opentext™

ALM Octane

Software version: 23.4

Upgrade Guide for Linux

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Upgrade

This document describes how to upgrade an existing installation of an on-premises OpenText™ ALM Octane server on Linux.

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Upgrade paths

ALM Octane allows you to choose between two upgrade paths:

- **Short-term path (STP)**. Upgrade to each new service pack (for example, from 16.2.100 to 23.4). If you choose this path, you will need to go through all the interim service packs in order to upgrade to the following release.
- **Long-term path (LTP)**. Upgrade directly from one release to the next (for example from 16.1.100 to 16.2.100, to the next LTP release), without having to upgrade to each of the interim service packs.

The current version is an **STP service pack**, meaning that you can only upgrade to 23.4 from 16.2.100. If you have not yet upgraded to ALM Octane 16.2.100, upgrade now.

Prepare for upgrade

Before upgrading, review the following:

1. Check that all spaces are up to date, first in **Settings > Site > Spaces**, and then in **Settings > Site > POST UPGRADE JOBS.** Delete any spaces that you do not want to upgrade to prevent problems in future upgrades.

2. Verify that your server machine, and if relevant, all cluster nodes, meet all prerequisites.

   This includes checking the supported versions for all third party tools such as Elasticsearch, and upgrading accordingly. For details, see "Prerequisites" in the *ALM Octane Installation Guide for Linux*.

3. Stop the **octane** service on the server, and if relevant, on all cluster nodes.

4. Create backups of:

   - The repository

   - Existing ALM Octane configuration files, including **octane.conf**

   - Your database

   - Elasticsearch

5. Take note of any special aspects of your configuration, such as:

Special configuration	Recommendation
Did you use a different user, other than the **octane** user, to install?	If you did, the user is set in the **OCTANE_USER** environment variable. Use this user to upgrade.
Did you install ALM Octane to a location other than **/opt/octane**?	Refer to the location you used while upgrading.
What sudoer user did you use to install?	Use the same sudoer user that was used for installation to upgrade.

Special configuration	Recommendation
Did your organization's DBA make changes to database schemas, such as the addition of tables or columns?	Define an exception file. The exception file instructs ALM Octane to ignore manual changes to the database schemas during installation. For details, see "Using exception files for manual database changes" in the *ALM Octane Installation Guide for Linux*.

6. Before upgrading, remove all patches or hotfixes at **WEB-INF/lib** and **WEB-INF/classes.**

   Example of a full path for Linux environment:

   - **/opt/octane/webapps/root/WEB-INF/classes**

   - **/opt/octane/webapps/root/WEB-INF/lib**

Step 1: Deploy the new version and start ALM Octane

1. Download the ALM Octane RPM package:

   https://sld.microfocus.com/mysoftware/download/downloadCenter

2. Deploy the rpm package for the new version of ALM Octane using:

   ```
   rpm -U <name of the RPM file>
   ```

   > **Note:** If the rpm command fails on Java version, see https://softwaresupport.softwaregrp.com/doc/KM000023838.

3. Start the ALM Octane server.

   ```
   systemctl start octane
   ```

4. Check the **/opt/octane/log/wrapper.log** file. If you encounter a recoverable error in the **wrapper.log** or **upgrade.log** files, fix the problem and restart the server to resume upgrade.

   - The following is required if you configured trust on the ALM Octane server, when connecting to a remote location such as the database server. If your Java trust store (**<java_home>/jre/lib/security/cacerts**) uses a non-default password, enter this password in **octane.conf** in the **java-default-trust-store-password** parameter.

> **Caution:** Do not use ALM Octane until you have completed "Step 3: Upgrade spaces in ALM Octane" on the next page.

Step 2: Upgrade cluster nodes

After the upgrade on the first node has completed successfully, you can upgrade the remaining nodes in a cluster.

To upgrade cluster nodes:

1. Deploy the new version of ALM Octane to each node.

2. On each node, start the ALM Octane server.

   ```
   systemctl start octane
   ```

3. Check the **/opt/octane/log/wrapper.log** file. If you do not see the "Server is ready!" message, correct the errors shown in the log.

   If you encounter a recoverable error in the **wrapper.log** or **upgrade.log** files, fix the problem and restart the server to resume upgrade.

> **Caution:** Do not use ALM Octane until you have completed "Step 3: Upgrade spaces in ALM Octane" on the next page.

Step 3: Upgrade spaces in ALM Octane

After upgrading, log into ALM Octane as the site admin to upgrade each space.

To upgrade spaces in ALM Octane:

1. In a browser, navigate to **<*ServerURL*>:<*port*>/ui?site**.

2. Log in with the user name and password defined in the **octane.conf** file.

   To upgrade all spaces at once, log in as the site admin.

3. Click **Site** and then click the **Spaces** tab.

4. Select one or more spaces and click **Upgrade**.

   Upgrade is available only if the space needs to be upgraded.

5. Individual workspaces are upgraded in the background.

   > **Note:** Until all of the post-upgrade jobs have completed, some data may be unavailable in trend graphs and other Elasticsearch-related features.

Step 4: Verify that spaces upgraded successfully

Verify that all spaces were upgraded successfully from the previous version. To verify that a space has been upgraded, check that:

- The space status is **Active** (or Inactive if it was previously deactivated).

- The space version is updated to the current version.

In addition, check that all post-upgrade jobs were completed in **Settings > Site > POST UPGRADE JOBS**.

Rollback

This section describes how to roll back after upgrading an on-premises ALM Octane server. This may be necessary if for some reason the upgrade fails or performance is slow.

Depending on when you want to roll back, there are different steps to perform.

> **Note:** To roll back you need the pre-upgrade backups of all configuration files including **octane.conf** from each node.

This section includes:

After the upgrade's setup validation phase

You can roll back after the upgrade's setup validation phase, whether it passed or failed.

If the upgrade reached setup validation, the following have been modified:

- Previously-deployed files
- ALM Octane configuration files, including **octane.conf**

To roll back the deployed files, including octane.conf

1. Revert to the previous rpm file: `rpm -Uvh --oldpackage <filename>`
2. Revert to backups of ALM Octane configuration files, including **octane.conf**.
3. Start the ALM Octane server (the octane service).

After a site schema has been upgraded

You can roll back after the site schema has been upgraded.

If the upgrade upgraded the site schema, the following has been modified:

- The site schema (database)
- Elasticsearch indexes
- ALM Octane configuration files, including **octane.conf**

To roll back the site schema

1. Stop the ALM Octane server (the octane service).
2. Revert to a backup of the site schema.
3. Revert to a backup of Elasticsearch indexes.
4. Revert to the previous rpm file: `rpm -Uvh --oldpackage` *`<filename>`*
5. Revert to backups of ALM Octane configuration files, including **octane.conf**.
6. Start the ALM Octane server (the octane service).

After space schema has been upgraded

If the upgrade upgraded the space schema, the following have been modified:

- Previously-deployed files
- Elasticsearch indexes
- ALM Octane configuration files, including **octane.conf**
- The site schema
- The space schema

Rolling back a single space is relevant after upgrade of a space failed. In this case, fixes are required depending on the cause of the failure, as seen in the logs and in the UI.

> **Note:** This is only relevant if the space upgrade failed with **CORRUPTED** status. If it ended in **SUSPENDED** status, implement the fixes as instructed in

> the logs and in the UI, and then resume upgrade. No rollback actions are
> required.

To roll back changes to the space schema:

1. Revert to the backup of the space schema.

2. Revert to the backups of Elasticsearch indexes related to the specific space.

   Space-specific indexes can be identified by the space logical name embedded in their name, using the pattern **mqm_{space logical name}_***.

   Note: There are multiple Elasticsearch indexes for each space. Make sure to roll back all of them.

3. Revert to the repository backup of this specific space.

4. Fix what caused the upgrade to fail.

5. Run the following API to repair the space:

   ```
   POST {octane server}/admin/shared_spaces/repair?ids={space_id}
   ```

   Tip: To repair multiple spaces, provide the **space_ids** separated by commas.

6. Upgrade again.

After upgrade completed

If the upgrade completed successfully, the following have been modified:

- ALM Octane configuration files, including **octane.conf**

- The site schema

- The space schema(s)

- Elasticsearch indexes

- ALM Octane repository files

To roll back the entire upgrade

1. Follow the procedure "To roll back the site schema" on the previous page.

2. Revert to backups of all space schemas.

3. Revert to backups of all Elasticsearch indexes.

4. Revert to backup of the previous repository.

After upgrading cluster nodes

If you upgraded additional cluster nodes, the following has been modified on the cluster nodes:

- Previously-deployed files

- ALM Octane configuration files, including **octane.conf**

To roll back to the **rpm** package

1. Revert to the previous **rpm** file on each cluster node: `rpm -Uvh --oldpackage` *<filename>*

2. Revert to backups of ALM Octane configuration files, including **octane.conf**.

3. Start the ALM Octane server (the octane service) on each cluster node.

Upgrade ALM Octane in Docker

This section describes how to upgrade ALM Octane in Docker.

This section includes:

- "Get default configuration files from the ALM Octane docker image" below
- "Upgrade ALM Octane in Docker" below

Get default configuration files from the ALM Octane docker image

Before upgrading, make sure you have default configuration files from the new ALM Octane Docker image.

1. Download the new ALM Octane Docker image.

2. Run the ALM Octane Docker image using the following command:

   ```
   docker run -d -p 8080:8080 -v /opt/octane_docker_config_
   files/conf:/opt/octane/conf -v /opt/octane_docker_config_
   files/log:/opt/octane/log -v /opt/octane_docker_config_
   files/repo:/opt/octane/repo --name alm_octane_config_files
   lifecyclemanagement/octane:<version_number>
   ```

   The first run should fail with errors because ALM Octane has not been configured.

3. Go to **/opt/octane_docker_config_files/repo**. The **conf-discover** folder contains the default ALM Octane configuration files. Copy them to a backup location.

Upgrade ALM Octane in Docker

This section describes how to start a new ALM Octane container using the configuration from a previous version, and upgrade the data.

1. Stop your ALM Octane container.

2. Back up your Oracle or MSSQL database.

3. Back up Elasticsearch.

4. Back up the conf and log folders (if mapped).

5. Back up the REPO folder, which includes the **conf-discover** and **storage** folders.

6. Download the new ALM Octane Docker image.

    Note that only on-premises versions of ALM Octane are supported.

7. Overwrite the .xml files in the folder **conf-discover** (in the REPO folder) with the .xml files from the default configuration files for the new version. For details see "Get default configuration files from the ALM Octane docker image" on the previous page.

8. Run the Docker image with the following command, using the identical container configuration:

    ```
    docker run -d -p 8080:8080 -p 8443:8443 -v [your-path-to-CONF-
    folder]:/opt/octane/conf -v [your-path-to-LOG-
    folder]:/opt/octane/log -v [your-path-to-REPO-
    folder]:/opt/octane/repo --name alm_octane_<version_number>
    lifecyclemanagement/octane:<version_number>
    ```

    This means that the ports, and the mapping of the conf, log, and repo mount folders should be the same in the new container as your current container.

9. Validate that the container works by checking the container's Log tab, or the wrapper.log and octane.log files in the mapped log folder.

10. Continue with the regular space upgrade procedure, as described in "Step 3: Upgrade spaces in ALM Octane" on page 8.

    > **Note:** If you need to roll back the upgrade:
    >
    > - If the new ALM Octane container failed to run, restore configuration files in the conf-discover folder (in the REPO folder), and run the previous version of the ALM Octane container.

> ! • If the new ALM Octane container successfully upgraded the site, restore backups (database, Elasticsearch, and REPO folder), and run the previous version of the ALM Octane container.

Install a patch

This section describes how to install a hotfix patch, without upgrading ALM Octane.

1. Stop the ALM Octane service.

2. Create backups of:

   - The repository

   - Existing ALM Octane configuration files, including **octane.conf**

   - Your database

   - Elasticsearch

3. Run the installer file containing the fix as you would do for a regular upgrade.

4. Start the ALM Octane service and validate that the issue is fixed.

   There is no need to upgrade the spaces.