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# Identity and Access Management

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## Objectives

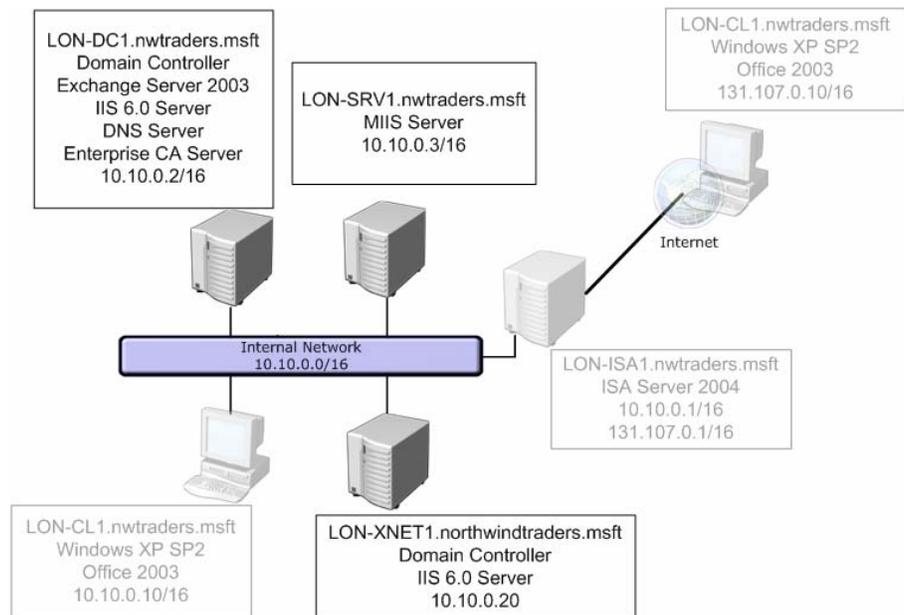
At the end of this lab, you will be able to:

- Configure Microsoft® Identity Integration Server (MIIS) 2003 to provide identity integration and provisioning.
- Implement identity integration using MIIS.
- Implement user account provisioning with MIIS.
- Implement identity changes and deprovisioning using MIIS.
- Manage passwords using MIIS. (Optional)

## Scenario

You are the administrator for Northwind Traders. The company internal network contains an Active Directory® directory service domain called NWtraders.msft. The network also consists of an extranet domain called Northwindtraders.msft. All domain controllers run Microsoft Windows Server™ 2003. The network also contains client computers running Microsoft Windows® XP and servers running Windows Server 2003.

A portion of the Northwind Traders network infrastructure is illustrated below:



## Computers

This lab uses the following computers: LON-DC1, LON-SRV1, and LON-XNET1.

Estimated time to complete this lab:  
75 minutes

Before you begin the lab, you must start the computers and log on to them.

## Lab Setup

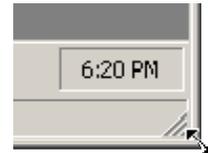
To complete each lab module, you need to review the following:

### 🔍 Virtual PC

This lab makes use of **Microsoft Virtual PC 2004**, an application that allows you to run multiple virtual computers on the same physical hardware. During the lab you will switch among different windows, each of which contains a separate virtual machine running Windows Server 2003.

Before you start the lab, familiarize yourself with the following basics of Virtual PC:

- To switch the focus for your mouse and keyboard to the virtual machine, click inside the virtual machine window.
- To remove the focus from a virtual machine, move the mouse pointer outside the virtual machine window.
- To issue the CTRL+ALT+DEL keyboard combination inside a virtual machine, use <RIGHT>ALT+DEL instead.
- To adjust the virtual machine window, drag the right bottom corner of the window.
- To switch to full-screen mode, and to return from full-screen mode, press <RIGHT>ALT+ENTER.



To complete this lab, you need to start the virtual machines and then log on to the computers. In each exercise, you have to start only the virtual machines that are needed.

### 🔍 To log on to a computer in a virtual machine

1. Press <RIGHT>ALT+DEL (instead of CTRL+ALT+DEL) to open the **logon** dialog box.
2. Type the following information, and then click **OK**.
  - User name: **Administrator**
  - Password: **P@ssw0rd**
  - Domain: **NWTRADERS** (if applicable)

## Exercise 1

# Configuring MIIS to Provide Identity Integration and Provisioning

In this exercise, you will configure MIIS to provide the ability to integrate and provision employee information among various data sources.

### Scenario

Northwind Traders currently has employee data spread across many data sources. Modifying data for an employee requires updating each independent data source separately. Northwind Traders employee data is stored in the following systems:

- Human Resources (HR): A Microsoft SQL Server™ database containing a large portion of employee identity information
- Active Directory: A directory database containing network logon accounts and Microsoft Exchange Server mailbox information
- Telephone system: A proprietary system containing user telephone numbers and fax numbers

Northwind Traders has implemented MIIS to assist in the management of digital identities. This exercise illustrates how to configure MIIS to address the challenges of maintaining digital identity information among various data stores. MIIS can be used to combine identity attributes from various data stores to provide a single authoritative source for identity management.

Tasks	Detailed steps
<p><b>Note:</b> This lab uses the following computers: LON-DC1, LON-SRV1, and LON-XNET1.</p>	
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer. These first steps will be used to configure a connection between MIIS and the Human Resources database.</p>	
<p>1. On the LON-SRV1 computer, use MIIS 2003 to create and configure a management agent called Northwind HR. This will be used to connect the Human Resources database to the MIIS Connector space.</p>	<p>a. Click <b>Start</b>, click <b>All Programs</b>, click <b>Microsoft Identity Integration Server</b>, and then click <b>Identity Manager</b>. <i>The MIIS application opens.</i></p> <p>b. On the <b>Tools</b> menu, click <b>Management Agents</b>.</p> <p>c. On the <b>Actions</b> menu, click <b>Create</b>.</p> <p>d. Under <b>Management agent for</b>, click <b>SQL Server 7.0 or 2000</b>.</p> <p>e. Under <b>Name</b>, type <b>Northwind HR</b>, and then click <b>Next</b>.</p> <p>f. On the <b>Connect to Database</b> page, complete the following information and then click <b>Next</b>:</p> <ul style="list-style-type: none"> <li>• Server: <b>LON-SRV1</b></li> <li>• Database: <b>HRDatabase</b></li> <li>• Table/View: <b>EmployeeData</b></li> <li>• Authentication mode: <b>Windows integrated authentication</b></li> <li>• User name: <b>Administrator</b></li> <li>• Password: <b>P@ssw0rd</b></li> <li>• Domain: <b>NWtraders</b></li> </ul>

*(continued)*

Tasks	Detailed steps
1. <i>(continued)</i>	<p><b>g.</b> On the <b>Configure Columns</b> page, click <b>Set Anchor</b>.  <i>The Set Anchor command is used to designate an attribute that is considered unique and immutable for each object.</i></p> <p><b>h.</b> In the <b>Set Anchor</b> dialog box, under <b>Available attributes</b>, click <b>employeeID</b>, and then click <b>Add</b>.</p> <p><b>i.</b> Click <b>OK</b> to close the dialog box.</p> <p><b>j.</b> From the <b>Columns</b> list, select <b>Manager</b>, and then click <b>Edit</b>.</p> <p><b>k.</b> Click the check box next to <b>Reference (DN)</b>. Click <b>OK</b>, and then click <b>Next</b>.</p> <p><b>l.</b> On the <b>Configure Connector Filter</b> page, click <b>New</b>.</p> <p><b>m.</b> In the <b>Filter for person</b> dialog box, under <b>Data source attribute</b>, click <b>employeeStatus</b>, under <b>Operator</b>, click <b>Equals</b>; and then, in <b>Value</b>, type <b>terminated</b>.</p> <p><b>n.</b> Click <b>Add Condition</b>. Click <b>OK</b>, and then click <b>Next</b>.  <i>When processing the import file from the HR system, MIIS 2003 does not join or project employee objects with an <b>employeeStatus</b> attribute value of “terminated.” Employee objects that have attributes with this value remain as normal disconnecter objects in the connector space for the HR system.</i></p> <p><b>o.</b> On the <b>Configure Join and Projection Rules</b> page, click <b>New Projection Rule</b>.</p> <p><b>p.</b> In the <b>Projection</b> dialog box, ensure that <b>Declared</b> is selected, and ensure that <b>person</b> is listed in <b>Metaverse Object Type</b>. Click <b>OK</b>, and then click <b>Next</b>.</p> <p><b>q.</b> Projection rules define the method for deciding when to project an employee object that meets a specific condition into the Metaverse as a person object. The scenario defines a declared projection rule, and the rules engine projects Metaverse person object types for each object imported from the HR system that satisfies the connector filter.</p>

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Tasks	Detailed steps																																				
<p>2. Create direct import attribute flow mappings for Northwind HR.</p>	<p>a. On the <b>Configure Attribute Flow</b> page, under <b>Build Attribute Flow</b>, in <b>Data source object type</b>, click <b>person</b>.</p> <p>b. In <b>Metaverse object type</b>, click <b>person</b>.</p> <p>c. Under <b>Data source attribute</b>, click <b>branchID</b>.</p> <p>d. Under <b>Metaverse attribute</b>, click <b>department</b>.</p> <p>e. Under <b>Mapping Type</b>, click <b>Direct</b>.</p> <p>f. Under <b>Flow Direction</b>, click <b>Import</b>.</p> <p>g. Click <b>New</b>.</p> <p>h. Create direct import mappings for the remaining attributes as listed in the following table:</p> <table border="1" data-bbox="711 737 1450 1316"> <thead> <tr> <th data-bbox="711 737 980 806">Data source attribute</th> <th data-bbox="980 737 1248 806">Metaverse attribute</th> <th data-bbox="1248 737 1450 806">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="711 806 980 852">c</td> <td data-bbox="980 806 1248 852">c</td> <td data-bbox="1248 806 1450 852">Direct</td> </tr> <tr> <td data-bbox="711 852 980 898">co</td> <td data-bbox="980 852 1248 898">co</td> <td data-bbox="1248 852 1450 898">Direct</td> </tr> <tr> <td data-bbox="711 898 980 945">company</td> <td data-bbox="980 898 1248 945">company</td> <td data-bbox="1248 898 1450 945">Direct</td> </tr> <tr> <td data-bbox="711 945 980 991">employeeID</td> <td data-bbox="980 945 1248 991">employeeID</td> <td data-bbox="1248 945 1450 991">Direct</td> </tr> <tr> <td data-bbox="711 991 980 1037">employeeStatus</td> <td data-bbox="980 991 1248 1037">employeeStatus</td> <td data-bbox="1248 991 1450 1037">Direct</td> </tr> <tr> <td data-bbox="711 1037 980 1083">employeeType</td> <td data-bbox="980 1037 1248 1083">employeeType</td> <td data-bbox="1248 1037 1450 1083">Direct</td> </tr> <tr> <td data-bbox="711 1083 980 1129">givenName</td> <td data-bbox="980 1083 1248 1129">givenName</td> <td data-bbox="1248 1083 1450 1129">Direct</td> </tr> <tr> <td data-bbox="711 1129 980 1176">manager</td> <td data-bbox="980 1129 1248 1176">manager</td> <td data-bbox="1248 1129 1450 1176">Direct</td> </tr> <tr> <td data-bbox="711 1176 980 1222">samAccountName</td> <td data-bbox="980 1176 1248 1222">uid</td> <td data-bbox="1248 1176 1450 1222">Direct</td> </tr> <tr> <td data-bbox="711 1222 980 1268">sn</td> <td data-bbox="980 1222 1248 1268">sn</td> <td data-bbox="1248 1222 1450 1268">Direct</td> </tr> <tr> <td data-bbox="711 1268 980 1316">title</td> <td data-bbox="980 1268 1248 1316">title</td> <td data-bbox="1248 1268 1450 1316">Direct</td> </tr> </tbody> </table>	Data source attribute	Metaverse attribute	Type	c	c	Direct	co	co	Direct	company	company	Direct	employeeID	employeeID	Direct	employeeStatus	employeeStatus	Direct	employeeType	employeeType	Direct	givenName	givenName	Direct	manager	manager	Direct	samAccountName	uid	Direct	sn	sn	Direct	title	title	Direct
Data source attribute	Metaverse attribute	Type																																			
c	c	Direct																																			
co	co	Direct																																			
company	company	Direct																																			
employeeID	employeeID	Direct																																			
employeeStatus	employeeStatus	Direct																																			
employeeType	employeeType	Direct																																			
givenName	givenName	Direct																																			
manager	manager	Direct																																			
samAccountName	uid	Direct																																			
sn	sn	Direct																																			
title	title	Direct																																			

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Tasks	Detailed steps								
<p>3. Create the advanced attribute mapping for the Metaverse <b>cn</b> attribute. Also create an advanced attribute mapping for the Metaverse <b>displayName</b> attribute.</p>	<p>a. On the <b>Configure Attribute Flow</b> page, under <b>Mapping Type</b>, click <b>Advanced</b>.</p> <p>b. Under <b>Metaverse attribute</b>, click <b>cn</b>.</p> <p>c. Under <b>Data source attribute</b>, click <b>givenName</b>, and then hold down the CTRL key, and click <b>sn</b>.</p> <p>d. Under <b>Flow Direction</b>, click <b>Import</b>.</p> <p>e. Click <b>New</b>.</p> <p>f. In the <b>Advanced Import Attribute Flow Options</b> dialog box, click <b>Rules extension</b>.</p> <p>g. In <b>Flow rule name</b>, type <b>cn</b>, and then click <b>OK</b>.</p> <p>h. Complete an additional advanced attribute mapping as listed in the following table:</p> <table border="1" data-bbox="646 800 1425 942"> <thead> <tr> <th data-bbox="646 800 846 888">Data source attribute</th> <th data-bbox="846 800 1105 888">Metaverse attribute</th> <th data-bbox="1105 800 1263 888">Type</th> <th data-bbox="1263 800 1425 888">Flow rule name</th> </tr> </thead> <tbody> <tr> <td data-bbox="646 888 846 942">givenName, sn</td> <td data-bbox="846 888 1105 942">displayName</td> <td data-bbox="1105 888 1263 942">Advanced</td> <td data-bbox="1263 888 1425 942">displayName</td> </tr> </tbody> </table>	Data source attribute	Metaverse attribute	Type	Flow rule name	givenName, sn	displayName	Advanced	displayName
Data source attribute	Metaverse attribute	Type	Flow rule name						
givenName, sn	displayName	Advanced	displayName						
<p>4. Create an export attribute flow mapping for Northwind HR.</p>	<p>a. Under <b>Data source attribute</b>, click <b>TelephoneNumber</b>.</p> <p>b. Under <b>Metaverse attribute</b>, click <b>TelephoneNumber</b>.</p> <p>c. Under <b>Mapping Type</b>, click <b>Direct</b>.</p> <p>d. Under <b>Flow Direction</b>, click <b>Export</b>.</p> <p>e. Click <b>New</b>, and then click <b>Next</b>.</p>								
<p>5. Finish the creation of the Northwind HR management agent.</p>	<p>a. On the <b>Configure Deprovisioning</b> page, click <b>Next</b>. (Do not adjust the default settings.)</p> <p>b. On the <b>Configure Extensions</b> page, in <b>Rules extension name</b>, type <b>NorthwindHRMA.dll</b>.</p> <p><i>This is a custom DLL file that will assist in the creation of the advanced attribute mapping. You can customize custom extensions using programs such as Microsoft Visual Studio® .NET.</i></p> <p>c. Click <b>Finish</b>.</p>								

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Tasks	Detailed steps
<p><b>Note:</b> These next steps will be used to configure a connection between MIIS and the telephone system.</p>	
<p><b>6.</b> Use MIIS 2003 to create and configure a management agent called Northwind Telephone System. This will be used to connect a Telephone output file to the MIIS Connector space.</p>	<ol style="list-style-type: none"> <li><b>a.</b> In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Management Agents</b>.</li> <li><b>b.</b> On the <b>Actions</b> menu, click <b>Create</b>.</li> <li><b>c.</b> Under <b>Management agent for</b>, click <b>Fixed-width text file</b>.</li> <li><b>d.</b> Under <b>Name</b>, type <b>Northwind Telephone System</b>, and then click <b>Next</b>.</li> <li><b>e.</b> Under <b>Template Input File</b>, click <b>Browse</b>, and then go to the root of the C drive.</li> <li><b>f.</b> Select <b>Northwind-telinfo-fw.txt</b>, and then click <b>Open</b>. <i>This file represents output from the Northwind Traders telephone system.</i></li> <li><b>g.</b> Select <b>US-ASCII</b> as the Code Page, and then click <b>Next</b>.</li> <li><b>h.</b> On the <b>Confirm Fixed Width Text Format</b> page, select the <b>Use first row for header names</b> check box, and then click <b>Next</b>.</li> <li><b>i.</b> On the <b>Configure Attributes</b> page, click <b>Set anchor</b>.</li> <li><b>j.</b> Select <b>RECID</b>, and then click <b>Add</b>.</li> <li><b>k.</b> Click <b>OK</b>, and then click <b>Next</b>.</li> <li><b>l.</b> On the <b>Define Object Types</b> page, accept the default settings, and then click <b>Next</b>.</li> <li><b>m.</b> On the <b>Configure Connector Filter</b> page, accept the default settings, and then click <b>Next</b>.</li> <li><b>n.</b> On the <b>Configure Join and projection rules</b> page, click <b>New Join Rule</b>.</li> <li><b>o.</b> In the <b>Join Rule for person</b> dialog box, under <b>Data source attribute</b>, click <b>RECID</b>.</li> <li><b>p.</b> Under <b>Metaverse object type</b>, click <b>person</b>.</li> <li><b>q.</b> Under <b>Metaverse attribute</b>, click <b>employeeID</b>.</li> <li><b>r.</b> Click <b>Add Condition</b>, and then click <b>OK</b> to close the Identity Manager dialog box. Click <b>OK</b> again to close the Join Rule for person dialog box.</li> <li><b>s.</b> Click <b>Next</b>.</li> </ol>

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Tasks	Detailed steps												
<p>7. Create direct import attribute flow mappings for Northwind Telephone System.</p>	<p>a. Under <b>Data source object type</b>, click <b>person</b>.</p> <p>b. Under <b>Metaverse object type</b>, click <b>person</b>.</p> <p>c. Select the <b>FAX</b> attribute from the data source attribute list.</p> <p>d. Select the Metaverse attribute <b>facsimileTelephoneNumber</b> from the Metaverse attribute list.</p> <p>e. Click <b>Direct</b>.</p> <p>f. Click <b>Import</b>.</p> <p>g. Click <b>New</b>.</p> <p>h. Use the same process to map the attributes listed in the following table:</p> <table border="1" data-bbox="646 758 1360 968"> <thead> <tr> <th data-bbox="646 758 833 829">Data source attribute</th> <th data-bbox="833 758 1193 829">Metaverse attribute</th> <th data-bbox="1193 758 1360 829">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="646 829 833 875"><b>MOBILE</b></td> <td data-bbox="833 829 1193 875">mobile</td> <td data-bbox="1193 829 1360 875"><b>Direct</b></td> </tr> <tr> <td data-bbox="646 875 833 921"><b>PAGER</b></td> <td data-bbox="833 875 1193 921">pager</td> <td data-bbox="1193 875 1360 921"><b>Direct</b></td> </tr> <tr> <td data-bbox="646 921 833 968"><b>TELEPHONE</b></td> <td data-bbox="833 921 1193 968">telephoneNumber</td> <td data-bbox="1193 921 1360 968"><b>Direct</b></td> </tr> </tbody> </table> <p>i. Click <b>Next</b>.</p> <p>j. On the <b>Configure Deprovisioning</b> screen, accept the default settings, and then click <b>Next</b>.</p> <p>k. On the <b>Configure Extensions</b> page, click <b>Finish</b>.</p>	Data source attribute	Metaverse attribute	Type	<b>MOBILE</b>	mobile	<b>Direct</b>	<b>PAGER</b>	pager	<b>Direct</b>	<b>TELEPHONE</b>	telephoneNumber	<b>Direct</b>
Data source attribute	Metaverse attribute	Type											
<b>MOBILE</b>	mobile	<b>Direct</b>											
<b>PAGER</b>	pager	<b>Direct</b>											
<b>TELEPHONE</b>	telephoneNumber	<b>Direct</b>											

*(continued)*

Tasks	Detailed steps
<b>Note:</b> These next steps will be used to import a pre-configured connection between MIIS and Active Directory.	
<p>8. Use MIIS 2003 to import a management agent called Northwind AD MA. This will be used to connect Active Directory to the MIIS Connector space.</p>	<ol style="list-style-type: none"> <li>a. In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Management Agents</b>.</li> <li>b. On the <b>Actions</b> menu, click <b>Import Management Agent</b>.</li> <li>c. Browse to <b>C:\</b>, select <b>NorthwindADMA.xml</b>, and then click <b>Open</b>. <i>The Create Management Agent dialog box opens, which contains most of the preconfigured settings for the Northwind AD MA management agent.</i></li> <li>d. Under <b>Create Management Agent</b>, click <b>Next</b>.</li> <li>e. On the <b>Connect to Active Directory Forest</b> page, complete the following information and then click <b>Next</b>. <ul style="list-style-type: none"> <li>• Forest Name: <b>nwtraders.msft</b></li> <li>• User name: <b>administrator</b></li> <li>• Password: <b>P@ssw0rd</b></li> <li>• Domain: <b>Nwtraders.msft</b></li> </ul> </li> <li>f. On the <b>Configure Directory Partitions</b> page, verify that the <b>DC=nwtraders, DC=msft</b> directory partition is selected.</li> <li>g. Click <b>Containers</b>.</li> <li>h. Verify that only the <b>Employees</b> organizational unit is selected. Click <b>OK</b>, and then click <b>Next</b>.</li> <li>i. On the <b>Select Object Types</b> page, verify that the check box next to <b>user</b> is selected, and then click <b>Next</b>. <i>The other boxes are checked automatically and cannot be cleared because each has been designated as a mandatory discovery object.</i></li> <li>j. On the <b>Select Attributes</b> page, notice that a number of attributes have been selected to be available for the management agent.</li> <li>k. Click <b>Next</b>.</li> <li>l. On the <b>Configure Connector Filter</b> page, accept the default settings, and then click <b>Next</b>.</li> <li>m. On the <b>Configure Join and Projection Rules</b> page, accept the default settings, and then click <b>Next</b>.</li> </ol>
<p>9. Verify the direct export attribute flow mappings for Northwind AD MA.</p>	<ol style="list-style-type: none"> <li>a. On the <b>Configure Attribute Flow</b> page, under <b>Data Source Attribute</b>, click <b>Object Type: user</b>. <i>Notice the attribute mappings that have been preconfigured for this management agent.</i></li> <li>b. Click <b>Next</b>.</li> </ol>
<p>10. Finish the import of the Northwind AD MA.</p>	<ol style="list-style-type: none"> <li>a. On the <b>Configure Deprovisioning</b> page, verify that <b>Stage a delete on the object for the next export run</b> is selected, and then click <b>Next</b>.</li> <li>b. On the <b>Configure Extensions</b> page, in <b>Rules extension name</b>, verify that <b>NorthwindADMA.dll</b> is listed in the text box.</li> <li>c. Click <b>Finish</b>.</li> </ol>

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Tasks	Detailed steps
<b>Note:</b> The following steps will have you create run profiles for each of the three management agents.	
11. Configure the Northwind HR Full Import run profile.	<ul style="list-style-type: none"> <li>a. In <b>Identity Manager</b>, under <b>Management Agents</b>, click <b>Northwind HR</b>.</li> <li>b. From the <b>Actions</b> menu, click <b>Configure Run Profiles</b>, and then click <b>New Profile</b>.</li> <li>c. Under <b>Name</b>, type <b>Full Import</b>, and then click <b>Next</b>.</li> <li>d. On the <b>Configure Step</b> page, under <b>Type</b>, ensure that <b>Full Import (Stage Only)</b> is selected, and then click <b>Next</b>.</li> <li>e. On the <b>Management Agent Configuration</b> page, click <b>Finish</b>.</li> </ul>
12. Configure the Northwind HR Delta Synchronization run profile.	<ul style="list-style-type: none"> <li>a. Click <b>New Profile</b>.</li> <li>b. In the <b>Name</b> text box, type <b>Delta Synchronization</b>, and then click <b>Next</b>.</li> <li>c. On the <b>Configure Step</b> page, under <b>Type</b>, select <b>Delta Synchronization</b>, and then click <b>Next</b>.</li> <li>d. On the <b>Management Agent Configuration</b> page, click <b>Finish</b>.</li> </ul>
13. Configure the Northwind HR Export run profile.	<ul style="list-style-type: none"> <li>a. Click <b>New Profile</b>.</li> <li>b. In the <b>Profile Name</b> text box, type <b>Export</b>, and then click <b>Next</b>.</li> <li>c. On the <b>Configure Step</b> page, under <b>Type</b>, select <b>Export</b>, and then click <b>Next</b>.</li> <li>d. On the <b>Management Agent Configuration</b> page, click <b>Finish</b>.</li> <li>e. Click <b>Apply</b>, and then click <b>OK</b>.</li> </ul>
14. Configure the Northwind Telephone System Full import run profile.	<ul style="list-style-type: none"> <li>a. Copy <b>c:\Northwind-telinfo-fw.txt</b> to <b>C:\Program Files\Microsoft Identity Integration Server\MaData\Northwind Telephone System</b>.</li> <li>b. In <b>Identity Manager</b>, under <b>Management Agents</b>, click <b>Northwind Telephone System</b>.</li> <li>c. On the <b>Actions</b> menu, click <b>Configure Run Profiles</b>, and then click <b>New Profile</b>.</li> <li>d. In the <b>Name</b> text box, type <b>Full Import</b>, and then click <b>Next</b>.</li> <li>e. On the <b>Configure Step</b> page, under <b>Type</b>, ensure that <b>Full Import (Stage Only)</b> is selected, and then click <b>Next</b>.</li> <li>f. In the <b>Management Agent Configuration</b> dialog box, in <b>Input file name</b>, specify <b>Northwind-telinfo-fw.txt</b>.</li> <li>g. Click <b>Finish</b>.</li> </ul>
15. Configure the Northwind Telephone System Delta Synchronization run profile.	<ul style="list-style-type: none"> <li>a. Click <b>New Profile</b>.</li> <li>b. Under <b>Name</b>, type <b>Delta Synchronization</b>, and then click <b>Next</b>.</li> <li>c. On the <b>Configure Step</b> page, in <b>Type</b>, select <b>Delta Synchronization</b>, and then click <b>Next</b>.</li> <li>d. On the <b>Management Agent Configuration</b> page, click <b>Finish</b>.</li> <li>e. Click <b>Apply</b>, and then click <b>OK</b>.</li> </ul>

*(continued)*

Tasks	Detailed steps
<p><b>16.</b> Verify the existence of the Northwind AD MA Full Import and Export run profiles.</p>	<p><b>a.</b> In <b>Management Agents</b>, select <b>Northwind AD MA</b>, and then click <b>Configure Run Profiles</b>.</p> <p><b>b.</b> Verify that two profiles exist called <b>Export</b> and <b>Full Import</b> respectively. Click <b>OK</b>.</p>
<p><b>Note:</b> The following step will have you configure a deletion rule that MIIS will use to determine how to delete objects in the Metaverse.</p>	
<p><b>17.</b> Setting the Metaverse Object Deletion rule.</p>	<p><b>a.</b> On the <b>Tools</b> menu, click <b>Metaverse Designer</b>.</p> <p><b>b.</b> In <b>Object types</b>, click <b>person</b>, and then click <b>Configure Object Deletion Rule</b>.</p> <p><b>c.</b> In <b>Configure Object Deletion Rule</b>, under <b>Type</b>, select the <b>Delete Metaverse object when connector from this management agent is disconnected</b>, and then select <b>Northwind HR</b> from the list.</p> <p><b>d.</b> Click <b>OK</b>.</p> <p><i>This Metaverse object deletion rule calls for MIIS 2003 to delete objects that have been deleted from the HR system.</i></p>

## Exercise 2

# Implementing Identity Integration Using MIIS

In this exercise, you will perform the following tasks:

- Import the HR system data into the MIIS Metaverse.
- Join the telephone system information to the MIIS Metaverse.
- View the Metaverse data to verify data before exporting to Active Directory.

## Scenario

After configuring the MIIS management agents, you are now ready to integrate and verify identity information from each of your connected data sources.

Tasks	Detailed steps
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer.</p>	
<p>1. Stage the HR objects from the SQL database into the MIIS connector space.</p>	<p>a. In Identity Manager, on the <b>Tools</b> menu, click <b>Management Agents</b>.</p> <p>b. In <b>Management Agents</b>, under <b>Name</b>, click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p>c. In the <b>Run Management Agent</b> dialog box, under <b>Run profiles</b>, click <b>Full Import</b>, and then click <b>OK</b>.</p> <p><i>While the MA is running, the screen should indicate its state as <b>Running</b>. When the MA has completed its run, the state will change to <b>Idle</b>, and the <b>Adds</b> counter under synchronization statistics will reflect three additions. <b>Note: you may have to decrease the size of the Actions pane to see the State column.</b></i></p>
<p>2. Use Search Connector Space and Preview to investigate staged operations.</p>	<p>a. To determine the objects that were staged in the connector space of Northwind HR, click <b>Search Connector Space</b>.</p> <p>b. Choose <b>Pending Import</b> as the scope and limit the search to add operations by selecting the <b>Add</b> check box.</p> <p>c. Click <b>Search</b> to list all staged add operations in the <b>Search</b> result list box.</p> <p><i>You should see three records listed.</i></p> <p>d. Select the first object in the list, and then click <b>Properties</b>.</p> <p><i>The detailed view of the connector space object and its state information is displayed. The operation on the connector space object was an <b>add</b>, and all attributes are additions (the changes column is set to <b>add</b>) to the connector space object.</i></p> <p>e. Click the <b>Lineage</b> tab.</p> <p><i>Lineage indicates the current state of the object when it was changed and what rule caused the change. The connector space object is a <b>Normal Disconnector</b>.</i></p> <p>f. Click <b>Close</b> two times to return to main screen.</p>

*(continued)*

Tasks	Detailed steps
<p>3. Project the user objects from the Northwind HR connector space to the Metaverse.</p>	<p>a. Click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p>b. In the <b>Run Management Agent</b> dialog box, under <b>Run profiles</b>, click <b>Delta Synchronization</b>.</p> <p><i>This action will project the user objects from the connector space to the Metaverse.</i></p> <p>c. Click <b>OK</b>.</p> <p><i>While the MA is running, the screen indicates its status as <b>Running</b>, and the Projections counter in the Inbound Synchronization Statistics increases from 0 to 3. When the MA run is complete, the status changes to <b>Idle</b>, and the counter reflects the three projections into the Metaverse, indicating that three objects are added or created in the Metaverse by the <b>Delta Synchronization</b> run. Inbound Synchronization Statistics show all changes that were applied from the connector space to the Metaverse. <b>Note: you may have to decrease the size of the Actions pane to see the State column.</b></i></p>
<p>4. Use Metaverse Search to check for an object.</p>	<p>a. In <b>Identity Manager</b>, click <b>Tools, Metaverse Search</b>.</p> <p>b. Click <b>Add Clause</b>.</p> <p>c. Select <b>sn</b> as the attribute, <b>Equals</b> as the operator, and then type <b>Lan</b> as the value.</p> <p>d. Click <b>Search</b>.</p> <p><i>One object with the <b>displayName</b> of <b>Andrew Lan</b> appears in the search results list.</i></p> <p>e. Right-click this object and then click <b>Properties</b>.</p> <p><i>Notice the attributes that have been imported from the Northwind HR connector.</i></p> <p>f. Close the <b>Properties</b> dialog box.</p>
<p>5. Stage the Telephone system objects in the connector space.</p>	<p>a. In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Management Agents</b>.</p> <p>b. Under <b>Name</b>, click <b>Northwind Telephone System</b>, and then click <b>Run</b>.</p> <p>c. In the <b>Run Management Agent</b> dialog box, click <b>Full Import</b>, and then click <b>OK</b>.</p> <p><i>When the MA run is finished, the counters display that three new objects were created in the connector space for the Northwind Telephone System.</i></p>

*(continued)*

Tasks	Detailed steps
<p>6. Use Search Connector Space and Preview to investigate possible joins to the Metaverse.</p>	<ul style="list-style-type: none"> <li>a. To see which objects are staged in the connector space of the Northwind Telephone System, click <b>Search Connector Space</b>, choose <b>Pending Import</b> as the scope, and limit the search to add operations by selecting the <b>Add</b> check box.</li> <li>b. Click <b>Search</b> to list all staged add operations in the Search result list box. <i>Three records appear in the list.</i></li> <li>c. Click the first record in the <b>Search Results</b> list box.</li> <li>d. In <b>Search connector space</b>, click <b>Preview</b>.</li> <li>e. On Start Preview, under <b>Select preview mode</b>, select <b>Full synchronization</b>, and then click <b>Generate Preview</b>.</li> <li>f. In <b>Preview</b>, click <b>Join and Projection</b> to identify the join rule that joined the connector space object to the Metaverse object.</li> <li>g. Click the <b>matches (...)</b> button to display the Metaverse object to which this connector space object is related to. <i>Note that you may have to scroll to the right to find the button.</i></li> <li>h. Click <b>Close</b> three times.</li> </ul>
<p>7. Apply the join to the staged objects.</p>	<ul style="list-style-type: none"> <li>a. In Identity Manager, on the <b>Tools</b> menu, click <b>Management Agents</b>, click <b>Northwind Telephone System</b>, and then click <b>Run</b>.</li> <li>b. Click <b>Delta Synchronization</b>, and then click <b>OK</b>. <i>While the MA is running, the screen indicates its status as <b>Running</b>, and the Joins counter in the Synchronization Statistics increases from 0 to 3. The three connectors with flow updates show that the three objects with telephone data in the fixed width telephone system file were joined with the three objects from the HR system in the Metaverse. Note: you may have to decrease the size of the Actions pane to see the State column.</i></li> </ul>
<p>8. Use Metaverse Search to verify attribute sources.</p>	<ul style="list-style-type: none"> <li>a. In <b>Identity Manager</b>, click <b>Tools, Metaverse Search</b>.</li> <li>b. Click <b>Search</b>. <i>One object with the <code>displayName</code> of <b>Andrew Lan</b> appears in the Search results list.</i></li> <li>c. Right-click this object and then click <b>Properties</b>. <i>The <code>facsimileTelephoneNumber</code>, <code>mobile</code>, <code>pager</code>, and <code>telephoneNumber</code> attributes show <b>Northwind Telephone MA</b> as the source of the data. The <b>Northwind HR MA</b> provided the remainder of the attributes.</i></li> <li>d. Click the <b>Connectors</b> tab. <i>Note that this Metaverse object now has two connectors: one in the connector space of the Northwind HR MA and another in the connector space of the Northwind Telephone MA.</i></li> <li>e. Click <b>Close</b>.</li> </ul>

## Exercise 3

### Enabling Provisioning with MIIS

In this exercise, you will provision the user accounts into Active Directory by performing the following tasks:

- Change the server configuration.
- Configure the Northwind HR MA run profile for provisioning.
- Provision accounts into Active Directory.

### Scenario

After you review the data that imported into MIIS 2003, you need to provision the user accounts into Active Directory.

Tasks	Detailed steps
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer.</p>	
<p>1. In MIIS 2003, change the server configuration so that you can configure rules extensions that will be used to provision the accounts in Active Directory.</p>	<ol style="list-style-type: none"> <li>a. In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Configure Extensions</b>.</li> <li>b. In the <b>Configure Extensions</b> dialog box, click <b>Enable metaverse rules extension</b>.</li> <li>c. To pick the name of the Rules Extension from the list of files in the Extensions folder, click <b>Browse</b>.</li> <li>d. Select <b>HRProvisioning.dll</b> from the list of file names. Click <b>OK</b>.</li> <li>e. Click <b>Enable Provisioning Rules Extension</b>. Click <b>OK</b>.</li> </ol>
<p>2. Create a Full Synchronization run profile for Northwind HR to provision accounts. When this run profile is used, the provisioning extension configured in the previous step will be used to create connector space objects for export to Active Directory by using the Northwind AD MA.</p>	<ol style="list-style-type: none"> <li>a. Click <b>Tools, Management Agents</b>, click <b>Northwind HR</b>, and then click <b>Configure Run Profiles</b>.</li> <li>b. Click <b>New profile</b>.</li> <li>c. Under <b>Profile Name</b>, in <b>Name</b>, type <b>Provisioning</b>.</li> <li>d. Click <b>Next</b>.</li> <li>e. Under <b>Type</b>, select <b>Full Synchronization</b>, and then click <b>Next</b>.</li> <li>f. Click <b>Finish</b>.</li> <li>g. Click <b>Apply</b>, and then click <b>OK</b>.</li> </ol>
<p>3. Log onto LON-DC1 to verify user accounts and to edit the password complexity policy.</p>	<ol style="list-style-type: none"> <li>a. Log on to the LON-DC1 computer as <b>Administrator</b> with the password <b>P@ssw0rd</b>.</li> <li>b. Click <b>Start</b>, point to <b>Administrative Tools</b>, and then click <b>Active Directory Users and Computers</b>.</li> <li>c. Under <b>Nwtraders.msft</b>, expand the <b>Employees</b> organizational unit.</li> <li>d. Click the <b>Users</b> organizational unit and verify that it is empty.</li> <li>e. Right-click <b>nwtraders.msft</b>, and then click <b>Properties</b>.</li> <li>f. Click the <b>Group Policy</b> tab.</li> <li>g. Select <b>Default Domain Policy</b>, and then click <b>Edit</b>.</li> </ol>

*(continued)*

Tasks	Detailed steps
3. <i>(continued)</i>	<ul style="list-style-type: none"> <li><b>h.</b> Expand <b>Computer Configuration\Windows Settings\Security Settings\Account Policies</b>.</li> <li><b>i.</b> Click <b>Password Policy</b>.</li> <li><b>j.</b> Disable the <b>Password must meet complexity requirements</b> policy.</li> <li><b>k.</b> Close the Group Policy Object Editor, and then click <b>OK</b> at the <b>Properties</b> dialog box.</li> <li><b>l.</b> Open a command prompt and type <b>GPUpdate /force</b> and then press ENTER.</li> </ul> <p><i>Disabling the password complexity policy allows for MIIS to provision the user accounts into Active Directory. If you require complex passwords, you can edit the provisioning rules extension code as needed to provide the additional security.</i></p>
4. Provision accounts into the Northwind AD connector space.	<ul style="list-style-type: none"> <li><b>a.</b> Switch to the <b>LON-SRV1</b> computer.</li> <li><b>b.</b> Click <b>Northwind AD MA</b>, and then click <b>Run</b>.</li> <li><b>c.</b> In the <b>Run Management Agent</b> dialog box, under <b>Run profiles</b>, click <b>Full Import</b>.</li> <li><b>d.</b> Click <b>OK</b>.</li> </ul> <p><i>This operation is for an initial discovery of the Active Directory containers (MIIS 2003 does not create a container hierarchy automatically during provisioning).</i></p> <ul style="list-style-type: none"> <li><b>e.</b> Click <b>Northwind HR</b>, and then click <b>Run</b>.</li> <li><b>f.</b> In the <b>Run Management Agent</b> dialog box, under <b>Run profiles</b>, click <b>Provisioning</b>, and then click <b>OK</b>.</li> </ul> <p><i>This operation applies rules to the Metaverse objects and provisions user accounts into the Northwind AD MA connector space.</i></p>
5. Use Search Connector Space to examine the data placed into the Northwind AD MA connector space.	<ul style="list-style-type: none"> <li><b>a.</b> Click <b>Northwind AD MA</b>.</li> <li><b>b.</b> Click <b>Search connector space</b>, choose <b>Pending Export</b> as the search criterion, and then click the check box next to <b>Add</b>.</li> <li><b>c.</b> Click <b>Search</b>.</li> </ul> <p><i>Three records appear in the list.</i></p> <ul style="list-style-type: none"> <li><b>d.</b> Click <b>Close</b>.</li> </ul>
6. Provision accounts into Active Directory.	<ul style="list-style-type: none"> <li><b>a.</b> Click <b>Northwind AD MA</b>.</li> <li><b>b.</b> Click <b>Run</b>.</li> <li><b>c.</b> In the <b>Run Management Agent</b> dialog box, under <b>Run Profiles</b>, click <b>Export</b>. Click <b>OK</b>.</li> </ul> <p><i>This operation puts the objects from the Northwind AD MA connector space into Active Directory.</i></p>

(continued)

Tasks	Detailed steps
<b>Note:</b> Perform the following steps on the LON-DC1 computer.	
7. Switch to LON-DC1 to verify that the user accounts were created.	<ol style="list-style-type: none"><li>a. Switch to the LON-DC1 computer.</li><li>b. In <b>Active Directory Users and Computers</b> refresh the <b>Employees\Users</b> organizational unit.</li><li>c. Verify that three user accounts have been created. <i>These are the user accounts that have been provisioned from the HR database through MIIS 2003.</i></li></ol>

## Exercise 4

# Implementing Identity Changes and Deprovisioning Using MIIS

In this exercise, you will modify and synchronize identity information by performing the following tasks:

- Edit and synchronize a modified telephone number.
- Configure and synchronize an account as inactive.
- Configure an account as terminated, resulting in a deprovisioning process.

## Scenario

After you have configured the MIIS infrastructure, you are required to perform regular updates such as user attribute changes and user account status modifications.

Tasks	Detailed steps
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer.</p>	
<p>1. On the LON-SRV1 computer, open the telephone output file and make a change to Mark Lee's phone number.</p>	<p>a. Click <b>Start</b>, right-click <b>My Computer</b>, and then click <b>Explore</b>. <i>Windows Explorer opens.</i></p> <p>b. Expand drive C and browse to the following location: <b>C:\Program Files\Microsoft Identity Integration Server\MaData\Northwind Telephone System</b>. <i>This is where the telephone output file is located. Note that this file would change as required by modifications to the telephone data.</i></p> <p>c. Open <b>Northwind-telinfo-fw.txt</b>.</p> <p>d. Edit the telephone number for <b>Mark Lee</b> to read <b>555-0155</b>.</p> <p>e. Save and close <b>Northwind-telinfo-fw.txt</b>.</p> <p>f. Close Windows Explorer.</p>
<p>2. Using MIIS, implement the appropriate Run profiles to synchronize the telephone modification with the Metaverse.</p>	<p>a. In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Management Agents</b>, click the <b>Northwind Telephone System</b>, and then click <b>Run</b>.</p> <p>b. Click <b>Full Import</b>, and then click <b>OK</b>. <i>Synchronization statistics show that one update took place. The update has modified the object stored in the Northwind Telephone MA connector space.</i></p> <p>c. Click <b>Northwind Telephone System</b>, and then click <b>Run</b>.</p> <p>d. Click <b>Delta Synchronization</b> and then click <b>OK</b>. Click <b>Yes</b> if you receive any warning messages. <i>Synchronization statistics show that one connector has received a flow update. This task synchronized the object in the connector space with the MIIS Metaverse.</i></p>

*(continued)*

Tasks	Detailed steps
<p>3. Using MIIS, implement the appropriate Run profiles to synchronize the Metaverse telephone modification with the HR database and Active Directory.</p>	<p>a. Click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p>b. Click <b>Export</b>, and then click <b>OK</b>. <i>Synchronization statistics show that one update has occurred.</i></p> <p>c. Click the <b>Northwind AD MA</b>, and then click <b>Run</b>.</p> <p>d. Click <b>Export</b>, and then click <b>OK</b>. <i>Synchronization statistics show that one update has occurred.</i></p>
<p>4. Verify that the telephone modifications have taken place in the HR database.</p>	<p>a. Click <b>Start</b>, point to <b>All Programs</b>, point to <b>Microsoft SQL Server</b>, and then click <b>Enterprise Manager</b>.</p> <p>b. In the left pane, expand the tree to access the <b>Databases</b> node.</p> <p>c. Under <b>Databases</b>, expand <b>HRDatabase</b>.</p> <p>d. Click the <b>Tables</b> object.</p> <p>e. In the right pane, right-click the <b>EmployeeData</b> table, point to <b>Open Table</b>, and then click <b>Return all rows</b>.</p> <p>f. Verify that Mark Lee's phone number has been changed to <b>555 0155</b>. Keep the table open.</p>
<p><b>Note:</b> Perform the following step on the LON-DC1 computer.</p>	
<p>5. Verify that the telephone modifications have taken place in Active Directory.</p>	<p>a. In <b>Active Directory Users and Computers</b>, expand the <b>Employees</b> OU and then click the <b>Users</b> OU.</p> <p>b. Double-click <b>Mark Lee</b> and verify that the phone number has been changed to <b>555-0155</b>.</p> <p>c. Click <b>Cancel</b>.</p>
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer.</p>	
<p>6. Configure an account as inactive in the HR database and then synchronize the change to Active Directory.</p>	<p>a. Switch to SQL Server Enterprise Manager.</p> <p>b. Type <b>inactive</b> under the <b>EmployeeStatus</b> field for Kevin Cook.</p> <p>c. Move the cursor to the next line to ensure that the change is saved. Keep the table open.</p>
<p>7. Using MIIS, implement the appropriate Run profiles to synchronize the inactive status modification with the Metaverse.</p>	<p>a. In Identity Manager, on the <b>Tools</b> menu, click <b>Management Agents</b>, click the <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p>b. Click <b>Full Import</b>, and then click <b>OK</b>. <i>Synchronization statistics show that two updates have occurred. One update represents the telephone change exported previously, and the other represents the inactive status change.</i></p> <p>c. Click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p>d. Click <b>Delta Synchronization</b>, and then click <b>OK</b>.</p>
<p>8. Using MIIS, implement the appropriate Run profiles to synchronize the inactive status modification with Active Directory.</p>	<p>a. Click the <b>Northwind AD MA</b>, and then click <b>Run</b>.</p> <p>b. Click <b>Export</b>, and then click <b>OK</b>. <i>Synchronization statistics show that one rename has occurred. This is shown as a rename because the extension is configured to move the user account to the Disabled Users OU, which is registered as a rename.</i></p>

*(continued)*

Tasks	Detailed steps
<b>Note:</b> Perform the following step on the LON-DC1 computer.	
<p><b>9.</b> Verify that the inactive status change has taken place in Active Directory.</p>	<p><b>a.</b> Switch to LON-DC1 and refresh Active Directory Users and Computers.</p> <p><b>b.</b> Verify that Kevin Cook exists in the Disabled Users OU and is disabled.</p>
<b>Note:</b> Perform the following steps on the LON-SRV1 computer.	
<p><b>10.</b> Configure an account as terminated in the HR database and then synchronize the change to Active Directory.</p>	<p><b>a.</b> In <b>SQL Server Enterprise Manager</b>, type <b>terminated</b> under the <b>EmployeeStatus</b> field for Kevin Cook.</p> <p><b>b.</b> Move the cursor to the next line to ensure that the change is saved. Keep the table open.</p>
<p><b>11.</b> Using MIIS, implement the appropriate Run profiles to synchronize the termination status with the Metaverse.</p>	<p><b>a.</b> In Identity Manager, on the <b>Tools</b> menu, click <b>Management Agents</b>, click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p><b>b.</b> Click <b>Full Import</b>, and then click <b>OK</b>.</p> <p style="text-align: center;"><i>Synchronization statistics show that one update has occurred.</i></p> <p><b>c.</b> Click <b>Northwind HR</b>, and then click <b>Run</b>.</p> <p><b>d.</b> Click <b>Delta Synchronization</b>, and then click <b>OK</b>.</p>
<p><b>12.</b> Using MIIS, implement the appropriate Run profiles to synchronize the termination status with Active Directory.</p>	<p><b>a.</b> Click the <b>Northwind AD MA</b>, and then click <b>Run</b>.</p> <p><b>b.</b> Click <b>Export</b>, and then click <b>OK</b>.</p> <p style="text-align: center;"><i>Synchronization statistics show that one delete has occurred.</i></p>
<b>Note:</b> Perform the following step on the LON-DC1 computer.	
<p><b>13.</b> Verify that the termination status has taken place in Active Directory.</p>	<p><b>a.</b> In <b>Active Directory Users and Computers</b> refresh the <b>Disabled Users</b> OU.</p> <p><b>b.</b> Verify that Kevin Cook does not exist.</p> <p><b>c.</b> Click the <b>Users</b> OU and verify that Kevin Cook is also removed from this location.</p> <p><b>d.</b> Close <b>Active Directory Users and Computers</b>.</p>

## Exercise 5 (Optional)

### Managing Passwords Using MIIS 2003

This exercise will help you understand how MIIS can synchronize passwords among digital identities located in various data stores. MIIS can be used to synchronize passwords from various data stores. Password management is an add-in feature to MIIS that can be customized as needed.

#### Scenario

Northwind Traders has an extranet that contains shadow accounts of internal employees. Users are finding it difficult to manage multiple passwords for these accounts, and the help desk constantly needs to reset passwords throughout multiple accounts.

Northwind Traders has implemented MIIS to assist in the management of passwords for the digital identities.

Tasks	Detailed steps
<p><b>Note:</b> Perform the following steps on the LON-SRV1 computer unless otherwise indicated.</p>	
<p>1. Using MIIS 2003, import a management agent to connect to the <b>northwindtraders.msft</b> extranet domain.</p>	<ol style="list-style-type: none"> <li>a. In <b>Identity Manager</b>, on the <b>Tools</b> menu, click <b>Management Agents</b>.</li> <li>b. On the <b>Actions</b> menu, click <b>Import Management Agent</b>.</li> <li>c. Browse to <b>C:\</b>, click <b>NorthwindExtranetMA.xml</b>, and then click <b>Open</b>.</li> <li>d. Under <b>Name</b>, verify that <b>Northwind Extranet MA</b> is entered, and then click <b>Next</b>.</li> <li>e. On the <b>Connect to Active Directory Forest</b> page, complete the following information, and then click <b>Next</b>: <ul style="list-style-type: none"> <li>• Forest Name: <b>northwindtraders.msft</b></li> <li>• User name: <b>administrator</b></li> <li>• Password: <b>P@ssw0rd</b></li> <li>• Domain: <b>northwindtrader</b></li> </ul> </li> <li>f. On the <b>Configure Directory Partitions</b> page, verify that the <b>DC=northwindtraders,DC=msft</b> directory partition is selected.</li> <li>g. Click <b>Containers</b>.</li> <li>h. Verify that only the <b>Employees</b> organizational unit is selected. Click <b>OK</b>, and then click <b>Next</b>.</li> <li>i. On the <b>Select Object Types</b> page, verify that the check box next to <b>user</b> is selected, and then click <b>Next</b>.</li> <li>j. On the <b>Select Attributes</b> page, notice that a number of attributes have already been selected. Click <b>Next</b>.</li> <li>k. On the <b>Configure Connector Filter</b> page, accept the default settings, and then click <b>Next</b>.</li> <li>l. On the <b>Configure Join and Projection Rules</b> page, under <b>Data Source Object Type</b>, click <b>User</b>.</li> <li>m. Click the plus sign next to <b>1</b> to verify that <b>department</b> has a direct mapping.</li> <li>n. Click <b>Next</b>.</li> </ol>

*(continued)*

Tasks	Detailed steps
<p>2. Verify the direct export attribute flow mappings for Northwind Extranet MA.</p>	<ol style="list-style-type: none"> <li>a. On the <b>Configure Attribute flow</b> page, under <b>Data Source Attribute</b>, click <b>Object Type: user</b>.</li> <li>b. Verify that a number of export attributes have been preconfigured for this Management Agent. Click <b>Next</b>.</li> <li>c. On the <b>Configure Deprovisioning</b> page, verify that <b>Stage a delete on the object for the next export run</b> is selected, and then click <b>Next</b>.</li> <li>d. Click <b>Finish</b>.</li> </ol>
<p>3. Verify that the Northwind Extranet MA Full Import and Synchronization run profile exists.</p>	<ol style="list-style-type: none"> <li>a. In <b>Management Agents</b>, select <b>Northwind Extranet MA</b>, and then click <b>Configure Run Profiles</b>.</li> <li>b. Verify that a profile named <b>Full Import and Synchronization</b> is listed.</li> <li>c. Click <b>OK</b>.</li> </ol>
<p>4. Execute the Northwind Extranet MA Full Import and Synchronization run profile.</p>	<ol style="list-style-type: none"> <li>a. In <b>Management Agents</b>, select <b>Northwind Extranet MA</b>, and then click <b>Run</b>.</li> <li>b. Click <b>Full Import and Synchronization</b>, and then click <b>OK</b>.</li> </ol>
<p>5. Configure the Northwind AD MA for password management.</p>	<ol style="list-style-type: none"> <li>a. In <b>Management Agents</b>, select <b>Northwind AD MA</b>, and then click <b>Properties</b>.</li> <li>b. Under <b>Management Agent Designer</b>, click <b>Configure Extensions</b>.</li> <li>c. Under <b>Password Management</b>, click the check box next to <b>Enable password management for this management agent</b>.</li> <li>d. Under <b>Configure partition display name(s)</b>, click <b>Edit</b>.</li> <li>e. Select <b>DC=nwtraders,DC=msft</b>.</li> <li>f. Type <b>Active Directory</b> in the Edit text box, and then click <b>Edit</b>.</li> <li>g. Click <b>OK</b> twice.</li> </ol>
<p>6. Configure the Northwind Extranet MA for password management.</p>	<ol style="list-style-type: none"> <li>a. In <b>Management Agents</b>, select <b>Northwind Extranet MA</b>, and then click <b>Properties</b>.</li> <li>b. Under <b>Management Agent Designer</b>, click <b>Configure Extensions</b>.</li> <li>c. Under <b>Password Management</b>, click the check box next to <b>Enable password management for this management agent</b>.</li> <li>d. Under <b>Configure partition display name(s)</b>, click <b>Edit</b>.</li> <li>e. Select <b>DC=northwindtraders,DC=msft</b>.</li> <li>f. Type <b>Extranet</b> in the Edit text box, and then click <b>Edit</b>.</li> <li>g. Click <b>OK</b> twice.</li> </ol>

*(continued)*

Tasks	Detailed steps
<p>7. Change and synchronize passwords using the Find User Accounts web site.</p>	<p>a. Click <b>Start</b>, click <b>All Programs</b>, and then click <b>Internet Explorer</b>. If the web site does not open automatically type <b>http://lon-srv1/miis/ps/</b>. <i>The Find User Accounts web site opens. Note that this is an add-in application available on the MIIS 2003 CD.</i></p> <p>b. In the <b>User Name</b> box, type <b>Andrew</b>, which is Andrew Lan's logon name.</p> <p>c. In the <b>Domain Name</b> box, type <b>nwtraders</b>.</p> <p>d. Click <b>Search</b>. <i>After a moment, all Andrew's accounts will be displayed. Notice that the two accounts include Active Directory and the extranet.</i></p> <p>e. Type <b>P@ssword2</b> in the two password boxes, and then click <b>Submit</b>. <i>After a moment, the status should state <b>Password set successfully</b>.</i></p> <p>f. Click the <b>History</b> link for each account to see how often the password has been reset.</p> <p>g. Switch to the LON-XNET1 computer and attempt to log on as <b>Andrew</b> with the password of <b>P@ssword2</b>. Andrew should be able to log on to the extranet server.</p>
<p>8. Shut down computers.</p>	<p>a. Shut down all Virtual PC computers without saving the changes.</p>

