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VMware Player for Virtualization

A simple approach towards learning virtualization to play
with virtual machines

Kevin L. Sapp

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Instant VMware Player for Virtualization

Instant VMware Player for Virtualization

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First published: September 2013

Production Reference: 1250913

Published by Packt Publishing Ltd.

Livery Place

35 Livery Street

Birmingham B3 2PB, UK.

ISBN 978-1-84968-984-7

www.packtpub.com

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A special thanks goes out to my close family and friends: Ashley, Allison, Adonis, Janay, and Emerson. Also to Harsha, Sherin, and all of the great staff at Packt Publishing.

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Greg Annen has over 25 years of experience in IT, quality assurance, and test automation. This includes an extensive background in implementation of complete test automation solutions using HP QuickTest Professional / UFT and Quality Center / ALM, built-out in physical or virtual (VMware) test labs.

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Preface

Welcome to *Instant VMware Player for Virtualization*. This book is the easiest way to learn VMware Player in 5 hours or less. Virtualized systems offer additional benefits to small business and enterprise environments such as portability, scalability, manageability, and increased security. The concepts mastered in this book will give you the skills necessary to confidently build a Windows 8 machine in a virtualized environment for test and evaluation purposes.

What this book covers

This book covers the minimum hardware and software requirements needed to install and run VMware Player virtual machines on a host system.

Downloading and installing VMware Player on Windows/Linux PC (Simple) explains the download and install procedures for VMware Player on both Windows and Linux operating system platforms.

Installing Windows 8 virtual machine using an ISO image (Intermediate) covers the process of installing Windows 8 from an ISO formatted image using VMware Player.

Installing Windows 8 virtual machine using a bootable media (Intermediate) covers the ways to get around the limitations of using a bootable media on VMware Player.

Installing Windows 8 virtual machine using a VHD (Advanced) explains the advanced topic of configuring VMware Player to install Windows 8 on a virtual hard disk.

Running Windows 8 virtual machine (Simple) covers the steps needed to activate Windows 8 and install the VMware tools on a client application.

Removing a virtual machine (Simple) covers the process of deleting a virtual machine permanently or removing it from the VMware Player library.

Backing up Windows 8 virtual machine (Simple) explains the easiest method to protect your data on a regular basis.

Using shared folders (Intermediate) explains the process of adding a shared network folder to a guest operating system in VMware Player.

Adding a printer device to VMware Player (Simple) explains the process of setting up printing on a virtual machine.

What you need for this book

You will need a personal or business computer that meets the minimum requirements outlined in the recipe *Downloading and installing VMware Player on Windows/Linux PC (Simple)* of this book. Also, access to the Internet will be required in order to download VMware Player, VMware tools, and various other applications mentioned in the ensuing chapters.

Who this book is for

This book is intended for home or business users who want to learn how to use VMware Player. In this book, you will find information on installing and using VMware Player and also on creating a Windows 8 virtual machine from start to finish.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

Code words in text are shown as follows: "To start Player on the Linux machine, just type the `vmplayer` command."

Any command-line input or output is written as follows:

```
imagex /apply C:\Win8Setup\sources\install.wim 1  
H:\
```

New terms and **important words** are shown in bold. Words that you see on the screen, in menus or dialog boxes, for example, appear in the text like this: "Click on **Download** and then click on the **Run** button".

Note

Warnings or important notes appear in a box like this.

Tip

Tips and tricks appear like this.

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Chapter 1. Instant VMware Player for Virtualization

Welcome to *Instant VMware Player for Virtualization*. This book is the easiest way to learn VMware Player in a short amount of time. The concepts mastered in this book will allow you to build a Windows 8 machine in a virtualized environment for test and evaluation purposes.

Downloading and installing VMware Player on Windows/Linux PC (Simple)

VMware Player makes it easy to create, organize, and play virtual machines on your computer at work or at home as long as you meet the minimum system requirements. VMware Player is good for several reasons, two being that it's free and it is available for both the Microsoft Windows and Linux platforms. This simple recipe will guide you through the necessary steps to install and download the VMware Player application.

Getting ready

You will need a copy of the VMware Player software and download the product from the VMware website:

https://my.vmware.com/web/VMware/free#desktop_end_user_computing/vmware_player/5_0|PLAYER-502|product_downloads

How to do it...

We begin by installing Player on a Windows machine:

1. Log on to the Windows machine.
2. Visit the VMware website using the link provided. Click on **Download** and then click on the **Run** button.

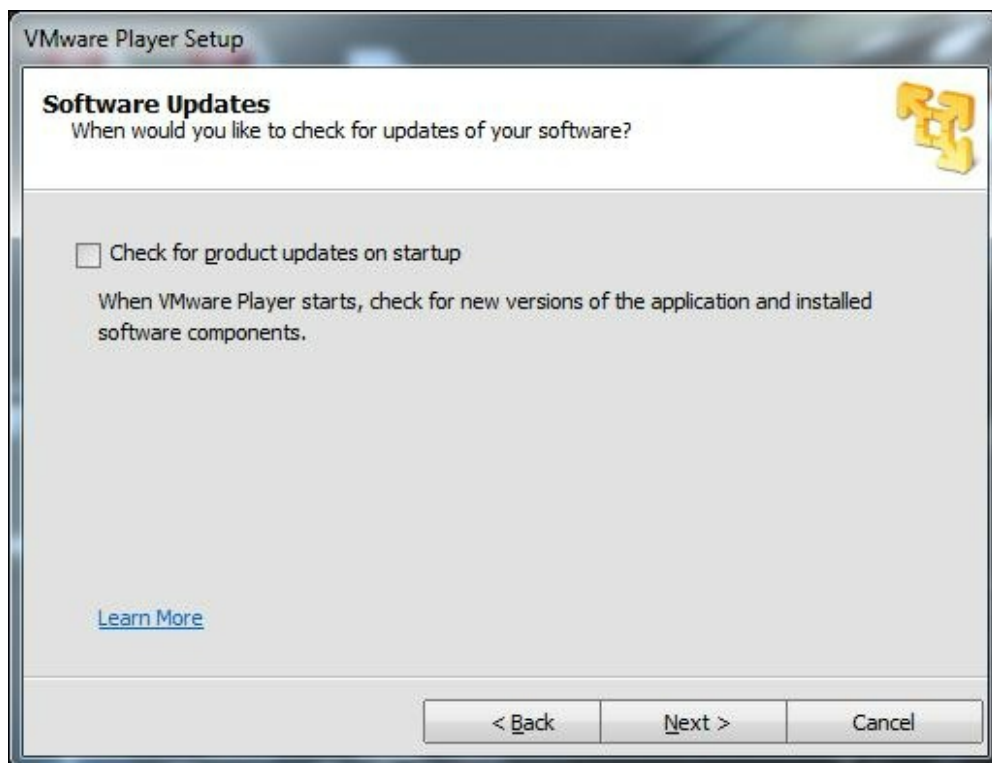
Note

If you receive **Open File - Security Warning** from your Internet browser, click on the **Run** button.

3. The **VMware Player Setup** prompt will appear. Now, click on the **Next** button.
4. Under **Destination Folder**, click on the **Next** button to install VMware in the default directory location.



5. Under **Software Updates**, uncheck the default **Check for product updates on startup** setting and click on the **Next** button.



6. Under **User Experience Improvement Program**, check the option **Help improve VMware Player** and then click on the **Next** button.



7. Under **Shortcuts**, make sure that the **Desktop** and **Start Menu Programs folder** options are checked. Click on the **Next** button to continue and begin the installation.



8. Under **Ready to Perform the Requested Operations**, click on the **Continue** button to begin the installation process.
9. The **Performing the Requested Operations** prompt will be shown as the installation is in progress.
10. When the installation is complete, you will see a prompt saying **Setup Wizard Complete**. Now click on the **Finish** button.
11. Check to make sure that the VMware Player desktop shortcut and the VMware Start menu item have been added to your PC.

Similar steps can be followed to install Player on a Linux machine.

1. Log on to the Linux machine as root.
2. Change to the download directory of the installation files for VMware Player.
3. Run the installer file for Player.

For example, type `sh VMware-Player-e.x.p-xxxx-xxxx.architecture.bundle -[option]`, where `xxxx` is the version and build number

4. Accept the license agreement.
5. Continue through each of the prompts until the install is finished. Then exit from the root account.

How it works...

You have just installed the VMware Player application. If you are on a Windows OS, you will notice that a Player desktop shortcut and Start menu item are now available:

- To start Player on the Windows system, double click on the VMware Player desktop shortcut
- To start Player on the Linux machine, just type the `vmplayer` command

Installing Windows 8 virtual machine using an ISO image (Intermediate)

In the past, the only way that a Windows consumer could acquire the Windows OS was to purchase the installation media on a CD-ROM, floppy disk, or physical computer accessory, which had to be ordered online or bought from a local bricks and mortar store. Now with the recent release of Windows 8, Microsoft is continuing to extend its installation platform to digital media on a large scale. Windows 8 simplifies the process by using a web platform installer called Windows 8 Upgrade Assistant, which makes it easier to download, burn physical copies, and create a backup copy of the installation media. This form of digital distribution allows Microsoft to deploy products at a faster speed to the market, and increase its capacity to meet consumer demands.

Getting ready

To proceed with this recipe you will need to download Windows 8, so go to <http://www.windows.com/buy>.

How to do it...

In the first part of this section we will look into downloading the Windows 8 ISO file.

Tip

Skip these steps if you have already downloaded the Windows 8 ISO file in advance.

1. Visit the Microsoft website to purchase Windows 8 and then select the option to download the Windows 8 Upgrade Assistant file. Launch the Windows 8 Upgrade Assistant file and proceed with purchasing Windows 8. After completing the transaction, wait while the Windows 8 setup files are downloaded.

Note

The estimated download time varies, based on your Internet connection speed. In addition, you have the option to pause the download and resume it later.

2. Once the download is complete, the Windows 8 Upgrade Assistant will verify the integrity of the download by checking for file corruption and missing files.
3. Wait while the Windows 8 setup gets the files ready to begin the installation.
4. You will see a prompt that says **Install Windows 8**. Select the **Install by creating media** radio button. Select **ISO file**, then click on the **Save** button.
5. When prompted to select a location to save the ISO file, choose a folder location and type `Windows 8` as the filename. Then click on the **Save** button.
6. When the product key is revealed, write it down and store it somewhere secure. Then click on the **Finish** button.

The following set of instructions explains the details of installing Windows 8 on a newly created virtual machine using VMware Player. These steps are similar to the installation procedures encountered when installing Windows 8 on a physical computer:

1. Open the VMware application by going to **Start | All Programs | VMware**. Then click on the **VMware Player** menu item.
2. If you are opening VMware Player for the first time, the VMware Player License Agreement prompt will be displayed. Read the terms and conditions. Select **Yes, I accept the terms in the license agreement** to proceed to open the VMware Player application.

Note

If you select **No, I do not accept the terms in the license agreement**, you will not be permitted to continue.

3. The **Welcome to the New Virtual Machine Wizard** screen will be visible. Click on **Create a New Virtual Machine** on the right side of the window.



4. Select the **Installer disc image file (iso):** radio button. Then click on the **Browse** button. Browse to the directory of the Windows 8 ISO image and click on **Open**.



5. You will see an information icon that says **Windows 8 detected**. This operating system will use Easy Install. Click on the **Next** button to continue.
6. Under **Easy Install Information**, type in the Windows product information and click on **Next** to continue.

The screenshot shows a window titled "New Virtual Machine Wizard" with a close button (X) in the top right corner. The main heading is "Easy Install Information" with a subtitle "This is used to install Windows 8." Below this, there are several input fields and a checkbox. The "Windows product key" field is a text box with four dashes. The "Version of Windows to install" is a dropdown menu currently showing "Windows 8". The "Personalize Windows" section includes a "Full name:" field with "Win8_Computer_1", a "Password:" field, and a "Confirm:" field, with "(optional)" next to the password field. At the bottom of this section is a checkbox labeled "Log on automatically (requires a password)". The bottom of the window has four buttons: "Help", "< Back", "Next >" (highlighted in blue), and "Cancel".

You now have the options to:

- Enter the Windows product key
- Select the version of Windows to install (Windows 8 or Windows 8 Pro)
- Enter the full name of the computer
- Enter a password, which is optional

Note

If you do not enter a product key, you will receive a message saying that it can be manually entered later.

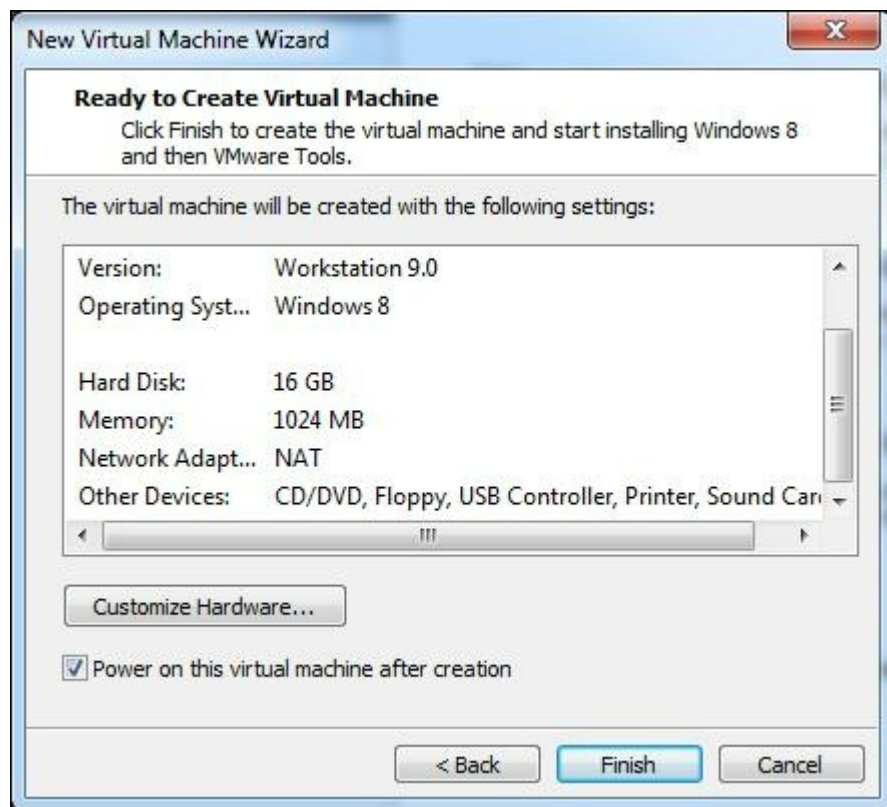
7. Enter a new virtual machine name and directory location to install the virtual machine. For example, type `Windows 8 VM` and then click on the **Next** button to continue.



8. Enter 16 as the **Maximum disk size (GB)** and store the virtual disk as a single file. Then click on the **Finish** button. This is because Windows 8 requires a minimum of 16 GB of free hard drive space. The Windows 8 virtual machine will power on automatically for the first time. At the **Ready to Create Virtual Machine** prompt, click on the **Finish** button.

Note

Remember that Windows 8 requires a minimum of 16 GB hard disk free space for the 32 bit installation and 20 GB space for the 64 bit installation.



9. VMware will prompt you to install VMware Tools for Windows 2000 and later, click on the **Remind Me Later** button.



10. The virtual machine will automatically boot up to the Windows 8 setup wizard. Wait until the Windows installation is complete.

Note

The virtual machine will reboot several times during this process.

11. You will see various Windows 8 pictorials during the installation; please be patient. Once the installation is complete, your virtual machine will be immediately directed to the Windows 8 home screen.

How it works...

In this recipe you have downloaded the Windows 8 operating system as an ISO, created a new virtual machine, and installed Window 8 as a virtual machine.

Installing Windows 8 virtual machine using a bootable media (Intermediate)

In VMware Player, one thing that is noticeably missing from the list of boot options is a USB device. The Player's default BIOS does not allow a VM to boot to a USB; however we can get around that limitation by using the PLoP Boot Manager utility. A talented software developer named Elmar Hanlhofer developed the PLoP utility along with other useful Windows Administration Tools. In addition, since the PLoP Boot Manager can be downloaded as an ISO image, there is no need to actually burn PLoP to a CD. Another utility that we will be using is the WinToFlash free licensed application, which was developed to make it simple to install Windows 8 into a bootable USB thumb drive.

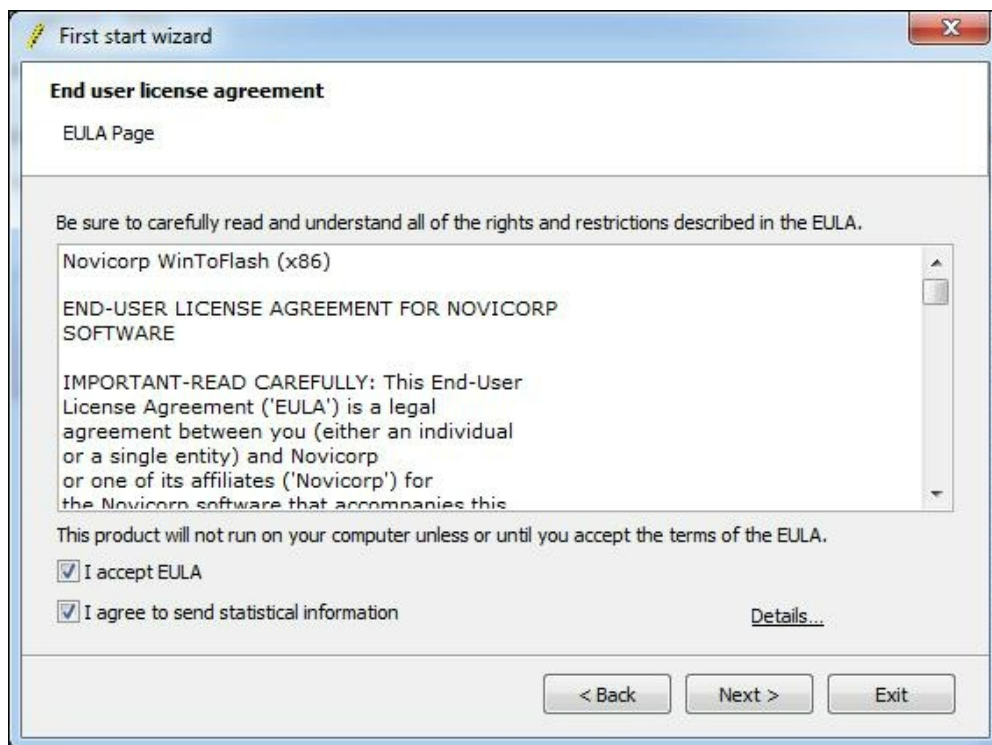
Getting ready

Following are the prerequisites for this recipe:

- Latest version of WinToFlash: <http://wintoflash.com/download/en/>
- PLoP Boot Manager, that is, `plpbt-5.0.14.zip` file (<http://www.plop.at/en/bootmanager/download.html>)
- A USB thumb drive with at least 8 GB of storage
- Windows 8 installation media

How to do it...

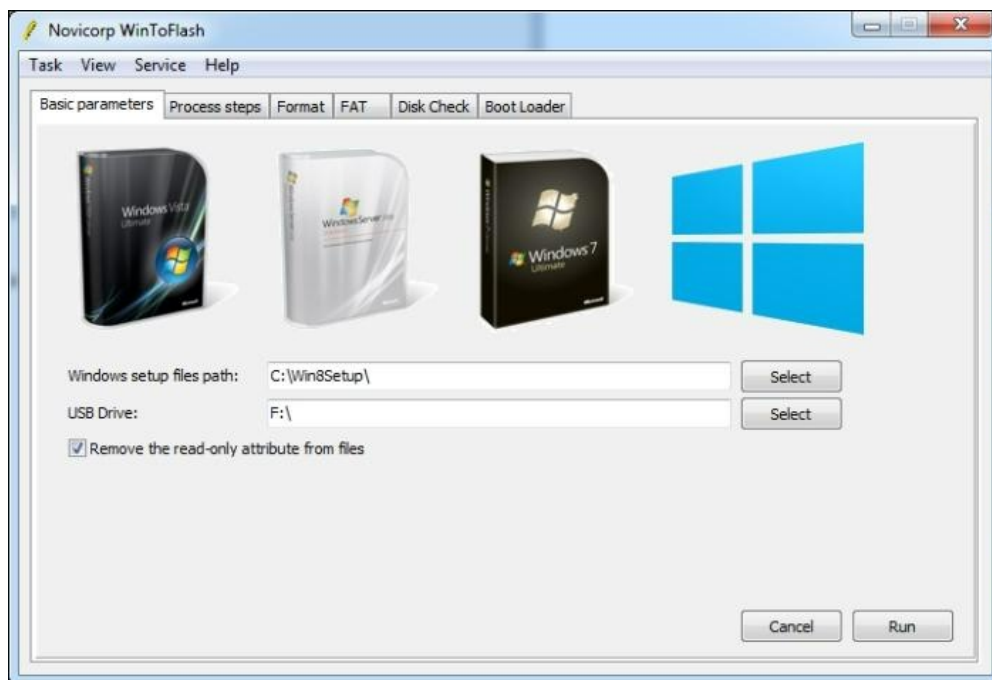
1. Download the latest version of WinToFlash and extract the WinToFlash ZIP file.
2. Launch the `WinToFlash.exe` file. You will be prompted with a **First start wizard** welcome screen. Click on the **Next** button to continue. In **End user license agreement**, select the **I accept EULA** checkbox and then click on the **Next** button to accept the agreement.



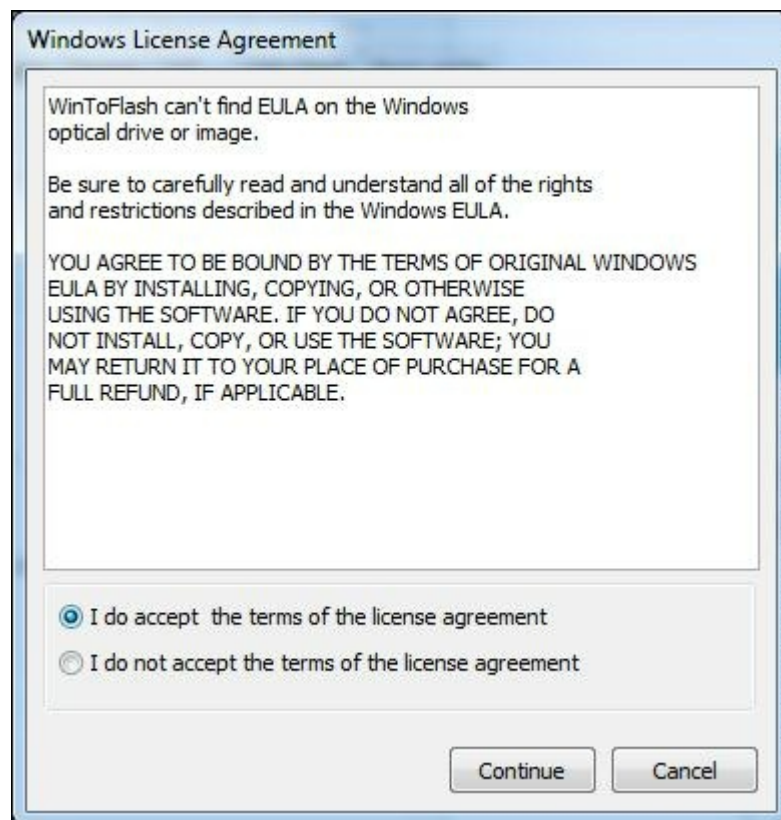
3. Click on **Exit** when prompted for the license key.
4. Insert your USB thumb drive into the host computer, click on the Windows Setup Transfer Wizard icon, and then click on **Next** to continue. Enter the Windows file path of the Windows 8 installation files and select the drive of your USB thumb drive and then click on the **Run** button.

Note

Make sure that you do not choose your main Windows partition drive by mistake.



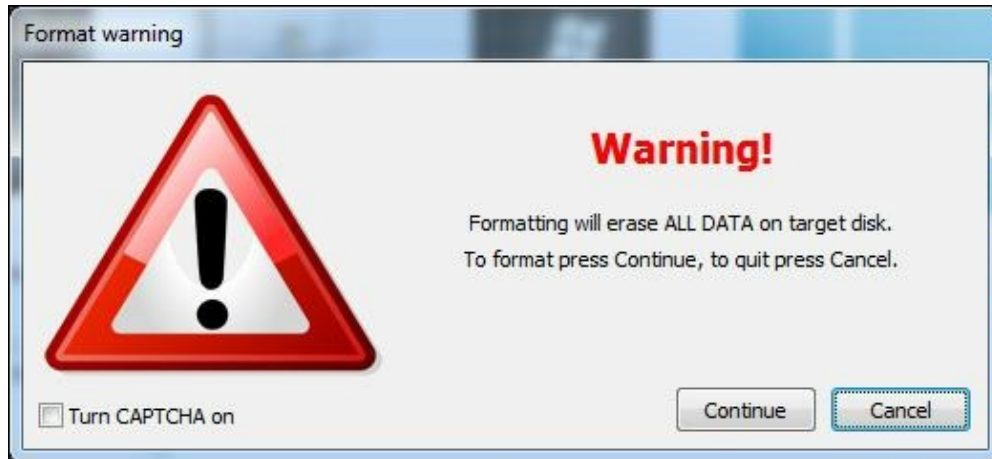
5. Select the **I do accept the terms of the license agreement** radio button and then click on **Continue**.



6. Acknowledge the warning that all of the content on your USB thumb drive will be completely erased on formatting and then click on the **Continue** button.

Note

Make sure that you have everything previously stored on the USB thumb drive backed up and saved.



7. Wait for 10 to 15 minutes until the process is complete.
8. Once the **Transferring Windows setup to USB drive** is complete, click on **OK**. Now close the WinToFlash application.
9. Open the VMware Player application and click on **Create a New Virtual Machine**.



10. In the **New Virtual Machine Wizard**, select the **I will install the operating system later** radio button and then click on the **Next** button.



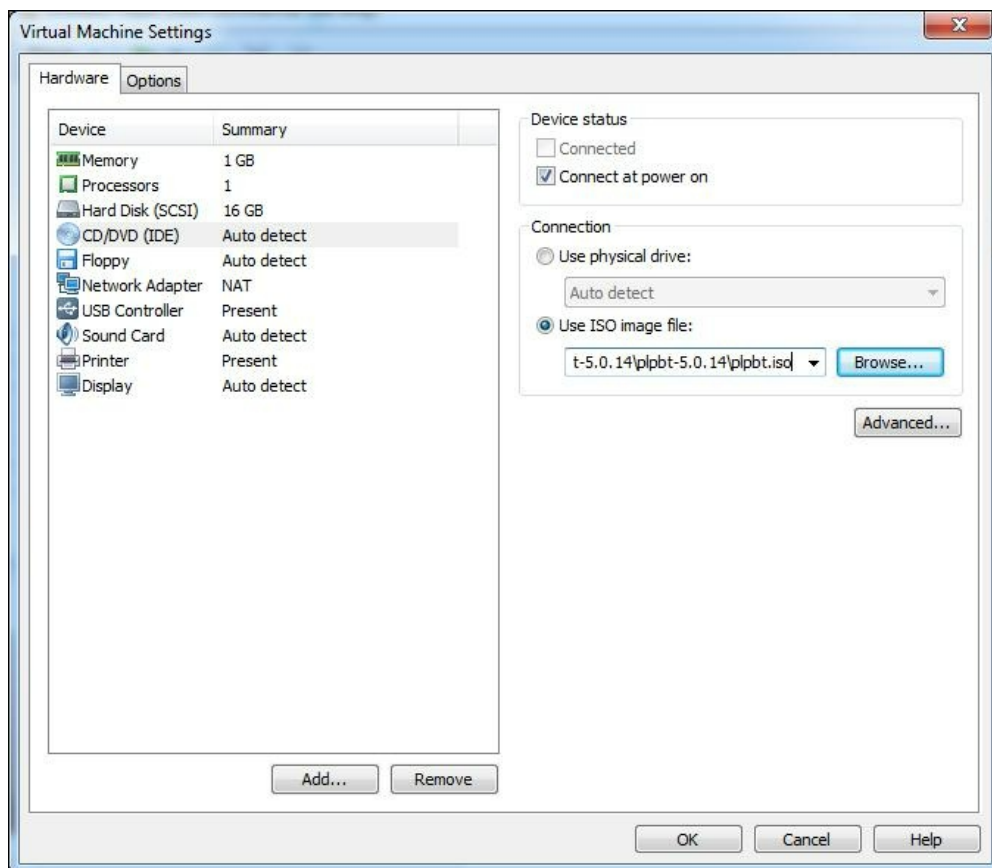
11. Select **Microsoft Windows** as a **Guest operating system** and the **Version** as **Windows 8**. Then click on the **Next** button, where you will then be directed to a new pop-up window, and here again click on **Next**.



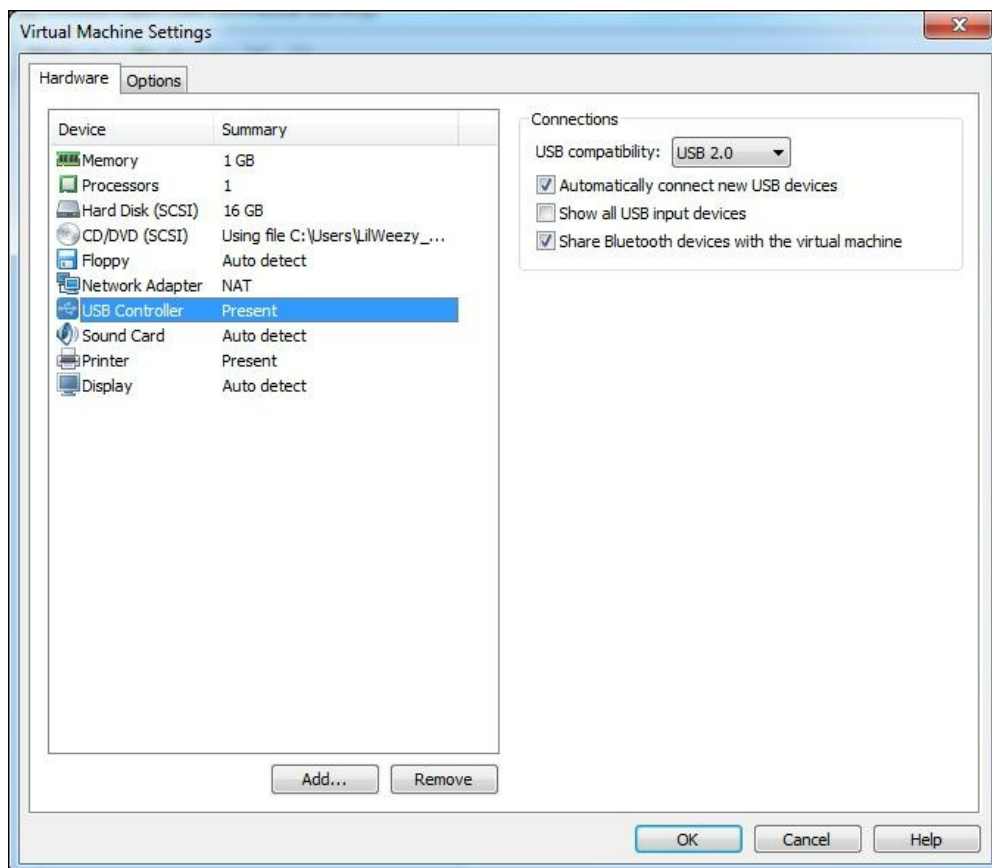
12. Verify that **Maximum disk size (GB)** is set to 60.0 and select the **Store virtual disk as a single file** option. Now click on **Next** and then the **Finish** button.



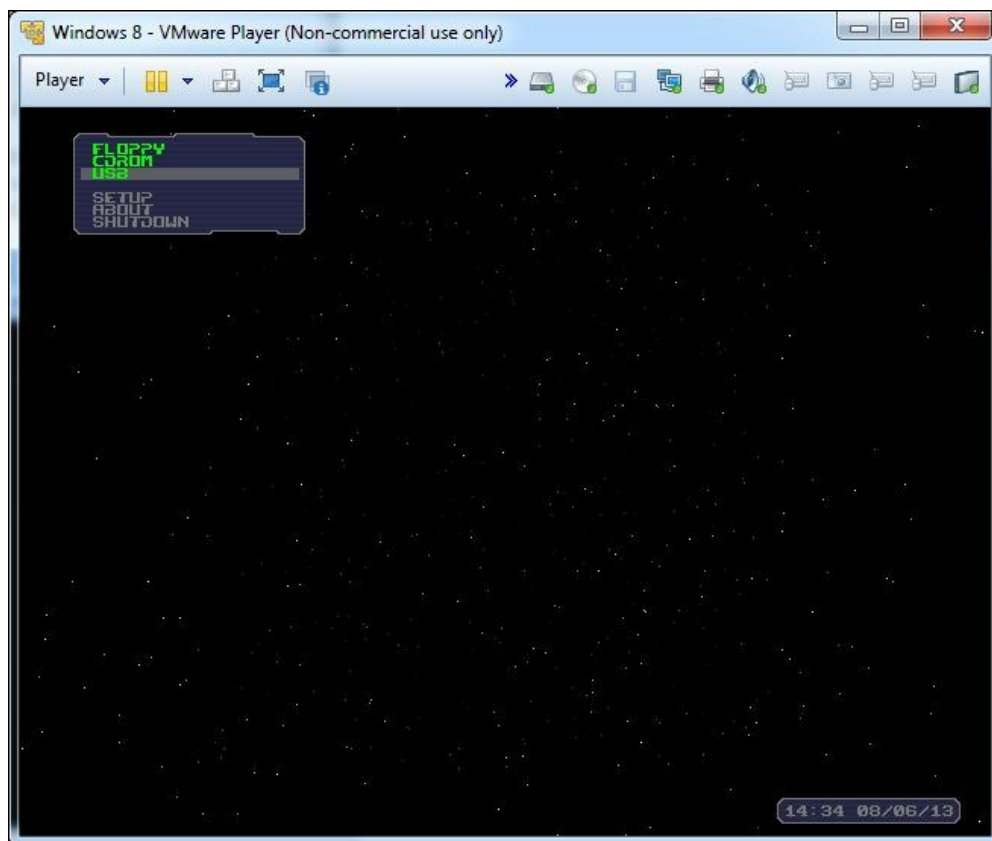
13. Click on the **Next** button and then click on the **Customize Hardware...** button. Verify that **Memory** is set to the **Recommended memory** amount (green) and then click on **Close**.
14. Extract the [plpbt-5.0.14](#) ZIP file downloaded from the PLoP website. Select the **CD/DVD** drive in the left window pane. Choose the **Use ISO image file:** radio button, and then click on the **Browse...** button. Find the [plpbt.iso](#) file from the location where you extracted the [plpbt-5.0.14](#) ZIP file. Ensure that **Connect at power on** is checked, and then click on the **OK** button to continue.



15. Choose the **USB Controller** menu icon in the left window pane. Ensure that the **USB compatibility** is set to **USB 2.0** and also that the **Automatically connect new USB devices** checkbox is selected.



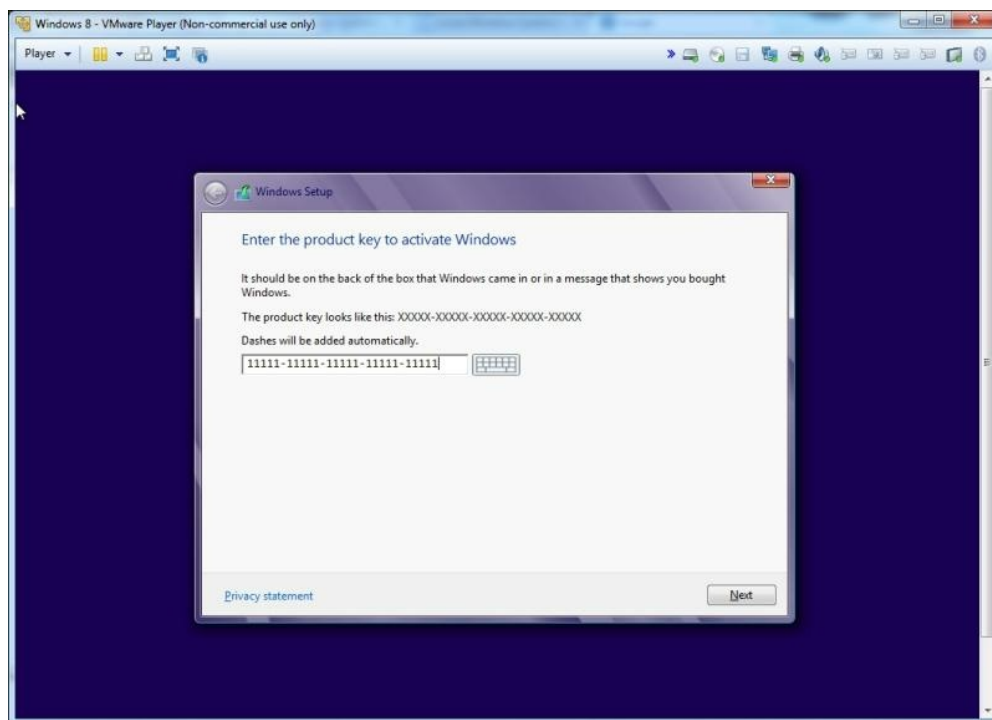
16. Power up the Windows 8 virtual machine by clicking on **Play virtual machine**. PLoP will load, allowing you to boot from a USB drive.
17. Ensure that the USB drive is still connected in the VMware console and select the USB menu item.



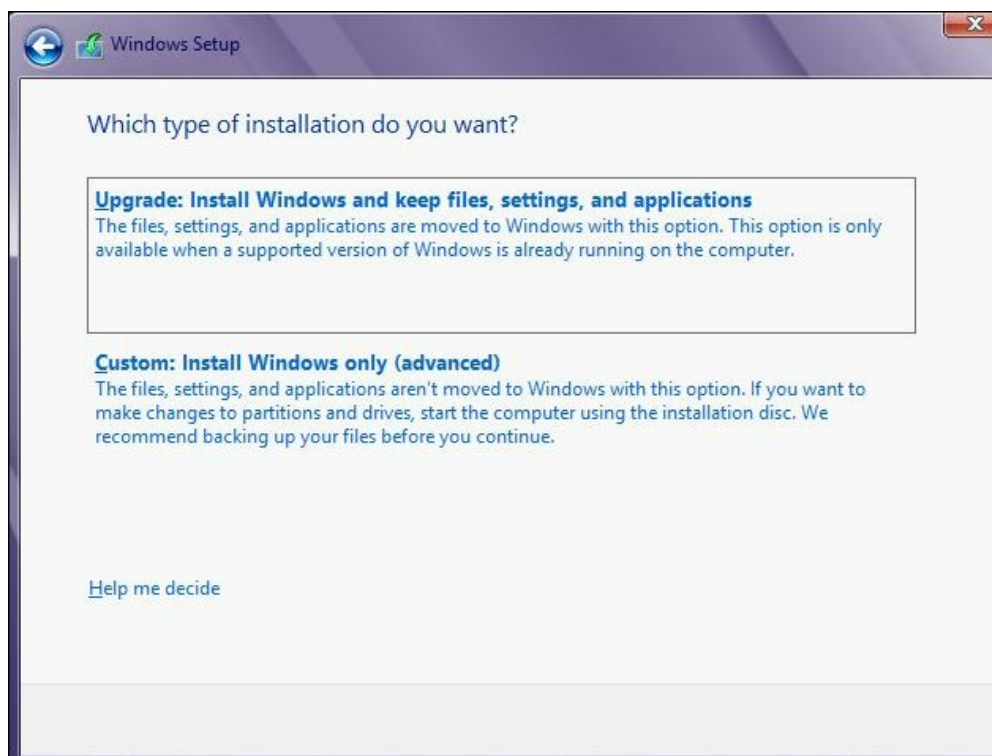
Note

The virtual machine will reboot several times. This process should take 10 to 15 minutes to complete.

18. Click on the **Next** button to continue. Now click on the **Install Now** button, enter your 25-digit Windows 8 product key, and then click on the **Next** button.

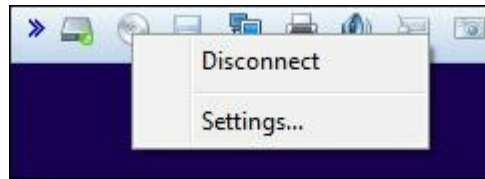


19. Review the license terms, check **I accept the license terms**, and click on the **Next** button. Now choose the **Custom: Install Windows only (advanced)** option.



20. Before we start the Windows 8 installation, we will have to remove the PLoP application from the VM boot process. Right-click on the CD-

ROM icon in the upper-right panel of the VMware player console and click on **Settings**.



21. Select the **Use physical drive** radio button and click on the **OK** button. Ignore any errors that you receive and click on **Next**.
22. Click on the **Next** button and be patient as the Windows 8 installation process begins. Enter a PC name and pick a color scheme. Then click on the **Next** button. Under **Settings**, choose **Use express settings**. For our purposes, we will choose not to use the Microsoft email account; click on **Sign in without a Microsoft account**.
23. You will be prompted again with two options. Click on the **Local Account** button near the bottom-right corner. Type in a user name, password, and a password hint. Then wait as your settings are finalized and configured.

How it works...

In this recipe, you installed Windows 8 via USB by using the PLoP Boot Manager and WinToFlash utilities.

Installing Windows 8 virtual machine using a VHD (Advanced)

In this recipe, you will learn how to create a **Virtual Hard Disk (VHD)**, which can be used in both a physical and virtual environment. The ability to boot from a **VHD** is not a feature widely used in VMware player; however it offers several key advantages. For example, one of the main features offered by Windows 8 is the feature of booting from a VHD instead of the **New Technology File System (NTFS)** on a physical hard disk. Therefore, you can make changes to a VHD using VMware Player and then use that same file to boot up to Windows 8 on the main partition for a separate physical host system. Having said that, the topic of installing Windows 8 using a VHD in VMware Player is an alternative task, geared more toward advanced users. It involves using multiple tools provided by Microsoft to copy the **Windows Image Management (WIM)** file onto a VHD. In order to perform this recipe you should be comfortable with command-line arguments.

Getting ready

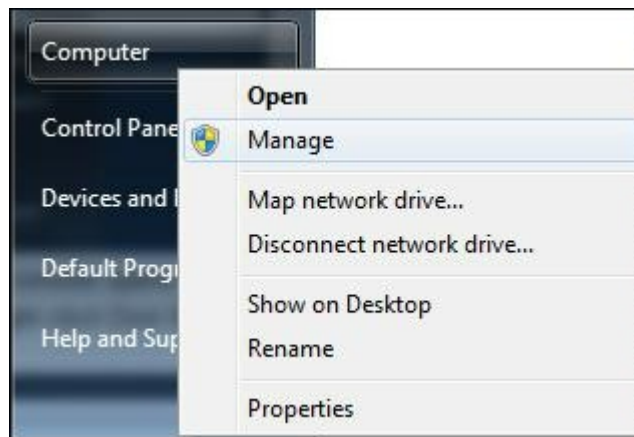
You will need the following before starting this recipe:

- Download [imagex.exe](http://www.microsoft.com/en-us/download/details.aspx?id=5753) from the Microsoft website:
- A host computer running Windows 7 or Windows Server 2008 R2 is needed. The user will need to have administrative access to this machine.
- Windows 8 installation files in ISO format.

How to do it...

The steps below will explain the process of creating and mounting a VHD, so that it can be used to install Windows 8 and then subsequently run from the VMware Player console:

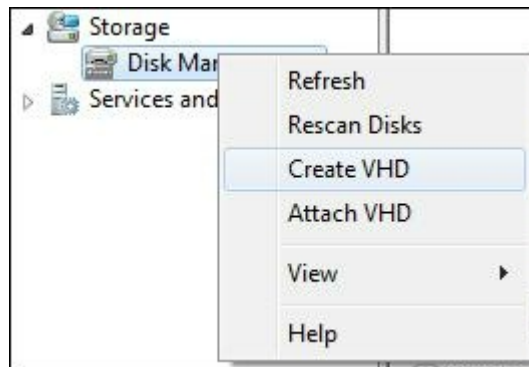
1. Log on to a Windows 7 machine. Click on the Start menu bar icon, right-click on the **Computer** menu item, and then select **Manage**.



2. Once the Computer Management console is open, click on the **Disk Management** node under **Storage** on the left pane and wait for the list of drives to refresh. Once the list of drives appears in the middle pane, right-click on **Disk Management** and select **Create VHD**.

Note

If the **Create VHD** option is grayed out, wait for 30 seconds and try again.



3. The **Create and Attach Virtual Hard Disk** wizard appears. Name the VHD file as `Windows 8` and then specify the directory location. Type `16` as the VHD size in GB and set the VHD format to **Dynamically expanding**.

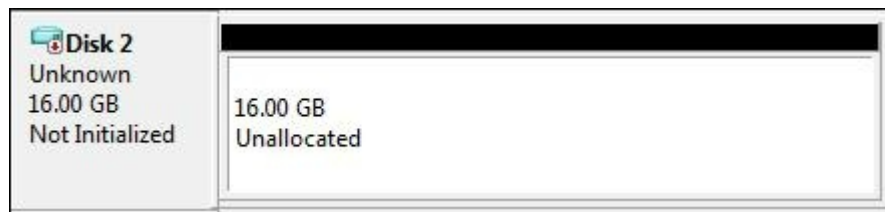
Note

You can specify the size and type that meets your needs, but keep in mind that the size of the partition you set is important as you will need that much actual free disk space in order to boot to the VHD.

Also the type determines how much disk space will always be in use. Try to keep the size of your VHD to a minimum.



4. Click on the **OK** button, the new VHD file is created and automatically mounted in the Disk Management console. Make a note of the disk number. Then right-click on the VHD disk, select **Initialize** to initialize the disk as MBR, and click on the **OK** button.



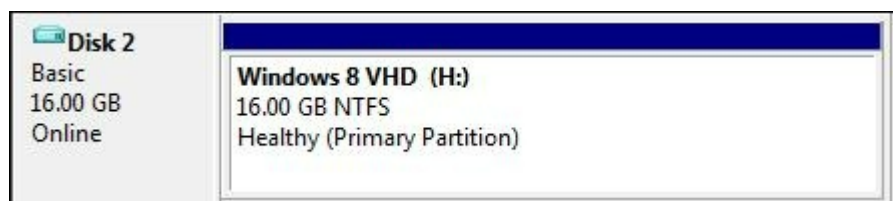
5. Right-click on the black unallocated space area and select **New Simple Volume**. The **Welcome to the New Simple Volume Wizard** screen should appear. Click on the **Next** button and then click on **Next** again when the **Specify Volume Size** option appears.



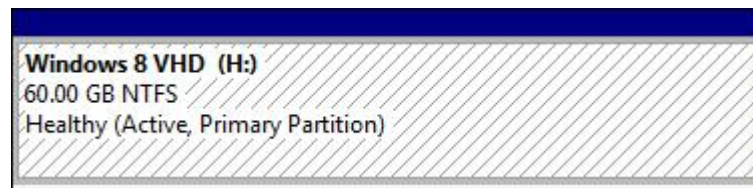
6. The **Assign Drive Letter or Path** option appears. Assign the drive letter to **H** and then click on the **Next** button.
7. The **Format Partition** option appears. Type **Windows 8 VHD** in the **Volume Label** text field and then click on the **Next** button. The **Completing the New Simple Volume Wizard** summary appears. Now click on the **Finish** button.

Note

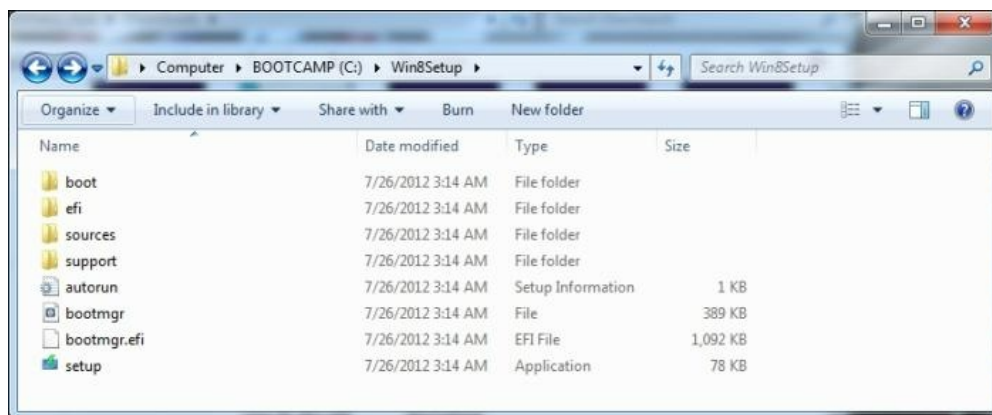
The VHD is now available for usage and is revealed by the **Online** and **Healthy (Primary Partition)** subheadings.



8. Right-click on the **Windows 8 VHD** partition and select **Mark Partition as Active**. The partition will change its status to **Active Primary Partition**.



9. Create a folder named `Win8Setup` in the `C:` location. Extract the Windows 8 Setup ISO to `C:\Win8Setup`. See the following screenshot. Now install the Windows AIK utility from the Microsoft website. Copy the `imagex.exe` file from the `C:\Program Files\Windows AIK\Tools\x86` directory to the `C:` location.



10. Click on the **Start** menu bar icon. In the search field, type `cmd`, and press *Enter*. This will open a command prompt. Now type `cd C:\` and then press the *Enter* key. This navigates to the `C:` location.



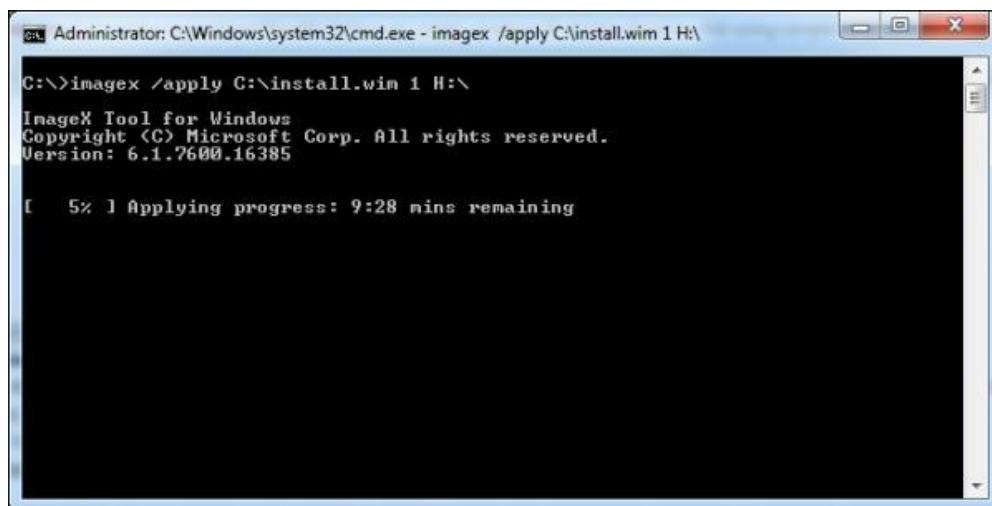
11. In the command prompt, type the following command (make sure you include the spaces):

```
imagex /apply  
C:\Win8Setup\sources\install.wim 1 H:\
```

12. We are basically installing Windows 8 from the `install.wim` file, located in the `sources` directory of the source files, and selecting the first OS instance in the WIM file and installing it to `H:` (the VHD file).

Note

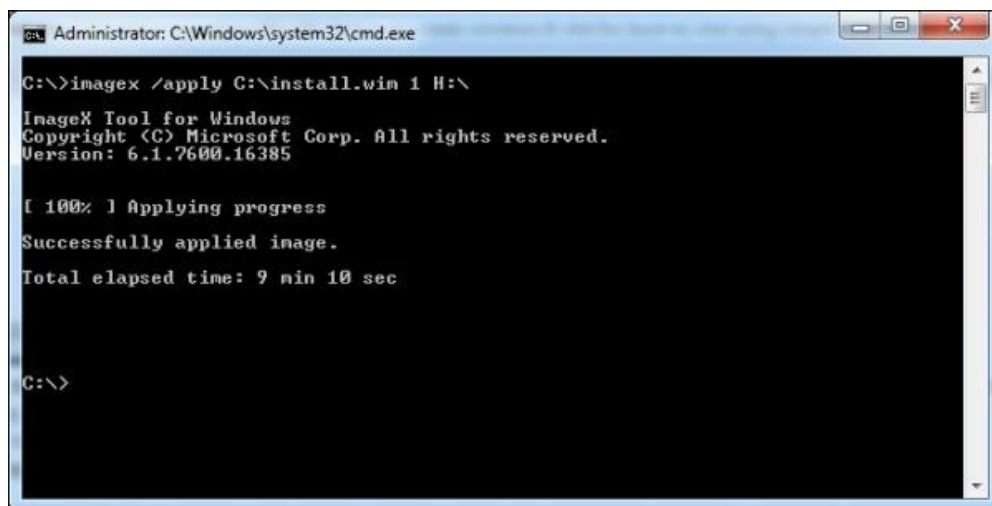
Be patient as this process will take some time to apply.



```
Administrator: C:\Windows\system32\cmd.exe - imagex /apply C:\install.wim 1 H:\
C:\>imagex /apply C:\install.wim 1 H:\
ImageX Tool for Windows
Copyright (C) Microsoft Corp. All rights reserved.
Version: 6.1.7600.16385

[ 5% ] Applying progress: 9:28 mins remaining
```

13. When the process is complete, the **Successfully applied image** message appears. Now with the Windows 8 VHD still mounted to your system, you will prepare the Windows 8 VHD to be used by the VMware Player console.

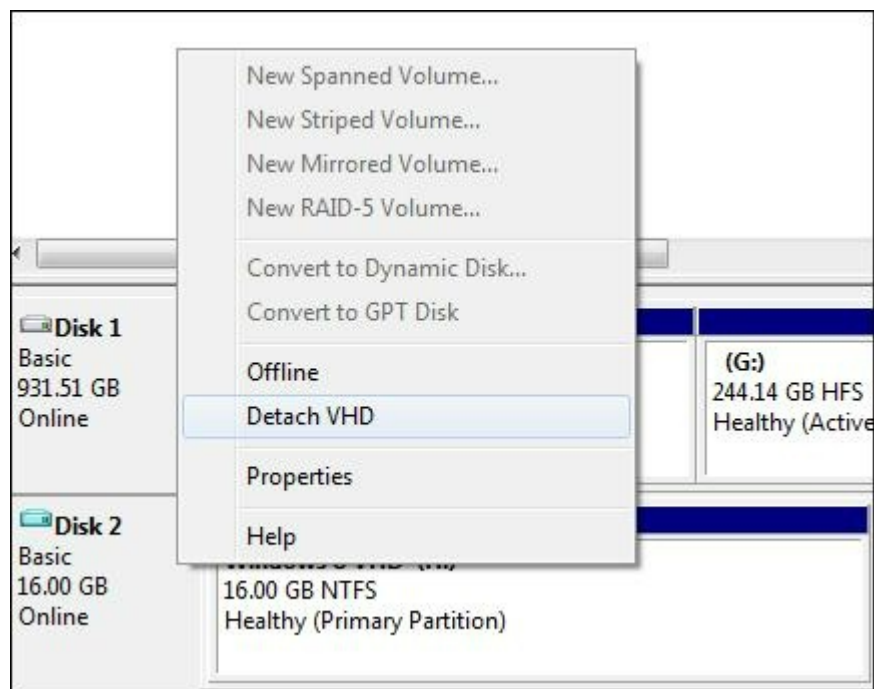


```
Administrator: C:\Windows\system32\cmd.exe
C:\>imagex /apply C:\install.wim 1 H:\
ImageX Tool for Windows
Copyright (C) Microsoft Corp. All rights reserved.
Version: 6.1.7600.16385

[ 100% ] Applying progress
Successfully applied image.
Total elapsed time: 9 min 10 sec

C:\>
```

14. Dismount and then remount the VHD, by going back to **Disk Management**, right-clicking on **Disk 2**, and selecting **Detach VHD**. Click on **OK** when a warning message is prompted.



15. Remount the VHD by right-clicking on **Disk Management** and selecting **Attach VHD**. Browse to the Windows 8 VHD and click on **Open**. Now click on **OK** to attach the VHD.

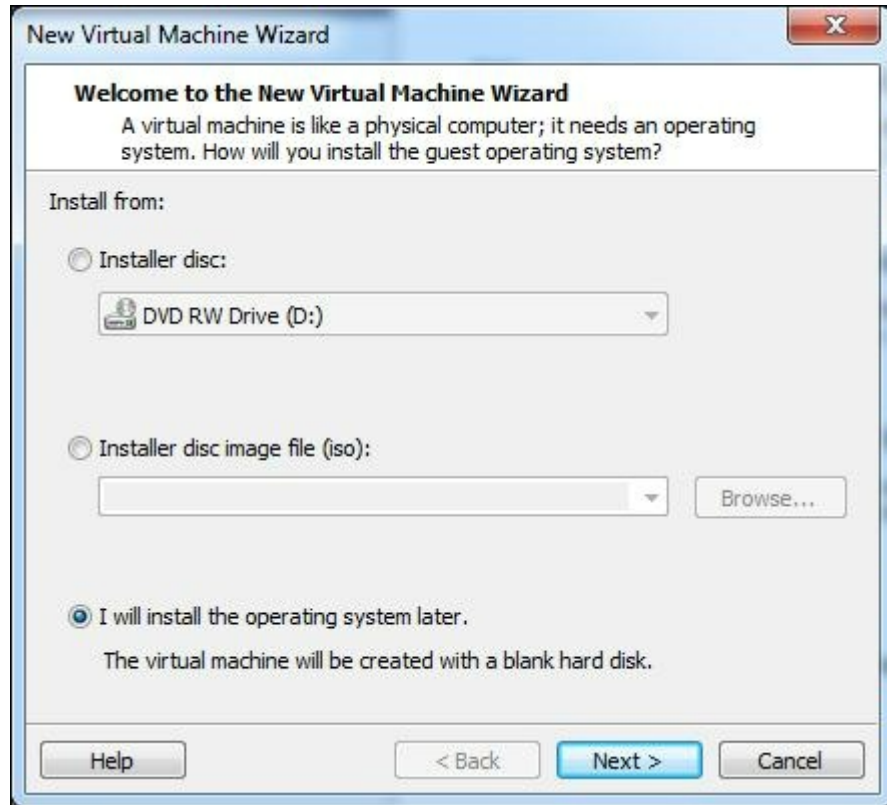


Note

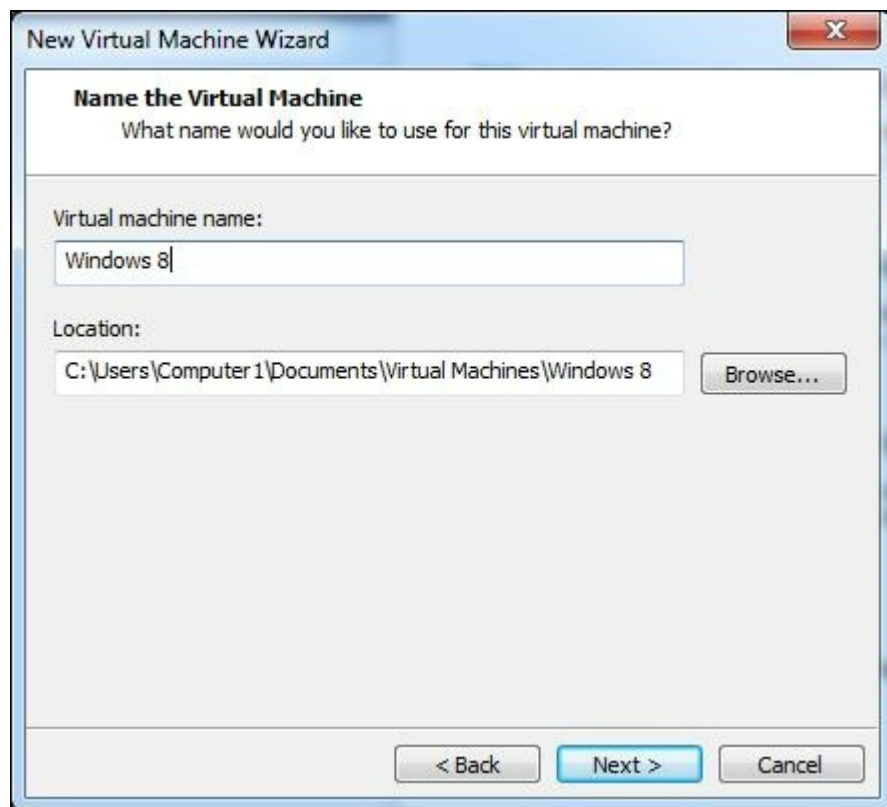
Note that the assigned disk number is created, based on the amount of internal and external hard drives that you have attached to your machine. The drive assignment process assigns numerical identifiers to logical drives or partitions for the root file system to manage.

16. Open the VMware Player application and click on **Create a New Virtual Machine**. In **New Virtual Machine Wizard**, click on the **I will**

install the operating system later radio button. Then click on the **Next** button.



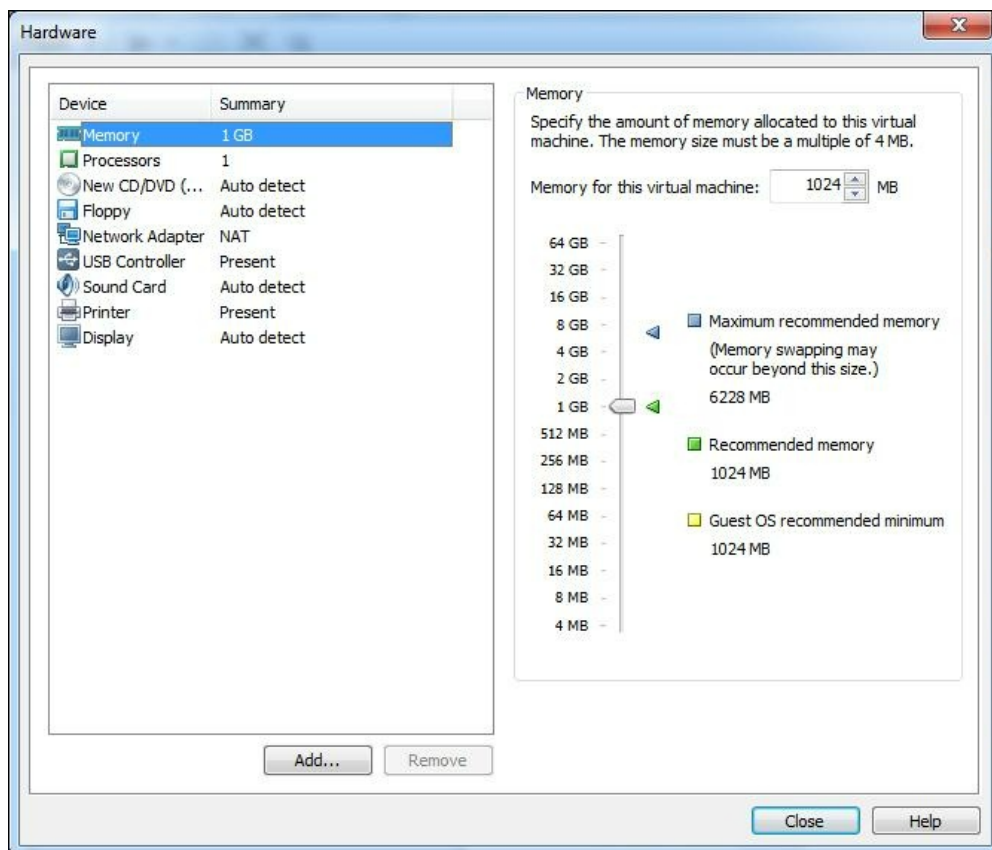
17. Select Microsoft Windows as **Guest operating system** and the **Version** as **Windows 8**. Then click on the **Next** button and type in **Windows 8** as the **Virtual machine name:** and then click on the **Next** button again.



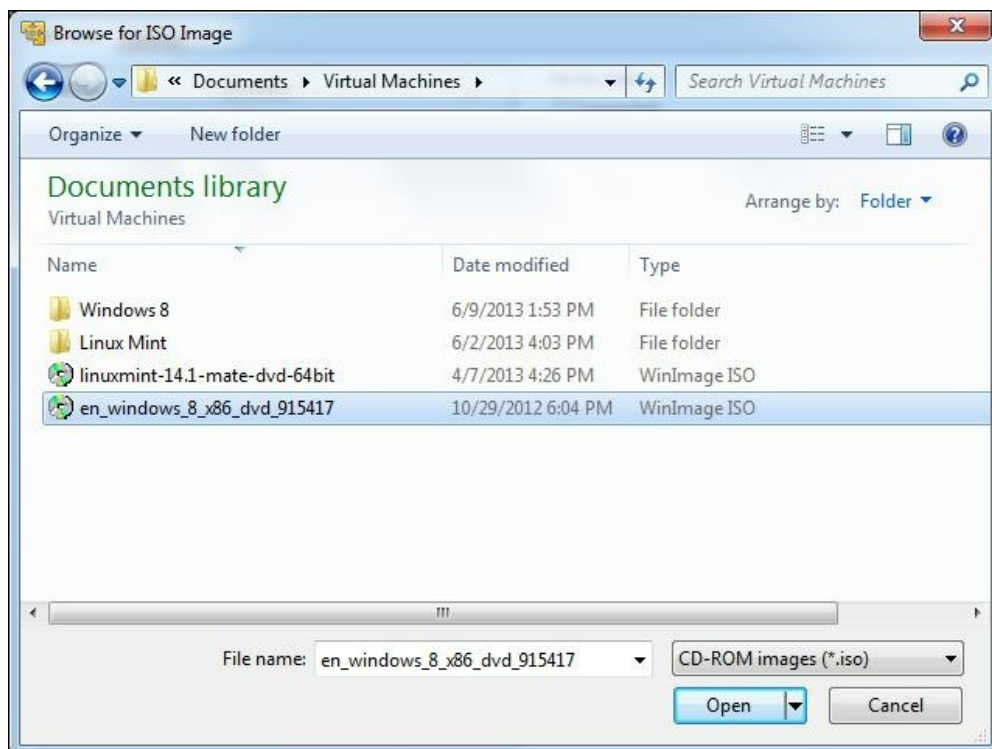
18. Verify that **Maximum disk size (GB):** is set to 60.0 and select the **Store virtual disk as a single file** option. Then click on the **Next** and **Finish** button.



19. Now click on the **Customize Hardware** button and verify that **Memory** is set to the **Recommended memory** amount (green). Then click on the **Close** button.



20. Click on the **Finish** button. Next, you will set up the VHD's boot configuration. While at the Player home screen, click on **Edit virtual machine settings**.
21. Select **CD/DVD** drive in the left window pane. Select the **Use ISO image file:** radio button, and then click on the **Browse...** button. Browse to the location of the Windows 8 installation ISO image and click on the **Open** button.



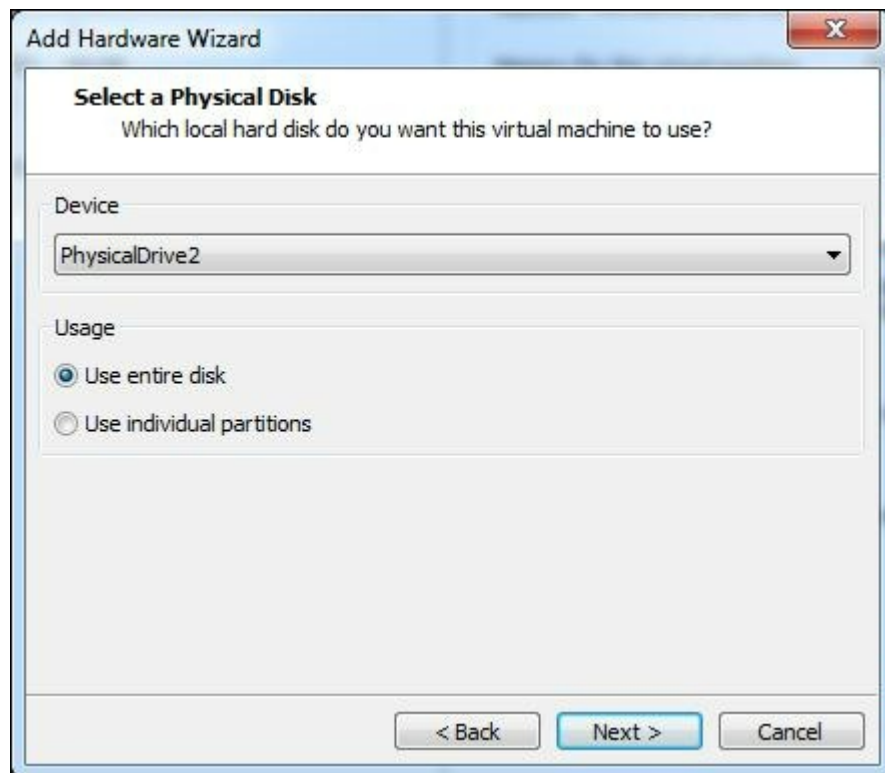
22. Now you are going to add the new Windows 8 VHD that you created previously. Click on the **Add** button under the **Hardware** tab. Then select **Hard Disk** and click on **Next**. Select the radio button **Use a physical disk** and again click on the **Next** button.



23. Under **Select a Physical Disk**, choose **Device** that matches the device number of the VHD that you mounted earlier. Set **Usage** to **Use entire disk**. Under **Specify Disk File**, make sure that a VMDK file name is specified and then click on the **Finish** button.

Note

Your device number could be different than the one mentioned in this illustration, based on the amount of peripherals attached to your system.



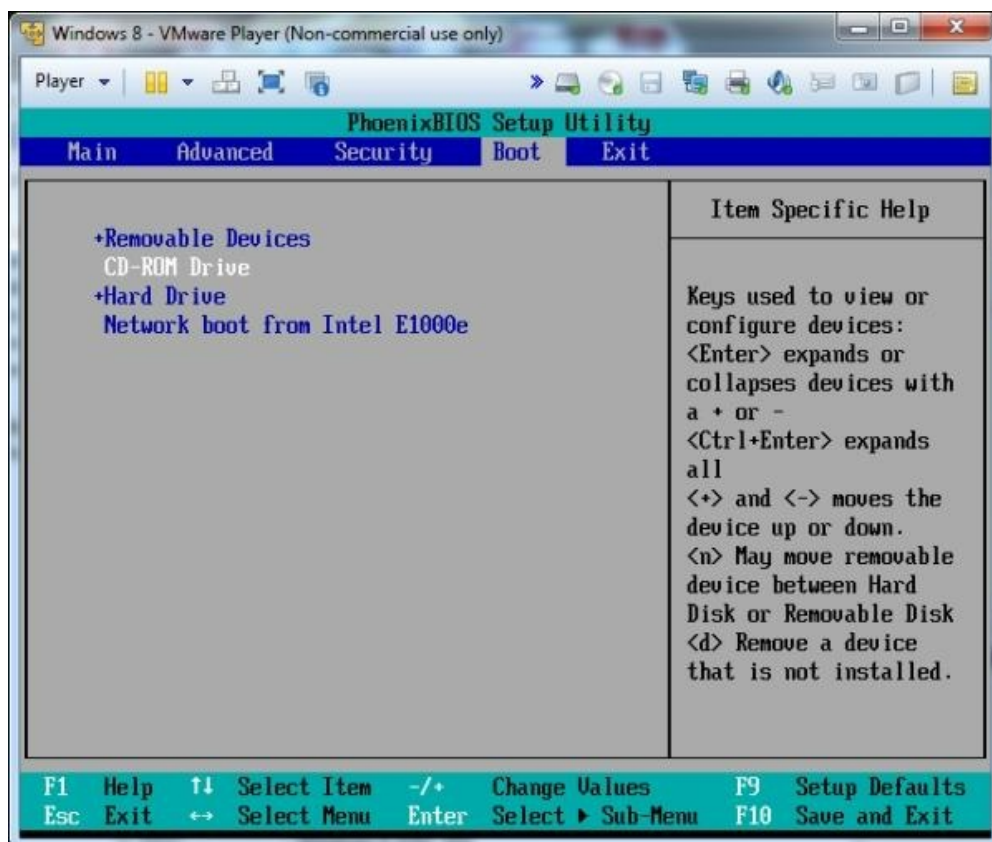
24. Remove the previous 60 GB VM Player hard drive by highlighting it and clicking on the **Remove** button. Click on **OK** to close the **Virtual Machine Settings** window. Start the Windows 8 virtual machine by clicking on the **Play virtual machine** button.

Note

If you see a Windows Boot Manager error message, make sure that the BIOS has the priority for CD-ROM boot up before the hard drive.



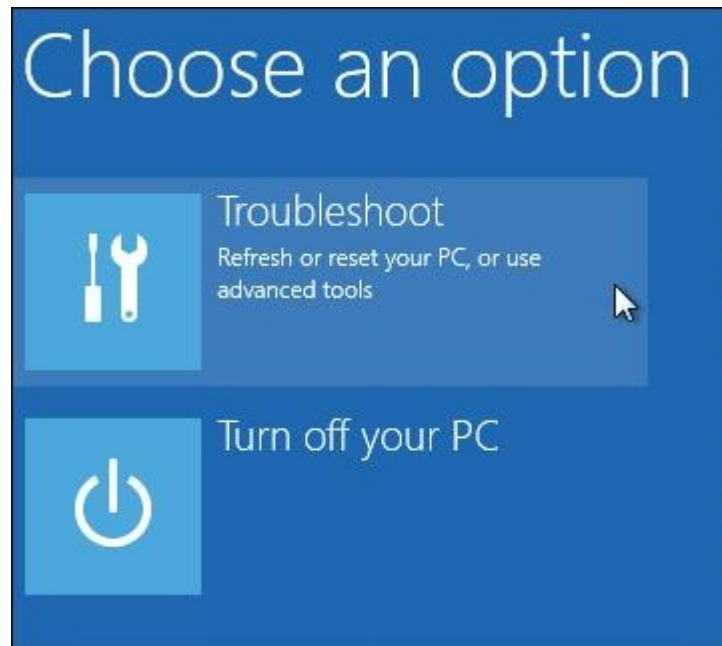
25. Change this BIOS setting by pressing the *F2* key while the VMware Player is starting up. Navigate to the **Boot** tab to make the changes and then select **Save and Exit**.



Note

If you receive a prompt message saying **You are using a SCSI physical disk. SCSI physical disk dual-boot performance is poor**, select the checkbox **Do not show this hint again** and click on the **OK** button to continue.

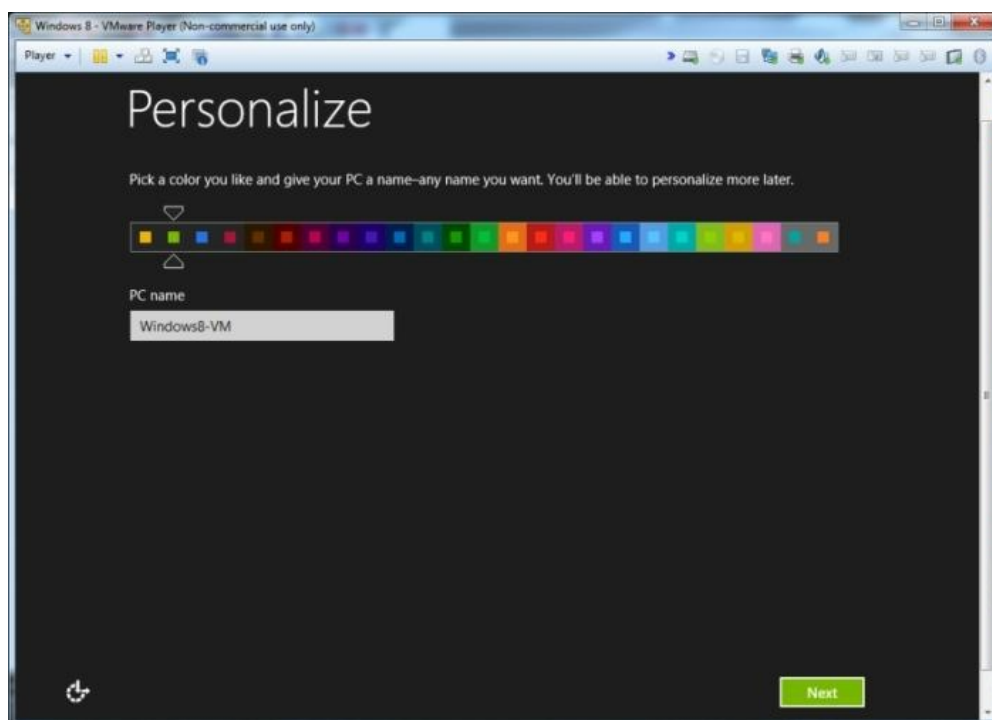
26. The Windows setup window will appear. Click on the **Next** button.
27. Choose the **Repair your computer** option in the bottom-left corner of the screen. Then click on the **Troubleshoot** option when prompted.



28. Under **Troubleshoot** choose **Advanced options** and then under **Advanced options**, choose **Automatic Repair**. This will help you set up the Windows boot configuration for our new VHD.
29. Allow the Windows repair to complete. The virtual machine will reboot automatically and Windows 8 will now boot up as normal.



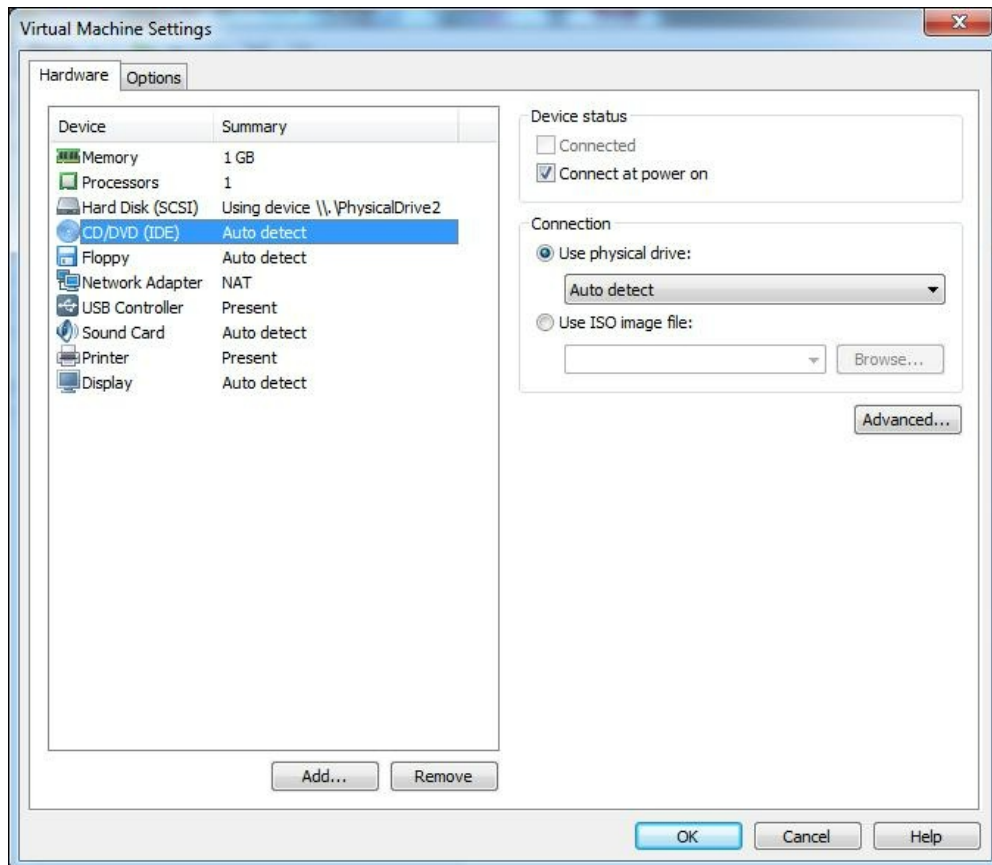
30. Enter the product key when prompted and click on the **Next** button. Then enter **PC name** and pick a color scheme and again click on **Next**.



31. Under Settings, click on the **Use express settings** button and continue through the Windows installation process. Then wait as your settings are finalized and configured. Once the installation is complete, your virtual machine will be immediately directed to the Windows 8 home screen.



32. The last step is to remove the Windows 8 setup ISO file from the virtual machine. First, shut down the virtual machine and select **Edit virtual machine settings**. Under **CD/DVD**, choose the **Use physical drive** radio button and click on the **OK** button to save the changes.



How it works...

In this recipe, you performed the following:

- Created a VHD file and formatted it
- Used imagex to apply Windows 8 to a VHD
- Used the Windows 8 ISO image to repair the boot configuration data on the VHD
- Used the Windows 8 VHD as a physical drive for VMware Player

Running Windows 8 virtual machine (Simple)

The previous recipes have discussed how to install Windows 8 in VMware, and now we are going to cover how to get Windows 8 running inside VMware Player. As you may have guessed, when running the Windows 8 operating system on a virtual device, you still have to purchase and provide Microsoft with a valid license key to fully activate your system before the usual 30 day trial period expires.

Getting ready

You will need the Windows 8 product key before starting this recipe.

How to do it...

Let's go ahead and enter the serial key to activate the full version of Windows 8:

1. In the bottom-left corner, click on the tile that says **Desktop**, this will bring you to the Windows 8 Desktop.

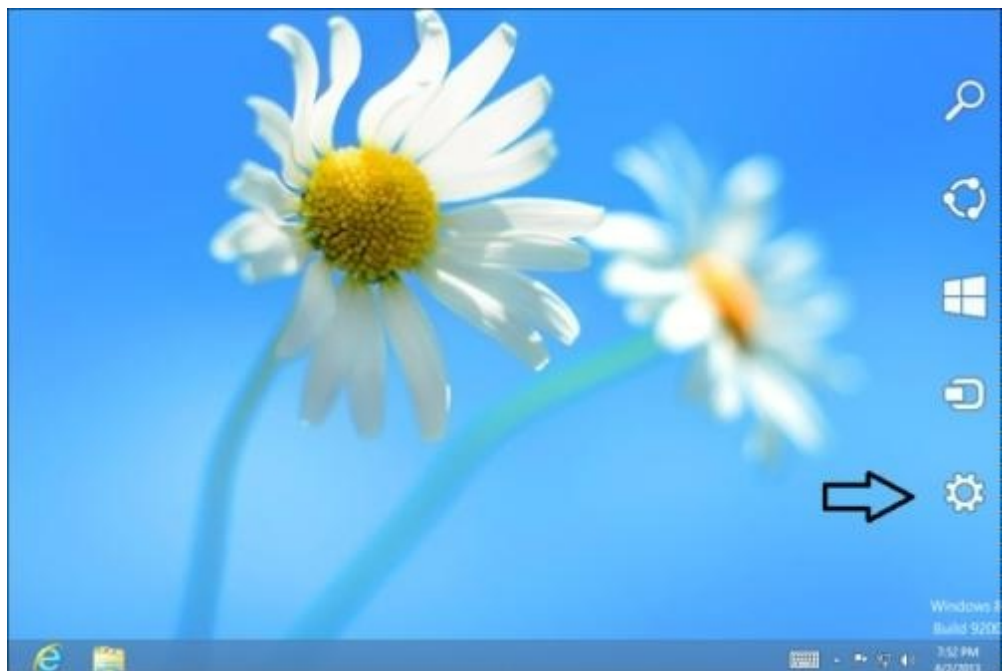
Note

You will notice that at the bottom-right corner, it says Windows 8 Build #, where # is the four-digit build number. This means that your version of Windows is still a trial version.

2. To activate your copy of Windows 8, drag your mouse to the bottom-right corner of the Windows toolbar. You will see five menu items appear.



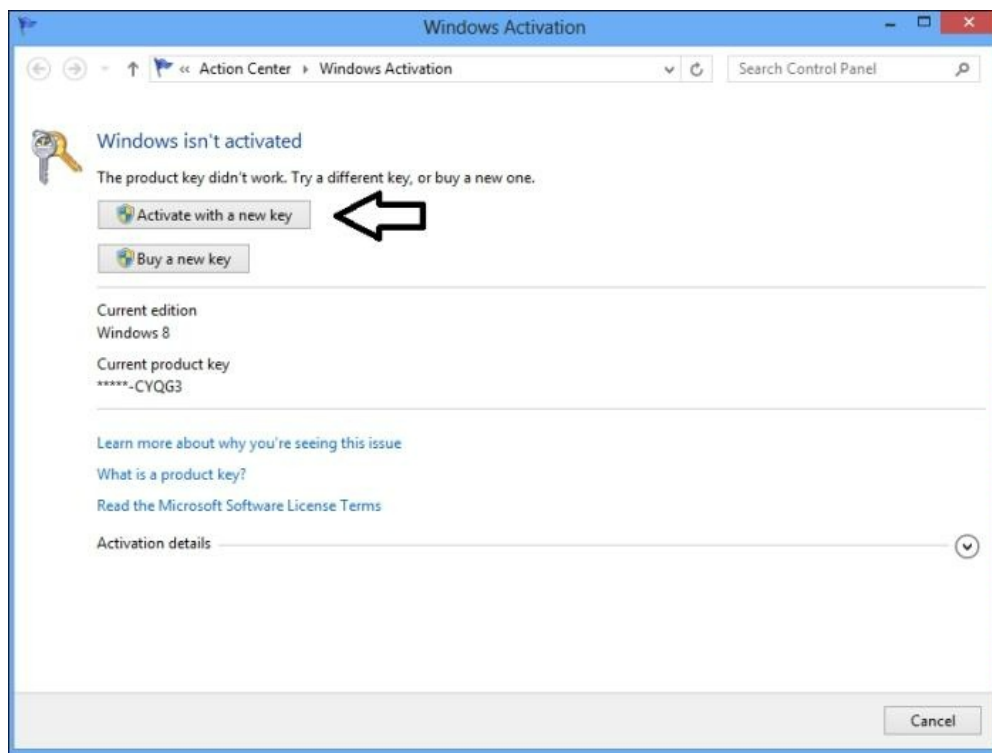
3. Click on the **Settings** icon, the icon nearest to the bottom-right of the screen.



4. Now click on **PC info**.



5. The system information window will appear. Under **Windows activation**, click on the **View details in Windows Activation** link.



6. Enter your product key and make sure that you are able to connect to the Internet.

Note

Now we come to the part where we talk about the installation of VMware tools.

7. Navigate to **Player | Manage | Install VMware tools**.



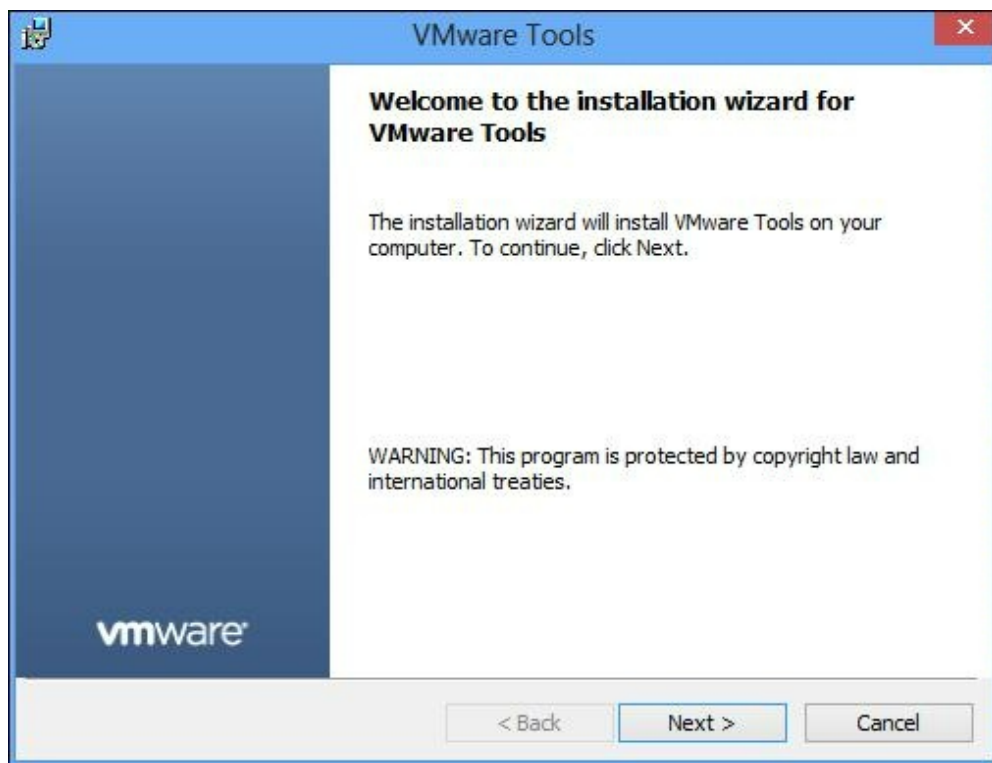
8. Double-click on the File Explorer shortcut in the toolbar.



9. Click on **Computer** and then under **Devices with Removable Storage**, double-click on the **VMware Tools** icon.



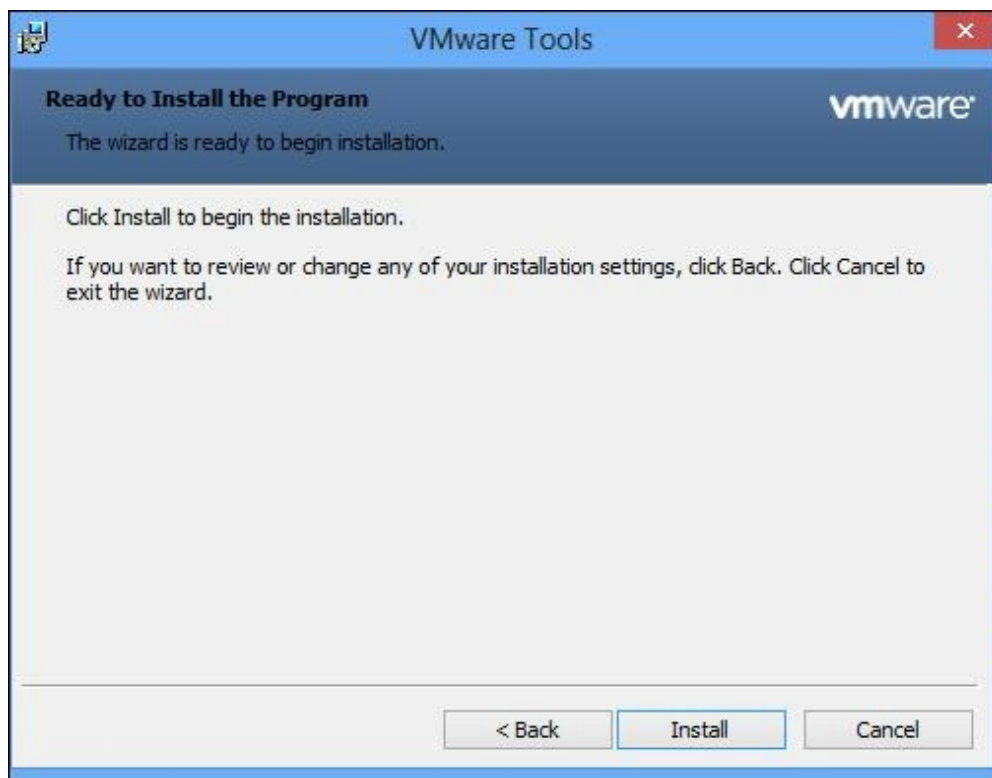
10. The VMware Tools installation wizard will appear. Now click on the **Next** button.



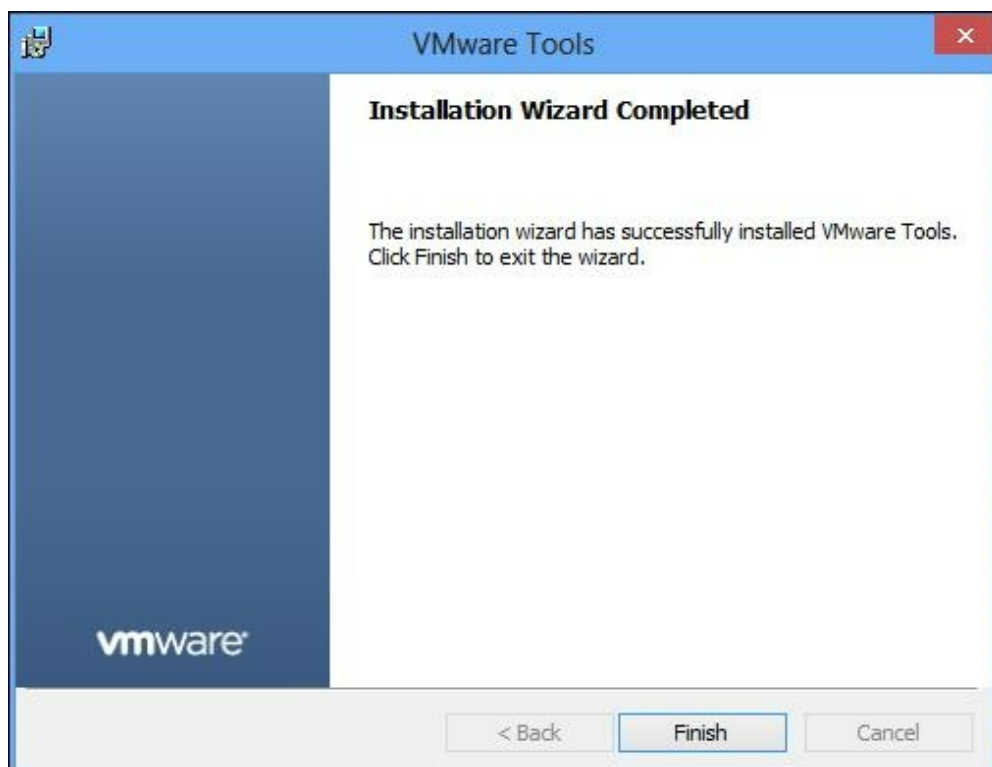
11. Again click on the **Next** button.



12. Now click on **Install**.



13. Click on the **Finish** button once the installation is complete.



14. Click on **Yes** to reboot the virtual machine.



How it works...

In this recipe, you have activated Windows 8 and installed the VMware Tools application on the guest operating system.

Removing a virtual machine (Simple)

The first time that you create or open a virtual machine in Player, the name of the machine is added to the virtual machine library. There are two options when it comes to removing a virtual machine from the library. You can either permanently delete the actual virtual machine files from the host file system or you can choose to only temporarily remove it from being visible in the library.

Getting ready

You will need to power off the virtual machine before we begin.

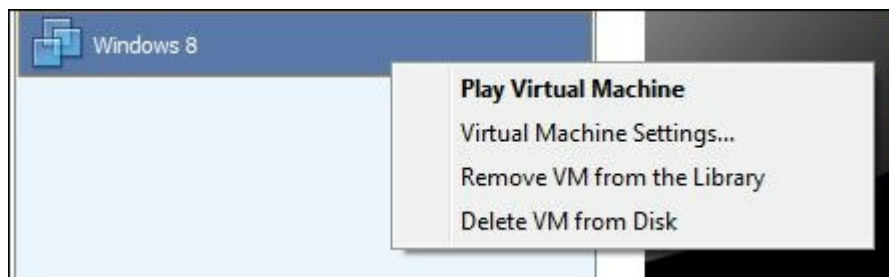
How to do it...

Let's first walk through the steps needed to simply remove a virtual machine from the VMware console:

Note

We have been adding a virtual machine to the local PC environment. However, please consult with your company's Network Administration Team for the steps to delete a virtual machine in an SAN environment.

1. Open the VMware console and right-click on the name of the virtual machine that you would like to delete.



2. You will be presented with two options for deleting the virtual machine:
 - Remove VM from the Library
 - Delete VM from Disk

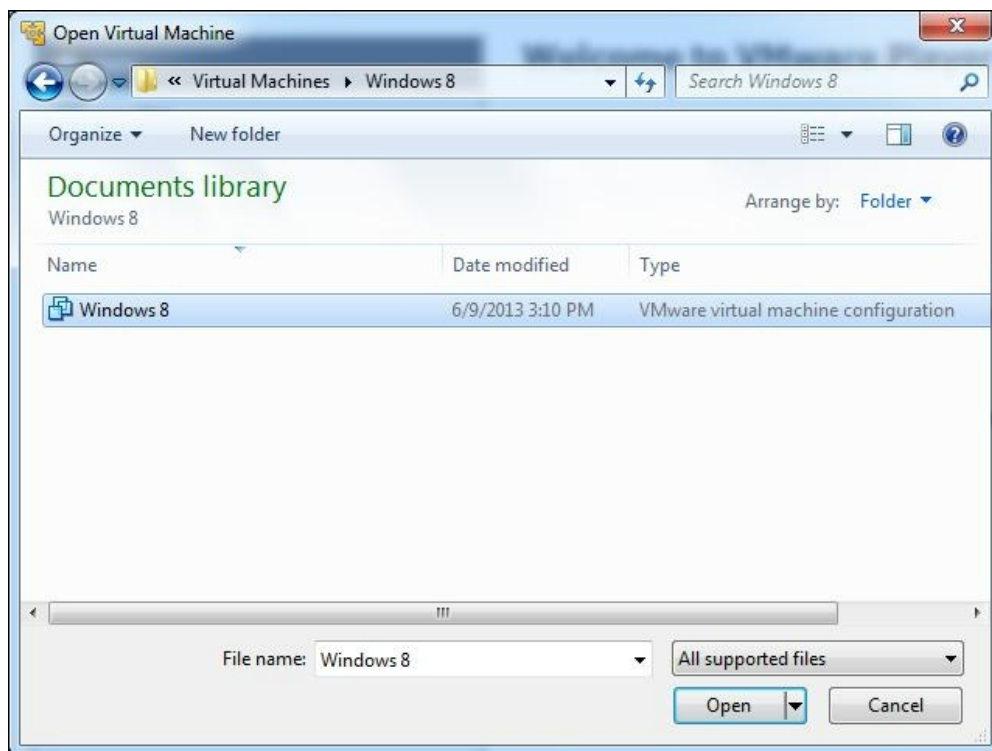
3. Let's try to delete the virtual machine from the VMware Player library first. Select **Remove VM from the Library**. You will notice that the virtual machine is instantly removed from the library and is no longer visible.



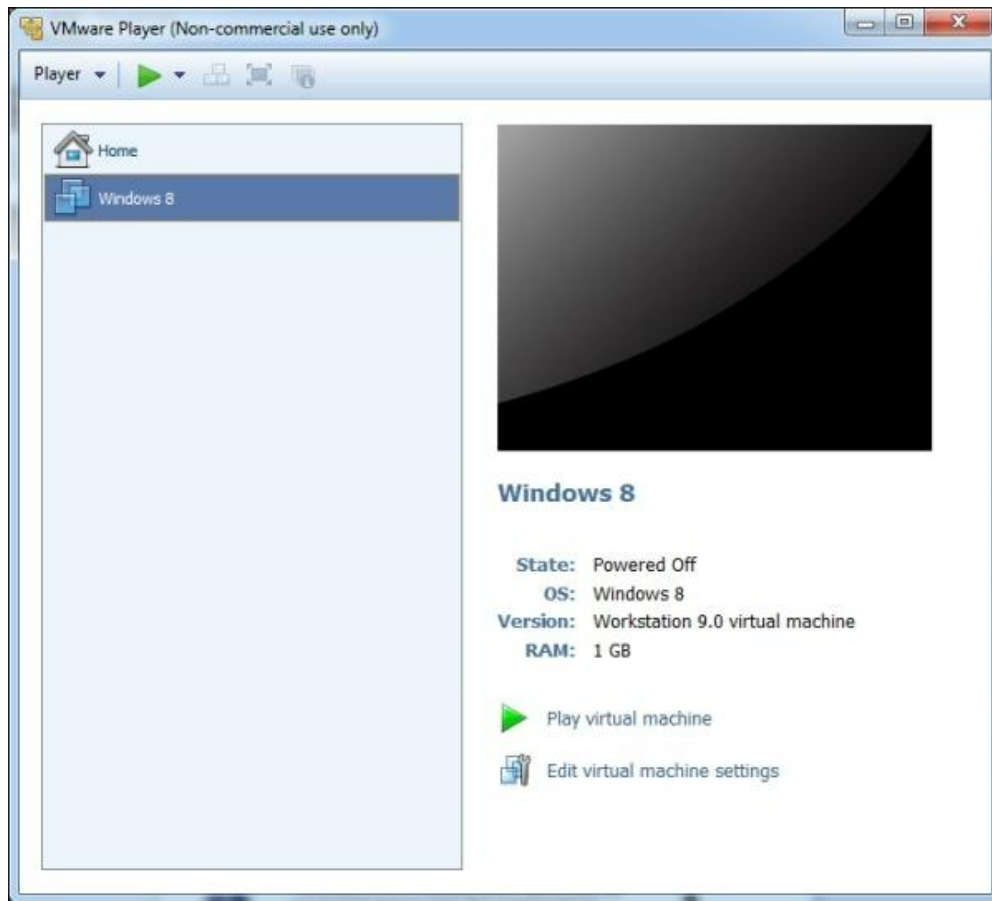
4. Now you will add the virtual machine that you removed back into the library. Click on **Open a Virtual Machine** located in the right column of the VMware console.



5. Navigate to the location of the virtual machine that you deleted. Select the VMware configuration file and click on the **Open** button.



6. Voila! The Windows 8 virtual machine has been added back to the console.



How it works...

In this recipe, you learned the steps to delete a virtual machine from Player.

Backing up Windows 8 virtual machine (Simple)

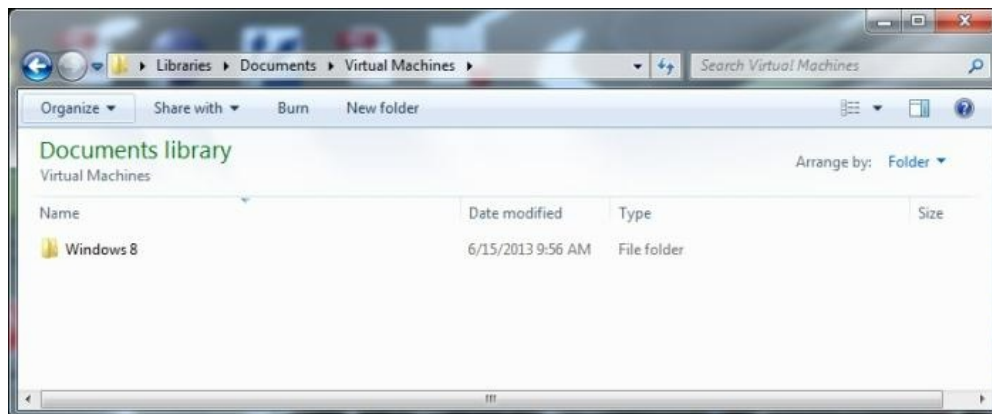
As with most computer devices, the best step to protect your data is to make sure that you back it up on a regular basis. The simplest method is to back up the virtual machine's host directory and, in the event of a disaster, you would just restore those files. However, you should never back up a virtual machine while it is in a powered state. First, either suspend or shut down the virtual machine before backing up its directory. If you cannot power off the virtual system, or would like to just back up the data, then treat the virtual machine as you would treat a physical machine. Use a third-party backup solution such as Norton Symantec or Avamar Backup to ensure that the system backup is performed as a background process.

Getting ready

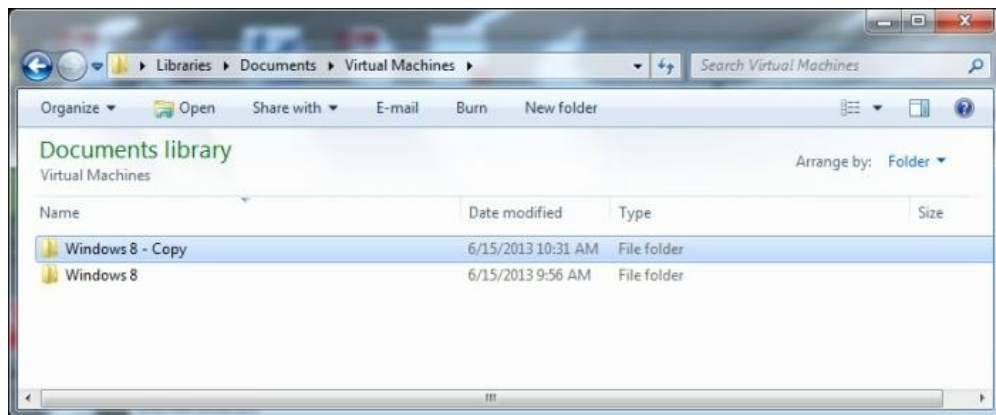
You will need to power off the virtual machine before you begin this recipe.

How to do it...

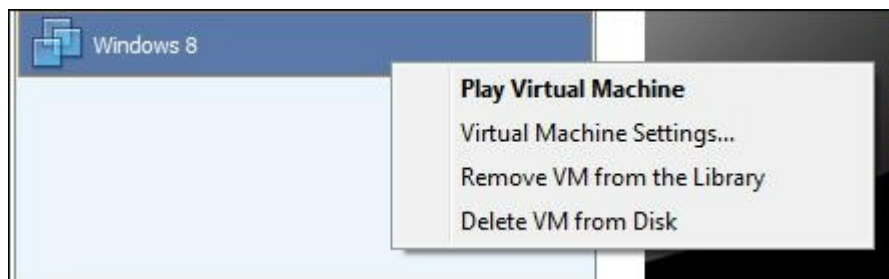
1. Navigate to the location of your VMware files. The default location is `C:\Users\YOUR_USER_NAME\Documents\Virtual Machines\Windows 8`.



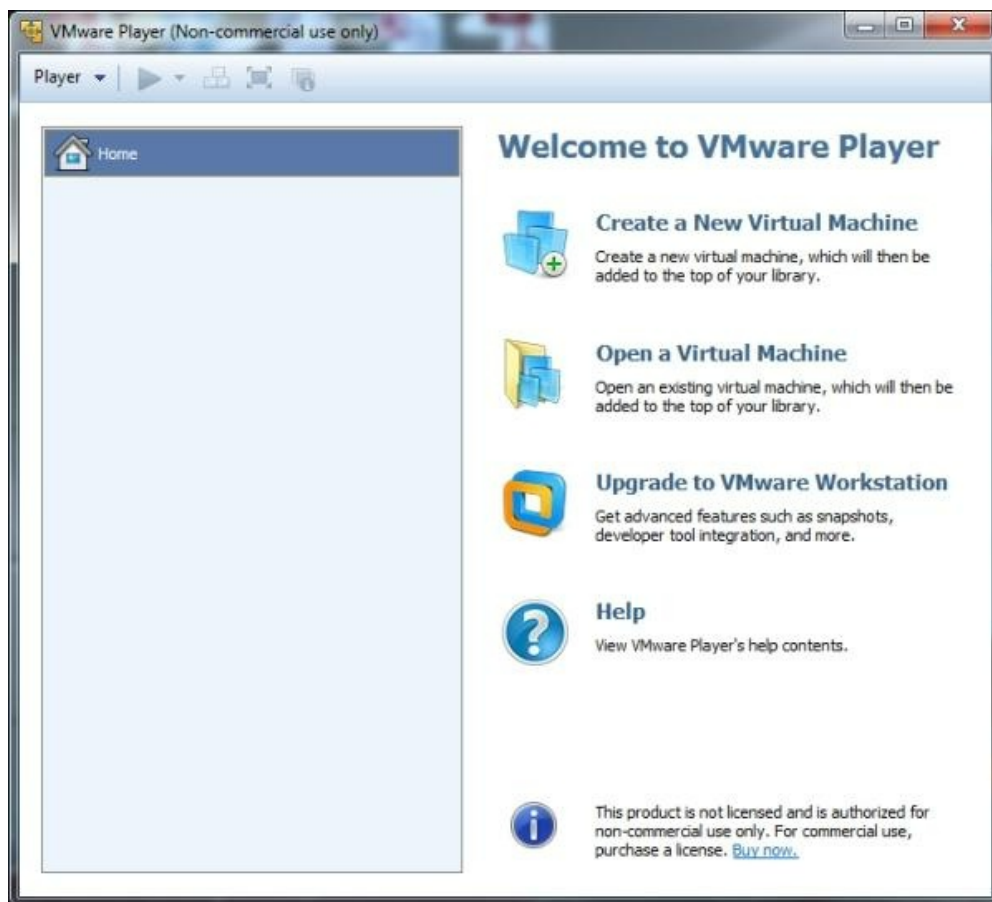
2. Copy the Windows 8 folder to a backup location. For demonstration purposes, we will back up the Windows 8 virtual machine to the same directory location. Right-click on the `Windows 8` folder and select **Copy** or, using your keyboard, select the folder and press `Ctrl + C`.
3. Then right-click again and select **Paste** or press `Ctrl + V` using your keyboard. You should see a `Windows 8 - Copy` folder created.



4. The [Windows 8 - Copy](#) folder will serve as our virtual machine backup. Now let's go through the steps of permanently deleting the Windows 8 virtual machine and then recovering it using the backup copy.
5. Open the VMware console and right-click on the name of the virtual machine that you would like to delete.



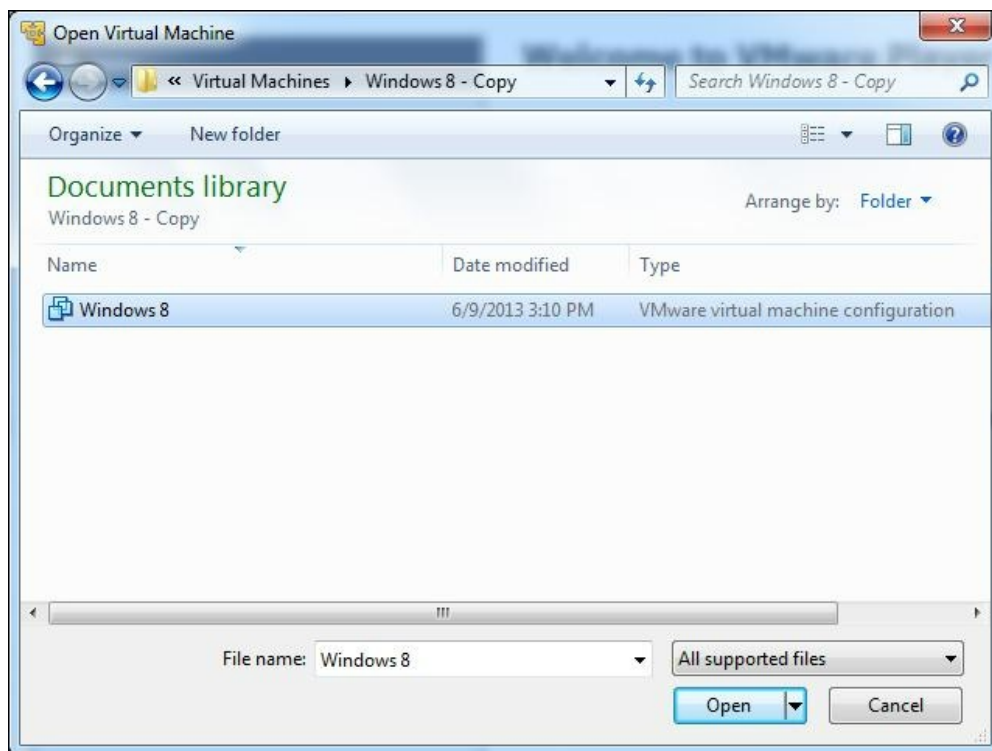
6. Select **Delete VM from Disk** and you will be presented with a warning saying **Warning! This action is irreversible! Are you sure you want to delete the virtual machine permanently?** Click on the **Yes** button.
7. You will notice that the Windows 8 virtual machine is no longer listed in the VMware Player console. Also, the [Window 8](#) folder is empty, except for the Windows 8 VMDK file.



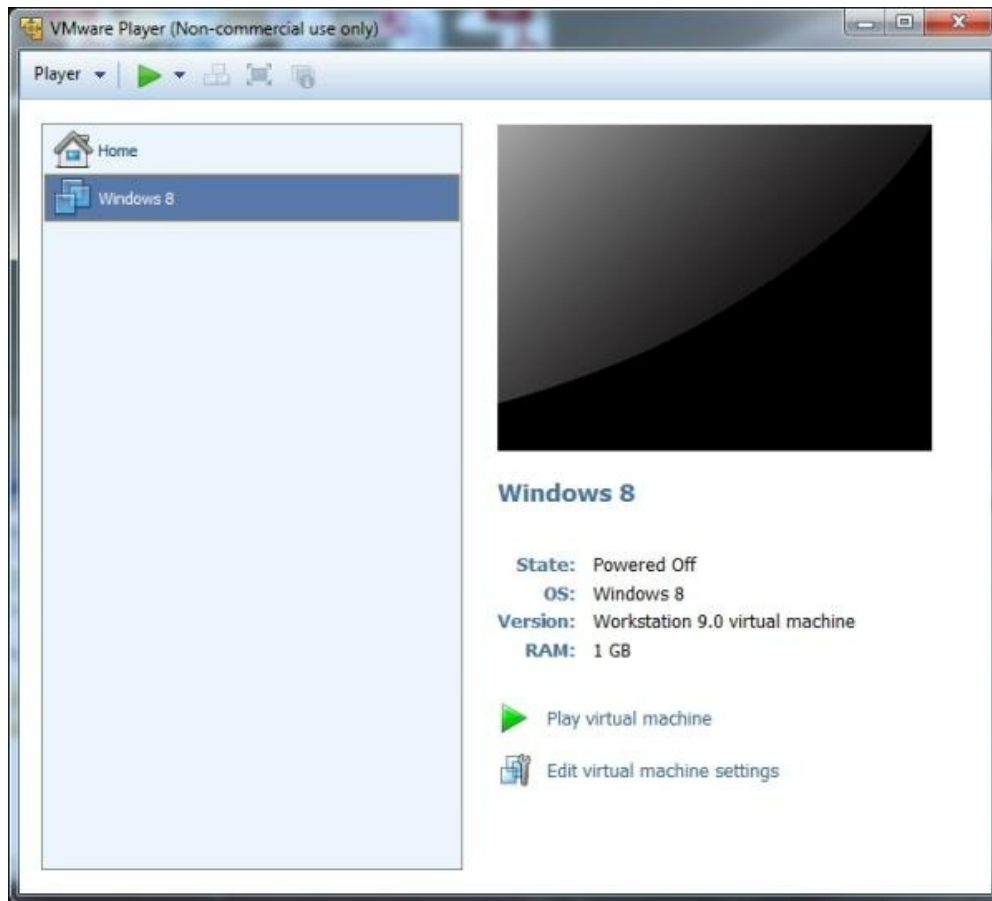
8. Now let's restore the Windows 8 virtual machine using our backup copy. Click on **Open a Virtual Machine**.



9. Browse to the [Windows 8 - Copy](#) folder and select the Windows 8 virtual machine configuration file.



10. Click on **Open**. You will notice that the Window 8 machine is now visible again. Click on **Play virtual machine** to verify that your backup copy is fully functional.



How it works...

In this recipe, you learned how to manually back up a Windows 8 virtual machine created by Player.

Using shared folders (Intermediate)

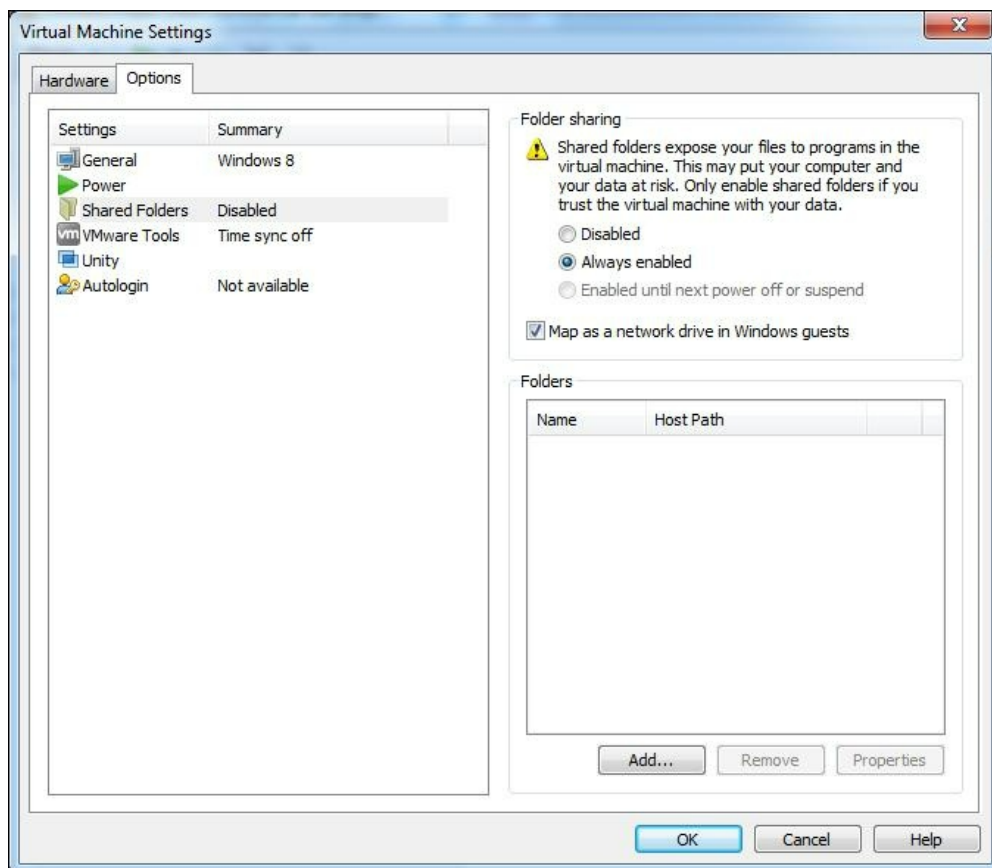
The ability to share folders and files among the virtual machines and between the host and virtual machines is one of the best services that the VMware Tools application provides. The directories that you access can be located either on a file server or directly on the host machine. However, there is one main caveat to this feature; you should not open a file in a shared folder from more than one machine at a time. For example, you should not open a word document using the host computer and then open that same document using the guest operating system. If you save the file from your virtual machine, it might become corrupt.

Getting ready

Before starting this recipe, make sure that the **My Music** directory is not in use by any of the host system applications.

How to do it...

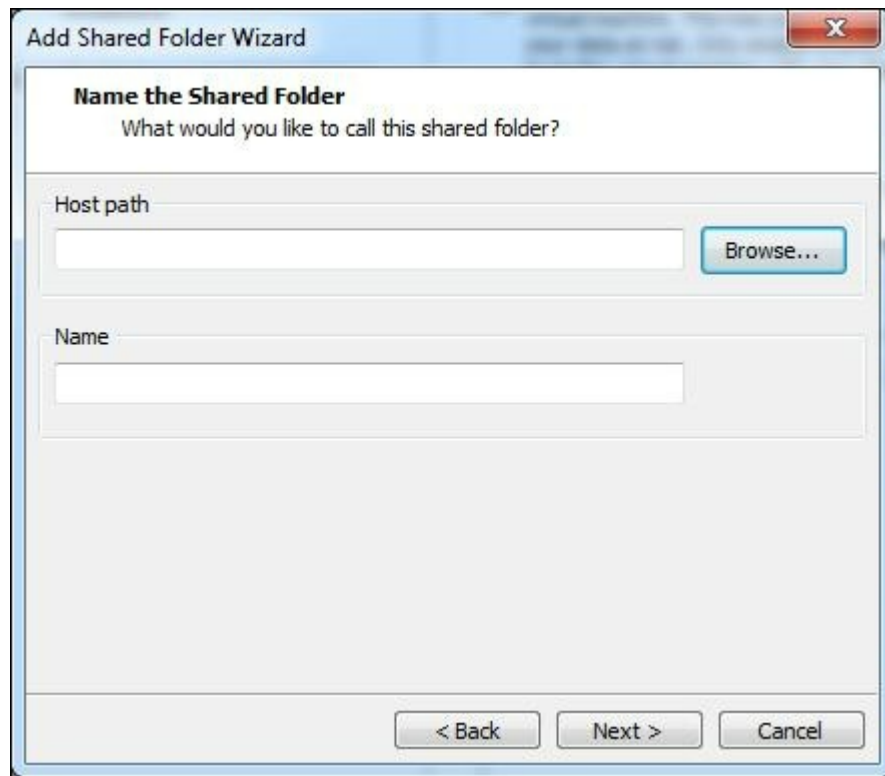
1. Open the VMware Player application. Click on the Windows 8 virtual machine that we created previously and select **Edit virtual machine settings**. Then click on the **Options** tab.
2. Select **Shared Folders** in the left-hand column. Under **Folder sharing**, click on the **Always enabled** radio button and check **Map as a network drive in Windows guests**.



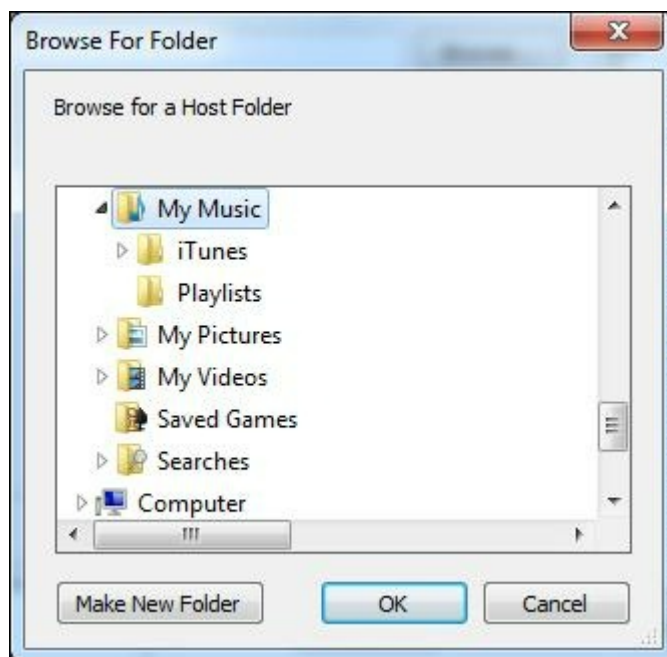
3. Under **Folders**, click on the **Add...** button, **Add Shared Folder Wizard** will launch.



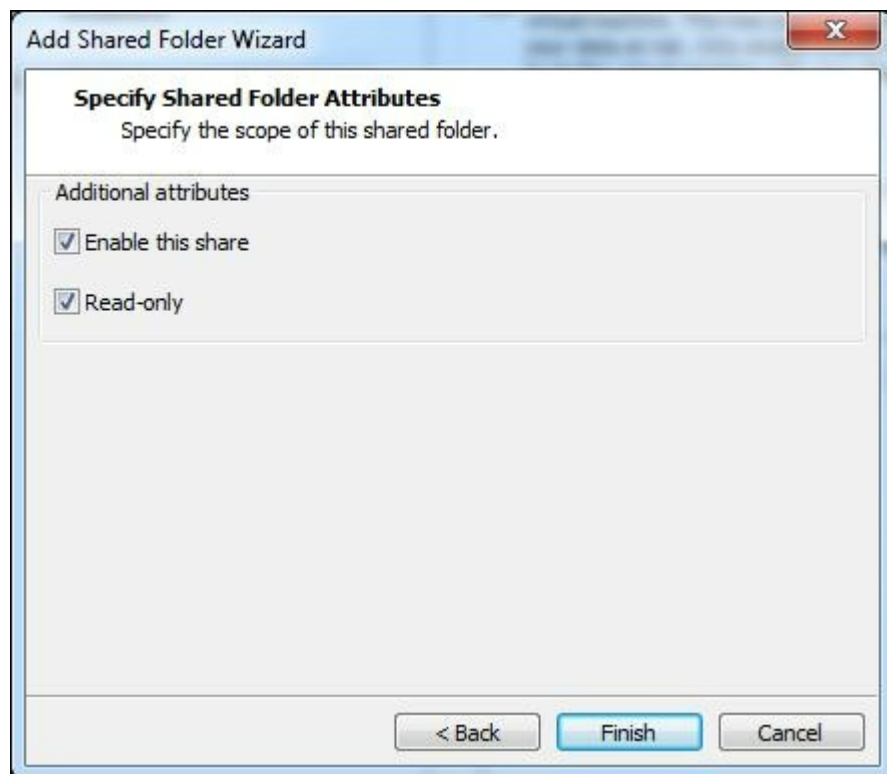
4. Click on **Next** to continue. In the following steps you will simulate sharing the music folder to our Windows 8. Under **Host path**, click on the **Browse...** button.



5. Click on **My Music** and then click on the **OK** button. Now click on **Next** to continue.



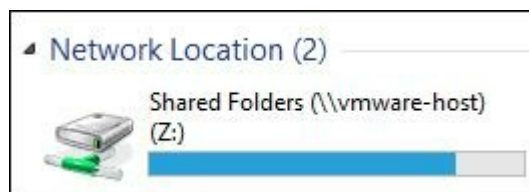
6. Make sure that **Enable this share** and **Read-only** are checked.



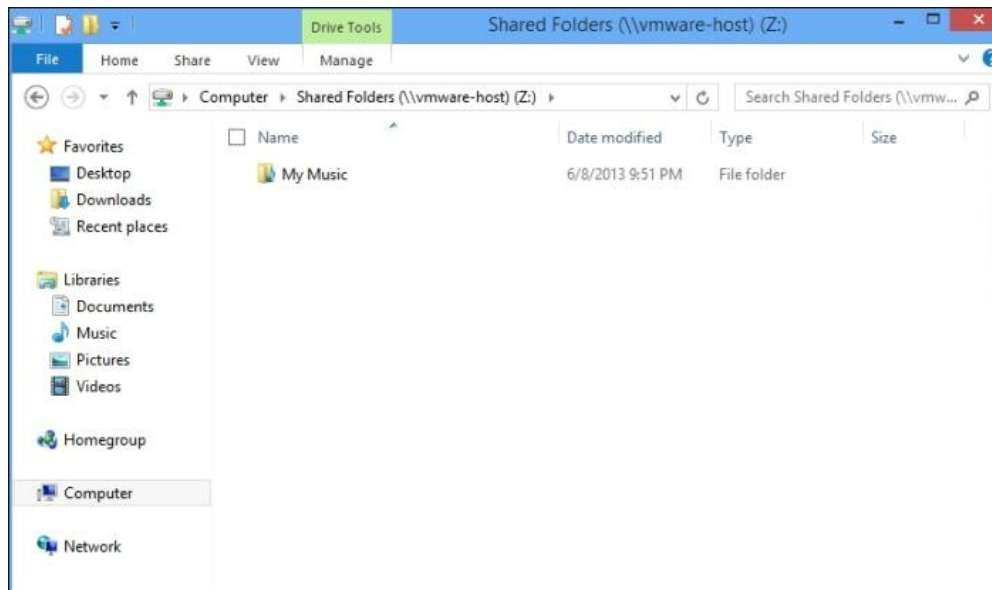
7. Click on the **Finish** button and then **OK** to close the **Virtual Machine Settings** screen. Now you will test the new shared folder that you just created. Click on the **Play** button to start the Windows 8 virtual machine.
8. Log on to Windows 8 and then click on the **Desktop** tile located in the Start screen.



9. You will notice that **Shared Folders** is available under **Network Location**. Double-click on the **Shared Folders** icon.



10. The [My Music](#) folder is now available to your Windows 8 guest operating system.



How it works...

In this recipe, you learned how to add a shared folder to the Windows 8 virtual machine's guest operating system.

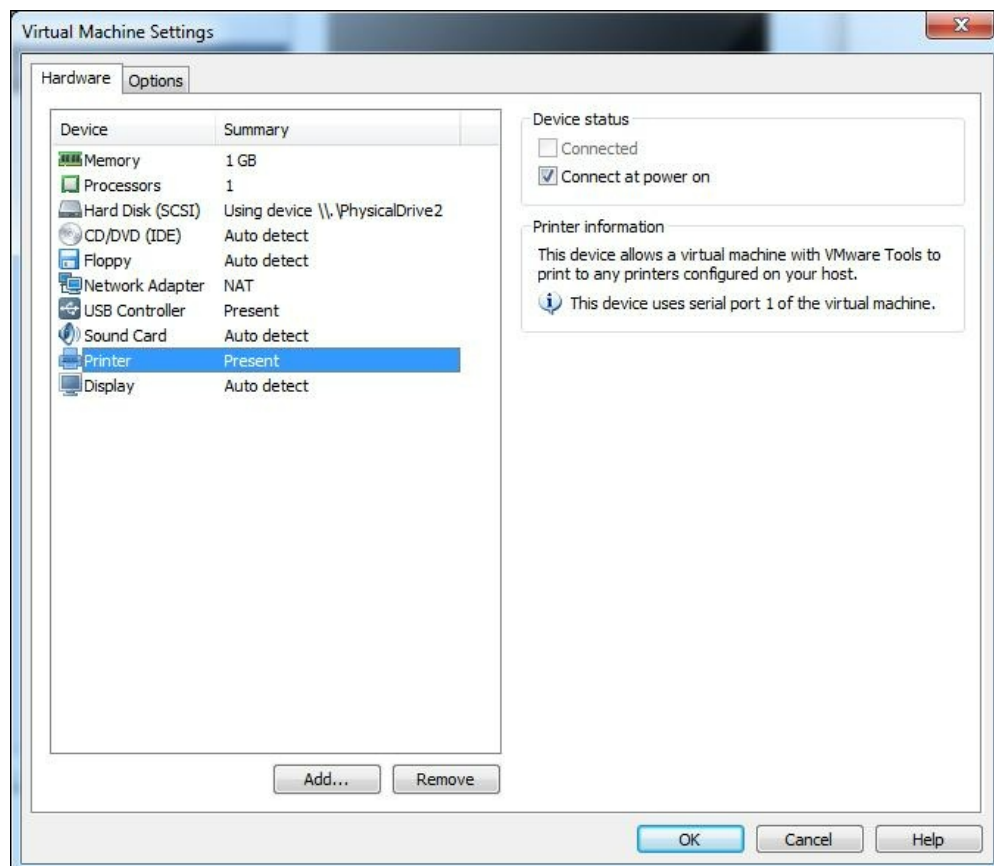
Adding a printer device to VMware Player (Simple)

VMware Player comes with the built-in feature to use any printer available on the host computer. According to VMware's website, the company uses a player printer technology called **ThinPrint** to replicate the printer on the host machine without having to install additional drivers in the guest operating system.

How to do it...

We begin with adding a virtual printer port:

1. Open the VMware Player application, click on **Edit virtual machine settings**, and then go to **Player | Manage | Virtual Machine Settings**.
2. Verify that the **Printer** device is available in the left-hand pane. If not, click on the **Add...** button, choose the printer icon, and then click on **Finish**.



3. Click on the **OK** button to close the **Virtual Machine Settings** window. Power on the Windows 8 virtual machine by pressing the play button.

Next we will talk about adding a Virtual printer USB port:

1. Open the VMware Player application.
2. Start the virtual machine. Once Windows is running, install the vendor drivers for the printer that you want to install.

Note

You must install the printer drivers on the virtual machine even if it has already been installed on the host computer.

3. Click on the drop-down menu labeled **Player** at the top left of the VMware Player window.
4. Select the **Removable Devices** menu item, and then click on the name of the printer that you would like to use in the virtual machine.
5. Click on **Connect (Disconnect from host)**. The USB port for the printer will now be disconnected from the host computer's operating system and will be connected to the virtual machine, allowing you to print.

How it works...

In this recipe you learned how to add a USB printer to the guest operating system. The steps for adding a networked printer would be a bit different and would involve using the Windows 8 built-in **Add Printer Wizard**.