Setting up Unified Manager in a failover clustering environment

OnCommand Unified Manager 9.5

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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**.

> 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.