

# **WA2678 Designing REST Services for Architects**

## **Classroom Setup Guide**

## **Web Age Solutions**

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## **Part 1 - Setup # 1: VM\_WA2785-REL**

**Setup a VM called VM\_WA2785 using the lab setup guide for WA2785.**

## **Part 2 - Setup # 2: WA2678-REL\_2\_1**

From here to the end of the document you will find instructions to do the setup on a Windows machine for **WA2678-REL\_2\_1**, you can install it directly to a computer or in a VM. Make sure there is no software previously installed.

## **Part 3 - Minimum Hardware Requirements**

- 64 bits OS
- 2 cores
- 8 GB RAM
- 30 GB in the hard disk
- Internet access

## **Part 4 - Minimum Software Requirements**

- Windows 8.1
- Firefox latest
- Chrome latest
- Adobe Acrobat Reader
- Zip extraction utility
- Visual Studio Code
- JDK 11.0.8-64 bits \*
- Eclipse IDE-2020-03 \*
- Maven 3.6.3 \*
- Postman 7.21.0 \*
- Mongo 4.0.3
- Node 14x \*
- Notepad 7.5.6 ++ \*
- Visual Code

## **Part 5 - Software Provided**

You will receive:

- **WA2678-REL\_2\_1.zip**

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 6 - Instructions

\_\_1. Install the following:

1. Git 2.44.0
2. Gradle 7.6.4
3. Jenkins 2.44

\_\_2. Create a user called **wasadmin** with password **wasadmin** and grant this user administrative access, or create an admin user and share this information to the instructor.

\_\_3. Restart the computer and log in as **wasadmin**.

\_\_4. Make sure you have internet access.

\_\_5. Extract the **.ZIP** file to **C:\**

\_\_6. Review that the following folders were created:

- **C:\LabFiles**
- **C:\Software\apache-maven-3.6.3**
- **C:\Workspace\swagger-editor-3.1.5**

\_\_7. Review that the following files were created:

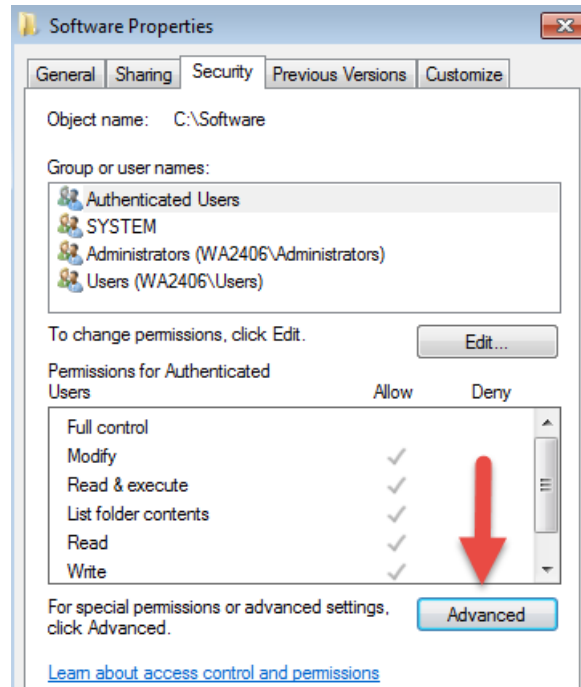
- **C:\Software\Eclipse-IDE-2020-03-eclipse-inst-win64.exe**
- **C:\Software\jdk-11.0.8\_windows-x64\_bin.exe**
- **C:\Software\mongodb-win32-x86\_64-2008plus-ssl-4.0.3-signed.msi**
- **C:\Software\node-v14.15.1-x64.msi**
- **C:\Software\npp.7.5.6.Installer.exe**
- **C:\Software\Postman-win64-7.21.0-Setup.exe**
- **C:\Workspace\curl.exe**

## Part 7 - Privileges to Users

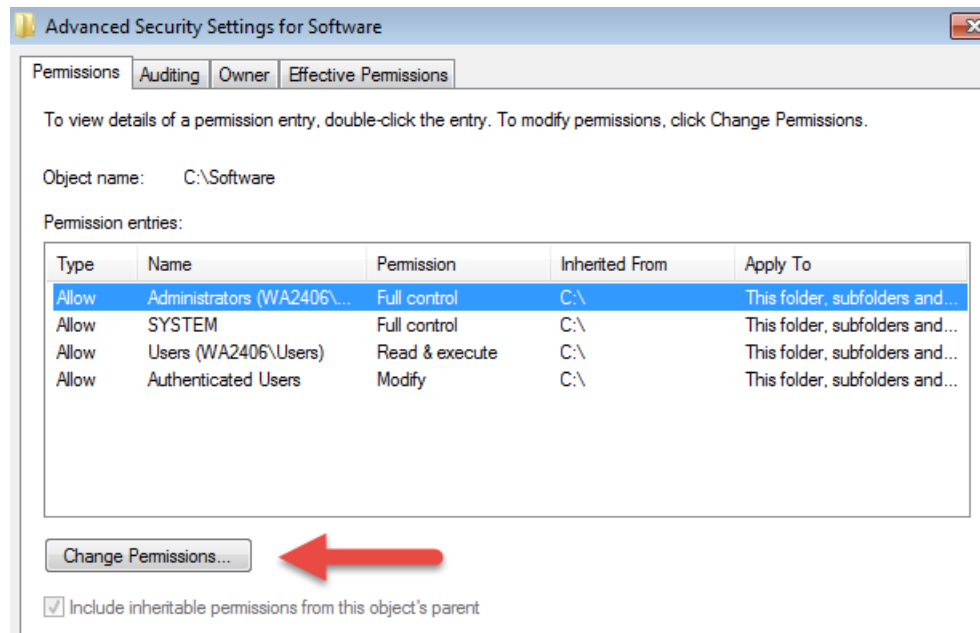
During the labs students will require privileges on several directories. They will need to be able to write, read, and modify files in these directories for the labs. Although the directions below are provided as an example, this may differ depending on Windows version. The important thing is to make sure students have full permissions on the folders below or they may not be able to accomplish some labs.

- **C:\Software**
- **C:\LabFiles**
- **C:\Workspace**

- \_\_\_ 1. Create the user that the students will use during the class.
- \_\_\_ 2. Give the student user account administrative rights. During the labs the student requires this to install software.
- \_\_\_ 3. Open Windows Explorer.
- \_\_\_ 4. Right click C:\**Software** and select **Properties**.
- \_\_\_ 5. Click the **Security** tab.
- \_\_\_ 6. Click **Advanced**.

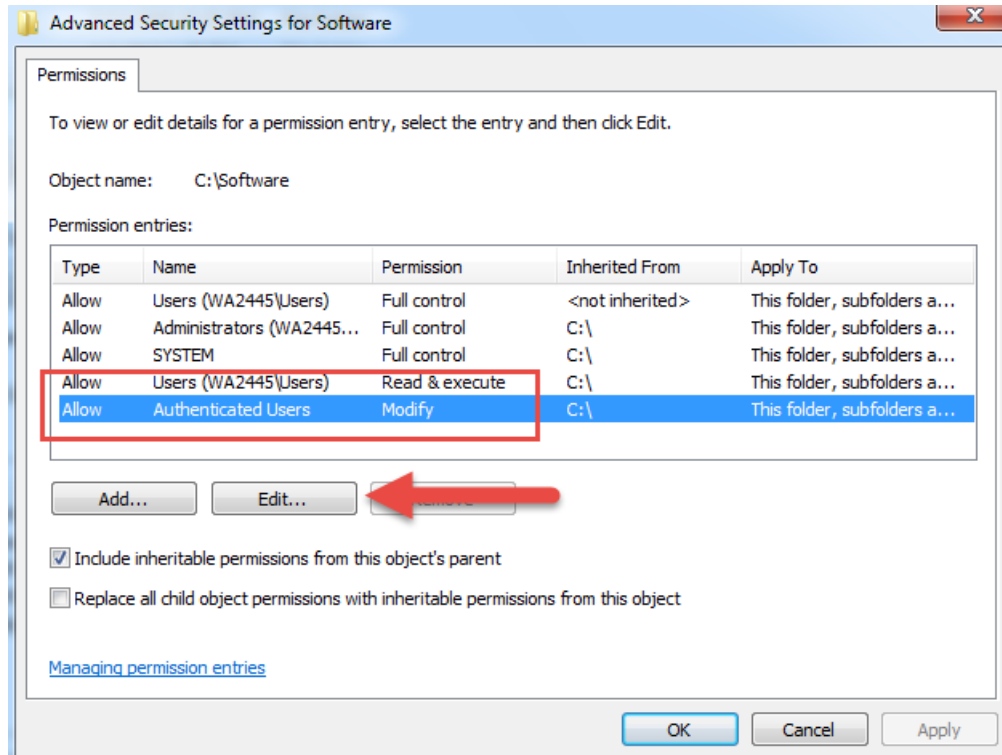


## \_\_7. Click **Change Permissions**.

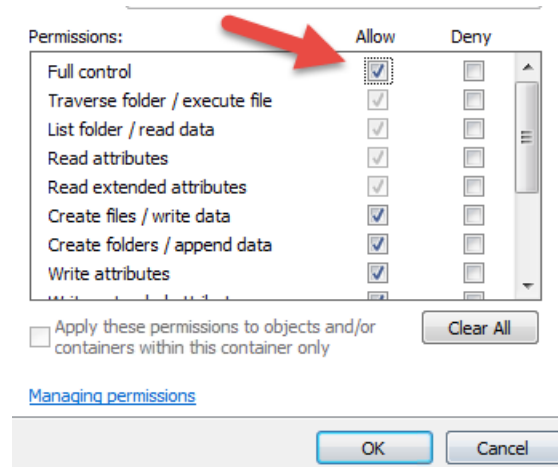


## \_\_8. Select the **Authenticated Users** entry and click **Edit...**

Note. If you don't have a domain in your environment the select **Users** instead **Authenticated Users**.



\_\_9. Check the **Allow** checkbox to the right of **Full Control** and click **OK**.



\_\_10. Select the checkbox for **Replace all child permissions with inheritable permissions from this objects** and then click **OK**.





- ☒ Include inheritable permissions from this object's parent
- ☒ Replace all child object permissions with inheritable permissions from this object

- \_\_ 11. A *Windows Security* dialog will open. Click **Yes**.
- \_\_ 12. Wait until Windows finishes updating security.
- \_\_ 13. Back in the *Advanced Security Settings* dialog, click **OK**.
- \_\_ 14. Back in the *Properties* dialog, click **OK**.
- \_\_ 15. Do the same steps to the **C:\LabFiles** folder.
- \_\_ 16. Create a folder called **C:\Workspace** if its not already created.
- \_\_ 17. Do the same steps to the **C:\Workspace** folder.

## Part 8 - Installing JDK 11.0.8 - 64 bit

\_\_ 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-11.0.8_windows-x64_bin.exe`

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

- \_\_ 3. When the Welcome page of the setup appears, press the **Next** button.
- \_\_ 4. Leave the defaults for installation location and options, and press the **Next** button.

The installation will begin installing files. Wait until the software is completely installed.

\_\_5. Click **Close**.

### ***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~1\Java\jdk-11.0.8
```

**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~2\Java\jdk-11.0.8**

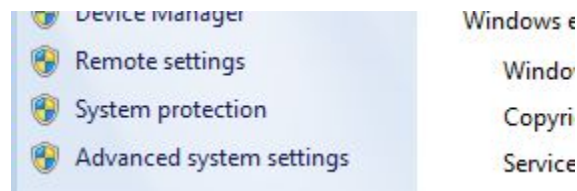
Some of the remaining steps will use the slightly different directory.

\_\_3. Make sure you can reach the java folder and remember the value entered because you will use this value in the following steps.

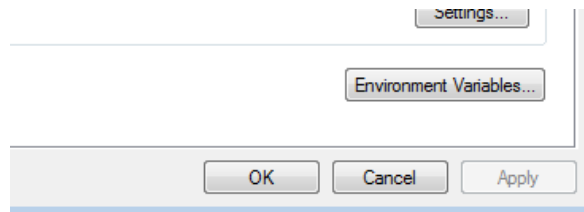
\_\_4. Close the command prompt window.

\_\_5. Open the system properties. The way to do this varies slightly by Windows version. The easiest way is often to open a File Explorer window, right click on the 'This PC' shortcut and select '**Properties**'

\_\_6. Click on **Advanced system settings**.



\_\_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. As Variable name enter:

**JAVA\_HOME**

\_\_ 10. As Variable value enter the following. This should be the value you verified before.

**C:\Progra~1\Java\jdk-11.0.8**

\_\_ 11. Click **OK** to create the variable.

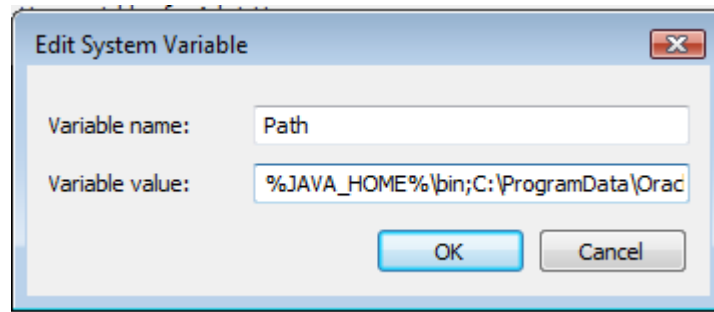
Variable name:	JAVA_HOME
Variable value:	C:\Progra~1\Java\jdk-11.0.8

\_\_ 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.

## 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 Java 'bin' directory listed at the beginning.

\_\_3. Enter the following command:

```
java -version
```

Make sure you see the response shown below.

```
C:\Users\wasadmin>java -version
java version "11.0.8" 2020-07-14 LTS
Java(TM) SE Runtime Environment 18.9 (build 11.0.8+10-LTS)
Java HotSpot(TM) 64-Bit Server VM 18.9 (build 11.0.8+10-LTS, mixed mode)
```

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:\>javac
Usage: javac <options> <source files>
where possible options include:
  @<filename>           Read options and filenames from file
  -Akey[=value]         Options to pass to annotation proces
  --add-modules <module>(,<module>)*
                        Root modules to resolve in addition to the initial modules,
                        on the module path if <module> is ALL-MODULE-PATH.
  boot_class_path <path>  bootclasspath <path>
```

\_\_5. Enter the following command:

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

Verify that it displays the correct value of 64. This indicates that it is 64-bit java that is installed.

\_\_6. Close the command prompt window and any extra windows that are open.

You have completed Java installation.

## Part 9 - Installing Eclipse-IDE-2020-03

\_\_1. Open C:\Software\

\_\_2. Double click in this file to install eclipse:

**Eclipse-IDE-2020-03-eclipse-inst-win64.exe**

\_\_3. Select **Eclipse IDE for Enterprise Java and Web Developers**.



\_\_4. Enter the **Installation folder** as C:\Software



Note that Java version may vary.

\_\_5. Click **Install**.

\_\_6. Click **Accept Now**.

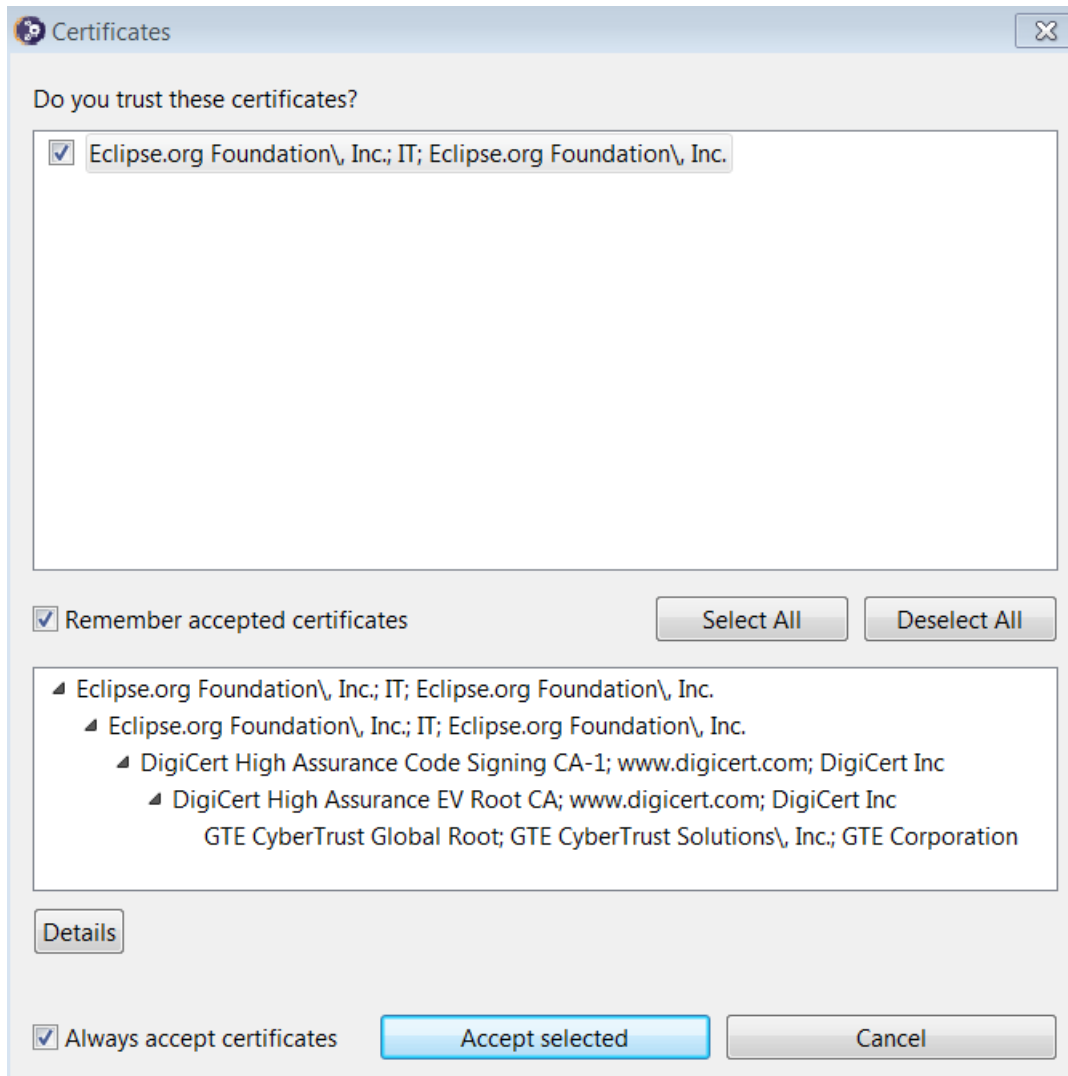
The installation will start and may take a while.

\_\_7. In the Certificates page, click **Select All**.

\_\_8. You may see a pop-up message about the installation is taking longer. Just close that pop-up.

\_\_9. Check the boxes for **Remember accepted certificates**.

\_\_10. Check the boxes for **Always accept certificates**.



\_\_11. Click **Accept selected** to continue with the installation.




\_\_12. Finally it will finish installing eclipse. Click **Launch**.



## Eclipse IDE for Enterprise Java Developers

[details](#)

Tools for developers working with Java and Web applications, including a Java IDE, tools for Web Services, JPA and Data Tools, JavaServer Pages and Faces, Mylyn, Maven and Gradle, Git, and more.

Java 1.8+ VM	C:\Progra~1\Java\jdk-11.0.8 (Current)		
Installation Folder	C:\Software		
<input checked="" type="checkbox"/> create start menu entry			
<input checked="" type="checkbox"/> create desktop shortcut			
<div>▶ LAUNCH</div>			

Eclipse will start.



\_\_13. Change the workspace directory to **C:\Workspace** and click **Launch**.

\_\_14. Eclipse will open showing the Welcome page. Close the page by clicking on the X in the tab.

\_\_15. From the menu, select **File > Exit** to close Eclipse.

You have completed Eclipse installation.



## Part 10 - Installing Maven 3.6.3

The following steps are based on Windows 7, other Windows versions instructions may vary.

\_\_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. Verify there is a JAVA\_HOME variable.

\_\_5. In the 'System Variables' panel, locate the entry for '**Path**' and double-click on it.

\_\_6. Add the following to the **end** of the **Variable Value** field (including the semi-colon)

```
;C:\Software\apache-maven-3.6.3\bin
```

\_\_7. Click **OK** on the variable editor dialog.

\_\_8. Click **OK** on the **Environment Variables** dialog.

\_\_9. Click **OK** in the **System Properties** dialog.

\_\_10. Open a command prompt window.

\_\_11. In the command window, type:

```
mvn -version
```

\_\_12. Verify the version is 3.6.3 as shown below:

```
C:\Users\wasadmin>mvn -version
Apache Maven 3.6.3 (cecedd343002696d0abb50b321
Maven home: C:\Software\apache-maven-3.6.3\bin
Java version: 1.8.0_45, vendor: Oracle Corpora
Default locale: en_US, platform encoding: Cp12
OS name: "windows 7", version: "6.1", arch: "x
```

\_\_13. Close all.

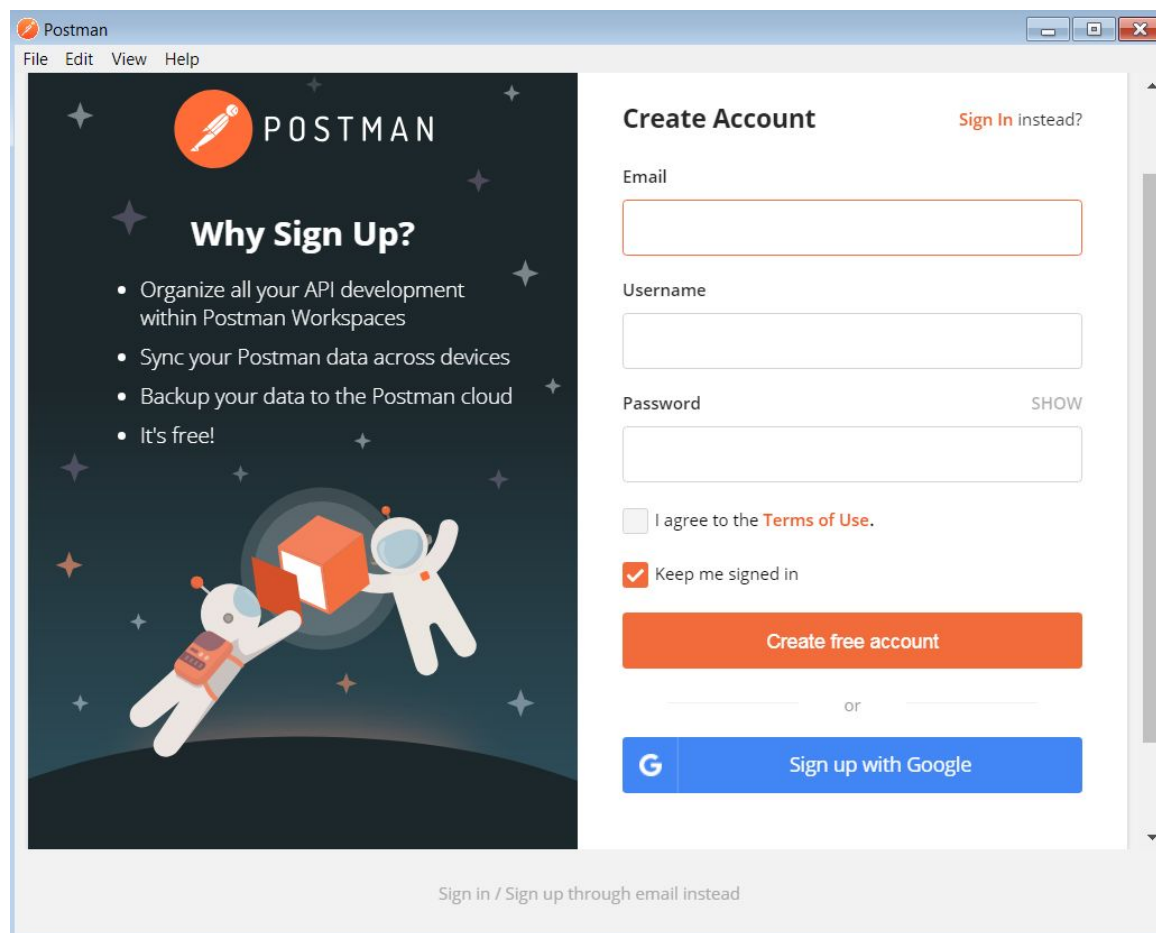
## Part 11 - Installing Postman 7.21

\_\_1. Open C:\Software\

\_\_2. Double click this file begin installation:

**Postman-win64-7.21.0-Setup.exe**

Installation will start and after a while Postman will be launched.



\_\_3. Close Postman.

\_\_4. Make sure there is an icon on the desktop.

\_\_5. Pin to start Postman.

## **Part 12 - 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**.

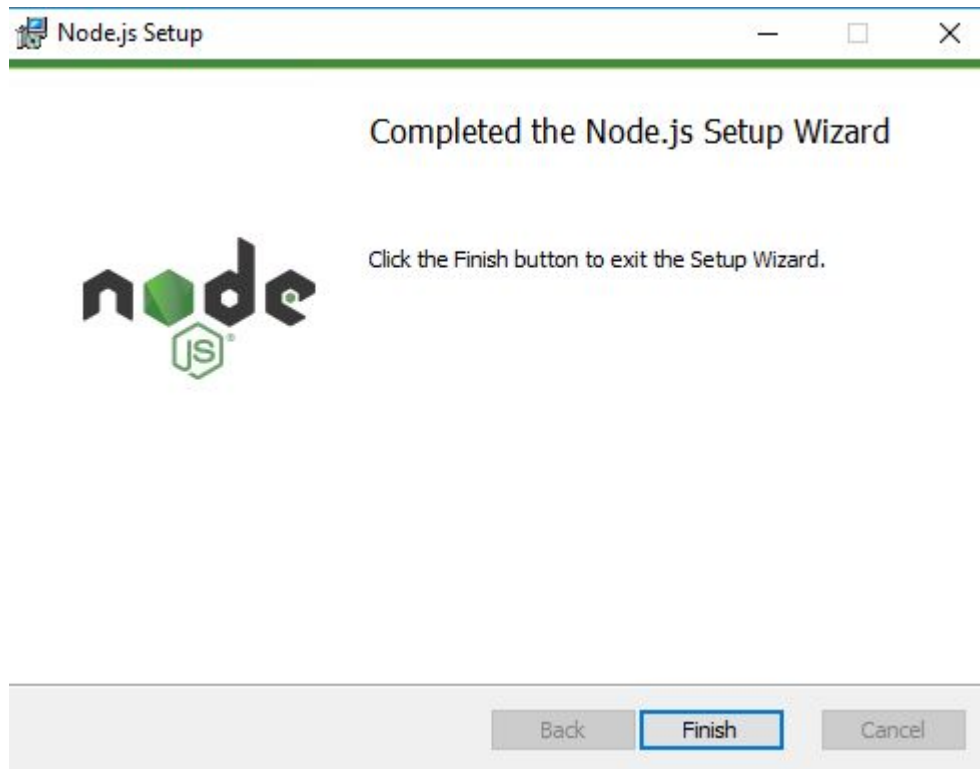
\_\_6. Accept default Custom Setup selection and click **Next**.

\_\_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 13 - Post Node.JS installation

\_\_1. Open a command prompt window.

\_\_2. Enter the following commands.

```
npm install -g jsonlint  
npm install -g http-server
```

\_\_3. Make sure the commands ran successfully and close the window.

## Part 14 - Installing Notepad Plus 7.5.6

\_\_1. Open C:\Software\ and execute:

```
npp.7.5.6.Installer.exe
```

\_\_2. Click Yes to allow to install it and follow default steps.

\_\_3. Click **Finish** when the installation is completed.



\_\_4. Close all.

## Part 15 - MongoDB 4.0.3 Installation

\_\_1. Open a file browser to **C:\Software\**

\_\_2. Run the following file:

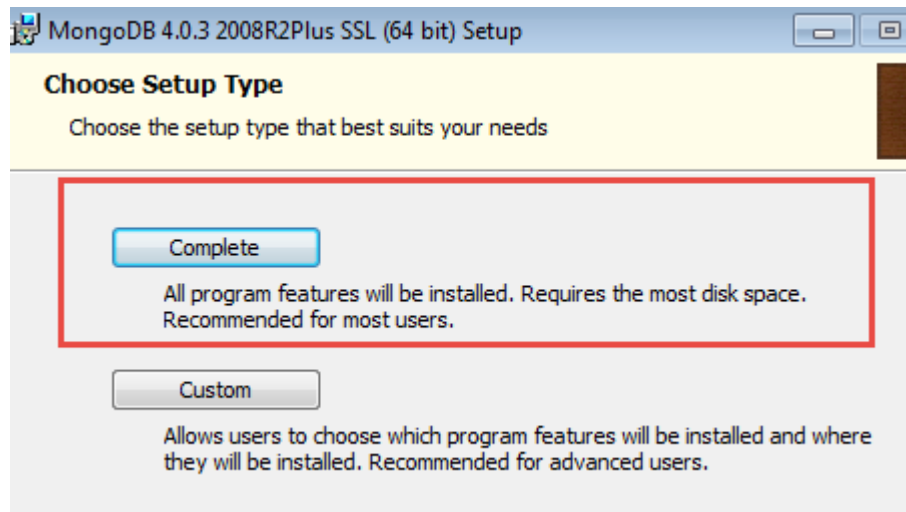
**mongodb-win32-x86\_64-2008plus-ssl-4.0.3-signed.msi**

\_\_3. In the Welcome page, click **Next**.

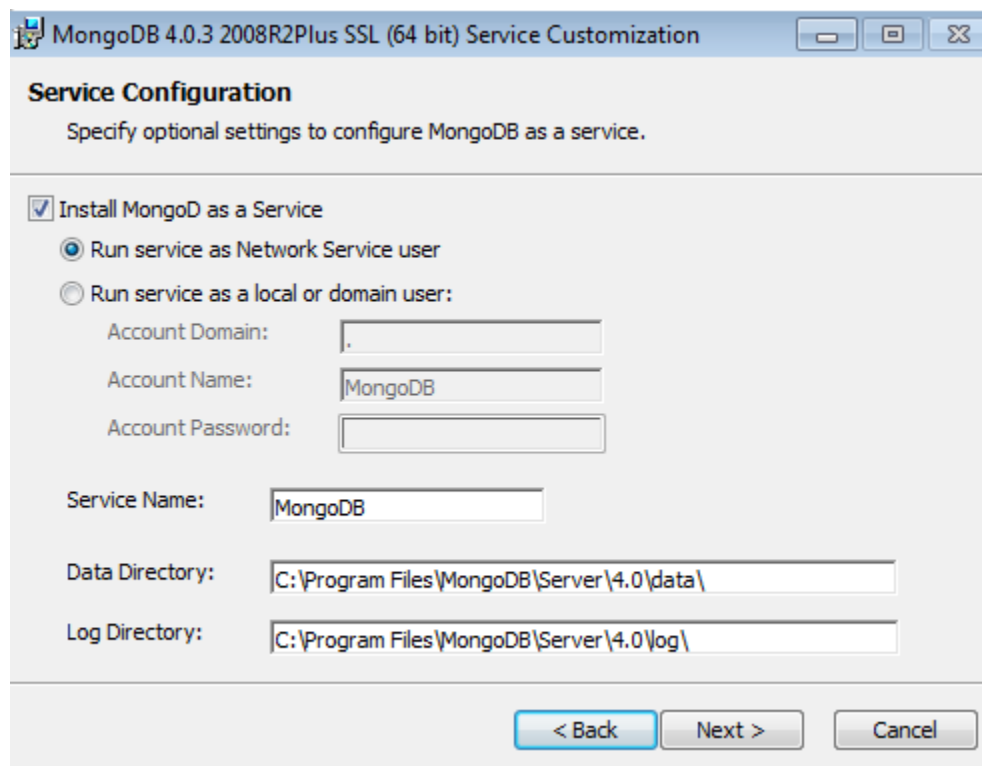


\_\_4. Accept the license agreement and click **Next**.

\_\_5. Click the **Complete** button.

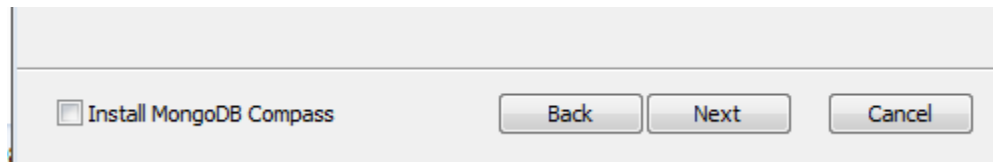


\_\_6. Leave all defaults and click **Next**.

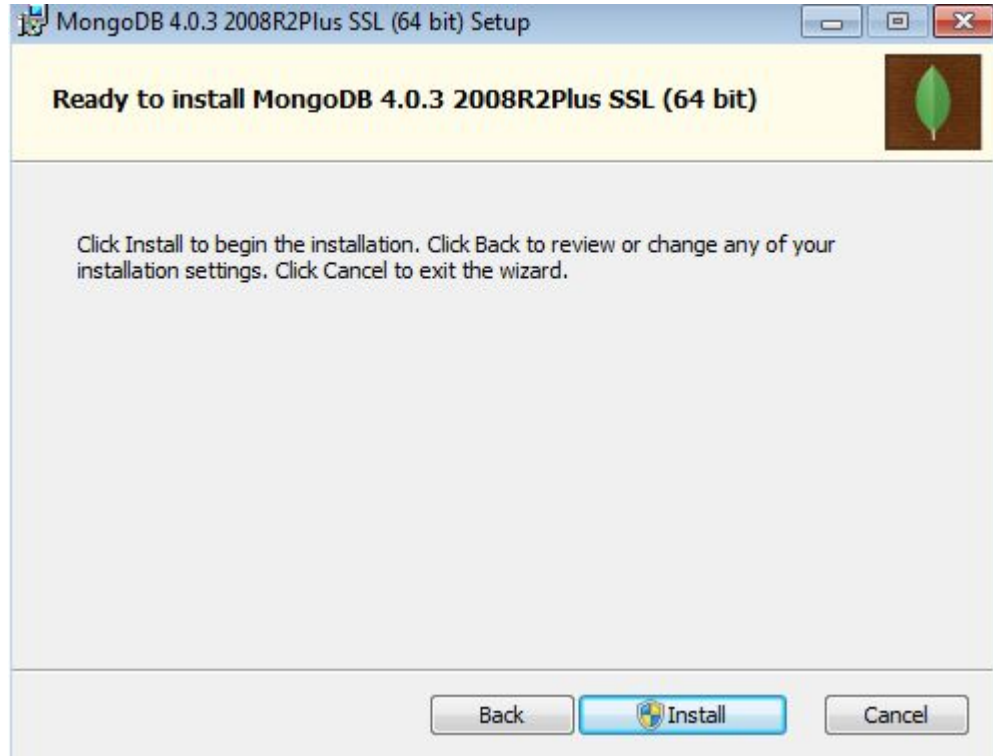


\_\_7. Uncheck **Install MongoDB Compass** and click **Next**.



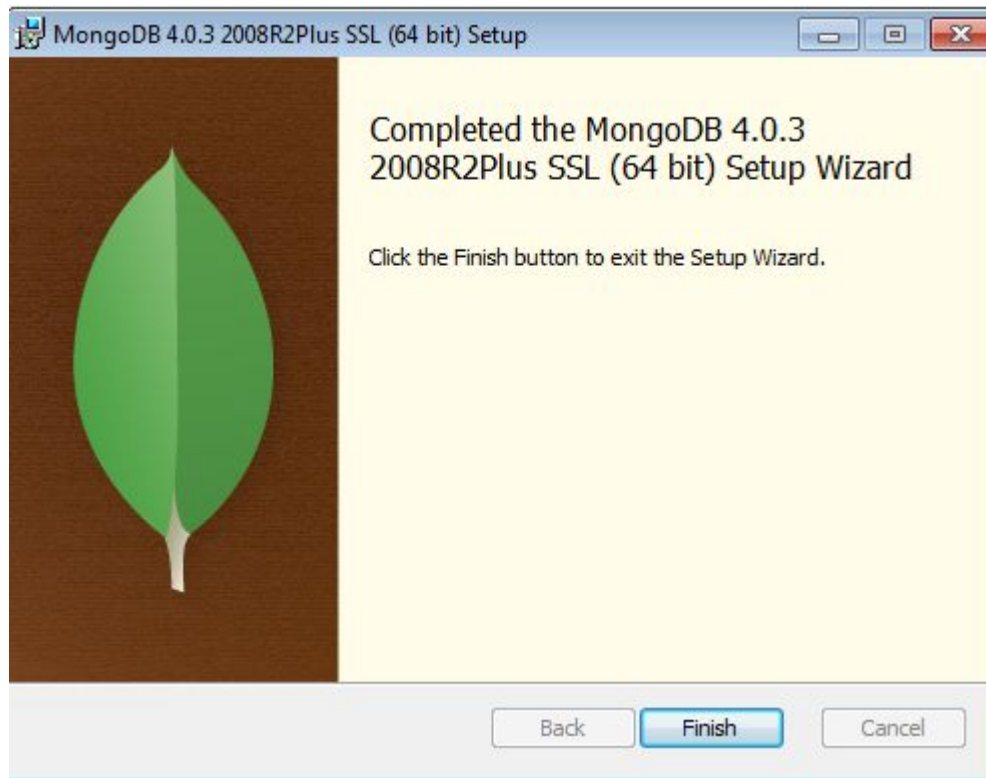


\_\_8. Click **Install**.



\_\_9. Allow the installation to continue if you get any notification.

\_\_10. Click **Finish**.



\_\_11. In the Windows Start Menu, right-click on the **Computer** link in the right-hand side of the Start panel, and then select **Properties**.

\_\_12. Click on **Advanced system settings**.

\_\_13. The system will display the **System Properties** dialog. Select the **Advanced** tab and click **Environment Variables**.

\_\_14. Under the **System Variables** list, click the **New** button.

\_\_15. Enter **MONGO** as Variable name.

\_\_16. As Variable value enter the following:

**C:\Program Files\MongoDB\Server\4.0\**

Make sure your installation was in this folder or find the right path.

\_\_17. Click **OK** to create the variable.

\_\_18. From the *System Variables* list, select **Path** and click **Edit**.

\_\_19. At the beginning of the line enter the following. Make sure to include the semi-colon on the end:

```
;%MONGO%\bin
```

\_\_20. Click **OK**.

\_\_21. Click **OK** to close the *Environment Variables* window.

\_\_22. Click **OK** to close the *System Properties* window.

## Part 16 - Verification of MongoDB

\_\_1. Open a command prompt window.

\_\_2. Enter the following command:

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

\_\_3. Start MongoDB by entering this command:

```
mongod
```

You will see:

```
behavior is desired, start the
2018-10-18T11:00:57.608-0400 I CONTROL [initandlisten] ** server with --bind_ip 127.0.0.1
to disable this warning.
2018-10-18T11:00:57.608-0400 I CONTROL [initandlisten]
2018-10-18T11:00:57.609-0400 I CONTROL [initandlisten] Hotfix KB2731284 or later update is not inst
alled, will zero-out data files.
2018-10-18T11:00:57.610-0400 I CONTROL [initandlisten]
2018-10-18T11:00:58.731-0400 I FTDC [initandlisten] Initializing full-time diagnostic data captu
re with directory 'C:/data/db/diagnostic.data'
2018-10-18T11:00:58.737-0400 I NETWORK [initandlisten] waiting for connections on port 27017
```

\_\_4. Open a new command prompt window.

\_\_5. Start Mongo shell by entering this command:

```
mongo
```

After some messages you will see a prompt:

```
C:\Users\wasadmin>mongo
MongoDB shell version v4.0.3
connecting to: mongodh://127.0.0.1:27017
implicit session: session < "id": UUID("6bc05736-2941-4238-9da1-e9f17b5ec0eb") >
MongoDB server version: 4.0.3
Server has startup warnings:
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten]
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten] ** WARNING: Access control is not enabled fo
r the database.
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten] **          Read and write access to data an
d configuration is unrestricted.
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten]
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten] Hotfix KB2731284 or later update is not inst
alled, will zero-out data files.
2018-10-18T09:48:18.507-0400 I CONTROL [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
>
```

\_\_ 6. To exit Mongo shell, enter this command:

**exit**

\_\_ 7. In the MongoDB window, press Ctrl+C to shut down MongoDB.

\_\_ 8. Close all.

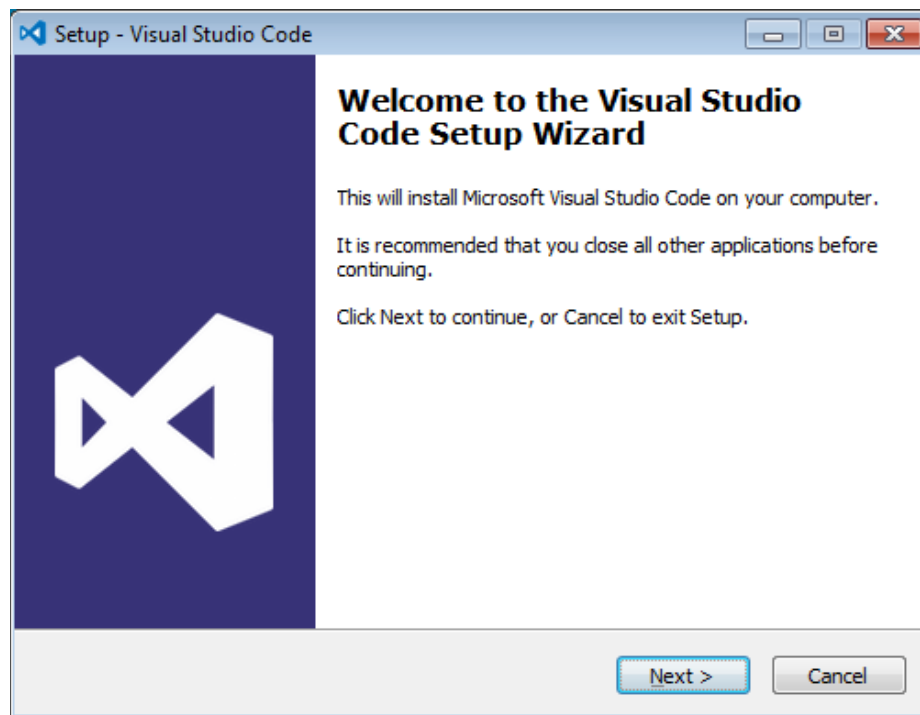
## Part 17 - Installing Visual Studio Code

\_\_ 1. Download the latest VSCode for Windows (stable build installer) from the following site:

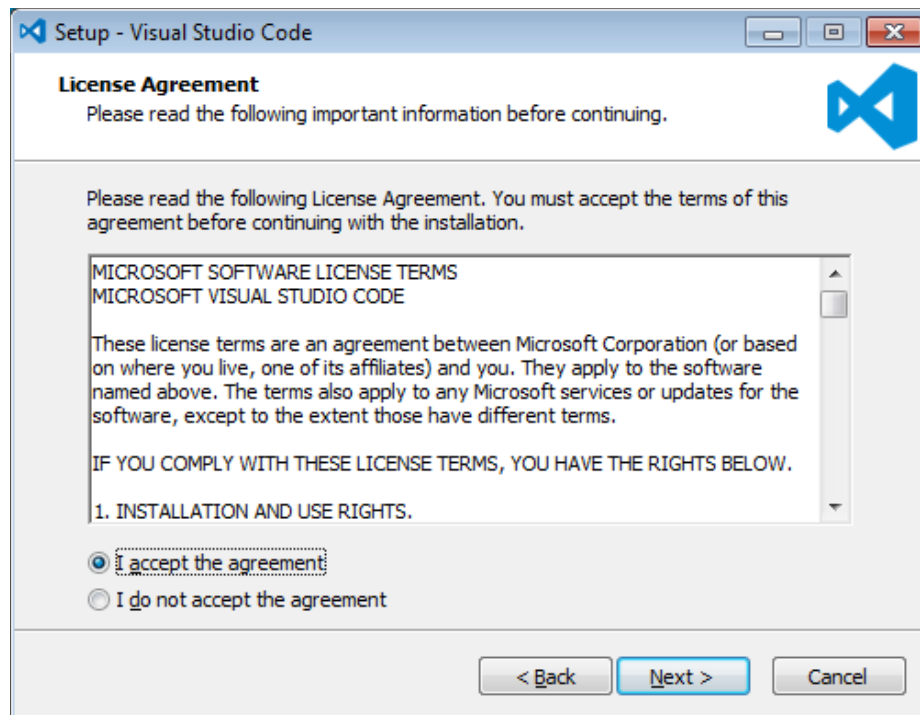
<https://code.visualstudio.com/>

\_\_ 2. Run the downloaded installer to begin the installation.

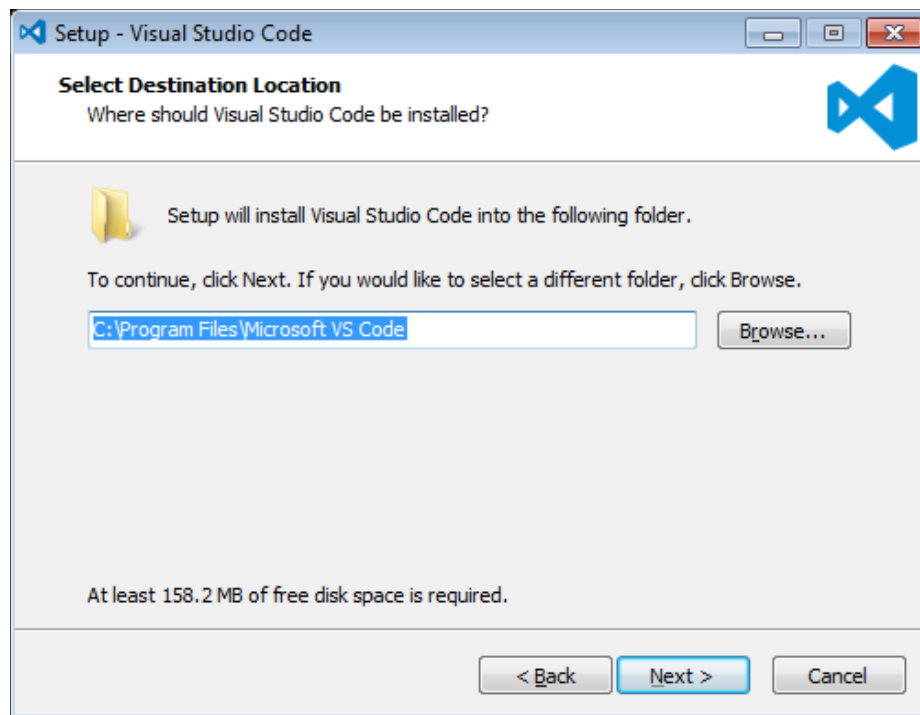
\_\_ 3. Click **Next** on the welcome screen.



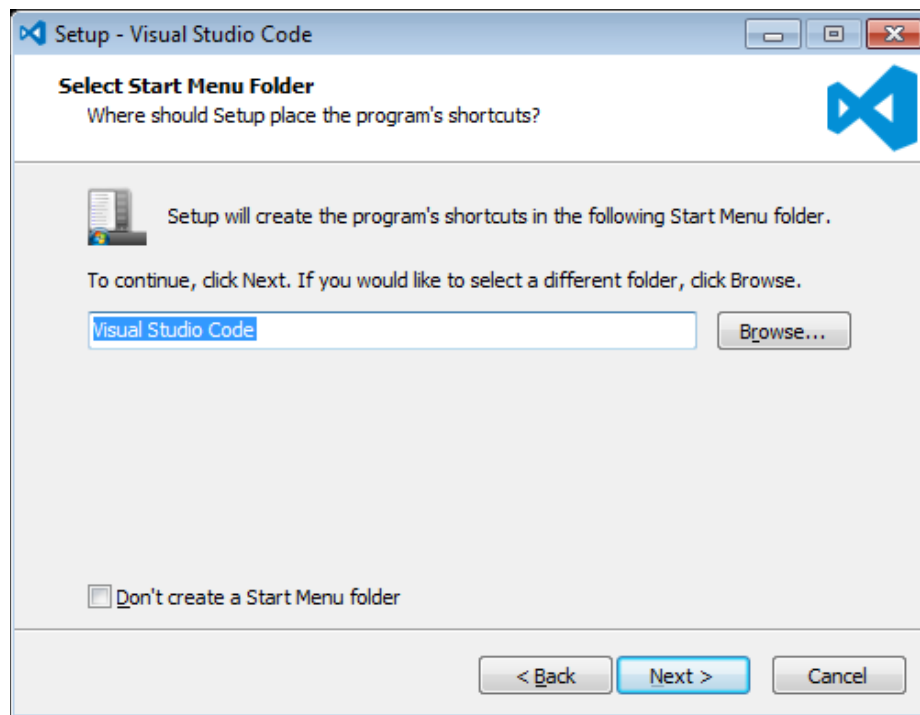
4. Check **I accept the agreement...** and click **Next**.



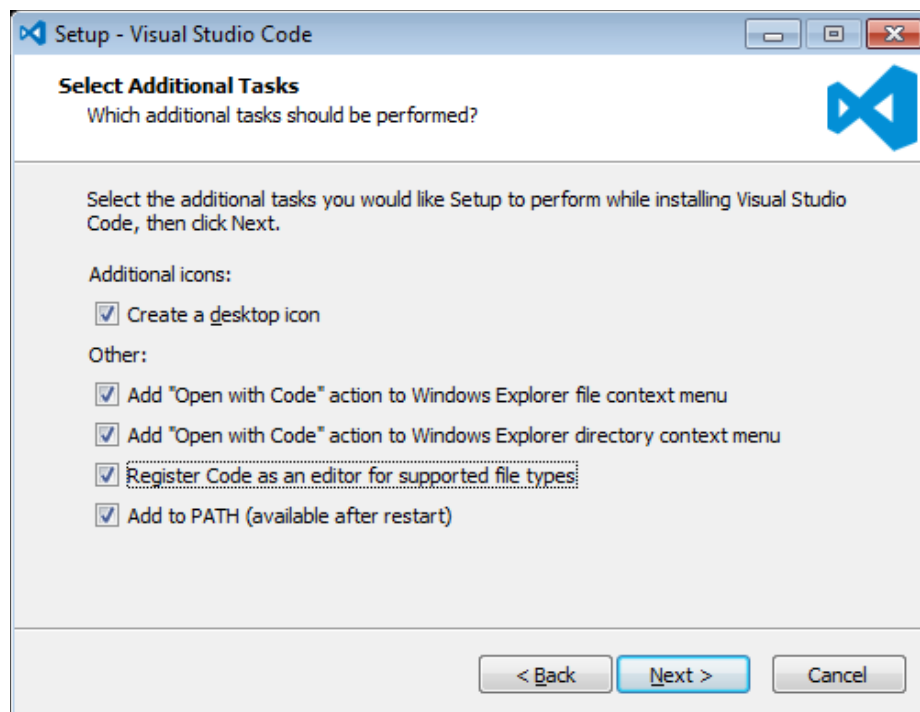
\_\_5. Leave the default installation location and click **Next**.



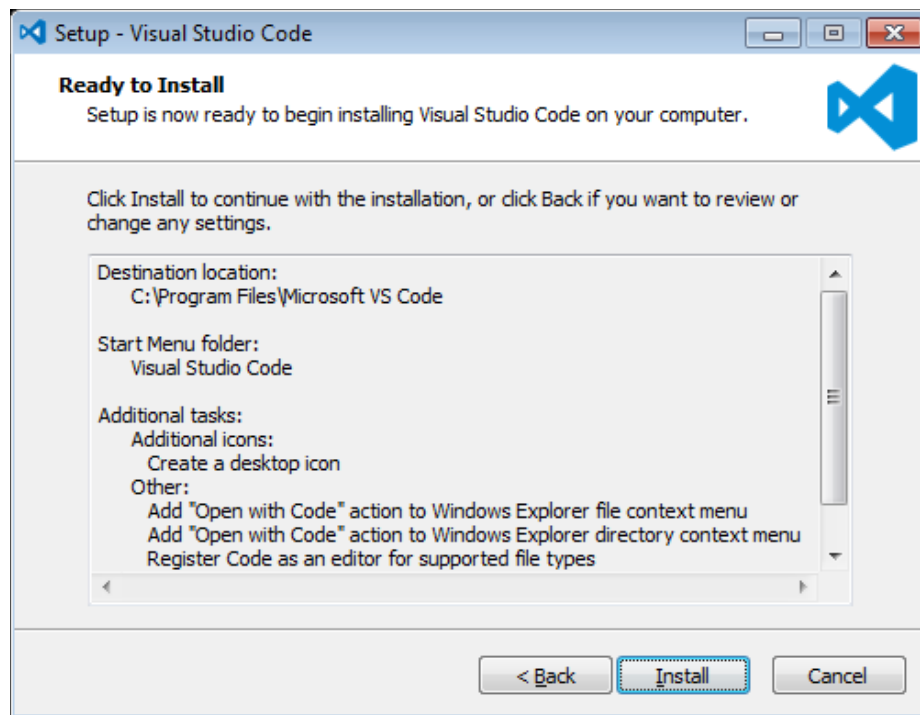
\_\_6. Leave the default start menu folder and click **Next**.



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

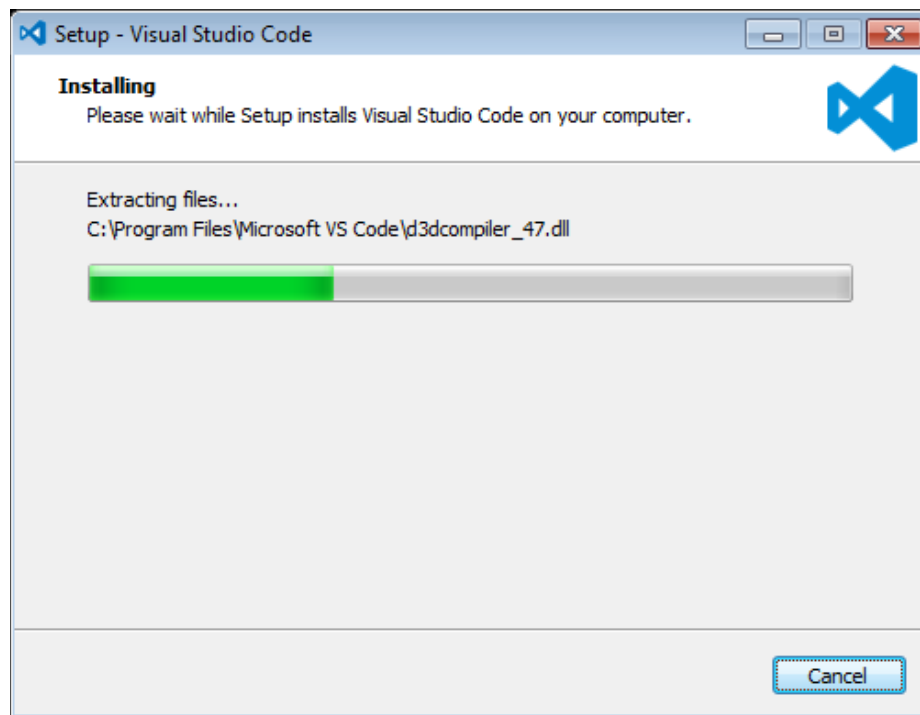


\_\_8. Now click **Install**.

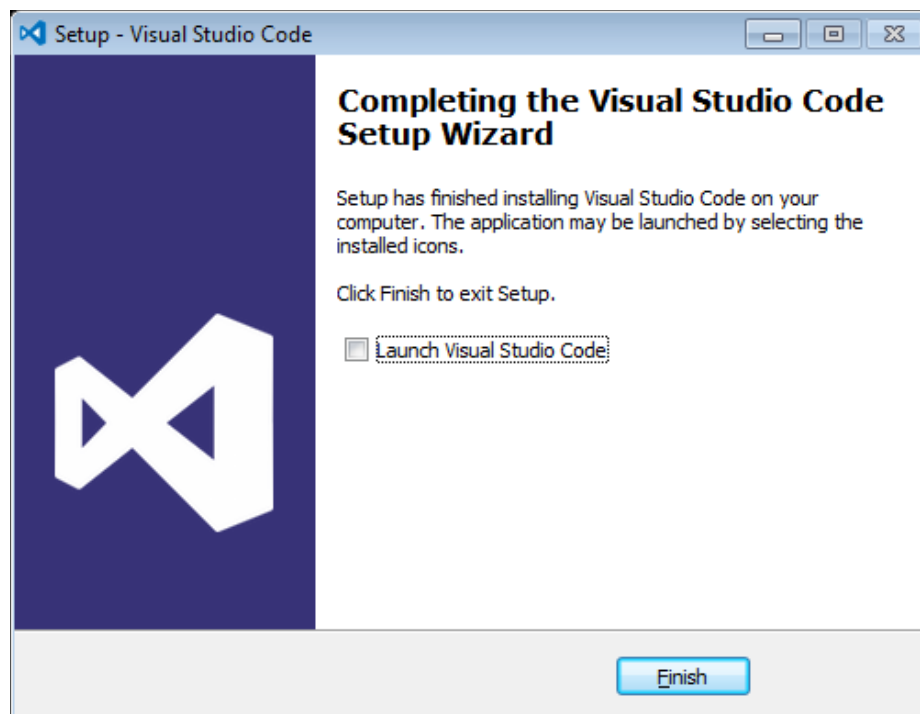


\_\_9. Give it some time to install.

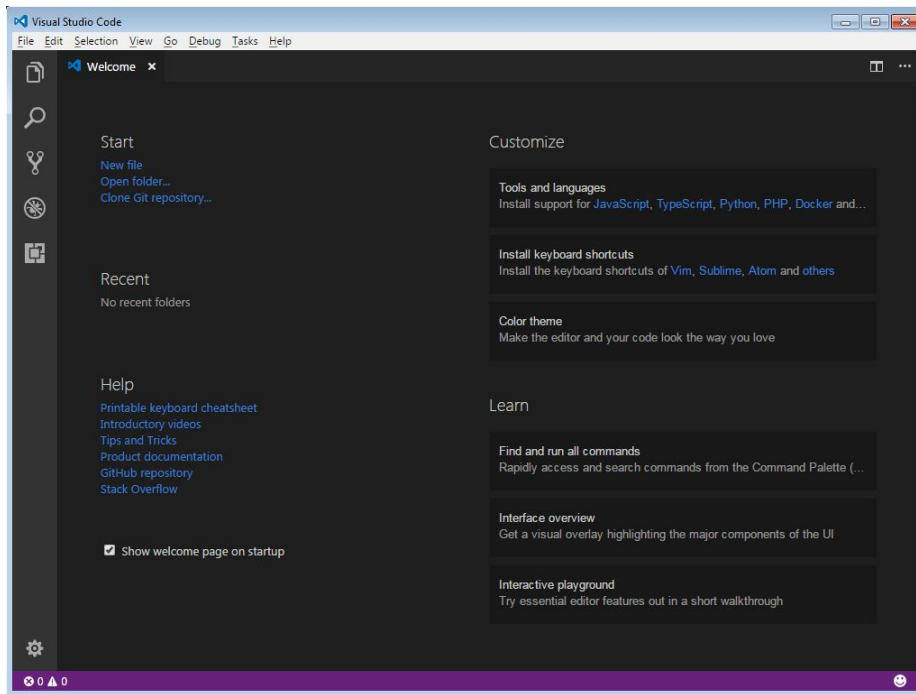




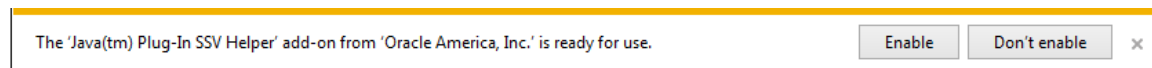
10. When it is complete, **uncheck Launch Visual Studio Code** and click **Finish**.



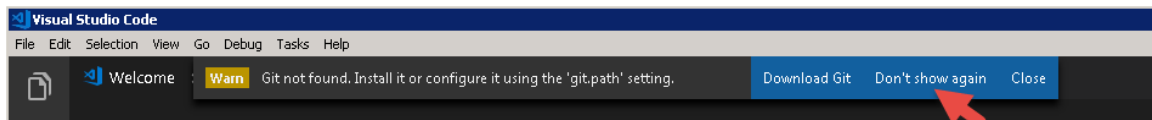
- \_\_11. Launch Visual Studio Code using the shortcut on the desktop.
- \_\_12. Verify Visual Studio Code opens and that you see the Welcome screen.



- \_\_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 18 - Verification**

Make sure you have setup the following 2 environments:

- **WA2678-REL\_2\_1**
- **VM\_WA2785**

## **Part 19 - Summary**

**You have successfully installed the software for this course!**

If you have any question please contact us by email at [support@webagesolutions.com](mailto:support@webagesolutions.com)

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

International call: 416-406-3994 ext. 26

Congratulations. The installation for this course has been completed.