



Installing Unified Manager on Linux systems

Active IQ Unified Manager 9.13

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Installing Unified Manager on Linux systems

It is important that you understand that the sequence of steps to download and install Unified Manager varies according to your installation scenario.

Creating a custom user home directory and umadmin password prior to installation

You can create a custom home directory and define your own umadmin user password prior to installing Unified Manager. This task is optional, but some sites might need the flexibility to override Unified Manager installation default settings.

What you'll need

- The system must meet the requirements described in [Hardware system requirements](#).
- You must be able to log in as the root user to the Red Hat Enterprise Linux or CentOS system.

The default Unified Manager installation performs the following tasks:

- Creates the umadmin user with `/home/umadmin` as the home directory.
- Assigns the default password “admin” to the umadmin user.

Because some installation environments restrict access to `/home`, the installation fails. You must create the home directory in a different location. Additionally, some sites might have rules about password complexity or require that passwords be set by local administrators rather than being set by the installing program.

If your installation environment requires that you override these installation default settings, follow these steps to create a custom home directory and to define the umadmin user's password.

When this information is defined prior to installation, the installation script discovers these settings and uses the defined values instead of using the installation default settings.

Additionally, the default Unified Manager installation includes the umadmin user in the sudoers files (`ocum_sudoers` and `ocie_sudoers`) in the `/etc/sudoers.d/` directory. If you remove this content from your environment because of security policies, or because of some security monitoring tool, you must add it back. You need to preserve the sudoers configuration because some Unified Manager operations require these sudo privileges.

The security policies in your environment must not restrict sudo privileges for the Unified Manager maintenance user. Some Unified Manager operations might fail if the privileges are restricted. Verify that you are able to run the following sudo command when logged in as the umadmin user after successful installation.

```
sudo systemctl status ocie
```

This command should return the appropriate status of the ocie service without any errors.

Steps

1. Log in as the root user to the server.
2. Create the umadmin group account called “maintenance”:

```
groupadd maintenance
```

3. Create the user account “umadmin” in the maintenance group under a home directory of your choice:

```
adduser --home <home_directory> -g maintenance umadmin
```

4. Define the umadmin password:

```
passwd umadmin
```

The system prompts you to enter a new password string for the umadmin user.

After you have installed Unified Manager you must specify the umadmin user login shell.

Downloading Unified Manager

You must download the Unified Manager `.zip` file from the NetApp Support Site to install Unified Manager.

What you'll need

You must have login credentials for the NetApp Support Site.

You download the same Unified Manager installation package for both Red Hat Enterprise Linux and CentOS systems.

Steps

1. Log in to the NetApp Support Site, and navigate to the Download page for Unified Manager:

[NetApp Support Site](#)

2. Select the required version of Unified Manager and accept the end-users license agreement (EULA).
3. Download the Unified Manager installer file for Linux, and save the `.zip` file to a directory on the target system.



- Ensure that you download the correct version of the installer file for your Red Hat Enterprise Linux system. Based on whether you have Red Hat Enterprise Linux 7 or 8 installed, ensure that you download the appropriate version of the Unified Manager `.zip` file.
- NetApp recommends that you download the code signing certificate (`.pem`) and digital signature (`.sig`) along with the `.zip` file.

4. Verify the checksum for integrity of the downloaded software.
5. If you have downloaded the code signing certificate and digital signature, you can verify the integrity of the installer file. You can use the following commands to verify the integrity of the installer file:
 - This command creates a file with the public key from the code signing certificate:

```
openssl x509 -pubkey -noout -in AIQUM-RHEL-CLIENT-INTER-ROOT.pem >
<public_key_file_name>
```

- Where **AIQUM-RHEL-CLIENT-INTER-ROOT.pem** is the file that contains the code signing certificate.
- This command verifies the signature on the installer file:

```
openssl dgst -sha256 -verify <public_key_file_name> -signature
<signature_file_name> ActiveIQUnifiedManager-<version>.zip
```

The message similar to `Verified Ok` confirms that the installer file is safe to use.

Installing Unified Manager

You can install Unified Manager on a physical or virtual Red Hat Enterprise Linux or CentOS platform.

What you'll need

- The system on which you want to install Unified Manager must meet the system and software requirements.

See [Hardware system requirements](#).

See [Linux software and installation requirements](#).

- You must have downloaded the Unified Manager .zip file from the NetApp Support Site to the target system.
- You should have verified the integrity of the downloaded .zip file.
- You must have a supported web browser.
- Your terminal emulation software must have scrollbar enabled.

The Red Hat Enterprise Linux or CentOS system might have all the required versions of the required supporting software (Java, MySQL, additional utilities) installed, only some of the required software installed, or might be a newly installed system with none of the required software installed.

Steps

1. Log in to the server on which you are installing Unified Manager.
2. Enter the appropriate commands to assess what software might require installation or upgrade on the target system to support installation:

Required software and minimum version	Command to verify software and version
OpenJDK version 11.0.17	<code>java -version</code>

Required software and minimum version	Command to verify software and version
MySQL 8.0.32 Community Edition	<code>rpm -qa grep -i mysql</code>
p7zip 16.02	<code>rpm -qa grep p7zip</code>

- If the installed version of MySQL is earlier than MySQL 8.0.32 Community Edition, enter the following command to uninstall it:

```
rpm -e <mysql_package_name>
```

If you receive dependency errors, you must add the `--nodeps` option to uninstall the component.

- Navigate to the directory where you downloaded the installation `.zip` file and expand the Unified Manager bundle:

```
unzip ActiveIQUnifiedManager-<version>.zip
```

The required `.rpm` modules for Unified Manager are unzipped to the target directory.

- Verify that the following module is available in the directory:

```
ls *.rpm
```

```
netapp-um<version>.x86_64.rpm
```

- Run the pre-installation script to ensure that there are no system configuration settings or any installed software that might conflict with the installation of Unified Manager:

```
sudo ./pre_install_check.sh
```

The pre-installation script checks that the system has a valid Red Hat Enterprise Linux subscription, and that it has access to the required software repositories. If the script identifies any issues, you must fix the issues prior to installing Unified Manager.

For Red Hat Enterprise Linux 8 system, if you have internal repositories with JDK 11 - OpenJDK, p7zip, and other software packages provided by the AppStream repository, you must disable your AppStream repository and install MySQL Community Server. Run the following command:

```
# sudo yum --disablerepo=rhel-8-for-x86_64-appstream-rpms install
mysql-community-server
```

- Optional:** You must perform step 7 only if your system is not connected to the internet and you have to manually download the packages that are required for your installation. If your system has the internet access and all the required packages are available, go to step 8. For systems that are not connected to the internet or that are not using the Red Hat Enterprise Linux repositories, perform the following steps to determine whether you are missing any required packages, and then download those packages:

- On the system on which you are installing Unified Manager, view the list of available and unavailable packages:

```
yum install netapp-um<version>.x86_64.rpm --assumeno
```

The items in the “Installing:” section are the packages that are available in the current directory, and the items in the “Installing for dependencies:” section are the packages that are missing on your system.

- b. On a system that has the internet access, download the missing packages:

```
yum install <package_name> --downloadonly --downloadaddir=.
```



Because the plug-in “yum-plugin-downloadonly” is not always enabled on Red Hat Enterprise Linux systems, you might need to enable the functionality to download a package without installing it: `yum install yum-plugin-downloadonly`

- c. Copy the missing packages from the internet-connected system to your installation system.

8. As the root user, or using `sudo`, run the following command to install the software:

```
yum install netapp-um<version>.x86_64.rpm
```

This command installs the `.rpm` packages, all other necessary supporting software, and the Unified Manager software.

If the installation fails with the GPG NOKEY error, use `rpm --import` to import the keys from a URL:

```
rpm --import https://repo.mysql.com/RPM-GPG-KEY-mysql-2022
```



Do not attempt installation by using alternative commands (such as `rpm -ivh`). A successful installation of Unified Manager on a Red Hat Enterprise Linux or CentOS system requires that all Unified Manager files and related files are installed in a specific order into a specific directory structure that is enforced automatically by the `yum install netapp-um<version>.x86_64.rpm` command.

9. Disregard the email notification that is displayed immediately after the installation messages.

The email notifies the root user of an initial cron job failure, which has no adverse effect on the installation.

10. After the installation messages are complete, scroll back through the messages until you see the message in which the system displays an IP address or URL for the Unified Manager web UI, the maintenance user name (umadmin), and a default password.

The message is similar to the following:

```
Active IQ Unified Manager installed successfully.
Use a web browser and one of the following URL(s) to configure and
access the Unified Manager GUI.
https://default_ip_address/      (if using IPv4)
https://[default_ip_address]/    (if using IPv6)
https://fully_qualified_domain_name/
```

```
Log in to Unified Manager in a web browser by using following details:
username: umadmin
password: admin
```

11. Record the IP address or URL, the assigned user name (umadmin), and the current password.
12. If you created a umadmin user account with a custom home directory prior to installing Unified Manager, then you must specify the umadmin user login shell:

```
usermod -s /bin/maintenance-user-shell.sh umadmin
```

Access the web UI to change the default password of the umadmin user, and perform the initial setup of Unified Manager, as described in [Configuring Active IQ Unified Manager](#). It is mandatory to change the default password of the umadmin user.

Users created during Unified Manager installation

When you install Unified Manager on Red Hat Enterprise Linux or CentOS, the following users are created by Unified Manager and third-party utilities: umadmin, jboss, and mysql.

- **umadmin**

Used to log in to Unified Manager for the first time. This user is assigned an “Application Administrator” user role and is configured as the “Maintenance User” type. This user is created by Unified Manager.

- **jboss**

Used to run Unified Manager services related to the JBoss utility. This user is created by Unified Manager.

- **mysql**

Used to run MySQL database queries of Unified Manager. This user is created by the MySQL third-party utility.

In addition to these users, Unified Manager also creates corresponding groups: maintenance, jboss, and mysql. The maintenance and jboss groups are created by Unified Manager, while the mysql group is created by a third-party utility.



If you created a custom home directory and defined your own umadmin user password prior to installing Unified Manager, the installation program does not recreate the maintenance group or the umadmin user.

Changing the JBoss password

You can reset the instance-specific JBoss password that is set during installation. You can reset the password optionally, in case your site requires this security capability to override the Unified Manager installation setting. This operation also changes the password JBoss uses to access MySQL.

- You must have root user access to the Red Hat Enterprise Linux or CentOS system on which Unified Manager is installed.
- You must be able to access the NetApp-provided `password.sh` script in the directory `/opt/netapp/essentials/bin`.

Steps

1. Log in as root user on the system.
2. Stop the Unified Manager services by entering the following commands in the order shown:

```
systemctl stop ocieau
```

```
systemctl stop ocie
```

Do not stop the associated MySQL software.

3. Enter the following command to begin the password change process:

```
/opt/netapp/essentials/bin/password.sh resetJBossPassword
```

4. When prompted, enter the new JBoss password, and then enter it a second time for confirmation.

Note that the password should be between 8 and 16 characters, and must contain at least a digit, an upper case and lower case characters, and at least one of these special characters:

```
!@%^*-_=[]:<>./~/+
```

5. When the script completes, start the Unified Manager services by entering the following commands in the order shown:

```
systemctl start ocie
```

```
systemctl start ocieau
```

6. After all of the services are started, you can log in to the Unified Manager UI.

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