WA2266 Development with MongoDB

Classroom Setup Guide

Web Age Solutions

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Part 1 - Minimum Hardware Requirements

- Dual Core CPU or better.

- 8 GB RAM minimum

- 20 GB in the hard disk

- Internet connection

Part 2 - Minimum Software Requirements

- Windows 8.1 or Server 2012 R2

- Latest Google Chrome browser

- Java 8 *

- MongoDB 4.0.3*

- nginx 1.4.3*

- Notepad+ 6.5 *

- NodeJS 14.15.1 *

- Eclipse Oxygen for Java Developers *

- OpenSSL 1.0.2 *

- Visual Studio Code

  * - indicates software provided as part of the courseware.

Part 3 - Software Provided

List of ZIP files required for this course and used in next steps on this document:

- **WA2266_REL_6_5.zip**

Send an email to support@webagesolutions.com in order to obtain a copy of the software for this course if you haven't receive it yet.

All other software listed under Minimum Software Requirements is either commercially licensed software that you must provide or software that is freely available off the Internet.

Part 4 - Important Ghosting or Imaging Information

Some of the software installed for this course will not function after changing the computer hostname. As such, cloning or imaging should not be used on a fully installed system.

You can save time by extracting the contents of the USB memory stick to C:\ on a clean OS install (no other software installed) and then imaging that hard drive. After restoring the image to the other computers and changing the hostnames, you can then install the software on each computer individually by following the instructions that are detailed later in this document.

Part 5 - Instructions

__**1. Make sure the account that you are using to install the software has administrative privileges and the student using this machine will have the same rights.**

__2. Extract the **ZIP** file to **C:**

__3. Review that the following folders were created:

- **C:\LabFiles**

- **C:\Software**

- **C:\Software\eclipse**

- **C:\Software\nginx-1.4.3**

- **C:\Software\NotepadPlus**

- **C:\Software\OpenSSL_102**

__4. Review that the following files were created:

- **C:\Software\jdk-8u45-windows-i586.exe**

- **C:\Software\mongodb-win32-x86_64-2008plus-ssl-4.0.3-signed.msi**

- **C:\Software\mongo-java-driver-3.4.2.jar**

- **C:\Software\node-v14.15.1-x64.msi**

__5. Make sure the **C:\Software** and **C:\LabFiles** folders are **writable**, is they are read-only then the software won't work and students will have problems during the labs.

__6. Download and install the latest Google Chrome browser.

## Part 6 - Installing JDK 8 Update 45

__1. Make sure there is no previous Java version already installed on the system. You can check this by using the Windows "Add/Remove Programs" utility. For the best compatibility with the labs it is suggested that all previous versions of Java be uninstalled before proceeding with these instructions. If this is an issue, please contact the setup support person for the course.

__2. From the **C:\Software** directory run the following file:
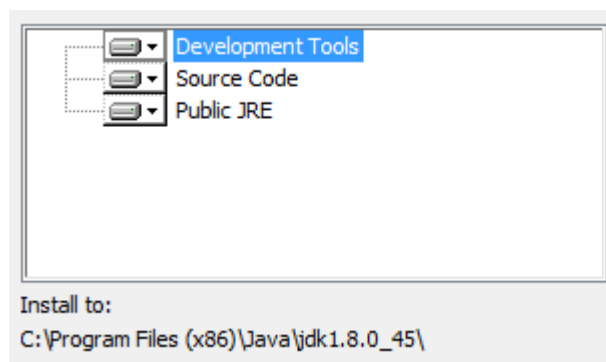
```
jdk-8u45-windows-i586.exe
```

Note: If using prompted by a security prompt allow the installation to continue.

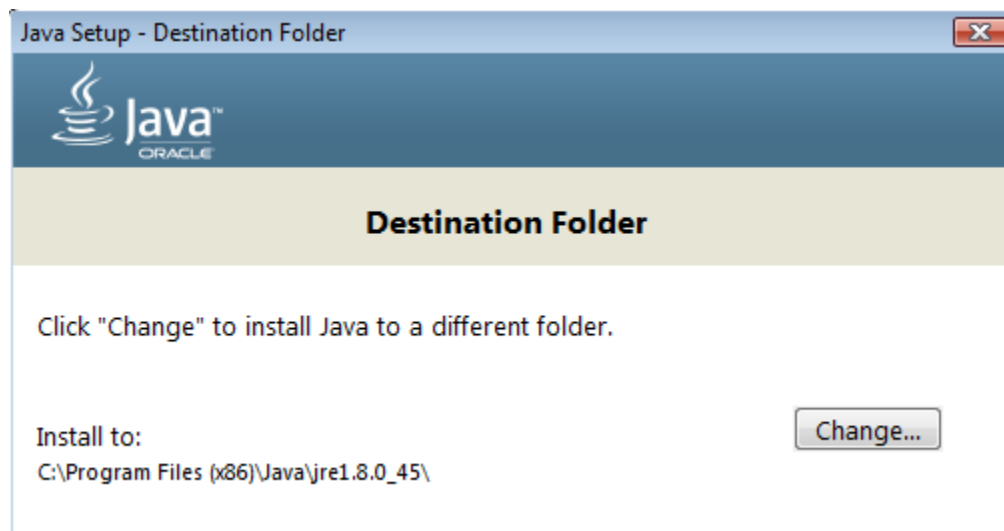__3. When the initial step of the setup appears, press the **Next** button.
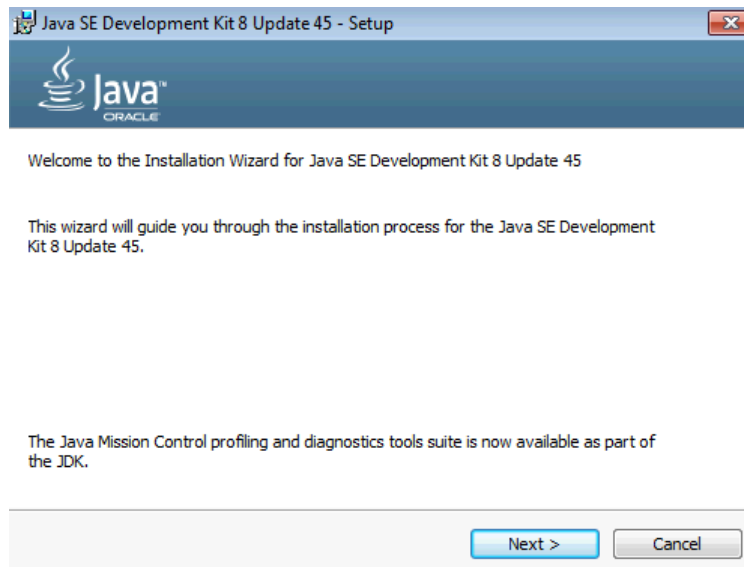
__4. Leave the defaults for installation location and options, and press the **Next** button.

Note: The installation directory may be slightly different.

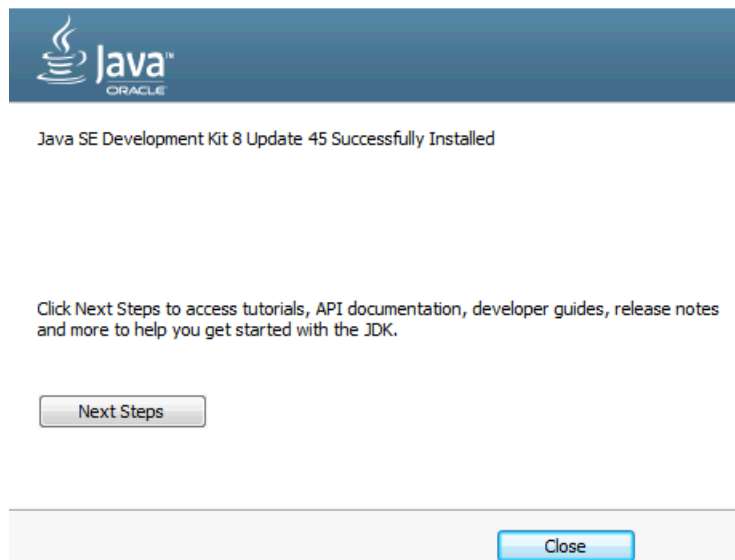The installation will begin installing files.

__5. The Destination Folder will appear, leave the default folder and click **Next**.

Note:	The installation directory may be slightly different.

Wait until the software is completely installed.
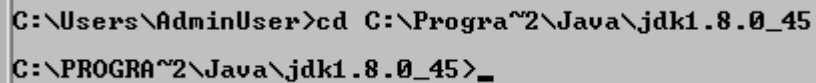
__6. Click **Close**.

__7. Close any browser that appears asking to register the JDK software.

Set the Environment variables.

__1. Open a Command Prompt. You can do this with '**Start → Programs → Accessories → Command Prompt**'.

__2. Use the 'cd' command to attempt to switch to the following directory. This will verify the presence of a directory used later so make sure you do not get any errors about not being able to "find the path specified".
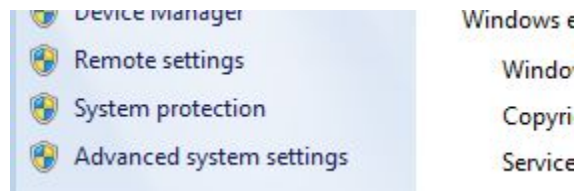
```
cd C:\Progra~2\Java\jdk1.8.0_45
```

```
Copyright (c) 2000 Microsoft Corporation.  All rights re

C:\Users\AdminUser>cd C:\Progra~2\Java\jdk1.8.0_45

C:\PROGRA~2\Java\jdk1.8.0_45>_
```

> **Note:** The installation directory may be slightly different depending your operating system. You may need to use the following directory instead of the one listed above:
>
> **C:\Progra~1\Java\jdk1.8.0_45**
>
> Some of the remaining steps will use the slightly different directory.

__3. Make sure you can reach the java folder and remember the value entered because you will use this value in the following steps.

__4. Close the command prompt window.

__5. In the Windows Start Menu, right-click on the **Computer** link in the right-hand side of the Start panel, and then select **Properties**.

__6. Click on **Advanced system settings**.

```
   Device Manager              Windows e
   Remote settings               Windo
   System protection             Copyri
   Advanced system settings      Service
```

__7. The system will display the **System Properties** dialog. Select the **Advanced** tab and click **Environment Variables**.
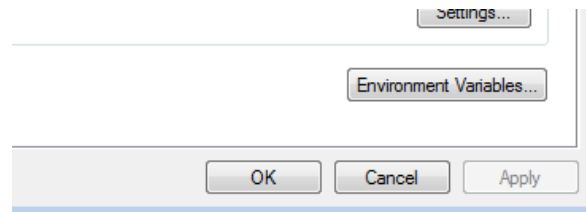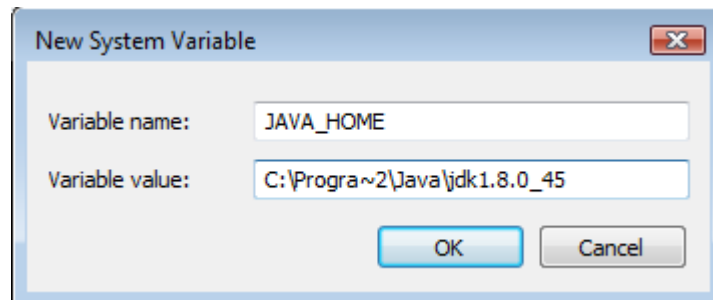
__8. Under the **System Variables** list, click the **New** button.

__9. Enter the following as Variable name:

`JAVA_HOME`

__10. As Variable value enter the following. This should be the value you verified in the *Set the Environment variables section - step 2.*
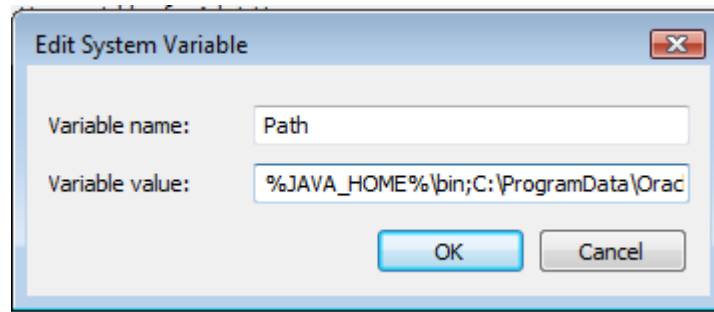
`C:\Progra~2\Java\jdk1.8.0_45`

Note: If you are using a 32-bit OS you may have to use **C:\Progra~1\Java\jdk1.8.0_45**

__11. Click **OK** to create the variable.

__12. From the *System Variables* list, select **Path** and click **Edit**.

__13. At the beginning of the line enter the following. Make sure to include the semi-colon on the end:

`%JAVA_HOME%\bin;`

__14. Click **OK**.

__15. Click **OK** to close the *Environment Variables* window.

__16. Click **OK** to close the *System Properties* window.

Part 7 - Verification of JDK 8 Update 45

__1. Open a Windows command prompt. You can do this by selecting '**Start -> Run**', entering '**cmd**', and then pressing the **OK** button. Make sure it is a new command prompt and not one open previously.

__2. Enter the following command:

```
echo %PATH%
```

Make sure you see the Java 'bin' directory listed at the beginning.

Note: You may see **C:\Progra~1\Java\jdk1.8.0_45** or **C:\Progra~2\Java\jdk1.8.0_45**

__3. Enter the following command:

```
java -version
```

Make sure you see the response shown below.

```
C:\Users\AdminUser>java -version
java version "1.8.0_45"
Java(TM) SE Runtime Environment (build 1.8.0_45-b15)
Java HotSpot(TM) Client VM (build 25.45-b02, mixed mode)

C:\Users\AdminUser>_
```

Troubleshooting: If you get an error message means that your Environment variable was incorrectly entered, go back and fix the values.

__4. Enter the following command:

javac

Verify that you get the options to run the Java compiler:

```
C:\Users\AdminUser>javac
Usage: javac <options> <source files>
where possible options include:
  -g                          Generate all debugging info
  -g:none                     Generate no debugging info
  -g:{lines,vars,source}      Generate only some debugging info
```

__5. Enter the following command:

java -XshowSettings:all 2>&1 | findstr /c:"sun.arch.data.model"

```
C:\Users\wasadmin>java -XshowSettings:all 2>&1 | findstr /c:"sun.arch.data.model
"
    sun.arch.data.model = 32
```

Verify that it displays the correct value of 32. This indicates that it is 32-bit java that is installed.

Troubleshooting: If it displays 64 for the value, then you have 64 bit java installed and this will cause issues. Please uninstall the 64-bit java and reinstall the indicated 32-bit jdk.

__6. Close the command prompt window and any extra windows that are open.

Java has been installed.

Part 8 - Installing Node.js node-v14.15.1-x64

__1. Open **C:\Software**

__2. Double click on **node-v14.15.1-x64.msi** to begin installation.

__3. In the Welcome page, click **Next**.

__4. Check **I accept the terms...** and click **Next**.

__5. Accept default destination folder and click **Next**.

__6. Accept default Custom Setup selection and click **Next**.

__7. Accept default tools selection and click **Next**.

__8. Click **Install**.

__9. A popup window may open asking to install the software. Click Yes to continue.

__10. Click **Finish**.
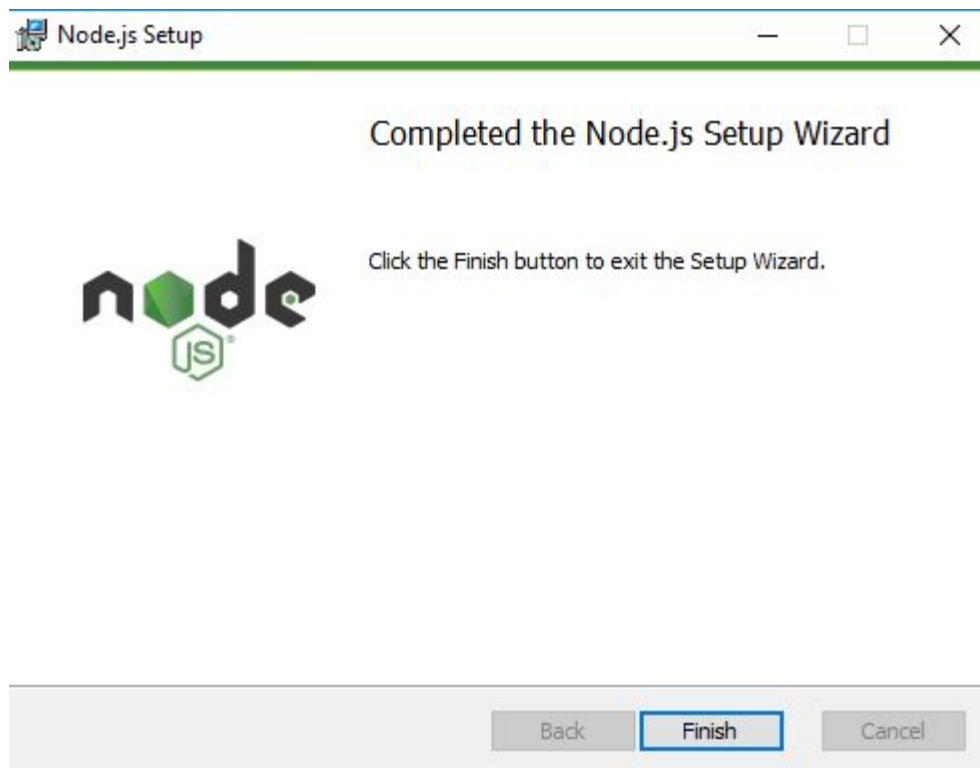
Installation verification of Node.js

__1. Open a command prompt window.

__2. Enter the command:

```
node --version
```

__3. Make sure that you see **14.15.1** as the output.

__4. Close all.

Part 9 - MongoDB 4.0.3 Installation

__1. Open a file browser to **C:\Software**

__2. Run the following file:

`mongodb-win32-x86_64-2008plus-ssl-4.0.3-signed.msi`

__3. In the Welcome page, click **Next**.

__4. Accept the license agreement and click **Next**.

__5. Click the **Custom** button.
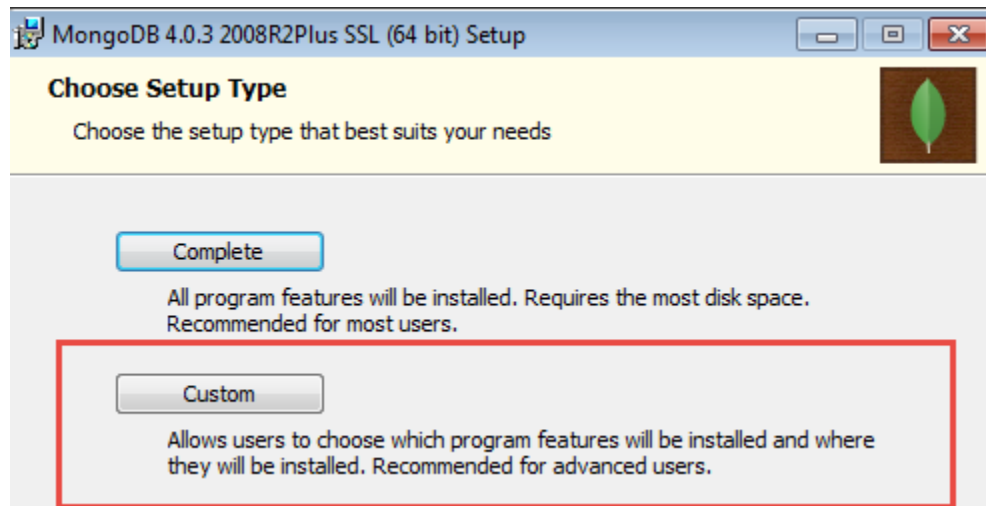
__6. Click **Browse**.

__7. Enter **C:\MongoDB\Server\4.0** then click **OK**.

__8. When it looks like below, click **Next**.
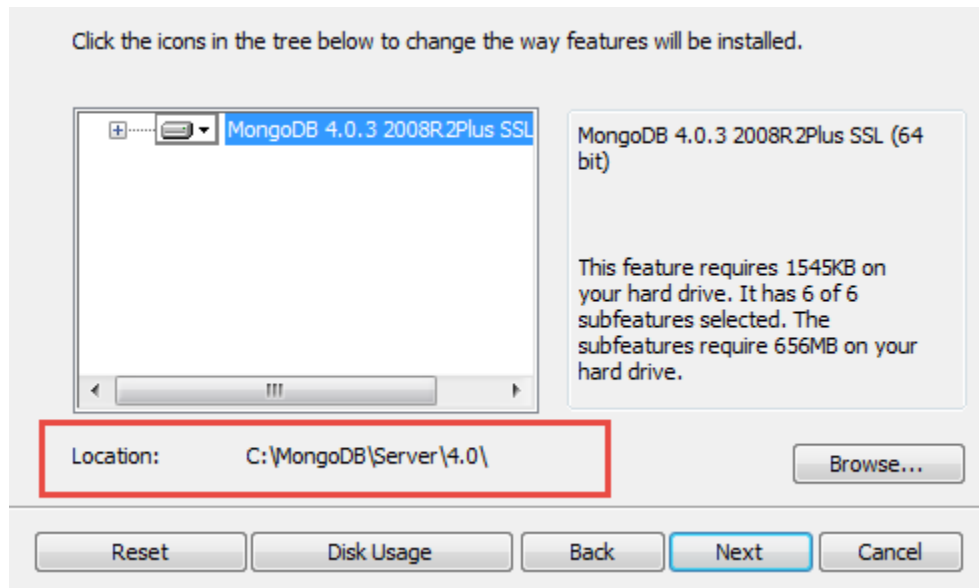
__9. Uncheck **Install MongoD as a Service** and click **Next**.
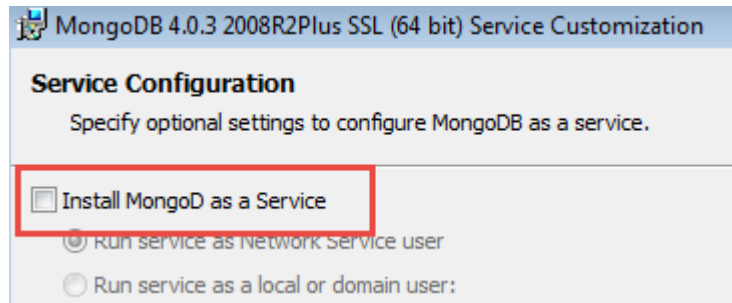
__10. Uncheck **Install MongoDB Compass** and click **Next**.
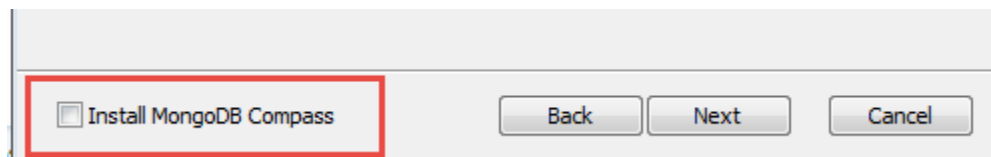
__11. Click **Install**.
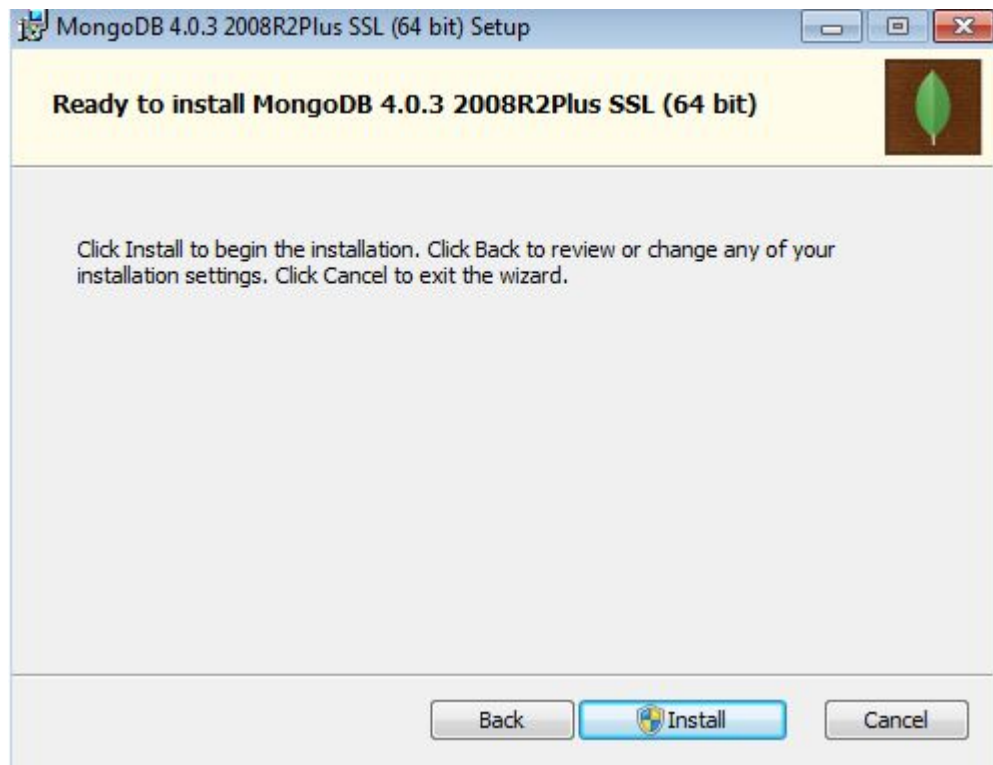
__12. Allow the installation to continue if you get any notification.

__13. Click **Finish**.
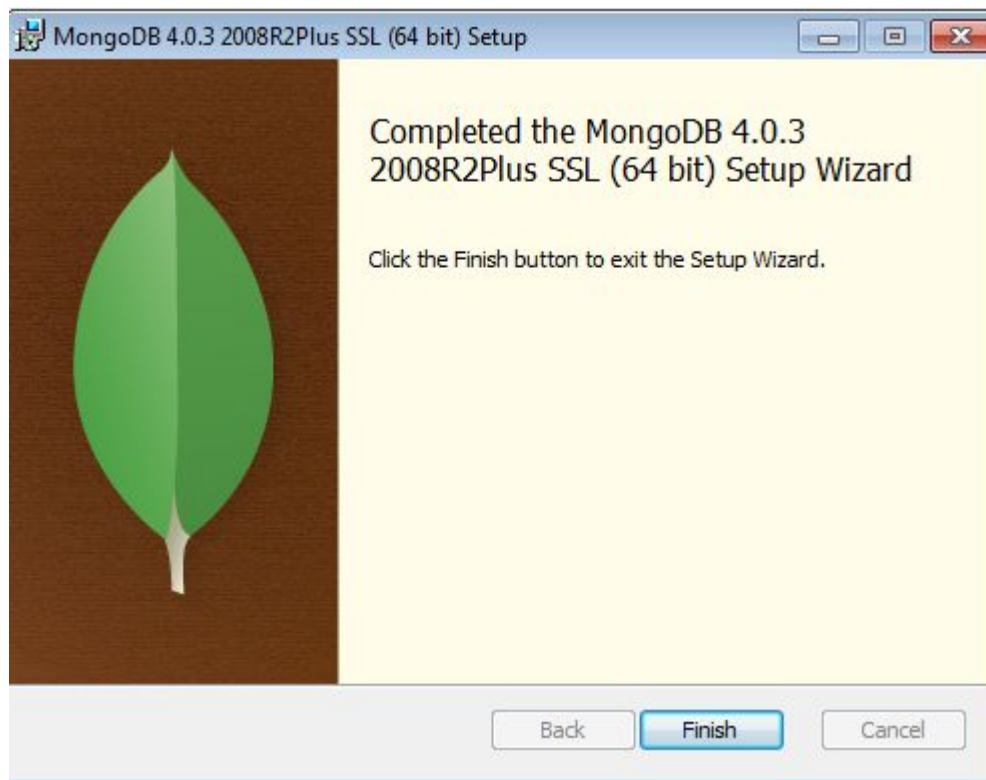
Part 10 - Verification of MongoDB

__1. Open a command prompt window.

__2. Enter the following command:

```
md "\data\db" "\data\log"
```

__3. Change to Mongo folder:

```
cd C:\MongoDB\Server\4.0\bin
```

__4. Start MongoDB by entering this command:

```
mongod
```

You will see:

__5. Open a new command prompt window.

__6. Change to Mongo folder:

```
cd C:\MongoDB\Server\4.0\bin
```

__7. Start Mongo shell by entering this command:

mongo

After some messages you will see a prompt:

__8. To exit Mongo shell, enter this command:

exit

__9. In the MongoDB window, press Ctrl+C to shut down MongoDB.

__10. Close all.

Part 11 - Nginx 1.4.3

__1. Disable any service using Port 80 to be able to run Nginx, if you have IIS or other service running, stop and disable them.

__2. Switch to the user that the students will use during the course.

__3. Open the Command Prompt window and type in the following command at the prompt and press **ENTER** (execute the command):

```
cd C:\Software\nginx-1.4.3
```

This command will change directory to where the *nginx* web server resides (represented by the *nginx.exe* file).

__4. Start the nginx web server by executing the following command:

```
start nginx
```

This command will launch the *nginx* web server that starts listening on port 80. Allow access if the Firewall window appear.

__5. If you are prompted for the admin password, enter it to allow the software to run.

__6. Open Google Chrome browser and navigate to **http://localhost**

You should see the *nginx* welcome page.

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

__7. Close Chrome browser.

__8. In the Command Prompt window where you started the *nginx* web server, type in the following command at the prompt and press **ENTER**:

```
nginx -s stop
```

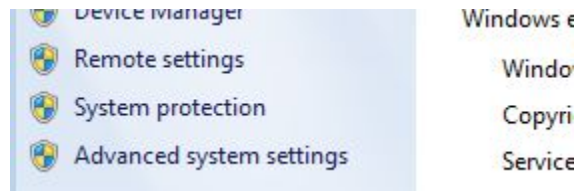This command will stop the web server.

__9. Switch back to the admin user.
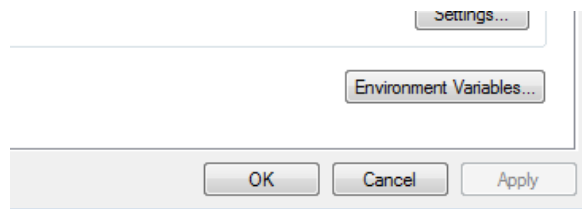
Nginx is installed.

Part 12 - Installing OpenSSL 1.0.2

__1. In the Windows Start Menu, right-click on the **Computer** link in the right-hand side of the Start panel, and then select **Properties**.

__2. Click on **Advanced system settings**.

__3. The system will display the **System Properties** dialog. Select the **Advanced** tab and click **Environment Variables**.

__4. Under the **System Variables** list, click the **New** button.

__5. Enter **OPENSSL** as Variable name.

__6. As Variable value enter the following. This should be the value you verified in the *Set the Environment variables section - step 2*.

```
C:\Software\OpenSSL_102
```

__7. Click **OK** to create the variable.

___8. From the *System Variables* list, select **Path** and click **Edit**.

___9. At the end of the line enter the following. Make sure to include the semi-colon at the beginning:

`;%OPENSSL%`

___10. Click **OK**.

___11. Click **OK** to close the *Environment Variables* window.

___12. Click **OK** to close the *System Properties* window.

Verification

___1. Open a Windows command prompt. You can do this by selecting '**Start -> Run**', entering '**cmd**', and then pressing the **OK** button. Make sure it is a new command prompt and not one open previously.

___2. Enter the following command:

`echo %PATH%`

Make sure you see the openssl directory listed at the end.

___3. Enter the following command:

`openssl version`

Make sure you see the response shown below.

```
C:\Users\wasadmin>openssl version
WARNING: can't open config file: /usr/local/ssl/openssl.cnf
OpenSSL 1.0.21  25 May 2017
```

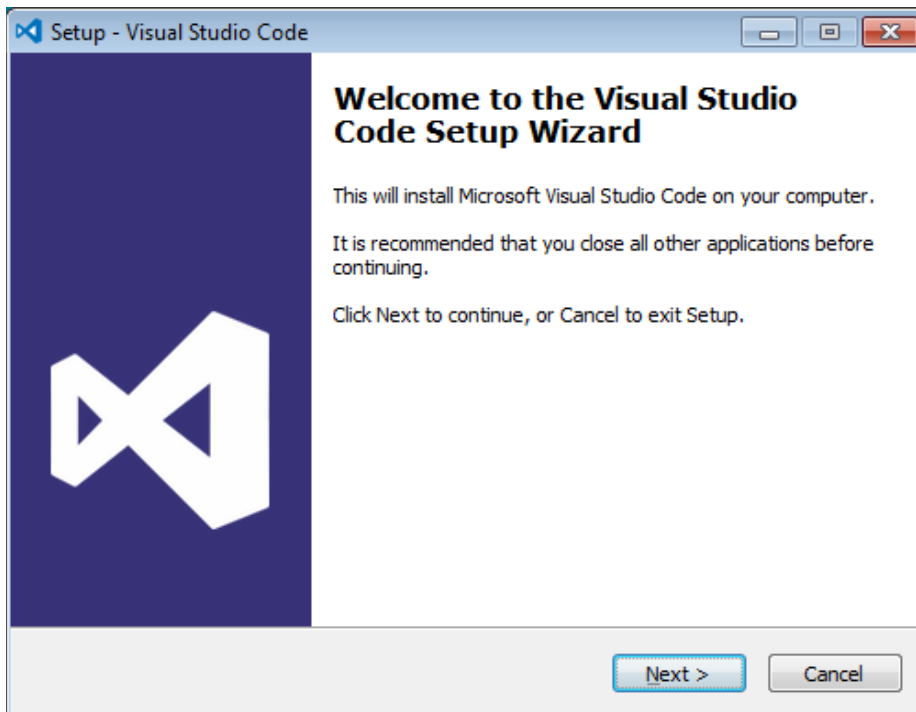___4. Close the command prompt window and any extra windows that are open.

Part 13 - Installing Visual Studio Code

__1. Download the latest VScode for Windows (stable build installer) from the following site:
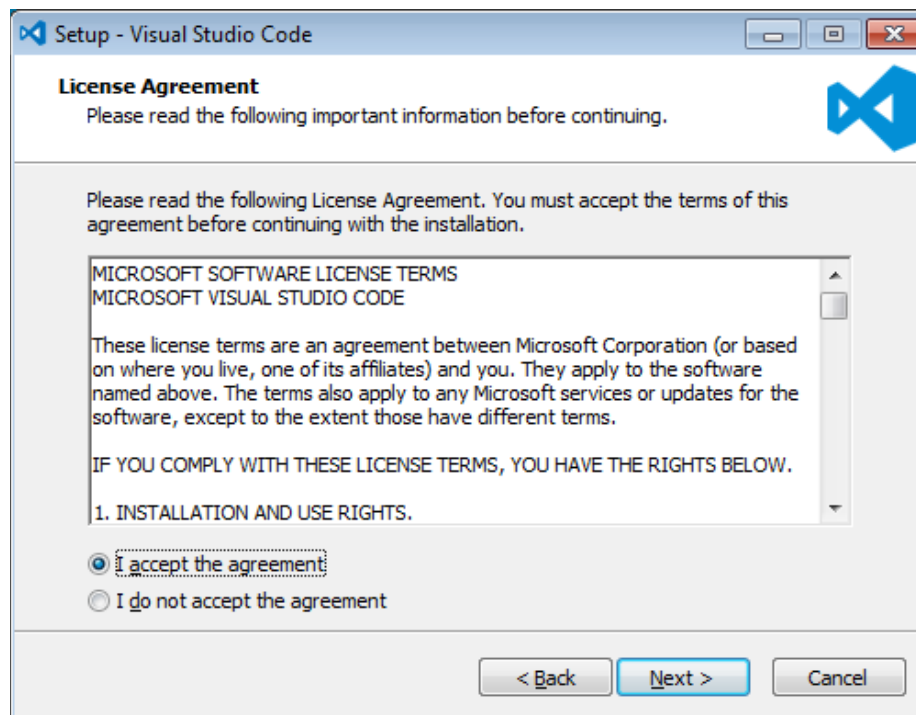
https://code.visualstudio.com/

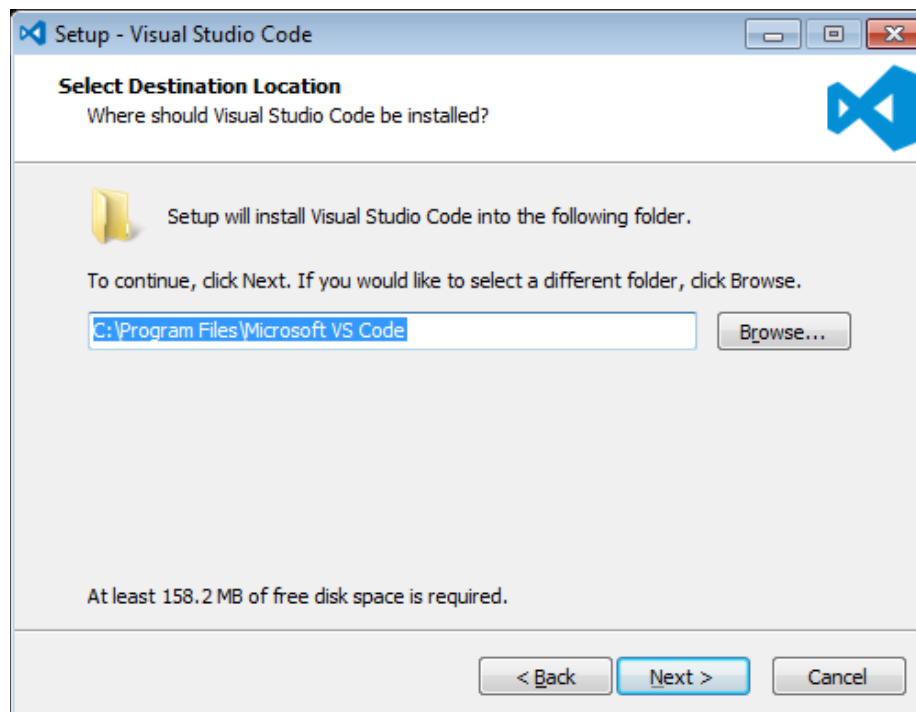__2. Run the downloaded installer to begin the installation.
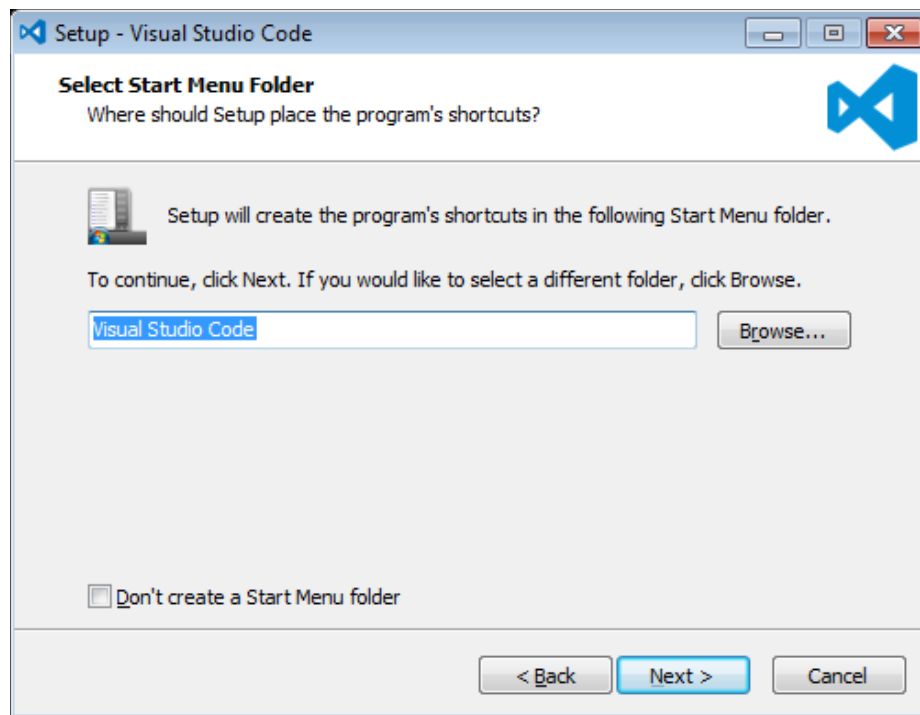
__3. Click **Next** on the welcome screen.

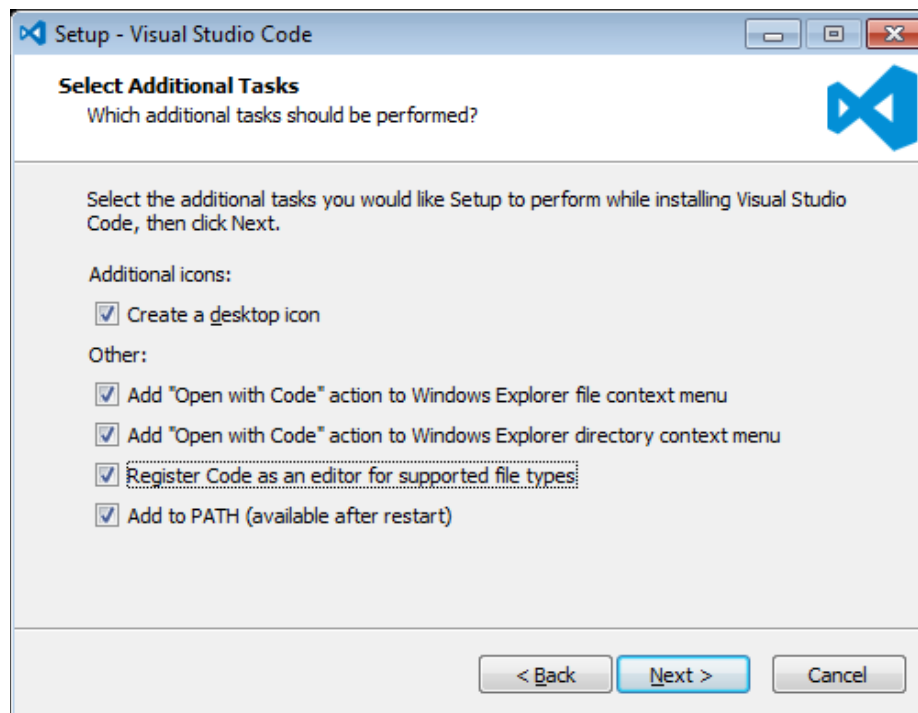__4. Check **I accept the agreement...** and click **Next**.

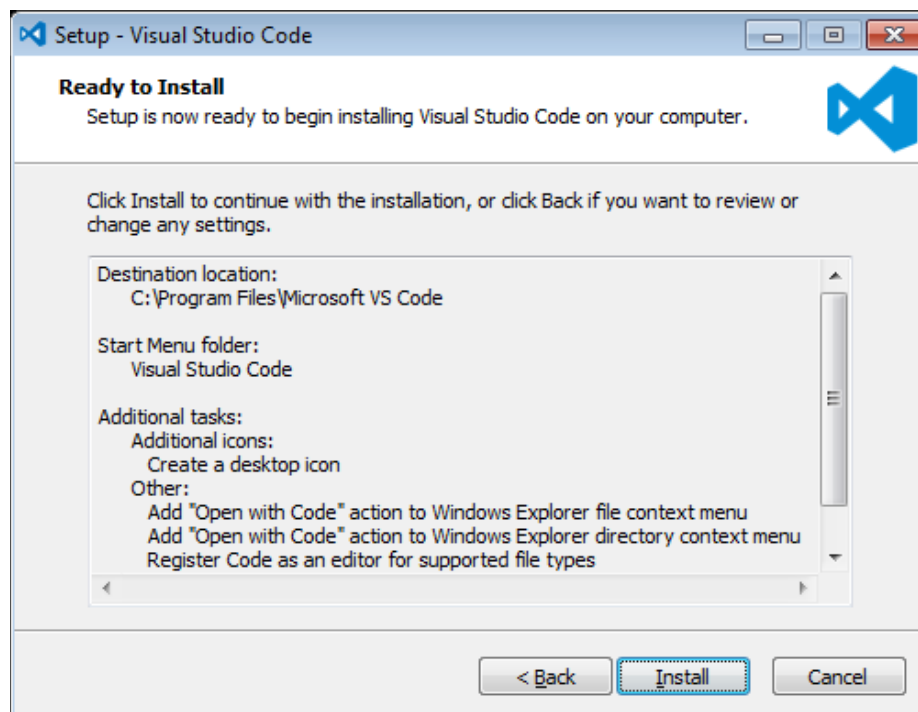__5. Leave the default installation location and click **Next**.

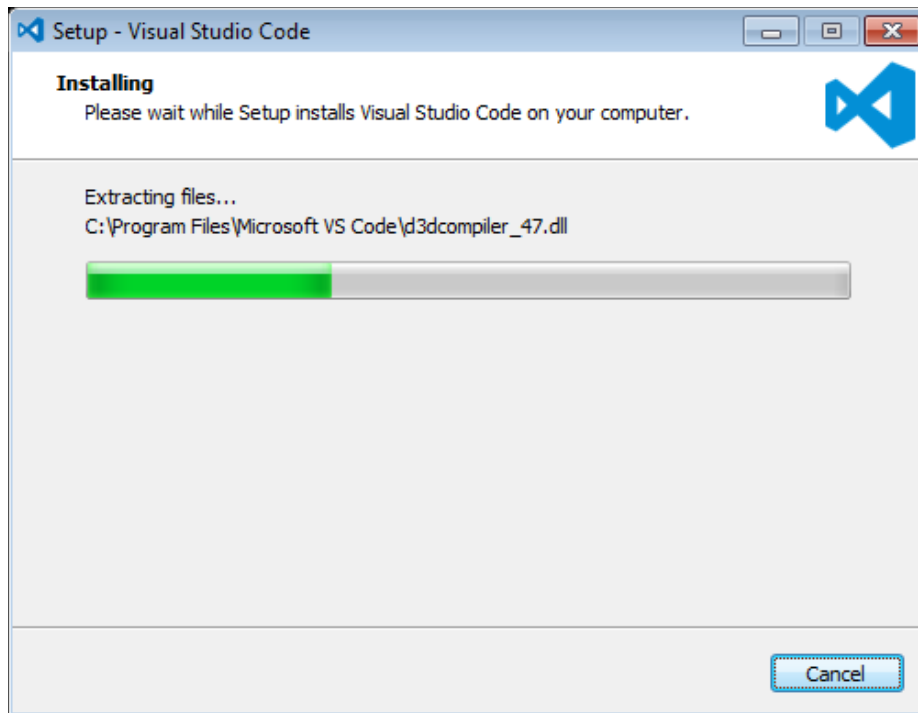__6. Leave the default start menu folder and click **Next**.

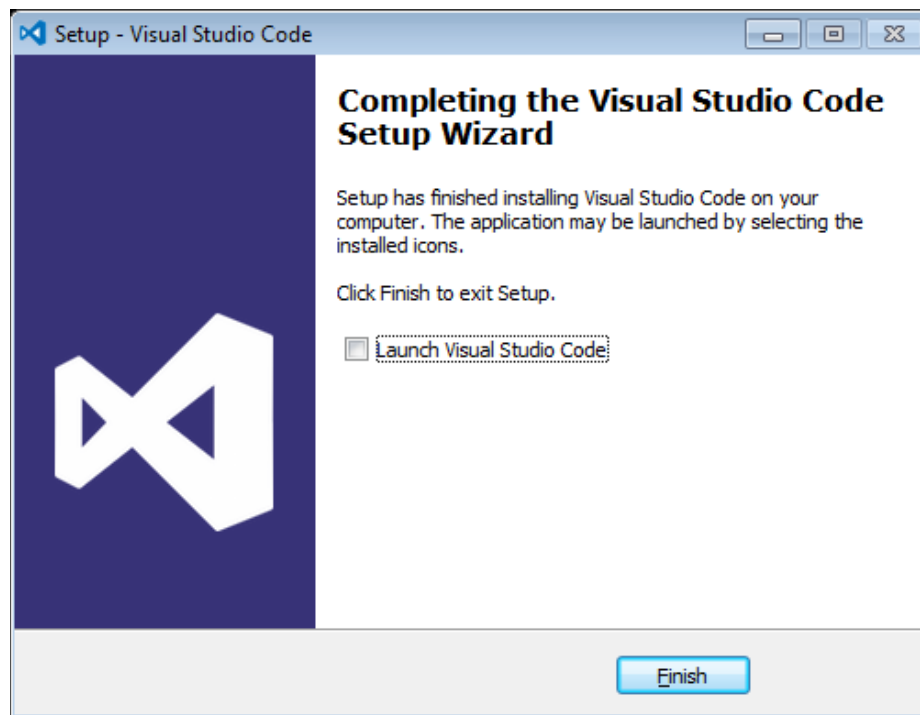__7. Put a check mark on all items under Additional Tasks and click **Next**.

__8. Now click **Install**.
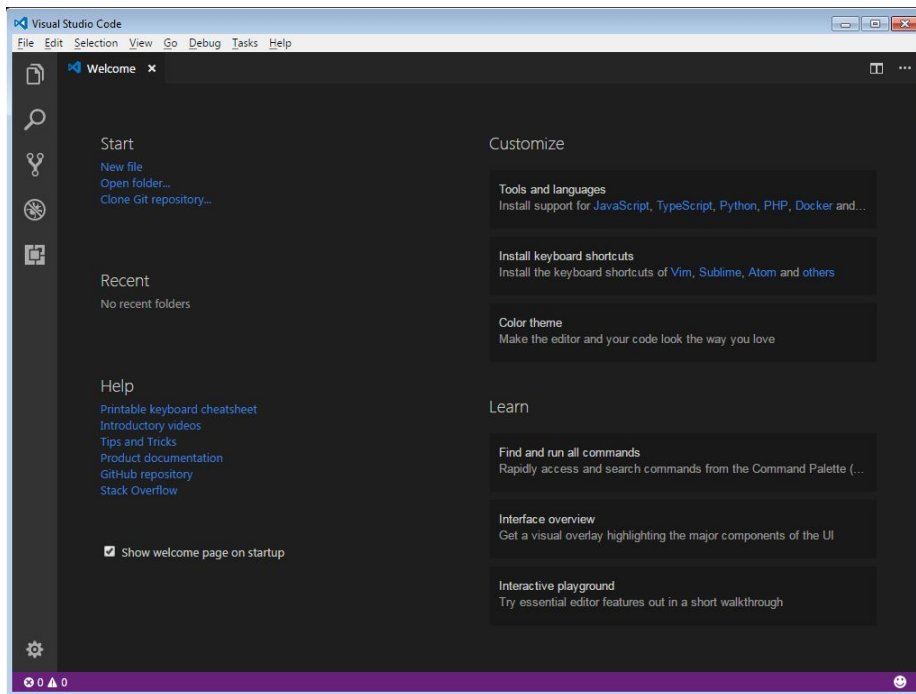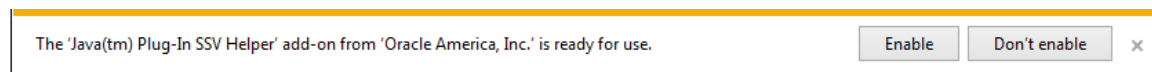
__9. Give it some time to install.

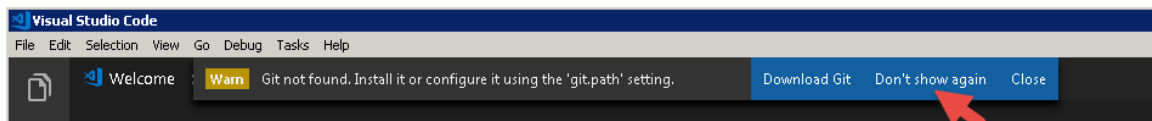__10. When it is complete, **uncheck Launch Visual Studio Code** and click **Finish**.

__11. Launch Visual Studio Code using the shortcut on the desktop.

__12. Verify Visual Studio Code opens and that you see the Welcome screen.

__13. You may see a message to enable Java(tm) Plug-In, if so click Enable.

__14. You may see a message regarding Git, if so click **Don't show again**.

__15. Close all windows.

Part 14 - Summary

You have successfully installed the software for this course!

If you have any question please contact us by email at support@webagesolutions.com

From US and Canada call: 1-877-812-8887 ext. 26

International call: 416-406-3994 ext. 26