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10165A

Updating Your Skills from Microsoft® Exchange Server 2003 or Exchange Server 2007 to Exchange Server 2010 SP1

Companion Content

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Module 1

Introducing Microsoft® Exchange Server 2010

Contents:

Lesson 1

New Exchange Server 2010 Features for Exchange Server 2003 Administrators

Contents:

Question and Answers

Overview of Server Roles in Exchange Server 2010

Question: Which role or roles provide completely new functionalities in Exchange Server 2010?

Answer: The Hub Transport server roles and Edge Transport server roles were not present in any similar form in Exchange Server 2003.The Unified Messaging role is also new.

Combining Server Roles in Exchange Server 2010

Question: What is the main reason for role separation?

Answer: Exchange server roles are installed separately to achieve better availability and redundancy, and to avoid a single point of failure. Also, you separate the Edge Transport role primarily for security reasons.

New Features for Configuring Messaging Compliance

Question: Which features for messaging compliance were you using with Exchange Server 2003?

Answer: Answers may vary.

Additional Reading

Overview of Server Roles in Exchange Server 2010

- [Overview](#)

Combining Server Roles in Exchange Server 2010

- [Topologies: Overview](#)

What Is Exchange Management Shell?

- Exchange Server 2010 Help
  Open the Shell and Understanding Role Based Access Control

Exchange Server 2010 Editions

- [Licensing FAQ](#)

Lesson 2

New Exchange Server 2010 Features for Exchange Server 2007 Administrators

Contents:

Question and Answers

Discussion: Changes and Enhancements in Exchange Server 2010

Question: What are some of the issues that you have with your current Exchange Server 2007 organization?

Answer: Answers may vary, but students may identify the complex high-availability configuration, lack of archive features, and inability to co-locate other server roles with a highly available Mailbox server.

Question: If you could choose what to improve in Exchange Server 2007, what would you pick?

Answer: Answers may vary.

Question: Name the three most important changes in Exchange Server 2010, that you know about.

Answer: Answers may vary, but students might mention Personal Archives, Multi-Mailbox Search, and DAGs.

Exchange Control Panel

Question: Besides being a web-based interface, what is the most important difference between Exchange Management Console and Exchange Control Panel?

Answer: Exchange Control Panel is based on RBAC. Users only see the tasks for which they have the appropriate permissions. In Exchange Management Console, all options are visible, but some of them are disabled based on the users' permissions.

Exchange Server 2010 Database Architecture and Storage Improvements

Question: What is SIS?

Answer: In the case of an email server, SIS means that a single copy of a message is held within its database, while individual mailboxes access the message content through a reference pointer.

High Availability Options for Mailbox Servers in Exchange Server 2010

Question: List some issues that you face with cluster continuous replication (CCR) in Exchange Server 2007.

Answer: Answers may vary, but students will probably list problems such as an inability to host other Exchange Server roles if the Mailbox server is a part of the CCR, and the need to configure CCR with Windows clustering.

Additional Reading

Integration of Exchange Online Services with Exchange Server 2010

- [Business Productivity Online](#)
- [Migrate to Microsoft Online Services](#)

Lesson 3

Upgrading to Exchange Server 2010

Contents:

Question and Answers

Options for Upgrading the Exchange Server Organization

Question: What is the main difference between an upgrade and a migration? What approach will your organization choose?

Answer: When upgrading an Exchange Server organization, you deploy a new Exchange Server version in an existing organization and domain, and then move the data from old Exchange Server system to the new one. When performing a migration, you establish a new Active Directory forest and Exchange Server organization, and then move data from the old organization, but without keeping any configuration data.

Module Reviews and Takeaways

Review questions

Question: Which tools can you use to manage Exchange Server 2010?

Answer: Exchange Management Shell and Exchange Management Console are the two main tools for managing Exchange Server 2010. Additionally, you can also use Exchange Control Panel to perform some administrative tasks from the web-based console.

Question: What is the main difference between Exchange Server 2010 Standard Edition and Exchange Server 2010 Enterprise Edition of Exchange Server 2010?

Answer: Exchange Server 2010 Standard Edition supports up to 5 databases, while Exchange Server 2010 Enterprise Edition supports up to 100 databases on a single server.

Question: What factors should you consider when purchasing new servers for your Exchange Server 2010 deployment?

Answer: The most important consideration is to remember that you can install Exchange Server 2010 only on 64-bit hardware, which means that you must buy this type of hardware. Additional considerations include capacity planning and redundancy requirements.

Common Issues Related to Exchange Server 2010 Deployments

Identify the causes for the following common issues related to Exchange Server 2010 deployment, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
The organization is currently running Exchange 2000 Server.	You cannot deploy Exchange Server 2010 in an Exchange 2000 Server organization. You must first upgrade to Exchange Server 2003 or Exchange Server 2007.
You cannot migrate from Exchange Server 2007 to Exchange Server 2010.	You must install Exchange Server 2007 SP2 to support coexistence with Exchange Server 2010.
After deploying Exchange Server 2010 in an Exchange Server 2003 environment, new administrative and routing groups with weird names appear in the Exchange Server 2003 System Manager.	This is normal. Exchange Server 2010 supports coexistence with Exchange Server 2003 by placing itself into newly created administrative and routing groups. You can delete these groups after you migrate the resources to Exchange Server 2010.

Real-world Issues and Scenarios

Question: Your organization would like to automate the creation of user mailboxes for employees based on their status in your organization's human resources system. What can you use to perform this automation?

Answer: Exchange Management Shell provides an interface for scripting administrative tasks, such as user creation and modification. You also can use Exchange Management Shell programmatically from inside other applications.

Question: Your organization wants to reduce administrative costs. One suggestion is to give department heads and administrative assistants the necessary access to manage departmental and project-based groups. What can you use to accomplish this task?

Answer: You can use Exchange Control Panel and appropriate RBAC permissions to enable nontechnical personnel to manage groups.

Tools

Tool	Use to	Where to find it
Exchange Management Console	• Administration of Exchange Server organization	Start menu
Exchange Management Shell	• Management and administration of Exchange Server organization, and for bulk management tasks	Start menu
Exchange Control Panel	• Common administrative tasks	Exchange Control Panel URL

Lab Review Questions and Answers

Question: In the provided data, what points are raised that impact your Mailbox server deployment plan, and how do they impact it?

Answer: Some of issues that are raised by Contoso requirements provided in the Student Handbook are :

- A single server or component failure cannot be the cause of messaging system unavailability. You must deploy multiple Mailbox servers in each site.

- The system must be scalable to grow capacity by at least 30 percent over 3 years.

- There is a storage area network (SAN) in several offices. These will be high performance, but expensive.

- Some offices do not have a SAN and need to use direct access storage (DAS).

- Mailbox sizes are increasing to 500 megabytes (MB) for basic users, with an archive of 500 MB. Exceptional users—about 25 percent of users—will have a mailbox of 500 MB, and an archive of 1,500 MB.

Module 2
Deploying Microsoft® Exchange Server 2010

Contents:

Lesson 1

Installing Exchange Server 2010

Contents:

Question and Answers

How Exchange Server 2010 Integrates with an Exchange Server 2003 Organization

Question: Why should you create separate namespaces for Exchange Server 2003 and Exchange Server 2010?

Answer: To provide seamless migration of resources, and resource access during the coexistence period, you should provide legacy host names so that all users can access their resources no matter on which version their Exchange Server resources reside.

Software Requirements for Exchange Server 2010

Question: Why should you execute Setup with the /PrepareLegacyExchangePermissions parameter in environments where Exchange Server 2003 is present?

Answer: This parameter is necessary, because it provides the appropriate access to the Recipient Update Service that exists on Exchange Server 2003. When you execute Setup with this parameter, Exchange Server modifies the permissions assigned to the Enterprise Exchange Servers group to allow the Recipient Update Service to run.

Preparing Active Directory for Exchange Server 2010

Question: Why should you run Setup with the /PrepareLegacyExchangePermissions parameter in environments where Exchange Server 2003 is present?

Answer: This parameter is necessary because it provides the appropriate access to the Recipient Update Service that exists on Exchange Server 2003. When you execute Setup with this parameter, Exchange Server modifies the permissions assigned to the Enterprise Exchange Servers group to allow the Recipient Update Service to run.

Considerations for Deploying Exchange Server 2010 as a Virtual Machine

Question: Why is using snapshots with Exchange Server virtual machinesnot recommended?

Answer: Exchange Server is highly integrated in AD DS, and most of the changes are written directly to AD DS. Reverting an Exchange Server virtual machine to a snapshot could lead to a mismatch between data on Exchange Server and data in AD DS.

Question: Why is Unified Messaging not supported as a role for virtualization?

Answer: This role is not supported officially because of performance and quality issues with voice services when using virtualization.

Detailed Demonstration Steps

Demonstration: Microsoft Exchange Pre-Deployment Analyzer Tool

Demonstration Steps

1. On NYC-EX10-A, click **Start**, click **Computer**, browse to **Allfiles (E:)\Labfiles**, and then double-click **ExPDA.msi** to start the installation.

2. If the Security Warningwindow appears, click **Run.**

3. On the Microsoft Exchange Server Pre-Deployment Analyzer Tool Installation Wizard page, click **Next**.

4. On the End User License Agreement page, select **I agree**, and then click **Next**.

5. On the Installation Directory page, click **Next**

6. On the Data Directory page, click **Next.**

7. Click **Finish**. The Microsoft Exchange Pre-Deployment Analyzer will start right after the wizard closes.

8. On the first page of the wizard, click **Do not check for updates on startup**, click **I don't want to join the program at this time**, and then click **Go to the Welcome Screen**.

9. Select the **Select options for a new scan** option.

10. On the Connect to Active Directory page, ensure that **NYC-DC1** is listed as an Active Directory Server, and then click **Connect to the Active Directory server**.

11. On a Start a New Scan page, in the **Enter an identifying label for this scan** field, type **Ex10 Test Scan**, and then click **Start scanning**.

12. After the scan completes, click **View a reportof this Best Practices scan**.

13. On the View Report page, review the items, and ensure that nothing critical appears (no items with a red mark).

14. Click the **Link state suppression is not enabled** item, and note its explanation. This issue will be fixed during the lab.

Additional Reading

Infrastructure Requirements for Exchange Server 2010

- Exchange Server 2010 Help: Exchange 2010 System Requirements

Software Requirements for Exchange Server 2010

- Exchange 2010 Prerequisites

- Exchange Server 2010 Help: Exchange 2010 System Requirements

Preparing Active Directory for Exchange Server 2010

- Exchange Server 2010 Help: Prepare Active Directory and Domains

Considerations for Deploying Exchange Server 2010 as a Virtual Machine

- Microsoft Support Policies and Recommendations for Exchange Servers in Hardware Virtualization Environments

- Welcome to the Windows Server Virtualization Validation Program

Process for Installing Exchange Server 2010

- Exchange Server 2010 Help: Perform a Typical Exchange 2010 Installation

Lesson 2

Verifying the Exchange Server 2010 Installation

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Question and Answers

Verifying the Exchange Server 2010 Installation

Question: What should you do if some of the Exchange Server 2010 services do not start?

Answer: Usually, we recommend checking the services' dependencies. Sometimes, Exchange Server 2010 services do not start if some of the services that they depend on start with delays, or do not start at all. Additionally, it is possible that the service that is stopped does not have any function to perform in the current Exchange Server configuration.

Verifying Exchange Server 2010 Integration with Previous Versions of Exchange Server

Question: If you cannot send an email message between Exchange Server 2003 and Exchange Server 2010, what is the first thing that you should check?

Answer: You should check that the routing group connector was created between the existing routing group in Exchange Server 2003 and the newly created routing group where Exchange Server 2010 resides.

Detailed Demonstration Steps

Demonstration: Microsoft Exchange Server Best Practices Analyzer

Demonstration steps

1. On NYC-EX10-A, click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**. When the Microsoft Exchange license prompt appears, click **OK**.

2. In the left pane, expand **Microsoft Exchange On-Premises**, and then click **Toolbox**.

3. In the middle pane, double-click **Best Practices Analyzer**.

4. Click **Do not check for updates on startup**. As a best practice, check for updates on startup to ensure that you have the latest best practices information from Microsoft.

5. Click **I don't want to join the program at this time**. As a best practice, join the customer improvement program so that Microsoft can receive anonymous feedback about how you use Exchange Server 2010. This allows Microsoft to make future improvements that more accurately reflect the needs of their customers.

6. Click **Go to Welcome Screen**. Note that this tool can scan a single server or the whole organization.

7. Click **Select options for a new scan**.

8. If necessary, in the **Active Directory Server** box, type **NYC-DC1**, and then click **Connect to the Active Directory server**. Note that ExBPA uses this server for read-only access to AD DS. By default, it authenticates as the user who is logged on.

9. In the **Enter an identifying label for this scan** box, type **NYC-EX10** Scan.

10. In the **Specify the scope for this scan** box, clear the **NYC-EX03** check box.

11. If necessary, select **Health Check**. Note the selections for the four types of health check scans.

12. Select **Fast LAN (100 mbps or more)** as the network speed. This setting does not have any influence on test performance. The estimated scan time is generated based on the network speed selected.

13. Click **Start scanning**. You can also schedule scans for specific times. This scan gathers performance data, or performs a weekly health check. However, to perform a scheduled scan, you must configure credentials under which the scan runs. The credentials are configured in the **Connect to Active Directory** window in the advanced logon options. Running this scan takes approximately two minutes

Additional Reading

Demonstration: Microsoft Exchange Server Best Practices Analyzer

- [Microsoft Exchange Analyzers](#)

Module Reviews and Takeaways

Review questions

Question: The Exchange Server 2010 installation fails. What information sources can you use to troubleshoot the issue?

Answer: The two most important sources of information are the setup logs, and the error message that appear when the installation fails. In most cases, these sources of information should indicate clearly why the installation failed. A third option is to review the server-event logs.

Question: What factors should you consider while purchasing new servers for your Exchange Server 2010 deployment?

Answer: The most important factor is to remember that you can install Exchange Server 2010 only on 64-bit hardware, which means that you must buy this type of hardware. Additional considerations include capacity planning and redundancy requirements.

Question: How would the deployment of additional Exchange 2010 servers vary from the deployment of the first server?

Answer: When you deploy the second server, you do not need to be concerned with the Active Directory prerequisites, as these will already have been configured for the first server installation. Additionally, you are more likely to install specific server roles if you deploy multiple servers.

Common Issues Related to Deploying Exchange Server 2010

Issue	Troubleshooting Tip
You start the Exchange Server 2010 installation and receive an error message stating that you do not have sufficient permissions.	Verify that you are logged on to the domain. Verify that the account has sufficient permissions.
You start the installation and the prerequisite check fails.	Verify that the server meets the software requirements.
You run setup with the /PrepareAD parameter, and receive an error message.	Ensure that you are running setup in the same Active Directory site as the schema master domain controller.

Real-world Issues and Scenarios

Question: An organization has a main office and multiple smaller branch offices. What criteria would you use to decide whether to install an Exchange 2010 server in a branch office? What additional factors should you consider if you decide to deploy an Exchange 2010 server in the branch office?

Answer: The most important criteria are the number of users in the branch office, and the bandwidth between the branch office and main office. If the number of users is low, and there is enough available bandwidth for the users to have a positive experience with email, you might opt not to deploy Exchange 2010 servers in the office. If the branch office has a large number of users, or if the client connections to Exchange 2010 servers in the main office are slow, you may decide to install an Exchange 2010 server in the office. If you put an Exchange 2010 server in a branch office, you must ensure that you deploy a Mailbox server, a

Client Access server, and a Hub Transport server, and that you deploy a global catalog server in the office.

Question: An organization has deployed AD DS within two different forests. What issues will this organization experience when they deploy Exchange Server 2010?

Answer: Organizations with multiple forests need to decide whether to deploy them as two Exchange organizations or a single Exchange organization, and enable user accounts from one forest to access mailboxes in the other forest. If the organization deploys multiple forests, they will need to plan for the replication of information such as free/busy information between the forests.

Question: An organization is planning to deploy Exchange 2010 servers as virtual machines running on Hyper-V, in Windows Server 2008 R2. What factors should the organization consider in their planning?

Answer: First, the organization cannot deploy Unified Messaging servers on virtual machines. Second, the organization should consider whether to use Hyper-V to provide high availability for the Exchange 2010 servers, or to use the built-in Exchange Server 2010 high availability options. For Mailbox servers, we recommend strongly that you use DAGS. For other Exchange 2010 server roles, it is more feasible to use the Hyper-V failover component. At the end, you should not use snapshots and Dynamic memory.

Best Practices Related to Deploying Exchange Server 2010

Supplement or modify the following best practices for your own work situations:

- Plan the hardware specifications for your Exchange 2010 servers to allow for growth. In most organizations, the amount of email traffic and the size of the user mailboxes are growing rapidly.

- Consider deploying at least two Exchange 2010 servers. With two Exchange servers, you can provide complete redundancy for the core Exchange 2010 server roles.

- When deploying multiple Exchange 2010 servers with dedicated server roles for each server, deploy the server roles in the following order:

  1. Client Access server
  2. Hub Transport server
  3. Unified Messaging server
  4. Mailbox server

You can deploy the Edge Transport server at any time, but it does not integrate automatically with your organization until you deploy a Hub Transport server.

Lab Review Questions and Answers

Question: What organizational changes must you make to AD DS before you can install Exchange Server 2010?

Answer: Answers will vary depending on the organizations where the students work. If organizations have upgraded to the Windows Server 2003 operating system or Windows Server 2008 AD DS, they may not need to make any changes to AD DS.

Question: What hardware configurations will you use for your organization's Exchange 2010 servers?

Answer: Most organizations will purchase server hardware that significantly exceeds the minimum required hardware for Exchange Server 2010. Ask students to describe the hardware they will purchase, and then follow with questions on the number of servers and number of mailboxes they will deploy.

Question: What issues did you identify in the Exchange Server 2010 deployment by using ExBPA?

Answer: Answers may vary. Usually, ExBPA reports issues about backup.

Question: How will you use ExBPA in your organization?

Answer: Answers will vary. Some organizations use ExBPA only once, after the initial deployment. Other organizations regularly run the tool. Recommend to the students that they should run the tool regularly, and especially when they are troubleshooting an issue with the Exchange Server deployment.

Module 3

Configuring Mailbox Servers

Contents:

Lesson 2

Configuring the Mailbox Server Role

Contents:

Question and Answers

Configuring Database Options

Question: When would you need to move the path of the transaction logs or databases?

Answer: You may need to move the database files during the initial configuration to ensure that the files are on the appropriately configured disks. You might also need to move the database files if you need to accommodate your organization's need for a larger mailbox database. In this case, after you configure a new hard disk or logical unit with larger capacity, then move the database files to the new hard disk.

Question: When might you use circular logging?

Answer: When you enable circular logging, it allows transaction logs to be overwritten after they are committed to the database. Because Exchange Server does not maintain transaction logs, they are not available for use in recovery. You would use circular logging when implementing Exchange Native Data Protection, where backups are not performed. However, we never recommend this option in a single-server production environment.

Considerations for Planning Mailbox Databases

Question: When would you want or need to create multiple databases?

Answer: You may discuss a number of reasons, depending on the students. Often, organizations create databases to separate users in different departments or geographical regions, or users that require different service levels. Maintaining a database at a manageable size also is important. You should size databases to fit on the available storage, yet still have enough room for growth. Additionally, their size should coincide with the backup and recovery times that you define for the messaging system.

Detailed Demonstration Steps

Demonstration: Creating Mailbox Databases

Demonstration Steps

1. On NYC-EX10-B, if required, click **Start**, click **All Programs**, click **MicrosoftExchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Mailbox**.

3. In the **Content** pane, select the **Database Management** tab.

4. In the **Actions** pane, click **New Mailbox Database**.

5. In the New Mailbox Databasewizard, in the **Mailbox database name** field, type **HR**, and then click **Browse**.

6. In the **Select Mailbox Server** dialog box, select **NYC-EX10**, and then click **OK**.

7. Click **Next**.

8. In the **Database file path** field, type **C:\Mailbox\HR\HR.edb**.

9. In the **Log folder path** field, type **C:\Mailbox\HR**.

10. Click **Next**, then click **New**, and then click **Finish**.

11. In the **Exchange Management Console**, confirm that the HR database is created and mounted by locating the **HR** database in the **Database Management** tab and by checking **Copy Status** as **Mounted** on the **Database Copies** tab.

▶ **Create a mailbox database by using the Exchange Management Shell**

1. Open the Exchange Management Shell.

2. In the Exchange Management Shell, type the following command, and then press Enter:

```
New-MailboxDatabase -Name "Marketing" –Server NYC-EX10 -EdbFilePath
"C:\Mailbox\Marketing\Marketing.edb" -LogFolderPath "C:\Mailbox\Marketing"
```

The output of this command should display the following attributes: Name, Server, Recovery, ReplicationType.

3. In the Exchange Management Shell, type the following command, and then press Enter:

```
Mount-Database -Identity "Marketing"
```

4. Confirm whether the new mailbox database was created successfully and mounted, by typing following command:

```
Get-MailboxDatabaseCopyStatus -Identity "Marketing"
```

The output of this command will display multiple attributes. Search for Name Marketing\NYC-EX10 and Status Mounted.

Demonstration: Configuring Database Options

Demonstration steps

▶ **Configure database options**

1. On **NYC-EX10-B**, if required, click **Start**, click **All Programs**, click **Exchange Server 2010**, and then open the **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Mailbox**.

3. Select the **Database Management** tab, right-click **Mailbox Database 1**, and then click **Properties**.

4. View the properties on the **General** tab, and then click the **Maintenance** tab.

5. View the properties on the **Maintenance** tab, and then click the **Limits** tab.

6. View the properties on the **Limits** tab, and then click the **Client Settings** tab.

7. Close the **Properties** dialog box.

8. Select **Mailbox Database 1**, and then in the **Actions** pane, click **Move Database Path**.

9. In the Move Database Path Wizard, type a new database file path **(C:\NewFolder1\DB\Mailbox Database 1.edb)** and log folder path **(C:\NewFolder1\Logs\)**, and then click **Move**.

10. Click **Yes** to confirm and complete the move process. Click **Finish** when complete.

If time permits, demonstrate moving the database files by using the Exchange Management Shell:

1. If necessary, open the Exchange Management Shell.

2. Type **Move-DatabasePath -id 'Mailbox Database 1' -LogFolderPath 'C:\NewFolder2\Logs\'** , and then press Enter at each prompt.

3. Type **Move-DatabasePath -Id 'Mailbox Database 1' -EdbFilePath 'C:\NewFolder2\DB\Mailbox Database 2.edb'**, and then press Enter at each prompt.

Lesson 3

Configuring Public Folders and Public Folder Databases in Exchange Server 2010

Contents:

Detailed Demonstration Steps

Demonstration: Configuring Public Folders and Public Folder Databases

Demonstration steps

▶ **Use the Public Folder Management Console to create a public folder**

1. On NYC-EX10-B, if required, click **Start**, click **All Program Files**, click **Exchange Server 2010**, and then open **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, and then click **Toolbox**.

3. In the **Content** pane, double-click **Public Folder Management Console**. It may take several minutes to connect to the server.

4. Select the **Default Public Folders** node in the console tree, and then in the **Actions** pane, click **New Public Folder**.

5. In the New Public Folder wizard, type **Sales**, click **New**, and then click **Finish**

▶ **Use the Public Folder Management Console to add permissions to a public folder**

1. Open the Public Folder Management ConsoleSelect the **Default Public Folders** node in the console tree, right click on **Sales** and then click on **Properties**.

3. On **Sales Properties** window, click on **Permissions** tab, and then click **Add**.

4. On **Select Public Folder User – Entire Forest**, click on **Don Roessler**, and then click **OK**.

5. On **Sales Properties** window, click on **Don Roessler**, click on the **EditAll** checkbox, and then click **OK**.

▶ **Use Office Outlook to view public folder permissions**

1. On NYC-CL1-B, open Office Outlook.

2. Click **Folder List** in the Office Outlook bar.

3. Expand **Public Folders**, expand **All Public Folders**, right-click **Sales**, and then click **Properties**Click the **Permissions** tab, and then view the available options.

Demonstration: Configuring Public Folder Replication

Demonstration steps

▶ **Use the Exchange System Manager on Exchange Server 2003 to add replicas on a public folder**

1. Open the Exchange System Manager on NYC-EX03-B.

2. In **System Manager**, expand **Administrative Groups**, expand **First Administrative Group**, expand **Folders**, expand **Public Folders**, and then click the **Research** public folder.

3. Right-click the **Research** public folder, and then click **Properties**.

4. Click the **Replication** tab, and then click **Add**.

5. The Select a Public Store window will open.

6. Select **Public Folder Database 1**, and then click **OK**.

7. Click **OK** to close the Research Properties window.

Additional Reading

Configuring Public Folder Replication

- [Understanding Public Folder Replication](#)
- [New Exchange Core Store Functionality in Exchange 2010 SP1](#)

Module Reviews and Takeaways

Review questions

Question: What is coexistence in an Exchange organization?

Answer: Coexistence installing Exchange Server 2010 in an Exchange Server 2003 or Exchange Server 2007 organization. Coexistence is supported even if all three versions of Exchange Server are running in one Exchange organization.

While in coexistence, different versions of Exchange Server communicate with each other, such as by sending and receiving email, accessing recipient information, and sharing configuration.

Question: What configuration can you make on mailbox databases?

Answer: Mailbox database configuration options include configuring mailbox database and transaction logs file paths, moving database and transaction logs, enabling per-mailbox database journaling, configuring maintenance schedules, configuring mailbox limits and the deleted items and deleted mailbox retention period.

Question: In which situation you would not upgrade public folders to Exchange Server 2010?

Answer: Exchange Server 2010 fully supports public folders, but there are some scenarios such as document sharing and collaboration, or developing custom applications, where you might choose to use SharePoint instead of public folders.

Common Issues Related to Designing Mailbox Databases

Identify the causes for the following common issues related to designing mailbox databases, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
You are planning to deploy an Exchange 2010 Mailbox server on a different server and storage platform. What tools would you use to validate your design in the test environment?	Use performance-testing tools—such as Exchange Load Generator or Jet Stress—to ensure the Mailbox server will perform adequately.
After applying limits on each of the mailbox databases and completing the upgrade of the Mailbox server role to Exchange Server 2010, some of the users are exceeding these limits. What should you do?	Verify that the mailboxes are set to inherit limit settings from the database, rather than having to be set separately.
You are migrating from Exchange Server 2003, and none of the users with Exchange Server 2010 mailboxes can access legacy public folders via Outlook Web App. What should you do?	Verify that a replica of the required public folders exists on an Exchange Server 2010 server.

Best Practices Related to Upgrading and Configuring Mailbox Servers

Supplement or modify the following best practices for your own work situations:

- When configuring mailbox server roles in coexistence, always start by analyzing your organization's business requirements, and current messaging and collaboration infrastructure.

- Based on the analysis information, carefully plan the database design process. Create a step-by-step plan for creating and configuring mailbox and public folder databases.

- Simulate the coexistence scenario first in a virtual environment.

- Deploy several users at a time from different departments as a pilot project for moving mailboxes and public folders to Exchange Server 2010. Then analyze client behavior and mailbox server role performance and health to determine if any issues exist.

  After moving all mailboxes and public folders to the Exchange Server 2010 mailbox role, and before you start the decommission process,determine whether any user or application is still using previous Exchange Server versions.

Lab Review Questions and Answers

Question: What happens to the status of the database when you move the database files?

Answer: When you move database files, the database is taken offline. This causes the database to be unavailable, which means that end users cannot send and receive e-mail until the database is online again.

Question: When you create a public folder, how many replicas does it have?

Answer: When you create a public folder with the Public Folder Management Console, Office Outlook, or Outlook Web App, only one replica is created. Therefore, to ensure that the data is redundant, you must add a replica.

Module 4

Managing Recipient Objects

Contents:

Lesson 1

Managing Mailboxes in Exchange Server 2010

Contents:

Question and Answers

Discussion: Recipient Objects in Exchange Server 2010

Question: How is a resource mailbox different from a user mailbox?

Answer: You can assign a resource mailbox to a meeting location, or to a resource such as a projector. You can include resource mailboxes as resources in meeting requests, which provides a simple and efficient way of scheduling resource usage. Resource mailboxes must be disabled accounts.

How to Manage Mailboxes

Question: What tools do you prefer to use for managing mailbox users?

Answer: Answers will vary. Typically, users prefer the Exchange Management Console for small, non-repetitive tasks, or for performing tasks on a small number of recipient objects. For larger, repetitive tasks, or performing tasks on multiple recipient objects, users typically prefer the Exchange Management Shell.

How to Move a Mailbox by Using Exchange Management Console

Question: What is the benefit of mailbox move requests?

Answer: Mailbox move requests provide flexibility for Exchange Server administrators, and availability for users. User mailboxes are not scheduled for off-time hours as in previous versions, thus user mailboxes are not disconnected during the move process.

Designing Resource Booking Policies

Question: How will you use resource mailboxes in your environment?

Answer: Answers will vary. Many businesses use resource mailboxes to track conference room usage and equipment, such as projectors and video-conference equipment.

How to Manage Resource Mailboxes

Question: How does your organization use resource mailboxes?

Answer: Answers will vary. Many organizations need resource mailboxes to facilitate room bookings.

Question: Which attributes are useful for your resource mailboxes?

Answer: You can use resource capacity to specify the maximum number of people a room can hold. Other properties will vary by the equipment type.

Detailed Demonstration Steps

Demonstration: How to Manage Mailboxes

Demonstration steps

▶ **Create a new user mailbox with the Exchange Management Console**

1. On NYC-EX10, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then click **Mailbox**.

3. In the **Actions** pane, click **New Mailbox**.

4. Choose **User Mailbox**, and then click **Next**.

5. Choose **New user**, and then click **Next**.

6. Fill in the following information, and then click **Next**:

    *   First Name: **Kim**

    *   Last Name: **Akers**

    *   User logon name (User Principal Name): **Kim**

    *   Password: **Pa$$w0rd**

    *   Confirm password: **Pa$$w0rd**

7. In the **Alias** field, type **Kim**.

8. Select the **Specify the mailbox database rather than using a database automatically selected** check box, and then click **Browse**.

9. Click **Accounting**, click **OK**, and then click **Next**.

10. On **Archive Settings** window, click **Next**.

11. On **New Mailbox** window click **New**.

12. Click **Finish**.

13. Ensure that user mailbox is created by locating it in the **Mailbox** container.

▶ **Locate user mailboxes in the Exchange Management Console**

1. If needed, open the **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then select the **Mailbox** node.

3. Notice that in the Exchange Server 2010 Management Console, user mailboxes located on Exchange Server 2010 servers are labeled as User Mailbox, and user mailboxes located on Exchange Server 2003 servers are labeled as Legacy Mailbox.

4. User mailboxes located on Exchange Server 2007 are also labeled as User Mailbox. Therefore, create a filter for users by database name to determine which users' mailboxes are located on Exchange Server 2007.

5. In the Exchange Management Console, click the **Create Filter** button in the upper part of the results pane.

6. Click the drop-down box in the upper-left corner, and then select **Database**.

7. Click the **Browse** button on the upper-right corner, select **Accounting** database, click **OK**, and then click**Apply Filter**.

8. After creating a filter, only user mailboxes from the Accounting database will be displayed.

📋   **Note:** Virtual machine environment for this demonstration does not have Exchange Server 2007, so you will only create a filter for users located on the Accounting database. In addition, you may also consider adding Database column in the result pane of Exchange Management Console, and sort user mailboxes by Database information.

▶ **Use the Exchange Management Shell to mailbox-enable an existing user**

1. Open **Active Directory Users and Computers**, and ensure that **Daniel Brunner** exists in the **Users** container.

2. Open **Exchange Management Shell**, and run the following cmdlet:

```
Enable-Mailbox "Daniel Brunner" –alias Daniel –Database Accounting
```

3. Verify the cmdlet was successful by typing following command in Exchange Management Shell:

```
Get-Mailbox "Daniel Brunner" | ft Alias, Database
```

This cmdlet will display alias Daniel and the database name Accounting for the user mailbox Daniel Brunner.

▶ **Use the Exchange Management Shell to disable a user mailbox**

1. Open **Active Directory Users and Computers**, and ensure that **Daniel Brunner** exists in the **Users** container.

2. Open **Exchange Management Shell**, and run the following cmdlet:

```
Disable-Mailbox "Daniel Brunner"
```

3. When the confirmation question displays, press Enter.

4. In **Exchange Management Shell**, run the following cmdlet:

```
Get-Mailbox "Daniel Brunner"
```

The cmdlet will display an error saying that the object cannot be found.

5. In **Active Directory Users and Computers**, verify that the **Daniel Brunner** user account still exists.

▶ **Use the Exchange Management shell to remove a user mailbox**

1. Open **Exchange Management Console**, and ensure that the **Kim Akers** account is listed in the **Users** container.

2. Open **Exchange Management Shell**, and run the following cmdlet:

```
Remove-Mailbox –Identity "Kim Akers"
```

3. When the confirmation question displays, press Enter.

4. In **Exchange Management Shell**, run the following cmdlet:

```
Get-Mailbox "Kim Akers"
```

The cmdlet displays an error stating that the object cannot be found.

5. In **Active Directory Users and Computers**, verify that the **Kim Akers** user account does not exist.

Demonstration: Configuring Mailbox Settings

Demonstration steps

▶ **Display a user's mailbox properties in the Exchange Management Console**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then select **Mailbox**.

3. In the results pane, select the **Andrea Dunker** mailbox, and then in the **Actions** pane, click **Properties**.

4. Click on every tab to display configuration options.

5. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

6. In **Exchange Management Shell**, run following cmdlet to demonstrate user mailbox properties in Exchange Management Shell:

```
Get-Mailbox –identity "Andrea Dunker" | fl
```

Demonstration: Configuring Mailbox Permissions

Demonstration Steps

▶ **Assign Send As permissions to a mailbox**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then select **Mailbox**.

3. In the results pane, select the **Adam Carter** mailbox, and then in the **Actions** pane, click **ManageSendAs Permission**.

4. In the **Manage Send As Permission** wizard, click **Add**.

Notice that the SELF security principal, which enables a user to manage his or her permissions, is assigned already. It was assigned, by default, when the mailbox was created.

5. In the **Select User or Group – Entire Forest** dialog box, choose **Don Roessler**, and then click **OK**.

6. Click **Manage**, and then click **Finish**.

    Don Roessler now can send email as Adam Carter, by changing the From address when composing a new email message.

▶ **Assign Full Access permissions to a mailbox**

1. In the results pane, select the **Adam Carter** mailbox, and then in the **Actions** pane, click **Manage Full Access Permission**.

2. In the **Manage Full Access Permission** wizard, click **Add**.

    Notice that the SELF security principal, which enables a user to manage his permissions, is assigned already. It was assigned, by default, when the mailbox was created.

3. In the **Select User or Group** dialog box, click **Spencer Low**, and then click **OK**.

4. Click **Manage**, and then click **Finish**.

    Spencer Low can now send emails as Adam Carter, by changing the **From** address when composing a new email message.

Demonstration: How to Move a Mailbox by Using Exchange Management Console

Demonstration Steps

▶ **Move ParnaKhot's mailbox located on Exchange Server 2010 to Mailbox Database 1**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then click **Mailbox**.

3. Click the **ParnaKhot** mailbox, and then in the **Actions** pane, click **New Local Move Request**.

4. In the **New Local Move Request** wizard, click **Browse**.

5. Select **Mailbox Database 1**, and then click **OK**.

6. Click **Next**.

7. Verify that **Skip the mailbox** is selected, and then click **Next**.

8. The **Skip the corrupted messages** option moves non-corrupt messages to the new database up to the threshold selected. You can use this option to move corrupted mailboxes, while preserving the valid data.

9. Click **New**, and then click **Finish**.

📋 **Note:** If the mailbox move fails, and the error indicates that no MRS service is available, start the Microsoft Exchange Mailbox Replication service, and try the mailbox move again.

10. In the console tree, expand **Recipient Configuration**, and then select **Move Request** to view the status of the move request.

▶ **Move Bart Duncan's mailbox located on Exchange Server 2003 to Mailbox Database 1**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then select **Mailbox**.

3. Select the **Bart Duncan** mailbox and in the results pane, under **Recipient Type Details** column**,** notice that it is named **Legacy Mailbox**, which means that it is located on Exchange Server 2003. In the **Actions** pane, click **New Local Move Request**.

4. In the **New Local Move Request** wizard, click **Browse**.

5. Click **Mailbox Database 1**, and then click **OK**.

6. Click **Next**.

7. Verify that **Skip the mailbox** is selected, and then click **Next**.

8. Click **New**, and then click **Finish**.

9. In the console tree, expand **Recipient Configuration**, and then select **Move Request** to view the status of the move request. Wait for the status to display as **Complete**. You might need to refresh the console view.

Demonstration: How to Manage Resource Mailboxes

Demonstration steps

▶ Create and configure a resource mailbox

1. On **NYC-EX10**, if required, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then click **Mailbox**.

3. In the **Actions** pane, click **New Mailbox**.

4. In the **New Mailbox** wizard, select **Room Mailbox**, and then click **Next**.

5. Verify that **New user** is selected, and then click **Next**.

6. Complete the following information, and then click **Next**:

   - Name: Conference Room 1.

   - User logon name (User Principal Name): ConferenceRoom1

7. Type **ConferenceRoom1** as the **Alias**, and then click **Next**.

8. Click **New**, and then click **Finish**.

9. In the results pane, select **Conference Room 1**, and in the **Actions** pane, click **Properties**.

10. Click the **Resource General** tab.

11. Select the **Enable the Resource Booking Attendant** check box, and then click **OK**.

> **Note** If you do not enable the Resource Booking Attendant option, the resource will not process meeting requests, even if you configure other settings.

12. On **NYC-EX10**, click **Start**, click **All Programs**, and then click **Internet Explorer**.

13. Type **https://NYC-EX10.Contoso.com/owa** on the Internet Explorer address bar and then press Enter.

14. Log on to Outlook Web App as **Contoso\Administrator**, with the password, **Pa$$w0rd**.

15. In Outlook Web App, click the down arrow next to **New**, and then click **Meeting Request**.

16. In the Untitled Meeting window, type the following information in the displayed fields.

   - In the Subject: field: Sales Meeting

   - In the To field: Administrator

   - In the Location: field: Conference Room 1

17. Click the **SchedulingAssistant** tab.

18. Set a **Start time** and an **End time**.

19. Click the **down arrow** next to **Select Rooms**, and then click **More**.

20. In the Address Book window, double-click **Conference Room 1**, and then click **OK**.

21. Click **Send**.

22. Close Internet Explorer.

23. Close Exchange Management Console.

Additional Reading

Discussion: Recipient Objects in Exchange Server 2010

- [Understanding Recipients](#)

Moving Mailboxes in Exchange Server 2010

- [Understanding Move Requests](#)

- [Understanding Move Requests - Changes in Exchange 2010 SP1](#)

How to Manage Resource Mailboxes

- [Managing Resource Mailboxes and Scheduling](#)

- [New Mailbox and Recipient Functionality in Exchange 2010 SP1](#)

Lesson 2

Configuring Mail Users, Mail Contacts, and Distribution Groups in Exchange Server 2010

Contents:

Question and Answers

Demonstration: Managing Public Groups by Using the Exchange Control Panel

Question: When would you use public groups?

Answer: Answers will vary. Some organizations may use public groups to allow users to create non-critical business or project-based groups so that the group owners can manage the groups.

Detailed Demonstration Steps

Demonstration: Configuring Mail Users and Mail Contacts in Exchange Server 2010

Demonstration Steps

▶ **Display mail user properties window in Exchange Management Console and Exchange Management Shell**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then click **Mail Contact**.

3. In the results pane, select the **Maurice Taylor** mail user, and then in the **Actions** pane, click **Properties**.

4. Click every tab to review configuration options for the mail user. Click **Cancel** to close the Properties dialog box.

5. In the results pane, select the mail contact **Sara Davis**, and then in the **Actions** pane, click **Properties.**

6. Click every tab to review configuration options for the mail contact. Click **Cancel** to close the Properties dialog box.

7. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

8. In **Exchange Management Shell**, run following cmdlet to display mail user properties in Exchange Management Shell:

```
Get-MailUser –Identity "Maurice Taylor" | fl
```

9. In **Exchange Management Shell**, run following cmdlet to display mail contact properties in Exchange Management Shell:

```
Get-MailContact –Identity "Sara Davis" | fl
```

Demonstration: Managing Public Groups by Using the Exchange Control Panel

Demonstration steps

▶ **Add a user to the Recipient Management role group**

1. On **NYC-EX10**, open **Active Directory Users and Computers**.

2. Expand **Contoso.com**, click **Microsoft Exchange Security Groups**, and then double-click **Recipient Management**.

3. On the **Members** tab, add **Ed Meadows** to the **role group**.

4. Click **OK**, and close Active Directory Users and Computers.

▶ **Use the Exchange Control Panel to create a new group**

1. On **NYC-EX10**, click **Start**, click **All Programs**, and then click **Internet Explorer**.

2. Type **https://NYC-EX10.Contoso.com/ecp** in the Internet Explorer address bar and the press Enter.

3. Log on to **Exchange Control Panel** as **Contoso\Ed**, with the password, **Pa$$w0rd**.

4. Click **Distribution Groups**.

5. Under **Distribution Groups**, click **New**.

6. In the New Group window, in the **Display name** box, type **Sales**.

7. Type **Sales** as the **Alias**.

8. Type **Sales Department** as the **Description**.

9. Expand the **Membership** section, and then click **Add**.

10. In the **Select Members** window, double-click the following mailboxes and then click **OK**:

    - **ManojSyamala**

    - **RohintonWadia**

    - **Paul West**

11. Expand **Membership Approval**.

12. Click **Owner Approval**.This ensures that the group owner approves all requests that are added to the group.

13. Click **Save**, and then close the Exchange Control Panel.

▶ **Use the Exchange Control Panel to request to join a group**

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

2. Type **https://NYC-EX10.Contoso.com/ecp** in the Internet Explorer address bar and then press Enter.

3. Log on to **Exchange Control Panel** as **Contoso\Wei**, with the password, **Pa$$w0rd**.

4. In the left pane, click **Groups**.

5. In the **Public Groups I Belong to** section, click **Join**.

6. In the All Groups window, select **Sales**, and then click **Join**.

7. Click **Close**, and then close the Exchange Control Panel.

▶ **Approve a user's request to be added to a Group**

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

2. Type **https://NYC-EX10.Contoso.com/owa** in the Internet Explorer address bar and the press Enter.

3. Log on to Outlook Web App as **Contoso\Ed**, with the password, **Pa$$w0rd**.

4. Double-click the **Request to Join Distribution Group** message in the **Inbox**.

5. In the **Request to Join Distribution Group** message pane, click **Approve**.

6. Close Outlook Web App.

Lesson 3

Configuring Email Address Policies and Address Lists in Exchange Server 2010

Contents:

Detailed Demonstration Steps

Demonstration: How to Configure Email Address Policies

Demonstration steps

▶ **Create a new email address policy for Fourth Coffee recipients**

1. On **NYC-EX10**, if required, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Hub Transport**.

3. In the **Actions** pane, click **New E-mail Address Policy**.

4. In the **New E-mail Address Policy** wizard, type **Fourth Coffee** as the name of the policy.

5. Verify that the **All recipient types** option button is selected, and then click **Next**.

6. Under **Step 1**, select the check box next to **Recipientis in aCompany**.

7. Under **Step 2**, click **specified**.

8. In the **Specify Company** dialog box, type **Fourth Coffee**, click **Add**, and then click **OK**.

📋   **Note:** You can add multiple names to this list, if needed.

9. In the **New Email Address Policy** dialog box, click **Next**.

10. Click **Add**, and then verify that both **Email address local part** and **Use alias** are selected.

11. Click **Select the accepted domain for the email address**, click **Browse**, select **FourthCoffee.com**, and then click **OK**.

📋   **Note:** This list of domains comes from the list of accepted domains. To display a new domain in this list, you must add another accepted domain.

12. Click **Next**.

13. Verify that the **Immediately** option button is selected, and then click **Next**.

📋   **Note:** The schedule allows you to set the policy to not run, run immediately, or run at a later time. You can use this option if the policy affects a large number of recipients, or if the change must occur during a defined change window.

14. Click **New**, and then click **Finish**.

▶ **Verify that the email address policy has been applied**

1. In the console tree, expand **Recipient Configuration**, and then click **Mailbox**.

2. In the results pane, double-click **Jane Dow**.

3. In the **Jane Dow Properties** dialog box, click the **E-mail Addresses** tab, and then view the **currentEmail addresses assigned**.

4. Click the **Organization** tab.

5. Verify that the **Company** field shows **Fourth Coffee**.

6. Click **OK**., and then close Exchange Management Console.

Demonstration: How to Configure Email Address Lists

Demonstration steps

▶ **Create a new address list for Fourth Coffee recipients**

1. On **NYC-EX10**, if required, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the console tree, browse to and expand **Organization Configuration**, and then click **Mailbox**.

3. In the results pane, click the **Address lists** tab.

4. In the **Actions** pane, click **New Address List**.

5. Type **Fourth Coffee** as the **Name**.

6. Type **Fourth Coffee** as the **Display Name**.

7. Verify that the **Container** is **** and then click **Next**.

8. Verify that the **All recipient types** is selected, and then click **Next**.

9. Under **Step 1** select the **Recipient is in a Company** check box.

10. Under **Step 2**, click **specified**.

11. In the **Specify Company** dialog box, type **Fourth Coffee**, and then click **Add**. You can add multiple values to this list.

12. Click **OK**, and then click **Preview**. A list of estimated results from using the defined filter will display.

13. Click **OK**, and then click **Next**.

14. Verify that the **Immediately** option is selected, and then click **Next**.

15. Click **New**, and then click **Finish**.

▶ **Verify that the new email address list is operational**

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

2. Type **https://NYC-EX10.Contoso.com/owa** in the Internet Explorer address bar and the press Enter.

3. Log on to Outlook Web App as **Contoso\George**, with the password, **Pa$$w0rd**.

4. Click the **Address book** icon on the Outlook Web App toolbar.

5. In the **Address Book** window, click the **Show other address lists** link.

6. Click **Fourth Coffee**, and view the members of the Fourth Coffee address list.

7. Close the Address Book window.

8. Close Outlook Web App.

Demonstration: Upgrade Email Address Policies and Address Lists to Exchange Server 2010

Demonstration steps

▶ **Use Exchange Management Shell to upgrade email address policies**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. Run the following cmdlet:

```
Set-EmailAddressPolicy "Default Policy" -IncludedRecipientsAllRecipients
```

3. Press Enter at the confirmation prompt.

4. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

5. In **Exchange Management Console**, expand **Microsoft Exchange On-Premises,** expand **Organization Configuration,** and then click the **Hub Transport** container.

6. Click the **E-mail Address Policies** tab, in the results pane, right click **Default Policy**,and then click **Edit.** Ensure that no error message appears, and that the Edit E-mail Address Policy wizard starts**.** Click **Cancel** to close the wizard.

▶ **Use Exchange Management Shell to upgrade email address lists**

1. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. Run the following cmdlets. Press Enter if provided with a confirmation prompt.

```
Set-AddressList "All Users" -IncludedRecipientsMailboxUsers
Set-AddressList "All Groups" -IncludedRecipientsMailGroups
Set-AddressList "All Contacts" -IncludedRecipientsMailContacts
Set-GlobalAddressList "Default Global Address List" -RecipientFilter {(Alias -ne $null -
and (ObjectClass -eq 'user' -or ObjectClass -eq 'contact' -or ObjectClass -eq
'msExchSystemMailbox' -or ObjectClass -eq 'msExchDynamicDistributionList' -or ObjectClass
-eq 'group' -or ObjectClass -eq 'publicFolder'))}
```

3. If required, on **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

4. In Exchange Management Console, expand **Microsoft Exchange On-Premises,** expand **Organization Configuration,** and then click the **Mailbox** container.

5. Select the **Address Lists** tab, in the result pane, right-clickeach of the address lists,and then clickEdit.Ensure that no error message appears for any list except Public Folders, and that Edit Address List wizard starts.

Additional Reading

Email Address Policies in Exchange Server 2010

- [Understanding Email Address Policies](#)

- [Upgrading Custom LDAP filters to OPATH filters](#)

How to Configure Email Address Policies

- [Managing Email Address Policies](#)

How to Configure Email Address Lists

- [Managing Address Lists](#)

Configuring Offline Address Books in Exchange Server 2010

- [Managing Offline Address Books](#)

Lesson 4

Performing Bulk Recipient Management Tasks in Exchange Server 2010

Contents:

Question and Answers

Discussion: Benefits of Bulk Recipient Management

Question: Describe situations where you need to create multiple recipients.

Answer: Answers will vary. Some examples include:

- Schools importing users for the new school year.

- Importing contacts from a comma-separated values (.csv) file.

- Importing users from a .csv file that has been exported from another system.

Question: Describe situations where multiple recipients may need to be modified.

Answer: Answers will vary. Some examples include:

- A department is increasing users' storage limits.

- A new naming standard is created for the organization's groups.

- You need to remove all subsidiary members, because the company has been sold.

How to Manage Multiple Recipients

Question: Which tasks will you automate with Windows PowerShell scripts?

Answer: Answers will vary by student. Some students may express an interest in creating scripts to report on mailbox sizes, or to create new mailboxes through an automated process.

Detailed Demonstration Steps

Demonstration: How to Manage Multiple Recipients

Demonstration steps

▶ Use pipelining to manage multiple recipients

1. On **NYC-EX10**, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. Run the following cmdlets:

```
Get-User –filter {Company –eq "Fourth Coffee"}
Disable-mailbox Jane
```

3. Type **Y**, and then press Enter.

4. Run the following cmdlets:

```
Get-User –filter {Company –eq "Fourth Coffee"} | Enable-mailbox –database "Mailbox
Database 1"
```

Results: The first cmdlet displays all users whose company attribute in Active Directory is "**Fourth Coffee**". The second cmdlet will disable user mailbox **Jane**. The third cmdlet will display all users whose company attribute in Active Directory is "**Fourth Coffee**", and create a user mailbox for all users from that list that do not have a mailbox. Therefore, the cmdlet output will display an error for users that already have a user mailbox, and will display information regarding mailboxes created for users that did not have a mailbox.

5. Type **Notepad D:\Labfiles\DemoUsers.ps1** and then press Enter.

   Review each section of the Windows PowerShell script.

   - Section 1. Creates a variable named $db that stores the name of the database, and a variable named $upndom that stores the name of the user principal name (UPN).

   - Section 2. Imports a CSV file with user information.

   - Section 3. Converts the plain text password into a secure stream.

   - Section 4. Creates the mailboxes.

6. Run the following cmdlet:

```
Notepad D:\Labfiles\DemoUsers.csv
```

7. Review the contents of the file.

8. Run the following cmdlet:

```
D:\Labfiles\DemoUsers.ps1 D:\Labfiles\Demousers.csv
```

9. Click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

10. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration**, and then select **Mailbox**.

11. Verify that the users were created successfully.

Module Reviews and Takeaways

Review questions

Question: How would you ensure that meeting requests to room mailboxes are validated manually before being approved?

Answer: Assign a delegate for the resource and allow the delegated user to make the decision to approve or deny meeting requests that do not fall into standard policies.

Question: What should you consider when configuring offline address book distribution?

Answer: You should consider the clients that will be used. Office Outlook 2003 requires that the offline address book be available in a public folder, whereas Office Outlook 2007 and newer can access the offline address book in a public folder or through web distribution.

Common Issues related to Configuring Offline Address Books

Identify the causes for the following common issues related to configuring offline address books, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
The offline address book is not up-to-date with changes made during the day.	Check to make sure that the offline address book is scheduled to be generated more than one time each day.
Outlook 2003 clients are not able to download the offline address book.	Check to make sure the offline address book is being distributed in a public folder.

Real-world Issues and Scenarios

Question: An organization has a large number of projects that leverage distribution groups. Managing group members takes considerable time. How will you reduce the time the help desk spends in managing groups so that they can work on other issues?

Answer: Allow end users to manage their own groups by using the Exchange Control Panel. End users may require some training up front, but ultimately, this will result in saving time for the help-desk staff.

Question: The IT department is considering implementing moderation on selected users or groups in order to provide information protection and control. What should you do before implementing this technology?

Answer: When configuring moderation, ensure that you have business and legal approval from company's executives.

Question: You are an administrator of an Exchange Server 2003 organization. During previous years, you have developed VB scripts for the bulk management of Exchange Server 2003 recipient objects. Now, you are planning the upgrade process, and you are considering the most efficient way for the bulk management of recipient objects after your organization upgrades to Exchange Server 2010. What technology you should use for bulk management of Exchange Server 2010 recipient objects?

Answer: The most efficient way for the bulk management of Exchange Server 2010 recipient objects is by developing new scripts by using Exchange Management Shell. The Exchange

Management Shell cmdlets use features such as pipelining and filtering to sort the results of one cmdlet, and then apply the result to another cmdlet.

Question: You are an administrator of an Exchange Server 2003 organization where you have developed custom LDAP filters for your email address lists. Because LDAP filters are not supported in Exchange Server 2010, what should you do to avoid rewriting filters in OPATH?

Answer: It is possible to upgrade your custom LDAP filters from Exchange Server 2003 to OPATH filters in Exchange Server 2010. The upgrade process is described in further detail at http://technet.microsoft.com/en-us/library/cc164375.aspx.

Best Practices Related to Managing Recipient Objects

Supplement or modify the following best practices for your own work situations:

- Define clear naming conventions and adhere to them. Naming conventions help identify location and purpose of recipient objects, and help both end users and administrators locate recipients easily.

- Test global changes prior to making them in production. Changes to global settings, like email address policies, should be tested in a lab environment before you make changes in production. This prevents configuration errors.

- During the upgrade process, when moving user mailboxes from Exchange Server 2003, choose an appropriate schedule because local move requests will disconnect users from their mailboxes.

- When creating distribution groups in Exchange Server 2010, ensure that they will be used for receiving mail from anonymous or authenticated users. As in Exchange Server 2007, distribution groups created on Exchange Server 2010 by default will accept messages only from authenticated users. Distribution groups upgraded from a previous Exchange Server version will inherit their settings.

Lab Review Questions and Answers

Question: In your messaging environment, for which activities will you create scripts?

Answer: Answers will vary by student. Some may suggest using scripts to create mailbox size reports, or for updating user information based on data exported from a human resources database.

Module 5

Managing Client Access

Contents:

Lesson 1

Upgrading the Client Access Server Role

Contents:

Question and Answers

Demonstration: Configuring Certificates for Coexistence

Question: What would you need to change in this procedure if you were also enabling secure access to IMAP4 by using a server name of IMAP4?

Answer: You would need to add the IMAP4 service while running the New Exchange Certificate Wizard, and ensure that you specify mail.contoso.com as the server name. This name is then added to the subject alternative name attribute on the certificate.

Detailed Demonstration Steps

Demonstration: Configuring Certificates for Coexistence

Demonstration Steps

▶ Use the Exchange Management Console to configure the external domain name for Client Access servers in the organization

1. On **NYC-EX10**, if required, open the Exchange Management Console.

2. In the left pane, expand **Server Configuration**, and then click **Client Access**.

3. In the **Actions** pane, click **Configure External Client Access Domain**. You can use this feature to configure the external domain name for Client Access servers in the organization.

4. On the **Server Selection** page, type **mail.contoso.com** as the domain name, and then click **Add**.

5. In the **Select Client Access Server** dialog box, press the Ctrl key, click both **NYC-EX10** and **NYC-EX11**, and then click **OK**.

6. Click **Configure**. In the **Microsoft Exchange** dialog box (or boxes), click **Yes**. The dialog box or boxes appear when the name that you are configuring as the external client access domain name cannot be resolved in DNS. Click **Finish.**

7. In the results pane, ensure that **NYC-EX10** is selected, and then in the bottom pane, double-click **owa (Default Web Site)**.

8. On the General tab, verify that the **External URL** box has been changed to **https://mail.contoso.com/owa**, and then click **OK**.

▶ Use the New Exchange Certificate Wizard in Exchange Server 2010

1. In the navigation pane, click **Server Configuration**.

2. In the **Actions** pane, click **New Exchange Certificate** to open the New Exchange Certificate Wizard. This wizard helps you determine what type of certificates you need for your Exchange organization.

3. On the **Introduction** page, as the friendly name for the certificate, type **Contoso Mail Certificate**, and then click **Next**.

4. On the **Domain Scope** page, review the options, and then click **Next**. If you would like to apply the certificate automatically to all subdomains by creating a wildcard certificate, you would select the **Enable wildcard certificate** check box, where you can then enter a root domain. For this demonstration, do not select this option.

5. On the **Exchange Configuration** page, expand **Client Access server (Outlook Web App),** and then select both the **Outlook Web App is on the Intranet** and **Outlook Web App is on the Internet** check boxes.

6. Expand **Client Access server (Exchange ActiveSync)**, and then select the **Exchange ActiveSync** is enabled check box.

7. Expand **Client Access server, (Web Services, Outlook Anywhere, and Autodiscover),** and then enter **mail.contoso.com** as the external host name.

8. Ensure that both the **Autodiscover used on the Internet** and **Long URL** check boxes are selected.

9. Expand **Legacy Exchange Server**, and then click **Use legacy domains**. Ensure that **legacy.contoso.com** is the only entry in the form **Domain name to use for legacy servers**, and then click **Next.**

10. On the **Certificate Domains** page, click **Next.**

11. On the **Organization and Location** page, enter the following information:

    - Organization: **Contoso**

    - Organizational Unit: **Messaging**

    - Country/region: **United States**

    - City/locality: **New York**

    - State/province: **NY**

12. Click **Browse**, in the **File name** box, type **CertRequest,** and then click **Save**.

13. Click **Next**, click **New**, and then click **Finish**.

▶ **Request a certificate**

1. On the taskbar, click the **Folder** icon, and then click **Documents**.

2. Right-click **CertRequest.req**, and then click **Open**.

3. In the **Windows** dialog box, click **Select a program from a list of installed programs**, and then click **OK.**

4. In the **Open with** dialog box, click **Notepad**, and then click **OK**.

5. In the CertRequest.req – Notepad window, press CTRL+A to select all the text, press CTRL+C to copy the text to the clipboard, and then close Notepad.

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

7. Connect to **http://nyc-dc1.contoso.com/certsrv**.

8. Log on as **Contoso\administrator**, with the password, **Pa$$w0rd**.

9. On the **Welcome** page, click **Request a certificate**.

10. On the **Request a Certificate** page, click **advanced certificate request**.

11. On the **Advanced Certificate Request** page, click **Submit a certificate request by using a base-64-encoded CMC or PKCS#10 file, or submit a renewal request by using a base-64-encoded PKCS#7 file.**

12. On the **Submit a Certificate Request or Renewal Request** page, click in the **Saved Request** field, and then press CTRL+V to paste the certificate request information into the field.

13. In the **Certificate Template** list, click **Web Server**, and then click **Submit**.

14. On the **Certificate Issued** page, click **Download certificate**.

15. In the **File Download** dialog box, click **Save**.

16. In the **Save As** dialog box, click **Save**. The process for saving the file may take more than a minute.

17. In the **Download complete** dialog box, click **Open**.

18. In the **Certificate** dialog box, on the **Details** tab, click **Subject Alternative Name**. Verify that the certificate includes several subject alternative names, and then click **OK**.

19. In the **Exchange Management Console**, click **Server Configuration**.

20. Under NYC-EX10, click **Contoso Mail Certificate**, and in the Actions pane, click **Complete Pending Request.**

21. On the **Introduction** page, click **Browse**.

22. Under **Favorites**, click **Downloads**.

23. Click **certnew.cer**, and then click **Open**.

24. Click **Complete**, and then click **Finish**.

25. In the results pane, click **NYC-EX10**. In the bottom pane, click **Contoso Mail Certificate**.

26. In the Actions pane, click **Assign Services to Certificate**.

27. On the **Select Servers** page, verify that **NYC-EX10** is listed, and then click **Next**.

28. On the **Select Services** page, select the **Internet Information Services** check box, click **Next**, click **Assign**, and then click **Finish**.

29. In the **Exchange Management Console**, click **Server Configuration**.

30. In the Results pane, click **Contoso Mail Certificate**, and then in the Actions pane, click **Export Exchange Certificate**.

31. In the Export Exchange Certificate Wizard, click **Browse**, enter the name **Contosomail**, and then click **Save**.

32. In the Export Exchange Certificate Wizard, in the **Password** box, type **Pa$$w0rd**, and then click **Export**.

33. In the **Completion** window, click **Finish**.

▶ **Install a certificate with a subject alternative name on Exchange Server 2003 and Exchange Server 2010**

1. On NYC-EX03, click **Start**, and then click **Run**.

2. In the Run window, type **\\NYC-EX10\c$\Users\Administrator.CONTOSO\Downloads**, and then press **Enter**.

3. Right-click the **Contosomail.pfx file**, and then click **Install PFX**.

4. After the Certificate Import wizard launches, click **Next** twice to access the **Password** page.

5. In the **Password** box, type **Pa$$w0rd**, and then click **Next**.

6. Click the **Automatically select the certificate store based on the type of certificate** option.

7. Click **Next**, click **Finish**, and then click **OK.**

Additional Reading

Certificate Requirements for Enabling Coexistence

- Understanding Digital Certificates and SSL

Upgrading the Client Access Server to Exchange Server 2010

- Upgrade from Exchange 2003 Client Access

- Upgrade from Exchange 2007 Client Access

- Exchange Deployment Assistant

- Microsoft Exchange Remote Connectivity Analyzer

Lesson 2

Configuring the Client Access Server Role

Contents:

Question and Answers

Demonstration: How to Configure a Client Access Server

Question: Why would you modify the server settings on one Client Access server to be different from those on another Client Access server?

Answer: When you have two Client Access servers with different security or configuration requirements, you will need to modify the server-specific settings. For example, if you have an Internet-accessible Client Access server, and another Client Access server that is used only for internal access, you might want to configure the security settings differently.

Securing a Client Access Server

Question: In which situations might you need to change the default authentication options?

Answer: The most common scenario for changing the default authentication option is to support web browsers or clients that do not support forms-based authentication. Most current clients support forms-based authentication, but some older clients may need to use basic authentication with SSL.

Considerations for Planning Client Access Server Deployment

Question: What business requirements will you have in your organization for Client Access server deployment?

Answer: Answers will vary depending on the size and complexity of the student's organization. Answers will also depend on the requirements each organization's employees have for different access types, performance, and for availability that will affect user productivity.

Detailed Demonstration Steps

Demonstration: How to Configure a Client Access Server

Demonstration Steps

▶ **Configure Client Access server settings**

1. On NYC-EX10, click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the **Exchange Management Console**, expand **Microsoft Exchange On-Premises (nyc-ex10.contoso.com)**, expand **Organization Configuration**, and then click **Client Access**. You apply client access settings to all Client Access servers and mailboxes while in the **Organization Configuration node**.

3. In the details pane, ensure that NYC-EX10 is selected and then click the **Outlook Web App Mailbox Policies** tab. On this tab, you can define Outlook Web App Mailbox policies that will configure the user experience with Outlook Web App. Notice that Exchange Server 2010 defines a default policy, which it does not assign to any users.

4. In the details pane, click the **Exchange ActiveSync Mailbox Policies** tab. On this tab, you can define Exchange ActiveSync mailbox policies that will configure the user experience when they connect to the Exchange servers through a mobile device. Notice that Exchange Server 2010 defines a default policy, which it does not assign to any users.

5. In the left pane, expand **Server Configuration**, and then click **Client Access**. In this area, you can configure the settings that are specific to each Client Access server.

6. In the details pane, ensure that **NYC-EX10** is selected, and in the **Actions** pane, under NYC-EX10, click **Properties**.

7. Click the **System Settings** tab, and then click the **Outlook Anywhere** tab. These tabs display information only, and cannot be used to configure the server settings. After you have reviewed these settings, click **OK**.

8. In the results pane, ensure that the **Outlook Web App** tab is selected, right-click **owa (Default Web Site)**, and then click **Properties**. In the **owa (Default Web Site) Properties** dialog box, you can configure the Outlook Web App settings for this server. After you have reviewed these settings, click **OK**.

9. Click the **Exchange Control Panel** tab, and then double-click **ecp (Default Web Site).** In this dialog box, you can configure the Exchange Control Panel virtual directory settings for this server. After you have reviewed these settings, click **OK.**

10. Click the **Exchange ActiveSync** tab, click the **Offline Address Book Distribution** tab, and then click the **POP3 and IMAP4** tab. In each of these locations, you can configure the Client Access server-specific settings.

Additional Reading

Configuring Throttling Policies

- [Understanding Client Throttling Policies](#)

Lesson 3

Configuring Client Access Servers for Outlook Clients

Contents:

Question and Answers

Services Provided by a Client Access Server for Outlook Clients

Question: What are the implications for server capacity planning now that the Client Access server role provides the RPC Client Access services?

Answer: The load on the Client Access Server role has increased significantly from previous Exchange Server versions. In Exchange Server 2007, the recommended ratio of Client Access Server processors to Mailbox server processors was 1:4; in Exchange Server 2010, this ratio is 3:4. This means that organizations will have to deploy more powerful—or simply more—Client Access servers.

What Is Autodiscover?

Question: When is Autodiscover useful in your organization?

Answer: Autodiscover is useful when first setting up client profiles internally, but it is also very useful for setting up client profiles for users connecting from the Internet. Both Outlook Anywhere and Exchange ActiveSync clients can be automatically configured using Autodiscover.

Demonstration: How to Configure MailTips

Question: Will you leave MailTips enabled in your organization? How will you modify the default configuration?

Answer: Answers will vary. Some organizations will leave the default configuration, while other organizations may choose to disable MailTips, or modify one or more of the specific MailTips.

Detailed Demonstration Steps

Demonstration: How to Configure MailTips

Demonstration Steps

▶ Configure MailTips

1. On NYC-EX10, click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. At the Exchange Management Shell prompt, type **Get-OrganizationConfig**, and then press Enter. Review the settings for the following values:

   - MailTipsAllTipsEnabled. Indicates that MailTips are enabled for the organization.

   - MailTipsMailboxSourcedTipsEnabled. Indicates that internal MailTips are enabled.

   - MailTipsExternalRecipientsTipsEnabled. Indicates that external recipient MailTips are enabled.

   - MailTipsLargeAudienceThreshold. Defines the minimum size for a distribution group before the MailTip will trigger.

3. At the Exchange Management Shell prompt, type **Set-OrganizationConfig –MailTipsLargeAudienceThreshold 10,** and then press Enter.

4. Type **Get-OrganizationConfig**, and then press Enter. Verify that the large audience threshold has been updated.

5. At the Exchange Management Shell prompt, type **Set-DistributionGroup Marketing –MailTip 'The marketing team will be at a conference till next week.'**, and then press Enter. At the confirmation prompt, press Enter.

6. At the Exchange Management Shell prompt, type **Get-DistributionGroup 'Marketing' | FL MailTip*,** and then press Enter. Verify that the custom MailTip has been configured.

7. Open Internet Explorer, and then connect to https:/NYC-EX10.contoso.com/owa.

8. Log on to Outlook Web App as **Contoso\Alan**, with the password, **Pa$$w0rd.**

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

10. In the To box, type **Marketing**, and then press Ctrl+K. Confirm that the Custom MailTip for the Marketing distribution list appears.

Lesson 4

Configuring Microsoft Outlook Web App

Contents:

Question and Answers

Demonstration: How to Configure User Options by Using the Exchange Control Panel

Question: How does the Exchange Control Panel functionality compare with the configuration options in Microsoft Outlook 2010?

Answer: You can configure in Exchange Control Panel virtually all of the configuration options that are available in Microsoft Outlook 2010.

Demonstration: How to Configure Outlook Web App

Question: What settings will you implement in your organization?

Answer: Answers will vary. A good place to begin your implementation is to examine the default configuration and verify whether it is acceptable. The default configuration is suitable for most organizations. However, some organizations have special requirements that will require changing settings such as the authentication settings or segmentation settings. For example, some organizations do not want to enable users to change their password through Outlook Web App. They can prevent users from doing this by removing the option in the segmentation settings.

Demonstration: How to Configure Outlook Web App Policies

Question: How would you use Outlook Web App policies in your organization?

Answer: Answers will vary. Most organizations will probably apply the same policies to all users, but some organizations may want to provide more or fewer features to some groups within the organization.

Detailed Demonstration Steps

Demonstration: How to Configure User Options by Using the Exchange Control Panel

Demonstration Steps

▶ **Configure user options by using the Exchange Control Panel**

1. On NYC-EX10, click **Start**, point to **Administrative Tools**, and then click **Internet Information Services (IIS) Manager**.

2. Expand **NYC-EX10 (Contoso\Administrator)**, expand **Sites**, expand **Default Web Site**, and then click **ecp**.

3. In the center pane, and under **IIS**, double-click **SSL Settings**. Notice that SSL is required by default.

4. Close Internet Information Services (IIS) Manager.

5. Click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

6. In the console tree, expand **Server Configuration**, and then click **Client Access**.

7. In the work pane, select **NYC-EX10**, and in the result pane, click the **Exchange Control Panel** tab.

8. Right-click **ecp (Default Web Site),** and then click **Properties**.

9. On the **General** tab, in the **External URL** box, type **https://nyc-ex10.contoso.com/ecp.** This URL should match the URL used on the ecp virtual directory.

10. Click the **Authentication** tab, verify that **Use forms-based authentication** is selected, and then click **OK**. In the **Microsoft Exchange Warning** dialog box, click **OK**.

11. On NYC-EX10, click **Start**, click **All Programs**, and then click **Internet Explorer**.

12. In the **address** field, type **https://NYC-EX10.contoso.com/ecp**, and then press Enter.

13. Log on to the Exchange Control Panel as **Contoso\Luca**, with the password, **Pa$$w0rd**.

14. On the **Account** tab, click **Edit**, click **Contact Numbers**, and in the **Work phone** box, type **555-5555**. Click **Save**, and verify that the updated phone number is listed.

15. On the **Account** tab, under **Shortcuts to things you can do**, review options to configure **Tell** people **you are on vacation**, and **Change password**.

16. In the left pane, click **Organize E-Mail**. Notice that on the **Organize E-Mail** tab, users can configure **Inbox Rules, Automatic Replies** and view **Delivery Reports**.

17. Click on **Delivery Reports**, and review options to search for delivery information about messages you have sent or received. You can also enter keywords in order to narrow your search.

18. In the left pane, click **Groups**. Notice that on the **Groups** tab, users can view the groups to which they belong and manage any groups that they own. Users can also choose to join a group and leave a group.

19. In the left pane, click **Settings**. Review all configuration options:

   - Mail–Use to configure several options for managing email, such as email signature, message format, configuring how to sort messages in conversation view.

- Spelling–Use to choose dictionary for spell checking.

- Calendaring–Use to configure calendar appearance, reminders and automatic processing of meeting requests.

- General–Use to configure email address resolution and accessibility options.

- Regional–Use to configure your date and time formats, and your time zone.

- Password–Use to change your password

- S/MIME–Use to configure email security options for encrypting and digitally signing messages you send.

20. In the left pane, click **Phone**. Notice that on the **Phone** tab, users can manage their own mobile devices that have synchronized with Exchange Server 2010.

21. In the left pane, click **Block or Allow**. Notice that on the **Block or Allow** tab, users can configure their **Junk e-mail** settings as well as edit their safe recipients list.

22. Close Internet Explorer.

Demonstration: How to Configure Outlook Web App

Demonstration Steps

▶ Configure Outlook Web App

1. On NYC-EX10, click **Start**, point to **Administrative Tools**, and then click **Internet Information Services (IIS) Manager**.

2. Expand **NYC-EX10 (Contoso\Administrator)**, expand **Sites**, expand **Default Web Site**, and then click **owa**.

3. In the center pane, and under **IIS**, double-click **SSL Settings**. Notice that SSL is required by default.

4. Under Sites, click **Default Web Site**, and in the Actions pane, click **Bindings**.

5. In the **Site Bindings** dialog box, the **https** instance associated with the *** IP Address**, and then click **Edit**.

6. Verify that the SSL certificate used for the Outlook Web App site is the certificate named **NYC-EX10.contoso.com**.

7. Click **OK**, click **Close**, and then close Internet Information Services (IIS) Manager.

8. Click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

9. In the console tree, expand **Microsoft Exchange On-Premises,** expand **Server Configuration**, and then click **Client Access**.

10. In the work pane, select **NYC-EX10**, in the result pane, right-click **owa (Default Web Site),** and then click **Properties**.

11. On the **General** tab, in the **External URL** box, type **https://nyc-ex10.contoso.com/owa.**

12. Click the **Authentication** tab, and verify that **Use forms-based authentication** is selected.

13. Under **Logon Format**, click **User name only**, and then click **Browse**.

14. Click **Contoso.com**, and then click **OK**.

15. Click the **Segmentation** tab, click **All Address Lists**, and then click **Disable**. The **Segmentation** tab allows you to enable and disable features for Outlook Web App users.

16. Click on the **Public Computer File Access** tab, and then under **Direct File Access**, click **Customize**.

17. Review the settings for **Always Allow, Always Block, Force Save** and **Unknown Files**, and then click **Cancel**.

18. Under **WebReady Document Viewing**, click **Supported**.

19. In the **WebReady Document Viewing Settings** dialog box, click to select **Specific Document Types**, and then review the settings.

20. Click **Cancel**, click **OK**, read the **Microsoft Exchange Warning** dialog box, and then click OK again.

21. Click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

22. Type **IISReset**, and then press Enter. This allows the logon and segmentation changes to take effect.

23. In the Exchange Management Shell, type **set-owavirtualdirectory 'owa (Default Web Site)' – ForceSaveFileTypes .xls**, and then press Enter.

    This command forces attachments with a .xls extension to be saved to disk before they can be opened. Any existing **ForceSaveFileTypes** are overwritten. The attachment control settings for file types and Multipurpose Internet Mail Extensions (MIME) types can be configured by using the **Set-OwaVirtualDirectory cmdlet.** File attachment control settings include:

    - **ActionForUnknownFileAndMIMETypes.** Specifies how to handle files that are not included in other file access management lists. Files can be allowed, blocked, or force-saved.

    - **AllowedFileTypes**. Specifies the file extensions of attachments that the user is allowed to save locally, or view from a web browser.

    - **AllowedMIMETypes.** Specifies the MIME types of attachments that users can save locally, or view from a web browser.

    - **BlockedFileTypes**. Specifies the file extensions of attachments that are blocked.

    - **BlockedMIMETypes.** Specifies the MIME types of attachments that are blocked.

    - **ForceSaveFileTypes**. Specifies the file extensions of attachments that the user is forced to save locally, rather than view from a web browser.

    - **ForceSaveMIMETypes.** Specifies the MIME types of attachments that the user is forced to save locally, rather than view from a web browser.

    Note   In cases where there is a conflict between management settings for file access, the following precedence applies: Allow overrides both Block and Force Save. Block overrides Force Save. For example, if you configure .doc files as both a blocked file type and an allowed file type, .doc files will be allowed.

24. Type **set-owavirtualdirectory 'owa (Default Web Site)' –GzipLevel Off,** and then press Enter.

    This command disables Gzip compression for Outlook Web App. Gzip compression improves performance over slow network connections by compressing content. Implementing Gzip compression may slow server performance due to increased CPU utilization. Additional valid values for the GzipLevel options are High and Low. The default value is Low.

25. Type **Set-OwaVirtualDirectory -identity "Owa (Default Web Site)" -FilterWebBeaconsAndHtmlForms ForceFilter**, and then press Enter.
    The possible values for **FilterWebBeaconsandHtmlforms** are as follows:

    - UserFilterChoice. By default, this value blocks web beacons and HTML forms, but lets the user allow web beacons and HTML forms on individual messages.

    - ForceFilter. This value blocks all web beacons and HTML forms.

    - DisableFilter. This value allows web beacons and HTML forms.

26. Type **IISReset**, and then press Enter.

27. Close the Exchange Management Shell.

Demonstration: How to Configure Outlook Web App Policies

Demonstration Steps

▶ **Configure Outlook Web App policies**

1. On NYC-EX10, click **Start**, point to **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. Expand **Organization Configuration**, and then click **Client Access**.

3. In the **Actions** pane, click **New Outlook Web App Mailbox Policy**.

4. In the **New Outlook Web App Mailbox Policy** page, type **Marketing Policy** as the Outlook Web App mailbox policy name.

5. In the list of features, click **Change Password,** and then click **Disable**.

6. Click **New**, and then click **Finish**.

7. Right-click **Marketing Policy**, and then click **Properties**.

8. On the **Public Computer File Access** tab, clear all check boxes.

9. On the **Private Computer File Access** tab, clear all check boxes, and then click OK.

10. Under **Recipient Configuration**, click **Mailbox**.

11. In the **Mailbox** list, double-click **Paul West**.

12. On the **Mailbox Features** tab, click **Outlook Web App**, and then click **Properties**.

13. Select the **Outlook Web App mailbox policy** check box, and then click **Browse**.

14. Click **Marketing Policy**, and then click **OK** three times.

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

16. In the **address** field, type **https://NYC-EX10.contoso.com/owa**, and then press Enter.

17. Log on to **Outlook Web App** as **Contoso\Paul**, with the password, **Pa$$w0rd**.

18. On the Outlook Web App page, click **Options** and then click **See All Options**.

19. If prompted for authentication, log on as **Contoso\Paul**, with the password, **Pa$$w0rd**.

20. In the left pane, click **Settings**. Notice that you do not have the option to change the user password.

21. Close Internet Explorer.

Lesson 5

Configuring Mobile Messaging

Contents:

Question and Answers

Options for Securing Exchange ActiveSync

Question: What are the security concerns with Exchange ActiveSync?

Answer: The security concerns relate to the security of the mobile device, and the security of the network connections to the Client Access server. Mobile devices are easily lost or stolen, and may contain confidential information. This means that organizations should use Exchange ActiveSync policies to restrict access to mobile devices, and be prepared to wipe mobile devices that are lost or stolen. Securing the network traffic requires that the Client Access server and all client devices be configured to use SSL.

Question: What level of security will your organization require?

Answer: Answers will vary. Some organizations will set very stringent requirements (or may ban Exchange ActiveSync completely). Other organizations may not require any security. Be prepared to discuss the implications of each scenario.

Demonstration: How to Configure Exchange ActiveSync Policies

Question: What types of Exchange ActiveSync policies will you implement in your organization?

Answer: Answers will vary. However, some of the most likely implementation options will be for password security, wiping lost devices, and selecting which data to synchronize.

Demonstration: How to Manage Mobile Devices

Question: What are the implications of using remote wipe as an administrator or user?

Answer: Remote wipe removes all configuration and data on the mobile device, and returns it to the factory defaults. This means that if the device is recovered, it needs to be reconfigured. This is not difficult if you enable Autodiscover for Exchange ActiveSync.

Question: How will you manage mobile devices in your organization?

Answer: Answers will vary. Some organizations will be quite resistant to having the administrator wipe a mobile device, while other organizations will recognize the security risk posed by a mobile device that has been lost or stolen.

Detailed Demonstration Steps

Demonstration: How to Configure Exchange ActiveSync Policies

Demonstration Steps

▶ **Configure Exchange ActiveSync policies**

1. On NYC-EX10, if required, open the **Exchange Management Console**.

2. In the console tree, expand **Organization Configuration**, and then click **Client Access**.

3. In the **Actions** pane, click **New Exchange ActiveSync Mailbox Policy**.

4. In the **Mailbox policy** name box, type **EAS Policy 1**.

5. Confirm that the **Allow attachments to be downloaded to device** check box is selected. This option is required for mobile devices to synchronize attachments and store them locally on the device.

6. Select the **Require password** check box. This forces all accounts that synchronize to have a password. Any mailboxes without a password cannot be synchronized to a mobile device when this option is enabled. There also are additional password requirements you can enable.

7. Select the **Enable password recovery** check box. This will enable users to recover their Windows Mobile password through the Exchange Control Panel.

8. Click **New** to create the mobile mailbox policy.

9. Read the completion summary, and then click **Finish**. Notice the Exchange Management Shell command that creates the new mobile mailbox policy.

10. Right-click **EAS Policy 1**, and then click **Properties**. Notice that the **General** tab has additional options.

11. Click the **Password** tab. Notice that there is an additional password option listed—**Number of failed attempts allowed**— that was not available when creating the mobile mailbox policy. This password option wipes the device of all data after the specified number of failed attempts.

12. On the **Sync Settings** tab, review the configuration options.

13. On the **Device** tab, review the configuration options.

14. On the **Device Applications** tab, review the configuration options. To implement these settings, you must have an Enterprise Client Access License for each mailbox.

15. On the **Other** tab, review the options for allowing or blocking specific applications, and then click **OK**.

16. In the console tree, expand **Recipient Configuration**, and then click **Mailbox**.

17. In the results pane, right-click **Paul West**, and then click Properties.

18. Click the **Mailbox Features** tab, click Exchange ActiveSync, and then click **Properties**.

19. In the **Exchange ActiveSync Properties** dialog box, click **Browse**.

20. Select **EAS Policy 1**, and then click **OK**.

21. Click **OK** twice to save and apply the changes.

Demonstration: How to Manage Mobile Devices

Demonstration Steps

▶ **Manage mobile devices**

1. On NYC-EX10, open **Internet Explorer**, and connect to **https://nyc-ex10.contoso.com/ecp**.

2. Log on as **Contoso\Luca**, with the password, **Pa$$w0rd**. If the **Regional Settings** page appears, click **OK**.

3. Click **Phone**. This is where a user can manage provisioned mobile devices.

4. On NYC-EX10, in the **Exchange Management Console**, under **Recipient Configuration**, click **Mailbox**.

5. In the result pane, click **Luca Dellamore**. If a mobile device was provisioned to Luca, the administrator would be able to manage the mobile device from the Actions pane. Actions include features such as remote wipe.

6. In the Exchange Control Panel, in the upper-right corner, click **Sign Out**.

7. On NYC-EX10, open **Internet Explorer**, and connect to **https://nyc-ex10.contoso.com/ecp**.

8. Log on as **Contoso\Administrator**, with the password, **Pa$$w0rd.**

9. Click **Phone&Voice** on the **Manage My Organization** page. This is where the administrator manages ActiveSync Access and ActiveSync Device Policies in Exchange Control Panel.

10. Under Exchange ActiveSync Access settings, click **Edit**.

11. In the Exchange ActiveSync Access Settings window, review the options to configure the device state to Allow access, Block access and Quarantine. Review the options to configure email notifications when the device is quarantined. Review the option to customize a message sent to users who have a device in quarantine, and then click Cancel.

12. Under **Quarantined Devices**, review the information that will display when a device is in quarantined state.

13. Under **Device Access Rules**, click **New**.

14. In the Exchange ActiveSync Device Access Rule window, review the options to define the types or models of devices that are being managed, and what default settings will be applied to the devices.

Module Review and Takeaways

Review Questions

Question: You need to ensure that users from the Internet can connect to a Client Access server by using Outlook Anywhere. How will you configure the firewall between the Internet and the Client Access server?

Answer: You need to enable port 443 access to the Client Access server, and then enable access to the \RPC virtual directory.

Question: You need to ensure that the same Exchange ActiveSync policies are assigned to all users, with the exception of the Executives group. This group requires higher security settings. What should you do?

Answer: You should configure the default Exchange ActiveSync Mailbox policy with the settings for all users. You should then create a new policy for the Executive group, and assign the policy to all members of the Executive group.

Question: You have deployed an Exchange Server 2010 server in an organization that includes several Exchange Server 2003 servers. How will Exchange Server 2010 obtain free\busy information for user mailboxes on the Exchange Server 2003 servers?

Answer: The Client Access server will query the SCHEDULE+ FREE BUSY public folder on an Exchange Server 2003 server.

Common Issues related to Client Connectivity to the Client Access Server

Identify the causes for the following common issues related to client connectivity to the Client Access server, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting tip
Clients receive certificate-related errors when they connect to the Client Access server.	Ensure that the certificate configured on the Client Access server is trusted by all clients. The best way to do this is to obtain a certificate from a trusted Public CA.
Users from the Internet are not able to connect to the Client Access server.	Use a tool such as Microsoft Exchange Remote Connectivity Analyzer to identify the issue. Many components must be functioning to enable connectivity. The Remote Connectivity Analyzer tool will check information such as DNS records, authentication, certificate issues, and Autodiscover.

Real-world Issues and Scenarios

Question: Your organization has two locations with an Internet connection in each location. What should you do to ensure that when users access their email using Outlook Web App from the Internet, they will always connect to the Client Access server in their home office?

Answer: First, configure an external URL for each Client Access server. The external URL will be the name that the clients use to connect to the server. Next, ensure that you have configured a DNS host record for each Client Access server using the external URL.

Question: You are planning on enabling Outlook Web App, Outlook Anywhere, and Exchange ActiveSync access to your Client Access server. You want to ensure that all client

connections are secure by using SSL, and that none of the clients receives errors when they connect to the Client Access server. You plan on requesting a certificate from a public CA. What should you include in the certificate request?

Answer: You should request a certificate with multiple subject alternative names so that all client connections are supported using the following host names: the server name that will connect clients to Exchange Client Access Server 2010, Autodiscover name, and the legacy host name that will be assigned to your legacy Exchange Front End Server 2003 or Exchange Client Access Server 2007.

Question: You have deployed two Client Access servers in the same Active Directory site. When one of the Client Access servers shuts down, users can no longer access their email. What should you do?

Answer: You should configure the Client Access servers in an array to ensure redundancy.

Best Practices Related to Planning the Client Access Server Deployment

Supplement or modify the following best practices for your own work situations. When designing the Client Access server configuration, consider the following recommendations:

- The recommended processor configuration for Client Access servers is eight processor cores, and the maximum recommended number of processor cores is 12. You should deploy at least two processor cores for Client Access servers—even in small organizations—because of the additional loads placed on the Client Access server in Exchange Server 2010.

- As a general guideline, you should deploy three Client Access server processor cores in an Active Directory site for every four Mailbox server processor cores.

- The recommended memory configuration for Client Access server is 2 gigabytes (GB) per processor core, with a maximum of 8 GB. The recommended minimum memory is 4 GB.

- Deploying Client Access servers on a perimeter network is not a supported scenario. You should deploy the Client Access server on the internal network. You must install the Client Access server role on a member server, and it must have access to a domain controller and global catalog server, as well as the Mailbox servers inside the organization.

Tools

Tool	Use for	Where to find it
Microsoft Exchange Remote Connectivity Analyzer	Troubleshooting Internet connectivity for messaging clients	http://go.microsoft.com/fwlink/?LinkId =179969
Test E-Mail AutoConfiguration	Troubleshooting Outlook Connectivity to the Client Access server	Open **Microsoft Outlook 2010**, press and hold Ctrl, right-click the Outlook connection object, and then click **Test E-Mail AutoConfiguration.**
Internet Information Server (IIS) Manager	Configuring SSL settings for Client Access server virtual directories	Administrative Tools

Lab Review Questions and Answers

Use the questions on the slide to guide the debriefing after students have completed the lab exercises.

Question: What additional steps could you take to enhance the security for the Outlook Web App and Exchange ActiveSync connections in your organization?

Answer: You could install a reverse proxy server so that clients do not connect directly to the Client Access server. Some reverse proxy solutions also support multi-factor authentication, which provides an additional level of security.

Question: How would you modify the procedures in this lab if you needed to ensure that users cannot download attachments using Outlook Web App?

Answer: You would need to block all attachment downloads on the Outlook Web App virtual directory. You could still enable WebReady Document Viewing.

Module 6
Managing Message Transport

Contents:

Lesson 1

Overview of Message Transport

Contents:

Question and Answers

Components of Message Transport

Question: What transport server component is responsible for sending messages to the Hub Transport server role from the user's Outbox?

Answer: The Microsoft Exchange Mail Submission service notifies the Hub Transport server when messages are in a user's Outbox.

How Messages Are Routed Between Active Directory Sites

Question: Is Active Directory site topology the only consideration when Exchange Server 2010 makes message routing decisions?

Answer: No. Normally, Exchange Server 2010 directly contacts the Hub Transport server located in the same Active Directory site as the mailbox. The Active Directory site topology is only considered when a Hub Transport server in the target Active Directory site is not available.

Options for Modifying the Default Message Flow

Question: Will you use hub sites in your Exchange Server 2010 organization? When would you use hub sites, and when not?

Answer: You use hub sites when your source Exchange server cannot directly communicate with the target Exchange server, possibly because network communication does not allow it. Thus, you would consider hub sites when you do not have direct network communication between all of your Exchange servers.

Message Routing Between Exchange Server 2003 and Exchange Server 2010

Question: Do you need to consider using Routing Group connectors when you do not use Exchange Server 2003?

Answer: No. You only need to use Routing Group connectors when you have Exchange Server 2003 in place and want to connect Exchange Server 2003 with Exchange Server 2010.

Tools for Troubleshooting SMTP Message Delivery

Question: What is the best tool to quickly test the SMTP port response of an Exchange 2010 Hub Transport server?

Answer: Use Telnet to directly communicate to the SMTP service of an Exchange server.

Detailed Demonstration Steps

Demonstration: Troubleshooting SMTP Message Delivery

Demonstration Steps

1. On NYC-SVR1, click **Start**, point to **All Programs**, point to **Accessories**, and then click **Command Prompt**.

   Note that we now will use Telnet to verify that the Exchange server responds correctly.

2. At the command prompt, type **Telnet NYC-EX10 SMTP**, and then press Enter.

   Note that you can use the port number or the service name to directly communicate with an IP port. By typing SMTP, you automatically use port 25.

   When the Exchange server responds, note that the connection is working, and that the server responds to the request. Therefore, there is no problem with a firewall. Also note that if the response does not include the information shown, something is most likely wrong with a firewall, or the Microsoft Exchange Transport service is not started on the Exchange server.

3. At the command prompt, type **helo**, and then press Enter.

4. At the command prompt, type **help**, and then press Enter.

   Note that the services that the Exchange server offers are displayed. For example, the STARTTLS service indicates that Transport Layer Security (TLS) is available for secure communication. You need this command if you are troubleshooting connection issues and are wondering what services are offered by the target SMTP server.

5. Type **mail from:admin@internet.com**, and then press Enter.

   After you press Enter, the connection is lost and you receive a "client was not authenticated" message. This means that the Exchange server expects authentication before it can send messages. This also indicates that anonymous users are not enabled for this Receive connector.

6. Type **exit**, and then press Enter.

7. On NYC-EX10, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

8. In Exchange Management Console, expand **Microsoft Exchange On-Premises**, and then click **Toolbox**.

9. In the Toolbox pane, scroll down to **Mail flow tools**, and then double-click **Queue Viewer**.

   Note that the Queue Viewer looks at the message queues of the local server. Therefore, you will see immediately if a message is not delivered correctly. If there is a message in the queue, you can view the error message and its properties, such as retry.

10. Right-click the **Submission**queue, and then click **Suspend**.

    This stops the queue so that it delivers no more messages. Thus, you can manually stop specific queues on an Exchange server by using the Queue Viewer. If you write a new email message, it remains in the queue until the administrator resumes the queue.

11. Right-click **Submission** queue, and then click **Resume**.

12. Close the Queue Viewer.

13. Start Internet Explorer, connect to https://NYC-EX10.contoso.com/OWA, and then log on as **Contoso\Christine**, with the password, **Pa$$w0rd**.

14. Create and send a new email message to Alan and Christine, with the subject **Test Mail to NYC-EX11**. Close Internet Explorer.

15. In the Exchange Management Console, from the Toolbox pane, scroll down to **Mail flow tools**, and then double-click **Message Tracking**. Log on as **Contoso\administrator** using the password **Pa$$w0rd**. Internet Explorer opens to the Exchange Control Panel **Delivery Reports** tab.

16. In the Delivery Reports pane, in **Mailbox to search**, click **Browse**, select Christine's mailbox, click **OK**, and then click **Search**.

17. In **Search Results**, double-click the latest message to display the delivery report. Make sure you click **Alan** to verify that the message was successfully delivered.

Additional Reading

Components of Message Transport

- MSPress: Exchange Server 2010 Best Practices, Chapter 5: Routing and Transport

- [Understanding the Pickup and Replay Directories](#)

Tools for Troubleshooting SMTP Message Delivery

- [Microsoft Exchange Analyzers](#)

- Helpfile: Use Telnet to Test SMTP Communication

Lesson 2

Configuring Message Transport

Contents:

Question and Answers

Process for Configuring Hub Transport Servers

Question: What is an authoritative domain?

Answer: An authoritative domain is one for which the Exchange Server organization accepts messages and has mailboxes.

What Are Accepted Domains?

Question: What is an internal relay domain?

Answer: An internal relay domain relays mail to other messaging organizations in other Active Directory forests.

What Are Remote Domains?

Question: When do you need to configure remote domains?

Answer: You need to configure remote domains when your users require specific settings—such as read receipts—for one or more domains in the Internet.

What Is an SMTP Connector?

Question: When do you require additional SMTP Send connectors?

Answer: You need additional SMTP Send connectors when you want to route mail for a specific domain such as Contoso.com to a specific SMTP server.

Designing Inbound and Outbound Message Flow

Question: Do you need to plan MX records when planning for inbound or outbound message flow?

Answer: Plan MX records for inbound message flow, because the MX records define how messages are sent to your organization from the Internet.

What Is Back Pressure?

Question: Do you need to configure back pressure?

Answer: No. In most situations, the default configuration is sufficient because back pressure is automatically enabled in Exchange Server 2010.

Detailed Demonstration Steps

Demonstration: Configuring Hub Transport Servers

Demonstration Steps

1. On NYC-EX10, if required, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In Exchange Management Console, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Hub Transport**.

3. On the **Global Settings** tab, double-click **Transport Settings**. Note the options on the **General** tab.

4. In the **Transport Settings Properties** dialog box, click the **Message Delivery** tab, and then click **OK**.

5. In Exchange Management Console, expand **Server Configuration**, and then click **Hub Transport**.

6. In the **Hub Transport** pane, right-click **NYC-EX10**, and then click **Properties**. Note the options on the **Log Settings** tab and the **Limits** tab.

7. In the **NYC-EX10 Properties** dialog box, click the **Log Settings** tab.

8. Click the **Limits** tab, and then click **OK**.

9. Click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

10. At the command prompt, type **Get-TransportServer -I NYC-EX10 |fl,** and then press Enter.

Demonstration: Configuring Accepted and Remote Domains

Demonstration Steps

1. On NYC-EX10, if required, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In Exchange Management Console, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Hub Transport**.

3. Click the **Accepted Domains** tab.

4. In the **Accepted Domains** pane, double-click **Contoso.com**, and then click **OK**.

5. In the **Actions** pane, click **New Accepted Domain**.

6. In the New Accepted Domain window, in the **Name** box, type **contoso.local**, and in the **Accepted Domain** box, type **contoso.local**.

7. Click **Internal Relay Domain**, and then click **New**. Review what is required to create a new internal relay domain.

8. Click the **Finish** button.

9. Click the **Remote Domains** tab. Review what the "*" default settings in remote domains mean.

10. Double-click **Default**, and review the settings available on the default remote domain. These settings apply to all messages sent outside the organization. Click **OK**.

11. In the **Actions** pane, click **New Remote Domain**.

12. In the New Remote Domain window, in the **Name** box, type **adatum.com**, and in the **Domain name** box, type **adatum.com**.

13. Click **New**, and then click **Finish**.

14. In the **RemoteDomains** pane, double-click **adatum.com**. Review the configuration options.

15. Click **Cancel.**

Demonstration: Configuring SMTP Send and Receive Connectors

Demonstration Steps

1. On NYC-EX10, if required, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In Exchange Management Console, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Hub Transport**.

3. Click the **Send Connectors** tab.

4. In the **Actions** pane, click **New Send Connector**.

5. In the New Send Connector window, in the **Name** box, type **adatum.com**.

6. In the **Select the intended use for this Send connector** list, click **Internet**, and then click **Next**.

7. In the **Addressspace** pane, click **Add**.

8. In the **SMTP Address Space** dialog box, in the **Address space** box, type **adatum.com**, and then click **OK**.

9. Click **Next**.

10. In the **Network settings** pane, click **Use domain name system (DNS) "MX" records to route mail automatically**, and then click **Next**.

11. In the **Source Server** pane, click **Next**.

12. In the **New Connector** pane, click **New**, and then click **Finish**.

13. In the **Send Connectors** pane, double-click **adatum.com**.

14. Click **Cancel**.

15. Expand **Server Configuration**, and then click **Hub Transport**.

16. In the **NYC-EX10** pane, click **New Receive Connector**.

17. In the New Receive Connector window, in the **Name** box, type **Anonymous Receive**.

18. In the **Select the intended use for this Receive connector** list, click **Internet**, and then click **Next**.

19. In the **Local Network settings** pane, click **Edit**.

20. In the **End Receive Connector Binding** window, in the **Port** box, type **2525**, click **OK**, and then click **Next**.

21. In the **Configuration Summary** pane, click **New**.

22. In the **Completion** pane, click **Finish**.

Additional Reading

What Are Remote Domains?

- Character Sets

What Is an SMTP Connector?

- TechNet: Understanding Send Connectors

- TechNet: Understanding Receive Connectors

- TechNet: Allow Anonymous Relay on a Receive Connector

What Is Back Pressure?

- Additional information about how to configure back pressure is available in the Exchange Server 2010 Help file.

Module Reviews and Takeaways

Review questions

Question: In what four ways can a message enter the Hub Transport server submission queue?

Answer: Messages enter the submission queue from either an SMTP Receive connector, the Pickup directory, as submitted by the store driver, or as resubmitted after a failed delivery.

Question: When would you consider implementing Exchange Server-specific routing costs?

Answer: Answers will vary. Typically, you would implement Exchange Server-specific site-link costs when the underlying Active Directory Domain Services (AD DS) site-link costs are not ideally suited to support your message routing infrastructure, and you are unable to reconfigure those costs—perhaps because other Active Directory-aware applications rely on the existing costs to function correctly.

Question: What Exchange Server version would you implement if you need to consider Routing Group connectors with Exchange Server 2010?

Answer: Only Exchange Server 2003 requires Routing Group connectors to be implemented when communicating with Exchange Server 2010.

Common Issues Related to Managing Message Transport

Identify the causes for the following common issues related to managing message transport, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
You configure a Send Connector to the Internet, but messages cannot be transferred over it.	Use Telnet on the Hub Transport server that is trying to send the mail, and connect to the target SMTP server in the Internet to see what the issue is. Many times, you cannot reach the Internet because of DNS resolution or firewall settings.
You want to understand over what hops the message has been transferred.	Use Message Tracking or view the header of the message in Outlook Web App.
Your Exchange Server does not accept messages for the domain adatum-info.com.	Verify that this domain is part of the Accepted Domains in Organization Configuration under Hub Transport.

Lab Review Questions and Answers

Question: To enable outbond Internet email from each of Contoso's location, what would you need to configure?

Answer: You must ensure that local Internet connectivity is available at every location, and you then need to configure an SMTP Send connector at every site.

Question: A user reports that a message sent to another user in another company had not been received, even after two hours. How would you troubleshoot this?

Answer: Use Message Tracking to see if the email left Contoso, and then use Queue Viewer to verify that the email is not stuck in any queues.

Question: Contoso has bought some new locations, and you want to ensure that all email messages are passed through the main site in New York. How would you do that?

Answer: Possible answers include:

- Configure hub sites to add additional hops to the message delivery.
- Configure Exchange Server-specific routing costs to override the IP site-link costs.
- Configure expansion servers for distribution groups.

Module 7

Implementing Messaging Security

Contents:

Lesson 1

Deploying Edge Transport Servers

Contents:

Question and Answers

What Is the Edge Transport Server Role?

Question: Is it a viable solution to install an Edge Transport server role as a member of the internal Active Directory domain?

Answer: No, you should never install an Edge Transport server role on a computer that is a member of the internal Active Directory domain.

What Is AD LDS?

Question: Do you need to configure AD LDS on your Edge Transport server manually?

Answer: No, you only need to add the feature to the Edge Transport server; the rest is done automatically during Exchange Server 2010 setup.

What Is Edge Synchronization?

Question: Can you deploy Edge Transport servers without using EdgeSync?

Answer: Yes, you can deploy Edge Transport servers without using EdgeSync, but using EdgeSync decreases the effort needed to administer the Edge Transport servers.

How Internet Message Flow Works

Question: When using Edge synchronization, do you need to create additional Send or Receive connectors?

Answer: No, you do not need to create extra connectors. Edge synchronization creates one Send connector and one Receive connector that you can use for the most common scenarios. However, you may need to add additional connectors, for example, when you need special connector settings to communicate with a destination domain.

What Is Cloned Configuration?

Question: When using cloned configuration with your Edge Transport servers, what extra fact should you consider?

Answer: If you are using transport rules on your Edge Transport servers, you need to export and import them separately, because the ExportEdgeConfig.ps1 script does not export them.

Detailed Demonstration Steps

Demonstration: How to Configure Edge Transport Servers

Demonstration Steps

📋   **Note** To successfully perform the demonstrations in this module, you will need to install the Edge Transport Server role on 10165A-NYC-SVR-B. Follow the steps in Lab A: Exercise 1 to install the Edge Transport Server role.

1. On NYC-SVR1, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In Exchange Management Console, in the left pane, click **Edge Transport**. Note that the console displays only the Edge Transport server, and that there is no organization node. You must manage each Edge Transport server individually.

3. Review the configuration options on the **Anti-spam** tab. These settings will be covered in detail later in the module.

4. Click the **Receive Connectors** tab, and then double-click **Default internal receive connector NYC-SVR1**.

5. Review the Receive connector properties. This connector will accept SMTP connections from all IP addresses, and will accept anonymous connections. If you are using this server as a SMTP gateway server, you do not need to configure any other receive connectors to enable the server to accept messages. Click **Cancel**.

6. Click the **Send Connectors** tab. Note that no Send connectors are configured on the server. To send email—either to the internal network or to the Internet—you will need to configure a Send connector.

7. Click the **Transport Rules** tab. Note that no transport rules are configured by default. You can use transport rules to apply actions to messages as they pass through the Edge Transport server.

8. Click the **Accepted Domains** tab. Note that no accepted domains are configured. This means that you would need to configure an accepted domain before the Edge Transport server will accept any messages.

Demonstration: How to Configure Edge Synchronization

Demonstration Steps

▶ **Enable Edge Synchronization**

1. On NYC-SVR1, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. In Exchange Management Shell, at the command prompt, type **New-EdgeSubscription -FileName "c:\NYC-SVR1.xml"**, and then press Enter.

3. At the confirmation prompt, enter **Y**, and then press Enter.

4. Click **Start**, in the **Search** box, type **\\NYC-EX10\c$**, and then press Enter.

5. Copy **c:\NYC-SVR1.xml** to the server **\\NYC-EX10\c$**.

📋 **Best Practice:** Remember that in real-world scenarios, it would be a security violation if you could copy the EdgeSubscription file directly from the Edge Transport server to the Hub Transport server. Normally, you should use a universal serial bus (USB) device or other means to copy the file.

6. On NYC-EX10, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

7. In Exchange Management Console, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Hub Transport**.

8. In the **Hub Transport** pane, click the **Edge Subscriptions** tab.

9. In the **Actions** pane, click **New Edge Subscription**.

10. In the New Edge Subscription window, select **Default-First-Site-Name** as **Active Directorysite**, and **C:\NYC-SVR1.xml** as the **Subscription** file, and then click **New**.

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

▶ Test Edge Synchronization

1. On NYC-EX10, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. In Exchange Management Shell, at the PS prompt, type **Start-EdgeSynchronization**, and then press Enter. Verify that the synchronization was successful.

3. In Exchange Management Shell, at the PS prompt, type **Test-EdgeSynchronization - FullCompareMode**, and then press Enter.

4. On NYC-SVR1, in the Exchange Management Console, click **Edge Transport**.

5. On the **Receive Connectors** tab, confirm that no new Receive connectors have been added. The default connector is configured to receive email from all source addresses on port 25.

▶ Configure address rewriting

1. On NYC-SVR1, if required, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

Note that when you configure address rewriting, Exchange Server rewrites all email messages with the domain name Adatum.com to display a domain name of Bdatum.com when they leave the organization. This feature is useful when an organization requires different mail domain names internally and externally.

2. In the Exchange Management Shell, at the command prompt, type the following, and then press Enter.

```
New-addressRewriteEntry -Name "Bdatum.com" -InternalAddress adatum.com -ExternalAddress
bdatum.com
```

Additional Reading

Edge Transport Server Role Infrastructure Requirements

- [Exchange Network Port Reference](#)

What Is Edge Synchronization?

- [Understanding Edge Subscriptions](#)

What Is Cloned Configuration?

- MSPress: Exchange Server 2010 Best Practices, Chapter 7: Edge Transport and Messaging Security

- [Configure Edge Transport Server Using Cloned Configuration](#)

Lesson 2

Deploying an Antivirus Solution

Contents:

Question and Answers

Antivirus Solution Features in Exchange Server 2010

Question: Does Exchange Server provide a built-in antivirus solution?

Answer: No, you have to consider a third-party antivirus solution such as Forefront Protection 2010 for Exchange Server.

What Is Forefront Protection 2010 for Exchange Server?

Question: What services does Forefront Protection 2010 for Exchange Server provide?

Answer: Forefront Protection 2010 for Exchange Server provides the following services: antivirus scan with multiple engines, full support for VSAPI, Microsoft IP Reputation Service, spam signature updates, premium spam protection, and automated content filtering updates.

Forefront Protection 2010 Deployment Options

Question: What is an antivirus stamp?

Answer: Forefront Protection 2010 for Exchange Server scans each email only once. The antivirus stamp is an indicator to other servers that a message has been scanned so that the other servers do not scan the message again.

Best Practices for Deploying an Antivirus Solution

Question: Why do you need to maintain regular antivirus pattern updates?

Answer: You need to update the antivirus patterns frequently to prevent a new virus from entering your organization. Otherwise, your antivirus product will use an old antivirus pattern file to scan messages.

Detailed Demonstration Steps

Demonstration: How to Install and Configure Forefront Protection 2010 for Exchange Server

Demonstration Steps

▶ **Install Forefront Protection 2010 for Exchange Server**

1. On 10165A-NYC-SVR1-B, click **10165A-NYC–SVR1-B**, and in the **Actions** pane, click **Settings**.

2. Click **DVD Drive**, and then click **Image File**.

3. Click **Browse**, and then browse to **C:\Program Files\Microsoft Learning\10165\Drives**. Click **ForeFrontInstall.iso** , click **Open**, click **OK**, and then close the AutoPlay window.

4. On NYC-SVR1, click **Start**, in the **Search** field, type **D:\,** and then press Enter.

5. In the Windows Explorer window, double-click **forefrontexchangesetup.exe**.

6. In the Setup Wizard, on the **License Agreement** page, click **I agree to the terms of the license agreement and privacy statement**, and then click **Next**.

7. On the Service Restart page, click **Next**.

8. On the Installation Folders page, click **Next**.

9. On the Proxy Information page, click **Next**.

10. On the Antispam Configuration page, click **Enable antispam later**, and then click **Next**.

11. On the Microsoft Update page, click **I don't want to use Microsoft Update**, and then click **Next**.

12. On the Customer Experience Improvement Program page, click **Next**.

13. On the Confirm Settings page, click **Next**. Wait for the installation to finish. It will take about five minutes.

14. On the Installation Results page, click **Finish**.

15. Close the Windows Explorer window.

▶ **Configure Forefront Protection 2010 for Exchange Server**

1. On NYC-SVR1, click **Start**, point to **All Programs**, point to **Microsoft Forefront Server Protection**, and then click **Forefront Protection for Exchange Server Console**.

2. In the **Evaluation License Notice** dialog box, click **OK**.

3. In the Forefront Protection 2010 for Exchange Server Administrator Console, in the left pane, click **Policy Management**.

4. In the **Policy Management** pane, expand **Antimalware**, and then click **Edge Transport**.

5. In the **Antimalware – Edge Transport** pane, in the **Engines and Performance section**, select the **Scan with a dynamically chosen subset of engines** option.

6. In the **AdditionalOptions** section, verify that the **Optimize for performance by not rescanning messages already virus scanned** check box is selected, and then click **Save**.

7. In the **Policy Management** pane, expand **Antispam**, and then click **Configure**.

8. In the **Antispam – Configure** pane, click the Enable Antispam Filtering button.

9. In the Service Restart Requiredwindow, click **Yes**.

10. Scroll down and then verify that the **Enable content filtering** check box is selected. Under SCL Thresholds and Actions, in the **Suspected spam** drop-down list, select **SCL 5 to 7**. Note the impact of this setting, and note the other options to reject or delete messages above this SCL setting.

11. Click **Save**.

12. In the **Policy Management** pane, expand **Global Settings**, and then click **Scan Options**. In the **Scan Targets – Transport** pane, under **Target types**, clear the **Internal**check box, and then click **Save**.

13. In the **Policy Management** pane, under **Global Settings**, click **Engine Options**. Under **Additional Options**, click **Update engines on server startup**, and then click **Save**.

14. Under **Global Settings**, click **Advanced Options**. Note the options that you can configure here, especially **Threshold Levels** and **Intelligent Engine Management**.

▶ **Manage Forefront Protection 2010 for Exchange Server**

1. In the Forefront Protection 2010 for Exchange Server Administrator Console, in the left pane, click **Monitoring**.

2. In the **Monitoring** pane, under **Server Security Views**, click **Incidents**. Note what kind of incidents you would see here. For example, a message that has a virus detected would appear here.

3. In the **Monitoring** pane, under **Server Security Views**, click **Quarantine**. Note that the items that were configured for Quarantine based on the SCL level are found here.

4. In the **Monitoring** pane, under **Server Security Views**, click **Dashboard**. Note the different monitors available on this page.

5. In the **Monitoring** pane, under **Configuration**, click **Notifications**. Note some of the available notifications and their uses. For example, you should consider whether to use Engine Update failed, because it is important for keeping your engines updated to prevent virus attacks. Also note the Virus found notification, which can be useful, especially in large organizations that detect dozens of viruses every day. Typically, a Virus found notification would not be useful permanently. It just makes sense to receive confirmation that viruses are being found correctly during the first couple of hours.

Additional Reading

What Is Forefront Protection 2010 for Exchange Server?

- [Protecting Your Microsoft Exchange Organization with Microsoft Forefront Security 2010 for Exchange Server](#)

Forefront Protection 2010 Deployment Options

- [Forefront Security2010 for Exchange Server Best Practices - Deployment considerations](#)

Lesson 3

Configuring an Anti-Spam Solution

Contents:

Question and Answers

Overview of Spam-Filtering Features

Question: Which anti-spam agents are available in Exchange Server 2010?

Answer: The following anti-spam agents are available in Exchange Server 2010: Connection Filtering, Content Filtering, Sender ID, Sender Filtering, Recipient Filtering, Sender Reputation Filtering, and Attachment Filter.

How Exchange Server 2010 Applies Spam Filters

Question: When a spam filter is applied because the message sender is found on the IP Block list, what happens to the other filters?

Answer: The message is blocked, and no other filters are applied.

What Is Sender ID Filtering?

Question: Where do you configure Sender ID for your domain?

Answer: Sender ID is configured in DNS, thus, you need to configure it in your DNS record in the Internet.

What Is Sender Reputation Filtering?

Question: When a sender sends the first message to your Exchange Server organization, what SRL rating will the SMTP sender be assigned?

Answer: The SMTP sender will receive an SRL rating of 0.

What Is Content Filtering?

Question: What does the Content Filter agent do?

Answer: The Content Filter agent rates the content of each message for its potential to be spam. An SCL rating of 9 indicates a high probability that the message is spam, whereas an SCL rating of 0 indicates that the message is most likely not spam.

Detailed Demonstration Steps

Demonstration: How to Configure Anti-Spam Options

Demonstration Steps

▶ Configure connection filters

1. On NYC-SVR1, if required, click **Start**, point to **All Programs**, point to **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

2. In the Exchange Management Console, click **Edge Transport**.

3. In the **Edge Transport** pane, click the **Anti-spam** tab.

4. In the **NYC-SVR1** pane, double-click **IP Allow List**.

5. On the **Allowed Addresses** tab, click **Add**. In the **Add Allowed IP Address- CIDR** dialog box, type **10.10.0.10**, and then click **OK** twice. Adding this entry means that all messages from this IP address will be accepted without additional content filtering.

6. In the **NYC-SVR1** pane, double-click **IP Block List**.

7. On the **Blocked Addresses** tab, click **Add**. In the **Add Blocked IP Address- CIDR** dialog box, type **10.10.0.12**, and then click **OK** twice. Adding this entry means that all SMTP connections from this IP address will be rejected.

8. In the **NYC-SVR1** pane, double-click **IP Block List Providers**.

9. In the **IP Block List Providers Properties** dialog box, click the **Providers** tab, and then click **Add**.

10. Type **Spamhaus** in the **Provider** name box, type **zen.spamhaus.org** in the **Lookup domain** box, and then click **OK** twice. After adding this entry, the Edge Transport server will query the IP block list provider whenever an SMTP server attempts to make a connection. If the SMTP server IP address is on the block list, the connection will be dropped.

▶ Configure sender and recipient filtering

1. In the **NYC-SVR1** pane, double-click **Recipient Filtering**.

2. On the **Blocked Recipients** tab, select the **Block messages sent to the following recipients** check box.

3. In the **Block messages sent to the following recipients** text box, type **Alan@contoso.com**, click **Add**, and then click **OK**.

4. On the **Anti-spam** tab, right-click **Sender Filtering**, and then click **Properties**.

5. On the **Blocked Senders** tab, click **Add**.

6. In the **Add Blocked Senders** dialog box, under **Individual e-mail address**, type **Max@contoso.com**, and then click **OK** twice.

▶ Configure Sender ID and Sender Reputation filters

1. On NYC-DC1, open DNS Manager.

2. Expand **Forward Lookup Zones**, and then click **contoso.com**.

3. Right-click **contoso.com**, and then click **Other New Records**.

4. In the **Resource Record Type** dialog box, click **Text (TXT)**, and then click **Create Record**.

5. In the **New Resource Record** dialog box, in the **Text** box, type
    v=spf1 ip4:10.10.0.40 –all, and then click **OK**. This record configures the Sender ID filter to accept connections only from 10.10.0.40 for the contoso.com domain. Normally, you would configure this entry on the DNS server that is responsible for your domain on the Internet.

6. In the **Resource Record Type** dialog box, click **Done**.

7. On NYC-SVR1, **in** Exchange Management Console, on the **Anti-spam** tab, right-click **Sender ID**, and then click **Properties**.

8. In the **Sender ID Properties** dialog box, on the **Action** tab, click **Reject Message**, and then click **OK**.

9. In the **NYC-SVR1** pane, double-click **Sender Reputation**.

10. On the **Action** tab, move the slider two stops to the left, and then click **OK**.

▶ Configure content filtering

1. On NYC-SVR1, in Exchange Management Shell, type **Set-Contentfilterconfig –quarantinemailbox Alan@contoso.com**, and then press Enter.

2. On NYC-SVR1, in the **Exchange Management Console**, on the **Anti-spam** tab, right-click **Content Filtering**, and then click **Enable**.

3. Right-click **Content Filtering**, and then click **Properties**.

4. On the **Custom Words** tab, in the **Allow messages containing these words or phrases** text box, type **Mortgages**, and then click **Add**.

5. In the **Block messages containing these words or phrases** text box, type **poker**, and then click **Add**.

6. On the **Exceptions** tab, in the **Don't filter messages sent to the following recipients** text box, type **Alan@contoso.com**, and then click **Add**.

7. On the **Action** tab, select the **Quarantine messages that have an SCL rating greater than or equal to** check box, and then set the value to **7**.

8. Set the **Reject messages that have an SCL rating greater than or equal to** value to **9**, and then click **OK**.

Additional Reading

Overview of Spam-Filtering Features

- [Understanding Anti-Spam and Antivirus Mail Flow](#)

Lesson 4

Configuring Secure SMTP Messaging

Contents:

Question and Answers

Discussion: SMTP Security Issues

Question: What are the security issues with SMTP?

Answer: SMTP is designed primarily around the idea of enabling cooperation and trust between servers. It is designed to accept any email, and then forward it to its destination. This is called relaying, and this can cause security issues. Additionally, SMTP is not encrypted by default.

Question: How do you currently secure SMTP?

Answer: Answers may vary. Some organizations may use encryption methods such as Transport Layer Security (TLS), Internet Protocol Security (IPSec), and virtual private network (VPN). Some organizations might also implement authentication and authorization to prevent relaying.

What Is Domain Security?

Question: Can you configure your Exchange Server to use Domain Security as the default for all domains to which you want to send messages?

Answer: No, Domain Security can be only configured on a per-domain level, and it must be configured on both the sending and receiving side.

Process for Configuring Domain Security

Question: When creating a digital certificate for your Edge Transport server so that you can use it for Domain Security, what do you need to consider?

Answer: The fully qualified domain name (FQDN) of the Edge Transport server name, because your Internet domains must be in the subject alternative name of the certificate.

Additional Reading

Process for Configuring Domain Security

- [White Paper: Domain Security in Exchange 2007](#)

Module Reviews and Takeaways

Review questions

Question: Is Edge synchronization a mandatory requirement?

Answer: No, you can use Edge synchronization to configure the Edge Transport server so that you can manage most of the settings from your Exchange Server organization. However, you can also have a stand-alone Edge Transport server.

Question: Which Exchange Server versions support the Domain Security feature?

Answer: You can use Domain Security or mutual TLS only when both the sending and receiving domains have Exchange Server 2007 or Exchange Server 2010 installed.

Question: Does the Edge Transport server role in Exchange Server 2010 include virus-scanning capabilities?

Answer: The Edge Transport server role includes only basic antivirus features. For virus scanning capabilities, you need to use third-party software such as Forefront Protection 2010 for Exchange Server. or other similar products.

Common Issues Related to Edge Synchronization and Domain Security

Identify the causes for the following common issues related to implementing messaging security, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
You configured Domain Security with a partner domain, but messages only use TLS for message encryption, not mutual TLS or Domain Security.	Ensure both domains trust each other's CA. In addition, Domain Security must be configured on both the local side and the partner side.
Edge synchronization is not working anymore.	Use Test-EdgeSychronization -FullCompareMode to verify that the connection is established. If that does not work, try to reestablish Edge synchronization.
You are logged on to your Windows Server 2008 computer using your own account. When you run **Test-EdgeSynchronization**, it indicates that the connection is broken.	When you use your own account, instead of an administrator account, to log on to a Windows Server 2008 computer, ensure that you always start Exchange Management Shell in Administrator mode. You sometimes need full access to run a cmdlet.

Best Practices Related to Implementing Message Security

Supplement or modify the following best practices for your own work situations:

- If you have a smart host available that is servicing messages to and from the Internet, you do not need to consider Edge Transport servers for your organization.

- Always implement at least one antivirus solution in your Exchange Server organization.

  Domain Security can only be configured between Exchange Server 2007 or Exchange Server 2010 organizations if they do not have a smart host in between. Thus, you should talk to your partner organization and ask if they use Edge Transport servers before you can implement Domain Security.

Lab Review Questions and Answers

Question: After implementing new certificates on your existing Edge Transport server, what do you need to do?

Answer: You need to perform Edge synchronization, because the new certification breaks the connection.

Question: Does Protection 2010 scan messages multiple times as they pass through Edge Transport and Hub Transport servers?

Answer: No. Messages are tagged the first time they are scanned, and are not scanned again.

Question: What anti-spam agents are available in Exchange Server 2010?

Answer: Anti-spam agents include: Connection Filtering, Content Filter, Sender ID, Sender Filter, Recipient Filter, Protocol Analysis, and Attachment Filter.

Question: What is the purpose of the SCL threshold?

Answer: The SCL threshold is the threshold value that specifies whether a message is categorized as spam, or as a valid message.

Question: What is a possible issue that you must consider when implementing Domain Security for your partner domains?

Answer: You need to implement Domain Security on both sides, on a by-domain basis.

Module 8

Implementing High Availability

Contents:

Lesson 1

Configuring Highly Available Mailbox Databases

Contents:

Question and Answers

What Is a Database Availability Group?

Question: During installation, do you need to decide if you want to join a server to a DAG?

Answer: No, you can freely add and remove servers from a DAG after installation. This is a significant benefit over Exchange Server 2003 and Exchange Server 2007.

What Is Quorum?

Question: Your DAG has two Mailbox servers (nodes) and one witness server. When will you lose quorum and not be able to mount the databases automatically anymore?

Answer: You would lose quorum if you lose one member server and the witness server. If just the witness server fails, the databases can still mount. If just one node fails, the other node still reaches quorum because the witness server vote will allow quorum.

What Is Active Manager?

Question: On what Exchange servers does Active Manager run?

Answer: The Active Manager runs on all DAG members as either the primary active manager or a standby active manager.

What Is Continuous Replication?

Question: How do you configure continuous replication – block mode?

Answer: Continuous replication – block mode is enabled by default. You do not need to configure it.

How Databases Are Protected in a DAG

Question: Can you have one database copied three times, and another database copied only one time?

Answer: Yes. Database copies are configured on a per-database basis, thus you can decide how many copies of a specific database you want to create, and on which Exchange servers they should be hosted.

Comparing Exchange Server 2010 to Exchange Server 2007 Mailbox High Availability Options

Question: How has mailbox high availability improved since Exchange Server 2007?

Answer: Exchange 2010 includes various improvements over Exchange 2007 such as: you can have multiple server roles that run on the same server as the mailbox server; you can move a single database between servers; and you can have up to 16 copies of a database.

What Is the Transport Dumpster

Question: Is transport dumpster enabled by default?

Answer: Yes, the transport dumpster is enabled by default. You only need to adjust it to fine-tune the dumpster.

Understanding the Switchover and Failover Process

Question: Suppose you want to ensure that databases are not mounted if any transaction logs have not been replicated. What AutoDatabaseMountDial setting do you need to configure?

Answer: You need to configure the Lossless setting, because it ensures that all transactional log files are copied to the passive copy before it activates.

Designing Database Copies and Continuous Replication

Question: How long should the transaction logs for a database copy remain on a server?

Answer: Transaction logs should not be truncated until they have been backed up on at least one DAG member. Thus, if there are three DAG members with copies of a database, after the database has been backed up on the first member, the transaction logs can be truncated on all three members.

Designing Monitoring and Management for a DAG

Question: Which users in your organization will have permission to manage DAGs?

Answer: Answers will vary. In general, large organizations may have a small, dedicated group for managing the DAG-level components. Mid-sized organizations will most likely allow Exchange Server administrators to manage the DAG.

Detailed Demonstration Steps

Demonstration: Creating a DAG and Configuring Highly Available Databases

Demonstration Steps

1. On NYC-EX10, click **Start**, click **AllPrograms**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. At the Exchange Management Shell prompt, type **New-DatabaseAvailabilityGroup –Name DAG1 –WitnessServer NYC-DC1 -WitnessDirectory C:\FSWDAG1 –DatabaseAvailabilityGroupIpAddress 10.10.0.99**, and then press Enter.

   We recommend using the local Hub Transport server to act as the file-share witness. A two-node DAG configuration requires a file-share witness, since it requires a majority of votes at all times to maintain quorum. In a two-node cluster without a file-share witness, when one of the nodes is rebooted, a majority of votes cannot be obtained and the cluster fails. You can specify the Hub Transport server and the local directory to be configured as the file-share witness when you create a DAG. As a best practice, you should add the file-share witness to other clusters too. Clusters with even numbers of nodes use the file-share witness as a tie-breaker vote in establishing quorum.

3. At the Exchange Management Shell prompt, type **Add-DatabaseAvailabilityGroupServer DAG1 –MailboxServer NYC-EX10**, and then press Enter.

4. Click **Start**, click **Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Console**.

5. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Mailbox**.

6. In the results pane, click the **Database Availability Groups** tab.

7. In the work pane, on the **Database Availability Groups** tab, right-click **DAG1**, and then click **Manage Database Availability Group Membership** from the context menu.

8. In the Manage Database Availability Group Membership Wizard, click **Add**.

9. In the **Select Mailbox Server** dialog box, click **NYC-EX11**, and then click **OK**.

10. In the Manage Database Availability Group Membership Wizard, click **Manage** to complete the changes, and then click **Finish** to close the wizard.

11. In the results pane, click the **Database Management** tab.

12. In the results pane, click **Mailbox Database 1**, and then in the **Actions** pane, click **Add Mailbox Database Copy**. If the **Add Mailbox Database Copy** is not available, click **Refresh** in the **Actions** pane and try again.

13. In the **Add Mailbox Database Copy** wizard, click **Browse** to select the server to which to add the copy.

14. In the **Select Mailbox Server** dialog box, click **NYC-EX11**, and then click **OK**.

15. In the Add Mailbox Database Copy Wizard, click **Add** to create the copy of Mailbox Database 1.

16. Review the results, and then click **Finish**.

Additional Reading

What Is Continuous Replication?

- [Understanding High Availability and Site Resilience](#)

Designing Database Copies and Continuous Replication

- [Database Copy Layout Design](#)

Lesson 2

Deploying Highly Available Non-Mailbox Servers

Contents:

Question and Answers

How High Availability Works for Client Access Servers

Question: What three load balancing possibilities can you use for your Client Access servers?

Answer: You can use hardware load balancing, software load balancing, or round-robin DNS.

How Shadow Redundancy Provides High Availability for Hub Transport Servers

Question: On which Exchange 2010 server roles can you find the Shadow Redundancy Manager?

Answer: You find the Shadow Redundancy Manager on the servers roles that route messages, such as Hub Transport server role and Edge Transport server role.

How High Availability Works for Edge Transport Servers

Question: Is high availability for Edge Transport servers important for your organization?

Answer: In most cases, yes. Modern businesses rely on email communication with external vendors and customers. Any significant outage is a problem.

Designing High Availability for Servers with Multiple Roles

Question: Do you expect to have servers with multiple roles?

Answer: Answers will vary. Smaller organizations typically combine multiple roles on a single server, as do branch offices with a limited number of users.

Lesson 3

Deploying High Availability with Site Resilience

Contents:

Question and Answers

Discussion: High Availability for Multiple Sites

Question: What are some of the common multisite high-availability scenarios?

Answer: There are many possible scenarios, including multisite (also known as cross-site) failovers and multisite switchovers.

Multisite failovers scenarios include:

- Single database

- Full data center (all mailboxes and services)

Multisite switchovers include:

- Single database

- Full data center (all mailboxes and services)

Question: Does your company have a warm disaster-recovery site, or is it planning to have one?

Answer: Answers will vary depending on the organization. Many companies are investing in disaster recovery to meet regulatory and other requirements.

Question: After mail services have been successfully switched over to the second site, what other issues might you still need to address?

Answer: Although there is not just one correct answer, possible answers include:

- How will client machines connect to the secondary site?

- Will there be staff to maintain the Exchange 2010 servers at the secondary site?

- What process will allow for a successful services failback?

What Is Datacenter Activation Coordination Mode?

Question: When should you consider configuring the Datacenter Activation Coordination mode?

Answer: You should consider the Datacenter Activation Coordination mode as soon as you configure DAG members located at two or more Active Directory sites.

Additional Reading

What Is Datacenter Activation Coordination Mode?

- [Understanding Datacenter Activation Coordination Mode](#)

Module Reviews and Takeaways

Review questions

Question: To make a highly available Exchange Server 2010 organization, which components must be highly available?

Answer: All components need to be highly available. If one component in the Exchange Server 2010 organization is not highly available, then the entire Exchange Server 2010 organization is not highly available. You need to consider high availability for all Exchange Server roles, supporting services, and infrastructure.

Question: Besides planning for Exchanger Server 2010 failures, what other failures should you consider?

Answer: Exchange Server high availability configurations protect against software and server failures, and database corruption. It is important to consider larger issues, such as local network failures, Internet connectivity issues, and data center power and cooling failures.**Question:** In which scenarios might you use hardware load balancing with Edge Transport servers?

Answer: In high utilization scenarios requiring hundreds of Edge Transport servers, it may make more sense to use a hardware load balancer than to create hundreds of DNS MX records. Doing this also may reduce the number of public IP addresses required.

Question: Which Exchange Server 2010 feature provides fault tolerance for message delivery?

Answer: Shadow redundancy is a new feature in Exchange Server 2010 that ensures messages are not lost when a Hub Transport server fails. The sending Hub Transport server keeps a copy of a message until the next hop reports the message as delivered.

Question: How many networks should you use for a DAG?

Answer: You should use at least two networks for a DAG: the first network is dedicated to replication of transaction logs; the second network is primarily used for MAPI communication, but can also be used for replication if the replication network fails.

Question: What are the requirements for using the Datacenter Activation Coordination mode?

Answer: In Exchange Server 2010 SP1, to use the Datacenter Activation Coordination mode, the DAG must have at least two members, and span at least two Active Directory sites.

Best Practices Related to Implementing High Availability

Supplement or modify the following best practices for your own work situations:

- Identify all possible failure points before designing a solution. Even the most elaborate and expensive designs can have a simple and crippling failure point.

- Document all of the components to the solution so that everyone involved in the deployment understands how the solution is configured.

- Follow change-management procedures. In some environments, it may be tempting to skip these steps. However, not following proper change-management procedures often leads to extended, unplanned downtime.

- Use a client access array and load-balancing to make client access highly available.

- If a Client Access server is also a member of a DAG, then use hardware-based load-balancing.

- Ensure that Internet-accessible sites that proxy Client Access for multiple sites are highly available, because their outage will affect many users.

- When a mailbox database fails over to an alternate site for a short period of time, allow the clients to continue using the client access array in the original site.

Real-World Issues and Scenarios

Question: An organization has several branch offices with a small number of employees. However, the organization needs to deploy a high availability solution in the remote offices. What configuration can it deploy to meet it business needs?

Answer: It may be possible to deploy two servers, and then install the Mailbox, Hub Transport, and Client Access server roles on both. The organization can create a DAG and use a hardware load balancer to load-balance client access connectivity.

Question: An organization uses a variety of service level agreements for database availability for different business units. It wants to minimize the number of Mailbox servers it deploys. How can it do this?

Answer: Deploy all Mailbox servers in a single DAG, and then configure each of the business unit's mailbox databases with the appropriate number of copies to meet the service level.

Lab Review Questions and Answers

Question: When might you choose to initiate a database switchover?

Answer: You can initiate database switchovers to move databases off a DAG member for maintenance tasks, such as applying software updates.

Question: If you deploy only two Hub Transport servers in an Active Directory site, would shadow redundancy protect messages between mailboxes in the same site?

Answer: Shadow redundancy does not protect messages delivered within the same site, because the messages will not have traversed more than one Hub Transport server. However, you can recover these messages using the transport dumpster functionality.

Module 9

Implementing Backup and Recovery

Contents:

Lesson 1

Planning Backup and Recovery

Contents:

Question and Answers

Disaster Mitigation Options in Exchange Server 2010

Question: What mitigation strategy can you follow to be able to recover single messages for a mailbox?

Answer: The best strategy to recover messages in Exchange 2010 is to configure single item recovery, and then recover the messages using a discovery mailbox.

What Is Exchange Native Data Protection?

Question: Why should you back up Exchange Server databases?

Answer: You should back up Exchange Server 2010 databases so that you can recover from a disaster, recover items from mailboxes, and perform other back-up actions. For these reasons, consider the new Exchange Server 2010 high availability features, because they might be able to replace your existing backup software.

Backup and Restore Scenarios

Question: Are you considering deploying Exchange Server 2010 without traditional backups, and why might you choose this option?

Answer: Answers may vary. You may not have DAGs available because you only have a single Exchange server implementation. You may want to utilize an existing backup environment, or you might have a compliance requirement that requires you to create and store backups.

Detailed Demonstration Steps

Demonstration: Creating a Point-in-Time Database Recovery

Demonstration Steps

📋   **Note** To successfully perform the demonstrations in this module, you will need to install the Edge Transport Server role on 10165A-NYC-SVR-B. Follow the steps in Lab A: Exercise 1 to install the Edge Transport Server role.

1. On NYC-EX10, if required, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. At the Exchange Management Shell prompt, type the following command, and then press Enter:

```
New-DatabaseAvailabilityGroup –Name DAG1 –WitnessServer NYC-DC1 -WitnessDirectory
C:\FSWDAG1 –DatabaseAvailabilityGroupIPaddresses 10.10.0.99
```

3. If required, open the **Exchange Management Console**.

4. In the console tree, expand **Microsoft Exchange On-Premises**, expand **Organization Configuration**, and then click **Mailbox**.

5. In the results pane, on the **Database Availability Groups** tab, click **DAG1**.

6. In the **Actions** pane, click **Manage Database Availability Group Membership**.

7. In the Manage Database Availability Group Membership wizard, click **Add**.

8. In the **Select Mailbox Server** dialog box, hold down the CTRL key, click **NYC-EX10** and **NYC-EX11**, and then click **OK**.

9. Click **Manage**, and then click **Finish**.

10. In the results pane, in the **Database Management** tab, right-click **Accounting**, and then select **Add Mailbox Database Copy**. If the Add Mailbox Database Copy option is not available, click Refresh in the **Actions** pane and try again.

11. In the Add Mailbox Database Copy window, click **Browse**.

12. In **Select Mailbox Server** dialog box, click **NYC-EX11**, and then click **OK**.

13. Click **Add**, than then click **Finish**.

14. In the Exchange Management Shell, type **Set-MailboxDatabaseCopy –id Accounting\NYC-EX11 – ReplayLagTime 7.0:0:0**, and then press ENTER. Note that this command delays the commitment of the transaction logs to the Accounting database on NYC-EX11 for 7 days.

15. At the Exchange Management Shell prompt, type **Set-MailboxServer NYC-EX11 – DatabaseCopyAutoActivationPolicy Blocked**, and then press ENTER. Note that this cmdlet blocks the automatic activation of the database copy on NYC-EX11.

Lesson 2

Backing Up Exchange Server 2010

Contents:

Question and Answers

Changes to Backup in Exchange Server 2010

Question: Can you use your old Exchange Server 2003 backup software that uses ESE streaming APIs with Exchange Server 2010?

Answer: No, you cannot. Exchange Server 2010 no longer supports ESE streaming APIs.

Backup Requirements for Exchange Server 2010

Question: If you perform backups, what should you always back up no matter what Exchange Server role you back up?

Answer: You should always back up the system state of the machine.

Considerations for Selecting an Exchange Server Backup Solution

Question: Are you planning to use Windows Server Backup as your backup solution? If yes, what do you need to consider?

Answer: You only can backup active databases. If you have a DAG on a server that has passive databases, you need to apply a registry key. Otherwise, the backup will not work.

What Is System Center Data Protection Manager?

Question: When should you consider using System Center Data Protection Manager 2010?

Answer: You consider using System Center Data Protection Manager 2010 if you require advanced backup and restore features, such as being able to restore single messages directly from a tape.

Detailed Demonstration Steps

Demonstration: Backing Up Exchange Server 2010

Demonstration Steps

1. On NYC-EX10, click **Start**, click **All Programs**, click **Administrative Tools**, and then click **Server Manager**.

2. In **Server Manager**, click **Features**, and then in the **Features Summary** pane, click **Add Features**.

3. In the Add Features Wizard, expand **Windows Server Backup Features**, click **Windows Server Backup**, and then click **Next**.

4. In the Add Features Wizard, expand **Windows Server Backup Features**, click **Windows Server Backup**, and then click **Next**.

5. On the Confirm Installation Selections page, click **Install**, and then after the installation finishes, click **Close**.

6. Click **Start**, click **All Programs**, click **Administrative Tools**, and then click **Windows Server Backup**.

7. In Windows Server Backup, on the **Actions** pane, click **Backup Once**.

8. In the **Backup Once Wizard**, on the **Backup Options** page, click **Different options**, and then click **Next**.

9. On the **Select Backup Configuration** page, select **Custom**, and then click **Next**.

10. On the **Select Items for Backup** page, click **Add items**, select **Local disk (C:)** in the Select Items window, and then click **OK**.

11. On the Select Items for Backup page, click **Advanced Settings**, click the **VSS Settings** tab, select **VSS full Backup**, click **OK**, and then click **Next**.

12. On the Specify Destination Type page, select **Local drives**, and then click **Next**.

13. On the Select Backup Destination page, in **Backup destination**, select **Allfiles (D:)**, and then click **Next**.

14. On the **Confirmation** page, click **Backup**. Note that the backup will take about 20 minutes. When the backup finishes, click **Close**, and then close Windows Server Backup.

15. Click **Start**, click **Administrative Tools**, and then click **Event Viewer**.

16. In Event Viewer, expand **Windows Logs**, and then click **Application**.

17. In Event Viewer, in the Application log, locate the event items labeled **Source MSExchangeIS** and **EventID 9811**.

18. Wait until the backup finishes, and then in Event Viewer, in the **Application** pane, locate the event items labeled **Source MSExchangeIS** and **EventID 9780**.

Additional Reading

How Does a VSS Backup Work?

- [TechNet: How Volume Shadow Copy Service Works](#)

What Is System Center Data Protection Manager?

- [Data Protection Manager](#)

- [Protecting Exchange data with Microsoft System Center Data Protection Manager (DPM)](#)

Lesson 3

Recovering from Disasters

Contents:

Question and Answers

Repairing Exchange Database Corruption

Question: In your Exchange Server environment you experience corrupt mailbox items. What can you do to remove these corrupt items from the mailboxes?

Answer: You can use the **New-MailboxRepairRequest**cmdlet.

Options for Recovering Mailbox Data and Databases

Question: You want to restore mailbox data because it was deleted by the user. How can you do this assuming you have a DAG with a lagged database, and single item recovery is enabled?

Answer: The first option you should try is to recover the mailbox data from the Recoverable Items folder. If the items are not available in the Recoverable Items folder, it is highly likely that they are also not available in the lagged database, because the maximum time for a lagged database is 14 days. To restore the data, you would need to recover to a recovery database from a backup.

Process for Recovering Data Using the Recovery Database

Question: On which Exchange Server 2010 server do you need to create the recovery database?

Answer: You can create the recovery database on any Exchange Server mailbox role, even on the same one on which the database is already actively mounted.

Process for Restoring Data from a Lagged Database Copy

Question: In what situations should you consider recovering data from a lagged database copy?

Answer: You can use this process when you require folder information, or when single item recovery did not provide the necessary data.

Process for Recovering Computers That Run Exchange Server 2010

Question: For what Exchange roles would you recover a server, and for what roles would you restore?

Answer: In most cases you can recover Client Access and Hub Transport servers when they fail. It would be easier to build a new server than it would be to restore the failed server. With database portability, you can build a new Mailbox server and mount any database, so you might argue that a restore is too much work. However, you might want to restore a server if you have many custom configuration settings that are stored on the server rather than in AD DS.

Detailed Demonstration Steps

Demonstration: Using Exchange Database Repair Cmdlets

Demonstration Steps

1. On NYC-EX11, if required, click **Start**, click **All Programs**, click **Microsoft Exchange Server 2010**, and then click **Exchange Management Shell**.

2. At the PS prompt, type the following command, and then press Enter.

```
New-MailboxRepairRequest –Mailbox Christine –
CorruptionTypeProvisionedFolder,SearchFolder,AggregateCounts,Folderview
```

3. Click **Start**, click **Administrative Tools**, and then click **Event Viewer**. In Event Viewer, look for the following EventIDs in the Application log: 10044, 10045, 10046, 10047, 10048, 10049, 10050, 10051, 10059, and 10062. For example, EventID 10048 indicates a successful repair.

4. At the PS prompt, type the following command, and then press Enter.

```
New-MailboxRepairRequest –Database Accounting -
CorruptionTypeProvisionedFolder,SearchFolder,AggregateCounts,Folderview -DetectOnly
```

5. In Event Viewer, check for any corrupted mailboxes by looking for EventID 10062. You should not find any.

6. At the PS prompt, type the following command, and then press Enter.

```
New-PublicFolderDatabaseRepairRequest –Database "Public Folder Database 1" –
CorruptionTypeReplState
```

7. In Event Viewer, check for the start of the request, which is indicated by EventID 10064, and then check for the completion, which is indicated by EventID 10048.

Module Reviews and Takeaways

Review questions

Question: What kind of backup options for Exchange Server 2010 do you find suitable for your organization?

Answer: Exchange Server 2010 provides you with various options for backing up your Exchange Server environment, from the traditional Windows Server Backup, to a backup-less environment that uses multiple database copies and a lagged database.

Question: What options does Exchange Server 2010 include for restoring a single item from a mailbox?

Answer: You can use the Single Item Recovery feature to restore items from a mailbox. Alternatively, you can restore the database to a restore database, and then access the mailbox to recover items.

Common Issues Related to Recovering Messages

Identify the causes for the following common issues related to recovering messages and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
Recover deleted mailbox items quickly.	Try using Multi-Mailbox Search before you recover a database.
Restore fails during an emergency situation.	It fails if you have never tried to restore your backups on a regular basis before. If you practice the restore process, urgent restores will not fail because you will have verified the backup process before.

Best Practices Related to Implementing Backup and Recovery

Supplement or modify the following best practices for your own work situations:

1. Utilize your existing backup solution for Exchange Server backups, as you already have experience and are familiar with it.

2. Try always to perform a full backup of your Exchange Server 2010 databases if you use a VSS-aware backup solution. This reduces the time that you need to recover the database to its most current state.

3. If you plan to forego traditional backups, create one more database copy on cheap hard drives at a different site. This guarantees that you have an additional backup of your database available.

Lab Review Questions and Answers

Question: What backup options can you use to recover a single mailbox?

Answer: You can use hold policy and the Deleted Items folder to restore items from a mailbox. You can recover a deleted mailbox using deleted mailbox retention. However, if the deleted mailbox is older than your deleted mailbox-retention setting, you need to use a recovery database to restore the mailbox.

Question: Which Exchange Server 2010 technology would you use to create a database backup at a remote site?

Answer: You can use DAGs to create a database backup at a remote site.

Question: What is VSS?

Answer: VSS is a snapshot-based backup system.

Question: What is dial-tone recovery?

Answer: Dial-tone recovery is the process that enables you to implement access to e-mail without restoring data after a disaster.

Module 10

Configuring Messaging Policy and Compliance

Contents:

Lesson 1

Introducing Messaging Policy and Compliance

Contents:

Question and Answers

Discussion: Compliance Requirements

Question: What type of business does your organization conduct? What are some legislated compliance requirements for your organization?

Answer: Answers will vary depending on the organization. Some examples of legislation restrictions include:

- United States:

    - Sarbanes-Oxley Act of 2002 (SOX)

    - Gramm-Leach-Bliley Act (Financial Modernization Act)

    - Health Insurance Portability and Accountability Act of 1996 (HIPAA)

    - Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA Patriot Act)

- Canada:

    - The Personal Information Protection and Electronic Documents Act

- Australia:

    - Federal Privacy Act

- Europe:

    - European Union Data Protection Directive (EUDPD)

- Japan:

    - Japan's Personal Information Protection Act

Question: What additional compliance requirements does your organization have?

Answer: Organizations might have additional requirements for managing email. For example, the organization might want to add legal disclaimers to outgoing communications, or require that certain messages contain an intellectual property disclosure disclaimer. Organizations also might have message-retention requirements mandating that certain messages be retained, and others deleted after a specified time.

Question: How are you currently meeting your organization's compliance requirements?

Answer: Answers will vary. Many organizations have implemented some type of archiving solution. If organizations have deployed Exchange Server 2007, they might be utilizing some of its messaging compliance features.

Lesson 2

Configuring Transport Rules

Contents:

Question and Answers

Demonstration: How to Configure Transport Rules

Question: What transport policies will you need to implement in your organization?

Answer: Answer will vary. Transport rules provide several options to restrict message flow, and to modify messages as they pass through the Hub or Edge Transport servers.

Demonstration: How to Configure AD RMS Integration

Question: Does your organization have AD RMS deployed? Are you planning to deploy AD RMS?

Answer: Answers will vary. Not many organizations have deployed AD RMS. The organizations that have deployed it tend to have stringent requirements for managing access to content.

Question: How will Exchange Server 2010 make it easier to deploy AD RMS?

Answer: The Exchange Server 2010 features overcome two important limitations of previous AD RMS deployments. First, by using transport rules, you can apply AD RMS even if users have chosen not to do so. In previous versions, the user had to apply the protection. Second, the AD RMS Prelicensing Agent will make the AD RMS integration easier to use for mobile clients.

Demonstration: How to Configure Moderated Transport

Question: Will you deploy moderated transport in your organization? If so, where would you use it?

Answer: Answers will vary. Because this is a new feature in Exchange Server 2010, many students may not have considered this option. Ask them to describe scenarios where they need to restrict who can send to a recipient, and then ask them to consider if moderated transport would be the best option for enabling the restrictions.

Detailed Demonstration Steps

Demonstration: How to Configure Transport Rules

Demonstration Steps

▶ Configure transport rules to apply a disclaimer and a restriction

1. On NYC-EX10, open the Exchange Management Console.

2. Under **Organization Configuration**, click **Hub Transport**.

3. In the **Actions** pane, click **New Transport Rule**.

4. On the **Introduction** page, in the **Name** field, type **Company Disclaimer HTML**.

5. Verify that **Enable Rule** is selected, and then click **Next**.

6. On the **Conditions** page, under **Step 1**, select **sent to users that are inside or outside the organization, or partners,** and then click **Next**.

7. On the **Actions** page, under **Step 1**, select **append disclaimer text and fallback to action if unable to apply.**

8. Under **Step 2**, click the **disclaimer text** link.

9. In the **Specify disclaimer text** box, type the following text, ensuring that you press Enter at the end of each line.

```
<html>
<body>
 <br>&nbsp</br>
 <br>&nbsp</br>
<b><font color=red>This e-mail and attachments are intended for the individual or group
addressed.</font></b>
</body>
</html>
```

10. Click **OK**, and then click **Next**.

11. Click **Next**, and then click **New** to create the new HTML disclaimer.

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

13. On **NYC-EX10,** open the **Exchange Management Shell**.

14. At the PS prompt, type the following cmdlet, and then press Enter:

```
New-TransportRule -Name "Social Insurance Number Block Rule" -
SubjectOrBodyMatchesPatterns "\d\d\d-\d\d\d-\d\d\d" -RejectMessageEnhancedStatusCode
"5.7.1" -RejectMessageReasonText "This message has been rejected because of content
restrictions"
```

15. To test the transport rules, switch to NYC-CL1, and then open Microsoft Outlook 2010.

16. Click **New E-mail**, and then create a message with the following properties:

   - To: **Administrator**

   - Subject: **Disclaimer Test**

   - Content: **Testing the HTML disclaimer**

17. Send the message.

18. On NYC-EX10, open Internet Explorer®, and connect to **https://NYC-EX10.contoso.com/owa.**

19. Log on to Outlook Web App as **Contoso\Administrator**, with the password, **Pa$$w0rd**, and then click OK.

20. Verify that the message from Terri Chudzik includes the HTML disclaimer.

21. On NYC-CL1, create a new message with the following properties:

    • To: **Administrator**

    • Subject: **Transport Rule Test**

    • Content: **Testing the Social insurance number block rule. 111-111-111**

22. Send the message.

23. Verify that the user receives an NDR with the rejected message text that you configured.

Demonstration: How to Configure AD RMS Integration

Demonstration Steps

▶ **Protect email messages by using AD RSM**

1. On **NYC-CL1**, open Outlook 2010.

2. Create a new message with the following properties:

    • To: **Administrator**

    • Subject: **Testing AD RMS integration**

    • Content: **This is a protected email**.

3. In the **Message** ribbon, click the **Options** tab, and then click the **Permission** icon.

4. In the **Windows Security** dialog box, log on as **Terri**, with the password, **Pa$$w0rd**. Wait while Terri's credentials are prepared.

5. When the message appears, verify that the message now contains the Do Not Forward header. Click **Send**, close Outlook, and then log off from NYC-CL1.

6. Log on to NYC-CL1 as **Contoso\Administrator**, with the password, **Pa$$w0rd**.

7. Open Outlook 2010, and then open the message from **Terri Chudzik**.

8. In the **Windows Security** dialog box, log on as **Administrator**, with the password, **Pa$$w0rd**, and then click **OK**.

9. When the message opens, verify that you do not have permission to forward the message. Close the message and then log off of NYC-CL1.

▶ **Configure a transport rule to apply AD RMS protection**

1. On NYC-DC1, open a Windows Explorer window, browse to **C:\inetpub\wwwroot_wmcs\certification,** right-click **servercertification.asmx**, and then click Properties.

2. In the **Server Certification.asmx Properties** dialog box, click the **Security** tab, and then click **Edit.**

3. In the **Permissions for Server Certification.asmx** dialog box, click **Add.**

4. In the **Select Users, Computers, Service Accounts, or Groups dialog box**, click **Object Types**, select the **Computers** check box, and then click **OK**.

5. In the **Enter the object names to select** field, type **Exchange Servers**, and then click **OK**.

6. Click **Add**. In the **Enter the object names to select** fmailield, type **IIS_IUSRS**, and then click **OK** three times.

7. On NYC-DC1, open a command prompt, type **IISReset**, and then press Enter. Wait for the service to restart, and then close the command prompt.

8. On NYC-EX10, in the Exchange Management Shell, type **get-irmconfiguration**, and then press Enter. This cmdlet displays the default AD RMS integration configuration for the Exchange Server organization.

9. At the **PS** prompt, type the following, and then press Enter.

```
set-irmconfiguration –InternalLicensingEnabled:$true
```

    This cmdlet enables AD RMS encryption on the Hub Transport server.

10. At the **PS** prompt, type the following, and then press Enter.

```
test-irmconfiguration –sender Terri@contoso.com
```

    This cmdlet tests the AD RMS configuration.

11. On **NYC-EX10**, in the Exchange Management Console, under **Organization Configuration**, click **Hub Transport**.

12. In the **Actions** pane, click **New Transport Rule**.

13. On the **Introduction** page, in the **Name** field, type **AD RMS Test Rule**.

14. Verify that the **Enable Rule** check box is selected, and then click **Next**.

15. On the **Conditions** page, under **Step 1**, select **from people**.

16. Under **Step 2**, click the **people** link. In the **Specify senders** dialog box, click **Add**, click **Terri**, and then click **OK** twice.

17. On the **Conditions** page, under **Step 1**, select **sent to people**.

18. Under **Step 2**, click the **people** link. In the **Specify recipients** dialog box, click **Add**, click **Administrator**, and then click **OK** twice.

19. Click **Next**.

20. On the **Actions** page, under **Step 1,** select **rights protect message with RMS template.**

21. Under **Step 2**, click the **RMS Template** link.

22. In the Select RMS template dialog box, click Do Not Forward, and then click OK.

23. Click **Next** twice, and then click **New**. Click **Finish**.

24. Log on to NYC-CL1 as **Contoso\Terri**, with the password, **Pa$$w0rd**. Open Microsoft Outlook and then create a new message with a subject of **Transport Rule ADRMS test,** and send it to **Administrator,** without manually applying RMS template.

25. Log off, and then log on as **Contoso\Administrator**, with the password, **Pa$$w0rd**.

26. Open Outlook and verify that Administrator received the message entitled "Transport Rule ADRMS test" and that the Do Not Forward template is protecting the message.

27. Log off from NYC-CL1.

Demonstration: How to Configure Moderated Transport

Demonstration Steps

▶ Configure a distribution group for moderation

1. On NYC-EX10, open the **Exchange Management Console**.

2. Under **Recipient Configuration**, click **Distribution Group**.

3. In the middle pane, right-click **Projects**, and then click **Properties**.

4. On the **Mail Flow Settings** tab, double-click **Message Moderation**.

5. In the **Message Moderation** dialog box, select the **Messages sent to this group have to be approved by a moderator** check box.

6. Under **Specify group moderators**, click **Add**.

7. In the **Select Recipient – Entire Forest** dialog box, click **Andrea Dunker**, and then click **OK**.

8. Under **Specify senders who don't require message approval**, click **Add**.

9. In the **Select Recipient** dialog box, click **Marketing**, and then click **OK** three times. Click **OK** at the Microsoft Exchange Warning.

▶ Configure a transport rule that enables moderation

1. Under **Organization Configuration**, click **Hub Transport.**

2. In the **Actions** pane, click **New Transport Rule**.

3. On the **Introduction** page, in the **Name** field, type **IT Group Moderation**. Verify that **Enable Rule** is selected, and then click **Next**.

4. Under **Conditions** in **Step 1**, select **sent to a member of distribution list**.

5. Under **Step 2**, click the **distribution list** link.

6. In the **Specify recipient distribution group** dialog box, click **Add**.

7. In the **Select Mail-Enabled Group – Entire Forest** window, select **IT**, click **OK**, and then click **OK** again.

8. Click **Next**.

9. Under **Actions** in **Step 1**, select **forward the message to addresses for moderation**.

10. Under **Step 2**, click the **addresses** link.

11. In the **Specify recipients** window, click **Add**.

12. In the **Select Recipient User or Contact** window, click **Andrea Dunker**, click **OK**, and then click **OK** again.

13. Click **Next**.

14. On the **Exceptions** page, under Step 1, select **except when the message is from a member of distribution list.**

15. Under **Step 2**, click the **distribution list** link.

16. In the **Specify sender distribution list** window, click **Add**.

17. In the **Select Mail-Enabled Group – Entire Forest** window, select **Marketing**, click **OK**, and then click **OK**.

18. Click **Next**, and then click **New**.

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

20. On NYC-EX10, open Internet Explorer, and then connect to **https://NYC-EX10.Contoso.com/owa.**

21. Log on to Outlook Web App as **Contoso\Administrator**, with the password, **Pa$$w0rd**. If the **Regional Settings** page appears, click **OK**.

22. In the Inbox, click **New**.

23. In the **To** field, type **IT**.

24. Type a subject and a short message, and then click **Send**.

25. In the **Inbox**, click **New**.

26. In the **To** field, type **Projects**.

27. Type a subject and a short message, and then click **Send**.

28. On NYC-CL1, log on as **Andrea**, open Outlook, and then verify that there are two messages waiting for approval.

29. Double-click the first email message, and then on the message toolbar, click **Approve**. Close the message.

30. Double-click the second email message, and then on the message toolbar, click **Approve**. Close the message.

31. Log off from NYC-CL1.

Additional Reading

Transport Rule Components

- [Understanding Transport Rules](#)

- [Understanding How Transport Rules Are Applied](#)

What Are Message Classifications?

- [Understanding Message Classifications](#)

What Is Active Directory Rights Management Service?

- [Active Directory Rights Management Services](#)

Lesson 3

Configuring Journaling and Multi-Mailbox Search

Contents:

Question and Answers

Demonstration: How to Configure Message Journaling

Question: What are the advantages and disadvantages of using the Exchange Server 2010 message journaling feature?

Answer: Answers will vary depending on what tool the organization currently has deployed. Exchange Server 2010 journaling has two advantages—it enables you to specify any archival location for messages, and you can filter journaling based on recipients rather than by database. However, Exchange Server 2010 does not provide any automated tools for managing the journal mailbox, so you will need to implement a manual management process.

What Is Legal Hold?

Question: In which scenarios is it appropriate to use legal hold?

Answer: Answers may vary. One example is, if you receive a court order that someone's correspondence must be tracked or retained, you will enable legal hold on that user's mailbox.

Detailed Demonstration Steps

Demonstration: How to Configure Message Journaling

Demonstration Steps

▶ **Configure a message journaling rule by using the Exchange Management Console**

1. On NYC-EX10, in the **Exchange Management Console**, under **Organization Configuration**, click **Hub Transport**.

2. In the **Actions** pane, click **New Journal Rule** to start the **New Journal Rule** wizard.

3. On the **New Journal Rule** page, in the **Rule name** field, type **Research Message Journaling**.

4. Next to **Send Journal reports to e-mail address**, click **Browse**.

5. In the **Select Recipient – Entire Forest** dialog box, click **Terri Chudzik**, and then click **OK**.

📋 **Important** In this demonstration, you are designating another user's mailbox as the destination for the journaled messages. In a production environment, designate a mailbox that you can dedicate as a journal mailbox.

6. Under **Scope**, click **Internal – internal messages only**.

7. Select the **Journal messages for recipient** check box, and then click **Browse**.

8. In the **Select Recipient – Entire Forest** dialog box, click **Alan Brewer**, and then click **OK**.

9. On the **New Journaling Rule** page, click **New**, and then click **Finish**.

10. On NYC-EX10, open Internet Explorer, and then connect to **https://NYC-EX1.contoso.com/owa**. Log on as **Contoso\Administrator**, with the password, **Pa$$w0rd**.

11. Create a new message, and then send it to **Alan Brewer**. Alan is a member of the Research group. Close Internet Explorer.

12. Open a new instance of Internet Explorer, and then connect to **https://NYC-EX1.contoso.com/owa**. Log on as **Contoso\Alan**, with the password, **Pa$$w0rd**.

13. Confirm that the message from the Administrator arrived. Reply to the message, and then close Internet Explorer.

14. On NYC-CL1-B, verify that you are logged on as **Terri**, open Outlook, and then confirm that the journal mailbox contains both a journal report for the message sent to Alan, and the reply message.

Demonstration: How to Configure Multi-Mailbox Search

Demonstration Steps

▶ **Configure Multi-Mailbox Search**

1. On NYC-DC1, open **Active Directory Users and Computers**, and then in the **Microsoft Exchange Security Groups** organizational unit (OU), double-click the **Discovery Management** group.

2. In the **Discovery Management Properties** dialog box, on the **Members** tab, click **Add**, type **Andrea**, and then click **OK** twice.

3. On NYC-EX10, open **Exchange Management Console**, expand **Microsoft Exchange On-Premises**, expand **Recipient Configuration** and then click **Mailbox**.

4. Right-click **Discovery Search Mailbox**, and then select **Manage Full Access Permission**.

5. Click **Add**.

6. Select **Andrea Dunker**, and then click **OK**.

7. Click **Manage** and then click **Finish**.

8. On NYC-CL1, log on as **Contoso\Terri**, and open Outlook.

9. In the **Inbox**, click **New E-mail**.

10. In the **To** field, type **Arno;Candy**, and then press CTRL+K to resolve the names.

11. In the **Subject** field, type **New Inventory**.

12. In the message box, type **We've received the new ProjectX items in inventory**, and then click **Send**.

13. Open Internet Explorer, and then connect to **https://NYC-EX10.contoso.com/ecp**.

14. Log on to the Exchange Control Panel as **Contoso\Andrea**, with the password, **Pa$$w0rd**.

15. In the **Select what to manage** drop-down list, ensure that **My Organization** is listed.

16. In the left pane, click **Mail Control**. Under **Multi-Mailbox Search**, click **New**.

17. In the **Keywords** box, type **ProjectX**.

18. Expand **Mailboxes to Search**.

19. Under **Select the mailboxes to search**, click **Add**. In the **Select Mailbox** window, click **Terri Chudzik, Arno Harteveld**, and **Candy Spoon**, click **Add**, and then click **OK**.

20. Expand **Search Name,Type and Storage Location**.

21. In the **Search name** field, type **ProjectX Discovery**.

22. Click **Copy the search results to the destination mailbox**.

23. Next to **Select a mailbox in which to store the search results**, click **Browse**.

24. In the **Select Mailbox to Store Search Results** window, click **Discovery Search Mailbox**, and then click **OK**.

25. Click **Save**. Wait until the search status changes to **Succeeded**.

26. Click **Open** in the right pane. Click **OK**.

27. In the **Navigation** pane, expand the **ProjectX Discovery** folder.

28. Note the container below, named **Results**.

29. Click **Results**, and ensure that the message from Terri appears in the central pane.

30. Close Outlook Web App and Outlook.

Lesson 4

Configuring Archive Mailboxes

Contents:

Question and Answers

Discussion: Options for Implementing Mailbox Archiving

Question: Do you have any archiving or journaling requirements in your organization?

Answer: Answers will vary. Many organizations have requirements for archiving certain messages. For example, an organization may require that messages with business transaction information be archived for several years.

Question: How are you currently meeting these requirements?

Answer: Most organizations that have implemented an archiving solution do so by using third-party applications. Previous Exchange Server versions only enabled journaling at the mailbox store level, where all messages sent and received from that store were archived.

There are three primary architectures for archiving products:

- A product archives messages immediately as they are sent to or from an Exchange server.

- Some products archive messages by using an agent to scan mailbox contents, and messages are archived based on predefined criteria.

- Some archive solutions integrate with Exchange Server 2007 or Exchange Server 2010 journaling. With this model, the archive product monitors the journal mailbox, and then archives messages from the journal mailbox.

Almost all archive solutions have two other features:

- They enable using cheaper storage for archived messages.

- They retain a stub of the archived message in the user mailbox so that the user can access archived messages.

Demonstration: How to Configure Personal Archives

Question: Will you implement Personal Archives in Exchange Server 2010?

Answer: Answers will vary. In some organizations, .pst files store a great deal of critical information, and these organizations may have a requirement to manage those .pst files more effectively. Organizations with limited storage space on their Exchange servers are not likely to implement Personal Archives, because of the significant increase in database size that this requires.

Question: What are the benefits and challenges of the Personal Archives feature?

Answer: Benefits include the following:

- Can be enabled on a per-mailbox basis.

- Provides users with easy access and searching capabilities of archived content.

- Requires very little user training, because the user interface is familiar to the users.

- Challenges include:

- Significant increase in the storage requirements for the organization.

Considerations for Implementing Personal Archives

Question: How can you easily implement these registry values on a large number of clients?

Answer: You can set these registry values by configuring administrative templates in a GPO. You can add Outlook 2010 Group Policy settings to a GPO by adding the Outlook14.adm policy file.

Detailed Demonstration Steps

Demonstration: How to Configure Personal Archives

Demonstration Steps

▶ **Configure and access a Personal Archives mailbox**

1. On NYC-EX10, in the Exchange Management Console, click **Recipient Management**, and then click **Mailbox.**

2. In central pane, right-click **Terri Chudzik**, click **Enable Archive**, and then click **OK**.

3. Right-click **Terri Chudzik**, and then click **Properties**.

4. On the **Mailbox Settings** tab, click **Archive Quota**, and then click **Properties**. Notice that you can configure a mailbox quota for the archive mailbox. Click **Cancel**, and close Properties of Terri Chudzik.

5. In the **Exchange Management Shell**, type **get-mailbox Terri | FL**, and then press ENTER. Review the **ArchiveName** and **ArchiveQuota** settings. Close **Exchange Management Shell** window.

6. On NYC-CL1, verify that you are logged on as **Terri**, open Outlook, and then verify that you can see the archive mailbox.

7. Open Internet Explorer, and then connect to **https://NYC-EX10.contoso.com/owa**. Log on as **Contoso\Terri**, with the password, **Pa$$w0rd**. If Regional Settings page appears click OK. Verify that the archive mailbox is visible through Outlook Web App.

Lesson 5

Configuring Retention and Archive Policies

Contents:

Question and Answers

Messaging Records Management Options

Question: How do you handle messaging records management right now?

Answer: Answers may vary, but some students may report that they use journaling or some kind of .pst files management.

What Are Managed Folders?

Question: Why would you want to run Managed Folder Assistant manually by using Exchange Management Shell?

Answer: If you want to apply managed folders or retention policies immediately to a user's mailbox—such as for the purposes of testing or troubleshooting—use a cmdlet in the Exchange Management Shell.

Detailed Demonstration Steps

Demonstration: Configuring Retention Tags and Retention Policies

Demonstration Steps

▶ **Configure Retention Policy Tags and retention policies**

1. On NYC-EX10, in Exchange Management console, expand **Organization Configuration** and click **Mailbox**.

2. In the **Actions** pane, click **New Retention Policy Tag**.

3. In the **Tag name** field, type **Deleted Items removal**.

4. In the **Tag Type** drop-down list, select **Deleted Items**.

5. In the **Age limit for retention (days)** field, type **30**.

6. In **Action to take when the age limit is reached** select **Permanently Delete**.

7. In the **Comments** field, type: **Deleted Items are purged after 30 days**.

8. Click **New**, and then click **Finish**.

9. Stay in same node **(Organization Configuration),** and click **Mailbox**.

10. In the **Actions** pane, click **New Retention Policy**.

11. In the **Name** field type **DeletedItems policy,** and then click **Add**.

12. Select the **Deleted Items removal** tag, and then click **OK**.

13. Click **Next**.

14. On the **Select Mailboxes** page, click **Add**.

15. In **Select Mailbox – Entire Forest** click the **Scope** menu, and then click **Modify Recipient Picker Scope**.

16. Click **View all recipients in specified organizational unit**, and then click **Browse**.

17. Click **IT**, and then click **OK** twice.

18. After the scope is changed, select all users in the list, and then click **OK**.

19. Click **Next**, click **New**, and then click **Finish**.

Module Review and Takeaways

Review Questions

Question: You need to ensure that a copy is saved of all messages sent to a particular distribution group. You only want to save one copy of the message sent to the distribution group, and not copies of all the messages sent to individual members of the group. What should you configure?

Answer: Configure a transport rule that sends a copy of all messages to a mailbox. Were you to set up a journaling rule, all messages sent to members of the distribution group would also be saved.

Question: You need to ensure that a user can search all Exchange Server 2010 organization mailboxes for specific content. What should you do? What user training will you need to provide?

Answer: Add the user to the Discovery Manager security group in AD DS. This will give the user the required permissions. Then, you need to demonstrate for the user how to use the Exchange Control Panel to perform mailbox searches.

Question: You need to ensure that all messages related to a particular project are retained for three years. Users in your organization use both Office Outlook 2007 and Outlook 2010. What should you do?

Answer: Configure a custom managed folder, configure the content settings for the folder, and then create a managed folder mailbox policy for all users who are working on the project. Because users are using Office Outlook 2007 and Outlook 2010, you cannot use Retention Tags, as these are not accessible in Office Outlook 2007.

Common Issues Related to Implementing Messaging Policies

Identify the causes for the following common issues related to implementing messaging policies, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting tip
Transport rules that use regular expressions are not applied consistently.	If you are using a transport rule to check for information—such as customer identification numbers or some other regular pattern of characters—ensure that your rule also checks for variations on the regular pattern. For example, if the customer identification number usually has dashes, you might also want to add the pattern without dashes to the rule.
Message recipients report that they are receiving error messages when they receive digitally signed messages from other users in the organization.	If you have a transport rule in place that modifies the message content, any digital signature attached to the message will be invalid, and users will get an error message when they open the message. To avoid this, consider instructing users to add a disclaimer to all messages as part of their signature, and remove the transport rule.
After you implement a transport rule, users report that some of the messages that they send to Internet recipients are not being delivered, and they are not receiving	Ensure that when you implement a transport rule that might affect message delivery, you configure an action in the transport rule that informs the user if the message cannot be delivered. Normally, you would do

Issue	Troubleshooting tip
notification of why the messages were not delivered.	this with a bounce message.

Real-World Issues and Scenarios

Question: The Exchange Server administrators at Contoso, Ltd have implemented a custom message classification on the Exchange Server 2010 servers, but they notice that the custom classification is not available on the Office Outlook 2007 clients in the organization. What do they need to do?

Answer: To make the custom message classification available on the client, export the classification file on the Exchange Server 2010 server, and then provide it to all clients. You also need to configure a registry setting on each client that points to the classification file.

Question: A. Datum Corporation has deployed an AD RMS server, and users are using it to protect email. However, users report that when they protect email messages, users outside the organization cannot read the messages. What should A. Datum messaging administrators do?

Answer: To read AD RMS-protected email, users must have an account in the Active Directory forest. In most cases, users outside the organization will not have an account in the organization's forest. This means that users are unable to send AD RMS-protected email to external users. If this is a requirement and the other organization also runs AD RMS, you can integrate the AD RMS environments.

Question: Woodgrove Bank has implemented message journaling for all messages sent to and from the legal and compliance teams. These messages need to be available to auditors for seven years. The mailboxes used for journaling are growing rapidly. What should the messaging administrators at Woodgrove Bank do?

Answer: If the organization does not have the capacity to retain the messages in the journaling mailboxes, they will need to investigate options to store the messages elsewhere. One of the easiest ways to manage this is to ensure that the journal mailboxes are backed up regularly, and then delete messages from the mailboxes after they have been backed up. The organization could also consider using a SharePoint site as the message journal location.

Best Practices Related to Configuring Message Policy and Compliance

Supplement or modify the following best practices for your own work situations:

- Implementing messaging policies in Exchange Server 2010 can be complicated, and the optimal configuration will vary in every organization. However, it is critical that you start thinking about this issue now, to implement the policies and configurations that will meet your organization's legal requirements.

- Implement messaging policies only after extensive testing in a lab environment. If you configure messaging policies incorrectly, you could potentially delete messages that should be retained, or disrupt message delivery. Additionally, some messaging policies may have unintended consequences. Because of this, be sure to test all messaging policies thoroughly, and implement the policies in the production environment incrementally.

- Planning messaging policies always involves discussions with legal and compliance personnel who may not understand how you can use Exchange Server 2010 to enforce messaging policies. Be

prepared to explain what Exchange Server 2010 can and cannot do in terms that people who are not messaging experts can understand.

Tools

Tool	Use for	Where to find it
Exchange Management Console	• Administration and management of Exchange Server 2010 objects	Start menu
Exchange Management Shell	• Administration and management of Exchange Server 2010 objects	Start menu
Exchange Control Panel	• Performing Multi-mailbox search	/ecp virtual folder

Lab Review Questions and Answers

Question: How can you limit the size of a user's archive mailbox?

Answer: You can limit size by configuring and applying archive quota settings.

Question: Where can you store an archive mailbox database?

Answer: You can store an archive mailbox database on any Exchange Server 2010 server in your organization.

Question: How can you apply retention policies?

Answer: You can apply retention policies by using the Managed Folder Assistant.

Module 11

Securing Microsoft® Exchange Server 2010

Contents:

Lesson 1

Configuring RoleBased Access Control

Contents:

Question and Answers

What Is Role Based Access Control?

Question: What requirements does your organization have for assigning Exchange Server permissions? Does your organization use a centralized or decentralized administration model? What special permissions will you need to configure for Exchange Server 2010?

Answer: Answers will vary. In most organizations, a central team of Exchange Server administrators likely maintains full control of the Exchange Server environment, while another team may need permissions to create mailboxes. Other organizations may have complicated administrative scenarios in which different groups need many different permission levels.

Demonstration: Configuring Custom Role Groups

Question: Will you implement custom management roles in your organization? If so, how will you configure the management roles?

Answer: Answers will vary. Most organizations probably do not need custom management roles. Larger organizations that have complicated administrative processes may require several custom management roles.

Detailed Demonstration Steps

Demonstration: Configuring Custom Role Groups

Demonstration Steps

1. Log on to NYC-EX10 as **Administrator** with password **Pa$$w0rd.**

2. On **NYC-EX10**, open the Exchange Control Panel by typing https://nyc-ex10.contoso.com/ecp, and then log on as **Contoso\Administrator** with password **Pa$$w0rd**. If prompt for language and Time zone appears, just click **OK**.

3. Click **Roles&Auditing**.

4. Under **Administrator Roles**, click **New**, then type **Marketing Admins**, in name box on New Role groups.

5. In the **Write Scope** section, click **OrganizationalUnit**, and then type **contoso.com/Marketing**.

6. In the **Roles** section, click **Add**.

7. Select **Mail Recipients**, and then click **Add**.

8. Select **Mail Recipient Creation**, and then click **Add**.

9. Click **OK**.

10. In the **Members** section, click **Add**.

11. Find **Adam Carter** in the list of users, select his name, click **Add**, and then click **OK**.

12. Click **Save**.

13. On NYC-EX10, open **Active Directory Users and Computers**.

14. Double-click **Microsoft Exchange Security Groups**, and verify that the MarketingAdmins group was created, and that Adam Carter is a member of the group.

15. On NYC-EX11, log on as **Contoso\Adam** using the password **Pa$$w0rd**.

16. Open the Exchange Management Console.

17. In the Exchange Management Console, expand **Microsoft Exchange On-Premises**, and then expand **Recipient Configuration**.

18. Click **Mailbox**, and then double-click **Andrea Dunker**.

19. In the **Andrea Dunker Properties** dialog box, click the **Organization** tab, modify one of the properties, and then click **OK**. Verify that the change is not saved.

20. Double-click **StenFaerch**.

21. In the **StenFaerch Properties** dialog box, click the **Organization** tab, modify one of the properties, and then click **OK**. Verify that the change is saved.

22. Click **New Mailbox**. Create a new mailbox in the default Users container. Verify that the user cannot create mailboxes in the Users container.

23. Click **New Mailbox**. Create a new mailbox in the Marketing OU. Verify that the user can create mailboxes in the Marketing OU.

24. Log off of NYC-EX11.

Lesson 2

Configuring Audit Logging

Contents:

Detailed Demonstration Steps

Demonstration: Configuring Audit Logging

Demonstration Steps

1. Log on to NYC-EX10 and NYC-EX11 as **Contoso\Administrator** using the password **Pa$$w0rd**.

2. Open the Exchange Management Shell from the **Start** menu.

3. In the Exchange Management Shell window, type **Get-AdminAuditLogConfig**, and then press ENTER

4. In the results list, ensure that **AdminAuditLogEnabled** has the value **True**. Note that Test-* cmdlet logging is disabled, and that all cmdlets are being logged with all parameters. Note the parameters values for **TestCmdletLoggingEnabled**, **AdminAuditLogCmdlets**, and **AdminAuditLogParameters**.

5. Open the Exchange Management Console.

6. In the Exchange Management Console, expand **Recipient Configuration**, click **Mailbox**, right-click **Alan Brewer**, and then click **Properties**.

7. In the Alan BrewerProperties window, click Mailbox Settings, and then double-click Storage Quotas.

8. Under the **Deleted item retention** section, clear the check box next to **Use mailbox database defaults**. In the **Keepdeleteditemsfor** (**days**) field, type **20**, and then click **OK** twice.

9. In the Exchange Management Shell, type the following command, and then press ENTER.

```
Search-AdminAuditLog -Cmdlets Set-Mailbox -StartDate 1/1/2010 -EndDate<tomorrow's date as
mm/dd/yyyy> -ObjectIds Contoso.com/Research/Alan
```

10. Review the results, and ensure that the change made to Alan's mailbox in step 8 is logged.

11. In the Exchange Management Shell, type the following command, and then press ENTER.

```
Set-Mailbox -Identity "Terri Chudzik" -AuditDelegateSendAs,SendOnBehalf -AuditEnabled
$true
```

12. In the Exchange Management Console, in **Recipient Configuration**, click **Mailbox**, right-click **Terri Chudzik**, and then click **ManageSend As Permission**.

13. In the Manage Send As Permission window, click **Add**, select **Candy Spoon**, click **OK**, click **Manage**, and then click **Finish**.

14. On NYC-EX11, open Internet Explorer, type **https://nyc-ex10.contoso.com/owa**, and then press ENTER.

15. Log on to Outlook Web App as **Contoso\Candy** using the password **Pa$$w0rd**.

16. Click **New** to create a new message, and then in the **Untitled Message** window, click **Options**.

17. In the **Message Options** window, select the **Show From** option, and then click **OK**.

18. In the Untitled Message window, in the **From** field, type **Terri Chudzik**, and in the **To** field, type **Administrator**.

19. Click the **Check Names** button on the toolbar to verify the names.

20. In the **Subject** field, type **Testing Send As logging**.

21. In message body, type some text, and then click **Send**. Verify that message is sent.

22. On NYC-EX10, open **Internet Explorer**, and then type **https://nyc-ex10.contoso.com/ecp**.

23. Log on as **Contoso\Administrator** using the password **Pa$$w0rd**.

24. Click **Roles & Auditing**, and then click **Auditing**.

25. Click **Run a non-owner mailbox access report**.

26. In the Search for Mailboxes Accessed by Non-Owners window, leave the start date as is, and set the end date to tomorrow's date.

27. In the **Search for access by** drop-down box, select **All non-owners**, and thenclick **Search**.

28. In the search results, right-click **Terri Chudzik**,and view the report that shows that Candy Spoon accessed Terri's mailbox.

29. Click **Close**, and then exit the Exchange Control Panel.

Lesson 3

Configuring Secure Internet Access

Contents:

Question and Answers

Secure Internet Access Components

Question: What type of access will you enable from the Internet to your organization's Exchange 2010 servers?

Answer: Answers will vary. Many organizations require access to the Client Access servers using a variety of messaging clients such as Outlook Anywhere, Outlook Web App, or Microsoft Exchange ActiveSync®. Fewer organizations are enabling Internet Message Access Protocol 4 (IMAP4) or Post Office Protocol version 3 (POP3) access to the Exchange servers, so fewer organizations need to provide Simple Mail Transfer Protocol (SMTP) relay services for these clients.

Module Reviews and Takeaways

Review questions

Question: You need to enable members of the Human Resources department to configure user mailboxes for the entire organization. What should you do?

Answer: In most cases, you can accomplish this by adding the members of the Human Resources department to the Recipient Management role group in AD DS. If the Recipient Management role group has more permissions than necessary, you may need to create a custom role group.

Question: In which scenario you should implement RBAC split permissions in your Exchange Server 2010 organization?

Answer: You should implement RBAC split permissions in your Exchange Server 2010 organization if you want to manage creation of AD DS security principals and mailbox objects from Exchange Server management tools.

Question: How can you identify if someone was accessing another user's mailbox?

Answer: You can identify if someone was accessing another user's mailbox by enabling mailbox audit logging.

Question: Users in your organization are using POP3 clients from the Internet. These users report that they can receive, but not send, email. What should you do?

Answer: You will need to provide the users with a SMTP server that they can use to send email. You should configure a Hub Transport server Receive connector.

Question: Your organization has deployed Microsoft Forefront® Threat Management Gateway. You need to ensure that remote users can access the Client Access server inside the organization by using cellular mobile clients. What should you do?

Answer: You will need to configure an Exchange ActiveSync publishing rule in Threat Management Gateway that enables access to the required virtual directories on the Client Access server.

Common Issues Related to Configuring Exchange Server Publishing Rules on a Reverse Proxy

Identify the causes for the following common issues related to configuring Exchange Server publishing rules on a reverse proxy, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
Clients cannot connect to the published sites, and they receive internal server errors.	Normally, these errors occur when the reverse proxy cannot connect to the internal site. Verify that the reverse proxy can connect to the virtual directories on the Client Access server.
Clients cannot connect to the published sites, and they receive certificate errors.	When configuring a reverse proxy to use SSL bridging, you need to ensure that the configuration is correct for certificates on both the reverse proxy and the Client Access server. Verify information such as whether the certificates are trusted, and whether the certificate names match

Issue	Troubleshooting Tip
	the names that the clients use when connecting to the site.
Clients cannot connect to the published sites, and they receive "site not found" errors.for the domain adatum-info.com.	Normally, this type is error displays when there is a problem connecting to the reverse proxy from the Internet. Verify that DNS name resolution is working correctly and that the external firewall is not blocking access to the reverse proxy.

Real-World Issues and Scenarios

Question: Your organization has configured a SMTP Receive connector on an Edge Transport server to enable IMAP4 users to relay messages. However, you discover that your Edge Transport server is being used to relay spam to other organizations. What should you do?

Answer: When you configured the Edge Transport server to relay messages for IMAP4 users, you enabled anonymous relaying for all users. You will need to disable message relaying on the Edge Transport server, and then enable authenticated relaying on a Hub Transport server.

Question: You have added the ServerAdmins group in your organization to the Exchange Server 2010 Server Management group in AD DS. All the members of the ServerAdmins group report that they receive errors when they start the Exchange Management Console. What should you do?

Answer: You need to enable all of the members of the ServerAdmins group to run remote Windows PowerShell cmdlets.

Question: Your organization is planning to deploy Forefront Threat Management Gateway to enable access to a Client Access server from the Internet. The organization is concerned about the cost of acquiring multiple certificates to enable access, but also wants to ensure that users do not receive certificate related errors. What should you do?

Answer: To ensure that users do not receive certificate errors, you will need to purchase a certificate from a public certification authority (CA). You can request a certificate with multiple subject alternative names, or use a wildcard certificate to ensure that one certificate can be used for all client connections. You then can use the same certificate on the Client Access server, or use a certificate from a private CA on the Client Access server.

Best Practices Related to Configuring Exchange Server Permissions

Supplement or modify the following best practices for your own work situations:

- When you configure permissions in the Exchange Server 2010 organization, ensure that users have the minimal permissions required for them to perform their tasks. Add only highly trusted users to the Organization Management role group as it has full control of the entire organization.

- Do not enable RBAC or Active Directory split permissions if you do not have a usage scenario to support these permissions models.

- Enable administrative audit logging on shared mailboxes.

- Whenever possible, use the built-in role groups to assign permission in the Exchange Server 2010 organization. Creating custom role groups with customized permissions is more complicated, and may lead to users having too many—or too few—permissions.

- Ensure that you document all permissions that you assign in the Exchange Server 2010 organization. If users are unable to perform the required tasks, or if they are performing tasks to which they should not have access, you should be able to identify the reason by referring to your documentation.

Lab Review Questions and Answers

Question: In the lab, you configured Exchange Server permissions by using a custom role. How did you limit the types of tasks the delegated administrators could perform, and on what objects they could perform the tasks?

Answer: You limited the types of tasks the delegated administrators could perform by removing some of the management role entries assigned to the OrganizationAdministrators management role. You limited what objects the delegated administrators could manage by limiting the management role scope to only specific Exchange Server cmdlets.

Question: Instead of searching the mailbox audit log in Exchange Management Shell, what is the alternative way to access the log file result?

Answer: You can also create a new search in Exchange Management Shell, and then configure it to send you results through email.

Question: If you want to restore to the Organization Management group the ability to create mailboxes, what should you do?

Answer: You should create delegating role assignments between the Organization Management role group, and both the Mail Recipient Creation role and Security Group Creation and Membership role.

Module 12

Monitoring and Troubleshooting Microsoft® Exchange Server 2010

Contents:

Lesson 1

Monitoring Exchange Server 2010

Contents:

Question and Answers

Collecting Performance Data for the Mailbox Server

Question: If any of these performance counters is measured outside its normal range, what will it most likely affect in the production environment?

Answer: If any of the mailbox performance-counter data falls outside the normal range, the user may experience a slow response times.

Collecting Performance Data for the Hub Transport and Edge Transport Servers

Question: If any of these performance counters is measured outside its normal range, what will it most likely affect in the production environment?

Answer: If any of the transport server performance-counter data is measured outside the normal range, it will result in slow email delivery.

Collecting Performance Data for the Client Access Server

Question: If any of these performance counters is measured outside its normal range, what will it most likely affect in the production environment?

Answer: If any of the transport servers performance-counter data is outside the normal range, slow email delivery will result.

Additional Reading

Key Performance Considerations for Exchange Server 2010

- Performance and Scalability Counters and Thresholds

- Virtualization Counters

Collecting Performance Data for the Mailbox Server

- Mailbox Server Counters

Collecting Performance Data for the Hub Transport and Edge Transport Servers

- Transport Server Counters

Collecting Performance Data for the Client Access Server

- Client Access Server Counters

Lesson 2

Troubleshooting Exchange Server 2010

Contents:

Question and Answers

Discussion: Troubleshooting Mailbox Servers

Question: A database has gone offline. What process can you use to troubleshoot the problem?

Answer: Answers may vary. The following is one suggested answer:

1. Identify which databases have the problem.

2. Review logs, and run the Database Troubleshooter tool.

3. Review the probable causes of the problem.

4. Rank causes by probability, and review possible solutions.

5. Rank solutions by ease of resolution and impact to complete.

6. Try the most probable and easily implemented resolutions first. Then work your way down the list until you resolve the problem.

Discussion: Troubleshooting Client Access Servers

Question: Outlook users can no longer can connect to the system. What process can you use to troubleshoot the problem?

Answer: Answers may vary. The following is one suggested answer:

1. Identify which users are experiencing the problem, and when the problem began.

2. Review logs for any involved Client Access servers.

3. Run the Test-ServiceHealthcmdlet to verify that all required Exchange services are running. Also verify that Internet Information Services is functional.

4. Run the Test-OutlookConnectivity and Test-MAPIConnectivitycmdlets to test end-to-end connectivity between the client and the Exchange Servers.

5. Review the problem's probable causes.

6. Rank causes by probability, and review possible solutions.

7. Rank solutions by ease of resolution and impact to complete.

8. Try the most probable and easily implemented resolution first. Work your way down the list until you resolve the problem.

Discussion: Troubleshooting Message Transport Servers

Question: Users are reporting non-deliverable and slow-to-deliver outbound email. What process can you use to troubleshoot the problem?

Answer: Answers may vary. The following is one suggested answer:

1. Identify which users are experiencing the problem, and when the problem started.

2. Use the Mail Flow Troubleshooter, message tracking system, Queue Viewer, Routing Log Viewer, and Telnet to pinpoint the problem.

3. Review the probable causes of the problem.

4. Rank causes by probability, and review possible solutions.

5. Rank solutions by ease of resolution, and impact to complete.

6. Try the most probable and easily implemented resolution first. Work your way down the list until you resolve the problem.

Module Reviews and Takeaways

Review questions

Question: Users are reporting issues with sending email to a remote domain. You need to determine and resolve the problem. What should you do?

Answer: Use the Mail Flow Troubleshooter and the Queue Viewer to review the queued messages and the status of the queues.

Question: Recent organizational growth has resulted in two issues on Mailbox server: several memory thresholds and average read-latency threshold for the logical disk that stores the page file are exceeding their recommended limits. What issue should you address first?

Answer: Add memory to the Mailbox server. When there is not enough available memory, memory is paged out to the page file, which can lead to an increased amount of input/output (I/O) on the disk where the page file is stored.

Question: After reviewing the trend information retrieved from the monitoring system, you noticed that the processor usage for one of the four Mailbox servers is higher than average. What should you do?

Answer: Determine which processes are using the additional processor time, and check for changes in mailbox usage on the servers. To solve the problem, you may be able to move mailboxes to other Mailbox servers, or add additional processing capabilities to the current server.

Common Issues Related to Troubleshooting Exchange Server Problems

Identify the causes for the following common issues related to troubleshooting Exchange Server 2010 problems, and fill in the troubleshooting tips. For answers, refer to relevant lessons in the module, and fill in the troubleshooting tips.

Issue	Troubleshooting Tip
Outbound email messages are queuing on the Hub Transport server.	Always start with the most common problem causes, such as network connectivity and DNS name resolution.
Multiple sources are simultaneously reporting different problems.	Gather as much information as possible about each of the reported problems. Although there might be multiple issues, it is likely that you will find a connection between the multiple reported problems.
Users are reporting slowness or other subjective problems.	As always, take each report seriously, and try to gather as much objective information about the problem as possible. Only then will you find a suitable and objective solution.

Real-World Issues and Scenarios

Question: A database has gone offline, and you need to troubleshoot the problem. A number of impatient users have mailboxes stored in the offline database. What is the best way to address the situation?

Answer: Follow a proven troubleshooting technique. Stressful situations make it even more important to stick to a proven methodology.

Best Practices Related to Troubleshooting Exchange Server Problems

Supplement or modify the following best practices for your own work situations:

- Follow the same steps each time you troubleshoot a problem. Then you will get into a habit of making informed decisions and finding the answers quickly.

- Be diligent about separating facts about the issue from feelings or other subjective information. A single person's subjective observation could cause you to troubleshoot the wrong problem and delay resolution of the actual issue.

- Ask a lot of questions about the problem before starting to troubleshoot. If you have not properly defined the problem, you cannot properly target your troubleshooting steps.

Lab Review Questions and Answers

Question: Was the Exchange Best Practices Analyzer helpful in troubleshooting the database error? When might using Exchange Best Practices Analyzer be a better solution?

Answer: Exchange Best Practices Analyzer did not help you identify database errors. The Best Practices Analyzer is best used when troubleshooting intermittent errors, configuration errors, and proactively to ensure best practices are being applied.

206 Updating Your Skills from Microsoft® Exchange Server 2003 or Exchange Server 2007 to Exchange Server 2010 SP1

Module 13

Upgrading from Microsoft® Exchange Server 2007 to Exchange Server 2010

Contents:

Module Reviews and Takeaways

Review questions

Question: Your organization is deploying Exchange Server 2010 in an Exchange Server 2007 organization. You have made the changes to AD DS. What is the first Exchange Server 2010 server role that you should deploy? How will this deployment change the user experience?

Answer: You should deploy the Client Access server role first. However, this deployment will not change the user experience until you configure the non-Messaging Application Programming Interface (MAPI) clients to use the Client Access server for mailbox access.

Question: Your organization includes two locations and Active Directory sites. You have deployed Exchange Server 2007 servers in both sites. You now are deploying Exchange Server 2010 servers in one of the sites, and removing the Exchange Server 2007 servers. When can you remove the last Exchange Server 2007 Hub Transport server in the site?

Answer: You can remove the last Exchange Server 2007 Hub Transport server when you move all of the mailboxes, public folders, and connectors from the Exchange Server 2007 servers in the site. As long as there is an Exchange Server 2007 Mailbox server in the site, you must maintain an Exchange Server 2007 Hub Transport server.

Common Issues Related to Upgrading to Exchange Server 2010

Identify the causes for the following common issues related to upgrading to Exchange Server 2010. For answers, refer to relevant lessons in the module.

Issue	Troubleshooting Tip
You are upgrading your Exchange Server 2007 organization to Exchange Server 2010, and you have configured Client Access servers for Internet access. Users with mailboxes on Exchange Server 2010 Mailbox servers can access their mailbox using Outlook Web App from the Internet, but users with mailboxes on the Exchange Server 2007 Mailbox servers cannot.	Check the DNS configuration to ensure that users from the Internet can resolve the host name for the alternate or legacy URL that you have configured. Also, check the reverse proxy or firewall configuration to ensure that all client requests to the legacy URL are directed to the Exchange Server 2007 Client Access server.
You have deployed Exchange Server 2010 servers in your Exchange Server 2007 organization. You need to modify the settings on both Exchange Server 2007 and Exchange Server 2010 servers, but you cannot see both servers in the Exchange Management Console.	You have to use the same version of the Exchange Management Console as the server that you are managing.

Real-world Issues and Scenarios

Question: Your organization has deployed Microsoft Forefront® Threat Management Gateway (TMG) to secure access to the Client Access server deployment. You have completed all of the steps required to enable access to both the Exchange Server 2010 Client Access server and the Exchange Server 2007 Client Access server. What changes do you need to make on the Forefront TMG server?

Answer: You need to configure Forefront TMG to forward all requests using the main Client Access server URL to the Exchange Server 2010 Client Access server. Then you need to

configure Forefront TMG to forward requests that are sent to the alternate or legacy URL to the Exchange Server 2007 Client Access server.

Question: In your Exchange Server 2007 deployment, your users have been using the URL https://mail.contoso.com/owa from the Internet to access Outlook Web Access. You want to use the same URL during and after you upgrade to Exchange Server 2010. What do you need to do to make sure that users can use this URL to access mailboxes on both Exchange Server 2010 and Exchange Server 2007?

Answer: You will need to configure the Outlook Web Access virtual directory on the Exchange Server 2010 server with the external URL of https://mail.contoso.com/owa. You will then need to configure an different URL on the Exchange Server 2007 Outlook Web Access virtual directory. Then ensure that the certificates used during the migration has subject alternative names that include both URLs, and ensure that users can access both servers from the Internet.

Best Practices Related to Upgrading to Exchange Server 2010

Supplement or modify the following best practices for your own work situations:

- Plan to increase the number of Client Access servers as you upgrade to Exchange Server 2010. For Exchange Server 2007 deployments, we recommended a one-to-four ratio of Client Access server processor cores to Mailbox server processor cores. In Exchange Server 2010, we recommend a three-to-four ratio.

- Use certificates with subject alternative names rather than using wildcard certificates when you obtain certificates for the Client Access servers. Wildcard certificates are less secure, because they can be used to secure connections to any server name. If an attacker obtains a copy of the certificate, they can use it to secure connections to any server name while using your domain name.

Lab Review Questions and Answers

When reviewing the preceding lab, be sure the students understand the reasons for the tasks they completed.

Use the questions on the slide to guide the debriefing after students complete the lab exercises.

Question: How would the steps in this lab have changed if A. Datum Corporation were using the host name mail.adatum.com for Internet Outlook Web Access in Exchange Server 2007

Answer: If the name mail.adatum.com were already being used and the organization wanted to continue to use it for Exchange Server 2010, you would have to assign a different legacy name to the Exchange 2007 server. You would then have to make sure that the name is listed in the certificate subject alternative name.

Question: How will you need to modify the steps in this lab to upgrade Exchange Server 2007 to Exchange Server 2010 in your organization?

Answer: Most organizations should be able to follow the steps listed in the lab with two main changes:

- Medium and larger organizations will be deploying several servers for each Exchange Server role, so they will need to complete the steps on multiple servers rather than just one.

- Most organizations will require several days or weeks to migrate all of the mailboxes and public folders from Exchange Server 2007 to Exchange Server 2010.

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