Developing Apps for Touch and Mobile Devices – Virtual Machine Build Manual

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Introducing the Virtual Machine Build Manual

The virtual machine build manual informs how to prepare virtual machines, which will be required by the students to perform various activities and exercises given in Lab Guides (LGs) of the Developing Apps for Touch and Mobile Devices (DATMD) course.

The path mentioned in the LGs or Coordinator Guides (CGs) for software, files, or folders may vary depending on where you have installed or copied them while preparing the virtual machines or preparing your host computer.

The virtual machine required in the DATMD course is mentioned in the following table.

S. No.	***Virtual Machine Name***	***Operating Systems***	***Virtual RAM***	***Virtual Disk***	***Installation Source***	***Login Details***	***Respective Location***
1.	*DATMD_VM*	*Windows 8.1*	*2048 MB*	*DATMD_VM*	*Windows 8.1 Installation disk or ISO image* *Visual Studio Professional 2013 with Update 4 Installation disk or ISO image*	*Username: Admin* *Password: Pa$$w0rd*	*D:\DATMD\ Images*

Details of the Virtual Machine

Note

*Access to the Internet would be required on the **DATMD_VM** virtual machine. However, some of the activities and tasks require unrestricted access to the Internet.*

Note

To create this Build Manual, the Windows 8.1 host computer is used.

Build Manual for the DATMD Course

In order to create the virtual machine for the DATMD course, you need to perform the following tasks:

1. Perform miscellaneous tasks.
2. Create and configure the virtual machine.

Note

In order to perform the preceding tasks, you need to ensure that no additional application is running on the host computer other than the ones required for this Build Manual.

Task 1: Performing Miscellaneous Tasks

This task consists of the following subtasks:

1. Install the Undisker utility.
2. Create an ISO image.
3. Disable Microsoft Hyper-V.
4. Install the VMware player.

Task 1.1: Installing the Undisker Utility

To install the Undisker utility, you need to perform the following steps on your host computer:

1. Go to the following link to download the Undisker utility:
   - **http://undisker.findmysoft.com/download/**
2. Browse to the location where you have saved the setup file.
3. Run the setup file to install the Undisker utility.

Task 1.2: Creating an ISO Image

To create the ISO images using Undisker, you need to perform the following steps:

1. Insert the DVD containing the respective software in the DVD drive.

Note

*In case the **Invalid CD Structure** dialog box is displayed, select the **Keep the existing value** option. Click the **Continue** button.*

2. Select **Image→Capture CD-ROM→<DVD drive letter>**. The **Select target format** dialog box is displayed.
3. Click the **Continue** button. The **Write CD-ROM image to file** dialog box is displayed.

4. Specify the file name as **D:\DATMD\Software\<file_name>**, and then click the **Save** button. The ISO file is created at the specified location and the **Undisker** message box is displayed.
5. Click the **Finish** button.

Note

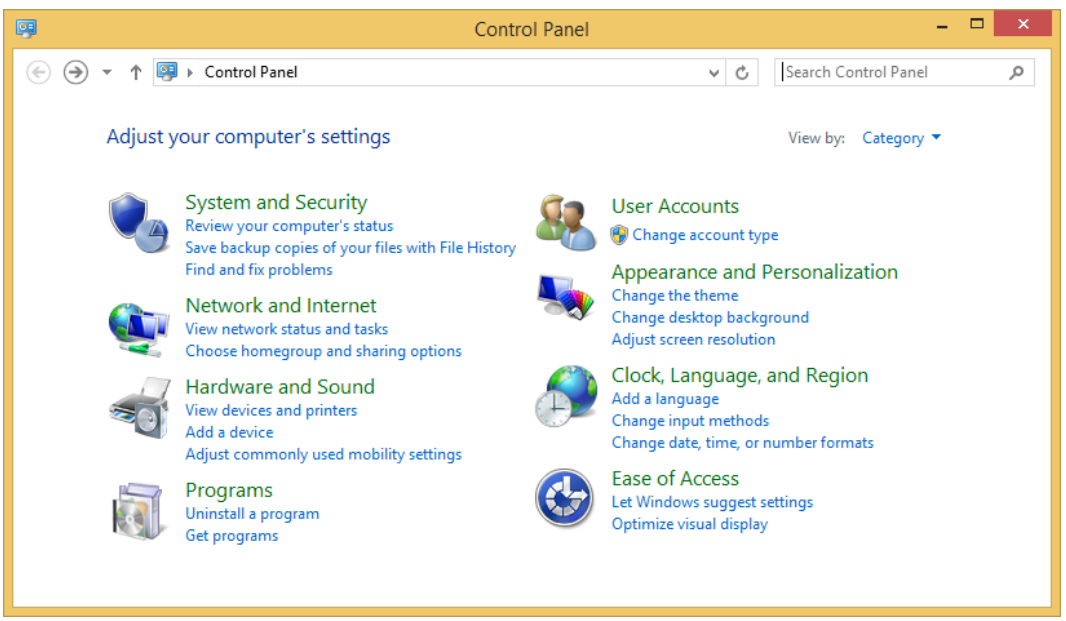
You need to perform the preceding steps to create the ISO images for Windows 8.1 and Visual Studio Professional 2013 with Update 4.

6. Select **File→Exit** to close the Undisker application.

Task 1.3: Disabling Microsoft Hyper-V

To disable Microsoft Hyper-V, you need to perform the following steps:

1. Press the Windows+**R** keys. The **Run** dialog box is displayed.
2. Type **Control Panel** in the **Open** text box.
3. Click the **OK** button. The **Control Panel** window is displayed, as shown in the following figure.

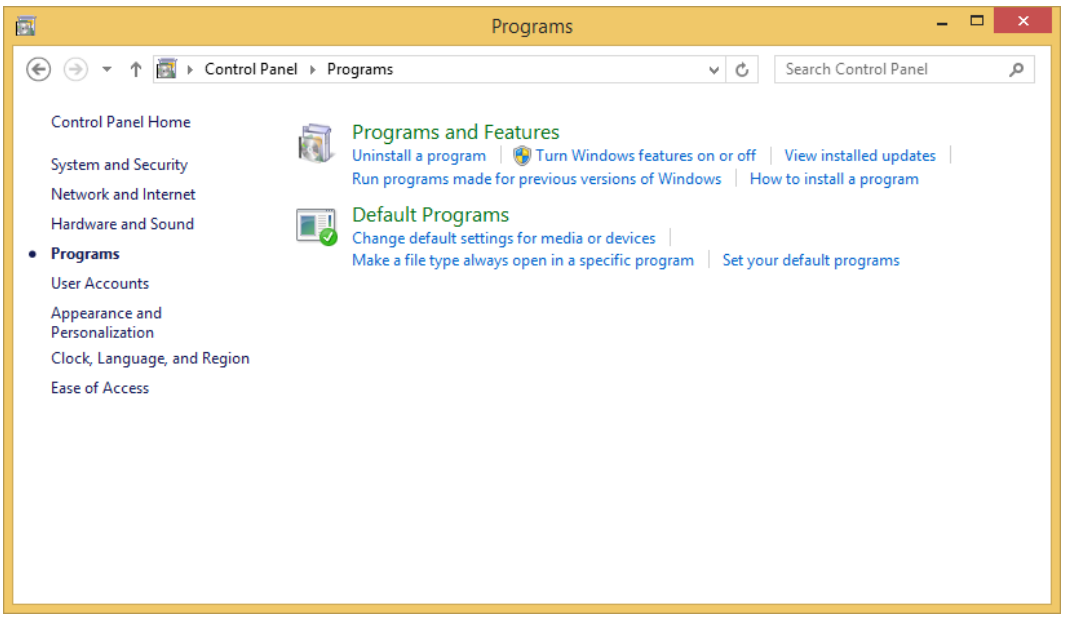


Control Panel Window

Note

*Ensure that the **Category** option is selected in the **View by** drop-down list in the **Control Panel** window.*

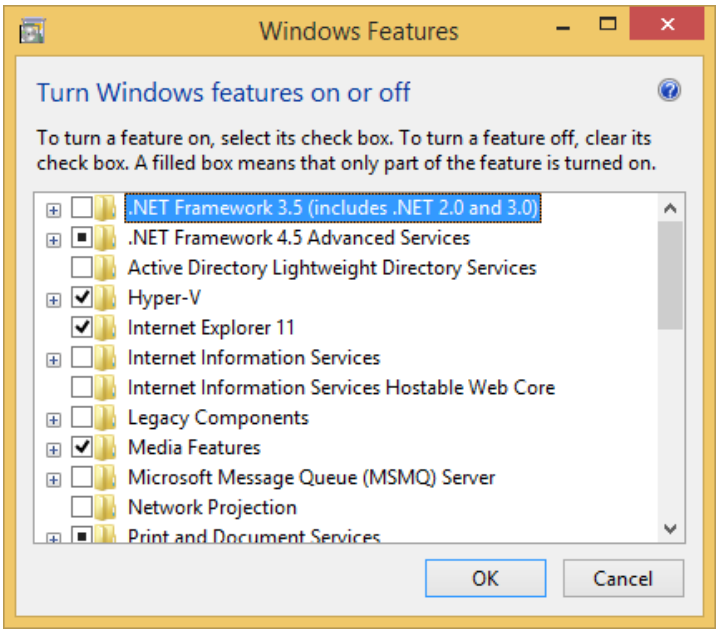
4. Click the **Programs** link. The **Programs** window is displayed, as shown in the following figure.



Programs Window

5. Click the **Turn Windows features on or off** link in the **Programs and Features** section. The **User Account Control** dialog box is displayed.

6. Click the **Yes** button. The **Windows Features** dialog box is displayed, as shown in the following figure.



Windows Features Dialog Box

Note

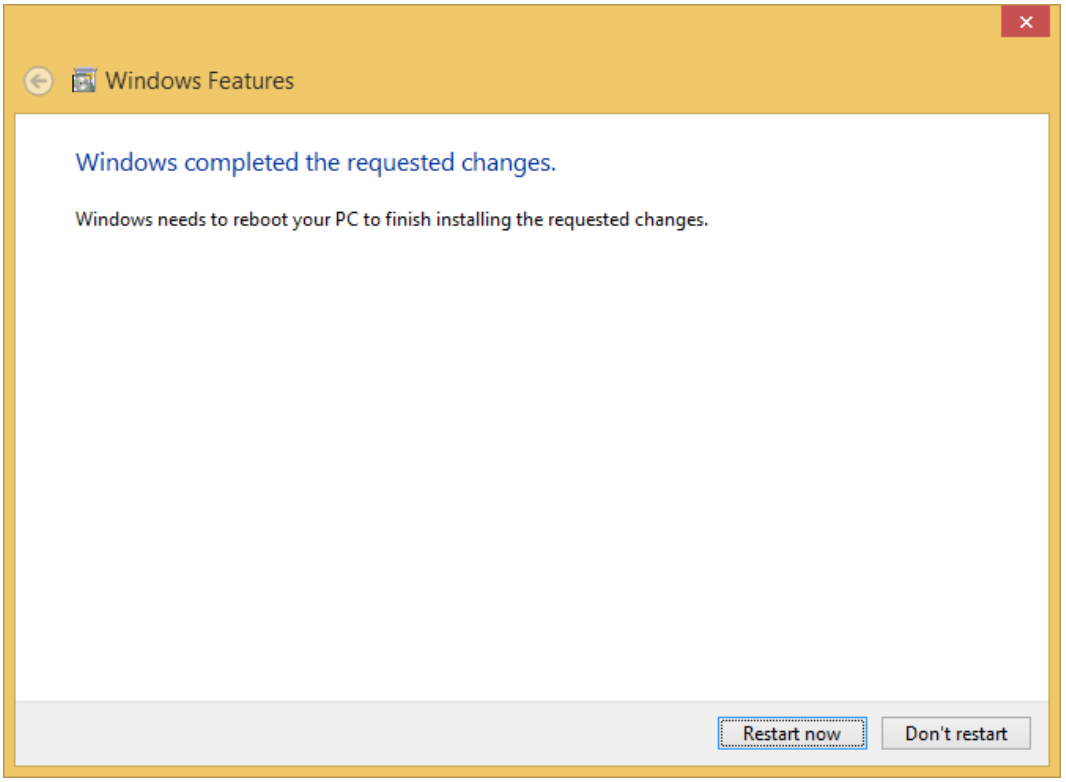
*If you do not have the administrator rights, you need to provide the admin credentials in the **User Account Control** dialog box.*

7. Clear the **Hyper-V** check box.

Note

*Skip steps 7 to 9, if the **Hyper-V** check box is not selected. Click the **Cancel** button to close the **Windows Features** dialog box, and then close the **Programs** window.*

8. Click the **OK** button. After some time, the **Windows completed the requested changes** page is displayed, as shown in the following figure.



Windows completed the requested changes Page

9. Click the **Restart now** button to restart the system and apply the changes.

Note

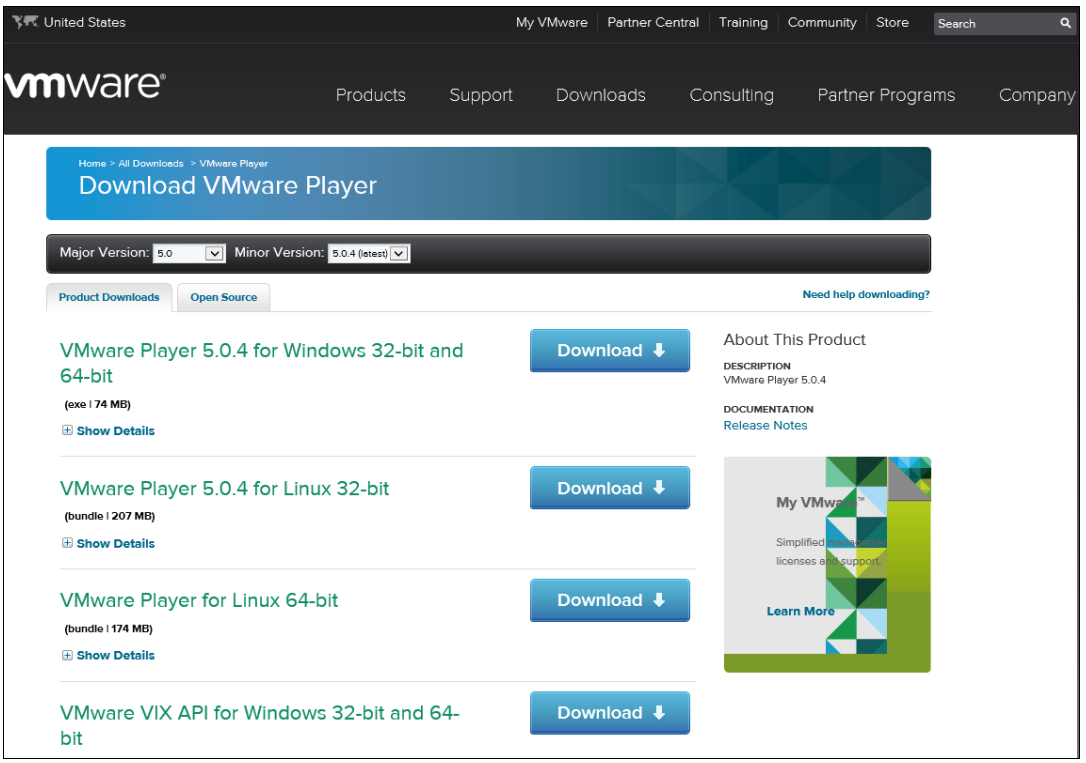
Before restarting the system, save and close all the documents on which you are working, otherwise your work might get hampered.

Task 1.4: Installing the VMware Player

To install VMware player, you need to perform the following steps on your host computer:

1. Open the following link in Internet Explorer:
   - **https://my.vmware.com/web/vmware/free#desktop_end_user_computing/vmware_player/5_0**

2. Click the **Download** button available for **VMware Player 5.0.4 for Windows 32-bit and 64-bit**, as shown in the following figure.



Download Button

A pop-up is displayed at the bottom of the Internet Explorer window.

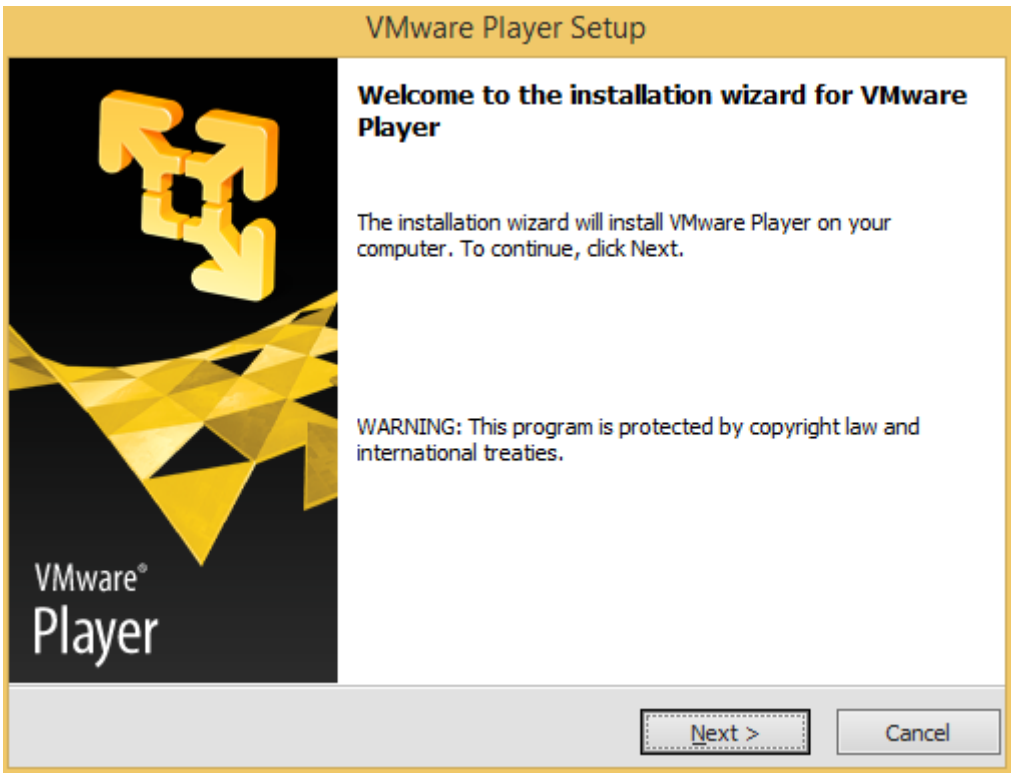
3. Click the **Save** drop-down arrow button. A menu is displayed.
4. Select the **Save as** option. The **Save As** dialog box is displayed.
5. Browse to the location where you want to save the VMware setup file, **VMware-player-5.0.4-1945795.exe**.

Note

The extension of the file might not be displayed because it depends on your host machine configurations.

6. Click the **Save** button. The file starts downloading.
7. After the file gets downloaded, browse to the location where you have saved the file.
8. Double-click the VMware setup file. The **User Account Control** dialog box is displayed.

9. Click the **Yes** button. The **VMware Player Setup** wizard is displayed, as shown in the following figure.

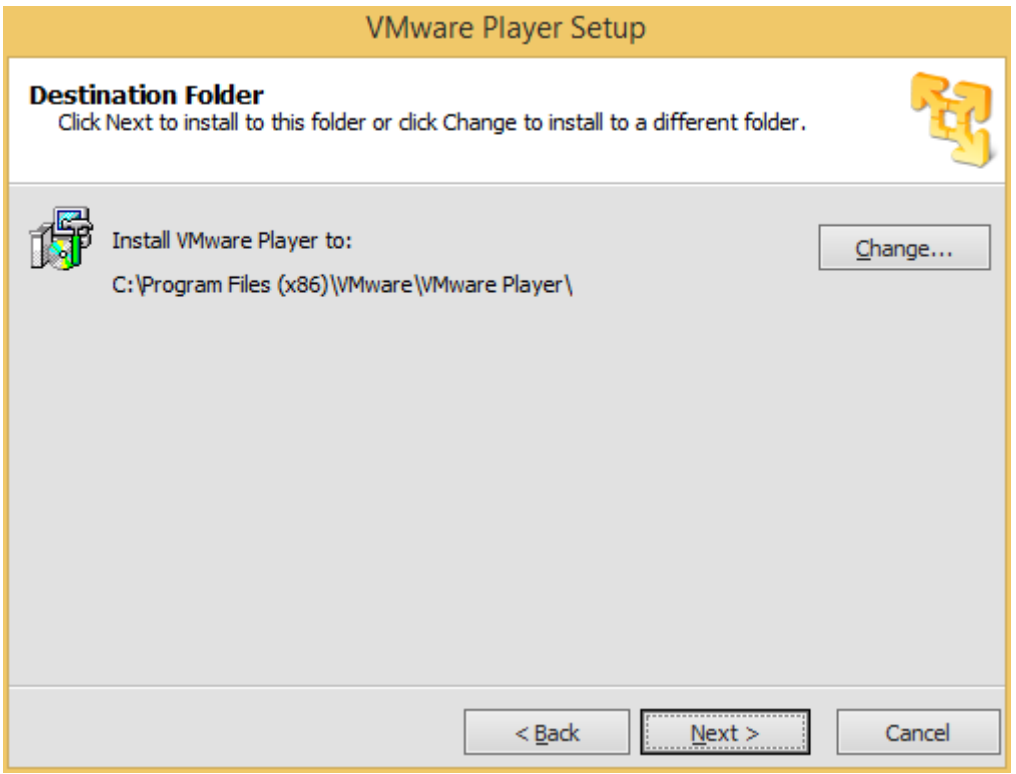


VMware Player Setup Wizard

Note

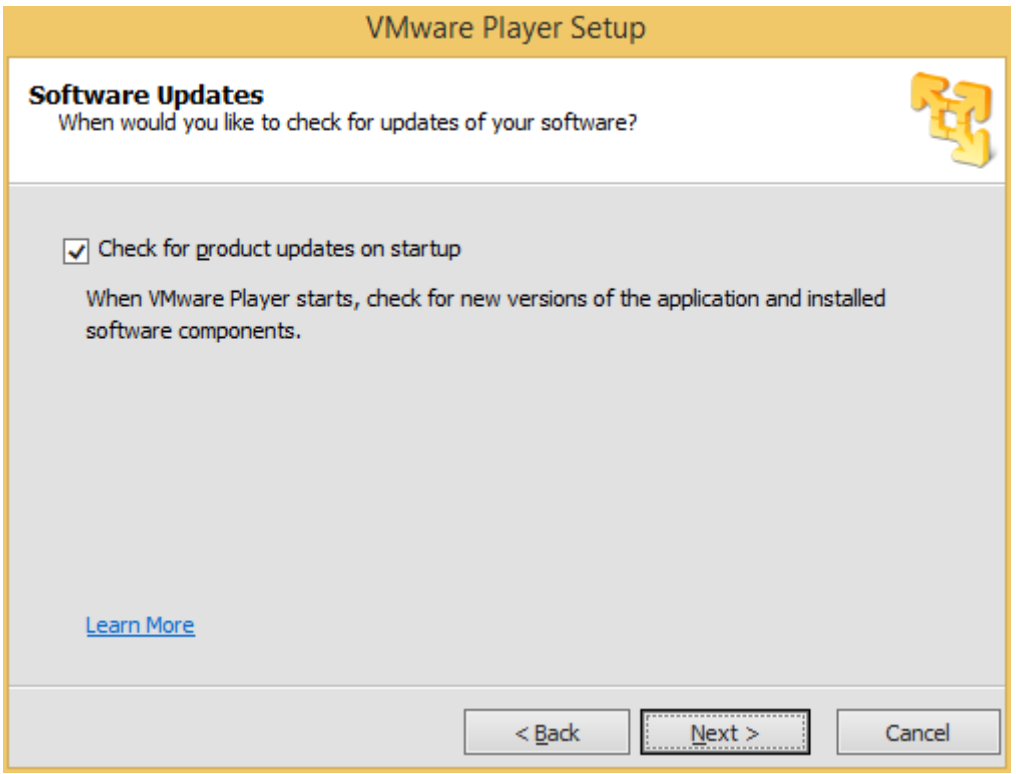
*If you do not have the administrator rights, you need to provide the admin credentials in the **User Account Control** dialog box.*

10. Click the **Next** button. The **Destination Folder** page is displayed, as shown in the following figure.



Destination Folder Page

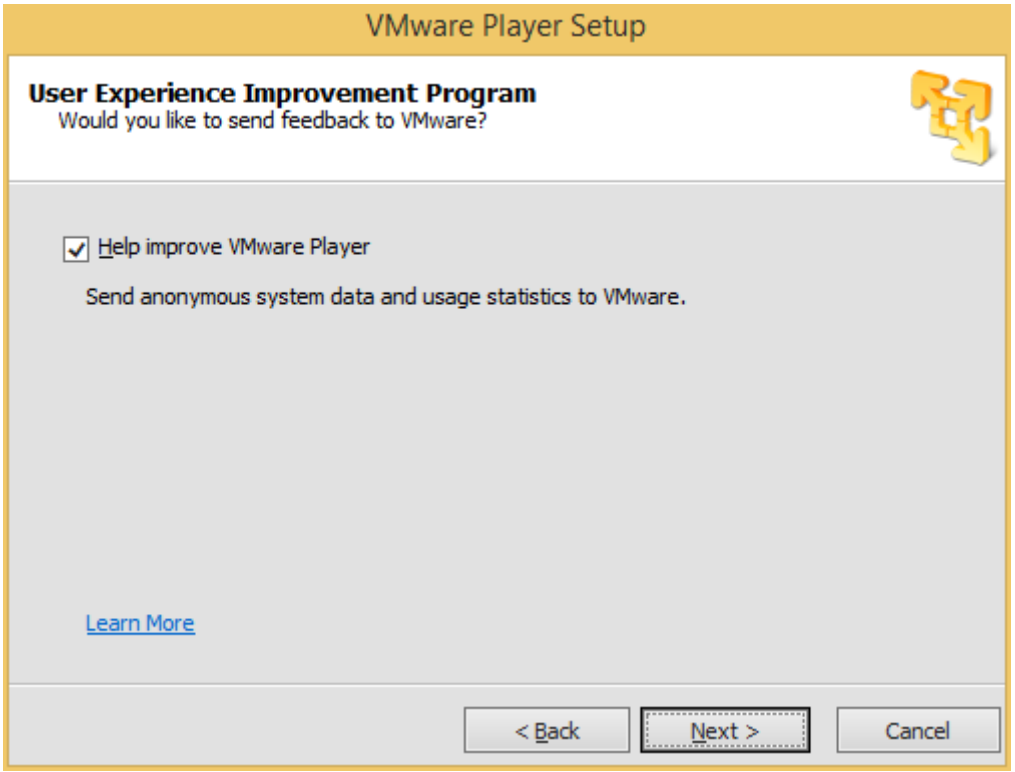
11. Click the **Next** button. The **Software Updates** page is displayed, as shown in the following figure.



Software Updates Page

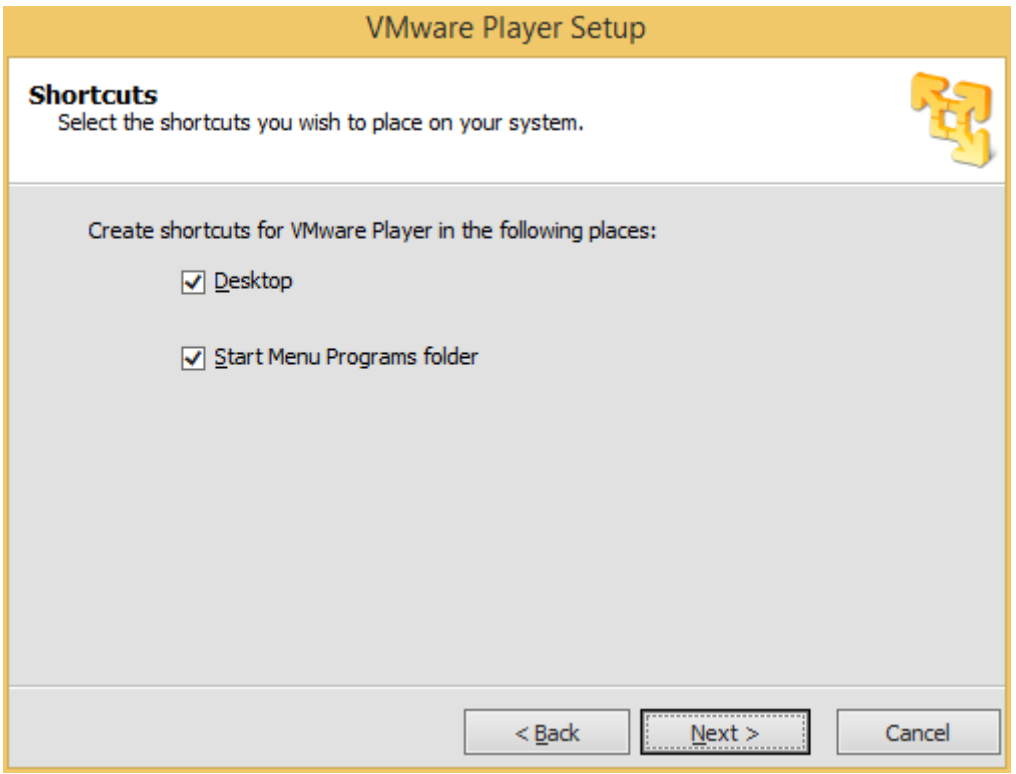
12. Clear the **Check for product updates on startup** check box.

13. Click the **Next** button. The **User Experience Improvement Program** page is displayed, as shown in the following figure.



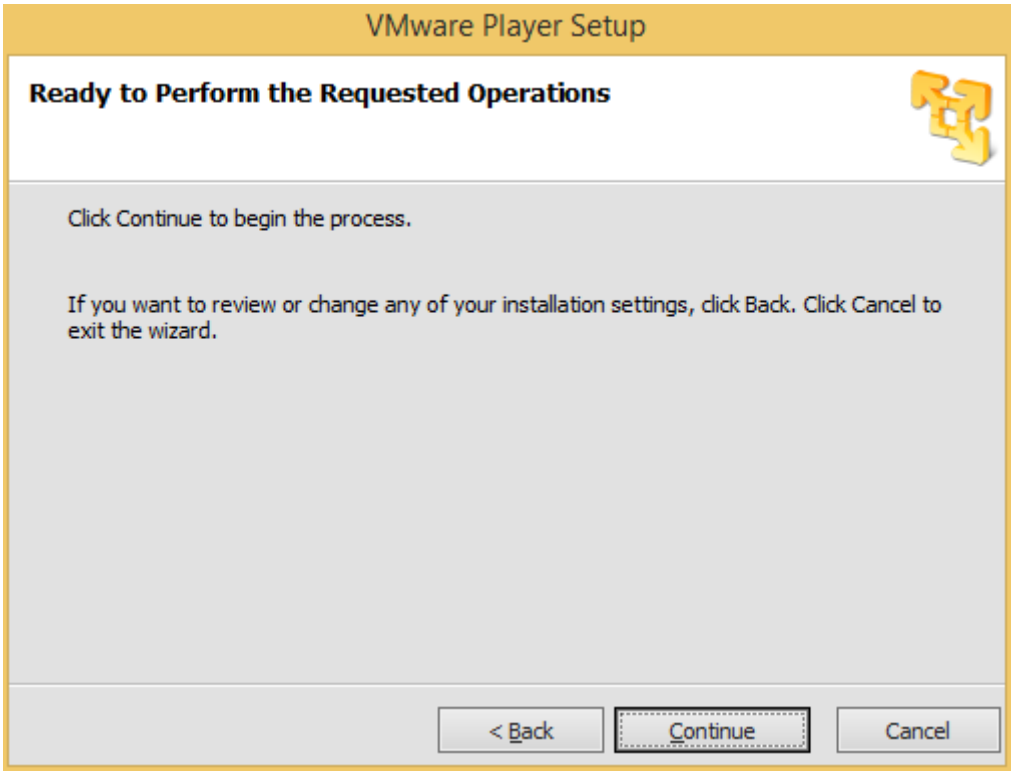
User Experience Improvement Program Page

14. Click the **Next** button. The **Shortcuts** page is displayed, as shown in the following figure.



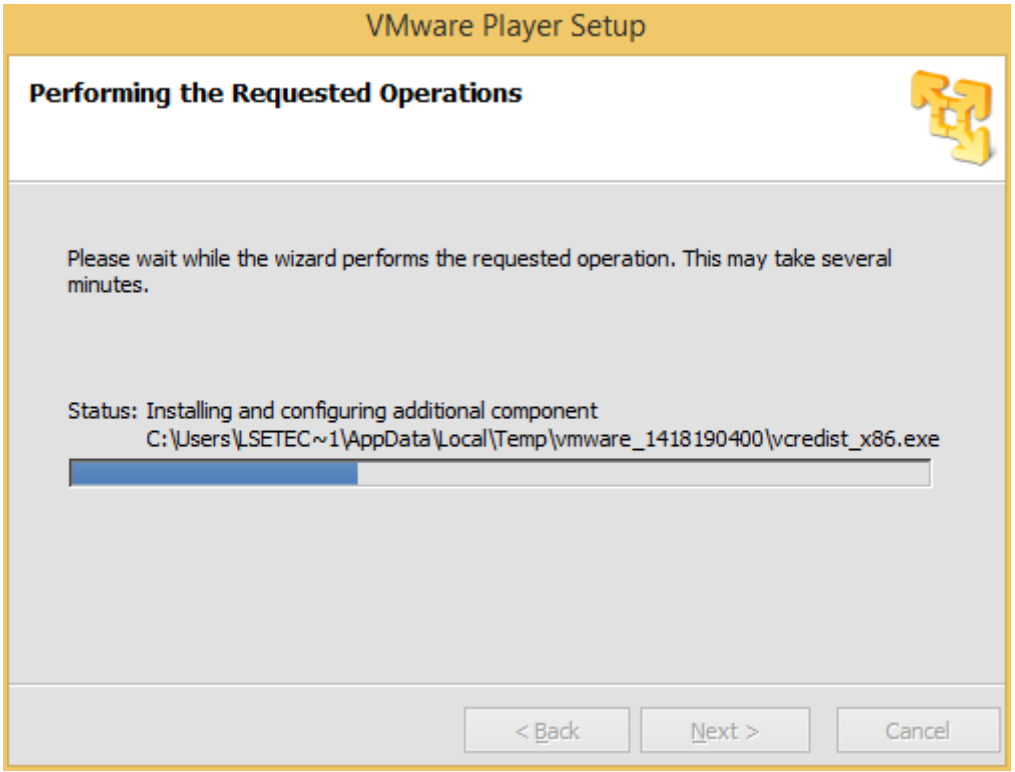
Shortcuts Page

15. Click the **Next** button. The **Ready to Perform the Requested Operations** page is displayed, as shown in the following figure.



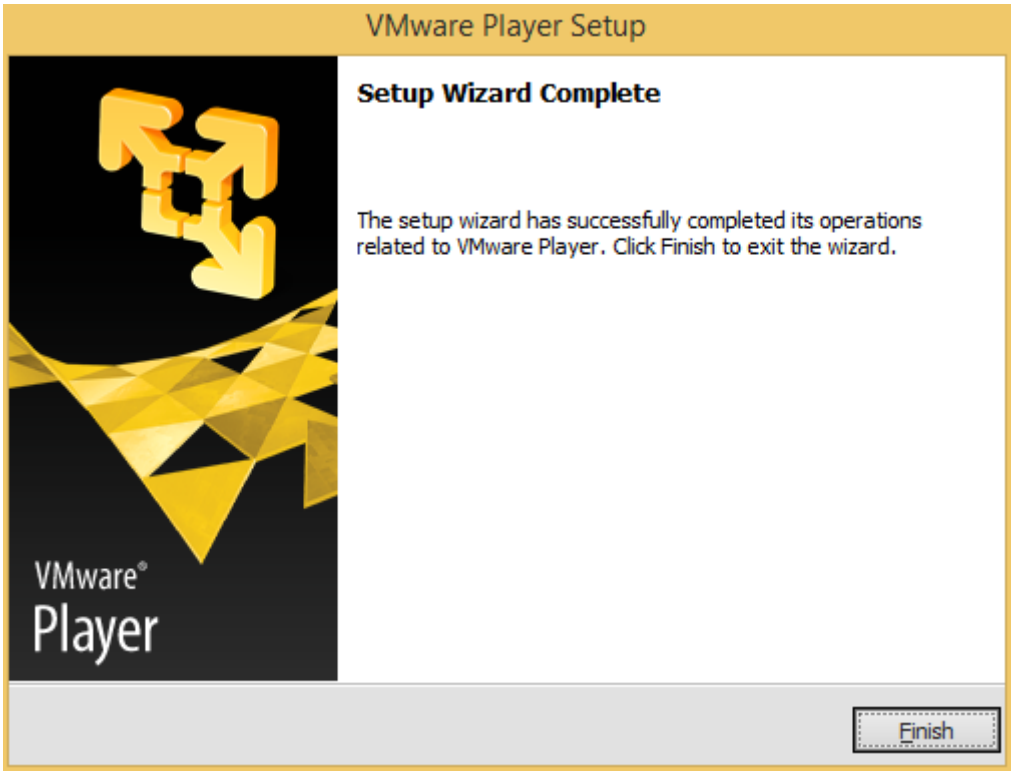
Ready to Perform the Requested Operations Page

16. Click the **Continue** button. The **Performing the Requested Operations** page is displayed, as shown in the following figure.



Performing the Requested Operations Page

Once the installation is complete, the **Setup Wizard Complete** page is displayed, as shown in the following figure.



Setup Wizard Complete Page

Note
The installation process might take few minutes.

17. Click the **Finish** button.

Task 2: Creating and Configuring the Virtual Machine

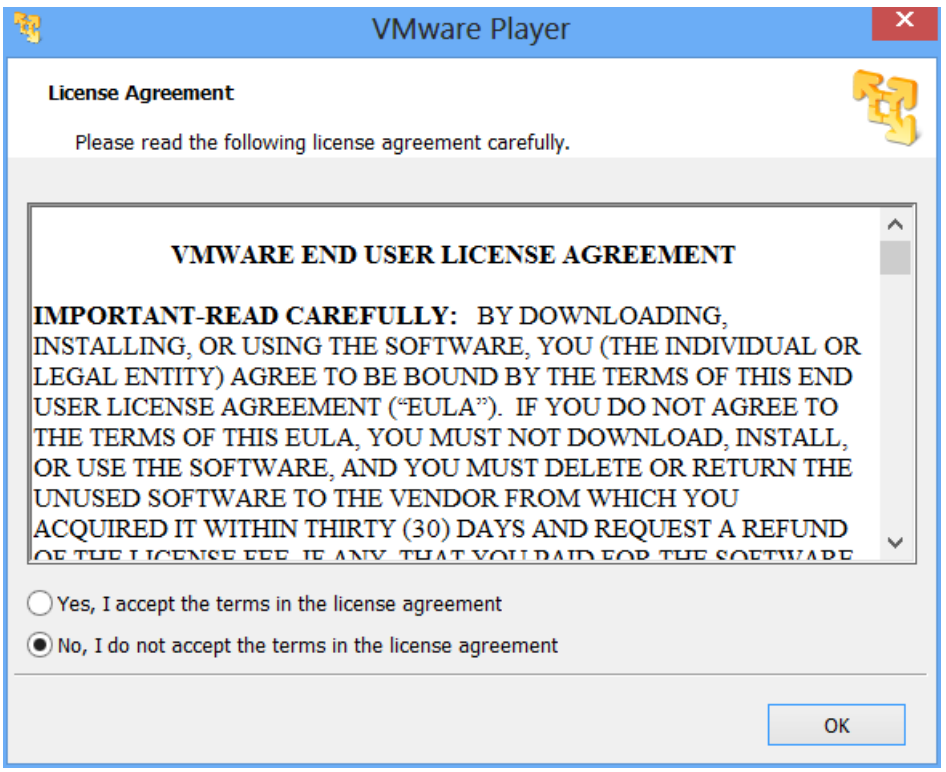
This task consists of the following subtasks:

1. Create the virtual machine and install Windows 8.1.
2. Install Microsoft Visual Studio Professional 2013 with Update 4.
3. Install tools for Apache Cordova for Visual Studio 2013.
4. Enable the emulator to run on the virtual machine.

Task 2.1: Creating the Virtual Machine and Installing Windows 8.1

To create the virtual machine and install Windows 8.1, you need to perform the following steps:

1. Press the Windows key. The **Start** screen is displayed.
2. Type **VMware Player**. The **Search** pane is displayed.
3. Select the **VMware Player** option. The **VMware Player** wizard is displayed, as shown in the following figure.



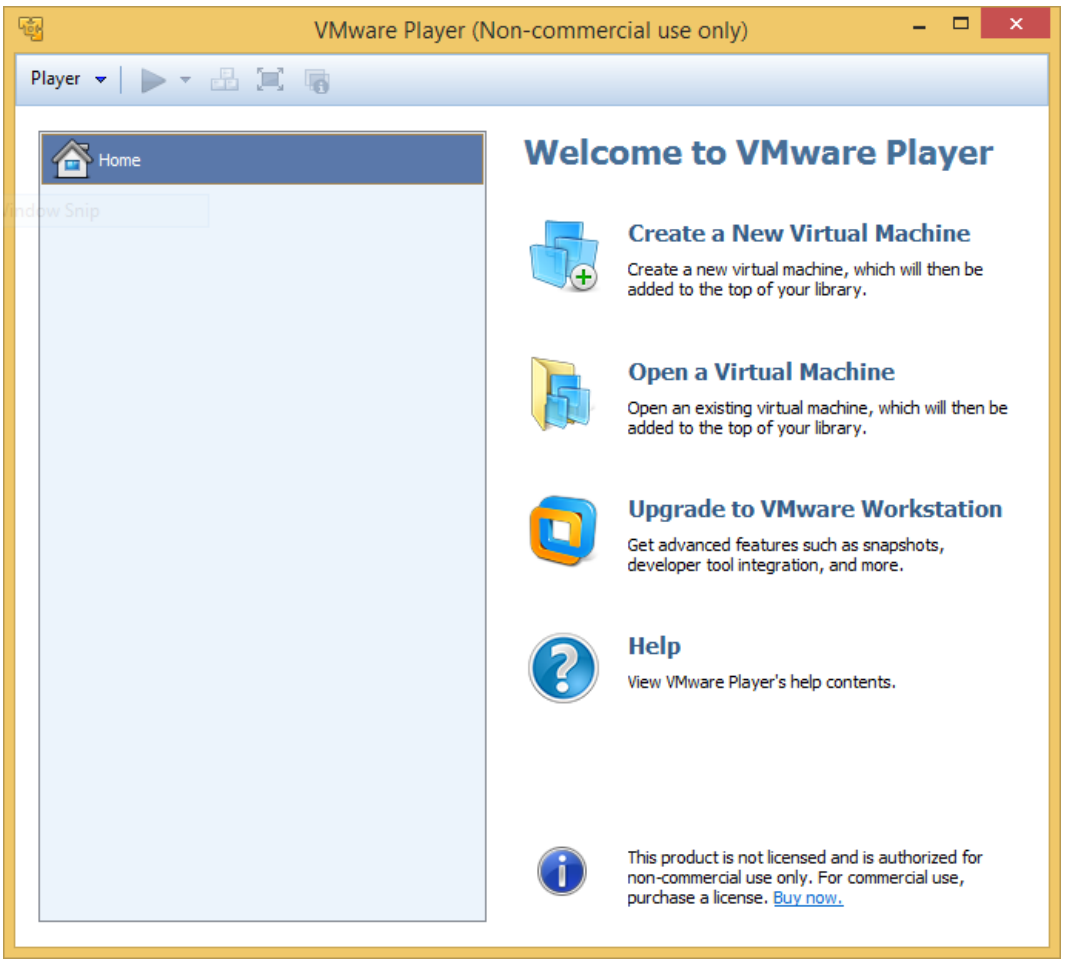
VMware Player Wizard

Note

*Alternatively, you can click the **VMware Player** icon on the desktop and can skip the preceding steps.*

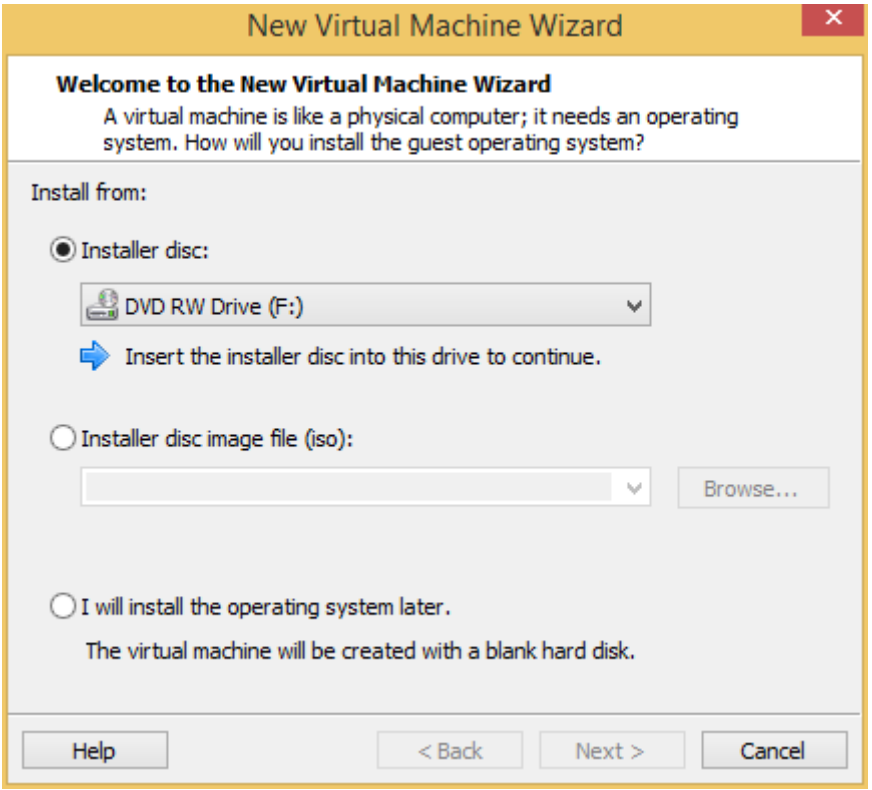
4. Select the **Yes, I accept the terms in the license agreement** check box.

5. Click the **OK** Button. The VMware Player window is displayed, as shown in the following figure.



VMware Player Window

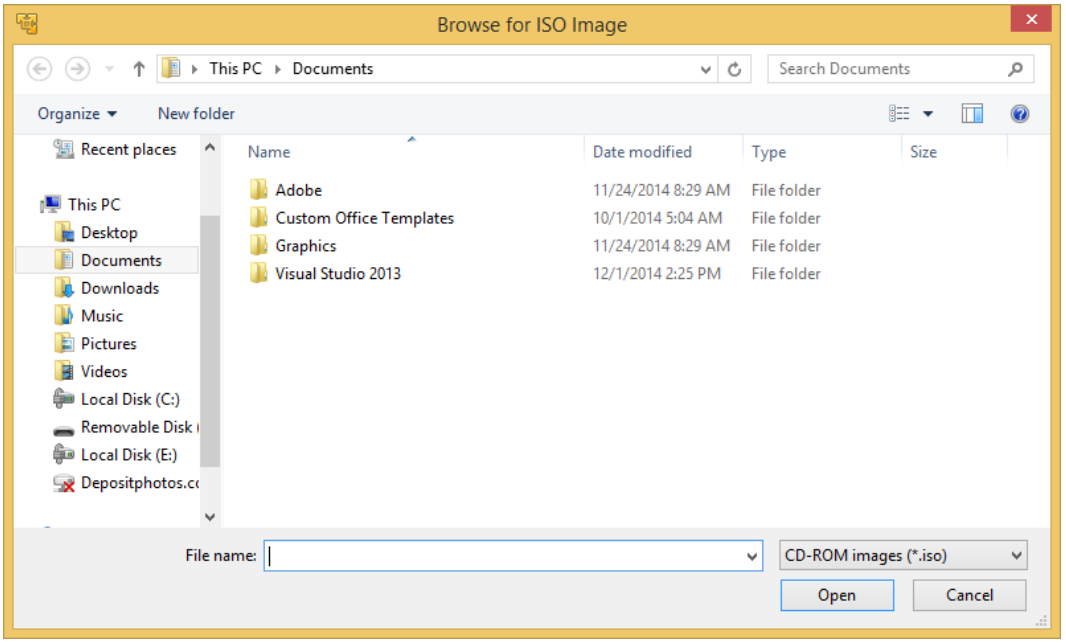
6. Click the **Create a New Virtual Machine** link. **New Virtual Machine Wizard** is displayed, as shown in the following figure.



New Virtual Machine Wizard

7. Select the **Installer disc image file (iso)** option.

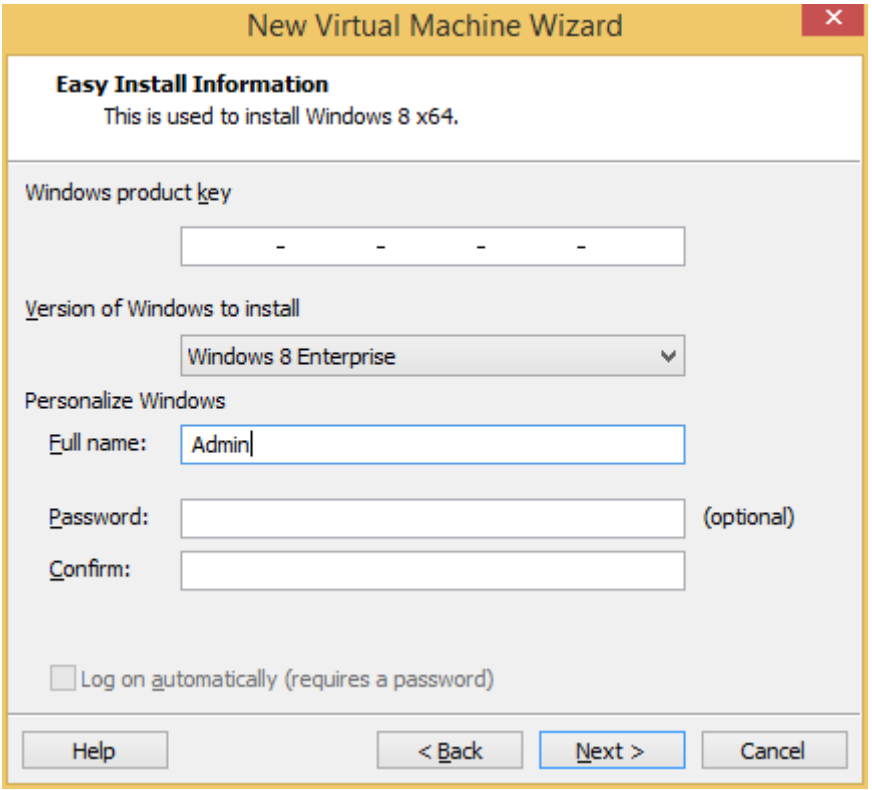
8. Click the **Browse** button. The **Browse for ISO Image** dialog box is displayed, as shown in the following figure.



Browse for ISO Image Dialog Box

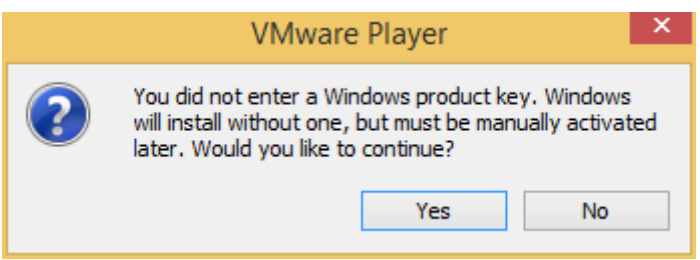
9. Browse to the location where you have saved the iso image of Windows 8.1.
10. Select the iso image.
11. Click the **Open** button. The **Browse for ISO Image** dialog box gets closed, and the path where the iso is available will be displayed in the **Installer disc image file (iso)** text box.
12. Click the **Next** button. The **Easy Install Information** page is displayed.

13. Replace the existing in the **Full name** text box with **Admin** in the **Easy Install Information** page, as shown in the following figure.



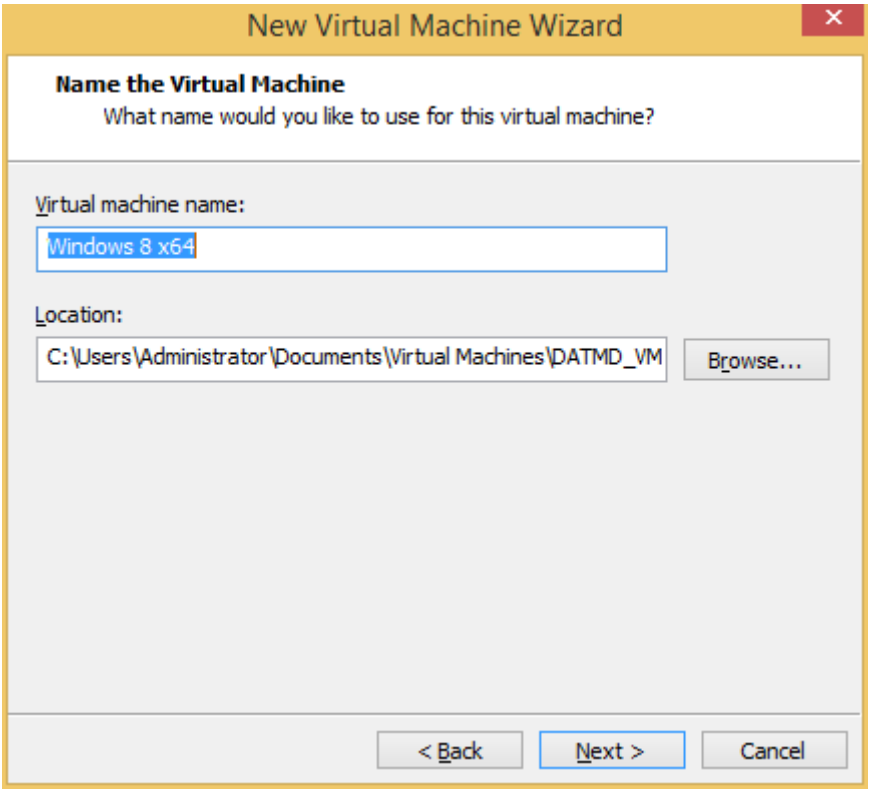
Easy Install Information Page

14. Type **Pa$$w0rd** in the **Password** text box.
15. Type **Pa$$w0rd** in the **Confirm** text box.
16. Click the **Next** button. The **VMware Player** message box is displayed, as shown in the following figure.



VMware Player Message Box

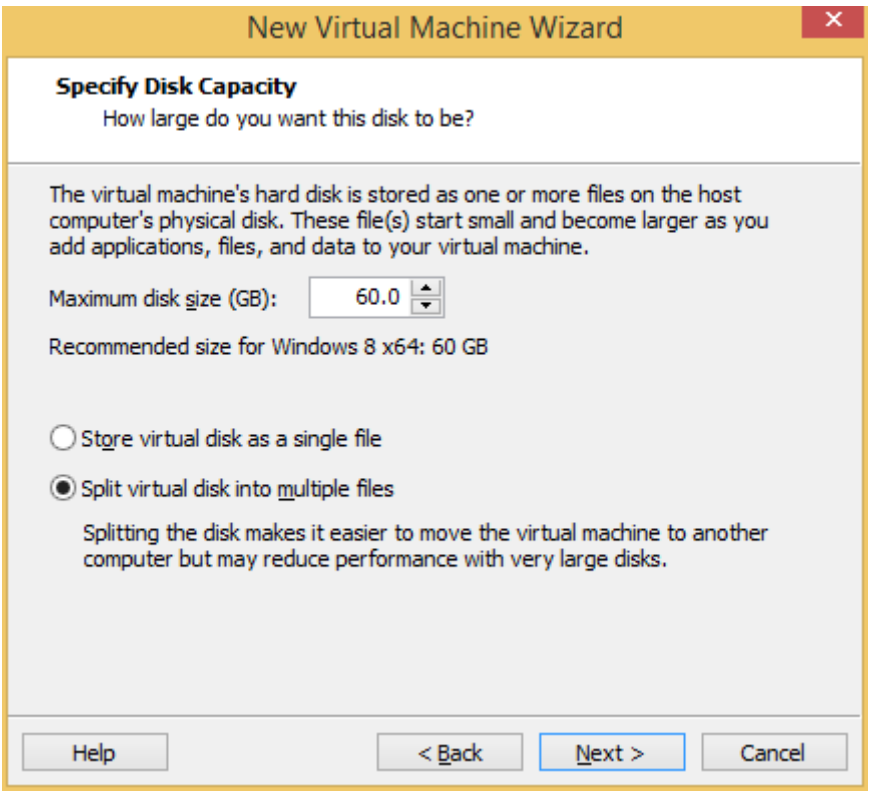
17. Click the **Yes** button. The **Name the Virtual Machine** page is displayed, as shown in the following figure.



Name the Virtual Machine Page

18. Replace the existing text in the **Virtual machine name** text box with **DATMD_VM**.

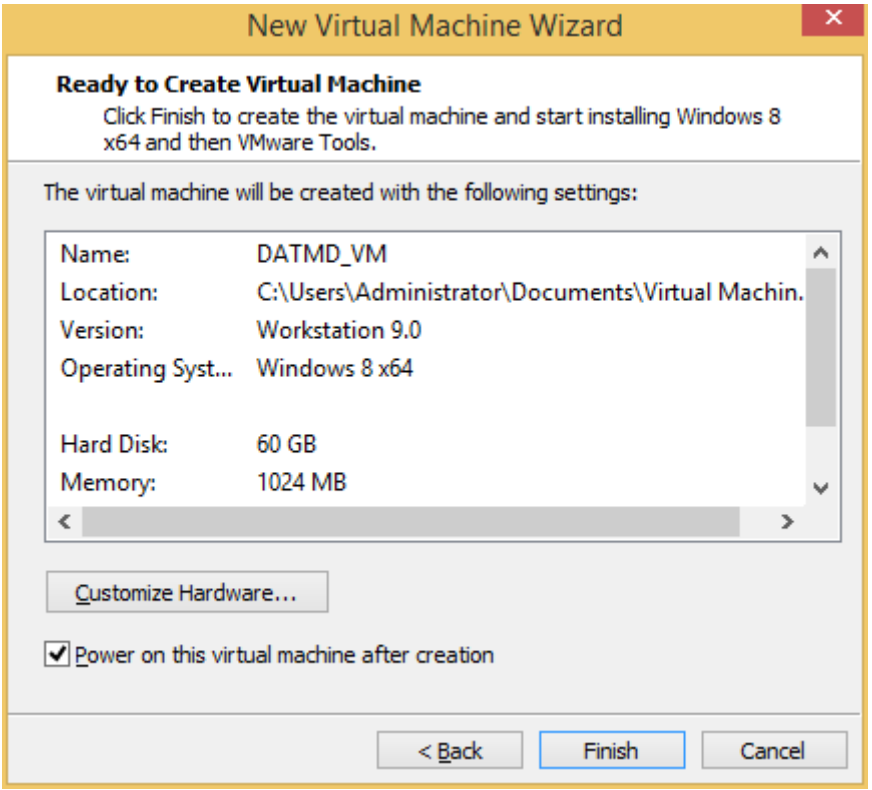
19. Click the **Next** button. The **Specify Disk Capacity** page is displayed, as shown in the following figure.



Specify Disk Capacity Page

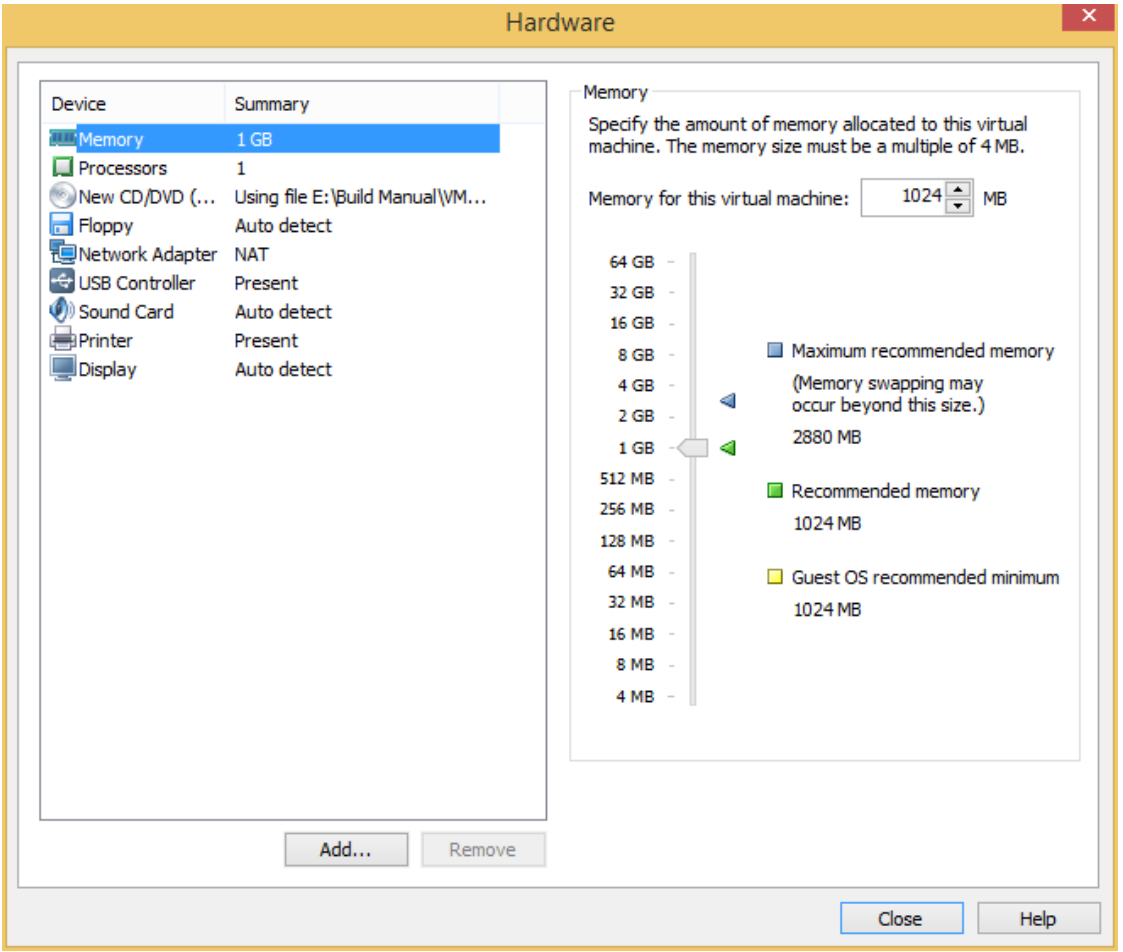
20. Select the **Store virtual disk as a single file** option.

21. Click the **Next** button. The **Ready to Create Virtual Machine** page is displayed, as shown in the following figure.



Ready to Create Virtual Machine Page

22. Click the **Customize Hardware** button. The **Hardware** dialog box is displayed, as shown in the following figure.



Hardware Dialog Box

23. Replace the existing value in the **Memory for this virtual machine** spin box with **2048**.

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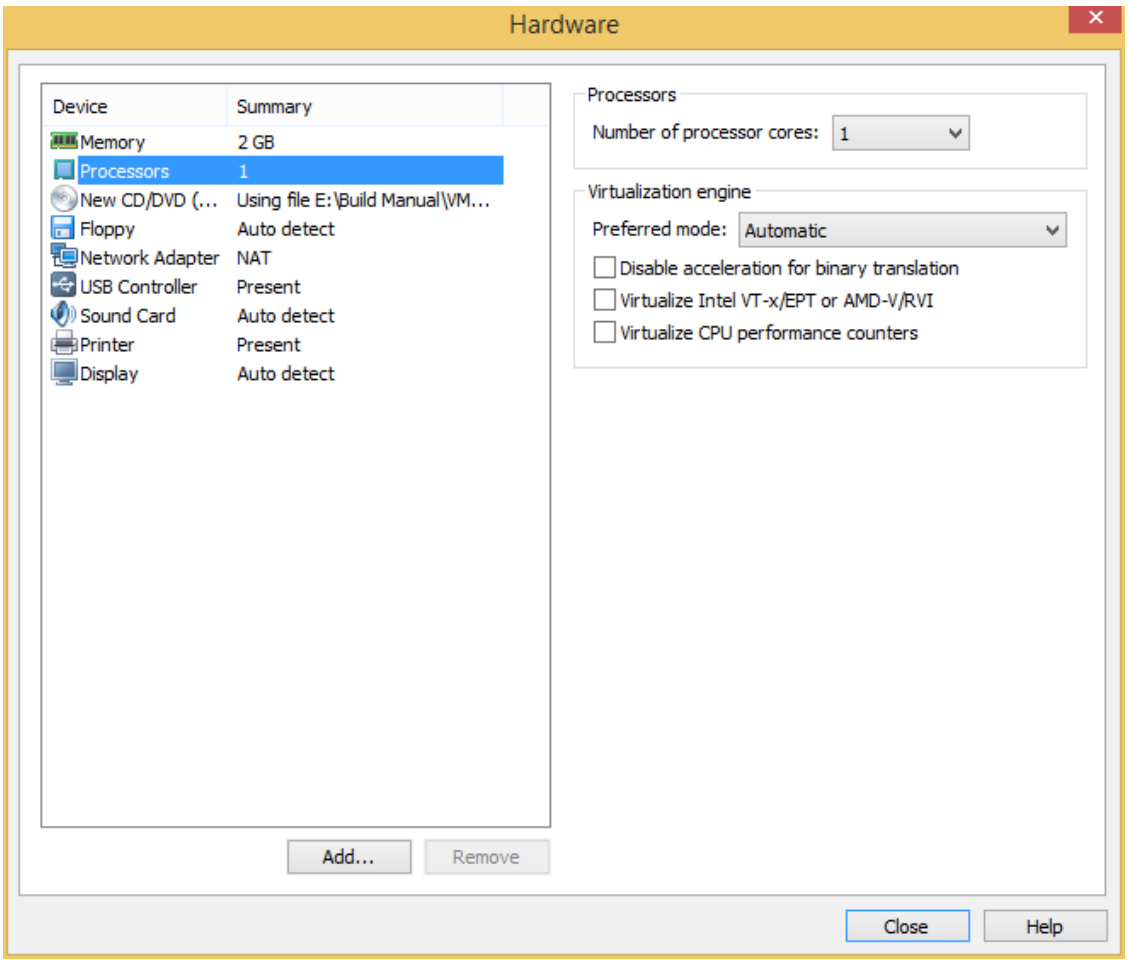
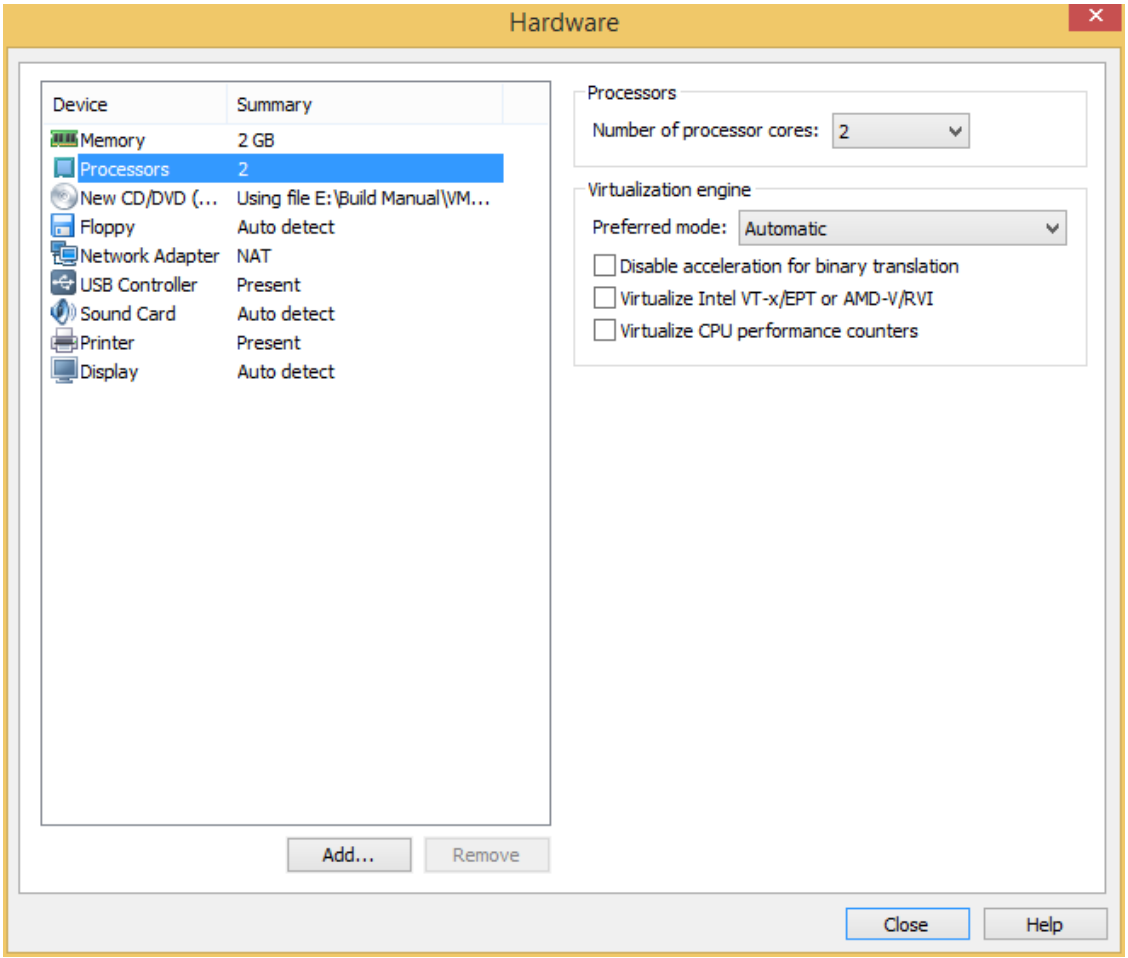
24. Select **Processors** in the **Hardware** dialog box, as shown in the following figure.



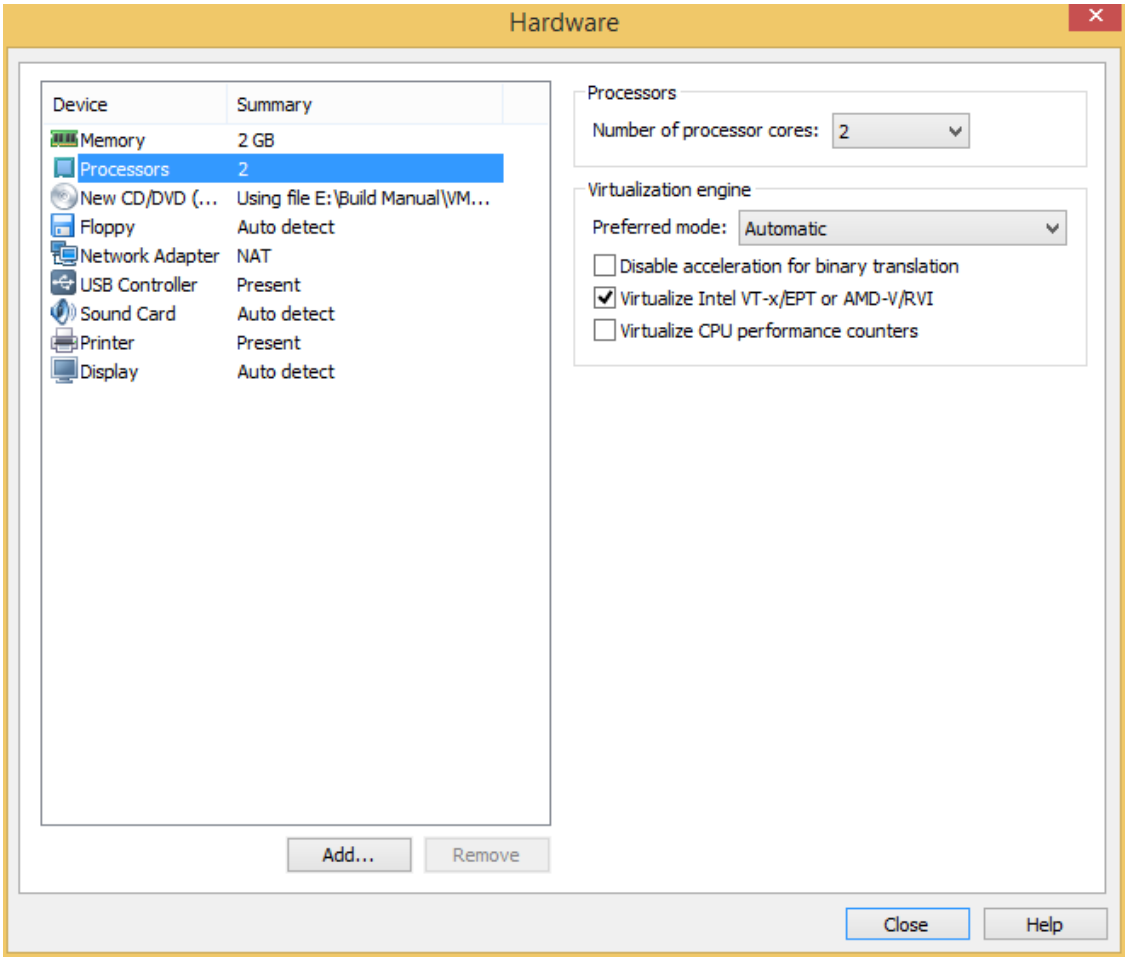
Hardware Dialog Box

25. Select **2** from the **Number of processor cores** drop-down list in the **Processors** area, as shown in the following figure.



Hardware Dialog Box

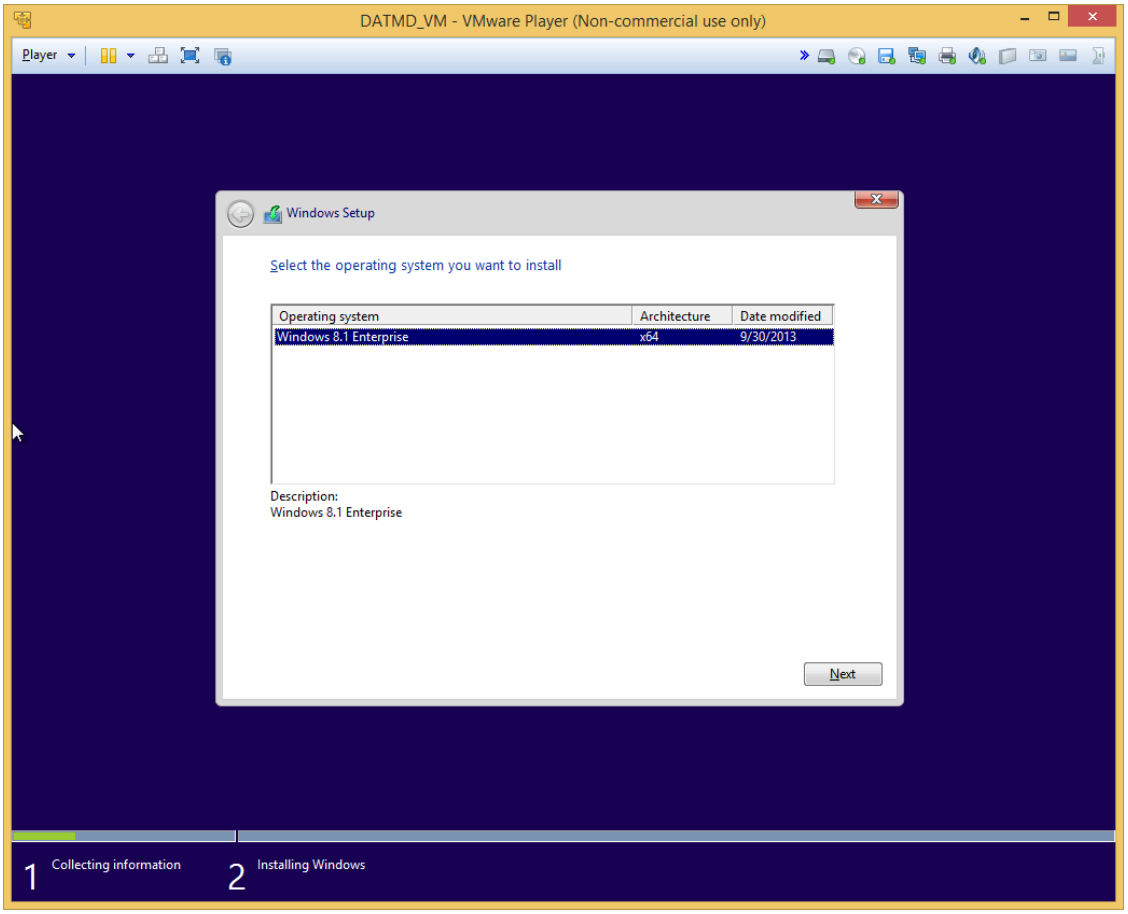
26. Select the **Virtualize Intel VT-x/EPT or AMD-V/RVI** check box in the **Virtualization engine** area, as shown in the following figure.



Hardware Dialog Box

27. Click the **Close** button. The **Hardware** dialog box gets closed.

28. Click the **Finish** button. The DATMD_VM - VMware Player window is displayed with the **Windows Setup** wizard, as shown in the following figure.



DATMD_VM - VMware Player

Note

*Click the **OK** button, if the **DATMD_VM - VMware Player** message box is displayed, as shown in the following figure.*

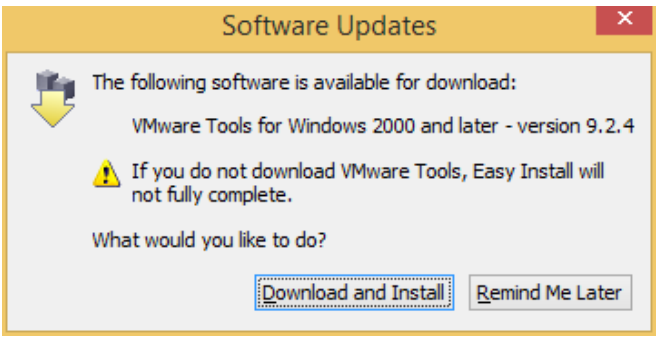
DATMD_VM - VMware Player Message Box

Note

*Specify the proxy credentials in the **Username** and **Password** text boxes, if the **Software Updates** dialog box is displayed. After specifying the credentials, click the **OK** button.*

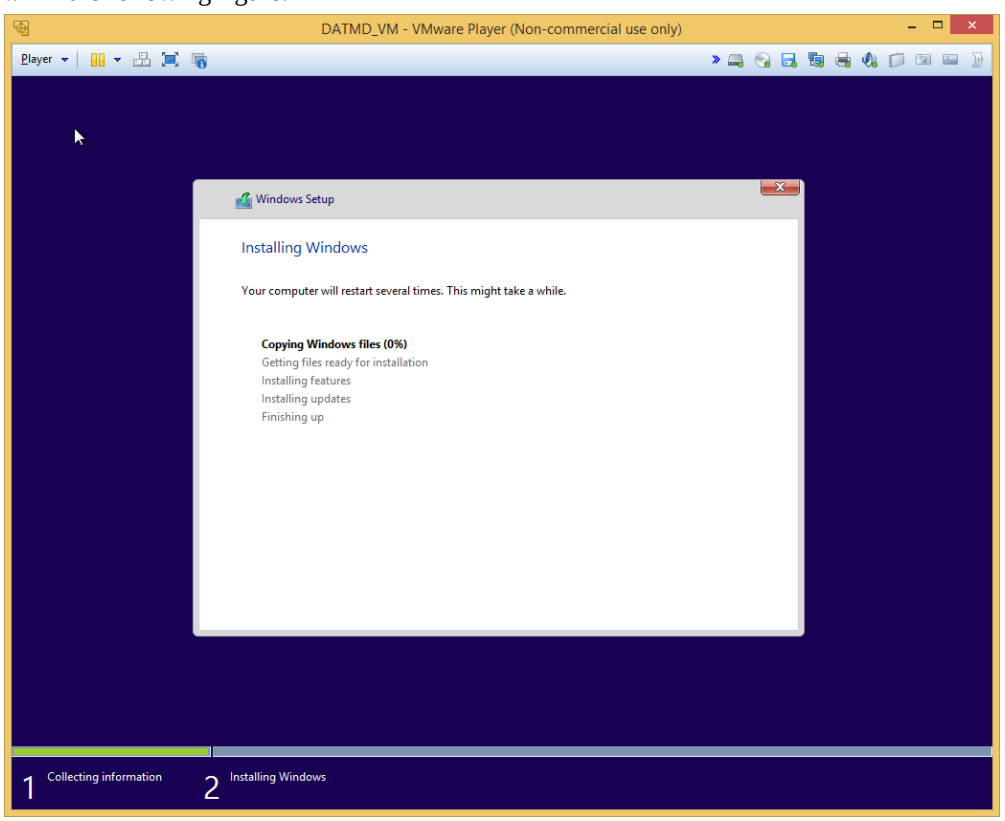
Note

*Click the **Remind Me Later** button, if the **Software Updates** dialog box is displayed, as shown in the following figure.*

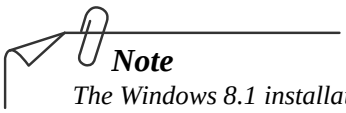


Software Updates Dialog Box

29. Click the **Next** button. The **Installing Windows** page is displayed and Windows 8.1 starts installing, as shown in the following figure.



Installing Windows



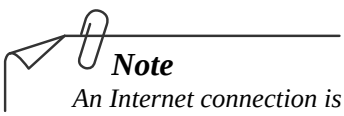
Note

The Windows 8.1 installation process might take some time.

Once the installation is complete, the **Start** screen will be displayed.

30. Sign out from Windows 8.1 running on **DATMD_VM** virtual machine.
31. Shut down the virtual machine.

Task 2.2: Installing Microsoft Visual Studio Professional 2013 with Update 4



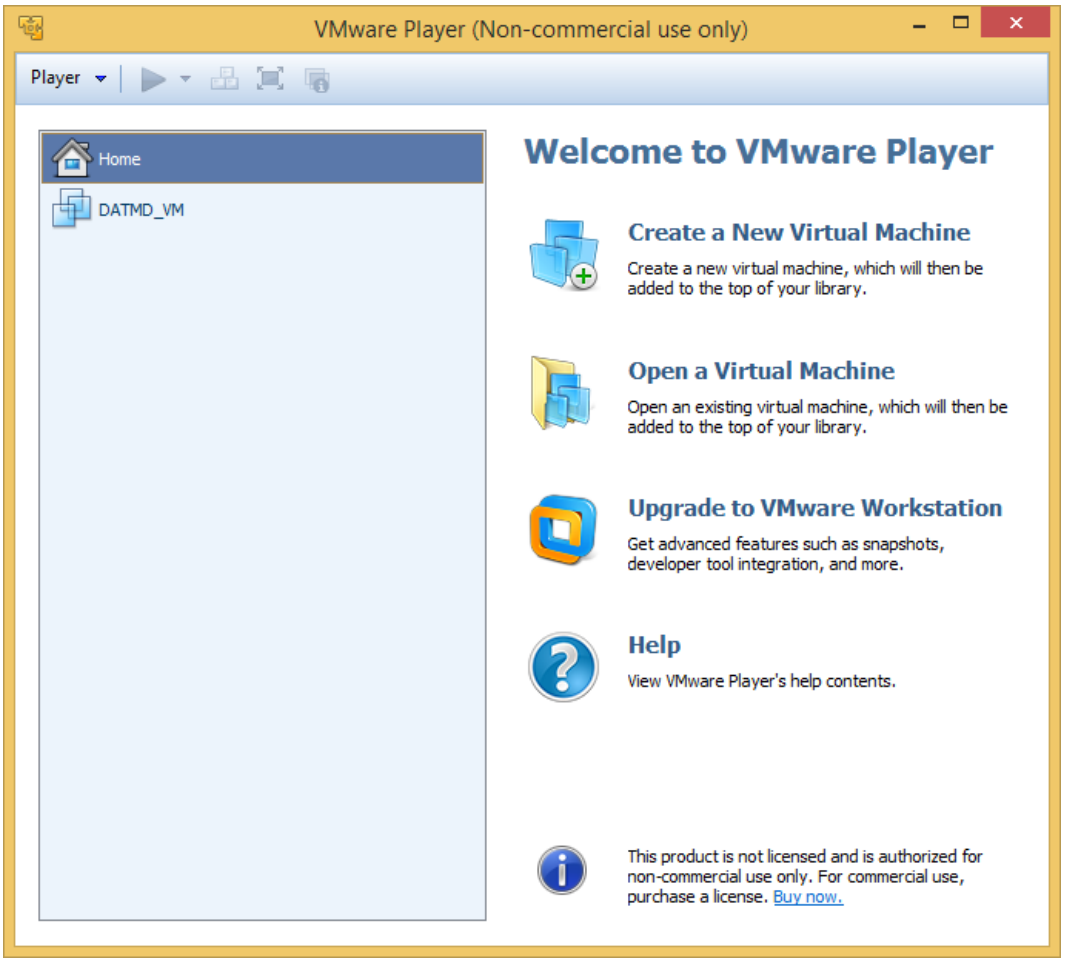
Note

An Internet connection is required to install Microsoft Visual Studio Professional 2013 with Update 4.

To install Microsoft Visual Studio Professional 2013 with Update 4, you need to perform the following steps:

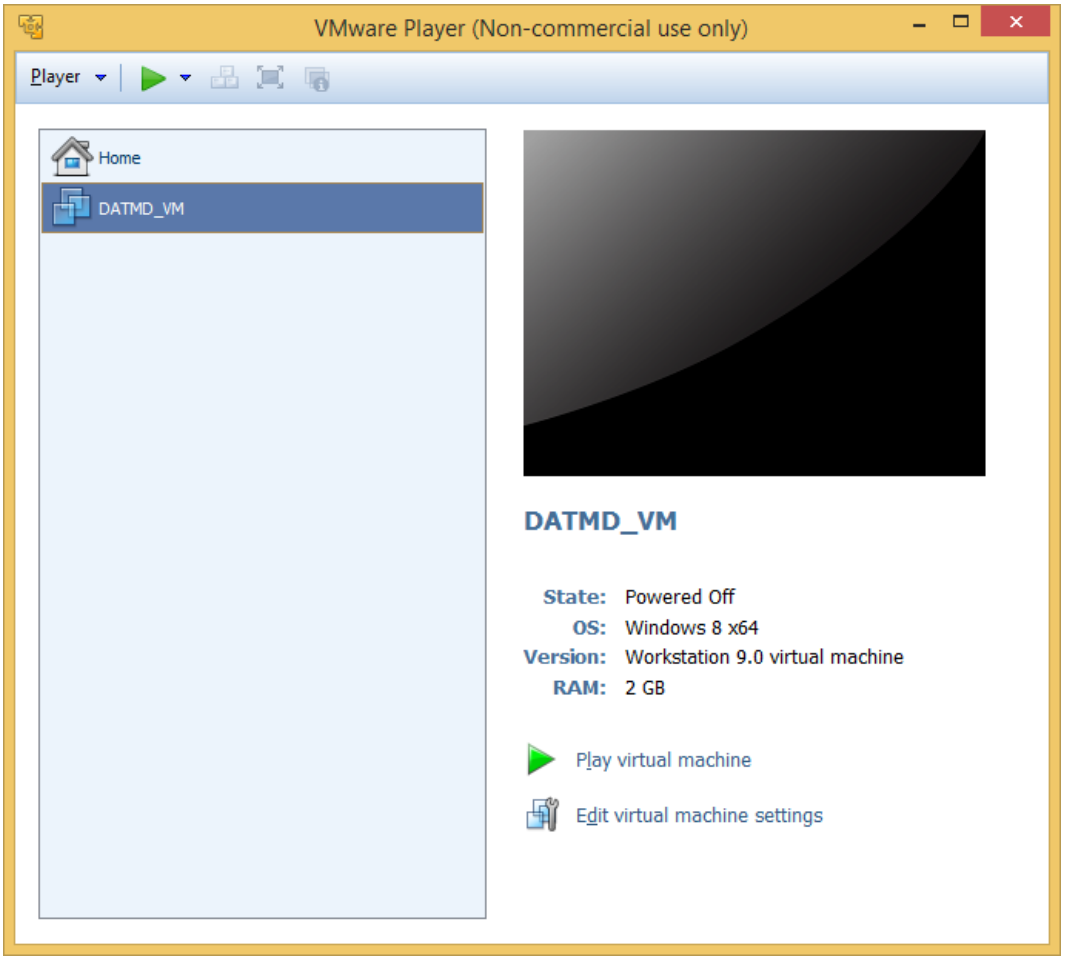
1. Press the Windows key. The **Start** screen is displayed.
2. Type **VMware Player**. The **Search** pane is displayed.

Select the **VMware Player** option. The VMware Player window is displayed, as shown in the following figure.



VMware Player Window

3. Select **DATMD_VM** in the left pane of the VMware Player window, as shown in the following figure.

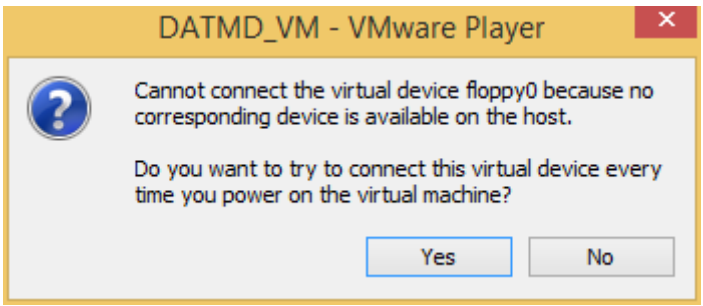


VMware Player Window

4. Click the **Play virtual machine** link in the right pane. The DATMD_VM - VMware Player window (or the **DATMD_VM** virtual machine) is displayed.

Note

*Click the **No** button, if the **DATMD_VM - VMware Player** message box is displayed, as shown in the following figure.*



DATMD_VM - VMware Player Message Box

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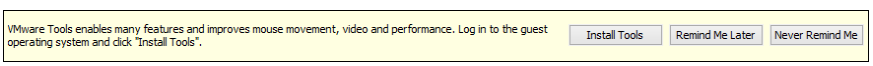
Note

*Click the **Remind Me Later** button, if the following dialog box is displayed at the bottom of the DATMD_VM - VMware Player window.*



5. Once the virtual machine starts, login into the **DATMD_VM** virtual machine using the credentials (username: **Admin** and Password: **Pa$$w0rd**) specified while creating the virtual machine.
6. Browse to the location where you have saved the iso image of Visual Studio Professional 2013 with Update 4.
7. Double-click the iso file.

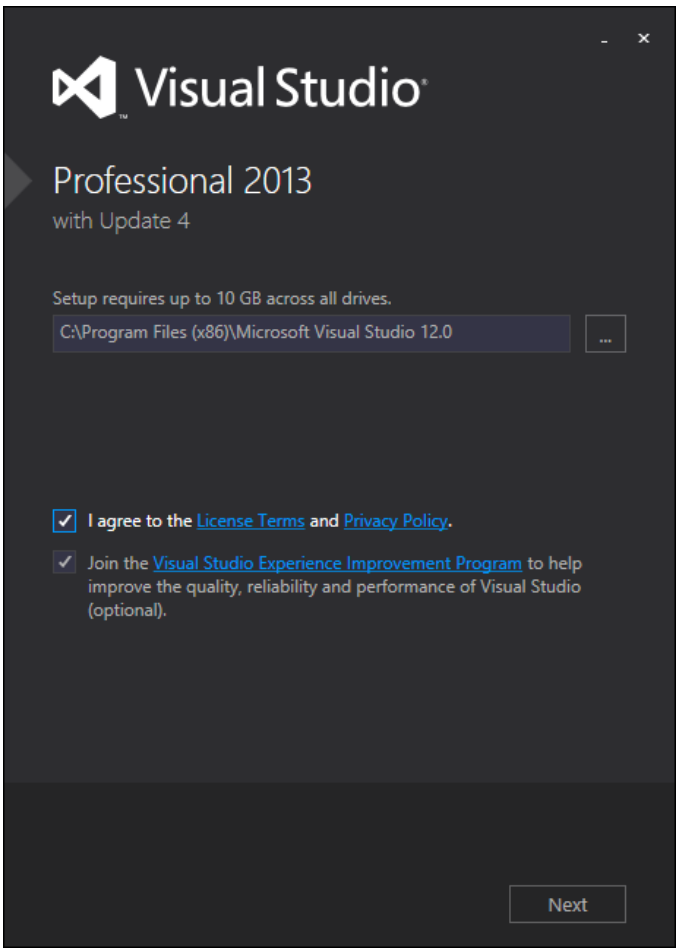
8. Double-click the **vs_professional.exe** file. The Home page of the **Visual Studio Professional 2013 with Update 4** wizard is displayed, as shown in the following figure.

Visual Studio Professional 2013 with Update 4 Wizard

Note

The extension of the file might not be displayed because it depends on your host machine configurations.

9. Select the **I agree to the License Terms and Privacy Policy** check box. The **Next** button is displayed, as shown in the following figure.



Visual Studio Professional 2013 with Update 4 Wizard

10. Click the **Next** button. The **Optional features to install** page is displayed, as shown in the following figure.

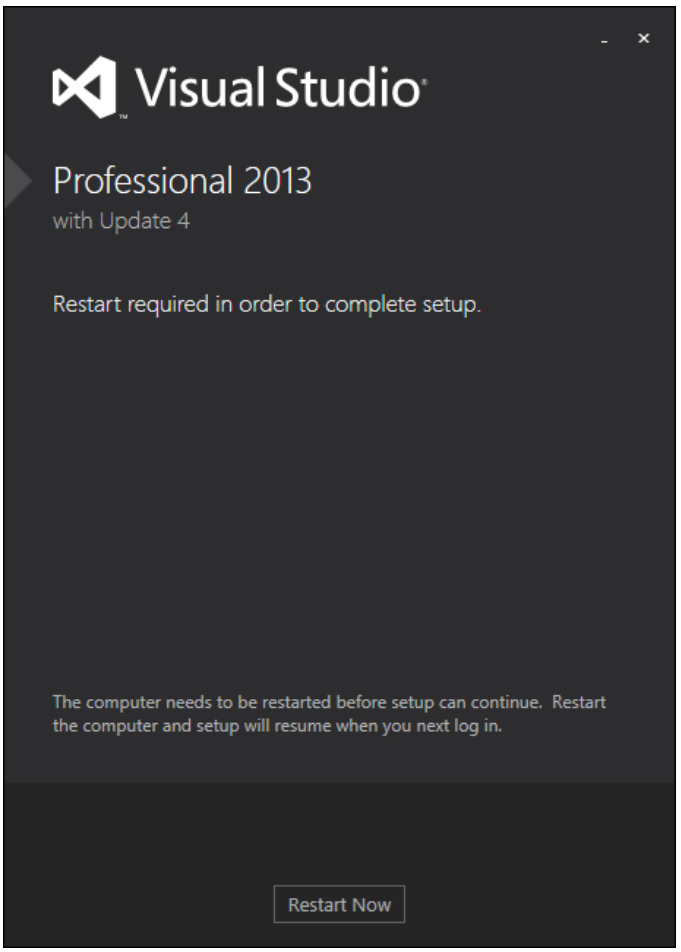
Optional features to install Page

11. Select the **Windows Phone 8.0 SDK** check box in the **Optional features to install** page, as shown in the following figure.

Optional features to install Page

12. Click the **INSTALL** button. The **User Account Control** dialog box is displayed.

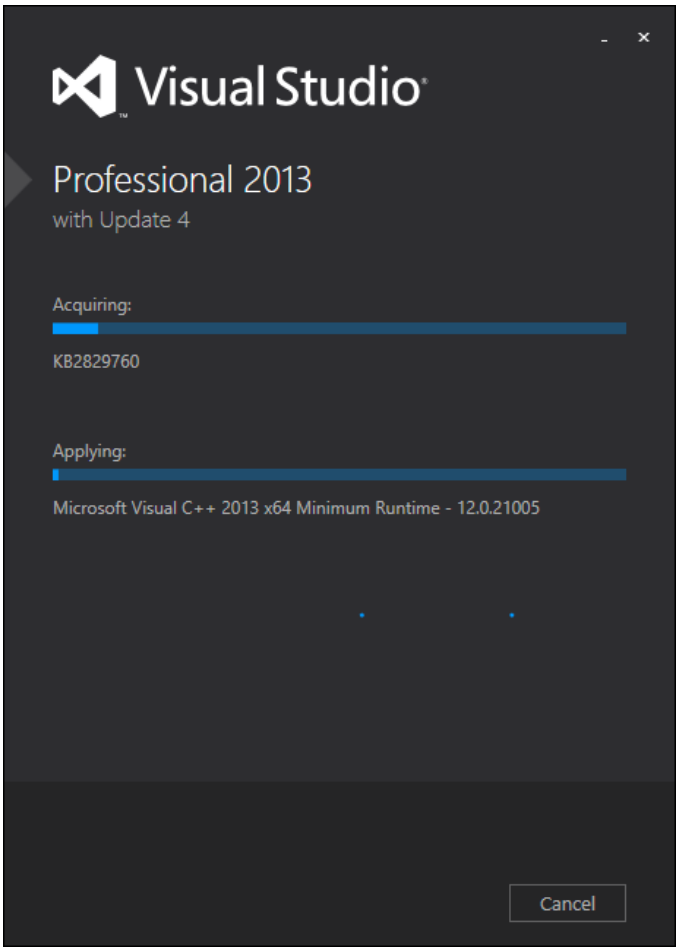
13. Click the **Yes** button. Installation of Visual Studio Professional 2013 starts. After a while, the **Restart required in order to complete setup** page is displayed, as shown in the following figure.



Restart required in order to complete setup Page

14. Click the **Restart Now** button.

15. After the virtual machine restarts, the Installation Progress page of the **Visual Studio Professional 2013 with Update 4** wizard is displayed, as shown in the following figure.



Visual Studio Professional 2013 with Update 4 Wizard

Note

*If the **Visual Studio Professional 2013 with Update 4** wizard is not displayed, then perform the following steps:*

1. *Press the Windows and **E** keys together.*
2. *Double-click the DVD drive icon.*
3. *Locate the setup file, **vs_professional.exe**.*
4. *Double-click the **vs_professional.exe** file to open it. The **User Account Control** dialog box is displayed.*
5. *Click the **Yes** button.*

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After the installation is complete, the **Setup Completed!** page is displayed, as shown in the following figure.

Setup Completed! Page

16. Close the **Visual Studio Professional 2013 with Update 4** wizard.

Task 2.3: Installing Tools for Apache Cordova for Visual Studio 2013

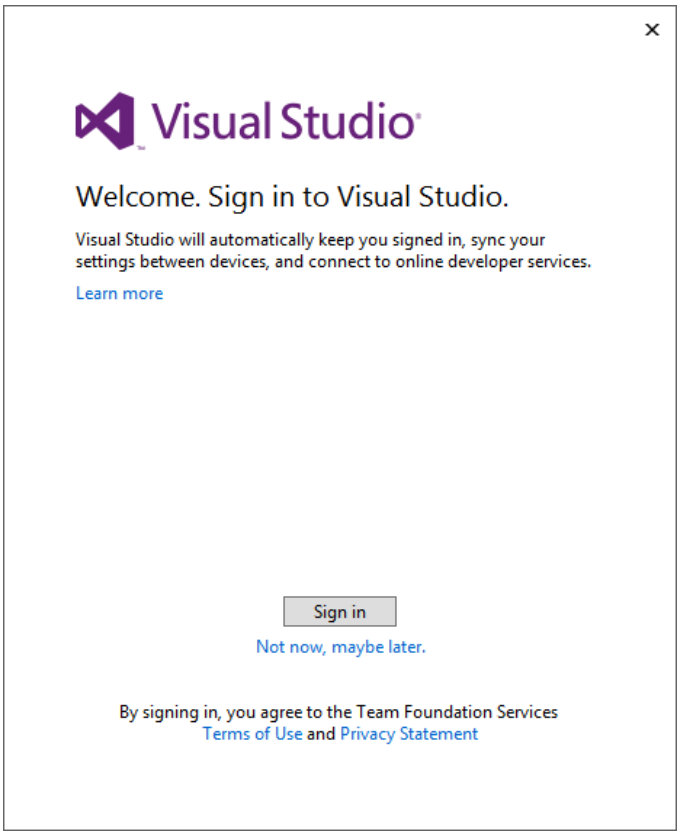
Note

To install Apache Cordova for Visual Studio 2013, you need to ensure that the Internet connection is not restricted by any proxy server.

To install tools for Apache Cordova for Visual Studio 2013, you need to perform the following steps:

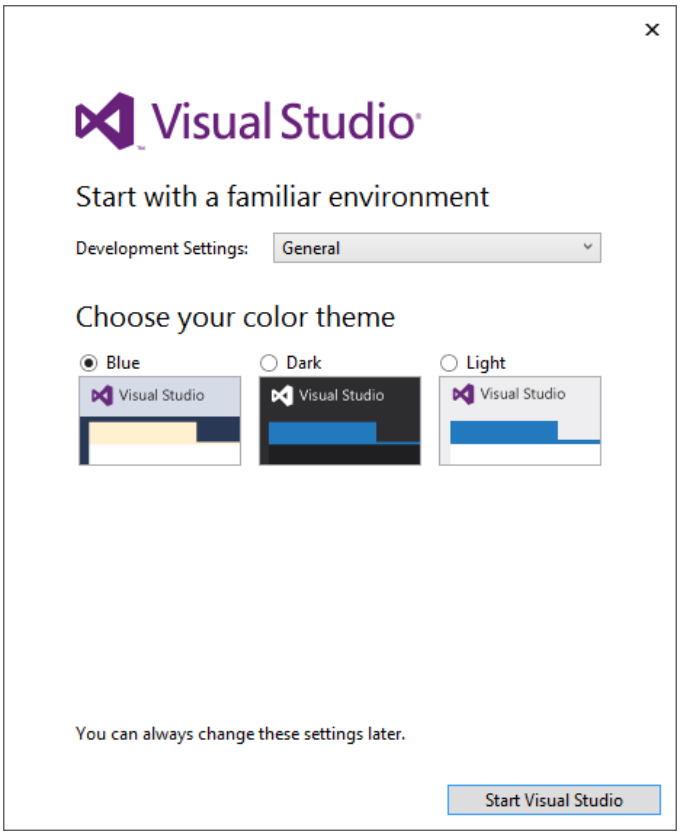
1. Ensure that the **DATMD_VM** virtual machine is running.

2. Open Microsoft Visual Studio 2013.
3. The **Welcome. Sign in to Visual Studio** dialog box is displayed, as shown in the following figure.



Welcome. Sign in to Visual Studio Dialog Box

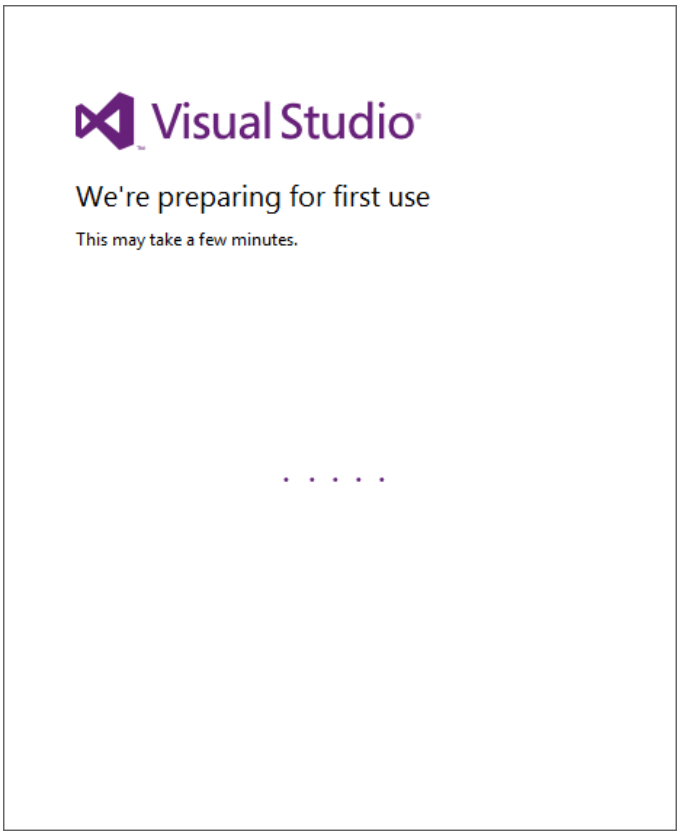
4. Click the **Not now, maybe later** link. The **Start with a familiar environment** page is displayed, as shown in the following figure.



Start with a familiar environment Page

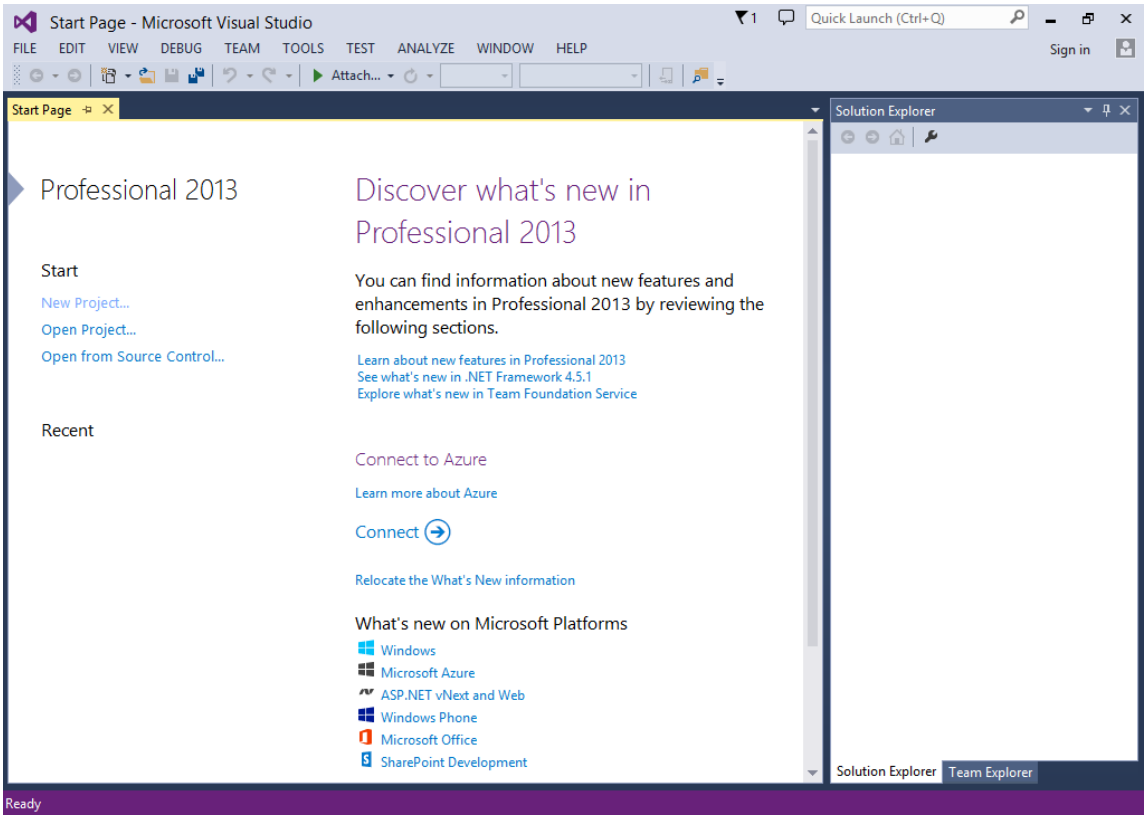
5. Select **JavaScript** option from the **Development Settings** drop-down list.
6. Choose any one of the color themes.

7. Click the **Start Visual Studio** button. The **We're preparing for first use** dialog box is displayed, as shown in the following figure.



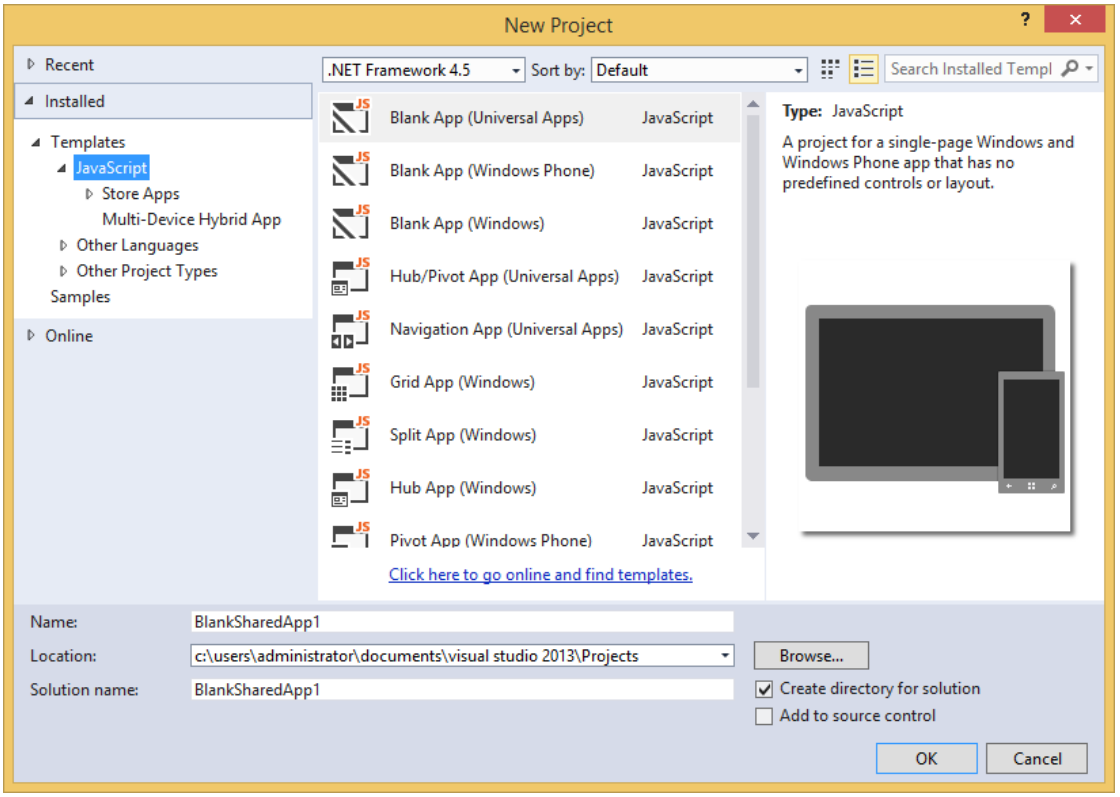
We're preparing for first use Dialog Box

After a while the **Start Page - Microsoft Visual Studio** window is displayed, as shown in the following figure.



Start Page - Microsoft Visual Studio Window

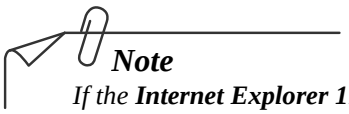
8. Select **FILE→New→Project**. The **New Project** dialog box is displayed, as shown in the following figure.



New Project Dialog Box

9. Ensure that the **Installed→Templates→JavaScript** node is expanded in the left pane.
10. Select the **Multi-Device Hybrid App** node under the **JavaScript** node in the left pane.
11. Select the **Install Tools for Apache Cordova** option in the middle pane.
12. Click the **OK** button. The **Install Multi-Device Hybrid App Tools** page is displayed in the Internet Explorer window, as shown in the following figure.

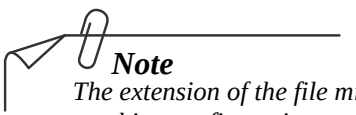
Install Multi-Device Hybrid App Tools Page



Note

*If the **Internet Explorer 11** dialog box is displayed, click the **Ask me later** button.*

13. Click the **Install the Multi-Device Hybrid App Tools** button. A pop-up is displayed at the bottom of the Internet Explorer window.
14. Click the **Save** drop-down arrow button. A menu is displayed.
15. Select the **Save as** option. The **Save As** dialog box is displayed.
16. Browse to the location where you want to save the file, **vs2013mda_0.3.exe**.

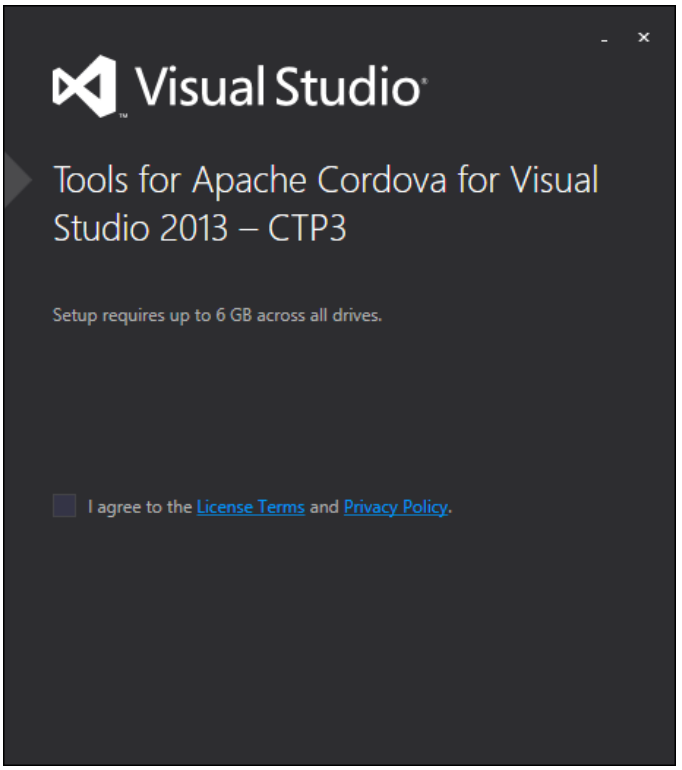


Note

The extension of the file might not be displayed because it depends on your host machine configurations.

17. Click the **Save** button. The file download pop-up is displayed.
18. Close the file download pop-up once the download is complete.
19. Close the Internet Explorer window.
20. Close the **Start Page - Microsoft Visual Studio** window.
21. Browse to the location where you have saved the **vs2013mda_0.3.exe** file.

22. Double-click the **vs2013mda_0.3.exe** file. The **Tools for Apache Cordova for Visual Studio 2013 – CTP3** wizard is displayed, as shown in the following figure.

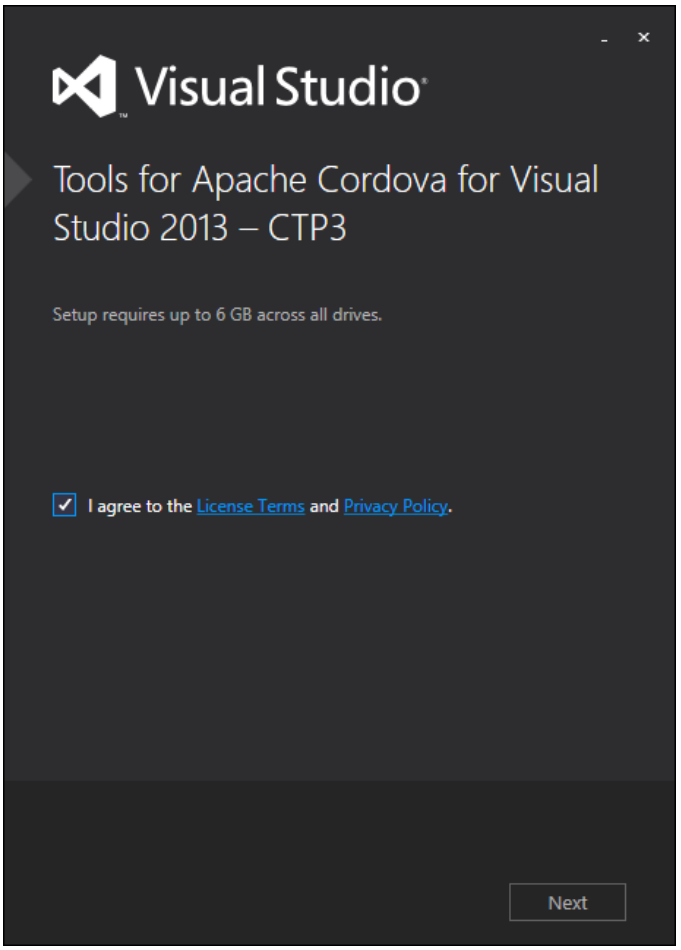


Tools for Apache Cordova for Visual Studio 2013 – CTP3 Wizard

Note

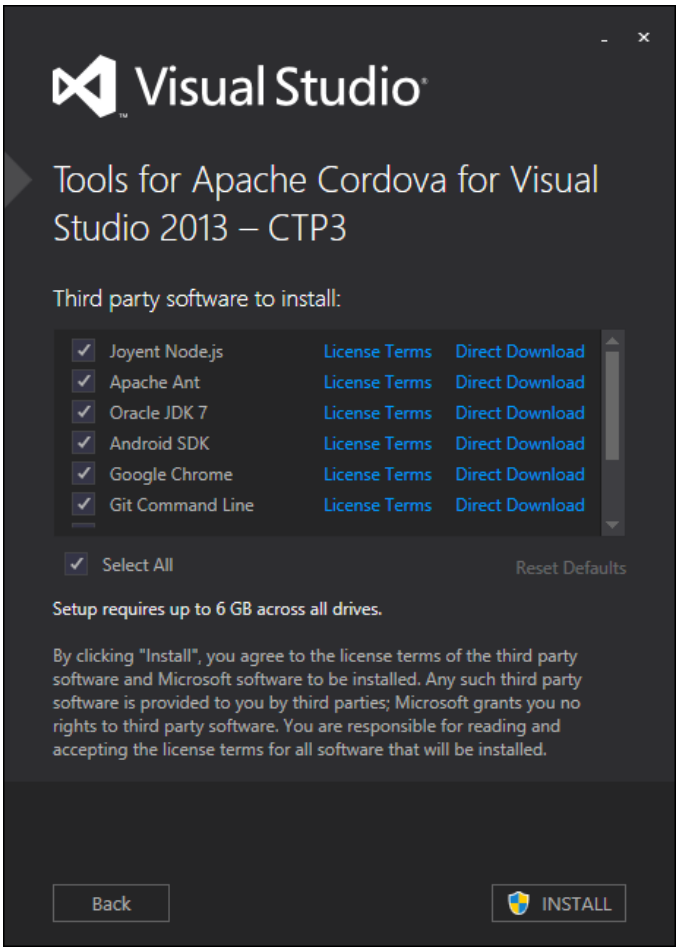
*Click the **Run** button, if the **Open File - Security Warning** dialog box is displayed.*

23. Select the **I agree to the License Terms and Privacy Policy** check box. The **Next** button is displayed, as shown in the following figure.



Tools for Apache Cordova for Visual Studio 2013 – CTP3 Wizard

24. Click the **Next** button. The **Third party software to install** page is displayed, as shown in the following figure.



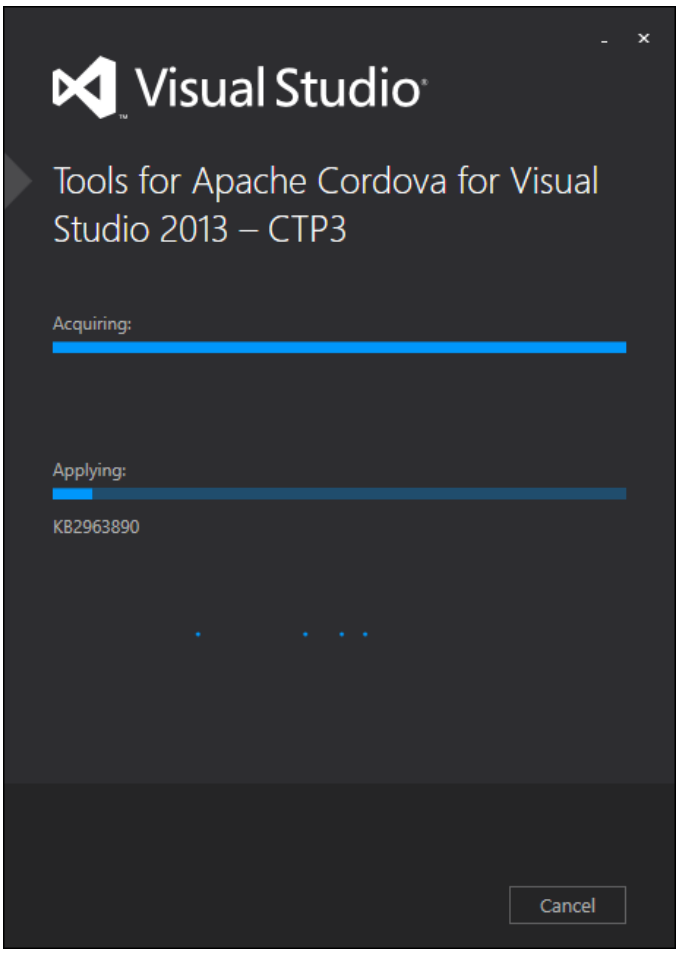
Third party software to install Page

25. Ensure that the **Select All** check box is selected.
26. Click the **INSTALL** button. The **User Account Control** dialog box is displayed.

Note

*If you do not have the administrator rights, you need to provide the admin credentials in the **User Account Control** dialog box.*

27. Click the **Yes** button. The Installation Progress page is displayed, as shown in the following figure.

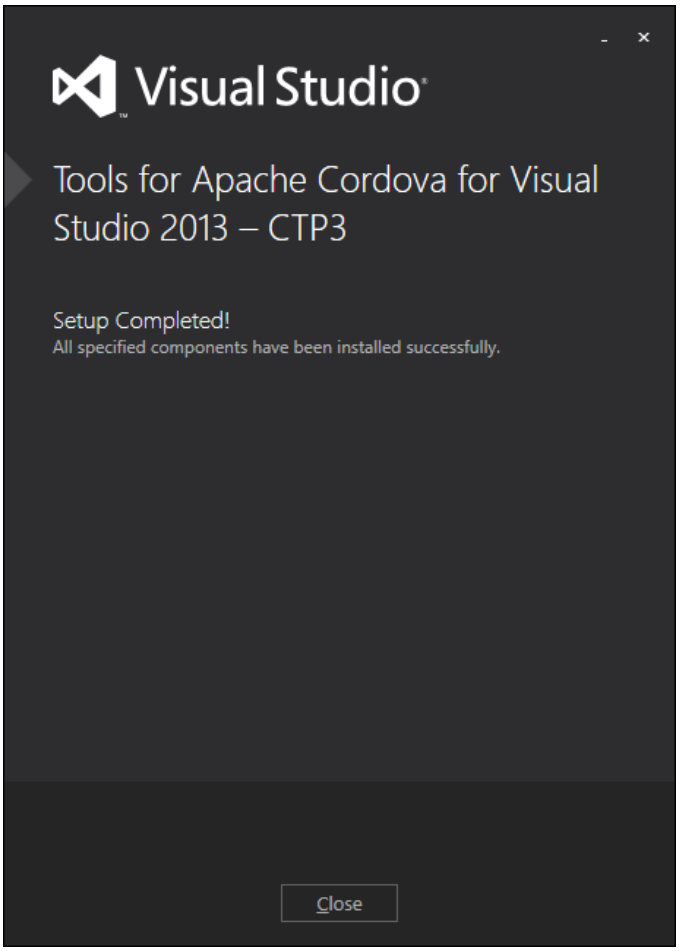


Installation Progress Page

Note

The installation process might take several minutes to complete depending upon the speed of the Internet connection.

After the installation is complete, the **Setup Completed!** page is displayed, as shown in the following figure.



Setup Completed! Page

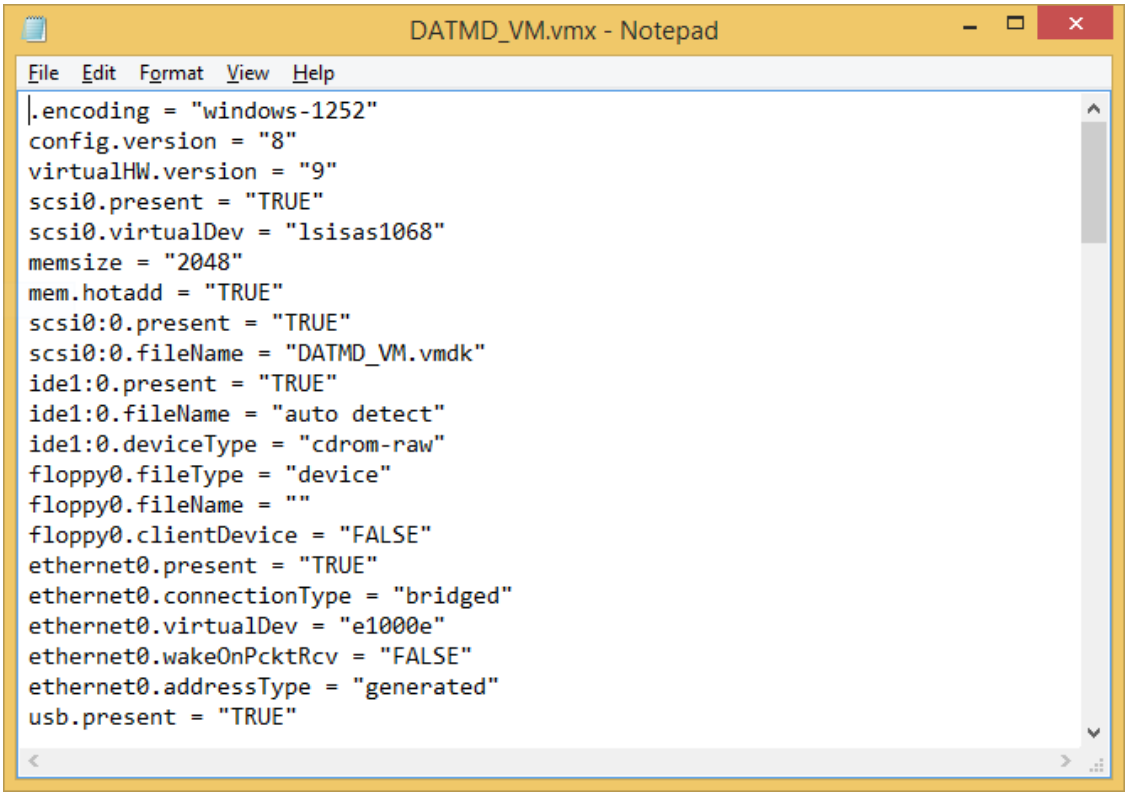
28. Click the **Close** button.
29. Sign out from Windows 8.1 running on **DATMD_VM** virtual machine.
30. Shut down the virtual machine.

Task 2.4: Enabling the Emulator to Run on the Virtual Machine

To enable the emulator to run on the virtual machine, you need to perform the following steps:

1. Browse to the location where the **DATMD_VM** virtual machine is stored on the host computer.
2. Double-click the **DATMD_VM** folder. The **DATMD_VM** window is displayed.

3. Open the **DATMD_VM.vmx** file with Notepad. The **DATMD_VM.vmx - Notepad** window is displayed.



DATMD_VM.vmx - Notepad Window

4. Type **hypervisor.cpuid.v0 = "FALSE"** below **virtualHW.version = "9"**.
5. Save the **DATMD_VM.vmx** file.
6. Close the file.
7. Close the **DATMD_VM** window.