Installing, upgrading, and removing Unified Manager software on Windows

OnCommand Unified Manager 9.5

NetApp
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On Windows systems, you can install Unified Manager software, upgrade to a newer version of software, or remove the Unified Manager application.

Overview of the installation process on Windows

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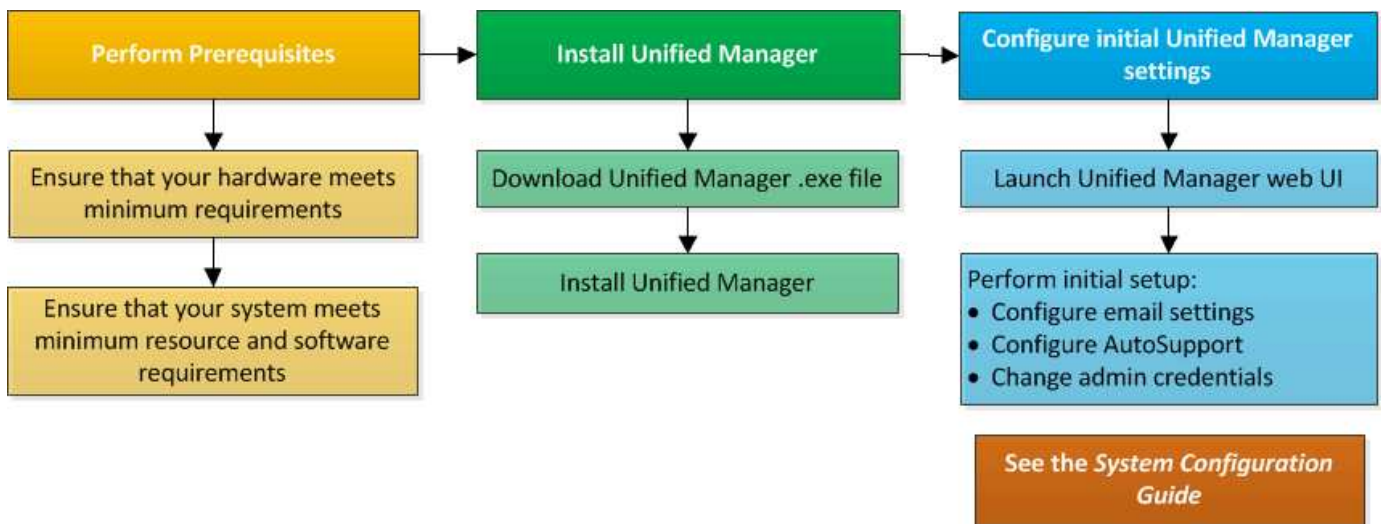
Installing Unified Manager on Windows

It is important that you understand the sequence of steps to download and install Unified Manager on Windows. Before you install Unified Manager on Windows, you can decide if you want to configure Unified Manager for high availability.

Installing Unified Manager on a Windows system

You can install Unified Manager on Windows to monitor and troubleshoot data storage capacity, availability, performance, and protection issues.

Before you begin

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

  Hardware system requirements

  Windows software and installation requirements

(i) Starting with Unified Manager 9.5, OpenJDK is provided in the Unified Manager installation package and installed automatically. Oracle Java is not supported starting with Unified Manager 9.5.

- You must have Windows administrator privileges.

- You must have a supported web browser.

- The Unified Manager maintenance user password must be between 8 and 20 characters, must contain upper-case letters or lower-case letters, numerals, and special characters.

- The following special characters are not allowed in the password string for the maintenance user or for the MySQL root user: " ' ` % , = & < > | ^ \ / ( ) [ ] ;

  The following special characters are allowed: ~ ! @ # $ * - ? . : + { }

Steps

1. Log in to Windows using the default local administrator account.

2. Log in to the NetApp Support Site, and locate the Download page for installing Unified Manager on the Windows platform.

   NetApp Downloads: Software

3. Download the Unified Manager Windows installation file from the NetApp Support Site to a target directory in the Windows system.

4. Navigate to the directory where the installation file is located.

5. Right-click and run the Unified Manager installer executable (`.exe`) file as an administrator.

   Unified Manager detects missing or pre-installed third-party packages and lists them. If the required third-party packages are not installed in the system, Unified Manager installs them as part of the installation.

6. Click **Next**.

7. Enter the user name and password to create the maintenance user.

8. In the **Database Connection** wizard, enter the MySQL root password.

9. Click **Change** to specify a new location for the Unified Manager installation directory and MySQL data directory.

   If you do not change the installation directory, Unified Manager is installed in the default installation directory.

10. Click **Next**.

11. In the **Ready to Install Shield** wizard, click **Install**.

12. After the installation is complete, click **Finish**.

Results

The installation creates multiple directories:

- Installation directory

  This is the root directory for Unified Manager, which you specified during installation. Example:

```
C:\Program Files\NetApp\
```

- MySQL data directory

  This is the directory where the MySQL databases are stored, which you specified during installation. Example: `C:\ProgramData\MySQL\MySQLServerData\`

- Java directory

  This is the directory where OpenJDK will be installed. Example: `C:\Program Files\NetApp\JDK\`

- Unified Manager application data directory (appDataDir)

  This is the directory where all the application-generated data is stored. This includes logs, support bundles, backup, and all other additional data. Example: `C:\ProgramData\NetApp\OnCommandAppData\`

After you finish

You can access the web UI to perform the initial setup of Unified Manager, as described in Configuring Unified Manager.

Performing an unattended installation of Unified Manager

You can install Unified Manager without user intervention by using the command-line interface. You can complete the unattended installation by passing the parameters in key-value pairs.

Steps

1. Log in to the Windows command-line interface by using the default local administrator account.
2. Navigate to the location where you want to install Unified Manager, and choose one of the following options:

Option	Instructions

If third-party packages are pre-installed	`OnCommandUnifiedManager-x.y.exe /V"MYSQL_PASSWORD=mysql_password INSTALLDIR=\"Installation directory\" MYSQL_DATA_DIR=\"MySQL data directory\" MAINTENANCE_PASSWORD=maintenance_passw ord MAINTENANCE_USERNAME=maintenance_usern ame /qn /l*v CompletePathForLogFile"`
	
	Example:
	
	`OnCommandUnifiedManager.exe /s /v"MYSQL_PASSWORD=netapp21! INSTALLDIR=\"C:\Program Files\NetApp\" MYSQL_DATA_DIR=\"C:\ProgramData\MYSQL\ MySQLServer\" MAINTENANCE_PASSWORD=* MAINTENANCE_USERNAME=admin /qn /l*v C:\install.log"`

If third-party packages are not installed	`OnCommandUnifiedManager-x.y.exe /V"MYSQL_PASSWORD=mysql_password INSTALLDIR=\"Installation directory\" MYSQL_DATA_DIR=\"MySQL data directory\" MAINTENANCE_PASSWORD=maintenance_passw ord MAINTENANCE_USERNAME=maintenance_usern ame /qr /l*v CompletePathForLogFile"`
	
	Example:
	
	`OnCommandUnifiedManager.exe /s /v"MYSQL_PASSWORD=netapp21! INSTALLDIR=\"C:\Program Files\NetApp\" MYSQL_DATA_DIR=\"C:\ProgramData\MYSQL\ MySQLServer\" MAINTENANCE_PASSWORD=* MAINTENANCE_USERNAME=admin /qr /l*v C:\install.log"`

The `/qr` option enables quiet mode with a reduced user interface. A basic user interface is displayed, which shows the installation progress. You are not prompted for inputs. If third-party packages such as JRE, MySQL, and 7zip are not pre-installed, you must use the `/qr` option. Installation fails if the `/qn` option is used on a server where third-party packages are not installed.

The `/qn` option enables quiet mode with no user interface. No user interface or details are displayed during installation. You must not use the `/qn` option when third-party packages are not installed.

3. Log in to the Unified Manager web user interface by using the following URL:

```
https://IP address
```

Setting up Unified Manager in a failover clustering environment

You can configure high availability for Unified Manager using failover clustering. The high-availability setup provides failover capability.

In this setup, only one node owns all the cluster resources. When one node goes down or any of the configured services fail to come online, the failover cluster service recognizes this event and immediately transfers control to the other node. The second node in the setup becomes active and starts providing services. The failover process is automatic and you do not have to perform any actions.

A failover cluster configured with the Unified Manager server consists of two nodes, each node running the same version of the Unified Manager server. All of the Unified Manager server data must be configured for access from a shared data disk.

Requirements for Unified Manager in a failover clustering environment

Before installing Unified Manager in a failover clustering environment, you must ensure that the cluster nodes are properly configured to support Unified Manager.

You must ensure that the failover cluster configuration meets the following requirements:

- Both the cluster nodes must be running the same version of Microsoft Windows Server.
- The same version of Unified Manager must be installed using the same path on both the cluster nodes.
- Failover clustering must be installed and enabled on both the nodes.

  See Microsoft documentation for instructions.

- You must have used Fibre Channel switched fabric or iSCSI-based storage for creating shared data disk as the storage back-end.
- Optional: Using SnapDrive for Windows, a shared location must be created that is accessible to both the nodes in the high-availability setup.

  See the *SnapDrive for Windows Installation Guide* for information about installing and creating a shared location.

  You can also manage LUNs using the storage system command-line interface. See the SnapDrive for Windows compatibility matrix for more information.

- You must have the Perl installed with `XML::LibXML` and `File::chdir` modules for scripts to work.
- There must be only two nodes in the cluster setup.
- The "node and disk majority" quorum type must be used for failover clustering.
- You must have configured a shared IP address with a corresponding FQDN to be used as the cluster global IP address to access Unified Manager.
- The password for Unified Manager maintenance user on both the nodes must be same.
- You must have used only IPv4 IP address.

Installing Unified Manager on MSCS

For configuring high availability, you must install Unified Manager on both the Microsoft Cluster Server (MSCS) cluster nodes.

Steps

1. Log in as the domain user on both the nodes of the cluster.

2. Set up high availability by choosing one of the following options:

If you want to…	Then do this…
Configure high availability on an existing Unified Manager installation	Add another server to be paired with the existing server: a. Upgrade the existing Unified Manager server to the latest software version. b. Create a backup of the existing Unified Manager installation, and store the backup to a mounted LUN. c. Install Unified Manager on the second node. Installing Unified Manager on a Windows system d. Restore the backup of the existing Unified Manager installation onto the second node.
Configure high availability on a new Unified Manager installation	Install Unified Manager on both the nodes. Installing Unified Manager on a Windows system

Configuring Unified Manager server with MSCS using configuration scripts

After installing Unified Manager on both cluster nodes, you can configure Unified Manager with Failover Cluster Manager using configuration scripts.

Before you begin

You must have created a shared LUN that is of a sufficient size to accommodate the source Unified Manager data.

Steps

1. Log in to the first node of the cluster.

2. Create a role in Windows 2012 or Windows 2016 using Failover Cluster Manager:

   a. Launch Failover Cluster Manager.

   b. Create the empty role by clicking **Roles** > **Create Empty Role**.

   c. Add the global IP address to the role by right-clicking **Role** > **Add Resources** > **More Resources** > **IP**

address.

> ℹ️ Both nodes must be able to ping this IP address because Unified Manager is launched using this IP address after high availability is configured.

    d. Add the data disk to the role by right-clicking **Role** > **Add Storage**.

3. Run the `ha_setup.pl` script on the first node: `perl ha_setup.pl --first -t mscs -g group_name -i ip address -n fully_qualified_domain_cluster_name -f shared_location_path -k data_disk -u user_name -p password`

```
C:\Program Files\NetApp\ocum\bin>perl .\ha_setup.pl --first -t mscs -g umgroup
-i "IP Address" -n spr38457002.eng.company.com -k "Cluster Disk 2" -f E:\ -u
admin -p wx17yz
```

The script is available at `Install_Dir\NetApp\ocum\bin`.

    ◦ You can obtain the value of the `-g`, `-k`, and `-i` options using the `cluster res` command.

    ◦ The `-n` option must be the FQDN of the global IP address that can be pinged from both nodes.

4. Verify that the Unified Manager server services, data disk, and cluster IP address are added to the cluster group by using the Failover Cluster Manager web console.

5. Stop all Unified Manager server services (MySQL, ocie, and ocieau) by using the `services.msc` command.

6. Switch the service group to the second node in Failover Cluster Manager.

7. Run the command `perl ha_setup.pl --join -t mscs -f``shared_location_path` on the second node of the cluster to point to the Unified Manager server data to the LUN.

```
perl ha_setup.pl --join -t mscs -f E:\
```

8. Bring all the Unified Manager services online using Failover Cluster Manager.

9. Manually switch to the other node of the Microsoft Cluster Server.

10. Verify that the Unified Manager server services are starting properly on the other node of the cluster.

11. Regenerate the Unified Manager certificate after running configuration scripts to obtain the global IP address.

    a. In the toolbar, click ⚙️, and then click **HTTPS Certificate** from the **Setup** menu.

    b. Click **Regenerate HTTPS Certificate**.

The regenerated certificate provides the cluster IP address, not the fully qualified domain name (FQDN). You must use the global IP address to set up Unified Manager for high-availability.

12. Access the Unified Manager UI using the following: `https://<FQDN of Global IP>`

After you finish

You must create a shared backup location after high availability is configured. The shared location is required for containing the backups before and after failover. Both nodes in the high-availability setup must be able to access the shared location.

Upgrading Unified Manager on Windows

You can upgrade Unified Manager 7.3 or 9.4 to Unified Manager 9.5 by downloading and running the installation file on the Windows platform.

Before you begin

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

  Hardware system requirements

  Windows software and installation requirements

  > ⓘ Starting with Unified Manager 9.5, OpenJDK is provided in the Unified Manager installation package and installed automatically. Oracle Java is not supported starting with Unified Manager 9.5.

  > ⓘ Starting with Unified Manager 9.4, Microsoft .NET 4.5.2 or greater is required. Make sure you have the correct version of .NET installed before starting the upgrade.

- You must have Windows administrator privileges.
- You must have valid credentials to log in to the NetApp Support Site.
- To avoid data loss, you must have created a backup of the Unified Manager machine in case there is an issue during the upgrade.
- You must have adequate disk space available to perform the upgrade.

  The available space on the installation drive must be 2.5 GB larger than the size of the data directory. The upgrade will stop and display an error message indicating the amount of space to be added if there is not enough free space.

About this task

During the upgrade process, Unified Manager is unavailable. You should complete any running operations before upgrading Unified Manager.

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.

Steps

1. Log in to the NetApp Support Site, and locate the Download page for installing Unified Manager on the Windows platform.

   NetApp Downloads: Software

2. Download the Unified Manager Windows installation file to a target directory in the Windows system.

3. If Unified Manager is configured for high availability, stop all the Unified Manager services on the first node by using Microsoft Cluster Server, and then start the MySQL service from `services.msc`.

4. Right-click and run the Unified Manager installer executable (`.exe`) file as an administrator.

   Unified Manager prompts you with the following message:

   > This setup will perform an upgrade of 'OnCommand Unified Manager'. Do you want to continue?

5. Click **Yes**, and then click **Next**.

6. Enter the MySQL root password that was set during installation, and click **Next**.

7. After the upgrade is successful, if the system is configured for high availability, start all the Unified Manager services from the Failover Cluster Manager and follow the remaining tasks.

8. From the command prompt, run the `ha_setup.pl` script to configure the new services in the failover cluster and the files that are present in the shared location.

   ```
   C:\Program Files\NetApp\ocum\bin> perl .\ha_setup.pl --upgrade --first -t mscs
   -g kjaggrp -i "New IP Address1" -n scs8003.englab.company.com -k "Cluster Disk
   2" -f E:\ -u user -p userpass
   ```

9. Stop all the Unified Manager services (ocie, ocieau, and MySQL) in the first node by using Microsoft Cluster Server.

10. Start the MySQL service on the second node from `services.msc`.

11. Switch the service group to the second node in the high-availability setup.

12. Upgrade Unified Manager on the second node.

13. At the command prompt, enter `Y` to continue, or enter any other character to abort.

    The upgrade and restart processes of the Unified Manager services can take several minutes to complete.

14. Start all the Unified Manager services on both the nodes using Microsoft Cluster Server.

15. From the command prompt, run the `ha_setup.pl` script with the `--upgrade` option.

    ```
    perl ha_setup.pl --upgrade --join -t mscs -f E:\
    ```

16. Log in to the Unified Manager web UI, and verify the version number.

After you finish

(i) To perform a silent upgrade of Unified Manager, run the following command:
`OnCommandUnifiedManager-9.5.exe /s /v"MYSQL_PASSWORD=netapp21! /qn /l*v C:\install.log`

Upgrading third-party products on Windows

You can upgrade third-party products, such as JRE and MySQL, on Unified Manager

when installed on Windows 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 JRE on Windows

You can upgrade to a newer version of Java Runtime Environment (JRE) on the Windows server on which Unified Manager is installed to obtain fixes for security vulnerabilities.

Before you begin

You must have Windows admin privileges for the system on which Unified Manager is installed.

Steps

1. Log in as the admin user on the Unified Manager host machine.

2. Download the appropriate version of Java (64-bit) from the JDK site to the target system.

   For example, download `openjdk-11_windows-x64_bin.zip` from `http://jdk.java.net/11/`.

3. Use the Windows Services console to stop the following Unified Manager services:

   ◦ NetApp OCIE Acquisition Unit (Ocie-au)

   ◦ NetApp OnCommand Application Server (Oncommandsvc)

4. Expand the `zip` file.

5. Copy the directories and files from the resulting `jdk` directory (for example, `jdk-11.0.1` to the location where Java is installed. Example: `C:\Program Files\NetApp\JDK\`

6. Start the Unified Manager services by using the Windows Services console:

   ◦ NetApp OnCommand Application Server (Oncommandsvc)

   ◦ NetApp OCIE Acquisition Unit (Ocie-au)

Upgrading MySQL on Windows

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

Before you begin

- You must have Windows admin privileges for the system on which Unified Manager is installed.
- You must have the password for the MySQL root user.

Steps

1. Log in as the admin user on the Unified Manager host machine.

2. Download the appropriate version of MySQL to the target system.

3. Use the Windows Services console to stop the following Unified Manager services:

   ◦ NetApp OCIE Acquisition Unit (Ocie-au)

◦ NetApp OnCommand Application Server (Oncommandsvc)

◦ MYSQL

4. Click the `.msi` package to invoke the upgrade of MySQL and follow the instructions on the screen to complete the upgrade.

5. Start the Unified Manager services by using the Windows Services console:

◦ MYSQL

◦ NetApp OnCommand Application Server (Oncommandsvc)

◦ NetApp OCIE Acquisition Unit (Ocie-au)

Restarting Unified Manager on Windows

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

Before you begin

You must have Windows administrator privileges.

Steps

1. Log in to Windows using the default local administrator account.

2. Stop the Unified Manager services:

From the…	Stop the services in following order…
Command line	a. `sc stop ocie-au` b. `sc stop Oncommandsvc`
Microsoft Service Manager	a. NetApp OCIE Acquisition Unit (Ocie-au) b. NetApp OnCommand Application Server (Oncommandsvc)

When installed in a high-availability setup, stop the Unified Manager service by using either Microsoft Service Manager or the command line.

3. Start the Unified Manager services:

From the…	Start the services in following order…
Command line	a. `sc start Oncommandsvc` b. `sc start ocie-au`
Microsoft Service Manager	a. NetApp OnCommand Application Server (Oncommandsvc) b. NetApp OCIE Acquisition Unit (Ocie-au)

When installed in a high-availability setup, start Unified Manager service by using either Microsoft Service Manager or the command line.

Uninstalling Unified Manager from Windows

You can uninstall Unified Manager from Windows by using the Programs and Features wizard, or by performing an unattended uninstallation from the command-line interface.

Before you begin

- You must have Windows administrator privileges.
- All clusters (data sources) must be removed from the Unified Manager server before uninstalling the software.
- The Unified Manager server must not have an active connection to an external data provider such as Graphite.

  If it does, you must delete the connection using the Unified Managermaintenance console.

Steps

1. When installed in a high-availability setup, remove the HA service group resources and delete the HA service group before uninstalling Unified Manager from both nodes.
2. Uninstall Unified Manager by choosing one of the following options:

To uninstall Unified Manager from the…	Then…
Programs and Features wizard	a. Navigate to **Control Panel** > **Program and Features**. b. Select OnCommand Unified Manager, and click **Uninstall**.
Command line	a. Log in to the Windows command line using administrator privileges. b. Navigate to the OnCommand Unified Manager directory, and run the following command: `msiexec /x {A78760DB-7EC0-4305-97DB-E4A89CDFF4E1} /qn /l*v %systemdrive%\UmUnInstall.log`

If User Account Control (UAC) is enabled on the server, and you are logged in as a domain user, you must use the command-line uninstallation method.

Unified Manager is uninstalled from your system.

3. Uninstall the following third-party packages and data that are not removed during the Unified Manager uninstallation:

   - Third-party packages: JRE, MySQL, Microsoft Visual C++ 2015 Redistributable, and 7zip

◦ MySQL application data generated by Unified Manager

◦ Application logs and contents of application data directory