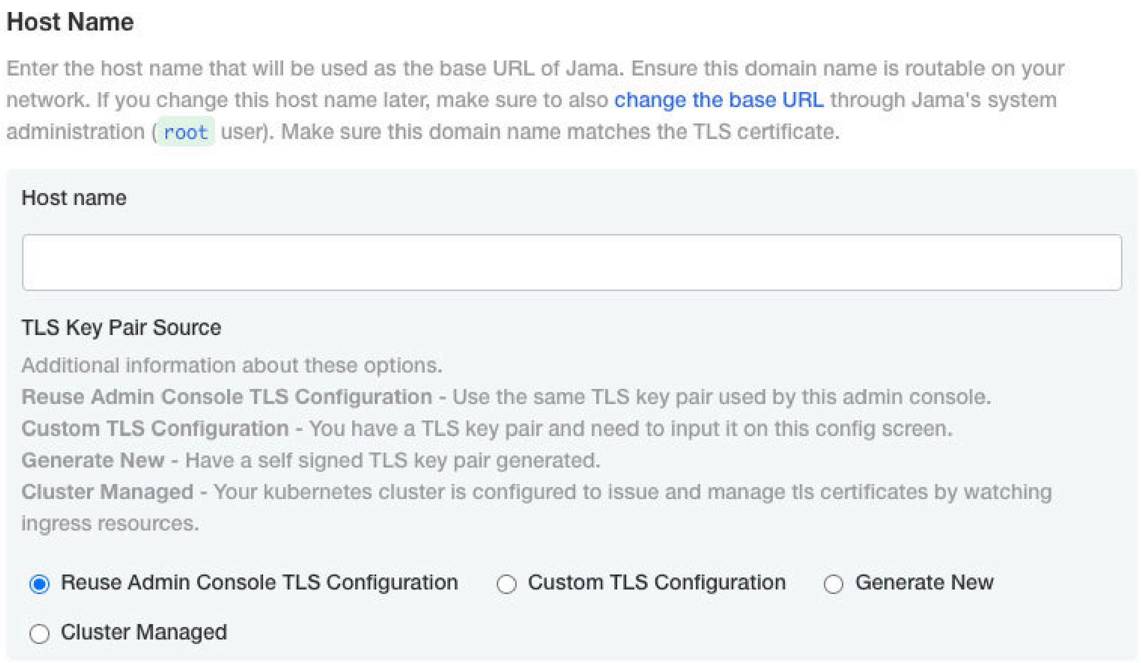
Your Host Name settings can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

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 [52].

To configure the host name:

1. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **Host Name** section of the page.



Host Name

Enter the host name that will be used as the base URL of Jama. Ensure this domain name is routable on your network. If you change this host name later, make sure to also change the base URL through Jama's system administration (`root` user). Make sure this domain name matches the TLS certificate.

Host name

TLS Key Pair Source

Additional information about these options.
Reuse Admin Console TLS Configuration - Use the same TLS key pair used by this admin console.
Custom TLS Configuration - You have a TLS key pair and need to input it on this config screen.
Generate New - Have a self signed TLS key pair generated.
Cluster Managed - Your kubernetes cluster is configured to issue and manage tls certificates by watching ingress resources.

● Reuse Admin Console TLS Configuration ○ Custom TLS Configuration ○ Generate New

○ Cluster Managed

3. Enter or change the host name.
4. (Recommended) Select **Reuse Admin Console TLS Configuration** to use the same certificate configured in the KOTS Admin Console.

5. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

Bypass browser TLS warning

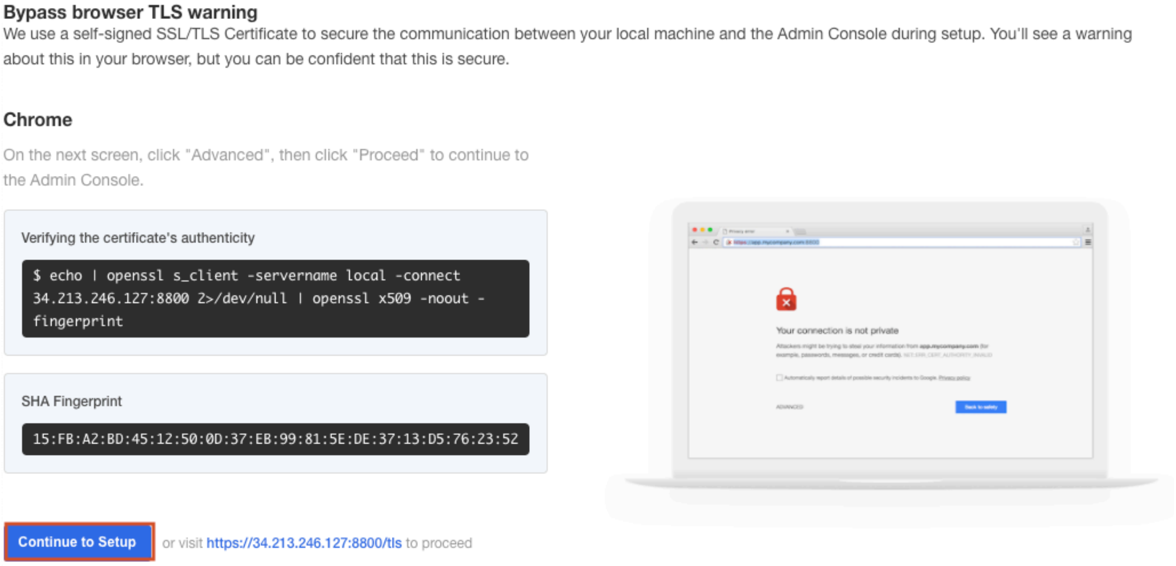
A Transport Layer Security (TLS) or Secure Sockets Layer (SSL) certificate is required to establish a link between the Admin Console (Replicated) and your browser.

When configuring the KOTS 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 [9]. 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.

To bypass browser TLS warning:

1. Open the KOTS Admin Console, then select **Continue to setup**.



Bypass browser TLS warning

We use a self-signed SSL/TLS Certificate to secure the communication between your local machine and the Admin Console during setup. You'll see a warning about this in your browser, but you can be confident that this is secure.

Chrome

On the next screen, click "Advanced", then click "Proceed" to continue to the Admin Console.

Verifying the certificate's authenticity

```
$ echo | openssl s_client -servername local -connect
34.213.246.127:8800 2>/dev/null | openssl x509 -noout -
fingerprint
```

SHA Fingerprint

```
15:FB:A2:BD:45:12:50:0D:37:EB:99:81:5E:DE:37:13:D5:76:23:52
```

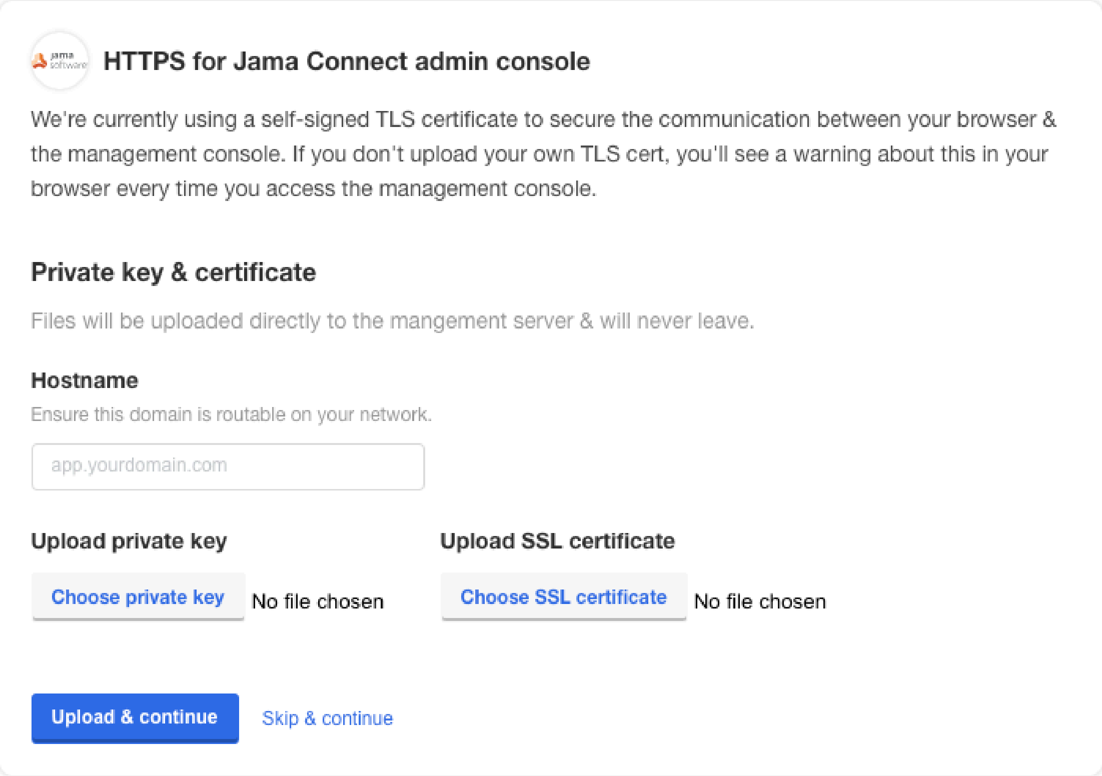
Your connection is not private

Attackers might be trying to steal your information from **app.mycompany.com** (for example, passwords, messages, or credit cards). NET::ERR_CERT_AUTHORITY_INVALID

□ Automatically report details of possible security incidents to Google. Privacy policy

or visit https://34.213.246.127:8800/tls to proceed

2. Choose one:
   - To upload now — Select **Choose private key** and **Choose SSL certificate**, then select **Upload & continue**.
   - To upload later — Select **Choose SSL certificate**.



HTTPS for Jama Connect admin console

We're currently using a self-signed TLS certificate to secure the communication between your browser & the management console. If you don't upload your own TLS cert, you'll see a warning about this in your browser every time you access the management console.

Private key & certificate

Files will be uploaded directly to the mangement server & will never leave.

Hostname

Ensure this domain is routable on your network.

app.yourdomain.com

Upload private key

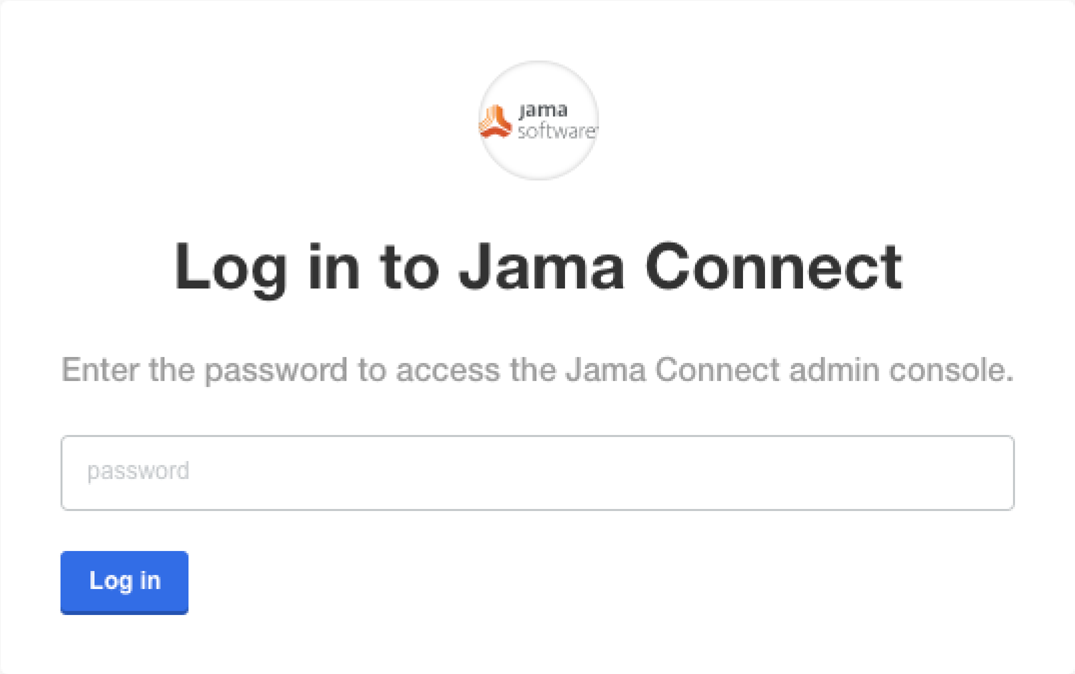
Choose private key No file chosen

Upload SSL certificate

Choose SSL certificate No file chosen

Upload & continue Skip & continue

The KOTS Admin Console login page opens.



Log in to Jama Connect

Enter the password to access the Jama Connect admin console.

password

Log in

Configure TLS certificate

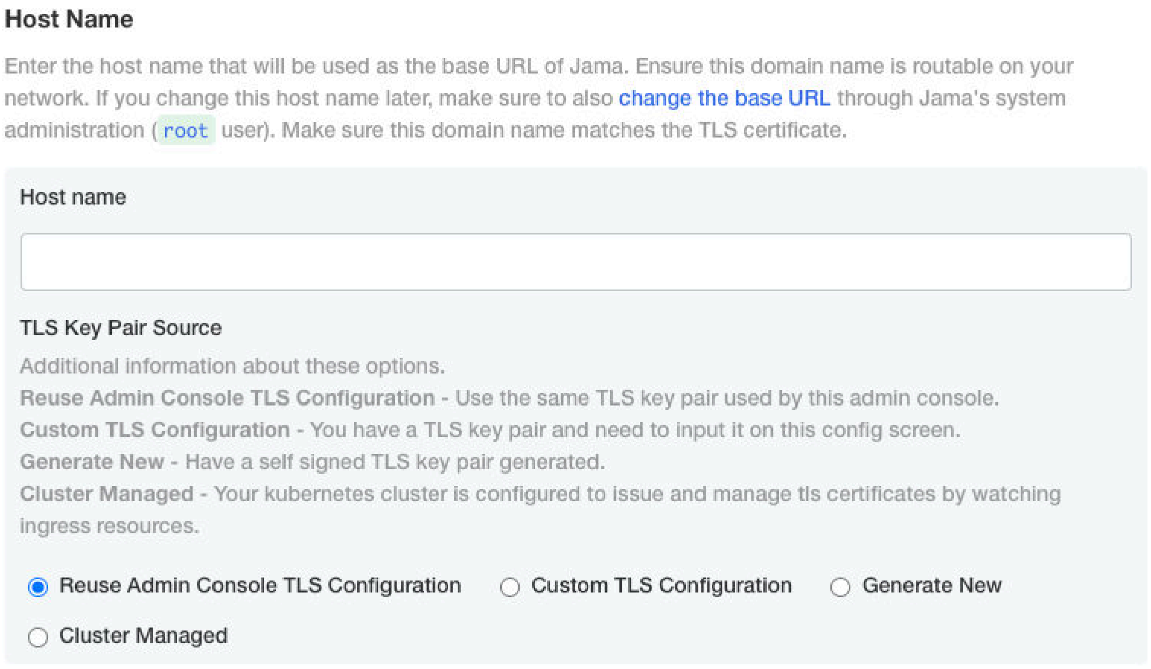
The settings for the TLS certificate can be configured as part of your initial installation of Jama Connect or any time you need to make changes.

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 [50] if it expires.

The certificate ensures that Jama Connect trusts the issuer.

To configure the TLS certificate:

1. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **Host Name** section of the page.



Host Name

Enter the host name that will be used as the base URL of Jama. Ensure this domain name is routable on your network. If you change this host name later, make sure to also change the base URL through Jama's system administration (`root` user). Make sure this domain name matches the TLS certificate.

Host name

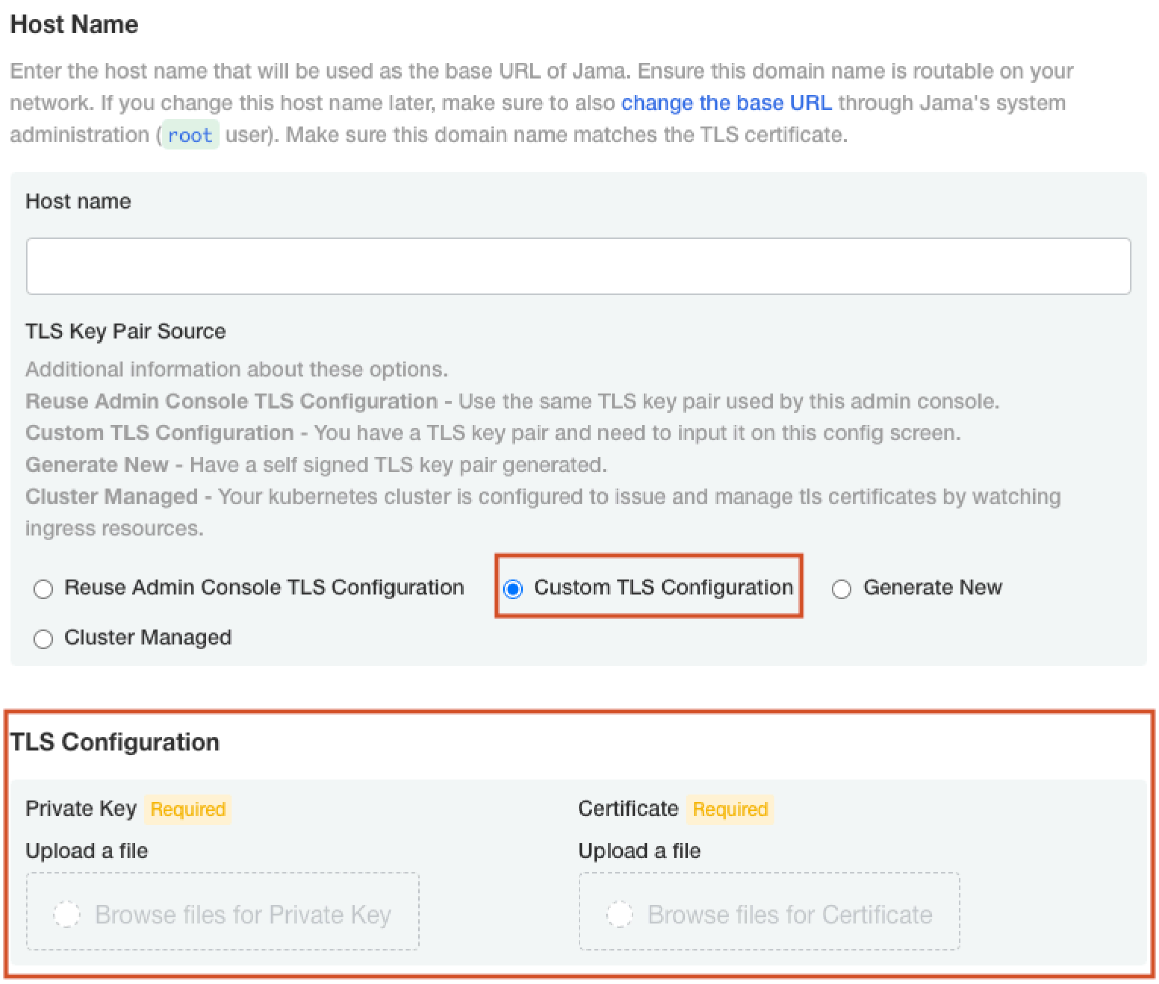
TLS Key Pair Source

Additional information about these options.
Reuse Admin Console TLS Configuration - Use the same TLS key pair used by this admin console.
Custom TLS Configuration - You have a TLS key pair and need to input it on this config screen.
Generate New - Have a self signed TLS key pair generated.
Cluster Managed - Your kubernetes cluster is configured to issue and manage tls certificates by watching ingress resources.

● Reuse Admin Console TLS Configuration ○ Custom TLS Configuration ○ Generate New

○ Cluster Managed

3. Select **Custom TLS Configuration** to open the TLS Configuration section.



Host Name

Enter the host name that will be used as the base URL of Jama. Ensure this domain name is routable on your network. If you change this host name later, make sure to also change the base URL through Jama's system administration (`root` user). Make sure this domain name matches the TLS certificate.

Host name

TLS Key Pair Source

Additional information about these options.
Reuse Admin Console TLS Configuration - Use the same TLS key pair used by this admin console.
Custom TLS Configuration - You have a TLS key pair and need to input it on this config screen.
Generate New - Have a self signed TLS key pair generated.
Cluster Managed - Your kubernetes cluster is configured to issue and manage tls certificates by watching ingress resources.

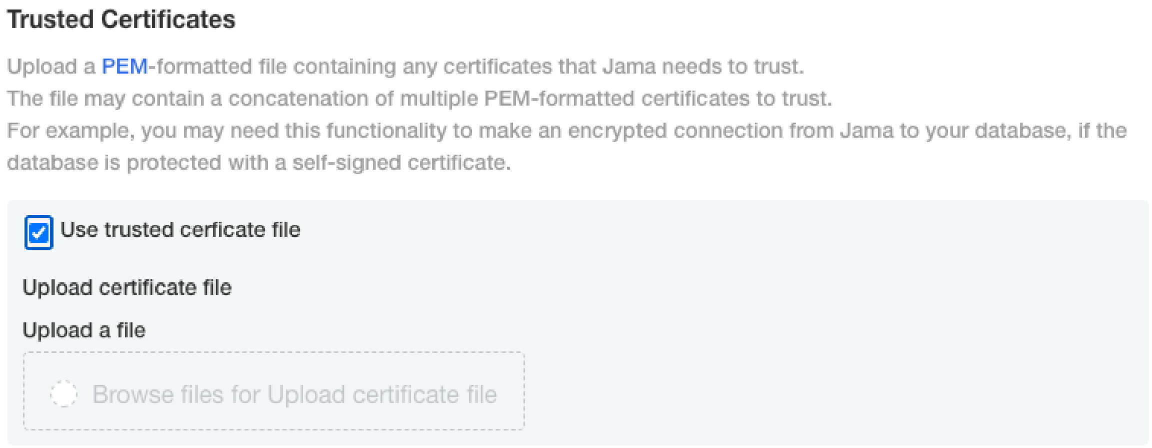
○ Reuse Admin Console TLS Configuration ● Custom TLS Configuration ○ Generate New
○ Cluster Managed

TLS Configuration

Private Key Required
Upload a file
Browse files for Private Key

Certificate Required
Upload a file
Browse files for Certificate

4. To link Jama Connect to a service protected by a certificate (self-signed or issued by a local authority):
   - **Private Key** — Click **Browse files for Private Key** and select your private key.
   - **Certificate** — Click **Upload a file** and select your self-signed certificate.
5. Scroll down to the Trusted Certificates section, and 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.



Trusted Certificates

Upload a PEM-formatted file containing any certificates that Jama needs to trust.
The file may contain a concatenation of multiple PEM-formatted certificates to trust.
For example, you may need this functionality to make an encrypted connection from Jama to your database, if the database is protected with a self-signed certificate.

☑ Use trusted cerficate file

Upload certificate file

Upload a file

Browse files for Upload certificate file

6. Scroll down to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

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.

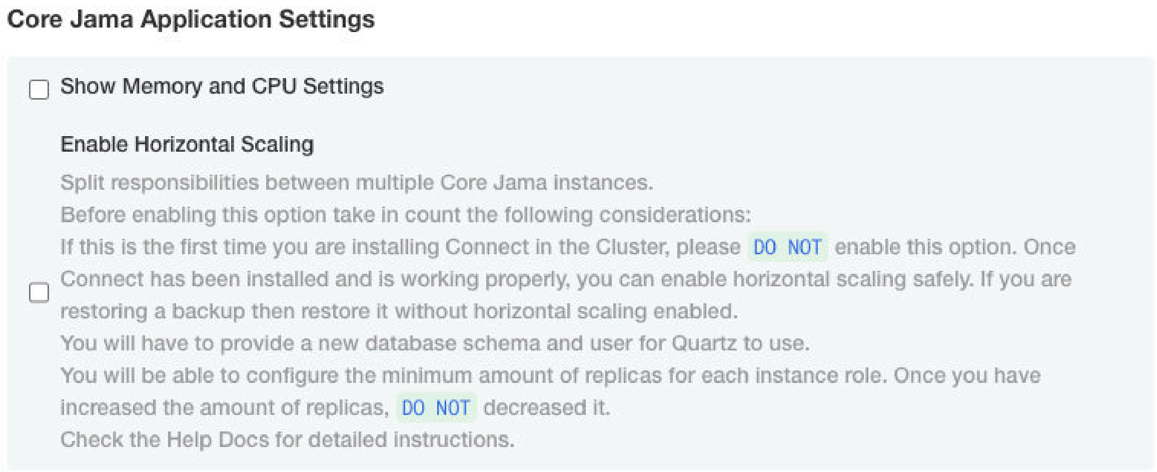
Use the advanced memory settings to change the memory allocation of containers that are running Java processes.

NOTE

When changing memory settings, make sure you don't over-allocate the total memory of the application server. Monitor usage [47] and make sure to leave enough memory for system processes to run smoothly. For information, see Resource sizing for your application server.

To configure memory settings:

1. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **Core Jama Application Settings** section of the page.



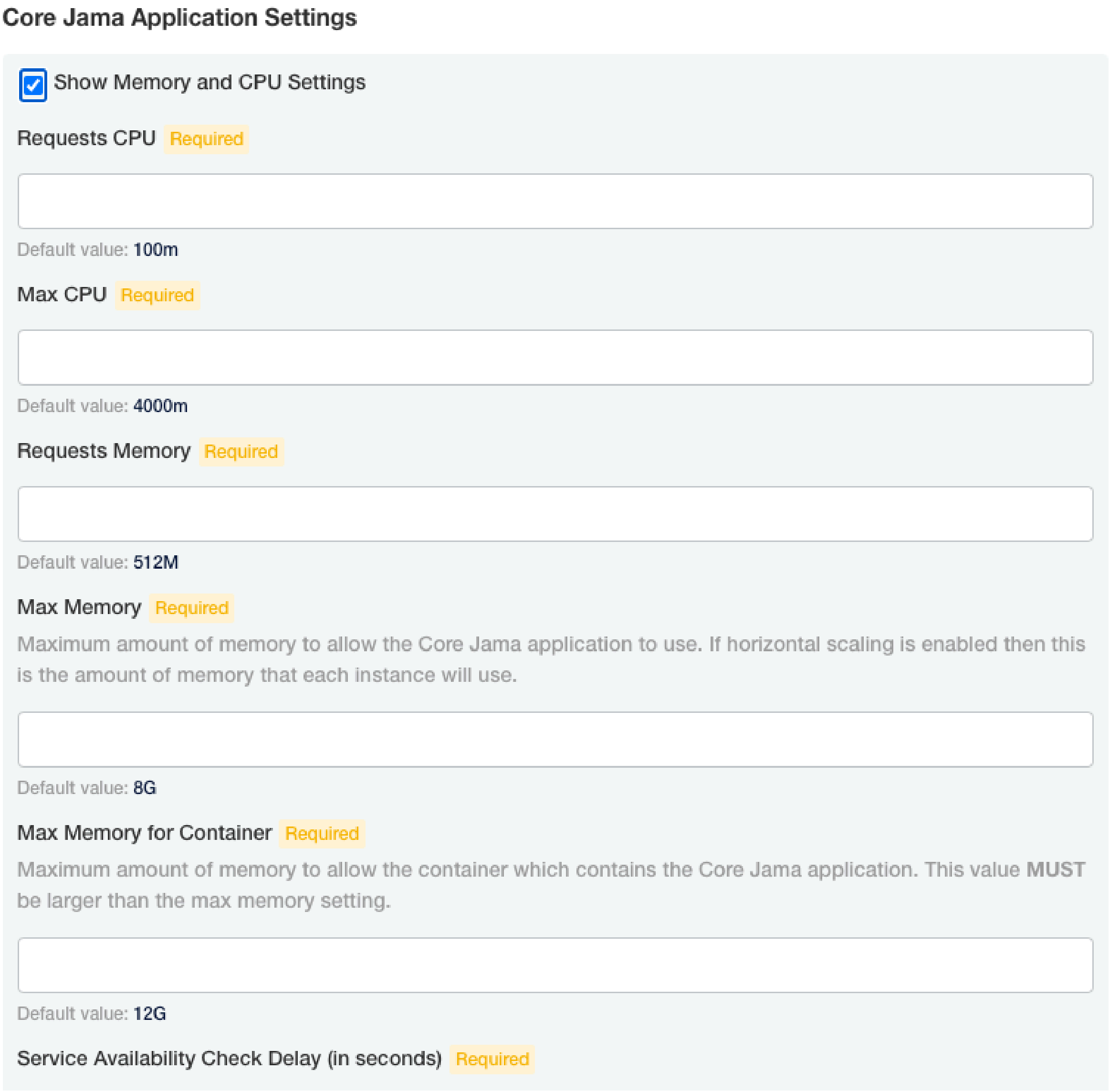
Core Jama Application Settings

□ Show Memory and CPU Settings

□ Enable Horizontal Scaling

Split responsibilities between multiple Core Jama instances.
Before enabling this option take in count the following considerations:
If this is the first time you are installing Connect in the Cluster, please `DO NOT` enable this option. Once Connect has been installed and is working properly, you can enable horizontal scaling safely. If you are restoring a backup then restore it without horizontal scaling enabled.
You will have to provide a new database schema and user for Quartz to use.
You will be able to configure the minimum amount of replicas for each instance role. Once you have increased the amount of replicas, `DO NOT` decreased it.
Check the Help Docs for detailed instructions.

3. Select **Show Memory and CPU Settings**.



Core Jama Application Settings

☑ Show Memory and CPU Settings

Requests CPU Required

Default value: 100m

Max CPU Required

Default value: 4000m

Requests Memory Required

Default value: 512M

Max Memory Required

Maximum amount of memory to allow the Core Jama application to use. If horizontal scaling is enabled then this is the amount of memory that each instance will use.

Default value: 8G

Max Memory for Container Required

Maximum amount of memory to allow the container which contains the Core Jama application. This value **MUST** be larger than the max memory setting.

Default value: 12G

Service Availability Check Delay (in seconds) Required

4. Enter the default values. If you have performance issues, contact Support for help configuring these values.
5. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

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

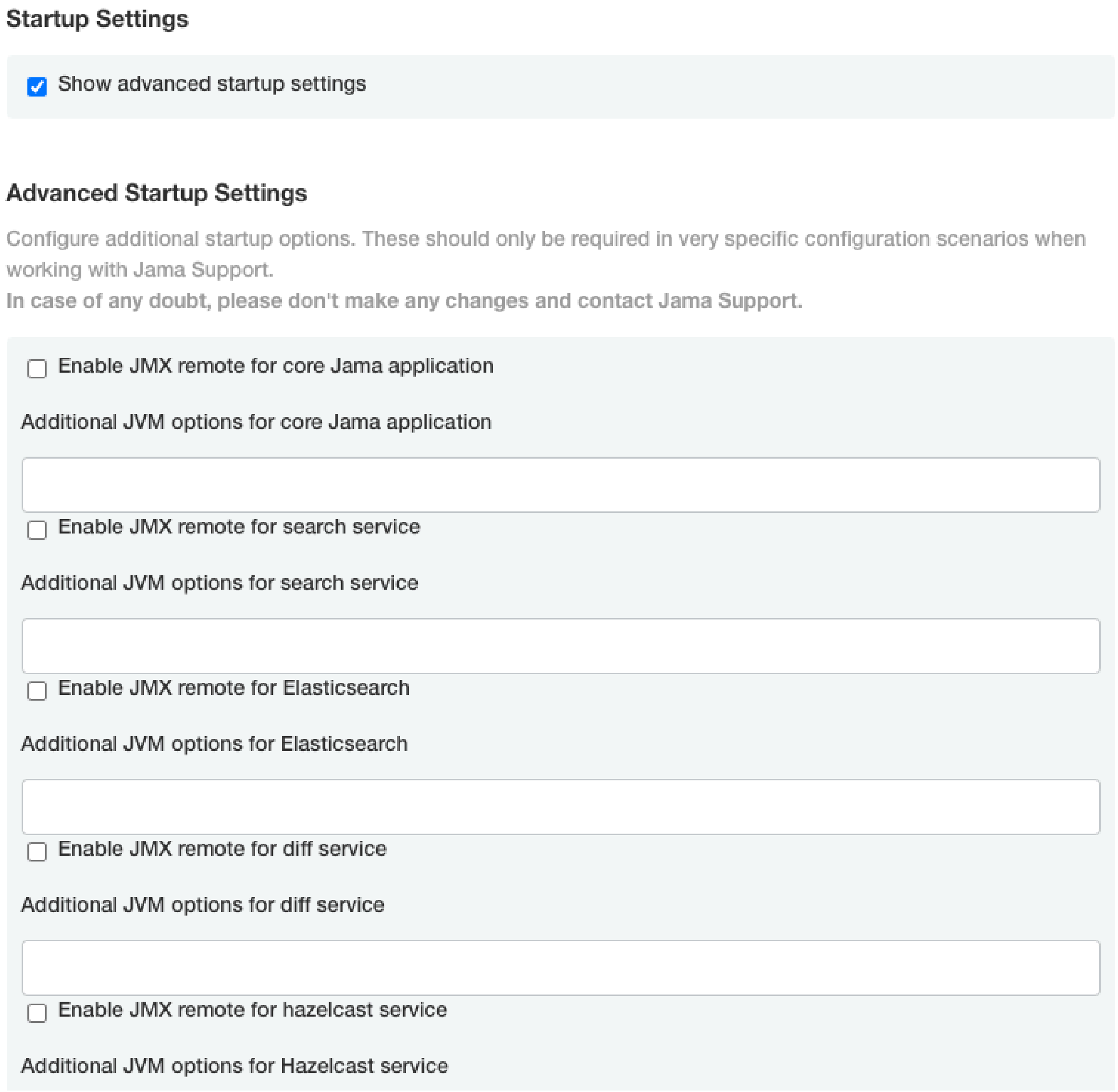
IMPORTANT

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.

To configure advanced startup settings:

1. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **Startup Settings** section of the page, and select **Show advanced startup settings**.



Startup Settings

☑ Show advanced startup settings

Advanced Startup Settings

Configure additional startup options. These should only be required in very specific configuration scenarios when working with Jama Support.
In case of any doubt, please don't make any changes and contact Jama Support.

☐ Enable JMX remote for core Jama application

Additional JVM options for core Jama application

☐ Enable JMX remote for search service

Additional JVM options for search service

☐ Enable JMX remote for Elasticsearch

Additional JVM options for Elasticsearch

☐ Enable JMX remote for diff service

Additional JVM options for diff service

☐ Enable JMX remote for hazelcast service

Additional JVM options for Hazelcast service

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 config**. A message confirms that your settings were saved.

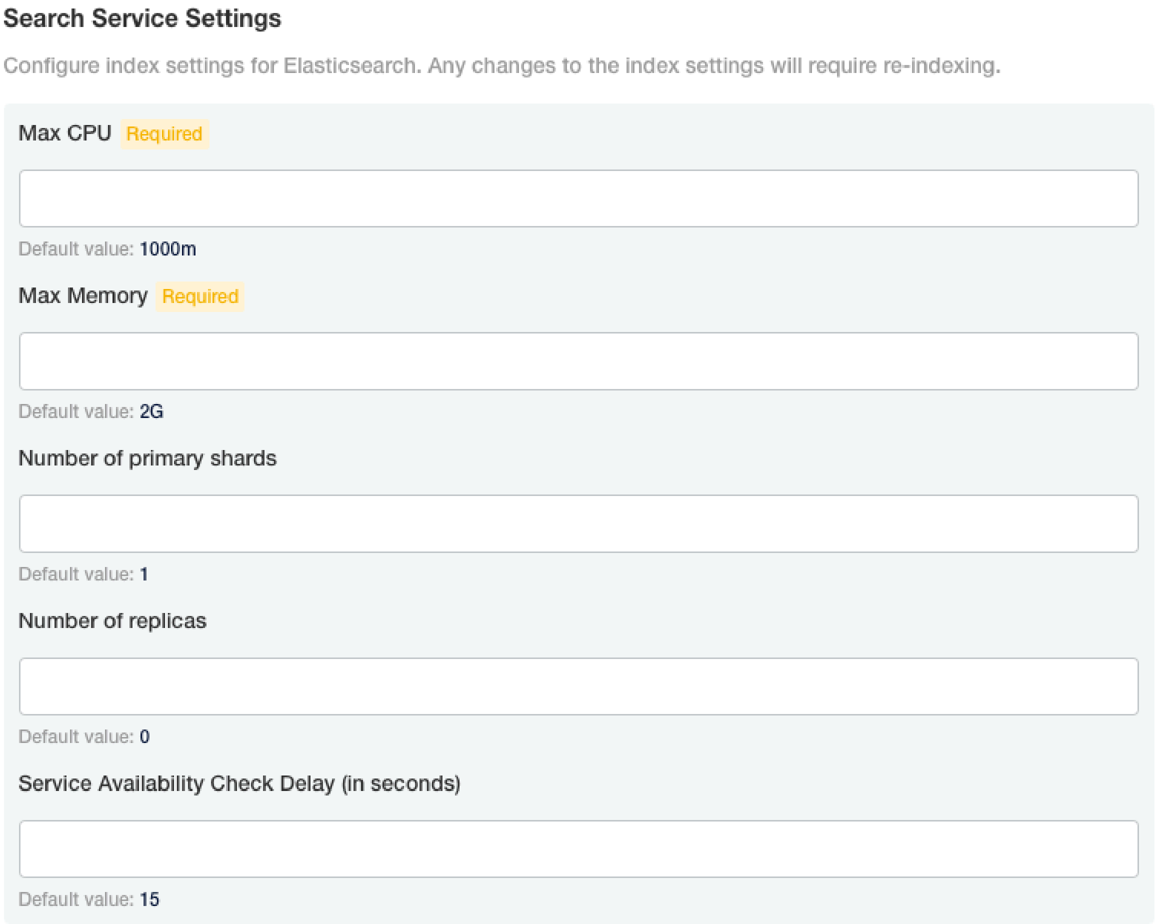
> **TIP**
>
> Garbage collection logging (GC logging) is automatically enabled for containers that are running Java processes. GC log files are available alongside other log files for the respective container [56]. When you restart Jama Connect, previous GC log files are packaged as a ZIP file. Typically, 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.

Configure Search Service Settings

Search service 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 KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **Search Service Settings** section of the page.



Search Service Settings

Configure index settings for Elasticsearch. Any changes to the index settings will require re-indexing.

Max CPU Required

Default value: 1000m

Max Memory Required

Default value: 2G

Number of primary shards

Default value: 1

Number of replicas

Default value: 0

Service Availability Check Delay (in seconds)

Default value: 15

3. Enter the default values.
4. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

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 in Jama Connect.

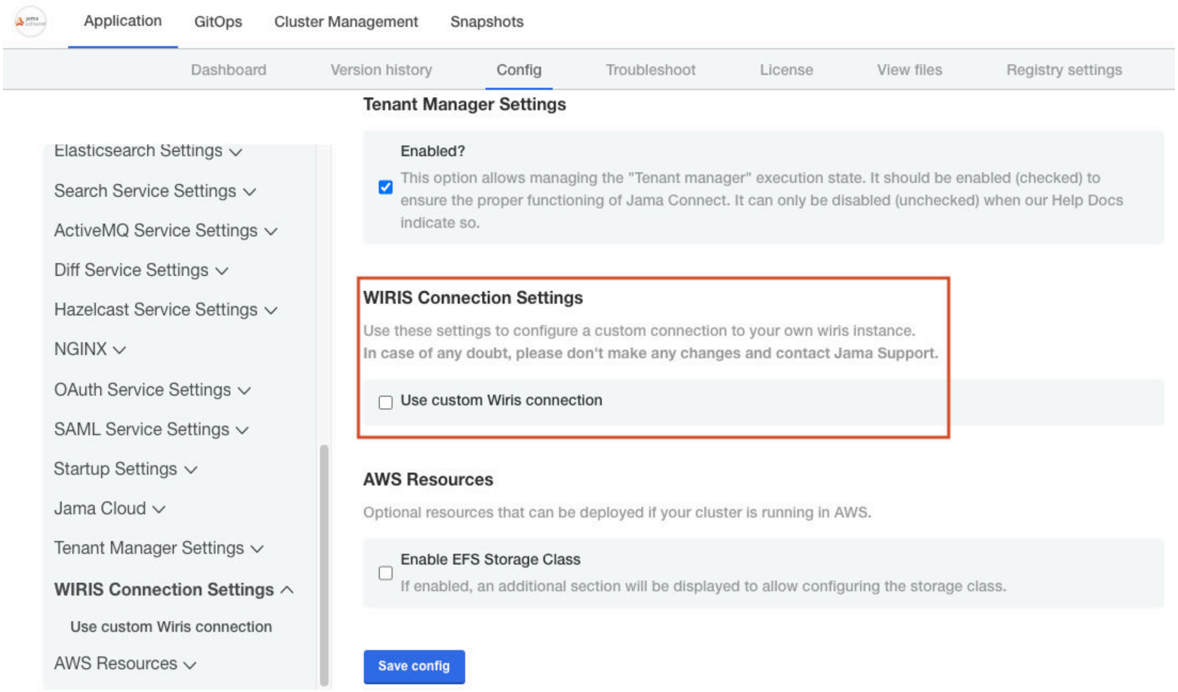
Airgap or self-hosted instances of Jama Connect can add math and chemical equation options to the rich text editor without making calls to an external server.

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. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.
2. Scroll down to the **WIRIS Connection Settings** section of the page.



Tenant Manager Settings

☑ Enabled?
This option allows managing the "Tenant manager" execution state. It should be enabled (checked) to ensure the proper functioning of Jama Connect. It can only be disabled (unchecked) when our Help Docs indicate so.

WIRIS Connection Settings

Use these settings to configure a custom connection to your own wiris instance.
In case of any doubt, please don't make any changes and contact Jama Support.

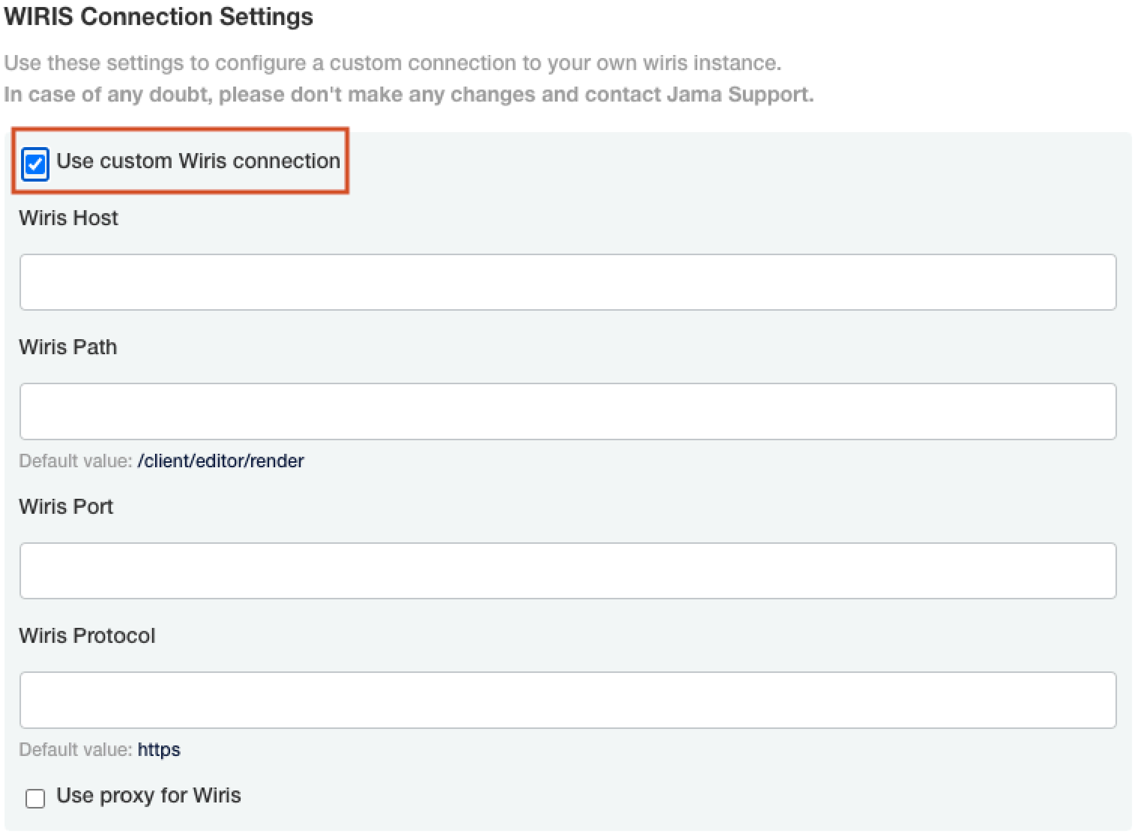
□ Use custom Wiris connection

AWS Resources

Optional resources that can be deployed if your cluster is running in AWS.

□ Enable EFS Storage Class
If enabled, an additional section will be displayed to allow configuring the storage class.

3. Select **Use custom WIRIS connection** to override default settings for communication with the WIRIS cloud servers.



WIRIS Connection Settings

Use these settings to configure a custom connection to your own wiris instance.
In case of any doubt, please don't make any changes and contact Jama Support.

☑ Use custom Wiris connection

Wiris Host

Wiris Path

Default value: /client/editor/render

Wiris Port

Wiris Protocol

Default value: https

□ Use proxy for Wiris

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.

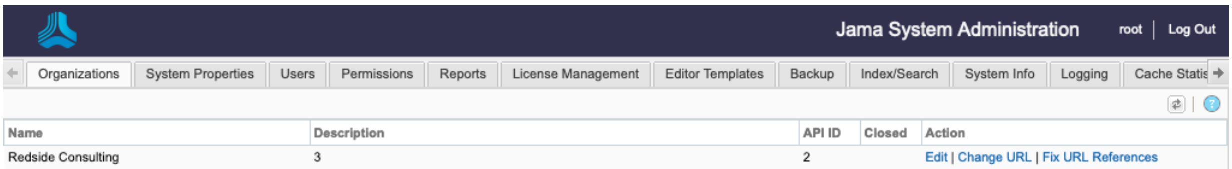
   > **NOTE**
   >
   > Additional settings for proxy are available but haven't been fully tested. You can use these settings if your Jama Connect instance needs to use a proxy to connect to the MathType server. However, these settings don't change how your browser connects to the MathType server.

5. Scroll to the bottom of the page and click **Save config**. A message confirms that your settings were saved.

Setting up Jama Connect

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.



Name	Description	API ID	Closed	Action
Redside Consulting	3	2		Edit | Change URL | Fix URL References

Administrator tasks

System admins complete basic setup and maintenance tasks on the System Administration page. Some of these tasks can also be completed by an organization admin.

Task	System admin	Organization admin
Modify organization details [23]	X	
Configure general properties [24]	X	
Configure authentication properties [27]	X	
Manage users	X	X
Manage permissions	X	X
Manage reports	X	
Monitor license usage	X	X
Create editor templates	X	X
Create a backup [42]	X	
Reindex search [55]	X	
View log and profile [59]	X	
Clear cache [55]	X	
View scheduled jobs [54]	X	
View applied patches [54]	X	

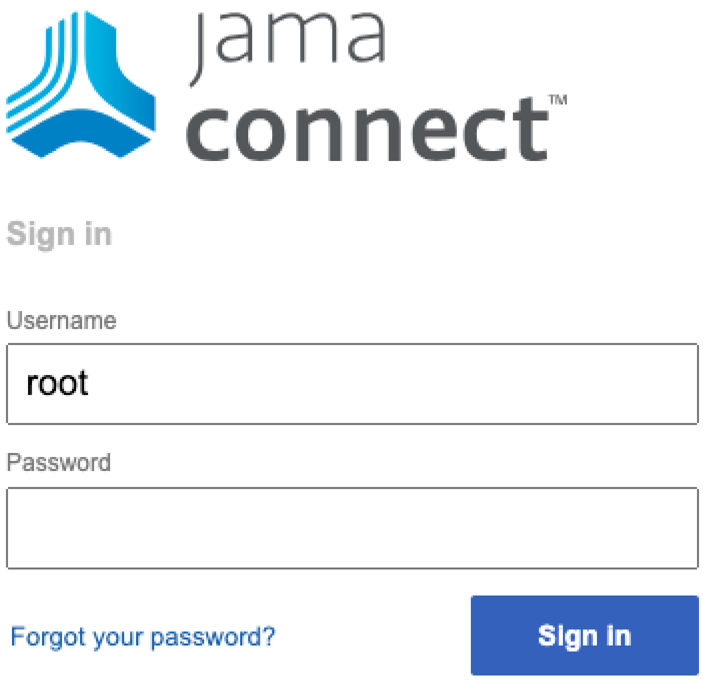
Log in as root for the first time

As a system administrator, you are the root user with a unique set of permissions 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.

To log in as root for the first time:

1. From the Jama Connect login page, enter the default credentials for root, then select **Sign In**.
   - **Username** = root
   - **Password** = password

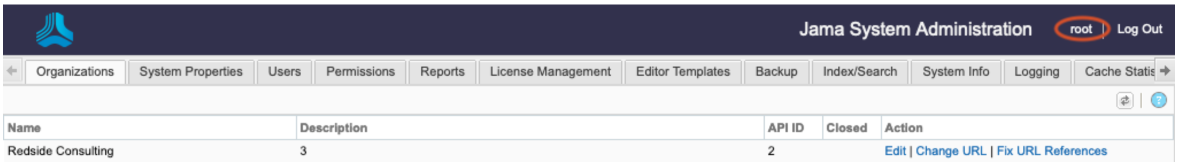


Username

root

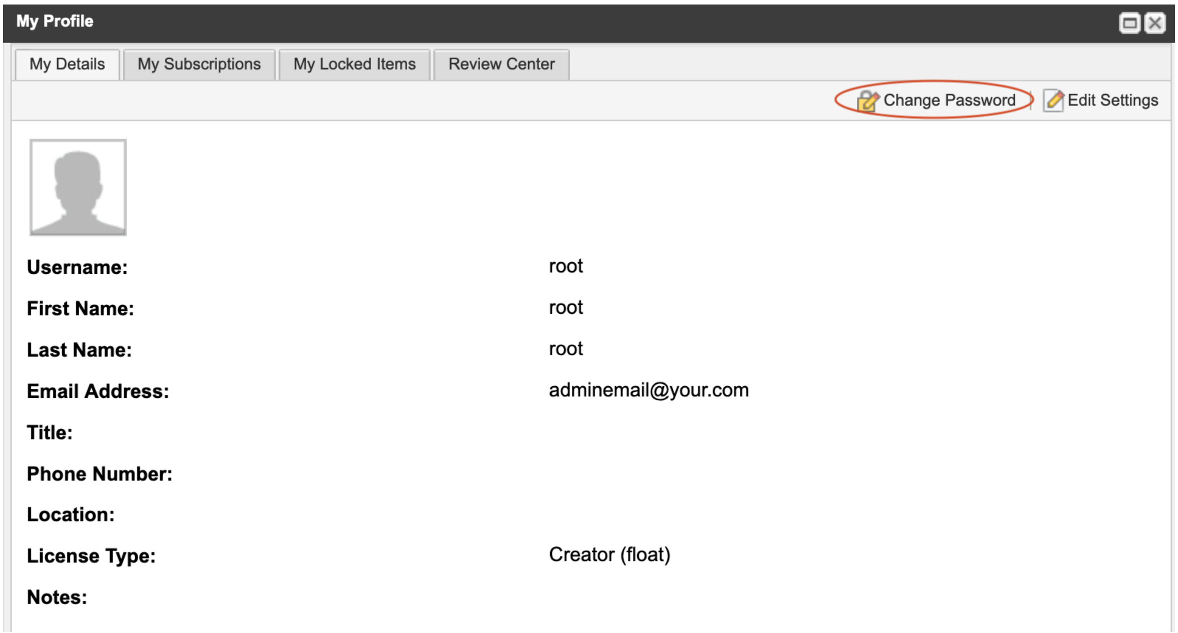
Password

2. In the top right header, select **root**.



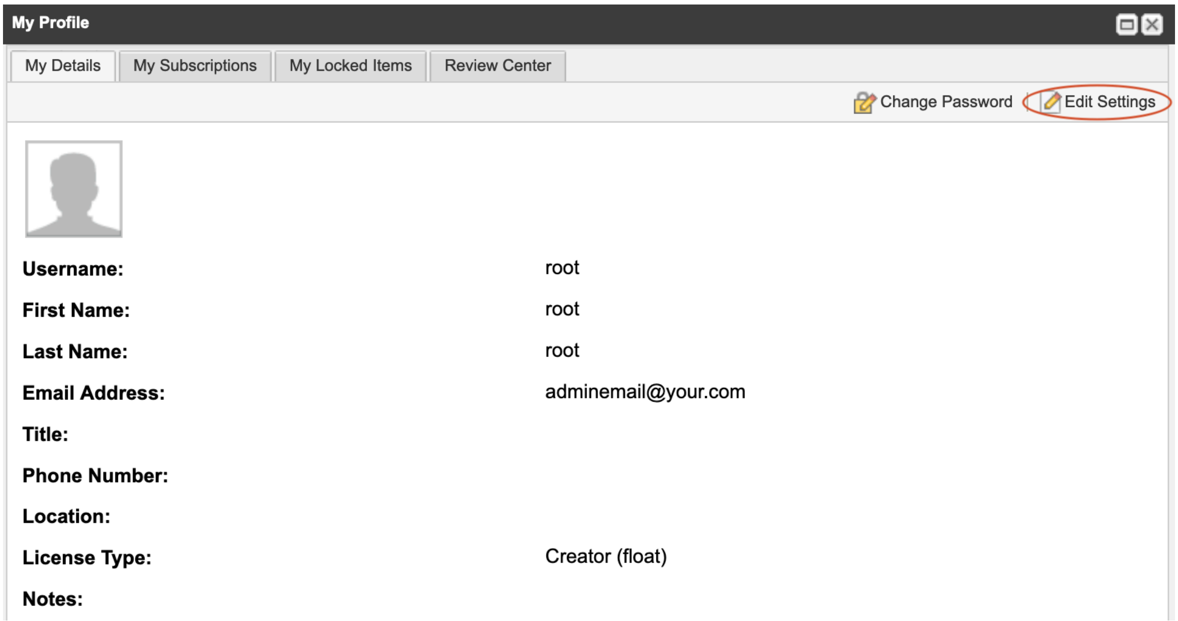
Name	Description	API ID	Closed	Action
Redside Consulting	3	2		Edit | Change URL | Fix URL References

3. On the root user's My Profile page, select **Change Password**.

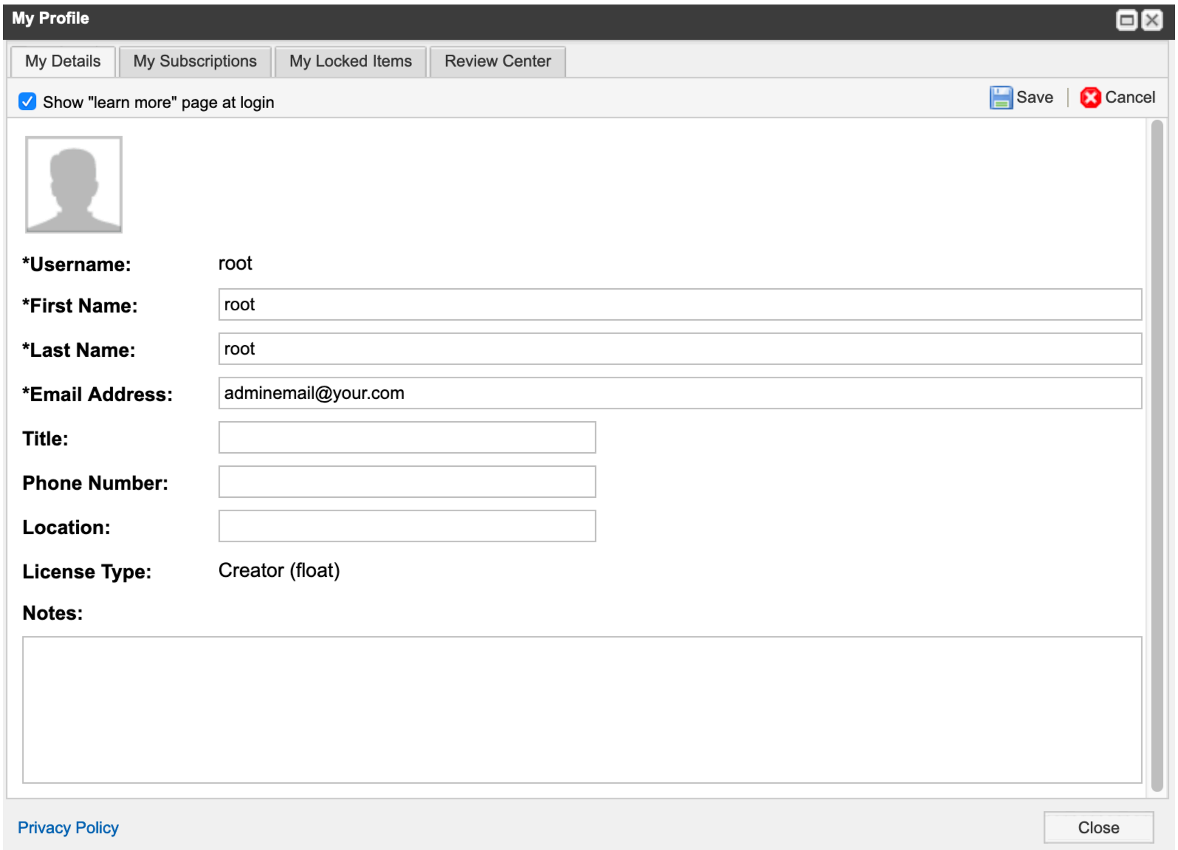


Username:	root
First Name:	root
Last Name:	root
Email Address:	adminemail@your.com
Title:	
Phone Number:	
Location:	
License Type:	Creator (float)
Notes:	

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.



Username:	root
First Name:	root
Last Name:	root
Email Address:	adminemail@your.com
Title:	
Phone Number:	
Location:	
License Type:	Creator (float)
Notes:	



☑ Show "learn more" page at login

***Username:**	root
***First Name:**	root
***Last Name:**	root
***Email Address:**	adminemail@your.com
Title:	
Phone Number:	
Location:	
License Type:	Creator (float)
Notes:	

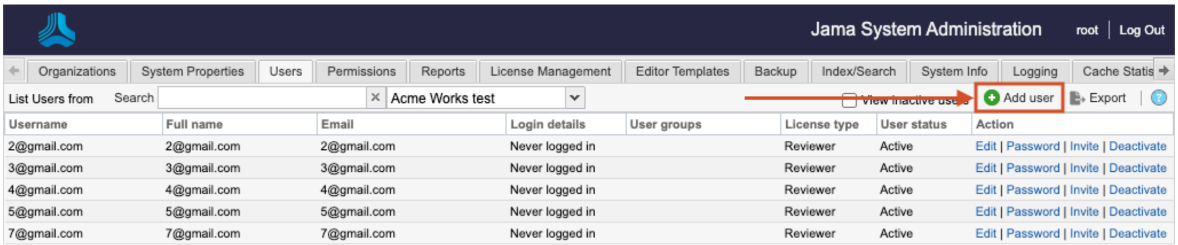
6. Select **Save**, then select **Close**

Assign a new user as organization admin

Only system and organization admins 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 admin permissions to complete this task.

1. Log in to Jama Connect as the root user [18] or as an organization admin.
2. Select **Users > Add user**.

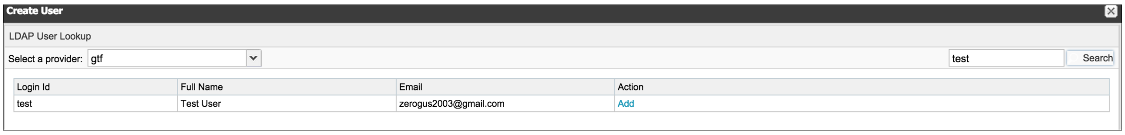


Username	Full name	Email	Login details	User groups	License type	User status	Action
2@gmail.com	2@gmail.com	2@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
3@gmail.com	3@gmail.com	3@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
4@gmail.com	4@gmail.com	4@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
5@gmail.com	5@gmail.com	5@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
7@gmail.com	7@gmail.com	7@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate

3. Select a user if LDAP is enabled [33]:
   a. 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.

   b. From the search results, choose a user, then select **Add**.

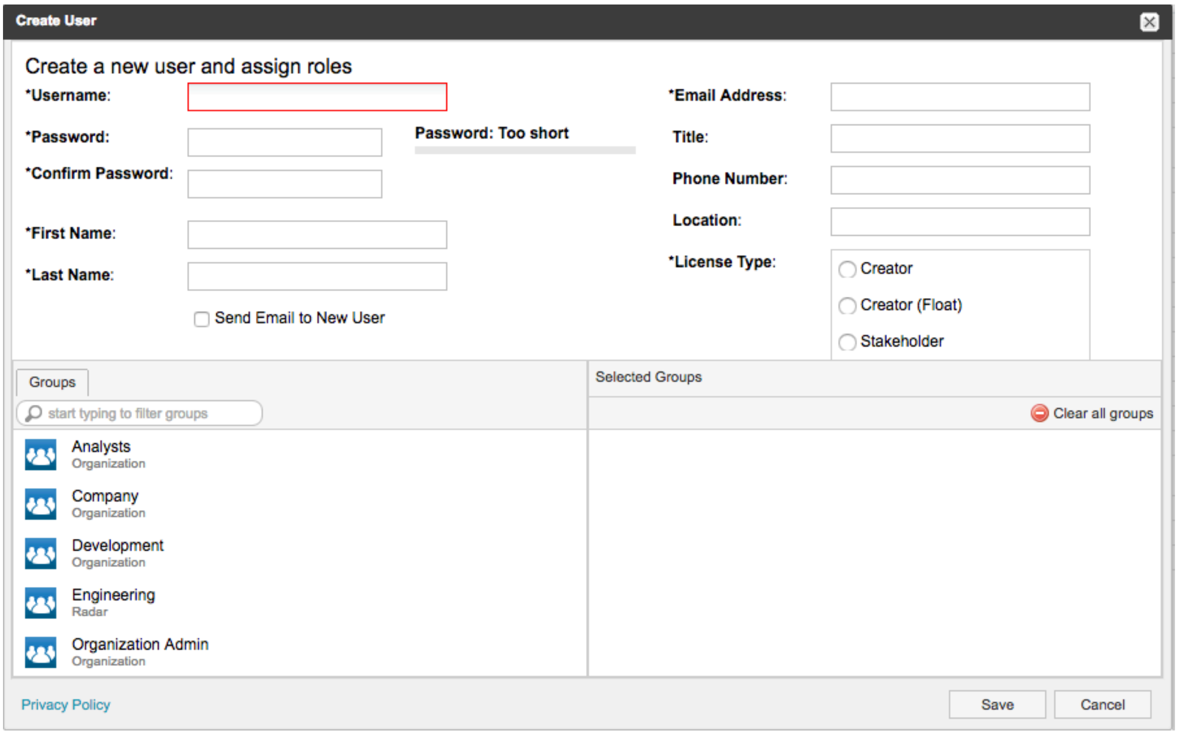


Select a provider: gtf

test

Login Id	Full Name	Email	Action
test	Test User	zerogus2003@gmail.com	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 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	

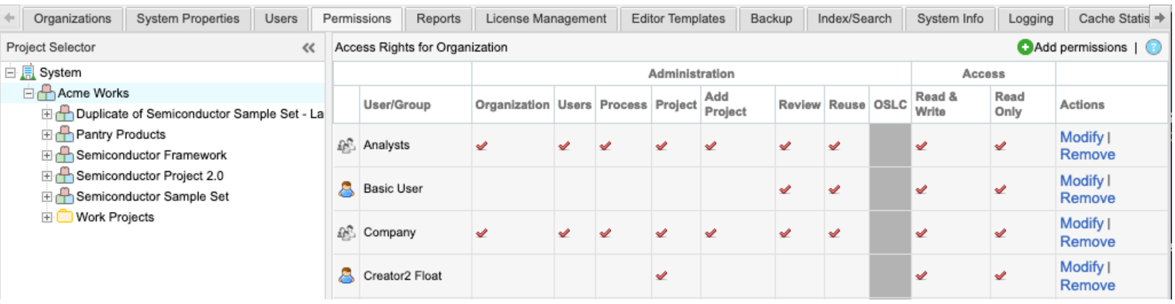
TIP

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.

To grant permissions to users:

1. Log in to Jama Connect as the root user [18] or as an organization admin.
2. Select **Admin > Permissions**.

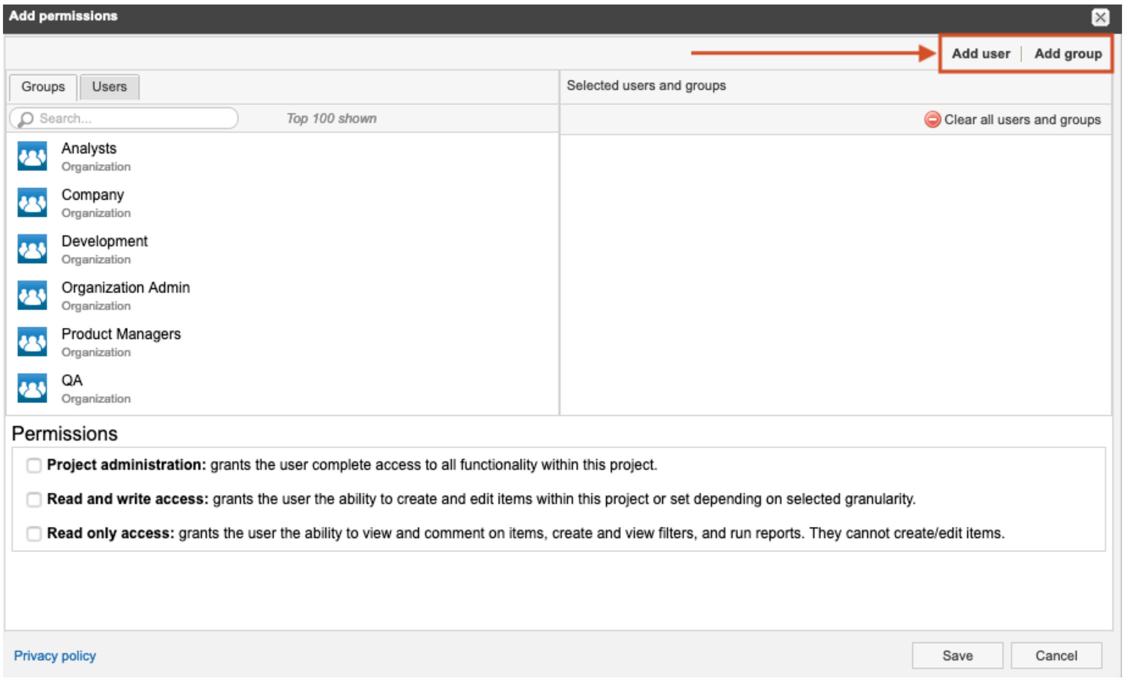


Access Rights for Organization

	Administration								Access		
User/Group	Organization	Users	Process	Project	Add Project	Review	Reuse	OSLC	Read & Write	Read Only	Actions
Analysts	✓	✓	✓	✓	✓	✓	✓		✓	✓	Modify | Remove
Basic User						✓	✓		✓	✓	Modify | Remove
Company	✓	✓	✓	✓	✓	✓	✓		✓	✓	Modify | Remove
Creator2 Float				✓					✓	✓	Modify | Remove

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:
   a. 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.
   b. 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:
   a. Select **Add permissions** in the top right.
   b. In the Add permissions page that opens, select **Add user** or **Add group**.



Analysts
Organization

Company
Organization

Development
Organization

Organization Admin
Organization

Product Managers
Organization

QA
Organization

Permissions

□ **Project administration:** grants the user complete access to all functionality within this project.

□ **Read and write access:** grants the user the ability to create and edit items within this project or set depending on selected granularity.

□ **Read only access:** grants the user the ability to view and comment on items, create and view filters, and run reports. They cannot create/edit items.

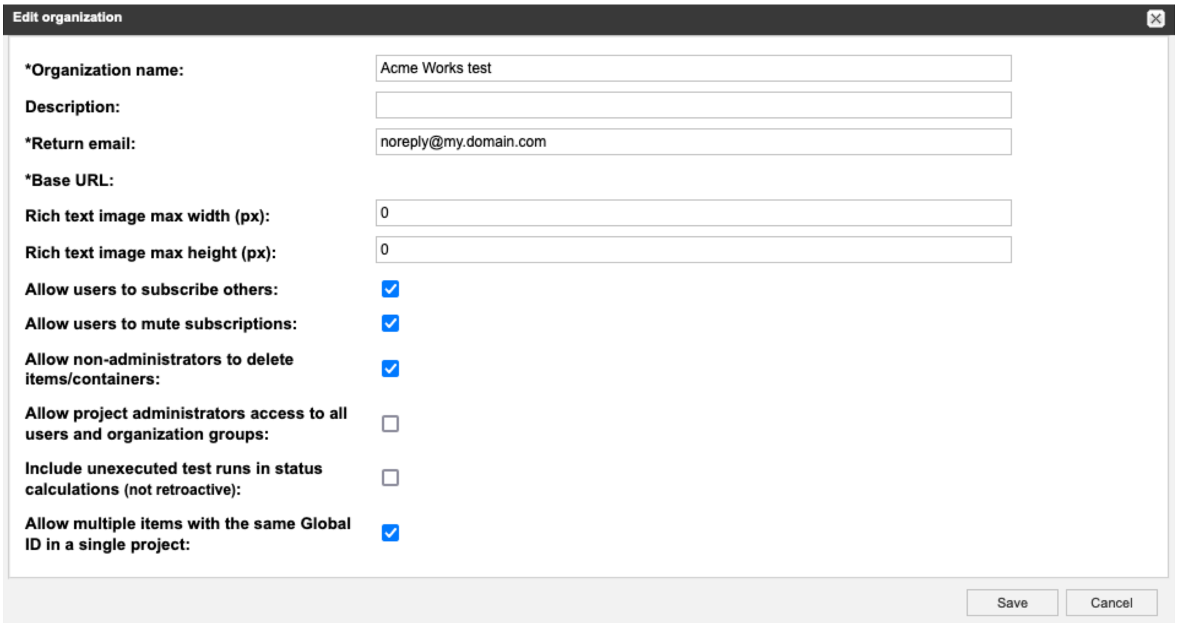
- **Existing user or group** — Select a user or group from the list on the left, then under Permissions, select the role (access permissions) for that user or group.
- **New user or group** — Select **New user** or **New group** in the top right corner of the page. Then under Permissions, select the role or access permissions for that user or group.

c. Select **Save**.

Edit organization details

As a system admin, 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 [18].
2. Select **Organizations > Edit**.



*Organization name:	Acme Works test
Description:	
*Return email:	noreply@my.domain.com
*Base URL:	
Rich text image max width (px):	0
Rich text image max height (px):	0
Allow users to subscribe others:	☑
Allow users to mute subscriptions:	☑
Allow non-administrators to delete items/containers:	☑
Allow project administrators access to all users and organization groups:	□
Include unexecuted test runs in status calculations (not retroactive):	□
Allow multiple items with the same Global ID in a single project:	☑

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 and any messages you want to display on the login page.

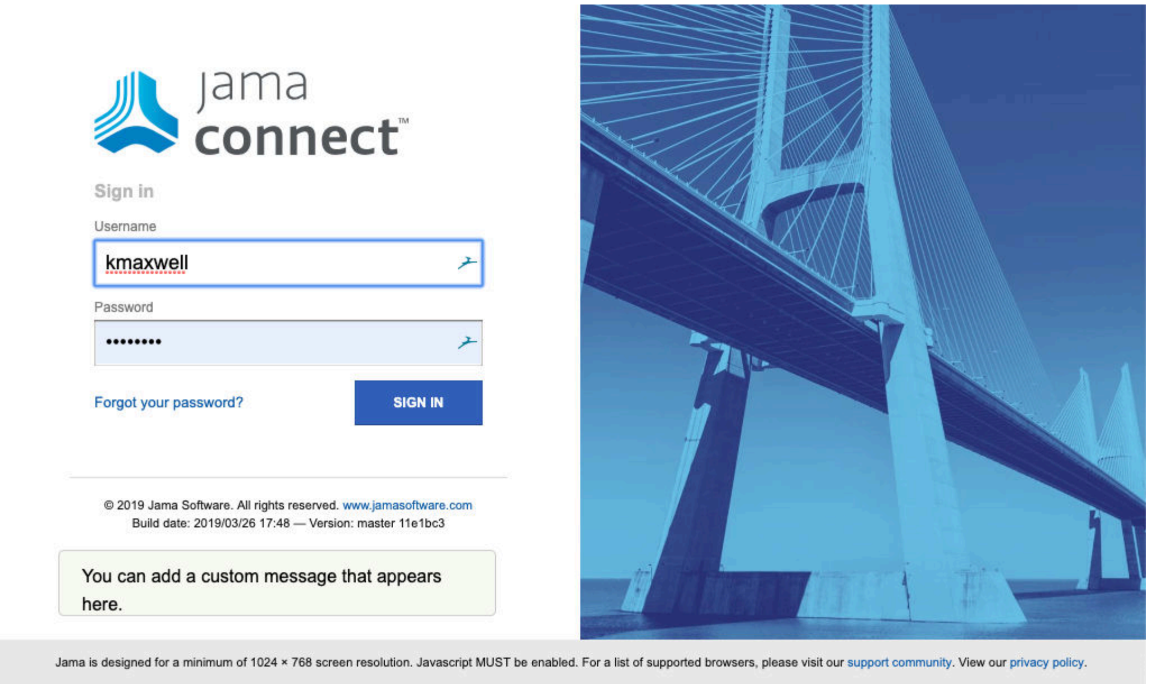
1. Log in to Jama Connect as the root user [18].
2. Select the **System properties** tab in the Jama System Administration panel, then select **Edit** in the top, right corner.
3. Change any of the following settings.
   - **Enable HTML Tag Security Cleaning** — Prevents suspicious HTML tags from being 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.

- **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** — IMAP must be supported to enable reply-to e-mails in the stream. The 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). To enable IMAP, see Configure Inbound email (IMAP) settings [26].
- **Allow Project Administrators to add groups** — Select **Yes** for project administrators to add groups. 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. 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.



Username

kmaxwell

Password

••••••••

© 2019 Jama Software. All rights reserved. www.jamasoftware.com
Build date: 2019/03/26 17:48 — Version: master 11e1bc3

You can add a custom message that appears here.

Jama is designed for a minimum of 1024 × 768 screen resolution. Javascript MUST be enabled. For a list of supported browsers, please visit our support community. View our privacy policy.

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.
- **Set Batch Synchronous Index Limit** — Select a limit that determines whether items in a batch update are indexed synchronously or asynchronously. Synchronous indexing can add time to the index process, so the default value is set to 1000. The added time depends on the number of items and the complexity of fields for those items.
  - **Synchronous indexing** — The number of items in a batch update is equal to or less then the limit.
  - **Asynchronous indexing** — The number of items in a batch update is greater than the limit.

4. Click **Save**.

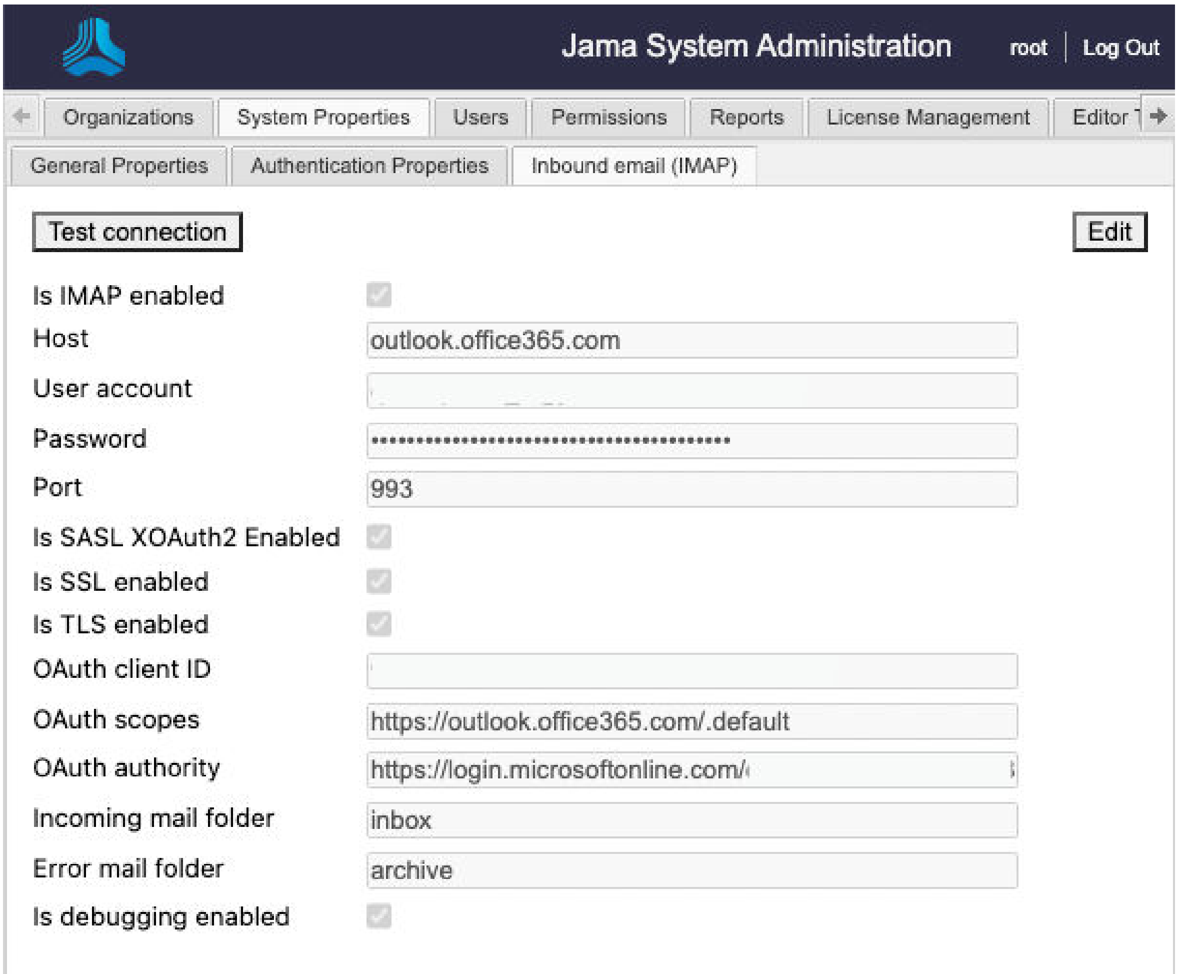
Configure Inbound email (IMAP) settings

Before configuring IMAP, verify that your email server supports IMAP. Your server must support IMAP to enable reply-to emails in the stream.

For more information, see Authenticate an IMAP, POP or SMTP connection using OAuth.

To configure IMAP:

1. Log in to Jama Connect as the root user [18].
2. Select **System Properties > Inbound email (IMAP)**.
3. Click **Edit**, then select **Is IMAP enabled**.
4. Configure the following settings:



Is IMAP enabled ☑

Host outlook.office365.com

User account

Password ••

Port 993

Is SASL XOAuth2 Enabled ☑

Is SSL enabled ☑

Is TLS enabled ☑

OAuth client ID

OAuth scopes https://outlook.office365.com/.default

OAuth authority https://login.microsoftonline.com/

Incoming mail folder inbox

Error mail folder archive

Is debugging enabled ☑

Host	Enter the IMAP server URL.
User account	Enter a user account for someone with access to the folder where IMAP emails are saved.
Password	Enter the password for the user account or the OAuth secret.
Port	The port for IMAP connection, typically different from SMTP. Standard ports are Non-SSL:143, SSL:993.
Is SASL XOAuth2 Enabled	Select to enable OAuth authentication and token-based authorization for Microsoft based IMAP connections.
Is SSL Enabled	Select to enable SSL IMAP connections.
Is TLS Enabled	Select to enable TLS IMAP connections.
OAuth Client ID	Enter the client ID (Microsoft AAD Application ID).
OAuth scopes	Enter the resource URLs defining the token authorization request.
OAuth authority	Enter the URL of the authenticating authority or security token service. Microsoft security token service example: https://login.microsoftonline.com/{microsoft_tenant_id}
Incoming mail folder	(Required) Enter the name of the mail folder to read collaboration replies from.
Error mail folder	(Required) Enter the name of the mail folder to move unknown emails to. Unknown emails are non-collaboration emails.
Is debugging enabled	Select to enable debug level logging for failing IMAP connections. After enabling, check the server logs and test the connection.

5. Click **Save**.

Configure Basic authentication

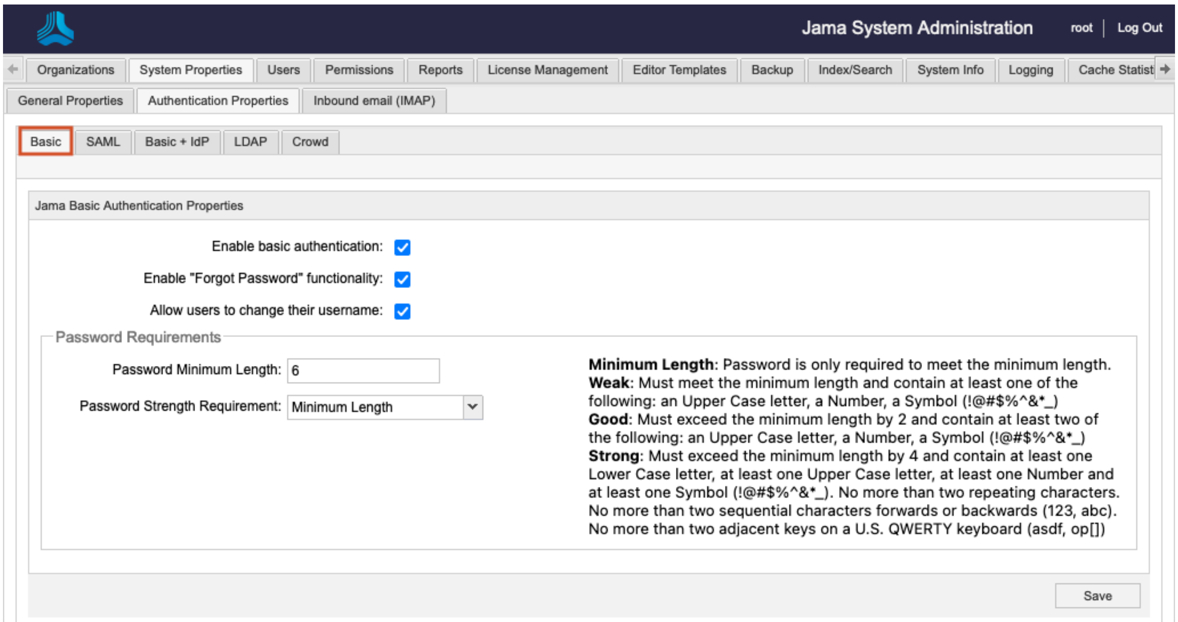
The default authentication method is Jama Connect Basic, which authenticates users by their username and password that are stored in the Jama Connect database. Passwords are encrypted before they are stored in the database.

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 [18].
2. Select **System Properties > Authentication Properties > Basic**.



Jama Basic Authentication Properties

Enable basic authentication: ☑

Enable "Forgot Password" functionality: ☑

Allow users to change their username: ☑

Password Requirements

Password Minimum Length: 6

Password Strength Requirement: Minimum Length

Minimum Length: Password is only required to meet the minimum length.
Weak: Must meet the minimum length and contain at least one of the following: an Upper Case letter, a Number, a Symbol (!@#$%^&*_)
Good: Must exceed the minimum length by 2 and contain at least two of the following: an Upper Case letter, a Number, a Symbol (!@#$%^&*_)
Strong: Must exceed the minimum length by 4 and contain at least one Lower Case letter, at least one Upper Case letter, at least one Number and at least one Symbol (!@#$%^&*_). No more than two repeating characters. No more than two sequential characters forwards or backwards (123, abc). No more than two adjacent keys on a U.S. QWERTY keyboard (asdf, op[])

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.
   - **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**.

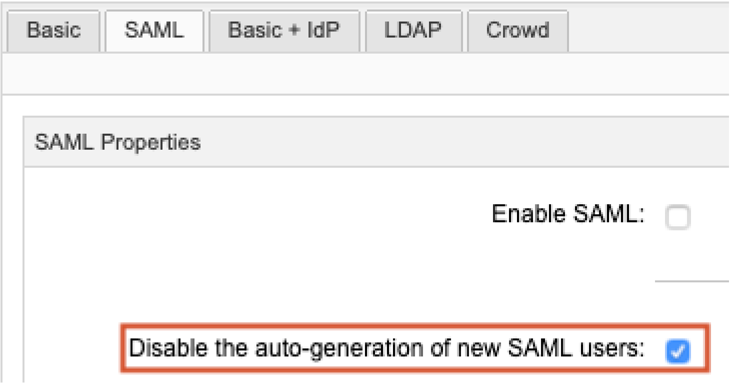
Configure SAML authentication

To configure SAML authentication, you must first update the authentication properties.

Important considerations

- 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, 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.



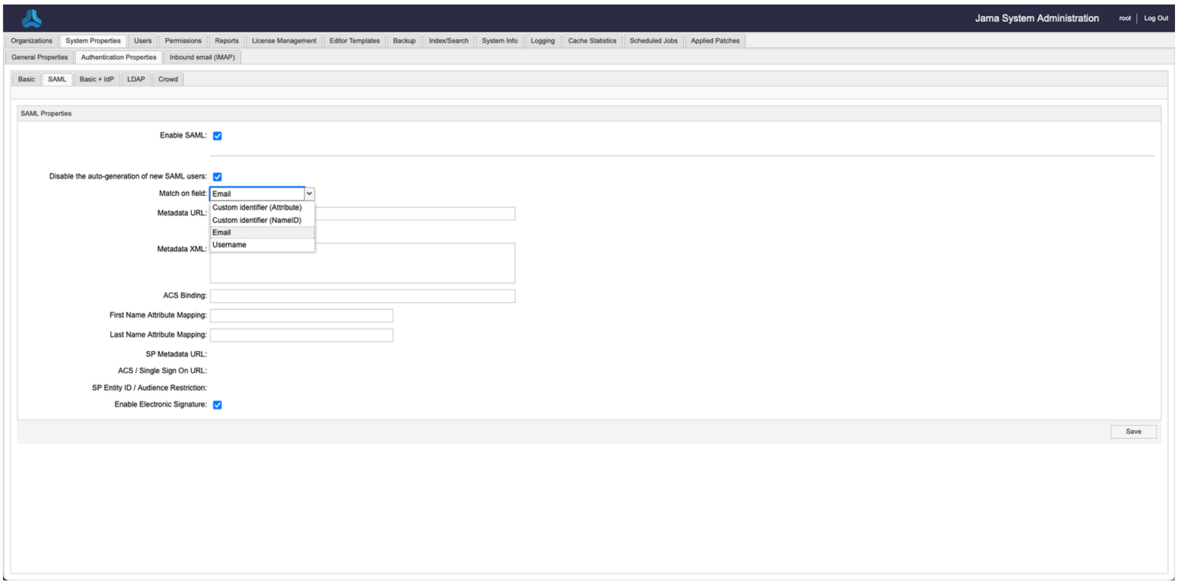
SAML Properties

Enable SAML: □

Disable the auto-generation of new SAML users: ☑

To configure SAML authentication:

1. Log in to Jama Connect as the root user [18].
2. Select **System Properties > Authentication Properties > SAML**.
3. *Before you enter data*, select **Enable SAML**, then click **Save**.



SAML Properties

Enable SAML: ☑

Disable the auto-generation of new SAML users: ☑

Match on field: Email

Metadata URL:

Metadata XML:

ACS Binding:

First Name Attribute Mapping:

Last Name Attribute Mapping:

SP Metadata URL:

ACS / Single Sign On URL:

SP Entity ID / Audience Restriction:

Enable Electronic Signature: ☑

NOTE

The following selections for the **Match on field** configuration are beta features that are under development: **Username**, **Custom identifier (NameID)**, and **Custom identifier (Attribute)**. For now, use the default **Email** selection. If you're interested in beta testing the **Username** or **Custom identifier** selections, contact your account manager.

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.

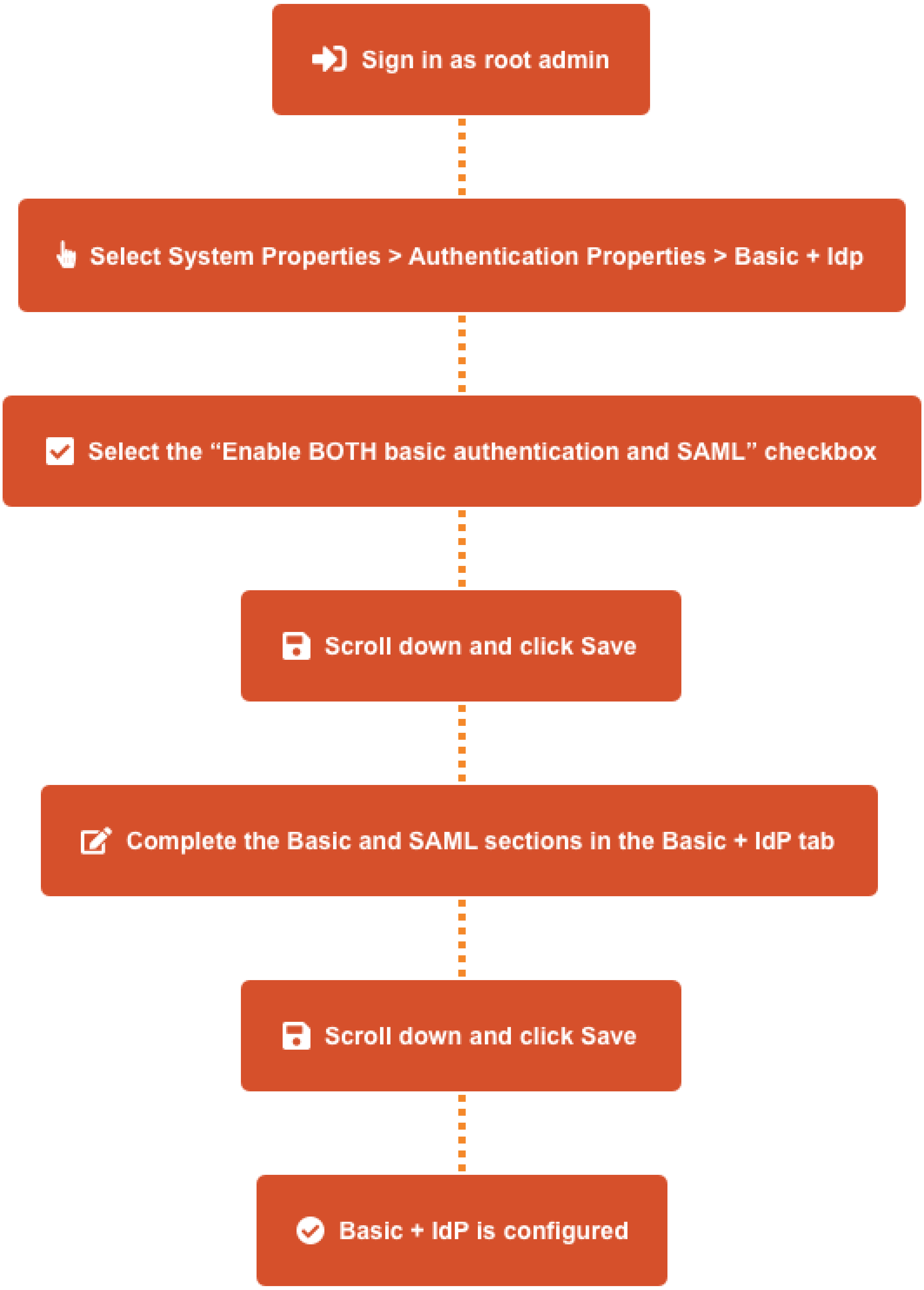
5. Click **Save**.

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.



Sign in as root admin

Select System Properties > Authentication Properties > Basic + Idp

Select the “Enable BOTH basic authentication and SAML” checkbox

Scroll down and click Save

Complete the Basic and SAML sections in the Basic + IdP tab

Scroll down and click Save

Basic + IdP is configured

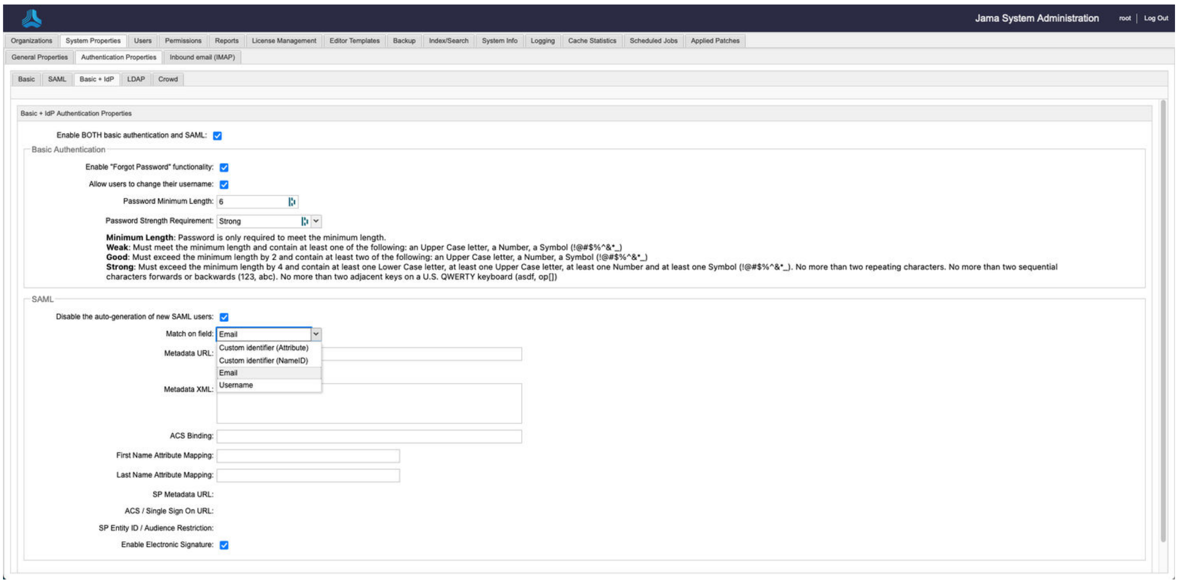
To configure multi-mode authentication:

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 [18].
3. Select **System Properties > Authentication Properties > Basic + IdP**.


Jama System Administration
root | Log Out
Organizations | System Properties | Users | Permissions | Reports | License Management | Editor Templates | Backup | Index/Search | System Info | Logging | Cache Statistics | Scheduled Jobs | Applied Patches
General Properties | Authentication Properties | Inbound email (IMAP)
Basic | SAML | Basic + IdP | LDAP | Crowd

Basic + IdP Authentication Properties

Enable BOTH basic authentication and SAML: ☑

Basic Authentication

Enable "Forgot Password" functionality: ☑

Allow users to change their username: ☑

Password Minimum Length: 6

Password Strength Requirement: Strong

Minimum Length: Password is only required to meet the minimum length.
Weak: Must meet the minimum length and contain at least one of the following: an Upper Case letter, a Number, a Symbol (!@#$%^&*_)
Good: Must exceed the minimum length by 2 and contain at least two of the following: an Upper Case letter, a Number, a Symbol (!@#$%^&*_)
Strong: Must exceed the minimum length by 4 and contain at least one Lower Case letter, at least one Upper Case letter, at least one Number and at least one Symbol (!@#$%^&*_). No more than two repeating characters. No more than two sequential characters forwards or backwards (123, abc). No more than two adjacent keys on a U.S. QWERTY keyboard (asdf, op[])

SAML

Disable the auto-generation of new SAML users: ☑

Match on field: Email
Custom identifier (Attribute)
Custom identifier (NameID)
Email
Username

Metadata URL:

Metadata XML:

ACS Binding:

First Name Attribute Mapping:

Last Name Attribute Mapping:

SP Metadata URL:

ACS / Single Sign On URL:

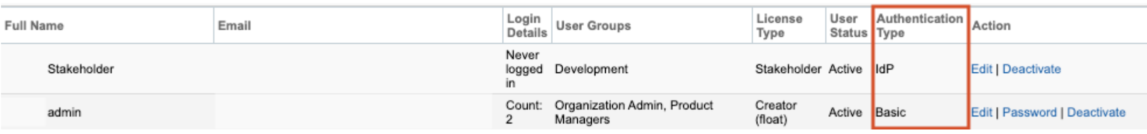
SP Entity ID / Audience Restriction:

Enable Electronic Signature: ☑

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.

   > **NOTE**
   > The following selections for the **Match on field** configuration are beta features that are under development: **Username**, **Custom identifier (NameID)**, and **Custom identifier (Attribute)**. For now, use the default **Email** selection. If you're interested in beta testing the **Username** or **Custom identifier** selections, contact your account manager.

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.



Full Name	Email	Login Details	User Groups	License Type	User Status	Authentication Type	Action
Stakeholder		Never logged in	Development	Stakeholder	Active	IdP	Edit | Deactivate
admin		Count: 2	Organization Admin, Product Managers	Creator (float)	Active	Basic	Edit | Password | Deactivate

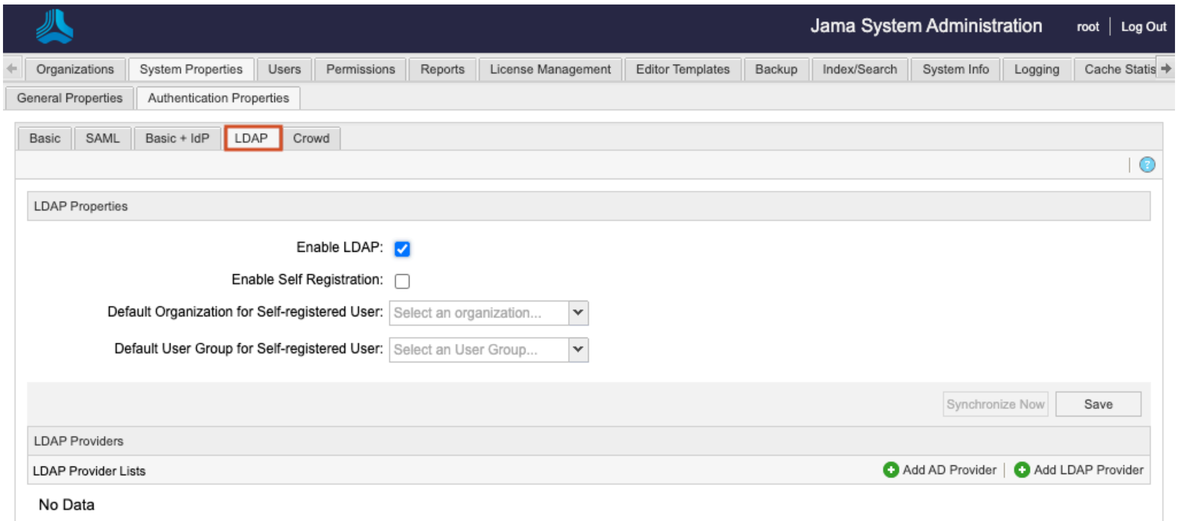
Configure LDAP authentication

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 [18].
2. Select **System Properties > Authentication Properties > LDAP**.



Enable LDAP: ☑

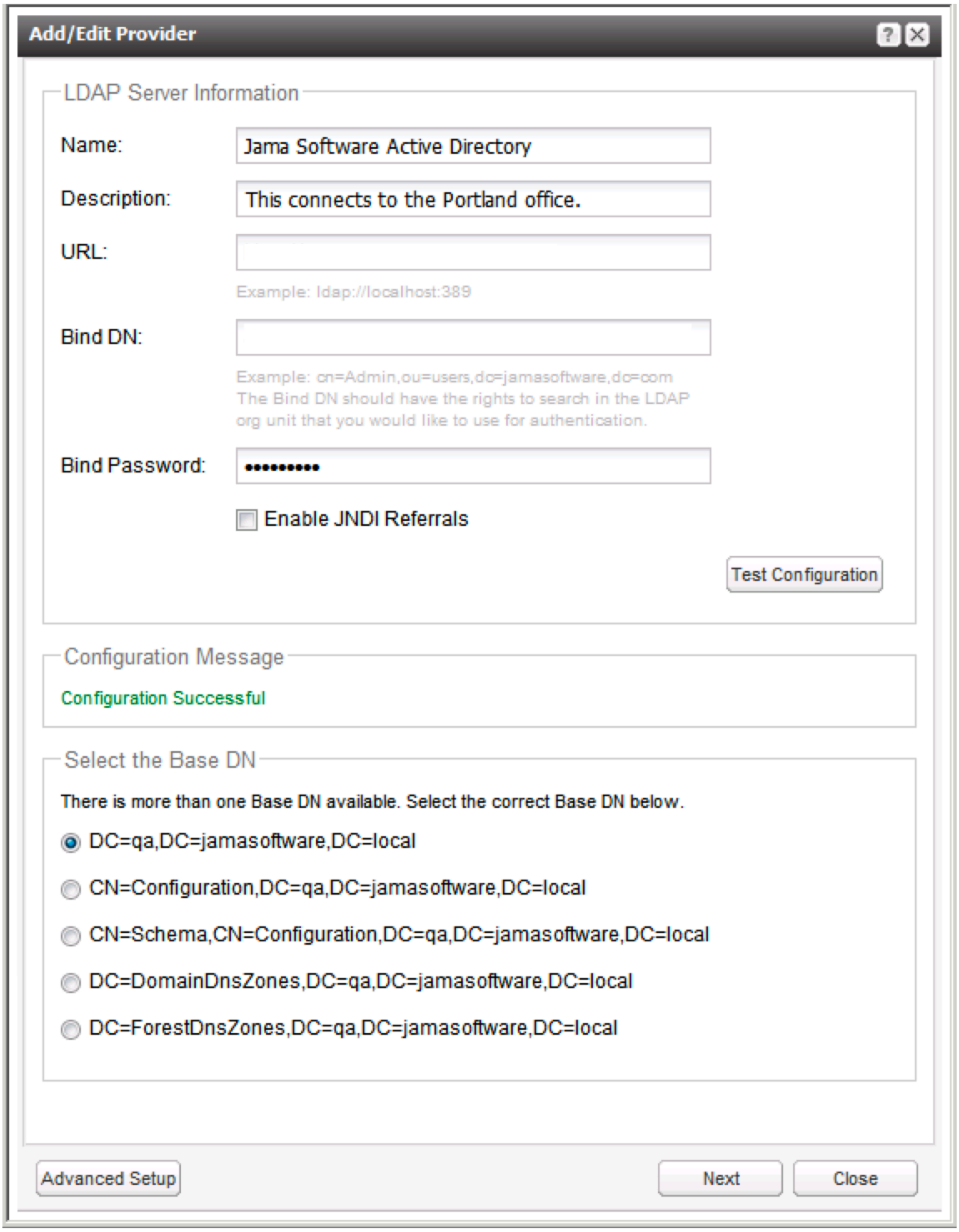
Enable Self Registration: □

Default Organization for Self-registered User: Select an organization...

Default User Group for Self-registered User: Select an User Group...

No Data

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 server information used to connect to the Active Directory or LDAP server, then click **Next**.



Add/Edit Provider

LDAP Server Information

Name: Jama Software Active Directory

Description: This connects to the Portland office.

URL:

Example: ldap://localhost:389

Bind DN:

Example: cn=Admin,ou=users,dc=jamasoftware,dc=com
The Bind DN should have the rights to search in the LDAP org unit that you would like to use for authentication.

Bind Password: ••••••••••

□ Enable JNDI Referrals

Configuration Message

Configuration Successful

Select the Base DN

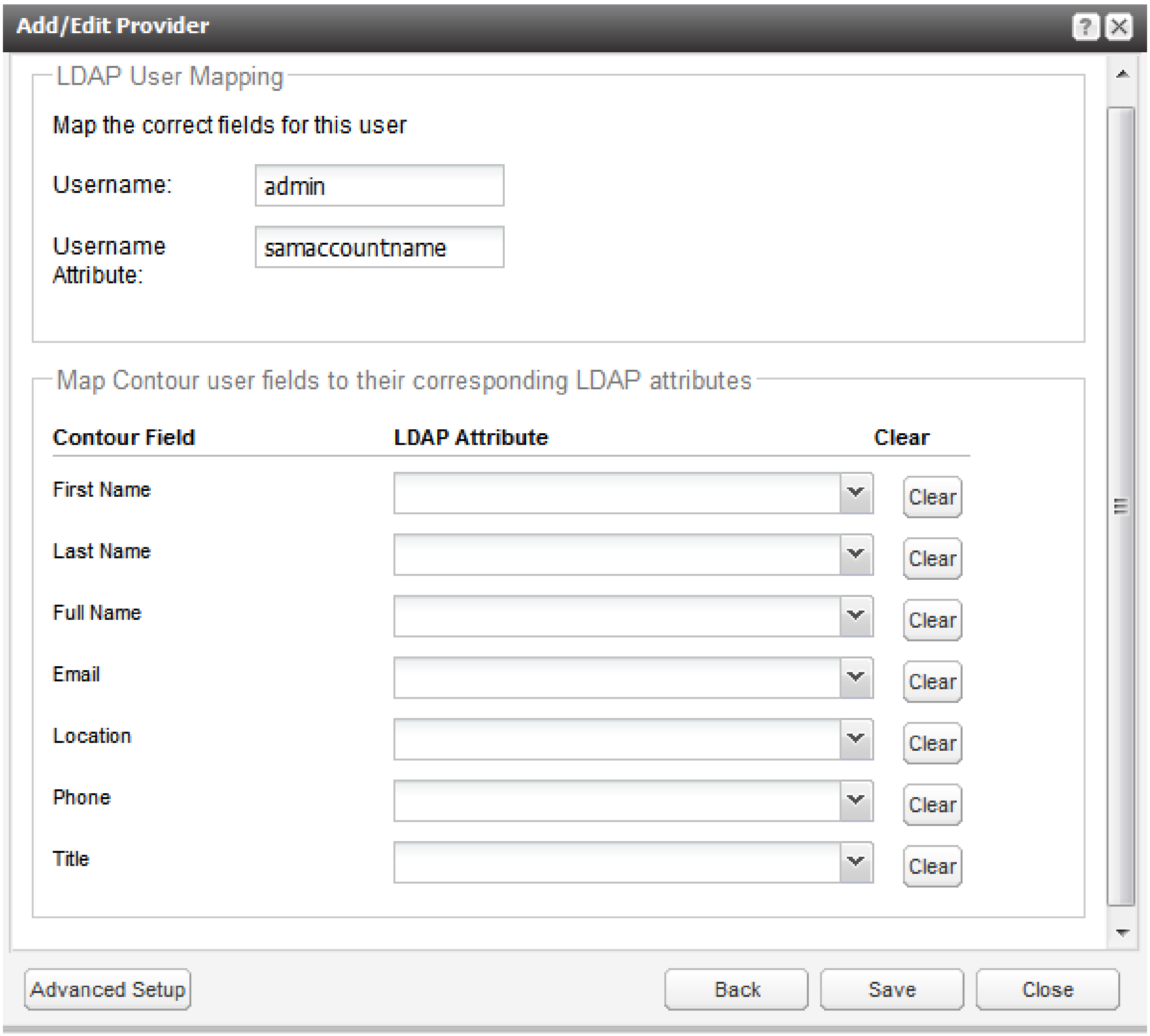
There is more than one Base DN available. Select the correct Base DN below.

- ● DC=qa,DC=jamasoftware,DC=local
- ○ CN=Configuration,DC=qa,DC=jamasoftware,DC=local
- ○ CN=Schema,CN=Configuration,DC=qa,DC=jamasoftware,DC=local
- ○ DC=DomainDnsZones,DC=qa,DC=jamasoftware,DC=local
- ○ DC=ForestDnsZones,DC=qa,DC=jamasoftware,DC=local

- **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.



Add/Edit Provider

LDAP User Mapping

Map the correct fields for this user

Username: admin

Username Attribute: samaccountname

Map Contour user fields to their corresponding LDAP attributes

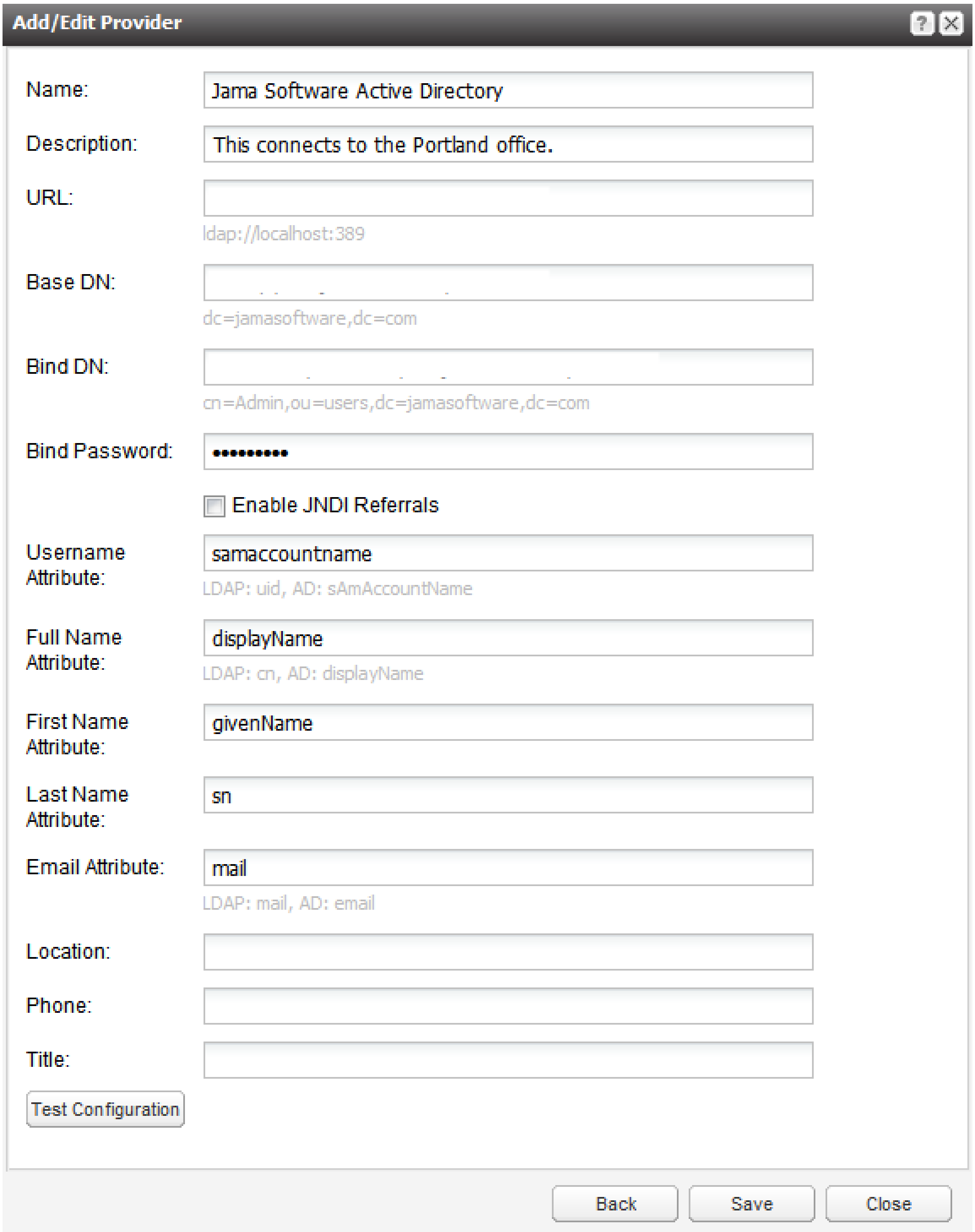
Contour Field	LDAP Attribute	Clear
First Name		Clear
Last Name		Clear
Full Name		Clear
Email		Clear
Location		Clear
Phone		Clear
Title		Clear

- **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.



Add/Edit Provider

Name:	Jama Software Active Directory
Description:	This connects to the Portland office.
URL:	 ldap://localhost:389
Base DN:	 dc=jamasoftware,dc=com
Bind DN:	 cn=Admin,ou=users,dc=jamasoftware,dc=com
Bind Password:	●●●●●●●●●
	□ Enable JNDI Referrals
Username Attribute:	samaccountname LDAP: uid, AD: sAmAccountName
Full Name Attribute:	displayName LDAP: cn, AD: displayName
First Name Attribute:	givenName
Last Name Attribute:	sn
Email Attribute:	mail LDAP: mail, AD: email
Location:	
Phone:	
Title:	

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 [20] 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

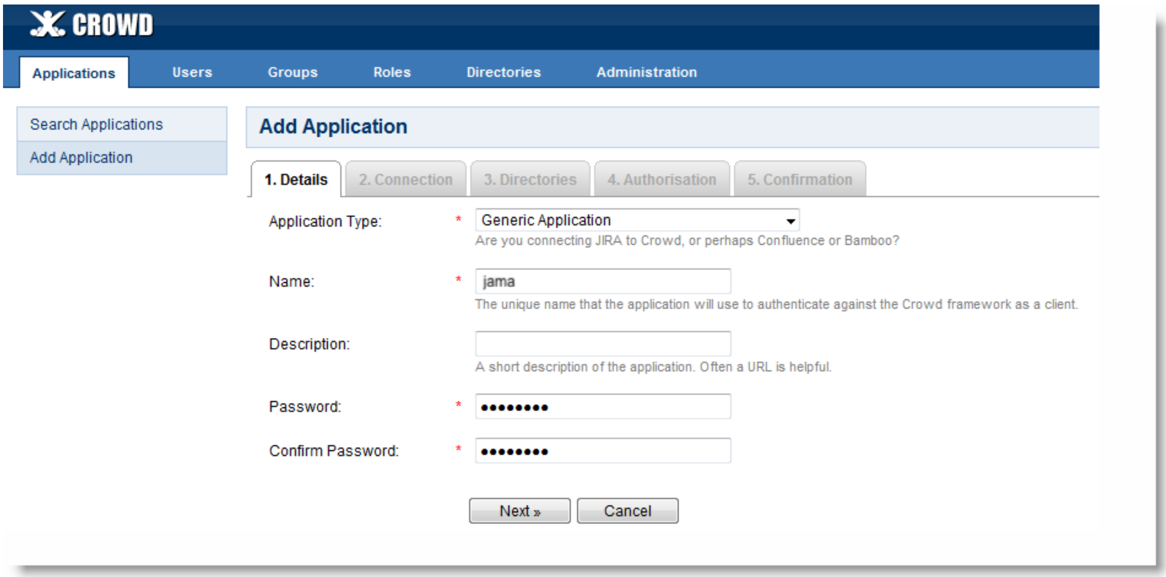
The Sample User and Password fields are deleted every time the configuration window is closed.

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
Are you connecting JIRA to Crowd, or perhaps Confluence or Bamboo?

Name: * jama
The unique name that the application will use to authenticate against the Crowd framework as a client.

Description:
A short description of the application. Often a URL is helpful.

Password: * ••••••••

Confirm Password: * ••••••••

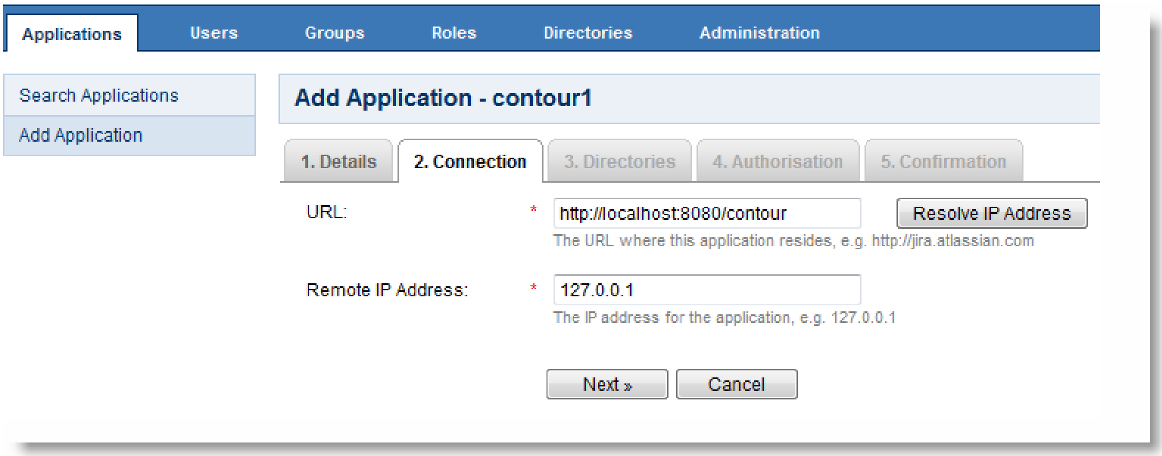
- **Application type** — Generic Application.
- **Name** — "jama" or any other unique name that identifies Jama Connect as the application.

  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**.



Add Application - contour1

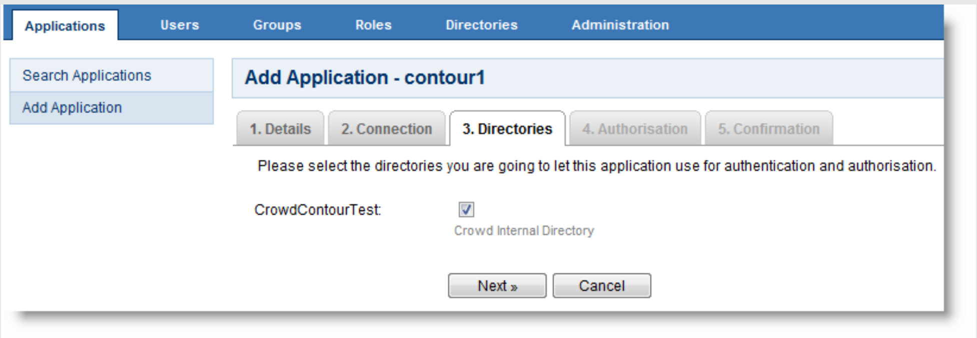
URL: * http://localhost:8080/contour
The URL where this application resides, e.g. http://jira.atlassian.com

Remote IP Address: * 127.0.0.1
The IP address for the application, e.g. 127.0.0.1

4. Select the directories that control access to Jama Connect, then select **Next**.

NOTE

These directories must exist prior to inclusion.

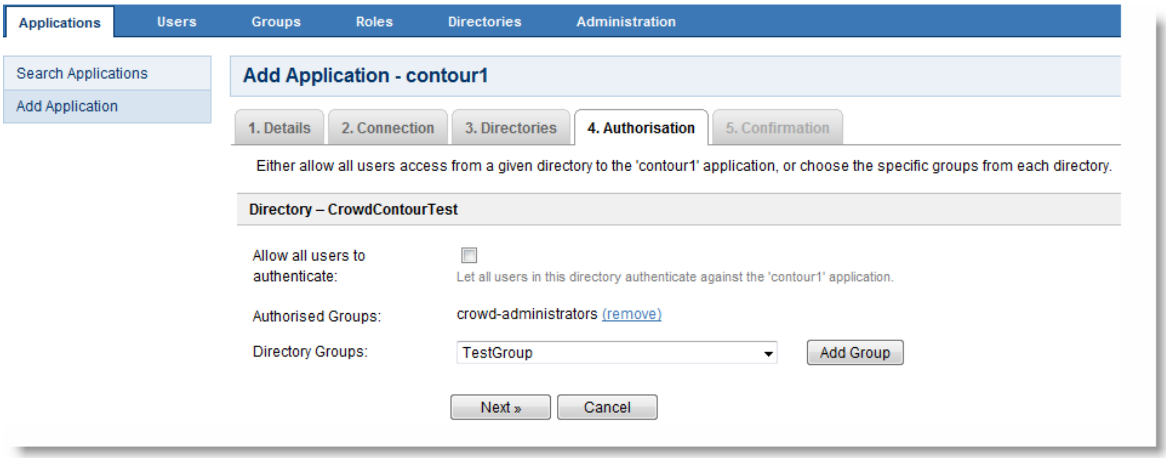


Add Application - contour1

Please select the directories you are going to let this application use for authentication and authorisation.

CrowdContourTest: ☑
Crowd Internal Directory

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**.



Add Application - contour1

Either allow all users access from a given directory to the 'contour1' application, or choose the specific groups from each directory.

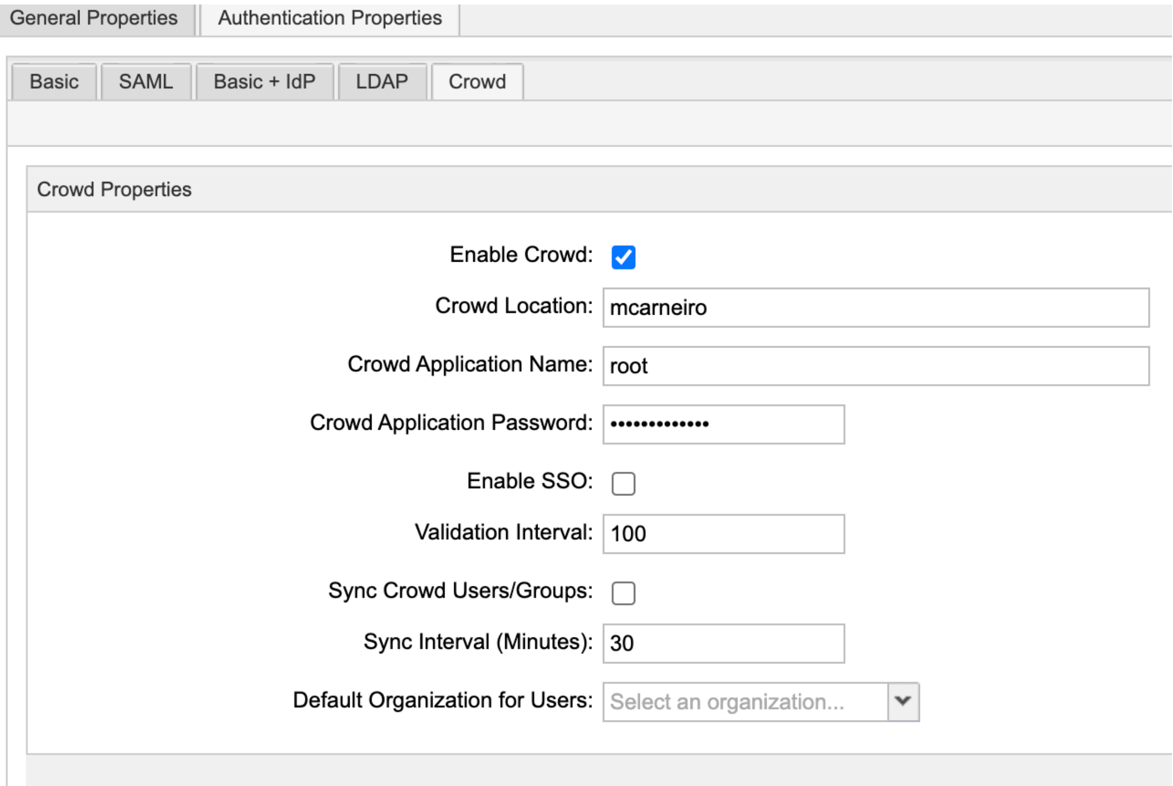
Directory – CrowdContourTest

Allow all users to authenticate: □
Let all users in this directory authenticate against the 'contour1' application.

Authorised Groups: crowd-administrators (remove)

Directory Groups: TestGroup

6. Review your configuration, then select **Save**.
7. Log in to Jama Connect as the root user [18].
8. Select **System Properties > Authentication Properties** and complete the following fields.



Enable Crowd: ☑

Crowd Location: mcarneiro

Crowd Application Name: root

Crowd Application Password: •••••••••••••

Enable SSO: □

Validation Interval: 100

Sync Crowd Users/Groups: □

Sync Interval (Minutes): 30

Default Organization for Users: Select an organization...

- **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 [41] 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. Click **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 [38].

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 admins 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 admins retain the ability to assign a license type to users.
- Users can continue to upload avatar icons.
- Organization and project admins continue to manage project groups within individual projects.

> **IMPORTANT**
>
> Project level project groups are only managed in Jama Connect and aren't visible in Crowd.

- An organization or project admin continues to manage user and group permissions 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.
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 [56]** — Where all physical artifacts [56] 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 (KOTS)

Taking a full snapshot creates a backup of the KOTS Admin Console and application data. It can be used for full Disaster Recovery by restoring over the same instance or in a new cluster. Tenant assets are included in the snapshot. Elasticsearch data is included by default.

A Replicated Snapshot can be taken while Jama Connect is running without interruption.

Requirements

- Replicated Snapshots must be enabled for your Replicated customer license.
- KOTS Admin Console 1.79 and later.
- Replicated Snapshots don't include your database. You must use a proprietary backup/restore system for your type of database, MySQL or SQL Server.

Important considerations

- When restoring from a snapshot in a new cluster, you must reinstall KOTS.
- *Recommended* — Include Elasticsearch data in snapshots to avoid having to reindex your data after performing a restore. However, if your snapshot is not recent, we recommend reindexing your data.
- Replicated Snapshots don't support IAM authentication against EFS. Saving Replicated Snapshots in EFS requires that you use the default file system policy to allow all nodes in the cluster to mount the EFS.

To create a Replicated snapshot:

1. Capture the KOTS installer.
2. (Recommended) Include Elasticsearch data in snapshots: From the KOTS Admin Console under the Elasticsearch Settings section, select **Include Elasticsearch in Replicated Snapshots**.
3. *Airgap only* — Capture the IP address of the private registry, which is the IP address value in the Cluster-IP column:

   ```
   kubectl get service/registry -n kurl
   ```
4. Configure the storage destination:
   a. In the KOTS Admin Console, select **Snapshots > Settings & Schedule**.
   b. From the Destination drop-down menu, select a storage destination for your snapshots.
      - **For AWS S3** — The IAM role assigned to the underlaying servers or the user associated with the credentials (access and secret key) must have the Policy template attached.
        Use the following template to create a policy, replacing the **<arn-S3>** parameter with ARN of the S3 bucket. For example: arn:aws:s3:::jama-snapshots.

        ```
        {
            "Version": "2012-10-17",
            "Statement": [
                {
                    "Effect": "Allow",
                    "Action": [
                        "s3:PutObject",
                        "s3:GetObject",
                        "s3:AbortMultipartUpload",
                        "s3:DeleteObject",
                        "s3:ListMultipartUploadParts"
                    ],
                    "Resource": "<arn-s3>/*"
                },
                {
                    "Effect": "Allow",
                    "Action": "s3:ListBucket",
                    "Resource": "<arn-s3>"
                }
            ]
        }
        ```
      - **For NFS** — If using EFS as an NFS server, the **Server** field = the **DNS name** of the EFS and the **Path** field = a directory inside the EFS, writable by the user:group 1001:1001.

   c. Click **Update storage settings** to save your preferences.
5. Schedule Full Snapshots:
   a. In the KOTS Admin Console, select **Snapshots > Settings & Schedule**.
   b. Select **Enable automatic scheduled snapshots**, then click **Update schedule**.
6. Create a Full Snapshot (follow the steps provided by Replicated).

Restore KOTS Admin Console and Jama Connect from a Replicated Snapshot (KOTS)

When you set up a new application server for Jama Connect, you can restore the KOTS Admin Console settings that you saved in a Replicated Snapshot.

Snapshots include the registry images and data for Jama Connect.

Requirements

If restoring to a new cluster, it must match these specifications and settings of the cluster where the backup was taken:

- Number of nodes
- Inbound and outbound traffic rules
- Virtual memory settings for Elasticsearch
- Connectivity to external services and resources (for example, AWS EFS, AWS S3)

To restore from a snapshot:

1. Configure servers for a new cluster:
   a. After the servers for the cluster are provisioned, install KOTS on one node using the captured KOTS Installer. You must pass the same flags to the installation script that were passed to the original cluster.
      - **Restoring an online cluster** — Run the appropriate installation script that was generated from the captured KOTS installer.
      - **Restoring an airgap cluster** — Download the appropriate KOTS installer bundle, replacing **<ip>** with the IP address of the private registry from the original cluster:

        ```
        cat install.sh | sudo bash -s airgap kurl-registry-ip=<ip>
        ```
   b. When the installer has finished, run the command displayed on the screen so the other servers join the cluster. If required, label the nodes dedicated for Elasticsearch.
   c. Install any add-ons that were manually installed in the cluster. For example, the EFS Driver.
2. Configure the storage destination: From the KOTS CLI, point the cluster to the storage destination where the Replicated Snapshots were saved.

AWS S3	See configure-aws-s3.
Azure	See configure-azure.
GCP	See configure-gcp.
S3-Other	See configure-other-s3.
NFS	See configure-nfs. If the cluster uses EFS or NFS, also see Configuring an NFS Storage Destination. **Note:** If using EFS as an NFS server, **Server** field = **DNS name** of the EFS and **Path** field = a directory inside the EFS, writable by the user:group 1001:1001.

3. Locate the snapshot and restore it: From the KOTS CLI, run a backup ls and full restore.

   ```
   backup ls
   ```

   This can take a few minutes. If the snapshots don't appear, rerun this command.
4. If you changed the host name for Jama Connect:
   a. Update the Host Name field in the KOTS Admin Console and deploy the change.
   b. From your browser, log in to Jama Connect and change your URL [52].
5. View scheduled jobs [54] to verify that the list isn't empty.
6. If the Elasticsearch data wasn't included in the snapshot or if the snapshot isn't recent, reindex all search items [55].
7. Verify that you can locate your assets.

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.

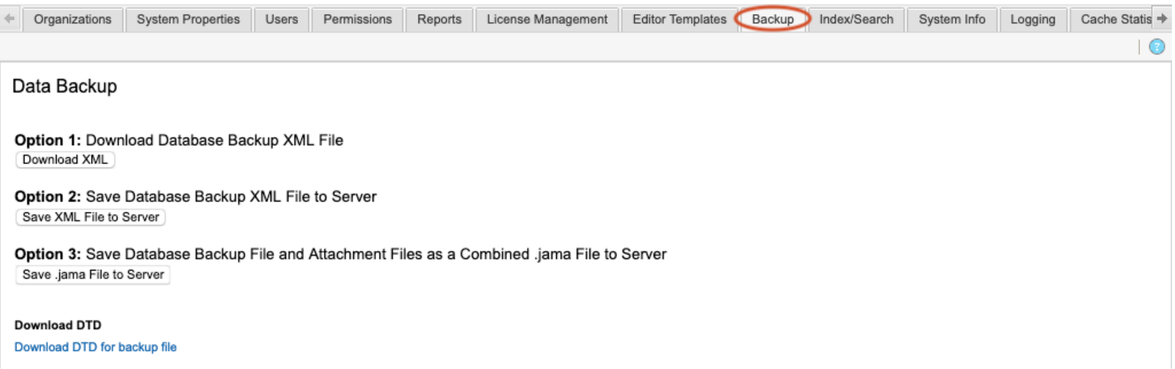
Important considerations

- 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 [47].
- Make sure Jama Connect is in maintenance mode [24] 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 [18].
2. Select the **Backup** tab to see the backup options.



Data Backup

Option 1: Download Database Backup XML File
Download XML

Option 2: Save Database Backup XML File to Server
Save XML File to Server

Option 3: Save Database Backup File and Attachment Files as a Combined .jama File to Server
Save .jama File to Server

Download DTD
Download DTD for backup file

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 • 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 [44].

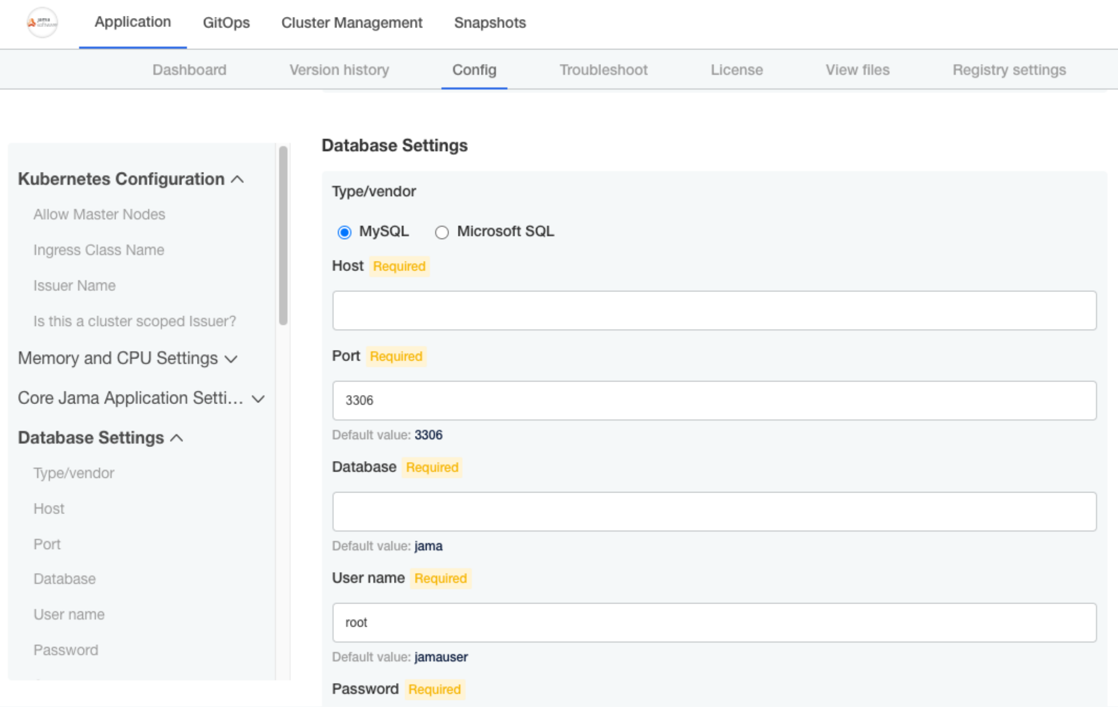
IMPORTANT

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.

To restore a new server from .jama or XML:

1. Log in to Jama Connect as the root user [18] on the new server.
2. Install Jama Connect:
   a. In the header of the KOTS Admin Console, select **Application > Config** to open the settings page.

b. Scroll down to the **Database Settings** section of the page, then select select the database you are using: **MySQL** or **SQL Server**.



Database Settings

Type/vendor

● MySQL ○ Microsoft SQL

Host Required

Port Required

3306

Default value: 3306

Database Required

Default value: jama

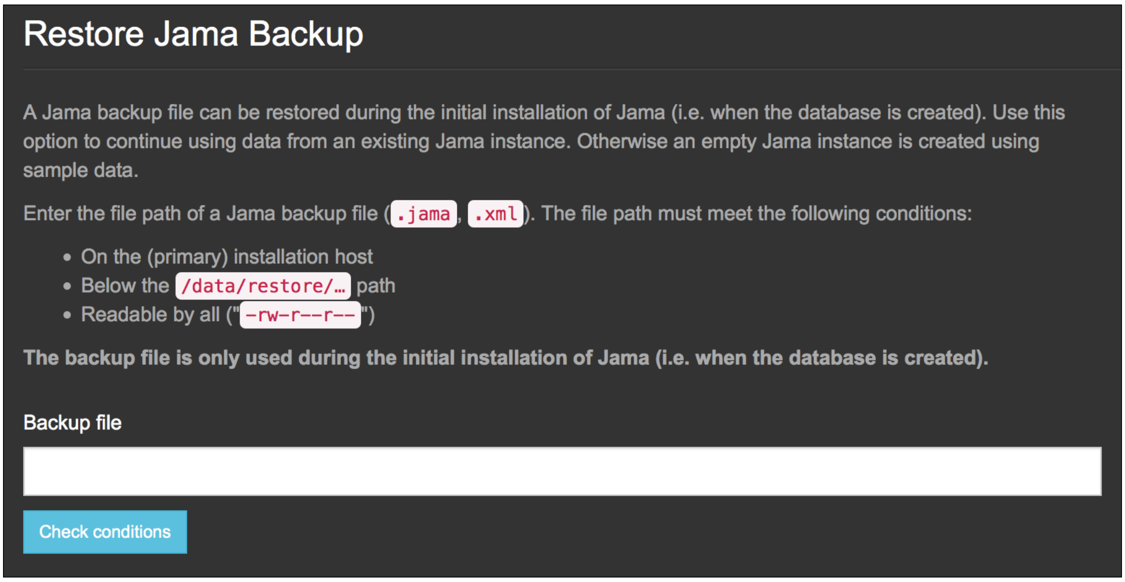
User name Required

root

Default value: jamauser

Password Required

c. 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.



Restore Jama Backup

A Jama backup file can be restored during the initial installation of Jama (i.e. when the database is created). Use this option to continue using data from an existing Jama instance. Otherwise an empty Jama instance is created using sample data.

Enter the file path of a Jama backup file (`.jama`, `.xml`). The file path must meet the following conditions:

- On the (primary) installation host
- Below the `/data/restore/…` path
- Readable by all ("`-rw-r--r--`")

The backup file is only used during the initial installation of Jama (i.e. when the database is created).

Backup file

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.
5. Log in to Jama Connect as the root user [18]
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 [44].

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 [47] • Maintaining your Jama Connect database [48] • Back up your data [42] • View scheduled jobs [54] • Clear cache [55] • Remove old Docker images [53] • View applied patches [54] • Reset Admin Console password [49] • Deactivate and reactivate users [48]	• Update the license [49] • Update the certificate [50] • Update the application's IP address [51] • Change [52] or fix URL [52] • Delete an organization [53] • Reindex all items [55] • Upgrade Jama Connect

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 pods' 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.

Use one of these methods to monitor usage, then adjust your memory settings [12] 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 [18] and navigate to **[your.jama.url]/javamelody**.

Maintaining your Jama Connect database

Follow these recommendations to maintain your Jama Connect database, which includes having a data backup plan and ensuring the appropriate memory is allocated to the database server.

1. **Create a data backup plan** — Back up your database server at least daily and implement backup strategies as needed.
2. **Allocate appropriate memory to the database server** — Have your Database Administrator monitor memory usage and allocate memory in advance to prevent running out of memory.
3. **Configure system variables and server properties based on usage** — For details, see the documentation for MySQL or SQL Server.
4. **Check or analyze databases and tables every 6 months** — We recommend that you review or analyze your databases at least every 6 months, or after you write, change, or delete a substantial amount of data. Pay extra attention to table or index size because Jama Connect is a write-heavy application. If a table has grown out of size or the index is too large, it might need to be rebuilt.

   Use these resources to determine if an index or table must be rebuilt:

   - Leverage MySQL and SQL Server statistic gathering to detect the need to repair or analyze databases or tables.
   - Run mysqlcheck to check, repair, optimize, or analyze tables in MySQL. For details, see mysqlcheck — A Table Maintenance Program.
   - Use the Maintenance Plan Wizard tool to manage backups, data integrity checks, and statistic gathering in SQL Server. For details, see Use the Maintenance Plan Wizard.

Deactivate and reactivate users

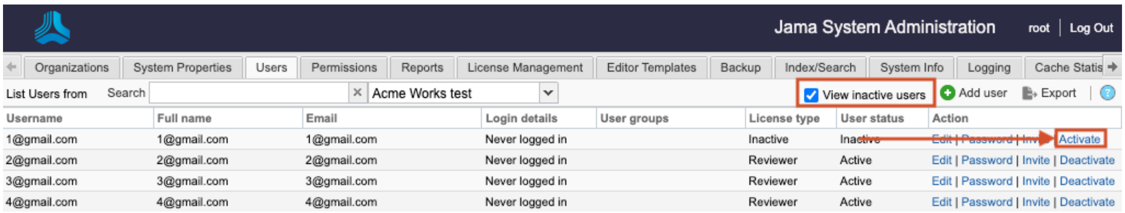
Users can't be deleted from Jama Connect, but you can deactivate users if they are no longer active members of the team. When you deactivate a user, their account becomes inactive and their named license is freed up for another user. You can also reactivate the user as needed.

> **IMPORTANT**
>
> You must have organization or system administrator permissions to deactivate and reactivate a user.

To deactivate and reactivate users:

1. Log in to Jama Connect as the root user [18].
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:
   a. Select **View inactive users** to view all users, then select **Activate** in the Action column next to the user you want to reactivate.



Username	Full name	Email	Login details	User groups	License type	User status	Action
1@gmail.com	1@gmail.com	1@gmail.com	Never logged in		Inactive	Inactive	Edit | Password | Invite | Activate
2@gmail.com	2@gmail.com	2@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
3@gmail.com	3@gmail.com	3@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate
4@gmail.com	4@gmail.com	4@gmail.com	Never logged in		Reviewer	Active	Edit | Password | Invite | Deactivate

b. In the User license type window, select a license type and select **Save**.

Reset Admin Console password

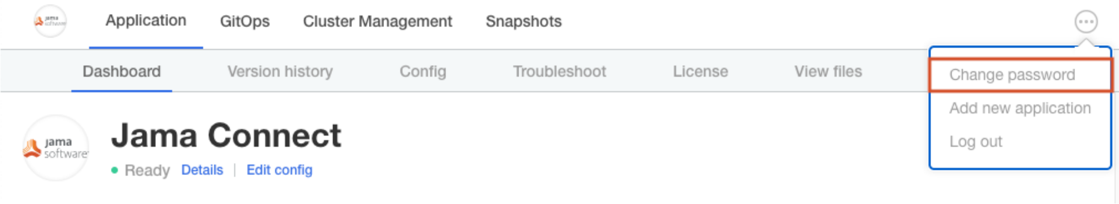
You can reset the password for the Admin Console if, for example, the administrator forgot it.

1. To remove the current password, run this command on the application server:

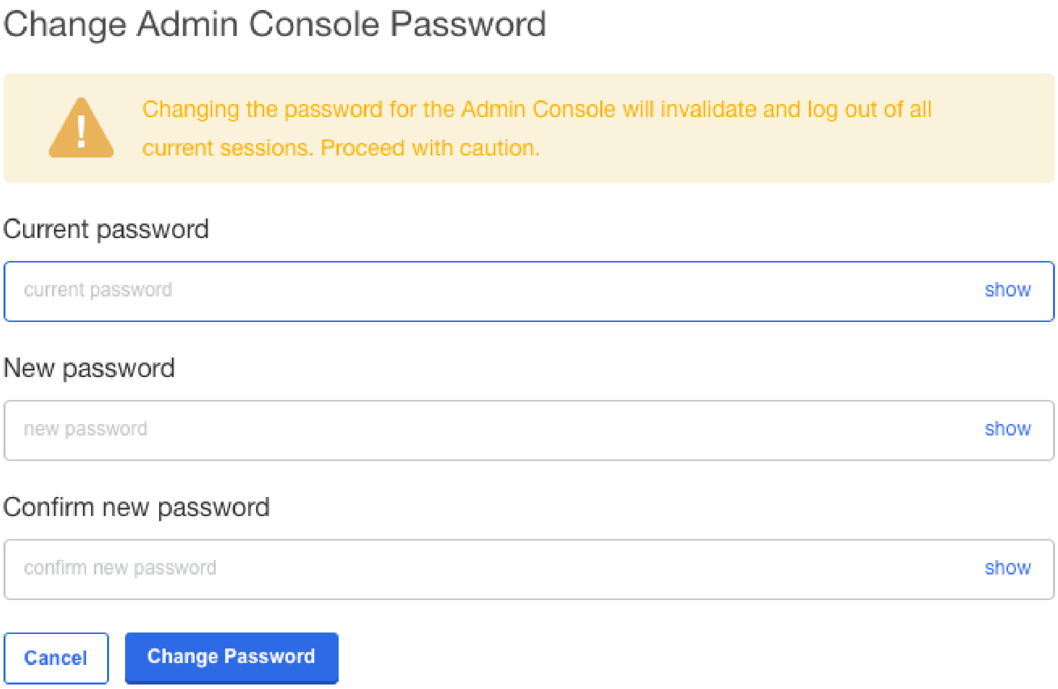
```
replicated auth reset
```

2. To change your password:

   a. From the KOTS Admin Console, select the circle ellipsis icon, then click **Change password**.



   b. Update the password information, then click **Change Password**.



Change Admin Console Password

Changing the password for the Admin Console will invalidate and log out of all current sessions. Proceed with caution.

Current password

current password show

New password

new password show

Confirm new password

confirm new password show

Cancel Change Password

The new password takes effect immediately.

Update the license

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.

TIP

Schedule a license update during a maintenance window because the process involves an interruption to the Jama Connect application.

To sync your license:

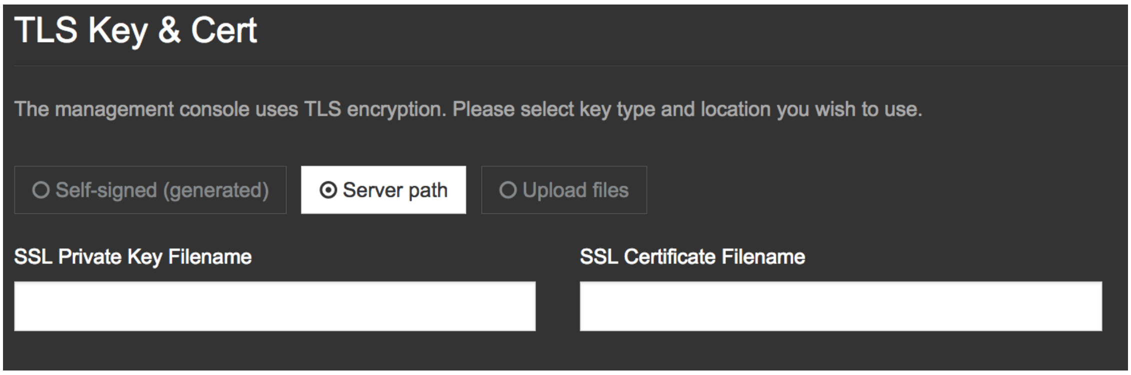
1. Open the KOTS Admin Console: https://<your hostname>:8800.
2. In the KOTS Admin Console, select the **Applications** tab, click **License**, then make the following changes:
   - **Internet installation** — Click **Sync license**.
   - **Airgap installation** — Click **Upload license**, then select the latest license.

   The KOTS Admin Console checks for updates to your license and creates a new version.
3. Select **Version history** and deploy the new version with your license changes.
4. Log in to Jama Connect, then select **License Management** to verify that the license updates were successful.

Update the certificate

If a certificate expires, it becomes invalid and must be replaced.

1. In the header of the KOTS 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.



TLS Key & Cert

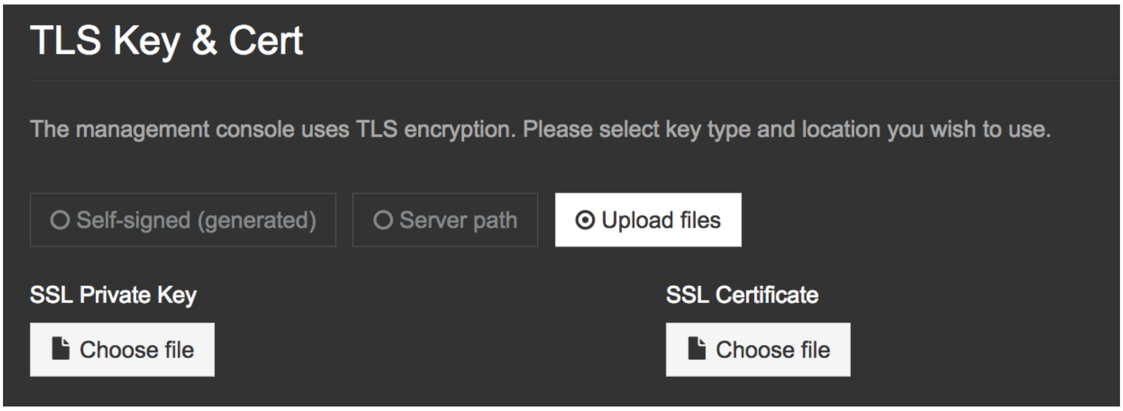
The management console uses TLS encryption. Please select key type and location you wish to use.

○ Self-signed (generated) ● Server path ○ Upload files

SSL Private Key Filename

SSL Certificate Filename

   - 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.



TLS Key & Cert

The management console uses TLS encryption. Please select key type and location you wish to use.

○ Self-signed (generated) ○ Server path ● Upload files

SSL Private Key

SSL Certificate

3. Scroll to the bottom of the page and select **Save config**. A message confirms that your settings were saved.

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.
3. Stop Replicated (KOTS 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.
6. Restart Docker.
   - **Fedora/CentOS/RHEL 7+**

     ```
     sudo systemctl restart docker
     ```
   - **Debian/Ubuntu and Others**

     ```
     sudo service docker restart
     ```
7. Start the Replicated service (KOTS 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 [18].
10. Change the URL [52] to reflect the new IP address.
11. Run Fix URL references [52] to change any existing references in the text of items that were already created.

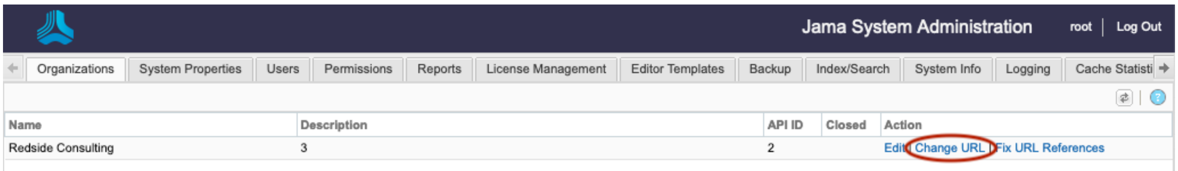
Change URL

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 [18].
2. Select the **Organizations** tab.
3. Select **Change URL** from the Action column.



Name	Description	API ID	Closed	Action
Redside Consulting	3	2		Edit | Change URL | Fix URL References

4. Enter the new URL in the **New Base URL** text box.
5. Select **Change URL**.
6. Update all URL references [52] 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 [52], always run this function.

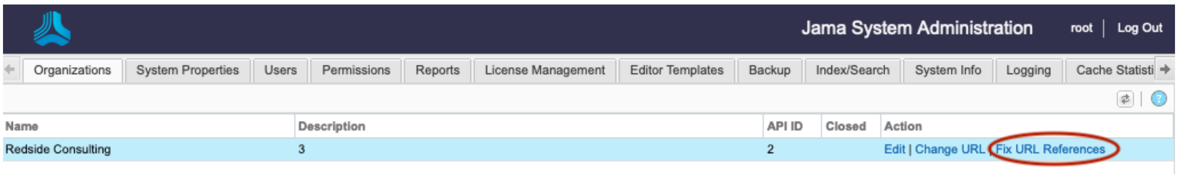
> **IMPORTANT**
>
> The **Fix URL References** option doesn't modify items in archived projects. It also doesn't change the URL used to connect the application server to your database server; that URL is stored in your database.properties file. The Base URL (baseurl field) is only updated in the database organization table by the Change URL [52] 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 [18].
2. Select **Organizations > Fix URL References**.
3. Select **Fix URL References** from the Action column.



Name	Description	API ID	Closed	Action
Redside Consulting	3	2		Edit | Change URL Fix URL References

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.

To delete an organization:

1. Back up your data [44].
2. Log in to Jama Connect as the root user [18].
3. Enable maintenance mode [24] 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.

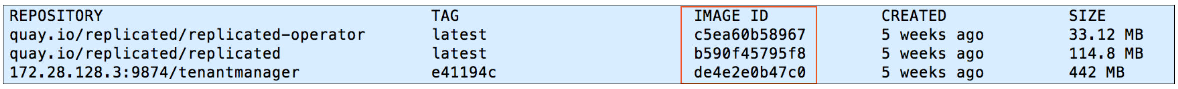
Use these commands to clean up your volumes:

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 [18].
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 [18].
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 [18].
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, 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 [24]. 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 admin doesn't have access to disable integrations. Work with an organization admin or integrations admin to disable those services.
3. Log in to Jama Connect as the root user [18].
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.

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 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.

Upgrading from Jama Connect traditional to KOTS

Jama Connect is a Linux-based application that runs on Docker containers and uses Replicated software to "orchestrate" deploying applications. The current version of Jama Connect uses Replicated KOTS, while older versions use traditional Replicated software. The process of upgrading Jama Connect from traditional to KOTS includes planning, preparing your environment, and installing the software.

Upgrade scenarios

Upgrade with new servers (recommended) — This recommended scenario uses new application and database servers to support your KOTS Replicated environment. It requires you to:

- Copy targeted data from the existing application server into the new environment.
- Restore a backup of your current database to the new database server.

While this scenario results in the temporary overhead of supporting two separate environments, it comes with less risk of unwanted downtime.

Upgrade with existing servers — This scenario reuses the current application and database servers from your traditional Replicated environment. This scenario:

- Requires you to uninstall elements of the traditional Replicated platform before you can install the KOTS Replicated platform.
- Can cause significant maintenance downtime. Make sure to inform your users of this maintenance window. Also have an emergency plan in place to revert back to the traditional Replicated environment if necessary.

Before you upgrade

- Contact your Customer Success Manager to request a KOTS internet or airgap license.
- Choose the upgrade scenario that works best for your organization. Whichever scenario you choose, expect production downtime while the new instance is configured. Best to upgrade during off hours.
- Follow the instructions in the planning and preparing sections to ensure a successful upgrade.

Components and what they do

Replicated KOTS — A container-based platform for easily deploying cloud native applications inside customers' environments, providing greater security and control. The KOTS Admin Console is the interface for installing, configuring, and administering the KOTS deployment of the Jama Connect application and required services. 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 KOTS license — Contact your Customer Success Manager to request a KOTS license. Save the license file to a location you can access easily; you will need it when installing Jama Connect.

For more information about KOTS, see https://www.replicated.com/blog/announcing-kots/

NOTE

Replicated KOTS is the only supported platform for Jama Connect 9.0 and later. To upgrade Jama Connect traditional to KOTS, see Upgrade from Jama Connect traditional to KOTS workflow.

Troubleshooting

NOTE

This information applies to self-hosted environments only.

You can avoid troubleshooting by following regular maintenance practices [47], but if you run into problems here are some resources that might help:

- For issues with installation, log in to Jama Connect as the root user [18], and select the **System Info** tab to see a quick overview of your installation.
- View log and profile [59]
- Clear cache [55]
- View scheduled jobs [54]
- Index all items [55]
- Remove old Docker images [53]
- Reconnect to the Wiris server [61]
- Generate a support bundle and contact support@jamasoftware.com

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, 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 [59]
`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

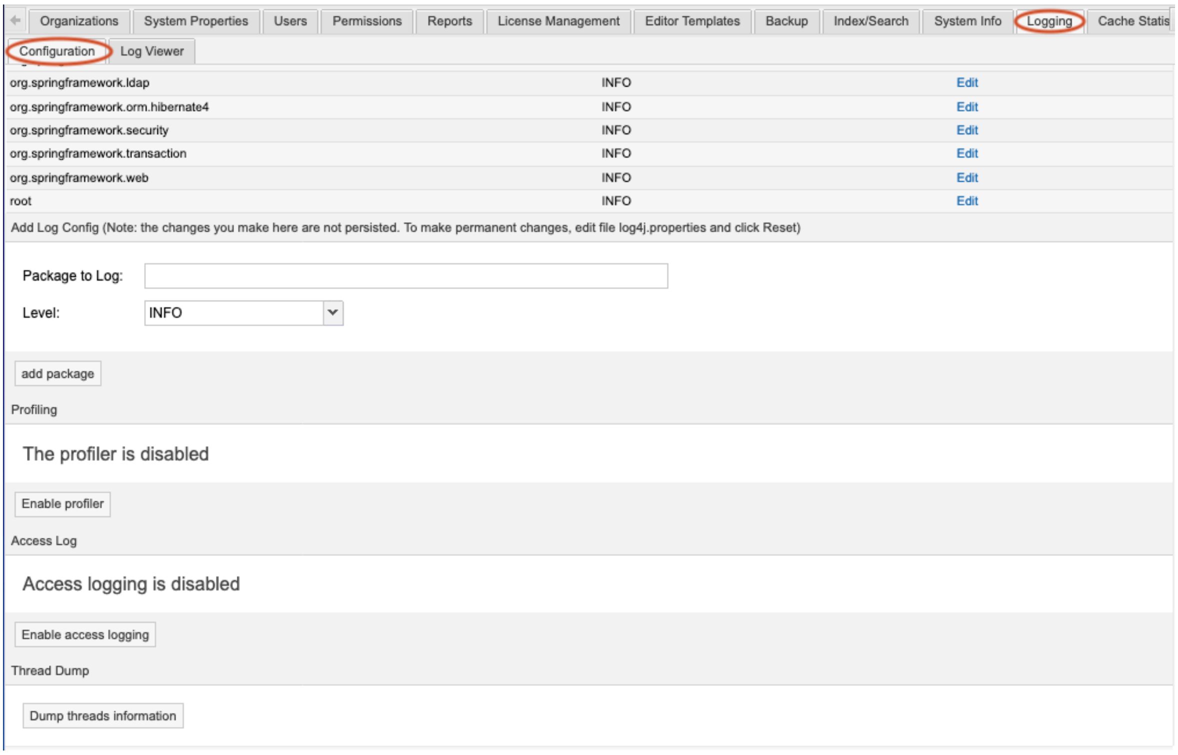
Enabling the profiler logging enhances logging in Jama Connect. However, profiler logging might require additional resources to generate this content. For best performance, use the profiler for troubleshooting purposes.

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 [18].
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**.



org.springframework.ldap	INFO	Edit
org.springframework.orm.hibernate4	INFO	Edit
org.springframework.security	INFO	Edit
org.springframework.transaction	INFO	Edit
org.springframework.web	INFO	Edit
root	INFO	Edit

Add Log Config (Note: the changes you make here are not persisted. To make permanent changes, edit file log4j.properties and click Reset)

Package to Log:

Level: INFO

add package

Profiling

The profiler is disabled

Enable profiler

Access Log

Access logging is disabled

Enable access logging

Thread Dump

Dump threads information

TIP

By default all logging levels are set to info and will reset to that default when the application is restarted.

To permanently change the logging level and appenders, edit the file:

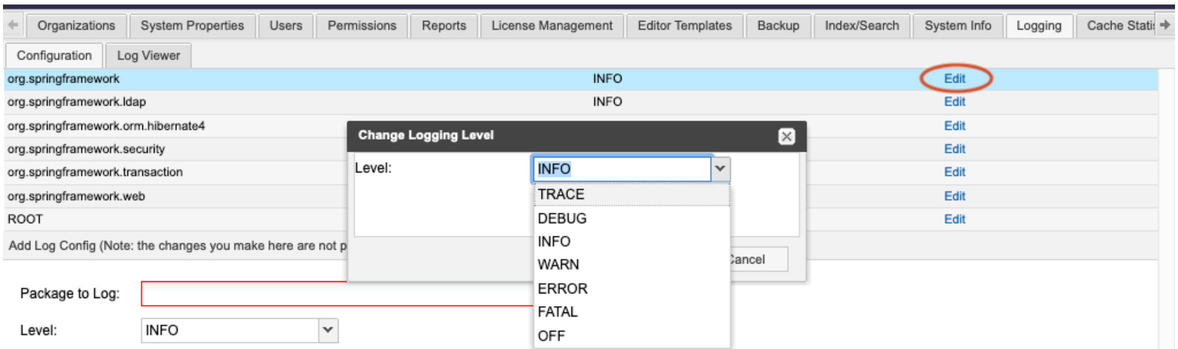
```
/data/config/log4j.properties
```

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**.



org.springframework	INFO	Edit
org.springframework.ldap	INFO	Edit
org.springframework.orm.hibernate4		Edit
org.springframework.security		Edit
org.springframework.transaction		Edit
org.springframework.web		Edit
ROOT		Edit

Add Log Config (Note: the changes you make here are not p

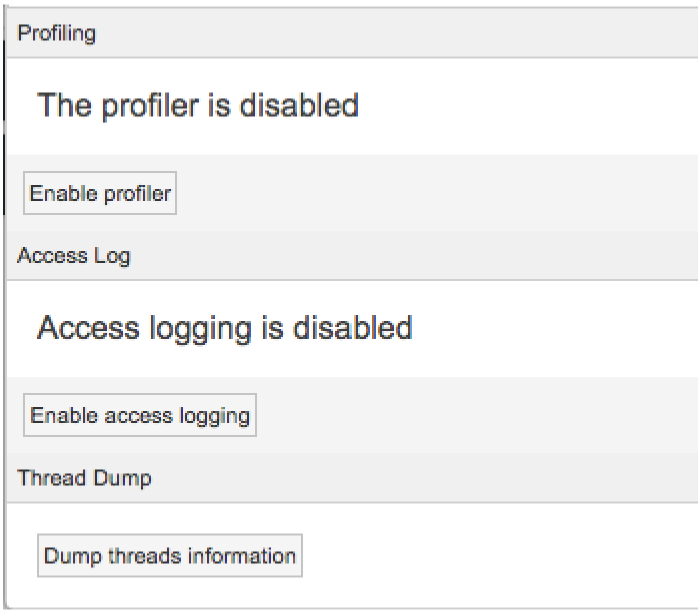
Package to Log:

Level: INFO

Change Logging Level

Level: INFO

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

The profiler is disabled

Access Log

Access logging is disabled

Thread Dump

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 support@jamasoftware.com.

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 KOTS 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