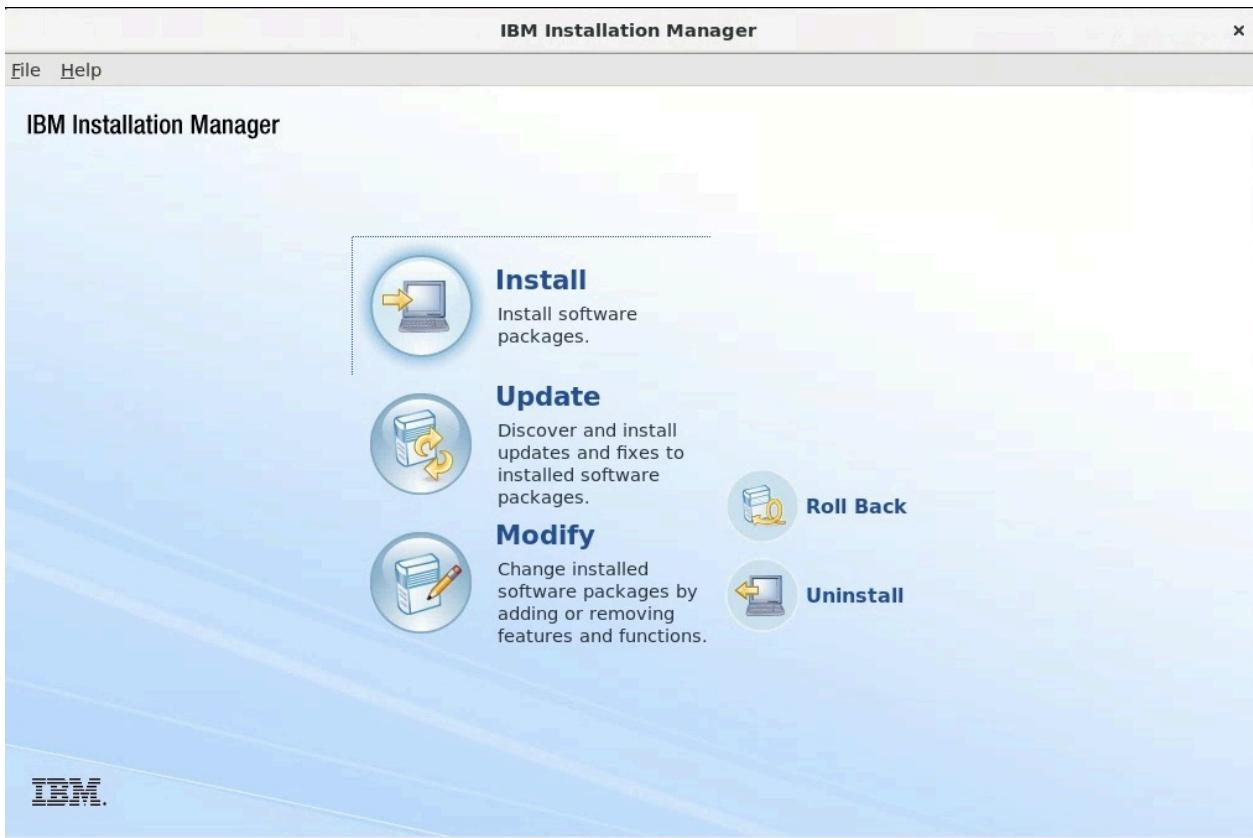


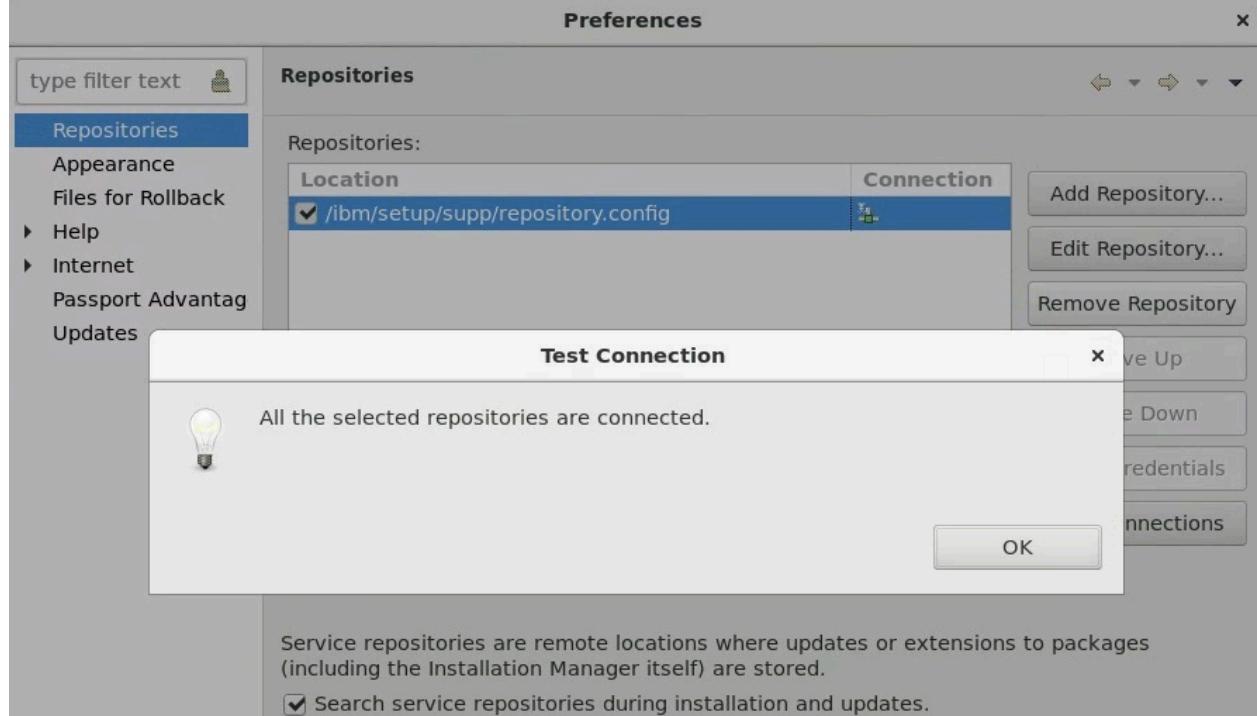
Exercise 3 - Installing IBM HTTP Server

At the end of the exercise, you should be able to:

- Install IBM HTTP Server with IBM Installation Manager
- Confirm and test the installation of IBM HTTP Server
- Install Web Server Plug-ins for WebSphere Application Server
- Install WebSphere Customization Toolbox
- Configure the Web Server Plug-ins for WebSphere Application Server
- Examine the installed directories and files for IBM HTTP Server and the plug-ins

Section 1: Installation of the IBM HTTP Server





IBM Installation Manager

Install Packages
Select packages to install:

Installation Packages	Status	Vendor	License Key Type
Application Client for IBM WebSphere Application Server			
Version 8.5.5.0		IBM	
IBM HTTP Server for WebSphere Application Server	Will be installed	IBM	
Version 8.5.5.0			
Pluggable Application Client for IBM WebSphere Application Server			
Web Server Plug-ins for IBM WebSphere Application Server		IBM	
Version 8.5.5.0			
WebSphere Customization Toolbox		IBM	
Version 8.5.5.0			

Show all versions [Check for Other Versions, Fixes, and Extensions](#)

Details

IBM HTTP Server for WebSphere Application Server 8.5.5.0

IBM HTTP Server for WebSphere Application Server provides advanced web server capabilities with consistent management and security in a WebSphere Application Server environment. IBM HTTP Server for WebSphere Application Server is based on Apache HTTP Server. [More info...](#)

- Repository: /ibm/setup/supp

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
Validate the prerequisites for the selected packages.

[Install](#) [Prerequisite](#) [Licenses](#) [Location](#) [Features](#) [Summary](#)

Validation Results

Prerequisite	Result
IBM HTTP Server for WebSphere Application Server	<p>A supported operating system was not detected. Support for your operating system might have been added after the release of the product. See the WebSphere Application Server detailed system requirements Web pages - http://www.ibm.com/support/docview.wss?rs=180&uid=swg27006921 for more information about supported operating systems. You can continue with the installation, but the installation or product operation might not succeed without applying maintenance. Go to the product support Web pages - http://www.ibm.com/support/docview.wss?rs=180&uid=swg27004980 to obtain the latest maintenance packages to apply after installation.</p>

[Recheck Status](#)

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
Read the following license agreements carefully.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement I do not accept the terms in the license agreement

English Print All...

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
A package group is a location that contains one or more packages. Some compatible packages can be installed into a common package group and will share a common user interface. Select an existing package group, or create a new one.

Install Prerequisite Licenses Location Features Summary

Use the existing package group Create a new package group

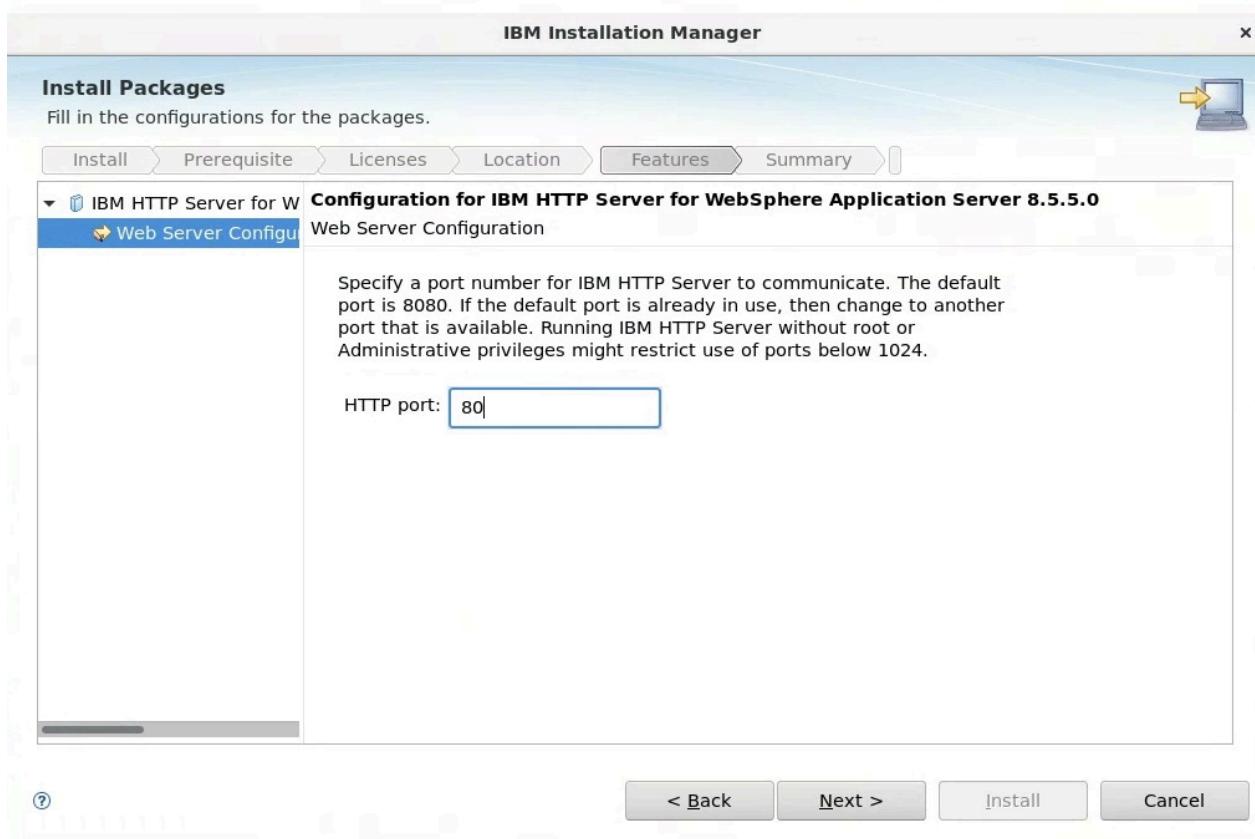
Package Group Name	Installation Directory	Architecture
IBM HTTP Server V8.5	/ibm/HTTPServer	

Package Group Name: IBM HTTP Server V8.5
Installation Directory: /ibm/HTTPServer [Browse...](#)

Details
Shared Resources Directory: /ibm/IMShared

Disk Space Information
Volume Available Space
/ 31.86 GB

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)



IBM Installation Manager

Install Packages
Review the summary information.

Install Prerequisite Licenses Location Features Summary

Target Location

Package Group Name: IBM HTTP Server V8.5

Installation Directory: /ibm/HTTPServer

Shared Resources Directory: /ibm/IMShared

Packages

Packages

- IBM HTTP Server for WebSphere Application Server 8.5.5.0
 - Architecture Selection
 - IBM HTTP Server 64-bit with Java, Version 6

Environment **Disk Space Information**

	Total Available Space
/	31.86 GB

Total Download Size: 31.87 MB
Total Installation Size: 236.53 MB

Repository Information

?

< Back Next > Install Cancel

IBM Installation Manager

Install Packages
Review the summary information.

Install Prerequisite Licenses Location Features Summary

Target Location

Package Group Name: IBM HTTP Server V8.5

Installation Directory: /ibm/HTTPServer

Shared Resources Directory: /ibm/IMShared

Packages

Packages

- IBM HTTP Server for WebSphere Application Server 8.5.5.0
 - Architecture Selection
 - IBM HTTP Server 64-bit with Java, Version 6

Environment **Disk Space Information**

	Total Available Space
/	31.86 GB

Total Download Size: 31.87 MB
Total Installation Size: 236.53 MB

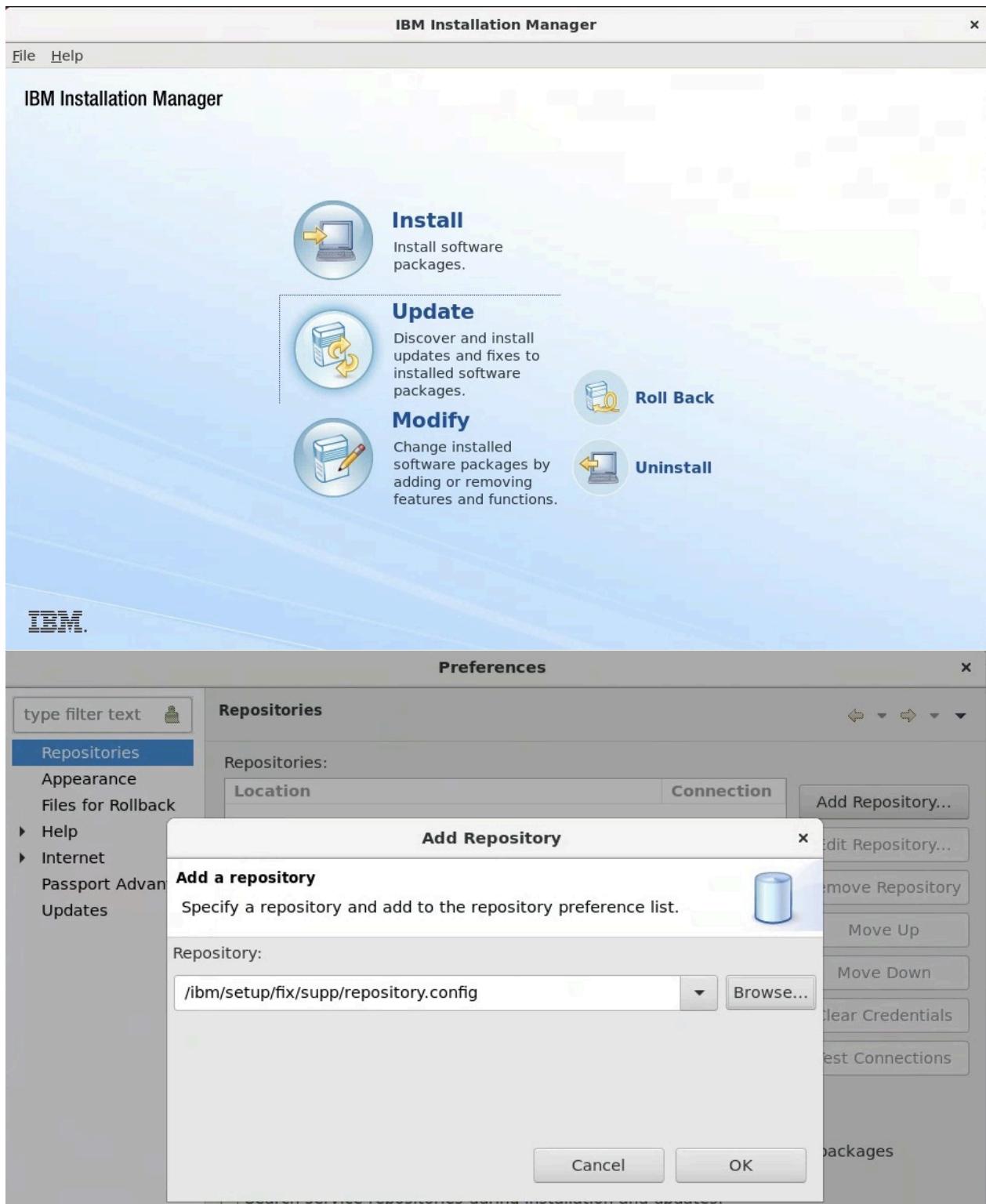
Repository Information

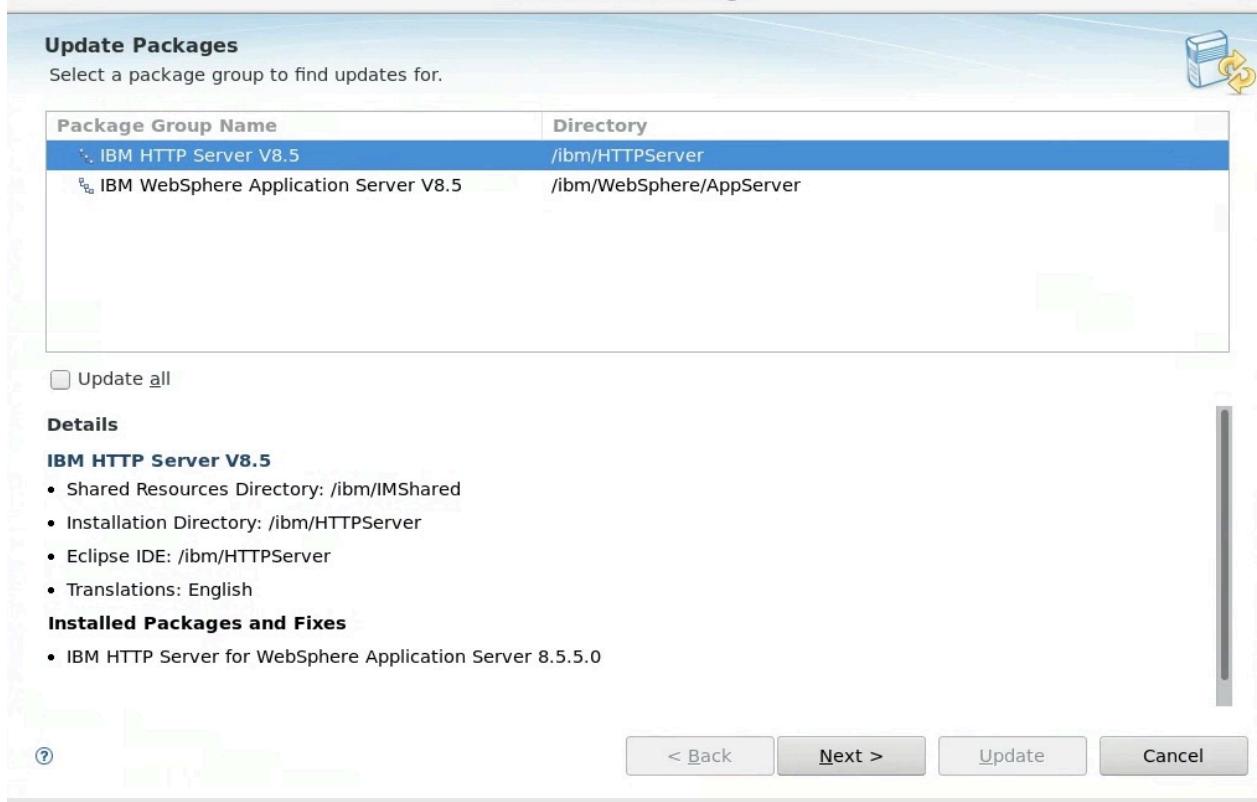
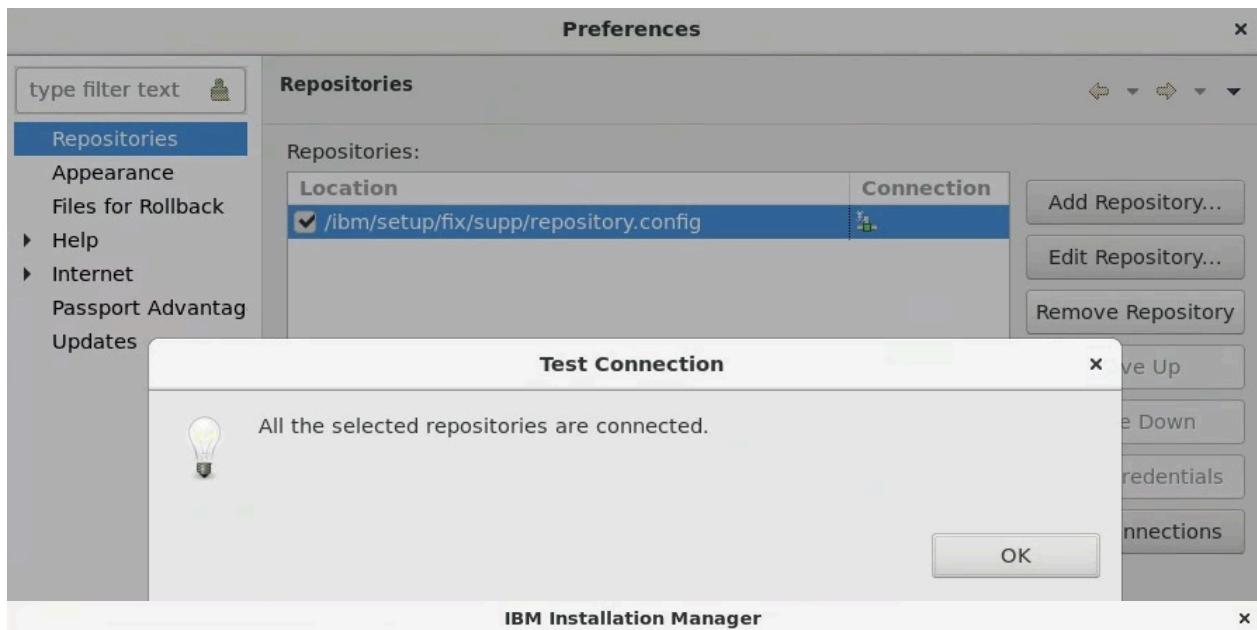
Installing.

Pause Download Cancel



Section 2: Update IBM HTTP Server





IBM Installation Manager

Update Packages
Select the updates to install.



Update	Recommend	Vendor	Status
IBM HTTP Server V8.5			
IBM HTTP Server for WebSphere Application Version 8.5.5.20	✓	IBM	

Show recommended only Select Recommended

[?](#) < Back Next > Update Cancel

IBM Installation Manager

Update Packages
Read the following license agreements carefully.



Update Packages > Updates > Licenses > Features > Summary

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

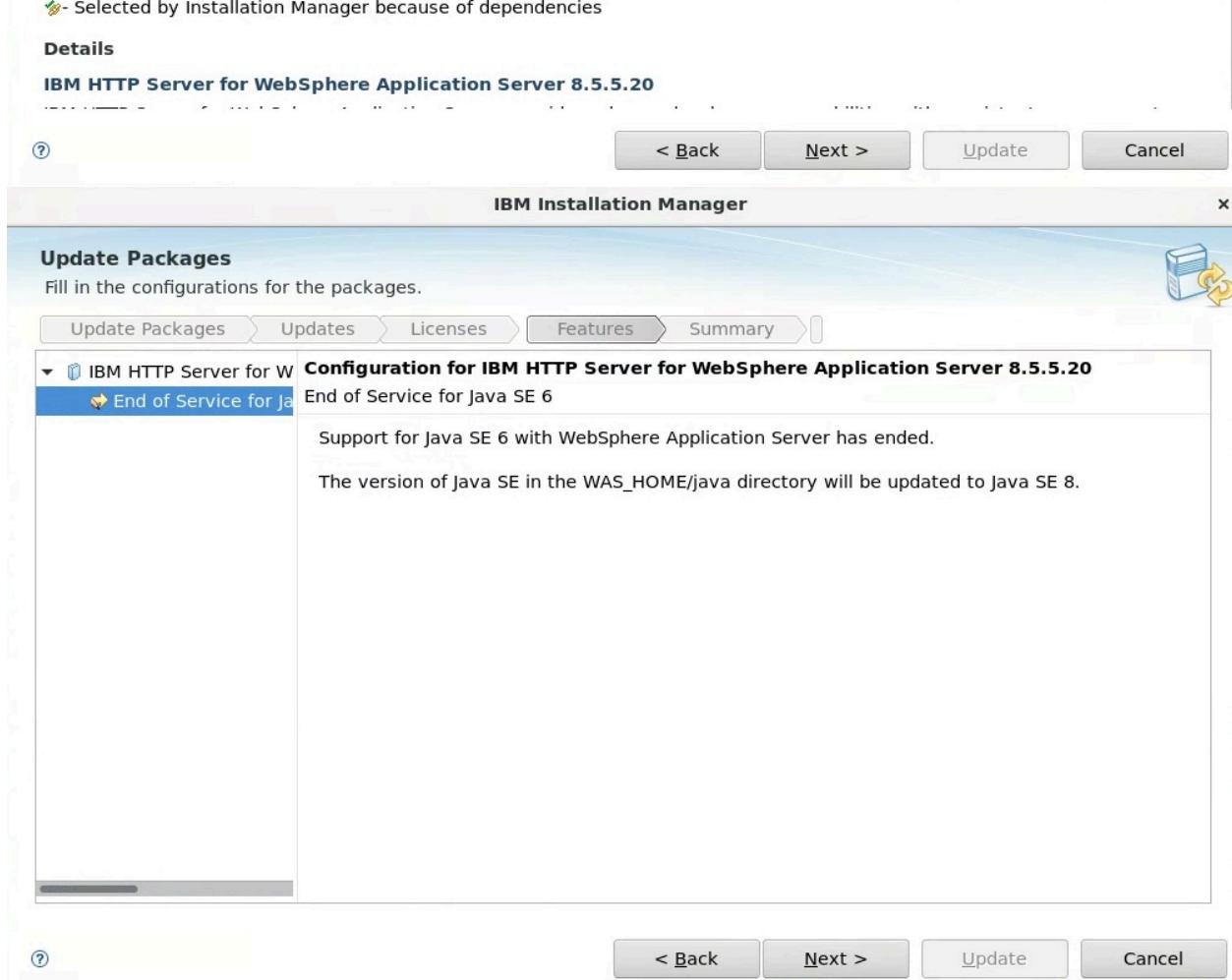
1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

[?](#) < Back Next > Update Cancel



IBM Installation Manager

Update Packages

Review the summary information.

Update Packages Updates Licenses Features Summary

Target Location

Package Group Name: IBM HTTP Server V8.5

Installation Directory: /ibm/HTTPServer

Shared Resources Directory: /ibm/IMShared

Updates

Features To Install

- IBM HTTP Server for WebSphere Application Server 8.5.5
 - Architecture Selection
 - IBM HTTP Server 64-bit with Java

Features To Remove

Disk Space Information

Total Available Space
31.64 GB

Total Download Size: 38.27 MB

Total Installation Size: 298.77 MB

Repository Information

?

< Back Next > Update Cancel

IBM Installation Manager

Update Packages

Review the summary information.

Update Packages Updates Licenses Features Summary

Target Location

Package Group Name: IBM HTTP Server V8.5

Installation Directory: /ibm/HTTPServer

Shared Resources Directory: /ibm/IMShared

Updates

Features To Install

- IBM HTTP Server for WebSphere Application Server 8.5.5
 - Architecture Selection
 - IBM HTTP Server 64-bit with Java

Features To Remove

Disk Space Information

Total Available Space
31.64 GB

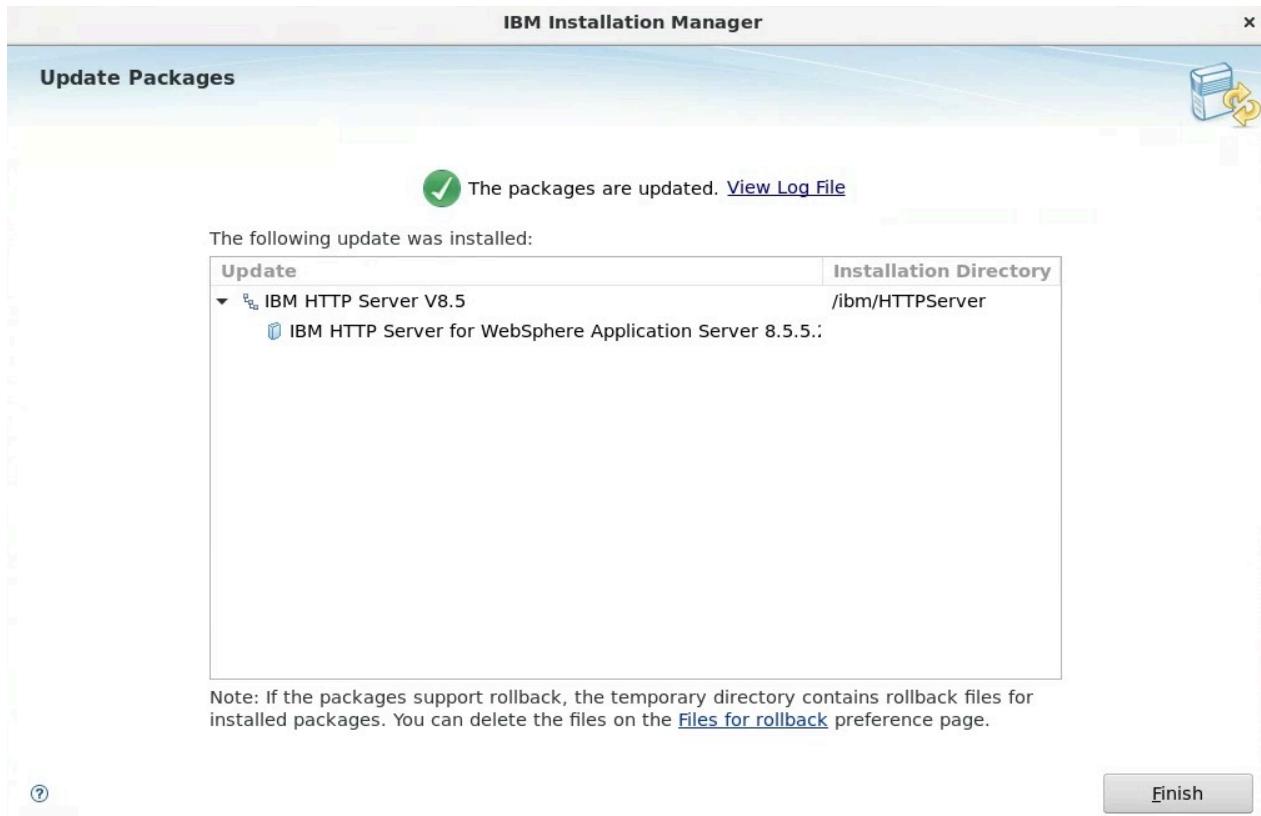
Total Download Size: 38.27 MB

Total Installation Size: 298.77 MB

Repository Information

Updating.: [com.ibm.ws.exec.command.Exec]

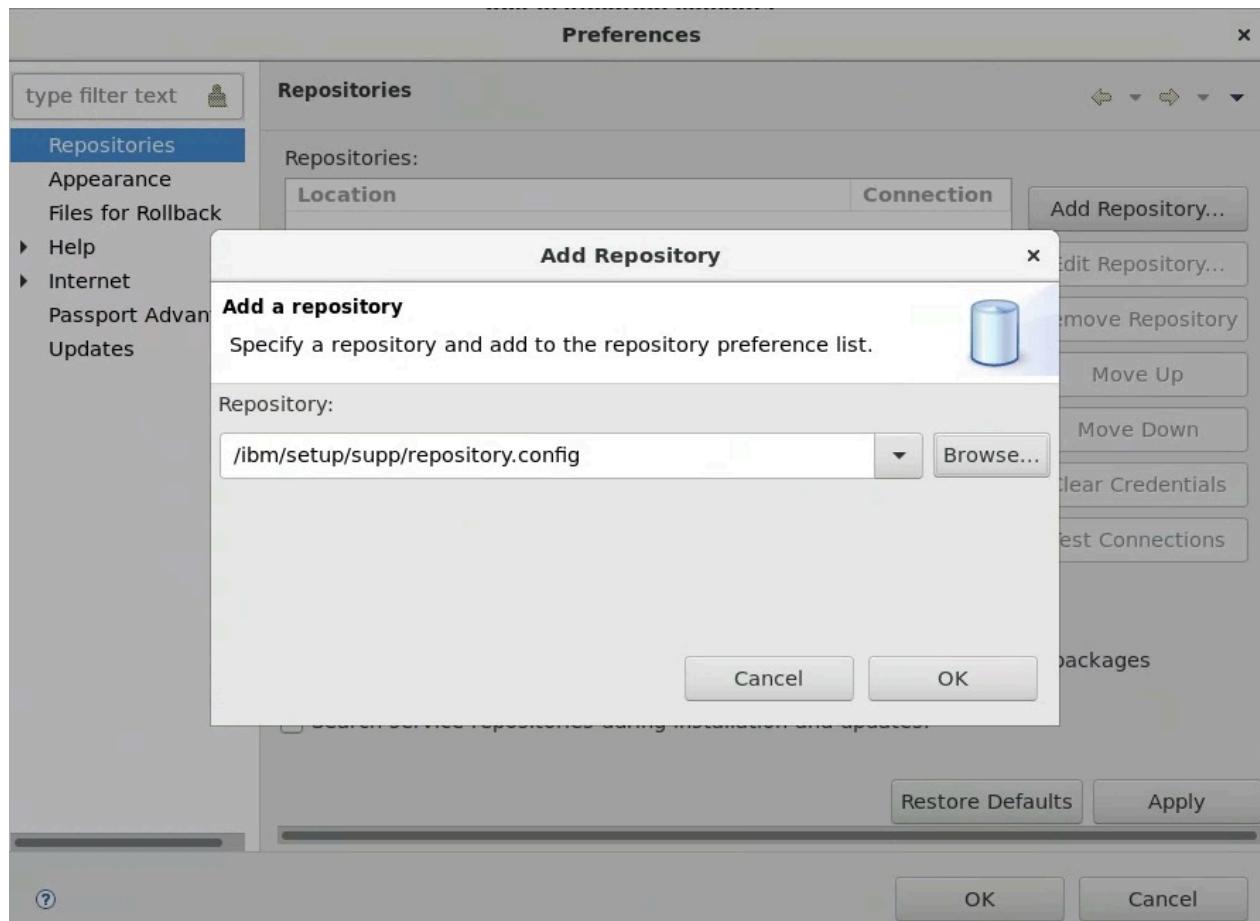
Pause Download Cancel



Section 3: Install IBM HTTP Server plug-in

The plug-ins are necessary for routing requests from the web server and WebSphere Application Server.





IBM Installation Manager

Install Packages

Select packages to install:

Installation Packages	Status	Vendor	License Key Type
Application Client for IBM WebSphere Application Server	IBM		
Version 8.5.5.0			
IBM HTTP Server for WebSphere Application Server	Installed	IBM	
Version 8.5.5.0			
Pluggable Application Client for IBM WebSphere Application Server			
Web Server Plug-ins for IBM WebSphere Application Server	Will be installed	IBM	
Version 8.5.5.0			
WebSphere Customization Toolbox	IBM		
Version 8.5.5.0			

Show all versions Check for Other Versions, Fixes, and Extensions

Details

Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0

Web Server Plug-ins for IBM WebSphere Application Server provides an optimized connection to route requests from a web server and WebSphere Application Server. [More info...](#)

- Repository: /ibm/setup/supp

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages

Validate the prerequisites for the selected packages.

[Install](#) [Prerequisite](#) [Licenses](#) [Location](#) [Features](#) [Summary](#)

Validation Results

! **Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0**

A supported operating system was not detected. Support for your operating system might have been added after the release of the product. See the WebSphere Application Server detailed system requirements Web pages - <http://www.ibm.com/support/docview.wss?rs=180&uid=swg27006921> for more information about supported operating systems. You can continue with the installation, but the installation or product operation might not succeed without applying maintenance. Go to the product support Web pages - <http://www.ibm.com/support/docview.wss?rs=180&uid=swg27004980> to obtain the latest maintenance packages to apply after installation.

[Recheck Status](#)

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
Read the following license agreements carefully.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
A package group is a location that contains one or more packages. Some compatible packages can be installed into a common package group and will share a common user interface. Select an existing package group, or create a new one.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

Install Packages
A package group is a location that contains one or more packages. Some compatible packages can be installed into a common package group and will share a common user interface. Select an existing package group, or create a new one.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

Package Group Name: Web Server Plug-ins for IBM WebSphere Application Server V8.5

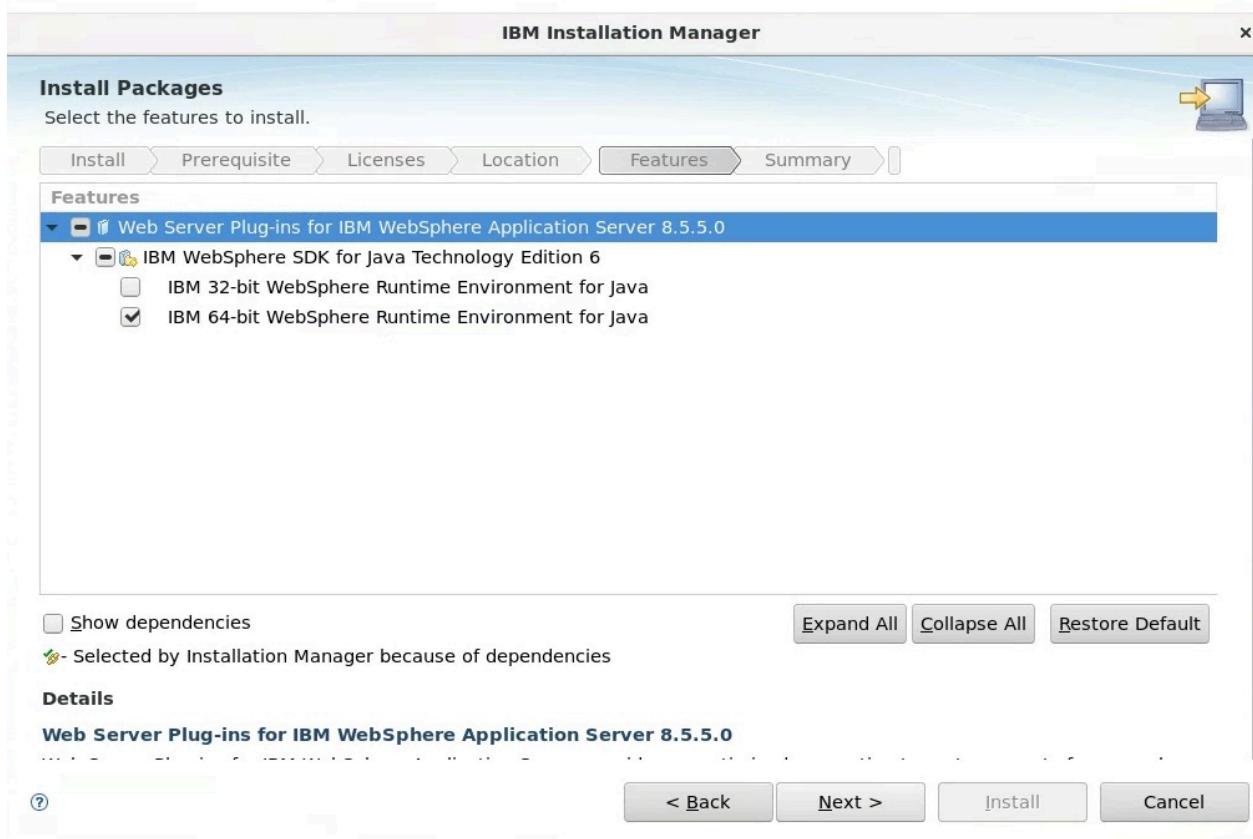
Installation Directory: /ibm/WebSphere/Plugins Browse...

Details
Shared Resources Directory: /ibm/IMShared

Disk Space Information

Volume	Available Space
/	31.53 GB

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)



IBM Installation Manager

Install Packages

Select the features to install.

Features

- Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0
 - IBM WebSphere SDK for Java Technology Edition 6
 - IBM 32-bit WebSphere Runtime Environment for Java
 - IBM 64-bit WebSphere Runtime Environment for Java

Show dependencies

Selected by Installation Manager because of dependencies

Expand All

Collapse All

Restore Default

Details

Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0

Install

Cancel

IBM Installation Manager

Install Packages

Review the summary information.

Target Location

Package Group Name: Web Server Plug-ins for IBM WebSphere Application Server V8.5

Installation Directory: /ibm/WebSphere/Plugins

Shared Resources Directory: /ibm/IMShared

Packages

Packages

- Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0
 - IBM WebSphere SDK for Java Technology Edition 6
 - IBM 64-bit WebSphere Runtime Environment for Java

Environment

Disk Space Information

	Total Available Space
/	31.53 GB

Total Download Size: 54.57 MB

Total Installation Size: 301.08 MB

Repository Information

< Back

Next >

Install

Cancel

IBM Installation Manager

Install Packages

Review the summary information.

Target Location

Package Group Name: Web Server Plug-ins for IBM WebSphere Application Server V8.5

Installation Directory: /ibm/WebSphere/Plugins

Shared Resources Directory: /ibm/IMShared

Packages

Packages

- Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0
 - IBM WebSphere SDK for Java Technology Edition 6
 - IBM 64-bit WebSphere Runtime Environment for Java

Environment

English

Disk Space Information

Total Available Space
/ 31.53 GB

Total Download Size: 54.57 MB

Total Installation Size: 301.08 MB

Repository Information

Installing.: Backing up jre/lib/zi/America

Pause Download Cancel

IBM Installation Manager

Install Packages

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

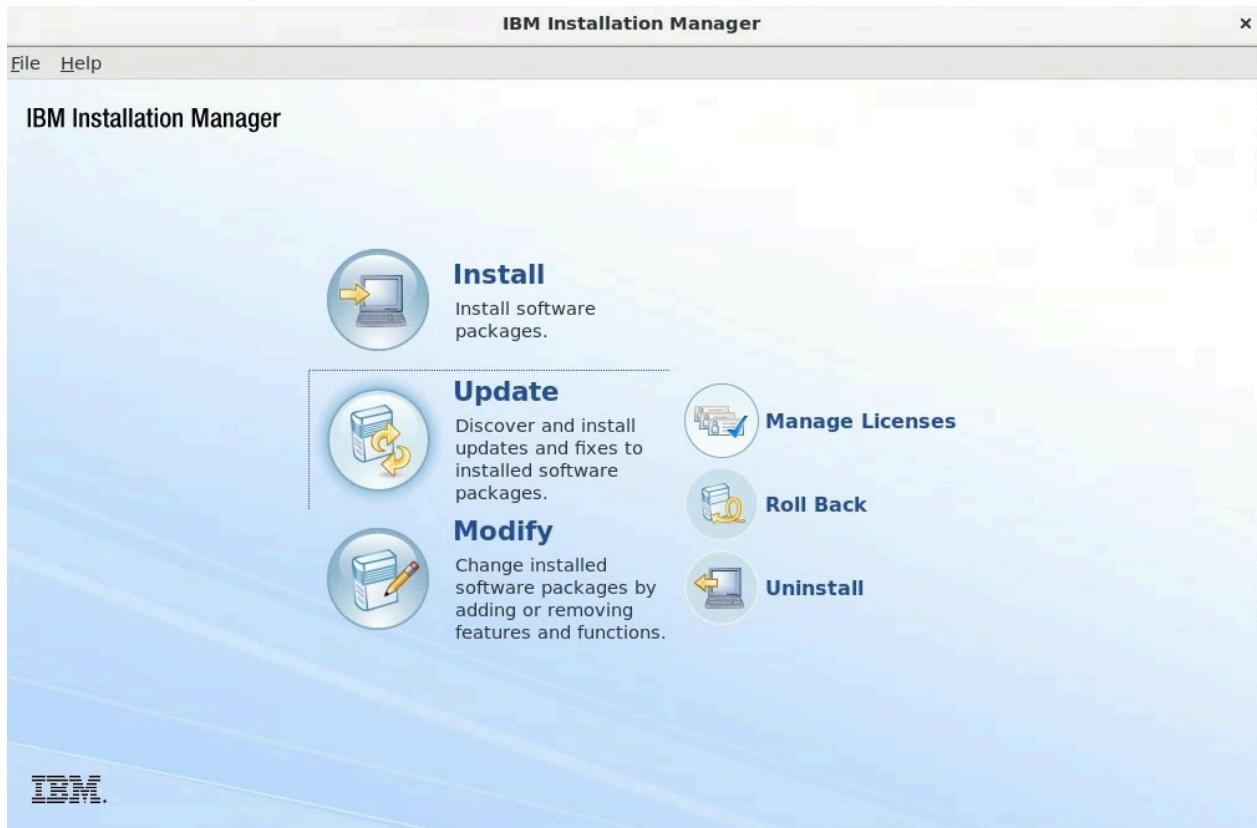
The following package was installed:

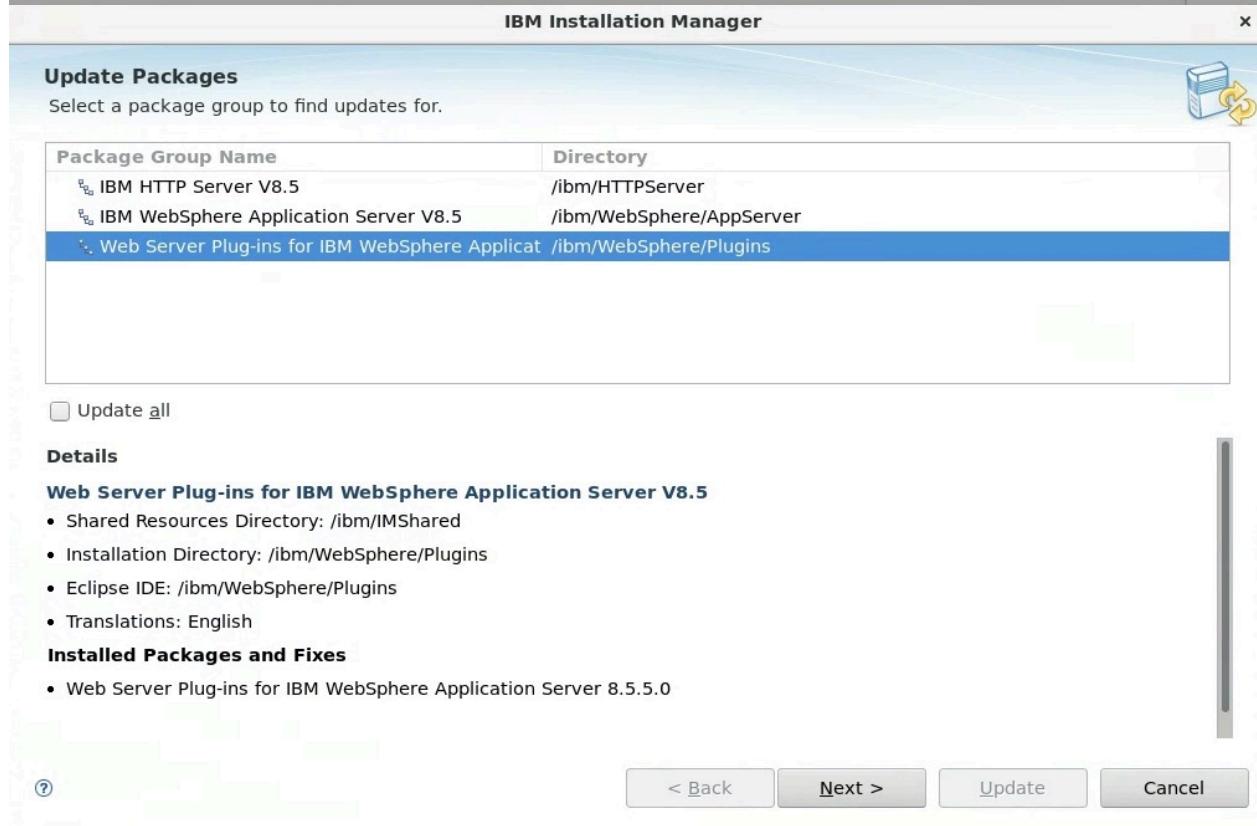
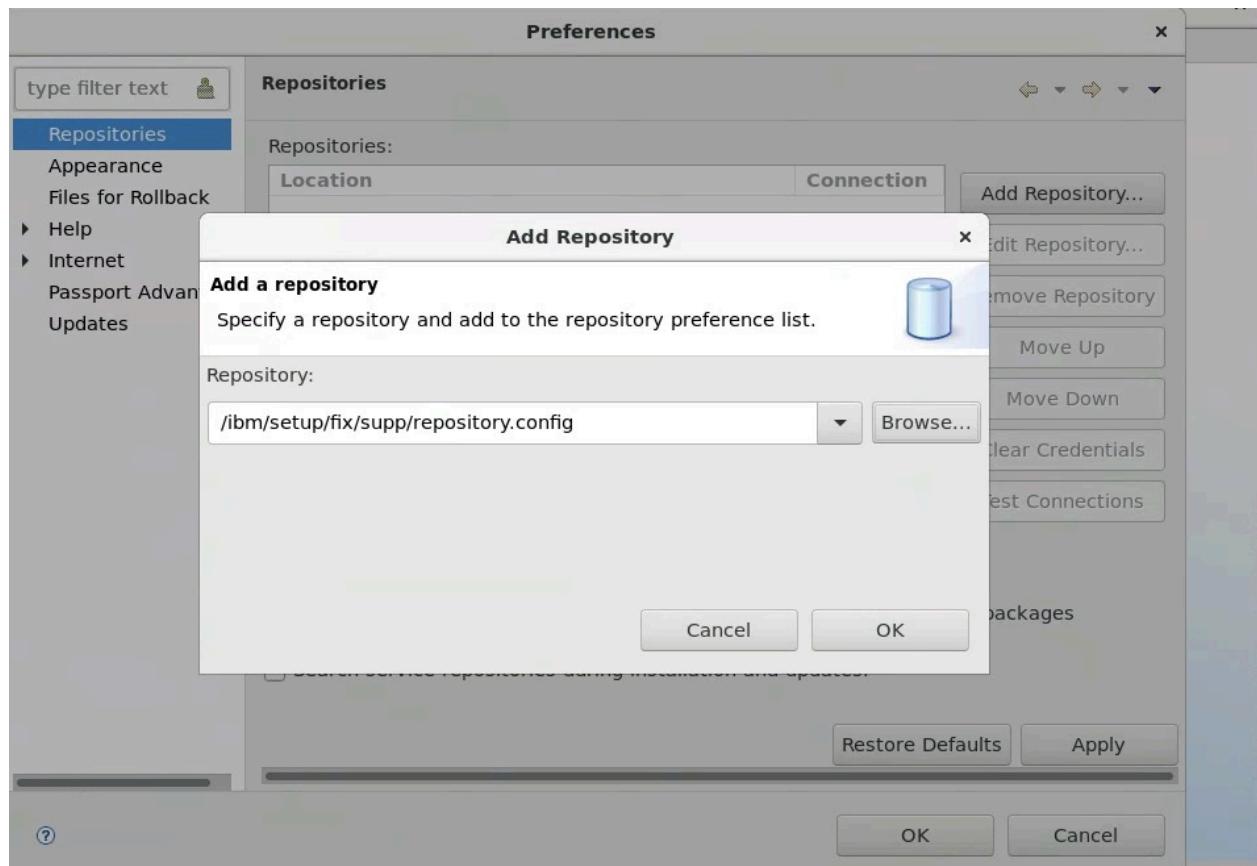
- Web Server Plug-ins for IBM WebSphere Application Server V8.5
 - Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.0

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.

① Finish

Section 4: Update IBM HTTP Server plug-in





IBM Installation Manager

Update Packages

Select the updates to install.



Update	Recommend	Vendor	Status
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Web Server Plug-ins for IBM WebSphere Application Server <input checked="" type="checkbox"/> Web Server Plug-ins for IBM WebSphere Application Server <input checked="" type="checkbox"/> Version 8.5.5.20 		IBM	

Show recommended only Select Recommended



? < Back Next > Update Cancel

IBM Installation Manager

Update Packages

Read the following license agreements carefully.



Update Packages > Updates > Licenses > Features > Summary

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

? < Back Next > Update Cancel

IBM Installation Manager

Update Packages
Select the features to install.

Update Packages Updates Licenses **Features** Summary

Features

- Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.20
 - IBM WebSphere SDK for Java Technology Edition
 - IBM 32-bit WebSphere Runtime Environment for Java
 - IBM 64-bit WebSphere Runtime Environment for Java

Show dependencies Selected by Installation Manager because of dependencies

Details

Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.20

[?](#) < Back **Next >** Update Cancel

IBM Installation Manager

Update Packages
Fill in the configurations for the packages.

Update Packages Updates Licenses **Features** Summary

Configuration for Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.20

- End of Service for Java SE 6

Support for Java SE 6 with WebSphere Application Server has ended.
The version of Java SE in the WAS_HOME/java directory will be updated to Java SE 8.

[?](#) < Back **Next >** Update Cancel

IBM Installation Manager

Update Packages

Fill in the configurations for the packages.

Update Packages Updates Licenses **Features** Summary

Web Server Plug-ins for IBM WebSphere Application Server 8.5.5.20

End of Service for Java SE 6

Support for Java SE 6 with WebSphere Application Server has ended.

The version of Java SE in the WAS_HOME/java directory will be updated to Java SE 8.

?

< Back

Next >

Update

Cancel

IBM Installation Manager

Update Packages

Review the summary information.

Update Packages Updates Licenses Features **Summary**

Target Location

Package Group Name: Web Server Plug-ins for IBM WebSphere Application Server V8.5

Installation Directory: /ibm/WebSphere/Plugins

Shared Resources Directory: /ibm/IMShared

Updates

Features To Install

- Web Server Plug-ins for IBM WebSphere Application Server
- IBM WebSphere SDK for Java Technology Edition
- IBM 64-bit WebSphere Runtime Environment for Java

Features To Remove

Disk Space Information

	Total Available Space
/	31.24 GB

Total Download Size: 60.48 MB

Total Installation Size: 365.65 MB

Repository Information

?

< Back

Next >

Update

Cancel

IBM Installation Manager

Update Packages

Review the summary information.

Target Location

Package Group Name: Web Server Plug-ins for IBM WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/Plugins
Shared Resources Directory: /ibm/IMShared

Updates

Features To Install	Features To Remove
Web Server Plug-ins for IBM WebSphere Application Server IBM WebSphere SDK for Java Technology Edition IBM 64-bit WebSphere Runtime Environment for Java	

Disk Space Information

Total Available Space: 31.24 GB

Total Download Size: 60.48 MB
Total Installation Size: 365.65 MB

Repository Information

Updating.

Pause Download Cancel

IBM Installation Manager

Update Packages

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

The following update was installed:

Update	Installation Directory
Web Server Plug-ins for IBM WebSphere Application Server V	/ibm/WebSphere/Plugins
Web Server Plug-ins for IBM WebSphere Application Server	

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

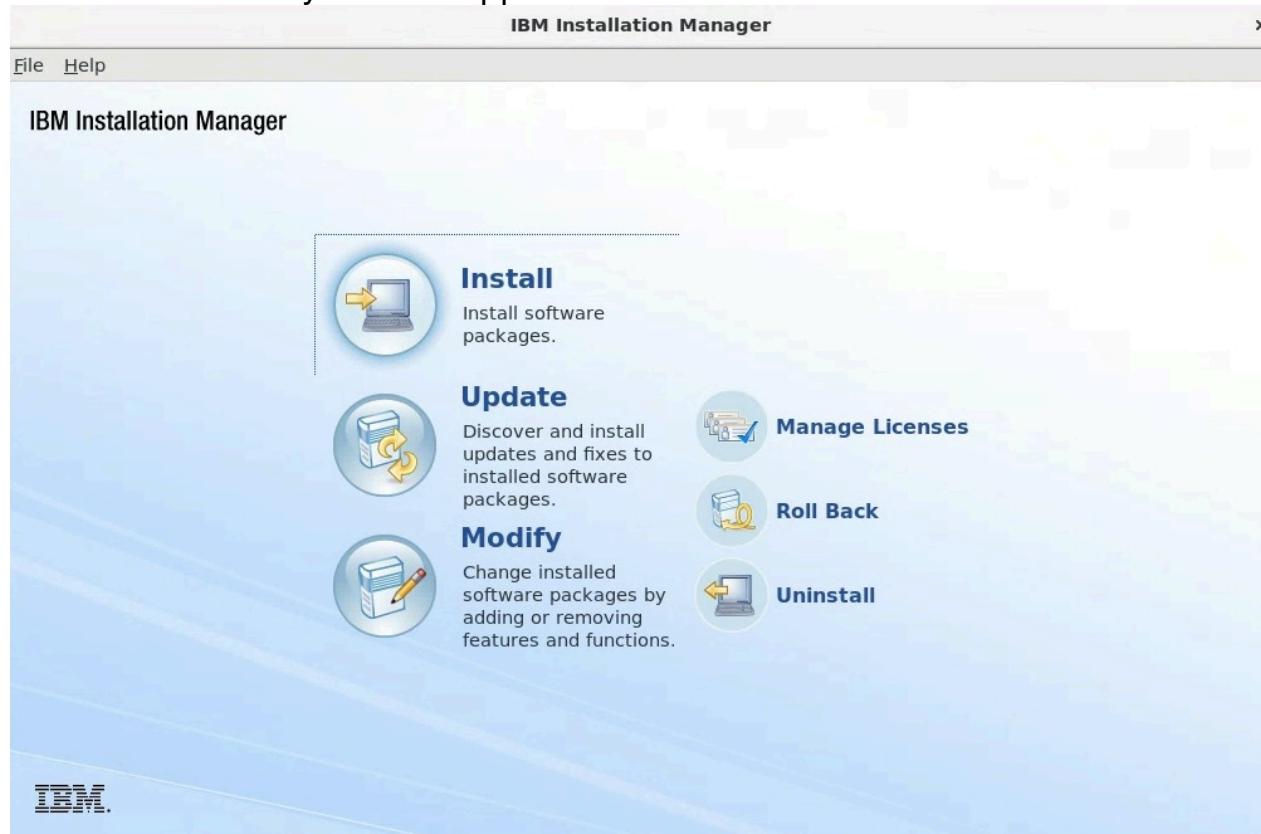
Section 5: Install WebSphere Customization Toolbox

The WebSphere Customization Toolbox includes tools for managing, configuring, and upgrading various parts of the WebSphere Application Server environment. Three tools are included:

- Profile Management Tool for z/OS only
- z/OS Migration Tool
- Web Server Plug-ins Configuration Tool

In this part of the exercise, the Web Server Plug-ins Configuration Tool (PCT) is installed as part of the WebSphere Customization Toolbox. The PCT includes both browser-based and command-line options. The other tools are not necessary for the lab exercise environment.

The Web Server Plug-ins Configuration Tool is needed in the next section to configure the web server plug-in. The plug-in configuration allows the web server to connect correctly with the application server.



IBM Installation Manager

Install Packages
Select packages to install:

Installation Packages

	Status	Vendor	License Key Type
Application Client for IBM WebSphere Application Server	IBM		
Version 8.5.5.20			
IBM HTTP Server for WebSphere Application Server	Installed	IBM	
Version 8.5.5.20			
Pluggable Application Client for IBM WebSphere Application Server			
Web Server Plug-ins for IBM WebSphere Application Server	Installed	IBM	
Version 8.5.5.20			
WebSphere Customization Toolbox	Will be installed	IBM	
Version 8.5.5.0			

Show all versions Check for Other Versions, Fixes, and Extensions

Details

WebSphere Customization Toolbox 8.5.5.0

WebSphere Customization Toolbox provides tools to simply and rapidly customize a WebSphere Application Server environment [More info...](#)

- Repository: /ibm/setup/supp

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
Validate the prerequisites for the selected packages.

[Install](#) [Prerequisite](#) [Licenses](#) [Location](#) [Features](#) [Summary](#)

Validation Results

WebSphere Customization Toolbox 8.5.5.0

A supported operating system was not detected. Support for your operating system might have been added after the release of the product. See the WebSphere Application Server detailed system requirements Web pages - <http://www.ibm.com/support/docview.wss?rs=180&uid=swg27006921> for more information about supported operating systems. You can continue with the installation, but the installation or product operation might not succeed without applying maintenance. Go to the product support Web pages - <http://www.ibm.com/support/docview.wss?rs=180&uid=swg27004980> to obtain the latest maintenance packages to apply after installation.

[Recheck Status](#)

[?](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
Read the following license agreements carefully.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL COPIES OF THE PROGRAM.

1. Definitions

"Authorized Use" - the specified level at which Licensee is authorized to execute or run the Program. That level may be measured by number of users, millions of service units ("MSUs"), Processor Value Units ("PVUs"), or other level of use specified by IBM.

I accept the terms in the license agreement English ▾ Print All...

I do not accept the terms in the license agreement

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages
A package group is a location that contains one or more packages. Some compatible packages can be installed into a common package group and will share a common user interface. Select an existing package group, or create a new one.

Install Prerequisite Licenses Location Features Summary

Use the existing package group Create a new package group

Package Group Name	Installation Directory	Architecture
WebSphere Customization Toolbox V8.5	/ibm/WebSphere/Toolbox	

Package Group Name: WebSphere Customization Toolbox V8.5

Installation Directory: [Browse...](#)

Details
Shared Resources Directory: /ibm/IMShared

Disk Space Information
Volume Available Space
/ 31.11 GB

[? < Back](#) [Next >](#) [Install](#) [Cancel](#)

IBM Installation Manager

Install Packages

Select the features to install.

Features

- WebSphere Customization Toolbox 8.5.5.0
 - Web Server Plug-ins Configuration Tool
 - Profile Management Tool (z/OS only)
 - z/OS Migration Management Tool

Show dependencies

Selected by Installation Manager because of dependencies

Expand All | Collapse All | Restore Default

Details

Profile Management Tool (z/OS only)



< Back

Next >

Install

Cancel

IBM Installation Manager

Install Packages

Review the summary information.

Target Location

Package Group Name: WebSphere Customization Toolbox V8.5

Installation Directory: /ibm/WebSphere/Toolbox

Shared Resources Directory: /ibm/IMShared

Packages

Packages

- WebSphere Customization Toolbox 8.5.5.0
 - Web Server Plug-ins Configuration Tool

Environment

English

Disk Space Information

	Total Available Space
/	31.11 GB

Total Download Size: 149.31 MB

Total Installation Size: 347.32 MB

Repository Information

?

< Back | Next > | Install | Cancel

IBM Installation Manager

Install Packages
Review the summary information.

Install Prerequisite Licenses Location Features Summary

Target Location

Package Group Name: WebSphere Customization Toolbox V8.5
Installation Directory: /ibm/WebSphere/Toolbox
Shared Resources Directory: /ibm/IMShared

Packages

Packages

- WebSphere Customization Toolbox 8.5.5.0
 - Web Server Plug-ins Configuration Tool

Environment

English

Disk Space Information

	Total Available Space
/	31.11 GB

Total Download Size: 149.31 MB
Total Installation Size: 347.32 MB

▶ **Repository Information**

Installing.

Pause Download Cancel

IBM Installation Manager

Install Packages

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

The following package was installed:

- WebSphere Customization Toolbox V8.5
 - WebSphere Customization Toolbox 8.5.5.0

Which program do you want to start?

WebSphere Customization Toolbox
 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

Section 6: Configuring the web server plug-in

After the products are installed with the IBM Installation Manager, other tools are used to complete the configuration processes. The Web Server Plug-ins Configuration Tool is available for configuring web server plug-ins. The Web Server Plug-ins Configuration Tool creates one or more configurations for the web server plug-ins that can direct requests from a web client through the web server. The tool edits the configuration files for a web server by creating directives that point to the location of the binary plug-in module. The tool also creates a directive to the plug-in configuration file.

In this part of the exercise, the Web Server Plug-ins Configuration Tool (PCT) is used to configure the web server plug-in.

```
Terminal
File Edit View Search Terminal Tabs Help
Terminal Terminal
wasadm@wasnd-node01:/ibm/WebSphere/Toolbox/WCT$ cd /ibm/WebSphere/Toolbox/WCT/
wasadm@wasnd-node01:/ibm/WebSphere/Toolbox/WCT$ ls
configuration  eclipse.ini  pct_responsefile.txt  wct.sh
eclipse        features    plugins                wctcmd.sh
wasadm@wasnd-node01:/ibm/WebSphere/Toolbox/WCT$ ./wct.sh
```

<https://www.ibm.com/docs/en/was-nd/8.5.5?topic=toolbox-installing-websphere-customization-using-response-files>

<https://www.ibm.com/software/repositorymanager/com.ibm.websphere.WCT.v85> repository not available

gtk2-engines.i686 and libXtst.i686

The screenshot shows the WebSphere Application Server Administration Console. The left sidebar has a 'Guided Activities' section with 'Welcome' and 'Connecting to a database' and 'Routing requests through a Web server to an application server' options. Below that are sections for 'Servers', 'Applications', 'Services', 'Resources', 'Security', and 'Environment'. The main content area is titled 'Web servers' and displays the message 'Use this page to view a list of the installed web servers.' It shows a table with columns for 'Select', 'Name', 'Web server Type', 'Node', and 'Host Name'. The table is currently empty, showing 'None' and 'Total 0'.

Cell=wasnd-node01Node01Cell, Profile=profile1

Create new Web server definition

Use this page to create a new web server.

→ Step 1: Specify the Web server name, type, host name and platform.

Step 2: Select a Web server template

Step 3: Enter the properties for the new Web server

Step 4: Confirm new Web server

Specify the Web server name, type, host name and platform.

Specify a Web server name, type, host name and platform.

* Server name

* Type

* Host name

* Platform

Next **Cancel**

Create new Web server definition

Use this page to create a new web server.

→ Step 1: Specify the Web server name, type, host name and platform.

→ Step 2: Select a Web server template

Step 3: Enter the properties for the new Web server

Step 4: Confirm new Web server

Select a Web server template

Select the template that corresponds to the server that you want to create.

Select	Template Name	Type	Description
<input checked="" type="radio"/>	IHS	System	The IHS Web Server Template

Previous **Next** **Cancel**

Create new Web server definition

Use this page to create a new web server.

Step 1: Specify the Web server name, type, host name and platform.

Step 2: Select a Web server template

→ **Step 3: Enter the properties for the new Web server**

Step 4: Confirm new Web server

Enter the properties for the new Web server

Enter the Web server properties.

* Port

* Web server installation location

* Plug-in installation location

Application mapping to the Web server

Enter the IBM Administration Server properties.

* Administration Server Port

* Username

* Password

* Confirm password

Use SSL

[Previous](#) [Next](#) [Cancel](#)

- User ID: ihsadmin
- Password: web1sphere
- Confirm password: web1sphere

Create new Web server definition

Use this page to create a new web server.

Step 1: Specify the Web server name, type, host name and platform.

Step 2: Select a Web server template

Step 3: Enter the properties for the new Web server

→ **Step 4: Confirm new Web server**

Confirm new Web server

The following is a summary of your selections. Click the Finish button to complete the Web server creation. If there are settings you wish to change, click on Previous button to review the server settings.

Summary of actions:

```
casing-342608.internal"
Platform Type "Linux"
Web server installation root
"/ibm/HTTPServer"
Plug-in installation root "/ibm/WebSphere
/Plugins".
```

[Previous](#) [Finish](#) [Cancel](#)

Web servers

Web servers

Use this page to view a list of the installed web servers.

Preferences

[Generate Plug-in](#) [Propagate Plug-in](#) [New...](#) [Delete](#) [Templates...](#) [Start](#) [Stop](#) [Terminate](#)

Select	Name	Web server Type	Node	Host Name	Version	Status
<input type="checkbox"/>	webserver1	IBM HTTP Server	wasnd-node01Node01	wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal	ND 8.5.5.20	

Total 1

Web servers

Web servers

Use this page to view a list of the installed web servers.

Preferences

[Generate Plug-in](#) [Propagate Plug-in](#) [New...](#) [Delete](#) [Templates...](#) [Start](#) [Stop](#) [Terminate](#)

Select	Name	Web server Type	Node	Host Name	Version	Status
<input type="checkbox"/>	webserver1	IBM HTTP Server	wasnd-node01Node01	wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal	ND 8.5.5.20	

Messages

 Could not make a connection to the IBM HTTP Administration server on node wasnd-node01Node01/webserver1.

Total 1

View: All tasks

- » Welcome
- [-] Guided Activities
 - » Connecting to a database
 - » Routing requests through a Web server to an application server
- [-] Servers
 - [-] Server Types
 - » WebSphere application servers
 - » WebSphere MQ servers
 - » Web servers
- [-] Applications
- [-] Services
- [-] Resources
- [-] Security
- [-] Environment
- [-] System administration
- [-] Users and Groups
- [-] Monitoring and Tuning
- [-] Troubleshooting
- [-] Service integration
- [-] UDDI

[-] Introduction

This guided activity assists you in configuring the Web server plug-in to route requests for dynamic content, such as servlets, to an application server. It is assumed that the Web server is "remote" from the application server in that the Web server and the application server are on different machines. It is also assumed that the Web server software is installed.

To continue, click **Start**.

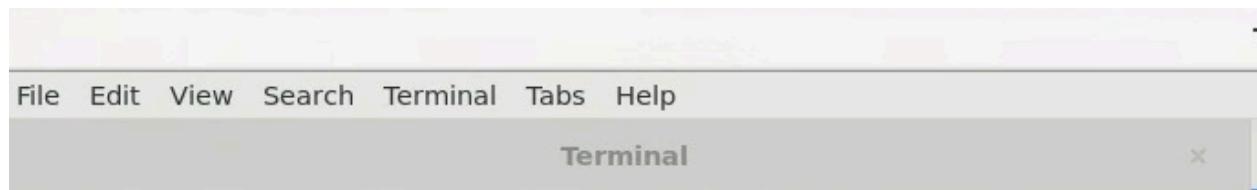
 [Start](#) [Help](#)

[-] Install Web server plug-in

[-] Distributed and zOS

Install the binary plug-in module using the Plug-ins installation wizard. The Plug-ins installation wizard installs the plug-in module and configures the Web server to communicate with the application server. Complete the following steps:

1. Stop the Web server while you are configuring the plug-in to work with it.
2. On the machine where the Web server is installed, select the Plug-ins installation wizard from the launchpad or change directories to the plugin directory on the product disc. You can also issue the **install** command using the downloaded installation image.
3. Follow the instructions on the Plug-ins installation wizard and select the **Web server machine (remote)** option.



```
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/bin$ ls -l
total 96
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 32bits
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 64bits
-rwxr-xr-x 1 wasadm wasgrp 3879 Jul  8 2021 ConfigureApachePlugin.sh
-rwxr-xr-x 1 wasadm wasgrp 4773 Jul  8 2021 ConfigureDomino7Plugin.sh
-rwxr-xr-x 1 wasadm wasgrp 4677 Jul  8 2021 ConfigureIHSPPlugin.sh
-rwxr-xr-x 1 wasadm wasgrp 4477 Jul  8 2021 ConfigureSunOnePlugin.sh
-rwxr-xr-x 1 wasadm wasgrp 119 May 10 2013 genHistoryReport.sh
-rwxr-xr-x 1 wasadm wasgrp 157 May 10 2013 genVersionReport.sh
-rwxr-xr-x 1 wasadm wasgrp 1143 Jul 12 2019 gsk_envvars
-rwxr-xr-x 1 wasadm wasgrp 337 Jul 12 2019 gskcapicmd
-rwxr-xr-x 1 wasadm wasgrp 498 Jul 12 2019 gskcmd
-rwxr-xr-x 1 wasadm wasgrp 802 May 10 2013 historyInfo.sh
-rw-r--r-- 1 wasadm wasgrp 1717 Mar  2 19:04 ikeyman.sh
-rwxr-xr-x 1 wasadm wasgrp 1376 May 10 2013 managesdk.sh
-rwxr-xr-x 1 wasadm wasgrp 2031 Jun 15 2021 postinstall.sh
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 sdk
-rwxr-xr-x 1 wasadm wasgrp 4362 Mar  2 19:04 setupCmdLine.sh
-rwxr-xr-x 1 wasadm wasgrp 667 Jul 24 2018 sslver.sh
-rwxr-xr-x 1 wasadm wasgrp 786 May 10 2013 versionInfo.sh
-rwxr-xr-x 1 wasadm wasgrp 3221 May 10 2013 ws_ant.sh
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/bin$
```



```
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/bin$ . /ConfigureIHSPPlugin.sh
-plugin.home /ibm/WebSphere/Plugins/config/w
ebs
erver1/plugin-cfg.xml -ihs.conf.file /ibm/HTTPServer/conf/htpd.conf -ihs.admin.usergroup ihsadmin -operating.system Linux -operating.system.arch 64 -WAS.W
ebs
erver.name webserver1 -WAS.host.name wasnd-node01.europe-west3-c.c.enhanced-casing-342008.internal
Buildfile: /ibm/WebSphere/Plugins/config/actionRegistry/actions/995BootStrapPluginsIHS.ant

bootstrapPluginsIHS:
detectCurrentOSFamily:
[echo] Detected current OS family to be: unix
setOSFileSeparator:
[echo] file separator is /
defineOSSpecificConfigFlag:
SetBitsDir:
[echo] bitsDir is /64bits/ PLUGIN64: true OS-is-32bit: ${is.thirtytwo}
logStartupProperties:
[mkdir] Created dir: /ibm/WebSphere/Plugins/logs/config
[touch] Creating /ibm/WebSphere/Plugins/logs/config/installIHSPPlugin.log
updateLogFile:
```

```
logBoth:
[echo] WAS plugin driver set to: /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so

updateLogFile:
chkInstall_Arch:
logBoth:
[echo] 64 bit directory was located.

updateLogFile:
terminateOnFailure:
checkPlgCfg:
logBoth:
[echo] Default plugin-cfg.xml exists in /ibm/WebSphere/Plugins/config/webserver1. The file will not be overwritten
updateLogFile:
terminateOnFailure:
updatePlgCfg:
updatePlgKeyStore:
logBoth:
[echo] Installing default keystore files in directory /ibm/WebSphere/Plugins/config/webserver1

logBoth:
[echo] Installing default keystore files in directory /ibm/WebSphere/Plugins/config/webserver1

updateLogFile:
[copy] Copying 1 file to /ibm/WebSphere/Plugins/config/webserver1
[copy] Copying 1 file to /ibm/WebSphere/Plugins/config/webserver1

updatePluginCfgGroupOwnership:
[exec] chgrp: invalid group: 'ihsadmin'
[exec] Result: 1
[exec] chgrp: invalid group: 'ihsadmin'
[exec] Result: 1
[exec] chgrp: invalid group: 'ihsadmin'
[exec] Result: 1

checkConfigFiles:
logBoth:
[echo] Located config file /ibm/HTTPServer/conf/httpd.conf

updateLogFile:
terminateOnFailure:
chkLogDir:
logBoth:
[echo] Log directory /ibm/WebSphere/Plugins/logs/webserver1 exists
```

```

logBoth:
[echo] WAS plugin driver set to: /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so

updateLogFile:

chkInstall_Arch:

logBoth:
[echo] 64 bit directory was located.

updateLogFile:

terminateOnFailure:

checkPlgCfg:

logBoth:
[echo] Default plugin-cfg.xml exists in /ibm/WebSphere/Plugins/config/webserver1. The file will not be overwritten

updateLogFile:

terminateOnFailure:

updatePlgCfg:

updatePlgKeyStore:

logBoth:
[echo] Installing default keystore files in directory /ibm/WebSphere/Plugins/config/webserver1

logBoth:
[echo] Appending: LoadModule was_ap22_module /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so to /ibm/HTTPServer/conf/httpd.conf

updateLogFile:

appendToGivenFileGivenString:

logBoth:
[echo] Appending: WebSpherePluginConfig /ibm/WebSphere/Plugins/config/webserver1/plugin-cfg.xml to /ibm/HTTPServer/conf/httpd.conf

updateLogFile:

a2e_for_zos:

ConfigureIHSPlugin:

logBoth:
[echo] Install complete

updateLogFile:
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ ls
admin.conf      admin.passwd  httpd.conf.default  magic      mime.types      postinst.properties
admin.conf.default  httpd.conf  ldap.prop.sample  magic.default  mime.types.default
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ 
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ cat admin.passwd
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ 
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ htpasswd

Command 'htpasswd' not found, but can be installed with:

apt install apache2-utils
Please ask your administrator.
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ htpasswd -b -B admin.passwd ihsadmin web1sphere
Adding password for user ihsadmin
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ 

wasadm@wasnd-node01:/ibm/HTTPServer/conf$ 
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ sudo groupadd -g 3001 ihsadmin
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ sudo useradd -g ihsadmin -u 3001 -d /home/ihsadmin ihsadmin
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ sudo mkdir /home/ihsadmin
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ sudo chown -R ihsadmin:ihsadmin /home/ihsadmin
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ 

```

Section 7: Confirm and test installation of IBM HTTP Server and plug-ins

Terminal

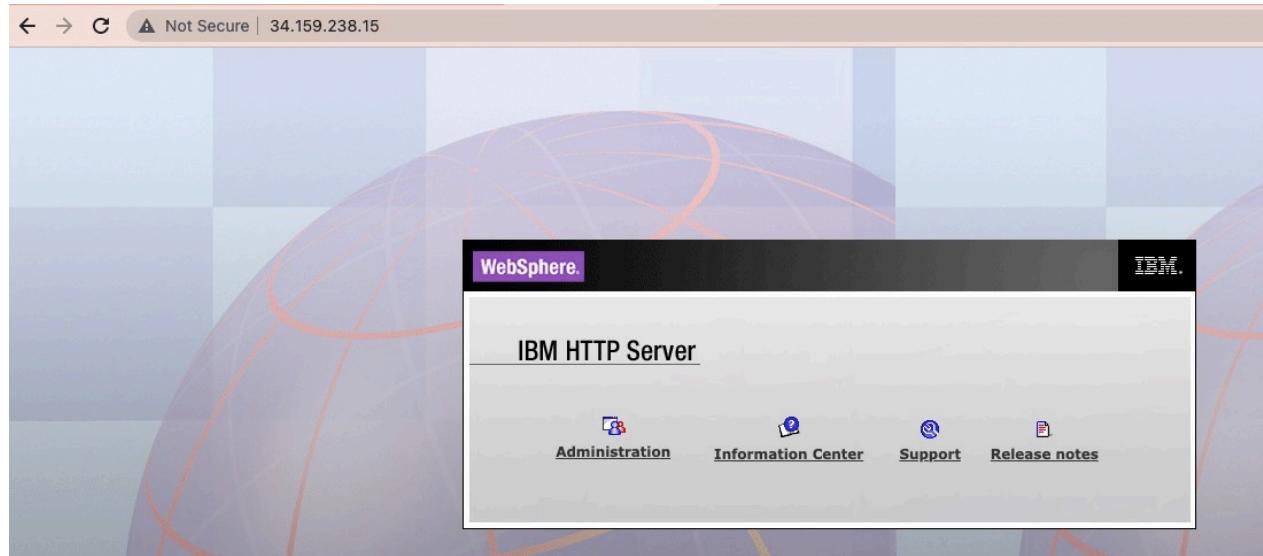
```

File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/HTTPServer$ cd bin
wasadm@wasnd-node01:/ibm/HTTPServer/bin$ ps -ef | grep httpd
wasadm 16010 1530 0 21:09 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/admin.conf
wasadm 16011 16010 0 21:09 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/admin.conf
wasadm 16012 16010 0 21:09 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/admin.conf
wasadm 16029 16010 0 21:09 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/admin.conf
root 16257 1 0 21:15 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm 16258 16257 0 21:15 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm 16259 16257 0 21:15 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm 16260 16257 0 21:15 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm 16358 16257 0 21:19 ? 00:00:00 /ibm/HTTPServer/bin/httpd -d /ibm/HTTPServer -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm 16494 25184 0 21:26 pts/2 00:00:00 grep httpd
wasadm@wasnd-node01:/ibm/HTTPServer/bin$
```

Terminal

```

File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/HTTPServer/bin$ ./apachectl -k stop -f /ibm/HTTPServer/conf/admin.conf
wasadm@wasnd-node01:/ibm/HTTPServer/bin$ ./apachectl -k start -f /ibm/HTTPServer/conf/admin.conf
wasadm@wasnd-node01:/ibm/HTTPServer/bin$ sudo ./apachectl -k stop -f /ibm/HTTPServer/conf/httpd.conf
wasadm@wasnd-node01:/ibm/HTTPServer/bin$ sudo ./apachectl -k start -f /ibm/HTTPServer/conf/httpd.conf
wasadm@wasnd-node01:/ibm/HTTPServer/bin$
```



Section 8: Explore the IBM HTTP Server and plug-in installation

Now that IBM HTTP Server is installed, examine the directory structure and review what you installed.

Terminal

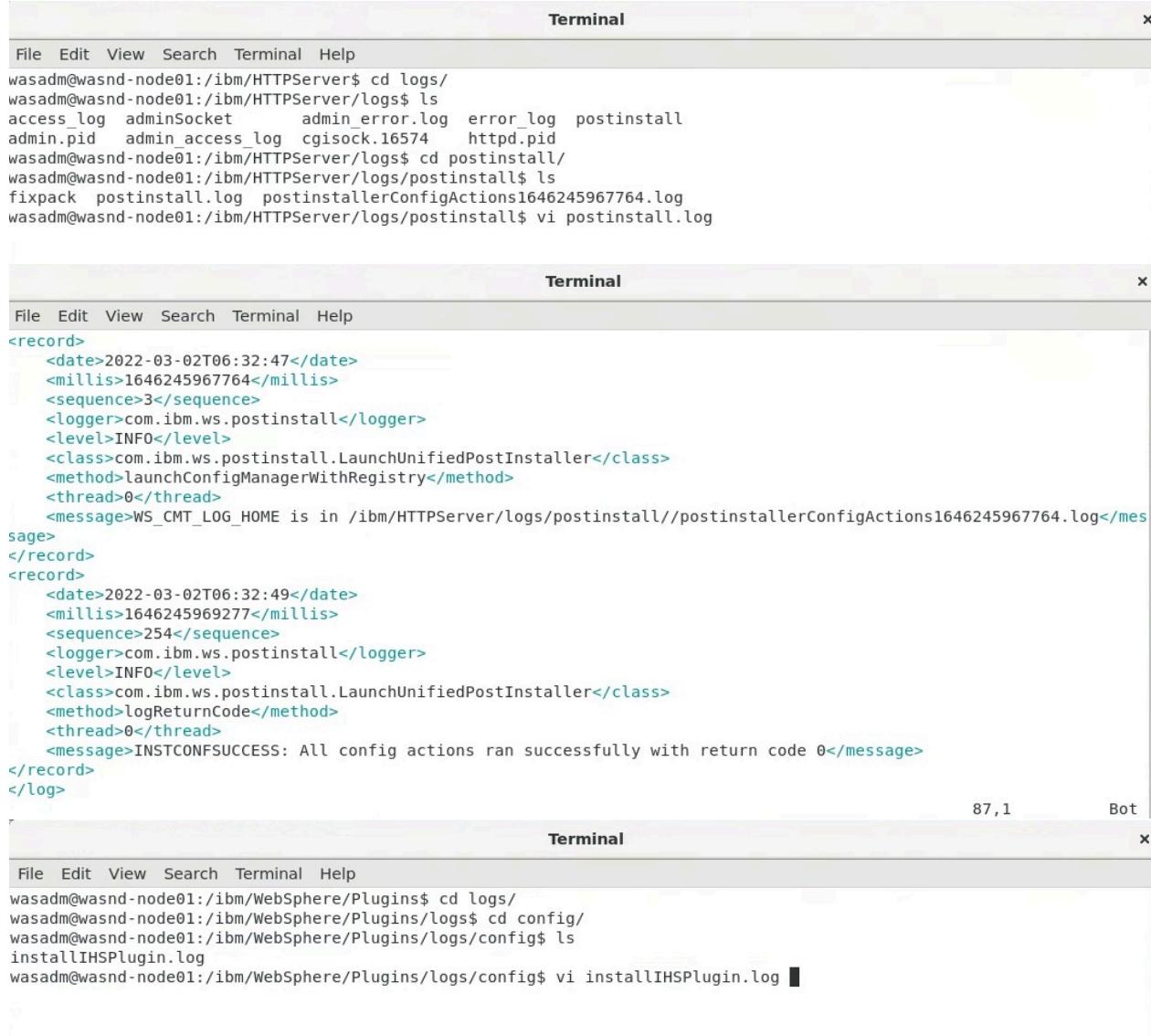
```
File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/HTTPServer$ ls -l
total 88
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 18:50 bin
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 build
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:32 cgi-bin
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 codeset
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 21:15 conf
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 18:50 error
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 example_module
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 18:50 gsk8
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 18:50 htdocs
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 18:50 icons
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 include
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 18:50 java
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:32 lafiles
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 lib
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 21:15 logs
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 18:50 man
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 18:50 modules
drwxr-xr-x 9 wasadm wasgrp 4096 Mar  2 18:50 properties
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 readme
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:32 uninstall
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:50 util
-rwxr-xr-x 1 wasadm wasgrp 25 Jul  8 2021 version.signature
wasadm@wasnd-node01:/ibm/HTTPServer$
```

Terminal

```
File Edit View Search Terminal Help
vasadm@wasnd-node01:/ibm/WebSphere/Plugins$ ls -l
total 56
drwxr-xr-x 5 wasadm wasgrp 4096 Mar  2 19:55 bin
drwxr-xr-x 5 wasadm wasgrp 4096 Mar  2 19:59 config
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 configuration
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 etc
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 19:04 gsk8
drwxr-xr-x 4 wasadm wasgrp 4096 Mar  2 19:04 java
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:57 lafiles
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 19:04 lib
drwxr-xr-x 5 wasadm wasgrp 4096 Mar  2 20:26 logs
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 plugins
drwxr-xr-x 9 wasadm wasgrp 4096 Mar  2 19:04 properties
drwxr-xr-x 3 wasadm wasgrp 4096 Mar  2 19:04 roadmap
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:57 uninstall
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 19:04 util
vasadm@wasnd-node01:/ibm/WebSphere/Plugins$
```

Section 9: Check installation log files

A number of log files are created during the installation process. It is useful to check these files to verify that the installation completed successfully.



The image displays three separate terminal windows, each showing a different log file from an IBM product. The top window shows the standard text-based log output for IBM HTTP Server, listing various log files and their contents. The middle window shows a structured XML-style log entry for the postinstall process, including timestamp, logger, and message details. The bottom window shows the log output for the IBM WebSphere Plugins installation, specifically the configuration of the installIHSPlugin.log file.

```
Terminal
File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/HTTPServer$ cd logs/
wasadm@wasnd-node01:/ibm/HTTPServer/logs$ ls
access_log adminSocket admin_error.log error_log postinstall
admin.pid admin_access_log cgisock.16574 httpd.pid
wasadm@wasnd-node01:/ibm/HTTPServer/logs$ cd postinstall/
wasadm@wasnd-node01:/ibm/HTTPServer/logs/postinstall$ ls
fixpack postinstall.log postinstallerConfigActions1646245967764.log
wasadm@wasnd-node01:/ibm/HTTPServer/logs/postinstall$ vi postinstall.log
```



```
Terminal
File Edit View Search Terminal Help
<record>
<date>2022-03-02T06:32:47</date>
<millis>1646245967764</millis>
<sequence>3</sequence>
<logger>com.ibm.ws.postinstall</logger>
<level>INFO</level>
<class>com.ibm.ws.postinstall.LaunchUnifiedPostInstaller</class>
<method>launchConfigManagerWithRegistry</method>
<thread>0</thread>
<message>WS_CMT_LOG_HOME is in /ibm/HTTPServer/logs/postinstall//postinstallerConfigActions1646245967764.log</message>
</record>
<record>
<date>2022-03-02T06:32:49</date>
<millis>1646245969277</millis>
<sequence>254</sequence>
<logger>com.ibm.ws.postinstall</logger>
<level>INFO</level>
<class>com.ibm.ws.postinstall.LaunchUnifiedPostInstaller</class>
<method>logReturnCode</method>
<thread>0</thread>
<message>INSTCONFSUCCESS: All config actions ran successfully with return code 0</message>
</record>
</log>
```



```
Terminal
File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/WebSphere/Plugins$ cd logs/
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/logs$ cd config/
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/logs/config$ ls
installIHSPlugin.log
wasadm@wasnd-node01:/ibm/WebSphere/Plugins/logs/config$ vi installIHSPlugin.log
```

Terminal

```

File Edit View Search Terminal Help
NAS plugin driver set to: /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so
54 bit directory was located.
Default plugin-cfg.xml exists in /ibm/WebSphere/Plugins/config/webserver1. The file will not be overwritten
Installing default keystore files in directory /ibm/WebSphere/Plugins/config/webserver1
Located config file /ibm/HTTPServer/conf/httpd.conf
Log directory /ibm/WebSphere/Plugins/logs/webserver1 exists
Commenting out previous LoadModule entries
Commenting out previous bootstrap entries
Appending: LoadModule was_ap22_module /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so to /ibm/HTTPServer/conf/
httpd.conf
Appending: WebSpherePluginConfig /ibm/WebSphere/Plugins/config/webserver1/plugin-cfg.xml to /ibm/HTTPServer/conf/httpd.conf
Install complete

*****
** Install IHS Webserver Plugin 03/02/2022 09:21 PM
*****
>PLUGIN_HOME          = /ibm/WebSphere/Plugins
IHS_CONF               = /ibm/HTTPServer/conf/httpd.conf
NAS_PLUGIN_CFG_XML    = /ibm/WebSphere/Plugins/config/webserver1/plugin-cfg.xml
OS_NAME                = Linux
INSTALLER_ARCHITECTURE = 64
IHS_ADMIN_USERGROUP    = ihsadmin
bitsDir is /64bits/ PLUGIN64: true OS-is-32bit: ${is.thirtytwo}

```

33.1 Bot

Section 10: Review configuration and error files

No further configuration is required for this lab exercise. However, more configuration of the IBM HTTP Server and administration server is possible through configuration files that are in the conf directory of the web server.

Terminal

```

File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ ls
admin.conf          admin.passwd httpd.conf.default  magic          mime.types      postinst.properties
admin.conf.default  httpd.conf    ldap.prop.sample  magic.default  mime.types.default
wasadm@wasnd-node01:/ibm/HTTPServer/conf$ wasadm@wasnd-node01:/ibm/HTTPServer/conf$ vi httpd.conf

# mod_net_trace will record actual data sent/received from the client
# and on proxy connections, even for SSL connections. Unlike an IP
# trace, interaction with the platform network APIs can be seen.
# The following example configuration can be activated by uncommenting
# the LoadModule directive.
#LoadModule net_trace_module modules/debug/mod_net_trace.so
<IfModule mod_net_trace.c>
NetTraceFile /tmp/nettrace
NetTrace client * dest file event senddata=65535 event recvdata=65535
</IfModule>

LoadModule was_ap22_module /ibm/WebSphere/Plugins/bin/64bits/mod_was_ap22_http.so
WebSpherePluginConfig /ibm/WebSphere/Plugins/config/webserver1/plugin-cfg.xml

```

915,75 Bot