Set up Workflow Automation in MSCS for high availability

OnCommand Workflow Automation 5.0

NetApp
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You can install and configure Workflow Automation (WFA) in a Microsoft Cluster Service (MSCS) environment to set up high availability and provide failover. Before you install WFA, you must verify that all the required components are configured correctly.

About this task

A high-availability setup provides constant support for application operations. If one of the components fails, the mirrored component in the setup takes over the operation and provides uninterrupted network resources.

> MSCS is the only clustering solution that is supported by WFA in Windows.

Configure MSCS to install Workflow Automation

Before you install Workflow Automation (WFA) in Microsoft Cluster Server (MSCS), you must configure your MSCS environment.

What you'll need

- MSCS must be installed from the server manager.
- Optional: SnapDrive for Windows must be installed.

  The minimum supported versions are Windows 2008 and 2012.
- The same version of WFA must be installed using the same path on both the cluster nodes.
- Both the cluster nodes must be added to the same domain.

About this task

You must complete this task by using Cluster Manager in the MSCS interface.

Steps

1. Log in to Cluster Manager as a domain admin.
2. Verify that the LUNs are accessible to both the nodes using one of the following options:
   - Managing the LUNs natively.
   - By using SnapDrive for Windows:
     a. Install and configure SnapDrive for Windows on both the nodes.
     b. Create a LUN using SnapDrive for Windows and configure the LUN for both the nodes.
3. From Failover Cluster Manager, add the disk to the cluster.

Install OnCommand Workflow Automation on Windows

You can install OnCommand Workflow Automation (WFA) to create and customize storage workflows for automating the storage tasks that are performed in your environment.

What you'll need

- You must have reviewed the installation prerequisites.

  Prerequisites for installing Workflow Automation

- If you are installing WFA on a system where WFA was previously installed and then uninstalled, you must ensure that there are no WFA services on that system.
- You must have downloaded the WFA installer from the NetApp Support Site.
- You must disable the `Auto upgrade` feature of Java.

About this task

- If you are installing WFA on a virtual machine (VM), the name of the VM must not include the underscore (_) character.
- ActiveState ActivePerl is installed before you install WFA.

  This installation does not affect any other instances of ActivePerl that you have installed on your WFA server.

- Before you reinstall WFA 4.2 or later, you must delete MySQL data directory if you have uninstalled MySQL.
- If you install MySQL on your own, WFA sets the `secure-file-privilege` and the `sql-mode` properties in MySQL `my.ini` file to blank.

Steps

1. Log in to Windows using an account with administrative permissions.
2. Open Windows Explorer, and then navigate to the directory where the installation file is located.
3. Install WFA:
   - Interactive installation
     i. Right-click and run the WFA installer executable (`.exe`) file as an admin user.
     ii. Click **Next**.
     iii. Enter the credentials for the default admin user, and then click **Next**.

     The default admin password must satisfy the following criteria:

     - Minimum of six characters
     - One uppercase character
     - One lowercase character
     - One numeral
     - One special character **Note:** You must note the credentials of the admin user.

     iv. Select the ports for the WFA configuration, and then click **Next**.
     v. Enter a site name and your company name, and then click **Next**.

     The site name can include the location of the WFA installation, for example, Pittsburgh, PA.

     vi. If you want to change the default installation location, select the location where you want to install WFA, and then click **Next**.

vii. If you do not want to change the default location of the WFA database, click **Next**.

viii. Click **Install** to continue the installation.

ix. Click **Finish** to complete the installation.

x. Verify that WFA was installed successfully by choosing one of the following actions:

- Access WFA through a web browser.
- Use the Windows Services console to verify that the NetApp WFA Server service and the NetApp WFA Database service are running.

◦ Silent installation (from the command prompt):

```
WFA-version_number-build_number.exe /s /v"WFA_ADMIN_USERNAME=wfa_username
WFA_ADMIN_PASSWORD=password WFA_ADMIN_CONFIRM_PASSWORD=confirm admin
password / WFA_MYSQL_PASS=password CONFIRM_WFA_MYSQL_PASS=confirm MySQL
password WFA_INSTALL_SITE=site WFA_INSTALL_ORGANIZATION=organization_name
WFA_HTTP_PORT=port WFA_HTTPS_PORT=port INSTALLDIR=install_directory
DATABASEDIR=database_directory /qr /l*v C:\install.log"
```

Example

```
WFA-x64-v4.2.0.0.0-B2973881.exe /s /v"WFA_ADMIN_USERNAME=admin
WFA_ADMIN_PASSWORD=Company*234 WFA_ADMIN_CONFIRM_PASSWORD=Company*234
WFA_MYSQL_PASS=MySQL*234 CONFIRM_WFA_MYSQL_PASS=MySQL*234
WFA_INSTALL_SITE=nb WFA_INSTALL_ORGANIZATION=netapp WFA_HTTP_PORT=9090
WFA_HTTPS_PORT=8443 INSTALLDIR=\"C:\Program Files\NetApp\WFA\"
DATABASEDIR=\"C:\Program Files\NetApp\WFA\Database\" /qr /l*v
C:\install.log"
```

The `/qn` option is not supported by WFA.

The command parameters are as follows:

Parameter	Description
WFA_ADMIN_USERNAME	Admin user name Optional parameter. If you do not specify a value, then the default value admin is used.
WFA_ADMIN_PASSWORD	Admin user password Mandatory parameter. The default admin password must satisfy the following criteria: • Minimum of six characters • One uppercase character • One lowercase character • One numeral • One special character

Parameter	Description
WFA_ADMIN_CONFIRM_PASSWORD	Admin user password Mandatory parameter
WFA_MYSQL_PASS	MySQL user password Mandatory parameter
CONFIRM_WFA_MYSQL_PASS	MySQL user password Mandatory parameter
WFA_INSTALL_SITE	Organizational unit where WFA is being installed Mandatory parameter
WFA_INSTALL_ORGANIZATION	Organization or company name where WFA is being installed Mandatory parameter
WFA_HTTP_PORT	HTTP port Optional parameter. If you do not specify a value, then the default value 80 is used.
WFA_HTTPS_PORT	HTTPS port Optional parameter. If you do not specify a value, then the default value 443 is used.
INSTALLDIR	Installation directory path Optional parameter. If you do not specify a value, then the default path `"C:\Program Files\NetApp\WFA\"` is used.

Related information

NetApp Support

Configure Workflow Automation with MSCS

After you install Workflow Automation (WFA) in Microsoft Cluster Server (MSCS), you must configure WFA for high availability in MSCS using configuration scripts.

What you'll need

You must have created a backup of WFA.

Steps

1. Log in to the first node of the MSCS cluster, and perform the following steps:

For…	Do this…
Windows 2012	a. From the Failover Cluster Manager, right-click **Service Roles**. b. Select **Create Empty Service Role**, and then rename the role to “WFA”. c. Add the IP address resource to the newly created “WFA” role: i. From the Failover Cluster Manager, right-click the newly created “WFA” role. ii. Select **Resource** > **More Resources** > **IP Address**. iii. Configure the cluster IP address.
Windows 2008	a. From the Failover Cluster Manager, right-click **Services and applications**. b. Click **More Actions** > **Create Empty Service or Application**, and rename the service to “WFA”. c. Add the IP address resource to the newly created “WFA” service: i. From the Failover Cluster Manager, right-click the newly created “WFA” service. ii. Select **Add a resource** > **More resources** > **Add IP Address**. iii. Configure the cluster IP address.

2. At the command prompt, run the `ha_setup.pl` script to move the WFA data to the shared location and to configure WFA with MSCS for failover: `perl ha_setup.pl --first [-t type_of_cluster_vcs] [-g cluster_group_name] [-i IP_address_resource_name] [-n cluster_name] [-k shared_disk_resource_name] [-f shared_drive_path]`

   The script is available at `WFA_install_location\WFA\bin\ha\.`

   Example

   ```
   perl ha_setup.pl --first -t mscs -g WFA -i "Cluster IP Address" -n wfa_cluster
   -k "Cluster Disk 2" -f E:\
   ```

3. Verify that the MSCS resources are created.
4. Stop the WFA services from the Failover Cluster Manager:

For…	Do this…

Windows 2012	a. Select **Service Roles**, and then select the newly created “WFA” role. b. In the Resource pane, right-click **NA_WFA_DB**, and then select **Take Offline**. c. In the Resource pane, right-click **NA_WFA_SRV**, and then select **Take Offline**.
Windows 2008	a. Select **Services and applications**, and then select the newly created “WFA” service. b. In the Other Resources pane, right-click **NA_WFA_DB**, and then select **Take this resource offline**. c. In the Other Resources pane, right-click **NA_WFA_SRV**, and then select **Take this resource offline**.

The WFA database service and the WFA server service must be taken offline. The WFA services must not be stopped from the Windows services.

5. Manually move the WFA resources to the secondary node.
6. Verify that the shared disk is accessible from the second node.
7. At the command prompt, run the `ha_setup.pl` script on the secondary node of the cluster to configure WFA for using the data from the shared location: `perl ha_setup.pl --join [-t type_of_cluster_mscs] [-f shared_drive_path]`

   The `ha_setup.pl` script is available at `WFA_install_location\WFA\bin\ha\`.

   Example

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

8. From the Failover Cluster Manager, bring the WFA resources online:

For…	Do this…
Windows 2012	a. Right-click the newly created “WFA” role, and then select **Start Role**. The role must be in the Running status, and the individual resources must be in the Online state.
Windows 2008	a. Right-click the newly created “WFA” service, and then select **Bring this service or application online**. The service must be in the `Running` status, and the individual resources must be in the `Online` state.

9. Manually switch to the second node of the MSCS cluster.
10. Verify that the WFA services start properly on the second node of the cluster.