

# HPE ALM Octane

Software Version: 12.53.20

## Installation Guide

Go to **HELP CENTER ONLINE**

<http://octane-help.saas.hpe.com/>



**Hewlett Packard**  
Enterprise

Document Release Date: March 2017 | Software Release Date: February 2017

## Legal Notices

### Warranty

The only warranties for Hewlett Packard Enterprise Development LP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HPE shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

### Restricted Rights Legend

Confidential computer software. Valid license from HPE required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

### Copyright Notice

© Copyright 2017 Hewlett Packard Enterprise Development LP

### Trademark Notices

Adobe™ is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

This product includes an interface of the 'zlib' general purpose compression library, which is Copyright © 1995-2002 Jean-loup Gailly and Mark Adler.

# Contents

HPE ALM Octane .....	1
Architecture .....	5
Basic configuration .....	5
Enterprise configuration .....	6
Components .....	7
Installation types .....	10
Installation flow .....	11
Prerequisites .....	13
Installation .....	17
Deploy ALM Octane .....	18
Configure initial site settings .....	19
Database server settings .....	20
Oracle server settings .....	22
SQL server settings .....	22
Site actions .....	22
Shared space settings .....	23
Elasticsearch settings .....	23
Site administrator credential settings .....	24
Repository settings .....	24
Encryption settings .....	24
Additional settings .....	25
Configure other settings .....	25
General server settings .....	26
LDAP settings .....	28
Initialize the ALM Octane server .....	30
Install and initialize ALM Octane on cluster nodes (optional) .....	30
Log in to ALM Octane .....	31
Upgrade .....	32
Management .....	34
Manage servers .....	34
Configure server site admin parameters using the REST API .....	35
Working with REST API site admin parameters .....	35

REST API basics .....	36
REST API request format .....	36
REST API site parameters .....	37
Assign the site admin role to an ALM Octane user .....	44
Enable access to endpoint URLs for Call URL rules (CALL_URL_WHITE_LIST) .....	44
Format of the CALL_URL_WHITE_LIST parameter .....	45
URI .....	45
Supported HTTP methods .....	45
Retrieve an instance of a URL that is authorized (GET) .....	45
Set the value of a CALL_URL_WHITE_LIST parameter (PUT) .....	46
Start the ALM Octane server manually .....	46
Reinitialize site settings .....	46
Configure trust on the ALM Octane server .....	47
Configure a secure connection to the ALM Octane server (Jetty) .....	47
Troubleshooting .....	49
Checking logs .....	51
Uninstall .....	52
Send Us Feedback .....	53

# Architecture

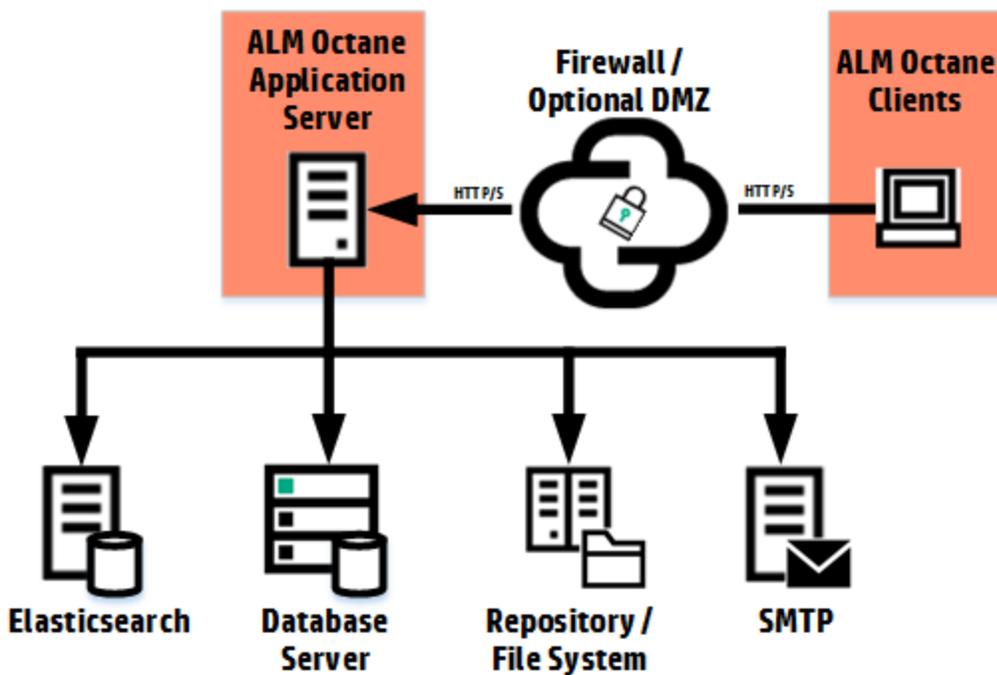
You can set up ALM Octane as a single node, or in a cluster configuration. The following diagrams illustrate the system architecture for both options. These are followed by descriptions of each of the components.

**Note:** The ALM Octane, database, and Elasticsearch servers should each reside on separate machines.

- ["Basic configuration" below](#)
- ["Enterprise configuration" on the next page](#)
- ["Components" on page 7](#)

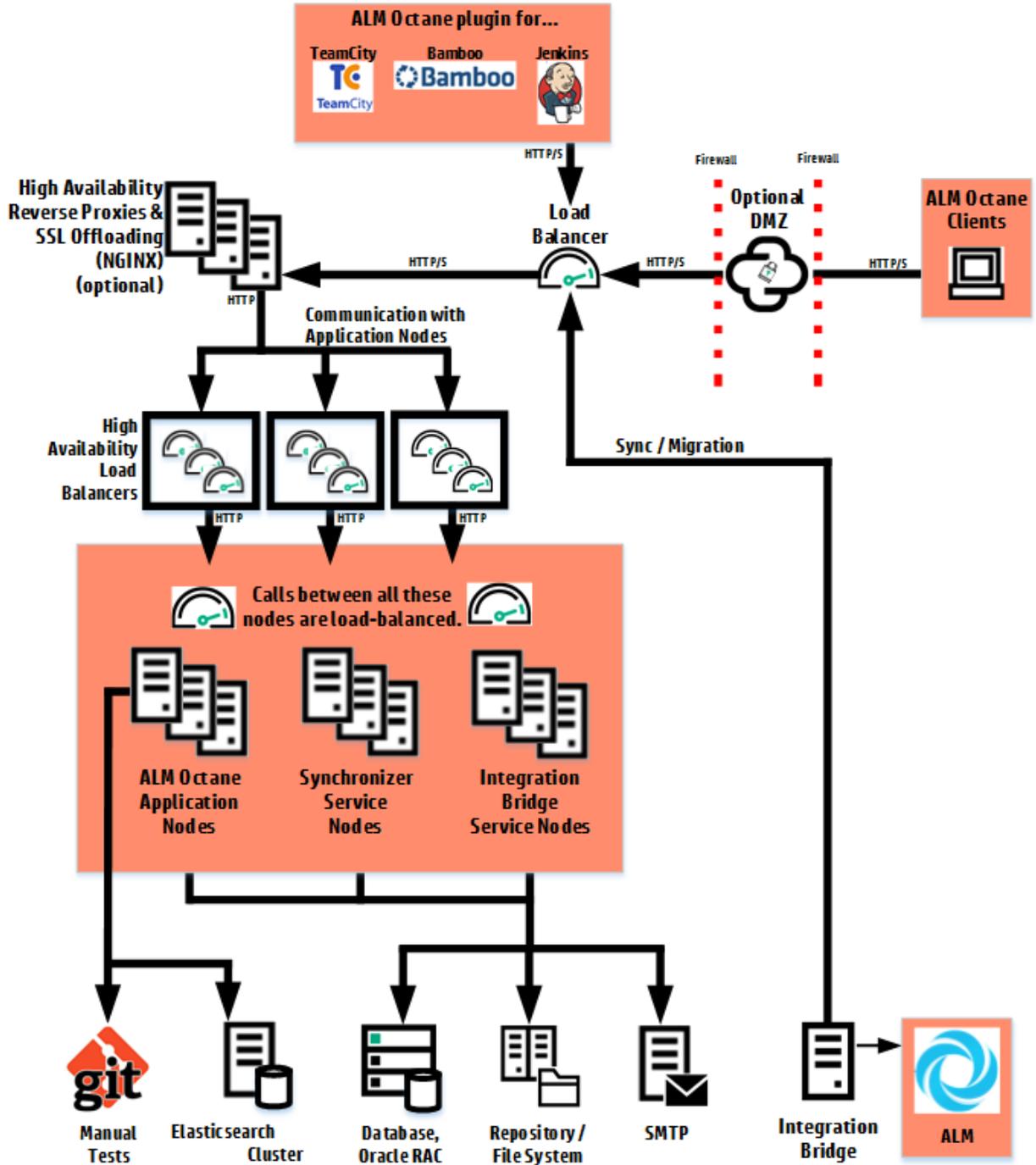
## Basic configuration

The following diagram illustrates the system architecture of a single-node configuration:



# Enterprise configuration

The following diagram illustrates the system architecture of an enterprise and/or a cluster configuration:



# Components

Components	Description
ALM Octane clients	The clients communicate with the ALM Octane server over HTTP/S.
Integration bridge and external sources	<b>Enterprise configuration:</b> The integration bridge enables ALM Octane to integrate with external applications ("off-organization" communication). This is required for synchronization, and for the Call URL rule action to another network. Also used for SaaS deployments, for communication between HPE SaaS and an on-premise deployment.
ALM Octane Server application nodes	Client requests from ALM Octane are dispatched to the deployed application.  <div style="background-color: #e6f2e6; padding: 5px; border: 1px solid #ccc;"> <p><b>Note:</b> The ALM Octane, database, and Elasticsearch servers should each reside on separate machines.</p> </div>
ALM Octane application additional cluster (sync) nodes	<b>Cluster configuration:</b> A cluster is a group of application servers that run as a single system. Each application server in a cluster is referred to as a "node." <ul style="list-style-type: none"> <li>All nodes must have access to the database server on which the site database schema resides.</li> <li>All nodes must have access to the repository. Generally, the repository will be located on an NFS or SAN server. If the repository is not located on a remote, dedicated machine, the repository location cannot be <b>/opt/octane</b>.</li> <li>All nodes must have access to each other.</li> </ul>
<b>Technical preview:</b> Integration bridge service nodes	This service handles general communication between endpoints. In this case, the service handles communication between the Integration Bridge and Synchronizer.
<b>Technical preview</b> : Synchronizer service nodes	This service handles synchronization of data between endpoints. In this case, the services handles synchronization between ALM Octane and ALM.
Repository / File system	Stores all files to be used by all the projects in the system, such as templates and attachments.  <b>Cluster configuration:</b> When working in a clustered configuration, the repository must be accessible by all nodes. Also, the repository must be configured to use the same mount point (path) on all nodes.

Components	Description
Database server	<p>A relational database management system, either Oracle RAC or Microsoft SQL Server.</p> <p>The database server stores the following schemas:</p> <ul style="list-style-type: none"> <li>• <b>Shared space schema.</b> All shared space information, such as workspaces, users, and roles..</li> <li>• <b>Site schema.</b> Stores all site-related information, such as database servers, cluster nodes, the SMTP servers, and configuration.</li> </ul> <p>The schemas can reside on an Oracle server (Oracle RAC is supported).</p> <p>This server can be shared with other applications with the following constraints:</p> <ul style="list-style-type: none"> <li>• The database must be able to sustain the load of all the applications.</li> <li>• Future versions of ALM Octane might require a database upgrade. This may necessitate migration of data if other applications sharing the same database will not support the database version that ALM Octane requires.</li> </ul> <div style="background-color: #e6f2e6; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The ALM Octane, database, and Elasticsearch servers should each reside on separate machines.</p> </div>
Elasticsearch server (or cluster)	<p>A Java-based, open-source search engine. This component is used for various aspects of the application, such as global search and trends.</p> <p>This server can be shared with other applications with the following constraints:</p> <ul style="list-style-type: none"> <li>• The database must be able to sustain the load of all the applications.</li> <li>• Future versions of ALM Octane might require a database upgrade. This may necessitate migration of data if other applications sharing the same database will not support the database version that ALM Octane requires.</li> </ul> <div style="background-color: #e6f2e6; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The ALM Octane, database, and Elasticsearch servers should each reside on separate machines.</p> </div>
Load balancer	<p><b>Cluster configuration:</b> When working with a load balancer, client requests are transmitted to the load balancer and distributed according to server availability within the cluster.</p> <p>If you are using a load balancer, we recommend you utilize SSL offloading.</p>
High availability load balancers	<p><b>Cluster configuration:</b> These can be "VIPs" of one physical load balancer.</p>
DMZ	<p>An optional, demilitarized zone.</p>

Components	Description
High availability reverse proxies and SSL offloading	<b>Cluster configuration:</b> Optional configuration for load balancing using a software solution (for example, NGINX).
SMTP	A mail server.
Jenkins (with ALM Octane plugin)	<b>Enterprise configuration:</b> You can integrate ALM Octane with a Jenkins CI server using the HPE ALM Octane CI Plugin on your CI server.
TeamCity (with ALM Octane plugin)	<b>Enterprise configuration:</b> You can integrate ALM Octane with a TeamCity CI server using the HPE ALM Octane CI Plugin on your CI server.
Bamboo (with ALM Octane plugin)	<b>Enterprise configuration:</b> You can integrate ALM Octane with a Bamboo CI server using the HPEALM Octane CI Plugin on your CI server.
GIT (manual tests)	<b>Enterprise configuration:</b> Built-in on top the application's file system location. External access to the GIT repository is allowed only for backup purposes.

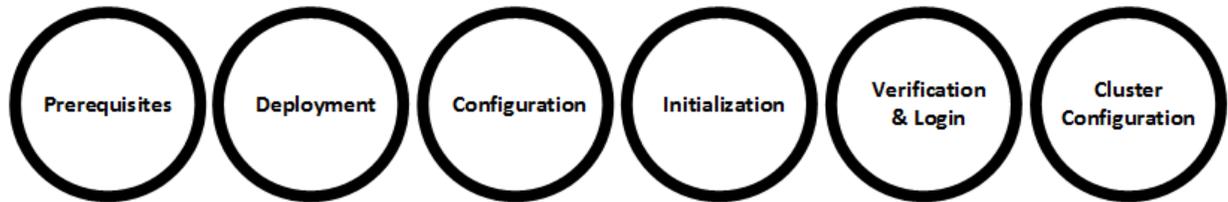
# Installation types

This document describes the necessary requirements and procedures for the installation of ALM Octane server, and initial setup steps.

Type	Description
Installation	Instructions for installing on: <ul style="list-style-type: none"><li>• A single node.</li><li>• A cluster configuration.</li></ul> For details, see <a href="#">"Installation" on page 17</a> .
Upgrade	For details, see <a href="#">"Upgrade" on page 32</a> .
<b>Technical preview:</b> Docker	A simplified installation and setup of ALM Octane by deploying a Docker image. For details and to download, see <a href="#">HPE ALM Octane Docker on HPLN</a> and the <i>ALM Octane Installation Guide for Docker</i> .   <b>Caution:</b> The Docker installation is not for use in production.

# Installation flow

This document describes the overall flow for installing the ALM Octane server.



The installation process comprises the following high-level steps:

## Prerequisites

Verify your system meets hardware and software requirements.

This includes setting up permissions, opening ports, database configuration, and more.

You need three separate server machines.

- ALM Octane server
- Database server
- Elasticsearch server

For details, see ["Prerequisites" on page 13](#).

**Note:** We recommend you review security considerations in the knowledge base article [KM02707977](#). This article contains Instructions on how to set up a secure configuration for ALM Octane.

## Deployment

Deploy ALM Octane on a machine dedicated for the ALM Octane server on Linux.

ALM Octane is deployed using the RPM Package Manager (as an .rpm file).

The deployment path is **/opt/octane**.

The command to deploy is: `rpm -Uvh <name of the RPM file>`

For details, see ["Deploy ALM Octane" on page 18](#).

## Configuration

Configure ALM Octane by editing these files with your site's settings:

- **setup.xml** for initial configuration
- **octane.yml** for ongoing configuration

The path to these files is **`/opt/octane/conf`**.

For details, see ["Configure initial site settings"](#) on page 19 and ["Configure other settings"](#) on page 25.

## Initialization

Initialize ALM Octane:

```
/opt/octane/install/initserver.sh
```

This also starts the server.

For details, see ["Initialize the ALM Octane server"](#) on page 30.

## Verify and log in

Verify that ALM Octane was properly installed. For details, see ["Checking logs"](#) on page 51.

Log into ALM Octane. For details, see ["Log in to ALM Octane"](#) on page 31.

## Cluster configuration (optional)

After starting the server on the first machine, configure and initialize each additional cluster node. For details, see ["Install and initialize ALM Octane on cluster nodes \(optional\)"](#) on page 30.

# Prerequisites

Verify that your system meets the following prerequisites.

## Review security requirements

For security requirements, see [Software Self-solve knowledge base article KM02707977](#).

## ALM Octane server

Prepare a Linux server with the following configuration:

<b>CPU</b>	<ul style="list-style-type: none"><li>• Quad Core AMD64 processor or equivalent x86-compatible processor</li></ul>
<b>Memory (RAM)</b>	<ul style="list-style-type: none"><li>• 8 GB minimum.</li></ul> <div> <b>Tip:</b> This is the minimum supported value. For recommended values for your site, contact customer support.</div>
<b>Free Disk Space</b>	<ul style="list-style-type: none"><li>• 8 GB minimum</li></ul> <div> <b>Tip:</b> This is the minimum supported value. For recommended values for your site, contact customer support.</div>
<b>Operating System</b>	<ul style="list-style-type: none"><li>• Red Hat Enterprise Linux (RHEL) 6.5 or higher</li><li>• CentOS 6.5 or higher</li></ul>

## Database

ALM Octane supports the following databases:

<b>Oracle</b>	12C Standard or Enterprise edition, character set AL32UTF8 <div> Use character length semantics: <pre>alter system set nls_length_semantics = CHAR scope=both;</pre></div>
<b>SQL Server</b>	2014 or 2012 SP3

## Additional software

<b>OpenJDK</b>	<p>1.8 update 65 or later.</p> <p>To install Java, use OpenJDK by running:</p> <pre>yum install -y java-1.8.0-openjdk-devel</pre>
<b>Elasticsearch</b>	<p>Elasticsearch 2.4 is needed to enable trend reporting and search functionality in ALM Octane. For details, see the knowledge base article <a href="#">KM02494295</a>. The default port is 9300.</p>

## Ports for firewall access

The following ports must be open:

Purpose	Default port	Configure
<p>Inbound communication for Jetty.</p>	<p>8080</p> <p>SSL: 8443</p>	<p>In <b>octane.yml</b>.</p>
<p>Outbound communication to Oracle.</p> <p> <b>Tip:</b> By default, outbound ports are open.</p>	<p>1521</p>	<p>During initial installation, in <b>setup.xml</b>.</p> <p>Afterwards, you can edit the port in <b>siteadmin.xml</b>.</p>
<p>Outbound communication to Elasticsearch.</p> <p> <b>Tip:</b> By default, outbound ports are open.</p>	<p>9300</p>	<p>During initial installation, in <b>setup.xml</b>.</p> <p>Afterwards, you can edit the port in <b>siteadmin.xml</b>.</p>
<p>Inbound and outbound communication for clusters: ALM Octane needs to communicate between the nodes in the cluster.</p> <p> <b>Tip:</b> By default, outbound ports are open.</p>	<p>5701</p>	<p>In <b>hazelcast.xml</b>.</p>

## Permissions

<b>File system</b>	Root or sudo user.  During deployment, ALM Octane creates a user and group named <b>octane</b> for running the <b>HPALM</b> service that starts the ALM Octane server. However, if your organization prefers to manage users in a centralized way, without enabling ad hoc creation of local users, create a user and group for this purpose, and define the following environment variables: <b>OCTANE_USER</b> and <b>OCTANE_GROUP</b> .
<b>Oracle database</b>	Permissions vary depending how you work with ALM Octane and how you want to install:  Do you want ALM Octane to create schemas, objects, and tables during the installation? <ul style="list-style-type: none"><li>• If yes, provide ALM Octane with an Oracle power user with the following admin privileges, so that ALM Octane can create schemas and objects automatically during the installation.<ul style="list-style-type: none"><li>• CREATE USER</li><li>• CREATE SESSION WITH ADMIN OPTION</li><li>• CREATE TABLE WITH ADMIN OPTION</li><li>• DROP USER</li></ul></li><li>• If not, provide ALM Octane with a regular Oracle user with the following permissions. Create the schemas before installation.<ul style="list-style-type: none"><li>• CREATE TABLE</li><li>• CREATE SESSION</li><li>• The QUOTA clause on the user's default tablespace should be unlimited.</li><li>• DROP USER (optional). If not provided, the DBA must take responsibility for cleaning up unnecessary schemas.</li></ul></li></ul>

<b>SQL Server Database)</b>	<p>You can install ALM Octane with the following users:</p> <ul style="list-style-type: none"><li>• The SQL <b>sa</b> user.</li><li>• An ALM Octane database administrative user, created by your database admin. Install with this user if you cannot use the SQL <b>sa</b> user for security reasons. The database admin can, for example, call the user <b>alm_db_admin</b>, and assign the privileges (roles) required to install ALM Octane:<ul style="list-style-type: none"><li>• Database Creators role</li><li>• Security Administrators role</li><li>• Database <b>db_ddladmin</b> role</li></ul></li></ul> <p><b>Note:</b> It is important that the ALM Octane database administrative user is not assigned any server role.</p> <p><b>To create an ALM Octane database administrative user:</b></p> <ol style="list-style-type: none"><li>1. Open the <b>SQL Server Management Studio</b>.</li><li>2. In the <b>Object Explorer</b> pane, under the ALM Octane database server, expand the <b>Security</b> directory.</li><li>3. Right-click the <b>Logins</b> directory, and select <b>New Login</b>.</li><li>4. Type <b>alm_db_admin</b> as the user name, and select the authentication type (enter the password if necessary).</li><li>5. Click the <b>Server Roles</b> tab, and select the <b>dbcreator</b> and <b>securityadmin</b> options. Click <b>OK</b>.</li></ol> <p><b>To test the ALM Octane database administrative user (SQL Server Authentication):</b></p> <ol style="list-style-type: none"><li>1. To verify the <b>select sysdatabases</b> table permission in the master database:<pre>SELECT name FROM sysdatabases where name=&lt;db_name&gt;</pre></li><li>2. To verify the <b>create database</b> permission:<pre>CREATE DATABASE &lt;dbName&gt; -- the database name must not already exist</pre></li><li>3. To verify the <b>drop database</b> permission:<pre>DROP DATABASE &lt;database_name&gt; -- the database name must exist</pre></li><li>4. To verify the <b>select syslogins</b> permission:<pre>SELECT COUNT(*) FROM master..syslogins WHERE name=&lt;dbOwnerName&gt;</pre></li></ol>
-----------------------------	--

## Language support

On-premise installation of ALM Octane supports only English characters for the names of schemas, operating systems, users, and so on.

# Installation

This section describes how to install an on-premise ALM Octane server.

Before installing:

- Verify that your server fulfills all prerequisites. For details, see ["Prerequisites" on page 13](#).
- Review security considerations in the knowledge base article [KM02707977](#).

**Language support:** On-premise installation of ALM Octane supports only English. This means only English characters can be specified for the names of schemas, operating systems, users, and so on.

This section includes:

• Deploy ALM Octane .....	18
• Configure initial site settings .....	19
• Database server settings .....	20
• Oracle server settings .....	22
• SQL server settings .....	22
• Site actions .....	22
• Shared space settings .....	23
• Elasticsearch settings .....	23
• Site administrator credential settings .....	24
• Repository settings .....	24
• Encryption settings .....	24
• Additional settings .....	25
• Configure other settings .....	25
• General server settings .....	26
• LDAP settings .....	28
• Initialize the ALM Octane server .....	30
• Install and initialize ALM Octane on cluster nodes (optional) .....	30
• Log in to ALM Octane .....	31

# Deploy ALM Octane

This section describes how to deploy an RPM file for installing an ALM Octane server.

Before installing:

- Verify that your server fulfills all prerequisites. For details, see ["Prerequisites" on page 13](#).
- Review security considerations in the knowledge base article [KM02707977](#).

Installing the ALM Octane RPM package does the following:

- Creates the correct directory structure.
- Copies all the files to the right locations.
- Creates a user and group for running the **HPALM** service that starts the ALM Octane server.  
By default, both the user and group are named **octane**. However, you can use a pre-defined user instead by defining the following environment variables: **OCTANE\_USER** and **OCTANE\_GROUP**.
- Installs the **HPALM** service so that the operating system recognizes it.

This section includes:

- ["Deploy ALM Octane" above](#)
- ["Cluster deployment" on the next page](#)

## To deploy ALM Octane:

1. Download the ALM Octane RPM package from HPE download sites.

```
wget octane-onprem-<rpm file>
```

2. Install the ALM Octane RPM package.

- To install the ALM Octane RPM package in the default installation directory **/opt/octane**, run:

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

- Alternatively, install the ALM Octane RPM package to a different directory:

```
rpm -Uvh --prefix <base path> <name of the RPM file>
```

**Note:** If you install RPM to a different directory, make sure to replace **"/opt/octane"** with the relevant path when following the instructions in this guide.

3. Set up repository access.

- If the repository is located on a remote, dedicated machine, the ALM Octane server user account must have network access to the remote repository.
- The repository directory has to be shared so that user performing the installation (generally, the **octane** user) can write to the repository.
- **Single-node configuration:**

On the ALM Octane server, create a mount directory that points to the file repository directory.

- **Cluster configuration:**

- The repository directory has to be a shared directory visible to all cluster nodes.
- On each cluster node, create a mount directory that points to the repository directory.
- It is important that you enter the repository path using the same path name on all nodes. For example, you cannot have the path on the first server node defined as **/opt/octane/repo** and on additional nodes defined as **/server1/opt/octane/repo**.
- If the repository is not located on a remote, dedicated machine, the repository location cannot be **/opt/octane**.

4. Verify the required file permissions.

Default directory	Description	Permissions
<b>/opt/octane</b>	ALM Octane installation directory and all its sub-directories and files. These files are used for configuring the server.	Full read, write, and execute
<b>/opt/octane/repo</b>	The repository directory, and its <b>site</b> and <b>sharedspaces</b> sub-directories.	Full read, write, and execute
<b>/opt/octane/log</b>	Log file directory.	Full read, write, and execute

5. If planning to install ALM Octane on additional cluster nodes, perform the steps described under ["Cluster deployment"](#) below.

## Cluster deployment

1. **Configure the IP addresses (or fully qualified domain names) of the cluster nodes.** Configure the node IP addresses or fully qualified domain names) in the **octane.yml** file. For details, see ["Configure other settings"](#) on page 25.
2. **Verify ports are open in your firewall.** When deploying ALM Octane over a cluster, ALM Octane needs to communicate between the nodes in the cluster located on port 5701. Therefore, make sure that your firewall enables communication between the nodes of the cluster on the specified port.

## Configure initial site settings

You can configure initial site parameters using the **setup.xml** file. You must set the parameters in the **setup.xml** file during the ALM Octane installation. These settings cannot be changed later.

Configure these settings by editing the **setup.xml** file, for example, with an editor such as nano: `nano /opt/octane/conf/setup.xml`

Configuration files must be readable and editable by the user installing ALM Octane, which is generally the **octane** user. If you copy or edit a configuration file as the **root** or **sudoer** user that does not have the necessary installation permissions, the install fails.



**Tip:** To change the owner: `chown <owner>:<group> <file>`



**Example:** `chown octane:octane setup.xml`

It is recommended that you save a local copy of the **setup.xml** file before making changes to it.

Also, for security purposes, **setup.xml** should be stored in a secure, off-site location and should be removed from the configuration directory (**/opt/octane/conf**) after installation.

Enter values for the relevant settings:

- "Database server settings" below
- "Oracle server settings" on page 22
- "SQL server settings" on page 22
- "Site actions " on page 22
- "Shared space settings" on page 23
- "Elasticsearch settings" on page 23
- "Site administrator credential settings" on page 24
- "Repository settings" on page 24
- "Encryption settings" on page 24
- "Additional settings" on page 25

## Database server settings

<b>DBType</b>	The supported database types are: <ul style="list-style-type: none"><li>• ORACLE</li><li>• MSSQL</li></ul>
<b>SchemaName</b>	The name of the site schema that is created by the <b>DBAdminUser</b> during the installation, or supplied by the organization's DBA. Enter the supplied name.
<b>SchemaPassword</b>	<p><b>For Oracle:</b> The password of the site schema. Enter the supplied password.</p> <p><b>For SQL Server:</b> The password the <b>DbLoginUser</b>.</p> <p>Do not include a pound sign (<b>#</b>) or accented characters (such as, <b>ä, ç, ñ</b>).</p> <div style="border: 1px solid green; padding: 5px; margin-top: 10px;"><p><b>Note:</b> When using Oracle, and installing using existing site schemas (with the <b>FILL_EXISTING</b> site action), make sure that the passwords that the DBA defines for the site schema and the shared space schema both match this <b>SchemaPassword</b>.</p></div>

<b>DBAdminUser</b>	<p><b>For Oracle:</b> The name of the database admin user (<b>DBAdminUser</b>).</p> <div data-bbox="402 268 1414 394"><p><b>Note:</b> When using Oracle, and installing using existing site schemas (with the <b>FILL_EXISTING</b> site action), enter the <b>SchemaName</b>.</p></div> <p><b>For SQL Server:</b> This is an SQL Server superuser: Either the <b>sa</b> user, or another admin user with the correct permissions, is needed.</p> <p>For details about <b>DBAdminUser</b> permissions, see <a href="#">"Permissions" on page 15</a>.</p>
<b>DBAdminPassword</b>	<p><b>For Oracle:</b> The password of the database admin user (<b>DBAdminUser</b>).</p> <p>Do not include a pound sign (<b>#</b>) or accented characters (such as, <b>ä, ç, ñ</b>).</p> <div data-bbox="402 684 1414 810"><p><b>Note:</b> When using Oracle, and installing using existing site schemas (with the <b>FILL_EXISTING</b> site action), enter the <b>SchemaName</b>.</p></div> <p><b>For SQL Server:</b> Password for the SQL Server superuser defined with the <b>DBAdminUser</b> setting.</p>
<b>ConnectionString</b>	<p>The Java Database Connectivity (JDBC) database connection string. It includes the following details: database type, database server name, database server port number, service name.</p> <p>You can configure secure access to the database. For details, see <a href="#">"Configure initial site settings " on page 19</a>.</p> <h3>Oracle</h3> <p><b>Syntax:</b></p> <pre>&lt;entry key="ConnectionString"&gt;jdbc:mercury:oracle://DB_SERVER_NAME:DB_SERVER_PORT;servicename=DB_SERVICE_NAME&lt;/entry&gt;</pre> <p><b>Example:</b></p> <pre>jdbc:mercury:oracle://dbserver1.net:1521;servicename=orcl</pre> <p>To connect to Oracle RAC, use the Single Client Access Name (SCAN) instead of the database server name.</p> <h3>SQL</h3> <p><b>Syntax:</b></p> <pre>&lt;entry key="ConnectionString"&gt;jdbc:mercury:sqlserver://DB_SERVER_NAME:DB_SERVER_PORT&lt;/entry&gt;</pre> <p><b>Example:</b></p> <pre>jdbc:mercury:sqlserver://dbserver1:1433</pre>

## Oracle server settings

<b>TableSpace</b>	The tablespace in the Oracle database where the site schema segment will be created. Case-sensitive.
<b>TempTableSpace</b>	The temporary tablespace in the Oracle database. Case-sensitive.

## SQL server settings

<b>DbLoginUser</b>	<p>MSSQL database login authentication user.</p> <p>This login is associated with the ALM Octane site and shared space databases. By default, this user is <b>octane</b>, but this can be overridden.</p> <p><b>Example: octane</b></p>
--------------------	---

## Site actions

The **SiteAction** setting determines how the installation should handle schemas. Possible values:

<b>CREATE_NEW</b>	<p>Use this site action for new installations.</p> <p>Creates a new site schema, creates a new shared space schema, and configures the current node.</p> <p>Only a <b>DBAdminUser</b> with <b>create schema</b> permissions can create a new schema.</p> <p>The <b>CREATE_NEW</b> site action fails when the schema already exists.</p> <div style="border: 1px solid green; padding: 5px; margin-top: 10px;"><p><b>Note:</b> After installing ALM Octane, save the <b>setup.xml</b> file to a safe location, and remove the original file. This way, you can access the <b>InitString</b> (used for encryption) and passwords, if the need arises, while protecting sensitive information contained in the file. This is especially important when using the <b>CREATE_NEW</b> or <b>FILL_EXISTING</b> site actions.</p></div>
-------------------	---

<p><b>FILL_EXISTING</b></p>	<p><b>For Oracle:</b> Use this site action for new installations, in case where the database admin user does not have permissions to create a schema. In this case, the organization's DBA creates a new site schema. The database admin user creates a new shared space schema.</p> <p><b>For SQL Server:</b> Two databases are created, one for the site schema and one for the shared space schema...both created by the DBA. The default collation is <b>Latin1_General_CI_AS</b>.</p> <p>Make sure you specify these schemas/databases in the <b>SchemaName</b> and <b>SharedSpaceSchemaName</b> settings, because they are mandatory.</p> <p><b>For Oracle: SharedSpaceSchemaName</b> should have the same password as <b>SchemaName</b>.</p> <p>Make sure that the passwords that the DBA defines for the site schema and the shared space schema both match the <b>SchemaPassword</b> setting.</p> <div style="border: 1px solid #ccc; background-color: #e6f2e6; padding: 10px; margin-top: 10px;"> <p><b>Note:</b> After installing ALM Octane, save the <b>setup.xml</b> file to a safe location, and remove the original file. This way, you can access the <b>InitString</b> (used for encryption) and passwords, if the need arises, while protecting sensitive information contained in the file. This is especially important when using the <b>CREATE_NEW</b> or <b>FILL_EXISTING</b> site actions.</p> </div>
<p><b>UPGRADE</b></p>	<p>Upgrade from a previous version of ALM Octane.</p> <p>This value is set by default in the <b>setup_upgrade.xml</b> file. For details, see <a href="#">"Upgrade" on page 32</a>.</p>

## Shared space settings

<p><b>SharedSpaceSchemaName</b></p>	<p>Relevant only for the <b>FILL_EXISTING</b> site action.</p> <p>To configure the shared space, add a <b>SharedSpaceSchemaName</b> parameter and set it to the name of the schema that is designated for the shared space.</p>
-------------------------------------	---

## Elasticsearch settings

<p><b>ElasticHost</b></p>	<p>The name of the host running Elasticsearch.</p> <p>If running an Elasticsearch cluster, all node host names should be separated by commas (,).</p> <p><b>Example: host1,host2,host3</b></p>
<p><b>ElasticPort</b></p>	<p>The number of the port running the Elasticsearch binary service.</p> <p><b>Example: 9300</b></p>
<p><b>ElasticClusterName</b></p>	<p>The name of the Elasticsearch cluster.</p> <p>For details, see the knowledge base article <a href="#">KM02494295</a>.</p>

## Site administrator credential settings

<b>SiteAdministratorUser</b>	<p>The name of the site admin user that the installation will create.</p> <p>The user name should be an email address. The email address can be specified now and created later.</p> <p>This is the only user available after installation. Other users can be added later.</p>
<b>SiteAdministratorPassword</b>	<p>The site administrator's password. The password must be at least 8 characters long, and contain at least one uppercase letter, one lowercase letter, and one number or symbol.</p> <p>Do not include a pound sign (#) or accented characters (such as, <b>ä, ç, ñ</b>).</p>

## Repository settings

<b>RepositoryFolder</b>	<p>The full path of the repository directory.</p> <p><b>Example: /opt/octane/repo</b></p> <p><b>Cluster configuration:</b></p> <ul style="list-style-type: none"><li>• The directory specified here must be accessible to all cluster nodes.</li><li>• If the repository is not located on a remote, dedicated machine, the repository location cannot be <b>/opt/octane</b>.</li></ul>
-------------------------	---

## Encryption settings

ALM Octane encryption uses the AES-256 algorithm with secret symmetric keys. Keys can be used later for decryption of sensitive data such as passwords. Some keys can also be used when installing additional services.

The keys are relevant only for the **CREATE\_NEW** site action or the **FILL\_EXISTING** site action.

Keys are initialized based on the encryption key values entered during initial configuration using the **setup.xml** file. Therefore, **setup.xml** should be stored in a secure, off-site location and then removed from the configuration directory (**/opt/octane/conf**) after installation.

Keys cannot be modified after initial configuration.

Enter keys using any alphanumeric string, including special characters. Do not include a pound sign (#) or accented characters (such as, **ä, ç, ñ**).

We recommend you use longer strings (such as phrases), with some special characters, and without repeating consecutive characters.

<b>InitString</b>	This key is used to initialize encryption process.
<b>DistributedPassword</b>	The key used for distributed caching communication between nodes in a cluster.  Specify this key even if currently you do not plan on installing a cluster configuration.  This password is not needed after installation.
<b>AuthenticationTokenEncryptionKey</b>	This key is used to initiate the encryption of the authentication token.

## Additional settings

<b>AppURL</b>	The fully-qualified name for the URL used to navigate to ALM Octane. Use this pattern: <code>http://&lt;Server URL&gt;:[Port]</code>  <b>Basic configuration.</b> Usually the URL of the server on which you installed the application.  <b>Cluster configuration.</b> The Virtual IP URL.
<b>RepositoryFolder</b>	The full path of the repository directory.  <b>Example:</b> <code>/opt/octane/repo</code>  <b>Cluster configuration:</b> The directory specified here must be accessible to all cluster nodes.

## Configure other settings

You can configure additional site settings using the **octane.yml** file. These settings are configured during installation, and can also be changed any time, whenever necessary.

Configuration files must be readable and editable by the user installing ALM Octane, which is generally the **octane** user. If you copy or edit a configuration file as the **root** or **sudoer** user that does not have the necessary installation permissions, the install fails.



**Tip:** To change the owner: `chown <owner>:<group> <file>`

**Example:** `chown octane:octane setup.xml`



**Note:** If you update any of these settings at a later time, make sure you restart the ALM Octane server.

For example, you might initially install ALM Octane to use native user management, and at a later time, decide to implement LDAP authentication for user management instead.

Configure these settings by editing the **octane.yml** file, for example, with an editor such as nano: `nano /opt/octane/conf/octane.yml`.



**Tip:** Correct indentation and formatting is essential. When setting these parameters, it is mandatory to put a space between the parameter name and the value. Omitting the space causes ALM Octane initialization to fail. For an example, see the sample file:

**/opt/octane/conf/octaneExample.yml.**

You can configure the following settings:

- "General server settings" below
- "LDAP settings" on page 28

## General server settings

<b>serverDomain</b>	<p>The user-facing domain name used for accessing the application.</p> <p>This is a mandatory setting.</p> <p><b>serverDomain</b> is used to set your authentication domain. For example, if you access ALM Octane using <b>octane.myserver.com</b>, the value should be <b>myserver.com</b>.</p> <p>ALM Octane will not work if you specify:</p> <ul style="list-style-type: none"><li>• A non-domain address such as <b>localhost</b>.</li><li>• An IP address. Only domain names are allowed.</li></ul>
<b>cluster</b>	<p><b>Cluster configuration:</b> Enter a comma-separated list of node host names or IPs in the cluster.</p> <p> <b>Example: 10.0.0.24,10.0.0.99,10.0.0.23</b></p> <p>This is a mandatory setting.</p> <p>By default, the cluster is not configured, and the default value is blank. This indicates a standalone ALM Octane server.</p>

<b>heapSize</b>	<p>Before starting the ALM Octane server the first time, change the heap memory values on all active cluster nodes.</p> <p>For example, you may need to increase the heap size if there is an increase in the number of active workspaces in ALM Octane, or an increase in the number of concurrent user sessions.</p> <p><b>heapSize</b> should be set to half of available server memory on a dedicated server, regardless of load.</p> <p>Heap size should not exceed 31 GB.</p> <p>Values should be specified in MB (for example, 4096 for 4 GB).</p> <p>Default: <b>4096</b></p>
<b>server</b>	<p>The value of a Jetty port for HTTP, or a Jetty secure port for HTTPS.</p> <p>After you install ALM Octane, you may need to change the ALM Octane server port number.</p> <p>Because the installation uses a non-root user, common ports (below 1024) cannot be used with ALM Octane.</p> <p>By default, the installation uses port 8080 for HTTP or port 8443 for HTTPS (SSL).</p> <p>httpPort: 8080</p> <p>httpsPort: 8443</p> <p>Leaving any of these ports empty disables the access using the specified http schema server.</p> <p>It is possible that the default application server port is used by another application that is running on the same machine. In this case, you can either locate the application that is using the port and stop it, or you can change the ALM Octane server port.</p>
<b>proxy</b>	<p>If ALM Octane is behind a firewall, and needs to access an outside server, you may need to configure ALM Octane to use a proxy server.</p> <p>An example of accessing an external server is when using the Call URL business rule. For details, see <a href="#">"Enable access to endpoint URLs for Call URL rules (CALL_URL_WHITE_LIST)" on page 44.</a></p> <p>host: &lt;proxy_host&gt;</p> <p>port: &lt;proxy_port&gt;</p> <p>user: &lt;user&gt;</p> <p>password: &lt;password&gt;</p>
<b>authenticationType</b>	<p>Whether the ALM Octane installation should use native user management or LDAP authentication for user management.</p> <p>Values are:</p> <p><b>ldap</b>. Use LDAP authentication.</p> <p><b>internal</b>, or any value other than <b>ldap</b>. Use internal, native ALM Octane user management.</p>

## LDAP settings

If you are planning on authenticating users using LDAP, set the **authenticationType** setting to **ldap**, and define the settings listed below.

Later, after modifying the LDAP settings and initializing the ALM Octane installation, import users from LDAP into ALM Octane. See the information about setting up LDAP authentication in the *ALM Octane User Guide*.

When initializing *ALM Octane*, if there are errors in your LDAP configuration in the **octane.yml** file (which prevent the ALM Octane server from starting), have a site administrator check the wrapper, site, and app logs.

### General LDAP settings

<b>connectionTimeout</b>	Connection timeout in seconds. Optional.  Default: 30 seconds
<b>adminDn</b>	The user that will log on to ALM Octane after setting up LDAP authentication.  This user can be same user as the user entered in the <b>setup.xml</b> file, or a different user. After entering the value for this user, and then restarting the ALM Octane server, the admin user entered in the <b>setup.xml</b> file is overwritten.  When the ALM Octane server starts, it checks <b>octane.yml</b> , verifies that this user exists, and validates the user against the LDAP data.  If this attribute is not defined correctly, the server will not start, Correct the user details and restart the server.

### LDAP server settings

Enter the following settings for each LDAP server separately.

 **Caution:** Back up all passwords set below because they are encrypted after the ALM Octane server is initialized.

<b>servers</b>	Header row to delineate that the information below is for each LDAP server. Do not enter a value.
<b>host</b>	The LDAP server host name or IP address. Mandatory.  Prefix each host item with a - sign: - <b>host</b> . This instructs ALM Octane where each host begins, especially if there are multiple LDAP servers.
<b>port</b>	LDAP server connection port. Mandatory.

<b>isSsl</b>	<p>Whether the LDAP server uses SSL. Mandatory.</p> <p>Enter <b>Y</b> or <b>N</b>.</p> <p>If <b>Y</b>, set the LDAP SSL signature in ALM Octane. For details, see the topic on importing LDAP users in the <i>ALM Octane User Guide</i>.</p>
<b>description</b>	Description of the server. Optional.
<b>authentication</b>	<ul style="list-style-type: none"> <li>• Enter <b>anonymous</b> to enable anonymous connectivity to the LDAP server. In this case, skip the next two parameters, user and password.</li> <li>• Enter <b>simple</b> if you require a user and password to access the LDAP server.</li> </ul>
<b>user</b>	<p>Only required if you set the <b>authentication</b> parameter to <b>simple</b>.</p> <p>User name for accessing the LDAP server. This user must have at least read permissions for the LDAP server.</p>
<b>password</b>	<p>Only required if you set the <b>authentication</b> parameter to <b>simple</b>.</p> <p>Password for accessing the LDAP server.</p>

## LDAP server mapping settings

Enter the following mapping settings for each LDAP server separately.

Values used in the mapping section are case sensitive.

<b>mapping</b>	Header row to delineate that the information below is form mapping of LDAP attributes. Do not enter a value.
<b>firstName</b>	LDAP attribute for first name, such as <b>givenName</b> . Mandatory.
<b>lastName</b>	LDAP attribute for last name, such as <b>sn</b> . Mandatory.
<b>fullName</b>	LDAP attribute for full name, such as <b>cn</b> . Optional.
<b>logonName</b>	LDAP attribute for logon name, such as <b>mail</b> . Mandatory.
<b>email</b>	<p>LDAP attribute for email address, such as <b>mail</b> or <b>uid</b>. Mandatory.</p> <p>By default, this is the attribute by which ALM Octane identifies each user. If you need to update an email for an existing user, a new user is created.</p>
<b>phone1</b>	LDAP attribute for primary phone number, such as <b>telephoneNumber</b> . Optional.
<b>phone2</b>	LDAP attribute for second phone number, such as <b>homePhone</b> . Optional.
<b>phone3</b>	LDAP attribute for third phone number. Optional.

## Initialize the ALM Octane server

After you have deployed ALM Octane, and configured all necessary parameters, you are ready to initialize the server.

Initializing the ALM Octane server performs the following:

- Configures the site based on the settings you defined in the **setup.xml** and the **octane.yml** files.
- Updates the initialization status in the admin log file.
- Creates a **setup\_upgrade.xml** file that you use to upgrade to a new ALM Octane version.
- Starts the ALM Octane server.

### To initialize:

1. If connecting to a database server or an LDAP server over a secure channel, configure trust. For details, see ["Configure trust on the ALM Octane server" on page 47](#).
2. Run **initserver.sh**:

```
/opt/octane/install/initserver.sh
```

**Note:** Errors might be listed even if the ALM Octane server initializes and starts. If you encounter problems initializing ALM Octane, check for errors in the log files. For details, see ["Troubleshooting" on page 49](#).

The initialization keeps track of the last successful step that it performed; If for some reason you have to rerun **initserver.sh**, it only starts at the relevant point.

If you encounter problems, review ["Troubleshooting" on page 49](#).

The ALM Octane server is now running. You are now ready to:

- **Single-node configuration:** Log in and create additional users. For details, see ["Log in to ALM Octane" on the next page](#).
- **Cluster configuration:** Optional.  
Check connectivity by logging in, after initializing the first node and before installing the remaining cluster nodes.  
For details on logging in, see ["Log in to ALM Octane" on the next page](#).  
For details on installing on a cluster, see ["Install and initialize ALM Octane on cluster nodes \(optional\)" below](#).

## Install and initialize ALM Octane on cluster nodes (optional)

This section describes the steps required to install an on-premise ALM Octane server on additional nodes in a cluster configuration.

To install on additional cluster nodes, we run **connectnode.sh**. This performs the following:

- Configures ALM Octane on the node
- Verifies that each part of the node installation succeeded.
- Starts ALM Octane on the node.

## To install ALM Octane on an additional node in the same cluster:

1. Before installing:
  - Verify that the cluster nodes fulfill all the system requirements and prerequisites. For details, see ["Prerequisites" on page 13](#).
  - Check connectivity by logging in, after initializing the first node and before installing the remaining cluster nodes.
  - Download and deploy the ALM Octane package on each cluster node. For details, see [Deploy](#) .
2. Make sure the ALM Octane server is up on the first node in the cluster.
3. Run **connectnode.sh** on each additional node to install and initialize ALM Octane: `/opt/octane/install/connectnode.sh <path_to_repository>`

## Log in to ALM Octane

1. Make sure the ALM Octane server service is running.  

```
service --status-all
```
2. In a browser, browse to **<Server\_URL>:<port>/ui**.  
**Cluster configuration:** Use the load balancer URL.
3. Log in with the site admin user name and password you provided in the **setup.xml** file using settings **SiteAdministratorUser** and **SiteAdministratorPassword**.  
Once you have logged on as the shared space administrator, you can create other users and workspaces.

# Upgrade

This section describes how to upgrade an existing installation of an on-premise ALM Octane server. Before starting, verify that your server fulfills all the system requirements and prerequisites. For details, see ["Prerequisites" on page 13](#).

## To upgrade ALM Octane:

1. Back up your databases (SQL Server) or database schemas (Oracle).
2. Download and deploy the ALM Octane RPM package. For details, see ["Deploy ALM Octane" on page 18](#).
3. A **setup\_upgrade.xml** file was created during the installation of your previous ALM Octane version. It contains all the right settings for your environment. We are now going to use this file to serve as the **setup.xml** file of the new version:
  - a. Navigate to the **/opt/octane/conf** directory.
  - b. Create a backup of the **setup.xml** from the previous version.
  - c. Copy the **/opt/octane/repo/conf/setup\_upgrade.xml** file to **/opt/octane/conf/setup.xml**.

**Note:** Configuration files must be readable and editable by the user installing ALM Octane, which is generally the **octane** user. If you copy or edit a configuration file as the **root** or **sudoer** user that does not have the necessary installation permissions, the install fails.

To change the owner: `chown <owner>:<group> <file>`

**Example:** `chown octane:octane setup.xml`

- d. Manually add any new settings to the **setup.xml** file that are required in the new version. In particular, add and configure the **AppURL** setting. For a full list of settings, see ["Configure initial site settings" on page 19](#).
4. In the same directory, back up and delete the **conf\_complete** file.
  5. Run the **initserver.sh** tool:

```
/opt/octane/install/initserver.sh
```

6. Check the **wrapper.log** file. If you do not see the "Server is ready!" message, correct the errors shown in the log.
7. **Upgrade the shared space:**
  - a. In a browser, navigate to **<ServerURL>:<port>/ui?site**.
  - b. Log in as the shared space admin, with the user name and password you provided in the **setup.xml** file.

- c. Click **Site Admin** and then click the **Shared Spaces** tab.
- d. Select the shared space and click **Upgrade**.

After the upgrade has completed successfully:

- The shared space status becomes **Active**.
- The shared space version is updated to the current version.
- The individual workspaces are upgraded in the background. Click **Background Jobs** to track the progress of the workspace upgrades.
- (missing or bad snippet)See "(missing or bad snippet)Upgrade remaining nodes " below.

**Note:** Until all of the background jobs have completed, some data may be unavailable in trend graphs.

### (missing or bad snippet)Upgrade remaining nodes

1. Stop ALM Octane on all cluster nodes.
2. Upgrade the first node as described above.
3. After the upgrade on the first node has completed successfully, you can upgrade the remaining nodes in a cluster. Run **connectnode.sh** on each node. For details, see [Install and initialize on cluster nodes \(optional\)](#).

# Management

Site administrators can configure site-level settings, including settings for ALM Octane servers.

**Note:** The site admin is the only user able to access the Site Admin area. The site admin is defined in the SiteAdministratorUser parameter in the **setup.xml** file. For details, see ["Initialize the ALM Octane server" on page 30](#).

- ["Manage servers" below](#)
- ["Management" above](#)
- ["Working with REST API site admin parameters" on the next page](#)

## Manage servers

- Ping the servers to test connectivity.
- View a list of the system's application servers, database server, and mail server, and perform related actions.
- View the status and server address for each server.
- View log details for all the servers in the system.

To perform these actions, in **Settings** , click **Site Admin** and then click the **Servers** tab.

### To ping a server to test connectivity:

1. Click the relevant application server, database server, or mail server.
2. Click the **Ping** button.  
Status indications display whether the server is "Accessible" or "Not Accessible".

### To view and manage database servers:

1. Click the database server to view details.
2. Change the **Admin password**.
3. Click **Save**.

### To change the mail server host name and port number:

1. Click the mail server to view details.
2. Change the **Host name** and **Port** number.
3. Click **Save**.

## To view and edit log details for all the servers in the system:

1. In the Application Logs area, view log details for all the servers in the system.
2. Click a log to edit its level and maximum size.

Parameter	Description
<b>Path</b>	<p>The path of the log file. (Read only)</p> <p>The log is written to the relevant log file in the specified path, according to the context in which you are working.</p> <p>For example, when you are working in the context of the main ALM Octane application, the log is written to the <b>app.log</b> file located in the specified path.</p>
<b>Level</b>	<p>Determines the severity of the events to include in the log. For example, Fatal, Error, Warn, Info, Debug, Trace.</p> <div style="border: 1px solid #ccc; background-color: #e6f2e6; padding: 5px;"><p><b>Note:</b> If you change the log level to Debug, make sure to change it back when you are finished debugging.</p></div>
<b>Maximum size</b>	<p>When the log size reaches this maximum size in MB, a new log file opens.</p>

### See also:

- ["Configure server site admin parameters using the REST API" below](#)

## Configure server site admin parameters using the REST API

This section provides information about setting on-premise ALM Octane site administration parameters using the REST API.

### Working with REST API site admin parameters

This section provides information about setting on-premise ALM Octane site administration parameters using the REST API.

In this topic:

- ["REST API basics" on the next page](#)
- ["REST API request format" on the next page](#)
- ["REST API site parameters" on page 37](#)

In addition to the site administration parameters listed in this topic, you can also use site administration parameters to enable access to endpoint URLs for Call URL rules. For details, see the *ALM Octane Developer Guide*.

## REST API basics

To work with REST API site parameters, you first authenticate.

To authenticate:

- Get an API access key and secret. For complete details, see the *ALM Octane User Guide*.
- POST this REST API request: `http[s]://<server>:<port>/authentication/sign_in`, sending the API access key and secret.

Make sure to also specify:

Header	Value
<b>Content-Type</b>	<b>application/json</b>
<b>HPECLIENTTYPE</b>	<b>HPE_REST_API_Tech_PREVIEW</b>

For complete details, see the *ALM Octane Developer Guide*.

## REST API request format

To set site parameters using the REST API, send a PUT request in the following format.

You can set multiple site parameters in the same PUT request.

The value can be a maximum of 1000 characters.

```
PUT ../admin/params
{
  "data": [
    {
      "id": "<site_param_name>",
      "value": <value>
    }
  ]
}
```

### Example

```
PUT ../admin/params
```

```
{
  "data": [
    {
      "id": "STORAGE_MAX_SIZE",
      "value": 5000
    }
  ]
}
```

You do not have to reset the site parameters after restarting the ALM Octane server.

## REST API site parameters

Parameter	Description	Type	Values
ALLOW_HTTP_METHOD_OVERRIDE	Enables add override method through HTTP header. This is not enabled for GET requests.	boolean	Default: false
ATTACHMENT_S_FILE_EXTENSION_WHITE_LIST	Defines a list of the permitted extensions for ALM Octane attachments.  Separate each extension with a semi-colon (;).	string	Default: ngalink; links; jpg; bmp; png; pdf; word; doc; docx; msg; xml; xls;xlsx; ppt; pptx; zip; txt; wmv; mp4; m4p; mkv; vob; log; wrf; fbr; jpeg
ATTACHMENT_S_URL_DOMAIN_WHITE_LIST	Defines a list of the permitted domains for ALM Octane attachment URLs.  Used only if ATTACHMENTS_URL_ENABLE_DOMAIN_WHITE_LIST is set to true.  Separate each extension with a semi-colon (;).	string	

Parameter	Description	Type	Values
ATTACHMENT_S_URL_ENABLE_DOMAIN_WHITE_LIST	Enables or disables usage of the domain white list validation of attachment URL, as enabled as defined with ATTACHMENTS_URL_DOMAIN_WHITE_LIST.	boolean	Default: false
AUDIT_LOG_FILE_MAX_SIZE	Defines the maximum size (in KB) of each audit log file.	integer	Default: 10240 Minimum: 1024 Maximum: 102400
AUDIT_LOG_FILE_ROLLING_SIZE	Defines the number of audit log files that are retained.		Default: 10 Minimum: 10 Maximum: 100
ENABLE_AUDIT	Defines whether the audit log is used.	boolean	Default: true
ENABLE_OUTPUT_SANITIZATION	Defines whether to sanitize the REST output.	boolean	Default: true
ENABLE_STORAGE_MAX_SIZE_VALIDATION	Defines whether the maximum size for storage of files should be validated.	boolean	Default: true
FILE_EXTENSION_WHITE_LIST_DOWNLOAD	File extensions that are allowed to be downloaded via open attachments, the REST API, or FTP Explorer.  Separate each extension with a semi-colon (;).	string	Default: txt;doc;docx

Parameter	Description	Type	Values
FILE_ EXTENSION_ WHITE_LIST_ UPLOAD	File extensions that are allowed to be uploaded via open attachments, extended storage, the REST API, or FTP Explorer.  Separate each extension with a semi-colon (;).	string	Default: txt;doc;docx
LOG_ APPENDER_ MAX_SIZE	Defines the maximum size for each Apache Log4j appender (in MB).  The format is:  < <b>log</b> > <b>Appender=#</b> ;< <b>log</b> > <b>Appender=#</b> ;< <b>log</b> > <b>Appender=#</b>  Where: <ul style="list-style-type: none"> <li>• <b>appAppender</b> is the name for the ALM Octane UI log.</li> <li>• <b>siteAppender</b> is the name for the ALM Octane SiteAdmin and SharedSpace admin log.</li> <li>• <b>restAppender</b> is the name for the ALM Octane REST API log.</li> </ul> Each log setting is separated by a semi-colon (;).	string for the list of log appenders  integer for each log size	Example:  appAppender=16; siteAppender=20; restAppender=11  Minimum size for each log: 1  Maximum size for each log: 100

Parameter	Description	Type	Values
LOG_LEVEL	<p>Changes the log level for specific log files.</p> <p>The format is:</p> <p><b>&lt;log_file&gt;=&lt;level&gt;;</b> <b>&lt;log_file&gt;=&lt;level&gt;</b></p> <p>Each log setting is separated by a semi-colon (;).</p>	<p>string for the list of logs</p> <p>string for each level</p>	<p>Example:</p> <p><b>com.hp.mqm.dal=DEBUG;com.hp.mqm.test=WARN</b></p> <p>Valid values for log levels:</p> <ul style="list-style-type: none"> <li>• DEBUG</li> <li>• WARN</li> <li>• INFO</li> <li>• WARN</li> <li>• FATAL</li> <li>• ERROR</li> <li>• TRACE</li> </ul>

Parameter	Description	Type	Values
LOG_ROOT_LEVEL	<p>Changes the log level for specific Apache Log4j appenders.</p> <p>The format is:</p> <pre>&lt; <b>log</b> &gt;Appender=&lt; <b>level</b> &gt;;&lt; <b>log</b> &gt;Appender=&lt; <b>level</b> &gt;;&lt; <b>log</b> &gt;Appender=&lt;<b>level</b>&gt;</pre> <p>Where:</p> <ul style="list-style-type: none"> <li>• <b>appAppender</b> is the name for the ALM Octane UI log.</li> <li>• <b>siteAppender</b> is the name for the ALM Octane Settings log.</li> <li>• <b>restAppender</b> is the name for the ALM Octane REST API log.</li> </ul> <p>Each log setting is separated by a semi-colon (;).</p>	<p>string for the list of logs</p> <p>string for each level</p>	<p>Example:</p> <p><b>appAppender=WARN;siteAppender=ERROR;restAppender=TRACE</b></p> <p>Valid values for log levels:</p> <ul style="list-style-type: none"> <li>• DEBUG</li> <li>• WARN</li> <li>• INFO</li> <li>• WARN</li> <li>• FATAL</li> <li>• ERROR</li> <li>• TRACE</li> </ul>
MAIL_ATTACH_MAX_SIZE	<p>Sets the maximum file size (in KB) for attachments to mail sent from ALM Octane.</p>	integer	<p>Default: 10485760</p> <p>Minimum: 10240</p> <p>Maximum: 10485760</p>
MAIL_ATTACH_TOTAL_MAX_SIZE	<p>Sets the total maximum file size (in KB) for all attachments to mail sent from ALM Octane.</p>	integer	<p>Default: 10485760</p> <p>Minimum: 10240</p> <p>Maximum: 10485760</p>

Parameter	Description	Type	Values
MAIL_FORMAT	Defines the format that mails are sent in.	string	Default: HTML  Valid values: <ul style="list-style-type: none"> <li>HTML</li> <li>TEXT</li> </ul>
MAIL_MESSAGE_CHARSET	The characters set for sent emails.	string	Default: UTF-8
MAIL_PROTOCOL	The mail protocol.	string	Default: smtp
MAIL_SERVER_HOST	The mail server host.  You can also set the host in the ALM Octane UI: Settings > Site Admin > Servers tab.	string	
MAIL_SERVER_PORT	The mail server port.  You can also set the port in the ALM Octane UI: Settings > Site Admin > Servers tab.	integer	Default: 25
MAX_ACTIVE_USERS_PER_SHAREDSpace	The maximum number of active users per shared space.	integer	Default: 1000
SERVER_BASE_URL	The base URL of the server.  <b>Example</b> : http://localhost.domain:8080	string	

Parameter	Description	Type	Values
SHARED_SPACES_LOG_LEVEL	<p>Changes the log level for specific shared space logs.</p> <p>The format is:</p> <p><b>&lt;shared_space_ID&gt;=&lt;level&gt;;&lt;shared_space_ID&gt;=&lt;level&gt;;&lt;shared_space_ID&gt;=&lt;level&gt;</b></p> <p>Each level setting is separated by a semi-colon (;).</p>	string	<p>Example:</p> <p><b>1001=INFO;2001=WARN</b></p> <p>Valid values are:</p> <ul style="list-style-type: none"> <li>• DEBUG</li> <li>• WARN</li> <li>• INFO</li> <li>• WARN</li> <li>• FATAL</li> <li>• ERROR</li> <li>• TRACE</li> </ul>
SMTP_ADMIN_MAIL	Sets the email address of the site admin.	string	
SMTP_AUTHENTICATION	Defines whether the SMTP server needs to be authenticated.	boolean	Default: false
SMTP_ENABLE_STARTTLS	Determines whether STARTTLS is used when connecting to the mail server.	boolean	Default: false
SMTP_PASSWORD	Sets the password for connecting to the SMTP server.	string	
SMTP_SSL_SUPPORT	Defines whether to connect to the SMTP server using SSL	boolean	Default: false
SMTP_USER	Sets the user for connecting to the SMTP server.	string	
STORAGE_MAX_FILE_SIZE	Sets the maximum size for storage files (in bytes).	integer	<p>Default: 10000000</p> <p>Minimum: 10000</p> <p>Maximum: 100000000</p>

Parameter	Description	Type	Values
STORAGE_MAX_SIZE	<p>Sets the maximum size for storage per shared space (in MB).</p> <p>Available workspace storage is set on the shared space level, and not per workspace. This means the amount of total available workspace storage is shared between the workspaces in the shared space.</p>	integer	<p>Default: 10000</p> <p>Minimum: 6000</p> <p>Maximum: 20000</p>

## Assign the site admin role to an ALM Octane user

The site admin user in the ALM Octane on-premise version is the user that was defined during installation.

After installation, to assign the site admin role to another ALM Octane user:

- In ALM Octane, go to **Settings -> Site Admin -> Users**. For details, see the instructions for assigning the site admin role to existing users in the *ALM Octane User Guide*.
- Alternatively, see the HPE Software Self-solve knowledge base article [KM02539841](#).

## Enable access to endpoint URLs for Call URL rules (CALL\_URL\_WHITE\_LIST)

You can define rules that call scripts at URLs to trigger a third party script embodied in an endpoint URL.

For these rules to work, the URLs must be listed as authorized by the on-premise site admin using CALL\_URL\_WHITE\_LIST site admin parameters.

Steps are provided below for setting the CALL\_URL\_WHITE\_LIST parameters using the REST API.

In this topic:

- ["Format of the CALL\\_URL\\_WHITE\\_LIST parameter" on the next page](#)
- ["URI" on the next page](#)
- ["Supported HTTP methods" on the next page](#)
- ["Retrieve an instance of a URL that is authorized \(GET\)" on the next page](#)
- ["Set the value of a CALL\\_URL\\_WHITE\\_LIST parameter \(PUT\)" on page 46](#)

## Format of the CALL\_URL\_WHITE\_LIST parameter

Ten CALL\_URL\_WHITE\_LIST parameters are available for setting endpoint URLs:

### CALL\_URL\_WHITE\_LIST $n$

Where  $n$  is a digit from **0** through **9**.

Each CALL\_URL\_WHITE\_LIST parameter can be set to one or more URL values, separated by commas:

**“server1.com/url,server2.com/url”**

**Note:** Each parameter value can be a maximum of 1500 characters.

The URL listed here must exactly match the URL to be called by the CALL\_URL action, including query specifications, and so on. For example, **http://www.my\_hpe.com/my\_url/is/here?with=query&another=query** would have to be specified in both places.

## URI

http[s]://<server>:<port>/admin/params/CALL\_URL\_WHITE\_LIST(0-9)

## Supported HTTP methods

- GET
- PUT

## Retrieve an instance of a URL that is authorized (GET)

### Request

GET .../admin/params/CALL\_URL\_WHITE\_LIST0

### Response

```
{
  "type": "param",
  "id": "CALL_URL_WHITE_LIST0",
  "value": "http://callurl.server.com/server",
  "last_modified": "2015-08-23T16:57:00Z",
  "modified_by": "current_user_name"
}
```

## Set the value of a CALL\_URL\_WHITE\_LIST parameter (PUT)

```
*** Request ***

PUT ../admin/params
{
  "data": [
    {
      "id": "CALL_URL_WHITE_LIST0",
      "value": "http://callurl.server.com/newserver"
    }
  ]
}
```

## Start the ALM Octane server manually

When installing ALM Octane, the ALM Octane server is started as part of running **initserver.sh** (on the first node) and **connectnode.sh** (on other cluster nodes).

If you need to start the ALM Octane server manually, perform the following.

### To start (or restart) the ALM Octane server:

- Log in as the root user and run the **HPALM** service:

```
service HPALM restart
```

The service runs in the background.

### To follow the server's boot process:

- Run:

```
tail -f /opt/octane/log/wrapper.log
```

### To start (or restart) ALM Octane in a cluster configuration:

All nodes must be restarted.

## Reinitialize site settings

If you need to reinitialize the system, make changes in the **octane.yml** file.

1. Obtain the names of the indices related to your instance of ALM Octane in the **sharedspace\_logical\_name.txt** in the **/opt/octane/server/conf/** directory.
2. Delete the database site schema.

3. Delete the repository.
4. Delete the **mqm\_<sp\_logical\_name>** index from Elasticsearch. From the shell on the ALM Octane server, run:

```
curl -XDELETE 'http://<server address>:9200/mqm_<sp_logical_name>/'
```

5. Run **initserver.sh** with the site action **CREATE\_NEW** to create a new site schema.  
`/opt/octane/install/initserver.sh`

## Configure trust on the ALM Octane server

Configure trust on the ALM Octane server when you need to connect to any remote server (such as a database server, an LDAP server, and so on) over a secure channel.

**Note:** When connecting to a database server with SSL, or an LDAP server, over a secure channel, you must configure trust before initializing the ALM Octane server by running **initserver.sh**.

### To configure trust on the ALM Octane server:

1. Obtain the certificate of the root and any intermediate Certificate Authority that issued the remote server certificate.
2. Import each certificate into the ALM Octane java truststore using a keytool command. For example:

```
cd <java_home>/bin  
  
./keytool -import -trustcacerts -alias <CA> -file <path to the CA certificate  
file> -keystore ../lib/security/cacerts
```

3. If the ALM Octane service (**HPALM**) is running, restart it.

## Configure a secure connection to the ALM Octane server (Jetty)

**Note:** Octane uses the TLSv1.2 secure protocol.

1. Copy your keystore file to the **/opt/octane/conf/** directory. Name the file **keystore.jks**.
2. Run `/opt/octane/install/enablessl.sh`, supplying the certificate password as a parameter to the script.

### Note the following limitations:

- When you install a single node configuration for the Jetty server, you need to use the full address to access it. Meaning, if the Jetty server was installed on a machine named

! **myserver.mydomain.com**, then you access it via: **http[s]://myserver.mydomain.com:<port>** and not via **http[s]://myserver:<port>** if there are client-side DNS shortcuts installed.

- When you install a cluster Jetty server environment, the load balancer and all Jetty nodes should all be accessible from one another. The same rules for accessing the server via the load balancer from the client side apply. Meaning, the full address of the load balancer should be used for access.

# Troubleshooting

This section contains troubleshooting suggestions for issues relating to the ALM Octane installation.

You can also check logs here: **/opt/octane/logs**

For an up-to-date list of installation troubleshooters, see [HPE Software Self-solve knowledge base article KM02703217](#).

## **I rebooted the ALM Octane server machine. The HPALM service did not start up automatically.**

When you reboot the machine, you need to manually restart the ALM Octane server:

```
service HPALM restart
```

The service runs in the background.

## **ALM Octane does not open in Internet Explorer.**

If you encounter problems opening ALM Octane in Internet Explorer, check that the domain is configured correctly:

1. Edit the **octane.yml** and provide the correct the domain.
2. Restart the ALM Octane server.

## **I cannot log into ALM Octane because ports are closed.**

1. Check which ports are open using, for example in Red Hat Enterprise Linux (RHEL) 6.5: `iptables -L -nv --line-number`
2. Open ports, for example: `iptables -I INPUT 8 -p tcp --dport 8080 -j ACCEPT`
3. Save changes: `service iptables save`

## **I am unexpectedly logged out.**

Typically, a user is logged out of ALM Octane only after session timeout. If, however, you are unexpectedly logged out while actively working in ALM Octane, you may need to clear cookies before you can log in again.

To prevent an unexpected logout:

- When working with a local DNS, make sure that you access ALM Octane only with a fully-qualified machine name, together with the machine's domain.



**Example:** `http://myserver-123545.domain.com:8080/`

### JVM does not load.

If JVM fails to load after the **HPALM** service is started, check that Java is properly installed and that `JAVA_HOME` is configured correctly.

The `/opt/octane/log/wrapper.log` file shows the following error message:

ERROR	wrapper	JVM exited while loading the application.
INFO	jvm 1	Unrecognized VM option 'UseCompressedClassPointers'
INFO	jvm 1	Error: Could not create the Java Virtual Machine.
INFO	jvm 1	Error: A fatal exception has occurred. Program will exit.

To identify the important parameters of the system that may affect the installation, run the following commands:

To get...	Command
Java information	<code>java -XshowSettings:properties -version</code>
All installed Java applications	<code>find / -name java</code>
All installed Java versions	<code>find / -name java -exec {} a \;</code>
The <b>JAVA_HOME</b> property	<code>echo \$JAVA_HOME</code>
The <b>PATH</b> property	<code>echo \$PATH</code>

### Application server address shows port 8080 even when changed.

By default, the installation uses port 8080 for HTTP or port 8443 for HTTPS (SSL). If you change the port to a non-default value after the initial installation phase, the Site Admin Servers tab shows:

- The original application server address still displays as port 8080.
- The server state is inaccessible even though the server is accessible.

### Failure to create SA schema due to nonexistent TableSpace/TempTableSpace.

If errors occur during site schema creation, and the `site.log` file contains a message indicating that a certain tablespace or a temporary tablespace does not exist, check that the specified TableSpace or TempTableSpace is correct.

### Session timeout a few minutes after login.

If session timeout occurs within a few minutes after login, check that the required domains are configured in the list of authorized domains in the `hpssoconfig.xml` file. For details, see ["Initialize the ALM Octane server" on page 30](#).

### When initializing, the ALM Octane installation failed with a site schema problem.

If you receive a site schema error, such as "Cannot upgrade SA. SA schema version must be lower than the current server version," do the following:

1. Open a backup copy of the site schema.
2. Fix the problem.
3. Reinitialize (meaning, run **initserver.sh** again).

## Checking logs

ALM Octane's log files are stored in the **/opt/octane/log** directory, or the directory that you specified when you deployed.

### Log files

Log	Path
Application logs	<b>/opt/octane/log/nga/app/app.log</b>
Site logs	<b>/opt/octane/log/nga/site/site.log</b>
<b>HPALM</b> service logs	<b>/opt/octane/log/nga/wrapper.log</b>

### Monitor the deployment procedure

Run the following command and wait until you see a **server boot complete** message:

```
tail -f /opt/octane/log/wrapper.log
```

# Uninstall

## To uninstall the ALM Octane server:

1. Query the package name. Run:

```
rpm -q octane
```

2. Uninstall ALM Octane. Run:

```
rpm -e <package name>
```

3. The uninstall process does not delete the repository, log, and configuration directories, in case you want to reinstall. Delete them as necessary.

# Send Us Feedback



Let us know how we can improve your experience with the Installation Guide.

Send your email to: [docteam@hpe.com](mailto:docteam@hpe.com)

  
**Hewlett Packard**  
Enterprise

