Business Productivity
Infrastructure Optimization

Unified Communications

Microsoft®
.Office Communications
Server 2007

Microsoft®
Exchange Server 2007

Microsoft®

Lab: Installing Microsoft® Exchange Server 2007
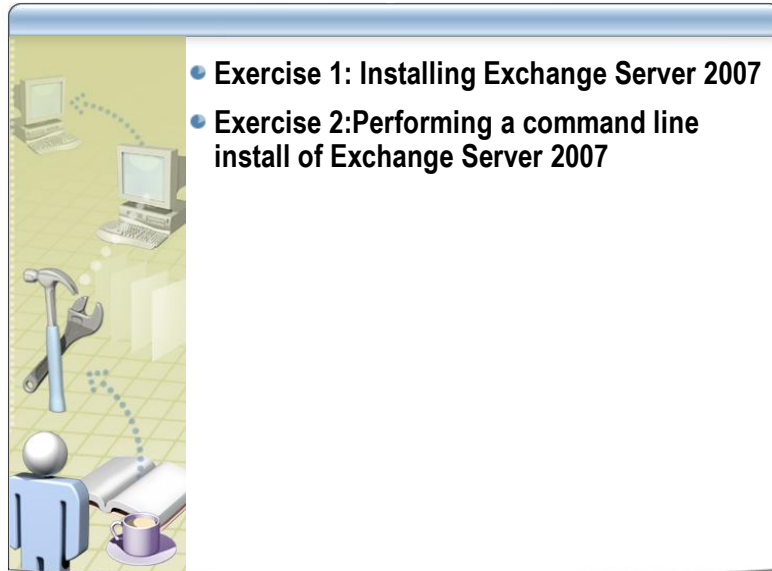
Time estimated: 60 minutes

Lab objectives

After completing this lab, you will be able to:

- Verify prerequisites for a new Microsoft® Exchange Server 2007 installation.

- Install the Hub Transport Server and Mailbox Server roles on a single server.

- Verify a successful installation.

- Use the built-in Exchange Server Best Practices Analyzer (ExBPA) to verify whether the new installation complies with recommended best practices.

- Use the command line to perform an Exchange Server 2007 server role installation.

Introduction

In this lab, you will use the INSTALL_SMBEX01 virtual computer.

Exercise 0: Preparing the Environment

Prepare the environment

- To prepare for this lab, start the INSTALL_SMBEX01 virtual server.

1. Start the INSTALL_SMBEX01 virtual server.

Exercise 1: Installing Exchange Server 2007

Introduction

In this exercise, you will install a new Exchange Server 2007 server with the Mailbox and Hub Transport Server roles on a single server using the GUI installation tools. You will learn to check the prerequisites using a prerequisites scanner built into the Exchange installation program. You will then install a new Exchange Server 2007 server with Mailbox and Hub server roles.

Scenario

Northwind Traders, a small gourmet food distribution company, has made a decision to implement Exchange Server 2007 as their e-mail system. They wish to install Exchange Server 2007 on a single server. Northwind Traders must make sure that the server is adequately prepared and that their network environment meets the prerequisites for a new Exchange installation.

Prepare for a new Exchange Server 2007 installation

Summary	Detailed Steps
• Open the Exchange Server 2007 Setup Program and verify that all prerequisites are installed.	1. On the INSTALL_SMBEX01 virtual server, log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**
	2. Click **Start**, point to **All Programs**, point to **Accessories**, and then click **Windows Explorer**.
	3. Navigate to **D:** and then double-click **Setup.exe**.
	4. On the first screen notice the five steps listed under Install:
	Step 1: Install .NET Framework 2.0
	Step 2: Install Microsoft Management Console (MMC)
	Step 3: Install Microsoft Windows PowerShell
	Step 4: Install Microsoft Exchange
	Step 5: Get Critical Updates for Microsoft Exchange
	Notice that steps 1 through 3: Install .NET Framework 2.0, Install Microsoft Management Console and Install Microsoft Windows PowerShell links are grayed out. These prerequisite components have already been installed for you.

Select options for a new Exchange Server 2007 installation

Summary	Detailed Steps
• Choose to install Mailbox and Hub Transport server roles.	1. On the Start screen, in the **Install** list, click **Step 4: Install Microsoft Exchange**.
	2. On the Introduction page, click **Next**.
	3. On the License Agreement page, review the agreement, and then click **I accept the terms in the license agreement**, and then click **Next**.
	4. On the Error Reporting page, verify that **No** is checked, and then click **Next**.
	5. On the Installation Type page, click **Custom Exchange**

Server Installation, and then click **Next**.

6. On the Server Role Selection page, check the boxes for **Mailbox Role** and **Hub Transport Role**, and then click **Next**.

Note Notice that Management Tools gets automatically checked when you select to install any server role.

---

7. On the Client Settings page, verify that **No** is checked, and then click **Next**.

Setup will now perform the prerequisite checks for each role. (Approximately 1 minute).

Important If there were any prerequisites that were needed, setup would discontinue and provide a link to download the necessary files. For the purposes of this lab, all required components have been preinstalled.

Install Microsoft Exchange Server 2007

Summary   Detailed Steps

- Scan the installation prerequisites again and proceed with the installation of Exchange Server 2007.

Note The Installation Readiness Checks have been completed successfully. Read the warning that Outlook Web Access and ActiveSync will not work until a Client Access role is installed, and the warning regarding the 32-bit version of Exchange Server 2007 not being supported for production use.

---

1. On the Readiness Checks page, click **Install**.

2. Observe the progress of the installation as it is displayed. The installation program is now:

    - Copying Exchange files (2 minutes)

    - Installing the Hub Transport Role (7 minutes)

    - Installing the Mailbox Role (10 minutes)

Important When installing for the first time, the first step during installation would prepare Active Directory for Exchange Server 2007. To save time in this lab, Active Directory has already been prepared.

---

3. On the Completion page, click **Finish**.

4. On the **Exchange Server 2007 Install** screen, click **Close**.

5. In the Confirm Exit dialog box, click **Yes**.

6. The Exchange Management Console will open. Minimize it.

7. Close Windows Explorer.

View server configuration in Exchange Management Console

Summary   Detailed Steps

- Explore the Exchange Management Console.

1. Switch to the Exchange Management Console. In the Navigation pane, click **Server Configuration**.
2. In the Microsoft Exchange licensing dialog box, click **OK**.

   What roles have been installed?
3. In the Actions pane, click **Manage Mailbox Role**.

   Has a database been created?
4. Leave Exchange Management Console running.

Answer Key

2. **Hub Transport and Mailbox roles.**
3. **Yes, a database named Mailbox Database.**

Ensure that the new installation complies with best practices (Optional)

Summary   **Detailed Steps**

- Use the Microsoft Exchange Best Practices Analyzer tool to scan the new installation for compliance with recommended best practices.

1. In the Navigation pane of the Exchange Management Console, click **Toolbox**.
2. In the Toolbox, double-click **Best Practices Analyzer**.
3. On the Update and Customer Feedback page, select **Do not check for updates on startup**, select **I don't want to join the program at this time**, and then at the bottom of the page click **Go to Welcome Screen**.
4. On the Welcome page, click **Select Options for a new scan**.
5. On the Connect to Active Directory page, click **Connect to the Active Directory server**.
6. On the Start a New Best Practices Scan page, verify **Heath Check** is selected and then click **Start scanning**.

   Wait for the Best Practices Analyzer tool to scan. (approximately 4 minutes)
7. When the scan has completed, click **View a report of this Best Practices scan**.
8. In **View Best Practices Report**, click the **All Issues** tab. Browse through the issues.

   Did the scan report any critical issues?
9. Click **Export Report**.
10. In Export Report, type **NWTraders Post-Install report** and click **Save**.
11. Click the **Informational Items** tab, review the detailed information gathered.
12. Close the Best Practices Analyzer.
13. Open Windows Explorer, navigate to **C:\Documents and Setting\Administrator\Application Data\Microsoft\ExBPA** and then double-click **NWTraders**

Post-Install report.xml.

14. View the report, and then close Internet Explorer and Windows Explorer.

8. **No, only some warnings and best practices messages.**

Create a new user

Summary

- Create a user named Mike Ray using the Exchange Management Console.

Detailed Steps

1. On the INSTALL_SMBEX01 virtual server, maximize the Exchange Management Console.

2. In the Exchange Management Console, in the Navigation Tree, click **Recipient Configuration**.

3. In the Action Pane, click **New Mailbox**.

4. On the Introduction page, verify that **User Mailbox** is selected and click **Next**.

5. On the User Type page, select **New user** and click **Next**.

6. On the User Information page, click **Browse** to select an Organizational Unit.

7. In Select Organizational Unit, click **Managers** and then click **OK**.

8. In the **First Name** box, type **Mike**.

9. In the **Last Name** box, type **Ray**.

10. In the **User logon name** box, type **mike**.

11. In the **Password** and **Confirm Password** boxes, type **P@ssw0rd** and click **Next**.

12. On the Mailbox Settings page, click **Next**.

13. On the New Mailbox page, click **New**.

14. On the Completion page, click **Finish**.

Exercise 2: Performing a command line install on Exchange Server 2007

Introduction

In this exercise, you will install an additional server role, Client Access, on the Exchange Server 2007 server INSTALL_SMBEX01 by using command-line tools.

Scenario

Northwind Traders wants to add the Client Access server role to the company's Exchange Server 2007 infrastructure. A consultant hired by Northwind Traders recently created instructions for installing Exchange configurations by using command-line tools. You will follow these instructions to install the Client Access server role.

Install the Client Access server role using the command-line.

Summary	Detailed Steps

• Perform a command-line install of the Client Access server role.	1. On INSTALL_SMBEX01, click **Start**, point to **All Programs**, point to **Accessories**, and then click **Command Prompt**.
	
	2. At the command prompt, type the following command and then press ENTER:
	
	    Exsetup /roles:ClientAccess /mode:install
	
	3. Observe the command-line installation progress through the following stages:
	   a. Client Access Role Checks (less than 1 minute)
	   b. Copying Exchange files (approximately 3 minute)
	   c. Installing Client Access Role (approximately 4 minutes)
	   Wait for the Client Access Role to be installed.
	
	4. When the **The Microsoft Exchange server setup operation completed successfully** message appears, close the command prompt by typing **exit** and then pressing ENTER.

View server configuration in Exchange Management Console

Summary	Detailed Steps
• Review the configuration of the newly installed server in the Exchange Management Console.	1. Switch to the **Exchange Management Console**. If it is not already running, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**. 2. In the **Exchange Management Console**, in the Navigation pane, click **Server Configuration**. 3. In the **Action Pane**, click **Refresh**. What roles have been installed? 4. Leave the Exchange Management Console running.

3. **Client Access, Hub Transport, and Mailbox roles**

Log onto Outlook Web Access

Summary

Detailed Steps

- Use Microsoft Office Outlook® Web Access to confirm Client Access Role.

1. Click **Start**, point to **All Programs**, and then click **Internet Explorer**.

2. In Internet Explorer, in the **Address** bar, type **https://SMBEX01.nwtraders.com/OWA** and then press ENTER.

3. On the Certificate Error page, click **Continue to this website**.

Note The default certificate installed during setup is a self-signed certificate that is not trusted. In a production environment, you would use a trusted certificate.

---

4. Log on to Outlook Web Access as **mike** with a password of **P@ssw0rd**

5. On the Accessibility page in Outlook Web Access, click **OK**.

Ensure mail flow by using Outlook Web Access

Summary

Detailed Steps

- Send a test e-mail message to verify mail flow.

1. In Outlook Web Access running as Mike Ray, click **New** to create a new message.

2. In the new e-mail message, in the **To** box, type **mike** and then press CTRL + K to resolve the name.

3. In the **Subject** line, type **Exchange Installed Successfully!**

4. In the message body, type **Installed Exchange Server 2007 today**.

5. Click **Send**.

6. Wait a minute for the new mail to send, and then in Outlook Web Access, click **Check Messages** .

   Note that the new message has arrived and is visible in the preview pane.

7. In Outlook Web Access, click **Log Off**.

8. Close Internet Explorer.

Lab: Using the Exchange Server 2007 Management Console and Shell
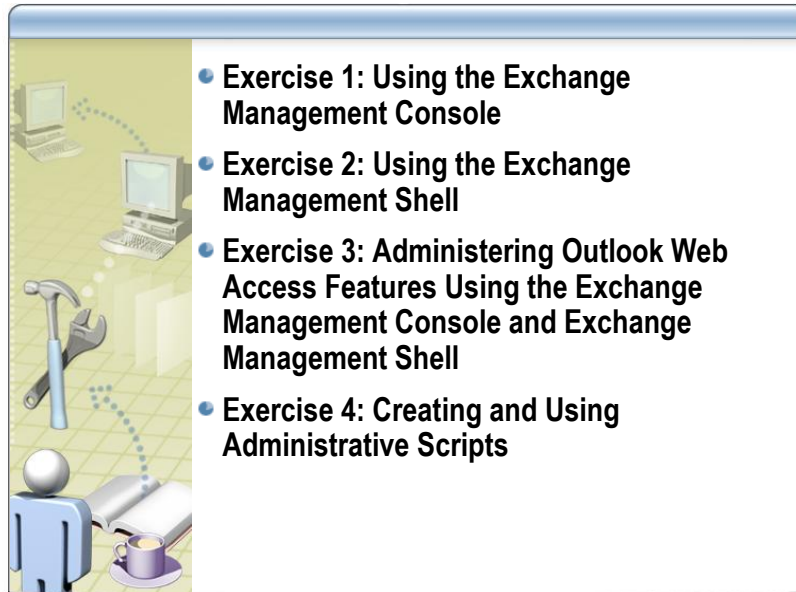
- **Exercise 1: Using the Exchange Management Console**
- **Exercise 2: Using the Exchange Management Shell**
- **Exercise 3: Administering Outlook Web Access Features Using the Exchange Management Console and Exchange Management Shell**
- **Exercise 4: Creating and Using Administrative Scripts**

Time estimated: 60 minutes

Introduction

In this lab, you will use the SMBEX01 and Client01 virtual computers to gain hands-on experience using the Microsoft® Exchange Management Console and Exchange Management Shell.

Lab objectives

After completing this lab, you will be able to:

- Use the Exchange Management Console to perform common administrative tasks.
- Use the Exchange Management Shell prompt to view information about an Exchange server.
- Use the Exchange Management Shell to perform Exchange administrative tasks from the command line.
- Create reusable administrative scripts to automate routine administration tasks.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Start the SMBEX01 and CLIENT01 virtual servers.

1. Click **Start**, point to **All Programs**, point to **Microsoft Virtual Server**, and then click **Virtual Server Administration Website**.

2. On the Virtual Server Administration Website, move the mouse pointer over **SMBEX01**, and then click **Turn On**.

3. Once the Status of SMBEX01 shows as **Running**, move the mouse pointer over **SMBEX01**, and click **Remote Control**.

4. When SMBEX01 has fully started, on the Virtual Server Administration Website, move the mouse pointer over **CLIENT01**, and then click **Turn On**.

Exercise 1: Using the Exchange Management Console

Introduction

In this exercise, you will use the Exchange Management Console to perform common administrative tasks.

Scenario

You are the Exchange administrator at Northwind Traders. The company recently implemented Exchange Server 2007, and you would like to take a tour of the features of the new Exchange Management Console. In particular, you want to find new ways to perform administrative tasks by using the new interface.

Log on to SMBEX01

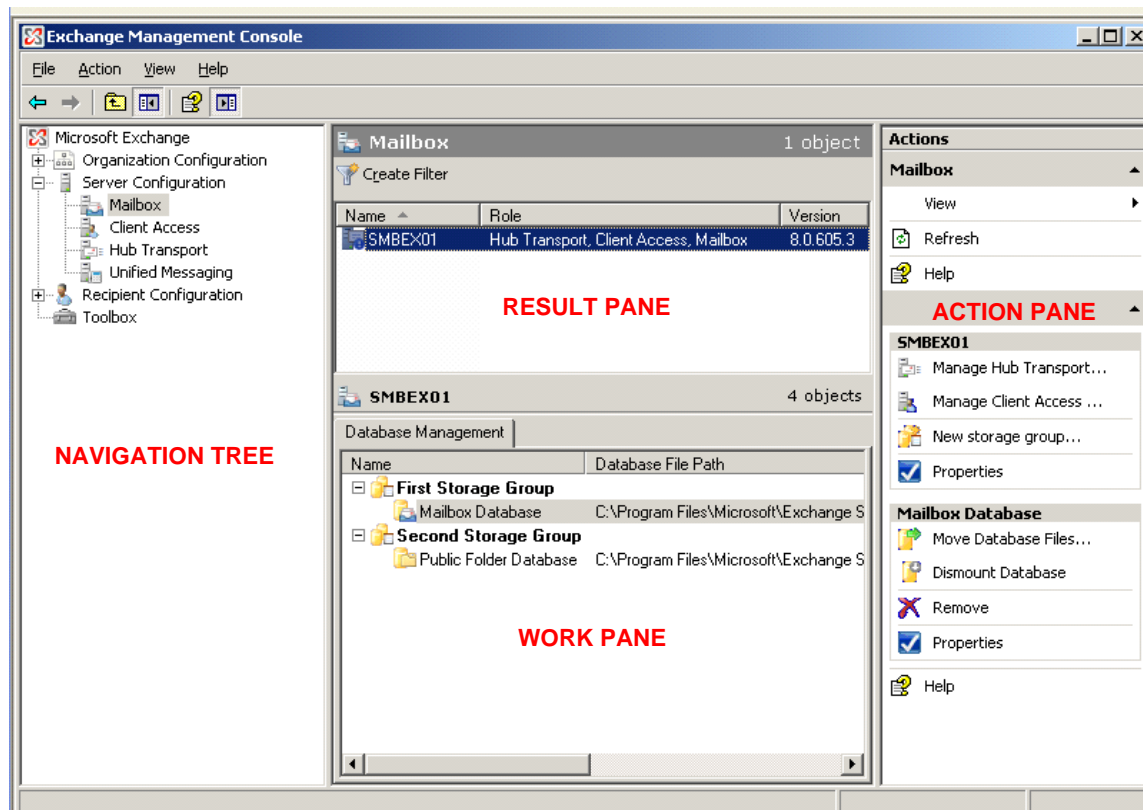| Summary	Detailed Steps
• Log on to SMBEX01.	1. On the SMBEX01 Virtual Server console, press the RIGHT-ALT and DELETE keys.
	2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**

Explore the Exchange Management Console

When performing this exercise, you can refer to the following illustration of the Exchange Management Console and its various user interface (UI) components.

4

- Explore the Exchange Management Console.

1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.

   Wait for the Exchange Management Console environment to load.

2. In the navigation tree, expand **Server Configuration**, and then click **Client Access**.

   Notice the pane in the top-center area of the screen that displays all client access servers. This is the Results Pane.

3. In the Results Pane, click **SMBEX01.**

   Notice the pane on the right side of the screen that displays all available actions. This is the Action Pane.

4. In the Action Pane under **SMBEX01**, click **Properties.**

   Notice that the properties of the SMBEX01 Exchange Server are displayed.

5. In the SMBEX01 Properties window, click **OK**.

   Notice the pane in the lower-center area of the screen. This is the Work Pane.

6. In the Work Pane, double-click **owa (Default Web Site)**.

7. In the owa (Default Web Site) Properties window, click the **Segmentation** tab.

   Notice the features in Microsoft Office Outlook® Web Access that can be enabled or disabled here.

8. In the owa (Default Web Site) Properties window, click **Cancel**.

9. In the Action Pane, click **Manage Mailbox Role**.

   Notice that Mailbox is selected in the navigation tree, and that the Work Pane displays Storage Groups and Databases.

10. In the Work Pane, under **First Storage Group**, click **Mailbox Database**.

11. In the Action Pane under **Mailbox Database**, click **Properties**.

    Notice the three tabs and the configurable settings on each of these tabs.

12. Click **Cancel** to close the Mailbox Database Properties window.

13. In the navigation tree, click **Toolbox**.

    Here you can access:

    - Best Practices Analyzer
    - Database Recovery Management
    - Database Troubleshooter

- Mail Flow Troubleshooter
- Message Tracking
- Queue Viewer
- Performance Monitor
- Performance Troubleshooter

Enable a mailbox for the user Preeda Ola

Summary	Detailed Steps
• On the SMBEX01 mailbox server, enable a mailbox for the user Preeda Ola.	1. In the Exchange Management Console, in the navigation tree, expand **Recipient Configuration**. 2. Under Recipient Configuration, click **Mailbox**. 3. In the Results Pane, view the mailboxes that have already been enabled. 4. In the Action Pane, click **New Mailbox**. 5. On the Introduction page, verify that **User Mailbox** is selected, and then click **Next**. 6. On the User Type page, select **Existing user** and then click **Browse**. 7. In the Select User window, double-click **Preeda Ola**. 8. On the New Mailbox page, click **Next**. 9. On the Mailbox Settings page, click **Next**. 10. Review the Configuration Summary, and then click **New**. 11. On the Completion page, click **Finish**. In the Results Pane, note that a mailbox has been enabled for Preeda Ola.

Create a mailbox for a new user

Summary	Detailed Steps
• On the SMBEX01 mailbox server, create a mailbox for a new user.	1. In the Exchange Management Console, in the Action Pane, click **New Mailbox**. 2. On the Introduction page, ensure that **User Mailbox** is selected, and then click **Next**. 3. On the User Type page, verify that **New user** is selected, and then click **Next**. 4. On the User Information page, click **Browse** to select an Organizational Unit. 5. In **Select Organizational Unit**, click **Production**, and then click **OK**. 6. In the **First name** box, type **Dan**

6

7. In the **Last name** box, type **Park**

8. In the **User logon name** box, type **Dan**

9. In the **Password** and **Confirm Password** boxes, type **P@ssw0rd** and then click **Next**.

10. On the Mailbox Setting page, click **Next**.

11. On the New Mailbox page, click **New**.

12. On the Completion page, click **Finish**.

    In the Results Pane, notice that a mailbox has been enabled for Dan Park.

Create mailboxes for meeting rooms

Summary

Detailed Steps

- On the SMBEX01 mailbox server, enable mailboxes for Meeting Room Michigan and Meeting Room Huron.

1. In the Exchange Management Console, in the Action Pane, click **New Mailbox**.

2. On the Introduction page, select **Room Mailbox** and then click **Next**.

3. On the User Type page, select **Existing user** and then click **Browse**.

4. In the Select User window, double-click **Meeting Room Michigan**.

    Note: Only Disabled accounts are available for selection when Resource Mailbox is chosen for the mailbox type.

5. On the User Type page, click **Next**.

6. On the Mailbox Settings page, click **Next**.

7. Review the **Configuration Summary** and then click **New**.

8. On the Completion page, click **Finish**.

9. Repeat steps 1 through 8 for **Meeting Room Huron**.

10. In the Results Pane, click **Create Filter**.

11. In the Results Pane, in the first drop-down list, select **Display Name**, and then in the operator drop-down list, select **Starts With**.

12. In the value box, type **Meeting** and then click **Apply Filter**.

    Notice that all mailbox-enabled meeting rooms are listed.

13. In the Results Pane, click **Remove Filter**.

Create a new storage group

Summary

Detailed Steps

- Create a new storage group, placing log files and system files on the

1. In the Exchange Management Console, in the navigation tree, under **Server Configuration**, click **Mailbox**.

2. In the Results Pane, select **SMBEX01**.

C:\Disk 1 mounted drive.

3. In the Action Pane, click **New Storage Group**.

4. On the New Storage Group page, in the **Storage group name** box, type **Fourth Storage Group**

5. Next to **Log files path**, click **Browse**, select **C:\Disk1\SG4\Logs**, and then click **OK**.

6. Next to **System files path**, click **Browse**, select **C:\Disk1\SG4**, and then click **OK**.

7. On the New Storage Group page, click **New**.

   Notice how the Completion page shows the Management Shell command you could have used from the Exchange Management Shell to perform the same task. You will work with the Exchange Management Shell in the next exercise.

8. Click **Finish**.

Exercise 2: Using the Exchange Management Shell

Introduction

In this exercise, you will learn how to use the Exchange Management Shell to perform common tasks and export information about Exchange Server configuration.

Scenario

You are the Exchange administrator at Northwind Traders. The company recently implemented Exchange Server 2007, and you have been tasked with investigating how routine administrative tasks and reporting could be performed more efficiently. You explore the Exchange Management Shell, a command-line language that allows you to easily script administrative tasks and produce reports.

Explore the Exchange Management Shell environment

Summary	Detailed Steps

• Using the Exchange Management Shell, practice common Exchange Management Shell commands such as **get-help**, and practice date and string manipulation.	1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.
	
	   Wait for the Exchange Management Shell environment to load. (This may take up to 30 seconds.)
	
	2. At the PowerShell (PS) prompt, type **cd ** and then press ENTER. (Note: there is a space between CD and \.)
	
	   This will make the command line more visible.
	
	3. At the PS prompt, type **get-help** and then press ENTER.
	
	   Notice that the "Introduction to the Microsoft Shell (PS)" Help topic is shown.
	
	4. At the PS prompt, type **get-help about_*** and then press ENTER.
	
	   Notice that all Help topics starting with "about_" are listed.
	
	5. At the PS prompt, type **get-help about_if** and then press ENTER.
	
	   Notice that a Help topic on the **if** flow control statement is shown.
	
	6. At the PS prompt, type **get-date** and then press ENTER.
	
	   Notice that the current date and time are shown.
	
	7. Create a variable named **$today** and assign it the value returned from the **get-date** commandlet. To do this, type the following text and then press ENTER:
	
	$today = get-date
	
	   Notice that there is no output displayed from this command.
	
	8. At the PS prompt, call the **ToShortTimeString** method of the date variable you just created. To do this, type the following text and then press ENTER:
	
	$today.ToShortTimeString()

9. At the PS prompt, call the **ToString** method of the $Today variable, passing it in the format of *MMMM* (long month only). Then, call the **ToUpper** method of the resulting string to convert it to uppercase format. To do this, type the following text and then press ENTER:

$today.ToString("MMMM").ToUpper()

Notice that the output shows the current month name in uppercase format.

Use the Exchange Management Shell pipeline

- Pipe the results of the get-excommand commandlet through to C:\Labs\ems\ ExchangeCommands.txt.

- Create a new Mailbox Database by using the Exchange Management Shell.

- Mount and dismount the Mailbox Database.

1. At the PS prompt, type **get-excommand** and then press ENTER.

   Notice that a list of Exchange commands was returned.

2. Redirect the output of the commandlet to a text file named **C:\Labs\ems\ExchangeCommands.txt**. To do this, type the following text and then press ENTER:

get-excommand >> C:\Labs\ems\ExchangeCommands.txt

   Notice that there is no output displayed from this command.

3. Open Microsoft Windows® Explorer and navigate to **C:\Labs\ems**.

4. Double-click **ExchangeCommands.txt** to open this file in Notepad.

   Notice that a list of Exchange administration commands is displayed in the text file.

5. Click the **Edit** drop-down menu, select **Find**.

6. In the Find What box, type **dismount** and then click **Find Next**.

   Do any Exchange Management Shell commands allow you to dismount a database?

7. In the **Name** column, locate the noun **mailbox** by doing a search for -**mailbox**. Items in the Name column are in the form of *verb-noun*.

   What mailbox verbs can be performed with Exchange Management Shell?

8. Close Notepad.

9. Switch back to the Exchange Management Shell.

Tip At the PS prompt, type **get-help new-MailboxD** and then press the TAB key. Notice how the command is auto-completed. Press ENTER.

---

10. At the PS prompt, type the following text and then press ENTER:

New-MailboxDatabase -StorageGroup "SMBEX01\Fourth Storage Group" -Name "Mailbox Database 4" -EdbFilePath "c:\disk1\SG4\db\mailbox database 4.edb"

> Notice that the properties of the new mailbox database are displayed.

11. Switch to the Exchange Management Console, expand **Server Configuration**, and then click **Mailbox**. Notice that the new mailbox database is displayed in the console. Click **Refresh** in the Action Pane if necessary.

12. Switch to the PS prompt and type the following to mount the database and press ENTER:

Mount-Database "Mailbox Database 4"

> Notice that there is no output displayed from this command.

> When the command has completed, open Windows Explorer and navigate to the **C:\disk1\SG4\db** and **C:\disk1\SG4\logs** folders. Notice how the database and supporting files have been created.

13. Switch to the Exchange Management Console and then press F5 to refresh the view.

Answer Key

5. **Yes, Dismount-Database**

6. **connect, disable, enable, export, get, move, new, remove, restore, set**

Use Exchange commandlets

Summary

- View the output of the get-mailbox command.

- Pipe the results of the get-mailbox commandlet to other commands.

- Configure the Send Quota for all mailboxes with a single command line.

Detailed Steps

1. At the PS prompt, type **get-mailbox** and then press ENTER.

   Notice that a list of all mailboxes and some properties are displayed in a table.

2. To display more mailbox information, pipe the results of the **getmailbox** command to **format-list** by typing the following and then pressing ENTER. Remember to press TAB to auto-complete.

get-mailbox Spencer | format-list

3. Set the **Send Quota** for all mailboxes to 18 MB by typing the following text and then pressing ENTER:

get-mailbox | set-mailbox -ProhibitSendQuota 18MB

> Notice that there is no output displayed from this command.

4. Confirm that the Send Quota limit has been set for all

mailboxes by typing **get-mailbox** and then pressing ENTER.

5. Create a variable named $mailbox and assign it the value returned from the **get-mailbox "Administrator"** commandlet. To do this, type the following text and then press ENTER:

$mailbox = get-mailbox "Administrator"

Notice that there is no output displayed from this command.

6. View the value of the **PrimarySMTPAddress** property of the mailbox object. To do this, type the following text and then press ENTER:

$mailbox.PrimarySMTPAddress.ToString()

Notice that the primary SMTP address for this mailbox is displayed.

Export object information using the Exchange Management Shell

Summary | Detailed Steps

- Export the output of the get-exchangeserver commandlet to a comma-separated value (CSV) file.

- Export the output of the get-storagegroup commandlet to an Extensible Markup Language (XML) file.

1. At the PS prompt, type **get-help export-*** and then press ENTER.

   Notice that the available export functions are listed.

2. Use the **export-csv** command to export the output of the **get-exchangeserver** commandlet to a CSV file named **C:\Labs\ems\MyServer.txt**. To do this, type the following text and then press ENTER:

export-csv -Path "C:\Labs\ems\MyServer.txt" -InputObject (get-exchangeserver)

Notice that there is no output displayed from this command.

3. Switch to Windows Explorer and navigate to the **C:\Labs\ems** folder.

4. Double-click **MyServer.txt** to open it in **Notepad**.

   Notice that a comma-separated list of Exchange Server properties and their values has been exported.

   What is the value of the **DataPath** property?

5. Close **Notepad**.

6. Switch to the Exchange Management Shell and use the **export-clixml** command to export the output of the **get-storagegroup "First Storage Group"** commandlet to an XML file named **C:\Labs\Lab1\FirstSG.xml**. To do this, type the following text and then press ENTER:

export-clixml -Path "C:\Labs\ems\FirstSg.xml" -InputObject (get-storagegroup "First Storage Group")

Notice that there is no output displayed from this command.

7. Switch to Windows Explorer and navigate to the **C:\Labs\ems\ folder**.

8. Double-click **FirstSG.xml** to open it in Microsoft Internet Explorer.

   Notice that an XML representation of the storage group object and all of its properties is shown. Based on the XML report, perform searches to answer the following questions:

   a. What is the value of the **PathName** property?

   b. Is circular logging enabled on this storage group? (Search for "CircularLogging".)

   c. Is online defragmentation enabled on this storage group? (Search for "OnlineDefrag".)

   d. What is the RDN (Relative Distinguished Name) of the server this storage group resides on?

9. Close Internet Explorer.

Answer Key

4**. C:\Program Files\Microsoft\Exchange Server\Mailbox**

8. **a. C:\Program Files\Microsoft\Exchange Server\Mailbox\First Storage Group**

   b. No

   c. Yes

   d. CN=SMBEX01

Use the Exchange Management Shell to create a mail-enabled group and add a user to it

Summary	Detailed Steps

• Use the Exchange Management Shell **Add-DistributionGroupMember** commandlet to add Spencer Low to the mail-enabled group IT Staff.	1. At the PS prompt, call the **New-DistributionGroup** commandlet and pass parameters to create a new group. To do this, type the following text and then press ENTER:
	
	New-DistributionGroup -Name "IT Staff" -OrganizationalUnit "nwtraders.com/Information Technology" -SamAccountName "IT Staff" -Type "Distribution"
	
	   Notice the new distribution group properties are displayed.
	
	2. At the PS prompt, call the **Add-DistributionGroupMember** Exchange commandlet, passing the group name to the Identity parameter. To do this, type the following text and then press ENTER:
	
	Add-DistributionGroupMember -Identity "IT Staff" -Member spencer
	
	   Notice that there is no output from this command.
	
	3. At the PS prompt, call the **Get-DistributionGroupMember** Exchange commandlet, passing the group name to the Identity parameter. To do this, type the following text and then press ENTER:
	
	Get-DistributionGroupMember -Identity "IT Staff"

Notice that Spencer is a member of the IT Staff distribution group.

Use the Exchange Management Shell to display a property of the mail-enabled group

Summary

- Use the **Write-Host** command to display the **PrimarySmtpAddress** property of the IT Staff distribution group by using the **Get-DistributionGroup** Exchange commandlet.

Detailed Steps

1. At the PS prompt, use the **Write-Host** command to display the **PrimarySmtpAddress** property of the IT Staff distribution group by using the **Get-DistributionGroup Exchange** commandlet. To do this, type the following text and then press ENTER:

Write-Host (get-DistributionGroup "nwtraders\IT Staff").PrimarySmtpAddress

2. To view the names of all properties of the group object, type the following and then press ENTER:

Get-DistributionGroup | Get-Member -MemberType Property

Scroll up to review the names of all of the properties.

Use the Exchange Management Shell to check the health of the Exchange services

Summary

- Use **Test-ServiceHealth** to check the health of the Exchange services running on this computer.

Detailed Steps

1. At the PS prompt, type the following text and then press ENTER:

Test-ServiceHealth

Notice how this commandlet displays the role of the server, along with the required services and whether they are running or not.

Exercise 3: Administering Outlook Web Access Features Using the Exchange Management Console and Exchange Management Shell

Introduction

In this exercise, you will administer Outlook Web Access (OWA) features as follows:

- Use the new Exchange Management Console to enable access to Remote File Shares using OWA.

- Use the Exchange Management Shell to enable/disable features of Outlook Web Access.

- Configure Exchange Server 2007 to provide features differently for Public and Private access to Outlook Web Access.

Scenario

Northwind Traders has a number of file servers installed internally. In the past, the company's IT Department had to configure remote access server (RAS)/virtual private network (VPN) access to these documents. The company's vice president, Spencer Low, wants to investigate the new features of Outlook Web Access that provide external access to internal file share documents without RAS/VPN. She wants to investigate how the company's IT team can manage Outlook Web Access features by using the Exchange Management Console and Exchange Management Shell. She also wants to determine which features can be enabled and disabled.

Important Please verify you have started the Client01 virtual server as instructed in Exercise 0 before starting this lab.

Configure Exchange Server 2007 to allow access to internal file shares through Outlook Web Access

Summary	Detailed Steps
• Using the Exchange Management Console, configure the host name of an internal file server to be on the Allow list. • Use Outlook Web Access to access the internal file share.	1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, and then click **Internet Explorer**. 2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER. 3. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd** 4. In the bottom-left pane, click **Documents**. 5. In the left pane, click **Open Location**. 6. In **Open Location**, type **\\client01\PublicDocs** and then click **Open**. Note: The file share will not open. This is intentional. 7. Read the **Location Blocked** dialog box stating that Outlook Web Access has been configured to prevent access to this folder, and then click **OK**. 8. Click the **X** to close the Open Location dialog box. 9. On SMBEX01, switch to the Exchange Management Console. 10. In the Exchange Management Console, expand **Server Configuration**, click **Client Access**, and then wait for the Results Pane to populate.

11. In the Work Pane, click **owa (Default Web Site)**, and then in the Action Pane under **owa (Default Web Site)**, click **Properties**.

12. In **owa (Default Web Site) Properties**, click the **Remote File Servers** tab.

13. On the **Remote File Servers** tab, click **Allow**.

14. In the **Allow List** field, type **client01** and click **Add**, and then click **OK**.

15. Click **OK** to close owa (Default Web Site) Properties.

16. Switch to Outlook Web Access running as **Spencer Low**.

17. In the left pane, click **Open Location**.

18. In the **Open Location** field, type **\\client01\PublicDocs** and then click **Open**.

    Notice that the file share is now accessible from Outlook Web Access.

19. In Outlook Web Access running as Spencer Low, right-click **Project X**, and then click **Open**.

20. Click **Add to Favorites**, and notice how **Project X** now appears in the **Favorites** list in the left pane of OWA. Click **OK**.

21. Click **Log Off** to log off Spencer Low from Outlook Web Access, and then close Internet Explorer.

Manage Outlook Web Access settings using the Exchange Management Shell

Summary	Detailed Steps
• Use the Exchange Management Shell to determine the enabled settings for Outlook Web Access.	1. Switch to the Exchange Management Shell.

2. At the PS prompt, type the following and then press ENTER:

Get-OwaVirtualDirectory -identity "owa (Default Web Site)" | FL

3. Scroll through the list of results and find the value for **RemoteDocumentsAllowedServers**.

4. Filter the results of this command to list only the values that contain the word "enable." At the PS prompt, type the following and then press ENTER:

Get-OwaVirtualDirectory -identity "owa (Default Web Site)" | FL *enable*

5. Filter the results of this command to list only the values that contain the word "webready." At the PS prompt, type the following and then press ENTER:

Get-OwaVirtualDirectory -identity "owa (Default Web Site)" | FL *webready*

    Notice how the **ForceWebReadyDocumentViewingFirstOnPublicComputers** value is set to False.

6. Set the **ForceWebReadyDocumentViewingFirstOnPublicComputers** value to **True**. At the PS prompt, type the following and then press ENTER:

Set-OwaVirtualDirectory -identity "owa (Default Web Site)" -ForceWebReadyDocumentViewingFirstOnPublicComputers $True

7. Confirm that the setting has taken effect. In the Exchange Management Console, expand **Server Configuration**, click **Client Access**, and then wait for the Results Pane to populate.

8. In the Results Pane, click **owa (Default Web Site)**, and then in the Action Pane under **owa (Default Web Site)**, click **Properties**.

9. In the **owa (Default Web Site) Properties** dialog box, click the **Public Computer File Access** tab.

10. On the **Public Computer File Access** tab, notice that the **Force WebReady Document Viewing when a converter is available** check box is selected, and then click **OK**.

    Note: The configuration you made above could have been set by using this dialog box. However, for the purposes of this lab, you set this configuration by using the Exchange Management Shell method.

11. Click **Start**, click **All Programs**, and then click **Internet Explorer**.

12. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

13. On the Outlook Web Access logon page, click **This is a public or shared computer**.

14. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd**.

15. In Outlook Web Access running as Spencer Low, in the bottom-left corner, click **Documents**.

16. In Outlook Web Access running as Spencer Low, in the Documents pane, click **Project X**.

17. Right-click the **Sales Figures** document and then click **Open as Web Page**.

    Notice how the document is converted and opens as a read-only copy in Internet Explorer.

18. Close the document, log off from Outlook Web Access running as Spencer Low, and then close Internet Explorer.

19. Configure Outlook Web Access to prohibit viewing of documents from public computers by performing the following steps. In the Exchange Management Console, expand **Server Configuration**, click **Client Access**, and then wait for the Results Pane to populate.

20. In the Work Pane, click **owa (Default Web Site)**, and then in the Action Pane under **owa (Default Web Site)**, click **Properties**.

21. In the **owa (Default Web Site) Properties** dialog box, click the **Public Computer File Access** tab.

22. On the **Public Computer File Access** tab, clear all of the check boxes, and then click **OK**.

23. Click **Start**, click **All Programs**, click **Accessories**, click **Command Prompt**, and then wait for the command prompt to open.

24. At the command prompt, type **iisreset /noforce** and then press ENTER to run IISRESET. Wait for the services to restart, and then close the command prompt.

25. Click **Start**, click **All Programs**, and then click **Internet Explorer**.

26. In Internet Explorer, in the **Address** bar, type **http://SMBEX01**.**nwtraders**.**com/OWA** and then press ENTER.

27. In the **Forms-Based Authentication** dialog box that appears, click **This is a public or shared computer**.

28. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd**.

    Notice that there is no longer a Documents button in the lower-left pane of Outlook Web Access.

29. Log off from Outlook Web Access and then log on again as Spencer, but this time click **This is a private computer** on the logon screen.

    Notice that the Documents button now appears because you have logged on while selecting the Private Computer option.

30. Log off from Outlook Web Access and close Internet Explorer.

Exercise 4: Creating and Using Administrative Scripts

Introduction

In this exercise, you will create a reusable Exchange Management Shell script to create users from a custom text file and then mailbox-enable these users. Initially, you will run the **New-Mailbox** command on a single line. You will then user the **Import-CSV** command to read a CSV file and pass the text to the **New-Mailbox** command. Finally, you will create a reusable script file that parses a CSV file, creates users and mailboxes, and sets the password.

Scenario

Northwind Traders has a large sales force, including temporary sales staff members who begin new assignments every day. As the company's Exchange administrator, you want to automate the task of creating user accounts and mailboxes for the new temporary sales personnel. The current human resources (HR) system exports all new users to a comma separated value (CSV) text file at the end of each day. You will use the Exchange Management Shell to write a script that will parse the CSV file, create users, and enable mailboxes for all new sales staff exported from the HR system. You plan to schedule the file to run every night.

Use the New-Mailbox commandlet to create a user and a mailbox

Summary	Detailed Steps
• Use the **New-Mailbox** commandlet to create a user and a mailbox by passing parameters to it.	1. Switch to the Exchange Management Shell. 2. Create a new user and mailbox by typing the following text and then pressing ENTER: **new-mailbox -alias Sven -UserPrincipalName Sven@nwtraders.com -Name "Sven Buck" -Database "mailbox database" -OrganizationalUnit Sales** 3. When prompted for the password, type **P@ssw0rd** and then press ENTER. 4. Switch to the Exchange Management Console, expand **Recipient Configuration**, and then click **Mailbox**. Press F5 to refresh the view. You will see the new mailbox for Sven in the Results Pane. **Note**: Although this is a useful one-line command, it is not ideal for creating multiple users. In the next section, you will use a CSV file as the input for creating multiple mailboxes by using the **new-mailbox** command.

Use the Import-csv commandlet to create users and mailboxes from a CSV file

Summary	Detailed Steps
• Create a number of users and mailboxes, taking the input from a CSV file.	1. Using Windows Explorer, navigate to the **C:\Labs\ems** folder. 2. Double-click the file **Users1.csv** to open it. Notice the format of the Users1.csv file. 3. Close the **Users1.csv** file. 4. Create the four users and mailboxes detailed in the CSV by typing the following text at the PS prompt and then

pressing ENTER:

import-csv c:\labs\ems\users1.csv | foreach {new-mailbox -name $_.name -alias $_.alias -userprincipalname $_.UPN -reset:$false -org Sales -database "Mailbox Database"}

5. Each time you are prompted for a password, type **P@ssw0rd** and then press ENTER.

    Note: Although this is an improvement on the single-line method for creating multiple users, it is still necessary to enter the password for each user as they are created. In the next steps, you will create a function to provide the password for you.

Create and run an Exchange Management Shell script

Summary

Detailed Steps

- Review and run a script that contains a function to set the password on user accounts as they are read and created from a CSV file.

1. Using Windows Explorer, navigate to the **C:\Labs\ems** folder.

2. Double-click the file **Users2.csv** to open it.

    Notice the format of the Users2.csv file.

3. Close the **Users2.csv** file.

4. In the same folder, double-click **CreateMailboxes.ps1**

5. Review the format of this reusable script and then close Notepad when finished.

6. Switch to the Exchange Management Shell, type **C:\labs\ems\CreateMailboxes.ps1** and then press ENTER.

7. Switch to the Exchange Management Console, expand **Recipient Configuration**, and then click **Mailbox**. Press F5 to refresh the view. You will see the new mailboxes in the Results Pane.

This page intentionally left blank.

Lab: Managing and Administering Exchange Server 2007

Lab: Managing and Administering Exchanger Server 2007

- **Exercise 1: Moving Mailboxes Between Mailbox Databases Using the Exchange Management Shell**
- **Exercise 2: Using the Exchange Server 2007 Toolbox (ExBPA and ExPA)**
- **Exercise 3: Using Exchange Server 2007 AutoDiscover With Outlook 2007**
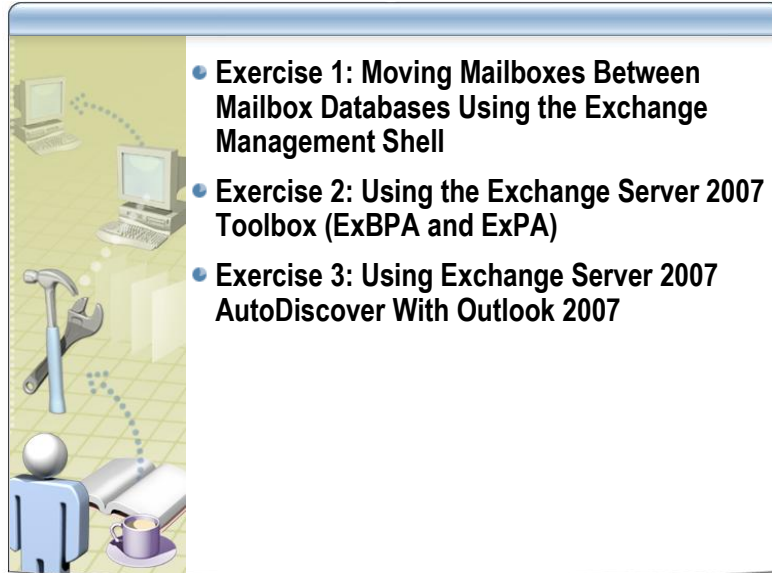
Time estimated: 40 minutes

Introduction

In this lab, you will use the SMBEX01 virtual computer for Exercises 1 and 2 and you will use SMBEX01 and CLIENT01 for Exercise 3.

Lab objectives

After completing this lab, you will be able to:

- Use the Microsoft® Exchange Management Shell to balance mailboxes across multiple mailbox databases.

- Use the Exchange Server 2007 Toolbox, including the Best Practices Analyzer (ExBPA) and the Performance Troubleshooter (ExPA).

- Understand the AutoDiscover feature of Exchange Server 2007 with Microsoft Office Outlook® 2007.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

1. To complete this lab, use the SMBEX01 and CLIENT01 virtual servers.

Exercise 1: Moving Mailboxes between Mailbox Databases Using the Exchange Management Shell

Introduction

In this exercise, you will review an Exchange Management Shell script that load-balances mailboxes equally between mailbox databases based upon the item count in each mailbox. You will use Exchange Management Shell commands such as **get-mailboxstatistics**, **get-mailbox**, and **move-mailbox**. You will also learn how to apply filters to the output of Exchange Management Shell commands.

Scenario

After implementing Exchange Server 2007 at Northwind Traders, you created two mailbox databases on different disks for the purposes of performance and disaster recovery. You will use an Exchange Management Shell script that will move mailboxes between two mailbox databases to keep the number of messages per database the same, and to ensure an equal load on each disk drive.

Log on to SMBEX01

Summary	Detailed Steps
• Log on to SMBEX01.	1. On the SMBEX01 Virtual Server console, press the RIGHT-ALT and DELETE keys.
	2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**

Examine the distribution of mailboxes in the Northwind Traders organization

Summary	Detailed Steps
• Open the Exchange Management Console and examine the distribution of mailboxes across databases.	1. On SMBEX01, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.
	2. In the Exchange Management Console, in the navigation tree, expand **Recipient Configuration**, and then click **Mailbox**.
	3. In the Action Pane, click **View**, and then click **Add/Remove Columns**.
	4. In the **Available columns** list, select **Database**, click **Add,** click **Move Up** four times, and then click **OK**.
	5. In the Result Pane, view the configuration of mailboxes. You can see the location of a user's Mailbox Database and Storage Group in the **Database** column.
	6. Describe the distribution of mailboxes across mailbox databases. (You might need to slide the horizontal scroll bar to see the mailbox databases.)
	7. Leave the Exchange Management Console running.

Answer Key

6. **All mailboxes except two are in the database named Mailbox Database.**

4

View the item count of mailboxes in the source database

Summary

Detailed Steps

- Use the ShowStatsCurrent.ps1 script to view the item count of the current database

1. Open Microsoft Windows® Explorer and navigate to the **C:\Labs\managing** folder.

2. Right-click the **ShowStatsCurrent.ps1** script, click **Open With** and then click **Notepad.**

3. Review the **ShowStatsCurrent.ps1** script.

4. Note that the **get-mailboxstatistics** command is being used to display the mailboxes and their item count.

5. Next note how the results are filtered. The System and attendant mailboxes are filtered from the results using the **$_.displayname** variable.

6. Close Notepad.

7. Click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

8. At the PS prompt, type **C:\Labs\managing\ShowStatsCurrent.ps1** and then press ENTER.

9. Notice how the contents of Mailbox Database are displayed along with the individual mailbox item count.

10. At the PS prompt, type **C:\Labs\managing\ShowStatsDestination.ps1** and then press ENTER.

There is no output from this script, meaning that Mailbox Database 4 is currently empty.

Review an Exchange Management Shell script used to distribute mailboxes equally between databases

Summary

Detailed Steps

- Open the BalanceMailboxes.ps1 script and modify it to distribute mailboxes evenly between databases.

1. Open Microsoft Windows® Explorer and navigate to the **C:\Labs\managing** folder.

2. Right-click the **BalanceMailboxes.ps1** script, click **Open With**, and then click **Notepad.**

3. Review the **BalanceMailboxes.ps1** script.

4. In Notepad, click **Edit**, and then click **Go To**.

5. In the **Line Number** box, type **13** and then click **OK**.

6. On line 14, locate the variable $mbx.

Notice how this command uses the **get-mailboxstatistics** command to filter and sort a list of mailboxes based on their item count, similar to Step 4 in the previous section, and places the

results into the variable $mbx.

7. Go to line 18 and locate the command **foreach.** In this function, the results obtained on line 14 are parsed to determine the total number of mailboxes. This value is used to determine how to evenly divide the mailboxes in the following steps.

8. Go to line 24 and locate the variable **$itemcount.** This line takes the total number of mailboxes and divides the value in half.

9. Go to line 29 and locate the command **foreach.** In this section, approximately half the mailboxes are moved to the previously specified destination database.

10. Close Notepad.

Run the script to distribute the mailboxes evenly

Summary	Detailed Steps

- Open the Exchange Management Shell (PS) and run the script to distribute mailboxes.

1. Switch to the **Exchange Management Shell**.

2. At the PS prompt, type **C:\Labs\managing\BalanceMailboxes.ps1** and then press ENTER.

3. The script will prompt for the name of the server to move the mailboxes to. For this exercise, type **SMBEX01**, and then press ENTER.

4. The script will now prompt for the name of the source database. Type **Mailbox Database** and press ENTER.

5. The script will now prompt for the name of the destination database that mailboxes will be moved to. Type **Mailbox Database 4** and press ENTER.

6. Wait for the script to run, and then view the output of the script. The script will take about 10 minutes to run.

7. At the PS prompt, type **C:\Labs\managing\ShowStatsCurrent.ps1** and press ENTER

8. View the output of the script.

    Notice how there are fewer mailboxes in the current database.

9. At the PS prompt, type **C:\Labs\managing\ShowStatsDestination.ps1** and press **ENTER**.

10. Notice how Second Database now contains the mailboxes moved from the original database.

Verify that the script has distributed the mailboxes evenly

Summary	Detailed Steps
• Examine the distribution of mailboxes across the databases.	1. Switch to the Exchange Management Console and press F5 to refresh the display.
	2. In the Result Pane, view the configuration of mailboxes.
	3. Describe the distribution of mailboxes across mailbox databases.

Answer Key

3. **The mailboxes are evenly distributed across databases based upon their individual item counts.**

Exercise 2: Using the Exchange Server 2007 Admin Tools (ExBPA and ExPA)

Introduction

In this exercise, you will run tools from the Exchange Server 2007 Toolbox by starting them from the Exchange Management Console.

Scenario

After implementing Exchange Server 2007 at Northwind Traders, you want to examine the troubleshooting tools provided with Exchange Server 2007.

Perform a server health check by using the Exchange Best Practices Analyzer Tool

Summary	Detailed Steps
• Run the Exchange Best Practices Analyzer (ExBPA) tool and perform a health check.	1. In the Exchange Management Console, in the navigation tree, click **Toolbox**. 2. In the Toolbox, click **Best Practices Analyzer**. 3. In the Action Pane under **Best Practices Analyzer**, click **Open tool** and wait for tool to start. 4. On the welcome screen, click **Select Options for a new scan**. 5. Click **Connect to the Active Directory server**. 6. In **Start a New Best Practices scan**, in the text box, type **SMBEX01 first scan** 7. Confirm that the type of scan to be performed is **Health Check**, and then click **Start scanning**. 8. Wait for the scan to complete. This will take approximately 4 minutes. 9. After the scan is complete, click **View a report of this Best Practices scan**. 10. In **Select Report Types**, click **List Reports**. 11. In the **Arrange by** drop-down list, select **Severity**. 12. Click the first **Database backup critical** warning. 13. Click **Tell me more about this issue and how to resolve it**. Briefly read the **Help** topic that pops up. 14. Close the **Help** topic dialog box. 15. Close **ExBPA**.

Resolve a problem using the Exchange Server 2007 Performance Troubleshooter

Summary	Detailed Steps
• Stop the Information Store service and then run the Performance Troubleshooter to analyze the server.	1. On SMBEX01, stop the Information Store service. To do this, click **Start**, click **Administrative Tools**, and then click **Services**. 2. In **Services**, scroll down, right-click **Microsoft Exchange Information Store**, and then click **Stop**.

3. Minimize the **Services** window.

4. Switch to the Exchange Management Console, and then in the navigation tree, click **Toolbox**.

5. In the Toolbox, scroll down, select **Performance Troubleshooter**, and then in the Action Pane, click **Open Tool**.

    Wait for the Performance Troubleshooter to start. (This may take a few minutes.)

6. After the tool starts, click **Go to Welcome screen.**

7. In the **Enter an identifying label for this analysis** text box, type **SMBEX01 Analysis 1**

8. Confirm that the **What symptoms are you seeing** drop-down list is set to **Multiple users are complaining of delays while using Outlook, or are seeing the Outlook cancellable RPC dialog frequently**, and then click **Next**.

9. In both the **Server Name** and **Global Catalog Server** text boxes, type **SMBEX01** and then click **Next**.

    Wait until the Troubleshooting Assistant completes its analysis.

10. In **Connectivity Test Results**, notice that the Store service is not running.

11. Switch to **Services**, start the **Information Store**, and then close **Services**.

12. Switch to the **Troubleshooting Assistant**.

13. Go back to the previous screen by clicking **Previous**.

14. Run the test again by clicking **Next**.

    Wait for the results and confirm that the issue is now resolved and that the Connectivity test was passed.

15. Close the Troubleshooting Assistant.

Exercise 3: Configuring Exchange Server 2007 AutoDiscover Using Outlook 2007

Introduction

In this exercise, you will observe the AutoDiscover feature in Microsoft Office Outlook® 2007 automatically discover the e-mail settings for Peter Houston, and automatically configure his profile to connect to the Exchange Server 2007 server.

Scenario

You are the Exchange administrator for Northwind Traders. The company recently implemented Outlook 2007 throughout the organization. You are asked to reduce the administrative cost associated with configuring Outlook profiles for users. To do this, you demonstrate the AutoDiscover feature of Exchange Server 2007 and Outlook 2007 that allows users to automatically configure their own profiles.

For security reasons, you should run AutoDiscover over a Secure Sockets Layer (SSL) channel. However, for the purposes of this lab, you will not require certificate checking and the SSL channel for AutoDiscover.

Create a profile using the AutoDiscover feature of Outlook 2007 and Exchange Server 2007

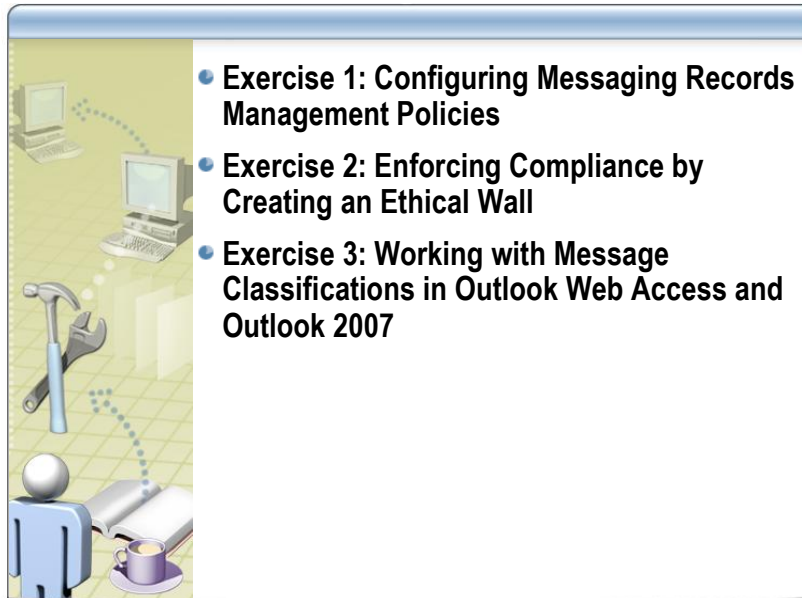| Summary	Detailed Steps
• Test AutoDiscover by automatically creating an Outlook Profile for Peter Houston.	1. Switch to the CLIENT01 virtual server.
	2. Log on to the **nwtraders** domain as **peter** with a password of **P@ssw0rd.**
	3. Click **Start**, and then click **E-mail Microsoft Office Outlook**.
	4. On the Outlook welcome screen, click **Next.**
	5. Verify that **Yes** is selected on the E-mail Accounts screen, and then click **Next**.
	Notice how Outlook automatically discovers Peter's account information.
	6. On the Auto Account Setup page, click **Next**.
	7. On the Configuring page, click **Finish**.
	8. On the User Name dialog box, in the Name field, type **Peter Houston,** in the **Initials** field type **PH** and then click **OK**.
	9. On the Privacy Options page, click **OK**.
	Note: Outlook 2007 will now log on to Peter's mailbox and create a local cached copy of the mailbox.
	10. On the Microsoft Office Outlook dialog box, click OK to acknowledge that Windows Desktop Search is not installed.
	11. When finished, close **Outlook** and log off of **Client01**.

This page intentionally left blank.

Lab: Exchange Server 2007 Compliance and Retention

- **Exercise 1: Configuring Messaging Records Management Policies**
- **Exercise 2: Enforcing Compliance by Creating an Ethical Wall**
- **Exercise 3: Working with Message Classifications in Outlook Web Access and Outlook 2007**

Time estimated: 60 minutes

Introduction

In this lab, you will use the SMBEX01 and CLIENT01 virtual computers to gain hands-on experience with compliance and retention features.

Lab objectives

After completing this lab, you will be able to:

- Create a new Messaging Records Management folder.

- Create Messaging Records Management content settings by using the Microsoft® Exchange Management Console.

- Create a Messaging Records Management mailbox policy and link it to the Managed Custom folder.

- Assign a Messaging Records Management mailbox policy to a user's Inbox.

- Enforce compliance by creating an ethical wall using Hub Transport Rules.

- Create a message classification.

- Create a Hub Transport Rule to act upon the message classification.

- Import message classifications into Microsoft Office Outlook® 2007.

- Work with message classifications in both Microsoft Outlook Web Access and Outlook 2007.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

1. To complete this lab, use the SMBEX01 and CLIENT01 virtual servers.

Exercise 1: Configuring Messaging Records Management Policies

Introduction

In this exercise, you will create a Managed Custom folder to appear in your users' Inboxes. You will create Messaging Records Management content settings for the Managed Custom folder to ensure that e-mail messages in the folder expire after two years. You will then use the Exchange Management Console to create and link a Messaging Records Management mailbox policy to the folder and assign it to a user. Finally, you will configure all items in the users' Inboxes to expire after seven days.

Scenario

For the purpose of compliance, Northwind Traders is required to keep all e-mail related to the Contoso project on file for two years. However, all items in users' Inboxes expire after 7 days. Therefore, you configure a new Managed Custom folder with a different expiration period than that for the Inbox, and request that the users place all Contoso-related e-mail in the new folder.

Log on to SMBEX01

Summary	Detailed Steps
• Log on to SMBEX01.	1. On the SMBEX01 Virtual Server console, if not already logged in, press the RIGHT-ALT and DELETE keys.
	2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**

Create a Managed Custom folder

Summary	Detailed Steps
• In the Exchange Management Console, create a managed custom folder named Contoso Project.	1. On SMBEX01, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.
	2. In the Exchange Management Console, in the navigation tree, expand **Organization Configuration**, and then click **Mailbox**.
	3. In the Action Pane, click **New Managed Custom Folder**.
	4. On the New Managed Custom Folder page, type **Contoso Project** as the **Name**.
	5. In the **Display the following comment when the folder is viewed in Outlook** text box, type **All items related to the Contoso Project should be posted here and retained for 2 years.**
	6. Select the **Do not allow users to minimize this comment in Outlook** check box and then click **New**.
	7. On the Completion page, review the completion report and then click **Finish**.

Create Messaging Records Management content settings for the new Managed Custom folder

Summary

- Using the Exchange Management Console, create Messaging Records Management content settings to preserve all items in the Contoso Project for two years.

Detailed Steps

1. In the Exchange Management Console, in the Work Pane, click the **Contoso Project** Managed Custom folder.

2. In the Action Pane under **Contoso Project**, click **New Managed Content Settings**.

3. On the Introduction page, in the **Name of the managed content settings to be displayed in the Exchange Management Console** text box, type **Preserve for 2 years.**

4. In the **Message type** drop-down list, select **All Mailbox Content**.

5. Select the **Length of retention period (days)** check box and then type **731** in the text box.

6. In the **Retention period starts** drop-down list, select **When the item is moved to the folder**.

7. In the **Action to take at the end of the retention period** drop-down list, select **Permanently Delete** and then click **Next**.

8. On the Journaling page, click **Next**.

9. On the New Managed Content Settings page, review the summary, and then click **New**.

10. On the Completion page, click **Finish**.

Create a Managed Folder Mailbox Policy and link it to a mailbox

Summary

- Use the Exchange Management Console to create a new mailbox policy and link it to Peter Houston's mailbox.

Detailed Steps

1. In the Exchange Management Console, in the Action Pane, click **New Managed Folder Mailbox Policy**.

2. In New Managed Folder Mailbox Policy, in the **Managed folder mailbox policy name** text box, type **NWTraders Mailbox Policy** and then click **Add**.

3. On the Select Managed Folder page, select **Contoso Project** and then click **OK**.

4. Click **New** and then click **Finish**.

5. In the navigation tree, click **Recipient Configuration**. In the Result Pane, click **Peter Houston**, and then in the Action Pane under **Peter Houston**, click **Properties**.

6. In **Peter Houston Properties**, click the **Mailbox Settings** tab, click **Messaging Records Management**, and then click **Properties**.

7. Select the **Managed folder mailbox policy** check box, and then click **Browse**.

8. In Select Managed Folder Mailbox Policy, select **NWTraders Mailbox Policy** and then click **OK** three

times.

9. At the Microsoft Exchange prompt regarding older versions of Outlook, click **Yes** to return to the Exchange Management Console.

Create a Managed Folder Schedule on the SMBEX01 server

- Use the Exchange Management Shell, to create a Messaging Records Management schedule and then restart the Exchange Mailbox Assistants.

1. On SMBEX01, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

2. At the PS prompt, type **set-mailboxserver -id SMBEX01 -ManagedFolderAssistantSchedule "Sun.12:00-Sun.11:00"** and then press ENTER.

   Notice that there is no output displayed from this command.

3. At the PS prompt, type **net stop msexchangemailboxassistants** and then press ENTER.

4. At the PS prompt, type **net start msexchangemailboxassistants** and then press ENTER.

Use the Managed Custom folder from Outlook Web Access

- In Outlook Web Access running as Peter Houston, drag all e-mail related to Contoso into the new Contoso Project Managed Custom folder.

1. Click **Start**, point to **All Programs**, and then click **Internet Explorer**.

2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

3. Log on to Outlook Web Access as **peter** with a password of **P@ssw0rd**.

4. In the **Mail** folders list, expand **Managed Folders**.

   Notice that the Contoso Project managed folder is present.

5. Click the **Contoso Project** managed folder.

   Notice how the description is displayed at the top of the Item view.

6. In the **Mail** folders list, select **Inbox**.

7. In the **Search Inbox** field, type **Contoso**, and then click the drop-down arrow and select **All Folders and Items**. Press ENTER.

8. Click the first item, scroll to the last message, press and hold down the SHIFT key, and then click the last message to select all items that have been displayed.

9. Drag all of the selected items into the **Contoso Project**

managed folder. Notice the age of some of the older messages.

10. In the **Search Inbox** field, where you typed Contoso, click the **X** to clear the search.

    Write down the number of e-mail items remaining in the Inbox. You can find this information in the lower-middle area of the page.

11. In the **Mail** folders list in the left pane, select **Contoso Project**.

    Write down the number of e-mail items in the Contoso Project Managed Custom folder.

12. Close Outlook Web Access.

Configure a retention period on the Inbox

Summary | Detailed Steps

- Create Messaging Records Management content settings to delete all items in the Inbox after one year.

1. Switch to the Exchange Management Console.

2. Expand **Organization Configuration**, and then click **Mailbox**.

3. In the Result Pane, select the **Managed Default Folders** tab and then click **Inbox**.

4. In the Action Pane under **Inbox**, click **New Managed Content Settings**.

5. On the Introduction page, in the **Name of the managed content settings to be displayed in the Exchange Management Console** text box, type **Delete after one year**

6. In the **Message type** drop-down list, select **All Mailbox Content**.

7. Select the **Messages expire after (days)** check box, and then type **365** in the text box.

8. In the **Retention period starts** drop-down list, verify that **When delivered, end date for calendar and recurring tasks** is selected.

9. In the **Action to take at the end of the retention period** drop-down list, verify that **Move to the Deleted Items folder** is selected, and then click **Next**.

10. On the Journaling page, click **Next**.

11. On the New Managed Content Settings page, review the summary, and then click **New**.

12. On the Completion page, click **Finish**.

13. In the Result Pane, select the **Managed Folder Mailbox Policies** tab.

14. Click **NWTraders Mailbox Policy**, and then in the Action Pane, under **NWTraders Mailbox Policy**, click **Properties**.

15. On the **NWTraders Mailbox Policy Properties** page, click **Add**.

16. On the Select Managed Folder page,, click **Inbox**, and then click **OK** twice.

Apply the updated NWTraders Mailbox policy to a user mailbox

Summary

Detailed Steps

- Apply the updated Managed folder to Peter Houston's Inbox.

1. Switch to the Exchange Management shell.

2. At the PS prompt, type **net stop msexchangemailboxassistants** and then press ENTER.

3. At the PS prompt, type **net start msexchangemailboxassistants** and then press ENTER.

Test the Inbox Messaging Records Management content settings

Summary

Detailed Steps

- In Outlook Web Access running as Peter Houston, ensure that all e-mail items older than one year have been removed from the Inbox but remain in the Contoso Project managed custom folder.

1. Click **Start**, point to **All Programs**, and then click **Internet Explorer**.

2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01**.**nwtraders**.**com/OWA** and then press ENTER.

3. Log on to Outlook Web Access as **peter** with a password of **P@ssw0rd**

4. Click **Inbox**.

   How many e-mail items are in the Inbox, and how does this number compare to the number you wrote down previously?

5. Expand **Managed Folders** and then click **Contoso Project**.

   How many e-mail items are in the Inbox, and how does this number compare to the number you wrote down previously?

6. Close Outlook Web Access.

Answer Key

4. **There are fewer items because the older items have been removed by the Managed Folder Mailbox policy.**

5. **The number is unchanged; even the messages older then 1 year are present.**

Exercise 2: Enforcing Compliance by Creating an Ethical Wall

Introduction

In this exercise, you will create rules to enforce compliance. You will do this by creating an ethical wall between two groups of users that prohibits them from e-mailing each other except in certain circumstances.

Scenario

Yan Li and Frank Miller work in separate departments at Northwind Traders. Yan is with the Market Analysts group and Frank is with the Brokers and Dealers group. To comply with regulations affecting Northwind Traders, these two groups must not be able to e-mail each other. You decide to configure a global rule that prohibits these two groups of users from sending e-mail to each other. However, you want to make an exception so that the executives of both departments are still able to mail each other.

Verify normal mail flow between Yan Li and Frank Miller

Summary	Detailed Steps
• Verify that messages can be sent and received between Yan Li and Frank Miller by using Outlook Web Access.	1. On SMBEX01, click **Start**, point to **All Programs**, and then click **Internet Explorer**. 2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER. 3. Log on to Outlook Web Access as **Yan** with a password of **P@ssw0rd** 4. At the first screen in Outlook Web Access, click **OK**. 5. From Yan's Inbox, click **New**. 6. In the new e-mail message, in the **To** box, type **Frank** and then press CTRL+K to resolve the name. 7. In the **Subject** line, type **Information about the latest prices** 8. In the message body, type **I have interesting info about stock prices.** 9. Click **Send**. Leave Outlook Web Access running. 10. Click **Start**, point to **All Programs**, and then click **Internet Explorer**. 11. In the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER. 12. Log on to Outlook Web Access as **Frank** with a password of **P@ssw0rd** 13. At the first screen in Outlook Web Access, click **OK**. Notice that the new message has arrived and is visible in the preview pane. 14. In the **Inbox**, select the new message, and then click **Reply**. 15. In the message body, type **I also have insider info, want to**

trade? and then click **Send**.

16. Switch to Outlook Web Access running as Yan Li, and click **Check Messages**.

17. Confirm that the message arrived successfully.

Create a Hub Transport Rule

- Using the Exchange Management Console, create a new Hub Transport Rule to prohibit the Market Analysts and Brokers and Dealers groups from sending e-mail to each other. Add an exception to the rule allowing e-mail from either group to be sent to Peter Houston or Ursula Fliegl.

1. Switch to the Exchange Management Console. If it is not already running, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.

2. In the Exchange Management Console, in the Navigation Pane, expand **Organization Configuration**, and then click **Hub Transport**.

3. In the Result Pane, click the **Transport Rules** tab.

4. In the Action Pane, click **New Transport Rule**.

5. In the **New Transport Rule Wizard**, in the **Name** box, type **Ethical Wall - Market Analysts and Traders**

6. In the **Comment** box, type the comment **Ethical wall configured to restrict mail between Market Analysts and Traders** and ensure that **Enable Rule** is selected. Click **Next**.

7. In the **Step 1: Select condition(s)** dialog box, select **between members of distribution list and distribution list**.

8. In the **Step 2: Edit the rule description** dialog box, click the first **distribution list** link.

9. In the **Select recipient distribution list** dialog box, click **Add**.

10. In the **Select Mail Enabled Group** dialog box, click **Brokers and Dealers**, and then click **OK** twice.

11. In the **Step 2: Edit the rule description** dialog box, click the second **distribution list** link.

12. In the **Select recipient distribution list** dialog box, click **Add**.

13. In the **Mail Enabled Group** dialog box, click **Market Analysts** and then click **OK** twice.

14. On the New Transport Rule Wizard page, click **Next**.

15. In the **Step 1: Select action(s)** dialog box, select **send bounce message to sender with enhanced status code**.

16. In the **Step 2: Edit the rule description** dialog box, click the **Delivery not authorized, message refused** link.

17. In the **Specify bounce message** dialog box, type **Due to**

compliance restrictions you are prohibited from contacting this person and then click **OK**.

18. On the New Transport Rule Wizard page, click **Next**.

19. In the **Step 1: Select exceptions if necessary** dialog box, select **except when the message is sent to people**.

20. In the **Step 2: Edit the rule description** dialog box, click the **people** link.

21. In the **Select Recipients** dialog box, click **Add**.

22. In the **Select Recipient User or Contact** dialog box, select **Peter Houston** and **Ursula Fliegl** and then click **OK** twice.

23. On the **New Transport Rule** page, click **Next**, review the rule description, and then click **New**.

24. Review the completion summary and then click **Finish**.

25. In the Result Pane, on the **Transport Rules** tab, verify that the rule is enabled.

26. Leave the Exchange Management Console running.

Test the Hub Transport Rule

Summary

- Verify that messages cannot be sent between Yan Li and Frank Miller.

Detailed Steps

1. Switch to Outlook Web Access running as Yan Li.

2. In Outlook Web Access, click **New**.

3. In the new e-mail message, in the **To** box, type **Frank** and then press CTRL+K to resolve the name.

4. In the **Subject** line, type **Advice on the Stock Market**

5. In the message body, type **Please can you give me some advice on the Stock Market?**

6. Click **Send**.

7. Switch to Outlook Web Access running as Frank Miller.

8. Click **Check Messages**.

    Notice that the message has not arrived.

9. Switch to Outlook Web Access running as Yan Li.

10. Click **Check Messages**.

11. View the **Undeliverable** message. Scroll down and note that the message states that "Due to compliance restrictions you are prohibited from contacting this person" per the transport rule definition.

12. Switch to Outlook Web Access running as Frank Miller.

13. In Outlook Web Access, click **New**.

14. In the new e-mail message, in the **To** box, type **Yan** and then press CTRL+K to resolve the name.

15. In the **Subject** line, type **Let's make some big money!**

16. In the message body, type **I've got some great insider info.**

17. Click **Send**.

18. Switch to Outlook Web Access running as Yan Li.

19. Click **Check Messages**.

    Notice that the message was not delivered.

20. In Outlook Web Access, click **New**.

21. In the new e-mail message, in the **To** box, type **Frank** and then press CTRL+K to resolve the name. Also in the **To** box, type **Peter** and press CTRL+K to resolve the name.

22. In the **Subject** line, type **Emergency: Flood on the 2nd floor!**

23. In the message body, type **Please cover all equipment with plastic.**

24. Click **Send**.

25. Click **Check Messages**.

    Notice that the postmaster message states that your message could not be delivered to Frank. However, it was delivered to Peter.

    Note: If time permits, log on to Outlook Web Access as Peter to confirm that the message was delivered.

26. Close Outlook Web Access running as Frank Miller.

27. Close Outlook Web Access running as Yan Li.

Exercise 3: Working with Message Classifications in Outlook Web Access and Outlook 2007

Introduction

In this exercise, you will use the built-in message classifications in Outlook Web Access to classify messages based on policy requirements. You will also build a custom message classification and create transport rules to act upon message classifications.

In the second half of this exercise, you will import message classifications into the Outlook 2007 client and learn how to use message classifications with Outlook 2007.

Scenario

Spencer Low and the steering committee of Northwind Traders have decided that certain information relating to Project X must not leave the organization. Spencer has been asked to implement a policy within Exchange Server 2007 that enables staff working on Project X to create mail items that cannot be forwarded or accidentally sent out of the organization. Spencer decides to use the new Hub Transport Rules and Message Classifications to achieve these requirements.

View Default Message Classifications

Summary	Detailed Steps
• View the existing Message Classifications.	1. On the SMBEX01 virtual server, switch to the Exchange Management Shell. If it is not already running, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**. Wait for the Exchange Management Shell environment to load. 2. In the Exchange Management Shell, type **Get-MessageClassification** and then press ENTER. **Note**: You can use the TAB key as a shortcut for typing this command; for example, if you type **Get-MessageC** and then press TAB, the full command will be completed automatically. 3. To view detailed information about recipient and sender descriptions, in the Exchange Management Shell, type **Get-MessageClassification | ft DisplayName, SenderDescription, RecipientConfiguration, -wrap** and then press ENTER. Notice that detailed descriptions of the existing Message Classifications and what functions they perform are displayed.

Create a new Message Classification

Summary	Detailed Steps
• Create a new Message Classification that meets your requirements and that accurately describes	1. In the Exchange Management Shell, type **New-MessageClassification -Name "Project X Confidential" -DisplayName "Project X Confidential" -SenderDescription "This message is classified as Confidential Project X information. This information**

<table>
<tr><td>its purpose.</td><td>

should not be sent externally" -RecipientDescription "This message you have received is classified as Confidential Project X information. This information should not be sent externally"

2. To confirm that the new Message Classification has been created, type **Get-MessageClassification | ft DisplayName, SenderDescription, RecipientConfiguration, -wrap**

  Note You should see your new Message Classification at the end of the list.

</td></tr>
</table>

Create a Hub Transport Rule for the new Message Classification

Summary   **Detailed Steps**

- Create a Hub Transport Rule that will bounce any messages marked with the Project X Confidential classification when an attempt is made to send the message to an external address.

1. On SMBEX01, switch to the Exchange Management Console.

2. In the Exchange Management Console, expand **Organization Configuration**, and then click **Hub Transport**.

3. In the Action Pane, click **New Transport Rule**.

4. In the New Transport Rule Wizard, in the **Name** field, type **Prevent Project X Confidential from being sent externally.**

5. In the **Comment** field, type **This rule will prevent messages that have been marked with the Project X Confidential Message Classification from being sent to external recipients**

6. Ensure that the **Enable Rule** check box is selected and then click **Next**.

7. In the **Conditions** dialog box, in **Step 1**, select **Sent to users inside or outside the corporation**, and then in **Step 2**, click **Inside**.

8. In the **Select Scope** dialog box, click the drop-down list, select **Outside**, and then click **OK**.

9. In the **Conditions** dialog box, in **Step 1**, scroll down and select **Marked With Classification**, and then in **Step 2**, click **Classification**.

10. In **Select Message Classification**, click **Project X Confidential**, click **OK**, and then click **Next**.

11. In **Actions**, in **Step 1**, scroll down and select **send bounce message to sender with enhanced status code**, and then in **Step 2**, click **Delivery not Authorized Message Refused**.

12. In **Specify Bounce Message**, type **This message is marked as Project X Confidential. Delivery is not allowed to external addresses and delivery has been refused**. Click **OK** and then click **Next**.

13. On the Exceptions page, click **Next**.

14. On the Create Rule page, review the summary, and then click **New**.

15. Review the completion summary, and then click **Finish**.

16. Wait for the new Transport Rule to appear in the Result Pane of the Exchange Management Console.

Test the new Hub Transport Rule

Summary	Detailed Steps

- Send a message addressed to both an internal and an external user and confirm that the Transport Rule works as expected.

1. On SMBEX01, click **Start**, click **All Programs**, and then click **Internet Explorer**.

2. In the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

3. Log on to Outlook Web Access as **Spencer** with a password of **P@ssw0rd**

4. Click **New** to create a new message.

5. In the **To** field, type **Peter** and then press CTRL+K to resolve the name. Also in the **To** field, type **Spencer** and then press CTRL+K to resolve the name. Also in the **To** field, type **Claus.Hansen@contoso.com**

   Note: The message should now have three recipients: Peter, Spencer, and Claus Hansen.

6. Click the **Message Classification** button and select **Project X Confidential**.

   Notice that the Sender Description appears below the toolbar.

7. In the **Subject** field, type **Project Milestones**, and then in the **Text** field, type **All project X milestones are on track. Regards, Spencer**.

8. Click **Send**.

9. Wait for a few seconds and then click the **Check Messages** button in Outlook Web Access.

10. Open the message addressed to Spencer and notice that the Recipient Description is inserted below the Subject line.

11. Open the Undeliverable message and scroll down to the **Diagnostic Information for Administrators**. Notice the Bounce Message text you defined in the Transport Rule.

Export the Message Classification definitions to an XML file

Summary	Detailed Steps

- Export the Message

1. On SMBEX01, switch to the Exchange Management Shell.

Classifications to an XML file for later importation into Outlook 2007.

If it is not already running, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

Wait for the Exchange Management Shell environment to load.

2. At the Exchange Management Shell (EMS) prompt, type **cd "c:\Program Files\Microsoft\Exchange Server\Scripts"** and then press ENTER.

3. At the EMS prompt, type **Get-MessageClassification | ./Export-OutlookClassification.PS1 > c:\labs\classifications.xml** and then press ENTER.

Notice that there is no output displayed from this command.

4. Switch to CLIENT01 and log on as **nwtraders\peter** with a password of **P@ssw0rd**

5. After you have logged on, click **Start**, click **Run**, and then in the **Run** box, type **\\smbex01\c$** and press ENTER.

6. In **Connect to SMBEX01.nwtraders.com**, enter the credentials **nwtraders\administrator** with a password of **P@ssw0rd** and then click **OK**.

7. In windows explorer, navigate to and open the **labs** folder.

8. Right-click the **classifications.xml** file, and then click **copy**.

9. In **labs**, click **Folders**, navigate to **My Computer**, **Local Disk (C:)**, click **labs**, and then in the right pane, right-click and then select **Paste**.

10. Close Windows Explorer.

11. On CLIENT01, click **Start**, click **Run**, type **Regedit** and then press ENTER.

12. Navigate to **[HKEY_CURRENT_USER\Software\Microsoft\Office\12.0\Common\]**

13. Right-click **Common**, click **New**, and then click **Key**.

14. Type **Policy** as the name of this new key.

15. Right-click **Policy**, point to **New**, and then click **String Value**.

16. In the **String Value** name, type **AdminClassificationPath**

17. Double-click **AdminClassificationPath**, type **C:\labs\Classifications.xml** and then click **OK**.

18. Right-click **Policy**, point to **New**, and then click **DWORD**.

19. In the **DWORD** name, type **EnableClassifications**

20. Double-click **EnableClassifications**, type **1** and then click **OK**.

21. Close the Registry Editor.

22. If Outlook 2007 is running, restart Outlook and click **Yes** or

OK to any prompts that may appear.

23. In the Outlook 2007 Inbox, click **New** to create a new message.

24. In the **To** field, type **Peter** and press CTRL+K to resolve the name. Also in the **To** field, type **Spencer** and press CTRL+K to resolve the name. Also in the **To** field, type **Claus.Hansen@contoso.com**

    Note: Your message should now have three recipients: Peter, Spencer, and Claus Hansen.

25. Click the down arrow next to the **Permission** button and then select **Project X Confidential**.

    Notice that the sender description appears below the toolbar.

26. In the **Subject** field, type **Project Milestones** and then in the **Text** field, type **All project X milestones are on track. Regards, Peter**.

27. Click **Send**.

28. Wait for a few seconds and then click the **Send/Receive** button.

29. Open the message addressed to Peter Houston and notice that the Recipient Description is inserted below the Subject line.

30. Open the Undeliverable message and scroll down to **Diagnostic Information for Administrators**. Notice the Bounce Message text you defined in the Transport Rule.

This page intentionally left blank.

Lab: Remote Client Access with Exchange Server 2007

Lab: Remote Client Access with Exchange Server 2007

- **Exercise 1: Using New Outlook Web Access Calendar Features**
- **Exercise 2: Using New Outlook Web Access Search and Address Book Features**
- **Exercise 3: Using Mobile Devices with Exchange Server 2007**

Time estimated: 60 Minutes

Introduction

In this lab, you will explore several of the new Microsoft® Office Outlook® Web Access Calendar, Search, and Address Book features. You will also gain hands-on experience using a mobile device with Microsoft Exchange Server 2007.

Lab objectives

After completing this lab, you will be able to:

- Use the new Calendar, Search, and Address Book features of Outlook Web Access.
- Configure mobile e-mail for a Microsoft Windows Mobile®–powered device.
- Use a Windows Mobile 4 device with Exchange Server 2007.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.
- To prepare for this lab, start the SMBEX01 virtual server.

Exercise 1: Using New Outlook Web Access Calendar Features

Introduction

In this exercise, you will use the new Outlook Web Access calendar features to:

- Create and move appointments.

- Use advanced calendar functionality to determine the best time to schedule a meeting with multiple attendees and resources.

- Configure the Out of Office Assistant from Outlook Web Access.

Scenario

Northwind Traders requires many of its employees to check their e-mail and calendar information over the Internet from computers on client sites. As the company's Exchange administrator, you implement Outlook Web Access to address this need.

Spencer Low, the company's vice president, wants to schedule a meeting with the rest of the management team. She uses the "suggested times" feature of Outlook Web Access to determine the optimal time for the meeting. She also configures the Out of Office Assistant in Outlook Web Access to send messages notifying senders when she is away from the office.

Log on to SMBEX01

Summary	Detailed Steps
• Log on to SMBEX01.	1. On the Virtual Server Administration Website, start the **SMBEX01** virtual server.
	2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**

Move appointments in Outlook Web Access

Summary	Detailed Steps
• Create an appointment in Outlook Web Access and move it around in the Work Week view to view the transparency feature.	1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, and then click **Internet Explorer**.
	2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.
	3. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd**
	4. In the left pane, click **Calendar**.
	5. In the Calendar, click **Work Week** to switch to the Work Week view.
	6. In the numerical calendar on the left, click a date in the next week.
	7. In the Work Week view, double-click the intersection of **Tuesday** and **9:00AM** to create a new appointment.
	8. In the **Subject** box, type **Prepare analysis for Fabrikam**
	9. Click **Save and Close**.

10. In the Work Week view, click the **Prepare Analysis for Fabrikam** meeting and drag it over **Thursday 9:00 AM** to **Friday 9:00 AM**.

    Notice that the appointment becomes partially transparent as it is dragged.

11. Drop the appointment onto the **Friday 9:00** entry.

Use advanced calendar features in Outlook Web Access

- Create a calendar appointment with multiple attendees and resources, and determine the most and least optimal times for this appointment.

1. In Outlook Web Access, click **New** to create a new appointment.

2. In the **Subject** box, type **Quarterly Review Meeting**

3. Click the **Scheduling Assistant** tab.

4. In the **Select Attendees** list, click inside the box under **Spencer Low**, type **Peter** and then press ENTER.

5. In the next line, type **Ursula** and then press ENTER.

6. In the next line, type **Claire** and then press ENTER.

7. In the next line, type **Mike** and then press ENTER.

8. Click the arrow to the left of **Mike Ray** once to change the attendance of Mike Ray to **Optional**.

    Notice how the availability of each attendee is displayed.

9. Click **Select Rooms** and then click **More.**

    Notice that resources such as meeting rooms are listed, along with details on their availability.

10. In the **All Rooms** list, select **Meeting Room Superior** and then click the **Rooms ➔** button in the lower-left corner.

11. Click **OK** in the lower-right corner.

12. In the **Select Rooms** list, select the **Meeting Room Superior** check box.

13. On the right side of the page, in the **Duration** drop-down list, select **4 hours**.

14. In the **Suggested Times** box, note how Good, Fair, and Poor times are displayed on the calendar according to the color legend at the bottom of the page.

15. On the calendar, click **Friday** of next week.

    Notice that suggestions are made regarding optimal meeting times.

16. On the calendar, click next **Friday** of next week.

    Notice the suggested meeting times.

17. Click the **1 PM** suggestion.

    Notice that the meeting is scheduled for 1:00 P.M.

18. Click the **Appointment** tab.

    Notice that the resources are displayed separately from the attendees.

19. Click **Send**.

20. Click **Start**, click **All Programs**, and then click **Internet Explorer**.

21. In Internet Explorer, in the **Address** bar, type **http://SMBEX01**.**nwtraders**.**com/OWA** and then press ENTER.

22. Log on to Outlook Web Access as **Claire** with a password of **P@ssw0rd**.

    Notice that the meeting request has been sent to you, and that you can Accept or Decline the request directly from the preview pane.

23. In the preview pane of the meeting request, click **Accept**, and then click **Send the response now**.

Configure the Out of Office Assistant

- Configure the Out of Office Assistant from Outlook Web Access.

1. Switch to Outlook Web Access running as **Spencer Low**.

2. At the top of the page, click **Options**.

3. In the left pane, in the **Options** list, click **Out of Office Assistant**.

4. On the Out of Office Assistant page, click **Send Out of Office auto-replies**.

5. Select the **Send Out of Office auto-replies only during this time period** check box.

6. In the **Start time** list, select today with a start time of **6:00 AM**.

7. In the **End time** list, select Friday of this week with an end time of **8:00 PM**.

8. In the message body, type **I will be out of the office until next Monday**

9. (Optional) Format the message with the colors and fonts of your choice.

10. Clear the **Send Out of Office auto-replies to External Senders** check box.

11. Click **Save**, and then in the left pane, click **Mail**.

12. Switch to Outlook Web Access running as Claire O'Donnell.

13. From Claire's Inbox, click **New**.

14. In the new e-mail message, in the **To** box, type **Spencer** and

then press CTRL+K to resolve the name.

15. In the **Subject** line, type **Naming standards document**

16. In the message body, type **Please could you give me an estimate as to when you could deliver this document**?

17. In the new message, click **Send**.

18. Click **Check Messages**.

    Notice that you have received the customized Out of Office message.

19. Switch to Outlook Web Access running as Spencer Low.

20. At the top of the page, click **Options**.

21. In the left pane, in the **Options** list, click **Out Of Office Assistant**.

22. On the Out of Office Assistant page, select the **Do not send Out of Office auto-replies** check box.

23. Click **Save**.

24. In the left pane, click **Mail**.

Exercise 2: Using New Outlook Web Access Search and Address Book Features

Introduction

In this exercise, you will use the new Outlook Web Access Search features to:

- Search a mailbox folder for all items containing a search word.

- Search all folders in a mailbox folder for all items containing a search word

- Use the new Outlook Web Access View by Conversation feature.

You will also use the new Outlook Web Address Book features to:

- Use the Exchange Management Console to set Organization attributes of users to appear in the Outlook Web Access Address Book. More information about the new Exchange Management Console is presented in the next Module.

- Browse the Global Address List (GAL).

- Look up a contact in the Address Book and view the new Organization properties of users in the Address Book.

Scenario

Spencer Low, the company's vice president, wants to increase efficiencies in the workplace by providing accurate, easy-to-use information on staff management within the Address Book. Spencer also wants to investigate the new Search features of Outlook Web Access.

Search a mailbox folder for all items containing a search term

Summary	Detailed Steps
• Use the improved search features of Outlook Web Access to search for all mail items in Spencer Low's mailbox containing the word "Contoso." • Arrange the results of the search by Conversation.	1. On the SMBEX01 virtual server, switch to Outlook Web Access running as **Spencer Low**. 2. In the **Search Inbox** field, type **Contoso** and then press ENTER. How many mail items are displayed? 3. Click the drop-down arrow next to the **Search Inbox** field, and then select **All Folders and Items**. How many mail items are now displayed? 4. Click the drop-down arrow next to the **Arrange By** field, and then select **Conversation**. Notice how all "related" messages are arranged together, making it much easier to follow a conversation thread. 5. Click the red **X** next to the search box to clear the search and return to the **Inbox**.

Answer Key

2. **7**

3. **8**

Use the Exchange Management Console to configure a user's organization attributes

Summary

- Use the Exchange Management Console to configure Peter Houston as the manager of staff members Ursula Fliegl and Holly Holt.

Detailed Steps

1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.

2. In the Exchange Management Console, click **Recipient Configuration**.

3. In the Result Pane, select **Ursula Fliegl**, and then in the Action Pane, under **Ursula Fliegl**, click **Properties**.

4. In the **Ursula Fliegl Properties** dialog box, click the **Organization** tab, and then select the **Manager** check box.

5. Click **Browse**.

6. In the Select Recipient User or Contact window, click **Peter Houston**, and then click **OK**.

7. In the **Department** field, type **Sales** and then click **OK** to return to the Exchange Management Console.

8. Repeat steps 3-7 for **Zheng Mu** using the same settings.

9. Close the Exchange Management Console.

Use the Address Book features to determine a recipient's manager and group members

Summary

- Use the new Address Book features of Outlook Web Access to determine Ursula Fliegl's manager and group members.

Detailed Steps

1. On the SMBEX01 virtual server, switch to Outlook Web Access running as **Spencer Low**.

2. Click **New** to create a new mail item.

3. In the **Untitled Message** dialog box, click **To**.

4. In the **Address Book** dialog box, notice how the Default Global Address List is displayed.

5. In the **Global Address List**, scroll down and select **Peter Houston**.

    Notice how Peter's availability is displayed in the right pane. In the **Availability** box, click the down arrow and select any Wednesday. Notice that Peter is not available on Wednesdays.

6. In the **Peter Houston** box, click **Organization** to expand his details.

    Who are Peter's Direct Reports?

7. Under **Direct Reports**, click **Zheng Mu**.

    Notice how Zheng Mu's information now appears, showing his Department and Manager, as well as his availability.

8. Close all windows.

6. Ursula Fliegl and Zheng Mu

Exercise 3: Using Mobile Devices with Exchange Server 2007

Introduction

In this exercise, you will use a Microsoft Windows Mobile 5.0 device to synchronize e-mail data with Exchange Server 2007. You will also remotely wipe your own Windows Mobile 5.0 device from Outlook Web Access.

Scenario

Spencer Low, the vice president of Northwind Traders, wants to use her new Windows Mobile 5.0 device to read and send e-mail while out of the office. You configure her Windows Mobile device to synchronize directly with the Exchange server by using Exchange Direct Push Technology. When Spencer loses her device in a restaurant, you instruct her to connect to Outlook Web Access and wipe the device remotely for security purposes.

Configure Microsoft Exchange ActiveSync® on a Windows Mobile device to synchronize with Exchange

- Start the Pocket PC Emulator on the SMBEX01 virtual server.

- Configure ActiveSync to connect to the Exchange server.

- Open Spencer Low's mailbox on the Pocket PC device.

1. On SMBEX01, click **Start**, click **All Programs**, click **Microsoft Device Emulator Preview**, and then click **Device Emulator Manager**.

2. In the Device Emulator Manager, click **File**, click **Restore Image**, navigate to the folder **C:\Program Files\Microsoft\Device Emulator Preview**, select the **pocketpc.dess** file, and then click **Open**.

3. At the Device Emulator prompt asking you to enable the network card, click **Yes**.

4. On the Pocket PC Emulator, click the **Start** icon ![Start icon], click **Programs**, and then click **ActiveSync**.

5. Read the ActiveSync screen information and then click the **set up your device to sync with it** link.

6. In the **Server Address** box, type **SMBEX01.nwtraders.com**

7. Clear the **This server requires an encrypted (SSL) connection** check box.

8. In the Security warning message, click **OK**, and then click **Next**.

   Note: Secure Sockets Layer (SSL) encryption should always be used with ActiveSync. However, for the purposes of this lab, you will not be using an SSL connection.

9. In the **User name** text box, type **Spencer**

10. In the **Password** text box, type **P@ssw0rd**

11. In the **Domain** text box, type **Nwtraders**

12. Select the **Save password** check box, and then click **Next**.

13. In the **Choose the data you wish to synchronize** box, click **Calendar**, and then click **Settings**.

14. In the **Synchronize only the past** drop-down list box, select

All, and then in the upper-right corner, click **OK**.

15. In the **Choose the data you wish to synchronize** box, click **E-Mail**, and then click **Settings**.

16. In the **Include the previous** drop-down list box, select **All**, and then in the upper-right corner, click **OK**.

17. Confirm that the four check boxes are selected, and then click **Finish**.

18. Wait for ActiveSync to synchronize with the Exchange server. Watch as Contacts, Calendar, Email, and Tasks are synchronized from the Exchange server to the device. The synchronization may take several minutes in this emulator environment.

19. After synchronization is complete, click the **Start** icon and then click **Today** to return to the Today screen.

20. On the Pocket PC Emulator, click **Start**, and then click **Messaging**.

21. Click a message to open and then read the message.

22. Click **OK** to close the message.

23. Click the **X** in the upper-right corner to close Outlook E-Mail.

Test Direct Push Technology

Summary

- Send an e-mail message from Peter Houston to Spencer Low by using Outlook Web Access.

- View your messages on the Pocket PC Emulator.

- View the reply to Peter in Outlook Web Access.

- Accept a meeting request by using the Pocket PC Emulator.

- Synchronize tasks by using the Pocket PC Emulator.

Detailed Steps

1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, and then click **Internet Explorer**.

2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

3. Log on to Outlook Web Access as **peter** with a password of **P@ssw0rd**

4. Click **New**, and then in the **To** field, type **Spencer** and then press CTRL+K to resolve the name.

5. In the **Subject** line, type **IMPORTANT: New information regarding prospective factory in Seoul**

6. In the message body, type **Contoso Inc. is willing to invest in our new Seoul factory**

7. Click the **Importance: High** button and then click **Send**.

8. Switch to the Pocket PC Emulator.

   Notice the animated Synchronization arrows indicating that the device is automatically synchronizing, triggered by the arrival of a message in Spencer's mailbox.

9. Wait for the Pocket PC device to complete synchronization.

10. At the bottom of the Today screen, view the notification stating that a new message has arrived. Click **View** and open the new message from Peter.

11. You want to add Peter to your contacts. Click **Peter Houston** in the mail item, and then in the Messaging dialog box, click **Yes** to add Peter to your contacts.

12. Click **OK** to close the Contacts window and return to the e-mail message.

13. Click **Reply** at the bottom of the message window.

14. In the message body, type **Excellent – please start the legal paperwork** and then click **Send**.

    Note the animated Synchronization arrows again indicating that the device is automatically synchronizing to send the message.

15. Switch to Outlook Web Access running as Peter Houston.

16. Click **Check Messages** or press F5 to refresh the screen, and then confirm that the message from Spencer was received.

17. Click **Calendar**, and then click **New**.

18. Click the **Invite Attendees** button, and then in the **Required** field, type **Spencer**

19. Change the start time of the appointment to be 1 hour from now.

20. In the **Subject** field, type **Management Meeting** and then in the **Location** field, type **Peter's Office**

21. In the message body, type **Meeting to discuss opening factory in Seoul**

22. Click **Send.**

23. Switch to the Pocket PC Emulator and wait for the device to synchronize.

24. If it is not already open, open the device's **Inbox**. After the Inbox is in sync, click the meeting request at the top of the message list.

25. Click **Accept** at the bottom of the Messaging window, verify that **Send the response now** is selected, and then click **OK**.

26. Click **OK** in the upper-right corner to close the message.

27. Click the **X** in the upper-right corner to close the Inbox. The meeting should now appear on the Today screen.

28. Wait for synchronization to complete, and then switch to Peter's Outlook Web Access.

29. Click **Mail** in the left pane, click **Check for New Messages**, and then verify that the meeting request was accepted.

30. Log off from Outlook Web Access running as Peter, and then close Microsoft Internet Explorer.

31. Switch to the Pocket PC Emulator.

32. Click **Start**, click **Programs**, and then click **Tasks**.

33. At the bottom of the Tasks screen, click **New**.

34. In the task **Subject** line, type **Request auditor's report**

35. In the **Priority** drop-down list box, select **High**.

36. In the **Starts**: drop-down list box, select today's date.

37. Click **OK** in the upper-right corner and notice that the task is being synchronized. Wait for synchronization to complete.

38. Click the **X** in the upper-right corner to close **Tasks**, and then click it again to close **Programs**.

     Notice that a new **Active Task** shows on the Today screen that is **High priority**.

Remotely wipe a mobile device from Outlook Web Access

Summary   Detailed Steps

- Log on to Outlook Web Access as Spencer Low and remotely wipe the mobile device.

1. On the SMBEX01 virtual server, click **Start**, click **All Programs**, and then click **Internet Explorer**.

2. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

3. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd**

4. At the top of the page, click **Options**.

5. In the left pane, in the **Options** list, click **Mobile Devices**.

6. Select the device in the device list, and then click **Wipe All Data from Device**.

7. Click **OK** to confirm that you want to wipe all data from your device.

8. Switch to the Device Emulator.

9. Click the **Start** icon [icon], click **ActiveSync**, and then click **Sync**.

10. Click **OK** to accept the policy notification.

     The device will now be wiped.

11. Close the Device Emulator without saving state, and then close the Device Emulator Manager.

12. Close Outlook Web Access.

Lab: Using Exchange Server 2007 Local Continuous Replication

- **Exercise 1: Configuring Local Continuous Replication**
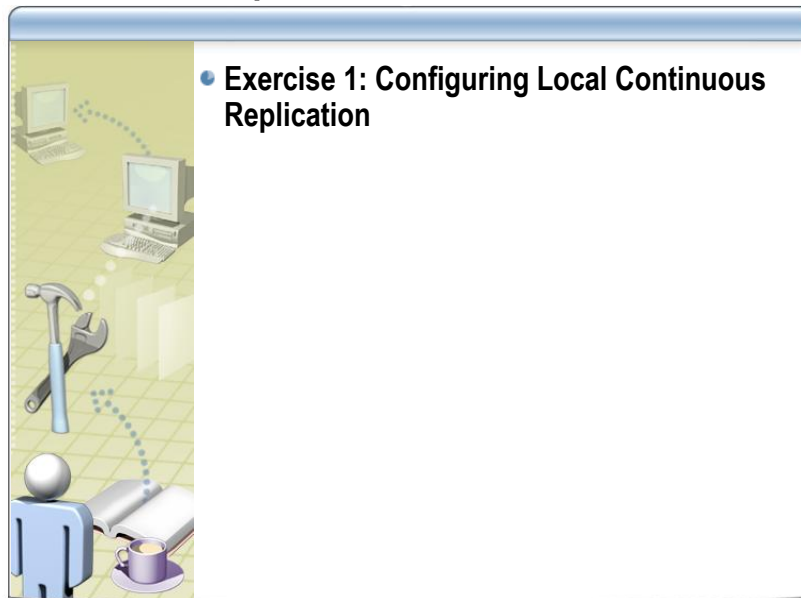
Time estimated: 45 minutes

Introduction

In this lab, you will use the SMBEX01 virtual server to configure Local Continuous Replication (LCR).

Lab objectives

After completing this lab, you will be able to:

- Enable LCR on a Microsoft® Exchange Storage Group.

- Recover from a disk failure by using the copy taken by LCR.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

1. To prepare for this lab, use the SMBEX01 virtual server.

Exercise 1: Configuring Local Continuous Replication

Introduction

In this exercise, you will configure and test Local Continuous Replication to quickly recover from database corruption.

Scenario

Northwind Traders recently implemented Microsoft Exchange Server 2007. As the company's Exchange administrator, you have been tasked with ensuring that recovery time is minimized in the event of disk failure. You implement LCR to ensure that a copy of the mailbox database exists on a separate disk at all times.

Log on to SMBEX01

Summary	Detailed Steps
• Log on to SMBEX01.	1. On the SMBEX01 Virtual Server console, press the RIGHT-ALT and DELETE keys.
	2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**

Enable LCR on the Third Storage Group

Summary	Detailed Steps
• Using the Enable Storage Group Local Continuous Backup Wizard, enable LCR for the Third Storage Group.	1. On SMBEX01, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.
	2. In the Exchange Management Console, expand **Server Configuration**, and then click **Mailbox**.
	3. In the Work Pane, click **Third Storage Group**, and then in the Action Pane, click **Enable local continuous replication**.
	4. On the Introduction page, click **Next**.
	5. On the Set Paths page, in the **Local continuous replication system files locations** dialog box, click **Browse**, select **C:\Disk2**, and then click **OK**.
	6. In the **Local continuous replication log files locations** dialog box, click **Browse**, select **C:\Disk2\logs**, and then click **OK**.
	7. Click **Next** to continue.
	8. On the Mailbox Database 3 page, in the **Local continuous replication Exchange database file path** box, click **Browse**, select **C:\Disk2\db**, click **Open**, and then click **Save**.
	9. Click **Next** to continue.
	10. Review the information on the Enable page and verify that the correct paths have been configured.

11. Click **Enable** to enable Local Continuous Replication for the storage group. Wait for the process to complete and then click **Finish**.

12. In the Work Pane, click **Third Storage Group**, scroll to the right, and notice that the Copy Status is showing as **Healthy**.

Verify the results of LCR

Summary

- Verify that LCR is functioning by sending a large e-mail message and observing the log file activity.

Detailed Steps

1. Open Microsoft Windows® Explorer and navigate to **C:\Disk2\logs.**

2. Examine the contents of the **C:\Disk2\logs** folder and compare the contents with the contents of **C:\Disk1\logs**.

3. Make a note of the highest log file number on disk1; for example, E0200000039.LOG.

4. Click **Start**, click **All Programs**, and then click **Internet Explorer**.

5. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

6. Log on to Outlook Web Access as **spencer** with a password of **P@ssw0rd.**

7. Click **New**.

8. In the new e-mail message, in the **To** box, type **Holly** and then press CTRL+K to resolve the name.

9. In the **Subject** box, type **Acquisition Analysis**

10. In the message body, type **Please review this document**.

11. In the **New Message** dialog box, click **Attach file**, click **Browse**, and then select **C:\labs\lcr\Analysis.doc**.

12. In the **Attach Files** dialog box, click **Attach**.

13. In the **New Message** dialog box, click **Send**.

14. Switch to Windows Explorer and navigate to **C:\Disk1\logs**.

    a. What is the highest log file number now?

    b. Has the log file sequence been incremented?

15. Navigate to **C:\Disk2\logs**.

    Has the newest log file been copied to this path?

16. Click **Start**, click **All Programs**, and then click **Internet Explorer**.

17. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

18. Log on to Outlook Web Access as **holly** with a password of

P@ssw0rd

19. At the first screen in Outlook Web Access, click **OK**.

20. Ensure that the e-mail message from Spencer is displayed.

21. Leave Outlook Web Access running.

14. **a. Log number varies. b. Yes.**

15. **Yes.**

Simulate database corruption

- Dismount Mailbox Database 1 and delete the database file to simulate database corruption.

1. Switch to the Exchange Management Console.

2. Verify that the **Copy Status** of the Third Storage Group is **Healthy**. You may need to refresh the screen.

3. Right-click **Mailbox Database 3** and then click **Dismount Database**.

4. At the **Microsoft Exchange** prompt, click **Yes**.

5. Switch to Windows Explorer and navigate to **C:\Disk1\db**.

6. Delete the **Mailbox Database 3.edb** file.

7. Switch to the Exchange Management Console.

8. Right-click **Mailbox Database 3** and then click **Mount Database**.

9. Read the **Microsoft Exchange** error message, and then click **No**.

   Note: This is now a corrupted store.

Recover from the corruption

- Swap Disk 2 (containing the Local Continuous Replication copy) for Disk 1 (containing the corrupted files to recover from the failure).

1. In the Exchange Management Console, in the Work Pane, click **Third Storage Group**.

2. In the Action Pane, click **Disable Local Continuous Replication**.

3. At the **Microsoft Exchange** prompt, click **Yes**.

4. At the **Microsoft Exchange Warning** prompt, click **OK**.

5. Switch to Windows Explorer and navigate to **C:\Disk1\logs**.

6. Copy the **C:\Disk1\logs\E02.log** file to **C:\Disk2\logs**.

7. Click **Start**, click **Administrative Tools**, and then click **Computer Management**.

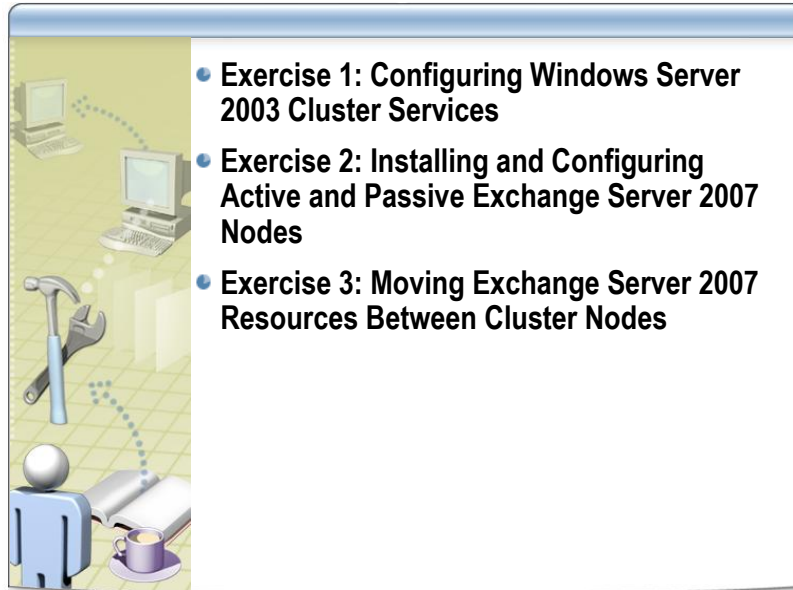8. In the Navigation Pane, click **Disk Management**.

9. In the Result Pane, right-click **Disk 1**, and then click **Change Drive Letter and Paths**.

10. In the **Change Drive Letter and Paths for New Volume** dialog box, click **Remove**.

11. In the **Confirm** dialog box, click **Yes**.

12. In the right pane, right-click **Disk 2**, and then click **Change Drive Letter and Paths**.

13. In the **Change Drive Letter and Paths for New Volume** dialog box, click **Remove**.

14. In the **Confirm** dialog box, click **Yes**.

15. In the Result Pane, right-click **Disk 2**, and then click **Change Drive Letter and Paths**.

16. In the **Change Drive Letter and Paths for Disk2** dialog box, click **Add**.

17. In the **Add Drive Letter or Path** dialog box, select the **Mount in the following empty NTFS folder** option, and then type **C:\Disk1**

18. In the **Add Drive Letter or Path** dialog box, click **OK**.

19. Switch to Windows Explorer and navigate to **C:\Disk1\db**.

20. Confirm that the **Mailbox Database 3.edb** file is present.

21. Switch to the Exchange Management Console.

22. Right-click **Mailbox Database 3**, and then click **Mount Database**.

    Notice that the database has been mounted successfully.

23. Switch to Outlook Web Access running as Holly Holt and press F5 to refresh the screen.

24. Confirm that the mail item you sent earlier as Spencer Low is present and that service has been resumed.

25. Click **Start**, click **Administrative Tools**, and then click **Event Viewer**.

26. In the **Application log**, find the first event with the ID of **301**.

    What does this event represent?

27. Close Event Viewer.

Answer Key

26. The log file is being replayed into the database.

Lab: Using Exchange Server 2007 Cluster Continuous Replication

- **Exercise 1: Configuring Windows Server 2003 Cluster Services**

- **Exercise 2: Installing and Configuring Active and Passive Exchange Server 2007 Nodes**

- **Exercise 3: Moving Exchange Server 2007 Resources Between Cluster Nodes**

Time estimated: 90 minutes

Lab objectives

After completing this lab, you will be able to:

- Install Microsoft® Windows Server™ 2003 cluster services to support Exchange Server 2007 Cluster Continuous Replication (CCR).

- Configure a Majority Node Set (MNS) quorum with file share witness.

- Install and configure the Exchange Server 2007 active and passive nodes in the cluster.

Introduction

In this lab, you will use the SMBEX01, EXBE01, and EXBE02 virtual servers.

Exercise 0: Preparing the Environment

Prepare the environment

- To prepare for this lab, start the EXBE01, EXBE02, and SMBEX01 virtual servers.

1. To prepare for this lab, start the **EXBE01, EXBE02,** and **SMBEX01** virtual servers.

Exercise 1: Configuring Windows Server 2003 Cluster Services

Introduction

In this exercise, you will configure Windows Server 2003 cluster services in preparation for the installation of Exchange Server 2007.

Scenario

Northwind Traders recently implemented Exchange Server 2007. As the company's Exchange administrator, you have been tasked with ensuring that the Exchange environment is highly available. However, the company has no shared disk resources, such as a Storage Area Network (SAN). You are aware that Exchange Server 2007 can use CCR, which does not require shared storage. To prepare for the Exchange Server 2007 installation and the use of CCR, you need to configure Windows Server 2003 Cluster services.

Create the cluster service account

Summary	Detailed Steps
• Create the cluster service account.	1. On SMBEX01, log on to the NWTRADERS domain as **Administrator** with a password of **P@ssw0rd**
	2. Click **Start**, click **Administrative Tools**, and then click **Active Directory Users and Computers**.
	3. In Active Directory Users and Computers, expand **nwtraders.com**, right-click the **Users** OU, click **New**, and then click **User**.
	4. On the New Object – User page, in the **Last name** field, type **ClusterSVC** and then in the **User logon name** field, type **ClusterSVC** and click **Next**.
	5. In the **Password** and **Confirm password** fields, type **P@ssw0rd**
	6. Clear the **User must change password at next logon** check box, select the **Password never expires** check box, click **Next**, and then click **Finish**.
	7. Close Active Directory Users and Computers.

Configure the first and subsequent nodes of the cluster

Summary	Detailed Steps
• Use the Server Cluster Wizard to create a new cluster and install the first node in the cluster.	1. On EXBE01, log on to the NWTRADERS domain as **Administrator** with a password of **P@ssw0rd**
• Install the second and subsequent nodes in the cluster.	2. Click **Start** and then click **Run**.
	3. Type **CMD** and then click **OK**.
• Verify that the cluster service is running.	4. At the command prompt, type **cluster /cluster:EXCluster /create /wizard** and then press ENTER.
	5. On the New Server Cluster Wizard page, click **Next**.

- Enable networks for cluster use.

6. On the Cluster Name and Domain page, click the **Domain** drop-down list, click **nwtraders.com**, verify that the Cluster name is **EXCluster**, and then click **Next**.

7. On the Select Computer page, verify that EXBE01 is selected, and then click **Next**.

   Note: Under **Finding common resources on nodes** and **Checking cluster feasibility**, you will receive a warning that a sharable quorum resource could not be located. This is expected behavior.

8. Review the analysis results and then click **Next**.

9. On the IP Address page, in the **IP Address** field, type **10.0.0.70** and then click **Next**.

10. On the Cluster Service Account page, in the **User name** field, type **clustersvc** and then in the **Password** field, type **P@ssw0rd**

11. Verify that the Domain is **nwtraders.com** and then click **Next**.

12. On the Proposed Cluster Configuration page, click **Quorum**.

13. Click the drop-down list, select **Majority Node Set**, and then click **OK**.

14. On the Proposed Cluster Configuration page, verify that the information is correct, and then click **Next**.

15. After the tasks have been completed, click **Next**, and then click **Finish**.

16. Leave the command prompt window open.

17. Click **Start**, click **Administrative Tools**, and then click **Cluster Administrator**.

    The EXBE01 node in the results pane should be listed in an **Up** state.

18. Switch to the command prompt.

19. At the command prompt, type **cluster /cluster:EXCluster /add /wizard** and then press ENTER.

20. On the Welcome to Add Nodes Wizard page, click **Next**.

21. On the Cluster Name and Domain page, click the **Domain** drop-down list and then click **nwtraders.com**.

22. Verify that the cluster name shown is **EXCluster** and then click **Next**.

23. In the **Computer name** field, type **EXBE02** and click

Add, and then click **Next**.

24. After the analysis is complete, click **Next**.

25. On the Cluster Service Account page, in the **Password** field, type **P@ssw0rd** and then click **Next**.

26. Review the cluster configuration information and then click **Next**.

27. After the tasks have been completed, click **Next**, and then click **Finish**.

28. Switch to the Cluster Administrator management console. Click **EXCLUSTER**.

    You should now see EXBE02 added as a node to the cluster with the State shown as **Up**.

29. In the navigation pane, expand **Groups**, and then click **Cluster Group**.

    The three current cluster resources should be listed as **Online**.

30. Expand **Cluster Configuration**, and then click **Networks**.

31. In the details pane, right-click **Private Connection**, and then click **Properties**.

32. Verify that **Enable this network for cluster use** is selected, select **Internal cluster communications only (private network)**, and then click **OK**.

33. Right-click **Public Connection**, and then click **Properties**.

34. Verify that the Public Connection is configured for **All communications (mixed network)**, and then click **OK**.

35. In the console tree, right-click EXCLUSTER and then click **Properties**.

36. On the **Network Priority** tab, in the **Networks used for internal cluster communication** section, verify that **Private Connection** is at the top. If it is not, click **Private Connection**, click **Move Up**, and then click **OK**.

37. Close the Cluster Administrator management console.

38. Leave the command prompt window open.

Convert the MNS quorum to an MNS quorum with file share witness

- Create a share and configure permissions on

1. Switch to SMBEX01.

the share and the folder.

- Configure MNS to use the new share as a witness.

- Confirm the settings.

2. Click **Start**, and then click **Run**.

3. Type **CMD** and then click **OK**.

4. At the command prompt, create a folder to use as the file share witness by typing the following and then pressing ENTER after each line.

**CD **

mkdir MNS_FSQ_DIR_EXCluster

5. Share the folder as MNS_FSQ_EXCluster by typing the following and then pressing ENTER:

net share MNS_FSQ_EXCluster=C:\MNS_FSQ_DIR_EXCluster /GRANT:nwtraders\clustersvc,FULL

Note This is a single long command.

---

6. Set permissions for the share by typing the following command and then pressing ENTER:

cacls MNS_FSQ_DIR_EXCluster /G BUILTIN\Administrators:F ClusterSVC:F

Note This is a single long command.

---

7. When prompted **Are you sure (Y/N)?**, press Y and then press ENTER.

8. Switch to EXBE01.

9. At the command prompt, configure MNS to use the file share by typing the following and then pressing ENTER:

Cluster res "Majority Node Set" /priv MNSFileShare=\\SMBEX01\MNS_FSQ_EXCluster

---
Note This is a single long command.

---

10. When this command completes, a warning message appears indicating that the resource must be restarted for the change to take effect.

11. At the command prompt, type the following and then press ENTER:

Cluster group "Cluster Group" /move

12. Repeat step 11.

13. Verify that the properties are configured correctly by running the following command:

Cluster res "Majority Node Set" /priv

14. Confirm that the results are set to the following values:

- MNSFileShare = \\SMBEX01\MNS_FSQ_EXCluster

- MNSFileShareCheckInterval = 240 (0xf0)
- MNSFileShareDelay = 4 (0x4)

15. Leave the Command Prompt open.

Exercise 2: Installing and Configuring Active and Passive Exchange Server 2007 Nodes

Introduction

In this exercise, you will install and configure Exchange Server 2007 on the active and passive nodes of the cluster.

Scenario

Now that the cluster has been prepared, you must install Exchange Server 2007 on the active and passive nodes of the cluster. You will add the domain user clustersvc to the Local Administrators group on the server, and assign the ServerAdmin role to the ClusterSVC account. You will then bring the clustered Exchange Server 2007 resources online.

Install the Mailbox Server role on the active and passive nodes

- Install the Mailbox Server role on the active cluster node.

- Delegate Server Administrator permissions to the cluster service account.

- Bring the Exchange Server 2007 cluster resources online.

- Install the Mailbox Server role on the passive cluster node.

1. On EXBE01, at the command prompt, type **D:\setup.com /roles:M** and then press ENTER.

2. Wait for the prerequisite checks, file copy, and installation of the Mailbox Server Role to complete (approximately 15 minutes).

3. After the Mailbox Server Role has installed successfully, switch to the Exchange Server directory by typing the following and then pressing ENTER:

cd "C:\Program Files\Microsoft\Exchange Server\bin"

4. Install the Cluster Role by typing the following and then pressing ENTER:

exsetup.exe /mode:install /clustered /CMSname:EXCCR01 /CMSIPAddress:10.0.0.80 /DomainController:SMBEX01.nwtraders.com

---

Note This is a single long command.

More Info: After the clustered mailbox server has been installed, it will be listed as failed. This is because the ClusterSVC account does not have permission to bring the database online.

---

5. On EXBE01, click **Start**, point to **Administrative Tools**, and then click **Computer Management**.

6. In **Computer Management**, expand **Local Users and Groups**, and then click **Groups**.

7. Double-click the **Administrators** group.

8. In **Administrator Properties**, verify **nwtraders\ClusterSVC** is listed, and then close Computer Management.

9. Switch to EXBE02 and perform steps 5-8 to verify that the ClusterSVC account is a member of the local Administrators group.

10. Switch to EXBE01, click **Start**, click **All Programs**, click

Microsoft Exchange Server 2007, and then click **Exchange Management Shell**.

11. At the Exchange Management Shell (PS) prompt, type the following and then press ENTER:

    Add-ExchangeAdministrator -Role ServerAdmin -Identity nwtraders\clustersvc -Scope EXCCR01

    Ignore the Warning, because you have already addressed it in the preceding steps. You should see the output of the command assigning the ClusterSVC account the ServerAdmin role. Close the Exchange Management Shell.

12. Click **Start**, click **Administrative Tools**, and then click **Services**.

13. In the details pane, right-click **Cluster Service** and then click **Restart**. After the service restarts, close the Services management console.

14. Click **Start**, click **Administrative Tools**, and then click **Cluster Administrator**.

15. In the Cluster Administrator console, in the navigation pane, expand **Groups**, and then click **EXCCR01** and wait for the resources to come online.

    You should now see that all of the EXCCR01 resources are online and that EXBE01 is listed as the owner.

16. Switch to EXBE02 and, if you are not already logged on, log on as **Administrator** with a password of **P@ssw0rd**

17. On EXBE02, click **Start**, click **Administrative Tools**, and then click **Services**.

18. In the **Services** management console, right-click **Cluster Service** and then click **Restart**. After the service has restarted, close the Services management console.

19. On EXBE02, open a command prompt, type the following, and then press ENTER:

    D:\setup.com /roles:M

20. Wait for the prerequisite checks, file copy, and installation of the Mailbox Server Role to complete (approximately 15 minutes).

Exercise 3: Moving Exchange Server 2007 Resources Between Cluster Nodes

Introduction

In this exercise, you will test the cluster by moving resources from the active node to the passive node and then sending e-mail in order to increment the log files.

Scenario

Moving resources between nodes might be required for events such as patching or applying Service Packs. As the Exchange administrator for Northwind Traders, you must verify that Exchange Server 2007 resources can be successfully moved and that databases are mounted and connectivity is established after the Exchange Server 2007 resources have been brought online.

Test connectivity to the CCR-enabled Exchange Server 2007 server

- Move a user's mailbox to the CCR-enabled Exchange Server 2007 Mailbox server.

- Use Performance Monitor and Microsoft Windows® Explorer to view incremented transaction log files and log file replication.

1. Switch to SMBEX01, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.

2. In the Exchange Management Console, in the navigation tree, click **Recipient Configuration**, and then in the Results Pane, click **Holly Holt**.

3. In the Action Pane, click **Move Mailbox**.

4. On the Introduction page, confirm that the Server is **EXCCR01**, and then click **Next**.

5. On the Move Options page, click **Next.**

6. On the Move Schedule page, click **Next**.

7. On the Move Mailbox page, click **Move**.

8. On the Completion page, click **Finish**.

9. Switch to EXBE01, click **Start**, click **All Programs**, click **Accessories**, and then click **Windows Explorer**.

10. Navigate to **C:\Program Files\Microsoft\Exchange Server\mailbox\First Storage Group**.

11. Make a note of the latest transaction log file; for example, **E0000000010.log**.

12. Switch to EXBE02, click **Start**, click **All Programs**, click **Accessories**, and then click **Windows Explorer**.

13. Navigate to **C:\Program Files\Microsoft\Exchange Server\ mailbox\First Storage Group**.

14. Make a note of the latest transaction log file, for example, **E0000000010.log.**

15. On EXBE02 click **Start**, click **Run**, and then in the Run field, type **perfmon** and click **OK**.

16. Click **X** (the Delete key) three times to remove the existing counters.

17. Click + (Add) to add counters.

18. Click the **Performance** object drop-down list and then

click **MSExchange Replication**.

19. Click **All counters**, click **Add**, and then click **Close**.

20. Press CTRL+R to change to **Report View**.

21. Make a note of the value of the **CopyGenerationNumber** and **CopyNotificationGenerationNumber**.

22. Switch to SMBEX01.

23. On SMBEX01, click **Start** and then **click Internet Explorer**.

24. In the Address field, type **http://smbex01.nwtraders.com/owa** and then click **Go**.

25. Log on as **holly** with a password **of P@ssw0rd**

26. In Microsoft Outlook® Web Access, click **New**.

27. In the To field, type **Holly** and then press CTRL+K to resolve her address.

28. In the Subject field, type **Attachments**

29. Click the paperclip icon to attach a file.

30. On the Attach Files page, click **Browse**.

31. Navigate to **C:\ExchangeSetupLogs**.

32. Click **ExchangeServer**.**msilog** and then click **Open**.

33. Click **Attach** to attach the files to the e-mail message.

34. Click **Send** to send the message.

35. The attachments will generate enough data to cause the Exchange Server transaction log files to increment.

36. Click **Check Messages**.

37. You might need to do this two or three more times because of the file size. After the message has been received, proceed to the next step.

38. Leave Outlook Web Access running.

39. Switch to EXBE02 and then switch to **Performance Monitor**.

40. Notice that the **CopyGenerationNumber** and the **CopyNotificationGenerationNumber** value have been incremented.

41. Switch to Windows Explorer and notice that the transaction log files have incremented.

42. Switch to EXBE01 and then switch to Windows Explorer.

43. Notice that the transaction log files have incremented by the same amount.

Move Exchange Server 2007 resources using the Exchange Management Shell
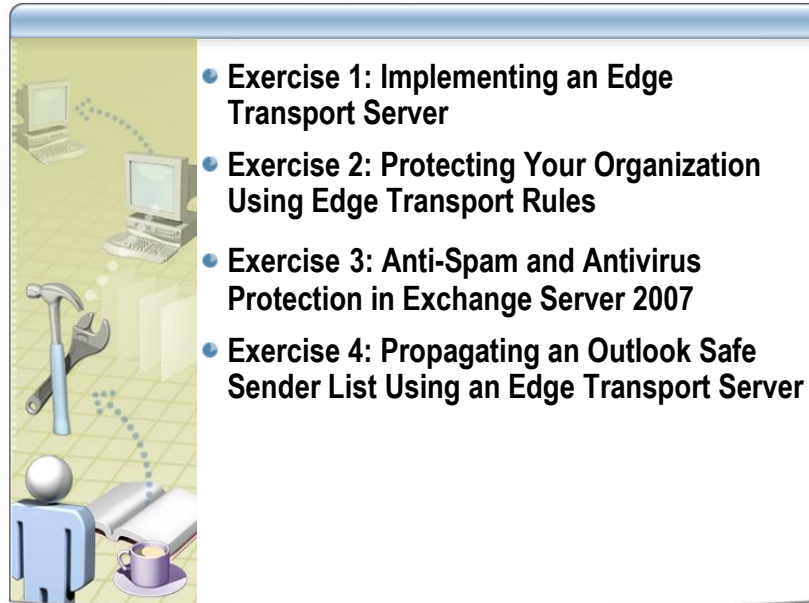
Summary

- Use the Exchange Management Shell to move Exchange Server 2007 resources between nodes.

- Test connectivity by using Outlook Web Access.

- Generate e-mail traffic to increment the transaction log files and view the transaction log file replication status.

Detailed Steps

1. Switch to EXBE02.

2. Click **Start**, click **All Programs**, click **Administrative Tools**, and then click **Cluster Administrator**.

3. In the navigation pane, expand **Groups**, and then click **EXCCR01**.

4. Right-click **EXCCR01**, and then click **Move Group**.

5. Wait for the resources to be moved from EXBE01 to EXBE02.

6. After all of the resources have been moved and are online, switch to SMBEX01.

7. On SMBEX01, switch to Outlook Web Access running as **Holly Holt**.

8. In Outlook Web Access, click **Check Messages**.

9. Notice how the command completes.

10. In Outlook Web Access, click the message that you just sent, and then click **Forward**.

11. In the To field, type **Holly** and then click **Send**.

12. Click **Check Messages**.

13. You might need to do this two or three more times because of the file size. After the message has been received, proceed to the next step.

14. Switch to EXBE01 and then switch to Windows Explorer.

15. Notice that the transaction log files have been incremented.

16. Switch to EXBE02 and then open Windows Explorer.

17. Note that the transaction log files have also incremented here, matching EXBE01.

18. On EXBE02, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

19. At the PS prompt, type **Get-StorageGroupCopyStatus | FL** and then press ENTER**.**

20. Note the **LatestAvailableLogTime**, which represents the date and time of the last available replicated log. Also note the **LastLogCopied** value.

21. Switch to Performance Monitor.

22. Check the **CopyGenerationNumber**.

23. This number will generally match, or differ slightly on a busy server, from the LastLogCopied value you observed in the **Get-StorageGroupCopyStatus** output.

Lab: Configuring an Exchange Server 2007 Edge Transport Server

Lab : Configuring an Exchange Server 2007 Edge Transport Server

- **Exercise 1: Implementing an Edge Transport Server**
- **Exercise 2: Protecting Your Organization Using Edge Transport Rules**
- **Exercise 3: Anti-Spam and Antivirus Protection in Exchange Server 2007**
- **Exercise 4: Propagating an Outlook Safe Sender List Using an Edge Transport Server**

Time estimated: 60 minutes

Introduction

In this lab, you will use the SMBEX01, EDGE01, CLIENT01, and IMAIL01 virtual computers to gain hands-on experience configuring and using the features of the Microsoft® Exchange Server 2007 Edge Transport server role.

Lab objectives

After completing this lab, you will be able to:

- Create a new Edge Transport server subscription.

- Configure an Edge Transport server.

- Create Edge Transport rules to protect your environment.

- Configure a quarantine mailbox.

- Configure the Content Filter feature to filter spam messages.

- Quarantine e-mail messages rated as spam.

- Use the Safe Senders function of Microsoft Office Outlook® 2007 to allow messages from specific domains to be delivered regardless of their Spam Confidence Level (SCL) rating.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

- To prepare for this lab, start the SMBEX01, IMAIL01, CLIENT01, and EDGE01 virtual servers.

Exercise 1: Implementing an Edge Transport Server

Introduction

In this exercise, you will use the Exchange Management Console to create an Edge Transport server subscription.

Scenario

You are the Exchange administrator at Northwind Traders. The company recently implemented Exchange Server 2007, and you would like to take advantage of the security benefits provided by an Exchange Server 2007 Edge Transport server. You have installed the Edge Transport server role on a stand-alone server named EDGE01 and now need to perform an Edge Subscription and configure the Edge Transport server role.

Create an Edge Subscription

Summary	Detailed Steps

1. Add the EDGE01 server to the nwtraders.com zone in DNS.

2. Create a new Edge Subscription.

3. Verify mail flow through the new Edge Transport server.

1. Log on to SMBEX01 as **nwtraders\administrator** with a password of **P@ssw0rd**

2. On SMBEX01, click **Start**, click **Administrative Tools**, and then click **DNS**.

   Note: Because the EDGE01 server is not a member of the domain and therefore is not automatically registered in Domain Name System (DNS), you need to register the EDGE01 server in DNS. You also would need to change your public mail exchange (MX) record to resolve to your Edge Transport server.

3. In DNS, expand **SMBEX01**, expand **Forward Lookup Zones**, and then click **nwtraders.com**.

4. Right-click **nwtraders.com** and then click **New Host (A)**.

5. In the **New Host** field, type **EDGE01** and then in the **IP Address** field, type **10.0.0.50**

6. Clear the **Create associated pointer (PTR) record** check box and then click **Add Host**.

7. Click **OK** to the DNS prompt and then click **Done**.

   Note: In the real world, you would also need to change your public MX record to resolve to your Edge Transport server. This change has been simulated for this lab.

8. Close DNS.

9. Switch to EDGE01 and then click **Start→ All Programs→ Microsoft Exchange Server 2007→ Exchange Management Shell**.

10. At the Microsoft PowerShell (PS) prompt, type following command and then press ENTER:

    New-EdgeSubscription -file c:\EdgeSubscriptionExport.xml

11. At the **Confirm** prompt, type **A** and then press ENTER.

12. Switch to SMBEX01, click **Start**, click **Run**, type **\\edge01\c$** and then click **OK**.

13. In the \\edge01\C$ folder, right-click **EdgeSubscriptionExport.xml** and then click **Copy**.

14. On SMBEX01, open Microsoft Windows® Explorer and navigate to C:\labs\Edge.

15. Right-click the **Edge** folder, click **Paste**, and then close both Windows Explorer windows.

16. On SMBEX01, click **Start→ All Programs→ Microsoft Exchange Server 2007→ Exchange Management Console**.

17. In the navigation tree, expand **Organization Configuration** and then click **Hub Transport**.

18. In the Action pane, click **New Edge Subscription**.

19. On the New Edge Subscription page, click **Browse**, browse to the **C:\labs\edge** folder, click the **EdgeSubscriptionExport.xml** file, click **Open**, and then click **New**.

    Note: On the completion page, notice the warning stating that the Hub Transport servers need to be able to resolve the IP Address of EDGE01.nwtraders.com. This was done by creating the A record for EDGE01 earlier.

20. On the Completion page, click **Finish**.

21. In the Exchange Management Console, notice how the new Edge Subscription is displayed on the **Edge Subscriptions** tab. Click the **Send Connectors** tab and notice how a Send connector to the Edge Transport server has been created.

22. On SMBEX01, click **Start→ All Programs→ Microsoft Exchange Server 2007→ Exchange Management Shell**.

23. At the PS prompt, type **Start-EdgeSynchronization** and then press ENTER.

24. After the command has completed, switch to the EDGE01 server and then switch to the Exchange Management Shell.

25. At the PS prompt, type **Get-AcceptedDomain** to confirm that the subscription was successful. You will see the domain **nwtraders.com** in the result.

26. Switch to IMAIL01 and then click **Start→ All Programs→ Outlook Express**.

    Outlook Express will now load as a user named Steve in the Contoso.com domain.

27. In Outlook Express, click **Create Mail**, and then in the **To** box of the new message, type **spencer@nwtraders.com**

28. In the **Subject** line, type **Meeting next week**

29. In the message body, type **Hi Spencer, Is it OK if I bring my new Sales Manager to the meeting next week? Regards, Steve**

30. Click **Send**.

31. Switch to SMBEX01 and then click **Start→ All Programs→ Internet Explorer**.

32. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

33. In the **User Name** field, type **spencer** and then in the **Password** field, type **P@ssw0rd** and then click **Log On**.

34. In Outlook Web Access, open the new message from Steve and then click **Reply**.

35. In the reply, type **Hi Steve, Yes that is fine, please do bring your new Sales Manager, Regards, Spence**

36. Click **Send**.

37. Switch back to Outlook Express on IMAIL01 and click **Send/Receive** to confirm that the reply from Spencer has arrived in Steve's mailbox.

Exercise 2: Protecting Your Edge Transport Server Using Transport Rules

Introduction

In this exercise, you will create and use an Edge Server Transport Rule to protect Northwind Traders from a potential new virus.

Scenario

You are the Exchange administrator at Northwind Traders. You have received urgent news that a new e-mail virus has been circulating on the Internet. Because the new virus is only a few hours old, your virus-scanning provider has not yet provided you with a new virus signature file to protect against the virus. You know that the virus always comes in an e-mail message with the words "I LOVE YOU" in the subject line. You need to create a temporary Edge Server Transport Rule to stop the virus from coming into the organization until you receive the new virus signature file.

Create an Edge Server Transport Rule

Summary	Detailed Steps
• Use the Exchange Management Console to create an Edge Server Transport Rule that is configured so that any e-mail messages sent to the organization with the words "I LOVE YOU" in the Subject line are to be put into quarantine and not delivered to the recipient.	1. On EDGE01, start the Exchange Management Console. 2. In the Exchange Management Console, in the navigation tree, click **Edge Transport**. 3. In the Work pane, click the **Transport Rules** tab. Notice that currently there are no transport rules. 4. In the Action pane, click **New Transport Rule**. 5. In the New Transport Rule window, in the **Name** field, type **Temp Rule Blocking I LOVE YOU Virus** and then in the **Comment** field, type **Temporary Rule to block the I LOVE YOU virus until we can download a new virus signature** 6. Ensure that the **Enable Rule** check box is selected and then click **Next**. 7. On the Conditions page, in **Step 1**, select **when the Subject field contains specific words**, and then in **Step 2**, click **specific words**. 8. In the **Specify words** field, type **I LOVE YOU** and then click **Add**. Click **OK**. 9. On the Conditions page, click **Next**. 10. On the Actions page, in **Step 1**, select **Put message in spam quarantine mailbox** and then click **Next**. 11. On the Exceptions page, click **Next**. 12. On the Create Rule page, click **New**. 13. On the Completion page, click **Finish**.

Configure a mailbox to store quarantined mail

Summary	Detailed Steps
• Create a mailbox named	1. Switch to SMBEX01 and then switch to the Exchange

Quarantine Mailbox and configure the Edge Transport server to deliver all quarantined mail to that mailbox.

Management Console.

2. In the Exchange Management Console, expand **Recipient Configuration**, and then in the Action pane, click **New Mailbox**.

3. On the Introduction page, confirm that **User Mailbox** is selected and then click **Next**.

4. On the User Type page, confirm that **New User** is selected and then click **Next**.

5. On the User Information page, in the **First Name** text box, type **Quarantine Mailbox** and then in the **User logon name** text box, type **quarantine**

6. In the **Password** and **Confirm password** text boxes, type **P@ssw0rd** and then click **Next**.

7. On the Mailbox Settings page, click **Next**.

8. On the New Mailbox page, click **New**.

9. On the Completion page, click **Finish**.

10. Switch to EDGE01 and then switch to the Exchange Management Shell.

11. In the Exchange Management Shell, type the following and then press ENTER:

    Get-contentfilterconfig

    Notice that the value for **QuarantineMailbox** is empty, meaning that no Quarantine Mailbox is configured.

12. In the Exchange Management Shell, configure the new mailbox as the mailbox in which quarantined mail should be stored by typing the following and then pressing ENTER:

    Set-ContentFilterConfig -QuarantineMailbox quarantine@nwtraders.com

13. Repeat the **Get-ContentFilterConfig** command and observe that a mailbox is now configured.

14. Switch to SMBEX01.

15. At the PS prompt, type **Start-EdgeSynchronization** and then press ENTER.

    Wait for the command to complete.

Test the Edge Server Transport Rule

Summary

Detailed Steps

- Send a message from outside the organization to Spencer Low with the subject line "I LOVE YOU" and then examine the quarantine mailbox to

1. Switch to IMAIL01 and then switch to Outlook Express running as Steve in the Contoso.com domain.

2. In Outlook Express, click **Create Mail**, and then in the **To** box in the new message, type **spencer@nwtraders.com**

3. In the **Subject** line, type **I LOVE YOU**

confirm that the message
was not delivered to
Spencer but was
quarantined.

4. Click **Send**.

5. On SMBEX01, click **Start→ All Programs→ Internet Explorer**.

6. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

7. In the **User Name** field, type **quarantine** and then in the **Password** field, type **P@ssw0rd** and then click **Log On**. Click **OK**.

8. On the first page in Outlook Web Access, click **OK**.

9. In **Quarantine - Outlook Web Access**, confirm that the **I LOVE YOU** message has been quarantined.

   Note: In the real world, you would have configured the Edge Transport Rule to drop these mail items; however, for the purposes of this lab, you configured it to quarantine the e-mail. If you had configured the rule to drop the mail, the mail would never have entered your internal environment and would have been dropped at the Edge Transport server.

Exercise 3: Anti-Spam and Antivirus Protection in Exchange Server 2007

Introduction

In this exercise, you will examine the anti-spam and antivirus features available on the Exchange Server 2007 Edge Transport server.

Scenario

You are the Exchange administrator at Northwind Traders. You have many users using both Outlook Web Access and Office Outlook 2007. You want to work out the optimal settings for the Content Filter feature on the Edge Transport server. You also want to determine a method for seeing how much spam is entering the organization. To allow users to view mail that is designated as spam, you have decided to quarantine messages that have been rated as spam rather than dropping the messages.

Configure the Content Filter feature and use Performance Monitor to identify the SCL ratings of incoming e-mail

Summary	Detailed Steps
• Configure the Content Filter feature of the Edge Transport server. • Add performance counters to System Monitor to monitor the Spam Confidence Level (SCL) of items arriving in the organization.	1. Switch to EDGE01 and then switch to the Exchange Management Console. 2. In the Exchange Management Console, in the navigation tree, click **Edge Transport**. 3. In the Result pane, click the **Anti-Spam** tab and read through the list of configurable options that are possible with the Edge Transport server anti-spam features. 4. On the **Anti-Spam** tab, double-click **IP Block List**. 5. In **IP Block List Properties**, click the **Blocked Addresses** tab and notice that there are no blocked addresses by default. Click **Cancel** to return to the Exchange Management Console. 6. On the **Anti-Spam** tab, double-click **Content Filtering**. 7. In **Content Filtering Properties**, click the **Action** tab and notice that the default setting of **Reject messages that have an SCL rating larger or equal to** is set to **7**. Click **Cancel** to return to the Exchange Management Console. 8. On EDGE01, click **Start**, point to **Administrative Tools**, and then click **Performance**. 9. On the System Monitor graph toolbar, click the **X (Delete)** button three times to remove all current counters. 10. On the toolbar, click the + (**Add**) button. 11. In the **Add Counters** box, in the **Performance Object** list, select **MsExchange Content Filter Agents**. 12. Click **All counters**, click **Add**, and then click **Close**. 13. In System Monitor, press CTRL+R to change the view to Report view. 14. Switch to IMAIL01 and open Windows Explorer. 15. Navigate to **C:\Labs\edge** and then double-click the script **SendSpam.vbs**.

This script will send spam messages to Spencer Low.

16. In the **Messages Sent** dialog box, click **OK**.

17. Switch to SMBEX01, and then switch to Outlook Web Access running as Spencer Low.

18. In Outlook Web Access, click the **Send/Receive** button.

    Note: You might need to wait a while for the messages to be processed in this lab environment.

19. View the messages that are delivered to the Inbox folder. Notice that unsolicited commercial e-mail has been delivered to the Inbox.

20. On EDGE01, switch to Performance Monitor and view the SCL ratings assigned to the messages that were just sent by looking at the values of the **Messages with SCL 0-9** counters.

21. On EDGE01, in the Exchange Management Console, expand **Edge Transport**, and then in the Work pane, on the **Anti-Spam** tab, double-click **Content Filtering**.

22. In the **Content Filtering Properties** dialog box, click the **Action** tab.

23. In the **Reject Messages that have a SCL rating larger or equal to** drop-down list, select **6** and then click **OK** to return to the Exchange Management Console.

24. Switch to IMAIL01, and then switch to Windows Explorer.

25. In Windows Explorer, navigate to **C:\Labs\edge** and double-click **SendSpam.vbs**.

26. In the **Messages Sent** dialog box, click **OK**.

27. Switch to SMBEX01, and then switch to Outlook Web Access running as Spencer.

28. In Outlook Web Access, click the **Send/Receive** button.

29. Confirm that only two items now arrive in Spencer's Inbox.

30. Switch to EDGE01, switch to Performance Monitor, and then view the SCL ratings assigned to the messages that were just sent by looking at the values of the **Messages with SCL 0-9** counters.

Configure the Edge Server to archive spam mail

- Configure the Content Filter to archive spam mail.

- Send spam to Peter to confirm that the appropriate spam mail

1. On EDGE01, switch to the Exchange Management Console

2. In the Work pane, on the **Anti-spam** tab, double-click **Content Filtering**.

3. In the **Content Filtering Properties** dialog box, click the **Action** tab.

items are being archived.

4. In the **Reject messages that have a SCL rating larger or equal to** drop-down list, select **5**.

5. Select the **Quarantine messages that have a SCL rating larger or equal to** check box, and then in the drop-down list, select **6**.

    Notice that the Quarantine Mailbox e-mail address is automatically set to the quarantine mailbox you set in the previous exercise.

6. Click **OK** to close Content Filtering Properties.

7. Switch to IMAIL01, and then switch to Windows Explorer.

8. In Windows Explorer, navigate to **C:\Labs\edge** and then double-click **SendSpam.vbs**.

9. In the **Messages Sent** dialog box, click **OK**.

10. Switch to SMBEX01, and then switch to Outlook Web Access running as Spencer.

11. In Outlook Web Access, click the **Send/Receive** button.

12. Confirm that only two items arrive in Spencer's Inbox.

13. On SMBEX01, click **Start→ All Programs→ Explorer**.

14. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

15. In the **User Name** field, type **quarantine** and then in the **Password** field, type **P@ssw0rd** and then click **Log On**.

16. In **Quarantine - Outlook Web Access**, click **Send/Receive** and confirm that the three messages have been quarantined.

Exercise 4: Propagating an Outlook Safe Sender List Using an Edge Transport Server

Introduction

This exercise demonstrates how a Safe Sender list created in Office Outlook 2007 is propagated to the Edge Transport server. You will also verify that the Edge Transport server acts on that list.

Scenario

In his job role, Peter Houston regularly communicates with Contoso, Ltd. After Northwind Traders' corporate policy changed the Spam Confidence Level (SCL) rating level to help control spam, Peter noticed that a number of mail items from Contoso have not been arriving in his mailbox. He suspects that this is because they are being blocked due to the message content having a high SCL. As the Exchange administrator at Northwind Traders, you suggest to Peter that he should add the domain contoso.com to his Safe Senders list in Office Outlook 2007

Propagate an Outlook Safe Senders list using an Edge Transport server

- Log on to Office Outlook 2007 as Peter and add contoso.com to the Safe Senders list.

- Manually propagate the Safe Senders list to the Edge Transport server to save time.

- Send a message to both Spencer and Peter that contains content with a very high SCL.

- Observe that the mail item does not arrive at Spencer's mailbox but that it does arrive in Peter's.

1. On CLIENT01, click **Start** and then click **Microsoft Office Outlook**.

2. On the Office Outlook 2007 Startup page, click **Next**.

3. On the E-mail Accounts page, verify that **Yes** is selected and then click **Next**.

4. On the Auto Account Setup page, notice how Peter's information is automatically entered, and then click **Next**.

5. On the Configuring page, click **Finish**.

6. At the **User Name** prompt, click **OK**.

7. On the Privacy Options page, click **OK**.

8. At the Microsoft Office Outlook prompt, select the **Do not show this message again** check box and then click **OK**.

9. In Outlook, click **Tools**, click **Options**, and then on the **Preferences** tab, click **Junk E-mail**.

10. In **Junk E-mail Options**, click the **Safe Senders** tab and then click **Add**.

11. In the **Add address or domain** field, type **contoso.com** and then click **OK** twice to return to Outlook. Leave Outlook running.

12. Switch to SMBEX01 and then switch to the Exchange Management Shell.

13. At the PS prompt, type the following and then press ENTER:

    Update-safelist -id Peter

14. At the PS prompt, type the following and then press ENTER:

Start-EdgeSynchronization

15. Switch to IMAIL01 and then switch to Outlook Express running as Steve in the Contoso.com domain.

    16.   In Outlook Express, click **Create Mail**, and then in the **To** box in the new message, type the following:

    spencer@nwtraders.com;

    peter@nwtraders.com

17. In the **Subject** line, type **Free Mortgage**

18. In the message body, type the following:

    http://www.contoso.com

    Make $$$$$

19. Click **Send**.

    Note: This message will be identified as having a high SCL by the Edge Transport server and therefore will not be delivered to Spencer.

20. Confirm that the message has not arrived. Switch to SMBEX01, and then switch to Outlook Web Access running as Spencer.

21. Click **Send/Receive** several times to ensure that the message has not been delivered.

22. Switch to CLIENT01 and then in Outlook, click **Send/Receive** and notice that the message has been received.

    Note: The message has been delivered to Peter because his Safe Senders list is now acted on by the Edge Transport server.

23. Close Outlook.

Lab: Implementing Antivirus Defenses on Exchange Server 2007 with Microsoft Forefront Security

- **Exercise 1:Implementing Edge Server**
- **Exercise 2: Installing and Using Microsoft Forefront Security on an Edge Transport Server**
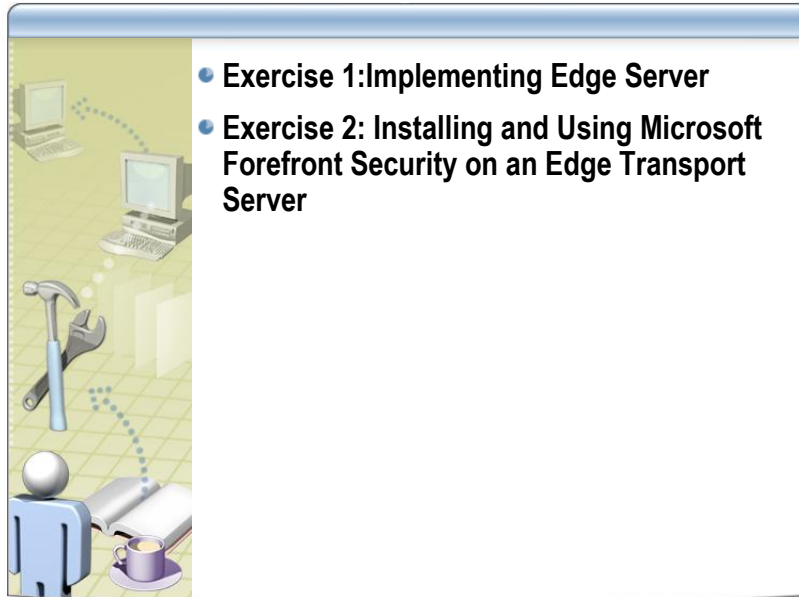
Time estimated: 40 minutes

Lab objectives

After completing this lab, you will be able to install and administer Microsoft® Forefront Security on the Microsoft Exchange Server 2007 Edge Transport server role.

Introduction

In this lab, you will use the SMBEX01, EDGE01, and IMAIL01 virtual computers.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

- Prepare the environment.

Detailed Steps

- To prepare for this lab, start the SMBEX01, IMAIL01, and EDGE01virtual servers.

Exercise 1: Implementing an Edge Transport Server

Introduction

In this exercise, you will use the Exchange Management Console to create an Edge Transport server subscription as a prerequisite to ForeFront for Exchange Server installation and configuration. If you have already configured an Edge Transport Server as part of a previous lab, you may use that configuration and advance to Exercise 2.

Create an Edge Subscription

1. Add the EDGE01 server to the nwtraders.com zone in DNS.

2. Create a new Edge Subscription.

1. Log on to SMBEX01 as **nwtraders\administrator** with a password of **P@ssw0rd**

2. On SMBEX01, click **Start**, click **Administrative Tools**, and then click **DNS**.

   Note Because the EDGE01 server is not a member of the domain and therefore is not automatically registered in Domain Name System (DNS), you need to register the EDGE01 server in DNS. You would also need to change your public mail exchange (MX) record to resolve to your Edge Transport server.

3. In DNS, expand **SMBEX01**, expand **Forward Lookup Zones**, and then click **nwtraders.com**.

4. Right-click **nwtraders.com**, and then click **New Host (A)**.

5. In the **New Host** field, type **EDGE01** and then in the **IP Address** field, type **10.0.0.55**

6. Clear the **Create associated pointer (PTR) record** check box, and then click **Add Host**.

7. Click **OK** to close the dialog box, and then click **Done**.

   Note In the real world, you would also need to change your public MX record to resolve to your Edge Transport server. This change has been simulated for this lab.

8. Close the **DNS** console.

9. Switch to EDGE01. Click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

10. At the Microsoft PowerShell (PS) prompt, type following command and then press ENTER:

    New-EdgeSubscription -file c:\EdgeSubscriptionExport.xml

11. At the **Confirm** prompt, type **A**, and then press ENTER.

12. Switch to SMBEX01, click **Start**, click **Run**, type **\\edge01\c$,** and then click **OK**.

13. In the \\edge01\C$ folder, right-click

EdgeSubscriptionExport.xml, and then click **Copy**.

14. On SMBEX01, open Microsoft Windows® Explorer and navigate to C:\labs\Edge.

15. Right-click the **Edge** folder, click **Paste**, and then close both Windows Explorer windows.

16. On SMBEX01, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.

17. In the navigation tree, expand **Organization Configuration**, and then click **Hub Transport**.

18. In the Action pane, click **New Edge Subscription**.

19. On the New Edge Subscription page, click **Browse**, browse to the **C:\labs\edge** folder, click the **EdgeSubscriptionExport.xml** file, click **Open**, and then click **New**.

    Note On the completion page, notice the warning stating that the Hub Transport servers need to be able to resolve the IP Address of EDGE01.nwtraders.com. You took care of this earlier when you created the A record for EDGE01.

20. On the Completion page, click **Finish**.

21. In the Exchange Management Console, notice how the new Edge Subscription is displayed on the **Edge Subscriptions** tab. Click the **Send Connectors** tab and notice how a Send connector to the Edge Transport server has been created.

22. On SMBEX01, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

23. At the PS prompt, type **Start-EdgeSynchronization**, and then press ENTER.

24. After the command has completed, switch to the EDGE01 server and then switch to the Exchange Management Shell.

25. At the PS prompt, type **Get-AcceptedDomain** to confirm that the subscription was successful. You will see the domain **nwtraders.com** in the result.

Exercise 2: Installing and Using Microsoft Forefront Security on an Edge Transport Server

Introduction

In this exercise, you will install Microsoft Forefront Security onto the EDGE01 virtual server. You will send messages through the Edge Transport server and observe how Microsoft Forefront Security deals with and reports on these messages. You will then create and send a fake virus and observe how the virus is cleaned.

Scenario

You are the Exchange administrator at Northwind Traders. The company recently implemented Exchange Server 2007, and you would like to take advantage of the security benefits provided by installing Microsoft Forefront Security onto your Exchange Server 2007 Edge Transport server. You have already installed and configured the Edge Transport server role onto a stand-alone server named EDGE01.

Log on to SMBEX01, EDGE01, and IMAIL01

Summary

1. Log on to SMBEX01 as **Administrator**.

2. Log onto EDGE01 as **local Administrator**.

3. Log onto IMAIL01 as **local Administrator**.

Detailed Steps

1. Switch to the SMBEX01 virtual server.

2. Log on to the **NWTRADERS** domain as **Administrator** with a password of **P@ssw0rd**.

3. Switch to EDGE01.

4. Log on locally as **Administrator** with a password of **P@ssw0rd**.

5. Switch to IMAIL01.

6. Log on locally as **Administrator** with a password of **P@ssw0rd**.

Install Forefront Security

Summary

- Install Forefront Security on EDGE01.

Detailed Steps

1. Switch to EDGE01.

2. Open Microsoft Windows Explorer and navigate to the **C:\labs\Forefront Security** folder.

3. Double-click the Forefront_**Setup.exe** file.

4. In the **Open File - Security Warning** dialog box, click **Run**.

   Wait for the InstallShield wizard to prepare the installation.

5. On the Forefront Security for Exchange Server Setup Welcome screen, click **Next**.

6. In the License Agreement dialog box, click **Yes**.

7. In **Customer Information**, in the User and **Company Name** text box, type **Microsoft**, and then click **Next**.

8. In **Installation Location**, confirm that **Local Installation** is selected, and then click **Next**.

9. In **Installation Type**, confirm that **Full Installation** is selected, and then click **Next**.

10. In **Quarantine Security Settings**, confirm that **Secure Mode** is selected, and then click **Next**.

11. In the **Engines** dialog box, leave the default random selections and then click **Next**.

12. In the **Engine Updates Required** dialog box, read the screen and then click **Next**.

13. In the **Enable Anti-Spam Updates** dialogue, clear the **Enable Automatic Anti-Spam Updates** check box.

14. In the **Choose Destination Location** dialog box, click **Next**.

15. In the **Select Program Folder** dialog box, select **Accept the default location** and then click **Next**.

16. In the **Start Copying Files** dialog box, click **Next**.

    Wait for the files to copy and the installation to complete.

17. In the **Restart Exchange Transport Service** dialog box, click **Next** to restart Exchange services now, and wait for the services to restart.

    This will take a few minutes. If the services fail to initially restart, click **Retry**.

    Click **Next**.

18. In the **Installation Wizard Complete** dialog box, click **Finish**.

19. Close the Read Me file.

Use the Forefront Server Security Administrator

Summary

1. Start the Microsoft Forefront Security Administrator.

2. Send a message with an attachment through the Edge Transport server and then examine the statistics in the Microsoft Forefront Security Administrator.

3. Confirm that the message arrived.

Detailed Steps

1. On EDGE01, click **Start**, point to **All Programs**, point to **Microsoft Forefront Server Security**, point to **Exchange Server**, and then click **Forefront Server Security Administrator**.

2. In the **Connect to Server** dialog box, confirm that the server name is EDGE01 and then click **OK**.

   The Forefront Server Security Administrator will open.

3. In the License Activation dialog box, click OK.

4. In the left pane of the **Forefront Server Security Administrator**, in the **Settings** area, click **Scan Job**.

5. On the right, in the top work panel, select **Transport Scan Job**.

6. Switch to SMBEX01.

7. On SMBEX01, click **Start**, point to **All Programs**, and then click **Internet Explorer**.

8. In Internet Explorer, in the **Address** bar, type **http://SMBEX01.nwtraders.com/OWA** and then press ENTER.

9. In the **User Name** text box, type **nwtraders\spencer** and then in the **Password** text box, type **P@ssw0rd** and then click **OK**.

10. In Microsoft Office Outlook® Web Access running as Spencer, click **New**, and then in the **To** text box, type **steve@contoso.com**

11. In the **Subject** line, type **IMPORTANT: Working together on Project X**

12. In the message body, type **We would like to meet you to discuss how we can collaborate more effectively. I attach a picture of our network environment.**

13. Click the **Attach Files** button.

14. In the **Attach Files** dialog box, click **Browse**, browse to the file **C:\e2007_security_SMBEX01.jpg** and then click **Open**.

15. In the **Attach Files** dialog box, click **Attach**.

16. Click the **Importance: High** button (the red exclamation mark) and then click **Send**.

    Leave Outlook Web Access open.

17. Switch to EDGE01 and then switch to the Forefront Server Security Administrator.

18. In the Forefront Server Security Administrator, click **Report**.

19. In **Report**, click **Incidents**.

20. Examine the Statistics pane. Click **Messages** to view the number of messages that were scanned.

21. In the Statistics pane, click **Attachments** to view the number of attachments that were scanned and the number of attachments that were removed.

    Notice how the attachment you sent was scanned but not removed.

22. Switch to IMAIL01 and, if you are not already logged on, log on as **Administrator** with a password of **P@ssw0rd**.

12. On IMAIL01, click **Start**, and then click **Outlook Express**.

    Outlook Express will now load as a user named Steve in the Contoso.com domain.

23. In Outlook Express, click **Send/Receive** to confirm that the message arrived. View the message.

    Leave Outlook Express open.

Observe what happens when an attachment infected with a virus is sent

Summary   Detailed Steps

1. Use a provided text file   1.   Switch to EDGE01.

that appears to be a virus.

2. Attach the virus to a message and send the message through the Edge Transport server.

3. Examine the statistics in the Microsoft Forefront Security Administrator.

4. Confirm that the attachment was removed.

2. Using Windows Explorer, navigate to the **C:\labs\forefront security** folder and double-click the file **test virus.txt** to open it in Notepad.

3. In Notepad, click **File**, and then click **Save As**.

4. In the **Save As** dialog box, in the **File name** text box, type **\\smbex01\edge\fakevirus** and then click **Save**.

    This will save the file to SMBEX01 for you to attach to a mail item.

5. Close Notepad.

6. Switch to SMBEX01 and then switch to Outlook Web Access running as Spencer.

7. In Outlook Web Access running as Spencer, click **New**, and then in the **To** text box, type **steve@contoso.com**

8. In the **Subject** line, type **More information on Project X**

9. In the message body, type **I am attaching a file that will give us something to discuss in the meeting!**

10. Click the **Attach Files** button.

11. In the **Attach Files** dialog box, click **Browse**, browse to the file **C:\labs\edge\fakevirus.txt**, and then click **Open**.

12. In the **Attach Files** dialog box, click **Attach**.

13. Click the **Importance: High** button (the red exclamation mark) and then click **Send**.

    Leave Outlook Web Access open.

14. Switch to EDGE01 and then switch to Forefront Server Security Administrator.

15. In the **Forefront Server Security Administrator**, click **Report**.

16. In **Report**, click **Incidents**.

17. Examine the Statistics pane. Click **Messages** to view the number of messages that were scanned.

18. In the Statistics pane, click **Attachments** to view the number of attachments that were scanned and the number of attachments that were removed.

    Notice that there is now a record for a removed attachment.

19. In the **Forefront Server Security Administrator**, click **Report**.

20. In **Report**, click **Quarantine**.

21. In the Quarantine pane, scroll across and read the record for the attachment virus sent by Spencer.

13. Switch to IMAIL01 and then switch to Outlook Express.

    Outlook Express will now load as a user named Steve in the Contoso.com domain.

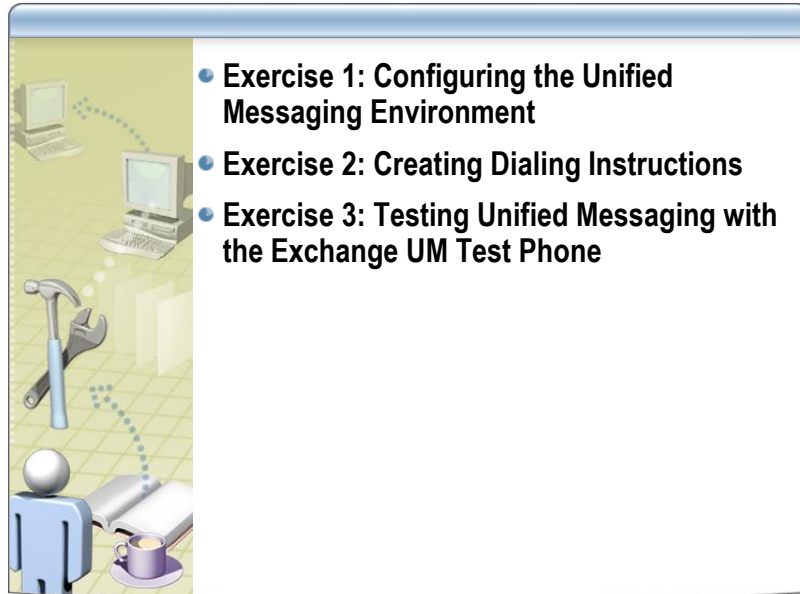22. In Outlook Express, click **Send/Receive** to confirm that the

message arrived. View the message.

23. Open any attachments and read them.

24. In the message, click **Reply**.

25. In the reply message, type **Yes Spencer, we certainly do have some things to discuss!**

26. Click **Send**.

This page intentionally left blank.

Lab: Configuring the Unified Messaging Server

- **Exercise 1: Configuring the Unified Messaging Environment**
- **Exercise 2: Creating Dialing Instructions**
- **Exercise 3: Testing Unified Messaging with the Exchange UM Test Phone**

Time estimated: 60 minutes

Lab objective

After completing this lab, you will be able to configure the Microsoft® Exchange Server 2007 Unified Messaging environment to receive incoming calls and apply dialing restrictions.

Scenario

You are the Exchange administrator for Northwind Traders. You have decided to install the Exchange Server 2007 Unified Messaging server role, you are asked to configure the server to receive incoming calls on behalf of two pilot users, Peter Houston and Holly Holt. You will configure a global dial plan and a Unified Messaging gateway pointing at the address of your voice over IP (VoIP) gateway, and then create a Unified Messaging mailbox policy to apply to the configured users.

Introduction

In this lab, you will use the host computer, and the SMBEX01 and CLIENT01 virtual servers.

Prerequisites

This lab does not depend on any previous labs being completed.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment for the lab.

1. To prepare for this lab, ensure that the SMBEX01 and CLIENT01 virtual servers are started.

Exercise 1: Configuring Unified Messaging

Introduction

In this exercise, you will configure the Unified Messaging environment for the NWTraders Exchange organization. First, you will create a dial plan and a Unified Messaging gateway. You will then create a non-default hunt group and associate it with the Unified Messaging gateway you created. Finally, you will set the parameters of the Unified Messaging mailbox policy and associate the SMBEX01 Unified Messaging server with the new dial plan you created.

Use the Exchange Management Console to create a new dial plan

- Use the Exchange Management Console to create a new dial plan.

1. Click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Console**.
2. In the Exchange Management Console, in the Navigation pane, expand **Organization Configuration**, and then click **Unified Messaging**.
3. In the Action pane, click **New UM Dial Plan**.
4. In the **Dial Plan Name** text box, type **NWTraders_Dial_Plan**
5. In the **Extension** box, in the **Number of digits** text box, type **4**
6. In the **New UM Dial Plan** wizard, click **New**.
7. On the Completion page, click **Finish**.

Check security settings on the new dial plan by using Exchange Management Shell

- Check security settings on the new dial plan by using the Exchange Management Shell.

1. Click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2007**, and then click **Exchange Management Shell**.

   Wait for the Exchange Management Shell to initialize.
2. In the Exchange Management Shell, type the following text and then press ENTER:

   get-UMDialPlan NWTraders_Dial_Plan | FL
3. Scroll through the output and locate the value of the **VoIPSecurity** property.

   What is the security set on the dial plan?

   Leave Exchange Management Shell running.

3. **Unsecured**

Create an Auto Attendant and assign it a pilot number

Summary

- Using the Exchange Management Console, create the main Auto-Attendant.

- Using the Exchange Management Shell, assign the Auto Attendant a pilot number.

Detailed Steps

1. In the Exchange Management Console, in the Navigation pane, expand **Organization Configuration**, and then click **Unified Messaging**.

2. In the Result pane, click the **UM Auto Attendants** tab.

3. In the Action pane, click **New UM Auto Attendant**.

4. In the **Auto Attendant name** text box, type **Nwtraders_Global_AA**

5. In the **Select associated dial plan** dialog box, click **Browse**, select **Nwtraders_Dial_Plan**, and then click **OK**.

6. Leave the Extension numbers field blank.

7. Select the **Create auto attendant as enabled** check box.

8. Ensure that the **Create auto attendant as speech-enabled** check box is not selected.

9. In the **New UM Auto Attendant** dialog box, click **New** and then click **Finish**.

10. Switch to the Exchange Management Shell, type the following text and then press ENTER:

    Set-UMAutoAttendant Nwtraders_Global_AA -PilotIdentifierList 4445

11. In the Exchange Management Shell, type the following text and then press ENTER:

    get-UMAutoAttendant Nwtraders_Global_AA | FL

12. Ensure that the Pilot Number (PilotIdentifierList) has been set correctly.

Create a Unified Messaging gateway

Summary

- Create a Unified Messaging gateway.

Detailed Steps

1. Switch to the Exchange Management Console.

2. In the Exchange Management Console, in the Action pane, click **New UM IP Gateway**.

3. In the **UM IP gateway name** text box, type **Nwtraders_Gateway**

4. In the **Address for the gateway** text box, type **10.0.0.100** (the address of the host machine).

5. In the **Dial plan** box, click **Browse**, click **NWTraders_Dial_Plan**, and then click **OK**.

6. In the **New UM IP Gateway** box, click **New**, and then click **Finish**.

7. In the Result pane, click the **UM IP Gateway** tab and then expand **NWTraders_Gateway**.

   Is a hunt group object created by default for the new

gateway object?

8. Right-click the **DefaultHuntGroup** object and then click **Remove**.

9. In the dialog box, click **Yes**.

7. **Yes**

Use Exchange Management Shell to create a new hunt group

- Use Exchange Management Shell to create a new hunt group.

1. Switch to the Exchange Management Shell.
2. In the Exchange Management Shell, type the following text and then press ENTER:

New-umhuntgroup -name NWTraders_HG -umipgateway NWTraders_Gateway -umdialplan NWTraders_Dial_Plan - Pilotidentifier 4444

Leave Exchange Management Shell Running.

3. Switch to the Exchange Management Console and press F5 to refresh the display.

Is the new hunt group associated with the **NWTraders_Gateway** object?

3. **Yes**

Use the Exchange Management Shell to associate the SMBEX01 Unified Messaging server with the NWTraders_Dial_Plan dial plan

- Use the Exchange Management Shell to associate the SMBEX01 Unified Messaging server with the NWTraders_Dial_Plan dial plan.

1. Switch to the Exchange Management Shell.
2. In the Exchange Management Shell, type the following text and then press ENTER:

Set-UMServer -id SMBEX01 -dialplans NWTraders_Dial_Plan

Leave the Exchange Management Shell Running.

Use the Exchange Management Console to view and modify the Unified Messaging mailbox policy to allow users to dial extensions

- Use the Exchange Management Console to view and modify the Unified Messaging mailbox policy to allow users to dial extensions.

1. In Exchange Management Console, in the Result pane, click the **UM Mailbox Policies** tab.

Has a Unified Messaging mailbox policy been created automatically? If Yes, what is the name of the new Unified Messaging mailbox policy?

2. Right-click **NWTraders_Dial_Plan Default Policy**, and

then in the Action pane, click **Properties**.

3. In the **NWTraders_Dial_Plan Default Policy Properties** box, click the **Message Text** tab, and then in the **Text sent when a UM mailbox is enabled** box, type the following text:

   Your mailbox has been enabled for Exchange Unified Messaging features.

4. Click the **Dialing Restrictions** tab.

5. Verify **Allow calls to extensions** is checked.

6. Click the **PIN Policies** tab and notice the default pin requirements.

7. In the **NWTraders_Dial_Plan Default Policy Properties** box, click **OK**.

1. **NWTraders_Dial_Plan Default Policy**

Enable the Peter Houston and Holly Holt user accounts for Unified Messaging

Summary	Detailed Steps
• Enable the Peter Houston and Holly Holt user accounts for Unified Messaging.	1. In the Exchange Management Console, in the Navigation pane, expand **Recipient Configuration**, and then click **Mailbox**. 2. In the Result pane, right-click **Peter Houston**, and then click **Enable Unified Messaging**. 3. In the **Unified Messaging Mailbox Policy** box, click **Browse**. 4. In the **Select UM Policy** box, click **NWTraders_Dial_Plan Default Policy**, and then click **OK**. 5. In the **Manually entered mailbox extension** text box, type **4123** 6. Select the **Manually specify PIN** option, and then in the **PIN** text box, type **425206**. Notice that the PIN complexity must comply with the Unified Messaging mailbox policy. 7. In the **Enable Unified Messaging** box, click **Enable**. 8. Repeat steps 1 to 7 for **Holly Holt**, assigning her the extension of **4124**.

Exercise 2: Create Dialing Restrictions

Introduction

In this exercise, you will create a list of dialing restrictions that you want to apply to Unified Messaging users. You will then apply the list at both the gateway and Unified Messaging policy levels.

Create dialing restrictions and use the Exchange Management Console to import dialing restrictions into the dial plan configuration

- Create a comma-separated value (CSV) file with a list of dialing restrictions.

- Use the Exchange Management Console to import dialing restrictions into the dial plan configuration.

1. Switch to the Exchange Management Console.
2. In the Navigation pane, expand **Organization Configuration**, and then click **Unified Messaging**.
3. In the Result pane, click the **UM Dial Plan** tab, and then click **NWTraders_Dial_Plan**.
4. In the Action pane, click **Properties**.
5. In the **NWTraders_Dial_Plan Properties** box, click the **Dialing Rule Groups** tab.
6. In the **In-Country/Region Rules** group, click **Add**.
7. In the **Name** box type **Low-rate**
8. In the **Number mask** box type **91425xxxxxxx**
9. In the **Dialed number** box type **9xxxxxxx**
10. In the **Comment** box type **Low rate call** and then click **OK**.
11. Repeat steps 6-10 using the following tables:

Field	Value
Name	Local
Number mask	91425*
Dialed number	425*
Comment	Local call

Field	Value
Name	Lab
Number mask	91425333xxxx
Dialed number	xxxx
Comment	Exchange Lab

12. In the **Dial_Plan Properties** box, click **OK**.

Use Exchange Management Shell to view the dial plan configuration and configure allowed in-country groups on the dial plan

Summary

- Use Exchange Management Shell to view the dial plan configuration and configure allowed in-country groups on the dial plan.

Detailed Steps

1. Switch to the Exchange Management Shell.
2. In the Exchange Management Shell, type the following text and then press ENTER:

   Get-UMDialPlan -id Nwtraders_Dial_Plan |FL

3. Scroll through the command output until you locate the **ConfiguredInCountryOrRegionGroups** property.

   What in-country groups are configured?

4. Scroll through the command output until you locate the **AllowedInCountryOrRegionGroups** property.

   What in-country groups are allowed?

5. In the Exchange Management Shell**,** type the following text and then press ENTER:

   Set-UMDialPlan Nwtraders_Dial_Plan -AllowedInCountryOrRegionGroups Lab

6. In the Exchange Management Shell, type the following text and then press ENTER:

   Get-UMDialPlan -id Nwtraders_Dial_Plan |FL

7. Scroll through the command output until you locate the **AllowedInCountryOrRegionGroups** property.

   What in-country groups are allowed?

Answer Key

3. **Lab, Local, Low-rate**
4. **None at this point**
8. **Lab**

Apply the rules you configured on the dial plan to the Unified Messaging mailbox policy object

Summary

- Apply the rules you configured on the dial plan to the Unified Messaging mailbox policy object.

Detailed Steps

1. Switch to the Exchange Management Console.
2. In the Result pane, click the **UM Mailbox Policies** tab.
3. Select the **NWTraders_Dial_Plan Default Policy**, and then in the Action pane, click **Properties**.
4. In **NWTraders_Dial_Plan Default Policy Properties**, click the **Dialing Restrictions** tab.
5. In **Select allowed in-country/region rule groups from dial plan**, click **Add**.
6. In the **Select Allowed In-Country/Region Groups** list, select **Lab**, and then click **OK**.
7. In **NWTraders_Dial_Plan Default Policy Properties**, click **OK**.

Use Exchange Management Shell to view the properties of the mailbox policy

Summary

- Use Exchange Management Shell to view the properties of the mailbox policy.

Detailed Steps

1. Switch to the Exchange Management Shell.
2. In Exchange Management Shell, type the following text and then press ENTER:

   Get-UMMailboxPolicy "Nwtraders_Dial_Plan Default Policy" |FL

3. Scroll through the command output until you locate the **AllowedInCountryOrRegionGroups** property.

   What in-country groups are allowed?

Answer Key

3. **Lab**

Exercise 3: Testing Unified Messaging with the Exchange UM Test Phone

Introduction

In this exercise, you will test the Unified Messaging functionality you configured on the SMBEX01 server, by using the Exchange UM Test Phone application that is shipped with Exchange Server 2007.

Important: Perform this exercise only if you have a sound card and a microphone and have configured the Exchange UM Test Phone application.

Use the Exchange UM Test Phone to test the Auto Attendant functionality

Summary

Detailed Steps

- Test the Auto Attendant functionality by using the Exchange UM Test Phone.

1. Switch to the host computer.
2. Open Microsoft Windows® Explorer and navigate to **C:\SIP_Emulator** and double-click **ExchangeUMTestPhone.exe**.
3. In **Exchange UM Test Phone**, click **Tools** and then click **Setup**.
4. Ensure that the **Server IP** box is set to **10.0.0.10**
5. In the **Pilot Identifier** text box, type **4444**
6. Clear the **Caller ID** box.
7. Verify that the **Diversion** check box is not selected and then click **OK**.
8. In the **Exchange UM Test Phone**, click **Make Call**.

Wait for the call to be connected.

9. Listen to the default Auto Attendant greeting and then press **#**
10. Spell **Holt** using the keypad.
11. Press **1** to confirm you want Holly Holt.
12. Leave a brief voice mail for Holly.
13. In the **Exchange UM Test Phone**, click **Hang Up**.

Setup Peter Houston's Voice Mail box

Summary

Detailed Steps

- Setup Peter Houston's voice mail box.

1. In **Exchange UM Test Phone**, click **Tools**, and then click **Setup**.
2. In the **Caller ID** text box, type **4123** (Peter Houston's extension).
3. Verify the **Diversion** check box is unchecked and click **OK**.
4. In **Exchange UM Test Phone**, click the **Make Call** button.
5. Watch the call state in the **Call Log** box and listen to the greeting.
6. Press **425206#** when prompted for your PIN.

7. Follow the instructions for setting up Peter's name and greeting.
8. When finished, click the **Hang Up** button.

Place a call to Peter Houston as Holly Holt

Summary	Detailed Steps

- Place a call to Peter Houston as Holly Holt.

1. In **Exchange UM Test Phone**, click **Tools**, and then click **Setup**.
2. In the **Caller ID** text box, type **4124** (Holly Holt's extension).
3. Select the **Diversion** check box. In the **Number** box, type **4123** (Peter Houston's extension), and then click **OK**.
4. In **Exchange UM Test Phone**, click the **Make Call** button.

   Watch the call state in the **Call Log** box. When connected, listen to the greeting you just sent.

   Leave a message for Peter.
5. Click the **Hang Up** button.

Place a call to Holly Holt as Peter Houston using the full phone number

Summary	Detailed Steps

- Place a call to Holly Holt as Peter Houston.

1. In **Exchange UM Test Phone**, click **Tools**, and then click **Setup**.
2. In the **Caller ID** text box, type **4123** (Peter Houston's extension).
3. Select the **Diversion** check box, and in the **Number** box, type **94253334124** (Holly Holt's extension), and then click **OK**.
4. In **Exchange UM Test Phone**, click the **Make Call** button.
5. Watch the call state in the **Call Log** box and listen to the default greeting.
6. Leave a message for Holly.
7. Click the **Hang Up** button.

Listen to Peter's voice mails using Microsoft Office Outlook Web Access

Summary	Detailed Steps

- Listen to Peter's voice mails using Microsoft Office Outlook Web Access

1. Switch to the host computer, click **Start**, and then click **Internet Explorer**.
2. In Internet Explorer, in the Address box, type **http://smbex01.nwtraders.com/owa** and then press ENTER.
3. Log on to Outlook Web Access as **peter** with a password of **P@ssword**
4. Open the Inbox item with the subject **Voice Mail from**

Holly Holt.

5. Click the **Play** button to listen to the voice mail.
6. Close the voice mail from Holly, and then close Outlook Web Access.

View Peter's voice mails using Microsoft Office Outlook 2007 (Optional)

- View Peter's voice mails using Microsoft Office Outlook 2007

1. Switch to the CLIENT01 virtual server.
2. If not already logged in, press the RIGHT-ALT and DELETE keys and log on as **nwtraders\peter** with a password of **P@ssword**.
3. Click **Start**, point to **All Programs**, point to **Microsoft Office**, and then click **Microsoft Office Outlook 2007**.
4. Wait for Outlook to open and to update the folders.
5. Open the Inbox item with the subject **Voice Mail from Holly Holt.**

NOTE: You will not be able to play this message due to the hardware limitations of virtual servers.

6. Close Outlook and log off from **CLIENT01**.

Additional Unified Messaging tasks (as time permits).

- Optional tasks to perform exploring the options and capabilities of Unified Messaging.

1. Switch to the Exchange UM Test Phone.
2. Click **Tools**, and then click **Setup**.
3. Clear the **Diversion** check box, and then click OK.
4. In **Exchange UM Test Phone**, click the **Make Call** button.
5. Listen to the greeting and type **425206#**
6. Perform the following tasks as instructed by the Auto Attendant:
   a. Listen to your e-mail using Unified Messaging.
   b. Listen to your calendar using Unified Messaging.
   c. Reply to an e-mail message using Unified Messaging
   d. Send a calendar request using Unified Messaging.

Lab: Transitioning from Exchange Server 2003 to Exchange Server 2007

Time estimated: 60 minutes

Lab objectives

After completing this lab, you will be able to:

- Install Microsoft® Exchange Server 2007 in an existing Exchange Server 2003 single-forest environment.

Note   This lab focuses on the concepts in this module and as a result may not comply with Microsoft security recommendations.

Exercise 0: Preparing the Lab Environment

Prepare the environment

- To prepare for this lab, start the EXBE01 and EX07 virtual servers.

1. Start the EXBE01 and EX07 virtual servers.

Installing Exchange Server 2007 into an Existing Exchange Server 2003 Environment

Introduction

In this exercise, you will use the Exchange Server 2007 installation wizard to prepare the Microsoft Active Directory® directory service for the Exchange Server 2007 installation.

Scenario

You are the Exchange administrator at Northwind Traders. You currently have Exchange Server 2003 in your environment and you are preparing and installing Exchange Server 2007.

Prepare for a new Exchange Server 2007 installation

Summary	Detailed Steps
• Log on to EXBE01.	• On EXBE01, log on to the NWTRADERS domain as **Administrator** with a password of **P@ssw0rd**.
	Note EXBE01 has the .NET Framework 2.0 installed, ADMap and ExBPA have been run to verify the environment, and Exchange Server 2003 is running in native mode. Ex07, the server that Exchange Server 2007 will be installed on, is joined to the Exchange 2003 Server domain NWTRADERS.

Install Exchange Server 2007

Summary	Detailed Steps
• Install Exchange Server 2007.	1. On EX07, click **Start**, click **Windows Explorer**, expand **My Computer**, click **EX2007_RTM**, and then double-click **Setup.exe**
	2. Notice that steps 1-3 have already been installed.
	3. Click **Step 4: Install Microsoft Exchange**.
	4. On the **Introduction** page, click **Next**.
	5. Select **I accept the terms in the license agreement**, and then click **Next**.
	6. On the **Error Reporting** page, click **Next**.
	7. Verify that **Typical Exchange Installation** is selected, and then click **Next**.
	8. In the **Mail Flow** window, click **Browse**, select **EXBE01**, click **OK**, and then click **Next**.
	9. Click **Next**.
	10. In the Results window, review the warnings and then click **Install**.
	11. Click Finish and then click Close. This will start the Exchange Management Console.

Look at Holly's mailbox on the Exchange 2003 server (EXBE01)

Summary	Detailed Steps

- Look at Holly's mailbox on the Exchange 2003 server (EXBE01).

1. Click **Start**, click **All Programs**, and then click **Internet Explorer**.
2. In Internet Explorer, type **http://exbe01/exchange/holly**
3. Log on as **nwtraders\holly** with a password of **P@ssw0rd**.
4. Notice the mail messages in her mailbox.

Mount the Exchange Server 2007 mailbox database

- Mount the Exchange Server 2007 mailbox database.

1. Click **Start**, point to **All Programs**, point to **Exchange Server 2007**, and then click **Exchange Management Console**.
2. In the navigation pane, expand **Server Configuration**.
3. In the work pane, expand **First Storage Group**, and then select **Mailbox Database**.
4. In the action pane, click **Mount Database**. This will mount the mailbox database and allow you to move users from Exchange Server 2003 to Exchange Server 2007.

Exercise 2: Moving a User from Exchange Server 2003 to Exchange Server 2007

Introduction

In this exercise, you will move a user from Exchange Server 2003 to Exchange Server 2007.

Scenario

You are the Exchange administrator at Northwind Traders. You currently have Exchange Server 2003 in your environment and you are in the process of moving users from Exchange Server 2003 to Exchange Server 2007.

Move a user from Exchange Server 2003 to Exchange Server 2007

Summary	Detailed Steps
• Move a user from Exchange Server 2003 to Exchange Server 2007.	1. In the **Exchange Management Console**, expand **Recipient Configuration**, and then select **Mailbox**. 2. In the work pane right click **Holly Holt**, and then click **Move Mailbox**. 3. In the **Move Mailbox – Introduction** window, verify that **EX07** is the selected server, and then click **Next**. 4. In the **Move Mailbox – Move Options** window, click **Next**. 5. In the **Move Mailbox – Schedule** window, click **Next**. 6. In the **Move Mailbox – Move Mailbox** window, click **Move**. 7. In the **Move Mailbox – Completion** window, click **Finish**

Look at Holly Holt's mail on Exchange Server 2007 (EX07)

Summary	Detailed Steps
• Look at Holly Holt's mail on Exchange Server 2007 (EX07).	1. Click **Start**, click **All Programs** and then click **Internet Explorer**. 2. In Internet Explorer, in the **Address** bar, type **https://ex07/owa** and then press ENTER. 3. In the security alert window, click **Yes**. 4. If an Internet Explorer content window opens, click **Add**, click **Add**, and then click **Close**. 5. Log on to Outlook Web Access with a user name of **nwtraders\holly** and a password of **P@ssw0rd** 6. In Outlook Web Access, verify the language and time zone and click **OK**. 7. Notice the messages from Holly's Exchange Server 2003 mailbox have been moved.

Send a message from Holly Holt to James Fine

- Send a message from Holly Holt to James Fine.

1. In Outlook Web Access, click **New**.
2. In the **To** field, type **James Fine**, and then press CTRL+K to resolve the address.
3. In the **Subject** field, type **Verification Message from EX07**.
4. In the message body, type **This is a message to verify communication between Exchange Server 2003 and Exchange Server 2007.**
5. Click **Options**.
6. Select the **Request a delivery receipt for this message** check box.
7. Select the **Request a read receipt for this message** check box, and then click **OK**
8. Click **Send**. You will receive a delivery confirmation.

Look at James Fine's mail on Exchange Server 2003 (EXBE01)

- Send a test e-mail message to verify mail flow.

1. Click **Start**, click **All Programs,** and then click **Internet Explorer**.
2. In Internet Explorer, in the **Address** bar, type **http://exbe01/exchange/james** and then press **ENTER**.
3. Log on to Outlook Web Access with a user name of **nwtraders\james** and a password of **P@ssw0rd**
4. Open the message from Holly Holt with the subject line **Verification Message from EX07**.
5. At the top of the message window, click **Click here to send a receipt**.
6. Switch to Holly's Outlook Web Access instance and notice the receipt has been received.

Lab: Using Exchange Server 2007 Local Continuous Replication

Lab : Using Exchange Server 2007 Local Continuous Replication

- **Exercise 1: Preparing the Forest Root and the Domain for the Live Communications Server Installation**
- **Exercise 2: Installing Live Communications Server Using the Deployment Tool**
- **Exercise 3: Configuring Users for Live Communications Server**
- **Exercise 4: Installing and Configuring Office Communicator**
- **Exercise 5: Adding Contacts and Sending Instant Messages**

Time estimated: 40 minutes

Introduction

In this lab, you will update Active Directory to prepare for the Live Communications Server installation. You will then install Live Communications Server 2005 on SMBEX01. You will also enable users for Live Communications, and install and configure Microsoft Office Communicator to conduct an instant message conversation.

Lab objectives

After completing this lab, you will be able to:

- Prepare Active Directory directory service for Microsoft Office Live Communications Server 2005 by using the Live Communications Server Deployment Tool.

- Install Live Communications Server 2005 Standard Edition by using the Live Communications Server Deployment Tool.

- Configure users for Live Communications Server.

- Install and configure Microsoft Windows Messenger 5.1 to use a Transmission Control Protocol (TCP) connection.

- Add contacts and send instant messages.

Note   Because this lab focuses on concepts, it may not comply with Microsoft security recommendations.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

1. To prepare for this lab, start the SMBEX01 and CLIENT01 virtual servers.

Exercise 1: Preparing the Forest Root and the Domain for the Live Communications Server Installation

Introduction

In this exercise, you will install the Live Communications Server schema extensions to Active Directory, and run Forest Prep and Domain Prep. You need to perform this task only once during installation. You should perform this task on the forest root domain controller, which is the schema master. To perform this task, you must have schema administrator privileges.

Prepare the Enterprise Schema, Forest, and Domain

Summary

- Prepare the Enterprise schema, forest, and domain.

Detailed Steps

1. On SMBEX01, if you have not logged on, log on as **nwtraders\Administrator** with a password of **P@ssw0rd**

2. Click **Start**, and then click **Run**.

3. In the **Open** box, type **d:\Setup\I386\Setup.exe** and then click **OK**.

   Setup starts and launches the Deployment Tool.

4. Click **Standard Edition Server**.

5. Click **Prep Schema**, and then, on the Welcome page, click **Next**.

6. Verify that the **Default: Schema files are located in the same directory as Setup** check box is selected, and then click **Next**.

7. On the Ready to Prepare Active Directory Schema page, click **Next**.

8. On the completion page, click **View Log**.

9. Under the Action column, click the plus sign (+) to expand **Schema Prep**.

10. Look for <*Success*> in the Execution Result column at the end of each task to verify that Prep Schema completed successfully.

11. Close the Log window.

12. Click **Finish**.

Note

The Deployment Tool places a checkmark next to items as they are completed.

---

13. Click **Prep Forest**, and then, on the Welcome page, click **Next**.

14. On the **Ready to Run Forest Preparation** page, read the warning message, and then click **Next**.

15. On the completion page, click **View Log**.

16. Under the Action column, expand **Forest Prep**.

17. Look for <*Success*> in the Execution Result column at the end of each task to verify that Prep Forest completed successfully.

Note

Some items in the Action Information column are listed as 'Not Ready'. These items are listed as 'Ready' after Domain Prep is completed in the next exercise

---

18. Close the Log window.
19. Click **Finish**.
20. Click **Prep Domain**, and then, on the Welcome page, click **Next**.
21. On the Ready to Run Domain Preparation page, read the warning message, and then click **Next**.
22. On the completion page, click **View Log**.
23. Under the Action column, expand **Domain Prep**.
24. Look for <*Success*> in the Execution Result column at the end of each task to verify that Prep Domain completed successfully.
25. Close the Log window.
26. Click **Finish**.

Exercise 2: Installing Live Communications Server Using the Deployment Tool

Introduction

In this exercise, you will use the Live Communications Server Deployment Tool to install the Live Communications Server on SMBEX01 and then verify that the installation was successful.

Install the Live Communications Server 2005 using the Live Communications Server Deployment Tool

Summary

- Install the Live Communications Server 2005 using the Live Communications Server Deployment Tool.

Detailed Steps

1. On SMBEX01, on the Deployment Tool page, click **Install Files for Standard Edition Server**.

Note

Microsoft SQL Server Desktop Edition is automatically installed.

2. On the Welcome page click **Next**.

3. On the License Agreement page, click **I accept the terms in the license agreement**, and then click **Next**.

4. On the Customer Information page, type your information, and then click **Next**.

5. On the Choose Destination Locations page, review the folder destination information, and then click **Next**.

6. On the Ready to Install the Program page, click **Install**.

7. On the completion page, click **Finish**.

8. In the **Server Activation** dialog box, click **Yes**.

9. In the Welcome to the Activate Standard Edition Server Wizard page, click **Next**.

10. On the Select Account page, verify that **Create a New Account** is selected.

11. Ensure that **LCService** is listed for the Account Name, and then, in the **Password** and the **Confirm Password** fields, type **P@ssw0rd** and then click **Next**.

Note

If you specify a new account, the wizard automatically creates and configures this account.

12. On the Enable IM Archiving page, verify that the check box is cleared, and then click **Next**.

13. On the Start Service Option page, verify that the **Start the service after activation** check box is selected, and then click **Next**.

14. On the Ready to Activate page, review your selections, and then click **Next**.

15. On the Wizard Completed page, click **View Log**.

16. Under the Action column, expand **Activate**.

17. Look for *<Success>* in the Execution Result column at the end of each task to verify that the server activated successfully.

18. Close the Log window.

19. Click **Finish** and then close the Deployment Tool page.

20. Click **Exit** to close the Standard Edition Deployment Tool page.

Configure Live Communications Server

- Configure Live Communications Server.

1. On **SMBEX01**, click **Start**, right-click **My Computer** and then click **Manage**.

2. Expand **Services and Applications**.

3. Right-click **Microsoft Live Communications Server 2005** and then click **Properties**.

4. In the Connections box, select the only entry, and then click **Edit**.

5. In the edit connection window, verify that **All available IP Addresses** is selected.

6. In the transport type drop down, select TLS.

7. Verify that **Authenticate remote server** is selected and that the Listen to this port is set to **5061**.

8. Click **Select Certificate**. In the Select Certificate window, click the certificate that is issued to **SMBEX01.nwtraders.com** and issued by **nwtraders**.

9. Click **OK** twice.

10. In the Computer Management window, right-click **Microsoft Communications Server 2005**, and click **Start** if it is available.

11. Close Computer Management.

Configure DNS for Live Communications Server

- Configure DNS for Live Communications Server.

1. Click **Start**, click **All Programs**, click **Administrative Tools**, and then click **DNS**.

2. Expand **SMBE01** and then expand **Forward Lookup Zone**.

3. Right click **nwtraders.com**, and then click **New Other Records**.

4. In the **Select Service Record** window, scroll down, select the **SRV** record, and then click **Create Record**.

5. In the **Service** box type **_sipinteraltls**

6. In the **Port** box type **_tcp**

7. In the **Port** number box type **5061**

8. In the **Host offering this service** box type **smbex01.nwtraders.com**

9. Click **Done**, and then close DNS.

8

Exercise 3: Configuring Users for Live Communications Server

Introduction

In this exercise, you will enable users for Live Communications Server and then specify users' Session Initiation Protocol (SIP) Uniform Resource Identifiers (URIs).

Configure user accounts for Live Communications Server

Summary Detailed Steps

- Configure user accounts for Live Communications Server.

1. On **EXBE01**, click **Start**, point to **Programs**, point to **Administrative Tools**, and then click **Active Directory Users and Computers**.

2. In the left pane, expand **nwtraders.msft**, and then click **NWTraders Users**.

3. In the right pane, right-click **Frank Miller**, and then click **Properties**.

4. On the Live Communications tab, select the **Enable Live Communications for this user** check box.

5. In the **SIP URI** field, verify that the address is **sip:frank@nwtraders.com**.

6. In the **Server or pool** drop-down list box, select **SMBEX01.nwtraders.msft**, and then click **OK**.

7. Right-click **Susan Burk**, and then click **Properties**.

8. On the **Live Communications** tab, select the **Enable Live Communications for this user** check box.

9. In the **SIP URI** field, verify that the address is **sip:susann@nwtraders.com**.

10. In the **Server or pool drop-down** list box, select the **EXBE01.nwtraders.msft** check box, and then click **OK**.

11. Close Active Directory Users and Computers.

Exercise 4: Installing and Configuring Office Communicator

Introduction

In this exercise, you will install Office Communicator on the SMBEX01 and CLIENT01 virtual computers.

Install Office Communicator

Summary	Detailed Steps
• Install Office Communicator.	1. On SMBEX01, click **Start**, and then click **Run**.
	2. In the **Open** box, type **\\client01\c$\office communicator 2005\communicator.msi** and then click **OK**.
	3. On the Microsoft Office Communicator Welcome page, click **Next**.
	4. On the License Agreement page, click **I accept the terms in the license agreement**, and then click **Next**.
	5. On the product identification page, click **Next**.
	6. On the Configure Microsoft Communicator 2005 page, click **Next**.
	7. On the Setup Wizard Completed page, click **Finish**.
	8. Switch to CLIENT01, and then log on as **nwtraders\kevinc** with a password of **MSEvent.123**
	9. Click **Start**, and then click **Run**.
	10. In the **Open** box, type **c:\office communicator 2005\communicator.msi** and then click **OK.**
	11. On the Microsoft Office Communicator Welcome page, click **Next**.
	12. On the License Agreement page, click **I accept the terms in the license agreement**, and then click **Next**.
	13. On the product identification page, click **Next**.
	14. On the Configure Microsoft Communicator 2005 page, click **Next**.
	15. On the Setup Wizard Completed page, click **Finish**.

Configure Communicator

Summary	Detailed Steps
• Configure Communicator.	1. Switch to SMBEX01.
	2. To open Office Communicator 2005, click **Start**, point to **All Programs**, and then click **Microsoft Office Communicator 2005**.
	3. Click **Actions**, and then click **Options**.
	4. Click the **Accounts** tab, and then select the **My contacts include users of a SIP Communications Service** check box.
	5. Click the Accounts tab and in the **Sign-in name** field, type

frank@nwtraders.com

6. Click **Advanced**, select **Configure Settings**, and in the **Server name or IP address** field, type **SMBEX01.nwtraders.com**. Select **TCP**, and then click **OK** twice.

7. Click the **Sign In** button.

8. In the **Username** field, type **frank@nwtraders.com** and then in the **Password** field, type **P@ssw0rd** and then click **OK**.

9. Switch to CLIENT01.

10. To open Office Communicator, click **Start**, point to **All Programs**, and then click **Microsoft Office Communicator 2005**.

11. Click **Actions**, and then click **Options**.

12. Click the **Accounts** tab.

13. In the sign-in name box type **susanb@nwtraders.com**.

14. Click the **Advanced** button.

15. In the Advanced settings window, click **Configure settings**.

16. In the Server name or IP address type **smbex01.nwtraders.com**

17. For **Connect using**, click **TLS**, click **OK**.

18. Click **Sign in**.

19. In the Sign-in account window, for user name type susanb@nwtraders.com and for password type **P@ssw0rd**.

Exercise 5: Adding Contacts and Sending Instant Messages

Introduction

In this exercise, you will add a contact and conduct an instant message conversation.

Add a contact

Summary	Detailed Steps
• Add a contact.	1. On CLIENT01, in the Office Communicator, click **Contact**, and then click **Add a Contact**.
	2. Click **Search for a contact**, and then click **Next**.
	3. In the **First Name** field, type **Frank** and then click **Next**.
	4. In the **Search Results** dialog box, click **Frank Miller**, click **Next**, and then click **Finish**.
	5. Switch to SMBEX01.
	6. In the Office Communicator dialog box, click **Allow this person to see when you are online and contact you**, and then click **OK**.

Send an Instant Message

Summary	Detailed Steps
• Send an instant message.	1. Switch to CLIENT01.
	2. In Office Communicator, right-click **Frank Miller**, and then click **Send an Instant Message**.
	3. Type a message, and then click **Send**.
	4. Switch to SMBEX01.
	5. In the Conversation window, type a message, and then click **Send**.
	6. After you have finished your conversation, close any open windows, and then log off SMBEX01.
	7. Switch to CLIENT01.
	8. Close any open windows, and then log off CLIENT01.

Lab: Using Microsoft Operations Manager in an Exchange Server 2007 Environment

Lab : Using Microsoft Operations Manager in an Exchange Server 2007 Environment

- **Exercise 1: Configuring MOM 2005 for Exchange Server 2007 Operations Tasks**
- **Exercise 2: Using the MOM 2005 Operator Console**
- **Exercise 3: Configuring Alert Notifications Using MOM 2005**
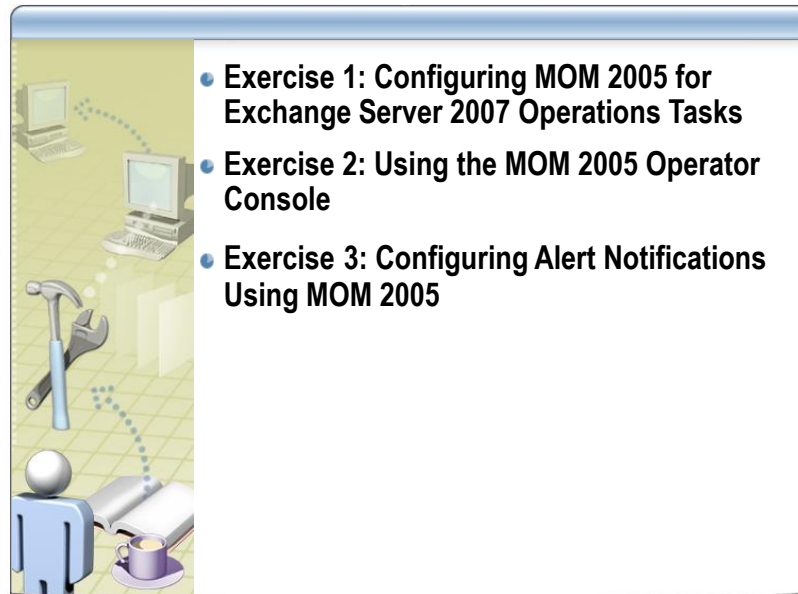
Time estimated: 40 minutes

Senario

You are the Operations and Infrastructure Manager for Messaging at Northwind Traders. The company recently used a consulting services provider to deploy several Exchange Server 2007 servers. You want to consolidate and optimize monitoring tasks by deploying Microsoft Operations Manager 2005. You deploy a MOM 2005 server and use the Exchange Management pack for MOM to manage your Exchange Server 2007 servers.

Lab objectives

After completing this lab, you will be able to:

- Import Microsoft® Exchange Server 2007 Management Pack for Microsoft Operations Manager (MOM) 2005.

- Install MOM agents on multiple Exchange Server 2007 servers.

- Use the MOM 2005 Operator Console to view the state of Exchange Server 2007 environment.

- Use the MOM 2005 Operator Console to locate and classify an alert.

- Configure MOM 2005 to send e-mail notifications in response to certain alerts.

Note   Because this lab focuses on concepts, it may not comply with Microsoft security recommendations.

Exercise 0: Preparing the Environment

Prepare the environment

Summary

Detailed Steps

- Prepare the environment.

- To prepare for this lab, ensure that the SMBEX01, MOM01, and EXEB03 virtual servers are started.

4

Exercise 1: Preparing the Forest Root and the Domain for the Live Communications Server Installation

Introduction

In this exercise, you will import the Microsoft Exchange Server 2007 Management Pack for Microsoft Operations Manager 2005. You will then use the MOM Administrator Console to install management agents on all Exchange Server 2007 servers in the organization.

Scenario

Northwind Traders has a large Exchange Server 2007 deployment. After evaluating the options for operating the environment, you have decided to implement Microsoft Operations Manager 2005 for management and monitoring purposes.

Prepare the Enterprise Schema, Forest, and Domain

Summary	Detailed Steps
• Install the Live Communications Server 2005 using the Live Communications Server Deployment Tool.	1. Switch to MOM01. Log in as user **Administrator**, with a password of **P@ssw0rd**.
	2. Using Microsoft Windows® Explorer, navigate to the folder **C:\Labs**.
	3. In C:\Labs, double-click the file **Exchange2007ManagementPackForMOM2005.msi**.
	4. In the **Open File – Security Warning** dialog box, click **Run**.
	5. In the License Agreement dialog box, select **I accept the terms in the license agreement**, and then click **Next**.
	6. In the **Select Extraction Folder** dialog box, accept the default folder, and then click **Extract**.
	7. In the **Extraction Complete** dialog box, click **Close**.
	8. Click **Start**, point to **All Programs**, point to **Microsoft Operations Manager 2005**, and then click **Administrator Console.**
	9. In the MOM 2005 Administrator Console, locate the **Console Root**, and then expand **Microsoft Operations Manager**.
	10. Right-click **Management Packs**, and then select **Import/Export Management Pack**.
	11. In the Management Pack Import/Export Wizard, on the Welcome page, click **Next**.
	12. On the Import or Export Management Packs page, verify that **Import Management Packs and/or reports** is selected, and then click **Next**.
	13. On the Select a Folder and Choose Import Type page, click **Browse**, and navigate to the folder **C:\Program Files\Microsoft Operations Manager 2005\Management Packs\Microsoft Exchange 2007 Management Pack**. Under **Type of Import**, select **Import Management Packs and Reports**, and then click **Next**.
	14. On the Select Management Packs page, select the

Exchange2007ManagementPack.akm file, verify that the **Import Option** to **Update existing Management Pack** is selected, and then click **Next**. Wait for the Management Pack to be imported.

15. On the Select Reports page, select **Exchange2007Reports.xml**, and then click **Next**.

16. In the **Secure Socket Layer Configuration** dialog box, click **Continue**, and then click **Finish**.

    Observe the Import Status screen as the Management Pack and Reports are imported.

17. When the status shows as complete for all items, click **Close**.

Summary	Detailed Steps
• Use the MOM 2005 Administrator Console to install agents on multiple Exchange Server 2007 computers. .	1. In the Microsoft Operations Manager 2005 Administrator Console, click **Microsoft Operations Manager (MOM01)** and then click **Install Agents**. 2. In the **Welcome to the Install/Uninstall Agents Wizard** dialog box, click **Next**. 3. In the **Method for Discovering Computers and Installing Agents** dialog box, select **Browse for or type in specific computer name** and then click **Next**. 4. In the **Computer Names** dialog box, click **Browse**. 5. In Select Computers, click **Advanced**. 6. In Select Computers, click **Find Now**. 7. In Search Results, select **EXEB03** and **SMBEX01** (use CTRL key to make multiple selections), and then click **OK**. 8. Confirm that both EXEB03 and SMBEX01 have been added, and then click **OK**. 9. In the **Computer Names** dialog box, click **Next**. 10. In the **Agent Installation Permissions** dialog box, confirm that the **Management Server Action Account** option is selected, and then click **Next**. 11. In the **Agent Action Account** dialog box, confirm that **Local System** is selected, and then click **Next**. 12. In the **Agent Installation Directory** dialog box, accept the default folder and then click **Next**. 13. Ensure that **Show Task Progress** is selected, and then click **Finish**. 14. In the **Microsoft Operations Manager Task Progress** dialog box, click **Details**. Watch the status change from **Scheduled** to **Running**. Wait for the Status to change to **Succeeded** for both SMBEX01 and EXEB03 (approx three minutes). 15. Click **Close**.

16. In the MOM 2005 Administrator Console, expand **Administration**, and then expand Computers.

17. Under Computers, select **Agent Managed Computers**, and confirm that both **SMBEX01** and **EXEB03** are displayed.

Check for a successful agent installation on SMBEX01.

1. Switch to SMBEX01. Log in as user **Administrator**, with a password of **P@ssw0rd**.

2. Click **Start**, right-click **My Computer**, and then click **Manage**.

3. Expand the **Services and Applications** node, and then click **Services**.

   You will see the **MOM** service listed. This is the service running the agent. The **Startup Type** will be **Automatic**, and the **Log On As** account will be **Local System Account**.

4. Close the Computer Management console.

Exercise 2: Using MOM 2005 Operator Console

Introduction

In this exercise, you will use the MOM Operator Console to view the state of the Microsoft Exchange environment. You will also use the MOM Operator Console to locate and classify an Exchange Server 2007 alert.

Scenario

Now that you have deployed MOM 2005 and installed agents on all Exchange Server 2007 servers, you want to use the MOM 2005 operator console to monitor the state of the servers and view any generated alerts.

Install the Live Communications Server 2005 using the Live Communications Server Deployment Tool

Summary	Detailed Steps

• View the Exchange servers using Computers and Groups Views.	1. Switch to MOM01, and then switch to the **MOM 2005 Administrator Console**.
	2. Click the **Microsoft Operations Manager (MOM01)** node.
	3. In the right pane, click **Start Operator Console**.
	  Wait for the Operator Console to open.
	4. In the Operator Console, in the left pane, click **Computers and Groups**.
	  The view in the navigation pane will change to the Computer and Groups Views.
	5. In Computers and Groups Views, expand **Microsoft Exchange Server** and then expand **Exchange 2007**.
	6. Under **Exchange 2007**, expand **Mailbox** and click **Computers**.
	  Notice how many Alerts in the right pane relate to the SMBEX01 server. This is the server with the Mailbox server role installed.
	7. Double-click any Critical Errors in the right pane to obtain more information about the error.
	8. In the Computer Details – EXEB03 pane (at the bottom of the screen), click the **Computer Groups** tab.
	  Notice how the EXEB03 server has been automatically added to the correct computer groups.
	  Leave the Operator Console running.
	  Leave the MOM Administrator Console running.

• Use the MOM 2005 Operator Console	1. In the Microsoft Operations Manager 2005 Operator Console, expand **Microsoft Exchange Server** and then expand **Exchange 2007**. 2. Under **Exchange 2007**, click **Alerts**. 3. Scroll across the **Alerts** list to locate the last alert named

Outlook Web Access connectivity (Internal) transaction failure.

4. Right-click the alert, click **Alert Resolution State**, and then click **Level 2: Assigned to subject matter expert**.

- Create a new Alert View for all Level 2: Assigned Resolution States

1. In the MOM Operator Console, in the left pane, click **Alerts**.

2. In **Alert Views**, right-click **All:Alert Views**, point to **New**, and then click **Alerts View**.

3. In the **Which type of alert view do you want to create** box, scroll down and select **Alerts that satisfy specified criteria**, and then click **Next**.

4. In the **Which alerts do you want to view** box, scroll down and select the check box next to **with specified resolution state**.

5. In the **View description** box, click the underlined word **specified**.

6. In the **Resolution State** dialog box, select the check box next to **Level 2: Assigned to subject matter expert** and then click **OK**.

7. In the **Alerts View** dialog box, click **Next**.

8. In the **View name** text box, type **Assigned to SMEs** and then click **Finish**.

Notice how a new Alert View appears in the alert views list, and a pane titled Assigned to SMEs shows the alert whose status you changed status of earlier..

Exercise 3: Configuring Alert Notifications Using MOM 2005

Introduction

In this exercise, you will configure a group of operators to receive Exchange Server 2007-related alerts via e-mail. You will then add Peter Houston as a member of the group and confirm that the member receives the alert in an e-mail message.

Scenario

You are pleased with the new MOM 2005 deployment and its time-saving features. You now want to configure MOM 2005 to send e-mail notifications when certain events occur.

Summary	Detailed Steps
• Configure a Microsoft Exchange Server 2007 connector to accept mail from MOM01.	1. Switch to SMBEX01 and log in as user **Administrator**, with a password of **P@ssw0rd**. Open the Exchange Management Shell: click **Start**, and then click **Exchange Management Shell**. 2. At the **PS** prompt, type the following and then press ENTER: **New-ReceiveConnector -name "MOM SMTP Receive" -AuthMechanism:ExternalAuthoritative -Bindings:"10.0.0.10:25" -PermissionGroups:ExchangeServers -RemoteIPRanges:"10.0.0.50"** Wait for the command to complete.
• Configure the Exchange Mailbox Server Administrators to receive alerts	1. On MOM01, switch to the MOM 2005 Administrator Console. 2. Expand the **Microsoft Operations Manager (MOM01)** node. 3. Expand the **Administration** node and then click **Global Settings**. 4. In the right pane, double-click **Email Server**. 5. On the **Email Server** tab, in the **Server name** box, type **SMBEX01.nwtraders.com** 6. On the **Email Server** tab, in the **Return Address** box, type **administrator@nwtraders.com** and then click **OK**. 7. In the left pane, expand **Management Packs**, expand **Notification**, and then click **Notification Groups**. 8. In the right pane, double-click **Exchange Mailbox Server Administrators**. 9. In the **Notification Group Properties** dialog box, click **New Operator**. 10. In the **Operator Properties - General** dialog box, type **Peter Houston** in the **Name** field and then click **Next**. 11. In the **Operator Properties - Email** dialog box, select the **Email this operator** check box. 12. In the **Email Address** field, type **peter@nwtraders.com**

and then click **Next**.

13. Ensure that the **Page this operator** check box is cleared, and then click **Next**.

14. Ensure that the **Notify this operator by external command** check box is cleared, and then click **Finish**.

15. In the **Available Operators** box, select **Peter Houston**, and then click the left arrow (←) to move Peter Houston into the **Group Operators** box. Click **OK**.

- Generate an alert by stopping the Mailbox Assistant Service e.

  1. Switch to EXEB03.

  2. Click **Start**, click **Run**, type **net stop msexchangemailboxassistants** and then click **OK**.

  Wait for the Unified Messaging service to stop..

- Review e-mail alerts.

  1. Switch to SMBEX01 and start Microsoft Internet Explorer.

  2. Open the Peter Houston mailbox by going to **https://smbex01.nwtraders.com/owa**

  3. When prompted to trust the certificate, click **Yes**.

  4. If prompted to set the language and time zone, confirm that both are correct, and then click **Continue**.

  5. Type a user name of **nwtraders\peter** and a password of **P@ssw0rd**

  6. Check for new messages from **administrator@nwtraders.com**. If Peter Houston does not have any messages from MOM, wait a few minutes, and then press **Send/Receive**.

- Restart the Mailbox Assistant service

  1. Switch to SMBEX01 and start Microsoft Internet Explorer.

  2. Open the Peter Houston mailbox by going to **https://smbex01.nwtraders.com/owa**

  3. When prompted to trust the certificate, click **Yes**.

  4. If prompted to set the language and time zone, confirm that both are correct, and then click **Continue**.

  5. Type a user name of **nwtraders\peter** and a password of **P@ssw0rd**

  6. Check for new messages from **administrator@nwtraders.com**. If Peter Houston does not have any messages from MOM, wait a few minutes, and then press **Send/Receive**.

Lab 1: Deploying and Configuring Microsoft Office Communications Server 2007

Objectives

After completing this lab, you will be able to:

- Prepare the Microsoft® Active Directory® domain services for Microsoft Office Communications Server 2007.

- Install, configure, and validate Office Communications Server 2007.

Note This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

There are no prerequisites for this lab.

Scenario

You are the administrator for Litware Inc., a small but growing retailer of outdoor clothing. You plan to implement Office Communications Server 2007 to take advantage of its improved security features, its enhanced end-user experience, and its powerful and easier-to-use administration tools.

Before you deploy Office Communications Server 2007, you must first prepare the Active Directory. The instructions in this guide are specific to a deployment of a Standard Edition Server in a single forest with a single domain (LitwareInc.com).

Tip For more information about Office Communications Server 2007, please review the Office Communications Server 2007 Documentation available for download at Microsoft.com

---

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Environment and Setup

↙ Lab Environment Information

In these labs you will be using Microsoft Virtual PC 2007. The following is important information and tips that will help you during these labs.

Virtual PC Server Information

1. When a procedure in the lab refers to the host computer, this means that you perform these steps on the physical computer that hosts the other virtual computers.

2. You can have multiple instances of Virtual PC running. This enables you to have all of the virtual machines running at the same time and in different windows.

3. In a Virtual PC, to simulate pressing CTRL-ALT-DELETE in order to log on or open Task Manager, press the DELETE key and the ALT key to the right of the spacebar.

↙ On the host computer, start and log on to the DC1 Virtual PC.

1. On the host computer, click **Start→All Programs→Microsoft Virtual PC**.

2. In the Virtual PC Console, turn on the DC1 virtual PC by clicking **DC1** and then clicking the **Start** button.

3. A new **DC1** virtual PC console opens. At the logon screen, press and hold the right ALT key and then press DELETE.

4. Log on to the **LitwareInc** domain as **Administrator** with a password of **pass@word1**.

> **Important**   Click **OK** to any prompts regarding any services that fail to start, and then review **Services** to verify that all have started successfully.

↙ On the host computer, start and log on to the OCS-Std Virtual PC

1. On the host computer, in the Virtual PC Console, turn on the OCS-Std virtual PC by clicking **OCS-Std** and then clicking the **Start** button.

2. A new OCS-Std Virtual PC console opens. At the logon screen, press and hold the right ALT key, and then press DELETE.

3. Log on to the **LitwareInc** domain as **Administrator** with a password of **pass@word1**.

> **Important**   Click **OK** to any prompts regarding any services that fail to start, and then review **Services** to verify that all have started successfully.

Exercise 1
Preparing the Active Directory Forest, and Domain

Introduction

Before installing Office Communications Server 2007 (OCS 2007), the Active Directory directory service needs to be prepared. In this exercise, you will prepare the forest and domain from the Office Communications Server 2007 server. This will add the necessary schema changes to LitwareInc.com.

> **Tip** For more information about preparing active directory, please review the Office Communications Server 2007 Active Directory Guide included with the OCS 2007 documentation available for download at Microsoft.com

↙ **On OCS-Std, prepare the Active Directory forest**

1. On the OCS-Std virtual PC, click **Start→ All Programs→ Accessories→ Windows Explorer**.

2. Navigate to **C:\OCS 2007\Setup\I386** and then double-click **Setup.exe**.

3. On the Deployment Wizard page, click **Deploy Standard Edition Server**.

4. On the Deploy Standard Edition Server page, next to **Step 1**, click **Prepare Active Directory**.

5.   On the Prepare Active Directory for Office Communications Server page, next to **Step 1: Prep Schema**, click **Run**.

5. On the Welcome page, click **Next**.

6. On the Directory Location of Schema Files page, verify **Default** is selected and click **Next**.

7. On the Ready to Prepare Schema page, click **Next**.

8. On the Completion page, click **Finish**.

↙ **On OCS-Std, prepare the Active Directory forest**

1. On OCS-Std, on the Prepare Active Directory for Office Communications Server page, next to **Step 3: Prep Forest**, click **Run**.

2. On the Welcome page, click **Next**.

3. On the Select Location to Store Global Settings page, click **Next**.

4. On the Location of Universal Groups page, verify that **LitwareInc.com** is selected in the **Domain** drop-down list, and then click **Next**.

5. On the SIP domain used for default routing page, verify that **LitwareInc.com** is selected in the **Select SIP domain** drop-down list, and then click **Next**.

6. On the Ready to Prepare Forest page, click **Next**.

7. On the Completion page, click **Finish**.

↙ **On OCS-Std, prepare the Active Directory domain**

1.   On OCS-Std, on the Prepare Active Directory for Office Communications Server page, next to **Step 5: Prep Current Domain**, click **Run**.

2.   On the Welcome page, click **Next**.

3.   On the Domain Preparation Information page, click **Next**.

4.   On the Ready to Prepare Domain page, click **Next**.

5.   On the Completion page, click **Finish**.

6.   On the Prepare Active Directory for Office Communications Server page, click **Back**.

   Notice that Step 1: Prepare Active Directory now says **Complete**.

   Leave the Deployment Wizard running.

Exercise 2
Installing Office Communications Server 2007

Introduction

In this exercise, you will install Office Communications Server 2007 and then perform the necessary configurations changes, as well as assign certificates. Certificates are a key built-in component to OCS 2007. You will then start the services and validate the installation. Finally, you will force a synchronization of the Address Book Server database, configure Internet Information Services (IIS) and create the necessary Domain Name System (DNS) records.

Tip   For more information about planning and deploying Office Communications Server 2007, please review the Office Communications Server 2007 Planning Guide and the Standard and Enterprise Edition Deployment Guides included with the OCS 2007 documentation available for download at Microsoft.com

---

↙ On OCS-Std, install Office Communications Server 2007

1. On the OCS-Std virtual PC, on the Deploy Standard Edition Server page, next to **Step 2: Deploy Server**, click **Run**.

Note   IIS needs to be installed before you can perform step 2. This prerequisite has already been installed.

---

2. On the welcome page, click **Next**.

3. On the License Agreement page, click **I accept the terms in the license agreement**, and then click **Next**.

4. On the Location for Server files page, accept the default and click **Next**.

5. On the Main Service Account for Standard Edition Server page, type **pass@word1** in the **Password** and **Confirm Password** text fields, and then click **Next**.

6. On the Component Service Account for this Standard Edition Server page, type **pass@word1** in the **Password** and **Confirm Password** text fields, and then click **Next**.

7. On the Web Farm FQDNs page, leave the **External web farm FQDN (optional)** field blank and then click **Next**.

8. On the Location for Database Files page, accept the default location and click **Next**.

9. On the Ready to Deploy Server page, click **Next**.

10. On the Completion page, click **Finish**.

↙ On OCS-Std, configure Office Communications Server 2007

1. On OCS-Std, on the Deploy Standard Edition server page, next to **Step 3: Configure Server**, click **Run**.

2. On the welcome page, click **Next**.

3. On the Server or Pool to Configure page, verify that **OCS-Std.LitwareInc.com** is selected, and then click **Next**.

4. On the SIP domains page, verify that **LitwareInc.com** has already been added to the list, and then click **Next**.

5. On the Client Logon Settings page, verify that both **Some or all clients will use DNS SRV records for automatic logon** and **Use this server or pool to authenticate and redirect automatic client logon requests** are selected, and then click **Next**.

6. On the SIP Domains for Automatic Logon page, click the **LitwareInc.com** check box, and then click **Next**.

7. On the External User Access Configuration page, confirm **Do not configure for external user access now** is selected, and then click **Next**.

8. On the Ready to Configure Server or Pool page, click **Next**.

9. On the completion page, click **Finish**.

↙ **On OCS-Std, configure certificates**

1. On OCS-Std, on the Deploy Standard Edition server page, next to **Step 4: Configure Certificate**, click **Run**.

2. On the Welcome page, click **Next**.

3. On the Available Certificate Tasks page, verify that **Create a new certificate** is selected, and then click **Next**.

4. On the Delayed or Immediate Request page, verify that **Send the request immediately to an online certification authority** is selected, and then click **Next**.

5. On the Name and Security Settings page, in the **Name** box, verify that **OCS-Std** is entered as the name for the new certificate.

6. Clear the **Mark cert as exportable** check box, and then click **Next**.

7. On the Organization Information page, in the **Organization** text box, type **Litware Inc** and then in the **Organizational unit** text box, type **IT** and then click **Next**.

8. On the Your Server's Subject Name page, in the **Subject name** text box, verify that **OCS-Std.LitwareInc.com** is selected.

9. Verify that **sip.LitwareInc.com** is selected as the **Subject Alternate Name**, and then click **Next**.

10. On the Geographical Information page, in the **State/Province** text box, type **Washington**

11. In the **City/Locality** text box, type **Redmond** and then click **Next**.

12. On the Choose a Certification Authority page, in the **Certification Authorities** box, verify that **DC1.litwareInc.com\LitwareIncCA** is selected and then click **Next**.

13. On the Request Summary page, verify the settings and then click **Next**.

14. On the completion page, click **Assign**.

15. In the Communications Certificate Wizard prompt, click **OK**.

16. On the completion page, click **Finish**.

17. Leave the Deploy Standard Edition Server page open.

↙ **On OCS-Std, configure IIS to use the new certificate**

1. On OCS-Std, click **Start→ Administrative Tools→ Internet Information Services (IIS) Manager**.

2. In Internet Information Services (IIS) Manager, expand **OCS-Std**, expand **Web Sites**, right-click **Default Web Site**, and then click **Properties**.

3. In Default Web Site Properties, on the **Directory Security** tab, click **Server Certificate**.

4. On the welcome page, click **Next**.

5. On the Server Certificate page, click **Assign an existing certificate** and then click **Next**.

6. On the Available Certificates page, scroll to the right to view the Friendly Name of the certificates in the list, click the **OCS-Std** certificate, and then click **Next**.

7. On the SSL Port page, click **Next**.

8. On the Certificate Summary page, click **Next.**

9. On the Completion page, click **Finish**.

10. In **Default Web Site Properties**, click **OK**.

11. Close Internet Information Services (IIS) Manager.

↙ **On OCS-Std, start services**

1. On OCS-Std, switch back to the Deploy Standard Edition server page, next to **Step 7: Start Services**, click **Run**.

2. On the Welcome page, click **Next**.

3. On the Start Office Communications Server 2007 Services page, click **Next**.

4. On the completion page, click **Finish**.

↙ **On OCS-Std, synchronize the Address Book Server**

1. On OCS-Std, click **Start→ All Programs→ Accessories→ Command Prompt.**

2. At the command prompt, type **cd ** and then press ENTER

3. At the command prompt, type **cd "c:\Program Files\Microsoft Office Communications Server 2007\Server\Core"** and then press ENTER.

4. At the command prompt, type **abserver.exe –syncnow** and press ENTER.

This will force a synchronization of the Address Book Server database immediately for the purposes of this lab.   You would not normally have to run this command in your environment.

5. When the command has completed, close the command window.

↙ **On OCS-Std, validate server functionality**

1. On OCS-Std, switch to the Deployment Wizard and next to **Step 8:** click **Validate Server Functionality**.

2. On the Validate Pool or Server Functionality page, next to **Step 1: Validate Front End Server Configuration**, click **Run**.

3. On the Welcome page, click **Next**.

4. On the Validation steps page, select the **Validate Local Server Configuration** and **Validate Connectivity** check boxes.

5. Clear the **Validate SIP Logon (1-Party) and IM (2-Party)** and **Validate IM Conference (2-Party)** check boxes, and then click **Next**. We have unchecked these boxes because we haven't enabled any users for OCS yet and have not configured Conferencing, which will be done in later labs.

6. On the completion page, notice that the wizard completed with warnings and that the **View the log when you click 'Finish'** check box is already selected. Click **Finish**.

7. Switch to the Deployment Log that has opened and in the upper-right corner of the Deployment Log, click **Expand All**.

8. In the **Action Information** column, notice that **Check Global Federation Settings** results in a warning that Federation is disabled and that **Check Global Phone Usages** results in another warning that one or more phone usages are not assigned to any route or VoIP policy. These warnings are expected because neither of these items has been configured.

9. In the **Execution Result** column, verify that the remaining tasks' results are **Success**. Close the Deployment Log window.

10. Switch back to the Validate Pool or Server Functionality wizard.

11. Next to **Step 2: Validate Web Components Server Functionality**, click **Run**.

12. On the Welcome page, click **Next**.

13. On the Validation steps page, verify that the **Validate Local Server Configuration** and **Validate Connectivity** check boxes are checked and then click **Next**.

14. On the completion page, notice that the wizard completed successfully. Click **Finish**.

15. Repeat steps 10-14 for validating the **Web Conferencing Server Functionality** and the **Audio/Video Conferencing Server Functionality**.

16. When you are finished with these wizards, click **Exit** to close the Deployment Wizard.

↙ **On DC1, configure DNS for Office Communications Server 2007**

1. Switch to DC1 and then click **Start→ Administrative Tools→ DNS**.

2. Expand **DC1**, expand **Forward Lookup Zones**, and then click **LitwareInc.com.**

3. Right-click **LitwareInc.com** and then click **Other New Records**.

4. In **Select a resource record type**, click **Service Location (SRV)** and then click **Create Record**.

5. In the **Service** text field, type **_sipinternaltls** (be sure to include the underscore character at the beginning).

6. In the **Protocol** text field, verify that **_tcp** is already entered.

7. In the **Port Number** text field, type **5061**

8. In the **Host offering this service** text field, type **OCS-Std.LitwareInc.com** and then click **OK**.

9. Click **Done**.

10. Close the DNS console.

Lab 2: Enabling Users and Installing Office Communicator 2007

Objectives

After completing this lab, you will be able to:

- Enable and configure users for Office Communications Server 2007.
- Install Microsoft® Office Communicator 2007.
- Configure Office Communicator 2007.
- Describe the Presence Grouping Feature of Office Communications Server 2007.
- Use Office Communicator 2007.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous lab. If you have not completed the previous labs, this lab will fail.

Scenario

Now that you have installed Office Communications Server 2007 in your environment, you want to deploy Office Communicator 2007 to your clients. You will now install Office Communicator 2007, configure the clients, add contacts, and test connectivity.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1** and **OCS-Std** Virtual PCs from the previous lab.

Exercise 1
Enabling and Configuring Users for Office Communications Server 2007

Introduction

In this exercise we will enable users for Office Communications Server 2007. We will demonstrate using Active Directory Users and Computers and then use the Office Communications server Administrative Tools console.

↙ **On OCS-Std, enable users for Office Communications Server 2007 using Microsoft Active Directory® Users and Computers**

1. On OCS-Std, click **Start**, and then click **Run**.

2. To open Active Directory Users and Computers, in the **Run** dialog box, type **dsa.msc** and then click **OK**.

Tip   In your environment, if you have installed OCS on a 64-bit server, OCS will run in WOW32 emulation. To use Active Directory Users and Computers (ADUC) on a 64-bit server on which you have installed OCS 2007 or the OCS 2007 Administrative Tools, you will need to open ADUC by typing **mmc -32 dsa.msc** from a run command.

3. In Active Directory Users and Computers, in the left pane, expand **LitwareInc.com**, expand **OUs**, expand **Users**, right-click **Information Technology**, and then click **Enable users for Communications Server**.

Tip   You can only enable and configure users for communications using Active Directory Users and Computers from your OCS installation or from a computer that has the OCS Administrative Tools installed.

4. On the welcome page, click **Next**.

5. On the Select a Pool page, verify that **OCS-Std.LitwareInc.com** is selected in the drop-down list, and then click **Next**.

   This associates these users with our **OCS-Std** OCS pool.

6. On the Specify Sign-in Name page, verify that **Use user's email address** is selected, and then click **Next**.

7. On the Enable Operation Status page, click **Finish**.

8. Close Active Directory Users and Computers.

Tip   For more information about OCS Administration, please review the Office Communications Server 2007 Administration Guide included with the OCS 2007 documentation available for download at Microsoft.com

↙ **On OCS-Std, configure users using Office Communications Server 2007 Administrative Tool**

1. On OCS-Std, click **Start→ Administrative Tools→ Office Communications Server 2007**.

2. In the Administrative Tools console, expand **Forest – LitwareInc.com**, expand **Standard Edition Servers**, expand **OCS-Std**, and then click **Users**.

    Notice that all of the users from the Information Technology OU that you enabled in the previous procedure show up here. Users will not show up here until they have been enabled using Active Directory Users and Computers.

3. Right-click **Users** and then click **Configure users**.

4. On the welcome page, click **Next**.

5. On the Configure Users Settings page, select the **Federation**, **Public IM Connectivity**, **Remote User Access**, and **Enhanced Presence** check boxes, and then click **Next** four times as we are only enabling IM at this time. We will configure Meeting and Voice policies in later labs.

6. On the Configure Operations Status page, click **Finish**.

Exercise 2
Installing and Starting Office Communicator 2007

Introduction

You will now install Office Communicator 2007 on the host computer. Then you will start Communicator for Vivian Atlas.

↙ **On the host computer, install Office Communicator 2007**

1. On the host computer, click **Start→ All Programs→ Accessories→ Windows Explorer** and navigate to **\\ocs-std.LitwareInc.com\c$\OCS 2007.**

2. At the **Connect to ocs-std** login window, type **LitwareInc\administrator** for the user name and **pass@word1** for the password, and then click **OK**.

3. Double-click **Communicator.msi**.

4. If you get an Open File-Security Warning, click **Run**.

5. On the Welcome page, click **Next**.

6. On the End-User License Agreement page, review the license agreement, select **I accept the terms in the License Agreement**, and then click **Next**.

7. On the Configure Microsoft Office Communicator 2007 page, click **Next**.

8. On the Completion page, click **Finish**.

9. Close Windows Explorer.

↙ **On the host computer, start Microsoft Office Outlook® 2007 and Communicator 2007**

1. On the host computer, click **Start→ All Programs→ Microsoft Office→ Microsoft Office Outlook 2007**.

    Please verify that you have configured an Outlook profile for Vivian Atlas on the host computer and installed the LitwareIncCA certificate as a trusted root certification authority, as instructed in the Setup Guide.

2. At the Connect to DC1.LitwareInc.com sign-in page, verify **va@litwareinc.com** shows in the **Username** field, type **pass@word1** in the **Password** field, and then click **OK**.

3. Minimize Outlook and leave it running.

4. Click **Start→ All Programs→ Microsoft Office Communicator 2007**.

5. Double-click the Communicator icon in the system tray.

6. In the Sign-in address text box, type **va@LitwareInc.com** and then click **Sign In.**

7. On the Welcome to Microsoft Office Communicator 2007 sign-in page, leave **va@LitwareInc.com** in the **Sign-in address** field, in the **User Name** field type **va@LitwareInc.com** and in the **Password** field type **pass@word1**, and then click **Sign In**.

8. Close the Internet Explorer window that opens.

    Leave Microsoft Office Communicator 2007 running.

Exercise 3
Using Office Communicator 2007

Introduction

In this exercise, you will add Kevin Cook as a contact and start Office Communicator 2007 on DC1. You will then have a short messaging session and examine Kevin Cook's contact card. Then you will change the level of access and re-examine Kevin's contact card. You will then start an audio call between Vivian Atlas and Kevin Cook, and then elevate it to a video call.

↙ **On the host computer, add contacts in Office Communicator 2007**

1. On the host computer, in Office Communicator 2007, type **Kevin Cook** in the **Type a name** box. Notice that Kevin Cook's name is resolved from the Address Book and shows as offline.

   Tip   If Kevin Cook's name is not resolved, exit completely out of Communicator. Re-synchronize the Address Book Server using the **abserver.exe-syncnow** procedure from Lab 1, Exercise 2, page 7. Perform a search on the host computer for GalContacts.DB and delete the entry found in your local profile. Wait five minutes, restart Communicator, and try this again.
   ---

2. Click on his name in the search results and drag and drop his name down to **All Contacts**. You can also right-click his name and then click **Add to Contact List.**

↙ **On DC1, start Office Outlook 2007 and Communicator 2007 and send an Instant Message**

1. Switch to the DC1 virtual PC, and then click **Start→ Log Off.**

2. At the **Log Off Windows** prompt, click **Log Off**.

3. At the log in screen, press and hold the right ALT key, and then press DELETE**.**

4. Log on to the **LitwareInc** domain as **kc** with a password of **pass@word1**

5. Click **Start→ All Programs→ Microsoft Office→ Microsoft Office Outlook 2007**.

   Kevin's profile is already configured on this virtual computer.

6. If you get a Connect to DC1.LitwareInc.com login prompt, type **pass@word1** as the password and click **OK**.

7. Minimize Outlook and leave it running.

8. Click **Start→ All Programs→ Microsoft Office Communicator 2007**.

   Notice the Communicator icon on the system tray signing in.

   Wait as Office Communicator 2007 signs in as Kevin is automatically signed in using his domain credentials.

9. Close the Internet Explorer window that opens.

10. On the Communicator dialog box, click **OK** to add Vivian Atlas as a contact.

11. On DC1, double-click the Communicator icon on the system tray to expand Office Communicator 2007.

12. If you get a Commiunicator-Services Sign In page, in the **User Name** field type **kc@LitwareInc.com**, in the **Password** field type **pass@word1** and then click **OK**.

13. In Office Communicator 2007, right-click **Vivian Atlas,** and then click **Send an Instant Message**.

14. In the **Vivian Atlas - Conversation** window, type **Sorry I missed our meeting this morning** and then press ENTER.

↙ On the host computer, reply to the message

1. On the host computer, on the Taskbar, click the **Kevin Cook** prompt to start an instant messaging session with Kevin, and then read the message.

2. In Office Communicator 2007, type **That is OK, let's configure conferencing instead** and then press ENTER.

↙ On DC1, participate in the messaging session

1. On DC1, in Office Communicator 2007, type **Sounds good**

2. Close the **Vivian Atlas – Conversation** window.

   Leave Office Communicator 2007 running.

↙ On the host computer, close the conversation

1. On the host computer, close the **Kevin Cook– Conversation** window.

2. On the Microsoft Office Communicator 2007 dialog box, click **Yes** to close the window without saving the conversation if prompted.

   Leave Office Communicator 2007 running.

↙ On DC1, configure Kevin Cook's telephone information

> **Note**   Office Communicator enables the user to publish personal information such as phone numbers, so that other people can easily view this information from within Communicator, depending on the level of rich-presence access.

1. In Office Communicator 2007 on DC1, click the drop-down arrow ▣ in the upper left corner, click **Tools**, and then click **Options**.

2. In Options, click the **Phones** tab.

3. Next to the work phone number, select **Publish this phone number**.

4. On the Microsoft Office Communicator 2007 prompt regarding publishing your phone numbers, check the **Don't show this message again** check box, and then click O**K**.

5. Click **Mobile Phone**.

6. In the **Edit Phone Number** dialog box, type **+12535550258** and then click **OK**.

7. Next to the mobile phone number, select **Publish this phone number**.

8. Click **Home Phone**.

9. In the **Edit Phone Number** dialog box, type **+12065551236** and then click OK.

10. Next to the home phone number, select **Publish this phone number**.

11. In Options, click **OK**.

⤢ On the host computer, examine Kevin Cook's contact card

1. On the host computer, in Office Communicator 2007, under **All Contacts**, click the green circle next to **Kevin Cook** to display his contact card.

    Notice that Communicator has pulled calendar availability from Kevin's Calendar, as well as his title and office number, as defined in Active Directory.

2. In the contact card that opens for Kevin, click the drop-down arrow next to the phone 🌐 ▾ button.

    Notice that you cannot see any of Kevin's phone numbers, that you are able to make a call only using Communicator. This is because the default level of access is set to Company.

3. Close Kevin Cook's contact card by clicking the **X** in the upper-right corner of the contact card.

    Leave Microsoft Office Communicator 2007 running.

⤢ On DC1, change the Level of Access for Vivian Atlas

1. On DC1, in Office Communicator 2007, under **All Contacts**, right-click **Vivian Atlas,** and then click **Change Level of Access**.

2. Review the different access levels, and then click **Personal**.

    Leave Office Communicator 2007 running.

⤢ On the host computer, reexamine Kevin Cook's contact card

1. On the host computer, in Office Communicator 2007, under **All Contacts**, click the green circle next to **Kevin Cook** to display his contact card.

2. In the contact card that opens for Kevin, click the drop-down arrow next to the phone 🌐 ▾ button.

    Notice that you can now see Kevin's **Mobile** and **Home** phone numbers.

    Note   Changing the Level of Access is an easy and convenient way to share different levels of information with different people.

3. Close Kevin's contact card by clicking the **X** in the upper right corner of the contact card.

Leave Office Communicator 2007 running.

↙ On the host computer, start an audio call

- On the host computer, in Communicator, click the call button next to **Kevin Cook's name**.

↙ On DC1, join the audio call

1. On DC1, click the **Answer call** prompt to accept the call from Vivian Atlas.

2. In the Vivian Atlas Conversation window, click the microphone button on the toolbar to mute Kevin's microphone. This will help prevent any feedback.

↙ On DC1, elevate an audio call to a video call

- On DC1, in the Vivian Atlas – Conversation window, click the webcam icon to elevate the conversation to a video call.

↙ On the host computer, accept the video call

1. On the host computer, in the Kevin Cook – Conversation window, click **Answer incoming video call**.

2. Experience the video call feature, and then close the conversation window to end the call.

3. On the Microsoft Office Communicator 2007 prompt, click **OK** to end the call.

4. Leave Communicator running.

↙ On DC1, end the current call.

1. On DC1, close the Vivian Atlas – Conversation window.

2. Leave Communicator running.

↙ Explore Communicator and Outlook (Optional)

1. On the host computer, here are some other features that you can explore.

   - Can you find the Conversation History folder in Outlook?

   - In Communicator, at the top, click **Type a note** and type **I am in the office all day today**. What does Kevin see on his Communicator when you hold your mouse over the note icon next to Vivian Atlas' name?

   - Manually change Kevin's **Current Location** to **Home**. After you have done this, examine his contact card again from Vivian's Communicator.

   - Tag Kevin Cook for **Status Change Alerts.** Change his status from **Available** to **Offline** and back, and then review the alerts on the host computer.

2. When you are finished, exit out of Communicator and close Outlook on the host computer and on DC1.

Lab 3: Configuring and Using Conferencing in Microsoft Office Communications Server 2007

Objectives

After completing this lab, you will be able to:

- Install and configure Microsoft® Office Live Meeting 2007 and Live Meeting 2007 Add-ins.
- Schedule and attend Office Live Meetings.
- Start and attend ad-hoc Office Live Meetings using Office Communicator 2007 and the Meet Now option of the Live Meeting Console.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous lab. If you have not completed the previous lab, this lab will fail.

Scenario

To further improve employee productivity and to decrease travel costs, Litware Inc. wants to install Office Live Meeting 2007 and it's Office Add-ins to facilitate conferencing using Office Communications Server 2007's on-premise conferencing capabilities.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

- To complete this lab, you will need to use the **DC1** and **OCS-Std** Virtual PCs from the previous labs.

Exercise 1
Installing and Configuring Live Meeting 2007 and Office Add-Ins

Introduction

In this exercise, you will perform the necessary policy changes in Office Communications Server 2007 to allow Web conferencing. You will then install Microsoft Office Live Meeting 2007 and the Microsoft Office Outlook® Add-in on the host computer and configure the add-in on the host computer and the DC1 virtual PC.

Important   Verify that Microsoft Office Outlook and Communicator are not running on the host computer and on DC1.

↙ **On OCS-Std, configure Office Communications Server 2007 Meeting Policy**

1. On OCS-Std, click **Start** →**Administrative Tools** →**Office Communications Server 2007.**

2. In the Microsoft Office Communications Server 2007 console, right-click **Forest – LitwareInc.com**, point to **Properties**, and then click **Global Properties**.

3. Click the **Meetings** tab.

4. In the **Anonymous participants** drop-down list, select **Allow users to invite anonymous participants**.

   This will permit anonymous participants to join Litware Inc. Live Meetings.

5. Under **Policy Settings**, in the **Global policy** drop-down list, select **Policy 1 (High)** and then click **Apply**.

   This will enable users for conferencing using Policy 1 settings.

6. Under **Policy Definition**, select **Policy 1 (High)** and then click **Edit**.

7. On the Edit Policy page, notice all of the settings that can be configured and then click **Cancel**.

Note   In your company's environment, you should evaluate each predefined policy and select the policy that best matches your requirements, or you should add a new policy and select the necessary settings.

---

8. On the Office Communications Server Global Properties page, click **OK**.

9. Expand **Forest – LitwareInc.com**, expand **Standard Edition Servers**, expand **OCS-Std**, and then click **OCS-Std.LitwareInc.com**.

10. Right-click **OCS-Std.LitwareInc.com**, point to **Stop**, point to **Front End Services**, and then click **Front End Service**.

    This will force the immediate enforcement of the policies we just configured.

11. After the Front End Service has stopped, right-click **OCS-Std.LitwareInc.com**, point to **Start**, and then click **Start all stopped Services.**

12. Close the console.

≤ **On the host computer, install Microsoft Office Live Meeting 2007.**

1. On the host computer, click **Start→ All Programs→ Accessories→ Windows Explorer** and navigate to **C:\VPC\Extras\Addins.**

2. Double-click **LMSetup.exe**.

    Wait as Microsoft Office Live Meeting 2007 is installed and finishes.

≤ **On the host computer, install the Live Meeting 2007 Office Outlook Add-in**

1. On the host computer, in **C:\VPC\Extras\Addins,** double-click **ConfAddins_Setup.exe**.

2. On the Microsoft Conferencing Add-in for Microsoft Office Outlook page, click **Next**.

3. On the Installation Complete page, click **Close**.

    Close Windows Explorer.

≤ **On the host computer, configure the Outlook add-in**

1. On the host computer, click **Start** and then click **Microsoft Office Outlook**.

2. At the Microsoft Office Live Meeting prompt, click **OK** to acknowledge that the Microsoft Office Live Meeting Add-in for Outlook was successfully installed, and then restart Outlook.

3. On the **Conferencing** drop-down menu, click **User Accounts**.

4. In the User Accounts window, verify that **va@LitwareInc.com** is entered for the **Sign-in name**, and then click **Advanced**.

5. In the Advanced Connections Settings window, select the **Use the following user name and password** check box.

6. Verify that **va@LitwareInc.com** is entered for the user name, type **pass@word1** for the **Password**, and then click **OK**.

7. In the User Accounts window, click **Test Connection**.

8. In the **Microsoft Office Live Meeting** dialog box, notice that the login information was successfully verified, and then click **OK**.

9. In the User Accounts window, click **OK**.

10. Leave Outlook running.

≤ **On DC1, configure the Outlook add-in**

1. On DC1, click **Start** and then click **E-mail Microsoft Office Outlook**.

    Please verify you are logged on to DC1 as Kevin Cook.

    Note   The Live Meeting Console and Add-in have already been installed on DC1. If the add-in does not show, restart Outlook.

2. On the **Conferencing** drop-down menu, click **User Accounts**.

3. In the User Accounts window, verify that **kc@LitwareInc.com** is entered for the **Sign-in name**, and then click **Advanced**.

4. In the Advanced Connections Settings window, select the **Use the following user name and password** check box.

5. Verify that **kc@LitwareInc.com** is entered for the user name, type **pass@word1** for the **Password**, and then click **OK**.

6. In the User Accounts window, click **Test Connection**.

7. In the **Microsoft Office Live Meeting** dialog box, click **OK**.

8. In the User Accounts window, click **OK**.

9. Leave Outlook running.

Exercise 2
Scheduling and Attending an Office Live Meeting

Introduction

You will now schedule an on-premise Live Meeting using Microsoft Office Outlook 2007 and attend the meeting. You will then use some of the features of Live Meeting, including showing a Microsoft PowerPoint® presentation, using voice and video and desktop sharing.

↙ **From the host computer, schedule a Live Meeting**

1. Switch to Office Outlook 2007 on the host computer.

2. In Office Outlook 2007, on the **Conferencing** toolbar, click **Schedule a Live Meeting**.

3. In the Untitled-Live Meeting Request window, in the **To** field, type **Kevin Cook** and then press CTRL-K to resolve the address.

4. In the **Subject** field, type **Weekly Project Review**

5. For the **Start time**, change the start time to be **5 minutes** from the current time.

6. In the message body, type **Review project goals and milestones** and then click **Send**.

7. At the Conferencing prompt, read the warning and click **OK**.

8. You will immediately receive a **Weekly Project Review** reminder, leave it open.

    Leave Office Outlook 2007 running.

↙ **On DC1, view the scheduled meeting request**

1. Switch to Office Outlook 2007 on DC1.

2. In Office Outlook 2007, double-click the **Weekly Project Review request** sent by Vivian. You may have to click **Send/Receive** a couple of times.

3. In the Weekly Project Review – Meeting window, click **Accept**.

4. In the **Microsoft Office Outlook** dialog box, verify that **Send the response now** is selected and then click **OK**.

    In the **Weekly Project Review** reminder, click **Open Item**. Leave Office Outlook 2007 running.

↙ **On the host computer, join the Live Meeting**

1. On the host computer, in Office Outlook 2007, in the **Weekly Project Review** reminder, click **Open Item**.

2. In today's schedule, locate and double-click the **Weekly Project Review Live Meeting Request**.

3. In the message body of the Weekly Project Review request, click **Join the meeting**.

    Wait for Microsoft Office Live Meeting to open.

⤹ On DC1, join the Live Meeting

1. On DC1, in Office Outlook 2007, in the **Weekly Project Review** request, click the **Join the meeting** link.

   Wait for Microsoft Office Live Meeting to open.

⤹ On the host computer, show a PowerPoint presentation in Live Meeting

1. On the host computer, in the Microsoft Office Live Meeting-Weekly Project Review window, click **Content→Share→ Upload File(View Only)**

2. In the Choose a document to share window, navigate to **C:\VPC\Extras\Docs** and click **Live Meeting 2007 Client Presentation.pptx**, and then click **Open**.

   Watch as the file is converted for Live Meeting and then displayed.

3. Minimize the Manage Content window.

4. Click the up and down arrows in the bottom-left corner to move between the slides.

5. Watch as the slides are displayed on DC1.

6. On the host computer, click the **Content** drop-down menu, right-click **Live Meeting 2007 Client Presentation.pptx**, and then click **Remove**.

7. At the **Confirm Delete** prompt, click **OK**.

⤹ On the host computer, start Voice & Video

1. In the Live Meeting console on the host computer, on the toolbar, click the **Enable video** button .

2. Experience the video capabilities of Office Live Meeting. When finished, click the **X** in the upper-right corner of the Voice & Video window on the host computer and on DC1.

⤹ On the host computer, share the desktop using Live Meeting (Optional)

1. On the host computer, in the Microsoft Office Live Meeting-Weekly Project Review window, click **Content→ Share→ Share Your Desktop→ Selected Areas**.

2. Drag and drop the Sharing Frame around the host computer's desktop.

3. On DC1, in the Microsoft Office Live Meeting-Weekly Project Review window, notice that you can now view the selected areas of Vivian's desktop.

4. On the host computer, click the **End sharing** button at the top of the screen to return to the Meeting Console.

5. Click the **Content** drop-down menu, right-click **The Sharing Frame – Vivian Atlas** and then click **Remove**.

6. At the Confirm Delete prompt, click **OK**.

⤹ Close unneeded windows

1. Close the Live Meeting console running on both computers.

2. On the host computer, close all windows except the Virtual PC consoles and Outlook 2007.

3. On DC1, close all windows except Office Outlook 2007.

Exercise 3
Starting and Attending an On-Premise Live Meeting

Introduction

In this exercise, you will start and attend an on-premise Live Meeting session by using the Meet Now feature of Office Communicator 2007. You will also start a Live Meeting by using the Meet Now option of the Microsoft Office Live Meeting 2007 console.

↙ **On the host computer, start Communicator**

1. On the host computer, Click **Start→ All Programs→ Microsoft Office Communicator 2007**.

2. Double-click the Communicator icon in the system tray.

3. In the **Sign-in address** text box, type **va@LitwareInc.com** and then click **Sign In**.

4. On the Welcome to Microsoft Office Communicator 2007 sign-in page, leave **va@LitwareInc.com** in the **Sign-in address** field, in the **User Name** field type **va@LitwareInc.com** and in the **Password** field type **pass@word1**, and then click **Sign In**.

5. If Vivian's status shows that she is in a meeting, reset it to **Available**.

   Leave Communicator running.

↙ **On the DC1, start an IM conversation**

1. On DC1, click **Start→ All Programs→ Microsoft Office Communicator 2007**. Wait for Communicator to log in.

2. If Kevin's status shows that he is in a meeting, reset it to **Available**.

3. In Office Communicator 2007, right-click **Vivian Atlas** and click **Send an Instant Message**.

4. In the Vivian Atlas-Conversation window, type **I want to tell you some good news** and then press ENTER.

↙ **On the host computer, join the conversation and escalate it to an ad-hoc Live Meeting**

1. On the host computer, click the **Kevin Cook – Conversation** prompt to accept the incoming message.

2. In the Kevin Cook –Conversation window, type **But I need to show you something** and then press ENTER.

3. Click the drop-down arrow in the upper-right corner of the conversation window, and then click **Share Information Using Live Meeting.**

   Wait as the Live Meeting console opens.

↙ **On DC1, join the Live Meeting**

1. On DC1, in the conversation window, click **Start (Alt-G)** to join the Live Meeting.

Wait for Microsoft Office Live Meeting to open and notice that you are again able to share your desktop, share video and documents, and so on.

2. Close the Live Meeting window.

↙ **On the host computer, start a Meet Now Live Meeting**

1. On the host computer, click **Start→ All Programs→ Microsoft Office Live Meeting 2007 → Microsoft Office Live Meeting 2007.**

2. In Microsoft Office Live Meeting, click **Meet Now**.

3. In the Live Conference, click **Attendees→ Invite→ By E-mail**.

4. In the Live Conference – Message, in the **To** field, type **Kevin** and then press CTRL-K to resolve his address.

5. Click **Send**.

↙ **On DC1, join the Live Meeting**

1. On DC1in Office Outlook 2007, in the left column, click **Mail**.

2. In the Inbox, double-click the **Meet Now** request.

3. In the message body of the Live Conference request, click the **Join the meeting** link.

   Wait for Microsoft Office Live Meeting to open and notice that you are again able to share your desktop, share video and documents, and so on.

4. Close the Live Meeting window, exit completely out of Outlook and Communicator.

↙ **On the host computer, close all windows**

■ On the host computer, close all windows except the Virtual PC consoles, and exit completely out of Outlook and Communicator.

Lab 4: Using the Management and Troubleshooting Tools in Office Communications Server 2007

Objectives

After completing this lab, you will be able to:

- Use the built-in administration tools to troubleshoot Microsoft® Office Communications Server 2007.

- Install the Resource Kit tools.

- Use the Office Communications Server 2007 Logging Tool to review and analyze logs.

- Use the Validation wizard to validate and verify your environment.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous labs.. If you have not completed the previous labs, this lab will fail.

Scenario

New tools are available to help Administrators apply best practices and troubleshoot their Office Communications Server 2007 environment. The built-in Validation Wizard will review your Office Communications Server 2007 configuration, pinpoint any incorrect settings, and determine any failure points. Improved error reporting and event logging help administrators resolve common issues, and the Resource Kit contains powerful tools to allow administrators to troubleshoot any issues quickly.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1** and **OCS-Std** Virtual PCs from the previous labs.

Exercise 1
Troubleshooting Missing or Incorrect DNS SRV Records

Introduction

Missing or incorrect DNS records are one of the most common troubleshooting issues administrators will encounter managing Office Communications Server 2007. First, you will delete the current DNS record for simulation purposes. You will then see how the improved error reporting and event logging in Office Communicator 2007 and Office Communications Server 2007 help administrators troubleshoot.

⤢ **On DC1, delete the current SRV record**

Note   This first procedure is done to simulate a missing or incorrect DNS record only.

1. On DC1, click **Start→ Administrative Tools→ DNS**.

2. Expand **DC1**, expand **Forward Lookup Zones**, expand **LitwareInc.com**, and then click **_tcp**.

3. Right-click the **_sipinternaltls SRV** record, and click **Delete.**

    This is a key service locator record used by the client and OCS servers.

4. Click **Yes** on the **DNS** prompt to confirm deletion**.**

    Leave the DNS console running**.**

⤢ **On the host computer, use Office Communicator 2007 and view the event log**

1. On the host computer, if Communicator is running, right-click the Office Communicator icon on the system tray, and click **Exit**.

2. Click **Start**, right-click **Command Prompt**, and select **Run as administrator**.

3. At the command prompt, type **ipconfig /flushdns** click **OK**, to remove any DNS cached information, and then leave the command prompt open.

4. Click **Start→All Programs→Microsoft Office Communicator 2007**.

    Notice the Office Communicator error stating that there was a problem connecting to the server. Click **OK**.

5. Click **Start→Control Panel**, double-click **Administrative Tools**, and then double-click **Event Viewer**.

6. In **Event Viewer**, click **Application**.

    You should see a series of six very recent error messages with **Event ID 3.**

7. Select the first error message in the series and double-click it.

8. Read the description stating that Communicator was unable to resolve the DNS hostname of the login server **sipinternal.LitwareInc.com**.

9. Click **OK** to close the logged event.

10. Leave the Event Viewer open.

↙ **On the host computer, enable File Tracing**

1. On the host computer, click **Start→ Run.**

2. Type **regedit** and then click **OK**.

3. Expand **HKEY_CURRENT_USER\Software\Microsoft\Tracing\uccp\LiveMeeting**

4. Double-click the **EnableFileTracing** value, change the **Value** data to **1**, and then click **OK**.

    Leave the Registry Editor running.

↙ **On the host computer, try to attend a Live Meeting and view the event log and tracing log**

1. On the host computer, click **Start→ Microsoft Office Outlook 2007**.

2. Enter **pass@word1** for the password and click **OK**.

3. Click **Calendar**, and then open the scheduled **Weekly Project Review Live Meeting** that you created in the previous lab.

    Notice the error stating a connection to the server could not be made, click **OK**.

4. In the meeting request body, click **Join the Meeting.**

5. In the **Join Error** dialog box, click **OK**.

6. Switch to the **Event Viewer** and press F5.

7. Click the Event ID column header to sort by ID number.

8. Locate the most recent event with the **Event ID 3** and double-click it.

9. Scroll through the events until you reach the event stating that it was unable to resolve the DNS hostname of the login server sipinternaltls.LitwareInc.com.

10. This verifies that the Live Meeting console is not reaching the OCS 2007 server due to the missing SRV record. Close the logged event window.

11. Click **Start→All Programs→Accessories→Windows Explorer**.

12. For Windows XP, navigate to **C:\Documents and Settings\Administrator\Tracing**. For Windows Vista, navigate to **C:\Users\<UserName>\Tracing** and double-click **LiveMeeting-uccp-0.ucclog** .

13. When prompted, select **Notepad** to open the uccplog.

14. In Notepad, click **Edit** and then click **Find**.

15. In the **Find What** field, type **sipinternaltls** and then click **Find Next**.

    Notice that it tries but fails to query DNS for the login server.

16. Close the log and Windows Explorer.

↙ **On DC1, recreate the current SRV record and turn off tracing**

1. On DC1, switch to the DNS console.

2. Expand DC1, expand **Forward Lookup Zones**, and then click **LitwareInc.com**.

3. Right-click **LitwareInc.com**, and then click **Other New Records**.

4. In the Select a resource record type window, select **Service Location (SRV)**, and then click **Create Record**.

5. In the Service text box, type **_sipinternaltls**

6. In the **Port number** text box, type **5061**

7. In the **Host offering this service** text box, type **OCS-Std.LitwareInc.com** and then click **OK**.

8. Click **Done**, and then close **DNS**.

9. Switch to the Registry Editor.

10. Change the **EnableFileTracing** value back to **0**

↙ **On the host computer, verify connectivity with Office Communicator 2007**

1. On the host computer, switch to the command prompt.

2. Type **ipconfig /flushdns** and then press ENTER.

3. Switch to Office Communicator and click Sign In.

4. Log on as **va@LitwareInc.com** with the password **pass@word1**

5. Under **All Contacts**, double-click **Kevin Cook**.

6. In the Kevin Cook - conversation window, type **Messaging Works Again!** and then press ENTER.

↙ **On DC1, verify connectivity with Office Communicator 2007**

1. Switch to DC1, notice the instant message coming in from Andy Ruth. Click the prompt, type **That is great!** and then press ENTER.

2. Close the conversation window on both computers.

3. On the host computer, right-click the **Office Communicator 2007** icon on the system tray and click **Exit**.

Exercise 2
Troubleshooting Certificates

Introduction

This exercise will show you the different ways Office Communications Server 2007, Office Communicator 2007, and other resource kit tools help you diagnose another one of the most common troubleshooting issues: untrusted or missing certificates.

↙ **On the host computer only, delete the Litware Trusted Root Certificate**

Note   This first procedure is done to simulate an untrusted or missing certificate only. Please verify that you only delete this certificate only on the host computer.

1. On the host computer, click **Start→ Run**.
2. To open the Microsoft Management Console, type **mmc** and click **OK**.
3. Click **File→Add/Remove Snap-in.**
4. On the Add or Remove Snap-ins page, click **Certificates** and then click **Add.**
5. On the Certificates snap-in page, select **Computer account** and then click **Next**.
6. On the Select Computer page, click **Finish** and then click **OK**.
7. In the Certificates console, expand **Certificates (Local Computer)**, expand **Trusted Root Certification Authorities**, and then click **Certificates**.
8. Right-click the **LitwareIncCA** certificate and click **Delete**.
9. In the **Certificates** dialog box, click **Yes** to confirm deletion.

   You have now broken the certificate links to the Certificate Authority for Litware Inc. Communicator and Live Meeting will no longer work from the host computer because the installed certificate will no longer be trusted.

10. Leave the Certificates console open.

↙ **On OCS-Std, install the Resource Kit**

1. On OCS-Std, click **Start→ All Programs→ Accessories→Windows Explorer**.
2. Navigate to **C:\OCS 2007** and double-click **OCSResKit.msi**.
3. On the Welcome page, click **Next**.
4. On the License Agreement page, click **I accept the terms in the license agreement**, and then click **Next**.
5. On the Install location for Microsoft Office Communications Server 2007, Resource Kit page, click **Next**.
6. On the Confirm Installation page, click **Next**.
7. On the Installation Complete page, click **Close**.
8. Close Windows Explorer.

↙ **On OCS-Std, turn on the Logging Tool**

We will now capture additional logging using the resource kit Logging Tool to help with troubleshooting.

1. On OCS-Std, click **Start→ Administrative Tools→ Office Communications Server 2007**.

2. Expand **Forest-LitwareInc.com**, and then expand **Standard Edition Servers**.

3. Right-click **OCS-Std**, click **Logging Tool**, and then click **New Debug Session**.

4. In **Office Communications Server 2007 Logging Tool**, in the **Components** pane on the left, scroll down and select the **SIPStack** check box

5. Under **Level**, select **All**.

6. In the Flags window, check the **All Flags** box.

7. Click **Start Logging** near the bottom of the page.

Leave the Logging Tool running.

↙ **On the host computer, use Office Communicator 2007 and view event log messages**

1. On the host computer, click **Start→All Programs→Microsoft Office Communicator 2007**.

2. On the **Microsoft Office Communicator 2007** prompt, click **OK** to the clearly stated error message explaining that there was a problem verifying the certificate from the server.

3. Click **Start→Administrative Tools→Event Viewer**.

4. In Event Viewer, click **Application**, and then press **F5**.

5. Open the most recent entry with the **Event ID 5.**

Read the description of the event stating **"Communicator could not connect securely to server OCS-Std.LitwareInc.com because the certificate presented by the server was not trusted due to validation error..."** Read the clear instructions in the Resolution section on how to resolve this issue.

6. Click **OK**.

7. Leave the Event Viewer open.

↙ **On OCS-Std, review the log files captured by the Logging Tool**

1. Switch to OCS-Std. On the Office Communications Server 2007 Logging Tool, click **Stop Logging.**

2. Click **View Log Files**.

3. In the **View Log Files** dialog box, check the **SIPStack** box, and then click **View**.

4. Review the log.

Notice that there was a connection error and that the error **Text:** line describes the scenario and then asks a question on how to resolve the issue.

```
(SIPStack,SIPAdminLog::TraceConnectionRecord:1224.idx(197))$$begin_record
LogType: connection
Severity: error
Text: The connection was closed before TLS negotiation completed. Did the remote peer accept our certificate?
Local-IP: 10.0.0.20:5061
Peer-IP: 10.0.0.70:49793
Connection-ID: 0x1F00
Transport: TLS
$$end_record

TL_WARN(TF_COMPONENT) [0]0F58.0CD0::08/15/2007-22:30:02.111.00003c70
((Shared),CTimedEntry::RemoveFromTimer:896.idx(171))( 01157788 ) not assigned to a timer
TL_INFO(TF_COMPONENT) [0]0F58.0DE0::08/15/2007-22:31:02.939.00003db3
(SIPStack,CRecvContext::ProcessCompletion:974.idx(155))( 022F66A8 ) Received 37 bytes
```

5. Close the log file.

6. In the Logging Tool, click **Analyze Log Files**.

7. In the **Analyze Log Files** dialog box, check **SIPStack**, and then click **Analyze**.

   This will start the **Snooper** tool, which will help you read the logs.

8. In the Message Preview pane, click the entry with the **StartLine** title of **CONNECTION: The connection was closed before**. Then, in the result pane, view the record.

9. In the Message Preview pane, notice the **Text:** line that you saw when you viewed the log files. When the log is analyzed, each log entry is separated. This makes the log entries easier to read and to act on.

10. Close **Snooper**.

11. On **the Logging Tool**, click **Exit**

   Leave the Office Communications Server 2007 console running.

↙ **On the host computer, import the Litware Trusted Root Certificate**

1. On the host computer, switch to the Certificates console, expand **Trusted Root Certification Authorities**, right-click **Certificates**, click **All Tasks** and then click **Import**.

2. On the Welcome page, click **Next**.

3. On the File to Import page, in the **File Name** box, type **C:\VPC\Extras\Config\LitwareIncCA.crt** and then click **Next**.

4. On the Certificate Store page, verify that the **Certificate Store** is set to **Trusted Root Certification Authorities**, and then click **Next**.

5. On the Completion page, click **Finish**.

6. On the **Certificate Import Wizard** prompt, click **OK**.

7. Close the Certificates console without saving changes to the console.

↙ **On the host computer, verify connectivity with Office Communicator 2007**

1. On the host computer, switch to Office Communicator. If Communicator is not running, click **Start→All Programs→Microsoft Office Communicator 2007** and log on as **va@LitwareInc.com** with the password **pass@word1**

2. Under **All Contacts**, double-click **Kevin Cook**.

3. In the Kevin Cook conversation window, type **Messaging works again!** and then press ENTER.

↙ On DC1, verify connectivity with Office Communicator 2007

1. Switch to DC1, notice the instant message coming in from Andy Ruth, click the prompt, type **That is great!** and then press ENTER.

2. Close the conversation window on both computers, and then right-click the Communicator icon on the system tray and click **Exit** on both computers.

Exercise 3
Use the Validation Wizard to Verify the Environment

Introduction

This exercise will show you how to use the validation wizard to verify your configuration. The Validation Wizard is one of the preferred tools, and is extremely helpful in analyzing multiple scenarios and providing a detailed log of settings and errors. We will then correct an issue found regarding users being enabled for services not installed and then rerun the validation to validate our environment.

↙ **On OCS-Std, use the Validation tool to check server configuration**

1. On OCS-Std, switch to the Office Communications Server 2007 console.

2. Expand **OCS-Std**, right-click **OCS-Std.LitwareInc.com**, click **Validation**, and then click **Front End Server**.

3. On the Welcome page, click **Next**.

4. On the Validation steps page, check the **Validate Local Server Configuration, Validate Connectivity, Validate SIP Logon (1-Party) and IM (2-Party), Check this box to use client auto-logon validation** and **Validate IM Conference (2-Party)** boxes**,** and then click **Next**.

5. On the User Account page, in the **Account** field, type **gy@LitwareInc.com**

6. In the **User Name** field, type **gy@LitwareInc.com**

7. In the **Password** field, type **pass@word1** and then click **Next.**

8. On the Second user account page, in the **Account** field, type **li@LitwareInc.com**

9. In the **User Name** field, type **li@LitwareInc.com**

10. In the **Password** field, type **pass@word1** and then click **Next.**

11. On the Federation and Public IM Connectivity page, click **Next**.

12. On the completion page, notice that the wizard finished with failures and that the **View the log when you click 'Finish'** check box is already checked.

13. Click **Finish**.

14. Switch to the Deployment Log that has opened.

15. In the upper-right corner of the Deployment Log, click **Expand All**.

16. In the **Action Information** column, notice the warning that federation is disabled and that there are phone usages that are not assigned to any routes or policies.

17. Scroll down to the **Check Pool Hosted User Setting** action, and notice that this check failed. Read the Error.

    It appears some users have unnecessary configuration settings that should be disabled.

18. In the **Execution Result** column, verify that the results of the rest of the tasks are **Success**. Close the Deployment Log window.

↙ **On OCS-Std, correct the configuration issue**

1. On OCS-Std, switch to the **Office Communications Server 2007** console.

2. Click **Users**, right-click **Users**, and then click **Configure users**.

3. On the welcome page, click **Next**.

4. On the Configure Users Settings page, select the **Federation**, **Public IM Connectivity** and **Remote User Access** check boxes and then, under each box, check **Disable**.

5. Click **Next** four times, to leave the current Meeting and Voice polices in place.

6. On the Configure Operations Status page, click **Finish**.

↙ **On OCS-Std, use the Validation Wizard to verify server configuration**

1. On OCS-Std, in the Office Communications Server 2007 console, right-click **OCS-Std.LitwareInc.com**, click **Validation**, and then click **Front End Server**.

2. On the Welcome page, click **Next**.

3. On the Validation steps page, check the **Validate Local Server Configuration, Validate Connectivity, Validate SIP Logon (1-Party) and IM (2-Party), Check this box to use client auto-logon validation** and **Validate IM Conference (2-Party)** boxes**,** and then click **Next**.

4. On the User Account page, in the **Account** field, type **gy@LitwareInc.com**

5. In the **User Name** field, type g**y@LitwareInc.com**

6. In the **Password** field, type **pass@word1** and then click **Next.**

7. On the Second user account page, in the **Account** field, type **li@LitwareInc.com**

8. In the **User Name** field, type **li@LitwareInc.com**

9. In the **Password** field, type **pass@word1** and then click **Next.**

10. On the Federation and Public IM Connectivity page, click **Next**.

    On the completion page, notice that the wizard finished with only warnings this time, and that the **View the log when you click 'Finish'** check box is already checked.

11. Click **Finish**.

12. In the **Action Information** column, notice the same warnings as before, but no failures!

13. Close the Deployment Log.

Lab 5: Building Voice Capabilities into Your Office Communications Server 2007 Deployment

Objectives

After completing this lab, you will be able to:

- Install and activate a Mediation Server.
- Configure the Mediation Server.
- Configure certificates for the Mediation Server.
- Configure a Voice over IP (VOIP) gateway.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous labs. If you have not completed the previous labs, this lab will fail.

Scenario

Now that Litware, Inc. has successfully deployed Microsoft Office Communications Server (OCS) 2007, the company has decided to deploy and use the Voice features of Office Communications Server 2007. To integrate Office Communications Server 2007 with Litware's Private Branch eXchange (PBX) system, you must install a Mediation Server and configure it to communicate with our SIP-PSTN gateway. You will also need to configure your supported SIP-PSTN gateway (interchangeably known as a VoIP gateway).

TIP   For more information on configuring Office Communications for voice, please review the Office Communications Server 2007 Enterprise Voice Planning and Deployment Guide included with the OCS 2007 documentation available for download at Microsoft.com

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1** and **OCS-Std** Virtual PCs from the previous lab.

You will also need to start the OCS-Mediation Virtual PC.

↙ **On the host computer, start and log onto the OCS-Mediation Virtual PC**

1. On the host computer, in the Virtual PC Console, turn on the OCS-Mediation virtual PC by clicking **OCS-Mediation** and then clicking the **Start** button.

2. A new OCS-Mediation virtual PC console opens. At the logon screen, press and hold the right ALT key and then press DELETE.

3. Log on to the **LitwareInc** domain as **Administrator** with a password of **pass@word1**.

> **Important**   Click **OK** to any prompts regarding any services that fail to start, and then review **Services** to verify that all have started successfully.

Exercise 1
Installing and Activating the Mediation Server

Introduction

In this exercise, you will install and activate the Mediation Server on OCS-Mediation. This server role is used to bridge communications between Office Communications Server 2007 and the SIP-PSTN gateway.

↙ **Install the Mediation server files on OCS-Mediation**

1. On the OCS-Mediation Virtual Server, click **Start → All Programs → Accessories → Windows Explorer**.

2. Navigate to **C:\OCS 2007\Setup\I386** and then double-click **Setup.exe**.

3. In the Deployment Wizard, click **Deploy Other Server Roles**.

4. On the Deploy Other Server Roles page, click **Deploy Mediation Server**.

5. In the Deploy Mediation Server Deployment Wizard, next to **Step 1: Install Files for Mediation Server**, click **Install**.

6. On the Welcome page, click **Next**.

7. On the License Agreement page, click **I accept the terms in the licensing agreement**, and then click **Next**.

8. On the Install location page, leave the default path and then click **Next**.

9. On the Confirm Installation page, click **Next**.

10. On the Installation Complete page, click **Close**.

↙ **Activate the Mediation Server on OCS-Mediation**

1. On OCS-Mediation, in the Deploy Mediation Server Deployment Wizard, next to **Step 2: Activate Mediation Serve**r, click **Run**.

2. On the Welcome page of the activation wizard, click **Next**.

3. On the Select Service Account page, in the **Password** text box, type **pass@word1** and then click **Next**.

4. On the Ready to Activate Mediation Server page, click **Next**.

5. On the Completion page, click **Finish**.

Leave the Deployment Wizard running.

Exercise 2
Configuring the Mediation Server and Certificates

Introduction

The next step is to configure the Office Communications Server 2007 Mediation Server. You will also configure certificates for the Mediation Server, which includes downloading and installing the LitwareIncCA certification path and requesting and assigning a certificate on the server, to enable secure communications between OCS 2007 and the Mediation Server role. The final step is to start the Mediation Server services.

↙ **Configure the Mediation Server on OCS-Mediation**

1. On the OCS-Mediation Virtual Server, click **Start → Administrative Tools → Office Communications Server 2007**.

2. In the Office Communications Server 2007, Administrative Tools console, expand **Forest - LitewareInc.com**, expand **Mediation Servers**, and then click **OCS-Mediation.LitwareInc.com**.

3. Right-click **OCS-Mediation.LitwareInc.com** and then click **Properties**.

4. Click the **General** tab.

5. In the **Communications Server listening IP address** drop-down list, select **10.0.0.26**.

   This tells the Mediation Server to listen on this interface for OCS communications.

6. In the **Gateway listening IP address** drop-down list, select **10.1.10.11**.

   This tells the Mediation Server to use this interface to listen for traffic from the SIP-PSTN gateway.

7. In the **Select the A/V Edge Server** list, verify that **(None)** is selected.

   Leave the rest of the settings on this tab as their defaults. After you have configured a Location Profile in the next lab, you will return to this tab and select it.

8. Click the **Next Hop Connections** tab.

9. Under **Office Communications Server next hop**, in the **FQDN** drop-down list, select **OCS-Std.LitewareInc.com**.

10. Under **PSTN Gateway next hop**, in the **IP address** text box, type **10.1.10.10** and then in the **Port** box, accept the default of **5060** and then click **OK**.

11. Click **OK** to the warning prompts for the A/V Authentication Service and default location profile settings.

12. Click **OK** to the warning prompt regarding restarting the Mediation Server service.

13. Close the Office Communications Server 2007 console.

↙ **Download the LitwareInc CA certification path to OCS-Mediation**

1. On OCS-Mediation, click **Start**, click **Run**, type **https://DC1/certsrv** and then click **OK**.

We will now download the CA Certificate chain so the Mediation Server can use MTLS communication with OCS 2007.

2. In Microsoft Internet Explorer, under **Select a task**, click **Download a CA certificate, certificate chain, or CRL**.

3. Under **Download a CA Certificate, Certificate Chain, or CRL**, click **Download CA certificate chain**.

4. In the **File Download** dialog box, click **Save**.

5. Save the **certnew.p7b** file to **C:** and then click **Close** when the download is complete.

6. Close Internet Explorer.

↙ **Install the CA certification path for the Mediation Server on OCS-Mediation**

1. Switch to the Deployment Wizard on OCS-Mediation.

2. On the Deploy Mediation Server page, next to **Step 4: Configure Certificate**, click **Run** to start the Communications Certificate Wizard.

3. On the Welcome page, click **Next**.

4. On the Available Certificate Tasks page, click **Import a certificate chain from a .p7b file** and then click **Next**.

5. On the Import Certificate Chain page, click **Browse**.

6. Navigate to **C:**, click **certnew.p7b**, and then click **Open**.

7. On the Import Certificate Chain page, click **Next**.

8. Click **Finish**.

↙ **Create the certificate request for the Mediation Server on OCS-Mediation**

1. On OCS-Mediation, in the Deployment Wizard, on the Deploy Mediation Server page, next to **Step 4: Configure Certificate**, click **Run** to start the Communications Certificate Wizard again.

2. On the Welcome page, click **Next**.

3. On the Available Certificate Tasks page, click **Create a new certificate** and then click **Next**.

4. On the Delayed or Immediate Request page, select **Send request immediately to an online certificate authority** and then click **Next**.

5. On the Name and Security Settings page, in the **Name** field, verify that **OCS-Mediation** is entered and that **Mark cert as exportable** is selected, and then click **Next**.

6. On the Organization Information page, enter **Litware Inc** and the organizational unit of **IT**, and then click **Next**.

7. On the Your Server's Subject Name page, in the **Subject name** box, verify that **OCS-Mediation.LitewareInc.com** is selected.

> **Note**   The subject name should match the fully qualified domain name (FQDN) of the Mediation Server.

8. Click **Next**.

9. On the Geographical Information page, type **Washington** for the State/Province and **Redmond** for the City/Locality, and then click **Next**.

10. On the Choose a Certification Authority page, verify that **DC1.LitewareInc.com\LitwareIncCA** is selected, and then click **Next**.

11. On the Request Summary page, click **Next**.

12. On the Certificate Wizard Completed page, click **Assign**.

13. In the Communication Certificate Wizard prompt, click **OK** and then click **Finish**.

14. Click **Exit** to close the Deployment Wizard.

↙ **Start the Mediation Server services on OCS-Mediation**

1. On OCS-Mediation, click **Start →Administrative Tools →Services**.

2. Verify that **Office Communications Server Mediation** appears in the list of services.

3. Right-click **Office Communications Server Mediation** and then click **Start**.

4. Wait until the service is started and then close Services.

Exercise 3
Configuring the AudioCodes MP-114 VoIP Gateway
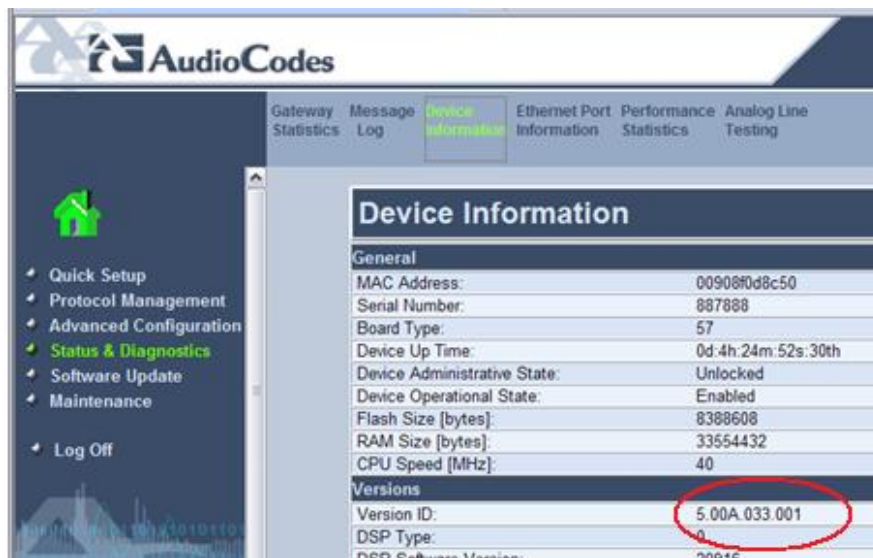
Introduction   As part of lab setup, you will configure a SIP-PSTN gateway to allow Office Communicator to place calls to an analog handset. In this exercise, you will configure the AudioCodes MP-114 SIP-PSTN gateway. Some of the necessary configurations include defining endpoint phone numbers, defining routing and manipulation tables, and configuring hunt group settings. Please verify that the analog handset is plugged into the FXS port 1, and if possible, attach an analog phone line to the FXO port 3 (optional).

Tip   If after performing these configuration changes your configuration does not work or you are running out of time, there is a working ini file on OCS-Mediation in **C:\OCS 2007** named **Solution-MP-114-OCS-LitwareInc.ini** that you can load with the same procedures used in the first section.

◢ **Confirm the firmware version of the AudioCodes Gateway on OCS-Mediation**

1. On OCS-Mediation, click **Start**➔ **All Programs**➔ **Internet Explorer**.

2. In Internet Explorer, in the **Address** field, type **http://10.1.10.10** and then click **OK**.

3. In the **Connect to 10.1.10.10** login text box, type **Admin** for both the User name and Password (both are case-sensitive).

4. In Internet Explorer, on the MP-114 Administration Web site, in the left pane, click **Status & Diagnostics** and then click **Device Information** on the toolbar.

5. On the Device Information page, under **Versions**, verify that the **Version ID** is **5.00A.033.001.**

If your version is correct, proceed to the next section. If you have a different version, continue with the next step.

6. In the left pane, click **Software Update** and then click **Software Upgrade Wizard.**

7. Click **Start Software Upgrade**.

8. Click **Browse**, navigate to **C:\OCS 2007**, select **MP118_SIP_F5.00A.033.001.cmp**, and then click **Open**.

9. Click **Send File** to start the software update process.

10. When the file has been successfully loaded into the device, click **Reset**. When the gateway has finished burning the files to flash memory and rebooted, click **End Process.**

11. In the **Connect to 10.1.10.10** login text box, type **Admin** for both the User name and Password (both are case-sensitive) and then click **OK**.

12. Click **OK** to the Windows Internet Explorer prompt regarding the new CMP.

↙ **Load the configuration file for the AudioCodes Gateway on OCS-Mediation**

1. On OCS-Mediation, in Internet Explorer, on the MP-114 Administration Web site, in the left pane, click **Advanced Configuration**, and then click **Configuration File** on the toolbar.

2. Under **Send the *ini* file from your computer to the device**, click **Browse**.

3. Navigate to **C:\OCS 2007**, click **MP-114-OCS.ini**, and then click **Open**.

4. Click **Send ini File**.

   This will send the configuration file to the AudioCodes gateway and restart it.

5. In the Microsoft Windows Internet Explorer prompt, click **OK**.

   If a second Internet Explorer progress window pops up, close it.

6. After about 60 seconds the gateway will reboot. In Internet Explorer, click **Refresh** to return to the Administration Web site.

7. In the **Connect to 10.1.10.10** login box, type **Admin** for both the User name and Password (both are case-sensitive).

8. At the new file prompt, click **OK**.

Note   All of the configuration changes made during this exercise are specifically for the AudioCodes MP-114 VoIP gateway. Similar configuration changes will need to be made to any VoIP gateway; please refer to your product's reference materials to configure your device.

↙ **Define endpoint phone numbers on OCS-Mediation**

1. On OCS-Mediation, on the MP-114 administration Web site, in the left pane, click **Protocol Management**, and then click **Endpoint Phone Numbers** on the toolbar.

Important   This gateway has been partially configured to conserve time. Please do not make any changes to any settings unless otherwise instructed.

---

2. In the **Endpoint Phone Number Table**, configure lines 1 and 2 to match the chart below.

Endpoint Phone Number Table				
	Channel(s)	Phone Number	Hunt Group ID	Profile ID
1	1	2065551236		0
2	3	1000	1	0
3				
4				
		Register　Un-Register		
		Submit		

3. Click **Submit** when finished.

↙ **Define routing tables on OCS-Mediation**

1. On OCS-Mediation, click **Routing Tables** on the toolbar and then click **Tel to IP Routing**.

2. In **Routing Tables**, configure line 1 to match the chart below.

	Dest. Phone Prefix	Source Phone Prefix	Dest. IP Address	Profile ID	Status	Charge Code
1	4255550	2065551236	10.1.10.11	0	n/a	
2	*	2065551236	10.1.10.10	0	n/a	
3	*	*	10.1.10.11	0	n/a	
4						

3. Click **Submit** when finished.

↙ **Configure manipulation tables on OCS-Mediation**

1. On OCS-Mediation, click **Manipulation Tables** on the toolbar and then click **IP-> Tel Destination Numbers**.

2. In the **Destination Phone Number Manipulation Table for IP -> Tel Calls**, configure lines 1 and 2 to match the chart below.

	Destination Prefix	Source Prefix	Source IP	Number of Stripped Digits	Prefix (Suffix) to Add	Number of Digits to Leave
1	+12065551236	*	*	2		
2	+1	*	*	2	9	
3						

3. Click **Submit** when finished.

4. Click **Manipulation Tables** on the toolbar and then click **Tel-> IP Destination Numbers**.

5. In the **Destination Phone Number Manipulation Table for Tel -> IP Calls**, configure line 1 to match the chart below.

	Destination Prefix	Source Prefix	Number of stripped Digits	Prefix (Suffix) to Add	Number of Digits to Leave
1	*	*	0	+1	
2					
3					

6. Click **Submit** when finished.

7. Click **Manipulation Tables** on the toolbar and then click **Tel-> IP Source Numbers**.

8. In the **Source Phone Number Manipulation Table for Tel -> IP Calls**, configure line 1 to match the chart below.

	Dest. Prefix	Source Prefix	Number of Stripped Digits	Prefix (Suffix) to Add	Number of Digits to Leave	Presentation
1	*	*	0	+1		Not Configured
2						Not Configured
3						Not Configured

9. Click **Submit** when finished.

↙ **Configure hunt group settings on OCS-Mediation**

1. OCS-Mediation, click **Hunt Group Settings** on the toolbar.

2. In the **Hunt Group Settings** table, configure line 1 to match the chart below.

	Hunt Group ID	Channel Select Mode	Registration Mode
1	1	Ascending	
2			
3			

3. Click **Submit** when finished.

4. Click **Routing Tables** on the toolbar and then click **IP to Trunk Group Routing**.

5. In the **IP to Tel Routing Mode** drop-down list, select **Route calls after manipulation**.

IP To Tel Routing Mode	Route calls after manipulation

6. In the **IP to Hunt Group Routing** table, configure lines 1 and 2 to match the chart below.

	Dest. Phone Prefix	Source Phone Prefix	Source IP Address	Hunt Group ID	Profile ID
1	2065551236	*	*	0	0
2	*	*	*	1	0
3					

7. Click **Submit** when finished.

↙ **Save configuration settings on OCS-Mediation**

1. On OCS-Mediation, on the MP-114 administration Web site, in the left pane, click **Maintenance**.

2. On the Maintenance Actions page, under **Save Configurations**, click **BURN**.

3. When the new configuration has been saved to flash memory, close Internet Explorer.

Lab 6: Configuring the Voice Capabilities of Microsoft Office Communications Server 2007

Objectives

After completing this lab, you will be able to:

- Define phone number normalization rules for outbound calls.
- Create phone usage records.
- Define a policy.
- Create and configure a location profile.
- Define outbound call routes.
- Configure users for enterprise voice.
- Configure Users for Voice.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous labs. If you have not completed the previous labs, this lab will fail.

Scenario

Now that you have installed and configured your Microsoft Office Communications Server (OCS) 2007 Mediation Server, the next step is to configure the Office Communications Server 2007 servers for voice capability. This includes defining normalization rules, creating phone usage records, defining a policy, creating and configuring a location profile, defining outbound call routes, and configuring users for enterprise voice.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you must have the **DC1, OCS-Std** and **OCS-Mediation** Virtual PCs running from the previous labs.

Exercise 1
Configuring Outbound Dialing and Routing

Introduction

In this exercise, you will configure outbound dialing and routing. Office Communications Server 2007 normalizes numbers prior to performing reverse number lookup. If the normalized number matches the designated primary work number of a user with an Active Directory identity, the call is forked to the endpoints associated with that user's SIP-URI. If the server does not find a match, which means the target number is probably outside the enterprise, the Outbound Routing component checks the caller's phone usage to determine if a call to that number is authorized, and then either directs the call to the appropriate media gateway or notifies the caller that the call is not allowed.

Configuring Litware, Inc. for outbound dialing and routing requires developing a dial plan, which defines how various numbers and patterns of dialed digits are to be handled by the server. For example, a caller working in Redmond, Washington, might dial any one of the following numbers:

425-555-1212

555-1212

51212

You need to normalize these phone numbers to the E.164 format by using OCS normalization rules, to allow proper routing of the call.

Note   The purpose of these voice-lab exercises is to familiarize you with Office Communications Server 2007 concepts such as Policy, Usage, Routes, and so on. It should be understood that the lab configuration/dial-plan represent a North American focus, and that your dial-plan will need to be configured to your local needs.

Tip   On OCS-Std, in **C:\OCS 2007**, there is a file named **Normalization Rules.doc** that contains all of the syntax for these normalization rules, which you can copy and paste to save time. These are a series of regular expressions used to normalize dialed numbers. Please verify that you do not copy and paste any spaces or carriage returns at the end of each field, including the description fields.

↙ **Create a location profile on OCS-Std and define phone number normalization rules for outbound calls**

1. On OCS-Std, click **Start→ Administrative Tools→ Office Communications Server 2007**.

2. Right-click the **Forest – LitwareInc.com** node, point to **Properties**, and then click **Voice Properties**.

3. You will now add a location profile for the LitwareInc Main Office. On the **Location Profiles** tab, click **Add**.

4. In the **Add Location Profile** dialog box, type **Redmond.LitwareInc.com** for the name and **LitwareInc Main Office in Redmond** for the description.

    You will now add a series of normalization rules for this location profile.

5. Under **Normalization Rules**, click **Add**.

6. In the **Add Phone Number Normalization Rule** dialog box, perform the following steps:

    a. In the **Name** text box, type **Main Office 5 Digit Extensions**

    b. In the **Description** text box, type **Normalizes Main Office 5 digit extensions to +1425555XXXX**

    c. In the **Phone pattern** text box, type (no spaces) **^5(\d{4})$**

    > **Note** This rule translates four-digit extensions that begin with a 5 to the E.164 number format.
    > Dialed number: 51212
    > Translated number: +14255551212

    d. In the **Translation** text box, type **+1425555$1** and then click **OK**.

7. On the **Normalization Rules** tab, click **Add** to add a second normalization rule.

8. In the **Add Phone Number Normalization Rule** dialog box, perform the following steps:

    a. In the **Name** text box, type **Main Office Local Calls**

    b. In the **Description** text box, type **Normalizes local calls (7 digits) from Main Office to 425 area code**

    c. In the **Phone pattern** text box, type (no spaces) **^(\d{7})$**

    > **Note** This rule translates local calls to the E.164 number format.
    > Dialed number: 555-1212
    > Translated number: +14255551212

    d. In the **Translation** text box, type **+1425$1** and then click **OK**.

9. On the **Normalization Rules** tab, click **Add** to add a third normalization rule.

10. In the **Add Phone Number Normalization Rule** dialog box, perform the following steps:

    a. In the **Name** text box, type **Main Office National Calls**

    b. In the **Description** text box, type **Normalizes Main Office national calls to 1 + 10 digits**

    c. In the **Phone pattern** text box, type (no spaces) **^(\d{10})$**

    > **Note** This rule translates local calls to the E.164 number format.
    > Dialed number: 212-555-1212
    > Translated number: +12125551212

    d. In the **Translation** text box, type **+1$1** and then click **OK**.

11. On the **Normalization Rules** tab, click **Add** to add a fourth normalization rule.

12. In the **Add Phone Number Normalization Rule** dialog box, perform the following steps:

    a. In the **Name** text box, type **Main Office International Calls**

    b. In the **Description** text box, type **Normalizes Main Office international calls**

    c. In the **Phone pattern** text box, type (no spaces)
       `^011(\d*)$`

> **Note**   This rule translates international calls to the E.164 number format.
> Dialed number: 011-41-78-555-1212
> Translated number: +41785551212

    d. In the **Translation** text box, type **+$1** and then click **OK** twice.

↙ Create a phone usage record on OCS-Std

Phone usage records provide a quick, simple way to assign call permissions to users as well as facilitate route prioritization and selection.

1. On OCS-Std, click the **Phone Usages** tab and then click **Add**.

2. In the **Add Phone Usage Record** dialog box, in the **Name** text box, type **LitwareIncUsage**

3. In the **Description** text box, type **No long distance allowed** and then click **OK**.

4. On the **Phone Usages** tab, click **Add**.

5. In the **Add Phone Usage Record** dialog box, in the **Name** text box, type **LitwareIncExecUsage**

6. In the **Description** text box, type **Long distance allowed** and then click **OK**.

↙ Define a policy on OCS-Std

Polices are used to assign different usages to different users.

1. On OCS-Std, click the **Policy** tab and then click **Add**.

2. In the **Policy Name** text box, type **Main Office Local Calls Only**

3. Verify that **Allow simultaneous ringing of phones** is selected, and then click **Configure**.

4. In the **Configure Phone Usage Records** dialog box, in the **Available phone usage records** list, select **LitwareIncUsage**, and then click the RIGHT ARROW button (**>**) to select this usage. Click **OK** twice.

5. On the **Policy** tab, click **Add**.

6. In the **Policy Name** text box, type **Main Office Local and Long Calls**

7. Verify that **Allow simultaneous ringing of phones** is selected, and then click **Configure**.

8. In the **Configure Phone Usage Records** dialog box, in the **Available phone usage records** list, select **LitwareIncExecUsage**, and then click the RIGHT ARROW button (**>**) to select this usage. Click **OK** twice.

9. In the **Global policy** drop-down list, select **Use per user policy**¸ click **Apply**, and then click **OK**.

↙ Configure the location profile on the front end on OCS-Std

You will now define the default location profile for the pool.

1. On OCS-Std, in the Office Communicator Server 2007 console, expand **Forest - LitwareInc.com**, expand **Standard Edition Servers**, and then click **OCS-Std**.

2. Right-click **OCS-Std**, click **Properties**, and then click **Front End Properties**.

3. On the **Voice** tab, under **Location Profile**, select **Redmond.LitwareInc.com** in the **Location Profiles** drop-down list.

4. Click **OK**.

5. At the Active Directory replication warning prompt, click **OK**.

↙ Configure the location profile for the Mediation Server on OCS-Std

You will now define the default location profile for the Mediation Server.

1. On OCS-Std, in the Office Communications Server 2007 console, expand **Forest - LitwareInc.com**, expand **Mediation Servers**, and then click **OCS-Mediation.LitwareInc.com**.

2. Right-click **OCS-Mediation.LitwareInc.com** and then click **Properties**.

3. On the **General** tab, in the **Default location profile** list, select **Redmond**.**LitwareInc.com**.

4. Click **OK**.

5. Click **OK** to the warning prompts.

↙ Define an outbound call route on OCS-Std

Routes determine the optimal gateway for calls that OCS 2007 has determined need to be routed to a PSTN gateway.

1. On OCS-Std, in the Office Communications Server 2007 console, right-click **Forest - LitwareInc.com**, point to **Properties**, and then click **Voice Properties**.

2. Click the **Routes** tab, and then click **Add** to add a call route.

3. In the **Add Route** dialog box, perform the following steps:

   a. In the **Name** text box, type **All Calls**.

   b. In the **Description** text box, type **Route all external calls to the main office gateway**.

   c. In the **Target phone number regular expression** text box, type **.*** (a period followed by an asterisk with no spaces).

4. Under **Gateways**, click **Add**.

5. Under **Select the Gateway**, select **OCS-Mediation.LitwareInc.com:5061** and then click **OK**.

6. Under **Phone usages**, click **Configure**.

7. In the **Configure Phone Usage Records** dialog box, in the **Available phone usage records** list, select **LitwareIncExecUsage** and then click the RIGHT ARROW button (**>**). Click **OK** twice.

8. On the **Routes** tab, click **Add** to add another call route.

9. In the **Add Route** dialog box, perform the following steps:

    a. In the **Name** text box, type **Local Calls Only**

    b. In the **Description** text box, type **Allow calls to only the 425 and 206 area codes**

    c. In the **Target phone number regular expression** text box, type (no spaces): **^((\+1425)|(\+1206))**

10. Under **Gateways**, click **Add**.

11. Under **Select the Gateway**, select **OCS-Mediation.LitwareInc.com:5061** and then click **OK**.

12. Under **Phone usages**, click **Configure**.

13. In the **Configure Phone Usage Records** dialog box, in the **Available phone usage records** list, select **LitwareIncUsage** and then click the RIGHT ARROW button (**>**). Click **OK** three times.

    Leave the Office Communications Server 2007 console open.

Note   The order of phone usage records is significant. When routing an outbound call, the server checks the list of phone usage records to see if the caller is authorized to call numbers matching the target phone number Regular Expression for this route. If the caller is authorized for the first phone usage, the call is routed immediately. If not, the server traverses the list until it either finds a usage for which the caller is authorized or finds no such usage, in which case the call is denied.

↙ **Use Route Helper on OCS-Std to validate your configuration**

You will now use the Route Helper tool included with the Resource Kit to validate your setup and make any necessary adjustments.

1. On OCS-Std, click **Start→ All Programs→ Office Communications Server→ Resource Kit→ Enterprise Voice Route Helper**.

2. In Route Helper, notice that the tool has found all of the voice settings you just configured.

3. Click the **Ad-hoc Test** tab.

4. On the **Manual** tab, in the **Policy** drop-down list, select **Main Office Local Calls Only**.

5. In the **Dialed Number** field, type **51234** and then click **Test**.

6. In the **Results** area, notice the results showing which Normalization Rule was applied, what the Normalized number is, and which Usage and route were applied.

7. Click **Add to Test Cases** at the bottom of the window.

8. Repeat steps 4-7 using the following **Dialed Numbers**:

    a. 5551234

    b.   4255551234

    c.   01144020987654321 (this number should show an Unable to Route:Response code 403 result)

9. Repeat steps 4-7 using the following **Dialed Numbers** and the **Main Office Local and Long Calls** policy:

    a.   51234

    b.   5551234

    c.   4255551234

    d.   01144020987654321

10. Click the **Test Cases** tab and notice all of the tests you just ran and added.

11. Click **Run** in the lower-right corner and notice that all of the results are **Pass**.

12. Click **File** and then click **Save Test Cases**.

13. Type **LitwareInc Tests** and then click **Save**.

Tip   You can now start Enterprise Voice Route Helper at any time, make whatever changes you need, load these saved test cases, and then run them against your changes. You can add as many tests as necessary or create different sets of tests. Once you have configured your routing data with this tool, you can then upload the changes to OCS.

---

14. Close Route Helper

Exercise 2
Configuring Users for VoIP

Introduction

In this exercise, you will configure users for voice capability and then assign extensions for three users: Vivian Atlas, Hao Chen, and Kevin Cook.

Note   Office Communicator 2007 continues to rely on Address Book Server for the E.164 phone number normalization that it requires for reverse number lookup. Although the Address Book Server can be used to perform phone normalization, it is not the recommended method. Normalizing numbers within the Microsoft Active Directory® directory services is the preferred method.

↙ **Configure users for Enterprise Voice capability on OCS-Std**

1. On OCS-Std, in the Office Communications Server 2007 console, expand **Forest – LitwareInc.com** and then expand **Standard Edition Servers**.

2. Expand **OCS-Std**, click **Users**, right-click **Users**, and then click **Configure users**.

   The Configure Users Wizard launches in which you will now set the Voice properties for the users.

3. On the Welcome to the Configure Users Wizard page, click **Next**.

4. On the Configure User Settings bulk configuration page, click **Next** to leave the current settings in place.

5. On the Configure User Settings organize meetings page, click **Next** to leave the current anonymous participants policy in place.

6. On the Configure User Settings specify meeting policy page, click **Next** to leave the current Meeting policy in place.

7. On the Configure Enterprise Voice Settings page, click **Change Enterprise Voice Settings**, click **Enable Voice**, and then in the **Select a Voice policy for the users** drop-down list, select **Main Office Local Calls Only** and then click **Next**.

8. On the Configure Operation Status page, click **Finish**.

9. In the Users window, right click **Vivian Atlas** and then click **Configure Users**.

10. On the Welcome to the Configure Users Wizard page, click **Next**.

11. On the Configure User Settings bulk configuration page, click **Next**.

12. On the Configure User Settings organize meetings page, click **Next**.

13. On the Configure User Settings specify meeting policy page, click **Next**.

14. On the Configure User Settings enable users for Voice page, click **Change Enterprice Voice Settings**, click **Enable Voice**, and then in the **Select a Voice policy for the users** drop-down list, select **Main Office Local and Long Call**s and then click **Next**.

15. On the Configure Operation Status page, click **Finish**.

↙ **Define user extensions On OCS-Std for Vivian Atlas, Hao Chen, and Kevin Cook**

Note   Office Communicator 2007 continues to rely on Address Book Server for the E.164 phone number normalization that it requires for reverse number lookup. Although the Address Book Server can be used to perform phone normalization, it is not the recommended method. For ease of implementation, Active Directory should contain E.164 format for all telephone number fields. For purposes of this exercise, you will enter phone numbers into the property of a user, however this could be automated with tools like ADSI scripts, or other programs to sync with Active Directory.

---

1. On OCS-Std, in the Office Communications Server 2007 console, in **Users**, right-click **Vivian Atlas** and then click **Properties**.

2. On Vivian Atlas's properties page, next to **Additional options**, click **Configure**.

3. Under **Telephony**, in the **Line URI** text box, type **tel:+14255550069**

   Important   Including the **tel:** moniker is required to define the telephone string.

   ---

4. Click **OK** two times.

5. Right-click **Hao Chen** and then click **Properties**.

6. On Hao Chen's properties page, next to **Additional options**, click **Configure**.

7. Under **Telephony**, in the **Line URI** text box, type **tel:+14255550227**

8. Click **OK** two times.

9. Right-click **Kevin Cook** and then click **Properties**.

10. Click the **Communications** tab.

11. Next to **Additional options**, click **Configure**.

12. Under **Telephony**, in the **Line URI** text box, type **tel:+14255550258**

13. Click **OK** two times.

14. Close the Office Communication Server 2007 console.

Exercise 3
Testing the Voice Features of Office Communications Server 2007

Introduction

In this exercise, you will make various intra-office and outbound phone calls between soft phones and also to and from an analog handset. You will test the normalization rules by making calls using extensions, 10-digit numbers, and user names. You will also use the redirect and call-handling features of Office Communicator 2007.

Tip   Learn more about Microsoft strategic gateway partners supporting Office Communications Server 2007 at http://www.microsoft.com/uc/pdgtrials/default.mspx

---

Important   Please verify that Communicator is not running on both DC1 and the host computer. If it is still running, you will need to right-click the **Communicator** icon on the system tray and then click **Exit** before starting this exercise.

↙ **Start Office Communicator 2007 on DC1**

■ On DC1, click **Start**➔**All Programs**➔**Microsoft Office Communicator 2007** and wait for Communicator to log in as Kevin.

↙ **Start Communicator on the host computer and initiate a phone call between soft phones (Office Communicator 2007)**

1. On the host computer, click **Start**➔**All Programs**➔**Microsoft Office Communicator 2007** and then log on as **va@LitwareInc.com** with a password of **pass@word1**

2. In Office Communicator, right-click **Kevin Cook**, click **Call**, and then click **Communicator Call**.

↙ **Accept the phone call on DC1**

1. On DC1, notice the call coming in from **Vivian Atlas**.

2. In the **Incoming Call** prompt, click **Answer Call**.

3. On the host computer, click the **End call** 🔚 button.

↙ **Initiate a phone call between soft phones using extensions**

1. On the host computer, in Office Communicator, type **50258** and then click the **Call** 🔚 button.

2. Notice that the number is normalized to +**1(425)555-0258**

↙ **Accept the phone call on DC1**

1. On DC1, notice the call coming in from **Vivian Atlas**.

2. In the **Incoming Call** prompt, click **Answer Call.**.

Notice that as soon as you accept the phone call, the extension number is resolved to the user name.

3. Click the **End call** ☎ button.

↙ Initiate a phone call between soft phones using telephone numbers

1. On the host computer, in Office Communicator, type **5550258** and then click the **Call** 📞 button.

2. Again, notice that the number is normalized to +**1(425)555-0258**.

↙ Accept the phone call on DC1

1. On DC1, notice the call coming in from **Vivian Atlas**.

2. In the **Incoming Call** prompt, click **Answer Call**.

   Notice that as soon as you accept the phone call, the phone number is resolved to the user name.

3. Click the **End call** ☎ button.

4. Try dialing **4255550069** to see how the different normalization rules work.

↙ Initiate a phone call between a soft phone and the analog handset

1. On the host computer, in Office Communicator, type **2065551236** and then click the **Call** 📞 button.

2. Pick up the handset and have a conversation to test the voice capabilities of Office Communications Server 2007.

3. Hang up when finished.

↙ Initiate a phone call between the analog handset and a soft phone on the host computer

1. On the handset, dial **4255550069**.

2. On the host computer, notice the call coming in from the analog handset and that the number has been resolved to Kevin Cook.

3. In the **Incoming Call** prompt, click **Accept Call**.

4. Hang up when finished.

↙ Initiate a phone call on the host computer

■ On the host computer, in Office Communicator, type **50258** and then click the **Call** 📞 button.

↙ Use the Redirect feature of Office Communicator 2007 on DC1

1. On DC1, notice the call coming in from **Vivian Atlas**.

2. Click the **Redirect** Redirect button and then click **Home** +**12065551236**.

3. Pick up the handset to answer the redirected call. Hang up when connected.

↙ Configure the Call-Forwarding Settings of Office Communicator 2007 on DC1

1. On DC1, in Office Communicator, click the **Call-Forwarding** button in the upper-right corner.

   Notice the feature options here. You can set your client to automatically forward to a specific number, or you can ring an additional number.

2. Click **Call-Forwarding Settings**.

3. In the **Redirect unanswered calls to** drop-down list, select **Home +12065551236**.

4. Change **Ring for this many seconds before redirecting** to **5** and then click **OK.**

↙ **Initiate a phone call on the host computer**

■ On the host computer, in Office Communicator, type **50258** and then click the **Call** button.

↙ **Observe the Call Forwarding Settings forwarding the call to the handset**

1. On DC1, notice the call coming in from **Vivian Atlas**.

   Do not answer the call, and notice that after 5 seconds the analog handset will ring.

2. Pick up the handset to answer the redirected call. Hang up when finished.

↙ **Turn off the Call-Forwarding Settings of Office Communicator 2007 on DC1**

1. On DC1, in Office Communicator, click the **Call-Forwarding** button in the upper-right corner.

2. Click **Call-Forwarding Settings**.

3. In the **Redirect unanswered calls to** drop-down list, select **None** and then click **OK.**

Lab 7: Configuring and Using Microsoft Exchange Server 2007 Unified Messaging

Objectives

After completing this lab, you will be able to configure Unified Messaging and Microsoft® Office Communications Server 2007.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed all previous labs. If you have not completed the previous labs, this lab will fail.

Scenario

Now that you have fully deployed Office Communications Server 2007, you want to integrate it with Microsoft® Exchange Server 2007 to further take advantage of the voice features of Office Communications Server 2007 and Exchange Server 2007. You have already installed and configured the Unified Messaging server role to your existing Exchange Server 2007 environment and will now make the necessary configuration changes.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1**, **OCS-Std**, and **OCS-Mediation** Virtual PCs from the previous labs.

Exercise 1
Configure Unified Messaging and Office Communications Server 2007

Introduction

In this exercise you will use the Exchange Management Shell to configure Unified Messaging to work with OCS 2007. You will use the **exchucutil.ps**1 script to automate some of these steps and the use **ocsumutil.exe** to complete the integration of Unified Messaging and Office Communications Server 2007.

Tip   On DC1, in **C:\OCS 2007**, there is a file named **UM Commands.doc** that contains each of these commands. You can copy and paste the commands into the Exchange Management Shell to save time.

↙ **Use the Exchange Management Shell on DC1 to create a new dial plan**

1. On DC1, click Start➔ Log Off.

2. At the **Log Off Windows** prompt, click **Log Off**.

3. At the log in screen, press and hold the right ALT key, and then press DELETE.

4. Log on to the **LitwareInc** domain as **administrator** with a password of **pass@word1**

5. Click **Start➔ All Programs➔ Microsoft Exchange Server 2007➔ Exchange Management Shell**.

6. In the Exchange Management Shell, at the PS prompt, type the following cmdlet and then press ENTER:

New-umdialplan –name LitewareInc –UriType "SipName" –VoipSecurity "SipSecured" –NumberOfDigitsInExtension 5

↙ **Add the dial plan to the Unified Messaging Server on DC1**

▪   On DC1, at the PS prompt, type the following cmdlet and then press ENTER:

   Set-UMServer –Id DC1 -DialPlans LitwareInc

↙ **Enable Unified Messaging on DC1 for Kevin Cook, Vivian Atlas, and Hao Chen**

1. On DC1, at the PS prompt, type the following text and then press ENTER:

Enable-ummailbox –id kc –ummailboxpolicy "LitwareInc Default Policy" –extensions 50258 –SIPResourceIdentifier KC@ LitwareInc.com –pin 425206

2. In the Exchange Management Shell, type the following text and then press ENTER:

Enable-ummailbox –id va –ummailboxpolicy "LitwareInc Default Policy" –extensions 50069 –SIPResourceIdentifier VA@ LitwareInc.com –pin 425206

3. In the Exchange Management Shell, type the following text and then press ENTER:

Enable-ummailbox –id hc –ummailboxpolicy "LitwareInc Default Policy" –extensions 50227 –SIPResourceIdentifier HC@ LitwareInc.com –pin 425206

Leave the Exchange Management Shell running.

↙ **Use exchucutil.ps1 PowerShell scripts on DC1**

This script creates the UM IP gateway and a new hunt group, and also sets the appropriate Microsoft® Active Directory® permissions for OCS.

Tip   The exchucutul.ps1 script is included with the Exchange Server 2007 Service Pack 1 (SP1) Resource Kit.

---

1. On DC1, in the Exchange Management Shell, at the PS prompt, type **cd "c:\program files\microsoft\exchange server\scripts"** and then press ENTER.

2. Type .**exchucutil.ps1** and then press ENTER.

   Wait for the script to finish and then review the displayed information.

3. Write down the name listed as the **UMIPGateway** on the last line returned. This should be **OCS-Std**.

4. In the Exchange Management Shell, type the following text and then press ENTER:

    Set-umipgateway –identity OCS-Std –port 5061

5. In the Exchange Management Shell, type the following text and then press ENTER:

New-umautoattendant –name LitwareInc_AA –umdialplan LitwareInc –PilotIdentifierList LitwareInc_AA

6. Close the Exchange Management Shell.

↙ **Use OCSUMUTIL to configure Office Communications Server 2007 on OCS-STD**

You will now use the OCSUMUTIL to link OCS to the Unified Messaging infrastructure that you just created.

1. On OCS-STD, open a command prompt, type **cd "c:\Program Files\Microsoft Office Communications Server 2007\Server\Support"** and then press ENTER.

2. Type **ocsumutil /domain:LitwareInc.com** and then press ENTER.

3. Wait for the tool to finish. You can safely ignore any warnings and then close the command prompt.

↙ **Restart the Unified Messaging service on DC1**

1. On DC1, click **Start** and then click **Services**.

2. In the Services console, right-click **Microsoft Exchange Unified Messaging** and then click **Restart**.

This will force Unified Messaging to read the new configuration to OCS.

3. Close Services.

↙ **Restart the Office Communications Server Front End service on OCS-STD**

1. On OCS-STD, click **Start** and then click **Services**.

2. In the Services console, right-click **Office Communications Server Front-End** and then click **Restart**.

    This will force OCS to read the new configuration to UM.

3. Close Services.

Exercise 2
Configure Personal Voice Mail Settings and Test Unified Messaging

Introduction

You will now demonstrate Exchange Server 2007 Unified Messaging and Office Communications Server 2007 working together. You will first set Vivian Atlas's personal settings and then leave him a voice mail. You will then see and listen to the voice mail in Microsoft Office Outlook® 2007 and from Outlook Web Access. If time permits, there is a short list of other tasks you can perform to see more of what Unified Messaging has to offer.

Note You may have to wait a couple of minutes for the integration to complete.

↙ **Set personal options for Vivian Atlas on the host computer**

1. On the host computer, open Microsoft Office Outlook 2007.

2. Locate the Welcome to Exchange Unified Messaging message and notice your extension and temporary PIN.

3. Start Office Communicator as **Vivian Atlas**.

4. Click the drop-down arrow in the upper-right corner and then click **Call Voice Mail**.

5. Follow the voice prompts to set up a PIN and personal greeting for Vivian.

6. Click the keypad ⠿ button in Office Communicator to navigate the Unified Messaging voice mail system.

↙ **Leave a voice mail message for Vivian Atlas using the handset**

1. On the analog handset, dial **4255550069**.

2. On the host computer, notice the incoming call but do not answer the call.

3. Listen on the analog phone as you are sent to Vivian Atlas's voice mail and are prompted to leave a message.

4. Leave a message and then hang up.

↙ **Listen to Vivian Atlas's voice mail message using Outlook 2007 on the host computer**

1. On the host computer, switch to Outlook.

2. In Vivian's Inbox, notice the voice mail message.

3. Open the voice mail message and then click **Play**.

4. Close Outlook 2007.

↙ **Listen to Vivian Atlas's voice mail message using Outlook Web Access on the host computer**

1. On the host computer, click **Start→All Programs→Internet Explorer**.

2. In the **Address** bar of Internet Explorer, type
    https://mail.LitwareInc.com/owa and then press ENTER.

3. On the Outlook Web Access login page, type **LitwareInc\va** for
    Domain\user name, type **pass@word1** for the **Password**, and then click
    Log On.

4. On the Accessibility page, click **OK**.

5. In Vivian Atlas's Inbox, notice the new voice mail message.

6. Open the voice mail message and then click **Play**.

7. Close Internet Explorer.

↙ **(If time allows) Perform additional Unified Messaging tasks**

1. Listen to your e-mail using Unified Messaging.

2. Listen to your calendar using Unified Messaging.

3. Reply to an e-mail message using Unified Messaging

4. Send a calendar request using Unified Messaging.

Lab 8: Compliance and Archiving in Office Communications Server 2007

Objectives

After completing this lab, you will be able to:

- Install and activate the archiving service.
- Associate the archiving service with the front-end server.
- Configure users for archiving.
- View archived messaging in the database.

Note This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed Lab 1-Deploying and Configuring Microsoft® Office Communications Server 2007 and Lab 2-Enabling Users and Installing Office Communicator 2007. If you have not completed these labs, this lab will fail.

Scenario

For legal and compliance reasons, Litware, Inc. has decided to start archiving all Instant Messaging (IM) communications. To do this, they will install and configure an Office Communications Server 2007 Archiving Service to help with their compliance solution. After you have activated the archiving service, you must associate the archiving service with each Standard Edition server and Enterprise Edition pool whose traffic the service will archive.

Estimated time to complete this lab: 60 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1** and **OCS-STD** Virtual PCs from the previous labs. You will to need shut down the **OCS-Mediation** server and then start the **OCS-Archiving** Virtual PC. If your host computer has enough memory and resources you may leave Office Communications Server 2007-Mediation running and start Office Communications Server 2007-Archiving.

⬐ **Shut down the Virtual PC OCS-Mediation**

1. On OCS-Mediation, click **Start** and then click **Shut Down**.

2. At the **Shut Down Windows** prompt, select **Shut Down** in the drop-down menu and then click **OK**.

3. Wait as Windows shuts down, and then at the **Close** prompt, select **Save undo disk changes** and then click **OK**.

⬐ **Start and log on to the OCS-Archiving Virtual PC**

1. On the host computer, in the Virtual PC Console, turn on the OCS-Archiving virtual PC by clicking **OCS-Archiving** and then clicking the **Start** button.

2. A new OCS-Archiving virtual PC console opens. At the logon screen, press and hold the right ALT key and then press DELETE.

3. Log on to the **LitwareInc** domain as **Administrator** with a password of **pass@word1**

Important   Click **OK** to any prompts regarding any services that fail to start, and then review **Services** to verify that all have started successfully.

Exercise 1
Installing and Activating the Archiving Service

Introduction

In this exercise, you will install and activate the archiving service on OCS-Archiving. To help save time, all of the prerequisites have been preinstalled. These include Microsoft SQL Server™ on OCS-Archiving and Message Queuing on OCS-STD.

Tip For more information about Archiving and Call Detail Record (CDR) server, please review the *Office Communications Server 2007 Archiving and CDR Server Deployment Guide* included with the OCS 2007 documentation available for download at Microsoft.com.

↙ **Install the Archiving service on OCS-Archiving**

1. On the OCS-Archiving Virtual PC, open Microsoft Windows® Explorer, navigate to **C:\OCS 2007\Setup\I386**, and then double-click **Setup.exe**.

2. On the Deployment Wizard page, click **Deploy Other Server Roles**.

3. On the Deploy Other Server Roles page, click **Deploy Archiving and CDR Server**.

4. On the Archiving Service page, next to **Step 1: Install Files for Archiving and CDR Server**, click **Install**.

5. On the Welcome to the Microsoft Office Communications Server 2007, Archiving and CDR Server Setup Wizard page, click **Next**.

6. On the License Agreement page, review the license agreement, click **I accept the terms in the license agreement**, and then click **Next**.

7. On the Install location for Microsoft Office Communications Server 2007, Archiving and CDR Server page, accept the default location and then click **Next**.

8. On the Message queue path for Office Communications Server 2007, Archiving and CDR Server page, verify that the folder in the **Message queue path name** text box is **LCSLog**, and then click **Next**.

9. On the Confirm Installation page, click **Next** to begin installation.

10. On the Installation Complete page, click **Close**.

↙ **Activate the Archiving service on OCS-Archiving**

1. On OCS-Archiving, on the Archiving Service page, next to **Step 2: Activate Archiving and CDR Server**, click **Run**.

2. In the Welcome to the Activate Archiving Service Wizard, click **Next**.

3. On the Select Service Account page, type **pass@word1** in the **Password** and **Confirm Password** text fields, and then click **Next**.

4. On the Select SQL Server Instance and Database page, in the **Enter SQL Server instance used by the Archiving Service** text field, type **OCS-Archiving**

5. Accept the default Database name of **LcsLog** and then click **Next**.

6. On the Option for Reusing Existing Database page, click **Next**.

   > **Note** If you select the **Replace any existing database** check box, any existing database on the SQL Server instance will be deleted, and all of its data will be lost.

7. On the Location for Database Files page, review the default locations and then click **Next**.

   > **Note** In a production environment, you would not put your databases on the system disk as is done here in the lab environment.

   > **Note** You must start SQL Server (the MSSQLServer service) before you start the Archiving service (the RTCLog service).

8. On the Start Service Option page, verify that **Start the service after activation** is selected and then click **Next**.

9. On the Ready to Activate Archiving Service page, click **Next** to activate the archiving service.

10. When the wizard has finished, select **View the log when you click 'Finish'** and then click **Finish**.

11. Switch to the log and review it to verify that all tasks completed successfully, and then close the log file.

12. On the Archiving and CDR page of the Office Communications Server 2007 Deployment Wizard, click **Exit**.

    > **Note** In a production environment, if you install the Archiving service on multiple servers in an Enterprise Edition pool, you must activate the Archiving service on each server. Repeat the procedures in this section on each server in the pool.

Exercise 2
Associating the Archiving Service with the Front-End Server

Introduction

In this exercise, you will configure archiving for Litware, Inc. by enabling archiving on all users and associating the Office Communications Server with the Archiving service. You will then finish the configuration of archiving by setting a message queue path, activating content archiving, and restarting the Front-End services.

Note   In a production environment, you must perform the following procedure on each Office Communications Server whose traffic you want to archive.

↙ **Associate the Office Communications Server with the Archiving service on OCS-STD**

1. Switch to the OCS-STD virtual PC and then click **Start→ Administrative Tools→ Office Communications Server 2007**.

2. Right-click **Forest - Litwareinc.com**, point to **Properties**, and then click **Global Properties**.

3. Click the **Archiving** tab.

4. Under Internal communications, select **Archive for all users** to enable all users to be archived, and then click **OK**.

5. Expand the **Forest** node, expand **Standard Edition Servers**, right-click **OCS-Std**, click **Properties**, and then click **Front End Properties**.

6. Click the **Archiving** tab.

7. On the **Archiving** tab, in the **Office Communications Server** list, click **OCS-STD.LitwareInc.com,** and then click **Associate**.

8. In the **Associate Queue Path** dialog box, in **Message queue path name**, type **OCS-Archiving** and then click **OK**.

9. In the warning dialog box, click **OK**.

10. In Front End Properties, select **Activate content archiving**, and then click **OK**.

11. Leave the **Office Communications Server 2007**, **Administration Tools** console running.

Note   Call detail records are not supported on Forwarding Proxy servers. Call detail records that pertain to meetings are not supported on servers that are in the Director role.

12. Click **Start→ Administrative Tools→ Services**.

13. In the **Services** list, right-click **Office Communications Server Front-End**, and then click **Restart**.

14. After the Communications Server service has restarted, close the Services console.

Note   Whenever you change the archiving or CDR settings for a pool, you

should restart all front-end servers in the pool to ensure that the settings take effect uniformly. If you put archiving into critical mode on your front-end servers and you then disable archiving and CDR, you must restart all front-end servers. Otherwise, one or more front-end servers could stop running.

Exercise 3
Viewing Archived Messages in the Database

Introduction

In this exercise, you will participate in an Instant Messaging (IM) conversation and view the archived messages using SQL Server Management Studio.

↙ **Start an archived IM conversation on the host computer**

1. On the host computer, if Office Communicator is not already running, click **Start→ All Programs→ Microsoft Office Communicator 2007**. Log in as **va@LitwareInc.com** with a password of **pass@word1**

2. Right-click **Kevin Cook**, and then click **Send an Instant Message**.

3. In the Kevin Cook- Conversation window, type a message and then press ENTER.

↙ **Participate in an archived IM conversation on DC1**

1. On DC1, click **Start→ Log Off.**

2. At the **Log Off Windows** prompt, click **Log Off**.

3. At the log in screen, press and hold the right ALT key, and then press DELETE**.**

4. Log on to the **LitwareInc** domain as **kc** with a password of **pass@word1**

5. Click **Start→ All Programs→ Microsoft Office Communicator 2007**. Log in as **KC@LitwareInc.com** with a password of **pass@word1**

6. Have a short IM conversation between Kevin Cook and Vivian Atlas, and then close the conversation windows.

↙ **View archived traffic on OCS-Archiving**

1. On OCS-Archiving, click **Start→ All Programs→ Microsoft SQL Server 2005→ SQL Server Management Studio**.

2. In the Connect to Server window, verify that the Server name is **OCS-Archiving** and that the Authentication is set as **Windows Authentication**, and then click **Connect**. This may take a moment.

3. In the toolbar above **Object explorer**, click **New Query**.

4. In the query window, type the following query (case-sensitive) and then, in the **SQL Editor** toolbar, click **Execute**.

```
USE LcsLog
GO
SELECT * FROM Messages
```

5. In the query results, scroll over to the **Body** column and view the results.

   You can see the messages from the conversation you just had.

6. Close SQL Server Management Studio without saving query results.

Lab 9: Installing and Configuring Communicator Web Access

Objectives

After completing this lab, you will be able to:

- Install and configure Communicator Web Access (CWA).
- Use Communicator Web Access.

Note   This lab focuses on the concepts in this module. As a result, it may not comply with Microsoft security recommendations.

Prerequisites

Before working on this lab, you must have completed the previous labs. If you have not completed the previous labs, this lab will fail.

Scenario

To make Microsoft® Office Communications Server (OCS) 2007 even more useful to Litware, Inc.'s employees, management has decided to install and configure Communicator Web Access. This will give users access to Office Communicator from any computer in the world that has Internet access.

Estimated time to complete this lab: 30 minutes

Exercise 0
Lab Setup

To complete this lab, you will need to use the **DC1** and **OCS-Std** Virtual PCs from the previous labs. To mitigate lack of resources, you will need to shut down the **OCS-Archiving** server without saving changes and then restart it.

↙ **Shut down the Virtual PC on OCS-Archiving**

1. On OCS- Archiving, click **Start** and then click **Shut Down**.

2. At the **Shut Down Windows** prompt, select **Shut Down** in the drop-down menu and then click **OK**.

3. Wait as Microsoft Windows® shuts down, and then at the **Close** prompt, select **Shutdown and Delete Changes** and then click **OK**.

↙ **Restart and log on to the OCS-Archiving Virtual PC on the host computer**

1. On the host computer, in the Virtual PC Console, turn on the OCS-Archiving virtual PC by clicking **OCS-ARCHIVING** and then clicking the **Start** button.

2. A new OCS-ARCHIVING virtual PC console opens. At the logon screen, press and hold the right ALT key and then press DELETE.

3. Log on to the **LitwareInc** domain as **Administrator** with a password of **pass@word1**

Important   Click **OK** to any prompts regarding any services that fail to start, and then review **Services** to verify that all have started successfully.

Exercise 1
Installing and Configuring Communicator Web Access

↙ **Request a certificate for CWA**

1. On OCS-ARCHIVING, click **Start**, click **Run**, type **mmc** and then click **OK**.

2. Click **File** and then click **Add/Remove Snap-in**.

3. In the **Add/Remove Snap-in** dialog box, click **Add**.

4. In the Add Standalone Snap-in window, click **Certificates** and then click **Add**.

5. On the Certificates snap-in page, select **Computer account**, click **Next**, and then click **Finish**.

6. Click **Close** and then click **OK**.

7. Expand **Certificates** and then click **Personal**.

8. Right-click **Personal**, point to **All Tasks**, and then click **Request New Certificate**.

9. On the Welcome page, click **Next**.

10. On the Certificate Types page, select the **Advanced** checkbox and then click **Next**.

11. On the Cryptographic Service Provider page, click **Next**.

12. On the Certification Authority page, click **Next**.

13. On the Certificate Friendly Name and Description page, in the **Friendly name** box, type **CWACert** and then click **Next**.

14. On the completion page, click **Finish**.

15. At the Certificate Request Wizard prompt, click **OK**.

16. Right-click **Certificates** and then click **Refresh**.

17. Expand **Personal**, click **Certificates**, and then verify that the new certificate is available.

18. Close the Certificates console without saving changes.

↙ **Install Communicator Web Access**

1. On OCS-ARCHIVING, click **Start**➔ **All Programs**➔ **Accessories**➔ **Windows Explorer**.

1. Navigate to **C:\OCS 2007\Setup\i386** and double-click **Setup.exe**.

2. On the Deploy Microsoft Office Communications Server 2007 page, click **Deploy Other Server Roles**.

3. On the Deploy Other Server Roles page, click **Deploy Communicator Web Access**.

4. On the Deploy Communicator Web Access page, next to **Step 1: Install Communicator Web Access**, click **Install**.

5. On the Welcome page, click **Next**.

6. On the License Agreement page, select **I accept the terms in the license agreement** and then click **Next**.

7. On the Customer Information page, in the **Organization** text box, type **LitwareInc** and then click **Next**.

8. On the Ready to install page, click **Next**.

9. On the next Ready to install page, click **Install**.

10. On the Setup Complete page, click **Finish**.

↙ Activate Communicator Web Access

1. On OCS-ARCHIVING, on the Deploy Communicator Web Access page, next to **Step 2: Activate Communicator Web Access**, click **Run**.

2. On the Welcome page, wait for the Activation Wizard to gather prerequisite information. When it has finished, click **Next**.

3. On the Select domain service account page, for the **Account name**, type **CWAService**

4. In the **Password** and **Confirm Password** text boxes, type **pass@word1** and then click **Next**.

5. On the Select Server Certificate page, click **Select Certificate**.

6. In the Select Certificate window, click the certificate with the Friendly name **CWACert**, click **OK**, and then click **Next**.

7. On the Ready to activate Communicator Web Access page, click **Next**.

8. On the completion page, click **View Log**.

9. Switch to the Deployment Log that has opened.

10. In the **Execution Result** column, to confirm the successful activation of Microsoft Office Communicator Web Access, verify that each task's result is **Success**. Close the Deployment Log window.

11. Click **Finish**.

↙ Create an internal virtual server for Communicator Web Access

1. On OCS-ARCHIVING, on the Deploy Microsoft Office Communicator Web Access page, next to **Step 3: Create a Virtual Server**, click **Run**.

2. On the Welcome page, click **Next**.

3. On the Select Virtual Server Type page, click **Internal** and then click **Next**.

4. On the Select Authentication Type page, leave the default selection of **Use built-in authentication** and then click **Next**.

5. On the Select authentication method page, verify that both check boxes are selected and then click **Next**.

6. On the Select Browser Connection Type page, verify that **HTTPS (recommended)** is selected and then click **Select Certificate**.

7. In the Select Certificate window, click the certificate with the Friendly name **CWACert**, click **OK**, and then click **Next**.

8. On the Select IP address and port setting page, leave the defaults of **All Unassigned** and **443** and then click **Next**.

9. On the Name the Virtual Server page, verify that the name is set as **Communicator Web Access** and then click **Next**.

10. On the Automatically Start Virtual Server page, click **Next**.

11. On the Review virtual server settings page, click **Next**.

12. On the completion page, click **View Log**.

13. Switch to the Deployment Log that has opened.

14. In the **Execution Result** column, verify that each task's result is **Success** to confirm the successful activation of Microsoft Office Communicator Web Access. Close the Deployment Log window.

15. On the completion page, click **Finish**.

16. On the Deploy Microsoft Communicator Web Access page, click **Exit**.

↙ **Test Communicator Web Access from the host computer**

1. On the host computer, start Microsoft Internet Explorer.

Important   Please turn off all pop-up blockers before continuing.

---

2. In the **Address** field, type the URL **https://OCS-ARCHIVING.LitwareInc.com/cwa** and then press ENTER.

3. On the Communicator Web Access page, click **Sign In**.

4. At the **Connect to OCS-ARCHIVING.LitwareInc.com** login prompt, in the **User name** text box, type **LitwareInc\kc** and then, in the **Password** text box, type **pass@word1** and click **OK**.

5. Open or switch to Office Communicator. If necessary, sign in as **VA@LitwareInc.com** with a password of **pass@word1**

6. Switch to the Internet Explorer browser running Communicator Web Access. Notice that Vivian Atlas shows and that her presence is up to date.

7. Right-click **Vivian Atlas** and then click **Send an Instant Message**.

8. In the communications window, type a message to Vivian and then press ENTER.

9. Reply to the Instant Message from Kevin.

10. On both host computers, close all Office Communicator windows.