



Microsoft® Virtual Labs

**Using System Image Manager to
Automate Windows Vista
Installations**

Microsoft®

Table of Contents

Using System Image Manager to Automate Windows Vista Installations	1
Exercise 1 Creation of support infrastructure	2
Exercise 2 Using Windows System Image Manager to create a simple Unattend.XML answer file	4
Exercise 3 Using Windows System Image Manager to create an advanced Unattend.XML answer file.....	7

Using System Image Manager to Automate Windows Vista Installations

Objectives

After completing this lab, you will be better able to:

- Use Windows System Image Manager to create a distribution share
- Use Windows System Image Manager to create a simple Unattend.XML file
- Use Windows System Image Manager to create an advanced Unattend.XML file
- Perform an unattended installation of Windows Vista

Scenario

Your organization has standardized on Windows Vista as its desktop platform. You are responsible for creating a standard image that will be distributed to all clients. Once you have created the standard image it will be given to the distribution team who will be responsible for its deployment via a variety of methods including Windows Deployment Services (WDS), Image Based Setups (IBS), network & CD/DVD based installations.

Prerequisites

You should be familiar with the following products or technologies before you begin this lab.

- Familiarity with Business Desktop Deployment

Estimated Time to Complete This Lab

60 Minutes

Computer used in this Lab



DC1 - Domain Controller running Server 2003, Windows AIK, WDS

Exercise 1

Creation of support infrastructure

Scenario

In this exercise you will use Windows System Image Manager (WSIM) to create a distribution share and then populate it with the support files required to perform a customized installation. The machine that will act as the distribution server has Windows Server 2003 R2 installed and has been configured as a Domain Controller. The WSIM is included in the Windows Automated Installation Kit (WAIK)

Tasks	Detailed Steps
<p>1. Install the Windows Automated Installation Kit</p> <p><i>Note: DCI is initially logged on with the following credentials: Domain: Contoso Username: Administrator Password: P@ssw0rd</i></p>	<p><i>Note: The Windows System Image Manager tool is included in the Windows Automated Installation Kit (Windows AIK). In this task you will use the WSIM to create a distribution share that will be used to store the additional components that will be installed as part of the automated installation of Windows Vista</i></p> <ol style="list-style-type: none"> On the Start menu, click All Programs, then click Microsoft Windows AIK, and then click Windows System Image Manager. From the Windows System Image Manager (WSIM) console, right click Select a Distribution Share and then click Create Distribution Share. In the Create a Distribution Share dialog box, enter E:\Sources\Distributionshare and click Open. Expand the E:\Sources\Distributionshare entry in the Distribution Share pane and confirm that the following folders have been created: <ul style="list-style-type: none"> \$OEM\$ Folders Out-of-Box Drivers Packages <p><i>Note: WSIM requires at least one of the above folders to be present in order to recognize a folder as a valid distribution share.</i></p>
<p>2. Populate the Distribution Share with Windows Vista build images & support files</p>	<p><i>Note: Now that you have created the basic distribution share structure, you need to populate it with the Windows Vista source files and the support files that you will use as part of the build process. For this task, a 3rd party driver and a hotfix will be added to the distribution share. In a later task, you will modify the answer file to include these items. Once the Distribution share has been populated, you will enable it as a network share and then open it using WSIM,</i></p> <ol style="list-style-type: none"> Using Windows Explorer create a folder named E:\DistributionShare then copy the contents of the E:\Sources\distributionshare folder to E:\DistributionShare Using Windows Explorer copy the contents of the E:\sources\Out-of-Box drivers folder to E:\DistributionShare\Out-of-Box Drivers Using Windows Explorer copy the contents of the E:\sources\Packages folder to E:\DistributionShare\Packages Using Windows Explorer share the E:\DistributionShare\ folder as Build\$ leaving the permissions at their default values. Close Windows Explorer. From the Windows System Image Manager console, click File then Close Distribution Share From the Windows System Image Manager console, click File then Select Distribution Share..., then enter \\dc1\build\$ and click Open.

Tasks	Detailed Steps
	<i>Note: Step f is performed so that WSIM will populate the answer file with the network path for drivers & packages that are added to the build. The share was created as a hidden share (build\$) to minimize the likelihood of network users browsing to the share.</i>

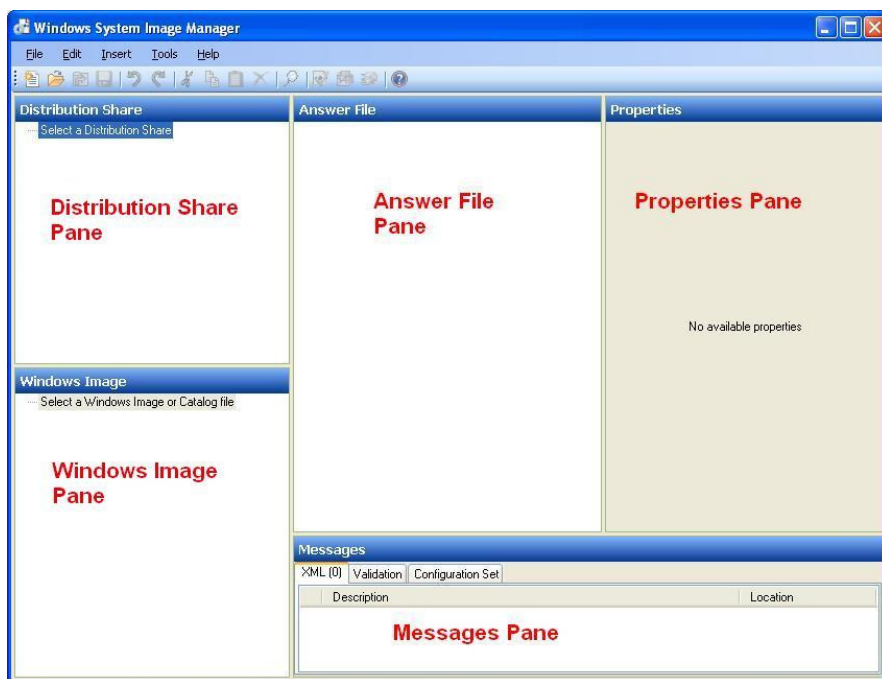
Exercise 2

Using Windows System Image Manager to create a simple Unattend.XML answer file

Scenario

In this exercise you will use Windows System Image Manager (WSIM) to create a simple unattend.xml file that could be used to perform a basic Windows Vista installation. This file will include the minimum responses required to install Windows Vista but will not install additional applications, perform custom actions or include 3rd party driver paths.

The screenshot below identifies the different screen elements that make up the WSIM tool. As you progress through the lab, this can be used to identify the different panes that are referenced in each step.



Tasks	Detailed Steps
1. Using Windows System Image Manager to create and customize an unattend.xml	<p>Note: Now that the core support components have been created in the environment, you will use WSIM to create an answer file. For Windows Vista, the multiple answer files that were used in Windows XP have been replaced by a single XML file. While it is possible to use a text editor such as Notepad to create the XML file, WSIM ensures that the answer file is formatted correctly and will validate it to ensure that all entries have values as appropriate.</p> <ol style="list-style-type: none"> In the Microsoft System Image Manager Window, click File, and then click New Answer File, when prompted to open a Windows image, click Yes. In the Select a Windows image dialogue box, browse to E:\Sources\install.wim and click Open. In the Windows System Image Manager pop up question box, click Yes to create a new catalog file. This process will take approximately two minutes.

Tasks	Detailed Steps														
2. Create a 12Gb Disk Partition	<p>Note: Now that the basic XML file has been created, you will modify the answer to create a 12Gb partition into which to install Vista</p> <ol style="list-style-type: none"> In the Windows Image pane, expand Windows Vista ENTERPRISE\Components\x86_Microsoft-Windows-Setup_6.0.5384.4_neutral\DiskConfiguration. Right-Click Disk and select Add Setting to Pass 1 windowsPE In the Answer File pane, select Disk then in the Disk Properties pane enter the following values: <table> <tr> <td>DiskID</td><td>0</td></tr> <tr> <td>WillWipeDisk</td><td>true</td></tr> </table> In the Answer File pane, expand Disk and then right click CreatePartitions and click Insert New CreatePartition In the CreatePartition Properties pane enter the following values: <table> <tr> <td>Order</td><td>1</td></tr> <tr> <td>Size</td><td>12000</td></tr> <tr> <td>Type</td><td>Primary</td></tr> </table> <p>Note: 12Gb is being used due to the size of the virtual disks in use</p>	DiskID	0	WillWipeDisk	true	Order	1	Size	12000	Type	Primary				
DiskID	0														
WillWipeDisk	true														
Order	1														
Size	12000														
Type	Primary														
3. Format the new partition with NTFS and assign a drive letter & label	<p>Note: Now that the partition has been created, you will create an entry that will format it and assign it a drive letter.</p> <ol style="list-style-type: none"> In the Answer File pane, right click ModifyPartitions and click Insert New ModifyPartition In the ModifyPartition Properties pane enter the following values: <table> <tr> <td>Active</td><td>true</td></tr> <tr> <td>Extend</td><td>false</td></tr> <tr> <td>Format</td><td>NTFS</td></tr> <tr> <td>Label</td><td>Vista</td></tr> <tr> <td>Letter</td><td>C</td></tr> <tr> <td>Order</td><td>1</td></tr> <tr> <td>PartitionID</td><td>1</td></tr> </table> 	Active	true	Extend	false	Format	NTFS	Label	Vista	Letter	C	Order	1	PartitionID	1
Active	true														
Extend	false														
Format	NTFS														
Label	Vista														
Letter	C														
Order	1														
PartitionID	1														
4. Specify the location to install Windows	<p>Note: With the partition created & formatted, an entry is now required so that Windows Vista will be installed to the newly created drive.</p> <ol style="list-style-type: none"> In the Windows Image pane, expand Components\x86_Microsoft-Windows-Setup_6.0.5384.4_neutral\ImageInstall\OSImage. Right click InstallTo and select Add Setting to Pass 1 windowsPE In the InstallTo Properties pane enter the following values: <table> <tr> <td>DiskID</td><td>0</td></tr> <tr> <td>PartitionID</td><td>1</td></tr> </table> 	DiskID	0	PartitionID	1										
DiskID	0														
PartitionID	1														
5. Enter registration data, computername and product key	<p>Note: The basic goal of creating an answer file is to minimize the interaction required to install Windows. In this step you will create entries for the user name, organization name, computer name and the product key that will be used by the setup process.</p> <ol style="list-style-type: none"> In the Windows Image pane, expand Components, x86_Microsoft-Windows-Setup_6.0.5384.4_neutral Right click UserData and select Add Setting to Pass 1 windowsPE 														

Tasks	Detailed Steps
	<p>c. In the UserData Properties pane enter the following values:</p> <p>AcceptEula true FullName Northern Sales Organization NorthWind Traders</p> <p>d. In the Answer File pane, expand UserData, and then select ProductKey</p> <p>e. In the ProductKey Properties pane enter the following values:</p> <p>Key XXX-ABCD-DEFGH-12345-VWXYZ WillShowUI OnError</p>
6. Assign a Password to the Default Administrator Account	<p><i>Note: As part of the basic security practices for your organization, all machines must have a complex password assigned to the local administrator account. In this task you will assign a password to the administrator account.</i></p> <p>a. In the Windows Image pane, expand x86_Microsoft-Windows-Shell-Setup_6.0.5384.4_neutral. Right-click UserAccounts and select Add Setting to Pass 7 oobeSystem</p> <p>b. In the Answer File section, expand UserAccounts, and then select AdministratorPassword</p> <p>c. In the UserAccount Properties pane, next to AdministratorPassword enter P@ssw0rd.</p> <p><i>Note: Windows System Image Manager will encrypt the Administrator's password in the unattend.XML file. We will look at the encrypted password in an upcoming exercise.</i></p> <p>d. Under the Answer File pane, right-click DomainAccounts and then click delete.</p> <p>e. Right-click LocalAccounts and then click Delete. These sections are used to add Domain User Accounts and Local User Accounts into the User Profiles sections of Windows Vista after the completed installation. We will not be using these sections in this lab.</p>
7. Generate and Validate the Answer File.XML	<p><i>Note: You have now entered the basic settings required to perform an unattended setup of Windows Vista. WSIM will now be used to validate the file. Validation confirms that the settings present in the file can be applied to the Windows image for which the answer file has been built.</i></p> <p>a. On the WSIM menu bar, select Tools, Validate Answer File, then confirm that the No warnings or errors message is displayed in the Messages pane.</p> <p>b. On the File menu, select Save Answer File. In the File name box type C:\unattend. Then click Save.</p> <p>c. Close Windows System Image Manager. Open C:\unattend XML using Notepad and view its contents. As the answer file is stored as standard XML file, any editor capable of saving files in plain text can be used to manipulate and create answer files. While it is possible to use of text editors, it is recommended that WSIM be used as it will validate the structure of the file and confirm that all entries have values where required.</p> <p><i>Note: Scroll down to the section marked <UserAccounts> and notice the line beneath <AdministratorPassword> has a value of a very long string. This is the administrator's password, encrypted. Notice the line beneath this password reads <PlainText>False</PlainText>.</i></p> <p>d. After viewing the unattend.XML file, close Notepad, and close Windows Explorer.</p> <p><i>Note: Do not save any changes that you may have inadvertently made.</i></p>

Exercise 3

Using Windows System Image Manager to create an advanced Unattend.XML answer file

Scenario

In this exercise you will use Windows System Image Manager (WSIM) to further extend the simple unattend.xml file created in the previous exercise so that it will remove the standard games that ship with Vista, install a hotfix, place a custom item in the Internet Explorer Favorites, modify the Internet Explorer Home page, execute a custom command and specify a path to locate 3rd party drivers

Tasks	Detailed Steps																		
1. Using Windows System Image Manager to open and customize an existing unattend.xml	<p>Note: After reviewing the results of an installation performed using the answer file you created in the previous exercise, you have decided to further customize the build. In order to do this you will use WSIM to open the existing answer file and then through the addition of additional entries, modify the standard installation to reflect the needs of your organization.</p> <ol style="list-style-type: none"> On the Start menu, click All Programs, Microsoft Windows AIK, Windows System Image Manager In the Microsoft Image Manager Window, click File, and then click Open Answer File, then select C:\Unattend.xml, and click Open 																		
2. Customize the installations by disabling the standard games that are included in a standard installation.	<p>Note: The call center manager has requested that machines deployed in her area do not contain the standard windows games as she has noticed a number of staff using these programs for extended periods of time. In order to meet this requirement, you will modify the settings for the Windows Foundation Package so that the games are not installed.</p> <ol style="list-style-type: none"> In the Windows Image pane, expand Windows Vista ENTERPRISE\Packages\Foundation. Right-click x86_Microsoft-Windows-Foundation-Package_6.0.5384.4_ and select Add to Answer File. In the Windows Foundation Properties pane, expand Inbox Games and ensure the following Values: <table> <tr> <td>Chess</td><td>Disabled</td></tr> <tr> <td>FreeCell</td><td>Disabled</td></tr> <tr> <td>Hearts</td><td>Disabled</td></tr> <tr> <td>InboxGames</td><td>Disabled</td></tr> <tr> <td>Minesweeper</td><td>Disabled</td></tr> <tr> <td>PurplePlace</td><td>Disabled</td></tr> <tr> <td>Shanghai</td><td>Disabled</td></tr> <tr> <td>Solitaire</td><td>Disabled</td></tr> <tr> <td>SpiderSolitaire</td><td>Disabled</td></tr> </table>	Chess	Disabled	FreeCell	Disabled	Hearts	Disabled	InboxGames	Disabled	Minesweeper	Disabled	PurplePlace	Disabled	Shanghai	Disabled	Solitaire	Disabled	SpiderSolitaire	Disabled
Chess	Disabled																		
FreeCell	Disabled																		
Hearts	Disabled																		
InboxGames	Disabled																		
Minesweeper	Disabled																		
PurplePlace	Disabled																		
Shanghai	Disabled																		
Solitaire	Disabled																		
SpiderSolitaire	Disabled																		
3. Add 3 rd party drivers to the Vista installation	<p>Note: As part of the Windows Vista Deployment project, you have been evaluating a number of new laptops from prospective vendors. Some of the laptops provided to you are preproduction samples that include a new type of wireless network card. The vendors have provided you with a driver for these cards as they are not included in the standard Windows Vista build.</p>																		

Tasks	Detailed Steps
	<p><i>In this task, you add an entry to the answer file so that Windows setup will query the distribution share when it is attempting to locate drivers for new hardware.</i></p> <p>a. In the Distribution Share pane, expand the \\dc1\\build\$ node then right click on Out-of-Box Drivers and click Add Driver Path to Pass 5 auditSystem</p> <p>Note: The wireless driver has already been placed into this folder. If the drivers are also required during the initial WinPE boot, repeat the above step and add the setting to Pass 1 windowsPE</p>
4. Customize the installation of Internet Explorer to add a Home Page and a Favorites Link	<p>Note: The next task on your list of customizations is to set the default home page for Internet Explorer to be your corporate website and to create a favorite for the Windows Vista webpage.</p> <p>a. In the Windows Image pane, expand Windows Vista ENTERPRISE\Components\x86_Microsoft-Windows-IE-InternetExplorer_6.0.5384.4_nuetral .</p> <p>b. Right-Click x86_Microsoft-Windows-InternetExplorer_6.0.5384.4_nuetral and select Add Setting to Pass 4 specialize.</p> <p>c. In the Microsoft-Windows-IE-InternetExplorer Properties pane enter the following values:</p> <p>Home_Page http://www.nwtraders.com CompanyName NorthWind Traders IEWelcomeMSG false</p> <p>Note: If these values are grayed out and cannot be changed, then expand x86_Microsoft-Windows-IE-InternetExplorer_6.0.5384.4_nuetral in the Answer File section</p> <p>d. In the Answer File pane, expand 4 specialize, x86_Microsoft..., FavoritesList</p> <p>e. Right click FavoritesList and click Insert New FavoriteItem</p> <p>f. In the FavoritesList Properties pane enter the following values:</p> <p>FavTitle Microsoft Windows Vista FavURL http://www.windowsvista.com</p>
5. Add hotfixes to the Vista installation	<p>Note: Maintaining a secure baseline for all the machines in your environment is an essential component of your organizations security strategy. An essential part of the secure baseline is that all machines have the appropriate hotfixes installed. In this task, you will modify the answer file so that the hotfix that you added to the distribution share in an earlier task is now installed as part of the build process.</p> <p>a. In the Distribution Share pane, expand the \\dc1\\build\$\\Packages node then right click on Hotfix and click Add to Answer File</p>
6. Add a Command to run defrag.exe the first time a user logs on	<p>Note: The final customization that you will perform is to automatically launch the disk defragmentation tool the first time a user logs on. In this task, you are going to populate an entry for the oobeSystem. OOE is an acronym for Out Of the Box Experience and refers to the processes that are launched the first time a user logs on to workstation after it has been built.</p> <p>a. On the Insert menu, expand Synchronous Command then click Pass 7 oobeSystem</p> <p>b. In the Create Synchronous Command dialogue box, type defrag.exe and then click OK.</p>
7. Generate and Validate the Answer	<p>Note: With the addition of the additional settings to the answer file, you want to confirm that the answer file is still valid. In a repeat of the earlier task where you</p>

Tasks	Detailed Steps
File.XML	<p><i>validated the basic answer file, you will now use WSIM to validate the file.</i></p> <p>Note: <i>This exercise has been deliberately written so that the file will fail validation.</i></p> <ol style="list-style-type: none"> On the WSIM menu bar, select Tools, Validate Answer File. Then monitor the Messages pane for errors. A couple of errors and warnings will be generated. Double-click on the error that says The key FavID of list FavoriteItem must have a value. In the Properties section, enter 1 as the value. In the Messages section double-click the error that reads Configure action specified for the package but no Windows features have been selected. This is because we added the package to verify games have been disabled, but did not modify any properties. In the Answer File section, right-click Foundation and then click delete. Click Yes to confirm. In the Answer File pane, expand Components, 5 auditSystem, x86_Microsoft-Windows.....,DriverPaths, PathAndCredentials...., and click Credentials. In the Credentials Properties pane, enter the following values: Domain: Contoso Password: P@ssw0rd Username: Administrator On the WSIM menu bar, select Tools, Validate Answer File, then confirm that the No error messages are displayed in the Messages pane. You will see a few warnings because we did not modify every property of every item added. On the File menu, select Save Answer File As. In the File name box type C:\advunattend. Then click Save. <p><i>Note: You would normally name this answer file autounattend.xml. When you put the Windows Vista DVD in your DVD-ROM drive, it will automatically look for a file called autounattend.xml in all media and removable media. If you call it anything else, you will have to point to it during installation.</i></p> <ol style="list-style-type: none"> Close Windows System Image Manager.