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5050A

**Recovering Messaging Servers and
Databases Using Microsoft® Exchange
Server 2007**

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Module 1

Recovering Messaging Databases

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Lab Answer Keys

Exercise 1: Performing a Storage Group Backup

► Task 1: Backup database and send test message

1. On HON-EX1, on the **Start** menu, point to **All Programs**, point to **Accessories**, point to **System Tools**, and click **Backup**.
2. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
3. On the **Backup or Restore** page, click **Next**.
4. On the **What to Back Up** page, click **Let me choose what to back up**, and click **Next**.
5. On the **Items to Backup Up** page, in the **Items to back up** area, expand **Microsoft Exchange Server**, expand **HON-EX1**, expand **Microsoft Information Store**, select the **SG3** check box, and click **Next**.
6. On the **Backup Type, Destination, and Name** page, click **Browse**.
7. In the **Save As** dialog box, browse to drive **D**.
8. In the **Save As** dialog box, in the **File name** box, type **BackupSG3**, and click **Save**.
9. On the **Backup Type, Destination, and Name** page, click **Next**.
10. On the **Completing the Backup or Restore Wizard** page, click **Finish**.
11. Close the **Backup Progress** dialog box.
12. On HON-EX1, open Microsoft® Internet Explorer® and connect to **https://Mail.TreyResearch.net/owa**.
13. In the **Security Alert** dialog box, select the **In the future, do not show this warning** check box, and click **OK**.
14. On the **Microsoft Office Outlook Web Access** page, log on as **TreyResearch\Carlos**, using a password of **Pa\$\$w0rd**.
15. On the **Microsoft Office Outlook Web Access** page, click **OK**.
16. Create a new message to Judy Lew using a subject of **Test Message – After Backup**. Attach the file **C:\ExchangeSetupLogs\ExchangeSetup.log**. Send the message, and close Internet Explorer.

Note: Judy Lew's mailbox is located on the MailDB3 database in the SG3 storage group.

17. Open Internet Explorer and then connect to **https://Mail.TreyResearch.net/owa**. Log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**.
18. On the **Microsoft Office Outlook Web Access** page, click **OK**. Confirm that Judy received the message from Carlos. Close Internet Explorer.

Exercise 2: Performing a Dial-Tone Recovery

Exercise Preparation Steps

To simulate the failure of the hard disk containing the MailDB3 database, complete the following steps:

1. On HON-EX1, in the Exchange Management Console, expand the **Server Configuration** work area and click **Mailbox**.
2. In the result pane, ensure that **HON-EX1** is selected, and in the work pane, click **MailDB3**.
3. In the Actions pane, click **Dismount Database**. In the **Microsoft Exchange** dialog box, click **Yes**.
4. Open Windows Explorer and browse to the drive D. Delete the **MailDB3** folder and close Windows Explorer.

► Task 1: Create dial-tone storage group and mailbox database

1. On HON-EX2, in the Exchange Management Console, in the **Server Configuration** work area, click **Mailbox**.
2. In the result pane, ensure that **HON-EX2** is selected, and in the Actions pane, click **New Storage Group**.
3. On the **New Storage Group** page, in the **Storage group name** field, type **SG3**.
4. Beside **Log files path**, click **Browse**. In the **Browse for Folder** dialog box, click **Local Disk (C:)**, click **Make New Folder**, type **SG3** and click **OK**.
5. Beside **System files path**, click **Browse**. In the **Browse for Folder** dialog box, click **SG3** and click **OK**.
6. Click **New** and click **Finish**.

Note: These steps create the SG3 storage group that is used to restore the production database. This storage group is created before the dial-tone storage group so that the log file prefix is the same as the production storage group on HON-EX1.

7. In the **Actions** pane, click **New Storage Group**.
8. On the **New Storage Group** page, in the **Storage group name** field, type **SG3-Temp**.
9. Accept the default locations for the log and system files, click **New** and click **Finish**.
10. In the work pane, click **SG3-Temp**, and in the **Actions** pane, click **New Mailbox Database**.
11. On the **New Mailbox Database** page, in the **Mailbox database name** field, type **MailDB3-Temp**. Accept the default location for the database file, click **New** and click **Finish**.

► Task 2: Modify the mailbox configuration

1. On HON-EX2, open the **Exchange Management Shell**.

2. At the MSH prompt, type **Get-Mailbox -Database 'HON-EX1\MailDB3' | Move-Mailbox -ConfigurationOnly -TargetDatabase 'HON-EX2\MailDB3-Temp'**, and press ENTER.
3. At the **Confirm** prompt, type **A** and press ENTER.
4. On HON-EX1, open Internet Explorer, connect to **https://Mail.TreyResearch.net/owa**, and log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**.
5. On the **Microsoft Office Outlook Web Access** page, click **OK**. Confirm that Judy can connect to the mailbox, but that the mailbox does not contain any data.
6. In the Outlook Web Access window, create a new message with a recipient of **Carlos Lacerda** and with a subject of **Test Message – Using Dial-tone database**.
7. Open another instance of Internet Explorer, connect to **https://Mail.TreyResearch.net/owa**, and log on as **TreyResearch\Carlos**, using a password of **Pa\$\$w0rd**.
8. Confirm that Carlos received the message from Judy and reply to the message. Close Internet Explorer.
9. In the Outlook Web Access window in which you are logged on as Judy, confirm that the reply message from Carlos was delivered. Close Internet Explorer.

► **Task 3: Create a mailbox database**

1. On HON-EX2, in the Exchange Management Console, click **HON-EX2** in the results pane. In the work pane, click **SG3**, and in the Actions pane, click **New Mailbox Database**.
2. On the **New Mailbox Database** page, in the **Mailbox database name** field, type **MailDB3**.
3. Beside **Database file path**, click **Browse**. In the **Exchange Database** dialog box, browse to drive **D** and create a new folder named **MailDB3**. Click **Open** and click **Save**.
4. On the **New Mailbox Database** page, clear the **Mount this database** check box, click **New** and click **Finish**.
5. In the Exchange Management Console, on the **Database Management** tab, right-click **MailDB3** and click **Properties**.
6. On the **General** tab, select **This database can be overwritten by a restore** check box and click **OK**.

► **Task 4: Restore the database**

1. On HON-EX2, on the **Start** menu, point to **All Programs**, point to **Accessories**, point to **System Tools** and click **Backup**.
2. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
3. On the **Backup or Restore** page, click **Restore files and settings**, and click **Next**.
4. On the **What to Restore** page, click **Browse**. In the **Open** field, type **\\HON-EX1\D\$\BackupSG3.bkf** and click **OK**.

5. In the **Items to restore** pane, expand **File**, expand **BackupSG3.bkf**, select the **HON-EX1\Microsoft Information Store\SG3** check box, and click **Next**.
6. In the **Restore To** field, type **HON-EX2**. In the **Temporary location for log and patch files**, type **D:\Temp**, and click **Next**.
7. On the Completing the Backup or Restore Wizard page, click **Finish**.
8. When the restore finishes, close the **Restore Progress** dialog box.

► **Task 5: Recover and mount the database**

1. On HON-EX2, click **Start**, click **Run**, type `\\HON-EX1\C$\SG3`, and press ENTER.
2. In the Windows Explorer window, select all files, and press CTRL+C.
3. In the Windows Explorer window, browse to **D:\Temp\SG3**, and paste the files that you copied from HON-EX1. Do not over write any of the existing files.
4. On HON-EX2, in the Exchange Management Shell, type `Eseutil /CC D:\temp\SG3`, and press ENTER. This command performs a hard recovery for the MailDB3 database.
5. In the Exchange Management Console, click **HON-EX2** in the results pane. On the **Database Management** tab, right-click **MailDB3** and click **Mount Database**.

► **Task 6: Modify mailbox configuration**

1. On HON-EX2, in the Exchange Management Shell, type `Get-Mailbox -Database 'HON-EX2\MailDB3-Temp' | Move-Mailbox -ConfigurationOnly -TargetDatabase 'HON-EX2\MailDB3'`, and press ENTER.
2. At the **Confirm** prompt, type **A** and press ENTER.
3. On HON-EX1, open Internet Explorer and connect to <https://Mail.TreyResearch.net/owa>. Log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**. Confirm that Judy can connect to the mailbox, and that the mailbox includes messages sent before the hard disk failure, including the message from Carlos with a **Test Message – After Backup** subject. Confirm also that the mailbox does not contain any messages sent while the user was using the dial-tone database.
4. In the Outlook Web Access window, create a new message with a recipient of **Carlos Lacerda**, with a subject of **Test Message – After Restore and Configuration Move**.
5. Open another instance of Internet Explorer and connect to <https://Mail.TreyResearch.net/owa>. Log on as **TreyResearch\Carlos**, using a password of **Pa\$\$w0rd**. Confirm that Carlos received the message from Judy and reply to the message.
6. In the Outlook Web Access window logged on as Judy, confirm that the reply message from Carlos was delivered.
7. Close both instances of Internet Explorer.

► **Task 7: Create the recovery database and merge content**

1. On HON-EX2, in the Exchange Management Console, click **Toolbox**.
2. In the **Toolbox** list, double-click **Database Recovery Management**.
3. Click **Do not check for updates at startup**, click **I don't want to join the program at this time**, and click **Go to Welcome screen**.
4. On the **Enter Server and User Information** page, in the **Enter an identifying label for this activity** text box, type **Dial-tone Recovery – MailDB3**.
5. In the **Server Name (Required)** text box, type **HON-EX2**.
6. In the **Domain Controller name (Required)** text box, type **HON-DC1** and click **Next**.
7. On the **Select one of the following tasks** page, click **Create a recovery storage group**.
8. On the **Select the Storage Group to Link With the Recovery Storage Group** page, click **SG3-Temp** and click **Next**.
9. On the **Create the Recovery Storage Group** page, accept the default file locations and click **Create the recovery storage group**.
10. On the **Create the Recovery Storage Group Result** page, click **Go back to task center**.
11. On the **Select one of the following tasks** page, click **Mount or dismount databases in the recovery storage group**.
12. On the **Mount or Dismount Database** page, select the **MailDB3-Temp** check box and click **Mount selected database**.
13. On the **Mount or Dismount Databases Report** page, click **Go back to task center**.
14. On the **Select one of the following tasks** page, click **Merge or copy mailbox contents**.
15. On the **Select a Mounted Database in the Recovery Storage Group** page, click **Gather merge information**.
16. On the **Select Database Swap Option** page, select the **Swap database configurations** check box and click **Next**.
17. On the **Display Database Swap Result** page, click **Go back to task center**.
18. In the Microsoft Exchange Troubleshooting Assistant tool, on the **Select one of the following tasks** page, click **Merge or copy mailbox contents**.
19. On the **Select a Mounted Database in the Recovery Storage Group** page, click **Gather merge information**.
20. On the **Select Database Swap Option** page, click **Next**.
21. On the **Select Merge Options** page, click **Perform pre-merge tasks**.
22. On the **Select Mailboxes for Copy or Merge** page, click **Perform merge actions**.
23. On the **Display Mailbox Merge or Copy Results** page, click **Go back to task center**.

24. On HON-EX1, open Internet Explorer and connect to **https://Mail.TreyResearch.net/owa**. Log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**.
25. Confirm that Judy can connect to the mailbox, and that the mailbox includes the messages sent before the hard disk failure and those sent while the dial-tone database was being used.

► **Task 8: Remove recovery storage group and the temporary dial-tone database**

1. On HON-EX2, in the Microsoft Exchange Troubleshooting Assistant tool, on the **Select one of the following tasks** page, click **Mount or dismount databases in the recovery storage group**.
2. On the **Mount or Dismount Database** page, select the **MailDB3-Temp** check box and click **Dismount selected database**.
3. On the **Mount or Dismount Databases Report** page, click **Go back to task center**.
4. On the **Select one of the following tasks** page, click **Remove the recovery storage group**.
5. On the **Remove Recovery Storage Group Result** page, select **Remove the recovery storage group**, and confirm that the storage group was removed.
6. Close the Microsoft Exchange Troubleshooting Assistant tool.
7. In the Exchange Management Console, in the **Server Configuration** work area, click **Mailbox**.
8. In the work pane, select **MailboxDB3-Temp**, and then click **Remove**.
9. At the Microsoft Exchange confirmation prompt, click **Yes**.
10. In the Microsoft Exchange Warning dialog box, click **OK**.
11. In the work pane, select **SG3-Temp**, and then click **Remove**.
12. At the Microsoft Exchange confirmation prompt, click **Yes**.
13. In the Microsoft Exchange Warning dialog box, click **OK**.
14. Open Windows Explorer and browse to **C:\Program Files\Microsoft\Exchange Server\Mailbox**. Delete the **SG3-Temp** folder.

Exercise 3: Repairing a Damaged Database

► **Task 1: Repair a damaged mailbox database**

1. On HON-EX2, in the Exchange Management Console, in the **Server Configuration** work area, click **Mailbox**.
2. In the work pane, right-click **MailDB2**, click **Mount Database**, and in the **Microsoft Exchange Error** dialog box, click **OK**.
3. Click **Start**, point to **Administrative Tools**, and click **Event Viewer**.

4. In the **Application** log, review the error messages with **MSExchangeIS** as the source, and close Event Viewer.
5. On HON-EX2, open the Exchange Management Shell. At the prompt, type **Eseutil /r E01**, and press ENTER. This command attempts to recover all databases in the storage group with the E01 log extension. By recovering the databases, the command brings them to a clean shut down state. Confirm that the command terminates with an error.
6. At the MSH prompt, type **Eseutil /P D:\MailDB2\MailDB2.edb**, and press ENTER.
7. Review the contents of the **Warning** dialog box and click **OK**. This command repairs the database at the database table level and may delete information in the database. Confirm that the command completes successfully.
8. At the MSH prompt, type **Eseutil /D D:\Maildb2\Maildb2.edb**, and press ENTER. This command performs an offline defragmentation of the Maildb2.edb database. Confirm that the command completes successfully.
9. In the Exchange Management Console, in the **Server Configuration** work area, click **Mailbox**.
10. In the work pane, right-click **MailDB2**, and click **Mount Database**. Confirm that the database now mounts successfully.
11. Open Internet Explorer and connect to **https://Mail.TreyResearch.net/owa**. Log on as **TreyResearch\Qin**, using a password of **Pa\$\$w0rd**. Qin's mailbox is located in the MailDB2 database on HON-EX2. Confirm that Qin can connect to the mailbox.

Module 2

Preparing for and Recovering from Mailbox Server Failures

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Lab Answer Keys

Exercise 1: Performing a Mailbox Server Backup

- ▶ **Task 1: On HON-EX1, perform a full backup up of the System State data, the Exchange installation files, and all Exchange storage groups to \\HON-DC1\C\$\EX1_Backup.bkf**
 1. On HON-EX1, click **Start**, point to **All Programs**, point to **Accessories**, point to **System Tools**, and click **Backup**.
 2. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
 3. On the **Backup or Restore** page, click **Next**.
 4. On the **What to Back Up** page, click **Let me choose what to back up**, and click **Next**.
 5. On the **Items to Backup Up** page, in the **Items to back up** area, expand **My Computer**, and select the **System State** check box.
 6. Under **My Computer**, expand **Local Disk (C:)**, expand **Program Files**, expand **Microsoft**, and select the **Exchange Server** check box.
 7. Expand **Exchange Server**, expand **Mailbox**, and clear the **First Storage Group** and the **Second Storage Group** check boxes.
 8. In the **Items to back up** area, expand **Microsoft Exchange Server**, expand **HON-EX1**, select the **Microsoft Information Store** check box, and click **Next**.
 9. On the **Backup Type, Destination, and Name** page, click **Browse**.
 10. In the **Save As** dialog box, in **File name**, type **\\HON-DC1\C\$\EX1_Backup.bkf**, and click **Save**.
 11. On the **Backup Type, Destination, and Name** page, click **Next**.
 12. On the **Completing the Backup or Restore Wizard** page, click **Finish**.
 13. Wait until the backup finishes and close the **Backup Progress** dialog box.

- ▶ **Task 2: Using Outlook Web Access on HON-EX3, send a message from Carlos Lacerda to Judy Lew**
 1. On HON-EX3, open Microsoft® Internet Explorer®, and connect to **https://mail.TreyResearch.net/owa**.
 2. In the **Security Alert** dialog box, select the **In the future, do not show this warning** check box, and click **OK**.
 3. On **the Microsoft Office Outlook Web Access** page, log on as **TreyResearch\Carlos**, using a password of **Pa\$\$w0rd**.
 4. On the **Microsoft Office Outlook Web Access** page, click **OK**.

5. Create a new message to Judy Lew using a subject of **Test Message – After Backup**. Attach the file **C:\ExchangeSetupLogs\ExchangeSetup.log**. Send the message and close Internet Explorer.
- **Task 3: As Judy Lew, reply to the message from Carlos Lacerda**
1. Open Internet Explorer and connect to **https://mail.TreyResearch.net/owa**.
 2. Log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**. On the **Microsoft Office Outlook Web Access** page, click **OK**.
 3. Confirm that Judy received the message from Carlos.
 4. Reply to the message and close Internet Explorer.
- **Task 4: On HON-EX1, perform an incremental backup of the Exchange Server storage groups on the Mailbox server**
1. On HON-EX1, click **Start**, point to **All Programs**, point to **Accessories**, point to **System Tools**, and click **Backup**.
 2. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
 3. On the **Backup or Restore** page, click **Next**.
 4. On the **What to Back Up** page, click **Let me choose what to back up**, and click **Next**.
 5. On the **Items to Backup Up** page, in the **Items to back up** area, expand **Microsoft Exchange Server**, expand **HON-EX1**, select the **Microsoft Information Store** check box, and click **Next**.
 6. On the **Backup Type, Destination, and Name** page, in the **Type a name for this backup** field, type **EX1_INC_Backup**, and click **Next**.
 7. On the **Completing the Backup or Restore Wizard** page, click **Advanced**.
 8. On the **Type of Backup** page, under **Select the type of backup**, click **Incremental**, and click **Next**.
 9. On the **How to Back Up** page, click **Next**.
 10. On the **Backup Options** page, click **Next**.
 11. On the **When to Back Up** page, click **Next**.
 12. On the **Completing the Backup or Restore Wizard** page, click **Finish**.
 13. Wait until the backup finishes and close the **Backup Progress** dialog box.
- **Task 5: Shut down HON-EX1, and then start HON-SRV1**
1. Connect to the **Virtual Server Administration Website** and click **HON-EX1** and click **Turn Off Virtual Server and Discard Undo Disks**.
 2. Start the 5050A-HON-SRV1 virtual machine.

Exercise 2: Recovering a Mailbox Server

► Task 1: On HON-DC1, reset the computer account for HON-EX1

1. On HON-DC1, click **Start**, point to **Administrative Tools**, and click **Active Directory Users and Computers**.
2. Under **Treyresearch.net**, click **Computers**. In the right pane, right-click **HON-EX1**, and click **Reset Account**. In the **Active Directory** dialog box, click **Yes** and click **OK**. Close **Active Directory Users and Computers**.

► Task 2: On HON-SRV1, change the computer name to HON-EX1, and join the computer to the Treyresearch.net domain

1. On HON-SRV1, log on as **Administrator**, using a password of **Pa\$\$w0rd**.
2. Click **Start**, right-click **My Computer**, and click **Properties**.
3. On the **Computer Name** tab, click **Change**.
4. In the **Computer Name Changes** dialog box, in the **Computer name** field, type **HON-EX1** and click **OK**.
5. In the **Computer Name Changes** dialog box, click **OK**.
6. In the **System Properties** dialog box, click **OK** and click **Yes** to restart the computer.
7. After the computer restarts, log on as **Administrator**, using a password of **Pa\$\$w0rd**.
8. Click **Start**, right-click **My Computer**, and click **Properties**.
9. On the **Computer Name** tab, click **Change**.
10. Under **Member of**, click **Domain**, type **Treyresearch.net**, and click **OK**.
11. In the **Computer Name Changes** dialog box, in the **User name** field, type **Administrator**. In the **Password** field, type **Pa\$\$w0rd** and click **OK**.
12. In the **Computer Name Changes** dialog box, click **OK**, and then click **OK** again.
13. In the **System Properties** dialog box, click **OK** and click **Yes** to restart the computer.
14. After the computer restarts, log on as **Administrator**, using a password of **Pa\$\$w0rd**, and selecting **TreyResearch** from the **Log on to** list.
15. On the **Manage Your Server** page, select the **Don't display this page at logon** check box, and close the page.

► Task 3: Use the Recover Server mode to install Exchange Server 2007 on the new HON-EX1 server

1. Click **Start** and click **Run**. In the **Open** box, type **e:\i386\setup /m:recoverserver**, and press ENTER.

Note: The installation will take 12 to 15 minutes.

2. When the installation finishes, open the Exchange Management Console. In the **Server Configuration** work area, click **Mailbox**.
3. In the result pane, ensure that **HON-EX1** is selected. On the **Database Management** tab, confirm that three storage groups and three databases are listed. Confirm that the stores are not mounted.

Exercise 3: Recovering Mailbox Server Data

Note: In this exercise, HON-EX1 refers to the restored Mailbox server that was originally HON-SRV1.

► Task 1: Restore the databases from backup on HON-EX1

1. On HON-EX1, in the Exchange Management Console, right-click **Mailbox Database**, and click **Properties**.
2. On the **General** tab, select the **This database can be overwritten by a restore** check box, and click **OK**.
3. Repeat steps 1 and 2 for **Public Folder Database** and the **MailDB3** database.
4. Click **Start**, point to **All Programs**, point to **Accessories**, point to **System Tools**, and click **Backup**.
5. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
6. On the **Backup or Restore** page, click **Restore files and settings**, and click **Next**.
7. On the **What to Restore** page, click **Browse**. In the **Open** field, type `\\HON-DC1\C$\EX1_Backup.bkf`, and click **OK**.
8. In the Items to restore pane, expand **File**, expand **EX1_Backup.bkf**, and select the **HON-EX1\Microsoft Information Store\First Storage Group** check box, the **HON-EX1\Microsoft Information Store\Second Storage Group** check box, and the **HON-EX1\Microsoft Information Store\SG3** check box. Click **Next**.
9. In the **Restore To** field, ensure **HON-EX1** is displayed. In the **Temporary location for log and patch files**, type `D:\Temp`. Click **Next**.
10. On the **Completing the Backup and Restore Wizard** page, click **Finish**.
11. When the restore completes, close the **Restore Progress** dialog box.

► Task 2: Restore the incremental backup on HON-EX1

1. Click **Start**, point to **All Programs**, point to **Accessories**, point to **System Tools** and click **Backup**.
2. On the **Welcome to the Backup or Restore Wizard** page, click **Next**.
3. On the **Backup or Restore** page, click **Restore files and settings**, and click **Next**.

4. On the **What to Restore** page, click **Browse**. In the **Open** field, type **\\HON-DC1\C\$\EX1_INC_Backup.bkf**, and click **OK**.
 5. In the Items to restore pane, expand **File**, expand **EX1_INC_Backup.bkf**, and select the **HON-EX1\Microsoft Information Store\First Storage Group** check box, the **HON-EX1\Microsoft Information Store\Second Storage Group** check box, and the **HON-EX1\Microsoft Information Store\SG3** check box. Click **Next**.
 6. In the **Restore To** field, ensure **HON-EX1** is displayed. In the **Temporary location for log and patch files**, type **D:\Temp**.
 7. Select the **Last Restore Set (Log file replay will start after this restore completes)** check box and the **Mount Database After Restore** check box. Click **Next**.
 8. On the **Completing the Backup and Restore Wizard** page, click **Finish**.
 9. Close the **Restore Progress** dialog box.
- **Task 3: Confirm that users have access to their mailboxes and that all messages have been restored**
1. On HON-EX3, open Internet Explorer, and then connect to **https://mail.treyresearch.net/owa**. In the **Security Alert** dialog box, click **In the future, do not show this warning**, and click **OK**.
 2. Log on as **TreyResearch\Carlos**, using a password of **Pa\$\$w0rd**. Confirm that the mailbox contains the reply message from Judy Lew.
 3. Open Internet Explorer and connect to **https://mail.treyresearch.net/owa**. Log on as **TreyResearch\Judy**, using a password of **Pa\$\$w0rd**. Confirm that the mailbox contains the message from Carlos Lacerda. Close Internet Explorer.

To prepare for the next module

1. On the host computer, click **Start**, point to **All Programs**, point to **Microsoft Virtual Server**, and click **Virtual Server Administration Website**.
2. Under **Navigation**, click **Master Status**. For each virtual machine that is running, click the Virtual Machine Name, and, in the context menu, click **Turn off Virtual Machine and Discard Undo Disks**. Click **OK**.
3. Start the 5005A-HON-DC1, 5050A-HON-EX1 and 5050A-HON-EX3 virtual machines.

Module 3

Preparing for and Recovering from Non-Mailbox Server Failures

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Lab Answer Keys

Exercise 1: Performing a Non-Mailbox Server Backup

► **Task 1: Send messages that will be saved in the queue database on HON-EX3**

1. On HON-EX1, open the Exchange Management Console.
2. In the **Server Configuration** work area, click **Mailbox**, and in the work pane, ensure that HON-EX1 is selected.
3. Right-click **MailDB3**, click **Dismount Database**, and in the **Microsoft Exchange** dialog box, click **Yes**.
4. On HON-DC1, open Microsoft® Internet Explorer® and connect to **https://Mail.TreyResearch.net/OWA**.
5. In the Security Alert dialog box, select the **In the future, do not show this warning** check box, and click **OK**.
6. Log on as **TreyResearch\Carlos** using a password of **Pa\$\$w0rd**.
7. In the Microsoft Office Outlook Web Access window, click **OK**.
8. Send a message to Carlos Lacerda, Administrator, and Judy Lew using a subject of **Hub Transport restore test**.
9. On HON-EX3, open the Exchange Management Shell.
10. At the prompt, type **Get-Queue** and press ENTER. Confirm that one message is listed in the queue.

Note: Judy Lew's mailbox is located in the MailDB3 mailbox database so the message will not be delivered.

► **Task 2: Back up the server certificate on HON-EX3**

1. On HON-EX3, click **Start**, point to **Administrative Tools**, and click **Internet Information Services (IIS) Manager**.
2. In Internet Information Services (IIS) Manager, in the console tree, under **HON-EX3 (local computer)**, expand **Web Sites**.
3. In the console tree, right-click **Default Web Site** and click **Properties**.
4. In the **Default Web Site Properties** dialog box, on the **Directory Security** tab, click **View Certificate**.
5. In the **Certificate** dialog box, on the **Details** tab, click **Copy to File**.
6. On the **Welcome to the Certificate Export Wizard** page, click **Next**.
7. On the **Export Private Key** page, click **Yes, export the private key**, and click **Next**.

8. On the **Export File Format** page, click **Next**.
9. On the **Password** page, type **Pa\$\$w0rd** in the **Password** and **Confirm password** fields, and click **Next**.
10. On the **File to Export** page, type **\\HON-DC1\C\$\MailCert.pfx**, and click **Next**.
11. On the **Completing the Certificate Export Wizard** page, click **Finish**.
12. In the **Certificate Export Wizard dialog box**, click **OK**.
13. Close all open windows except the Exchange Management Shell.

► **Task 3: Back up the queue database**

1. In the Exchange Management Shell, at the MSH prompt, type **Stop-Service MSExchangeTransport**, and press ENTER.
2. Open Windows Explorer and browse to C:\Program Files\Microsoft\Exchange Server\TransportRoles\data\Queue. Select all of the files in the folder and press CTRL+C.
3. Click **Start** and click **Run**. In the **Open** text box, type **\\HON-DC1\C\$**, and press ENTER.
4. In the **\\HON-DC1\C\$** window, create a new folder named **QueueTemp**. Click the folder and press Ctrl+V.
5. Use the Virtual Server Administration Website to shut down HON-EX3 and discard all changes.

Start the HON-EX4 virtual machine.

Exercise 2: Restoring a Client Access Server Certificate

► **Task 1: Reload the certificate on the server**

1. After HON-EX4 starts, log on as **TreyResearch\Administrator** using a password of **Pa\$\$w0rd**.
2. Click **Start** and click **Run**.
3. In the **Open** text box, type **\\HON-DC1\C\$**, and press ENTER.
4. Copy the **MailCert.pfx** file from **\\HON-DC1\C\$** to drive **C** on HON-EX4.
5. Click **Start**, point to **Administrative Tools**, and click **Internet Information Services (IIS) Manager**.
6. In Internet Information Services (IIS) Manager, in the console tree, under **HON-EX4 (local computer)**, expand **Web Sites**.
7. In the console tree, right-click **Default Web Site**, and click **Properties**.
8. In the **Default Web Site Properties** dialog box, on the **Directory Security** tab, click **Server Certificate**.
9. On the **Welcome to the Web Server Certificate Wizard** page, click **Next**.

10. On the **Modify the Current Certificate Assignment** page, click **Remove the current certificate**, and click **Next**.
 11. On the **Remove a Certificate** page, click **Next** and click **Finish**.
 12. On the **Directory Security** tab, click **Server Certificate**.
 13. On the **Welcome to the Web Server Certificate Wizard** page, click **Next**.
 14. On the **Server Certificate** page, click **Import a certificate from a .pfx file**, and click **Next**.
 15. On the **Import Certificate** page, click **Next**.
 16. On the **Import Certificate Password** page, type **Pa\$\$w0rd** and click **Next**.
 17. On the **SSL Port** page, click **Next**.
 18. On the **Imported Certificate Summary** page, click **Next**.
 19. On the **Completing the Web Server Certificate Wizard** page, click **Finish** and close all open windows.
- **Task 2: Modify the DNS zone information settings to refer to the new Client Access server**
1. On HON-DC1, click **Start**, point to **Administrative Tools**, and click **DNS**.
 2. Expand **Forward Lookup Zones** and expand **TreyResearch.net**.
 3. In the right pane, right-click **Mail** and click **Properties**.
 4. In the **Fully qualified domain name (FQDN) for target host** field, type **hon-ex4.treyresearch.net**.
 5. Click **OK** and close the DNS console.
- **Task 3: Test that the sites and services are all functioning properly**
1. On HON-DC1, open a command prompt window. At the command prompt, type **ipconfig /flushdns** and press ENTER.
 2. Open Internet Explorer, connect to **https://Mail.TreyResearch.net/OWA**, and log on as **TreyResearch\Carlos** using a password of **Pa\$\$w0rd**.
 3. Confirm that you can connect to Outlook Web Access on HON-EX4 using the SSL certificate.

Exercise 3: Restoring a Hub Transport Server

- **Task 1: Restore the Hub Transport server messaging queues on HON-EX4**
1. On HON-EX4, click **Start** and click **Run**.
 2. In the **Open** text box, type **\\HON-DC1\C\$**, and press ENTER.
 3. Copy the **QueueTemp** folder from **\\HON-DC1\C\$** to drive **C** on HON-EX4.
 4. Open the Exchange Management Shell. At the prompt, type **cd \QueueTemp**, and press ENTER.

5. At the prompt, type **Eseutil /r Trn /d /8**, and press ENTER.
In this command, Trn indicates the 3-character log base file name. The /8 parameter sets an 8-kilobyte database page size for faster recovery. The /d. parameter indicates the database to recover exists in the current directory.
6. At the prompt, type **Eseutil /d mail.que**, and press ENTER.
This command defragments the database.
7. At the prompt, type **Net Pause MExchangeTransport**, and press ENTER.
This command stops the flow of new messages into the queues and allows delivery of existing messages.
8. At the prompt, type **Get-Queue** and press ENTER. Ensure that there are no messages listed in any queue.
9. At the prompt, type **Net stop MExchangeTransport**, and press ENTER.
10. Copy all of the files from the **C:\QueueTemp** folder into the **C:\Program Files\Microsoft\Exchange Server\TransportRoles\data\Queue** folder. Replace the files in the queue folder.
11. At the prompt, type **Net start MExchangeTransport**, and press ENTER.

► **Task 2: Confirm that the messages in the queue have been delivered**

1. On HON-EX1, if required, open the Exchange Management Console.
2. In the **Server Configuration** work area, click **Mailbox**, and in the work pane, ensure that HON-EX1 is selected.
3. Right-click **MailDB3** and click **Mount Database**.
4. On HON-DC1, open Internet Explorer and connect to **https://Mail.TreyResearch.net/OWA**, and log on as **TreyResearch\Carlos** using a password of **Pa\$\$w0rd**.
5. Send a message to Carlos Lacerda, Administrator, and Judy Lew using a subject of **Hub Transport restore complete**.
6. Confirm that the message is delivered to Carlos Lacerda and close Internet Explorer.
7. On HON-DC1, open Internet Explorer and connect to **https://Mail.TreyResearch.net/OWA**, and log on as **TreyResearch\Judy** using a password of **Pa\$\$w0rd**.
8. Confirm that Judy has received both messages sent by Carlos, and that the message with the subject of Hub Transport restore test was sent before the server failed.
9. Close Internet Explorer.

To prepare for the next exercise

Start the HON-Edge1 virtual machine.

Exercise 4: Restoring an Edge Transport Server

► Task 1: Configure anti-spam settings on HON-Edge1

1. On HON-Edge1, open the Exchange Management Console.
2. Click **Edge Transport**, and on the **Anti-spam** tab, double-click **IP Allow List**.
3. On the **Allowed Addresses** tab, click **Add**.
4. In the **Add Allowed IP Address - CIDR** dialog box, type **10.10.0.50** and click **OK** twice.
5. Double-click **IP Block List**.
6. On the **Blocked Addresses** tab, click **Add**.
7. In the **Add Blocked IP Address - CIDR** dialog box, type **10.10.0.100** and click **OK** twice.
8. On HON-Edge1, in the Exchange Management Console, on the **Anti-spam** tab, right-click **Content Filtering** and click **Properties**.
9. On the **Custom Words** tab, in the **Messages containing these words or phrases will not be blocked** box, type **Mortgages**, and click **Add**.
10. In the **Messages containing these words or phrases will be blocked, unless the message contains a word or phrase from the list above** box, type **Poker** and click **Add**.
11. On the **Exceptions** tab, in the **Do not filter content in messages addressed to the following recipients** box, type **Judy@TreyResearch.net**, and click **Add**.
12. On the **Action** tab, select the **Delete messages that have a SCL rating greater than or equal to** check box, set the value to **8** and click **OK**.

► Task 2: Back up the Edge Transport server configuration

1. On HON-Edge1, open the Exchange Management Shell.
2. At the prompt, type **cd "C:\Program Files\Microsoft\Exchange Server\Scripts"**, and press ENTER.
3. At the MSH prompt, type **./ExportEdgeConfig -CloneConfigData:"C:\Edge1Config.xml"**, and press ENTER.
4. Open Windows Explorer and browse to drive **C**. Copy the Edge1Config.xml file to **\\HON-DC1\C\$**.
5. Using the Virtual Server Administration Website, shut down the HON-Edge1 virtual machine and delete all changes.
6. Start the HON-Edge2 virtual machine.

► Task 3: Restore the Edge Transport server configuration on HON-Edge2

1. On HON-Edge2, log on as **Administrator** using a password of **Pa\$\$w0rd**.
2. Click **Start** and click **Run**.

3. In the **Open** text box, type `\\HON-DC1\C$`, and press ENTER.
4. Copy the **Edge1config** file from `\\HON-DC1\C$` to drive **C** on HON-Edge2.
5. Open the Exchange Management Shell. At the prompt, type `cd "C:\Program Files\Microsoft\Exchange Server\Scripts"`, and press ENTER.
6. At the prompt, type `./ImportEdgeConfig -CloneConfigData:"C:\Edge1Config.xml" -IsImport $false -CloneConfigAnswer "C:\Edge2Answer.xml"`, and press ENTER.
7. At the prompt, type `Notepad "C:\Edge2Answer.xml"`, and press ENTER.
8. In the Edge2Answer file, change the server name in the `<Fqdn>` line from HON-Edge1 to HON-Edge2. Save the file and close Notepad.
9. At the prompt, type `./ImportEdgeConfig -CloneConfigData:"C:\Edge1Config.xml" -IsImport $true -CloneConfigAnswer "C:\Edge2Answer.xml"`, and press ENTER.
10. At the **Confirm** prompt, type **A** and press ENTER.
11. At the **Confirm** prompt, type **A** and press ENTER.

Note: You will receive several messages stating that the command completed successfully, but that no settings were modified. Ignore these messages.

► **Task 4: Confirm that the Edge Transport server configuration has been restored**

1. On HON-Edge2, open the Exchange Management Console.
2. Click **Edge Transport**, and on the **Anti-spam** tab, double-click **IP Allow List**.
3. On the **Allowed Addresses** tab, confirm that 10.10.0.50 is listed, and click **OK**.
4. Double-click **IP Block List**.
5. On the **Blocked Addresses** tab, confirm that 10.10.0.100 is listed, and click **OK**.
6. On the **Anti-spam** tab, right-click **Content Filtering**, and click **Properties**.
7. On the **Custom Words** tab, ensure that the custom words are listed.
8. On the **Exceptions** tab, ensure that **Judy@TreyResearch.net** is listed.
9. On the **Action** tab, confirm that the settings have been restored and click **OK**.

► **Task 5: Configure edge synchronization between HON-Edge2 and HON-EX4**

1. On HON-Edge2, in the Exchange Management Shell, at the MSH prompt, type `New-EdgeSubscription`, and press ENTER.
2. At the **FileName** prompt, type `C:\Edge2subscription.xml`, and press ENTER.
3. Read the information displayed in the Exchange Management Shell and press ENTER.

4. Open Windows Explorer, browse to drive **C**, right-click **Edge2subscription.xml**, and click **Copy**.
5. On the **Start** menu, click **Run**.
6. In the **Open** text box, type **\\HON-EX4\C\$**, and press ENTER.
7. Right-click the **\\HON-EX4\C\$** folder, and click **Paste**. Close both instances of Windows Explorer.
8. On HON-EX4, open the Exchange Management Console, expand **Organization Configuration**, and click **Hub Transport**.
9. Click the **Edge Subscriptions** tab, click **New Edge Subscription** to start the New Edge Subscription wizard.
10. On the **New Edge Subscription** page, click **Browse**.
11. In the **Select the Subscription File** dialog box, browse to drive **C**, click **Edge2subscription.xml**, and click **Open**.
12. On the **New Edge Subscription** page, click **New** and click **Finish**.
13. In the Exchange Management Shell, at the prompt, type **start-edgesynchronization** and press ENTER. Confirm that the edge synchronization is successful.

Lab Shutdown

1. On the host computer, click **Start**, point to **All Programs**, point to **Microsoft Virtual Server**, and click **Virtual Server Administration Website**.
2. Under **Navigation**, click **Master Status**. For each virtual machine that is running, click the Virtual Machine Name, and, in the context menu, click **Turn off Virtual Machine and Discard Undo Disks**. Click **OK**.

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Additional Reading

To open an Additional Reading file, click one of the links below. To access these files directly from the CD, open the [Addread](#) folder.

[Demonstration Steps for Module 1: Recovering Messaging Databases](#)

Internet Links

The Web sites listed below provide additional resources.

- [Exchange Server 2007 TechCenter](#)
- ["Considerations and best practices when resetting an Exchange mailbox database"](#)
- ["Microsoft Exchange Server 2007" on the Microsoft TechNet Web site](#)
- [Microsoft Corporation](#)
- [Microsoft Internet Explorer](#)
- [Microsoft Learning](#)
- [Microsoft Product Support Services](#)
- [Microsoft Security](#)
- [Microsoft Windows®](#)

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Note Not all training products will have a Knowledge Base article – if that is the case, please ask your instructor whether or not there are existing error log entries.

Courseware Feedback

Send all courseware feedback to support@mscourseware.com. We truly appreciate your time and effort. We review every e-mail received and forward the information on to the appropriate team. Unfortunately, because of volume, we are unable to provide a response but we may use your feedback to improve your future experience with Microsoft Learning products.

Reporting Errors

When providing feedback, include the training product name and number in the subject line of your e-mail. When you provide comments or report bugs, please include the following:

- Document or CD part number
- Page number or location
- Complete description of the error or suggested change

Please provide any details that are necessary to help us verify the issue.

Important All errors and suggestions are evaluated, but only those that are validated are added to the product Knowledge Base article.
