

# SQL Cluster Configuration for Autodesk Vault Server



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# Introduction

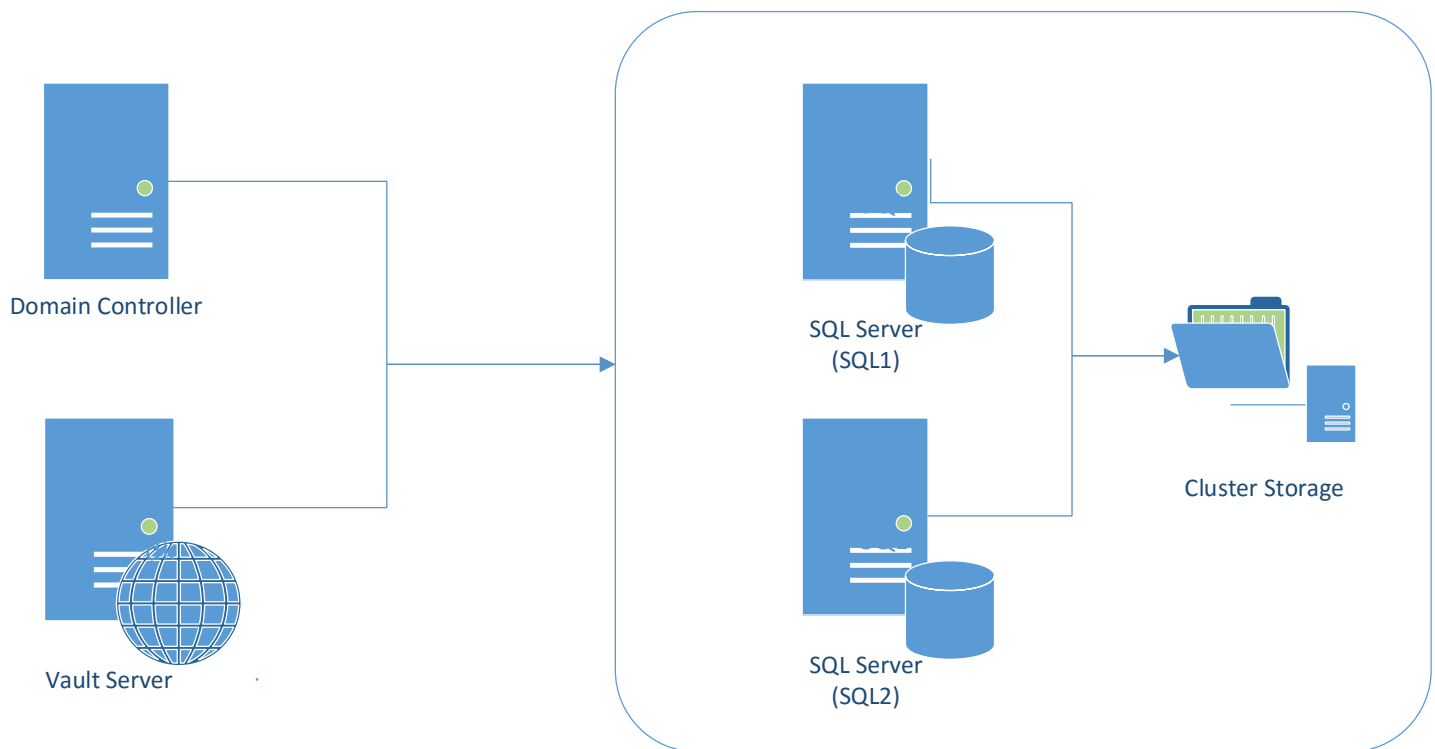
This document is a guideline on how to configure Microsoft SQL Server as a cluster to work with Autodesk Vault server. This document does not cover best practices for SQL Server or the cluster configuration. Autodesk recommends consulting with Microsoft's documentation for configuration and best practice details.

## Purpose

Autodesk Vault functions in a SQL failover cluster configuration in which it is unaware of the cluster and does not require reconfiguration of Vault if and when a failover occurs. This is known as the AlwaysOn Failover Cluster Instances (FCI). More information about this configuration can be found at [AlwaysOn Failover Cluster Instances](#). Before configuring this feature, Windows Server must be configured for [Windows Server Failover Clustering](#) (WSFC). This document does not cover this configuration; please refer to Microsoft's documentation.

## Example

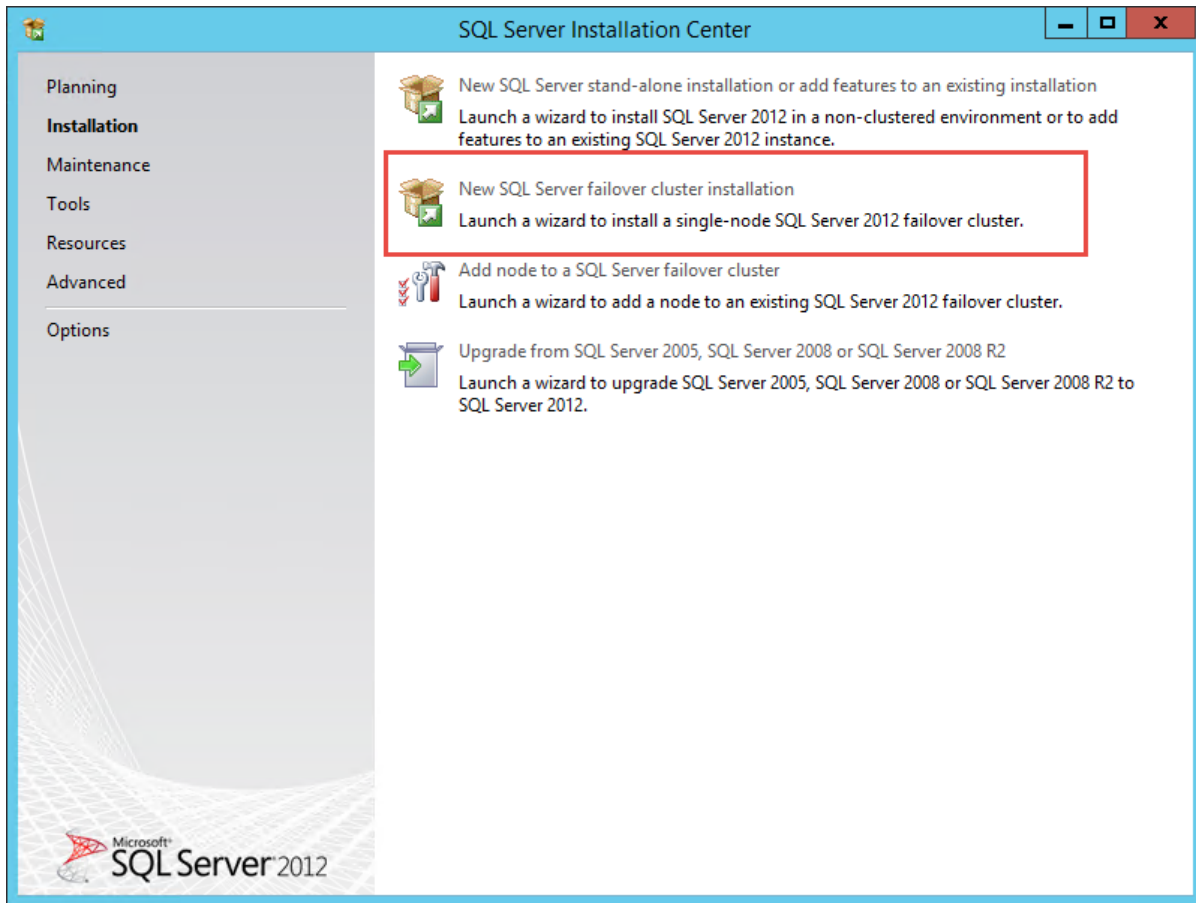
This document illustrates the following configuration.



## Configuring SQL Failover Cluster Instances

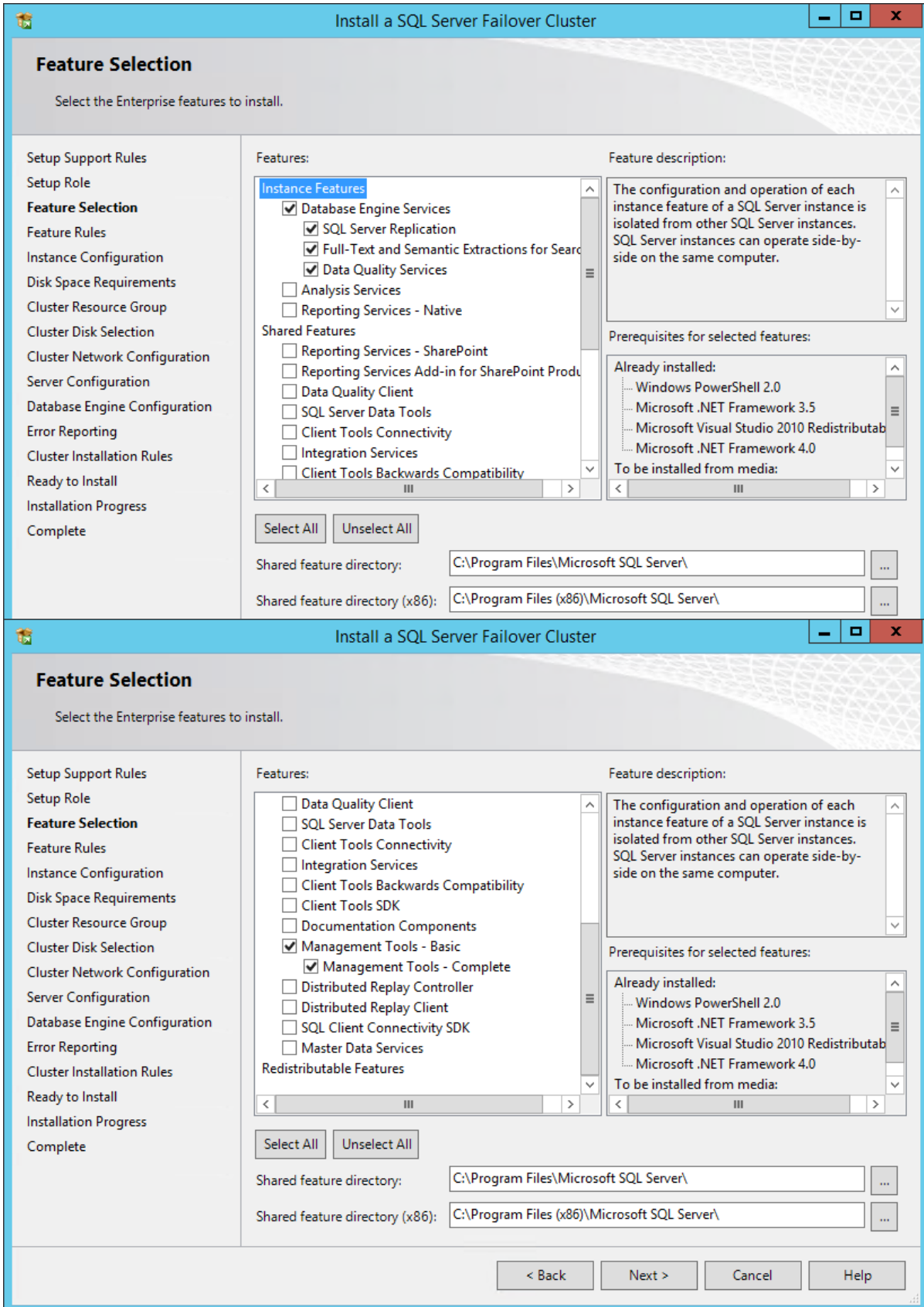
Once the Windows is configured as a Windows failover cluster for SQL, it is time to install the Microsoft SQL Server software.

1. Insert the SQL Server installation media in the first SQL Server (**SQL1**), and from the root folder, double-click Setup.exe.
2. The Installation Wizard starts the SQL Server Installation Center. To create a new cluster installation of SQL Server, click **New SQL Server failover cluster installation** on the installation page.

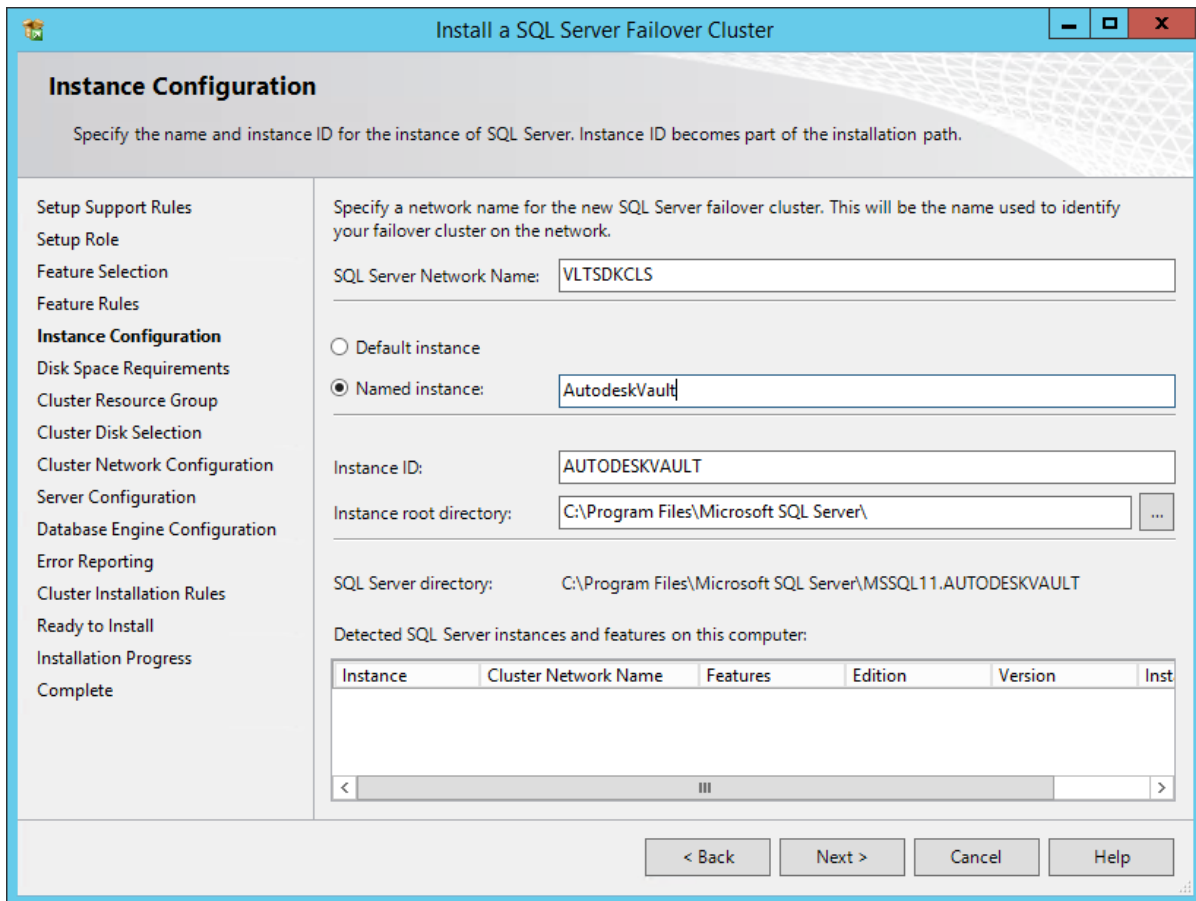


3. The System Configuration Checker runs a discovery operation on your computer. To continue, Click **OK**.
4. To continue, click **Next**.
5. On the Setup Support Files page, click **Install** to install the Setup support files.
6. The System Configuration Checker verifies the system state of your computer before Setup continues. After the check is complete, click **Next** to continue.
7. On the Product key page, indicate whether you are installing a free edition of SQL Server, or whether you have a PID key for a production version of the product.
8. On the License Terms page, read the license agreement, and then select the checkbox to accept the license terms and conditions. Click **Next** to continue.

9. On the Feature Selection page, select the following components for the installation. Click **Next** to continue.

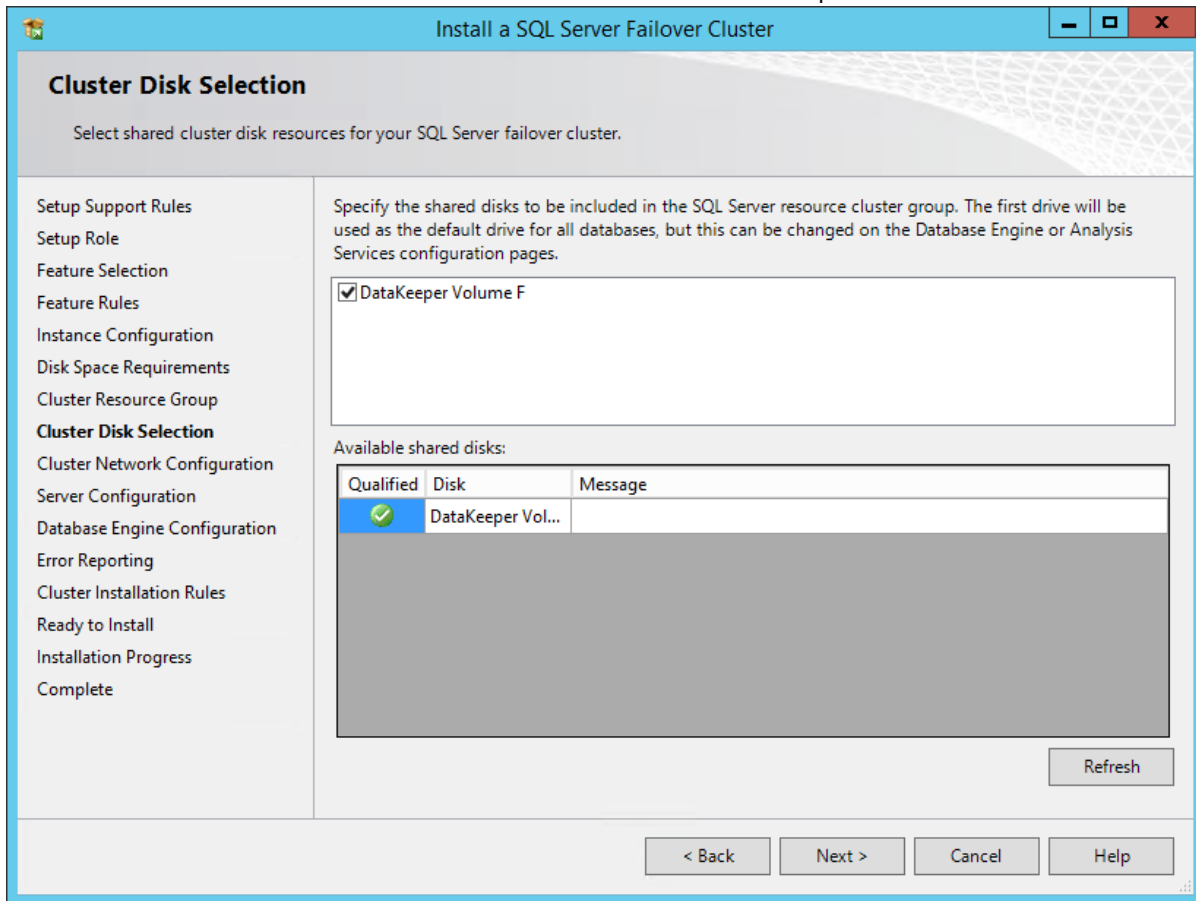


10. On the Instance Configuration page, type a name in the SQL Server Network Name field. This name is used to identify the SQL Server failover cluster. Select the **Named Instance** and type **AutodeskVault** in the Named Instance field. Click **Next**.



## SQL Cluster Configuration for Autodesk Vault Server

11. Use the Cluster Resource Group page to specify the cluster resource group name where SQL Server virtual server resources will be located. Click **Next** to continue.
12. On the Cluster Disk Selection page, select the shared cluster disk resource for your SQL Server failover cluster. The cluster disk is where the SQL Server data will be located. More than one disk can be specified. Click **Next** to continue.



## SQL Cluster Configuration for Autodesk Vault Server

13. On the Cluster Network Configuration page, specify the network resources for your failover cluster instance:  
Network Settings — Specify the IP type and IP address for your failover cluster instance.  
Click **Next** to continue.

**Cluster Network Configuration**

Select network resources for your SQL Server failover cluster.

Setup Support Rules  
Setup Role  
Feature Selection  
Feature Rules  
Instance Configuration  
Disk Space Requirements  
Cluster Resource Group  
Cluster Disk Selection  
**Cluster Network Configuration**  
Server Configuration  
Database Engine Configuration  
Error Reporting  
Cluster Installation Rules  
Ready to Install  
Installation Progress  
Complete

Specify the network settings for this failover cluster:

<input checked="" type="checkbox"/>	IP Type	DHCP	Address	Subnet Mask	Subnet(s)	Network
<input checked="" type="checkbox"/>	IPv4	<input type="checkbox"/>	10.0.0.210	255.255.255.0	10.0.0.0/24	Cluster Network 1

Refresh

< Back   Next >   Cancel   Help



## SQL Cluster Configuration for Autodesk Vault Server

14. On the Server Configuration — Service Accounts page, specify login accounts for SQL Server services. If more information on configuring service accounts - see [Server Configuration - Service Accounts](#). Click **Next** to continue.

The screenshot shows the 'Install a SQL Server Failover Cluster' wizard at the 'Server Configuration' step. The 'Service Accounts' tab is active, displaying a table for configuring service accounts. The table has four columns: Service, Account Name, Password, and Startup Type. The services listed are SQL Server Agent, SQL Server Database Engine, SQL Full-text Filter Daemon Launc..., and SQL Server Browser. The Account Name for SQL Server Agent and SQL Server Database Engine is ADSKVault\VaultAdmin. The Password for these services is masked with dots. The Startup Type for SQL Server Agent and SQL Server Database Engine is Manual, while for SQL Server Browser it is Automatic. The SQL Full-text Filter Daemon Launc... service uses the account NT Service\MSSQLFDLa... and has a Manual startup type.

Service	Account Name	Password	Startup Type
SQL Server Agent	ADSKVault\VaultAdmin	••••••••	Manual
SQL Server Database Engine	ADSKVault\VaultAdmin	••••••••••...	Manual
SQL Full-text Filter Daemon Launc...	NT Service\MSSQLFDLa...		Manual
SQL Server Browser	NT AUTHORITY\LOCAL ...		Automatic

## SQL Cluster Configuration for Autodesk Vault Server

15. On the Database Engine Configuration page on the Server Configuration tab, select Mixed Mode and type the password that will be used for the system administrator (SA) account.

**Install a SQL Server Failover Cluster**

### Database Engine Configuration

Specify Database Engine authentication security mode, administrators and data directories.

Setup Support Rules  
Setup Role  
Feature Selection  
Feature Rules  
Instance Configuration  
Disk Space Requirements  
Cluster Resource Group  
Cluster Disk Selection  
Cluster Network Configuration  
Server Configuration  
**Database Engine Configuration**  
Error Reporting  
Cluster Installation Rules  
Ready to Install  
Installation Progress  
Complete

Server Configuration | Data Directories | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

Windows authentication mode

Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password: [password field]

Confirm password: [password field]

Specify SQL Server administrators

ADSKVLT\ADSKVault (ADSKVault)

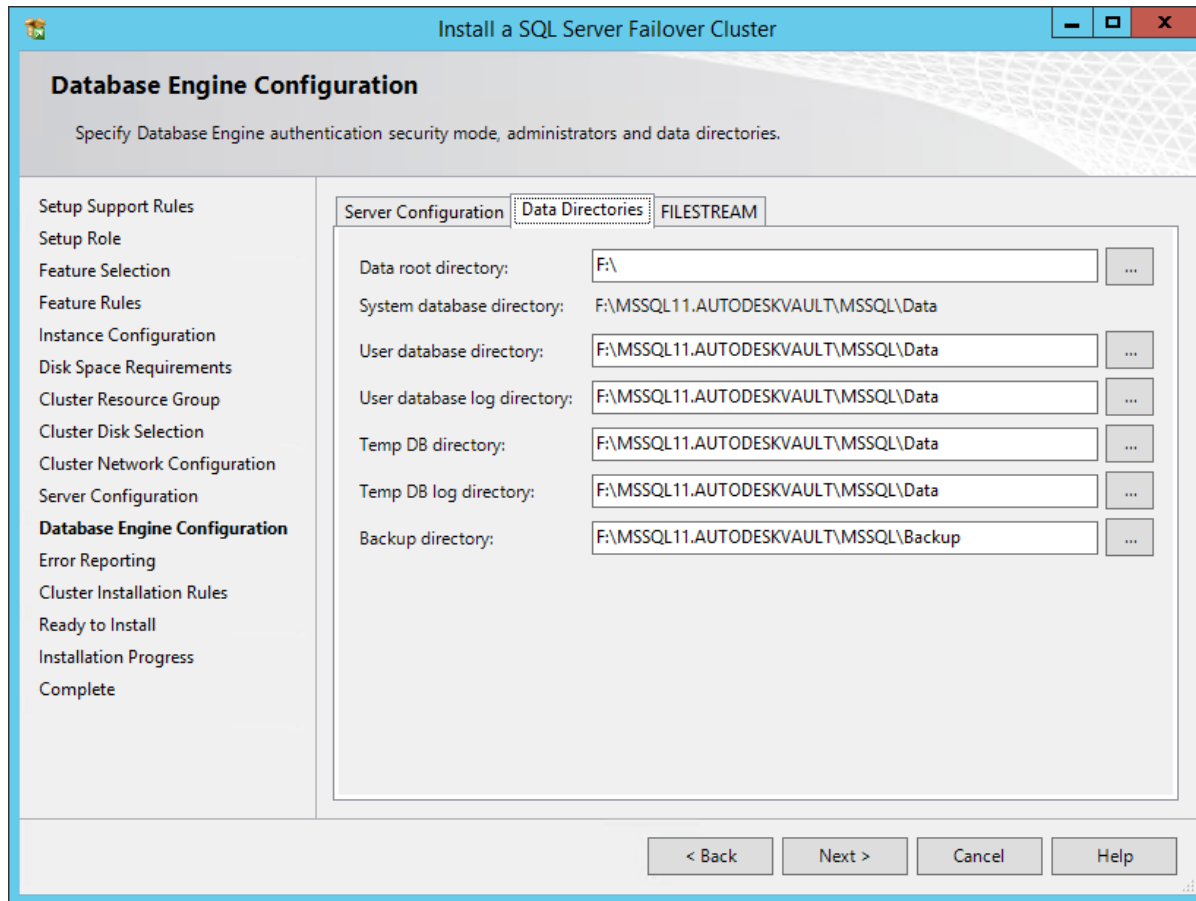
SQL Server administrators have unrestricted access to the Database Engine.

Add Current User Add... Remove

< Back Next > Cancel Help

## SQL Cluster Configuration for Autodesk Vault Server

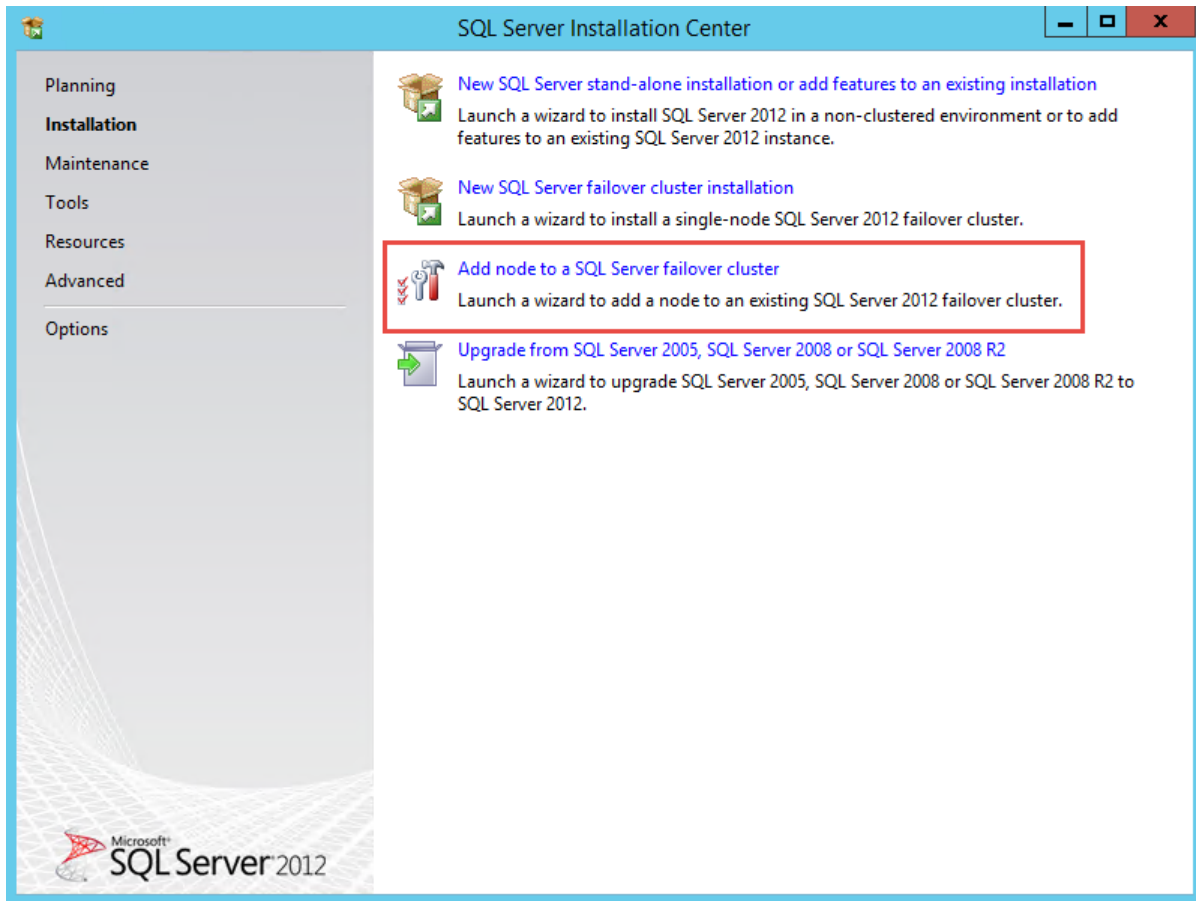
16. On the Data Directories tab, specify the location of the database files. Click **Next** to continue.



17. Continue through the remaining pages to complete the installation.

## Add a SQL Server Node

1. Insert the SQL Server installation media in the first SQL Server (**SQL1**), and from the root folder, double-click Setup.exe.



## SQL Cluster Configuration for Autodesk Vault Server

2. On the Cluster Node Configuration page, select the Cluster Network to join. Click **Next** to continue.

**Cluster Node Configuration**  
Add a node to an existing SQL Server failover cluster.

SQL Server instance name: AUTODESKVAULT

Name of this node: SQL2

Instance Name	Cluster Network Name	Features	Nodes
AUTODESKVA...	VLTSKCLS	SQLEngine, SQ...	SQL1

< Back   Next >   Cancel   Help

## SQL Cluster Configuration for Autodesk Vault Server

3. On the Cluster Network Configuration page, specify the network resources for your failover cluster instance: Network Settings — Specify the IP type and IP address for your failover cluster instance. Click **Next** to continue.

The screenshot shows a window titled "Add a Failover Cluster Node" with a sub-header "Cluster Network Configuration". A message states: "The current node that is being added does not require any additional or new IP addresses. The IP addresses and subnets shown are the previously configured settings for the SQL Server cluster, and cannot be modified. Review and click Next t...".

On the left is a navigation pane with the following items: Setup Support Rules, Cluster Node Configuration, **Cluster Network Configuration**, Service Accounts, Error Reporting, Add Node Rules, Ready to Add Node, Add Node Progress, Complete.

The main area is titled "Specify the network settings for this failover cluster:" and contains a table with the following data:

<input checked="" type="checkbox"/>	IP Type	DHCP	Address	Subnet Mask	Subnet(s)	Network
<input checked="" type="checkbox"/>	IPv4	<input type="checkbox"/>	10.0.0.210	255.255.255.0	10.0.0.0/24	Cluster Network 1

At the bottom right of the table area is a "Refresh" button. At the bottom of the window are four buttons: "< Back", "Next >", "Cancel", and "Help".

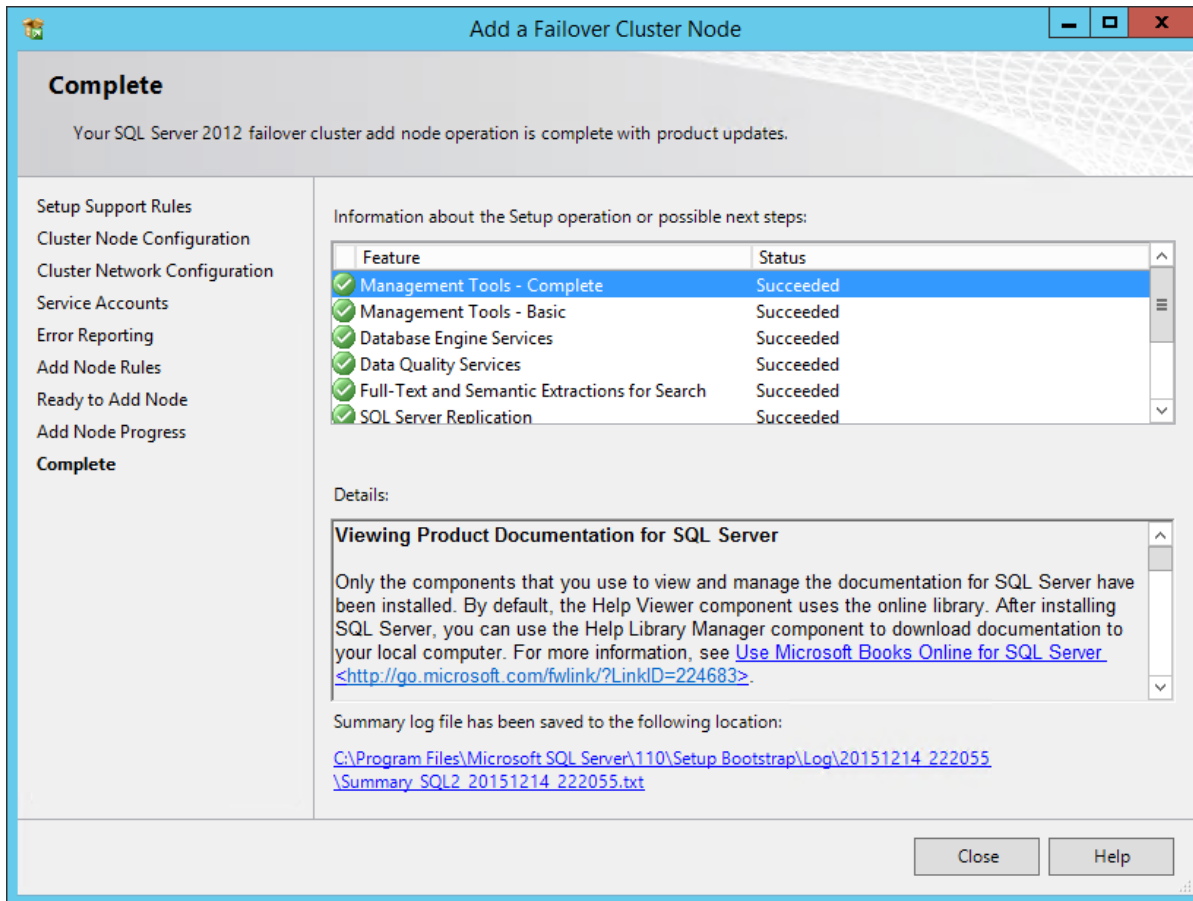
## SQL Cluster Configuration for Autodesk Vault Server

4. On the Server Configuration — Service Accounts page, specify login accounts for SQL Server services. If more information on configuring service accounts - see [Server Configuration - Service Accounts](#). Click **Next** to continue.

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Full-text Filter Daemon Launcher	NT Service\MSSQLFDLaun...		Manual
SQL Server Database Engine	ADSKVLT\VaultAdmin	●●●●●●●●	Manual
SQL Server Browser	NT AUTHORITY\LOCAL SE...		Automatic
SQL Server Agent	ADSKVLT\VaultAdmin	●●●●●●●●	Manual

- Continue to click **Next** to complete the installation.



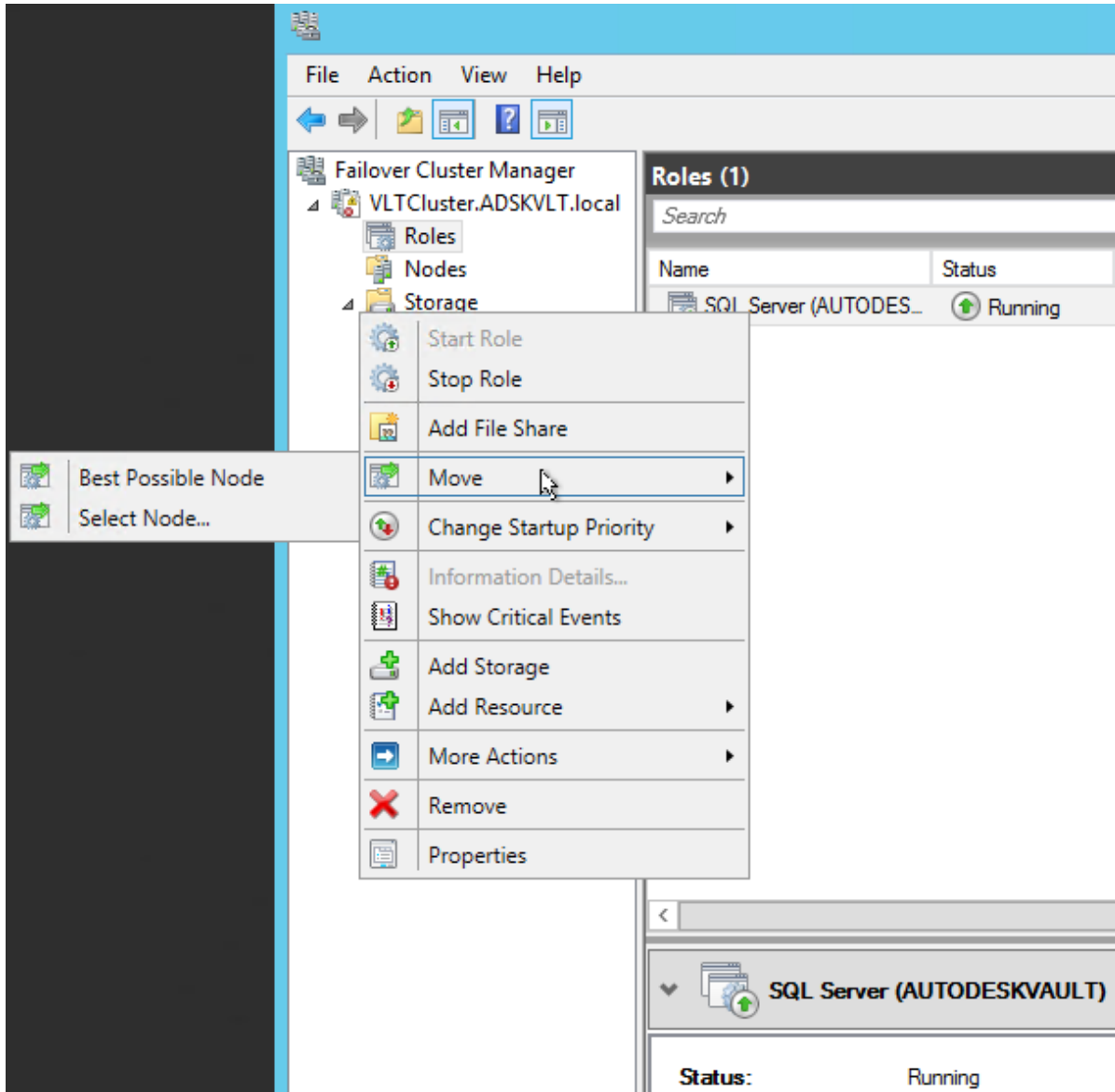
## Installing Autodesk Vault

- On a separate server on the network, insert the Vault Server and run the Setup.exe.
- On the Server Configuration page, configure the installation for a remote SQL server and enter the SQL Server Network Name of the Cluster.
- When using a remote SQL instance, a shared network folder is required as a transition area between the SQL instance and the Autodesk Data Management Server. The shared network folder can be located on the same computer as the SQL instance or a different computer and must be accessible by both the data management server and SQL. The space requirement for the shared folder is equal to the total of all database files. Choose a location with sufficient space and performance. Enter the UNC path to the shared network folder or click Browse to locate the shared folder on the network. Note: Both the user account under which the Autodesk Vault Server is running as well as the user account under which the SQL instance is operating need read/write access to the shared network folder.
- Complete the installation and start the Vault Server console to create a vault.



## Verify Failover

1. Launch the Failover Cluster Manager and select the **Roles** node.
2. Right-click on the **Roles** node and click **Move -> Select Node...**
3. Select the **SQL2** server or second node and wait for the failover to complete.
4. Launch the Vault Server console and verify that Vault is still functioning correctly.



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