

HPE ALM Octane

Software Version: 12.51.0

Installation Guide



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Welcome to ALM Octane

HPE's ALM Octane is a Web-based platform, that provides Agile project management, as well as application lifecycle management abilities. ALM Octane helps your teams collaborate more easily, manage the software delivery pipeline, fully understand the impact of changes, track the progress and quality of their development.

This document describes requirements and procedures required for the installation of an on-premise ALM Octane.



Caution: The installation process described in this document is a technology preview, using a Docker image.

This version of ALM Octane is not intended for comprehensive use with your production environment.

To install an ALM Octane server on a Linux machine, install the distributed ALM Octane Docker image. This installs ALM Octane, as well as any required prerequisites and configuration settings, simplifying the installation and setup process. To learn more about using Docker, see <https://www.docker.com>.

This document includes the following sections:

- "System requirements" on the next page
- "Prerequisites" on page 7
- "Install ALM Octane" on page 9
- "Restart your ALM Octane server" on page 13
- "ALM Octane server maintenance" on page 14

System requirements

To install ALM Octane, your Linux server must meet the following requirements:

Requirement	Description
Memory	Minimum: <ul style="list-style-type: none">• 16 GB of RAM (running the full solution on a single machine)• 8 GB of RAM (if you use an external Elastic Search instance)
Storage	Minimum: 300 GB (to try ALM Octane and for small projects) Recommended: 500 GB
Operating System	<ul style="list-style-type: none">• Red Hat Enterprise Linux• Centos 7.2

Prerequisites

On-premise ALM Octane is distributed as a [Docker](#) image.

You must have **Docker 1.10** or later installed on your Linux server to install ALM Octane.

To install Docker, follow the official procedure: https://docs.docker.com/linux/step_one

Alternatively, use a package manager: <https://docs.docker.com/engine/installation>

Database Prerequisites

Installing ALM Octane requires that you have the following installed:

- Oracle Database 12C (Standard or Enterprise edition)
or Oracle Database 11g Express edition
- Elasticsearch 2.2

You can install one or both of these prerequisites from Docker images available on the Docker Hub (instructions below). Alternatively, you can use your own instances of Oracle Database or Elasticsearch.



Caution: The Oracle Database version available on Docker Hub is an Oracle Express edition. Use this only for trying out ALM Octane and for small projects.

If you expect to have a lot of traffic on the system, manually install ALM Octane, Oracle Database and Elasticsearch on different servers.

Options for installing Oracle Database and Elasticsearch

Choose one of the following options:

- **Automatically install both database prerequisites using their Docker images, as part of the ALM Octane installation.**

See "[Simple all-in-one installation](#)" on [page 9](#) for instructions on using the **install_nga.sh** script provided with the ALM Octane installation package. This will install ALM Octane, as well as the necessary prerequisites.



Caution:

- Do not use this option if you need to set up ALM Octane with SSL support.
- For large database volumes, install your own instance of Oracle Database.

- **Manually install the Oracle Database and/or Elasticsearch using its Docker image.**

- a. **Prerequisites:**

- Make sure your server can access the Internet. This installation retrieves the database Docker images from **hub.docker.com**.
 - Configure a Docker network. Run:

```
network create nga_nw
```

- b. **Install Oracle Database Express Edition (XE) from Docker**

Run:

```
docker run -d -v /usr/lib/oracle/xe/oradata/XE:/usr/lib/oracle/xe/oradata/XE -  
-shm-size=2g --net nga_nw --name nga_oracle alexeiled/docker-oracle-xe-11g
```

- c. **Install Elasticsearch from Docker**

Run:

```
docker run -d -e "ES_HEAP_SIZE=4G" -v  
/var/elasticsearch/data:/usr/share/elasticsearch/data --net nga_nw --name  
nga_es --restart=always elasticsearch:2.2
```

- **Install Oracle Database / Elasticsearch independently or use an existing instance.**

If you use your own instance of Oracle Database or Elasticsearch, enter their data in the ALM Octane installation configuration file:

- a. Locate the **DBSetup.xml** file in the ALM Octane installation package.
 - b. Follow the instructions in the file to:
 - Specify your Elasticsearch host and cluster name in the file.
 - Specify your Oracle Database details.

Install ALM Octane

This section describes the steps required to install an on-premise ALM Octane server. Before starting, verify that your server fulfills all the system requirements and prerequisites. For details, see ["System requirements" on page 6](#) and ["Prerequisites" on page 7](#).



Caution: The installation process described in this document is a technology preview, using a Docker image.

This version of ALM Octane is not intended for comprehensive use with your production environment.

This section includes:

- ["Before you install" below](#)
- ["Simple all-in-one installation" below](#)
- ["Manual step-by-step installation" on the next page](#)

Before you install

When you run the ALM Octane installation, you must provide a domain name and a password:

- Obtain the domain name to use for your ALM Octane server.



Tip: Use the domain of your site. For example, if the name of your Linux server is **mymachine.mydomain.com**, use **mydomain.com**.

- Decide on an initial password for the first ALM Octane user.

As part of the installation, a single shared space administrator user is created. The password you provide during the installation is configured for this user.

The password must be at least 8 characters long, and contain at least one capital letter, one lower case letter, and one number or symbol.

Simple all-in-one installation

If you decide to use the Oracle Database **and** Elasticsearch Docker images, you can perform the full ALM Octane installation by running one simple script.



Caution:

- The all-in-one installation does not provide SSL setup. If you need to setup SSL support, install the prerequisites and ALM Octane manually.

- The Oracle Database version provided with the ALM Octane Docker image is an Oracle Express edition. Use this only for trying out ALM Octane and for small projects.

1. Make sure your server can access the Internet. This script retrieves the database Docker images from **hub.docker.com**.
2. The ALM Octane installation package includes a script named: **install_nga.sh**. Copy the script to the Linux server on which you want to install ALM Octane.
3. Give the script execution permissions.

For example, run:

```
chmod +x install_nga.sh
```

4. Run the **install_nga.sh** script with two parameters:
 - a. Domain name
 - b. Initial password

For example, run:

```
./install_nga.sh mydomain.com MyComplexPassword123!
```

The script installs ALM Octane, as well as the necessary prerequisites.

The script automatically carries out all of the installation steps described below, using default values.

When the script is finished, it tails the server log to verify that everything is loading as expected.

5. A **boot complete** message notifies you that the installation and setup are complete.

Close the tail by pressing **CTRL+c**.

Manual step-by-step installation

ALM Octane installation includes the following stages. Follow the detailed steps below to manually perform the installation.

1. ["Set up the configuration." below](#)
2. ["Deploy the ALM Octane Docker image." on the next page](#)
3. ["Verify that the installation was successful." on page 12](#)

Set up the configuration.

- Create a folder for ALM Octane configuration files. For example:

```
mkdir /etc/nga
```

By default, ALM Octane uses **/etc/nga**. You can provide a different folder name when you run the docker command to install ALM Octane.

- Prepare the configuration file and place it in the folder you created:

Locate the **DBSetup.xml** configuration file in the ALM Octane installation package.

If you are using your own instance of Oracle Database or Elasticsearch, edit the database connection and configuration data in the configuration file.

Specify your Elasticsearch host and cluster name and/or your Oracle database details in the relevant sections.



Caution: Do not alter any other sections in this file.

Deploy the ALM Octane Docker image.

By default, the installation uses ports 8080 or 8443, and the following folders:

1. **/etc/nga** - configuration folder
2. **/var/log/nga** - log folder
3. **/var/nga/repo** - repository folder

Using the command format in the instructions below, you can replace the strings in angle brackets, to specify other folders or ports.

To install ALM Octane without SSL support

Run:

```
docker run -d -p <8080>:8080 -e "SERVER_DOMAIN=<server domain>" -e "ADMIN_
PASSWORD=<your password>" -v </etc/nga>:/etc/nga -v </var/log/nga/>:/var/log/nga -v
</var/nga/repo>:/var/nga/repo --net nga_nw --name nga --restart=always hpsoftware/nga
```

Here is an example of an actual command:

```
docker run -d -p 8080:8080 -e "SERVER_DOMAIN=mydomain.com" -e "ADMIN_
PASSWORD=MyVeryComplexPassword12!@" -v /etc/nga:/etc/nga -v
/var/log/nga:/var/log/nga -v /var/nga/repo:/var/nga/repo --net nga_nw --name nga --
restart=always hpsoftware/nga
```

To install ALM Octane with SSL support

1. In the configuration folder you created, put a keystore file in **Java KeyStore (JKS)** format.
2. Run:

```
docker run -d -p <8443>:8443 -e "SERVER_DOMAIN=<server domain>" -e "ADMIN_
PASSWORD=<your password>" -e "SSL_KEYSTORE=<name of file>" -e "SSL_
PASSWORD=<keystore password>" -v </etc/nga>:/etc/nga -v
</var/log/nga/>:/var/log/nga -v </var/nga/repo>:/var/nga/repo --net nga_nw --name
nga --restart=always hpsoftware/nga
```

Verify that the installation was successful.

Verify that the search server was created successfully and that ALM Octane was properly installed:

1. The Docker deployment runs as a daemon in the background and does not display its status. To verify success, run:

```
docker logs -f nga
```

The following messages indicate success:

- SA schema maintenance task <CREATE_NEW> finished successfully!
 - running: PID:<some number>
2. All of ALM Octane's log files are stored in the **/var/log/nga** folder, or a folder that you specified when you ran the deploy command.

To follow the deployment procedure and ensure its success, run the following command and wait until you see a `server boot complete` message.

```
tail -f /var/log/nga/wrapper.log
```

You can now log in to your ALM Octane server.

In a browser window, browse to **<Server URL>:<port>/ui**

Log in with username **sa@nga** and the password you provided in the installation command. Once you have logged on as the shared space administrator, you will be able to create other users.

Restart your ALM Octane server

To restart the ALM Octane service, run:

```
docker restart nga
```

The service runs in the background. To follow the server's boot process, run:

```
tail -f wrapper.log
```

ALM Octane server maintenance

If you need to uninstall or reinstall ALM Octane, or to update your installed binaries follow the steps below:

Uninstall / Reinstall ALM Octane

1. Uninstall the ALM Octane server. Run:

```
docker rm -f -v nga
```

2. Delete any remaining folders created by the installation. For a list of folders, see [page 11](#).
3. Uninstall the Oracle Database, if you installed it from Docker.

Run:

```
docker rm -f -v nga_oracle
```

4. Uninstall the Elasticsearch, if you installed it from Docker.

Run:

```
docker rm -f -v nga_es
```



Caution: This resets your database and fully removes your ALM Octane installation.

You can now install ALM Octane anew as described in ["Install ALM Octane" on page 9](#).

Updating ALM Octane binaries

To update the ALM Octane binaries:

1. Obtain an updated ALM Octane Docker image. Run:

```
docker pull hpsoftware/nga
```

2. Delete the existing ALM Octane Docker image. Run:

```
docker rm -f nga
```

3. Deploy the ALM Octane Docker image, as you did when installing ALM Octane. For details, see ["Deploy the ALM Octane Docker image." on page 11](#)

The system detects that ALM Octane is already configured and reloads the server with the new binaries.

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