

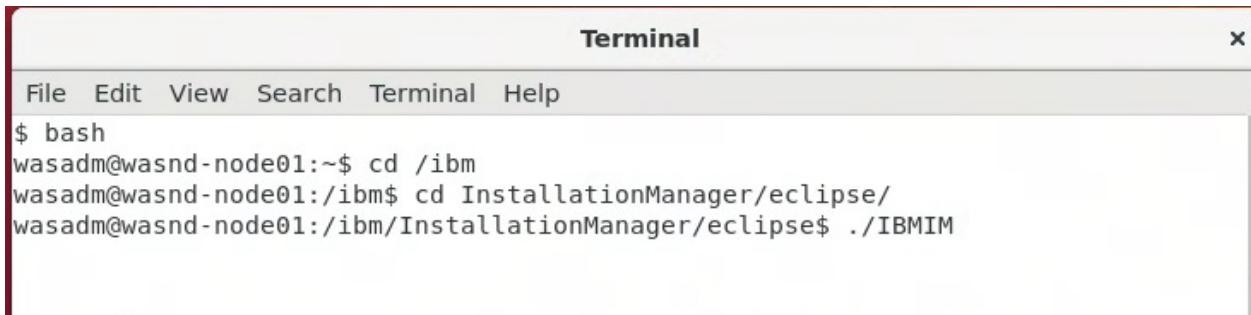
Exercise 2 - Installing WebSphere Application Server

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

- Use IBM Installation Manager to install WebSphere Application Server Network Deployment
- Use IBM Installation Manager to modify a product feature
- Use the Profile Management Tool to create a profile
- Verify that the installation was successful by examining log files
- Start and stop the application server

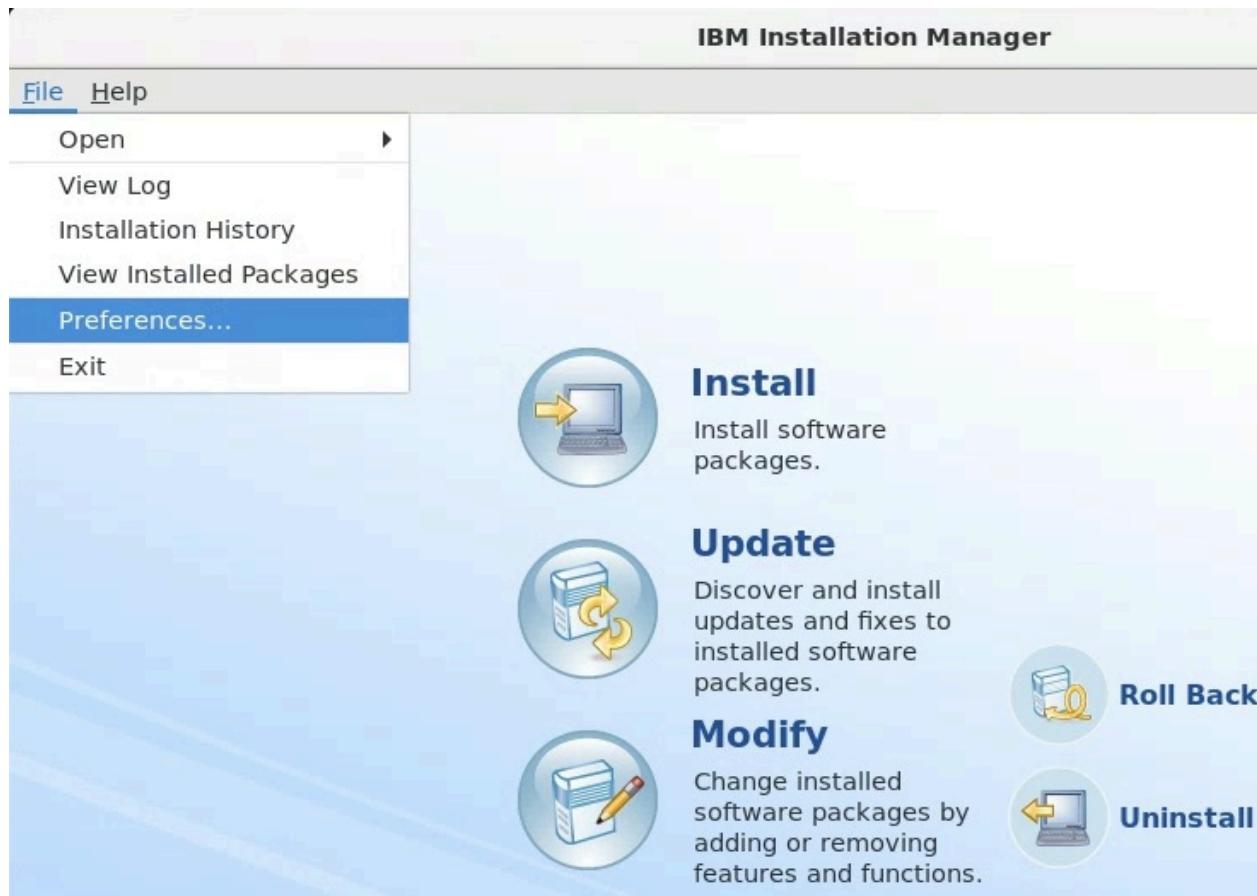
Section 1: Install WebSphere Application Server

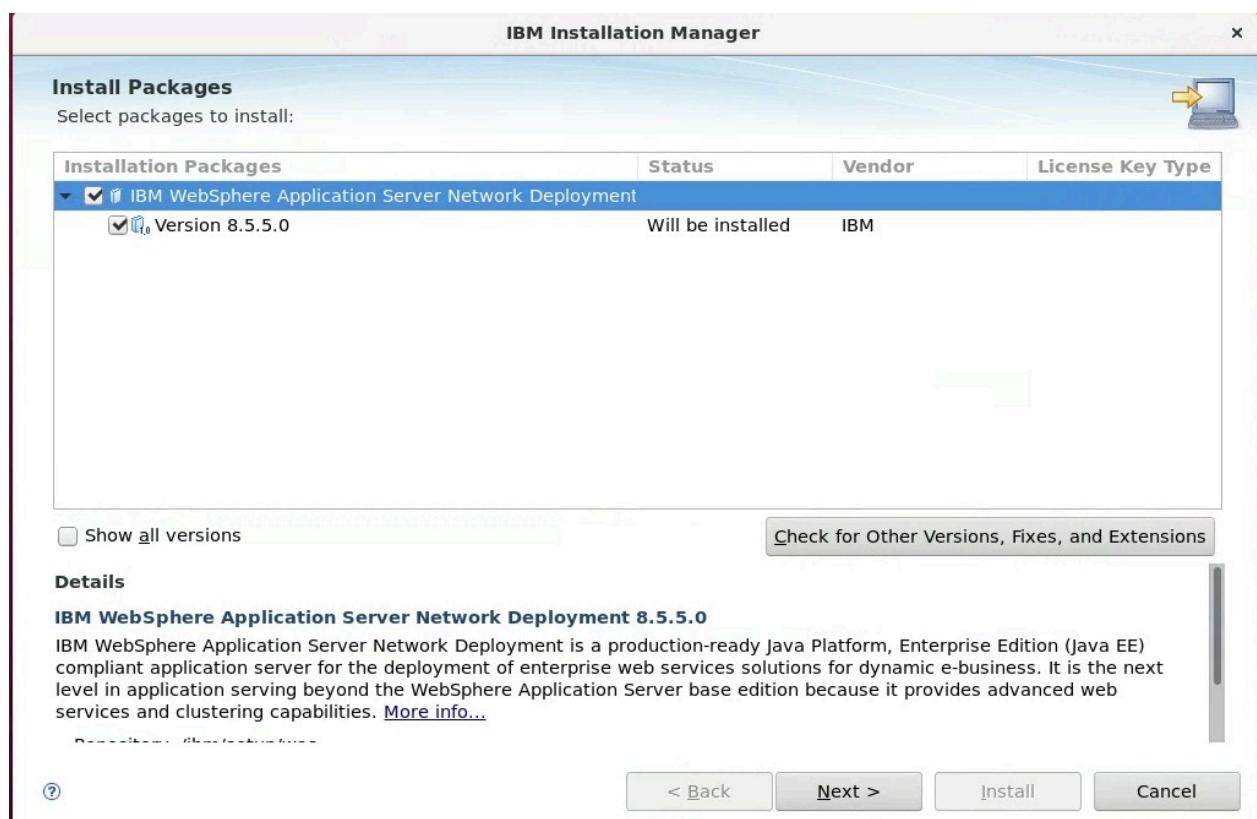
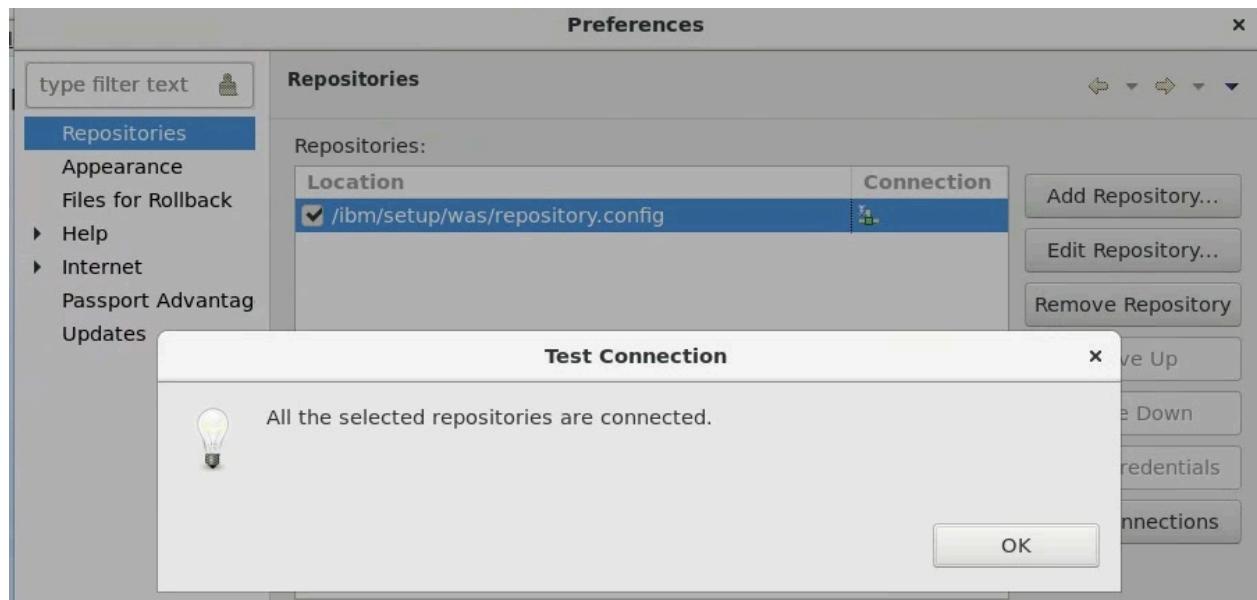
In this part of the exercise, you use the IBM Installation Manager to install WebSphere Application Server. Before the WebSphere Application Server installation can be started, an installation repository that contains the WebSphere Application Server installation binary files must be defined.



The image shows a terminal window with a dark red header bar and a light gray body. The title bar says "Terminal". The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The main body of the terminal shows the following command sequence:

```
$ bash
wasadm@wasnd-node01:~$ cd /ibm
wasadm@wasnd-node01:/ibm$ cd InstallationManager/eclipse/
wasadm@wasnd-node01:/ibm/InstallationManager/eclipse$ ./IBMIM
```





IBM Installation Manager

Install Packages

Validate the prerequisites for the selected packages.

Install Prerequisite Licenses Location Features Summary

Validation Results

IBM WebSphere Application Server Net

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,

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English [Print All...](#)

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

IBM Installation Manager

Install Packages
Select a location for the shared resources directory.

When you install packages, files are stored in two locations:

1) The shared resources directory - resources that can be shared by multiple packages.
2) The installation directory - any resources that are unique to the package that you are installing.

Important: You can only select the shared resources directory the first time you install a package with the IBM Installation Manager. For best results select the drive with the most available space because it must have adequate space for the shared resources of future packages.

Shared Resources Directory: [Browse...](#)

Disk Space Information

Volume	Available Space
/	35.50 GB

[?](#) [< 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 WebSphere Application Server V8.5	/ibm/WebSphere/AppServer	

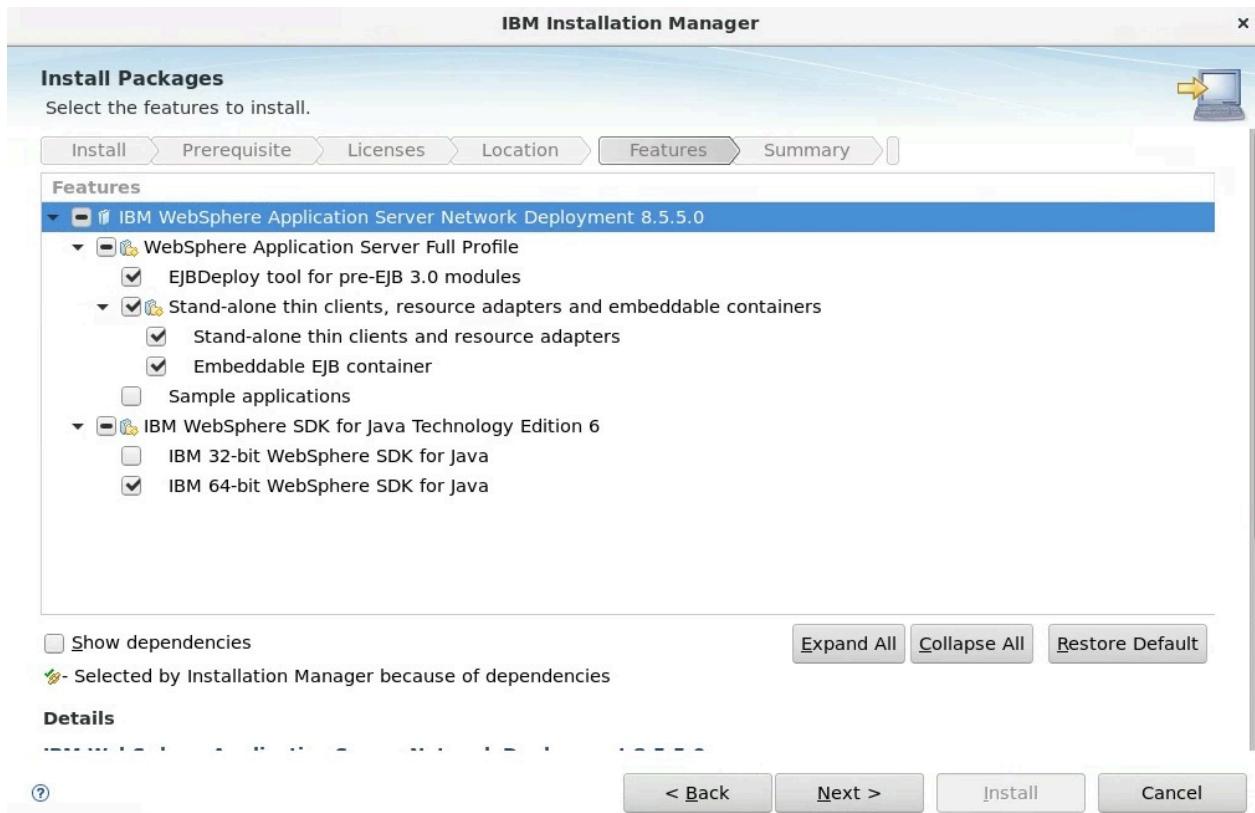
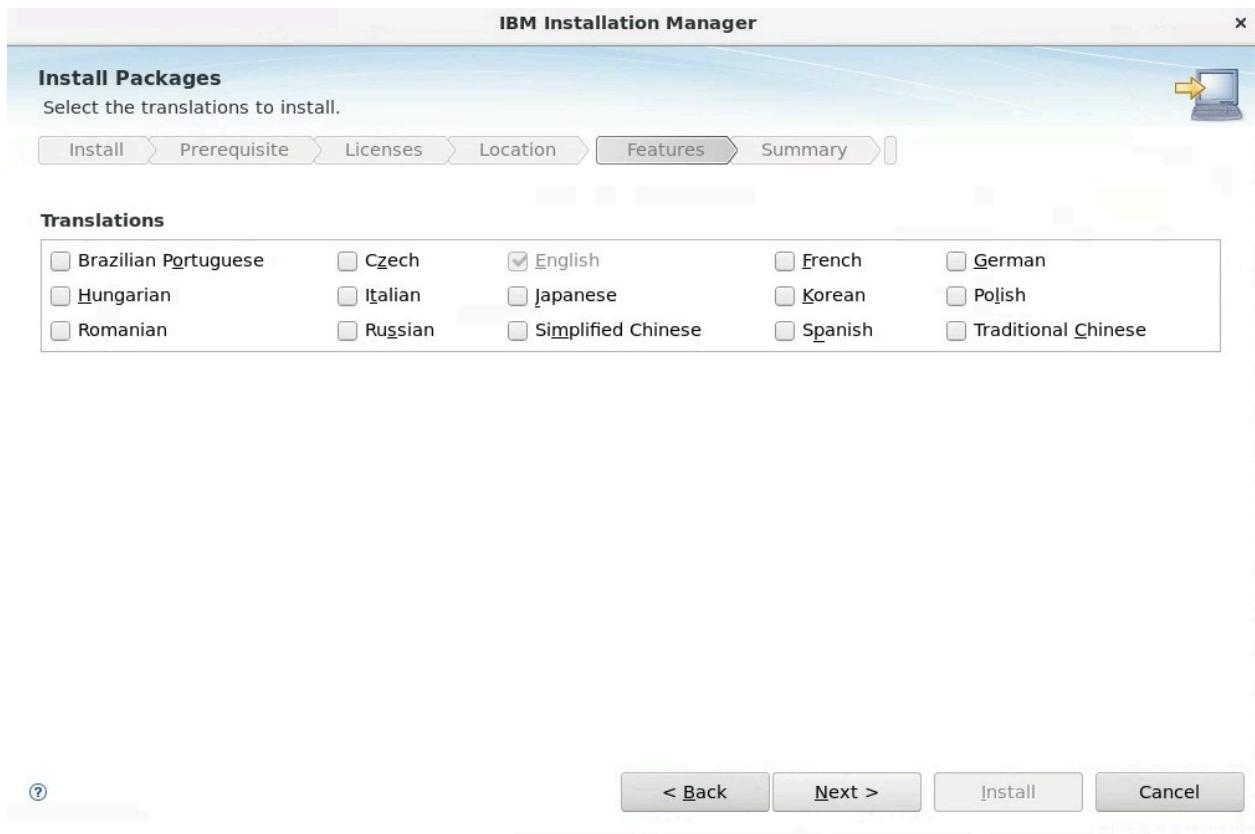
Package Group Name: IBM WebSphere Application Server V8.5

Installation Directory:

Details
Shared Resources Directory: /ibm/IMShared

Disk Space Information

Volume	Available Space
/	35.50 GB



IBM Installation Manager

Install Packages
Review the summary information.

Install Prerequisite Licenses Location Features Summary

Target Location

Package Group Name: IBM WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Packages

Packages

- IBM WebSphere Application Server Network Deployment 8.5.5.0
 - WebSphere Application Server Full Profile
 - EJBDeploy tool for pre-EJB 3.0 modules
 - Stand-alone thin clients, resource adapters and embeddable containers

Environment

English

Disk Space Information

Total Available Space
/ 35.50 GB

Total Download Size: 1.02 GB
Total Installation Size: 2.22 GB

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 WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Packages

Packages

- IBM WebSphere Application Server Network Deployment 8.5.5.0
 - WebSphere Application Server Full Profile
 - EJBDeploy tool for pre-EJB 3.0 modules
 - Stand-alone thin clients, resource adapters and embeddable containers

Environment

English

Disk Space Information

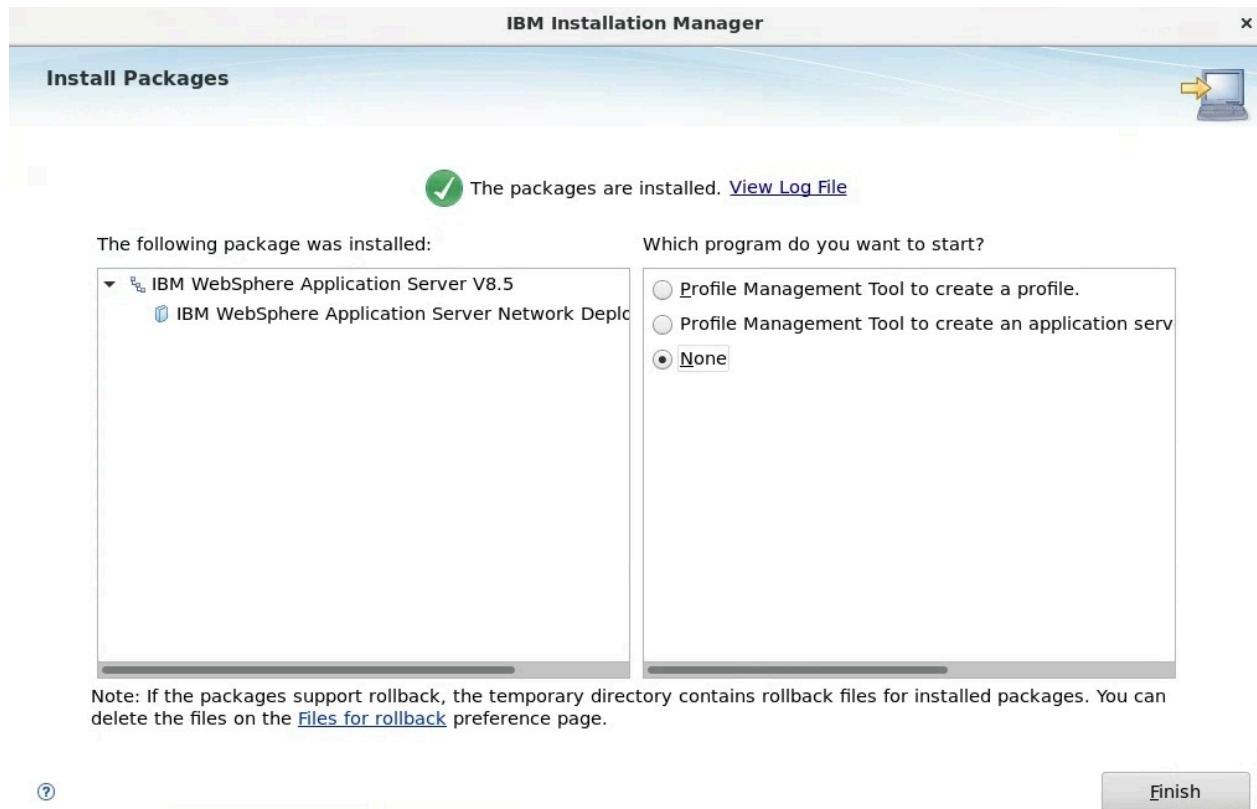
Total Available Space
/ 35.50 GB

Total Download Size: 1.02 GB
Total Installation Size: 2.22 GB

Repository Information

Installing.: Retrieving files at 123.1 MB/s. 675 MB of 1.0 GB (65%) completed.

Pause Download Cancel



Section 2: Modify WebSphere Application Server

You can use Installation Manager to add or remove a product feature from an installed package. To modify an installed package, Installation Manager must have access to the repository that contains the package installation files. In this part of the exercise, you modify the WebSphere Application Server installation from Section 1 to include the sample applications.



The 'Modify Packages' screen for the 'IBM WebSphere Application Server V8.5' package group. The table shows the package group name and its directory. The 'Details' section provides configuration information for the package group. The 'Installed Packages and Fixes' section lists the installed fix. Navigation buttons at the bottom include '< Back', 'Next >', 'Modify', and 'Cancel'.

Package Group Name	Directory
IBM WebSphere Application Server V8.5	/ibm/WebSphere/AppServer

Details

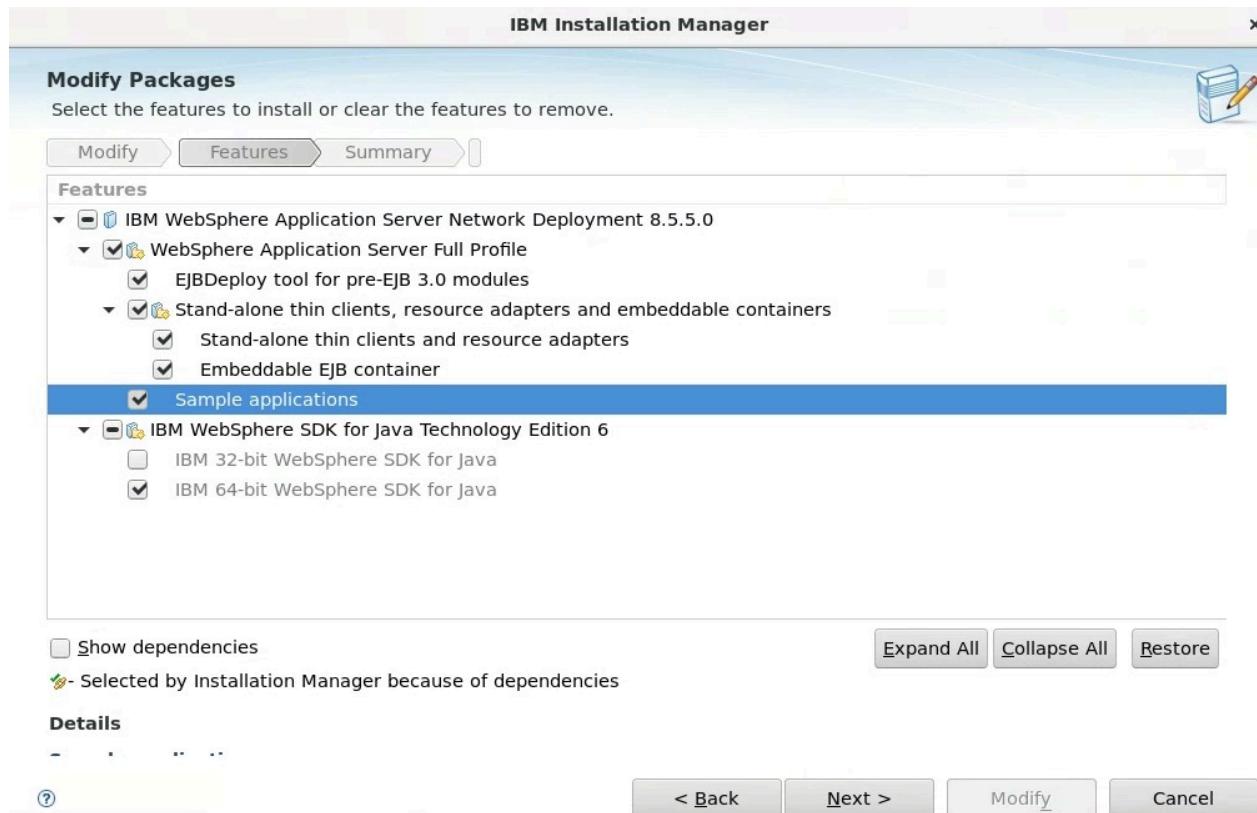
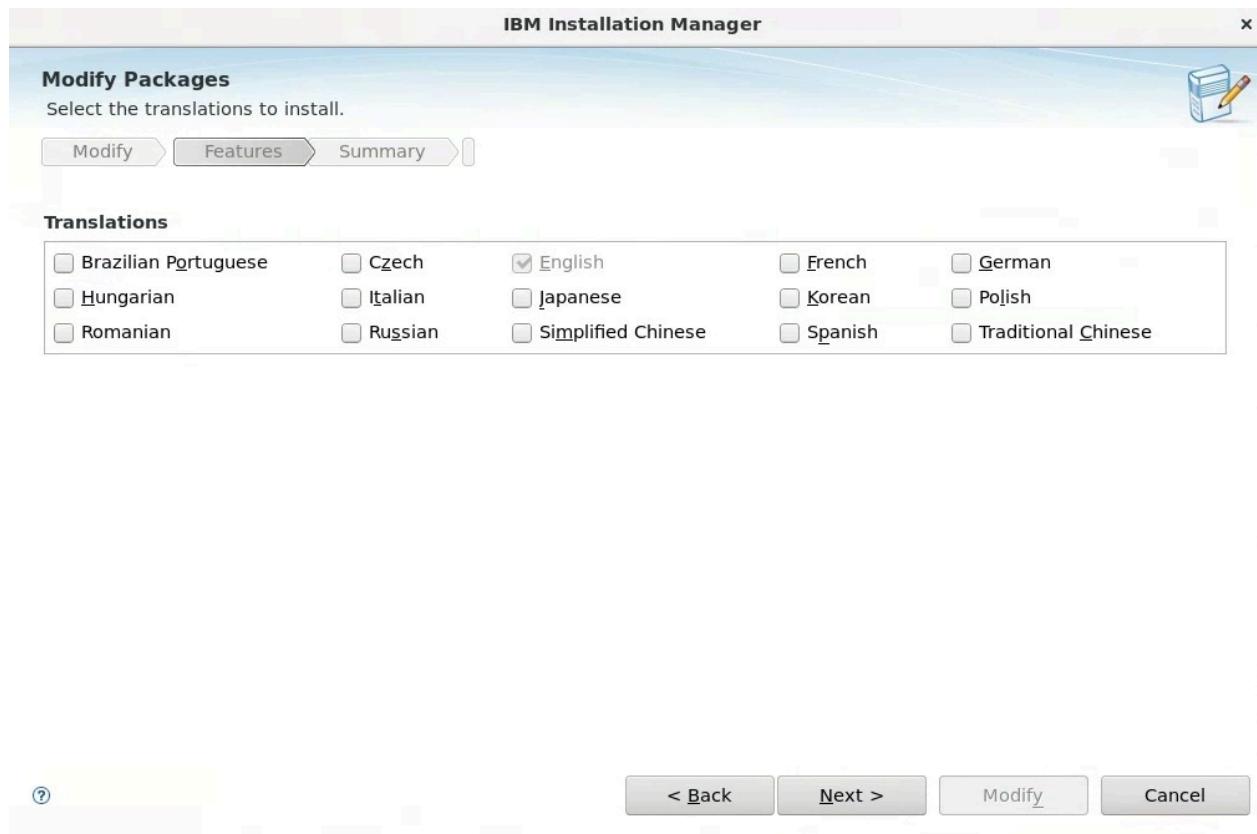
IBM WebSphere Application Server V8.5

- Shared Resources Directory: /ibm/IMShared
- Installation Directory: /ibm/WebSphere/AppServer
- Eclipse IDE: /ibm/WebSphere/AppServer
- Translations: English

Installed Packages and Fixes

- IBM WebSphere Application Server Network Deployment 8.5.5.0

< Back Next > Modify Cancel



IBM Installation Manager

Modify Packages

Review the summary information.

Modify Features Summary

Target Location

Package Group Name: IBM WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Features

Adding Feature	Removing Feature
IBM WebSphere Application Server Network Deployment	
WebSphere Application Server Full Profile	
Sample applications	

Environment

English

Disk Space Information

Total Available Space
33.20 GB

Total Download Size: 9.59 MB
Total Installation Size: 20.91 MB

Repository Information

?

< Back Next > Modify Cancel

IBM Installation Manager

Modify Packages

Review the summary information.

Modify Features Summary

Target Location

Package Group Name: IBM WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Features

Adding Feature	Removing Feature
IBM WebSphere Application Server Network Deployment	
WebSphere Application Server Full Profile	
Sample applications	

Environment

English

Disk Space Information

Total Available Space
33.20 GB

/

Total Download Size: 9.59 MB
Total Installation Size: 20.91 MB

Repository Information

Modifying.

Pause Download Cancel

IBM Installation Manager

Modify Packages

The modification completed successfully. [View Log File](#)

The following package was modified:

IBM WebSphere Application Server Network Deployment

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.

?

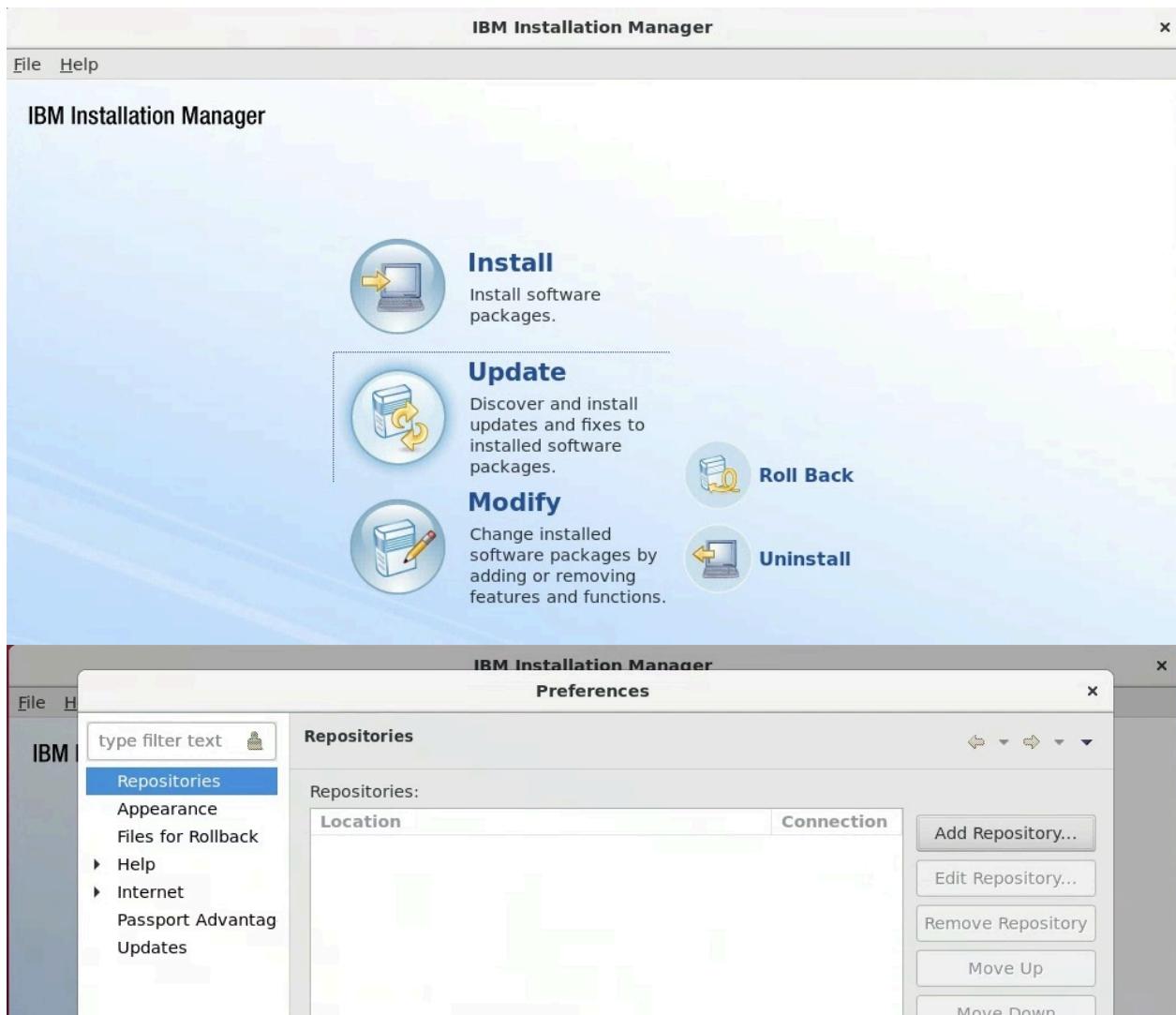
Finish

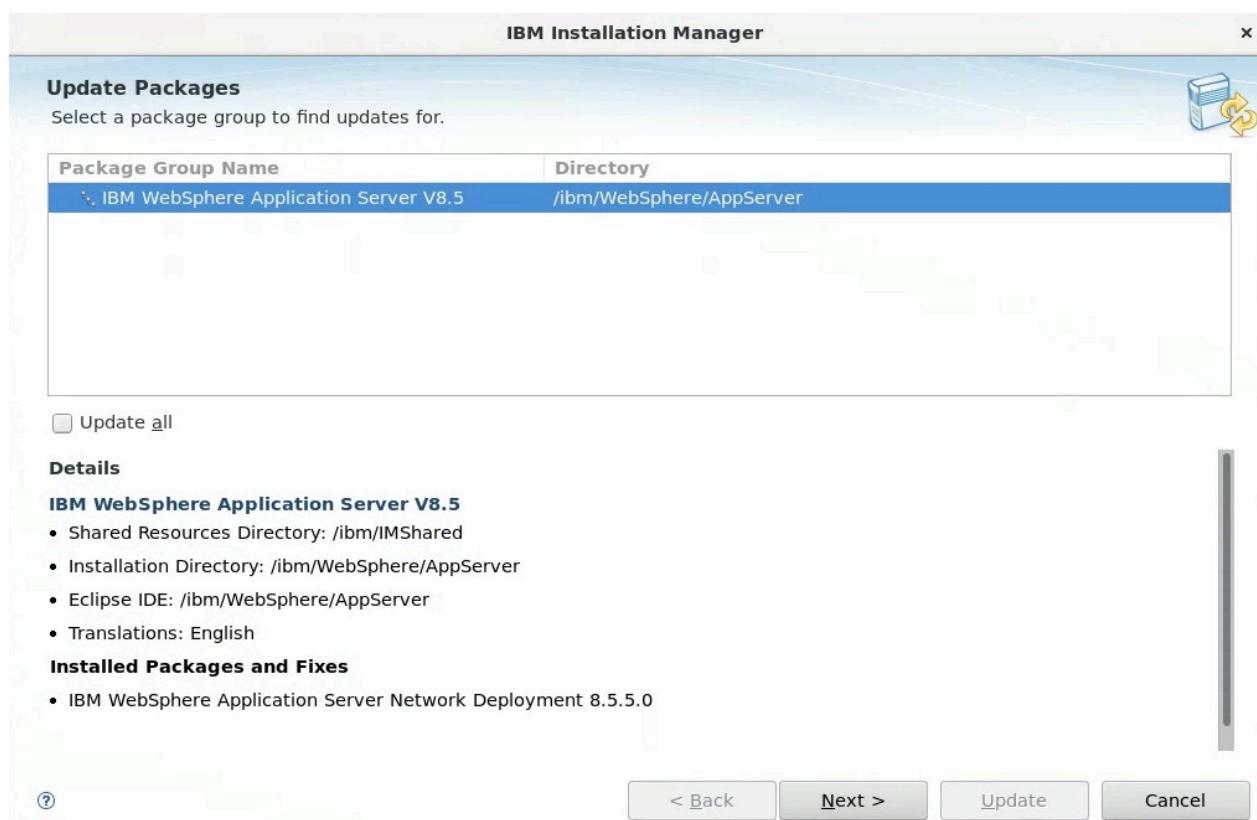
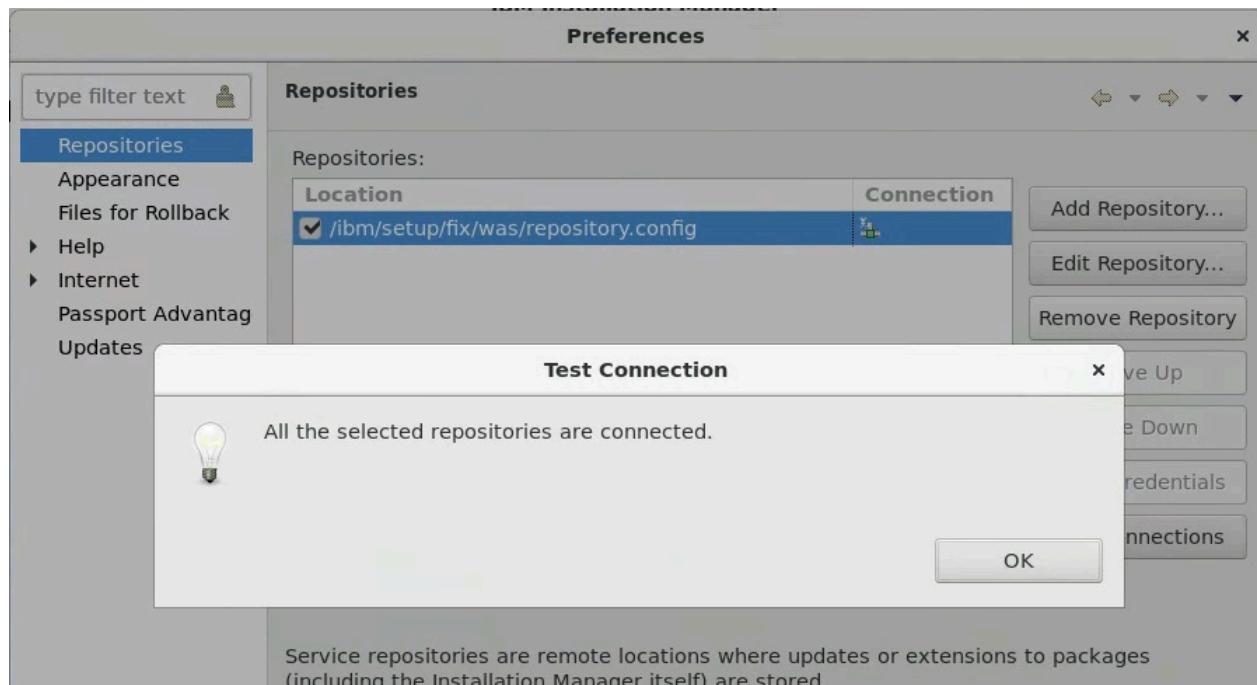
Terminal

File Edit View Search Terminal Help

```
$ bash
wasadm@wasnd-node01:~$ cd /ibm/WebSphere/AppServer/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer$ cd samples/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/samples$ ls -l
total 4
drwxr-xr-x 8 wasadm wasgrp 4096 Mar  2 11:24 PlantsByWebSphere
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/samples$ █
```

Section 2: Update WebSphere Application Server





IBM Installation Manager

Update Packages
Select the updates to install.



Update	Recommend	Vendor	Status
IBM WebSphere Application Server V8.5			
IBM WebSphere Application Server Network 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

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Program Name (Program Number):
IBM WebSphere Application Server Network Deployment V8.5.5.20 (5724-H88)

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Prohibited Uses

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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

- IBM WebSphere Application Server Network Deployment 8.5.5.20
 - 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

Show dependencies **Expand All** **Collapse All** **Restore**

Selected by Installation Manager because of dependencies

Details

Back Next > Update Cancel

IBM Installation Manager

Update Packages
Fill in the configurations for the packages.

Update Packages Updates Licenses **Features** Summary

Configuration for IBM WebSphere Application Server Network Deployment 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: IBM WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Updates

Features To Install

- IBM WebSphere Application Server Network Deployer
 - WebSphere Application Server Full Profile
 - EJBDeploy tool for pre-EJB 3.0 modules
 - Stand-alone thin clients, resource adapters and e

Features To Remove

Disk Space Information

Total Available Space
33.17 GB

Total Download Size: 1.01 GB
Total Installation Size: 2.21 GB

Repository Information

① < 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 WebSphere Application Server V8.5
Installation Directory: /ibm/WebSphere/AppServer
Shared Resources Directory: /ibm/IMShared

Updates

Features To Install

- IBM WebSphere Application Server Network Deployer
 - WebSphere Application Server Full Profile
 - EJBDeploy tool for pre-EJB 3.0 modules
 - Stand-alone thin clients, resource adapters and e

Features To Remove

Disk Space Information

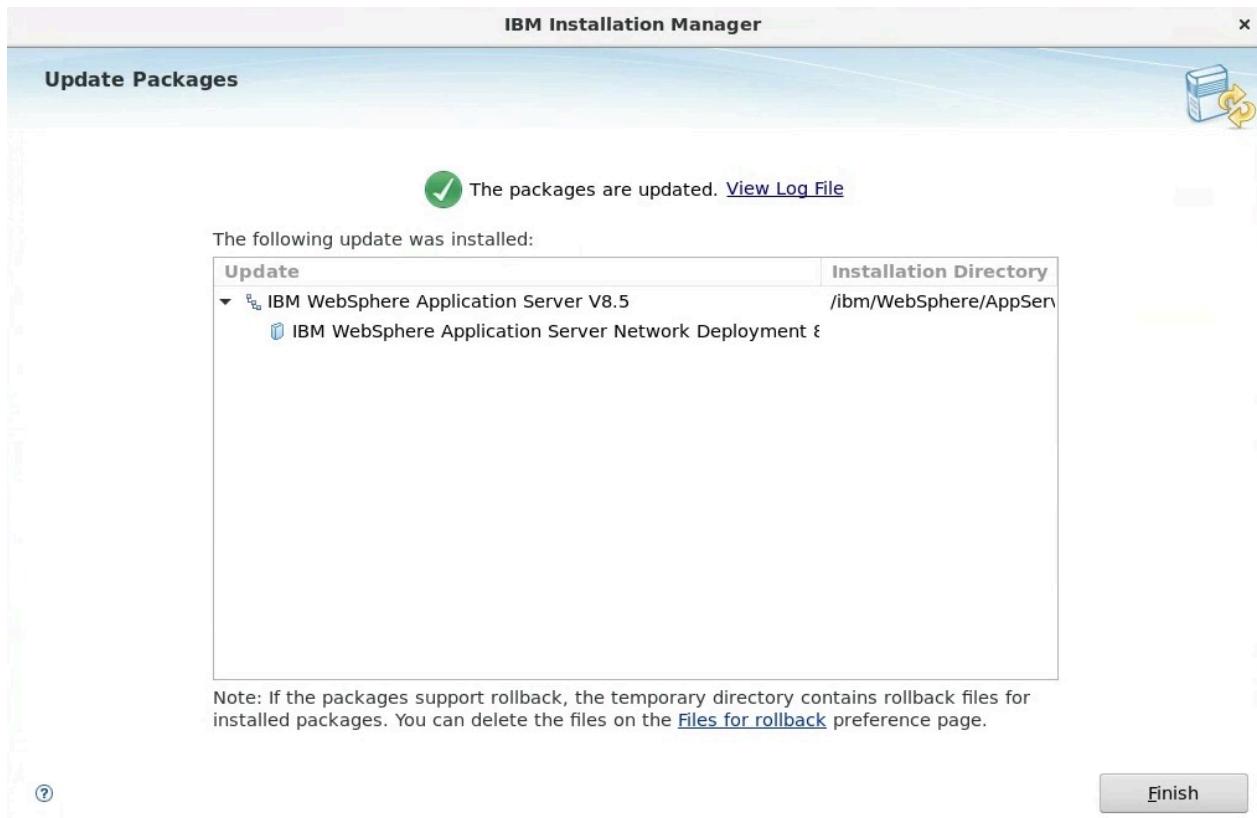
Total Available Space
33.17 GB

Total Download Size: 1.01 GB
Total Installation Size: 2.21 GB

Repository Information

Updating..: Retrieving files. 439 MB of 1.0 GB (43%) completed.

Pause Download Cancel



Section 3: Create a profile with the Profile Management Tool

After the core product files for WebSphere Application Server are installed, you must create a profile to make the product functional. In this part of the exercise, you create an application server profile named profile1 with the Profile Management Tool in the WebSphere Customization Toolbox. The Profile Management Tool is added to the WebSphere Customization Toolbox during the installation of WebSphere Application Server.

```
Terminal
File Edit View Search Terminal Help
wasadm@wasnd-node01:/ibm$ cd WebSphere/AppServer/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer$ cd bin/ProfileManagement/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/bin/ProfileManagement$ ./wct.sh
```

WebSphere Customization Toolbox 8.5

File Window Help

Welcome

>Welcome

Welcome to the WebSphere Customization Toolbox

Select a tool in the following list to display the welcome information for that tool. To launch a tool, select a tool in the list, and click *Launch Selected Tool*. Alternatively, select *Window > Open Perspective* and select a tool in the list.

List of provided tools:

Profile Management Tool

Configuration Migration Tool

Launch Selected Tool

Welcome information for selected tool

This wizard creates run-time environments that are referred to as *profiles*. At least one profile must exist to have a functional installation.

Use this wizard to create additional profiles that each contain a set of commands, configuration files, log files, deployable applications and other information that defines a single application server environment.

The online information centers provide more information about the Profile Management tool and setting up typical topologies.

[WebSphere Application Server](#)



Profile Management Tool 8.5

Environment Selection



Select a specific type of environment to create.

Environments:

- ▼ WebSphere Application Server
 - Cell (deployment manager and a federated application server)
 - Management
 - Application server**
 - Custom profile
 - Secure proxy (configuration-only)

Description

An application server environment runs your enterprise applications. WebSphere Application Server is managed from its own administrative console and functions independently from all other application servers.

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Profile Creation Options



Choose the profile creation process that meets your needs. Pick the Typical option to allow the Profile Management Tool to assign a set of default configuration values to the profile. Pick the Advanced option to specify your own configuration values for the profile.

Typical profile creation

Create an application server profile that uses default configuration settings. The Profile Management Tool assigns unique names to the profile, node, and host. The tool also assigns unique port values. The administrative console and the default application will be installed. You can optionally select whether to enable administrative security. The tool might create a system service to run the application server 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.

Advanced profile creation

Create application server using default configuration settings or specify your own values for settings such as the location of the profile and names of the profile, node, and host. You can assign your own port values. You can optionally choose whether to deploy the administrative console, and create a Web server definition. You might have the option to run the application server as a system service depending on the operating system of your machine and the privileges assigned to your user account.

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Optional Application Deployment



Select the applications to deploy to the WebSphere Application Server environment being created.

- Deploy the administrative console (recommended).

Install a Web-based administrative console that manages the application server. Deploying the administrative console is recommended, but if you deselect this option, the information center contains detailed steps for deploying it after the profile exists.

- Deploy the default application.

Install the default application that contains the Snoop, Hello, and HitCount servlets.

- Deploy the Installation Verification Tool application.

Install the Installation Verification Tool (IVT) to verify that the creation of the application server is successful. IVT scans product log files for errors and verifies core product functionality by starting and monitoring the server process and querying servlets.

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Profile Name and Location

Specify a profile name and directory path to contain the files for the run-time environment, such as command configuration files, and log files. Click **Browse** to select a different directory.

Profile name:

profile1

Profile directory:

/ibm/profiles/profile1

Select the performance tuning settings that most closely match the type of environment in which the application server will run. Review the information center article on performance tuning settings before choosing a setting because additional tuning still might be necessary to optimize the performance of the server for your application.

Server runtime performance tuning setting:

Standard

Description

The standard settings are optimized for general purpose usage with conservative settings. The performance monitoring infrastructure service is enabled to gather statistics so you can further tune the server yourself.

See the information center for more information about the performance tuning settings.

[View the online information center](#)

< Back Next > Cancel Finish

Profile Management Tool 8.5

Node and Host Names

Specify a node name, a server name, and a host name for this profile.

Node name:
wasnd-node01Node01

Server name:
server1

Host name:
wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal

Node name: A node name is used for administration. If the node is federated, the name must be unique within the federation.
Server name: A server name is a logical name for the application server.
Host name: A host name is the domain name system (DNS) name (short or long) or the IP address of this server.

The following naming rules must be used:

- Names must start and end with alphabetic characters (A-Z, a-z), numbers (0-9), and underscores (_) only.
- Names may contain alphabetic characters (A-Z, a-z), numbers (0-9), periods (.), dashes (-) and underscores (_).
- Names must not contain spaces or these characters: / \ * , : ; = + ? | < > _ % ' " [] # \$ ^ { } ()

< Back Next > Cancel Finish

- User name: wasadmin- **Password:** web1sphere- **Confirm password:** web1sphere

Profile Management Tool 8.5

Administrative Security



Choose whether to enable administrative security. To enable security, supply a user name and password for logging into administrative tools. This administrative user is created in a repository within the application server. After profile creation finishes, you can add more users, groups, or external repositories.

Enable administrative security

User name:

wasadmin

Password:

Confirm password:

*****|

See the information center for more information about administrative security.

[View the online information center](#)

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Security Certificate (Part 1)



Choose whether to create a default personal certificate and root signing certificate, or import them from keystores. To create new certificates, proceed to Part 2 and provide the certificate information. To import existing certificates from keystores, locate the certificates then proceed to Part 2 and verify the certificate information.

- Create a new default personal certificate.
 Import an existing default personal certificate

Default personal certificate

Path:

Password:

Keystore type:

Keystore alias:



- Create a new root signing certificate.
 Import an existing root signing certificate.

Root signing certificate

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Security Certificate (Part 2)



Modify the certificate information to create new certificates during profile creation. If you are importing existing certificates, verify whether the selected certificates contain the appropriate information. If the selected certificates do not

[Restore Defaults](#)

Default personal certificate (a personal certificate for this profile, public and private key):

Issued to distinguished name:

`cn=wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal,ou=wasnd-node01Node01Cell,ou=`

Issued by distinguished name:

`cn=wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal,ou=Root Certificate,ou=wasnd-node01Cell,ou=`

Expiration period in years:

1 ▾

Root signing certificate (personal certificate for signing other certificates, public and private key):

Expiration period in years:

15 ▾

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Port Values Assignment



The values in the following fields define the ports for the application server and do not conflict with other profiles in this installation. Another installation of WebSphere Application Server or other programs might use the same ports. To avoid run-time port conflicts, verify that each port value is unique.

Default Port Values

Recommended Port Values

Administrative console port (Default 9060):

9060

Administrative console secure port (Default 9043):

9043

HTTP transport port (Default 9080):

9080

HTTPS transport port (Default 9443):

9443

Bootstrap port (Default 2809):

2809

SIP port (Default 5060):

5060

SIP secure port (Default 5061):

5061

SOAP connector port (Default 8880):

8880

Administrative interprocess communication port (Default 9633)(X):

9633

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Web Server Definition



Optionally create a Web server definition if you use a Web server to route requests for dynamic content to the application server. Alternatively, you can create a Web server definition from the administrative console or a script that is generated during Web server plug-ins installation.

[Create a Web server definition](#)

Web server type:

IBM HTTP Server

Web server operating system:

Linux

Web server name:

webserver1

Web server host name or IP address:

wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal

Web server port (Default 80):

80

[< Back](#)

[Next >](#)

[Cancel](#)

[Finish](#)

Profile Management Tool 8.5

Profile Creation Summary



Review the information in the summary for correctness. If the information is correct, click **Create** to start creating a new profile. Click **Back** to change values on the previous panels.

Application server environment to create: Application server

Location: /ibm/profiles/profile1

Disk space required: 200 MB

Profile name: profile1

Make this profile the default: True

Performance tuning setting: Standard

Node name: wasnd-node01Node01

Server name: server1

Host name: wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal

Deploy the Administrative console (recommended): True

Deploy the Default application: True

Deploy the Installation Verification Tool application: True

Enable administrative security (recommended): True

< Back

Create

Cancel

Finish

Profile Management Tool 8.5

x

Profile Creation Progress



Running configuration command: importConfigArchive

< Back

Next >

Cancel

Finish

Profile Management Tool 8.5

Profile Creation Complete



The Profile Management Tool created the profile successfully.

The next step is to decide whether to federate the application server into a deployment manager cell.

To federate the application server, use either the **addNode** command or the administrative console of the deployment manager. Using the administrative console requires the application server to be running.

You can start and stop the application server from the command line or the First steps console. The First steps console also has links to an installation verification test and other information and features that relate to the application server.

[Launch the First steps console.](#)

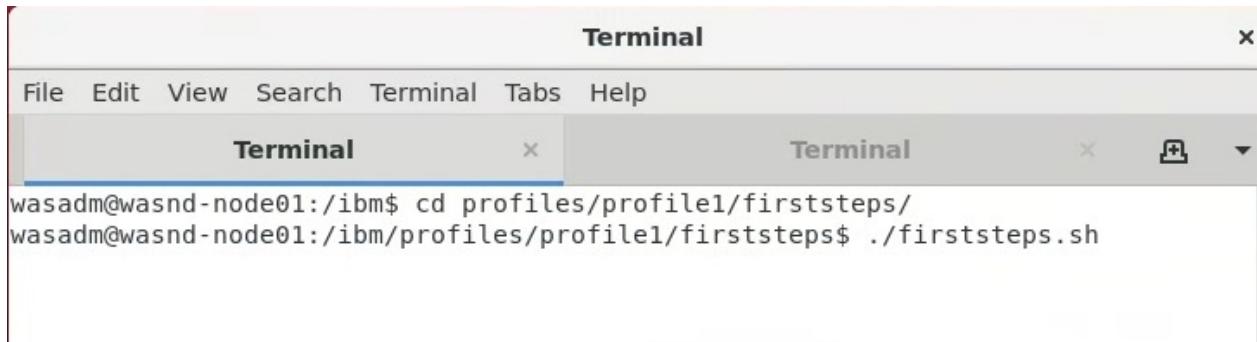
To start the Profile Management Tool later, use the **PMT** command in the *app_server_root/bin/ProfileManagement* directory or the option in the First steps console.

[< Back](#) [Next >](#) [Cancel](#) [Finish](#)



Section 4: Verify installation of WebSphere Application Server

The First steps console is where you can start or stop the server, access the WebSphere Information Center, and start various tools. Each application server profile has an associated First steps console.



WebSphere Application Server - First steps - profile1

X

WebSphere Application Server

IBM

First steps

Installation verification

Confirm that your server is installed and that it can start properly.

Start the server

Start the server and its applications.

Administrative console

Install and administer applications.

WebSphere Customization Toolbox

Launch this toolbox to access the Profile Management Tool and work with profiles, or to access the Migration Management Tool and migrate WebSphere Application Server 6.0, 6.1, 7.0 or 8.0 profiles to version 8.5.

Information center for WebSphere Application Server

Learn more about WebSphere Application Server and explore sample applications.

IBM Education Assistant for WebSphere software

Access multimedia content for WebSphere Application Server version 8.5 and other IBM software products.

Exit

First steps output - Installation verification

```
Server name is:server1
Profile name is:profile1
Profile home is:/ibm/profiles/profile1
Profile type is:default
Cell name is:wasnd-node01Node01Cell
Node name is:wasnd-node01Node01
Current encoding is:UTF-8
Start running the following command:/ibm/profiles/profile1/bin/startServer.sh server1 -profileName profile1
>ADMU0116I: Tool information is being logged in file
>          /ibm/profiles/profile1/logs/server1/startServer.log
>ADMU0128I: Starting tool with the profile1 profile
>ADMU3100I: Reading configuration for server: server1
>ADMU3200I: Server launched. Waiting for initialization status.
>ADMU3000I: Server server1 open for e-business; process id is 29423
Server port number is:9080
IVTL0010I: Connecting to the wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal WebSphere Application Server on port: 9080
IVTL0015I: WebSphere Application Server wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal is running on port: 9080 for pro
Testing server using the following URL: http://wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal:9080/ivt/ivtserver?parm2=ivt
IVTL0050I: Servlet engine verification status: Passed
Testing server using the following URL: http://wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal:9080/ivt/ivtserver?parm2=ivt
IVTL0055I: JavaServer Pages files verification status: Passed
Testing server using the following URL: http://wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal:9080/ivt/ivtserver?parm2=ivt
IVTL0060I: Enterprise bean verification status: Passed
IVTL0035I: The Installation Verification Tool is scanning the /ibm/profiles/profile1/logs/server1/SystemOut.log file for errors and warnings.
[3/22 17:28:04:093 UTC] 00000001 WSKeyStore W CWPK0041W: One or more key stores are using the default password.
[3/22 17:28:04:105 UTC] 00000001 SSLConfigMana W CWPK0318W: The runtime has at least one SSL configuration that is enabled with S
[3/22 17:28:20:899 UTC] 00000004a AuthConfigFac W SECJ8032W: AuthConfigFactory implementation is not defined, using the default JAS
IVTL0040I: 3 errors/warnings are detected in the /ibm/profiles/profile1/logs/server1/SystemOut.log file
IVTL0070I: The Installation Verification Tool verification succeeded.
IVTL0080I: The installation verification is complete.
```

First steps

Installation verification

Confirm that your server is installed and that it can start properly.

Stop the server

Stop the server and its applications.

Administrative console

Install and administer applications.

WebSphere Customization Toolbox

Launch this toolbox to access the Profile Management Tool and work with profiles, or to access the Migration Management Tool and migrate WebSphere Application Server 6.0, 6.1, 7.0 or 8.0 profiles to version 8.5.

Information center for WebSphere Application Server

Learn more about WebSphere Application Server and explore sample applications.

IBM Education Assistant for WebSphere software

Access multimedia content for WebSphere Application Server version 8.5 and other IBM software products.

[Exit](#)

⚠ Warning: Potential Sec x Firefox Privacy Notice - x +

Not Secure https://localhost:9043/ibm/console

The issue is most likely with the website, and there is nothing you can do to resolve it.

If you are on a corporate network or using anti-virus software, you can reach out to the support teams for assistance. You can also notify the website's administrator about the problem.

[Learn more...](#)

[Go Back \(Recommended\)](#) [Advanced...](#)

Someone could be trying to impersonate the site and you should not continue.

Websites prove their identity via certificates. Firefox does not trust localhost:9043 because its certificate issuer is unknown, the certificate is self-signed, or the server is not sending the correct intermediate certificates.

Error code: [SEC_ERROR_UNKNOWN_ISSUER](#)

[View Certificate](#)

[Go Back \(Recommended\)](#) [Accept the Risk and Continue](#)

⚠ Warning: Potential Sec x Firefox Privacy Notice - x + Certificate for wasnd-node01.europ...

Firefox about:certificate?cert=MIIeTCCA4mgAwIBAgIGBNvny...

Certificate

wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal	wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal
Subject Name	
Country	US
Organization	IBM
Organizational Unit	wasnd-node01Node01
Organizational Unit	wasnd-node01Node01Cell
Common Name	wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal
Issuer Name	
Country	US
Organization	IBM



WebSphere Integrated x +

https://localhost:9043/ibm/console/login.do?action=secure

WebSphere software

Welcome

View: All tasks

Integrated Solutions Console provides a common administrative console for multiple products. The table lists the product suites that can be administered through this installation. Select a product suite to view more information.

Suite Name	Version
WebSphere Application Server	8.5.5.20

WebSphere Integrated x +

https://localhost:9043/ibm/console/login.do?action=secure

WebSphere software

Welcome wasadmin

Cell=wasnd-node01Node01Cell, Profile=profile1

Enterprise Applications

Enterprise Applications

Use this page to manage installed applications. A single application can be deployed onto multiple servers.

Preferences

Start Stop Install Uninstall Update Rollout Update Remove File Export Export DDL Export File Analyze

Select Name Application Status Liberty Report

You can administer the following resources:

	Name	Application Status	Liberty Report
<input type="checkbox"/>	DefaultApplication	+	Ø
<input type="checkbox"/>	ivtApp	+	Ø
<input type="checkbox"/>	query	+	Ø

Total 3

WebSphere Integrated x Snoop Servlet x +

← → C =localhost:9080/snoop

Snoop Servlet - Request/Client Information

Requested URL:

http://localhost:9080/snoop

Servlet Name:

Snoop Servlet

Request Information:

Request method	GET
Request URI	/snoop
Request protocol	HTTP/1.1
Servlet path	/snoop
Path info	<none>

INSTANCES INSTANCE SCHEDULE

VM instances are highly configurable virtual machines for running workloads on Google infrastructure. [Learn more](#)

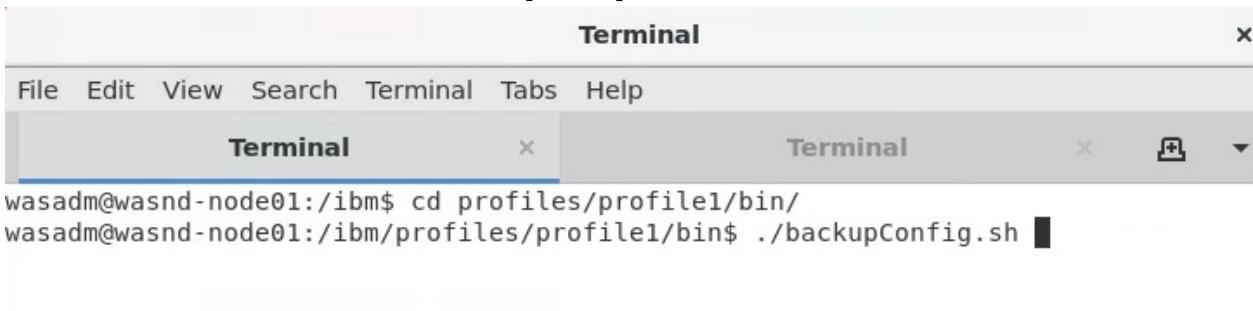
Filter Enter property name or value [?](#) [☰](#)

In use by	Internal IP	External IP	Connect
10.156.0.2 (nic0)	34.159.238.15	🔗	SSH ⋮

[More actions](#)



Section 5: Create a backup of profile1



The terminal window has a title bar 'Terminal' and a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', 'Tabs', and 'Help'. There are two tabs open: 'Terminal' and another 'Terminal' tab. The current tab shows the command line:

```
wasadm@wasnd-node01:/ibm$ cd profiles/profile1/bin/
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./backupConfig.sh
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm$ cd profiles/profile1/bin/
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./backupConfig.sh
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/backupConfig.log
ADMU0128I: Starting tool with the profile1 profile
ADMU5001I: Backing up config directory /ibm/profiles/profile1/config to file
    /ibm/profiles/profile1/bin/WebSphereConfig_2022-03-02.zip
ADMU0505I: Servers found in configuration:
ADMU0506I: Server name: server1
ADMU2010I: Stopping all server processes for node wasnd-node01Node01

```

>Login at the Target Server

Enter login information for <default>

Realm/Cell Name <default>

User Identity wasadmin

User Password *****

OK Cancel

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm$ cd profiles/profile1/bin/
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./backupConfig.sh
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/backupConfig.log
ADMU0128I: Starting tool with the profile1 profile
ADMU5001I: Backing up config directory /ibm/profiles/profile1/config to file
    /ibm/profiles/profile1/bin/WebSphereConfig_2022-03-02.zip
ADMU0505I: Servers found in configuration:
ADMU0506I: Server name: server1
ADMU2010I: Stopping all server processes for node wasnd-node01Node01
ADMU0510I: Server server1 is now STOPPED
.....
.....
.....
.....
.....
.....
.....
.....
ADMU5002I: 690 files successfully backed up
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ 
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ls *.zip
WebSphereConfig_2022-03-02.zip
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ mkdir /ibm/backups
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ cp WebSphereConfig_2022-03-02.zip /ibm/backups/backup_profile1_2022-03-02.zip
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ls -l /ibm/backups/
total 1264
-rw-r--r-- 1 wasadm wasgrp 1293394 Mar 2 17:57 backup_profile1_2022-03-02.zip
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$
```

Section 6: Start and stop the WebSphere Application Server

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./serverStatus.sh server1
ADMU0116I: Tool information is being logged in file
          /ibm/profiles/profile1/logs/server1/serverStatus.log
ADMU0128I: Starting tool with the profile1 profile
ADMU0500I: Retrieving server status for server1
ADMU0509I: The Application Server "server1" cannot be reached. It appears to be
          stopped.
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./startServer.sh server1
ADMU0116I: Tool information is being logged in file
          /ibm/profiles/profile1/logs/server1/startServer.log
ADMU0128I: Starting tool with the profile1 profile
ADMU3100I: Reading configuration for server: server1
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server server1 open for e-business; process id is 30677
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./serverStatus.sh server1
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/server1/serverStatus.log
ADMU0128I: Starting tool with the profile1 profile
ADMU0500I: Retrieving server status for server1
```

>Login at the Target Server

Enter login information for <default>

Realm/Cell Name <default>

User Identity wasadmin

User Password *****

OK Cancel

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./serverStatus.sh server1
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/server1/serverStatus.log
ADMU0128I: Starting tool with the profile1 profile
ADMU0500I: Retrieving server status for server1
ADMU0508I: The Application Server "server1" is STARTED
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./stopServer.sh server1
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/server1/stopServer.log
ADMU0128I: Starting tool with the profile1 profile
ADMU3100I: Reading configuration for server: server1
```

Login at the Target Server

Enter login information for <default>

Realm/Cell Name <default>

User Identity wasadmin

User Password *****

OK Cancel

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./stopServer.sh server1
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/server1/stopServer.log
ADMU0128I: Starting tool with the profile1 profile
ADMU3100I: Reading configuration for server: server1
ADMU3201I: Server stop request issued. Waiting for stop status.
ADMU4000I: Server server1 stop completed.
```

wasadm@wasnd-node01:/ibm/profiles/profile1/bin\$

Terminal

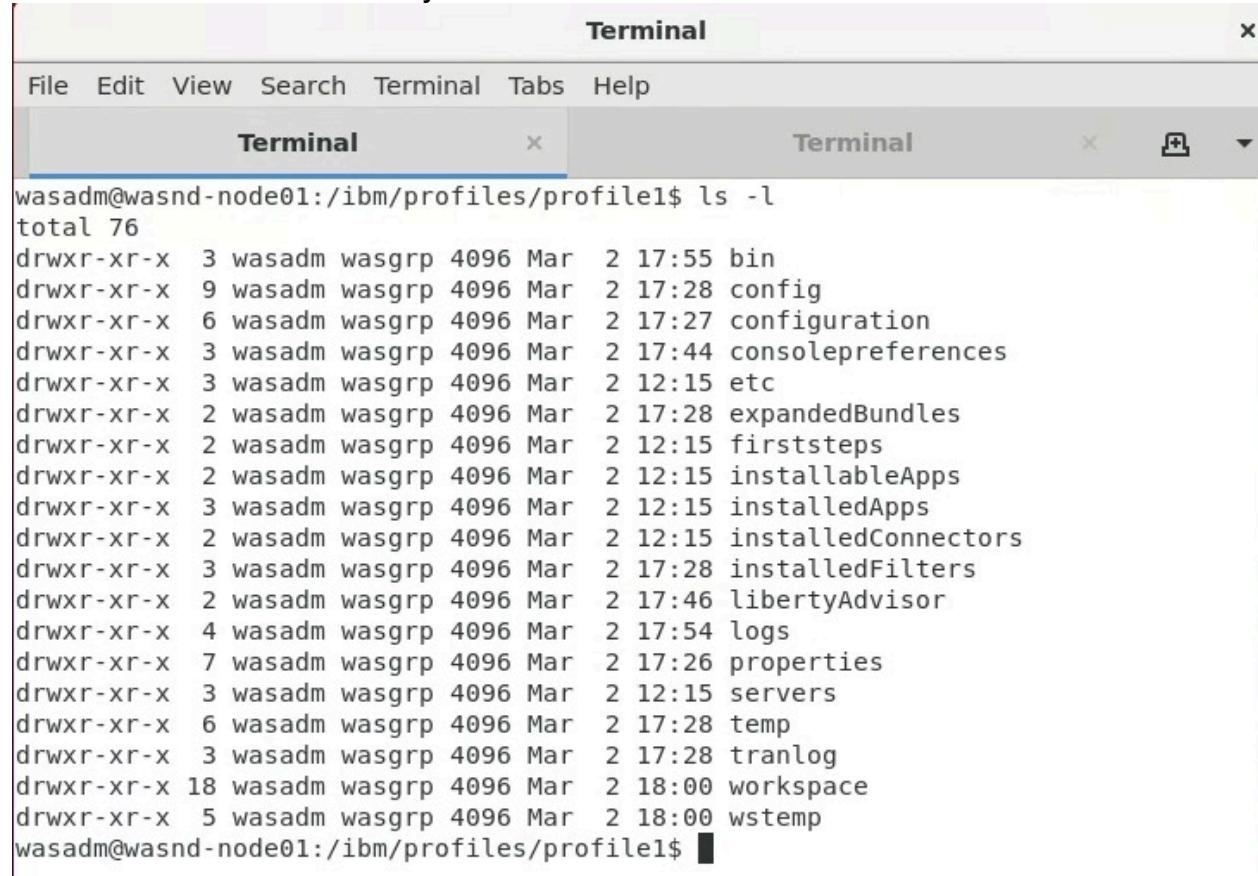
File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$ ./serverStatus.sh server1
ADMU0116I: Tool information is being logged in file
    /ibm/profiles/profile1/logs/server1/serverStatus.log
ADMU0128I: Starting tool with the profile1 profile
ADMU0500I: Retrieving server status for server1
ADMU0509I: The Application Server "server1" cannot be reached. It appears to be
    stopped.
wasadm@wasnd-node01:/ibm/profiles/profile1/bin$
```

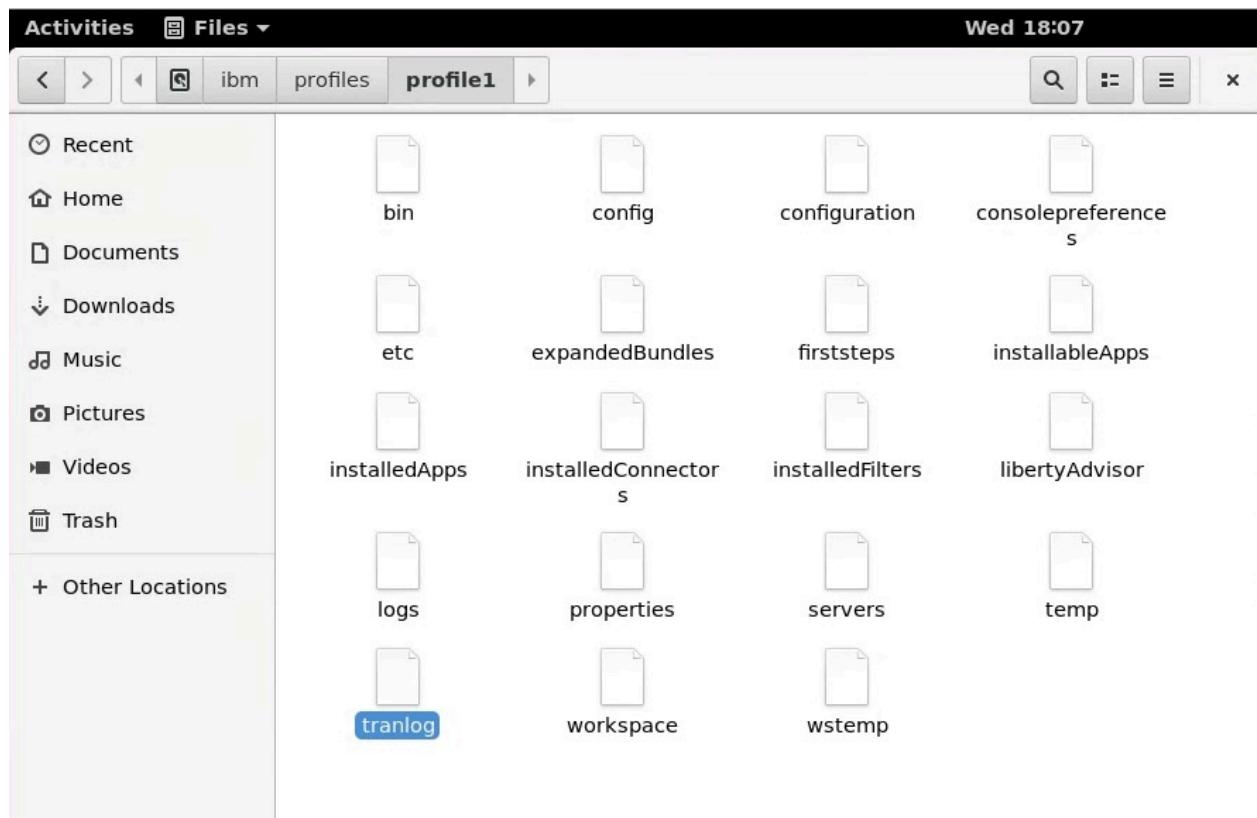
Section 7: Explore the directory structure of WebSphere Application Server

Now that WebSphere Application Server is installed, examine the directory structure and review what you installed.



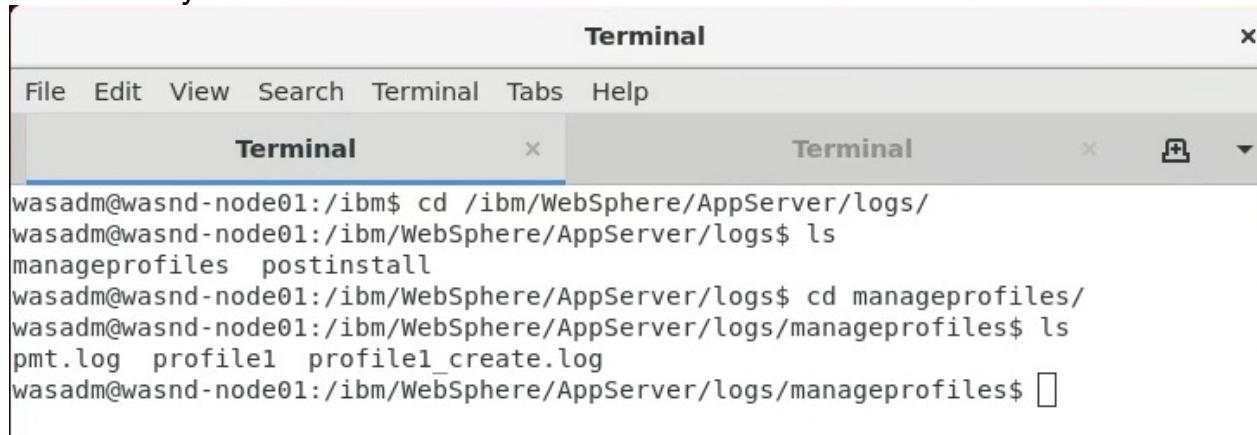
The screenshot shows a terminal window with the title "Terminal". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". Below the menu is a tab bar with two tabs: "Terminal" (which is selected) and another "Terminal" tab. The main area of the terminal shows the output of the "ls -l" command in the directory "/ibm/profiles/profile1". The output lists 76 files and directories with their permissions, names, and timestamps. The permissions are mostly "drwxr-xr-x" and the timestamps are mostly "Mar 2 17:28". The files and directories include "bin", "config", "configuration", "consolepreferences", "etc", "expandedBundles", "firststeps", "installableApps", "installedApps", "installedConnectors", "installedFilters", "libertyAdvisor", "logs", "properties", "servers", "temp", "tranlog", "workspace", and "wstemp". The command ends with "wasadm@wasnd-node01:/ibm/profiles/profile1\$".

```
Terminal
File Edit View Search Terminal Tabs Help
Terminal Terminal
wasadm@wasnd-node01:/ibm/profiles/profile1$ ls -l
total 76
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 17:55 bin
drwxr-xr-x 9 wasadm wasgrp 4096 Mar 2 17:28 config
drwxr-xr-x 6 wasadm wasgrp 4096 Mar 2 17:27 configuration
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 17:44 consolepreferences
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 12:15 etc
drwxr-xr-x 2 wasadm wasgrp 4096 Mar 2 17:28 expandedBundles
drwxr-xr-x 2 wasadm wasgrp 4096 Mar 2 12:15 firststeps
drwxr-xr-x 2 wasadm wasgrp 4096 Mar 2 12:15 installableApps
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 12:15 installedApps
drwxr-xr-x 2 wasadm wasgrp 4096 Mar 2 12:15 installedConnectors
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 17:28 installedFilters
drwxr-xr-x 2 wasadm wasgrp 4096 Mar 2 17:46 libertyAdvisor
drwxr-xr-x 4 wasadm wasgrp 4096 Mar 2 17:54 logs
drwxr-xr-x 7 wasadm wasgrp 4096 Mar 2 17:26 properties
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 12:15 servers
drwxr-xr-x 6 wasadm wasgrp 4096 Mar 2 17:28 temp
drwxr-xr-x 3 wasadm wasgrp 4096 Mar 2 17:28 tranlog
drwxr-xr-x 18 wasadm wasgrp 4096 Mar 2 18:00 workspace
drwxr-xr-x 5 wasadm wasgrp 4096 Mar 2 18:00 wstemp
wasadm@wasnd-node01:/ibm/profiles/profile1$
```



Section 8: Check the installation log files

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



```
Terminal
File Edit View Search Terminal Tabs Help
Terminal Terminal
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/logs/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/logs$ ls
manageprofiles postinstall
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/logs$ cd manageprofiles/
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/logs/manageprofiles$ ls
pmt.log profile1 profile1_create.log
wasadm@wasnd-node01:/ibm/WebSphere/AppServer/logs/manageprofiles$ 
```

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
<date>2022-03-02T12:15:52</date>
<millis>1646223352183</millis>
<sequence>10894</sequence>
<logger>com.ibm.ws.profile.utils.WSProfileUtils</logger>
<level>INFO</level>
<class>com.ibm.ws.profile.utils.WSProfileUtils</class>
<method>launchExecutionOfActions</method>
<thread>32</thread>
<message>Finished Executing: SetZosGroupPermsTask with return code: true</message>
</record>
<record>
<date>2022-03-02T12:15:52</date>
<millis>1646223352184</millis>
<sequence>10895</sequence>
<logger>com.ibm.wsspi.profile.WSProfileCLI</logger>
<level>INFO</level>
<class>com.ibm.wsspi.profile.WSProfileCLI</class>
<method>invokeWSProfile</method>
<thread>32</thread>
<message>Returning with return code: INSTCONFSUCCESS</message>
</record>
</log>
-- REPLACE --
```

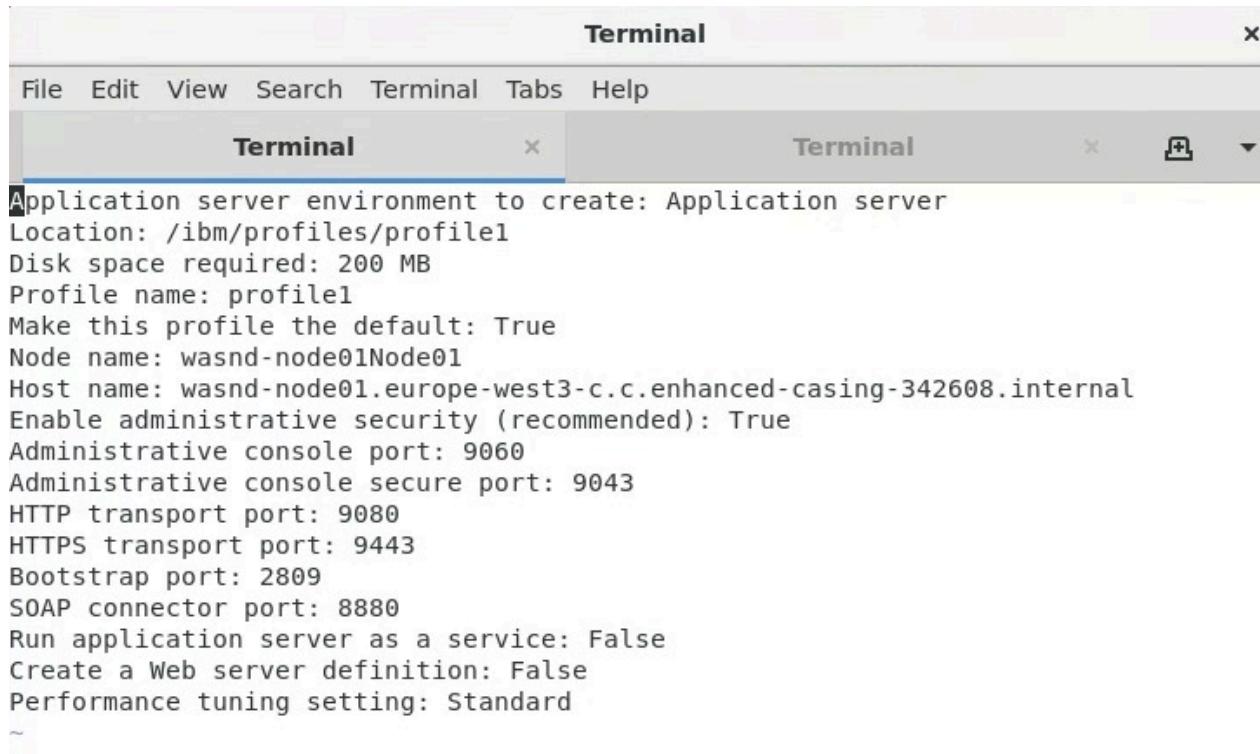
42934,1 Bot

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm$ cd /ibm/profiles/profile1/logs/
wasadm@wasnd-node01:/ibm/profiles/profile1/logs$ ls -l
total 28
-rwxr-xr-x 1 wasadm wasgrp 628 Mar  2 12:15 AboutThisProfile.txt
-rw-r--r-- 1 wasadm wasgrp 5900 Mar  2 17:55 backupConfig.log
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:04 ffdc
-r--r--r-- 1 wasadm wasgrp 3528 Mar  2 17:28 ivtClient.log
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:03 server1
-rwxr-xr-x 1 wasadm wasgrp 3250 Mar  2 17:27 wsadmin.traceout
-rwxr-xr-x 1 wasadm wasgrp     0 Mar  2 17:27 wsadmin.valout
-rwxr-xr-x 1 wasadm wasgrp     0 Mar  2 12:15 wsadminListener.out
wasadm@wasnd-node01:/ibm/profiles/profile1/logs$
```



The screenshot shows a terminal window with the title "Terminal" at the top. The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". There are two tabs open: "Terminal" and another "Terminal" tab. The "Terminal" tab is active and contains the following configuration text:

```
Application server environment to create: Application server
Location: /ibm/profiles/profile1
Disk space required: 200 MB
Profile name: profile1
Make this profile the default: True
Node name: wasnd-node01Node01
Host name: wasnd-node01.europe-west3-c.c.enhanced-casing-342608.internal
Enable administrative security (recommended): True
Administrative console port: 9060
Administrative console secure port: 9043
HTTP transport port: 9080
HTTPS transport port: 9443
Bootstrap port: 2809
SOAP connector port: 8880
Run application server as a service: False
Create a Web server definition: False
Performance tuning setting: Standard
~
```

Section 9:Check the application server log files

Start WebSphere Application Server in profile1 and view the log files.

Terminal

File Edit View Search Terminal Tabs Help

Terminal Terminal

```
wasadm@wasnd-node01:/ibm$ cd /ibm/profiles/profile1/logs/
wasadm@wasnd-node01:/ibm/profiles/profile1/logs$ ls -l
total 28
-rwxr-xr-x 1 wasadm wasgrp 628 Mar  2 12:15 AboutThisProfile.txt
-rw-r--r-- 1 wasadm wasgrp 5900 Mar  2 17:55 backupConfig.log
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:04 ffdc
-rw-r--r-- 1 wasadm wasgrp 3528 Mar  2 17:28 ivtClient.log
drwxr-xr-x 2 wasadm wasgrp 4096 Mar  2 18:03 server1
-rwxr-xr-x 1 wasadm wasgrp 3250 Mar  2 17:27 wsadmin.traceout
-rwxr-xr-x 1 wasadm wasgrp     0 Mar  2 17:27 wsadmin.valout
-rwxr-xr-x 1 wasadm wasgrp     0 Mar  2 12:15 wsadminListener.out
wasadm@wasnd-node01:/ibm/profiles/profile1/logs$ cd server1/
wasadm@wasnd-node01:/ibm/profiles/profile1/logs/server1$ ls -l
total 184
-rw-r--r-- 1 wasadm wasgrp    167 Mar  2 17:28 SystemErr.log
-rw-r--r-- 1 wasadm wasgrp     49 Mar  2 17:28 SystemErr.log.owner
-rw-r--r-- 1 wasadm wasgrp 120506 Mar  2 18:03 SystemOut.log
-rw-r--r-- 1 wasadm wasgrp     49 Mar  2 17:28 SystemOut.log.owner
-rw-r--r-- 1 wasadm wasgrp    778 Mar  2 18:00 native_stderr.log
-rw-r--r-- 1 wasadm wasgrp  4582 Mar  2 18:00 native_stdout.log
-rw-r--r-- 1 wasadm wasgrp 16947 Mar  2 18:04 serverStatus.log
-rw-r--r-- 1 wasadm wasgrp   5144 Mar  2 18:00 startServer.log
-rw-r--r-- 1 wasadm wasgrp   5535 Mar  2 18:03 stopServer.log
wasadm@wasnd-node01:/ibm/profiles/profile1/logs/server1$
```