



Microsoft®
System Center 2012

**System Center 2012: Configuration Manager
Test Lab Guide**

Microsoft Corporation

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Abstract

This document will assist architects, consultants, system engineers, and system administrators in deploying System Center 2012: Configuration Manager in a test lab.

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Introduction

In This Guide

This paper contains instructions for setting up a test lab based on the Base Configuration Test Lab Guide and deploying Microsoft System Center 2012 Configuration Manager using one server computer and one client computer. The resulting Microsoft System Center 2012 Configuration Manager test lab demonstrates simple System Center 2012 Configuration Manager functionality.

Important:

The following instructions are for configuring a Microsoft System Center 2012 Configuration Manager test lab using the minimum number of computers. Individual computers are needed to separate the services provided on the network and to clearly show the desired functionality. This configuration is neither designed to reflect best practices nor does it reflect a desired or recommended configuration for a production network. The configuration, including IP addresses and all other configuration parameters, is designed only to work on a separate test lab network.

Attempting to adapt this Microsoft System Center 2012 Configuration Manager test lab configuration to a pilot or production deployment can result in configuration or functionality issues. To ensure proper configuration and operation for your pilot or production Microsoft System Center 2012 Configuration Manager deployment, use the information in Planning for Configuration Manager Sites and Hierarchy (<http://go.microsoft.com/?linkid=9815062>) for planning and deployment decisions and Configuring Sites and Hierarchies in Configuration Manager (<http://go.microsoft.com/?linkid=9815063>) for the steps to properly configure System Center 2012 Configuration Manager and supporting infrastructure servers.

Test Lab Overview

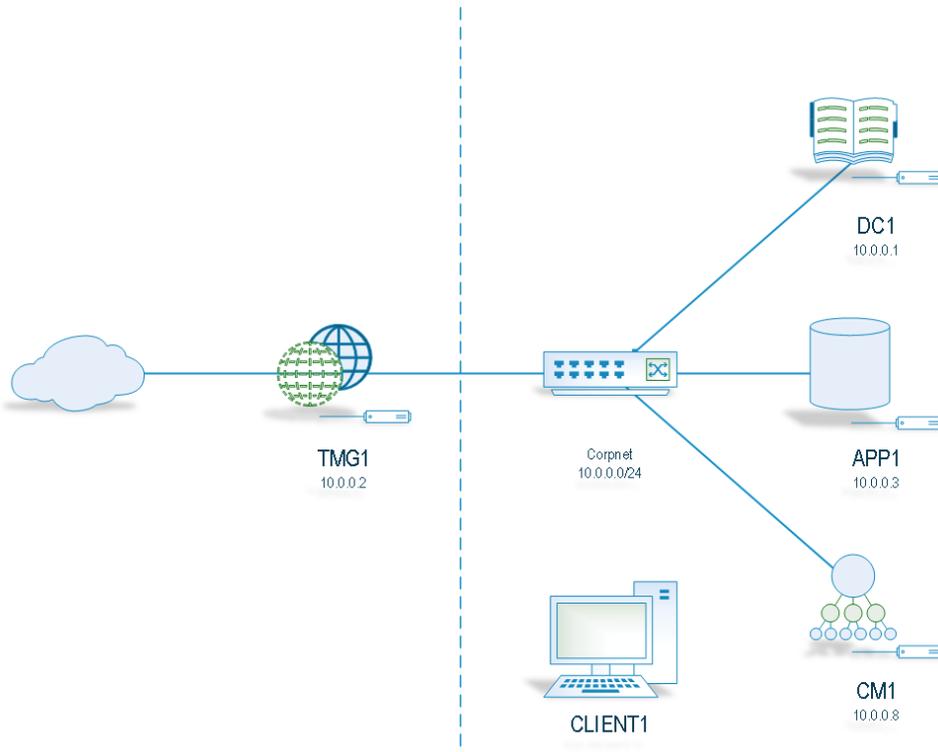
In this test lab, System Center 2012 Configuration Manager is deployed with:

- One server running System Center 2012 Configuration Manager named CM1. CM1 uses the Windows Server 2008 R2 SP1 Enterprise Edition operating system.
- One pre-existing server running SQL Server 2008 R2 Enterprise named APP1. APP1 uses the Windows Server 2008 R2 SP1 Enterprise Edition operating system.
- One pre-existing client running on Windows 7 Ultimate Edition named CLIENT1.

The Microsoft System Center 2012 Configuration Manager test lab uses the following subnet:

- The intranet established by the Base Configuration Test Lab Guide, referred to as the Corpnet subnet (10.0.0.0/24).

Computers on each subnet connect using a hub or switch. See the following figure.



This test lab will demonstrate basic CM client functionality. The purpose of this test lab is to allow for the creation of a basic test lab environment that consists of Microsoft System Center 2012 Configuration Manager. This test lab guide can be used as a building block for additional test lab guides that demonstrate increased functionality or additional features of Microsoft System Center 2012 Configuration Manager.

Hardware and Software Requirements

The following are required components of the test lab:

- The product disc or files for Windows Server 2008 R2 SP1 Enterprise Edition.
- The product disc or files for Microsoft System Center 2012 Configuration Manager
- The product disc or files for Microsoft SQL Server 2008 R2 Enterprise 64-bit.
- The product disc or files for the latest Microsoft SQL Server 2008 R2 Enterprise Service Pack
- The files for Windows Server Update Services with Service Pack 2.
- The files for .NET Framework Full Installation

The following table provides a summary of the Microsoft software that is used in this guide.

Software	Additional Information
Microsoft System Center 2012 Configuration Manager	Microsoft System Center 2012 Configuration Manager (http://go.microsoft.com/?linkid=9815062)
Microsoft SQL Server 2008 R2 Enterprise 64-bit	Microsoft SQL Server 2008 R2 (http://go.microsoft.com/fwlink/?Linkid=156714)
Latest Service Pack for Microsoft SQL Server 2008 R2 Enterprise (currently Service Pack 2)	SQLServer2008R2SP2-KB2630458-x64-ENU.exe (http://support.microsoft.com/kb/2527041)
Windows Server Update Services with Service Pack 2 64-Bit	Description of Windows Server Update Services with Service Pack 2 (http://support.microsoft.com/kb/972455)
.NET Framework 4.0 Full Installation	dotNetFx40_Full_x86_x64.exe (http://go.microsoft.com/?linkid=9815064)

Steps for Configuring the System Center 2012 Configuration Manager Test Lab

There are 9 steps to follow when setting up a System Center 2012 Configuration Manager test lab based on the System Center 2012 Configuration Manager Test Lab Guide.

1. **Complete the Base Configuration.** The Base Configuration is the core of all Test Lab Guide scenarios. The first step is to complete the Base Configuration.
2. **Configure CM1.** After installing the operating system, CM1 must be configured and joined to the corporate domain.
3. **Complete Installing SQL Server 2008 R2 Enterprise and Service Pack 2.** System Center 2012 Configuration Manager requires SQL Server 2008 or 2008 R2 with the latest service pack.
4. **(optional) Complete the TMG Core Configuration.** The TMG Core Configuration provides internet access to the Test Lab.
5. **Configure DC1.** Several steps must be performed on the domain controller in preparation for System Center 2012 Configuration Manager.
6. **Install System Center 2012 Configuration Manager Prerequisites.** Prior to installing System Center 2012 Configuration Manager, there are some prerequisites that must be met.
7. **Install System Center 2012 Configuration Manager.** Install the System Center 2012 Configuration Manager binaries on CM1.
8. **Configure System Center 2012 Configuration Manager.** Configure the roles of System Center 2012 Configuration Manager.
9. **Deploy the System Center 2012 Configuration Manager Client.** Deploy the Configuration Manager Client to CLIENT1.

This guide provides steps for configuring the computers of the System Center 2012 Configuration Manager test lab, configuring System Center 2012 Configuration Manager, and deploying a Configuration Manager client. The following sections provide details about how to perform these tasks.

Step 1: Set up the Base Configuration Test Lab

Set up the Base Configuration test lab using the Test Lab Guide: Base Configuration.
(<http://go.microsoft.com/fwlink/?LinkId=198140>).

Step 2: Configure CM1

CM1 configuration for the System Center 2012 Configuration Manager test lab consists of the following:

- Install Windows Server 2008 R2 SP1 on CM1
- Configure TCP/IP Properties on CM1
- Rename and Join Domain on CM1

Install Windows Server 2008 R2 SP1 on CM1

Install the Windows Server 2008 R2 SP1 operating system on CM1.

▶ To install Windows Server 2008 R2 SP1 on CM1

1. Start the installation of Windows Serve 2008 R2 SP1.
2. Follow the instructions to complete the installation, specifying Windows Server 2008 R2 SP1 Enterprise Edition (full installation) and a strong password for the local Administrator account.
3. Once the installation completes, log on using the local Administrator account.
4. Connect CM1 to a network that has Internet access and run Windows Update to install the latest updates for Windows Serve 2008 R2 SP1.
5. Once the updates are complete, restart CM1 and log on as the local Administrator.

Configure TCP/IP Properties on CM1

Configure the TCP/IP properties on CM1 so that it can join the corp.contoso.com domain.

▶ To configure the TCP/IP properties on CM1

1. In **Initial Configuration Tasks**, click **Configure networking**.
2. In the **Network Connections** window, right-click **Local Area Connection**, and then click **Properties**.
3. Click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
4. Select **Use the following IP address**. In **IP address**, type **10.0.0.8**. In Subnet mask, type **255.255.255.0**. In **Default Gateway**, type **10.0.0.2**. In **Preferred DNS server**, type **10.0.0.1**.
5. Click **Advanced**, and then click the **DNS** tab. In **DNS suffix for this connection**, type **corp.contoso.com**, click **OK** twice, and then click **Close**.
6. Close the **Network Connections** window and leave the **Initial Configuration Tasks** window open.

7. To check name resolution and network communication between CM1 and DC1, click **Start**, click **All Programs**, click **Accessories**, and then click **Command Prompt**.
8. In the **Command Prompt** window, type **ping dc1.corp.contoso.com**.
9. Verify that there are four replies from **10.0.0.1**.
10. Close the **Command Prompt** window.

Rename and Join Domain on CM1

Now, rename CM1 and join it to the corp.contoso.com domain.

To rename CM1 and join the corp.contoso.com domain

1. In **Initial Configuration Tasks**, click **Provide Computer Name and Domain**.
2. In the **System Properties** dialog box, on the **Computer Name** tab, click **Change**.
3. In **Computer Name**, type CM1. In **Member of**, click **Domain**, and then type **corp.contoso.com**.
4. Click **OK**.
5. When you are prompted for a user name and password, type **User1** and its password, and then click **OK**.



Note:

- You can also use the Corp\Administrator account to join CM1 to the domain.
6. When you see a dialog box welcoming you to the corp.contoso.com domain, click **OK**.
 7. When you are prompted that you must restart the computer, click **OK**.
 8. On the **System Properties** dialog box, click **Close**.
 9. When you are prompted to restart the computer, click **Restart Now**.
 10. After the computer restarts, click **Switch User**, and then click **Other User** and log on to the CORP domain with the Administrator account.
 11. In **Initial Configuration Tasks**, click **Do not show this window at logon**, and then click **Close**.

Step 3: Configuring SQL Server 2008 R2 Enterprise and Service Pack 2

The configuring SQL Server 2008 R2 Enterprise and Service Pack 2 for use with the System Center 2012 Configuration Manager test lab section consists of the following:

- Set up SQL Server 2008 R2
- Configure SQL Service Accounts
- Installing SQL Server Reporting Services
- Installing SQL Server 2008 R2 Service Pack 2
- Configure SQL Server Reporting Services
- Configure Local Administrator Group
- Configure Windows Advanced Firewall

Set up SQL Server 2008 R2

Set up SQL Server 2008 R2 Enterprise using the Test Lab Guide: Installing SQL Server 2008 R2 Enterprise. (<http://go.microsoft.com/fwlink/?LinkID=206340>)

Configure SQL Service Accounts

Configure SQL Service Accounts for SPN registration.

To configure the SQL Service Accounts for SPN registration

1. Log on to the DC1.corp.contoso.com server as **CORP\Administrator**.
2. Click **Start**, select **Administrative Tools**, and click **ADSI Edit**.
3. In the **ADSI Edit** console, right-click on **ADSI Edit** and select **Connect to**.
4. In the **Connection Settings** dialog, click **OK** to select the **Default Naming Context**.
5. Double-click to expand **Default naming context [DC1.corp.contoso.com]**.
6. Double-click to expand **DC=corp,DC=contoso,DC=com**.
7. Double-click to expand **OU=ServiceAccounts**.
8. Right-click on **CN=SQL Server Agent** and select **Properties**.
9. In the **CN=SQL Server Agent Properties** dialog, click the **Security** tab and select the **Advanced** button.
10. In the **Advanced Security Settings for SQL Server Agent** dialog, click **Add**.
11. In the **Select User, Computer, Service Account, or Group** dialog, under **Enter the object name to select (examples)**, enter **SELF** and click **OK**.
12. In the **Permission Entry for SQL Server Agent**, select the **Properties** tab.

13. In the **Permission Entry for SQL Server Agent**, in the **Apply to** drop-down, select **This object only**.
14. Under **Permissions**, scroll down and check the boxes next to **Read servicePrincipalName** and **Write servicePrincipalName**.
15. Click **OK 3 times**.
16. Repeat steps 8-14 for **CN=SQL Server Database Engine**.
17. Close **ADSI Edit**.

Installing SQL Server Reporting Services

Install SQL Server Reporting Services on APP1.

To install SQL Server Reporting Services on APP1

1. Insert the **SQL Server 2008 R2** media into APP1.
2. On APP1, navigate to the directory that contains the SQL Server 2008 R2 Enterprise binaries and double-click **Setup.EXE**. This will bring up a box that says **This program has known compatibility issues**. Click **Run Program**. This will launch the SQL Server Installation Center.
3. In the **SQL Server Installation Center**, on the left, click **Installation**.
4. On the right, click **New SQL Server stand-alone installation or add features to an existing installation**. This will launch the SQL Server 2008 R2 Enterprise Setup.
5. On the **Setup Support Rules** screen, click **OK**. This will close the **Setup Support Rules** screen and will bring up the **Product Key** screen.
6. On the **Product Key** screen, enter your product key, and then click **Next**.



Important:

The retail version of SQL Server 2008 R2 Enterprise from Microsoft MSDN® was used in creating this test lab guide. If you are using a volume license copy the key may already be provided.

7. On the **Setup Support Files** screen, click **Install**. This will take a few moments to complete. Once this completes the **Setup Support Rules** screen will appear again.
8. On the **Setup Support Rules** screen, click **Next**.
9. On the **Installation Type** screen, select the option button next to **Add features to an existing instance of SQL Server 2008 R2** and click **Next**.
10. On the **Feature Selection** screen, under **Instance Features** select **Reporting Services** and click **Next**.
11. On the **Installation Rules** screen, click **Next**.
12. On the **Disk Space Requirements** screen, click **Next**.

13. On the **Server Configuration** screen, next to **SQL Server Reporting Services** under **Account Name**, enter **CORP\SQLDatabase**, and then under **Password**, enter **Pass1word\$** and click **Next**.
14. On the **Reporting Services Configuration** screen, click **Next**.
15. On the **Error Reporting** screen, click **Next**.
16. On the **Installation Configuration Rules** screen, click **Next**.
17. On the **Ready to Install** screen, click **Install**.
18. On the **Complete** screen, click **Close**.

Installing SQL Server 2008 R2 Enterprise Service Pack 2

Install the SQL Server 2008 R2 Enterprise Service Pack 2 binaries on APP1.

▶ To install SQL Server 2008 R2 Enterprise Service Pack 2

1. On APP1, navigate to the directory that contains the SQL Server 2008 R2 Enterprise Service Pack 2 binaries and double-click **SQLServer2008R2SP2-KB2630458-x64-ENU.exe**. This will begin the extraction process. Once this completes, the SQL Server 2008 R2 update will begin.
2. On the **SQL Server 2008 R2 update** screen, click **Next**.
3. On the **License Terms** screen, read the Licensing terms, select the **I accept the license terms** check box, and click **Next**.
4. On the **Select Features** screen, click **Next**.
5. On the **Check Files In Use** screen, click **Next**.
6. On the **Ready to Update** screen, click **Update**. This will begin the update.
7. On the **Complete** screen, click **Close**.

Configure SQL Server Reporting Services

Configure the SQL Server Reporting Services instance on APP1.

▶ To configure the SQL Server 2008 R2 Reporting Services instance

1. On APP1, click **Start**, click **All Programs**, expand **Microsoft SQL Server 2008 R2**, expand **Configuration Tools**, and click **Reporting Services Configuration Manager**.
2. On the **Reporting Services Configuration Connection** screen, click **Connect**.
3. Under **APP1\MSSQLSERVER** on the left, click **Web Service URL**.
4. Under the **Web Service URL** section, click **Apply** to accept the default values.
5. Under **APP1\MSSQLSERVER** on the left, click **Database**.
6. Under the **Current Report Server Database** section, click **Change Database**.
7. In the **Report Server Database Configuration Wizard**, on the **Action** screen, click **Next** to **Create a new report server database**.

8. On the **Database Server** screen, click **Next**.
9. On the **Database** screen, click **Next**.
10. On the **Credentials** screen, click **Next**.
11. On the **Summary** screen, click **Next**.
12. On the **Progress and Finish** screen, click **Finish**.
13. Under the **Report Manager URL** section, click **Apply** to accept the default values.
14. Click **Exit**.

Configure Service Account

Configure the SQL Server Agent service account

▶ To configure the SQL Server Agent service account

1. On APP1, click **Start**, expand **Administrative Tools**, and click **Services**.
2. Scroll down in the **Services** pane and double-click on **SQL Server Agent (MSSQLSERVER)**.
3. In the **SQL Server Agent (MSSQLSERVER) Properties (Local Computer)** dialog, on the **General** tab, change the **Startup Type** to **Automatic** and click **OK**.
4. Close the **Services** MMC.

Configure Local Administrator Group

Configure the local Administrators group on APP1.

▶ To configure the local Administrators group

1. On APP1, click **Start**, expand **Administrative Tools**, and click **Server Manager**.
2. In **Server Manager**, expand **Configuration**, expand **Local Users and Groups**, and click **Groups**.
3. Double-click on **Administrators**.
4. In the **Administrators Properties**, click **Add**.
5. In the **Select User, Computer, Service Account, or Group** dialog, click **Object Types**.
6. In the **Object Types** dialog, check the box next to **Computers** and click **OK**.
7. In the **Select User, Computer, Service Account, or Group** dialog, under **Enter the object name to select (examples)**, enter **CM1** and click **OK**.

Configure Windows Advanced Firewall

Configure the Windows Advanced Firewall on APP1.

▶ To configure the Windows Advanced Firewall

1. On APP1, click **Start**, expand **Administrative Tools**, and click **Windows Firewall with Advanced Security**.
2. Under **Windows Firewall with Advanced Security**, click **Inbound Rules**.
3. In the **Actions** pane, click **New Rule**.
4. In the **New Inbound Rule Wizard**, on the **Rule Type** page, select the option button next to **Port** and click **Next**.
5. On the **Protocols and Ports** page, for **Specific local ports** enter **80,443,1433,1434, and 4022** and click **Next**.
6. On the **Action** page, click **Next**.
7. On the **Profile** page, uncheck the boxes next to **Private** and **Public** and click **Next**.
8. On the **Name** page, type **CM Exceptions** and click **Finish**.

Step 4: (Optional) Enable Internet Functionality using the TMG Core Configuration

Optionally enable full internet functionality using the Test Lab Guide: TMG Core Test Lab (<http://www.isaserver.org/tutorials/TMG-Core-Test-Lab.html>). This will be required if you want to test the Software Update functionality of CM in a self-contained environment.

Step 5: Configure DC1

DC1 configuration for the System Center Configuration Manager Service Pack 2 with R3 test lab consists of the following:

- Creating a Firewall Group Policy
- Extending the Active Directory Schema
- Creating a System Management Container

Creating a Firewall Group Policy

Create the firewall group policy to allow System Center Configuration Manager communication.

▶ To create the firewall group policy

1. Log on to the DC1.corp.contoso.com server as **Administrator**.
2. Click **Start**, select **Administrative Tools**, and click **Group Policy Management**.
3. Expand **Forest: corp.contoso.com, Domains**, right-click **corp.contoso.com**, select **Create a GPO in this domain, and link it here**.
4. In the **New GPO** dialog, in the **Name** box, enter **CM Firewall Policy** and click **OK**.
5. In the **Group Policy Management** console, right-click **CM Firewall Policy** and select **Edit**.
6. In the **Group Policy Management Editor**, expand **Computer Configuration, Policies, Administrative Templates, Network, Network Connections, Windows Firewall**, and select **Domain Profile**.
7. Double-click **Windows Firewall: Allow inbound file and printer sharing exception**.
8. In the **Windows Firewall: Allow inbound file and printer sharing exception** dialog box, select the **Enabled** option button.
9. In the **Windows Firewall: Allow inbound file and printer sharing exception** dialog box, in the **Options** section, enter **10.0.0.8**.
10. Click **OK**.
11. Double-click **Windows Firewall: Allow inbound remote administration exception**.
12. In the **Windows Firewall: Allow inbound remote administration exception** dialog box, select the **Enabled** option button.
13. In the **Windows Firewall: Allow inbound remote administration exception** dialog box, in the **Options** section, enter **10.0.0.8**.
14. Click **OK**.
15. Close the **Group Policy Management Editor**.
16. In the **Group Policy Management Editor**, right-click **CM Firewall Policy** and select **Enforced**.
17. Close **Group Policy Management**.
18. Run **GPUpdate /force** on all systems (or restart) to apply **CM Firewall Policy**.

Extending the Active Directory Schema

Extend the Active Directory Schema for System Center Configuration Manager.

▶ To extend the Active Directory Schema

1. Insert the **System Center 2012 Configuration Manager** media into DC1.
2. Log on to the DC1.corp.contoso.com server as **Administrator**.
3. Click **Start**, in the **Search Box** type **CMD**.
4. In the Programs list, right-click on **CMD** and select **Run as Administrator**.
5. Type **cd X:\SMSSETUP\BIN\i386** (Replace **X:** with the drive where the CM media is located).
6. Type **extadsch.exe**
7. Close the **CMD** window.

Creating a System Management Container

Create a System Management container in Active Directory.

▶ To create the System Management container

1. Log on to the DC1.corp.contoso.com server as **Administrator**.
2. Click **Start**, select **Administrative Tools**, and click **ADSI Edit**.
3. In the **ADSI Edit** console, right-click on **ADSI Edit** and select **Connect to**.
4. In the **Connection Settings** dialog, click **OK** to select the **Default Naming Context**.
5. Double-click to expand **Default naming context [DC1.corp.contoso.com]**.
6. Double-click to expand **DC=corp,DC=contoso,DC=com**.
7. Right-click on **CN=System**, and select **New, Object**.
8. In the **Create Object** dialog, under **Select a class**, click **container** and click **Next**.
9. In the **Create Object** dialog, under **Value**, type **System Management** and click **Next**.
10. In the **Create Object** dialog, click **Finish**.
11. Double-click to expand **CN=System**.
12. Right-click on **CN=System Management**, and select **Properties**.
13. In the **CN=System Management Properties**, select the **Security** tab.
14. On the **Security** tab, click the **Advanced** button.
15. In the **Advanced Security Settings for System Management**, select **Add**.
16. In the **Select User, Computer, Service Account, or Group** dialog, click **Object Types**.
17. In the **Object Types** dialog, select the box next to **Computers** and click **OK**.
18. In the **Select User, Computer, Service Account, or Group** dialog, under **Enter the object name to select (examples)**, enter **CM1** and click **OK**.
19. In the **Permission Entry for System Management** dialog, check the box next to **Full Control** under **Allow** and click **OK 3 times**.
20. Close **ADSI Edit**.

Step 6: Install System Center 2012 Configuration Manager Prerequisites

The install System Center 2012 Configuration Manager prerequisites section of the System Center 2012 Configuration Manager test lab consists of the following:

- Install Roles and Features
- Install .NET Framework 4.0 Full Installation
- Install Windows Server Update Services
- Configure SQL Server Memory

Install Roles and Features

Install prerequisite Roles and Features on CM1.

▶ **To install the prerequisite Roles and Features.**

1. Log on to the CM1.corp.contoso.com server as **Administrator**.
2. In **Server Manager**, right-click **Features** and select **Add Features**. This will launch the **Add Features Wizard** and you will see the **Select Features** screen.
3. Select **.NET Framework 3.5.1 Features** and click **Add Required Role Services**.
4. Select **Background Intelligent Transfer Service (BITS)** and click **Add Required Role Services**.
5. Select **Remote Differential Compression**.
6. Expand **Remote Server Administration Tools**, expand **Feature Administration Tools**, and select **BITS Server Extension Tools** and click **Next**.
7. On the **Web Server (IIS)** screen, click **Next**.
8. On the **Role Services** screen, place a check in all of the items that are listed in tables 1 and 2 below and click **Next**.



Note:

When you select ASP.NET this will bring up a pop-up box with the title **Add features required for Web Server (IIS)**. Click the **Add Required Features** button. This will automatically select ISAPI Extensions, ISAPI Filters, and .NET Extensibility. This will also add the .NET Environment to the Windows Process Activation Service.

9. On the **Confirm Installation Selections** screen, click **Install**. This will begin the installation. When this completes you will see the **Installation Results** screen.
10. Click **Close**.

Table 1 Required IIS 7.5 Web Server Role Services

Role Service	Required Features
Common HTTP Features	<ul style="list-style-type: none">• Static Content• Default Document• HTTP Redirection
Application Development	<ul style="list-style-type: none">• ASP .NET
Security	<ul style="list-style-type: none">• Windows Authentication

Table 2 Required IIS 7.5 Management Tools Role Services

Role Service	Required Features
IIS Management Console	
IIS Management Scripts and Tools	
IIS 6 Management Compatibility	<ul style="list-style-type: none">• IIS 6 Metabase Compatibility• IIS 6 WMI Compatibility

Install .NET Framework 4.0 Full Installation

Install the .NET Framework 4.0 Full Installation on CM1.

To install the .NET Framework 4.0 Full Installation

1. Navigate to the directory that contains **dotNetFx40_Full_x86_x64.exe** and double-click on it.
2. On the **.NET Framework 4 Setup** screen, read the license terms, check the box next to **I have read and accept the license terms**, and click **Install**.
3. Once installation has completed, click **Finish**.

Install Windows Server Update Services

Install Windows Server Update Services on CM1.

▶ To install Windows Server Update Services

1. Navigate to the directory that contains **WSUS30-KB972455-x64.exe** and double-click on it. You will see a preparing to install box then the **Windows Server Update Services 3.0 SP2 Setup Wizard**.
2. On the **Welcome to the Windows Server Update Services 3.0 SP2 Setup Wizard** screen, click **Next**.
3. On the **Installation Mode Selection** screen, select the option button for **Full server installation including Administration Console** and click **Next**.
4. On the **End-User License Agreement** screen, read the End-User License Agreement, select the option button next to **I accept the terms in the License Agreement** and click **Next**.
5. Click **Next** to install the **Microsoft Report Viewer 2008 Redistributable**.
6. On the **Select Update Source** screen, choose a location for updates and click **Next**.
7. On the **Database Options** screen, choose to **Install Windows Internal Database on this computer** and click **Next**.
8. On the **Web Site Selection** screen, under **Web site preference** choose the option button next to **Create a Windows Server Update Services 3.0 SP2 Web site** and click **Next**.
9. On the **Ready to Install Windows Server Update Services 3.0 SP2** screen, click **Next**.
10. Once this completes you will see a box that says **Windows Server Update Services 3.0 SP2 Setup has completed successfully**. Click **OK**.
11. The **Windows Server Update Services Configuration Wizard** will start.
12. Click **Cancel**.

Configure SQL Server Memory

Configure maximum and minimum SQL Server memory values on APP1.

▶ To configure SQL Server memory

1. Log on to the APP1.corp.contoso.com server as **CORP\Administrator**.
2. Click **Start**, click **All Programs**, expand **Microsoft SQL Server 2008 R2** and click **SQL Server Management Studio**.
3. In the **SQL Server Management Studio**, in the **Connect to Server** dialog, enter **APP1** in the **Server name** field and click **Connect**.
4. In the **Object Explorer** pane, right-click on **APP1** and click **Properties**.
5. Under **Select a page**, select the **Memory** page.
6. Set the **Minimum server memory (in MB)**. (eg. 1024), and click **OK**.
7. Set the **Maximum server memory (in MB)**. (eg. 2048), and click **OK**.
8. Close the **SQL Server Management Studio**.

Set IIS Website Bindings for HTTPS Communication

Set IIS Website Bindings for HTTPS Communication on APP1

▶ To set IIS Website Bindings for HTTPS Communication

1. Log on to the CM1.corp.contoso.com server as **CORP\Administrator**.
2. Click **Start**, click **Administrative Tools**, and click **Internet Information Services (IIS) Manager**.
3. In the **Connections** pane, expand **CM1 (CORP\Administrator)**, expand **Sites**, and click on **Default Web Site**.
4. In the **Actions** pane, click **Bindings**.
5. In the **Site Bindings** dialog, click **Add**.
6. In the **Add Site Binding** dialog, under **Type**, select **https** from the drop-down, and under **SSL certificate** select the **CM1.corp.contoso.com** certificate and click **OK**.
7. In the **Site Bindings** dialog, click **Close**.
8. Close the **Internet Information Services (IIS) Manager**.

Step 7: Install System Center 2012 Configuration Manager

The Install System Center 2012 Configuration Manager for the System Center 2012 Configuration Manager test lab consists of the following:

- Install System Center 2012 Configuration Manager on CM1
- Register CMTrace as the Default Log Viewer

Install System Center 2012 Configuration on CM1

Install the System Center 2012 Configuration Manager binaries on CM1.

To install System Center 2012 Configuration Manager

1. Insert the **System Center 2012 Configuration Manager** media into **CM1**.
2. Log on to CM1.corp.contoso.com as **Administrator**.
3. Navigate to the directory that contains the System Center 2012 Configuration Manager binaries and double-click **SPLASH.hta**. This will launch the System Center 2012 Configuration Manager Splash Screen.
4. On the **Splash Screen**, click **Install**.
5. In the **Microsoft System Center 2012 Configuration Manager Setup Wizard**, on the **Before You Begin** page, click **Next**.
6. On the **Getting Started** page, click **Next**.
7. On the **Product Key** page, enter your product key, and then click **Next**.



Important:

The retail version of Microsoft System Center 2012 Configuration Manager from Microsoft MSDN® was used in creating this test lab guide. If you are using a volume license copy the key may already be provided.

8. On the **Microsoft Software License Terms** page, read the software license terms and check the box next to **I accept these license terms**.
9. On the **Prerequisite Licenses** page, check the boxes next to **I accept these License Terms** under **Microsoft SQL Server 2008 R2 Express** and **Microsoft SQL Server 2008 Native Client**, and the box next to **I accept these License Terms and automatic updates of Silverlight** under **Microsoft Silverlight 4**, and click **Next**.
10. On the **Prerequisite Downloads** page, select the option button next to **Download required files** and click **Browse**.
11. In the **Browse For Folder** dialog, expand **Computer** and click on **Local Disk (C:)**.

12. Click the **Make New Folder** button and type **Downloads**.
13. On the **Prerequisite Downloads** page, click **Next**.
14. On the **Server Language Selection** page, click **Next**.
15. On the **Client Language Selection** page, click **Next**.
16. On the **Site and Installation Settings** page, enter **CHQ** for the **Site code**, enter **Contoso Headquarters Site** for the **Site name**, and click **Next**.
17. On the **Primary Site Installation** page, select the option button next to **Install the primary site as a stand-alone site** and click **Next**.
18. In the **Configuration Manager** dialog, click **Yes**.
19. On the **Database Information** page, enter **APP1.corp.contoso.com** for the **Server name** and click **Next**.
20. On the **SMS Provider Settings** page, click **Next**.
21. On the **Client Computer Communication Settings** page, click **Next**.
22. In the **Configuration Manager** dialog, click **Yes**.
23. On the **Site System Roles** page, click **Next**.
24. On the **Customer Experience Improvement Program Configuration** page, select the option button next to **Join the Customer Experience Improvement Program** and click **Next**.
25. On the **Settings Summary** page, click **Next**.
26. On the **Prerequisite Summary** page, you may receive a warning if you have not set the minimum SQL Server process memory allocation to 8 GB or higher. This is expected in a test lab environment and will not prevent installation.
27. On the **Prerequisite Summary** page, click **Begin Installation**.
28. On the **Install** page, click **Close**.

Register CMTrace as the Default Log Viewer

Register CMTrace as the default log viewer on CM1.

To register CMTrace as the default log viewer

1. Navigate to **C:\Program Files\Microsoft Configuration Manager\tools** and double-click on **CMTrace.exe**.
2. In the **Configuration Manager Trace Log Tool** dialog, click **Yes**.

Step 8: Configure System Center 2012 Configuration Manager

The configure System Center 2012 Configuration Manager section of the System Center 2012 Configuration Manager test lab consists of the following:

- Adding Roles
- Configuring Roles
- Updating the Software Update Point

Adding Roles

Add additional roles to System Center 2012 Configuration Manager on CM1.

▶ To add roles to System Center 2012 Configuration Manager

1. Log on to CM1.corp.contoso.com as **Administrator**.
2. Click **Start**, click **All Programs**, expand **Microsoft System Center 2012**, expand **Configuration Manager**, and click **Configuration Manager Console**.
3. In the **Configuration Manager Console**, in the **Administration** workspace, expand **Site Configuration** and click on **Servers and Site System Roles**.
4. Under **Servers and Site System Roles**, right-click on **\\CM1.corp.contoso.com** and click **Add Site System Roles**.
5. In the **Add Site System Roles Wizard**, on the **General** screen, click **Next**.
6. On the **System Role Selection** screen, under **Available Roles**, check the boxes next to **Software update point** (optional), and **Fallback status point**.
7. On the **Software Update Point** screen, under **Proxy Settings** check the boxes next to **Use a proxy server when synchronizing software updates** and **Use a proxy server when downloading content with Auto Deployment Rules**.
8. On the **Software Update Point** screen, in the **Proxy server name** box, enter **TMG1** and click **Next**.
9. On the **Active Settings** screen, check the box next to **Use this server as the active software update point**.
10. On the **Active Settings** screen, select the option button next to **WSUS is configured to use a custom website (by default, clients communicate over ports 8530 and 8531)**.
11. On the **Synchronization Source** screen, click **Next**.
12. On the **Synchronization Schedule** screen, check the box next to **Enable synchronization on a schedule**.
13. On the **Synchronization Schedule** screen, select the option button next to **Custom schedule**, and click **Customize**.

14. In the **Custom Schedule** dialog, under **Recur every**, change the schedule to **8 Hours** and press **OK**.
15. On the **Synchronization Schedule** screen, click **Next**.
16. On the **Supersedence Rules** screen, click **Next**.
17. On the **Classifications** screen, click **Next**.
18. On the **Products** screen, click **Next**.
19. On the **Languages** screen, select or deselect desired languages and click **Next**.
20. On the **Fallback Status Point** screen, click **Next**.
21. On the **Summary** screen, click **Next**.
22. On the **Completion** screen, click **Close**.
23. Under **Servers and Site System Roles**, right-click on **\\APP1.corp.contoso.com** and click **Add Site System Roles**.
24. In the **Add Site System Roles Wizard**, on the **General** screen, click **Next**.
25. On the **System Role Selection** screen, under **Available Roles**, check the box next to **Reporting services point** and click **Next**.
26. On the **Reporting Services Point** screen, under **Site database connection** settings, click **Verify**.
27. On the **Reporting Services Point** screen, under **Reporting Services Point Account**, click **Set** and click **New Account**.
28. In the **Windows User Account** dialog, next to **User name** enter **CORP\SQLDatabase**.
29. Next to **Password** and **Confirm Password**, enter **Pass1word\$** and press **OK**.
30. On the **Reporting Services Point** screen, click **Next**.
31. On the **Summary** screen, click **Next**.
32. On the **Completion** screen, click **Close**.

Configuring Roles

Configuring roles in System Center 2012 Configuration Manager on CM1.

To configure roles in System Center 2012 Configuration Manager

1. In the **Configuration Manager Console**, in the **Administration** workspace, expand **Site Configuration** and click on **Servers and Site System Roles**.
2. Under **Servers and Site System Roles**, click on **\\CM1.corp.contoso.com** and in the **Site System Roles** pane, double-click on **Distribution Point**.
3. In the **Distribution point Properties**, on the **General** tab, check the box next to **Enable this distribution point for prestaged content** and click **OK**.

Updating the Software Update Point (Optional)

Updating the Software Update Point in System Center 2012 Configuration Manager on CM1.

▶ To update the Software Update Point in System Center 2012 Configuration Manager

1. In the **Configuration Manager Console**, in the **Software Library** workspace, expand **Software Updates**.
2. Right-click on **All Software Updates** and select **Synchronize Software Updates**.
3. In the **Configuration Manager** dialog, click **Yes**.
4. To check status, in the **Monitoring** workspace, expand **System Status** and select **Component Status**.
5. Right-click on **SMS_WSUS_SYNC_MANAGER**, expand **Show Messages** and click **All**.
6. In the **Status Messages: Set Viewing Period** dialog, click **OK**.
7. Once the update is successful, **Message Id 6702** will be present.

Step 9: Deploy the System Center 2012 Configuration Manager Client

The deploy the System Center 2012 Configuration Manager Client section of the System Center 2012 Configuration Manager test lab consists of the following:

- Distributing Configuration Manager Clients

Distributing Configuration Manager Clients

Distributing the initial Configuration Manager Client to CLIENT1.

To distribute initial Configuration Manager Client

1. In the **Configuration Manager Console**, in the **Administration** workspace, expand **Hierarchy Configuration**.
2. Right-click on **Boundary Groups**, and select **Create Boundary Group**.
3. In the **Create Boundary Group** dialog, on the **General** tab, enter **Contoso Boundary Group** in the **Name** field.
4. On the **References** tab, check the box next to **Use this boundary group for site assignment**.
5. Under the **Content location** section, click **Add**.
6. In the **Add Site Systems** dialog, check the boxes next to **\\app1.corp.contoso.com** and **\\cm1.corp.contoso.com** and press **OK**.
7. In the **Create Boundary Group** dialog, press **OK**.
8. Under **Hierarchy Configuration**, right-click on **Boundaries** and click **Create Boundary**.
9. In the **New Site Boundary** dialog, next to **Description** enter **Contoso Active Directory Site Boundary**.
10. In the **Create Boundary** dialog, enter **Contoso Site Boundary** in the **Description** field.
11. In the **Create Boundary** dialog, next to **Type**, select **Active directory site** from the drop-down list.
12. In the **Create Boundary** dialog, next to **Active Directory site name**, click **Browse**.
13. In the **Browse Active Directory sites** dialog, click **OK**.
14. On the **Boundary Groups** tab, click **Add**.
15. In the **Add Boundary Group** dialog, check the box next to **Contoso Boundary Group** and press **OK**.
16. In the **Create Boundary** dialog, click **OK**.
17. In the **Administration** workspace, expand **Site Configuration** and select **Sites**.
18. Under **Sites**, right-click on **CHQ – Contoso Headquarters Site** and expand **Client Installation Settings** and click **Client Push Installation**.

19. In the **Client Push Installation Properties**, on the **General** tab, check the box next to **Enable automatic site-wide client push installation**.
20. On the **Accounts** tab, next to **Client Push Installation accounts**, click the star button  and select **New Account**.
21. In the **Windows User Account** dialog, next to **User name** enter **CORP\Administrator**.
22. Next to **Password** and **Confirm Password**, enter **Pass1word\$** and press **OK**.
23. In the **Client Push Installation Properties** dialog, press **OK**.
24. In the **Administration** workspace, under **Hierarchy Configuration**, click on **Discovery Methods**.
25. Double-click on **Active Directory System Discovery**.
26. In the **Active Directory System Discovery Properties** dialog, check the box next to **Enable Active Directory System Discovery**.
27. Next to **Active Directory containers**, click the star button .
28. In the **Active Directory Container** dialog, click **Browse** and **OK** twice.
29. In the **Active Directory System Discovery Properties** dialog, click **OK**.
30. In the **Configuration Manager** dialog, click **Yes**.