

**WA2171 Programming Java SOAP
and REST Web Services -
WebSphere 8.5 - Eclipse**

Classroom Setup Guide

Web Age Solutions Inc.

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Part 1 - Minimum Hardware Requirements

- 64-bit x86 CPU
- 2 cores
- 6 GB RAM, 8 GB recommended
- 20 GB in the hard disk
- Connectivity to the Internet

Part 2 - Minimum Software Requirements

- **Windows 8.1 – 64 bits**
- Mozilla and Chrome
- IBM Installation Manager
- WebSphere 8.5 for Developers
- Java 8 *
- eclipse-jee-2020-03-R-incubation-win32-x86_64 *
- REST *

* - 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:

WA2171_REL_2_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 - Instructions

This course has to be installed directly on the computers that the students will use. Virtualization is not supported.

__1. Make an administrative user for the students and install the software with this user and provide this user/password to the class. If the students don't have a user with admin privileges they won't be able to perform the Labs.

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

__3. Review that the following folders were created:

- **C:\LabFiles**
- **C:\Software\eclipse**
- **C:\Software\RESTClient**

__4. Review that the following file was created:

- **C:\Software\jdk-8u171-windows-x64.exe**
- **C:\Software\wdt-update-site_20.0.0.9.v20200826_1754.zip**

__5. Make sure Mozilla and Chrome have been installed.

Part 5 - Setup for WebSphere 8.5 for Developers on Eclipse

First you need to download IBM Installation Manager. during the steps you will need an IBM login and you can sign up for free.

You will download IBM Installation Manager and then to install WebSphere 8.5 for Developers on Eclipse from the repository.

__1. Open the following page:

<https://www.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm%7ERational&product=ibm/Rational/IBM+Installation+Manager&release=1.9.1.4&platform=Windows&function=all&useReleaseAsTarget=true>

__2. Check the 64 bits as shown below and click **Continue**:

<input checked="" type="checkbox"/>	1	refresh pack: → 1.9.1.4-IBMIM-WIN64-20201109_1718 IBM Installation Manager Install Kit for all x86_64 Windows versions supported by version 1.9.1.4
<input type="checkbox"/>	2	refresh pack: → 1.9.1.4-IBMIM-WIN32-20201109_1718 IBM Installation Manager Install Kit for all Windows versions supported by version 1.9.1.4
<input type="checkbox"/>	3	refresh pack: → 1.9.1.4-IBMIM-Multiplatform-Update-20201109_1718 IBM Installation Manager 1.9.1.4 Fix Pack for multi-platform update

1-3 of 3 results

Continue Clear selections Back

__3. You will requested to enter you IBM credentials, if you don't have an account you need to create one.

__4. In the Select downloads option, select the HTTPS as shown below and click **Continue**

Select download options

Select the download method to be used to download fixes.


- ☐ Download using Download Director
(requires Java)
- ☐ Download using bulk FTPS/SFTP
- ☒ Download using your browser (HTTPS)

__5. Scroll down and click the link for **agent.installer.win32.win32.x86_64_1.9.1004.20201109_1718.zip (218.44 MB)**:

refresh pack: 1.9.1.4-IBMIM-WIN64-20201109_1718

IBM Installation Manager Install Kit for all x86_64 Windows versions supported by version 1.9.1.4

The following files implement this fix.

 [agent.installer.win32.win32.x86_64_1.9.1004.20201109_1718.zip \(218.44 MB\)](#)

__6. Once the zip has been downloaded, unzip the zip to a folder.

__7. Open the folder.

__8. Run **install.exe**

__9. In the Install Packages, click **Next**

Installation Packages		Status	Vendor	License Key...
<input checked="" type="checkbox"/>	IBM® Installation Manager	Will be insta...	IBM	No key requ...
	<input checked="" type="checkbox"/> Version 1.9.1.4			


__10. Accept agreement and click **Next**

__11. Leave default installation folder and click **Next**

__12. Finally, click **Install**

Wait for the installation to complete.

__13. Click **Restart Installation Manager**.

 The packages are installed. [View Log File](#)

The following package was installed:

☒

IBM Installation Manager

☒ IBM® Installation Manager 1.9.1.4

Click on "Restart Installation Manager" to launch the new Installation Manager and to start installation of other package(s).

Restart Installation Manager

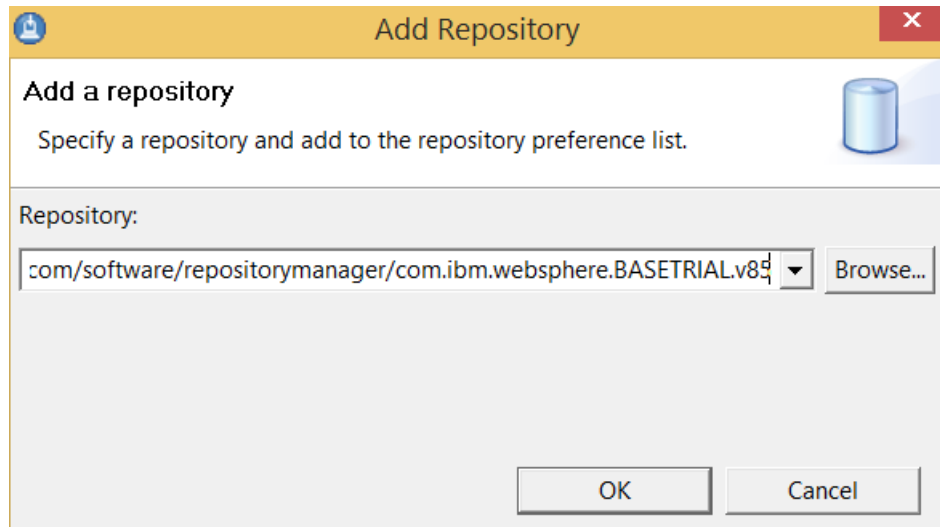
__14. From the menu, select **File** → **Preferences**.

__15. Click **Add Repository**

__16. Enter:

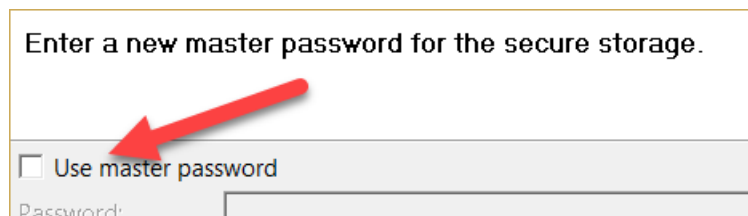
`https://www.ibm.com/software/repositorymanager/com.ibm.websphere.BASETRIAL.v85`

__17. Click OK.

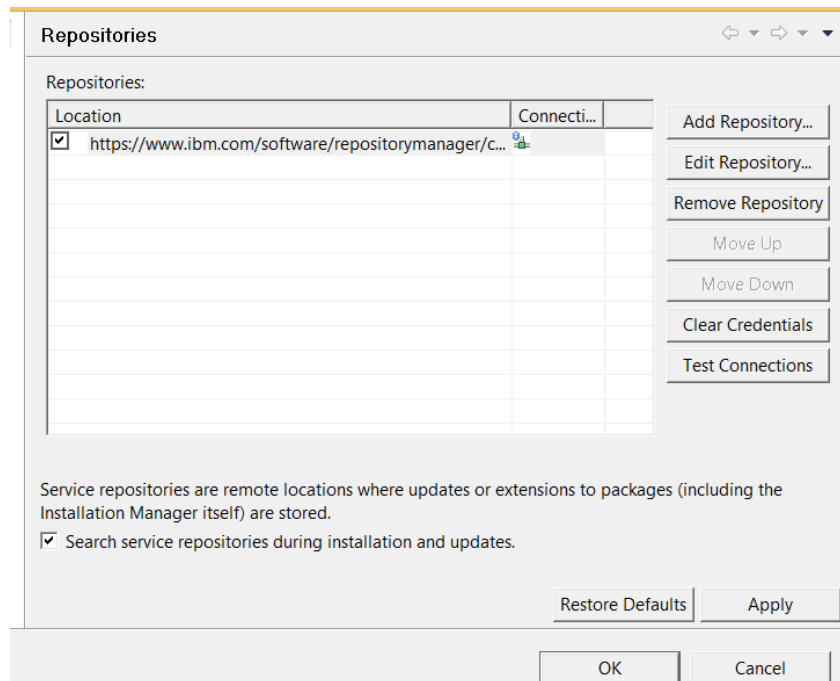


__18. It will prompt you for your IBM username and password. Enter it and select save. Click OK.

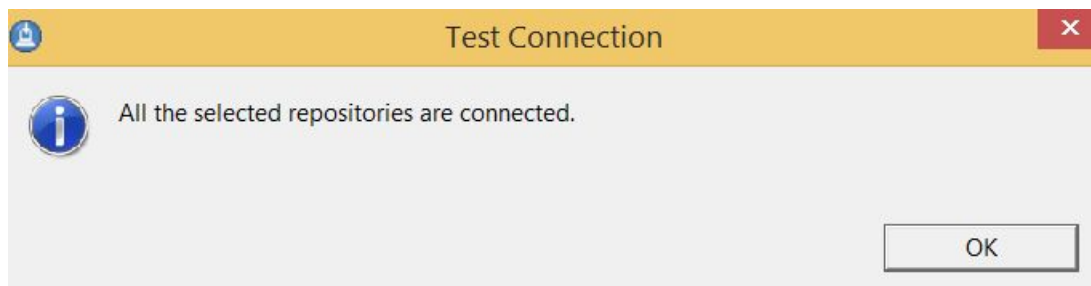
__19. It will again prompt you for username and password. Check off the "Use master password" check box and click **OK**.



__20. Click **Test Connections**. It will take some time to connect successfully.



__21. When you get this message, click **OK**

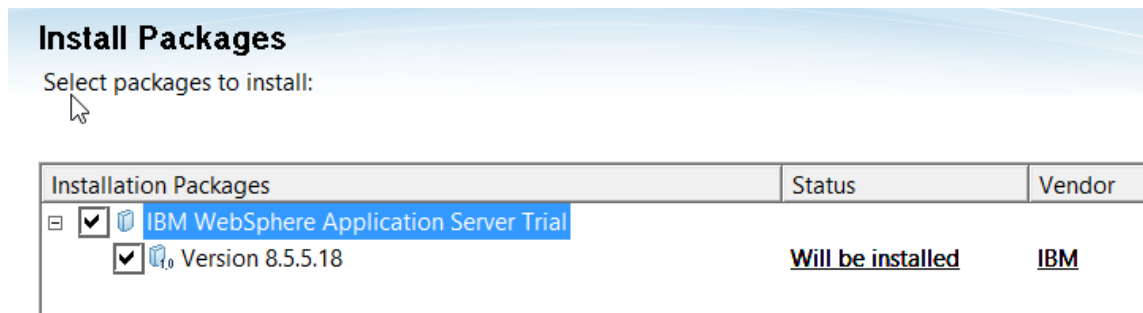


__22. Now, click **OK** on preferences window.

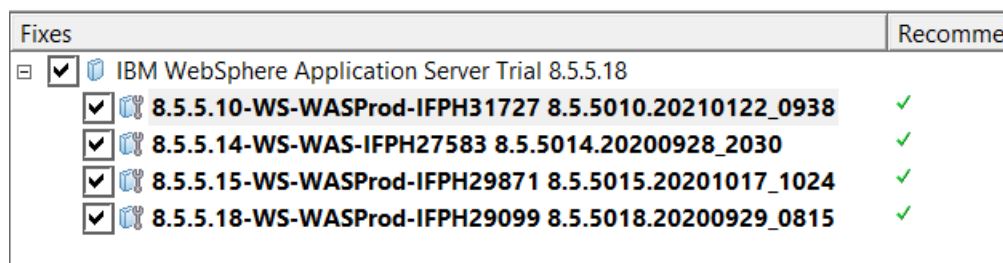
__23. Click **Install** on IBM Installation Manager main window.



__24. 'Install Packages' will open. Check all the boxes for **IBM WebSphere Application Server Trial Version 8.5.5.18** as shown below and click **Next**.



__25. All Packages will be selected. Click **Next**.



__26. Accept the license agreement and click **Next**.

__27. Change the install folder to **C:\IBM\IMShared** as the default folder is protected. Click **Next**.

Shared Resources Directory: C:\IBM\IMShared

__28. Change the package install folder to **C:\IBM\WebSphere\AppServer** as the default folder is protected. Click **Next**.

☐ Use the existing package group
☒ Create a new package group

Package Group Name	Installation Directory
IBM WebSphere Application Server V8.5	C:\IBM\WebSphere\AppServer

Package Group Name: IBM WebSphere Application Server V8.5
Installation Directory: C:\IBM\WebSphere\AppServer

__29. Click **Next** on language.

__30. Leave the default packages checked. Click **Next**.

Features

- ☒ IBM WebSphere Application Server Trial 8.5.5.18
 - ☒ WebSphere Application Server Full Profile
 - ☒ EJBDeploy tool for pre-EJB 3.0 modules
 - ☒ Stand-alone thin clients, resource adapters and embeddable containers
 - ☒ Stand-alone thin clients and resource adapters
 - ☒ Embeddable EJB container
 - ☐ Sample applications
 - ☒ IBM WebSphere SDK for Java Technology Edition
 - ☐ IBM 32-bit WebSphere SDK for Java
 - ☒ IBM 64-bit WebSphere SDK for Java

__31. Click **Install**.

Packages

Packages

- IBM WebSphere Application Server Trial 8.5.5.18
 - IBM WebSphere Application Server Trial 8.5.5.18
 - 8.5.5.10-WS-WASProd-IFPH31727 8.5.5010.20210122_0938
 - 8.5.5.14-WS-WAS-IFPH27583 8.5.5014.20200928_2030
 - 8.5.5.15-WS-WASProd-IFPH29871 8.5.5015.20201017_1024
 - 8.5.5.18-WS-WASProd-IFPH29099 8.5.5018.20200929_0815

Environment

English

Disk Space Information

Total Available Space
C: 42.13 GB

Total Download Size: 1.13 GB
Total Installation Size: 2.66 GB

Repository Information

< Back Next > Install

__32. After some time it installs. Leave selected **Profile Management Tool** to create a profile and click **Finish**.

✓ The packages are installed. [View Log File](#)

The following packages were installed:

- IBM WebSphere Application Server V8.5
 - IBM WebSphere Application Server Trial 8.5.5.18
 - 8.5.5.10-WS-WASProd-IFPH31727 8.5.5010.20210122_0938
 - 8.5.5.14-WS-WAS-IFPH27583 8.5.5014.20200928_2030
 - 8.5.5.15-WS-WASProd-IFPH29871 8.5.5015.20201017_1024
 - 8.5.5.18-WS-WASProd-IFPH29099 8.5.5018.20200929_0815

Which program do you want to start?

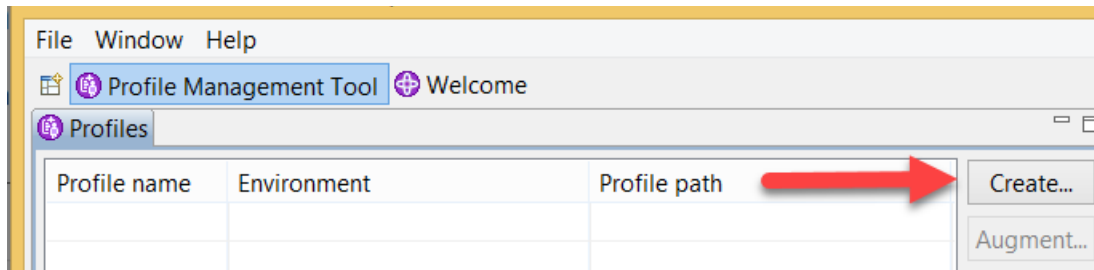
- ☒ Profile Management Tool to create a profile.
- ☐ Profile Management Tool to create an application server profile.
- ☐ None

Note: If the packages support rollback, the temporary directory contains rollback files for installed packages. You can delete the files on the [Files for rollback](#) preference page.

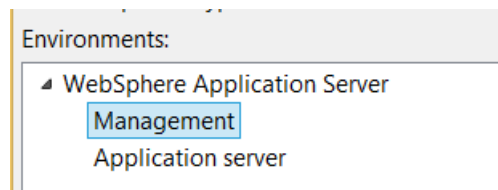
Finish

Next you will use the Profile Management Tool to create the management agent profile.

__33. Click **Create**



__34. Select Management. Click **Next**.



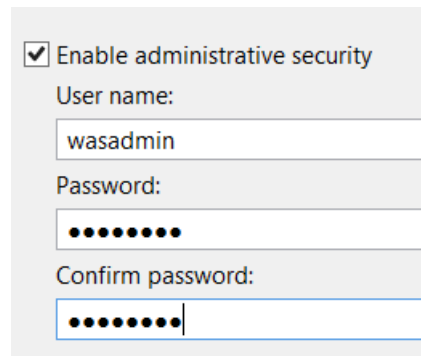
__35. Leave Typical profile creation and click **Next**.

☒ Typical profile creation

Create an administrative agent profile that uses default configuration settings. An administrative agent server will be created. The Profile Management Tool assigns unique names to the profile, node, host, and cell. The tool also assigns unique port values to each server. The administrative console will be installed on the administrative agent server. You can optionally select whether to enable administrative security. The tool might create a system service to run the administrative agent depending on the operating system of your machine and the privileges assigned to your user account

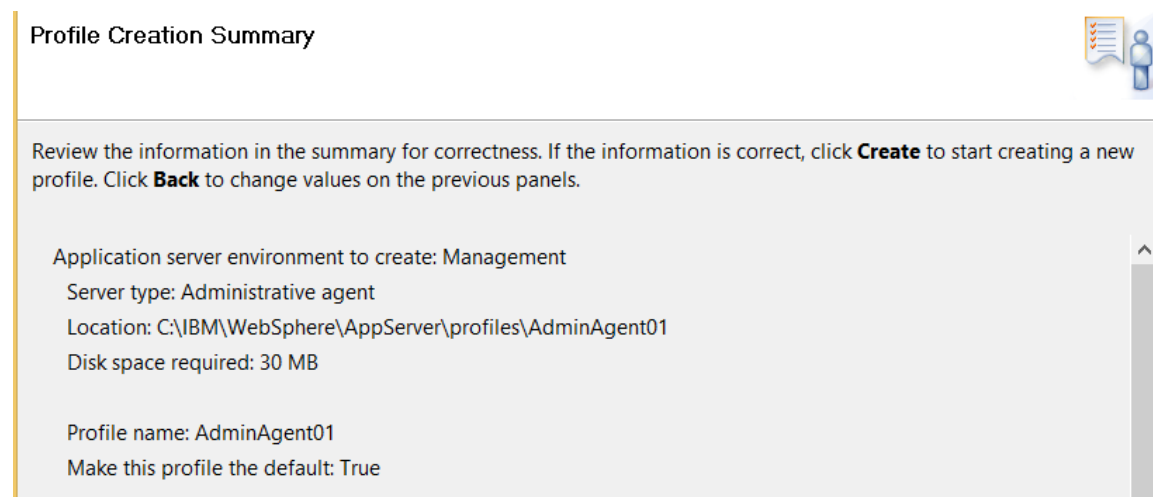
Note: Default personal certificates expire in one year. Select Advanced profile creation to create a personal certificate with a different expiration.

__36. Enter **wasadmin** for user and password and click **Next**.



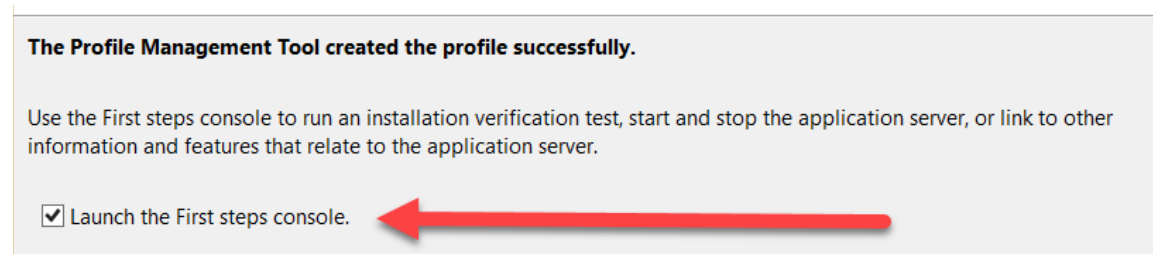
A screenshot of a configuration window titled 'Enable administrative security'. It contains three input fields: 'User name:' with the text 'wasadmin', 'Password:' with masked characters '••••••••', and 'Confirm password:' with masked characters '••••••••'. A checkbox labeled 'Enable administrative security' is checked.

__37. Click **Create**.



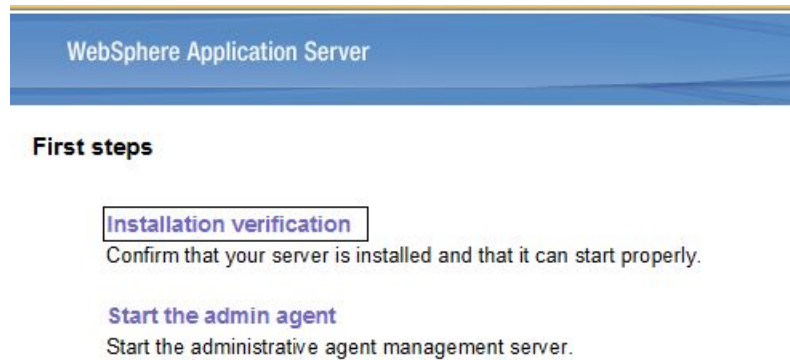
A screenshot of the 'Profile Creation Summary' window. It displays the following information: 'Application server environment to create: Management', 'Server type: Administrative agent', 'Location: C:\IBM\WebSphere\AppServer\profiles\AdminAgent01', 'Disk space required: 30 MB', 'Profile name: AdminAgent01', and 'Make this profile the default: True'. A 'Create' button is visible in the top right corner.

__38. Leave selected **Launch the First steps console** and click **Finish**.

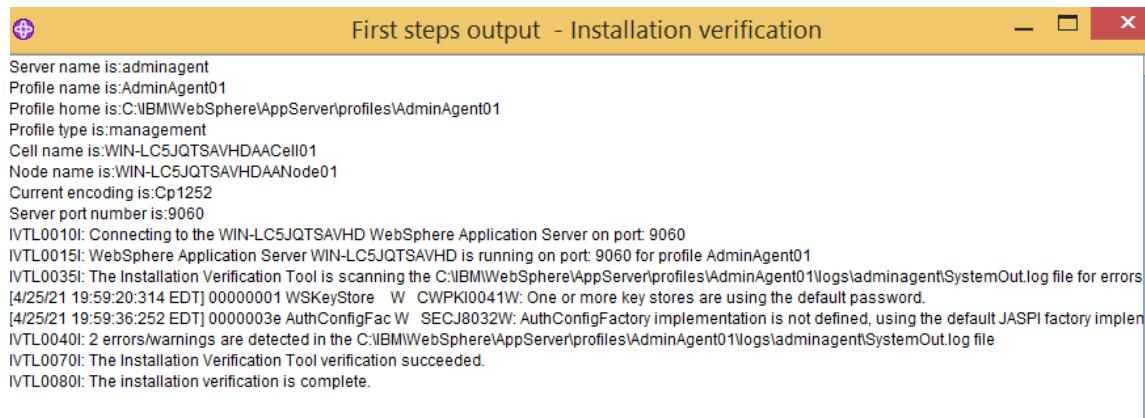


A screenshot of a message box titled 'The Profile Management Tool created the profile successfully.' It contains the text: 'Use the First steps console to run an installation verification test, start and stop the application server, or link to other information and features that relate to the application server.' Below this text is a checkbox labeled 'Launch the First steps console.' which is checked. A red arrow points to this checkbox.

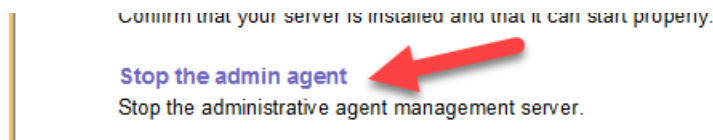
__39. Click the link for **Installation verification**




__40. After few minutes, scroll down to find the "verification complete" message and close the window.



__41. The admin agent was started during the previous step, is time to stop it, Click **Stop the admin agent**.



__42. When you get this confirmation, close the window.



```
ADMU0116: Tool information is being logged in file
C:\IBM\WebSphere\AppServer\profiles\AdminAgent01\logs\adminagent\stopServer.log
ADMU7702: Because adminagent is registered to run as a Windows Service, the
request to stop this server will be completed by stopping the
associated Windows Service.
ADMU0116: Tool information is being logged in file
C:\IBM\WebSphere\AppServer\profiles\AdminAgent01\logs\adminagent\stopServer.log
ADMU0128: Starting tool with the AdminAgent01 profile
ADMU3100: Reading configuration for server: adminagent
ADMU3201: Server stop request issued. Waiting for stop status.
ADMU4000: Server adminagent stop completed.
```

__43. Close all.

Part 6 - Installing JDK 8 Update 171 (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-8u171-windows-x64.exe

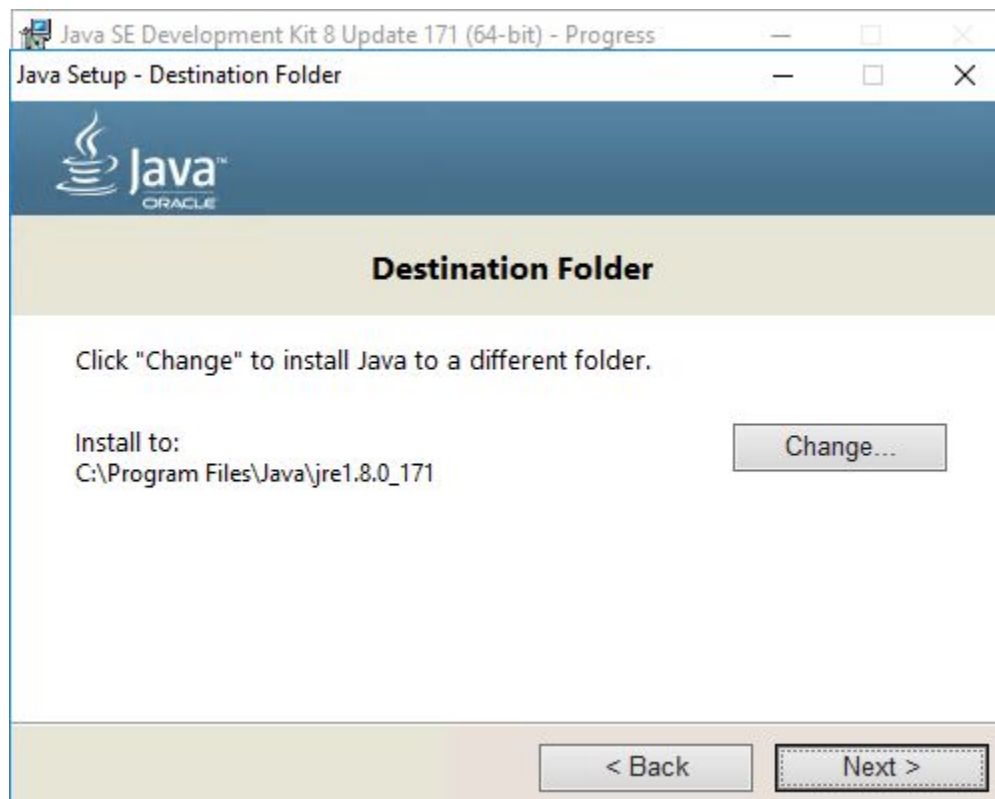
Note: If a security prompt open, allow the installation to continue.

__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.

The installation will begin installing files.

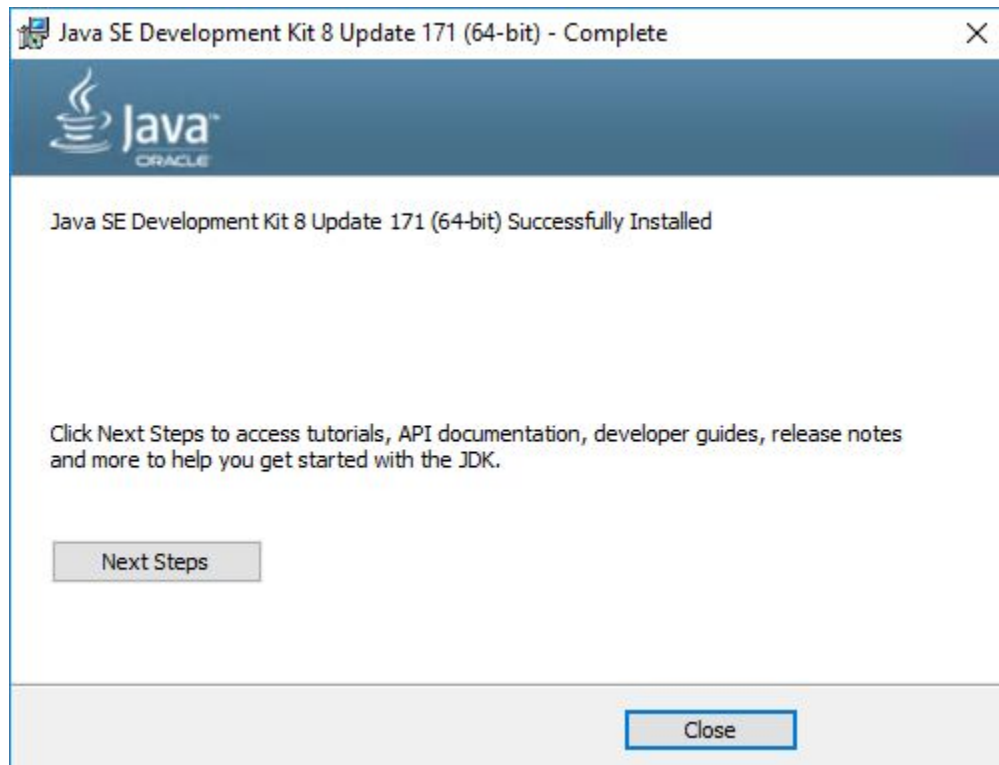
__5. The **Destination Folder** will appear, leave the default folder and click **Next**.



Note: The installation directory may be slightly different.

Wait until the software is completely installed.

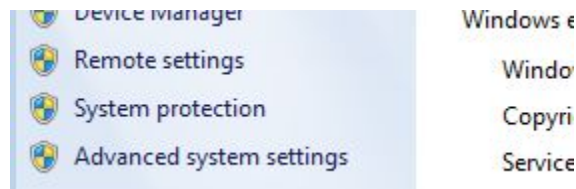
__6. Click **Close**.



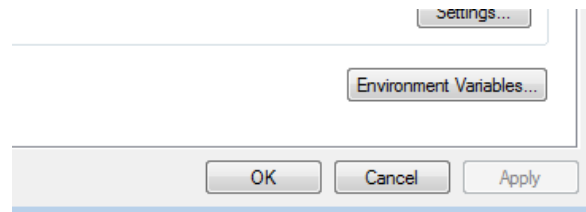
Set the Environment variables

__7. In the Windows Start Menu, right-click on the **Computer** link in the right-hand side of the Start panel, and then select **Properties**.

__8. Click on **Advanced system settings**.



__9. The system will display the **System Properties** dialog. Select the **Advanced** tab and click **Environment Variables**.



__10. Under the **System Variables** list, click the **New** button.

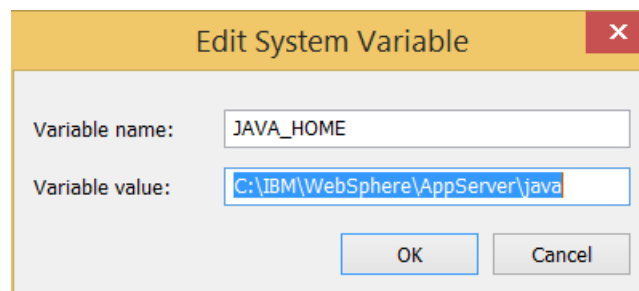
__11. Enter **JAVA_HOME** as Variable name.

__12. As Variable value enter the following:

C:\IBM\WebSphere\AppServer\java

Note. Here we are using the IBM path. This folder was created when installing IBM WebSphere Application Server. Make sure you are using the right path.

__13. Click **OK** to create the variable.

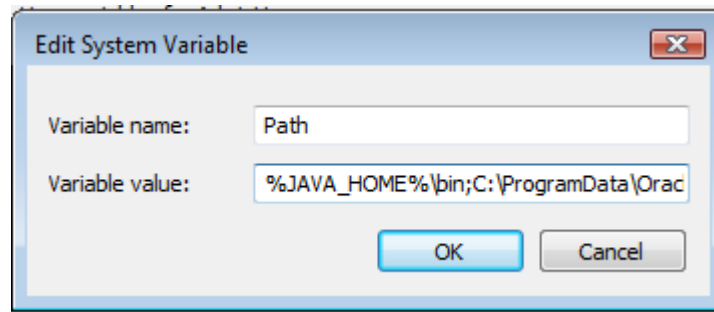


__14. From the *System Variables* list, select **Path** and click **Edit**.

__15. At the beginning of the line enter the following. Make sure to include the semi-colon on the end:

%JAVA_HOME%\bin;

__16. Click **OK**.



__17. Click **OK** to close the *Environment Variables* window.

__18. Click **OK** to close the *System Properties* window.

Part 7 - Verification JDK 8_0_171

__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:

```
java version "1.8.0_261"
Java(TM) SE Runtime Environment (build 8.0.6.15 - pwa6480sr6fp15ifix-20200
(SR6 FP15+IJ26443))
IBM J9 UM (build 2.9, JRE 1.8.0 Windows 8.1 amd64-64-Bit Compressed Refere
0200729_452626 (JIT enabled, AOT enabled)
OpenJ9      - 43296bc
OMR         - 08b0594
IBM         - 70917a2)
JCL - 20200720_01 based on Oracle jdk8u261-b13
```

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:

__5. Enter the following command:

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

Make sure you see the response shown below.

```
sun.arch.data.model = 64
```

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.

Java has been installed.

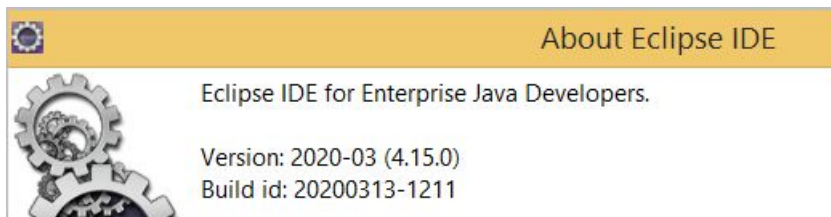
Part 8 - Installing eclipse-jee-2020-03-R-incubation-win32-x86_64 for WebSphere Application Server 8.5

- ___ 1. Open C:\Software\eclipse
- ___ 2. Create a shortcut of **eclipse.exe** on the desktop.
- ___ 3. Double click in this file to start eclipse:

eclipse.exe

Eclipse will start.

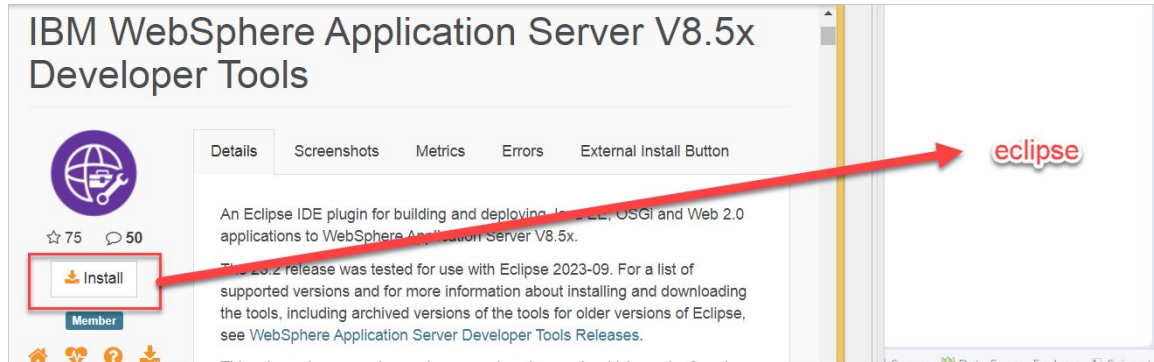
- ___ 4. Change the workspace directory to **C:\Workspace** and click **Launch**.
- ___ 5. Eclipse will open showing the Welcome page. Close the page by clicking on the X in the tab.
- ___ 6. From the menu, click **Help > About Eclipse IDE**.
- ___ 7. Make sure you see the following version and click close.



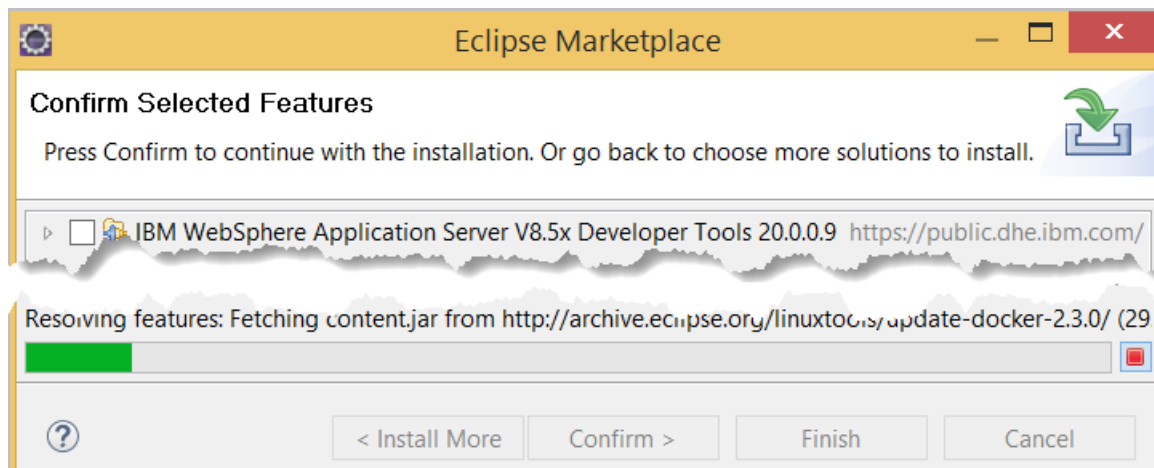
Use IBM WebSphere Application Server V8.5x Developer Tools from Eclipse market place

- ___ 8. Open this link (you may need to click **Allow cookies**):
<https://marketplace.eclipse.org/content/ibm-websphere-application-server-v85x-developer-tools>
- ___ 9. Align the eclipse windows and the browser windows so you can see both at the same time.

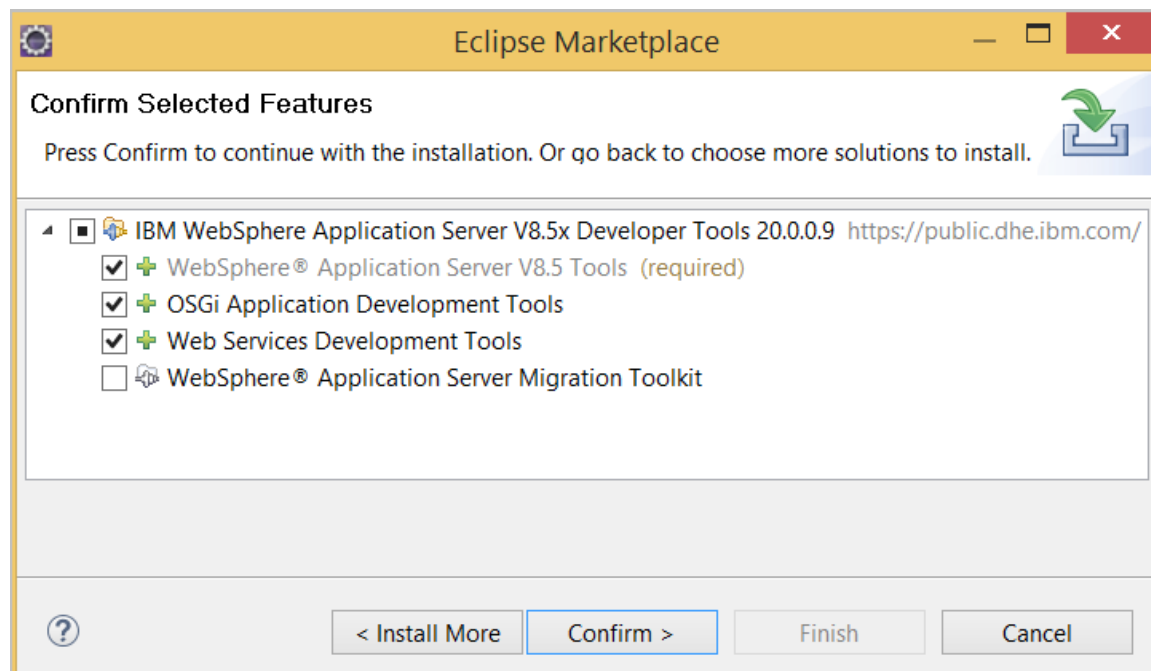
__10. Drag the "install" icon (software install plugin) from web browser and drop into running eclipse. It will open a dialog and prompt you to choose features.



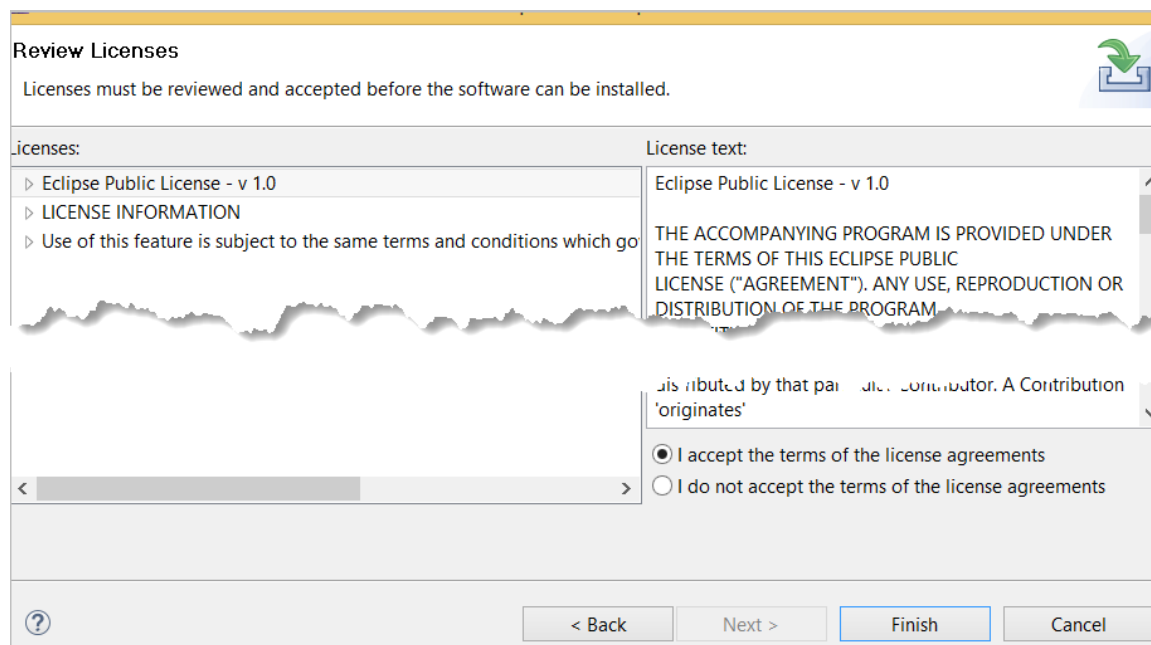
__11. Switch to the Eclipse Marketplace windows that will open and wait.



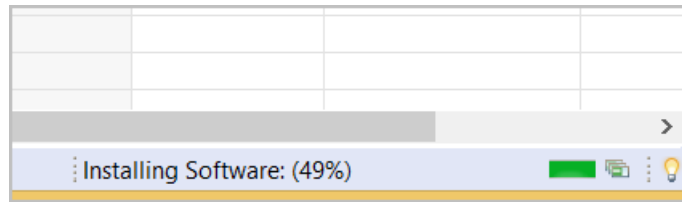
__12. After some seconds you should see that the installation is in progress and when the Confirm button is enabled click **Confirm**.



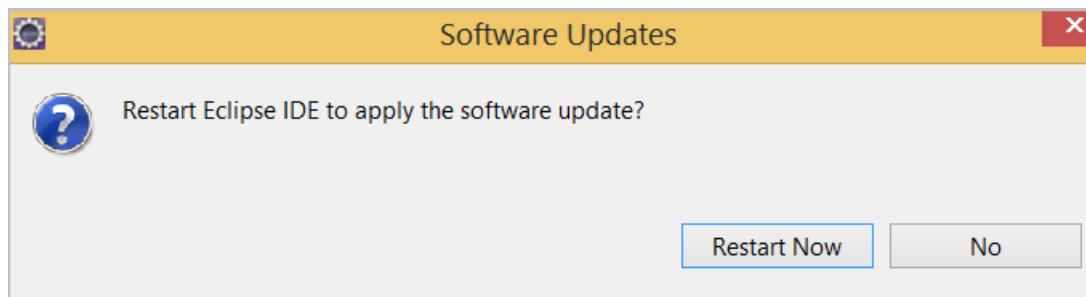
__13. Installation will continue, after some time will show another page, click **I accept** ... and click **Finish**.



__14. Wait until the installation is completed.



__15. Click **Restart Now**.



__16. Once eclipse starts again, then close Eclipse.

Part 9 - Privileges to Users

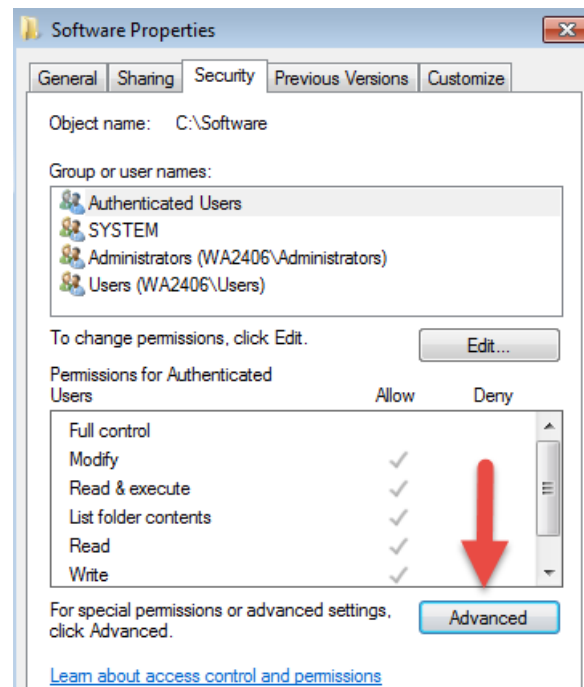
During the labs students will require privileges on several directories. They will need to be able to write, read, and modify files in these directories for the labs. Although the directions below are provided as an example, this may differ depending on Windows version. The important thing is to make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

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

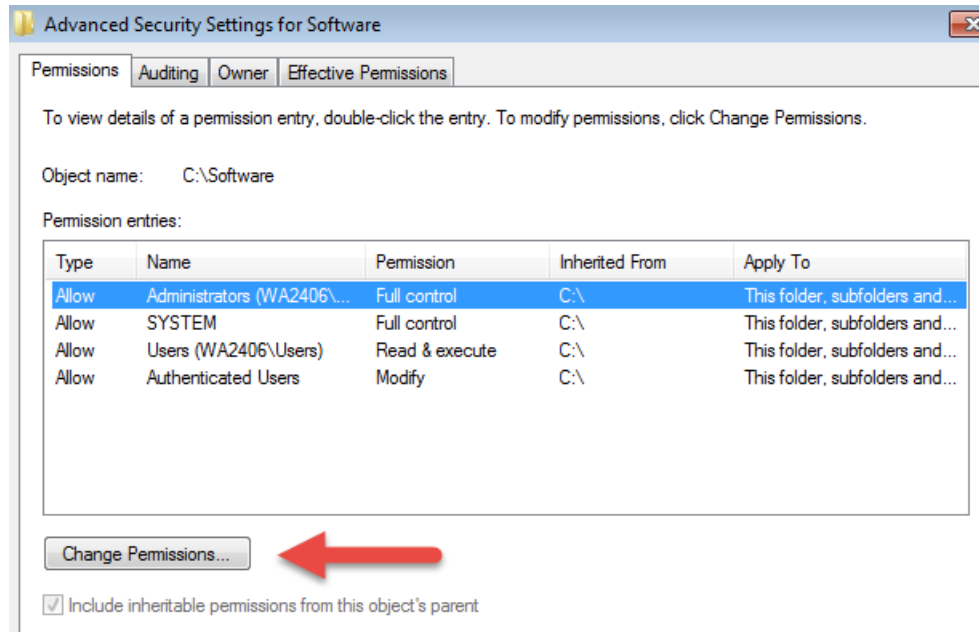
Make sure you installed **WebSphere** in **C:\IBM**, if was installed in other folder then uninstall it and repeat the steps to install it as in a previous part.

Make sure you installed **eclipse** in **C:\Software\eclipse**, if it was installed in other folder then uninstall it and repeat the steps to install it as in a previous part.

- ___ 1. Open Windows Explorer.
- ___ 2. Right click C:**Software** and select **Properties**.
- ___ 3. Click the **Security** tab.
- ___ 4. Click **Advanced**.

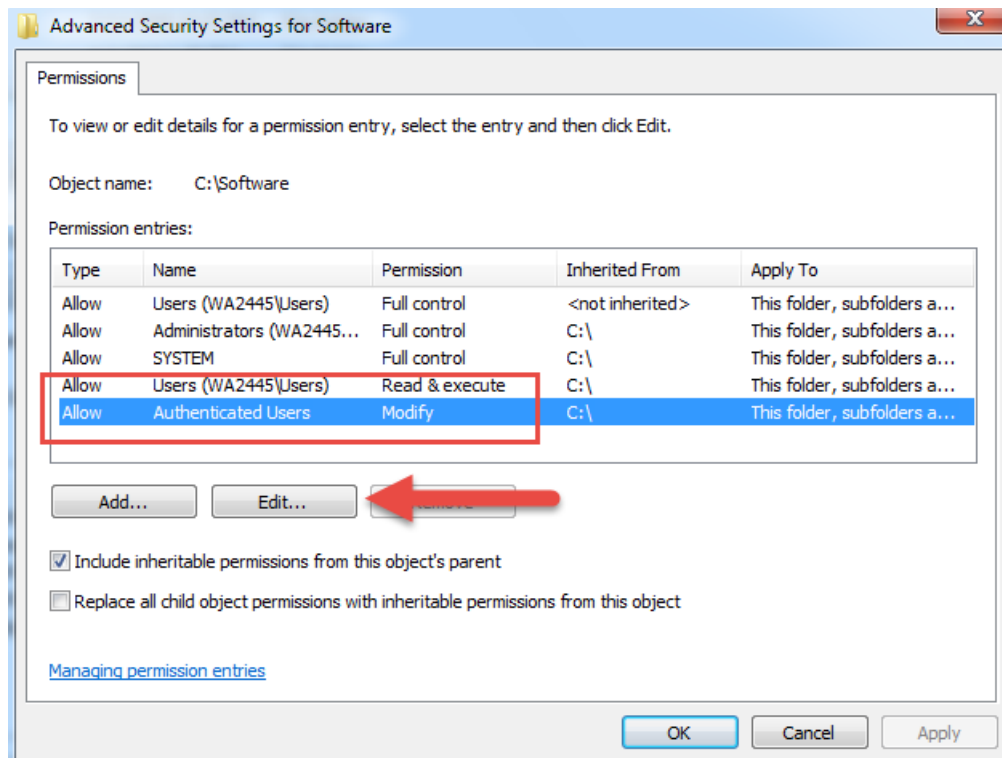


- ___ 5. Click **Change Permissions**.

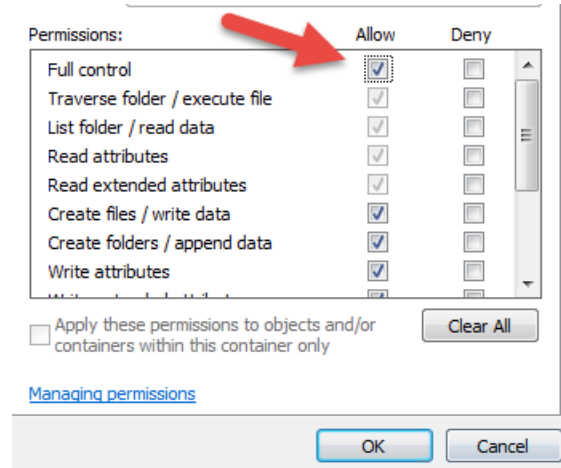


6. Select the **Authenticated Users** entry and click **Edit...**

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



__7. Check the **Allow** checkbox to the right of **Full Control** and click **OK**.



__8. Select the checkbox for **Replace all child permissions with inheritable permissions from this object** and then click **OK**.



☒ Include inheritable permissions from this object's parent

☒ Replace all child object permissions with inheritable permissions from this object

__9. A *Windows Security* dialog will open. Click **Yes**.

__10. Wait until Windows finishes updating security.

__11. Back in the *Advanced Security Settings* dialog, click **OK**.

__12. Back in the *Properties* dialog, click **OK**.

__13. Do the same steps to the **C:\IBM** folder.

__14. Do the same steps to the **C:\LabFiles** folder.

__15. Do the same steps to the **C:\Workspace** folder.

Part 10 - 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