



April 2005

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# WorkflowXtender™

Clustering

Installation Guide

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*Clustering in a WorkflowXtender Environment*

April 2005

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# Installing WorkflowXtender in a Fail-Over Cluster Environment

**Note:** Clustering in a WorkflowXtender environment is only supported in Releases 5.20 and later.

Clustering is a processing environment consisting of two or more servers connected together in such a way that they act as a single computer, and so that the server computers can share a single storage device.

In a fail-over cluster configuration, only one server owns the shared resource at a given time. Intercluster communication is provided by a heartbeat. If one of the servers stops functioning, the other server assumes the workload of the failed server.

The act of transferring functions to another server in the cluster is called fail-over. Fail-over ensures continuous availability of the critical applications and data located in the cluster. This document describes how to install WorkflowXtender (WfX) in a fail-over cluster environment.

## Before You Begin

Before you begin the installation of WfX in a cluster environment, the following prerequisites must be met:

- A two-node, single- instance cluster must already be configured on two Windows 2003 servers, both of which have access to a shared storage device. For more information, refer to the SQL Server 2000 documentation and the Cluster Administrator documentation.

**Note:** Multiple-instance clusters have not been tested with WorkflowXtender.

- Cluster Administrator is installed on both cluster nodes.
- SQL Server 2000 is installed on one of the cluster nodes.
- It is recommended that at least two logical shared drives exist on the storage device, one for the cluster quorum, and at least one for application data.

The following components need to be installed on both nodes to complete the installation:

- Process Manager using the instructions in "[Installing Process Manager on Node 1" on page 7](#).
- WorkflowXtender using the instructions in "[Installing WorkflowXtender on Node 1" on page 12](#).

## Installing Process Manager on Node 1

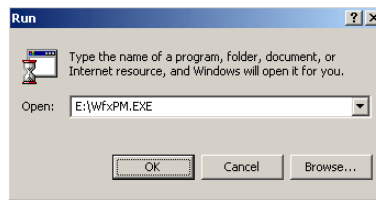
Make sure the node on which you are currently installing Process Manager has access to the logical shared drive. For more information, see "[Granting Access to the Logical Shared Drive](#)" on page 24.

Use the following procedure to install WorkflowXtender Process Manager in your cluster environment.

To install Process Manager on node 1:

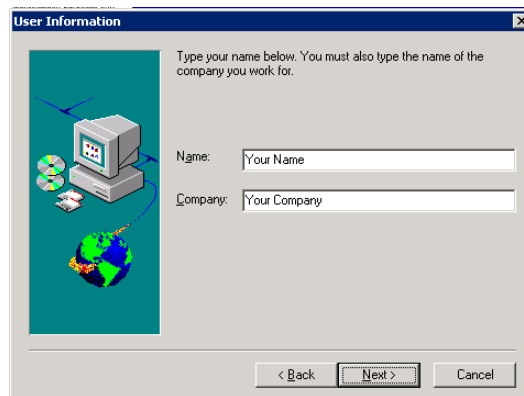
1. Insert the WfX CD-ROM into the local drive on node 1.
2. From the Windows Start menu, select Run. The Run dialog box appears.

**Figure 1. Run Dialog Box**

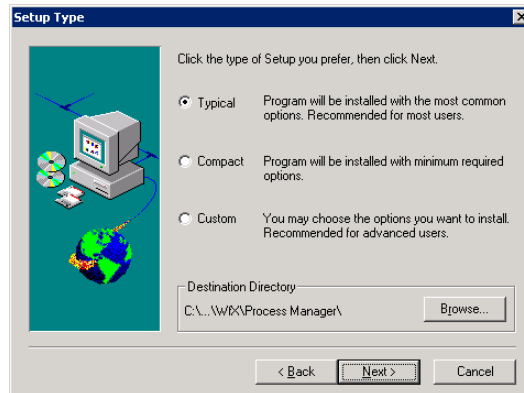


3. In the text box, enter E:\WfxPM.exe where E is your local CD drive. Click OK. The WfX Process Manager Welcome page appears.
4. Click Next. The User Information page appears.

**Figure 2. Process Manager Setup - User Information Page**



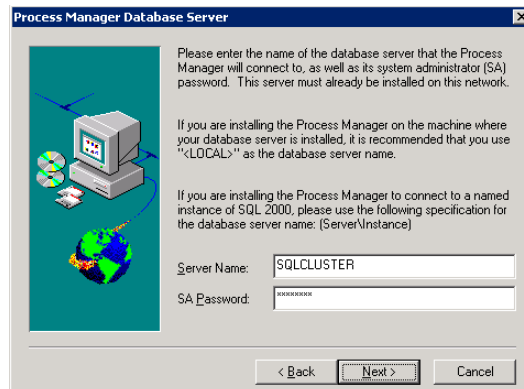
5. Enter your name and company in the respective text boxes. Click Next. The Setup Type page appears.

**Figure 3. Process Manager Setup - Setup Type Page**

6. Select a destination directory for the Process Manager. Accept the default setting of Typical.

**Note:** The destination directory should be on a local drive, not on a shared drive.

7. Click Next. The Process Manager Database Server page appears.

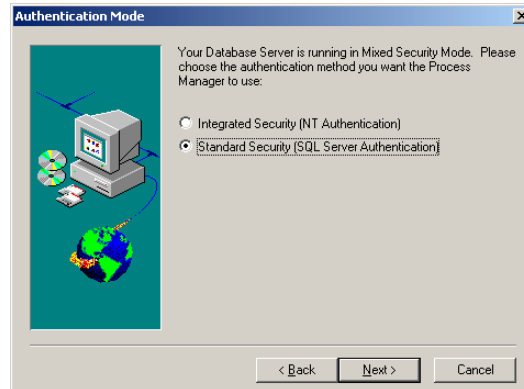
**Figure 4. Process Manager Setup - Process Manager Database Server Page**

8. Enter the following information:

- In the Server Name text box, enter the name of the virtual SQL server configured with your cluster.
- In the SA Password text box, enter the password for the user "SA" as configured in SQL Server.

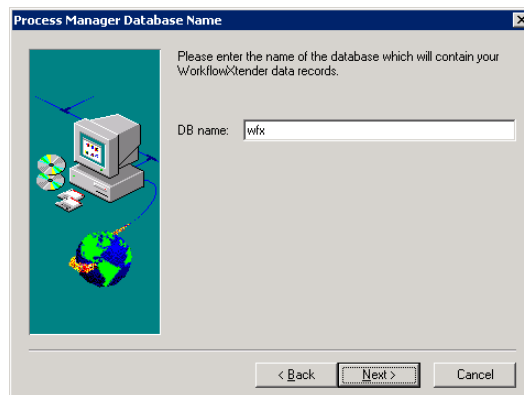
9. Click Next. The Authentication Mode page appears.

**Figure 5. Process Manager Setup - Authentication Mode Page**



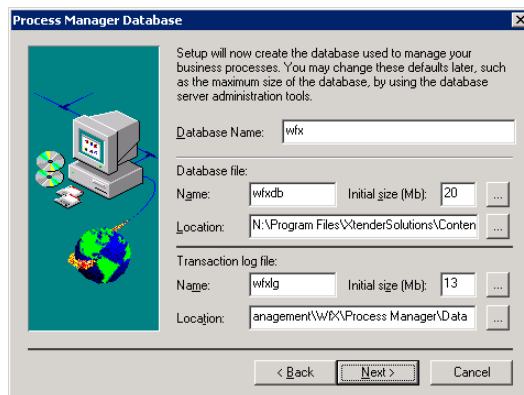
10. Select Standard Security (SQL Server Authentication). Click Next. The Process Manager Database Name page appears.

**Figure 6. Process Manager Setup - Process Manager Database Name Page**



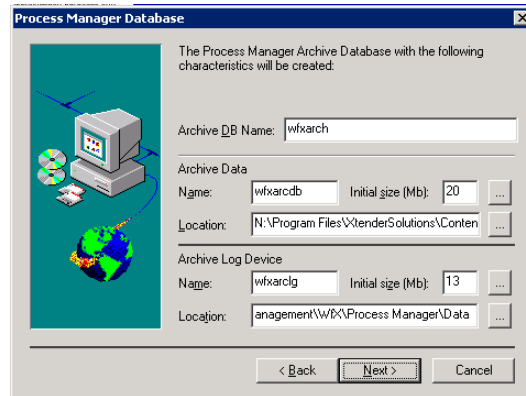
11. In the DB name text box, enter your database name. Click Next. The Process Manager Database page appears.

**Figure 7. Process Manager Setup - Process Manager Database Page**



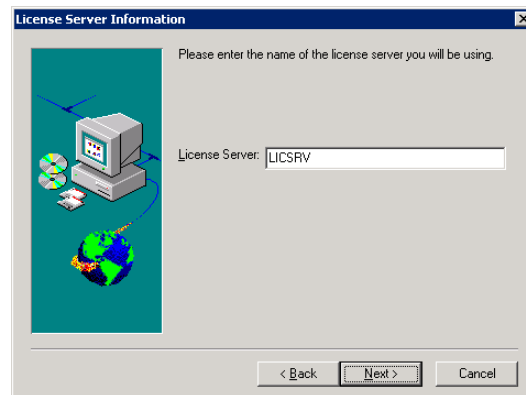
12. In the Location text box in the Database file section and the Transaction log file section, enter a location on a shared drive that has sufficient space for the wfx database, but not the quorum. Click Next. The Process Manager Database page appears for the archive database.

**Figure 8. Process Manager Setup - Process Manager Database Page - Archive Database**

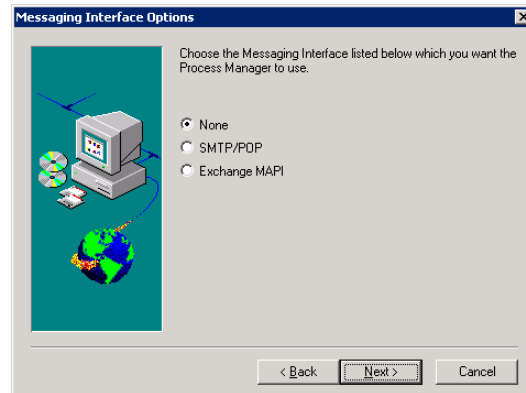


13. In the Location text box in the Database file section and the Transaction log file section, enter a location on a shared drive that has sufficient space for the wfxarch database, but not the quorum. Click Next. The License Server Information page appears.

**Figure 9. Process Manager Setup - License Server Information Page**



14. In the License Server text box, enter the name of the WfX license server. Click Next. The Messaging Interface Options page appears.

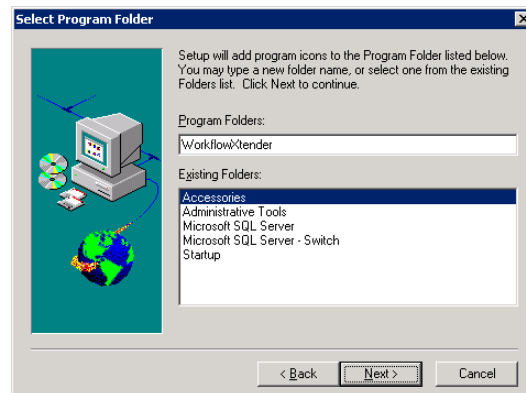
**Figure 10. Process Manager Setup - Messaging Interface Options Page**

15. Select the messaging interface you plan to use. You have the following options:

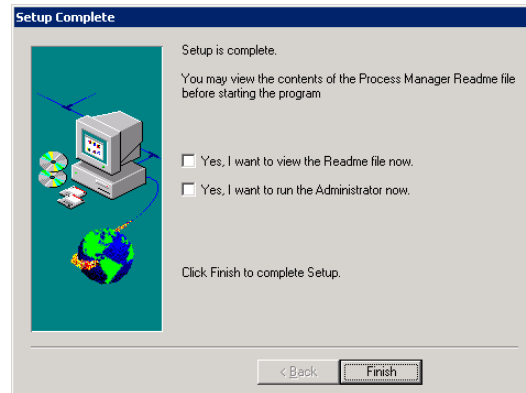
- None
- SMTP/POP
- Exchange MAPI

If you selected SMTP/POP or Exchange MAPI, the Messaging Interface page appears. Enter the appropriate e-mail information and click Next. The Select Program Folder page appears.

If you selected None, click Next. The Select Program Folder page appears.

**Figure 11. Process Manager Setup - Select Program Folder Page**

16. Click Next. Process Manager begins the install. When the installation is complete, the Setup Complete page appears.

**Figure 12. Process Manager Setup - Setup Complete Page**

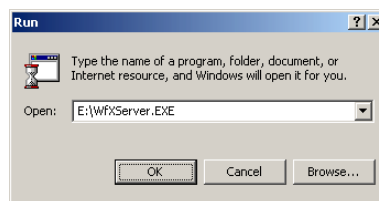
17. If you want to view the Readme file or run the Administrator after setup is complete, enable the respective check boxes, then click Finish.

## Installing WorkflowXtender on Node 1

Use the following procedure to install WorkflowXtender Server in your cluster environment.

To install WorkflowXtender on node 1:

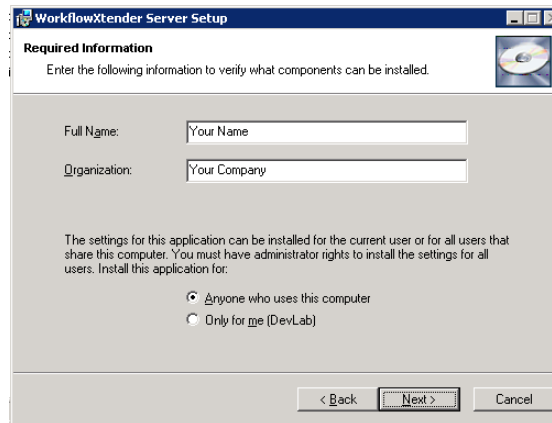
1. Insert the WfX CD-ROM into the local CD drive on node 1.
2. From the Windows Start menu, select Run. The Run dialog box appears.

**Figure 13. Run Dialog Box**

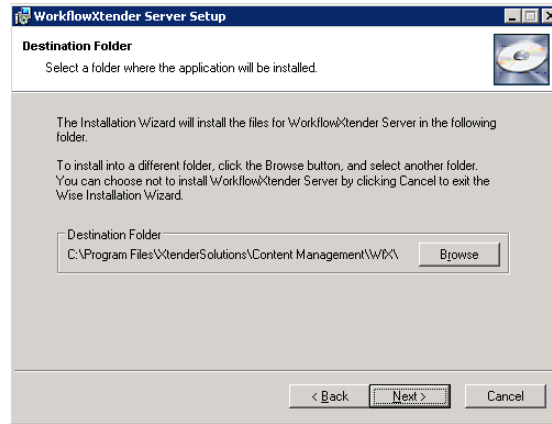
3. In the text box, enter E:\WfXServer.exe, where E represents the local drive.
4. Click OK. The WorkflowXtender Server Setup Welcome page appears.
5. Click Next. The License Agreement page appears.

**Figure 14. WorkflowXtender Server Setup - License Agreement Page**

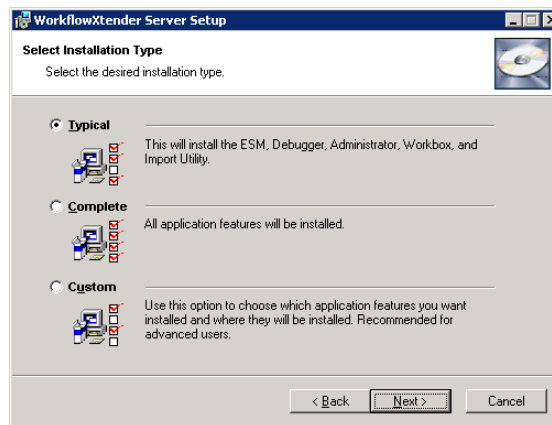
6. Enable the I accept the license agreement option and click Next. The Required Information page appears.

**Figure 15. WorkflowXtender Server Setup - Required Information Page**

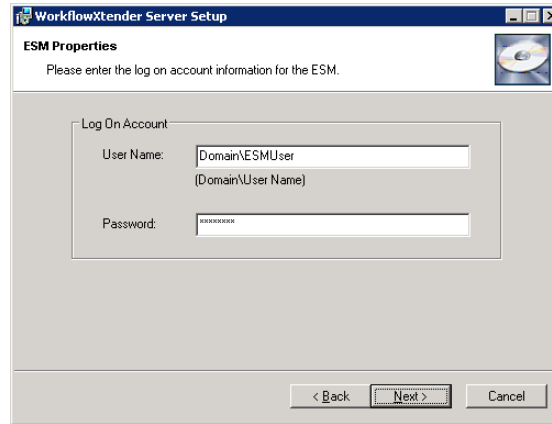
7. Enter your name and your organization name in the respective text boxes. Select the user or users who should be able to access this software. You have the following options:
  - Anyone who uses the computer
  - Only for me (the specified user)
8. Click Next. The Destination Folder page appears.

**Figure 16. WorkflowXtender Server Setup - Destination Folder Page**

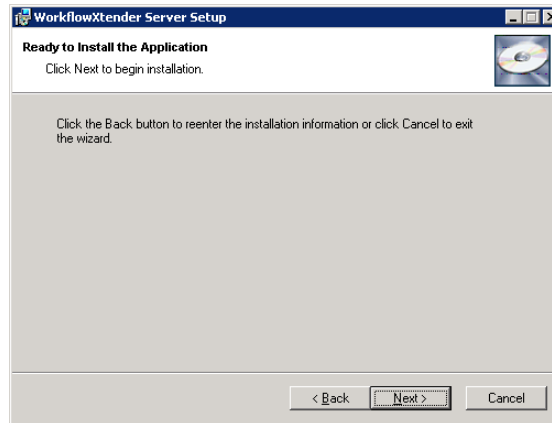
9. The destination folder must be a local drive. If you would like to change the destination folder, click Browse, select a location and then click Next. Otherwise, click Next to accept the default folder. The Select Installation Type page appears.

**Figure 17. WorkflowXtender Server Setup - Select Installation Type Page**

10. Enable the Typical option and click Next. The ESM Properties page appears.

**Figure 18. WorkflowXtender Server Setup - ESM Properties Page**

11. Enter the ESM user name and password as configured in the WfX Server installation, and click Next. The Ready to Install the Application page appears.

**Figure 19. WorkflowXtender Server Setup - Ready to Install the Application Page**

12. If you would like to make any changes to the setup, then click Back to do so. Otherwise, click Next to install WorkflowXtender Server. Once the installation is complete, the Setup Complete page appears.
13. Click Finish.

## Installing WorkflowXtender on Cluster Node 2

Make sure the node on which you are currently installing WfX has access to the logical shared drive. For more information, see ["Granting Access to the Logical Shared Drive" on page 24](#).

Follow the same procedures to install Process Manager and WorkflowXtender on cluster node 2 as you did for cluster node 1. For more information, see:

- ["Installing Process Manager on Node 1" on page 7](#)
- ["Installing WorkflowXtender on Node 1" on page 12](#)

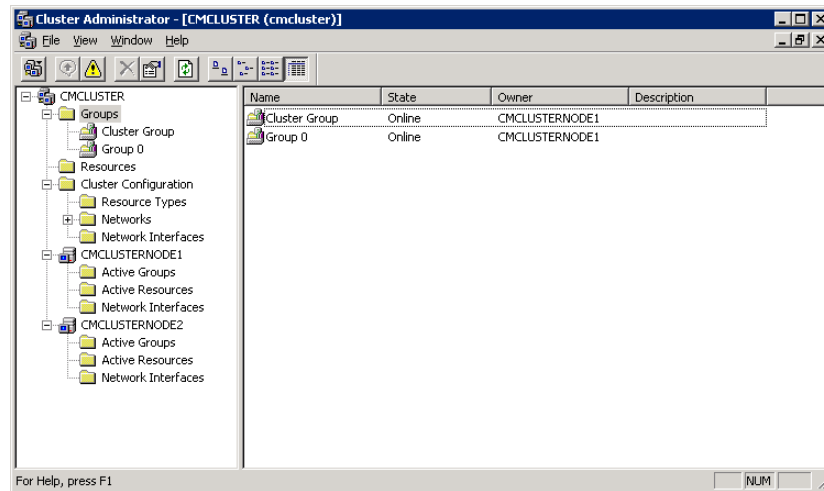
## Configuring WorkflowXtender with Cluster Administrator

Once you have successfully installed Process Manager and WorkflowXtender Server on both nodes of the cluster, you must then configure WorkflowXtender with Cluster Administrator.

To open the Cluster Administrator:

- From the Windows Start menu, select Control Panel and the Administrative Tools. From the Administrative Tools menu, select Cluster Administrator.

**Figure 20. Cluster Administrator**

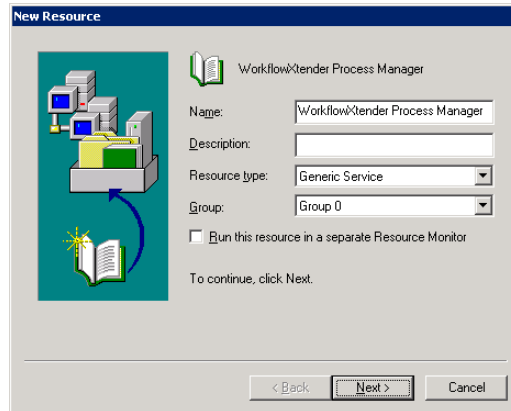


## Adding the Process Manager Service as a Cluster Resource

This resource can be created from either node of the cluster. However, that node must have access to the logical shared drive. For more information, see "[Granting Access to the Logical Shared Drive](#)" on page 24.

To add the Process Manager service as a cluster resource:

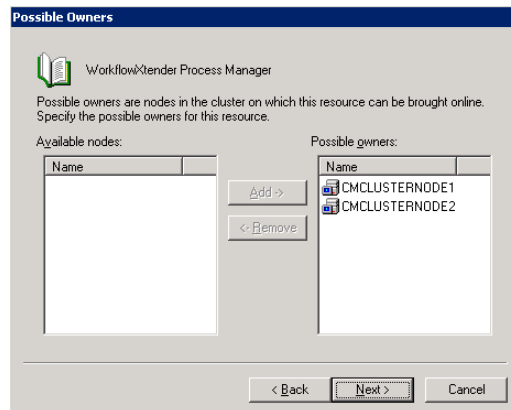
1. Open the Cluster Administrator using the instructions found in "[Configuring WorkflowXtender with Cluster Administrator](#)" on page 16.
2. From the Cluster Administrator File menu, select New and then Resource. The New Resource dialog box appears.

**Figure 21. New Resource Dialog Box**

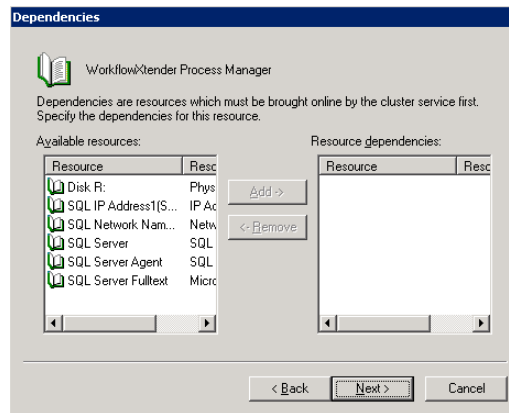
3. Enter the following information:

- In the Name text box, enter WorkflowXtender Process Manager.
- In the Description text box, enter a description (this text box may be left blank).
- From the Resource Type drop-down list, select Generic Service.
- From the Group drop-down list, select the group that contains the logical shared drive resource where the WorkflowXtender database files are stored.

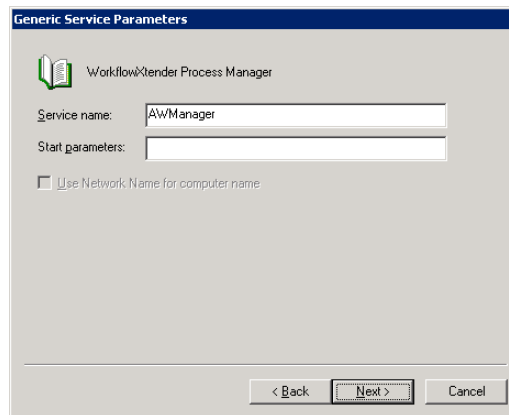
Click Next. The Possible Owners dialog box appears.

**Figure 22. Possible Owners Dialog Box**

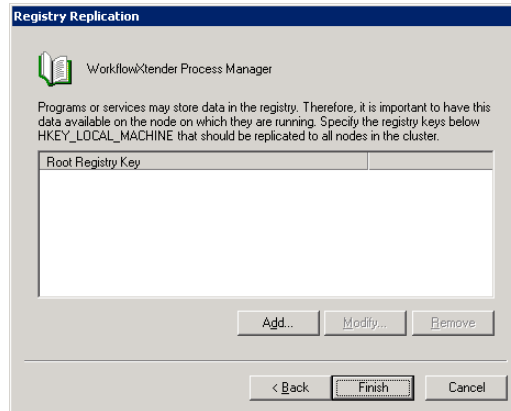
4. If they are not added by default, add both cluster nodes to the Possible Owners list box by selecting each node and clicking Add. Click Next. The Dependencies dialog box appears.

**Figure 23. Dependencies Dialog Box**

5. No dependencies are required in the configuration of the Process Manager resource. Click Next. The Generic Service Parameters dialog box appears.

**Figure 24. Generic Service Parameters Dialog Box**

6. Enter the following information:
- In the Service name text box, enter AWManager.
  - Leave the Start Parameters text box blank.
- Click Next. The Registry Replication dialog box appears.

**Figure 25. Registry Replication Dialog Box**

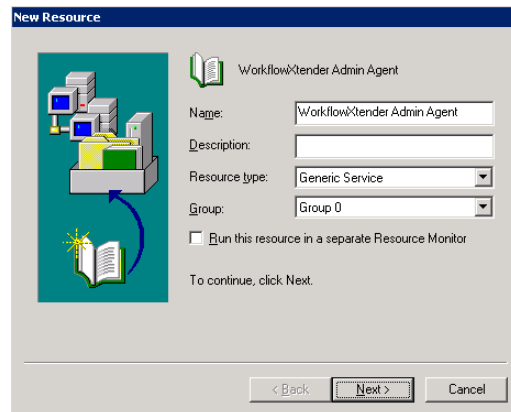
7. Click Finish.
8. A confirmation box appears indicating that the cluster resource has been created successfully. Click OK to continue.
9. Bring the newly created resource online using the instructions found in ["Bringing Resources Online"](#) on page 24.

## Adding the Administrative Agent Service as a Cluster Resource

This resource can be created from either node of the cluster. However, that node must have access to the logical shared drive. For more information, see ["Granting Access to the Logical Shared Drive"](#) on page 24.

To add the Administrative Agent as a cluster resource:

1. Open the Cluster Administrator using the instructions found in ["Configuring WorkflowXtender with Cluster Administrator"](#) on page 16.
2. From the Cluster Administrator File menu, select New and then Resource. The New Resource dialog box appears.

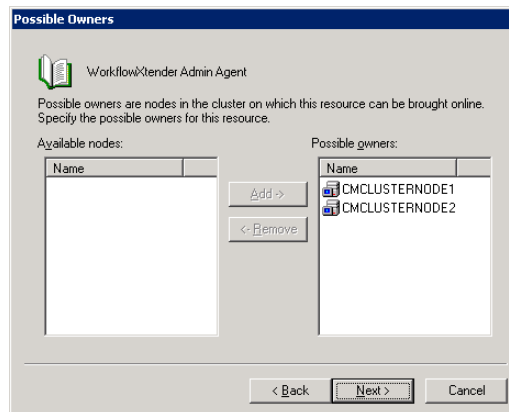
**Figure 26. New Resource Dialog Box**

3. Enter the following information:

- In the Name text box, enter WorkflowXtender Admin Agent.
- In the Description text box, enter a description (this text box may be left blank).
- From the Resource Type drop-down list, select Generic Service.
- From the Group drop-down list, select the group that contains the logical shared drive where the WorkflowXtender database files are stored.

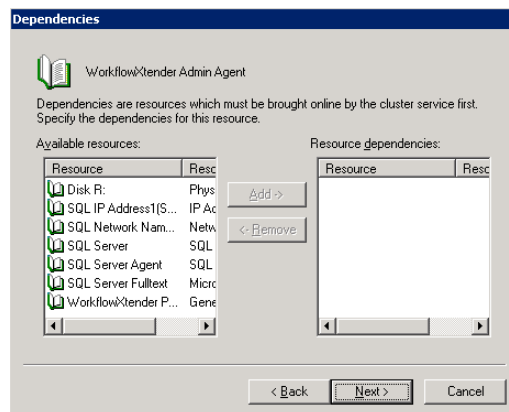
Click Next. The Possible Owners dialog box appears.

**Figure 27. Possible Owners Dialog Box**

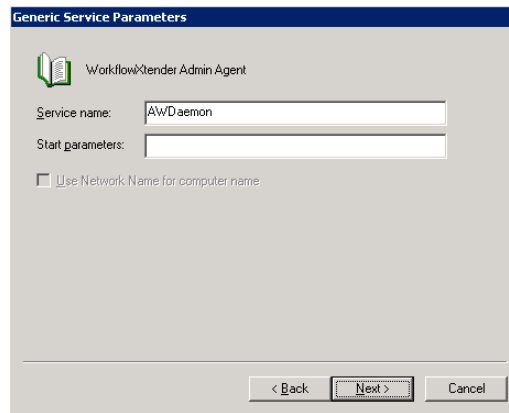


4. If they are not added by default, add both cluster nodes to the Possible Owners list box by selecting each node and clicking Add. Click Next. The Dependencies dialog box appears.

**Figure 28. Dependencies Dialog Box**



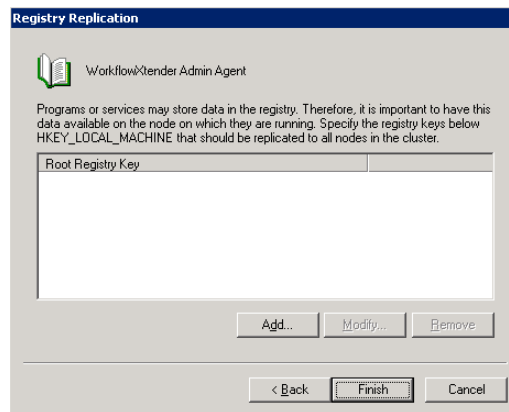
5. There are no dependencies required in the configuration of this resource. Click Next. The Generic Service Parameters dialog box appears.

**Figure 29. Generic Service Parameters Dialog Box**

6. Enter the following information:

- In the Service name text box, enter AWDaemon.
- Leave the Start parameters text box blank.

Click Next. The Registry Replication dialog box appears.

**Figure 30. Registry Replication Dialog Box**

7. Click Finish.

8. A confirmation message appears indicating that you have created the new resource successfully. Click OK to continue.

9. Bring the newly created resource online using the instructions found in ["Granting Access to the Logical Shared Drive"](#) on page 24.

## Adding the WfxReports File Share as a Cluster Resource

This resource can be created from either node of the cluster. However, that node must have access to the logical shared drive. For more information, see ["Granting Access to the Logical Shared Drive"](#) on page 24.

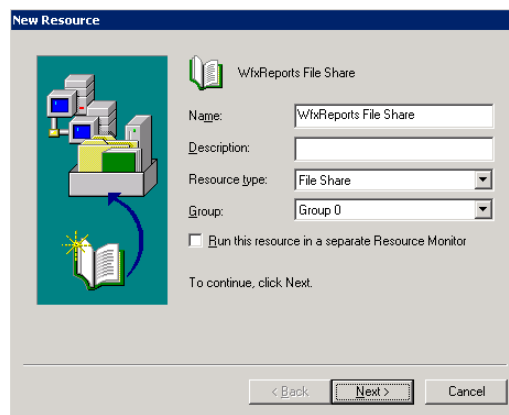


**Important:** To successfully create this cluster resource, you will need the path to the Reports directory of the logical shared drive where the WorkflowXtender database files are stored. This is the same path as the Data directory.

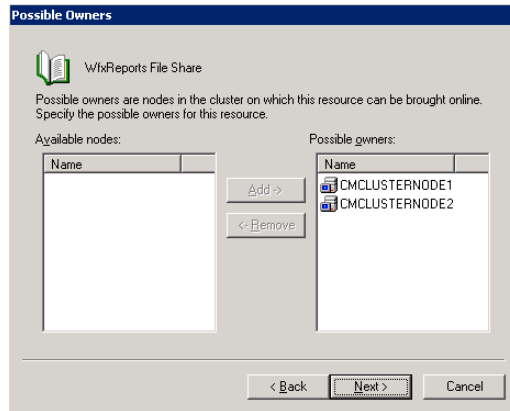
To add the WfxReports File Share as a cluster resource:

1. Open the Cluster Administrator using the instructions found in "[Configuring WorkflowXtender with Cluster Administrator](#)" on page 16.
2. From the Cluster Administrator File menu, select New and then Resource. The New Resource dialog box appears.

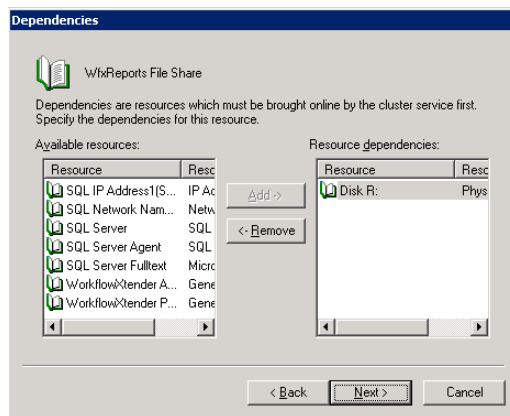
**Figure 31. New Resource Dialog Box**



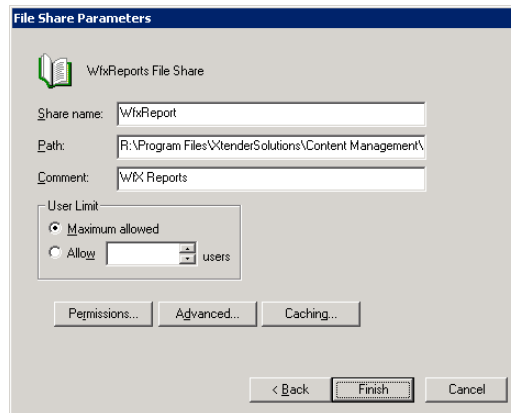
3. Enter the following information:
    - In the Name text box, enter WfxReports File Share.
    - In the Description text box, enter a description (this text box may be left blank).
    - From the Resource Type drop-down list, select File Share.
    - From the Group drop-down list, select the group that contains the logical shared drive resource where the WorkflowXtender database files are stored.
- Click Next. The Possible Owners dialog box appears.

**Figure 32. Possible Owners Dialog Box**

4. If they are not added by default, add both cluster nodes to the Possible Owners list box by selecting each node and clicking Add. Click Next. The Dependencies dialog box appears.

**Figure 33. Dependencies Dialog Box**

5. From the Available Resources list box, select the logical shared drive resource and click Add to move it to the Resource Dependencies list box. Click Next. The File Share Parameters dialog box appears.

**Figure 34. File Share Parameters Dialog Box**

6. Enter the following information:

- In the Share name text box, enter WfxReports.
- In the Path text box, enter the path to the Reports directory on the logical shared drive where the WorkflowXtender database files are stored.
- In the Comment text box, enter WfxReports.

Click Finish.

7. A confirmation message appears indicating that you have created the resource successfully. Click OK to continue.

8. Bring the newly created resource online using the instructions found in ["Granting Access to the Logical Shared Drive"](#) on page 24.

## Granting Access to the Logical Shared Drive

Because this is a single-instance cluster, SQL Server is installed on only one of the nodes. However, you can access it from either of the two nodes. This is because the program files are stored on the logical shared drives.

Make sure the node on which you are currently installing WfX has access to the logical shared drive.

To grant access to the logical shared drive:

1. Open the Cluster Administrator using the instructions found in ["Configuring WorkflowXtender with Cluster Administrator"](#) on page 16.
2. From the Active Groups directory of the node that contains the shared drive, right-click the group name and select Move Group.

The group is now being accessed from the node where you are working.

## Bringing Resources Online

Once you have created each new resource, you must bring the new resource online.

To bring a resource online:

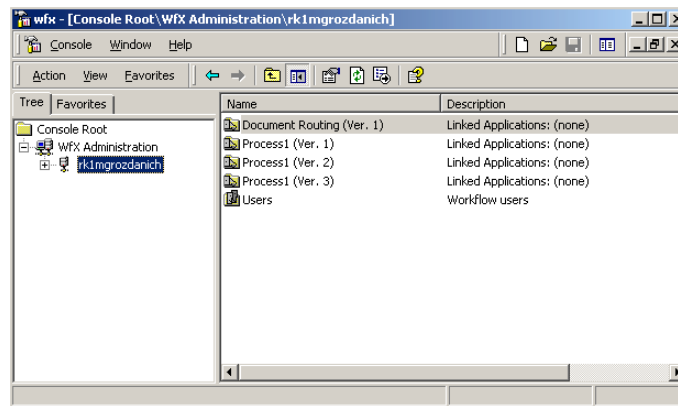
1. Open the Cluster Administrator using the instructions found in "[Configuring WorkflowXtender with Cluster Administrator](#)" on page 16.
2. In the Cluster Administrator, right-click the new resource and select Bring Online.

## Notifying WorkflowXtender of the Cluster

Once you have installed and configured WorkflowXtender in the cluster environment, you must tell the WorkflowXtender system that a cluster is there and active.

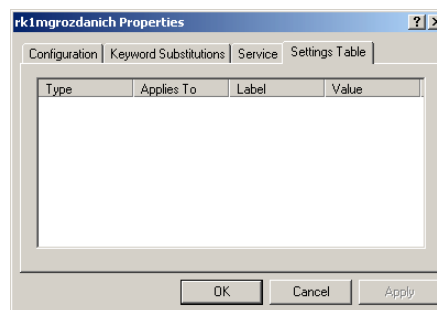
1. From the Windows Start menu and select Programs and then WorkflowXtender. From the WorkflowXtender program group, select WfX Administrator. The WfX Administrator window appears.

**Figure 35. WFX Administrator**



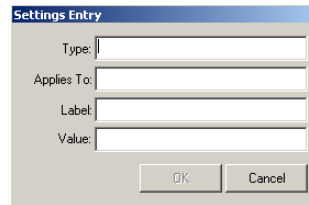
2. Right-click the server name and click Properties. The server Properties dialog box appears.
3. Click the Settings Table tab.

**Figure 36. Server Properties Dialog Box**



4. Right-click anywhere within the Settings Table tab window space and click Add. The Settings Entry dialog box appears.

**Figure 37. Settings Entry Dialog Box**



5. Populate the text boxes using the information below.

- In the Type text box, enter Cluster.
- In the Applies To text box, enter All.
- In the Label text box, enter Enabled.
- In the Value text box, enter True.

Click OK. The settings you configured appear within the Settings Table tab of the server Properties dialog box. Click OK to return to the WfX Administrator.