

Microsoft System Center 2012 R2

Deploying System Center 2012 R2 Service Manager

Microsoft Corporation

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Applies To

System Center 2012 - Service Manager

System Center 2012 Service Pack 1 (SP1) - Service Manager

System Center 2012 R2 Service Manager

Feedback

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Revision History

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Deploying System Center 2012 - Service Manager

This guide helps you deploy System Center 2012 – Service Manager in one of several different scenarios. The scenarios range from a simple, one-computer scenario to a four-computer scenario that is designed to support production-type environments. In addition, this guide shows you how to register a Service Manager management group with the Service Manager data warehouse so that you can generate reports. You have the option of deploying the Self-Service Portal so you can provide access to Service Manager through a web browser. To improve performance and provide for redundancy, you can deploy additional secondary Service Manager management servers.



Note

It is assumed in this guide that you are installing Service Manager on a computer where no previous version of Service Manager is installed. For information about upgrading System Center 2012 – Service Manager, see the [Upgrade Guide for System Center 2012 – Service Manager](#).

This guide also describes how to find and read the Setup log if you encounter issues when you deploy Service Manager. And, finally, information about backing up Service Manager management server encryption keys is included. After you run Setup, the Encryption Key Backup and Restore Wizard starts automatically.

Deployment Guide Topics

- **Before You Deploy Service Manager**
Contains preliminary information you must consider before you can deploy Service Manager.
- [Turkish Language Collations](#)
Describes a potential problem with the installation of a Service Manager database that is not supported on a computer running SQL Server that uses a Turkish language collation.
- [Prerequisite Checker for System Center 2012 - Service Manager](#)
Describes the prerequisite checker that runs as a part of the setup procedure.
- [Deployment Scenarios for System Center 2012 - Service Manager](#)
Describes how to deploy Service Manager in one-server, two-server, and four-server topologies.
- [Guidance for Installing System Center 2012 - Service Manager on Virtual Machines](#)
Provides information that you have to consider when you install Service Manager in a Hyper-V virtual environment.
- **Registering with the Service Manager Data Warehouse to Enable Reporting**

Describes how to run the Data Warehouse Registration Wizard to register the Service Manager management group with the Service Manager data warehouse management server. Registering with the data warehouse makes it possible for you to run reports.

- **Deploying Additional Service Manager Management Servers**

Describes how to install additional Service Manager management servers to improve performance.

- [Deployment Considerations with a Disjoint Namespace](#)

Describes additional steps you must take when you deploy either an additional Service Manager management server or Self-Service Portal in an environment with a disjoint namespace.

- [Self-Service Portal for System Center 2012 - Service Manager](#)

Describes how to deploy and troubleshoot the Service Manager Self-Service Portal.

- [Guidance for Load Balancing System Center 2012 - Service Manager](#)

Describes how you can configure Windows Server 2008 Network Load Balancing with Service Manager.

- [Completing Deployment by Backing Up the Encryption Key](#)

Describes how to use the Encryption Key Backup or Restore Wizard to back up and restore encryption keys.

- [Indexing Non-English Knowledge Articles](#)

Describes how to resolve an indexing issue in SQL Server 2008 Service Pack 1 (SP1) in an environment where you create, or plan to create, knowledge articles in any language other than English.

- **Troubleshooting Service Manager Deployment Issues**

Describes the logs files that are created when you install Service Manager and how you can use these logs to troubleshoot deployment issues.

- **Deploying Service Manager from a Command Line**

Describes how to deploy Service Manager using command-line parameters.

- [Appendix A - Command-Line Option Error Codes](#)

Lists error codes used in command-line installation.

- [Appendix B - Guidance for Moving the Service Manager and Data Warehouse Databases](#)

Provides prescriptive and how-to guidance about moving Service Manager databases.

Other Resources for This Component

- TechNet Library main page for [System Center 2012 – Service Manager](#)
- [Planning Guide for System Center 2012 – Service Manager](#)
- [Deployment Guide for System Center 2012 – Service Manager](#)
- [Administrator’s Guide for System Center 2012 – Service Manager](#)
- [Operations Guide for System Center 2012 – Service Manager](#)

Downloadable Documentation

You can download a [copy of this technical documentation from the Microsoft Download Center](#). Always use the TechNet library for the most up-to-date information.

Before You Deploy System Center 2012 - Service Manager

Before you start the deployment process, prepare your environment for System Center 2012 – Service Manager, as described in the [Planning Guide for Service Manager for System Center 2012](#). The Planning Guide contains information about the various parts of Service Manager, the hardware and software requirements, the port assignments, and the information about the accounts you must use to deploy Service Manager. The Planning Guide also contains information about the accounts that you need to create for use with Service Manager.

In addition, you have to install the Authorization Manager hotfix and the Microsoft Report Viewer Redistributable security update before you start Service Manager deployment.

Install the Authorization Manager Hotfix (KB975332)

If the Service Manager management server, data warehouse management server, or the Self-Service Portal lose connection to the SQL Server databases—even briefly—the connection is not automatically re-established. The Windows team recently released a hotfix to address this issue. It is extremely important that this hotfix be installed on your computers that host a Service Manager management server, data warehouse management server, or the Self-Service Portal. For more information, see [How to Download and Install the Authorization Manager Hotfix](#).



Note

The Authorization Manager hotfix was included with Windows Server 2008 R2 with Service Pack 1 (SP1). If you are installing Service Manager on a computer running Windows Server 2008 R2 with SP1, you already have the Authorization Manager hotfix installed.

Install the Microsoft Report Viewer Redistributable Security Update (KB971119)

During installation of a Service Manager management server or Service Manager console, the prerequisite checker checks to see whether the security update for Microsoft Report Viewer 2008 Service Pack 1 Redistributable Package has been installed. If you have not installed this security update, you will have the opportunity to do so during the installation. As an alternative, you can deploy this security hotfix before starting the installation of Service Manager. For more information, see [How to Install the Microsoft Report Viewer Redistributable Security Update](#).

Before you deploy topics

- [How to Download and Install the Authorization Manager Hotfix](#)
Describes how to download and install the Authorization Manager hotfix.
- [How to Install the Microsoft Report Viewer Redistributable Security Update](#)
Describes how to install the Microsoft Report Viewer Redistributable Security Update.

How to Download and Install the Authorization Manager Hotfix

The Authorization Manager hotfix is included with Windows Server 2008 R2 with Service Pack 1 (SP1). Therefore, if you are using Windows Server 2008 R2 with SP1, you can disregard this topic.

You can obtain the Authorization Manager hotfix (KB975332) by connecting to a website and requesting an email containing download instructions. This hotfix is available for both 32-bit and 64-bit operating systems and for both the Windows Server 2008 with SP1 operating system and the Windows Server 2008 R2 operating system. The type of files that you are allowed to download is determined when you connect to the website to request an email. Therefore, you should connect to the website from the computer that hosts the Service Manager parts. Use the following steps to download and install the Authorization Manager hotfix.

Install this hotfix on computers that host the following Service Manager parts:

- Service Manager management server or servers
- Data warehouse management server
- Self-Service Portal



Note

The installation of this hotfix on the Service Manager and data warehouse management servers requires a computer restart.

► To download the Authorization Manager hotfix

1. On the computer that hosts the Service Manager management server or data warehouse management server, open a browser and connect to [article 975332](#) in the Microsoft Knowledge Base. Users and applications cannot access authorization rules that are stored in Authorization Manager.
2. On the knowledge base article page, click **View and request hotfix downloads**.
3. Read the **Agreement for Microsoft Services** terms and conditions, and if applicable, click **I Accept**.
4. On the **Hotfix Request** page, select the appropriate link based on your operating system, as shown in the following table.

Operating System	Web Page Link
Windows Server 2008 with SP1	Windows Vista

Windows Server 2008 R2	Windows 7/Windows Server 2008 R2
------------------------	----------------------------------

5. On the **Hotfix Request** page, enter your email address, type the characters in the CAPTCHA image, and then click **Request hotfix**.
6. In the email that you receive, you are provided with a URL. Click the URL to start the download and save the file to your computer.

▶ **To install the Authorization Manager hotfix**

1. Open Windows Explorer, locate the folder where you downloaded the hotfix, and then double-click the file to extract the hotfix files.
2. Double-click the file that you extracted.
3. In the **Windows Update Standalone Installer** dialog box, click **OK**.
4. On the **Installation complete** page, on the computers that host the Service Manager and data warehouse management servers, click **Restart Now**.

▶ **To verify the installation of the Authorization Manager hotfix**

1. On the Windows desktop, open the Control Panel.
2. In the **Control Panel** window, double-click **Programs and Features**.
3. In the **Programs and Features** window, in the **Tasks** area, click **View installed updates**.
4. Scroll through the list and locate **Microsoft Windows**, and then confirm that **Hotfix for Microsoft Windows (KB975332)** is listed.

How to Install the Microsoft Report Viewer Redistributable Security Update

You can use the following procedure to install the Microsoft Report Viewer Redistributable security update for a deployment of System Center 2012 – Service Manager.



Note

If your system is configured to use a language other than English, you must manually install the Report Viewer Language Pack for that language. You can download the [Microsoft Report Viewer Redistributable 2008 SP1 Language Pack](#) from the Microsoft Download Center.

▶ **To install the Microsoft Report Viewer Redistributable security update**

1. On the computer that will host a Service Manager management server, open Windows Explorer.
2. Locate the drive that contains the Service Manager installation media, and then open the Prerequisites folder

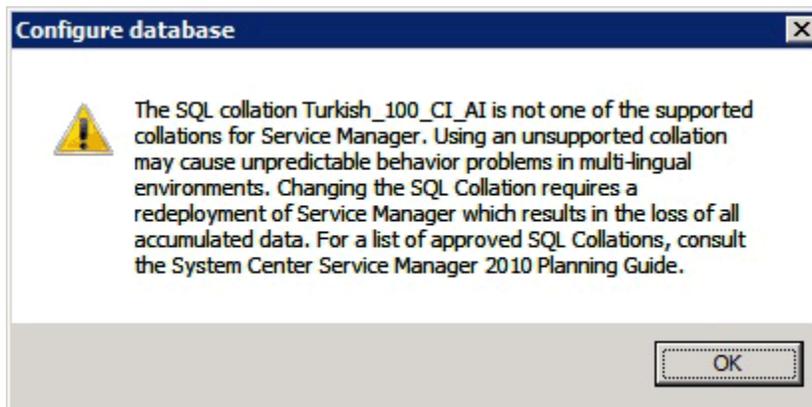
3. Double-click the **ReportViewer** file.
4. On the **Welcome to Microsoft Report Viewer Redistributable 2008 (KB971119) Setup** page, click **Next**.
5. On the **License Terms** page, read the Microsoft Software License Terms, and, if applicable, click **I have read and accept the license terms**, and then click **Install**.
6. On the **Setup Complete** page, click **Finish**.

Turkish Language Collations

This topic applies only if you are considering deploying a Service Manager database or data warehouse database to a SQL Server that has been configured to use a Turkish language collation.

For this release of System Center 2012 – Service Manager, the installation of a Service Manager database is not supported on a computer running SQL Server that uses a Turkish language collation. This is true for both the Service Manager and data warehouse databases. If you specify a computer running SQL Server that contains a Turkish language collation during the deployment of a Service Manager database, the following warning message appears.

Turkish language collation warning message



If you encounter this warning message during the deployment of any of the Service Manager databases, click **OK**. On the **Database Configuration** page, in the **Database server** box, type the name of a computer that is hosting an installation of SQL Server that is configured with a non-Turkish collation, and then press the TAB key. When **Default** appears in the **SQL Server instance** box, click **Next**.

For more information about the collations that are supported in System Center 2012 – Service Manager, see "Language Support for Service Manager for System Center 2012" in the [Planning Guide for System Center 2012 – Service Manager](#).

Prerequisite Checker for System Center 2012 - Service Manager

During installation, System Center 2012 – Service Manager Setup performs prerequisite checks for software and hardware requirements and returns one of the three following states:

- **Success:** Setup finds that all software and hardware requirements are met, and installation proceeds.
- **Warning:** Setup finds that all software requirements are met, but the computer does not meet minimum hardware requirements. Or, the requirements for optional software are missing. Installation proceeds.
- **Failure:** At least one software or hardware requirement is not met, and installation cannot proceed. An **Installation cannot continue** message appears.



Note

On the **Installation cannot continue** screen, there is no option to restart the prerequisite checker. You must click **Cancel** to restart the installation process. Make sure that the computer meets all hardware and software requirements before you run Setup again.

Deployment Scenarios for System Center 2012 - Service Manager

System Center 2012 – Service Manager provides for many deployment scenarios. However, remember that you cannot deploy a Service Manager management server and a data warehouse management server on the same computer. In fact, Setup prevents you from installing both on a single server. The reason has to do with Service Manager architecture of the data warehouse, overall performance, and usage of the Operations Manager health service. The data warehouse was designed for quick data retrieval and hosting both the Service Manager management server and the data warehouse management server on a single server will negatively impact performance for both. Additionally, a single server doesn't scale out as Service Manager usage and data storage grow.

You will also specify the server that hosts SQL Server Reporting Services (SSRS). Do not attempt to use the same SSRS instance for both Operations Manager and Service Manager.

This deployment guide describes the following three deployment scenarios: installing Service Manager on one computer, installing Service Manager on two computers, and installing Service Manager on four computers.



Note

The collation settings for Microsoft SQL Server must be the same for the computers that host the Service Manager database, the computers that host the data warehouse databases, and the computers that host the Reporting Services database. If you intend to import data from Operations Manager, then the database collations must match between Service Manager and Operations Manager.

While we do not recommend it (for performance reasons), if you want to host the Service Manager management server and the Self-Service Portal on the same computer, you must deploy the Service Manager management server before you deploy the Self-Service Portal.

Performing an upgrade from previous versions of Service Manager to Service Manager Community Technology Preview 1 (CTP1) is not supported. Furthermore, for this release, Service Manager setup installs files in predefined folders that might already exist if you have a previous version of Service Manager installed.

The user installing Service Manager has access to the Service Connection Point (SCP) object of Service Manager in the Active Directory. This SCP stores the information about the service. Client applications, such as Service Manager, can connect to services using the SCP. For more information about service connection points, see [Publishing Services in Active Directory](#).

Deployment Scenario Topics

- **Installing Service Manager on a Single Computer (Minimum Configuration)**
Describes how to install Service Manager on a single computer. This scenario requires you to use a virtual machine for the data warehouse management server. This scenario is useful for evaluation purposes.
- **Installing Service Manager on Two Computers**
Describes how to install Service Manager on two computers. This scenario is useful for testing Service Manager in a lab environment.
- **Installing Service Manager on Four Computers**
Describes how to install Service Manager on four computers. This scenario is useful in a production environment, and it maximizes performance and scalability.
- [Manual Steps to Configure the Remote SQL Server Reporting Services](#)
Describes how to manually configure SSRS in situations where SSRS is not on the same server as the data warehouse management server.
- [Manual Steps to Prepare Upgraded SQL Server](#)
Describes how to manually configure an upgraded version of SQL Server 2012 to enable SQL Server Reporting Services.
- [How to Create and Deploy Server Images of Service Manager](#)
Describes how to create and deploy server images of Service Manager.

Other Resources for This Component

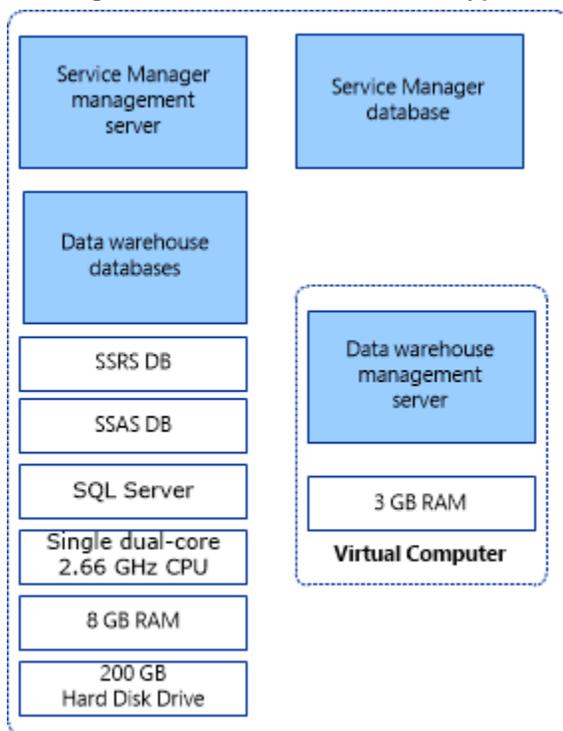
- TechNet Library main page for [System Center 2012 – Service Manager](#)
- [Operations Guide for System Center 2012 – Service Manager](#)
- [Administrator's Guide for System Center 2012 – Service Manager](#)
- [Planning Guide for System Center 2012 – Service Manager](#)

Installing Service Manager on a Single Computer (Minimum Configuration)

If you want to evaluate System Center 2012 – Service Manager and you have a minimal amount of hardware available, install Service Manager on one computer. A sample single-computer configuration is shown in figure 1. This configuration will not support a production environment, and no scalability or performance estimates are provided. Because you cannot install both the Service Manager management server and the data warehouse management server on the same computer, use Hyper-V to create a virtual computer to host the data warehouse management server. For more information about the hardware requirements for Hyper-V, see [Hyper-V Server 2008 R2 system requirements](#).

To install Service Manager on a single computer, start with a physical computer that is running Windows Server 2008 and Hyper-V, and make sure that the CPU on the physical computer is compatible with Hyper-V. Of the 8 gigabytes (GB) of RAM on the host computer, 3 GB is used for the virtual computer that hosts the data warehouse management server. Make sure that at least 200 GB of free space is available on the hard disk drive.

Figure 1: Single-computer installation in which you use a physical computer that is running Windows Server 2008 and Hyper-V



If your organization's best practice guidelines do not allow you to install applications on a Hyper-V host, you can create a second virtual computer to host the Service Manager management server, the Service Manager database, and the data warehouse databases. Use the following procedures to install Service Manager on a single computer.

Installing Service Manager on a single computer topics

- [How to Install Service Manager on a Single Computer](#)
Describes how to install Service Manager on a single computer.
- [How to Validate the Single-Computer Installation](#)
Describes how to validate the installation.

Other resources for this component

- TechNet Library main page for [System Center 2012 – Service Manager](#)
- [Operations Guide for System Center 2012 – Service Manager](#)
- [Administrator's Guide for System Center 2012 – Service Manager](#)
- [Planning Guide for System Center 2012 – Service Manager](#)

How to Install Service Manager on a Single Computer

To install System Center 2012 – Service Manager on a single computer, you install the Service Manager management server, database, and console on the computer. Then, you install the data warehouse on a virtual machine on the same computer.

During Setup, you will be prompted to provide credentials for the following accounts:

- Management group administrator
- Service Manager account
- Workflow account

For more information about the permissions that these accounts require, see "Accounts Required During Setup" in the [Planning Guide for System Center 2012 – Service Manager](#). Before you start, make sure that Microsoft SQL Server 2008 is installed on the computer.

▶ To install the Service Manager management server, database, and console

1. Log on to the physical computer by using an account that has administrative credentials.
2. On the Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Microsoft System Center 2012** page, click **Service Manager management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key that you received with Service Manager, or alternatively, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location in which the Service Manager management server will be installed.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.

If the prerequisite checker determines that the Microsoft Report Viewer Redistributable

has not been installed, click **Install Microsoft Report Viewer Redistributable**. After the Microsoft Report Viewer Redistributable 2008 (KB971119) Setup Wizard completes, click **Check prerequisites again**.

7. On the **Configure the Service Manager database** page, Service Manager checks the current computer to see if an instance of SQL Server exists. By default, if an instance is found, Service Manager creates a new database in the existing instance. If an instance is displayed, click **Next**.

 **Important**

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to reinstall SQL Server. See “Microsoft SQL Server 2008 with SP1” in the [Planning Guide for System Center 2012 – Service Manager](#).

8. On the **Configure the Service Manager management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the management group.

 **Important**

Management group names must be unique. Do not use the same management group name when you deploy a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for Operations Manager.

- b. Click **Browse**, enter the user account or group to which you want to give Service Manager administrative credentials, and then click **Next**.
9. On the **Configure the account for Service Manager services** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
10. On the **Configure the Service Manager workflow account** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
11. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
12. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
13. On the **Installation summary** page, click **Install**.

14. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

► **To install the data warehouse**

1. Log on to the virtual machine by using an account that has administrative credentials.
2. On the Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Microsoft System Center 2012** page, click **Service Manager data warehouse management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location in which the Service Manager data warehouse management server will be installed.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
7. On the **Configure data warehouse databases** page, in the **Database server** box, type the computer name of the physical computer that will host the data warehouse databases, and then press the TAB key. When **Default** is displayed in the **SQL Server instance** box, click **Next**.

 **Important**

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to reinstall SQL Server. For more information, see “Microsoft SQL Server 2008 with SP1” in the [Planning Guide for System Center 2012 – Service Manager](#).

8. On the **Configure additional data warehouse datamarts** page, Service Manager will check the current computer to see if an instance of SQL Server exists. By default, if an instance is found, Service Manager creates a new database in the existing instance. If an instance appears, click **Next**.
9. On the **Configure the data warehouse management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the group.

 **Important**

Management group names must be unique. Do not use the same management group name when you deploy a Service Manager management

server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for Operations Manager.

- b. Click **Browse**, enter the user account or group to which you want to give Service Manager administrative credentials, and then click **Next**.
10. On the **Configure the reporting server for the data warehouse** page, Service Manager will use the existing computer if SQL Server Reporting Services (SSRS) is present. Accept the defaults, and then click **Next**.



Note

The URL that you are presented with might not be in the form of a fully qualified domain name (FQDN). If the URL as presented cannot be resolved in your environment, configure SQL Server Reporting URLs so that the FQDN is listed in the **Web service URL** field. For more information, see [How to: Configure a URL \(Reporting Services Configuration\)](#).

11. On the **Configure the account for Service Manager services** page, select a domain account; click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
12. On the **Configure the reporting account** page, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
13. On the **Configure Analysis Service for OLAP cubes** page, click **Next**.
14. On the **Configure Analysis Services credential** page, select a domain account; click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.



Note

The account that you specify here must have administrator rights on the computer that hosts SSRS.

15. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
16. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. Select **Initiate machine wide Automatic update** if you want Windows Update to check for updates. Click **Next**.
17. On the **Installation summary** page, click **Install**.
18. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

How to Validate the Single-Computer Installation

You can use the following procedures to validate the single-computer installation of System Center 2012 – Service Manager.

▶ To validate the Service Manager management server installation

1. On the physical computer that hosts the Service Manager management server, verify that the Program Files\Microsoft System Center 2012\Service Manager\ folder exists.
2. Run **services.msc**, and then verify that the following services are installed, that they have a status of **Started**, and that the startup type is **Automatic**:
 - **System Center Data Access Service**
 - **System Center Management**
 - **System Center Management Configuration**

▶ To validate the Service Manager console installation

1. On the physical computer, click **Start**, click **All Programs**, click **Microsoft System Center**, and then click **Service Manager Console**.
2. The first time that you run the Service Manager console, the **Connect to Service Manager Server** dialog box appears. In the **Server name** box, enter the computer name of the server that hosts the Service Manager management server.
3. The Service Manager console successfully connects to the Service Manager management server and starts.

▶ To validate the data warehouse management server installation

- On the virtual machine, run **services.msc**, and verify that the following services are installed:
 - **System Center Data Access Service**
 - **System Center Management**
 - **System Center Management Configuration**

▶ To validate the Service Manager database

1. On the physical computer, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, follow these steps:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the name of the computer that hosts the Service Manager database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.

3. In the **Object Explorer** pane, expand **Databases**.
4. Verify that the **ServiceManager** database is listed.
5. Exit Microsoft SQL Server Management Studio.

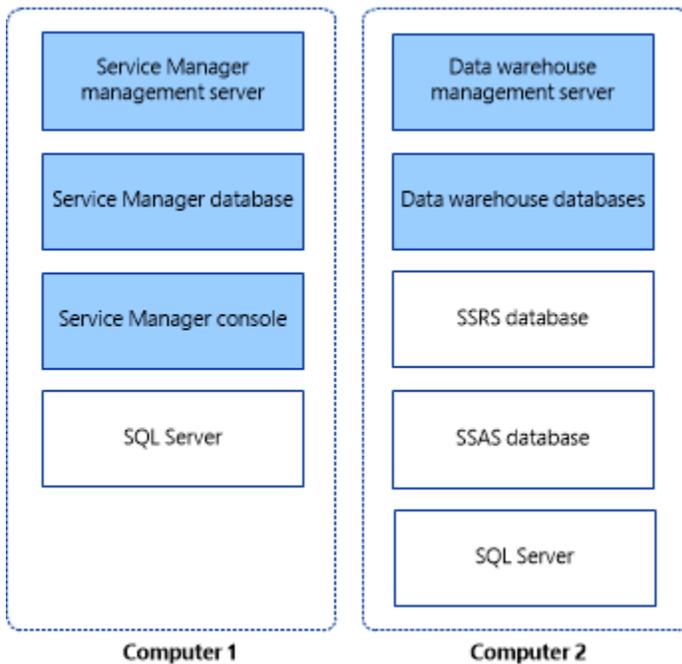
▶ **To validate the data warehouse installation**

1. On the physical computer that hosts the data warehouse databases, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, complete these steps:
 - a. In the **Server Name** list, type the computer name of the computer hosting Service Manager data warehouse databases. For this example, type **localhost**.
 - b. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Verify that the **DWDDataMart**, **DWRRepository**, and **DWStagingAndConfig** databases are listed.
5. In the **Object Explorer** pane, click **Connect**, and then click **Analysis Services**.
6. In the **Server Name** list, type the computer name for the computer hosting the Service Manager data warehouse database. In this example, type **localhost**.
7. In the **Object Explorer** pane, expand the new entry for Analysis Services, and then expand **Databases**.
8. Verify that the **DWASDataBase** database is listed.
9. Exit Microsoft SQL Server Management Studio.

Installing Service Manager on Two Computers

If you want to evaluate System Center 2012 – Service Manager and its reporting capabilities in a lab environment, we recommend that you install the Service Manager management server and data warehouse management server on two computers. The first computer hosts the Service Manager management server and the Service Manager database. The second computer hosts the data warehouse management server and the data warehouse databases. This deployment topology is shown in figure 2.

Figure 2: An installation on two physical computers



Important

For this release, Service Manager does not support case-sensitive instance names. Setup will display a warning if you attempt to install Service Manager on a case-sensitive instance of Microsoft SQL Server.

Installing Service Manager on two computers

- [How to Install the Service Manager Management Server \(Two-Computer Scenario\)](#)
Describes how to install the Service Manager management server, Service Manager database, and Service Manager console.
- [How to Install the Service Manager Data Warehouse \(Two-Computer Scenario\)](#)
Describes how to install the data warehouse management server and the data warehouse database.
- [How to Validate the Two-Computer Installation](#)
Describes how to validate the installation.

How to Install the Service Manager Management Server (Two-Computer Scenario)

As the first step in the two-computer installation process, install the Service Manager management server, the Service Manager database, and the Service Manager console on one of the two computers.

During setup, you will be prompted to provide credentials for the following accounts:

- Management group administrator

- Service Manager services account
- Service Manager workflow account

For more information about the permissions that these accounts require, see "Accounts Required During Setup" in the [Planning Guide for System Center 2012 - Service Manager](#).

► **To install the Service Manager management server, Service Manager database, and console**

1. Log on to the computer that will host the Service Manager management server by using an account that has administrative rights.
2. On the Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Service Manager Setup Wizard** page, click **Service Manager management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key that you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location in which the Service Manager management server will be installed.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.

If the prerequisite checker determines that the Microsoft Report Viewer Redistributable has not been installed, click **Install Microsoft Report Viewer Redistributable**. After the Microsoft Report Viewer Redistributable 2008 (KB971119) Setup Wizard completes, click **Check prerequisites again**.

7. On the **Configure the Service Manager database** page, Service Manager will check the current computer to see if an instance of SQL Server exists. By default, if an instance is found, Service Manager creates a new database in the existing instance. If an instance appears, click **Next**.

 **Important**

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to reinstall SQL Server. See "Microsoft SQL Server 2008 with SP1" in the [Planning Guide for System Center 2012 - Service Manager](#).

8. On the **Configure the Service Manager management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the management group.



Important

Management group names must be unique. Do not use the same management group name when you deploy a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for Operations Manager.

- b. Click **Browse**, enter the user account or group to which you want to give Service Manager administrative rights, and then click **Next**.
9. On the **Configure the account for Service Manager services** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a "The credentials were accepted" message, click **Next**.
10. On the **Configure the Service Manager workflow account** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a "The credentials were accepted" message, click **Next**.
11. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
12. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
13. On the **Installation summary** page, click **Install**.
14. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

How to Install the Service Manager Data Warehouse (Two-Computer Scenario)

As the second step in the two-computer installation process for System Center 2012 – Service Manager, deploy the data warehouse management server and the data warehouse databases on the second computer. During Setup, you will be prompted to provide credentials for the following accounts:

- Management group administrator
- Service Manager services account
- Reporting account

For more information about the permissions that these accounts require, see "Accounts Required During Setup" in the [Planning Guide for System Center 2012 - Service Manager](#). Before you

start, make sure that Microsoft SQL Server Reporting Services (SSRS) is installed in the default instance of Microsoft SQL Server.

▶ **To install a data warehouse management server and data warehouse databases**

- Log on to the computer by using an account that has administrative rights.
- On the Service Manager installation media, double-click the **Setup.exe** file.
- On the **Service Manager Setup Wizard** page, click **Service Manager data warehouse management server**.
- On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key that you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
- On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location in which the Service Manager data warehouse management server will be installed.
- On the **System check results** page, make sure that prerequisites passed or at least passed with warnings, and then click **Next**.
- On the **Configure data warehouse databases** page, Service Manager checks the computer you are using to see if it can host the data warehouse databases. For this configuration, confirm that the database server is the computer on which you are installing the data warehouse management server, and then click **Next**.

 **Important**

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to re-install SQL Server. See “Microsoft SQL Server 2008 with SP1” in the [Planning Guide for System Center 2012 - Service Manager](#).

- On the **Configure additional data warehouse datamarts** page, Service Manager checks the current computer to see if an instance of SQL Server exists. By default, if an instance is found, Service Manager creates a new database in the existing instance. If an instance appears, click **Next**.
- On the **Configure the data warehouse management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the group.

 **Important**

Management group names must be unique. Do not use the same management group name when you deploy a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for

Operations Manager.

- b. Click **Browse**, enter the user account or group to which you want to give Service Manager administrative rights, and then click **Next**.
- On the **Configure the reporting server for the data warehouse** page, Service Manager will use the existing computer if SQL Server Reporting Services is present. Accept the defaults, and then click **Next**.



Note

The URL that you are presented with might not be in the form of a fully qualified domain name (FQDN). If the URL as presented cannot be resolved in your environment, configure SQL Server Reporting URLs so that the FQDN is listed in the **Web service URL** field. For more information see [How to: Configure a URL \(Reporting Services Configuration\)](#).

- On the **Configure the account for Service Manager services** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
- On the **Configure the reporting account** page, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
- On the **Configure Analysis Service for OLAP cubes** page, click **Next**.
- On the **Configure Analysis Services credential** page, select a domain account; click **Domain account** specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.



Note

The account that you specify here must have administrator rights on the computer hosting SSRS.

- On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
- On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
- On the **Installation summary** page, click **Install**.
- On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

How to Validate the Two-Computer Installation

You can use the following procedures to validate the two-computer installation of System Center 2012 – Service Manager. In these procedures, the *first computer* is the computer on which you installed the Service Manager management server, the Service Manager database, and Service Manager console. The *second computer* is the computer that hosts the data warehouse management server and the data warehouse databases.

▶ To validate the Service Manager management server installation

- On the first computer, verify that the Program Files\Microsoft System Center\Service Manager 2012 folder exists.
- Run **services.msc**, and then verify that the following services are installed, that they have a status of **Started**, and that the startup type is **Automatic**:
 - System Center Data Access Service
 - System Center Management
 - System Center Management Configuration

▶ To validate the Service Manager console installation

1. On the first computer, click **Start**, click **All Programs**, click **Microsoft System Center**, and then click **Service Manager Console**.
2. The first time that you run the Service Manager console, the **Connect to Service Manager Server** dialog box appears. In the **Server name** box, enter the computer name of the server that hosts the Service Manager management server.
3. The Service Manager console successfully connects to the Service Manager management server.

▶ To validate the data warehouse management server installation

- On the second computer, run **services.msc**, and verify that the following services are installed:
 - System Center Data Access Service
 - System Center Management
 - System Center Management Configuration

▶ To validate the Service Manager database

1. On the first computer, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, complete these steps:
 - a. In the **Server Name** list, type the computer name for the computer that hosts the Service Manager database. In this example, type **localhost**.
 - b. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.

4. Verify that the **ServiceManager** database is listed.
5. Exit Microsoft SQL Server Management Studio.

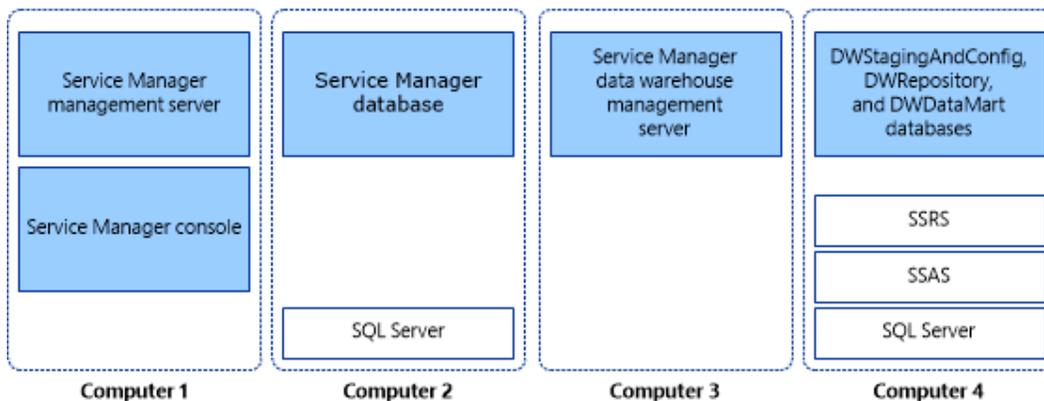
▶ **To validate the data warehouse installation**

1. On the second computer, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, complete these steps:
 - a. In the **Server Name** list, type the computer name for the computer that hosts the Service Manager data warehouse database. In this example, type **localhost**.
 - b. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Verify that the **DWDDataMart**, **DWRRepository**, and **DWStagingAndConfig** databases are listed.
5. In the **Object Explorer** pane, click **Connect**, and then click **Analysis Services**.
6. In the **Server Name** list, type the computer name for the computer hosting the Service Manager data warehouse database. In this example, type **localhost**.
7. In the **Object Explorer** pane, expand the new entry for Analysis Services, and then expand **Databases**.
8. Verify that the **DWASDataBase** database is listed.
9. Exit Microsoft SQL Server Management Studio.

Installing Service Manager on Four Computers

When you are ready to move System Center 2012 – Service Manager into a production environment, or if you want to maximize performance and scalability, you can consider an installation topology in which each part of the Service Manager installation resides on its own computer. This topology requires the use of four computers, as shown in figure 3.

Figure 3: Four-computer topology



In this deployment scenario, you install Microsoft SQL Server only on the computers that hosts databases (computers 2 and 4). You install SQL Server Reporting Services (SSRS) and SQL Server Analysis Services (SSAS) on the computer that hosts the data warehouse databases (computer 4).

Installing Service Manager on four computers

- [How to Install the Service Manager Management Server \(Four-Computer Scenario\)](#)
Describes how to install the Service Manager management server and Service Manager database.
- [How to Install the Service Manager Data Warehouse \(Four-Computer Scenario\)](#)
Describes how to install the data warehouse management server and data warehouse databases.
- [How to Validate the Four-Computer Installation](#)
Describes how to validate the installation of Service Manager and the configuration of SSRS.



Important

For this release, Service Manager does not support case-sensitive instance names. Setup will display a warning if you attempt to install Service Manager on a case-sensitive instance of Microsoft SQL Server.

How to Install the Service Manager Management Server (Four-Computer Scenario)

The following procedure describes how to install the System Center 2012 – Service Manager management server, the Service Manager database, the data warehouse management server, data warehouse databases, and the Service Manager console in a four-computer topology. You start the deployment process by installing the Service Manager management server and the Service Manager console on one computer and the Service Manager database on a second computer. Before you start, make sure that Microsoft SQL Server 2008 is installed on the computer that will host the Service Manager database.

During Setup, you will be prompted to provide credentials for the following accounts:

- Management group administrator
- Service Manager services account
- Service Manager workflow account

For more information about the permissions that these accounts require, see "Accounts Required During Setup" in the [Planning Guide for System Center 2012 - Service Manager](#).

▶ To install the Service Manager management server, Service Manager database, and console

1. Log on to the computer that will host the Service Manager management server by using an account that has administrative rights.
2. On the System Center Service Manager installation media, double-click the **Setup.exe**

file.

3. On the **Service Manager Setup Wizard** page, click **Service Manager management server**.
4. On the **Product registration** page, in the **Product key** boxes, type the product key that you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available. If necessary, click **Browse** to change the location of where the Service Manager management server will be installed. Click **Next**.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings.

If the prerequisite checker determines that the Microsoft Report Viewer Redistributable has not been installed, click **Install Microsoft Report Viewer Redistributable**. After the Microsoft Report Viewer Redistributable 2008 (KB971119) Setup Wizard completes, click **Check prerequisites again**. Click **Next**.

7. On the **Configure the Service Manager database** page, in the **Database server** field, type the name of the computer that will host the Service Manager database, and press the TAB key. Ensure that **SQL Server instance** box is set to the desired SQL Server instance and that **Create a new database** is selected, and then click **Next**. For example, type **Computer 2** in the **Database server** box.

 **Important**

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to reinstall SQL Server. See "Microsoft SQL Server 2008 with SP1" in the [Planning Guide for Service Manager for System Center 2012](#).

8. On the **Configure the Service Manager management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the group name.

 **Important**

Management group names must be unique. Do not use the same management group name even when you are deploying a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for Operations Manager.

- b. In the **Management group administrators** areas, click **Browse**, enter the user or group that you want to be the Service Manager administrator, and then click **Next**. For example, select the group Woodgrove\SM_Admins.
9. On the **Configure the account for Service Manager services** page, click **Domain**

- account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
10. On the **Configure the Service Manager workflow account** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a “The credentials were accepted” message, click **Next**.
 11. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
 12. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
 13. On the **Installation summary** page, click **Install**.
 14. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

How to Install the Service Manager Data Warehouse (Four-Computer Scenario)

To start deployment of the System Center 2012 – Service Manager data warehouse and data warehouse databases, install the data warehouse management server on one computer (for example, computer 3), and all of the data warehouse databases on another computer (for example, computer 4).

During Setup, you will be prompted to provide credentials for the following accounts:

- Management group administrator
- Service Manager services account
- Reporting account
- Analysis Services account

For more information about the permissions that these accounts require, see "Accounts Required During Setup" in the [Planning Guide for Service Manager for System Center 2012](#).

The data warehouse databases include the following three databases: DWStagingAndConfig, DWRepository, and DWDataMart. The first two databases, DWStagingAndConfig and DWRepository, must reside on the same instance of Microsoft SQL Server. The DWDataMart database can reside on a separate instance of SQL Server. The optional OMDWDataMart and CMDWDataMart databases can reside together or separately on their own instances of Microsoft SQL Server.

► **To install a data warehouse management server**

1. Because, in this scenario, the computer that hosts SQL Server Reporting Services (SSRS) is not the same computer that hosts the data warehouse management server, you have to prepare the computer that will remotely host SSRS for Service Manager. See [Manual Steps to Configure the Remote SQL Server Reporting Services](#) before continuing with this procedure.
2. Log on to the computer that will host the data warehouse management server by using an account that has administrator rights. For example, run Setup on Computer 3.
3. On the System Center Service Manager installation media, double-click the **Setup.exe** file.
4. On the **Service Manager Setup Wizard** page, click **Service Manager data warehouse management server**.
5. On the **Product registration** page, in the **Product key** boxes, type the product key that you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
6. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location where the Service Manager management server will be installed.
7. On the **System check results** page, verify that prerequisites passed or at least passed with warnings, and then click **Next**.
8. On the **Configure the data warehouse databases** page, click **Staging and Configuration**. In the **Database server** box, type the computer name of the computer that will host the two data warehouse databases. For example, type **Computer 4**, and then press the TAB key. Verify that **Default** appears in the **SQL Server instance** box.



Important

A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages using a different collation, you have to reinstall SQL Server. See “Microsoft SQL Server 2008 with SP1” in the [Planning Guide for System Center 2012 – Service Manager](#).

9. In the list of the three databases, select **Data Mart**. In the **Database server** box, type the computer name of the server that will host the Data Mart database. For example, type **Computer 4**, and then press the TAB key. When **Default** appears in the **SQL Server instance** box, click **Next**.
10. On the **Configure additional data warehouse datamarts** page, complete these steps:
 - a. Click **OM Data mart**. In the **Database server** box, type the computer name of the computer that will host the Operations Manager data mart database. For example, type **Computer 4**, and then press the TAB key.

- b. Click **CM Data mart**. In the **Database server** box, type the computer name of the computer that will host the CM data mart database. For example, type **Computer 4**, and then press the TAB key.
 - c. Click **Next**.
11. On the **Configure the data warehouse management group** page, complete these steps:
 - a. In the **Management group name** box, type a unique name for the group name.

**Caution**

Management group names must be unique. Do not use the same management group name even when deploying a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for Operations Manager. All data warehouse management group names have the prefix DW_.

- b. Click **Browse**, enter the user or group that you want to be the Service Manager administrator, and then click **Next**.

**Note**

The group Domain\Administrators is not allowed as a management group administrator.

12. On the **Configure the reporting server for the data warehouse** page, follow these steps:
 - a. In the **Report server** box, enter the name of the computer that will host the reporting server. In this example, this will be the computer that hosts the data warehouse database, enter **Computer 4**, and then press the TAB key.

**Note**

The URL that you are presented with might not be in the form of a fully qualified domain name (FQDN). If the URL as presented cannot be resolved in your environment, you will need to configure SQL Server Reporting URLs so that the FQDN is listed in the **Web service URL** field. For more information see the TechNet article [Configure a URL](http://go.microsoft.com/fwlink/p/?LinkId=230712) (<http://go.microsoft.com/fwlink/p/?LinkId=230712>).

- b. Verify that **Default** is displayed in the **Report server instance** box.
 - c. Because you followed the procedure “Manual Steps to Configure the Remote SQL Server Reporting Services” in the [Deployment Guide for System Center 2012 – Service Manager](http://go.microsoft.com/fwlink/p/?LinkId=209670) (<http://go.microsoft.com/fwlink/p/?LinkId=209670>), select the **I have taken the manual steps to configure the remote SQL Server Reporting Services as described in the Service Manager Deployment Guide** check box, and then click **Next**.
13. On the **Configure the account for Service Manager services** page, click **Domain account**, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a **The credentials were accepted** message, click

Next.

For example, enter the account information for the domain user SM_Acct.

14. On the **Configure the reporting account** page, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a **The credentials were accepted** message, click **Next**.
15. On the **Configure Analysis Service for OLAP cubes** page, in the **Database server** box, type the computer name of the server that will host the Analysis Services database, and then press the TAB key. When **Default** appears in the **SQL Server instance** box, click **Next**. For example, type **Computer 4** in the **Database server** box.



Warning

If you are installing SQL Server Analysis Services on a computer other than the computer hosting the data warehouse management server and there is a firewall in your environment, you must make sure that the proper firewall ports are opened. For more information, see the topic Port Assignments for Service Manager 2012 in the [Planning Guide for System Center 2012 – Service Manager](#).

16. On the **Configure Analysis Services credential** page, select a domain account, click **Domain account**, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a **The credentials were accepted** message, click **Next**.



Note

The account you specify here must have administrator rights on the computer hosting SQL Server Analysis Services.

17. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. Optionally, click **Tell me more about the program**, and then click **Next**.
18. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. Select **Initiate machine wide Automatic update** if you want Windows Update to check for updates. Click **Next**.
19. On the **Installation summary** page, click **Install**.
20. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

How to Validate the Four-Computer Installation

The procedures in this topic describe how to validate the four-computer installation of System Center 2012 – Service Manager.

Step 1: Validate the Installation of the Management Server and Database

▶ To validate a Service Manager management server installation

1. On the computer hosting the Service Manager management server, verify that a Program Files\Microsoft System Center 2012\Service Manager folder exists.
2. Run **services.msc**, and then verify that the following services are installed, that they have the status of **Started**, and that the startup type is **Automatic**:
 - System Center Data Access Service
 - System Center Management
 - System Center Management Configuration

▶ To validate the Service Manager console installation

1. On the first computer, click **Start**, click **All Programs**, click **Microsoft System Center**, and then click **Service Manager Console**.
2. The first time that you run the Service Manager console, the **Connect to Service Manager Server** dialog box appears. In the **Server name** box, enter the computer name of the server that is hosting the Service Manager management server.
3. The Service Manager console successfully connects to the Service Manager management server.

▶ To validate the Service Manager database

1. On the computer hosting the Service Manager database, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, select the following:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server name for your Service Manager database. For example, select **Computer 2**.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Verify that the **ServiceManager** database is listed.
5. Exit **Microsoft SQL Server Management Studio**.

Step 2: Validate the Installation of the Data Warehouse Management Server and Database

▶ To validate a data warehouse management server installation

- On the computer hosting the data warehouse management server (the server you ran Setup on), run **services.msc**, and verify that the following services have been installed:
 - System Center Data Access Service
 - System Center Management
 - System Center Management Configuration

► **To validate data warehouse databases**

1. On the computer hosting the data warehouse management databases, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, select the following:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server and instance for your Service Manager data warehouse database. For example, select **Computer 4**.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Verify that the **DWStagingAndConfig** and **DWRepository** databases are listed.
5. On the computer hosting SQL Server Reporting Services (SSRS), click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
6. In the **Connect to Server** dialog box, select the following:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server and instance for your Service Manager data warehouse database. For example, select **Computer 4**.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
7. In the **Object Explorer** pane, expand **Databases**.
8. Verify that the **DWDDataMart** database is listed.
9. In the **Object Explorer** pane, click **Connect**, and then click **Analysis Services**.
10. In the **Server Name** list, type the computer name for the computer hosting the Service Manager data warehouse database. In this example, type **localhost**.
11. In the **Object Explorer** pane, expand the new entry for Analysis Services, and then expand **Databases**.
12. Verify that the **DWASDataBase** database is listed.
13. Exit Microsoft SQL Server Management Studio.

Manual Steps to Configure the Remote SQL Server Reporting Services

During deployment of the Service Manager data warehouse management server, you can specify the server to which Microsoft SQL Server Reporting Services (SSRS) will be deployed. During setup, the computer that is hosting the data warehouse management server is selected by default. If you specify a different computer to host SSRS, you are prompted to follow this procedure to prepare the server. Preparing the remote computer to host SSRS involves the following steps, which are covered in detail in this section:

- Copy Microsoft.EnterpriseManagement.Reporting.Code.dll from the Service Manager installation media to the computer that is hosting SSRS.
- Add a code segment to the rssrvpolicy configuration file on the computer that is hosting SSRS.
- Add an Extension tag to the existing Data segment in the rsreportserver configuration file on the same computer.

If you used the default instance of SQL Server, use Windows Explorer to drag Microsoft.EnterpriseManagement.Reporting.Code.dll (which is located in the Prerequisites folder on your Service Manager installation media) to the folder \Program Files\Microsoft SQL Server\MSRS10.MSSQLSERVER\Reporting Services\ReportServer\Bin on the computer that is hosting SSRS. If you did not use the default instance of SQL Server, the path of the required folder is \Program Files\Microsoft SQL Server\MSRS10.<INSTANCE_NAME>\Reporting Services\ReportServer\Bin. In the following procedure, the default instance name is used.

▶ To copy the Microsoft.EnterpriseManagement.Reporting.Code.dll file

1. On the computer that will host the remote SSRS, open an instance of Windows Explorer.
2. Perform one of the following steps based on which version of SQL Server 2008 you are using:
 - a. For SQL Server 2008 Service Pack 1 (SP1), locate the folder \Program Files\Microsoft SQL Server\MSRS10.MSSQLSERVER\Reporting Services\ReportServer\Bin.
 - b. For SQL Server 2008 R2, locate the folder \Program Files\Microsoft SQL Server\MSRS10_50.MSSQLSERVER\Reporting Services\ReportServer\Bin.
3. Start a second instance of Windows Explorer, locate the drive that contains the Service Manager installation media, and then open the Prerequisites folder.
4. In the Prerequisites folder, click **Microsoft.EnterpriseManagement.Reporting.Code.dll**, and drag it to the folder that you located in either step 2a or step 2b.

▶ To add a code segment to the rssrvpolicy.config file

1. On the computer that will be hosting SSRS, locate the file rssrvpolicy.config in the following folder:
 - a. For SQL Server 2008 SP1, locate \Program Files\Microsoft SQL Server\MSRS10.MSSQLSERVER\Reporting Services\ReportServer.
 - b. For SQL Server 2008 R2, locate \Program Files\Microsoft SQL Server\MSRS10_50.MSSQLSERVER\Reporting Services\ReportServer.
2. Using an XML editor of your choice (such as Notepad), open the rssrvpolicy.config file.
3. Scroll through the rssrvpolicy.config file and locate the **<CodeGroup>** code segments. The following code shows an example of a **<CodeGroup>** segment.

```
<CodeGroup
  class="UnionCodeGroup"
  version="1"
```

```

PermissionSetName="FullTrust">
  <IMembershipCondition
    class="UrlMembershipCondition"
    version="1"
    Url="$CodeGen$/*"
  />
</CodeGroup>

```

4. Add the following **<CodeGroup>** segment in its entirety in the same section as the other **<CodeGroup>** segments.

```

<CodeGroup
  class="UnionCodeGroup"
  version="1"
  PermissionSetName="FullTrust"
  Name="Microsoft System Center Service Manager Reporting
Code Assembly"
  Description="Grants the SCSM Reporting Code assembly full
trust permission.">
  <IMembershipCondition
    class="StrongNameMembershipCondition"
    version="1"

    PublicKeyBlob="0024000004800000940000000602000000240000525341
310004000001000100B5FC90E7027F67871E773A8FDE8938C81DD402BA65B
9201D60593E96C492651E889CC13F1415EBB53FAC1131AE0BD333C5EE6021
672D9718EA31A8AEBD0DA0072F25D87DBA6FC90FFD598ED4DA35E44C398C4
54307E8E33B8426143DAEC9F596836F97C8F74750E5975C64E2189F45DEF4
6B2A2B1247ADC3652BF5C308055DA9"
  />
</CodeGroup>

```

5. Save the changes and close the XML editor.

► To add an Extension tag to the Data segment in the rsreportserver.conf file

1. On the computer hosting SSRS, locate the file rsreportserver.config in the following folder:
 - a. For SQL Server 2008 SP1, locate \Program Files\Microsoft SQL Server\MSRS10.MSSQLSERVER\Reporting Services\ReportServer.
 - b. For SQL Server 2008 R2, locate \Program Files\Microsoft SQL

Server\MSRS10_50.MSSQLSERVER\Reporting Services\ReportServer.

2. Using an XML editor of your choice (such as Notepad), open the rsreportserver.config file.
3. Scroll through the rsreportserver.config file and locate the **<Data>** code segment. There is only one **<Data>** code segment in this file.
4. Add the following **Extension** tag to the **<Data>** code segment where all the other **Extension** tags are:

```
<Extension Name="SCDWMultiMartDataProcessor"  
Type="Microsoft.EnterpriseManagement.Reporting.MultiMartConne  
ction, Microsoft.EnterpriseManagement.Reporting.Code" />
```

5. Save the changes and close the XML editor.

Manual Steps to Prepare Upgraded SQL Server

If you upgrade SQL Server 2008 R2 to SQL 2012 after Service Manager SP1 installation, you must manually copy the Microsoft.EnterpriseManagement.Reporting.Code.dll file in order for SQL Server Reporting Services (SSRS) to function properly.

► To copy the Microsoft.EnterpriseManagement.Reporting.Code.dll file

1. On the computer that is hosting SSRS, open an instance of Windows Explorer.
2. Open <InstallationDrive>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services\ReportServer\bin and copy the Microsoft.EnterpriseManagement.Reporting.Code.dll file from the Prerequisites folder on your Service Manager installation media folder.

How to Create and Deploy Server Images of Service Manager

You can use the information in this topic to create a system image that contains Windows server, SQL Server, and Service Manager for use as a template that you can apply to new servers. Follow the basic steps below to prepare the image. You can modify them, as needed for your environment. For more information about the Windows System Preparation Tool, [What is Sysprep?](#)



Note

Details about installing SQL Server using a configuration file are not covered in this topic. For more information about using a configuration file to install SQL Server, see [Install SQL Server 2012 Using a Configuration File](#).

Afterward, modify and save the sample CMD file below to create your own customized version and then run the file.

▶ To prepare the server for imaging

1. Install Windows Server on the new server.
2. Install SQL Server in *Prepare for imaging* mode. This installs the binary files, but does not configure SQL server.



Note

SQL server is unusable at this point.

3. Copy the SQL Server installation files to a temporary location on the server. For example, c:\Runonce\SQLFULL_ENU.
4. Copy the System Center 2012 Service Manager installation files to a temporary location on the server. For example, c:\Runonce\SCSM.
5. Save the example CMD file shown below and customize it for your environment, where necessary. This file will run SQL Server setup to complete the SQL Server installation and then run an unattended installation of Service Manager. Save this file to a temporary location such as C:\Runonce\FirstRun.cmd.
6. Run the System Preparation Tool (Sysprep) with the /generalize command to generalize the server.
7. Capture the Windows installation with ImageX, by creating a reference images with which to install servers with the same hardware configuration.
8. Create a Windows Unattend.xml file to customize Windows when the image is booted and have it run FirstRun.cmd.

▶ To create a CMD file that completes image installation

- Copy the following sample and modify it, as needed.

```
@echo off

set ServiceAccountDomain=contoso
set ServiceAccountName=Administrator
set ServiceAccountPassword=P@$word

echo Finalizing SQL installation...
start /wait c:\RunOnce\SQLFULL_ENU\setup.exe
/ConfigurationFile=c:\RunOnce\SQL2012Complete.ini

echo Installing additional SQL features...
start /wait c:\RunOnce\SQLFULL_ENU\setup.exe
/ConfigurationFile=c:\RunOnce\SQL2012Shared.ini
```

```
echo Installing System Center Service Manager...
start /wait C:\RunOnce\SCSM\setup.exe /Install:Server
/AcceptEula /RegisteredOwner:SCSM
/RegisteredOrganization:Microsoft /CreateNewDatabase
/SqlServerInstance:%computername%
/ManagementGroupName:%computername%
/AdminRoleGroup:%ServiceAccountDomain%\%ServiceAccountName%
/ServiceRunUnderAccount:%ServiceAccountDomain%\%ServiceAccountName%\%ServiceAccountPassword%
/WorkflowAccount:%ServiceAccountDomain%\%ServiceAccountName%\%ServiceAccountPassword%
/CustomerExperienceImprovementProgram:Yes
/EnableErrorReporting:Yes /silent
```

See Also

[Deployment Scenarios for System Center 2012 - Service Manager](#)

Guidance for Installing System Center 2012 - Service Manager on Virtual Machines

This topic provides guidance that you have to consider when you install System Center 2012 – Service Manager in a Hyper-V virtual environment. If you are installing Microsoft SQL Server into an environment without Hyper-V, consult your vendor’s documentation for guidance regarding the use of SQL Server.

Deploying SQL Server in a Virtual Environment

Before you deploy SQL Server in a Hyper-V environment, see [Running SQL Server 2008 in a Hyper-V Environment](#). Keep the following in mind when you prepare a virtual environment for SQL Server:

- Using a dynamic virtual hard drive (VHD) can decrease performance. We do not recommend using a VHD.
- Allocate at least two virtual CPUs for the instance of SQL Server.
- Do not allocate more virtual CPUs than the number of available logical CPUs.
- If you observe a drop in Service Manager performance in a virtual environment, check CPU and memory utilization on the virtual machines that are hosting the instance of SQL Server and the Service Manager management server. If CPU utilization is near 100 percent, either allocate additional virtual CPUs or reduce the number of concurrent Service Manager console sessions.

Memory

The amount of memory you have in your logical computer and the amount of memory you allocate to each virtual machine are critical. If you deploy an instance of SQL Server, Service Manager management server, and Service Manager console to the same virtual machine, the memory requirements are cumulative. You need enough memory to meet the requirements of each part of Service Manager. In this environment, 8 gigabytes (GB) of memory is the minimum recommended amount.

Deploying Service Manager Databases in a Virtual Environment

In this release, if you are installing Service Manager and data warehouse databases on virtual machines, we recommend that you use one virtual machine for the Service Manager database and another virtual machine for the data warehouse databases. Furthermore, each virtual machine should be configured for two CPUs.

Configure Windows PowerShell to Run in System Center 2012 - Service Manager

Before you can run commands in the Windows PowerShell command-line interface in System Center 2012 – Service Manager, you must set execution policy to RemoteSigned and import the data warehouse cmdlet module.

The Service Manager cmdlets are implemented in the following two modules:

- **System.Center.Service.Manager.** This module is imported automatically every time a Service Manager Windows PowerShell session is opened.
- **Microsoft.EnterpriseManagement.Warehouse.Cmdlets.** This module must be imported manually.

Cmdlets in Authoring Tool Workflows

When you use the Service Manager SP1 version of the Authoring tool to create a workflow, then custom scripts using Windows PowerShell cmdlets called by the workflow fail. This is due to a problem in the Service Manager MonitoringHost.exe.config file.

To work around this problem, update the MonitoringHost.exe.config XML file using the following steps.

1. Navigate to %ProgramFiles%\Microsoft System Center 2012\Service Manager\ or the location where you installed Service Manager.
2. Edit the MonitoringHost.exe.config file and add the section in italic type from the example below in the corresponding section of your file. You must insert the section before `<publisherPolicy apply="yes" />`.
3. Save your changes to the file.
4. Restart the System Center Management service on the Service Manager management server.

```

<?xml version="1.0"?><configuration> <configSections> <section name="uri"
type="System.Configuration.UriSection, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" /> </configSections> <uri> <iriParsing
enabled="true" /> </uri> <runtime> <assemblyBinding xmlns="urn:schemas-microsoft-
com:asm.v1"> <dependentAssembly> <assemblyIdentity
name="Microsoft.Mom.Modules.DataTypes" publicKeyToken="31bf3856ad364e35"
/> <publisherPolicy apply="no" /> <bindingRedirect oldVersion="6.0.4900.0"
newVersion="7.0.5000.0"
/> </dependentAssembly> <dependentAssembly> <assemblyIdentity
name="Microsoft.EnterpriseManagement.HealthService.Modules.WorkflowFoundation"
publicKeyToken="31bf3856ad364e35" /> <publisherPolicy apply="no"
/> <bindingRedirect oldVersion="6.0.4900.0" newVersion="7.0.5000.0"
/> </dependentAssembly>
</dependentAssembly>

<assemblyIdentity name="Microsoft.EnterpriseManagement.Modules.PowerShell"
publicKeyToken="31bf3856ad364e35" />

<bindingRedirect oldVersion="6.0.4900.0" newVersion="7.0.5000.0" />

</dependentAssembly>

<publisherPolicy apply="yes" /> <probing privatePath=""
/> </assemblyBinding> <gcConcurrent enabled="true" /> </runtime></configuration>

```

In This Section

How to Set Execution Policy

Describes how to set execution policy to RemoteSigned.

How to Import the Data Warehouse Cmdlet Module

Describes how to manually import the data warehouse Windows PowerShell cmdlets.

Registering with the Service Manager Data Warehouse to Enable Reporting

After you have deployed the Service Manager management servers and data warehouse management servers, for reporting to function you must run the Data Warehouse Registration Wizard. This wizard registers the Service Manager management group with the data warehouse management group. It also deploys management packs from the Service Manager management server to the data warehouse management server.

The management pack deployment process can take several hours to complete. It is a best practice not to turn off any Service Manager computers or stop any Service Manager services during this time. During this registration process, you can continue to use the Service Manager console to perform any Service Manager functions that you want.

To ensure that reporting data will be available, use the procedures in the following topics to register the data warehouse and deploy the management packs.

Registering with the Service Manager Data Warehouse to Enable Reporting topics

- [How to Run the Data Warehouse Registration Wizard](#)
Describes how to run the data warehouse registration wizard.
- [How to Determine When Data Warehouse Registration Is Complete](#)
You have to allow enough time for the management pack deployment process to complete. This topic describes how to determine when management pack deployment is complete.

How to Run the Data Warehouse Registration Wizard

You can use the following steps in System Center 2012 – Service Manager to use the Data Warehouse Registration Wizard to register with the Service Manager data warehouse.

▶ To run the Data Warehouse Registration wizard

1. By using an account that is a member of the Service Manager and data warehouse management administrators group, log on to the computer that hosts the Service Manager console.
2. In the Service Manager console, select **Administration**.
3. In the **Administration** pane, expand **Administration**.
4. In the **Administration** view, in the **Register with Service Manager's Data Warehouse** area, click **Register with Service Manager Data Warehouse**.
5. In the Data Warehouse Registration wizard, on the **Before You Begin** page, click **Next**.
6. On the **Data Warehouse** page, in the **Server name** box, type the *fully qualified domain name* (FQDN) of the computer hosting the data warehouse management server, and then click **Test Connection**. If the test is successful, click **Next**.
7. On the **Credentials** page, you can accept the default entry in the **Run as account** list,

and then click **Next**, or you can enter credentials from a user or group of your own choosing.

 **Important**

The account that you specify will be assigned administrative credentials on the Service Manager management server, and it will be granted Read permission on the Service Manager database. You can specify different credentials from other Service Manager management groups when you are registering with the data warehouse.

8. On the **Summary** page, click **Create**.
9. On the **Completion** page, when **The data warehouse registration succeeded** appears, click **Close**.
10. A dialog box states that the report deployment process is not finished. This is to be expected. On the **System Center Service Manager** dialog box, click **OK**.
11. In a few minutes, after you close the Data Warehouse Registration Wizard, the **Data Warehouse** button will be added to the Service Manager console. In the Service Manager console, click the arrow at the lower right corner of the Service Manager console buttons, and then click **Show More Buttons**.

 You can use a Windows PowerShell command to complete this task. For information about how to use Windows PowerShell to register Service Manager management groups with the data warehouse, see [Add-SCDWMgmtGroup](#).

How to Determine When Data Warehouse Registration Is Complete

Several management packs are imported during the data warehouse registration process in System Center 2012 – Service Manager. Data warehouse registration is complete when all of the management packs have been imported. You will have to determine when that process is complete by using the following procedure.

To determine when management pack deployment has completed

1. Start the Service Manager console.
2. In the Service Manager console, select **Data Warehouse**.
3. In the **Data Warehouse** pane, expand **Data Warehouse**, and then click **Data Warehouse Jobs**.
4. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
5. In the **MPSyncJob** details pane, in the **Synchronization Job Details** list, scroll to the right to view the **Status** column, and then click **Status** to alphabetically sort the status column.
6. Scroll through the **Status** list. The management pack deployment process is complete when the status for all of the management packs is **Associated** or **Imported**. Make sure

that there is no status of either **Pending Association** or **Failed** in the status list. In the **Data Warehouse Jobs** pane, the status of the **MPSyncJob** will have changed from **Running** to **Not Started** when the registration process is complete. This deployment process can take up to two hours to complete.

7. Use the following steps to periodically refresh the **Data Warehouse Job** pane to monitor the progress of the registration process:
 - a. In the **Tasks** pane, under **Data Warehouse Jobs**, click **Refresh**.
 - b. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
 - c. In the **MPSyncJob** details pane, in the **Synchronization Job Details** list, scroll to the right to view the **Status** column, and then click **Status** to alphabetically sort the status column.
8. After the management packs have been deployed (as determined in step 6), make sure that the following five data warehouse jobs appear in the **Data Warehouse Jobs** pane:
 - Extract_<Service Manager management group name>
 - Extract_<data warehouse management group name>
 - Load.Common
 - Transform.Common
 - MPSyncJob



Note

If these five data warehouse jobs do not appear, complete the following steps:

- a. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
- b. In the **Tasks** pane, under **Synchronization**, click **Resume**.
- c. Determine whether management pack deployment is complete by repeating steps 4 through 6.

Deploying Additional Service Manager Management Servers

You can deploy additional Service Manager management servers to load-balance additional Service Manager consoles or as part of your disaster recovery strategy.

This section describes how you can install additional Service Manager management servers. The additional Service Manager management servers can improve performance in a high-use environment.

Management Servers

You create a management server when you click **Service Manager management server** in the Service Manager Setup Wizard. The initial Service Manager management server hosts data access, workflow services, and authorization services.

Initial and Additional Management Servers

When you run Setup for the first time, you install the initial Service Manager management server and define the management group for your installation. The initial management server handles all of the workflows in your Service Manager environment. Any additional Service Manager management servers that you deploy are used to load-balance additional Service Manager console connections. With this release of Service Manager, we recommend that you deploy an additional Service Manager management server for every 40 to 50 Service Manager consoles that you intend to deploy.

To associate your additional Service Manager management servers with the initial Service Manager management server and management group, you must specify the Service Manager database that you used for your initial Service Manager management server.

Disjoint Namespace Considerations

If you are installing an additional management server in an environment with a disjointed namespace, see [Deployment Considerations with a Disjointed Namespace](#).

Installing additional management server topics

- [How to Install an Additional Management Server](#)

Describes how to install an additional Service Manager management server.

How to Install an Additional Management Server

The following procedure shows how to install an additional management server in System Center 2012 – Service Manager. You must deploy the initial Service Manager management server and Service Manager database before deploying an additional management server.



Note

You must be a member of the Service Manager Administrators user role to install an additional Service Manager management server.

▶ To install an additional management server

1. By using an account that has administrator rights and that is also a member of the Service Manager management group administrators, log on to the computer that will host the additional Service Manager management server.
2. On the System Center 2012 – Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Service Manager Setup Wizard** page, click **Service Manager management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key you received with Service Manager, or as an alternative, select **Install as an evaluation edition (180 day trial)?**. Read the Microsoft Software

License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.

5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location where the additional Service Manager management server will be installed.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.

If the prerequisite checker determines that the Microsoft Report Viewer Redistributable has not been installed, click **Install Microsoft Report Viewer Redistributable**. After the Microsoft Report Viewer Redistributable 2008 (KB971119) Setup Wizard completes, click **Check prerequisites again**.

7. On the **Configure the Service Manager database** page, in the **Database server** box, type the name of the computer that hosts the Service Manager database that you used for your initial Service Manager management server, and then press the TAB key. When the name of the instance appears in the **SQL Server instance** box, click **Use an existing database**. For example, type **Computer 2** in the **Database server** box.
8. Click the **Database** list, select the database name for the Service Manager database (the default name is **ServiceManager**), and then click **Next**.
9. On the **Configure the Service Manager management group** page, verify that the management group name and management group administrators boxes have been populated. Click **Next**.
10. On the **Configure the account for Service Manager services** page, click **Domain account**; specify the user name, password, and domain for the account; and then click **Test Credentials**. After you receive a "The credentials were accepted" message, click **Next**. For example, enter the account information for the domain user SM_Acct, and then click **Next**.
11. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
12. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
13. On the **Installation summary** page, click **Install**.
14. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

Deployment Considerations with a Disjoint Namespace

In System Center 2012 – Service Manager, Setup might fail when you deploy either an additional Service Manager management server or an additional Self-Service Portal in an environment where a disjoint namespace exists. This problem can occur if the Setup program is unable to resolve the principal name of the computer that is hosting the Service Manager management server. For more information, see the Microsoft TechNet article [Disjoint Namespace](#).

We recommend that you complete the following procedures before installing either an additional Service Manager management server or an additional Self-Service Portal in an environment where a disjoint namespace exists. The first procedure shows you how to determine the principal name of your Service Manager management server. The second procedure guides you in editing the hosts file on the computer that hosts either the additional Service Manager management server or the additional Self-Service Portal.

► To determine the principal name of the Service Manager management server

1. Start a Service Manager console.
2. In the Service Manager console, click **Configuration Items**.
3. In the **Configuration Items** pane, expand **Configuration Items**, expand **Computers**, and then click **All Windows Computers**.
4. In the **All Windows Computers** pane, click the computer that hosts the Service Manager management server.
5. In the **Tasks** pane, under the name of the computer, click **Edit**.
6. In the **Computer - <computer name>** window, observe that there is an **Extensions** tab at the top of the form. The **Extensions** tab appears only when you view a Service Manager management server.
7. In the **General** tab in the form, in the **Computer Identity** area, the **Principal name** box shows the principal name that you will use in the following procedure.
8. Click **Close** to close the form.
9. At a command prompt, ping the Service Manager management server. You must have the IP address of the Service Manager management server for the following procedure.

► To edit the hosts file

1. On the computer that hosts either the additional Service Manager management server or the additional Self-Service Portal, start Windows Explorer, and then locate the %Systemroot%\System32\Drivers\Etc folder.
2. Open the hosts file with Notepad by typing **notepad hosts**, and then press ENTER.
3. At the end of the hosts file, add an entry starting with the IP address of the Service Manager management server followed by its principal name.
4. Save and close the hosts file.
5. You can now start the setup procedure for either an additional Service Manager

management server or an additional Self-Service Portal.

Self-Service Portal for System Center 2012 - Service Manager

The Self-Service Portal provides web-based access to the features of System Center 2012 – Service Manager. This section describes how you can deploy the Self-Service Portal, and it includes information for configuring Secure Sockets Layer (SSL).

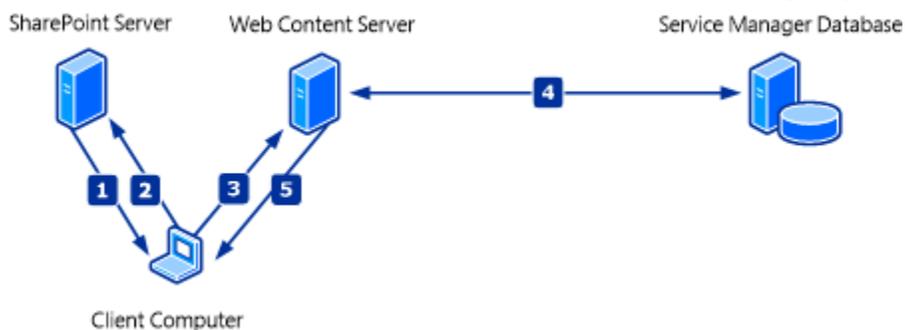
Self-Service Portal for System Center 2012 - Service Manager Topics

- [Self-Service Portal Deployment Scenarios for System Center 2012 - Service Manager](#)
Describes how to deploy the Self-Service Portal.
- [SSL Certificates for the Self-Service Portal](#)
Describes what you need to know about using certificates with the Self-Service Portal.

Self-Service Portal Deployment Scenarios for System Center 2012 - Service Manager

The Self-Service Portal in System Center 2012 – Service Manager is a SharePoint website that is accompanied by a set of Microsoft Silverlight applications. The Self-Service Portal consists of two elements: a SharePoint website and a web content server. The SharePoint website is accompanied by a set of applications that are built with Silverlight. The SharePoint environment provides a foundation on which the portal can be customized. It also provides a set of building blocks for extending the features that users can access through a web browser.

The web content server is a Web Application that forms the interface between the Silverlight application and the Service Manager database. The web content server provides a path for data from the Service Manager database to the Silverlight-based application that is running in the browser. A basic Self-Service Portal setup is shown in the following diagram.



The flow of data is as follows:

1. The client accesses the Self-Service Portal with a browser by specifying the URL for the SharePoint server.
2. The SharePoint server returns Silverlight code that creates a web page containing the basic framework of the Self-Service Portal and also the URL for the web content server computer. The URL for the web content server computer was defined when you installed the Self-Service Portal.
3. The client computer, which is now running the Silverlight code, makes a connection to the web content server computer using the URL in step 2.
4. The web content server computer reads and writes data to the Service Manager database. The computer name for the Service Manager database was defined when you installed the web content server.
5. The web content server computer returns the data that makes up the center pane on the Self-Service Portal page.

The computers that host the Self-Service Portal parts require various software components. For a complete list of requirements of Self-Service Portal parts, see [Software Requirements for System Center 2012 - Service Manager](#).

 **Important**

This release of the Self-Service Portal is not compatible with—nor is upgrade possible from—the Self-Service Portal in System Center Service Manager 2010 or System Center Service Manager 2010 Service Pack 1 (SP1). You must uninstall System Center Service Manager 2010 or System Center Service Manager 2010 SP1 Self-Service Portal before you deploy the Self-Service Portal in System Center 2012 – Service Manager.

The SharePoint server hosts the web parts for the Self-Service Portal. We recommend that you use Secure Sockets Layer (SSL) for your Self-Service Portal installation. You must use the same http protocol (http or https) for both the web content server and for the SharePoint website.

During setup you select certificates based on the certificate's Subject name. You might encounter a situation in which you have more than one certificate with the same Subject name and you might not be able to determine exactly which certificate to select. In this situation, select any valid certificate. After the Self-Service Portal is installed, you can specify the certificate by using Internet Information Services (IIS) Manager.

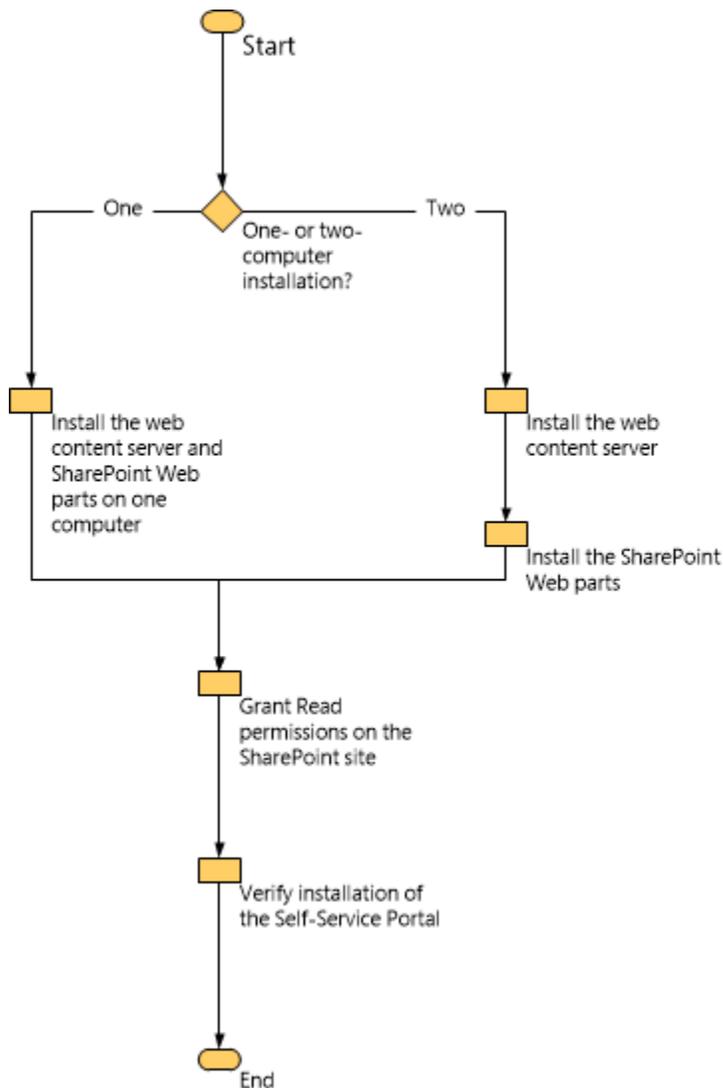
 **Note**

You must use trusted certificates with the Self-Service Portal. Failure to use trusted certificates will result in a blank page being displayed on the Self-Service Portal.

If you want to install the SharePoint Parts on port 80, you must first move the default website in IIS to a different port—for example, port 8080—and then install the SharePoint Web Parts on port 80.

During setup of the web content server, ASP.NET might be unavailable to other websites or web applications. This issue, if it occurs, lasts only a few seconds.

The steps for installing the Self-Service Portal are outlined in the following flowchart.



Self-Service Portal Deployment topics

- [How to Install the Web Content Server](#)
Provides step-by-step instructions for installation of the web content server.
- [How to Install SharePoint Web Parts for the Self-Service Portal](#)
Provides step-by-step instructions for installation of the SharePoint Web Parts server.
- [How to Install Both the Web Content Server and SharePoint Web Parts on One Computer](#)
Provides step-by-step instructions for installation of both the web content server and the SharePoint Web Parts server on one computer.
- [How to Grant Permissions on the SharePoint Site](#)
Provides step-by-step instructions for granting permissions to the SharePoint Parts website.
- [How to Configure User Authentication for the SharePoint Site](#)

Provides step-by-step instructions for configuring user authentication for the SharePoint site.

- [How to Verify the Installation of the Self-Service Portal](#)

Provides step-by-step instructions to start a browser and verify the installation of the Self-Service Portal.

- [How to Configure the Default IIS Website Port](#)

Describes how to configure the default website in IIS to a different port—for example, port 8080—so that you can install the SharePoint website on port 80.

How to Install the Web Content Server

Use the following procedure to install the Self-Service Portal web content server in System Center 2012 – Service Manager.

▶ To install the web content server

1. Using the Operational Database Account, log on to the computer that will host the Self-Service Portal.
2. On the System Center 2012 – Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Service Manager Setup Wizard** page, click **Service Manager web portal**.
4. On the **Portal Parts** page, click **Web Content Server**, and then click **Next**.
5. On the **Product registration** page, read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
6. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the installation location of the web content server.



Note

We recommend that you install the Self-Service Portal in the default location. Installing the Self-Service Portal in another location will require that you make configuration changes in Internet Information Services (IIS).

7. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
8. On the **Configure the Service Manager self-service portal name and port** page, do the following:
 - a. In the **Web site name** text box, accept the default name, or type a new name.
 - b. In the **Port** text box, accept the default port, or type a new port.
 - c. In the **SSL certificate** list, select the Secure Sockets Layer (SSL) certificate that you want to use with the Self-Service Portal, and then click **Next**.



Note

We strongly recommend the use of SSL. If you are using a self-signed certificate,

make sure that the certification authority (CA) that issues the certificate has been added to the Trusted Root Certification Authorities store. You must use the same HTTP protocol (HTTP or HTTPS) with both portal parts.

9. On the **Select the Service Manager database** page, do the following:
 - a. In the **Database server** text box, type the name of the computer that hosts the Service Manager database, and then press TAB.
 - b. In the **SQL Server instance** list, select the instance name for the Service Manager database. (**Default** is the default selection.)
 - c. In the **Database** list, select the database that hosts the Service Manager database. (**ServiceManager** is the default database name.)
 - d. Click **Next**.
10. On the **Configure account for the Service Manager self-service portal** page, click **Domain account**.



Note

Make sure that the credentials you enter here are for the sdk_users users role on the SQL Server that is hosting the Service Manager database.

11. Specify the user name, password, and domain for the Service Manager services account that you specified during installation of Service Manager. For example, enter the account information for the SM_Acct domain user.
12. Click **Test Credentials**. After you verify that you received a “The credentials were accepted message,” click **Next**.
13. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
14. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.
15. On the **Installation summary** page, click **Install**.
16. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**. For more information about backing up the encryption key, see [Completing Deployment by Backing Up the Encryption Key](#).

See Also

[How to Install SharePoint Web Parts for the Self-Service Portal](#)

How to Install SharePoint Web Parts for the Self-Service Portal

The home page for the Self-Service Portal in System Center 2012 – Service Manager is on the SharePoint Web Parts server. We recommend that you use Secure Sockets Layer (SSL) and install the SharePoint Web Parts using port 443.

When you installed Internet Information Services (IIS), the default website was configured to use port 80. If you want to install the SharePoint Web Parts on port 80, you must first move the default website in IIS to a different port—for example, port 8080—and then install the SharePoint Web Parts on port 80.

You can use this information to share Excel workbooks using SharePoint. For an example, see [Configure Excel Services for a BI test environment](#).

Use the following procedure to install the SharePoint Web Parts server.

► To install the SharePoint Web Parts server

1. Using the Operational Database Account, log on to the computer that will host the Self-Service Portal.
2. On the System Center 2012 – Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Service Manager Setup Wizard** page, click **Service Manager web portal**.
4. On the **Portal Parts** page, click **SharePoint Web Parts**.
5. On the **Product registration** page, read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license terms**, and then click **Next**.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
7. On the **Configure the Service Manager SharePoint site** page, complete these steps:
 - a. In the **SSL certificate** list, select the Secure Sockets Layer (SSL) certificate that you want to use with the Self-Service Portal, and then click **Next**.
 - b. In the **Port** text box, accept the default port, or type a new port. For example, type **443**.
 - c. In the **URL** text box, type the URL for the web content server in the form of `http://<computername>:<port>` or `https://<computername>:<port>`.
 - d. Click in any of the other text boxes, and then click **Next**.



Note

We strongly recommend the use of SSL. If you are using a self-signed certificate, make sure that the certification authority (CA) that issues the certificate has been added to the Trusted Root Certification Authorities store. You must use the same HTTP protocol (HTTP or HTTPS) with both portal parts.

8. On the **Configure the account for the Service Manager SharePoint app pool** page, type a domain user and password, and then click **Test Credentials**. After you verify that you received a “The credentials were accepted” message, click **Next**.
9. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
10. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager

updates. If you want Windows Update to check for updates, select **Initiate machine wide Automatic update**. Click **Next**.

11. On the **Installation summary** page, click **Install**.
12. On the **Setup completed successfully** page, click **Close**.

See Also

[How to Grant Permissions on the SharePoint Site](#)

How to Install Both the Web Content Server and SharePoint Web Parts on One Computer

When you are installing the web content server and SharePoint Web Parts on the same computer in System Center 2012 – Service Manager, you must install both components at the same time. After one component has been installed, you will not be able to run Setup again to install the other component.

Use the following procedure to install both the web content server and SharePoint Web Parts for the Self-Service Portal on the third computer.

► To install the Self-Service Portal on one computer

1. Using the Operational Database Account, log on to the computer that will host the Self-Service Portal.
2. On the System Center 2012 – Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Microsoft System Center Service Manager Setup Wizard** page, click **Service Manager Web portal**.
4. On the **Portal Parts** page, click **Web Content Server**, click **SharePoint Web Parts**, and then click **Next**.
5. On the **Product registration** page, read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license terms**, and then click **Next**.
6. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the installation location of the Service Manager management server.



Note

We recommend that you install the Self-Service Portal in the default location. Installing the Self-Service Portal in another location will require that you make configuration changes in Internet Information Services (IIS).

7. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
8. On the **Configure the Service Manager Self-Service Portal name and port** page, do the following:
 - a. In the **Website name** text box, accept the default name, or type a new name.

- b. In the **Port** text box, accept the default port, or type a new port.
- c. In the **SSL certificate** list, select the Secure Sockets Layer (SSL) certificate that you want to use with the Self-Service Portal, and then click **Next**.



Note

We strongly recommend the use of SSL. If you are using a self-signed certificate, make sure that the certification authority (CA) that issues the certificate has been added to the Trusted Root Certification Authorities store. You must use the same HTTP protocol (HTTP or HTTPS) with both portal parts.

9. On the **Select the Service Manager database** page, do the following:
 - a. In the **Database server** text box, type the name of the computer that hosts the Service Manager database, and then press TAB.
 - b. In the **SQL Server instance** list, select the instance name for the Service Manager database. (**Default** is the default SQL Server instance.)
 - c. In the **Database** list, select the database that hosts the Service Manager database. (**ServiceManager** is the default database name.)
 - d. Click **Next**.
10. On the **Configure the account for the Service Manager Self-Service Portal** page, click **Domain account**.
11. Specify the user name, password, and domain for the Service Manager services account that you specified during installation of Service Manager. For example, enter the account information for the SM_Acct domain user.
12. Click **Test Credentials**. After you verify that you received a “The credentials were accepted” message, click **Next**.
13. On the **Configure the Service Manager SharePoint Web site** page, do the following:
 - a. In the **Web site name** text box, accept the default name, or type a new name.
 - b. In the **SSL certificate** list, select the SSL certificate that you want to use with the Self-Service Portal.
 - c. In the **Port** text box, accept the default port, or type a new port.



Note

This is the port number that will be used for accessing the Self-Service Portal.

- d. In the **Database server** text box, type the name of the computer that hosts the SharePoint database, and then press TAB. For example, select the default entry for the computer on which you are installing the SharePoint website.
 - e. In the **SQL Server instance** list, select the instance name for the SharePoint database. (**Default** is the default SQL Server instance.)
 - f. In the **Database name** text box, accept the default database name, or type a new name
 - g. Click **Next**.
14. On the **Configure the account for Service Manager SharePoint application pool**

- page, type a domain user and password, and then click **Test Credentials**. After you verify that you received a “The credentials were accepted” message, click **Next**.
15. On the **Help improve System Center Service Manager** page, indicate your preference for participation in the Customer Experience Improvement Program. As an option, click **Tell me more about the program**, and then click **Next**.
 16. On the **Installation summary** page, click **Install**.
 17. On the **Setup completed successfully** page, click the link to test the URL for the Self-Service Portal. Make a note of this URL, and then click **Close**.

How to Grant Permissions on the SharePoint Site

Use the following procedure to grant permissions to the Self-Service Portal SharePoint site in System Center 2012 – Service Manager.

To grant permissions on the Self-Service Portal SharePoint site

1. Log on to the computer that hosts the SharePoint Web site with administrative credentials.
2. Open a browser and connect to the SharePoint site at `http://localhost:<port>/_layouts/settings.aspx`.
3. In the upper left area of the web page, click **Site Actions**, and then click **Site Permissions**.
4. On the SharePoint ribbon, click **Grant Permissions**.
5. In the **Grant Permissions** box, in the **Users/Groups** box, type the Active Directory name for the users or user groups to whom you want to grant access.
6. In the **Grant Permissions** area, click **Read – Can view pages and list items and download documents**, and then click **OK**.
7. Close the browser.

See Also

[How to Verify the Installation of the Self-Service Portal](#)

How to Configure User Authentication for the SharePoint Site

The option to **Sign in as Different User** has been removed from the Service Manager SharePoint site template file included in System Center 2012 – Service Manager. You should not enable this option in SharePoint site template files because using the option can result in a submitted user request having an incorrect affected user.

If you want to support multiple users on a computer, you should use the following procedure to configure user authentication in the browser that you use to connect to the Self-Service Portal SharePoint site in System Center 2012 – Service Manager. Afterward, you should notify your end-users that they should use the **Sign Out** option when they are done using the Self-Service Portal.

▶ **To configure user authentication for the Self-Service Portal SharePoint site**

1. Log on to the computer that hosts the SharePoint Web site with the user credentials of an end-user who will submit requests by using the Self-Service Portal.
2. Open Internet Explorer and then click **Tools**.
3. Select **Internet Options** and then click the **Security** tab.
4. Click **Trusted Sites** and then **Custom Level**.
5. Under **User Authentication** select **Prompt for user name and password** and then click **OK**.

See Also

[Self-Service Portal Deployment Scenarios for System Center 2012 - Service Manager](#)

How to Verify the Installation of the Self-Service Portal

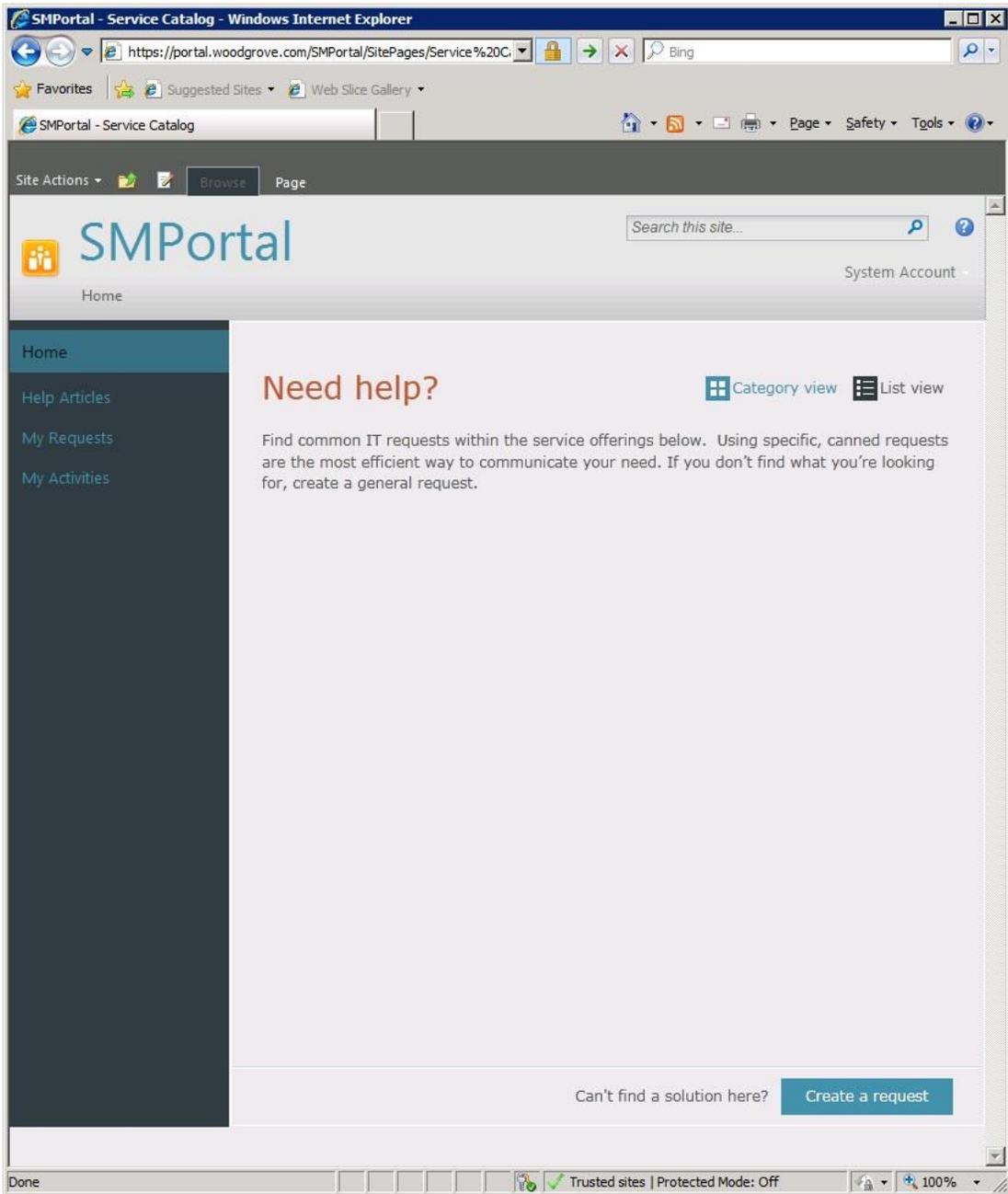
The default portal name for the Self-Service Portal in System Center 2012 – Service Manager is SMPortal. Use the following procedure to verify the installation of the Self-Service Portal.

▶ **To verify the installation of the Self-Service Portal**

1. On the computer hosting the SharePoint Web site, open Internet Explorer.
2. In the address line, type one of the following:
 - a. `http://localhost:<port>/SMPortal` (if you are not using Secure Sockets Layer (SSL))
 - b. `https://localhost:<port>/SMPortal` (if you are using SSL)

Where <port> is the port number that is defined when the SharePoint Parts server is installed.

3. The default home page for the Self-Service Portal should appear as shown in the following illustration.



How to Configure the Default IIS Website Port

When you installed Internet Information Services (IIS), the default website was configured to use port 80. The SharePoint Web Parts is the home page for the Self-Service Portal. If you want to install the SharePoint Web Parts on port 80, you must first move the default website in IIS to a different port—for example, port 8080—and then install the SharePoint Web Parts on port 80.

Use the following procedure to move the IIS default website to port 8080 so that you can install the SharePoint website on port 80.

► **To configure the default IIS website to use port 8080**

1. On the Windows desktop, click **Start**, click **Administrative Tools**, and then click **Internet Information Services (IIS) Manager**.
2. In **Internet Information Services (IIS) Manager**, in the **Connections** pane, expand the computer name, expand **Sites**, and then click **Default Web Site**.
3. In the **Actions** pane, under **Edit Site**, click **Bindings**.
4. In the **Site Bindings** dialog box, click the **http** entry, and then click **Edit**.
5. In the **Edit Site Binding** dialog box, in **Port**, type **8080**, and then click **OK**.
6. In the **Site Bindings** dialog box, click **Close**.
7. In the **Actions** pane, under **Manage Web Site**, click **Stop**, and then click **Start**.

SSL Certificates for the Self-Service Portal

We strongly recommend using Secure Sockets Layer (SSL) certificates with the Self-Service Portal in System Center 2012 – Service Manager. The Self-Service Portal consists of two parts, a Microsoft SharePoint website server and a web content server. When you are using SSL on the Self-Service Portal, you should use SSL certificates on both parts.

When a client connects to the Self-Service Portal, they are connecting to the SharePoint website server. The framework of the portal is delivered to the client from the SharePoint website server. The SharePoint server instructs the browser to download the Silverlight components from the web content server. The Silverlight components then contact the Windows Communication Foundation (WCF) service on the web content server. You define the URL for the web content server when you are deploying the SharePoint website server, and it is this web content server URL that is delivered to the client.

If there is a certificate-related problem when a client is establishing an SSL connection to the Self-Service Portal, a certificate warning appears. For example, if the name the client that is typed for the URL does not match the computer name on the certificate, a name mismatch warning appears. The client has the option to continue with the connection. However, if there is a certificate-related error when the client's computer attempts to download Silverlight components from the web content server, there is no opportunity to manually respond to the certificate warning. The result is that part of the Self-Service Portal web page appears blank.

Therefore, you should be aware of the following when you are working with SSL certificates:

- The certificates that you use for the Self-Service Portal must be issued from a Certification Authority that is trusted by the client.
- The name on the certificate for the SharePoint website server must match the URL that your users enter into the browser. For example, if the user types the URL `https://portal/SMPortal`,

then the certificate must have been issued to portal and not, for example, portal.woodgrove.com.

- The name on the certificate for the web content server must match the name that you entered when you deployed the SharePoint website server.

The default port for SSL is 443. So that your users do not have to enter a port number in the browser when they connect to the Self-Service Portal, you should specify port 443 when you deploy the SharePoint website server. Because users never enter the URL for the web content server (remember, the web content server URL is delivered to the client when users connect to the SharePoint website server), you can use a port other than 443 (for example, port 444) for the SSL port on the web content server. If you deploy both the SharePoint website server and web content server on the same computer, you be prompted to specify the options for the web content server first; then, you install the SharePoint website server. Therefore, the first time that you are prompted to enter a port number, it will be for the web content server, and you should not use port 443 if you plan to install the SharePoint website server on the same computer. During deployment, the second port number that you are asked to provide will be for the SharePoint website server, and that is when we recommend using port 443.

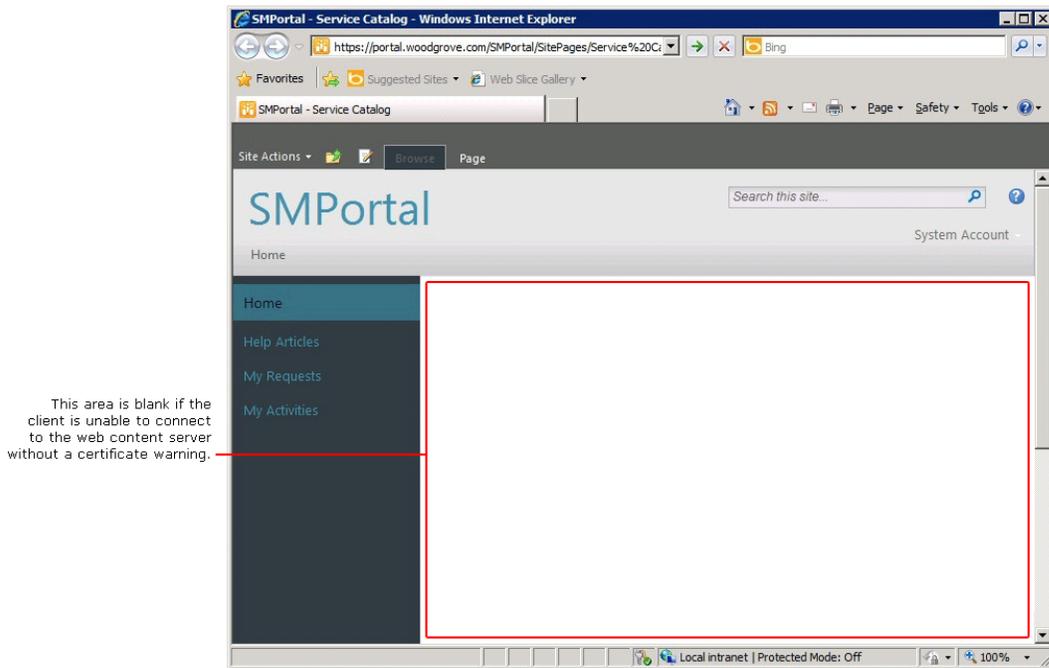
If you are deploying both the SharePoint website server and web content server on the same computer, you need only one certificate. That one certificate will work for both ports. If you are deploying the SharePoint website server and web content server on different servers (which is recommended in a production environment), you will need one certificate for each computer.

Certificates are labeled by their subject name, and subject names on certificates do not have to be unique. During Service Manager setup, certificates are listed by their subject name. Therefore, during deployment of the Self-Service Portal, it is possible that you will be presented with multiple certificates with the same name. If you pick the second certificate in the list of certificates that are available to use, there is a possibility that Service Manager might use the first one in the list. This can be especially problematic when the client is attempting to connect to the web content server, because there is no opportunity for manual intervention. To resolve this issue, you can change the certificate in Internet Information Services (IIS) Manager.

The following sections expand on the steps you can take to solve SSL-related problems that you might encounter with the Self-Service Portal.

Certificate “Issued to” Name

The address that you type into the browser to connect to the SharePoint website and the address of the web content server that was defined in the SharePoint website *must each match the “Issued to” name on their associated certificate or certificates*. When you connect to the SharePoint website, if the address that you type in the browser does not match the “Issued to” name on the certificate, you will see a Certificate Warning and the background in the browser's address line will be red. If the web content server address that was configured in the SharePoint website does not match the “Issued to” name on the certificate, the center frame in the browser will be blank, as shown in the following illustration.



Name Mismatch on the SharePoint Website

If the address that you type in the browser when you connect to the SharePoint website does not match the “Issued to” address in the certificate, you have the following options:

- Continue past the warning and continue
- Change the name in the address line in the browser to match the “Issued to” name on the certificate
- Obtain a new certificate where the “Issued to” name matches the address that you want to enter in the browser

Name Mismatch for the Web Content Server

If the address for the web content server that is configured on the SharePoint website does not match the “Issued to” address in the certificate on the web content server, the center frame in the Self-Service Portal will be blank. In this case, you have the following options:

- Obtain a new certificate for the web content server that matches the URL that is configured on the SharePoint website
- Configure the address for the web content server that is stored on the SharePoint website to match the “Issued to” name on the certificate that is used for the web content server

Certificate Must Be Trusted

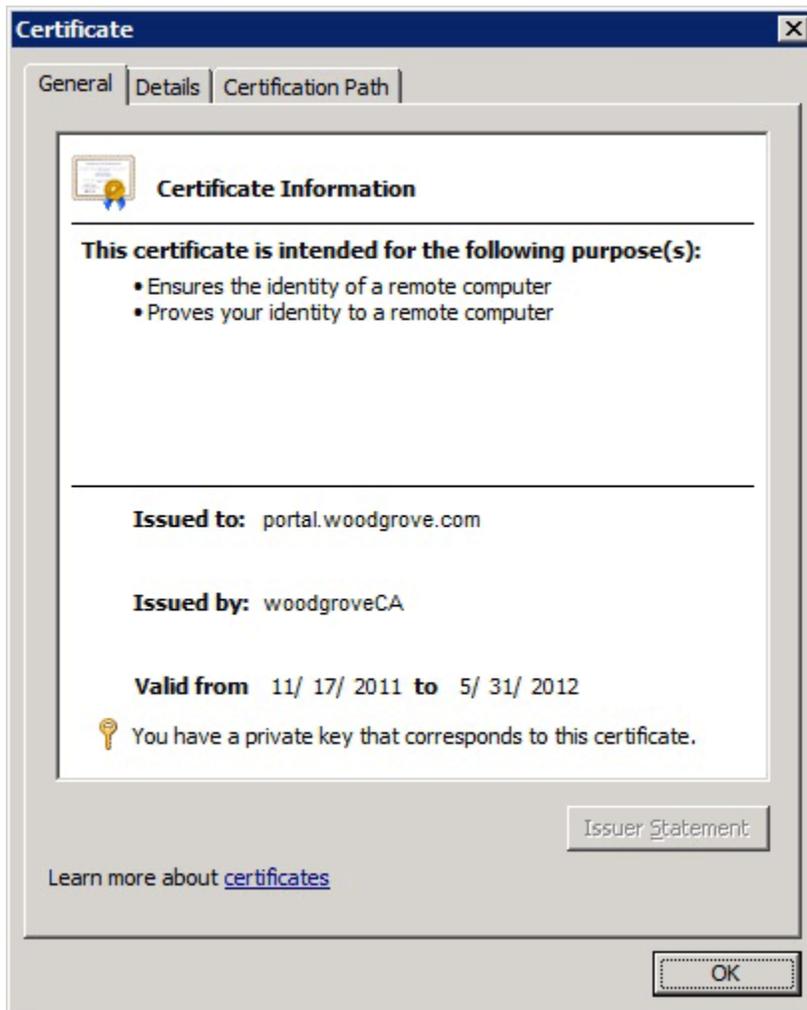
Make sure that the Certification Authority (CA) that issued your certificates is listed in the Trusted Root Certification Authority store for the clients accessing the site. For information about determining whether a certificate is trusted, see [How to Examine Properties of a Certificate](#).

SSL Certificates for the Self-Service Portal Topics

- [How to Examine Properties of a Certificate](#)
Describes how to learn what the “Issue to” name is for a certificate, determine whether the certificate is trusted, and determine the certificate thumbprint.
- [How to Reconfigure the Web Content Server URL](#)
Describes the procedure to use if you are using a different certificate for the web content server than the certificate that you originally selected during installation.
- [How to Select a Certificate for Web Content Server Use](#)
Describes how to select the certificate that is used for the web content server.
- [How to Connect Directly to the Web Content Server Using a Browser](#)
Describes how to use a browser to connect to the web content server and test a certificate.

How to Examine Properties of a Certificate

Use this procedure to examine the properties of a certificate you use with the Self-Service Portal in System Center 2012 – Service Manager. Make sure that the URL you use for the Self-Service Portal matches the name on the certificate, and make sure that the certification authority (CA) that issued the certificate is a trusted CA. This gives you the opportunity to make sure that the URL you specify for the Self-Service Portal does not result in any certificate warnings or blank frames in the browser. In this example, the computer is in Woodgrove National Bank. The fully qualified domain name (FQDN) for the computer is portal.woodgrove.com. The CA that issued the certificate is woodgroveCA. Note the “Issued to” and “Issued by” fields in the following illustration.



To view the properties of a certificate, you add the Certificates snap-in to the Microsoft Management Console (MMC). When you examine the certificate, the value in the “Issued to” field represents the URL that you must use when you are accessing the SharePoint website server, and the value in the “Issued to” field must match the URL that the your browser will use to connect to the web content server. The value in the “Issued by” field represents the CA that issued this certificate, and it must trace back to the trusted root.

You can also use this procedure to determine the thumbprint of a certificate.

► **To examine the properties of a certificate**

1. Log on to the computer where you want to examine a certificate with administrator privileges.
2. Click **Start**, in **Search programs and files** type **mmc**, and then press Enter.
3. In the **Console1** window, click **File**, and then click **Add/Remove Snap-in**.
4. In **Add or Remove Snap-ins**, click **Certificates**, and then click **Add**.

5. In the **Certificates** snap-in, click **Computer account**, and then click **Next**.
6. In **Select Computer**, make sure that **Local computer** is selected, and then click **Finish**.
7. In **Add or Remove Snap-ins**, click **OK**.
8. In the **Console1** window, expand **Certificates (Local Computer)**, expand **Personal**, and then click **Certificates**.
9. In the **Issued To** pane, double-click the certificate that you want to use for the Self-Service Portal. Examine the **Issued to** and **Issued by** fields.
10. Click **OK**.
11. In the **Console1** window, expand **Trusted Root Certification Authorities**, and then click **Certificates**.
12. In the **Issued To** pane, make sure that the CA that issued your certificate is listed here.

► **To determine the thumbprint of a certificate**

1. If you have not done so already, create a certificate snap-in, as described in steps 1 through 8 in the previous procedure.
2. In the **Issued To** pane, double-click the certificate that you want to examine.
3. In the **Certificate** dialog box, click **Details**.
4. In the **Show** list, click **Properties Only**.
5. Copy the thumbprint and use it to define the certificate that you want to use.
6. Click **OK** to close the **Certificate** dialog box.

See Also

[SSL Certificates for the Self-Service Portal](#)

How to Reconfigure the Web Content Server URL

When you use certificates with the Self-Service Portal in System Center 2012 – Service Manager, you can use this procedure to change the web content server URL. For example, you may have installed the web content server only to find that the URL you used for the web content server results in a certificate warning. While resolving the certificate warning issue—for example, for a name mismatch—you may find that you are going to use a different URL to connect to the web content server. In this case, you must open a web.config file on both the SharePoint website server and web content server and update the URL.

In this example, the computer is in Woodgrove National Bank, and the fully qualified domain name (FQDN) for the computer is portal.woodgrove.com. When the web content server was installed, Secure Sockets Layer (SSL) and port 444 were used. (Port 443 was saved for the SharePoint website.) Now, the web.config file is edited using the URL https://portal.woodgrove.com:444/ContentHost/ClientBin/, as shown in the following illustration. (This image is of the web.config file on a SharePoint website server.)

```
<reportserver>
  <redirection>
    <exclusions>
      <add path="/_vti_bin/ReportServer/ReportServiceAuthentication.asmx" />
      <add path="/_vti_bin/ReportServer/ReportServiceAuthenticationdisco.aspx" />
      <add path="/_vti_bin/ReportServer/ReportServiceAuthenticationwsdl.aspx" />
    </exclusions>
  </redirection>
</reportserver>
<appSettings>
  <add key="SMPortal_WebContentServer_URL" value="https://portal.woodgrove.com:444/ContentHost/ClientBin/" />
</appSettings>
</configuration>
```

► **To reconfigure the web content server URL on the SharePoint website server**

1. Log on to the computer that hosts the SharePoint website server with administrator privileges.
2. Using Windows Explorer, navigate to the folder location where you installed the SharePoint website server. The default location is <drive>:\inetpub\wwwroot\wss\VirtualDirectories\Service Manager Portal.
3. Right-click the web.config file, and open it with the editor of your choice, for example, Notepad.
4. Scroll to the bottom of the web.config file, locate the <appSettings> area, and then locate the <add key=...> line.
5. Edit the URL in the value= section to match the new URL that you want to use for the web content server.
6. Close the editor and save your changes.

► **To reconfigure the web content server URL on the web content server**

1. Log on to the computer that hosts the web content server with administrator privileges.
2. Using Windows Explorer, navigate to the folder location where you installed the web content server. The default is <drive>:\inetpub\wwwroot\System Center Service Manager Portal\ContentHost.
3. Right-click the file web.config, and then open it with the editor of your choice, for example, Notepad.
4. Scroll to the bottom of the web.config file, locate the <appSettings> area, and then locate the <add key=...> line.
5. Edit the URL in the value= section to match the new URL that you want to use for the web content server.
6. Close the editor and save your changes.

See Also

[SSL Certificates for the Self-Service Portal](#)

How to Select a Certificate for Web Content Server Use

In order for content from the web content server to display properly in the Self-Service Portal, the URL that is used to connect with the web content server must match the name on the web content server certificate. A potential solution to a certificate name mismatch problem is to change the certificate that is used by the web content server. Use the following procedure to select an alternative Secure Sockets Layer (SSL) certificate for use with the computer that is hosting the web content server.

In order to use the procedure, you must already have a certificate issued from a certification authority.

► To select a certificate for web content server use

1. Log on to the computer that hosts the web content server with administrative privileges.
2. Click **Start**, point to **Administrative Tools**, and then click **Internet Information Services (IIS) Manager**.
3. In **Internet Information Services (IIS) Manager**, in the **Connections** pane, expand the computer name, expand **Sites**, and then click **SCSMWebContentServer**.



Note

SCSMWebContentServer is the default name used during setup of the Self-Service Portal.

4. In the **Actions** pane, under **Edit Site**, click **Bindings**.
5. In **Site Bindings**, select the port that you used for the SCSMWebContentServer then click **Edit**.
6. In **Edit Site Binding**, click the **SSL certificate** list, and then select the new certificate that you want to use.

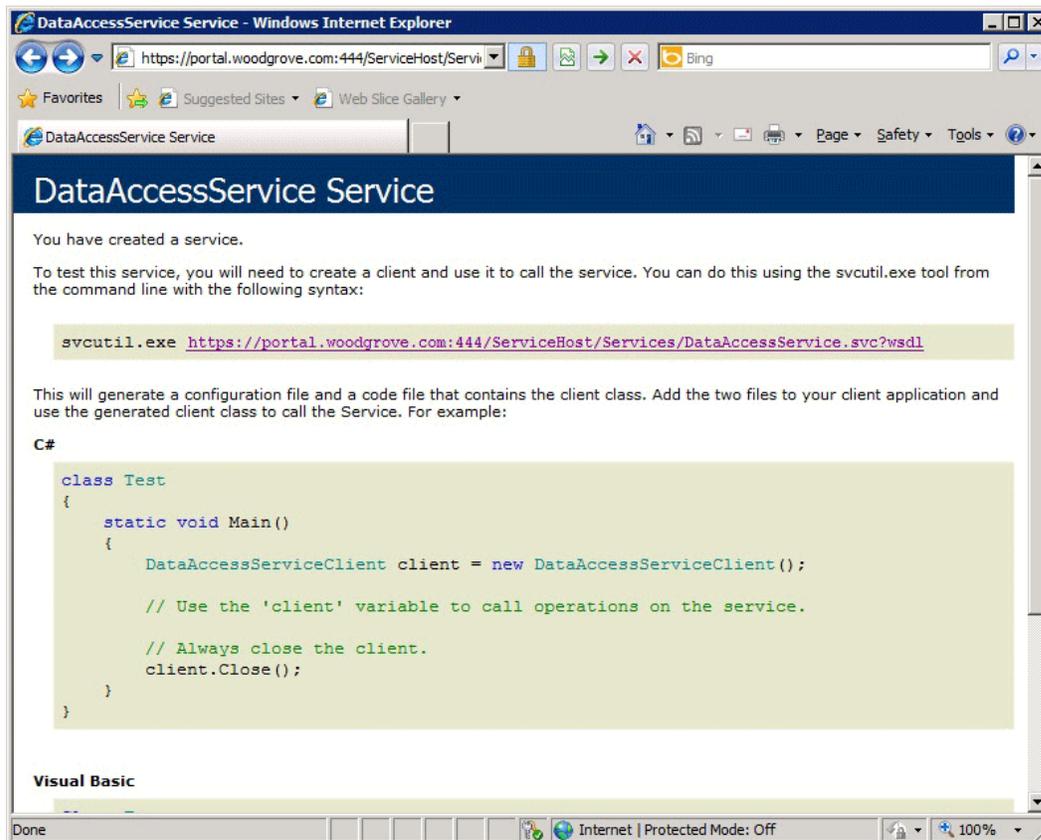
See Also

[SSL Certificates for the Self-Service Portal](#)

How to Connect Directly to the Web Content Server Using a Browser

When you use certificates with the Self-Service Portal in System Center 2012 – Service Manager, you can use this procedure to connect directly to the web content server using a browser. This gives you the opportunity to make sure that the URL you specify for the web content server does not result in any certificate warnings.

In this example, the computer is in Woodgrove National Bank, and the fully qualified domain name (FQDN) for the computer is portal.woodgrove.com. When the web content server was installed, Secure Sockets Layer (SSL) and port 444 were used. (Port 443 was saved for the SharePoint website.) The browser appears as shown in the following illustration.



► **To connect directly to the web content server with a browser**

1. On any computer on the network, open Internet Explorer.
2. In the address line, type the URL that you want to use for the test. For this example, type **https://portal.woodgrove.com:444/ServiceHost/Services/DataAccessService.svc**.
3. Examine the resulting web page for the following:
 - a. The web page loaded with no certificate warnings.
 - b. The background in the address bar is white (indicating no certificate errors).
 - c. The web page looks very similar to the previous illustration.
4. Make a note of this URL that you used successfully, and use this URL as the URL for the web content server when you deploy the SharePoint website. In this example, the URL for the web content server is **https://portal.woodgrove.com:444**.

See Also

[SSL Certificates for the Self-Service Portal](#)

Guidance for Load Balancing System Center 2012 - Service Manager

This section describes how you can load-balance Service Manager management servers and the Self-Service Portal in System Center 2012 – Service Manager.

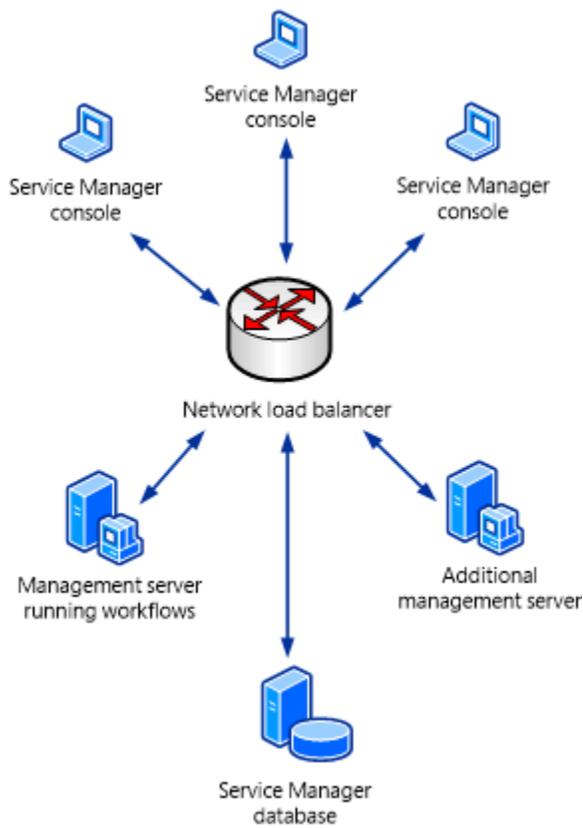
Load Balancing Topics

- [Load-Balancing Service Manager Management Servers](#)
Describes how to load-balance two or more Service Manager management servers.
- [Load-Balancing the Self-Service Portal](#)
Describes how to load-balance the Self-Service Portal.

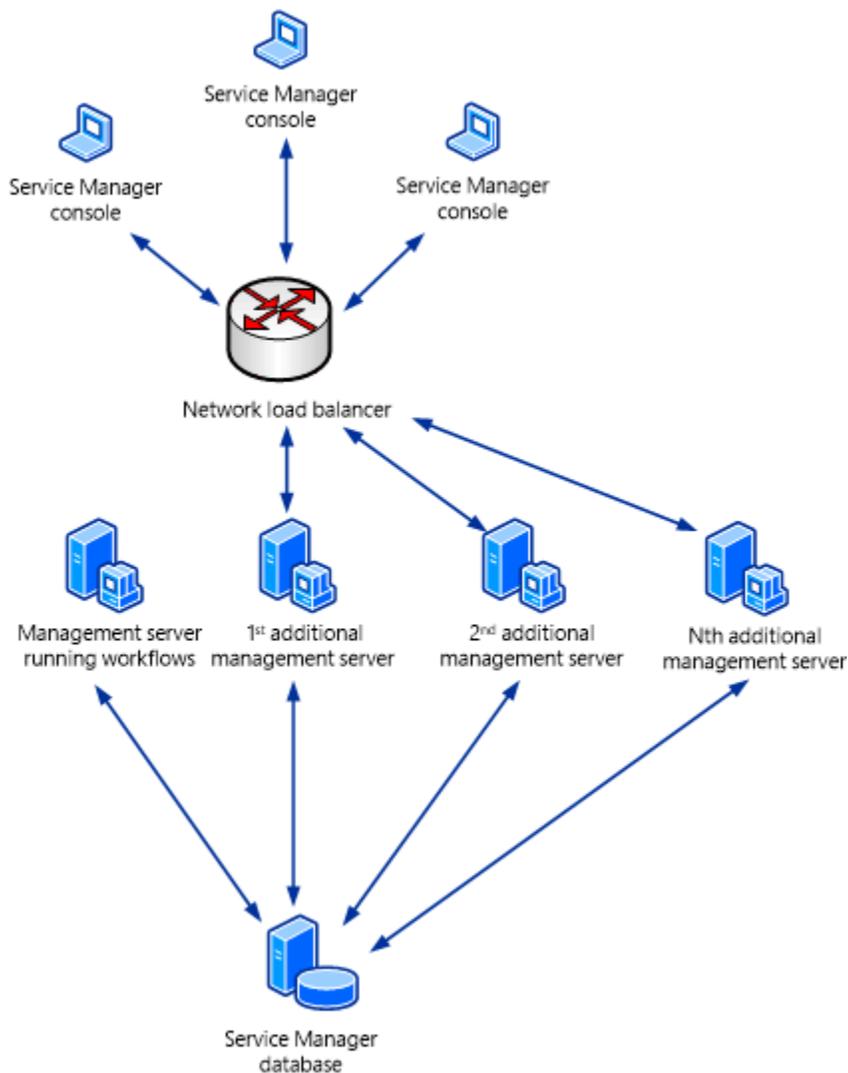
Load-Balancing Service Manager Management Servers

You can use network Load Balancing (NLB) in Windows Server 2008 to configure a pool of computers so that they take turns responding to requests. In System Center 2012 – Service Manager, the initial Service Manager management server that you deploy is the server that processes workflows. You can deploy additional management servers to provide failover for a failed initial management server and to provide load balancing for handling Service Manager console. For more information about Windows Server 2008 NLB, see the [Network Load Balancing Deployment Guide](#). For more information about additional Service Manager management servers, see **Deploying Additional Service Manager Management Servers**.

As a minimum, you have to deploy an initial Service Manager management server—the management server that hosts the workflow processes—and at least one additional Service Manager management server. In an environment of this kind that consists of two Service Manager management servers, configure NLB to use both management servers, as shown in the following illustration.



If you deploy two or more additional Service Manager management servers, you can isolate the initial Service Manager management server from the NLB pool. This reduces the workload on the initial Service Manager management server, resulting in better workflow performance. It also load-balances all of the Service Manager consoles across the remaining Service Manager management servers. This scenario is shown in the following illustration.



Load-Balancing the Self-Service Portal

This topic describes how to configure the Self-Service Portal in a load balancing environment. There are two computers in a Self-Service Portal deployment, the SharePoint computer and the web content server (WCS). The SharePoint computer provides two basic functions; it generates the framework of the web page you see in the Self-Service Portal and it delivers the Silverlight code required for the Self-Service Portal to function. The WCS computer reads and writes data to the Service Manager database and generates the content you see in the center pane of the Self-Service Portal.

Of the two computers in the Self-Service Portal, the WCS computer performs most of the work and we recommend that you first consider load balancing this computer.

Load Balancing the WCS Computer

To create a load balancing environment for the WCS, you deploy multiple computers running Internet Information Services (IIS) and install WCS on each computer. If you are using Secure Socket Layer (SSL), which is recommended, you deploy a certificate with the same name to each computer. When you deploy the SharePoint computer, instead of specifying the URL for the WCS, you specify the URL for the node that is responsible for load balancing. If you are deploying a load balancing environment to an existing Self-Service Portal installation, you will need to edit the web.config file on the SharePoint and WCS computer and specify the URL for the load balancing node there. See the topic [How to Configure the Self-Service Portal for Web Content Server Load Balancing](#).

Load Balancing the SharePoint Computer

Information about how to load balance the SharePoint computers is available at [Multiple servers for a three-tier farm \(SharePoint Server 2010\)](#). Be sure that you edit the web.config file on the SharePoint servers to configure the URL for the either the web content server or the web content server load balancing node. See the procedure "To define the WCS load balancing URL on the SharePoint website server" in this guide.

How to Configure the Self-Service Portal for Web Content Server Load Balancing

When a user starts a browser and connects to the Self-Service Portal in System Center 2012 – Service Manager, he or she is actually connecting to the SharePoint website server. The SharePoint website server delivers the framework for the Self-Service Portal, but it also delivers the URL for the web content server. In a web content server load-balancing environment, you want the SharePoint website server to deliver the URL for the web content server load-balancing node, not the URL for a specific web content server. If you are installing a new Self-Service Portal, you can specify the web content server load-balancing URL during setup. If you added web content server load-balancing to an existing Self-Service Portal installation, you can use the following procedure to reconfigure the URL for the web content server.

You will edit two files, one on the computer that hosts the SharePoint server and one on the computer that hosts the web content servers.

► To define the web content server load-balancing URL on the SharePoint website server

1. Log on to the computer that hosts the SharePoint website server with administrator privileges.
2. Using Windows Explorer, navigate to the folder location where you installed the SharePoint website server. The default location is <drive>:\inetpub\wwwroot\wss\VirtualDirectories\Service Manager Portal.
3. Right-click the Web.config file, and open it with the editor of your choice, for example, Notepad.
4. Scroll to the bottom of the Web.config file, locate the <appSettings> area, and then locate

the <add key=...> line.

5. Edit the URL in the value= section to match the new URL that you want to use for the web content server load-balancing node.
6. Close the editor, and save your changes.

▶ **To reconfigure the web content server URL on the web content servers**

1. Log on to the computer that hosts each of the web content servers with administrator privileges.
2. Using Windows Explorer, navigate to the folder location where you installed the web content server. The default location is <drive>:\inetpub\wwwroot\System Center Service Manager Portal\ContentHost.
3. Right-click the Web.config file, and then open it with the editor of your choice, for example, Notepad.
4. Scroll to the bottom of the Web.config file, locate the <appSettings> area, and then locate the <add key=...> line.
5. Edit the URL in the value= section to match the new URL that you want to use for the web.config load-balancing node.
6. Close the editor, and save your changes.

Completing Deployment by Backing Up the Encryption Key

When you deployed your System Center 2012 – Service Manager management server and database, an encryption key was created so that data between the Service Manager and data warehouse management servers and their associated databases could be encrypted. When you deployed the Self-Service Portal, an encryption key was created so that data between the Self-Service Portal and the Service Manager database could be encrypted.

Your disaster recovery strategy depends on you backing up the encryption keys as soon as you complete the Service Manager installation. After you back up the encryption keys and store them in a safe location, you can recover from software or hardware failures on the Service Manager management servers, data warehouse management servers, and Self-Service Portal.

Use the Encryption Key Backup or Restore Wizard and the following procedures to back up and restore encryption keys on the Service Manager management servers and Self-Service Portal. This wizard is located on the Service Manager installation media in the Tools\SecureStorageBackup folder.

▶ **To back up the encryption key**

1. Log on to the computer that hosts the Service Manager management server, data warehouse management server, or Self-Service Portal by using an account that is a member of the Administrators group.

2. In Windows Explorer, open the Tools\SecureStorageBackup folder on the installation media.
3. Right-click **SecureStorageBackup.exe**, and then click **Run as administrator** to start the Encryption Key Backup or Restore Wizard.
4. On the **Introduction** page, click **Next**.
5. On the **Backup or Restore?** page, select **Backup the Encryption Key**, and then click **Next**.
6. On the **Provide a Location** page, type the path and file name for the encryption key. For example, if you want to specify the file name SMBBackupkey.bin as the encryption key and save the key on the server MyServer in the Backup folder, type **\\MyServer\Backup\SMBBackupkey.bin**, and then click **Next**.
7. On the **Provide a Password** page, type a password that contains at least eight characters in the **Password** box. In the **Confirm Password** box, re-enter the same password, and then click **Next**.

**Note**

Recovery of the password is not possible if it is lost or forgotten.

8. After you receive the message “Secure Storage Backup Complete,” click **Finish**.

► To restore the encryption key

1. Log on to the computer that hosts the Service Manager management server, data warehouse management server, or Self-Service Portal by using an account that is a member of the Administrators group.
2. In Windows Explorer, open the Tools\SecureStorageBackup folder on the installation media.
3. Right-click **SecureStorageBackup.exe**, and then click **Run as administrator** to start the Encryption Key Backup or Restore Wizard.
4. On the **Introduction** page, click **Next**.
5. On the **Backup or Restore?** page, select **Restore the Encryption Key**, and then click **Next**.
6. On the **Provide a Location** page, type the path and file name for the encryption key. For example, if you want to specify the file name SMBBackupkey.bin for the encryption key and save the key on the server MyServer in the Backup folder share, type **\\MyServer\Backup\SMBBackupkey.bin**, and then click **Next**.
7. On the **Provide a Password** page, type the password that you used to back up the encryption key in the **Password** box. In the **Confirm Password** box, re-enter the same password, and then click **Next**.
8. After you receive the message, **Secure Storage Key Restore Complete**, click **Finish**.

Indexing Non-English Knowledge Articles

If you have existing knowledge articles or are planning to create knowledge articles in any language other than English, use the following procedure to resolve an indexing issue in Microsoft SQL Server 2008 with Service Pack 1 (SP1). This issue deals with non-English characters that are used in only the Analyst Content and the Internal Content fields in a knowledge article. You must perform this procedure on the computer that hosts the System Center 2012 – Service Manager database. You have two tasks to perform. The first is to edit the registry, and the second is to run a series of SQL Server query commands on the Service Manager database.



Caution

Incorrectly editing the registry might severely damage your system; therefore, before making changes to the registry, back up any valued data on the computer.

You need three pieces of information for this procedure:

- This globally unique identifier (GUID): E2403E98-663B-4DF6-B234-687789DB8560
- The GUID of the .rtf file that you will discover in the following procedure
- The location of the file rffil.dll, typically, C:\Windows\System32

For this procedure, it is assumed that the file rffil.dll is located in the C:\Windows\System32 folder.



To edit the registry

1. On the computer hosting the Service Manager database, log on to the computer as a user with administrative credentials.
2. On the Windows desktop, click **Start**, and then click **Run**.
3. In the **Run** dialog box, in the **Open** box, type **regedit**, and then click **OK**.
4. If the default instance was selected during setup, in the **Registry Editor** window, expand **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\MSSQL10.MSSQLSERVER\MSSearch\Filters\rtf**.



Note

If the default instance was not selected during setup, the **MSSQL10.MSSQLSERVER** node will be different.

5. In the right pane, double-click **Default**.
6. In the **Edit String** dialog box, in the **Value data** box, make note of the GUID that you find here. This is the GUID of the rtf. file that you will use in step 8. Replace this value with the provided GUID, E2403E98-663B-4DF6-B234-687789DB8560. Make sure that open and close brackets surround this GUID. Click **OK**.
7. In the registry tree, above the **Filters** node that you are currently in, is the **CLSID** node. Expand **CLSID**.
8. In the left pane of the registry editor, locate the GUID that you saved from step 6. Right-click this node, and then click **Rename**.

9. Rename this node by using the provided GUID, E2403E98-663B-4DF6-B234-687789DB8560. Make sure that open and close brackets surround the GUID.
10. In the right pane, double-click the **Default** key.
11. In the **Edit String** dialog box, in the **Value data** box, type the path of the file rtfilt.dll. For example, type **c:\windows\system32\rtfilt.dll**, and then click **OK**.
12. Verify that the data entry for the **ThreadingModel** key is set to **Both**.
13. Close the Registry Editor.

▶ **To run the SQL Server commands**

1. On the computer hosting the Service Manager database, on the Windows desktop, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, perform the following:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server and instance for your Service Manager database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**, and then click **ServiceManager**.
4. In the toolbar, click **New Query**.
5. In the center pane, type the following commands, and then click **Execute**.

```
exec sp_fulltext_service 'verify_signature', 0
go
exec sp_fulltext_service 'update_languages'
go
exec sp_fulltext_service 'restart_all_fdhosts'
go
```

6. In the **Messages** tab, verify that the message “Command(s) completed successfully” appears.

▶ **To verify changing the .rtf filter**

1. On the computer hosting the Service Manager database, on the Windows desktop, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, perform the following:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server and instance for your Service Manager database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.

3. In the **Object Explorer** pane, expand **Databases**, and then click **ServiceManager**.
4. In the toolbar, click **New Query**.
5. In the center pane, type the following, and then click **Execute**:

```
select * from sys.fulltext_document_types where document_type
= '.rtf'
```

6. The results pane shows the following results:

document_type	.rtf
class_id	E2403E98-663B-4DF6-B234-687789DB8560
path	C:\Windows\System32\Rtffilt.dll

Troubleshooting System Center 2012 - Service Manager Deployment Issues

An installation log file is captured during the installation of System Center 2012 – Service Manager. After Service Manager is running, various events are captured in the Windows Event Log. In addition, there are some Windows PowerShell commands that you can use to help troubleshoot data warehouse jobs. For more information, see "Troubleshoot Data Warehouse Jobs" in the [Administrator's Guide for System Center 2012 – Service Manager](#).

Installation Log Files

A log file, SCSMInstall.log, captures the progress of the installation. You can use this log file to troubleshoot a failed installation. You can find this log file in the %temp% folder. To troubleshoot installation problems, you can open the log files and search for a line that reads **Return Value 3**. If you find such a line in the log file, look above this line for any indication that a particular step failed.

Event Logs

Service Manager event logs are located in Event Viewer, in the **Application and Service Logs** folder, in the **Microsoft** folder, and then listed as **Operations Manager**.

Create Database error

During setup, when you were configuring Service Manager or data warehouse databases, you were given the opportunity to specify how much disk space to allocate for each database. The default setting is 2,000 megabytes (MB) (2 gigabytes (GB)). In addition to the disk space that is required for the database, Service Manager sets aside additional space for file groups and log

files. The additional space that is required for the file groups and log files can be equal to the space that is required for the database.

If there is insufficient disk space available, a message appears, indicating that an error occurred during execution of a custom action: `_CreateDatabase`. The installation stops before permanent changes are made. If you examine the Service Manager setup log, you find the following string:

```
Additional Error Description : MODIFY FILE encountered operating system error 112(There is not enough space on the disk.) while attempting to expand the physical file
```

You have to either increase the amount of free disk space that is available or reduce the amount of space that Service Manager allocates for the database, and then attempt the installation again. If you are installing Service Manager in a nonproduction environment, you can specify as little as 500 MB for the database.

Troubleshooting deployment topics

- [How to Troubleshoot a Data Warehouse Job](#)
Describes how to troubleshoot data warehouse jobs.

How to Troubleshoot a Data Warehouse Job

In System Center 2012 – Service Manager, after the Data Warehouse Registration Wizard is complete and after Reporting becomes available in the Service Manager console, you can start running reports. If you encounter a problem with reports (for example, the incident management report you run does not show the current data), you can use Windows PowerShell cmdlets to troubleshoot the problem. For example, you can use the following procedure to determine whether a transform job failed, and you can evaluate any error messages that the transform job created.

► To troubleshoot data warehouse jobs by using Windows PowerShell cmdlets

1. On the computer that hosts the data warehouse management server, click **Start**, click **All Programs**, click **Accessories**, and then click **Windows PowerShell**.
2. Right-click **Windows PowerShell**, and then click **Run as administrator**.
3. At the Windows PowerShell command prompt, type the following command, and then press ENTER:

```
Import-Module  
.\Microsoft.EnterpriseManagement.Warehouse.Cmdlets.psd1
```

4. Type the following command, and then press ENTER:

```
Get-SCDWJob
```
5. Review the output, and locate any job with a status of "Failed."
6. Type the following command, and then press ENTER. In the command, specify the data warehouse job that failed as the value of the `JobName` parameter.

```
Get-SCDWJobModule -JobName Transform.Common
```

7. In the output, locate a status of "Failed," and then review the **Error Message** column for more information about why the data warehouse job failed.
8. When you are ready to retry the failed job, type the following command, and then press ENTER:

```
Resume-SCDWJob -JobName Transform.Common
```

Deploying Service Manager from a Command Line

This section describes how to deploy System Center 2012 – Service Manager using command-line parameters. For easier reading, the command-line examples in this guide list each command-line parameter on its own line. If you copy these examples, you must remove the carriage returns/line-feeds (CRs/LFs) from each line before you can run the commands.



Note

The **/silent** parameter must be the last parameter used in a command-line install.

In this guide, the command-line arguments that you provide are delineated by brackets: []. For example, you provide the Registered Owner's name **[owners name]** and Registered Organization's name **[company name]** as shown in the following example:

```
Setup.exe  
/Install:Datawarehouse  
/RegisteredOwner:[owners name]  
/RegisteredOrganization:[company name]  
/Silent
```

If your command-line argument contains a space—for example, **[owners name]**—enclose the argument in double quotation marks. For example, if you use **Garret Young** as the argument for the **RegisteredOwner** command-line parameter, type the name as shown in the following example:

```
/RegisteredOwner:"Garret Young"
```

Some of the command-line parameters that are used for the Operations Manager and Configuration Manager data marts define Structured Query Language (SQL) path statements as command-line arguments. You must define the drive name and make sure that the path that is listed in this guide is the correct path for your version of Microsoft SQL Server. The examples in this guide are correct for SQL Server 2008, as shown in the following example:

```
/OMDataMartDatabaseLogFilePath:[drive name]\Program Files\Microsoft SQL  
Server\MSSQL10.MSSQLSERVER\MSSQL\DATA
```

The following is an example of the same command-line argument that you would use for SQL Server 2008 R2.

```
/OMDataMartDatabaseLogFilePath:[drive name]\Program Files\Microsoft SQL  
Server\MSSQL10_50.MSSQLSERVER\MSSQL\DATA
```

For additional information about command-line parameters, type **setup.exe /?**. The parameters in the following table are optional.

/ProductKey	If this parameter is omitted, Service Manager is installed as an evaluation edition with an evaluation period of 180 days.
/Installpath	If this parameter is omitted, Service Manager is installed in the default folder and path: [drive name]:\Program Files\Microsoft System Center\Service Manager 2012.
/ServiceRunUnderAccount	If this parameter is omitted, the local system account is used.
/WorkflowAccount	If this parameter is omitted, the local system account is used.

Before you run the command line

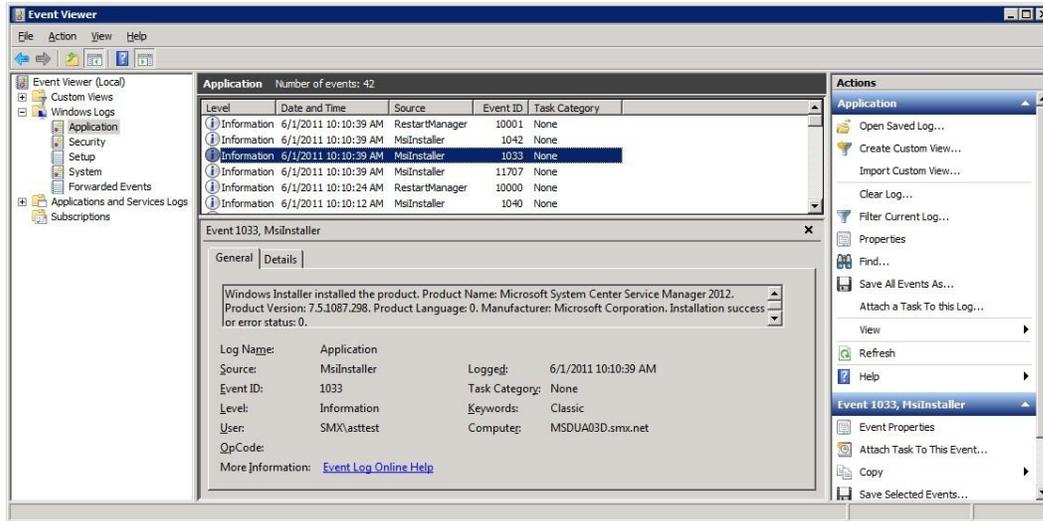
To help prevent an installation failure, perform the following steps on the computer where you will be installing Service Manager:

1. Run the UI-based Setup up to the point where you run the prerequisite checker. Make sure that the prerequisite checker passes, or at least passes with a warning.
2. On the computer where you will be installing the reporting server, make sure that the SQL Server Reporting Services (SSRS) service has started.
3. If you are going to deploy the Reporting Server on a computer other than the computer hosting the data warehouse management server, make sure that you have completed the procedure in [Manual Steps to Configure the Remote SQL Server Reporting Services](#).

Determining When Installation Is Complete

When installation of either the Service Manager management server or the data warehouse management server is complete, an event with Event ID 1033 is written into the Application Event log, as shown in the following illustration.

Event Viewer



If you use the **start /w** command when you are using setup.exe, the command window will remain open when Setup completes, giving you the opportunity to examine any return codes.

Checking Error Codes

When the command-line Setup is complete, the command prompt appears. You can view the error code that was returned by typing **echo %errorlevel%**. An error code of 0 means that the installation was successful. The error codes that could be returned by the command-line installation are listed in [Appendix A - Command-Line Option Error Codes](#) in this guide.

The command-line installation will not check the database name that you supply to see if it already exists. If you supply a database name that already exists, the command-line installation will fail and a -1 will be returned as an error code.

Deploying Service Manager from a Command Line Topics

- [How to Deploy a Service Manager Management Server Using the Command Line](#)
Describes how to install a Service Manager management server using the command line.
- [How to Deploy a Data Warehouse Management Server Using the Command Line](#)
Describes how to install a data warehouse management server using the command line.
- [How to Deploy a Service Manager Console Using the Command Line](#)
Describes how to install a Service Manager console using the command line.
- [How to Deploy the Service Manager Self-Service Portal Using the Command Line](#)
Describes how to install the Self-Service Portal using the command line.

How to Deploy a Service Manager Management Server Using the Command Line

You can use the following command-line procedures to deploy the Service Manager management server and the Service Manager database in System Center 2012 – Service Manager.

▶ To deploy the Service Manager management server and database on one computer

1. Log on to the computer where you want to install the Service Manager console using administrative credentials.
2. Open the command window.
3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait
Setup.exe
/Install:Server
/AcceptEula:[YES/NO]
/RegisteredOwner:[owner name]
/RegisteredOrganization:[company name]
/ProductKey:[25-character product key]
/CreateNewDatabase
/ManagementGroupName:[management group name]
/AdminRoleGroup:[domain\account name]
/ServiceRunUnderAccount:[domain\account name\password]
/WorkflowAccount:[domain\account name\password]
/CustomerExperienceImprovementProgram:[YES/NO]
/EnableErrorReporting:[YES/NO]

/Silent
```

See Also

Deploying Service Manager from a Command Line

How to Deploy a Data Warehouse Management Server Using the Command Line

Use the following procedures to deploy a Service Manager data warehouse and databases, including the Operations Manager and Configuration Manager data mart databases, in System Center 2012 – Service Manager.

Deploying the Data Warehouse

Use the following procedures to deploy the data warehouse with the Operations Manager and Configuration Manager data mart databases. If you want to install the data warehouse management server and data warehouse databases on the same computer, use the same computer name that you are running Setup on for all instances of **[computer name]**. If you want to deploy the databases on a separate computer, adjust the **[computer name]** entries accordingly.

The **/AnalysisServerDatabaseDataFilePath** is optional, and if it is not used, the default path will be used.

The **DWStagingAndConfig** database and the **DWRpository** database must reside on the same instance. Make sure that you specify the same computer and instance for the **/StgConfigSqlServerInstance** and **/RepositorySqlServerInstance** command-line options.

► To deploy the data warehouse management server, data warehouse databases, and optional data marts

1. Log on to the computer where you want to install the Service Manager console using administrative credentials.
2. Open a command window.



Note

You must run the command prompt with administrative credentials.

3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait
Setup.exe
/Install:Datawarehouse
/AcceptEula:[YES/NO]
/RegisteredOwner:[owner name]
/RegisteredOrganization:[company name]
/ProductKey:[25-character product key]
/CreateNewDatabase
/AdminRoleGroup:[domain\account name]
/StgConfigSqlServerInstance:[computer name]
/RepositorySqlServerInstance:[computer name]
/DataMartSqlServerInstance:[computer name]
/ReportingServer:[computer name]
/ReportingWebServiceURL:"http://[computer
name]:80/ReportServer"
/ServiceRunUnderAccount:[domain\account name\password]
/DatasourceAccount:[domain\account name\password]
/CustomerExperienceImprovementProgram:[YES/NO]
```

```
/EnableErrorReporting:[YES/NO]
/ManagementGroupName:DW_improvement
/OMDataMartSqlServerInstance:[computer name]
/CMDataMartSqlServerInstance:[computer name]
/AnalysisServerInstance:[computer name]
/AnalysisServerDatabaseDataFilePath:[path to analysis
database]
/ASRunUnderAccount:[domain\account name\password]
/Silent
```

See Also

Deploying Service Manager from a Command Line

How to Deploy a Service Manager Console Using the Command Line

Use the following command-line procedure to deploy the Service Manager console in System Center 2012 – Service Manager.

► To deploy the Service Manager console

1. Log on to the computer where you want to install the Service Manager console using administrative credentials.
2. Open a command window.
3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait
Setup.exe
/Install:Console
/AcceptEula:[YES/NO]
/RegisteredOwner:[owner name]
/RegisteredOrganization:[company name]
/ProductKey:[25-character product key]
/Installpath:[drive name]\Program Files\Microsoft System
Center\Service Manager 2012
/CustomerExperienceImprovementProgram:[YES/NO]
/EnableErrorReporting:[YES/NO]

/Silent
```

See Also

Deploying Service Manager from a Command Line

How to Deploy the Service Manager Self-Service Portal Using the Command Line

Use the following command-line procedures to deploy the web content server and the SharePoint website for the Service Manager Self-Service Portal in System Center 2012 – Service Manager on separate computers.

Deploying the Web Content Server

Use the following procedure to deploy the web content server on a computer.

▶ To deploy the web content server

1. Log on to the computer where you want to install the Service Manager console using administrative credentials.
2. Open the command window.
3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait
Setup.exe
/Install:Portal
/AcceptEula:[YES/NO]
/RegisteredOwner:[owner name]
/RegisteredOrganization:[company name]
/ProductKey:[25-character product key]
/PortalWebSiteName:[Self-service portal name]
/PortalWebSitePort:[Port number]
/PortalWebSiteCertificate:[SSL Certificate]
/PortalAccount:[domain\account name\password]
/UseExistingDatabase:[ComputerName:DB Name]
/CustomerExperienceImprovementProgram:[YES/NO]
/EnableErrorReporting:[YES/NO]
/Silent
```

Deploying the SharePoint Website

Use the following procedure to deploy the SharePoint website on another computer.

▶ To deploy the SharePoint website

1. Log on to the computer where you want to install the Service Manager console using

- administrative credentials.
2. Open the command window.
 3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait  
Setup.exe
```

```
/Install:Portal  
/AcceptEula:[YES/NO]
```

```
/RegisteredOwner:[owner name]
```

```
/RegisteredOrganization:[company name]
```

```
/ProductKey:[25-character product key]
```

```
/SpPortalWebSiteName:[SharePoint Site Name]
```

```
/SpPortalWebSitePort:[Port number]
```

```
/SpPortalWebSiteCertificate:[SSL Certificate]
```

```
/CreateSpPortalDatabase:[YES/NO]
```

```
/SpPortalAppPoolAccount:[domain\account name\password]
```

```
/CustomerExperienceImprovementProgram:[YES/NO]
```

```
/EnableErrorReporting:[YES/NO]
```

```
/Silent
```

Deploying the Web Content Server and the SharePoint Website on the Same Computer

Use the following command-line procedure to deploy both Self-Service Portal elements—the web content server and the SharePoint website—on the same computer.

▶ **Deploy the web content server and the SharePoint website on the same computer**

1. Log on to the computer where you want to install the Service Manager console using administrative credentials.
2. Open the command window.
3. At the command prompt, change directories to the location of the Service Manager installation media, and then type the following:

```
Start /Wait  
Setup.exe
```

```
/Install:Portal
```

```
/AcceptEula:[YES/NO]
```

```
/RegisteredOwner:[owner name]
```

```
/RegisteredOrganization:[company name]
```

```
/ProductKey:[25-character product key]
```

```
/PortalWebSiteName:[Self-service portal name]
```

```
/PortalWebSitePort:[Port number]
```

```
/PortalWebSiteCertificate:[SSL Certificate]
```

```
/PortalAccount:[domain\account name\password]
```

```
/UseExistingDatabase:[ComputerName:DB Name]
```

```
/SpPortalWebSiteName:[SharePoint Site Name]
```

```
/SpPortalWebSitePort:[Port number]
```

```
/SpPortalWebSiteCertificate:[SSL Certificate]
```

```
/CreateSpPortalDatabase:[YES/NO]
```

```

/SpPortalAppPoolAccount:[domain\account name\password]
/CustomerExperienceImprovementProgram:[YES/NO]

/EnableErrorReporting:[YES/NO]
/Silent

```

See Also

Deploying Service Manager from a Command Line

Appendix A - Command-Line Option Error Codes

The following is a list of the error codes that are used in the command-line installation of System Center 2012 – Service Manager.

Error code	Error
-16	PreUpgradeCheckFailed
-15	InvalidCommandLine
-14	FailedPrerequisiteChecks
-1	Failed
0	Successful
200	DuplicateDataLogPath
201	DuplicatedCMDB
202	EnterValidDatabaseServer
203	FailedToGetCaseSensitiveAccount
204	FailedToValidateMgmtGrp
205	FullTextSearchNotInstalled
206	InstallPathAccessDenied
207	InstallPathCreateDirectory
208	InstallPathTooLong
209	InvalidCMDB
210	InvalidDatabaseConfiguration

Error code	Error
211	InvalidDatabaseSize
212	InvalidDataLogPath
213	InvalidDwServer
214	InvalidInstallPath
215	InvalidPrereqResultFile
216	InvalidProductKey
217	InvalidReportServerConfig
218	InvalidSCSM
219	InvalidSmAdminGroup
220	InvalidSqlInstance
221	InvalidSqlServiceState
222	InvalidToInstalleScsm
223	InvCharInMG
224	MgmtGrpRegistryExist
225	MissingSetupFiles
226	NotEnoughFreeSpace
227	NotEnoughFreeSpaceOnSqlServer
228	NotLocalAdminOnSqlServer
229	NotWin2k8x64Machine
230	NotVistaSP2OrAboveMachine
231	NullDatabaseName
232	NullIMG
233	NullSMAAdmin
234	OldDwDatabaseExist
235	orMessageBoxTitle
236	PrimarySdkServerEmpty
237	RequiredFreeDiskSpace
238	RequiredFreeDiskSpaceForDataFile

Error code	Error
239	RequiredFreeDiskSpaceForLogFile
240	ScomAgentInstalled
241	ScomServerInstalled
242	ScsmComponentsInstalled
243	SelectCMDB
244	SelectSqlServerInstance
245	ServerAccessDenied
246	ServerNotFound
247	SetupAlreadyRunning
248	SetupCancelByUser
249	SetupCrashMsg
250	SetupFailedAt
251	SetupFailedWithMsior
252	SqlAccessDenied
253	SsrsInvalidWebUrl
254	SsrsNeedSecureUrl
255	SsrsNotInstalledOn
256	TestCredentialsFailed
257	TestCredentialsNotLocalAdmin
258	TooLongDatabaseName
259	TooLongMG
260	UnableToNavigateFolderOnRemoteServer
261	UncDataLogPath
262	UnsupportedSQL
263	UserNotSysAdmin
264	FaildToConnectAD
265	ScsmSameVersionInstalled
266	InvalidWebSiteName

Error code	Error
267	InvCharInWebSiteName
268	TooLongWebSiteName
269	InvalidWebSitePort
270	WebSiteNameInUse
271	WebSitePortInUse
272	DWServerInstalled
273	SMServerInstalled
274	SMConsoleInstalled
275	SMPortalInstalled
276	IISNotConfigured
277	FailedToConnectToAD
278	SmAdminIsDomainAdministrators
279	InvalidRegisteredOwner
280	InvalidRegisteredOrganization
281	IIS7RoleNotEnable
282	Not64BitSetup
283	DatabaseSqlStoreNotFound
284	ScomUIInstalled
285	InvalidDatabaseName
286	InvalidCMDBVersion
287	UNCPathExpected
288	DataDirectoryDoesNotExist
289	AnalysisServicesNotInstalled
290	DuplicatedASDatabaseID
3010	SuccessfulNeedReboot

Appendix B - Guidance for Moving the Service Manager and Data Warehouse Databases

After you have deployed Service Manager, you might need to move the Service Manager or data warehouse databases from one computer running Microsoft SQL Server to another for reasons such as the following:

- You need to replace hardware that is experiencing issues and that is no longer considered reliable.
- You need to add additional hardware to improve scalability and performance.
- You need to move a database and log file to a different volume because of space or performance reasons.
- You need to change hardware that is leased and is due to expire soon.
- You need to change or upgrade hardware to comply with new hardware standards.
- You initially installed multiple Service Manager components on a single server, and you need to distribute some components to other servers.
- You need to restore functionality in a failure scenario.

If you want to move the data warehouse database, and if you have installed Service Manager within the last 90 days, it might be easier for you to unregister the data warehouse, install a new data warehouse, and register the new database. If the data has not been groomed from the Service Manager database, there will be no data loss in the data warehouse database because it will be synchronized. By default, the grooming interval for work items is 90 days from the last time a work item was modified. Using this process is much simpler than using the following guidance, which details how to move your databases from one server to another and requires many steps.

Moving databases

For procedures about how to move databases from one computer running SQL Server to another, see the following topics:

- [Moving the Service Manager Database](#)
Describes how to move the Service Manager database from one computer running SQL Server to a new computer running SQL Server.
- [Moving Data Warehouse Databases](#)
Describes how to move Service Manager data warehouse databases to new computers running SQL Server.

See also

- [System Center 2012 – Service Manager](#)
- [Operations Guide for System Center 2012 – Service Manager](#)
- [Administrator's Guide for System Center 2012 – Service Manager](#)
- [Planning Guide for System Center 2012 – Service Manager](#)

Moving the Service Manager Database

You must use the following high-level steps to move the Service Manager database.



Note

These steps link to content in the Service Manager Upgrade Guide.

1. Stop the System Center services on all the management servers, as described in [How to Stop Service Manager Services on the Secondary Management Server](#).
2. Back up the Service Manager database, as described in [How to Back Up the Production Service Manager Database](#).
3. Restore the Service Manager database on the target computer that is running Microsoft SQL Server, as described in [How to Restore the Service Manager Database in the Lab Environment](#).
4. Configure the Service Manager database, as described in [How to Prepare the Service Manager Database in the Lab Environment](#).



Important

Do not perform step 17 in the procedure for configuring tables.

5. Configure the registry on all the management servers that will access the new SQL Server instance, by using the following steps:
 - a. Open Registry Editor.
 - b. Browse to **HKEY_LOCAL_MACHINE\Software\Microsoft\System Center\2010\Common\Database**.
 - c. Configure two keys: one for the server name (DatabaseServerName) and one for the database name (DatabaseName). Set values to the new server name and database name, if they are different from the original values.
6. Start the System Center services on all the management servers, as described in [How to Start Service Manager Services on the Secondary Management Server](#).
7. Install another Service Manager database that has a different name on the same computer that is running SQL Server, by installing another Service Manager management server and choosing to create a new database. This step will populate the master database with error message text so that if an error occurs in the future, the error message can describe the specific problem instead of displaying generic text. After the database is installed, you can drop it from the computer that is running SQL Server and uninstall the additional, temporary management server.

See Also

[Appendix B - Guidance for Moving the Service Manager and Data Warehouse Databases](#)

Moving Data Warehouse Databases

The following high-level steps are required to move the Data Warehouse databases. Each step in this list links to an associated procedure later in this document.

1. [Locate user accounts and instances of SQL Server](#)

2. [Stop Service Manager services](#)
3. [Back up the data warehouse databases](#)
4. [Take the data warehouse databases offline](#)
5. [Restore the data warehouse databases on the new computer running SQL Server](#)
6. [Prepare the data warehouse databases on the new database server](#)
7. [Update data warehouse management Server with the new database server name](#)
8. [Update the data sources on the reporting server](#)
9. [Update the data sources for the Analysis Services](#)
10. [Start Service Manager Services on the data warehouse management server](#)



Important

After you move the **DWStagingAndConfig** and **DWRepository** databases, they have to be restored on the same instance of SQL Server. Restoring them on a separate instances of SQL Server is not supported.

The collation on the new instance of SQL Server has to match the collation of the original instances of SQL Server where the data warehouse databases were originally hosted.

Locate user accounts and instances of SQL Server

Use the following procedures to locate the user accounts and instances of SQL Server that are used by the data warehouse management server.

► To identify the SQL Server database and instance names used by the data warehouse management server

1. Log on to the data warehouse management server as a user with administrative credentials.
2. On the Windows desktop, click **Start**, and then click **Run**.
3. In the **Run** dialog box, in the **Open** box, type **regedit**, and then click **OK**.
4. In the Registry Editor window, expand **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\System Center\2010\Common\Database**, and then make note of the following registry values:
 - DatabaseName
 - DatabaseServerName
 - DataMartDatabaseName
 - DataMartSQLInstance
 - RepositoryDatabaseName
 - RepositorySQLInstance
 - StagingDatabaseName
 - StagingSQLInstance
 - OMDataMartDatabaseName

OMDataMartSQLInstance
CMDDataMartDatabaseName
CMDDataMartSQLInstance

▶ **To identify the reporting server and instance names used by data warehouse management server**

1. Log on to the data warehouse management server as a user with administrative credentials.

On the Windows desktop, click **Start**, and then click **Run**.

In the **Run** dialog box, in the **Open** box, type **regedit**, and then click **OK**.

In the Registry Editor window, expand

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\System

Center\2010\Common\Reporting, and then make note of the following registry values:

Server

ServerInstance

WebServiceURL

▶ **To identify the service account used by the data warehouse management server**

1. On the Windows desktop, click **Start**, and then click **Run**.
2. In the **Run** dialog box, in the **Open** box, type **services.msc**, and then click **OK**.
3. Locate the service System Center Data Access Service, and double-click it.
4. In the **Properties** window, click the **Log On** tab.
5. Make a note of the user account name under **This account**.
6. Repeat Steps 3 through 5 for the **System Center Management Configuration** service.

▶ **To identify the reporting account used by the data warehouse management server**

- 1.

 **Note**

The account that is configured by using the names in the following data sources in SQL Server Reporting Services is called the **Reporting account**.

Log on to the server with SQL Server Reporting Services that are hosting the Service Manager reports.

 **Note**

In this procedure, you will use values that you noted in [To identify the reporting server and instance names used by data warehouse management server](#).

2. In SQL Server Reporting Services, click **Start**, click **All Programs**, click the program group for the version of SQL Server you are running, click **Configuration Tools**, and then click **Reporting Services Configuration Manager**.

3. In the **Reporting Services Configuration Connection** dialog box, connect to the **SQL Reporting instance** that you noted in a previous procedure.
4. In **Reporting Services Configuration Manager**, click **Reporting Manager URL**.
5. On the **Reporting Manager URL** page, click the hyperlink that resembles `http://<Servername>:portnumber/Reports` to open it in your web browser.
6. Open the **System Center** folder and then open the **Service Manager** folder.
7. Click the **DWDataMart** data source and make a note of the **User name** value under **Credentials stored securely in the report server**.
8. In your browser, click **Back** to return to the **Service Manager** folder.
9. Click the **DWStagingAndConfig** data source and make a note of the **User name** value under **Credentials stored securely in the report server**.
10. In your browser, click **Back** to return to the **Service Manager** folder.
11. Click the **ConfigurationManager** data source and make a note of the **User name** value under **Credentials stored securely in the report server**.
12. In your browser, click **Back** to return to the **Service Manager** folder.
13. Click the **MultiMartDatasource** data source and make a note of the **User name** value under **Credentials stored securely in the report server**.
14. In your browser, click **Back** to return to the **Service Manager** folder.
15. Click the **OperationsManager** data source and make a note of the **User name** value under **Credentials stored securely in the report server**.
16. Close the browser window.

► **To identify the OLAP Account used by the data warehouse management server**

1. Log on to the Service Manager server, click **Start**, click **All Programs**, click **Microsoft System Center 2012**, click **Service Manager**, and then click **Service Manager Shell**.
2. In the Windows PowerShell command prompt, copy the following command, and then press ENTER.



Note

Replace <DWServerName> with the name of your data warehouse management server.

```
$class= get-scclass -Name
Microsoft.SystemCenter.ResourceAccessLayer.ASResourceStore -
ComputerName <DWServerName>

$OLAPServer= get-scclassinstance -class $class -ComputerName
<DWServerName>

$OLAPServer.Server
```



Note

The \$OLAPServer.Server cmdlet returns the name of the OLAP server that is hosting the DWASDataBase, and it contains the OLAP Account.

3. On a server where you have **SQL Server Management Studio** installed, do the following:
 - a. Open SQL Server Management Studio.
 - b. In the **Connect to Server** window, select **Analysis Services** in the **Server type** list.
 - c. In the **Server name** list, type or select the name you noted from the output of the \$OLAPServer.Server cmdlet in previous step, and then click **Connect**.
 - d. In the **Object Explorer** pane, expand **Databases**, and then expand the **DWASDataBase** OLAP database.
 - e. Expand the **Data Sources** folder, and then double-click **CMDataMart**.
 - f. In the **Data Source Properties – CMDataMart** dialog box, note the value of **Connection String**.
 - g. Under **Security Settings**, click **Impersonation Account**, and then click the properties button (...), to open the **Impersonation Information** dialog box.
 - h. In the **Impersonation Information** dialog box, note the user name.
 - i. Click **Cancel** twice to close the dialog boxes.
 - j. Repeat the steps above to note the Connection string and the User name for the DWDataMart and OMDDataMart databases.

Stop Service Manager services

Use the following procedure to stop the Service Manager services on the data warehouse management server.

▶ To stop Service Manager services on the data warehouse management server

1. In the **Run** dialog box, in the **Open** text field, type **services.msc**, and then click **OK**.
2. In the **Services** window, in the **Services (Local)** pane, locate the following three services, and for each one, click **Stop**:
 - a. System Center Data Access Service
 - b. System Center Management
 - c. System Center Management Configuration

Back up the data warehouse databases

Use the following procedure to back up the data warehouse databases on the original computer running SQL Server.

▶ To back up the data warehouse databases

1. Log on to the original computer running SQL Server that is hosting the data warehouse databases, and open **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, follow these steps:
 - a. In the **Server Type** list, select **Database Engine**.

- b. In the **Server Name** list, select the server name for your data warehouse database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Right-click the **DWStagingAndConfig** database, click **Tasks**, and then click **Back Up**.
5. In the **Back Up Database** dialog box, type a path and a file name in the **Destination on disk** text box, and then click **OK**.



Important

The destination location must have enough available free disk space to store the backup files.

6. Click **OK** in the **Back Up Database** dialog box to start the back up.
7. Repeat these steps for the DWRRepository, CMDWDDataMart, OMDWDDataMart, and DWDDataMart databases.

Take the data warehouse databases offline

Use the following procedure to take the data warehouse databases offline on the original computer running SQL Server.

▶ To take the data warehouse databases offline

1. Log on to the original computer running SQL Server that is hosting the data warehouse databases, and open **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, follow these steps:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server name for your data warehouse database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**.
4. Right-click the **DWStagingAndConfig** database, click **Tasks**, and then click **Take Offline**.
5. In the **Take database offline** dialog box, click **Close**.
6. Repeat the previous steps for the DWRRepository, CMDWDDataMart, OMDWDDataMart, and DWDDataMart databases.

Restore the data warehouse databases on the new computer running SQL Server

Use the following procedure to restore the data warehouse databases on the new computer running SQL Server.

▶ To restore the data warehouse databases

1. On the new computer running SQL Server, open **SQL Server Management Studio**.

2. In the **Connect to Server** dialog box, follow these steps:
 - a. In the **Server Type** list, select **Database Engine**.
 - b. In the **Server Name** list, select the server name for your Service Manager services database.
 - c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, right-click the **Databases** folder, and then click **Restore Database**.
4. In the **Restore Database** dialog box, under the **To a point in time** text box, retain the default, **Most recent possible**, or select a specific date and time by clicking the browse button to open the **Point in Time Restore** dialog box.
5. To specify the source and location of the backup sets to restore, click **From Device**.
6. Click **Browse** to open the **Specify Backup** dialog box.
7. In the **Backup media** list box, select one of the listed device types. To select more devices for the Backup location, click **Add**.
8. In the **Select the backup sets to restore** grid, select the backups to restore. (This grid displays the backups that are available for the specified location.)
9. On the **General** page, the name of the restoring database appears in the **To database** list. Select the **DWStagingAndConfig** database from the list.
10. In the **Restore options** panel, select **Overwrite the existing database**.
11. In the **Restore the database files as** options panel, verify that the original database file name and path are correct.
12. For the **Recovery state** option, select **Leave the databases ready to use by rolling back the uncommitted transactions. Additional transaction logs cannot be restored (RESTORE WITH RECOVERY)**.
13. Click **OK** to restore the database.
14. Repeat the previous steps for the DWRepository, CMDWDDataMart, OMDWDDataMart, and DWDataMart databases.

Prepare the data warehouse databases on the new database server

Use the following three procedures to prepare the data warehouse databases on the new database server:

1. To configure the DWStagingAndConfig database on the new computer running SQL Server
2. To configure the service account database permissions
3. To configure the DWStagingAndConfig tables

To configure the DWStagingAndConfig database on the new computer running SQL Server

1. On the new computer running SQL Server, open **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, follow these steps:
 - a. In the **Server Type** list, select **Database Engine**.

- b. In the **Server Name** list, select the name of the new computer running SQL Server that hosts the **DWStagingAndConfig** database.
- c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**, and then click **DWStagingAndConfig**.
4. In the toolbar, click **New Query**.
5. In the center pane, copy the following command, and then click **Execute**.

```
sp_configure 'clr enabled', 1
go
reconfigure
go
```

6. In the center pane, remove the command you typed in the previous step, copy the following command, and then click **Execute**.

```
ALTER DATABASE DWStagingAndConfig SET SINGLE_USER WITH
ROLLBACK IMMEDIATE
```

7. In the center pane, remove the command you typed in the previous step, copy the following command, and then click **Execute**.

```
ALTER DATABASE DWStagingAndConfig SET ENABLE_BROKER
```

8. In the center pane, remove the command you typed in the previous step, type the following command, and then click **Execute**.

```
ALTER DATABASE DWStagingAndConfig SET MULTI_USER
```

▶ To configure the service account database permissions

1. In the **Object Explorer** pane, expand **Security**, and then expand **Logins**. Right-click **Logins**, and then click **New Login**.
2. Click **Search**.
3. Type the user name by using the domain\user name format for the data warehouse service account, click **Check Names**, and then click **OK**.



Note

If the Data Access Account is running as LocalSystem, use the format <domain\computername\$> in SQL Logins, where <computername> is the name of the management server.

4. In the **Select a page** pane, click **User Mapping**.
5. In the **Users mapped to this login** area, in the **Map** column, select the row that represents the name of the DWStagingAndConfig database. DWStagingAndConfig is the default database name.
6. In the **Database role membership for: DWStagingAndConfig** area, ensure that the following entries are selected:
 - **configsvc_users**
 - **db_accessadmin**

- **db_datareader**
 - **db_datawriter**
 - **db_ddladmin**
 - **db_securityadmin**
 - **dbmodule_users**
 - **public**
 - **sdk_users**
 - **sql_dependency_subscriber**
 - **db_owner**
7. In the **Database role membership for: DWRepository** area, ensure that the following entries are selected:
 - **db_owner**
 - **public**
 8. In the **Database role membership for: DWDataMart** area, ensure that the following entries are selected:
 - **db_owner**
 - **public**
 9. Click **OK**.
 10. In the **Object Explorer** pane, expand **Security**, and then expand **Logins**.
 11. Right-click **Logins**, and then click **New Login**.
 12. Click **Search**.
 13. Type the user name in the domain\user name format for the reporting account, click **Check Names**, and then click **OK**.
 14. In the **Select a page** pane, click **User Mapping**.
 15. In the **Users mapped to this login** area, in the **Map** column, select the row that represents the name of the DWStagingAndConfig. DWStagingAndConfig is the default database name.
 16. In the **Database role membership for: DWStagingAndConfig** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 17. In the **Database role membership for: DWRepository** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 18. In the **Database role membership for: DWDataMart** area, ensure that the following entries are selected:
 - **db_datareader**

- **public**
 - **reportuser**
19. In the **Database role membership for: OMDWDataMart** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 20. In the **Database role membership for: CMDWDataMart** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 21. Click **OK**.
 22. In the **Object Explorer** pane, expand **Security**, and then expand **Logins**.
 23. Right-click **Logins**, and then click **New Login**.
 24. Click **Search**.
 25. Type the user name in the domain\user name format for the **OLAP account**, click **Check Names**, and then click **OK**.
 26. In the **Select a page** pane, click **User Mapping**.
 27. In the **Database role membership for: DWDDataMart** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 28. In the **Database role membership for: OMDWDataMart** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 29. In the **Database role membership for: CMDWDataMart** area, ensure that the following entries are selected:
 - **db_datareader**
 - **public**
 - **reportuser**
 30. Click **OK**.

 **To configure the DWStagingAndConfig tables**

1. In the **Object Explorer** pane, expand **Databases**, expand **DWStagingAndConfig**, and then expand **Tables**.

2. Right-click **dbo.MT_Microsoft\$SystemCenter\$ManagementGroup**, and then click **Edit Top 200 Rows**.
3. In the center pane, locate the column **SQLServerName_43FB076F_7970_4C86_6DCA_8BD541F45E3A**, and then in the first row of the column, type the name of the new computer running SQL Server that is hosting the DWStagingAndConfig database. In the case of named instances, type **ComputerName\InstanceName**.
4. Right-click **dbo.MT_Microsoft\$SystemCenter\$ResourceAccessLayer\$SqlResourceStore**, and then click **Edit Top 200 Rows**.
5. Update the column **Server_48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA** for rows representing DWStagingAndConfig, DWRepository, CMDWDataMart, OMDWDataMart, and DWDataMart by typing the name of the new computer running SQL Server that is hosting the respective databases. In the case of named instances, type **ComputerName\InstanceName**.
6. Right-click **dbo.MT_Microsoft\$SystemCenter\$ResourceAccessLayer\$CMDBResourceStore**, and then click **Edit Top 200 Rows**.
7. In the center pane, locate the column **Server_48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA**, and in the first row of the column, type the name of the new computer running SQL Server that is hosting the DWStagingAndConfig database. In the case of named instances, type **ComputerName\InstanceName**.
8. Right-click **LFX.DataSource**, and then click **Edit Top 200 Rows**.
9. In the center pane, locate the **DataSourceAddress** column, and in the first row of the column, locate the entry that starts with **Data Source = <server name>; Initial Catalog = DWStagingAndConfig; Persist Security Info=False**. Replace **<server name>** with the name of the new computer running SQL Server.
10. Ensure that the values you typed were saved by querying the tables specified in the previous steps.
11. Close **Microsoft SQL Server Management Studio**.

Update data warehouse management Server with the new database server name

Use the following procedure to update the data warehouse management server to use the new database server name.

To update the data warehouse management server to use the new database server name

1. Log on to the computer as a user with administrative credentials.
2. On the Windows desktop, click **Start**, and then click **Run**.
3. In the **Run** dialog box, in the **Open** box, type **regedit**, and then click **OK**.

 **Caution**

Incorrectly editing the registry might severely damage your system; therefore, before making changes to the registry, back up any valued data on the computer.

4. In the Registry Editor window, expand **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\System Center\2010\Common\Database**.
5. In the right pane, double-click **DatabaseServerName**.
6. In the **Edit String** box, in the **Value data** box, type the name of the new computer running SQL Server that hosts the DWStagingAndConfig database. If you are using a named instance of SQL Server, use the Computer Name\Instance name format.
7. Click **OK**.
8. Repeat the previous steps for the registry values to reflect the new name of the computer running SQL Server for the DWDataMart, OMDWDataMart, CMDWDataMart, DWRepository, and DWStagingAndConfig databases.
 - DataMartSQLInstance
 - RepositorySQLInstance
 - StagingSQLInstance
 - OMDataMartSQLInstance
 - CMDataMartSQLInstance

Update the data sources on the reporting server

Use the following procedure to update data sources on the reporting server to point to the new computer running SQL Server.

To update the data sources on the reporting server

1. Log on to the Service Manager reporting server, and start **Reporting Services Configuration Manager**.
2. In the **Reporting Services Configuration Connection** dialog box, connect to the correct reporting server instance as noted in the section To identify the reporting server and instance name used by data warehouse management server.
3. In the Reporting Services Configuration Manager list, select **Report Manager URL**.
4. On the **Report Manager URL** page, click the hyperlink that resembles **http://<Servername>:portnumber/Reports** to open the **Reports** home page in your Internet browser.
5. On the home page, open the **System Center** folder, and then open the **Service Manager** folder.
6. Open the list of Service Manager items, and then click the **DWDataMart** data source.
7. In the **Connection string** box, the string resembles `data source=<server name>;initial catalog=DWDataMart`. Replace the existing name of the computer running SQL Server by typing the name of the new computer running SQL Server.

8. Go back to the previous Service Manager folder webpage, and click the **DWStagingAndConfig** data source.
9. In the **Connection string** box, the string resembles `data source=<server name>;initial catalog= DWStagingAndConfig`. Replace the existing name of the computer running SQL Server by typing the name of the new computer running SQL Server.
10. Go back to the previous Service Manager folder webpage and click the **ConfigurationManager** data source.
11. In the **Connection string** box, the string resembles `data source=<server name>;initial catalog= CMDWDataMart`. Replace the existing name of the computer running SQL Server by typing the name of the new computer running SQL Server.
12. Go back to the previous Service Manager folder webpage and click the **MultiMartDataSource** data source.
13. In the **Connection string** box, the string resembles `<root><source id='DWDDataMart' connectionString='Data Source=<Server name>;Initial Catalog=DWDDataMart;Integrated Security=True' /><source id='OMDDataMart' connectionString='Data Source=<Server name>;Initial Catalog=OMDWDDataMart;Integrated Security=True' /><source id='CMDDataMart' connectionString='Data Source=<Server name>;Initial Catalog=CMDWDataMart;Integrated Security=True' /></root>`. Replace the existing name of the computer running SQL Server by typing the name of the new computer running SQL Server.
14. Go back to the previous Service Manager folder webpage and click the **Operations Manager** data source.
15. In the **Connection string** box, the string resembles `data source=<server name>;initial catalog= OMDWDataMart`. Replace the existing name of the computer running SQL Server by typing the name of the new computer running SQL Server.
16. Close your web browser.

Update the data sources for the Analysis Services

Use the following procedure to update the connection strings for the data sources on the server that hosts the Analysis Services database.

► To update the data sources for the Analysis services

1. Log on to the server that hosts the SQL Server Analysis Services database.
2. Open **SQL Server Management Studio**.
3. In the **Connect to Server** dialog box, in the **Server Type** list, select **Analysis Services**.
4. In the **Server name** list, type the server name that you received as output from the `$OLAPServer.Server cmdlet`. (You noted this information in the blah section earlier in this topic.)
5. In the **Object Explorer** pane, expand **Databases**, and then expand **DWASDataBase**.
6. Expand **Data Sources**, and then double-click **CMDDataMart**.
7. In the **Data Source Properties – CMDDataMart** dialog box, select **Connection string Provider=SQLNCLI10.1;Data Source=<servername>;Integrated**

Security=SSPI;Initial Catalog=CMDWDataMart.

8. Replace <servername> with the name of the computer running SQL Server that hosts the CMDWDataMart database.
9. Click **OK**.
10. Repeat the previous steps to update the connection strings for the DWDataMart and OMDDataMart data sources.

Start Service Manager Services on the data warehouse management server

Use the following procedure to start the Service Manager services on the data warehouse management server.

▶ To start Service Manager services on the data warehouse management server

1. In the **Run** dialog box, in the **Open** text field, type **services.msc**, and then click **OK**.
2. In the **Services** window, in the **Services (Local)** pane, locate the following three services, and for each one, click **Start**:
 - a. System Center Data Access Service
 - b. System Center Management
 - c. System Center Management Configuration

See also

[Appendix B - Guidance for Moving the Service Manager and Data Warehouse Databases](#)