



Installing, upgrading, and removing Unified Manager software

Active IQ Unified Manager 9.8

NetApp
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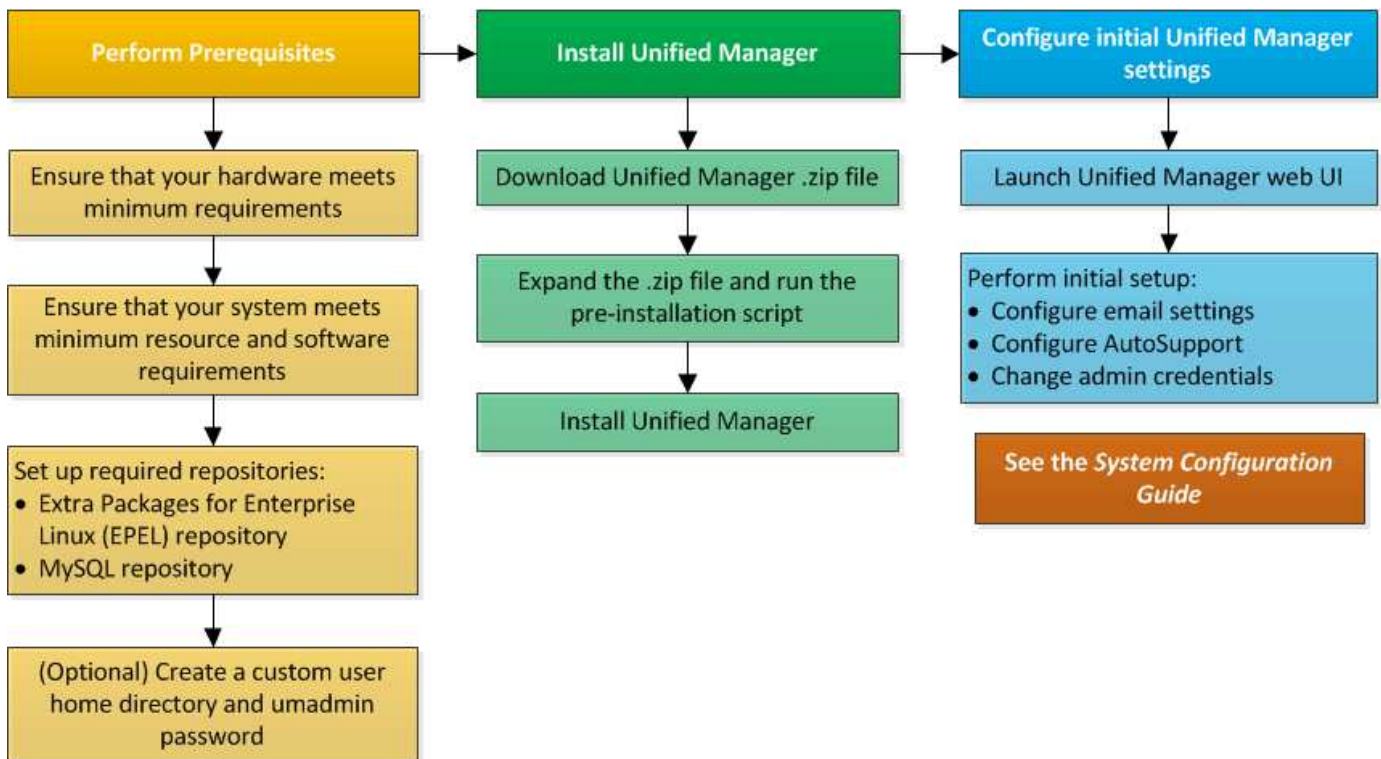
Installing, upgrading, and removing Unified Manager software

On Linux systems, you can install Unified Manager software, upgrade to a newer version of software, or remove Unified Manager.

Unified Manager can be installed on Red Hat Enterprise Linux or CentOS servers. The Linux server on which you install Unified Manager can be running either on a physical machine or on a virtual machine running on VMware ESXi, Microsoft Hyper-V, or Citrix XenServer.

Overview of the installation process

The installation workflow describes the tasks that you must perform before you can use Unified Manager.



Setting up required software repositories

The system must have access to certain repositories so that the installation program can access and install all required software dependencies.

Manually configuring the EPEL repository

If the system on which you are installing Unified Manager does not have access to the Extra Packages for Enterprise Linux (EPEL) repository, then you must manually download and configure the repository for a successful installation.

About this task

The EPEL repository provides access to the required third-party utilities that must be installed on your system. You use the EPEL repository whether you are installing Unified Manager on a Red Hat or CentOS system.

Steps

1. Download the EPEL repository for your installation. For Red Hat Enterprise Linux 7, download it from:
`wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm` For version 8, download it from: `wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm`
2. Configure the EPEL repository: `yum install epel-release-latest-<version>.noarch.rpm`

After you finish

For Red Hat Enterprise Linux 8 systems, if you have internal repositories with modular RPM packages, for example, `javapackages-filesystem-<version>.module.rpm`, ensure that the metadata for the modular packages is also available in the same repository.

Manually configuring the MySQL repository

If the system on which you are installing Unified Manager does not have access to the MySQL Community Edition repository, then you must manually download and configure the repository for a successful installation.

About this task

The MySQL repository provides access to the required MySQL software that must be installed on your system.



This task might fail if the system does not have Internet connectivity. Refer to the MySQL documentation if the system on which you are installing Unified Manager does not have Internet access.

Steps

1. Download the appropriate MySQL repository for your installation. For Red Hat Enterprise Linux 7, download it from: `wget http://repo.mysql.com/yum/mysql-8.0-community/el/7/x86_64/mysql80-community-release-el7-3.noarch.rpm` For version 8, download it from: `wget http://repo.mysql.com/yum/mysql-8.0-community/el/8/x86_64/mysql80-community-release-el8-1.noarch.rpm`
2. Configure the MySQL repository: `yum install mysql80-community-release-<version>.noarch.rpm`

After you finish

For Red Hat Enterprise Linux 8 system, if you have internal repositories with `java-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
```

SELinux requirements for mounting /opt/netapp or /opt/netapp/data on an NFS or CIFS share

If you are planning to mount /opt/netapp or /opt/netapp/data on an NAS or SAN device, and you have SELinux enabled, you need to be aware of the following considerations.

About this task

If are planning to mount /opt/netapp or /opt/netapp/data from anywhere other than the root file system, and you have SELinux enabled in your environment, you must set the correct context for the mounted directories. Follow these two steps for setting and confirming the correct SELinux context.

- Configure SELinux context when /opt/netapp/data is mounted
- Configure SELinux context when /opt/netapp is mounted

Configuring the SELinux context when /opt/netapp/data is mounted

If you have mounted /opt/netapp/data in your system and SELinux is set to Enforcing, ensure that the SELinux context type for /opt/netapp/data is set to `mysqld_db_t`, which is the default context element for the location of the database files.

1. Run this command to check the context: `ls -dZ /opt/netapp/data`

A sample output:

```
drwxr-xr-x. mysql root unconfined_u:object_r:default_t:s0
/opt/netapp/data
```

In this output, the context is `default_t` that must be changed to `mysqld_db_t`.

2. Perform these steps to set the context based on how you have mounted /opt/netapp/data.
 - a. Run the following commands to set the context to `mysqld_db_t`: `semanage fcontext -a -t mysqld_db_t "/opt/netapp/data" restorecon -R -v /opt/netapp/data`
 - b. If you have configured /opt/netapp/data in /etc/fstab, you must edit the /etc/fstab file. For the /opt/netapp/data/ mount option, add the MySQL label as:
`context=system_u:object_r:mysqld_db_t:s0`
 - c. Unmount and remount /opt/netapp/data/ for enabling the context.
 - d. If you have a direct NFS mount, run the following command to set the context to `mysqld_db_t`:
`mount <nfsshare>:<mountpoint> /opt/netapp/data -o context=system_u:object_r:mysqld_db_t:s0`

3. Verify whether the context is set correctly: `ls -dZ /opt/netapp/data/`

```
drwxr-xr-x. mysql root unconfined_u:object_r:mysql_db_t:s0
/opt/netapp/data/
```

Configuring the SELinux context when /opt/netapp is mounted

After setting the correct context for /opt/netapp/data/, ensure that the parent directory /opt/netapp does not have the SELinux context set to file_t.

1. Run this command to check the context: `ls -dZ /opt/netapp`

A sample output:

```
drwxr-xr-x. mysql root unconfined_u:object_r:file_t:s0 /opt/netapp
```

In this output, the context is file_t that must be changed. The following commands set the context to usr_t. You can set the context to any value other than file_t based on your security requirements.

2. Perform these steps to set the context, based on how you have mounted /opt/netapp.

- a. Run the following commands to set the context: `semanage fcontext -a -t usr_t "/opt/netapp" restorecon -v /opt/netapp`
- b. If you have configured /opt/netapp in /etc/fstab, you must edit the /etc/fstab file. For the /opt/netapp mount option, add the MySQL label as: `context=system_u:object_r:usr_t:s0`
- c. Unmount and remount /opt/netapp for enabling the context.
- d. If you have a direct NFS mount, run the following command to set the context: `mount <nfsshare>:/<mountpoint> /opt/netapp -o context=system_u:object_r:usr_t:s0`

3. Verify whether the context is set correctly: `ls -dZ /opt/netapp`

```
drwxr-xr-x. mysql root unconfined_u:object_r:usr_t:s0 /opt/netapp
```

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.

Before you begin

- 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.

About this task

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 /etc/init.d/ocie status` 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 finish

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.

Before you begin

You must have login credentials for the NetApp Support Site.

About this task

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.

4. Verify the checksum to ensure that the software downloaded correctly.

Installing Unified Manager

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

Before you begin

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

[Hardware system requirements](#)

[Red Hat and CentOS software and installation requirements](#)

- You must have downloaded the Unified Manager `.zip` file from the NetApp Support Site to the target system.
- You must have a supported web browser.
- Your terminal emulation software must have scrollback enabled.

About this task

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 11.0.7	<code>java -version</code>
MySQL 8.0.21 Community Edition	<code>rpm -qa</code>
<code>grep -i mysql</code>	<code>p7zip 16.02</code>
<code>rpm -qa</code>	<code>grep p7zip</code>

3. If the installed version of MySQL is earlier than MySQL 8.0.21 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.

4. 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.

5. Verify that the following module is available in the directory: `ls *.rpm netapp-um<version>.x86_64.rpm`

6. 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 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
```

7. 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 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:
 - a. 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 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.



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
```

After you finish

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

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.

Before you begin

- 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.

Upgrading Unified Manager on Red Hat Enterprise Linux or CentOS

You can upgrade Unified Manager when a new version of software is available.

Patch releases of Unified Manager software, when provided by NetApp, are installed using the same procedure as new releases.

If Unified Manager is paired with an instance of OnCommand Workflow Automation, and there are new versions of software available for both products, you must disconnect the two products and then set up a new Workflow Automation connection after performing the upgrades. If you are performing an upgrade to only one of the products, then you should log into Workflow Automation after the upgrade and verify that it is still acquiring data from Unified Manager.

Upgrading Unified Manager

You can upgrade from Unified Manager 9.6 or 9.7 to 9.8 by downloading and running the installation file on the Red Hat platform.

Before you begin

- The system on which you are upgrading Unified Manager must meet the system and software requirements.

[Hardware system requirements](#)

Red Hat and CentOS software and installation requirements

- You must install, or upgrade to the correct version of OpenJDK prior to upgrading Unified Manager.

Upgrading JRE on Linux

- MySQL Community Edition is automatically upgraded during Unified Manager upgrade. If the installed version of MySQL on your system is earlier than 8.0.21, the Unified Manager upgrade process automatically upgrades MySQL to 8.0.21. You must not run a standalone upgrade of an earlier version of MySQL to 8.0.21. If the installed version of MySQL on your system is 5.7, then you must **not** attempt to directly upgrade MySQL to version 8.0.21. It results in application data loss.



The installer of Unified Manager has been restricted to support only up to MySQL Community Edition 8.0.21, due to an interoperability issue. You must not upgrade MySQL to a release greater than 8.0.21.

- You must have a subscription to the Red Hat Enterprise Linux Subscription Manager.
- To avoid data loss, you must have created a backup of the Unified Manager database in case there is an issue during the upgrade. It is also recommended that you move the backup file from the `/opt/netapp/data` directory to an external location.
- During upgrade, you may be prompted to confirm whether you want to keep the previous, default settings for retaining performance data for 13 months or to change it to 6 months. On confirming, the historical performance data after 6 months is purged.
- You should have completed any running operations, because Unified Manager is unavailable during the upgrade process.

Steps

1. Log in to the target Red Hat Enterprise Linux or CentOS server.
2. Download the Unified Manager bundle to the server.

Downloading Unified Manager for Red Hat or CentOS

3. Navigate to the target directory and expand the Unified Manager bundle: `unzip ActiveIQUnifiedManager-<version>.zip`

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

4. Verify that the following module is available in the directory: `ls *.rpm`
`° netapp-um<version>.x86_64.rpm`
5. 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 download those packages:
 - a. 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 different system that has Internet access, run the following command to download the missing

```
packages.yum install package_name --downloadonly --downloadaddir=.
```

The packages are downloaded in the directory specified as `--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. Create a new directory in the installation system and copy the downloaded packages from the Internet-connected system.
 - d. Change directories to the new directory on the installation system and run the following command for installing MySQL Community Edition, along with its dependencies: `yum install *.rpm`
6. Run the pre-installation script to ensure that there are no system configuration settings or any installed software that might conflict with the upgrade: `sudo ./pre_install_check.sh`

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

7. Upgrade Unified Manager using the following script: `upgrade.sh`

This script automatically executes the RPM modules, upgrading the necessary supporting software and the Unified Manager modules that run on them. Additionally, the upgrade script checks whether there are any system configuration settings or any installed software that might conflict with the upgrade. If the script identifies any issues, you must fix the issues before upgrading Unified Manager.



Do not attempt to upgrade by using alternative commands (such as `rpm -Uvh`). Running the `yum install` command to upgrade Unified Manager 9.6 to 9.8 might lead to errors and leave the system in an unusable state. A successful upgrade requires that all Unified Manager files and related files are upgraded in a specific order to a specific directory structure that are executed and configured automatically by the script.

8. After the upgrade is complete, scroll back through the messages until you see the message displaying an IP address or URL for the Unified Manager web UI, the maintenance user name (`umadmin`), and the default password.

The message is similar to the following:

```
Active IQ Unified Manager upgraded successfully.
Use a web browser and one of the following URLs to access the Unified
Manager GUI:
```

```
https://default_ip_address/      (if using IPv4)
https://[default_ip_address]/    (if using IPv6)
https://fully_qualified_domain_name/
```

After you finish

Enter the specified IP address or URL into a supported web browser to start the Unified Manager web UI, and

then log in by using the same maintenance user name (umadmin) and password that you set earlier.

Upgrading the host OS from Red Hat Enterprise Linux 7.x to 8.x

If you previously installed Unified Manager on a Red Hat Enterprise Linux 7.x system and need to upgrade to Red Hat Enterprise Linux 8.x, you must follow one of the procedures listed in this topic. In both cases you must create a backup of Unified Manager on the Red Hat Enterprise Linux 7.x system, and then restore the backup onto a Red Hat Enterprise Linux 8.x system.

About this task

The difference between the two options listed below is that in one case you are performing the Unified Manager restore onto a new 8.x server, and in the other case you are performing the restore operation onto the same server.

Because this task requires that you create a backup of Unified Manager on the Red Hat Enterprise Linux 7.x system, you should create the backup only when you are prepared to complete the entire upgrade process so that Unified Manager is offline for the shortest period of time. Gaps in collected data appear in the Unified Manager UI for the period of time during which the Red Hat Enterprise Linux 7.x system is shut down and before the new Red Hat Enterprise Linux 8.x is started.

See the *Active IQ Unified Manager Online Help* if you need to review detailed instructions for the backup and restore processes.

Upgrading the host OS using a new server

Follow these steps if you have a spare system on which you can install Red Hat Enterprise Linux 8.x software so that you can perform the Unified Manager restore on that system while the Red Hat Enterprise Linux 7.x system is still available.

1. Install and configure a new server with Red Hat Enterprise Linux 8.x software.

[Red Hat software and installation requirements](#)

2. On the Red Hat Enterprise Linux 8.x system, install the same version of Unified Manager software that you have on the existing Red Hat Enterprise Linux 7.x system.

[Installing Unified Manager on Red Hat Enterprise Linux](#)

Do not launch the UI or configure any clusters, users, or authentication settings when the installation is complete. The backup file populates this information during the restore process.

3. On the Red Hat Enterprise Linux 7.x system, from the Administration menu in the web UI, create a Unified Manager backup and then copy the backup file (.7z file) and the contents of the database repository directory (/database-dumps-repo subdirectory) to an external location.
4. On the Red Hat Enterprise Linux 7.x system, shut down Unified Manager.
5. On the Red Hat Enterprise Linux 8.x system, copy the backup file (.7z file) from the external location to /opt/netapp/data/ocum-backup/ and the database repository files to the /database-dumps-repo subdirectory under the /ocum-backup directory.
6. Enter the following command to restore the Unified Manager database from the backup file: `um backup restore -f /opt/netapp/data/ocum-backup/<backup_file_name>`

7. Enter the IP address or URL into your web browser to start the Unified Manager web UI, and then log in to the system.

Once you have verified that the system is operating properly you can remove Unified Manager from the Red Hat Enterprise Linux 7.x system.

Upgrading the host OS on the same server

Follow these steps if you do not have a spare system on which you can install Red Hat Enterprise Linux 8.x software.

1. From the Administration menu in the web UI, create a Unified Manager backup and then copy the backup file (.7z file) and the contents of the database repository directory (/database-dumps-repo subdirectory) to an external location.
2. Remove the Red Hat Enterprise Linux 7.x image from the system and completely wipe the system.
3. Install and configure Red Hat Enterprise Linux 8.x software on the same system.

Red Hat software and installation requirements

4. On the Red Hat Enterprise Linux 8.x system, install the same version of Unified Manager software that you had on the Red Hat Enterprise Linux 7.x system.

Installing Unified Manager on Red Hat Enterprise Linux

Do not launch the UI or configure any clusters, users, or authentication settings when the installation is complete. The backup file populates this information during the restore process.

5. Copy the backup file (.7z file) from the external location to /opt/netapp/data/ocum-backup/ and the database repository files to the /database-dumps-repo subdirectory under the /ocum-backup directory.
6. Enter the following command to restore the Unified Manager database from the backup file:
`um backup restore -f /opt/netapp/data/ocum-backup/<backup_file_name>`
7. Enter the IP address or URL into your web browser to start the Unified Manager web UI, and then log in to the system.

Upgrading third-party products

You can upgrade third-party products, such as JRE, on Unified Manager when installed on Linux systems.

The companies that develop these third-party products report security vulnerabilities on a regular basis. You can upgrade to newer versions of this software at your own schedule.

Upgrading OpenJDK on Linux

You can upgrade to a newer version of OpenJDK on the Linux server on which Unified Manager is installed to obtain fixes for security vulnerabilities.

Before you begin

You must have root privileges for the Linux system on which Unified Manager is installed.

About this task

You can update OpenJDK releases within release families. For example, you can upgrade from OpenJDK 11.0.6 to OpenJDK 11.0.7, but you cannot update directly from OpenJDK 11 to OpenJDK 12.

Steps

1. Log in as a root user on the Unified Manager host machine.
2. Download the appropriate version of OpenJDK (64-bit) to the target system.
3. Stop the Unified Manager services: `systemctl stop ocieau systemctl stop ocie`
4. Install the latest OpenJDK on the system.
5. Start the Unified Manager services: `systemctl start ocie systemctl start ocieau`

Restarting Unified Manager

You might have to restart Unified Manager after making configuration changes.

Before you begin

You must have root user access to the Red Hat Enterprise Linux or CentOS server on which Unified Manager is installed.

Steps

1. Log in as root user to the server on which you want to restart the Unified Manager service.
2. Stop the Unified Manager service and the associated MySQL software in the order shown: `systemctl stop ocieau systemctl stop ocie systemctl stop mysqld`
3. Start Unified Manager in the order shown: `systemctl start mysqld systemctl start ocie systemctl start ocieau`

Removing Unified Manager

You can stop and uninstall Unified Manager from the Red Hat Enterprise Linux or CentOS host with a single command.

Before you begin

- You must have root user access to the server from which you want to remove Unified Manager.
- Security-Enhanced Linux (SELinux) must be disabled on the Red Hat machine. Change the SELinux runtime mode to “Permissive” by using the `setenforce 0` command.
- All clusters (data sources) must be removed from the Unified Manager server before removing the software.

Steps

1. Log in as root user to the server on which you want to remove Unified Manager.

2. Stop and remove Unified Manager from the server: `rpm -e netapp-um`

This step removes all the associated NetApp RPM packages. It does not remove the prerequisite software modules, such as Java, MySQL, and p7zip.

3. If appropriate, remove the supporting software modules, such as Java, MySQL, and p7zip: `rpm -e p7zip mysql-community-client mysql-community-server mysql-community-common mysql-community-libs java-x.y`

Results

After this operation is complete, the software is removed. All the data from the `/opt/netapp/data` directory is moved to the `/opt/netapp/data/BACKUP` folder after uninstallation. Uninstalling Unified Manager removes the Java and MySQL packages also, unless the packages are required and used by any other application on the system. However, MySQL data is not deleted.

Removing the custom umadmin user and maintenance group

If you created a custom home directory to define your own umadmin user and maintenance account prior to installing Unified Manager, you should remove these items after you have uninstalled Unified Manager.

About this task

The standard Unified Manager uninstallation does not remove a custom-defined umadmin user and maintenance account. You must delete these items manually.

Steps

1. Log in as the root user to the Red Hat Enterprise Linux server.
2. Delete the umadmin user: `userdel umadmin`
3. Delete the maintenance group: `groupdel maintenance`

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