

# Deploying Software Updates Using Windows Server Update Services

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## Learning Objectives

After completing this lab, you will have learned:

- How to configure Active Directory® and Group Policy to support update deployment
- How to manage a WSUS server
- How to deploy updates to domain members and stand-alone servers
- How to configure an update testing environment
- How to implement an update deployment strategy
- How to automate the configuration of stand-alone servers

## Overview

This lab is intended for IT Administrators with the responsibility of implementing software update and/or patch management solutions. In this lab you will learn to use Microsoft® Windows® Server Update Services (WSUS) to deploy updates to member servers, client computer, and stand-alone servers. You will learn how to implement a software update deployment strategy using Active Directory and Group Policy. You will learn to deploy updates to test computers, and then to production computers. When you complete this lab you will have performed all the steps necessary to deploy a functional software update infrastructure based on WSUS.

## Prerequisites

Before working on this lab, you must have:

- Familiarity with Virtual Machine technology
- Experience applying updates manually or through Windows Update or Office Update
- An understanding of Active Directory concepts
- An understanding of Group Policy concepts

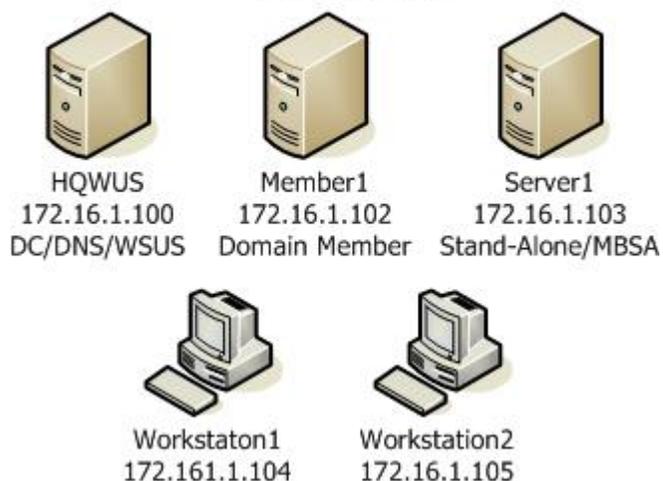
## For more information

<http://www.microsoft.com/windowsserversystem/updateservices/default.mspx>

## Scenario

A company (Contoso, Inc) has deployed Windows Software Update Services (WSUS) in a headquarters office. You will play the role of the IT Administrator for the headquarters office. You will use your WSUS server to deploy updates to member servers, stand-alone servers, and member client computers on your network. The network infrastructure is configured as shown in the following diagram.

## Windows Server Update Services Hands-on Lab



To save time, all network infrastructure elements (Active Directory, DNS, IP Addresses, Domain Membership, etc) have been pre-configured. WSUS has been installed on the headquarters WSUS server and an initial synchronization has been performed. All domain members have been updated to Windows Update client agent.

All passwords have been set to P@ssw0rd.

Due to the dynamic nature of software updates, this environment has been purposely configured without certain updates. This is to ensure that these updates are available for installation. It is not recommended that you work in a production environment unless all applicable security updates have been tested and installed.

Estimated time to complete this lab:

75-90 minutes

### Getting Started

This lab uses Virtual Machine technology. This lab may be implemented using Virtual PC 2004 with SP1 or Virtual Server 2005. To begin this lab, follow either the Virtual PC 2004 with SP1 or Virtual Server 2005 product documentation to launch the following virtual machines.

#### ► Using Virtual PC 2004 with SP1

1. On the **Start** menu, point to **All Programs**, and then click **Microsoft Virtual PC**.
2. In the **Virtual PC Console**, click the HQWSUS machine and then click **Start**.
3. Wait until the HQWSUS virtual machine fully starts and then start the remaining virtual machines.

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**Note** If the virtual machines are not registered in the Virtual PC Console, click **New** and use the **New Virtual Machine** wizard to register the virtual machines.

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► **Using Virtual Server 2005**

1. On the Start menu, point to All Programs, point to Microsoft Virtual Server and then click Virtual Server Administration Website.
2. On the Virtual Server Administration Website, point to HQWSUS and then click Turn On.
3. Wait until the HQWSUS virtual machine fully starts and then start the remaining virtual machines.

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**Note** If the virtual machines are not registered in the Virtual Server Administration Website, click Add and register the virtual machines.

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**Support Information**

This lab was designed and built by HynesITe, Inc. Support information is available through [labs@hynesite.biz](mailto:labs@hynesite.biz). See what's possible at [www.hynesite.biz](http://www.hynesite.biz).



## Exercise 1

### Configuring the Headquarters WSUS Server

In this exercise you will use the WSUS administration tools to review the configuration of the existing WSUS server at the headquarters office. You will then customize the configuration to support additional requirements of Contoso, Inc.

**Background Information** Contoso, Inc. has decided that it will separate approval of updates into three groups. The groups, their memberships, and the rationale behind each decision are shown in the table below.

<b>Group</b>	<b>Membership</b>	<b>Rationale</b>
All server operating System computers	All computers running Microsoft Windows Server™ 2003	Contoso, Inc has a small number of server computers. These server computers serve large numbers of users. Decisions on which updates to install will be performed on a server by server basis.
All client computers	All computers running Windows XP Professional that are not used for testing	Contoso, Inc has a large number of client computers. These computers have one of only a few common configurations.
Test client computers	A sample of several Windows XP Professional computers used for testing configuration changes	Contoso, Inc has a software test lab containing builds of the common configurations. They also have a group of users who participate in test programs.

#### ► Reviewing the existing WSUS configuration

In this task you will log on to the a domain workstation to evaluate the current configuration of WSUS.

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**Important** To ensure that the steps in these exercises function, several configuration changes have been made beyond the default WSUS configuration. For details on which specific changes were made, see Appendix A at the end of this lab.

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1. Log on to the **Workstation1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssword**.

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**Tip** In Microsoft Virtual PC 2004 with SP1 and Microsoft Virtual Server 2005, the RIGHT ALT key performs the function of the CTRL+ALT keys. To send a CTRL+ALT+DEL, press RIGHT ALT+DEL.

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2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **http://hqwsus.contoso.com/wsusadmin** and then click **OK**.

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4. In the **Connect to HQWSUS.contoso.com** dialog box, in **User name** type **Administrator**, in **Password**, type **P@ssw0rd**, and then click **OK**.

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**Tip** In Internet Explorer, press the **F11** key to increase the available working desktop area. Press **F11** to return to the normal Internet Explorer view.

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5. On the **Windows Server Update Services** home page, click **Options**.
6. Under **Options**, click **Synchronization Options**.
7. Under **Products and Classifications**, under **Products**, click **Change**, review the listed products, and then click **OK**.

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**Note** The list of products available is updated periodically as new products are supported. This list is updated when WSUS performs a synchronization operation. You will be alerted to new product definitions on the To Do list of the WSUS home page.

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8. Under **Products and Classifications**, under **Classification**, click **Change**, review the listed classifications, and then click **CK**.

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**Note** The list of products available is updated periodically as new products are supported. This list is updated when WSUS performs a synchronization operation. You will be alerted to new product definitions on the To Do list of the WSUS home page. For detailed information on each classification, see the WSUS help.

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9. Under **Update Files and Languages**, click **Advanced**, and then in the **Microsoft Internet Explorer** dialog box, click **OK**.
10. Review the **Advanced Synchronization Options**, and then click **OK**.
11. Click **Updates**.
12. Under **View**, in **Products and Classifications**, click **All updates**, in **Approval**, click **All updates**, and then click **Apply**.
13. Review the available updates.
14. Click **Home**.

► **Configure WSUS to deploy updates to domain members**

In this task you will configure the WSUS server to allow computers with the Automatic Updates client agent to automatically join computer groups on the WSUS server. You will then create several computer groups.

1. On the **Windows Server Update Services** home page, click **Options**.
2. Under **Options** click **Computers Options**.
3. Under **Computers Options**, click **Use Group Policy or registry settings on computers**, and then click **Save settings**.
4. In the **Microsoft Internet Explorer** dialog box, click **OK**.
5. Click **Computers**.
6. Under **Tasks**, click **Create a computer group**.
7. In Group name, type **All\_Servers**, and then click **OK**.
8. Repeat steps 6 – 7 to create the **All\_Client\_Computers** and **Test\_Client\_Computers** computer groups.

## Exercise 2

# Configuring Clients to Receive Updates

In this exercise you will build an organizational unit structure which maps to the update deployment requirements of Contoso, Inc. You will then create group policy objects to configure client computers and server to receive updates from the existing WSUS server.

**Background Information** Contoso, Inc, has a very basic Active Directory structure. All computer accounts are in the default organizational units and containers.

Contoso, Inc. has analyzed its software update requirements. They have identified the following types of computers and requirements.

Computer Type	Requirement
Infrastructure Servers and Domain Controllers	Administrators must manually select which of the approved updates to install on each infrastructure server and domain controller.
Client Computers	Updates should be automatically installed on all client computers. Updates should be deployed to a group of test client computers before being deployed to remaining client computers.

Contoso, Inc. has identified the following computers and roles.

Computer Name	Role
Hqwsus.contoso.com	Domain Controller
Member1.contoso.com	Infrastructure server
Workstation1.contoso.com	Client computer for testing
Workstation2.contoso.com	Production client computer

### ► Implement an OU structure to support update deployment.

In this task you will create an OU structure in the Contoso.com domain to ensure each type of computer is correctly configured using group policy. You will then move the existing computer accounts to the correct OU.

1. Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
2. On the Start menu, point to All Programs, point to Administrative Tools, and then click Active Directory User and Computers.
3. In **Active Directory Users and Computers**, click **Contoso.com**, then on the **Action** menu, point to **New**, and then click on **Organizational Unit**.
4. In the **New Object – Organizational Unit** dialog box, in **Name**, type **Managed Objects**, and then click **OK**.

- Repeat steps 4 – 5 to create the remaining organizational units, as show in the following diagram.



- In **Active Directory Users and Computers**, click **Computers**.
- In the contents pane, click **MEMBER1**, and then on the **Action** menu, click **Move**.
- In the **Move** dialog box, navigate to the **Managed Objects/Server/Member Servers** OU, and then click **OK**.
- Repeat steps 7 – 8 to move the remaining computer accounts to the OU's listed in the following table.

Object name	Move From	Move To
HQWSUS	Domain Controllers	Managed Objects/Server/Domain Controllers
WORKSTATION1	Computers	Managed Objects/Client Computers/Test
WORKSTATION2	Computers	Managed Objects/Client Computers/Production

#### ► **Modify the existing Default Domain Controllers group policy object**

In this task you will link the existing Default Domain Controllers Policy to the OU which contains the domain controller.

- Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
- On the **Start** menu, point to **All Programs**, point to **Administrative Tools**, and then click on **Group Policy Management**.
- In **Group Policy Management**, navigate to **Forest: contoso.com/Managed Objects/Servers** and then click on **Domain Controllers**.
- On the **Action** menu, click **Link an Existing GPO**.
- In the **Select GPO** dialog box, click **Default Domain Controllers Policy** and then click **OK**.

### ► Create a new automatic updates configuration policies

In this task you will create a new Group Policy object for each of the Windows Update client agent configurations required to implement the Contoso, Inc. update strategy.

1. In **Group Policy Management**, click the **Group Policy Objects** node.
2. On the **Action** menu, click **New**.
3. In the **New GPO** dialog box, in **Name**, type **All Computers Update Policy**, and then click **OK**.
4. Repeat steps 1 – 3 to create the following group policy objects.
  - a. Server Update Policy
  - b. Client computers Update Policy
  - c. Test Client computers Update Policy
10. Expand the **Group Policy Objects** node, and then click on **All Computers Update Policy**.
11. On the **Action** menu, click **Edit**.

### ► Configure the All Computers Update Policy group policy object

In this task you will configure Windows Update client agent settings that apply to all client computers.

1. In **Group Policy**, under **Computer Configuration**, navigate to **Windows Settings/Security Settings/System Services**.
2. In the contents pane, click **Automatic Updates**, and then on the **Action** menu, click **Properties**.
3. In the **Automatic Updates Properties** dialog box, click **Define this policy setting**, click **Automatic**, and then click **Edit Security**.
4. In the **Security for Automatic Updates** dialog box, click **Add**.
5. In the **Select Users, Computers, or Groups** dialog box, type **Network Service**, and then click **OK**.
6. In the **Security for Automatic Updates** dialog box, click the **Allow:Read** checkbox, and then click **OK**.
7. Click **OK** to close the **Automatic Updates Properties** dialog box.
8. Under **Computer Configuration**, navigate to **Administrative Templates/Windows Components/Windows Update**.

- Using the information in the table below, configure group policy settings for all computers which will receive updates from the headquarters WSUS server.

Setting	Configuration
Configure Automatic Updates	Enabled Allow local administrators to choose setting (option 5)
Specify intranet Microsoft update service location	Enabled http://hqwsus.contoso.com as both the update server and statistics server
Automatic Updates detection frequency	Enabled Interval of 1 hour (testing purposes only)
Allow Automatic Updates immediate installation	Enabled

- Close Group Policy.

► **Configure the Servers Update Policy group policy object**

In this task you will configure Windows Update client agent settings that allow administrators to control which updates are actually installed on servers.

- Expand the **Group Policy Objects** node, and then click on **Server Update Policy**.
- On the **Action** menu, click **Edit**.
- Under **Computer Configuration**, navigate to **Administrative Templates/Windows Components/Windows Update**.
- Using the information in the table below, configure group policy settings for all server computers which will receive updates from the headquarters WSUS server.

Setting	Configuration
Configure Automatic Updates	Enabled Auto download and notify for install (option 3)
Enable client-side targeting	Enabled Target group: All_Servers
Allow Automatic Updates immediate installation	Disabled
Allow non-administrators to receive update notifications	Enabled

- Close **Group Policy**

### ► **Configure the Client computers Update Policy group policy object**

In this task you will configure automatic installation of updates for client computers.

1. Expand the **Group Policy Objects** node, and then click on **Client computers Update Policy**.
2. On the **Action** menu, click **Edit**.
3. Under **Computer Configuration**, navigate to **Administrative Templates/Windows Components/Windows Update**.
4. Using the information in the table below, configure group policy settings for all server computers which will receive updates from the headquarters WSUS server.

<b>Setting</b>	<b>Configuration</b>
Do not display 'Install Updates and Shut Down' option in Shut Down Windows dialog box	Enabled
Configure Automatic Updates	Enabled Auto download and schedule the install (Option 4)
Enable client-side targeting	Enabled Target group: All_Client_Computers
Allow Automatic Updates immediate installation	Enabled
Reschedule Automatic Updates scheduled installations	Enabled Wait time: 10 minutes

5. Close **Group Policy**

### ► **Configure the Test Client computers Update Policy group policy object**

In this task you will create a custom configuration that applies to only client computers used for testing updates.

1. Expand the **Group Policy Objects** node, and then click on **Client computers Update Policy**.
2. On the **Action** menu, click **Edit**.
3. Under **Computer Configuration**, navigate to **Administrative Templates/Windows Components/Windows Update**.

- Using the information in the table below, configure group policy settings for all server computers which will receive updates from the headquarters WSUS server.

Setting	Configuration
Do not display 'Install Updates and Shut Down' option in Shut Down Windows dialog box	Disabled
Configure Automatic Updates	Enabled Auto download and notify for install (Option 3)
Enable client-side targeting	Enabled Target group: Test_Client_Computers

- Close **Group Policy**.

► **Link the group policy objects to the appropriate OU.**

In this task you will link the Group Policy objects you just created to the OU's which contain the correct computer accounts.

- In **Group Policy Management**, navigate to the **Forest: Contoso.com/Domains/Contoso.com/Managed Objects** OU.
- On the **Action** menu, click **Link an Existing GPO**.
- In the **Select GPO** dialog box, click **All Computers Update Policy** and then click **OK**.
- Repeat steps 1 - 3 to link the remaining GPO's based on the information in the following table.

Target Organizational Unit	Group Policy Object
Contoso.com/Managed Objects/Servers	Server Update Policy
Contoso.com/Managed Objects/Client Computers	Client Computers Update Policy
Contoso.com/Managed Objects/Client Computers/Test	Test Client Computers Update Policy

► **Refresh group policy on each server and client computer**

In this task you will refresh Group Policy to ensure each computer is correctly configured.

- Log on to the **HQWSUS** virtual machine using the username **Administrator** and the password **P@ssw0rd**.
- On the **Start** menu, click **Run**.
- In the **Run** dialog box, type **GPUPDATE /FORCE** and then click **OK**.
- Repeat steps 1 - 4 for the **Member1**, **Workstation1**, and **Workstation2** virtual machines.
- Wait approximately 3 minutes for group policy to refresh on all client computers. Do not proceed to the next step until group policy refresh is complete.

► **Force an Automatic Update detection cycle**

In this task you will force an automatic updates detection cycle to populate computer groups on the WSUS server. This occurs automatically after a configured period of time in a production environment.

1. Ensure you are logged on to the **HQWSUS** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
4. Repeat steps 1 - 4 for the **Member1**, **Workstation1**, and **Workstation2** virtual machines.
5. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

## Exercise 3

### Using WSUS to Deploy Updates

In this exercise you will use WSUS to move through all phases of update deployment. You will first use WSUS to detect missing updates on member servers and client computers. You will then deploy updates to member servers and client computers. When deploying to member servers, you will manually choose which updates to install on each server. When deploying to client computers, you will first deploy updates to test client computers, and then deploy those same updates to production client computers.

#### Background Information

Another administrator has already create a computer group named **Download\_Only** on the headquarters WSUS server. The **Download\_Only** computer group does not contain any members. The other administrator has approved a number of updates for distribution to the **Download\_Only** computer group to ensure the update files are available locally for installation when the updates are approved for other computer groups.

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**Note** The **Download\_Only** computer group was created for the purposes of this lab to ensure updates are available for installation. It is not required in production environments.

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#### ► Using WSUS to detect missing updates

In this task you will configure WSUS to detect if some updates are missing from all computers.

1. Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**, type **http://hqwsus/wsusadmin**.
3. On the **Windows Server Update Services** home page, click **Updates**, and then in the **Microsoft Internet Explorer** dialog box, click **OK**.
4. On the **Updates** page, under **View**, in **Approval**, click **Install** and then click **Apply**.

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**Note** A selection of updates has been approved for Installation on the **Download\_Only** computer group. This was done during the development of this lab to ensure these updates were available locally on the **HQWSUS** virtual machine.

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5. Click the first update, then press **CTRL+A** to select all updates.
6. Under **Update Tasks**, click **Change approval**.
7. In the **Approve Updates** dialog box, in **Approval**, click **Detect only**, and then click **OK**.
8. In the **Microsoft Internet Explorer** dialog box, click **OK**. All updates will be approved for detection. This will take several minutes.
9. Close **Microsoft Internet Explorer**.

### ► Force an Automatic Update detection cycle

In this task you will force an automatic updates detection cycle to gather update status information from each computer.

1. Ensure you are logged on to the **HQWSUS** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
4. Repeat steps 1 - 4 for the **Member1**, **Workstation1**, and **Workstation2** virtual machines.
5. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

### ► Review the results of Automatic Update detection

In this task you will review the status of computers on the WSUS server to identify missing updates.

1. Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**, type **http://hqwsus/wsusadmin**.
3. On the **Windows Server Update Services** home page, click **Reports**.
4. Under **Reports**, click **Status of Computers**.
5. Under **Status of Computers**, under **View**, click **Needed**, and then click **Apply**.
6. Expand **Workstation1.contoso.com**.
7. Under **View**, verify that only the **Installed** checkbox is selected, and then click **Apply**.
8. Expand **Workstation1.contoso.com**.
9. Click **Home**.

### ► Deploy updates to servers

In this task you will approve updates for computers which are members of the **All\_Servers** computer group.

1. On the **Windows Server Update Services** home page, click **Updates**.
2. On the **Updates** page, under **View**, in **Products and classifications**, click **Custom**, and then click **Change custom view**.
3. In the **Customize View** dialog box, in **Custom view name**, type **Windows Server 2003**, and then under products ensure that only the **Windows Server 2003 family** checkbox is selected.
4. In the **Customize View** dialog box, click **Save**.
5. On the **Updates** page, under **View**, in **Approval**, click **Detect only** and then click **Apply**.
6. Click the first update, then press **CTRL+A** to select all updates.
7. Under **Update Tasks**, click **Change approval**.
8. In the **Approve Updates** dialog box, under **Approval**, next to **All\_Servers**, click **Same as All Computers group**.

9. In the **Same as All Computers** group drop down list, click **Install** and then click **OK**.

10. In the **Microsoft Internet Explorer** dialog box, click **OK**.

#### ► **Force an Automatic Update detection cycle**

In this task you will force an automatic updates detection cycle to download approved updates to the Member1 virtual machine.

1. Ensure you are logged on to the **HQWSUS** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
4. Repeat steps 1 - 4 for the **Member1** virtual machine.
5. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

#### ► **Install updates on the HQWSUS and Member1 virtual machines**

In this task you will use the Automatic Updates client agent to install updates on the Member1 virtual machine.

1. Ensure you are logged on to the HQWSUS virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. In the task tray, click the **Automatic Updates** notification icon.
3. In the **Automatic Updates** dialog box, click **Custom Install (Advanced)** and then click **Next**.
4. Review the list of available updates, and then click **Install** to begin installing updates.
5. Double click the **Automatic Updates** notification icon to review the progress of the installation. The installation of all updates may take several minutes.
6. If required, click **Restart Now** to restart your computer.

#### ► **Deploy updates to test workstations**

In this task you will approve updates for installation on client computers used for testing updates.

1. Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
2. On the **Windows Server Update Services** home page, click **Updates**.
3. On the **Updates** page, under **View**, in **Products and classifications** click **Change custom view**.
4. In the **Customize View** dialog box, in **Custom view name**, type **Windows XP**, and then under **Products** ensure that only the **Windows XP family** checkbox is selected.
5. In the **Customize View** dialog box, click **Save**.
6. On the **Updates** page, under **View**, in **Approval**, click **Detect only** and then click **Apply**.
7. Click the first update, then press **CTRL+A** to select all updates.

8. Under **Update Tasks**, click **Change approval**.
9. In the **Approve Updates** dialog box, under **Approval**, next to **Test\_Client\_Computers**, click **Same as All Computers group**.
10. In the **Same as All Computers** group drop down list, click **Install** and then click **OK**.
11. In the **Microsoft Internet Explorer** dialog box, click **OK**.
12. In the **Windows Server Update Services error** dialog box, click **Close**.

► **Force an Automatic Update detection cycle**

In this task you will force an automatic updates detection cycle to detect and download approved updates.

1. Ensure you are logged on to the **Workstation1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
4. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

► **Install updates on the Workstation1 virtual machine**

In this task you will install approved updates on the Workstation1 virtual machine.

1. Ensure you are logged on to the **Workstation1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. In the task tray, click the **Automatic Updates** notification icon.
3. In the **Automatic Updates** dialog box, click **Custom Install (Advanced)** and then click **Next**.
4. Review the list of available updates, and then click **Install** to begin installing updates.
5. Double click the **Automatic Updates** notification icon to review the progress of the installation. The installation of all updates may take several minutes.
6. If required, click **Restart Now** to restart your computer.

► **Deploy updates to production workstations**

In this task you will approve updates for installation on production client computers.

1. Ensure you are logged on to the **Workstation1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Windows Server Update Services** home page, click **Updates**.
3. On the **Updates** page, under **View**, in **Products and classifications** click **Change custom view**.
4. In the **Customize View** dialog box, in **Custom view name**, type **Windows XP**, and then under products ensure that only the **Windows XP family** checkbox is selected.
5. In the **Customize View** dialog box, click **Save**.

6. On the **Updates** page, under **View**, in **Approval**, click **Install** and then click **Apply**.
7. Click the first update, then press **CTRL+A** to select all updates.
8. Under **Update Tasks**, click **Change approval**.
9. In the **Approve Updates** dialog box, under **Approval**, next to **All\_Client\_Computers**, click **Same as All Computers group**.
10. In the **Same as All Computers** group drop down list, click **Install** and then click **OK**.
11. In the **Microsoft Internet Explorer** dialog box, click **OK**.
12. In the **Windows Server Update Services** error dialog box, click **Close**.

► **Force an Automatic Update detection cycle**

In this task you will force an automatic updates detection cycle to detect and download approved updates. These updates will be installed automatically.

1. Ensure you are logged on to the **Workstation2** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**.
3. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
4. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

► **Verify the status of updates for all computers**

In this task you will use the WSUS administration tools to review the status of client computers.

1. Ensure you are logged on to the **Workstation1** virtual machine as **Administrator@contoso.com** using the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**, type **http://hqwsus/wsusadmin**.
3. On the **Windows Server Update Services** home page, click **Reports**.
4. Under **Reports**, click **Status of Computers**.
5. Under **View**, verify that only the **Installed** checkbox is selected, and then click **Apply**.
6. Expand **Workstation1.contoso.com**
7. Click **Home**.

## Exercise 4

### Using WSUS and MBSA 2.0 to Deploy Updates to Stand-Alone Servers

In this exercise you will configure a stand-alone server to download updates from a WSUS server using Group Policy settings. You will then update the Automatic Updates service to the Windows Update client agent. Once updated, you will configure the Windows Update client agent to use additional features of WSUS and install updates. Finally you will create a script to automate the configuration of WSUS on other stand-alone server computers.

#### ► **Configuring a stand-alone server to use WSUS and perform a self update**

In this task you will use the default local policy settings to configure the stand-alone server to use a WSUS server. You will then restart the virtual machine to force an automatic updates detection cycle to occur.

1. Ensure you are logged on to the **Server1** virtual machine as **Administrator** using the password **P@ssw0rd**.
2. On the **Start** menu, click **Run**, type **GPEdit.msc**, and then click **OK**.
3. Navigate to **Computer Configuration/Administrative Templates/Windows Components/Windows Update**.
4. In the contents pane, click **Configure Automatic Updates**, and then on the **Action** menu, click **Properties**.
5. In the **Configure Automatic Updates Properties** dialog box, click **Enabled**, and then click **Next Setting**.
6. In the **Specify intranet Microsoft update service location Properties** dialog box, click **Enabled**, and then in **Set the intranet update service for detecting updates** and **Set the intranet statistics server type** type **http://hqwsus.contoso.com**, and then click **OK**.
7. Close **Group Policy Object Editor**.
8. On the **Start** menu, click **Shut Down**.
9. In the **Shut Down Windows** dialog box, in **What do you want this computer to do**, click **Restart**, in **Option**, click **Operating System: Reconfiguration (Planned)**, and then click **OK**.

---

**Note** This computer is being restarted for the purposes of the lab only, a restart is not required following configuration changes to Automatic Updates.

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10. Log on to the **Server1** virtual machine as **Administrator** using the password **P@ssw0rd**.
11. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.

► **Verify Automatic Updates is upgraded to the Windows Update Client Agent**

In this task you will review the System event log to ensure that self-update has occurred.

1. On the **Start** menu, point to **Administrative Tools**, and then click on **Event Viewer**.
2. In **Event Viewer**, click **System**.
3. On the **View** menu, click **Filter**.
4. In the **System Properties** dialog box, in **Event ID**, type **19**, and then click **OK**.

---

**Note** If there are no entries in the filtered System event log, self-update has not occurred. Press F5 to refresh the System event log.

---

5. Close **Event Viewer**.

► **Configuring the Windows Update client agent**

In this task you will configure additional settings that are made available after the Windows Update client agent has been installed.

1. On the **Start** menu, click **Run**, type **GPEdit.msc**, and then click **OK**.
2. Navigate to **Computer Configuration/Administrative Templates/Windows Components/Windows Update**.
3. In the contents pane, click **Enable client-side targeting**, and then on the **Action** menu, click **Properties**.
4. In the **Enable client-side targeting Properties** dialog box, click **Enabled**.
5. In **Target group name for this computer** type **All\_Servers** and then click **OK**.

► **Installing required updates on a stand-alone server**

In this task you will force an automatic updates detection cycle. This cycle will register Server1 in the All\_Server computer group, and download WSUS component updates.

1. On the **Start** menu, click **Run**.
2. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
3. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.
4. In the task tray, click the **Automatic Updates** notification icon.
5. In the **Automatic Updates** dialog box, click **Custom Install (Advanced)** and then click **Next**.
6. Review the list of available updates, and then click **Install** to begin installing updates.
7. Double click the **Automatic Updates** notification icon to review the progress of the installation. The installation of all updates may take several minutes.

---

**Note** When a computer has been configured to use Windows Server Update

Services and performs a self-update, several Windows components are updated. These updates are to ensure the functionality of Windows Update client agent, and require a reboot. After the Windows Update client agent has been updated, approved updates will be installed based on the configuration of the Windows Update client agent.

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8. If required, click **Restart Now** to restart your computer.
9. Log on to the **Server1** virtual machine as **Administrator** using the password **P@ssw0rd**.
10. In the task tray, click the **Automatic Updates** notification icon.
11. In the **Automatic Updates** dialog box, click **Custom Install (Advanced)** and then click **Install**.

#### ► **Searching for missing updates using MBSA 2.0**

In this task you will use MBSA 2.0 to scan Server1 and compare the list of installed updates to the list of approved updates on the WSUS server.

1. On the **Start** menu, point to **All Programs**, and then click on **Microsoft Baseline Security Analyzer 2.0**.
2. In **Microsoft Baseline Security Analyzer**, click **Scan a computer**.
3. **Uncheck** the **Configure computers for Microsoft Update and scanning prerequisites** check-box.
4. Check the **Advanced Update Services options** check-box.
5. Click **Scan using assigned Update Services servers only**.
6. Click **Start Scan**.
7. Under **View Security Report**, next to **Windows Security Updates**, click **Result details**.
8. Review the result details, and then close the **Microsoft Baseline Security Analyzer** window.

#### ► **Installing approved updates on a stand-alone server**

In this task you will install updates that have already been approved for installation on members of the All\_Servers computer group.

1. On the **Start** menu, click **Run**.
2. In the **Run** dialog box, type **wuauclt.exe /detectnow** and then click **OK**.
3. Wait approximately 3 minutes for the Automatic Updates detection cycle to complete on all computers. Do not proceed to the next step until the Automatic Updates detection cycle is complete.
4. In the task tray, click the **Automatic Updates** notification icon.
5. In the **Automatic Updates** dialog box, click **Custom Install (Advanced)** and then click **Next**.
6. Review the list of available updates, and then click **Install** to begin installing updates.
7. Double click the **Automatic Updates** notification icon to review the progress of the installation. The installation of all updates may take several minutes.

► **Searching for installed updates using MBSA 2.0**

In this task you will use MBSA 2.0 to verify that no updates are missing from Server1.

1. Log on to the **Server1** virtual machine as **Administrator** using the password **P@ssw0rd**
2. On the **Start** menu, point to **All Programs**, and then click on **Microsoft Baseline Security Analyzer 2.0**.
3. In **Microsoft Baseline Security Analyzer**, click **Scan a computer**.
4. Uncheck the **Configure computers for Microsoft Update and scanning prerequisites** check-box.
5. Check the **Advanced Update Services options** check-box.
6. Click **Scan using assigned Update Services servers only**.
7. Click **Start Scan**.
8. Under **View Security Report**, next to **Windows Security Updates**, click **Result details**.
9. Review the result details, and then close the **Microsoft Baseline Security Analyzer** window.

► **Create a script to automate the configuration of additional stand-alone servers**

In this task you will export the registry keys you configured earlier in this exercise to create a configuration script that can be used on other stand-alone servers.

1. On the **Start** menu, click **Run**, type **Regedit**, and then click **OK**.
2. Navigate to **HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\Windows** and click on **WindowsUpdate**.
3. On the **File** menu, click **Export**.
4. In the **Export Registry File** dialog box, in **File name**, type **WSUEnvironment** and then click **Save**.
5. In **Registry Editor**, navigate to **HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\WindowsUpdate\Auto Update**.
6. On the **File** menu, click **Export**.
7. In the **Export Registry File** dialog box, in **File name**, type **WSUSSettings** and then click **Save**.
8. Close **Registry Editor**.
9. On the **Start** menu, click **Run**, type **Notepad**, and then click **OK**.

10. In **Notepad**, type the following text.

```
@ECHO Off  
  
REG /IMPORT WSUSSettings.reg  
REG /IMPORT WSUEnvironment.reg
```

11. In **Notepad**, on the **File** menu, click **Save**.

12. In the **Save As** dialog box, in **File name**, type **ConfigureWSUS.bat**

13. Close **Notepad**.

## Exercise 5

### Implementing a Branch Office WSUS

In this exercise you will decide between implementing the branch WSUS server as a child server or as a replica server. After making your decision, you will perform the steps to implement your decision.

#### Background Information

Contoso, Inc. has decided to install WSUS on the Member1 server and move that server to a remote branch office the server will be used to distribute updates to server and client computer sin that office. The remote branch office has administrative staff available to administer WSUS if needed, however all update testing will be performed at the existing headquarters office.

#### ► Identify requirements for WSUS implementation

1. Which of the following statements best describes how you feel Contoso, Inc should implement WSUS?
  - a. Contoso, Inc. should allow each regional office to decide which updates to deploy.
  - b. Contoso, Inc. should allow the headquarters office to determine which updates are deployed at regional offices.
  - c. Contoso, Inc. should reduce the workload on the regional office administrators as much as possible.
  - d. Contoso, Inc. should deploy customized updates in each branch office based on the role of each computer in that branch office.
2. If you selected answer choice A or D, you have selected a child WSUS server deployment. If you have selected answer choice B or C, you have selected a replica server deployment. In this lab, you will deploy a child WSUS server. Complete ONE of the following two procedures, to implement either a replica WSUS server or child WSUS server.

#### ► Implement a replica WSUS server (if you selected answer B or C)

In this task you will install WSUS and configure it as a replica server. You will use mostly installation defaults, but will not store update binaries locally, and configure the new WSUS server to replicate settings from an existing server. You will then perform a synchronization cycle.

1. Ensure you are logged onto the **Member1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Windows Explorer**.
3. In **Windows Explorer** double click on **WSUSSetup.exe**.
4. On the **Welcome to the Microsoft Windows Server Update Services Setup Wizard** page, click **Next**.
5. On the **License Agreement** page, click **I accept the terms of the License agreement**, and then click **Next**.

6. On the **Select Update Source** page, un-check **Store updates locally**, and then click **Next**.

---

**Note** To increase performance in this lab scenario, you are not going to store updates locally on the replica WSUS server. This ensures that the replication will occur in a reduced amount of time. For production WSUS servers, carefully consider storing updates locally versus on a remote WSUS server.

---

7. On the **Database Options** page, click **Next**.
8. On the **Web Site Selection** page, click **Next**.
9. On the **Mirror Update Settings** page, click **This server should inherit the settings from the following server**, in **Server name**, type **hqwsus.contoso.com**, and then click **Next**.
10. On the **Ready to Install Microsoft Windows Server Update Services** page, click **Next**, and then when setup completes, click **Finish**.
11. On the **Windows Server Update Services** home page, click **Synchronize now**, and then under **Tasks**, click **Synchronize now**.
12. Click **Home**.

---

**Note** The Windows Server Update Service home page will display the progress of synchronization. This process may take an extended period of time. You may choose to conclude this lab now.

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► **Implement a child WSUS server (if you selected answer A or D)**

In this task you will install an additional WSUS server and then configure it to download update metadata and binaries from a parent WSUS server. You will then perform a synchronization cycle.

1. Ensure you are logged onto the **Member1** virtual machine using the username **Administrator@contoso.com** and the password **P@ssw0rd**.
2. On the **Start** menu, click **Windows Explorer**.
3. In **Windows Explorer** double click on **WSUSSetup.exe**.
4. On the **Welcome to the Microsoft Windows Server Update Services Setup Wizard** page, click **Next**.
5. On the **License Agreement** page, click **I accept the terms of the License agreement**, and then click **Next**.
6. On the **Select Update Source** page, un-check **Store updates locally**, and then click **Next**.

---

**Note** To increase performance in this lab scenario, you are not going to store updates locally on the replica WSUS server. This ensures that the replication will occur in a reduced amount of time. For production WSUS servers, carefully consider storing updates locally versus on a remote WSUS server.

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7. On the **Database Options** page, click **Next**.
8. On the **Web Site Selection** page, click **Next**.
9. On the **Mirror Update Settings** page, click **Next**.

10. On the **Ready to Install Microsoft Windows Server Update Services** page, click **Next**, and then when setup completes, click **Finish**.
11. On the **Windows Server Update Services** home page, click **Options**.
12. On the **Options** page, click **Synchronization Options**.
13. On the **Synchronization Options** page, under **Update Source**, click **Synchronize from an upstream Windows Server Update Services server**, and then in **Server name**, type **HQWSUS.contoso.com**.
14. Under **Tasks** click **Save settings**, and then in the **Microsoft Internet Explorer** dialog box, click **OK**.
15. Under **Tasks**, click **Synchronize now**, and then click **Home**.

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**Note** The Windows Server Update Service home page will display the progress of synchronization. This process may take an extended period of time. You may choose to conclude this lab now.

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