

Cluster Creation on Websphere Application Server  
Oracle FLEXCUBE Universal Banking  
Release 12.87.7.0.0  
[May] [2021]



---

## Table of Contents

1. PURPOSE.....	1-1
2. INTRODUCTION TO WEBSPHERE.....	2-1
3. PRE-REQUISITES: .....	3-1
4. STEPS INVOLVED FOR CLUSTERING.....	4-1
4.1    CREATE PROFILE .....	4-1
4.1.1 <i>Create Deployment Manager Profile</i> .....	4-5
4.2    CREATE NODE .....	4-13
4.2.1 <i>Start Node Agents</i> .....	4-16
4.3    CREATE CLUSTER.....	4-16
4.3.1 <i>Add Cluster Members</i> .....	4-18
4.3.2 <i>Start Cluster</i> .....	4-20
4.4    CREATE PROXY SERVER.....	4-21
4.4.1 <i>Start Proxy Server</i> .....	4-24
4.5    CONFIGURE VIRTUAL HOST.....	4-25
4.5.1 <i>Virtual Host Setup</i> .....	4-26
5. CREATE RESOURCES IN CLUSTER SCOPE .....	5-1
6. DEPLOY APPLICATION TO CLUSTER .....	6-1
6.1.1 <i>Test the application</i> .....	6-2

---

## **1. Purpose**

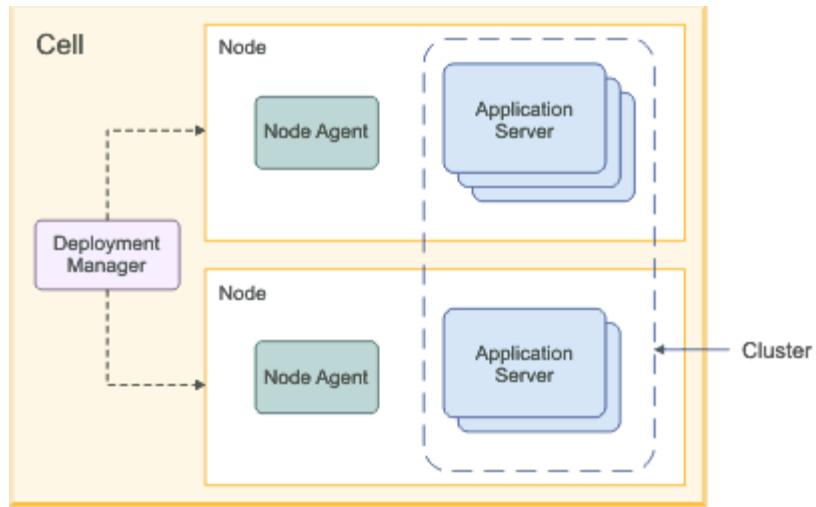
This document explains steps to create Cluster on Websphere Application Server 8.5 and also setup the proxy.

## 2. Introduction to Websphere

IBM websphere application server cluster deployment contains the below key elements

- Cell
- Nodes
  - Deployment Manager Node- “DMGR”
  - Node- “NodeXX”
  - Node Agent- “NAXX”
- Profiles
- Cluster
- Cluster Members
- Data Sources

### Profile



- Cell: A cell is a grouping of nodes into a single administrative domain. In a Network Deployment environment, a cell can consist of multiple nodes (and node groups), which are all administered from a single point, the deployment manager.
- Node: A node is an administrative grouping of application servers for configuration and operational management within one operating system instance
- Node Agent: In distributed server configurations, each node has a node agent that works with the deployment manager to manage administration processes. A node agent is created automatically when you add (federate) a stand-alone node to a cell.
- Cluster: A cluster is a logical collection of application server processes that provides workload balancing and high availability. Application servers that belong to a cluster are members of that cluster and must all have identical application components deployed on them.
- A profile is a Websphere runtime environment formed by collection of User data and Product files. Product Files are shared application binaries for Websphere. User data is set of user customizations for a specific runtime environment.

Prominent profile types are:

- Stand-alone Application Server: An application server environment runs Enterprise Application. Application server is managed from its own administrative console and functions independently from other application server.
- Deployment Manager: A Deployment Manager manages operations for a logical group or cell of other servers. It is the central administration point of a cell that consists of multiple nodes and node groups in a distributed server configuration. The deployment manager uses the node agent to manage the application servers within one node. A deployment manager provides management capability for multiple federated nodes and can manage nodes that span multiple systems and platforms. A node can only be managed by a single deployment manager and must be federated to the cell of that deployment manager.

Note \*\* Deployment Manager is part of Network Deployment Edition of Websphere.

---

### **3. Pre-requisites:**

Before proceeding with the cluster setup ensure that the below resources are created

- JDBC Provider
- Datasource
- Queue Connection Factory
- JMS Queue

The instructions for resource creation are available in document

<installer>\Docs\WEBSPHERE\Resource\_Creation\_WAS.doc

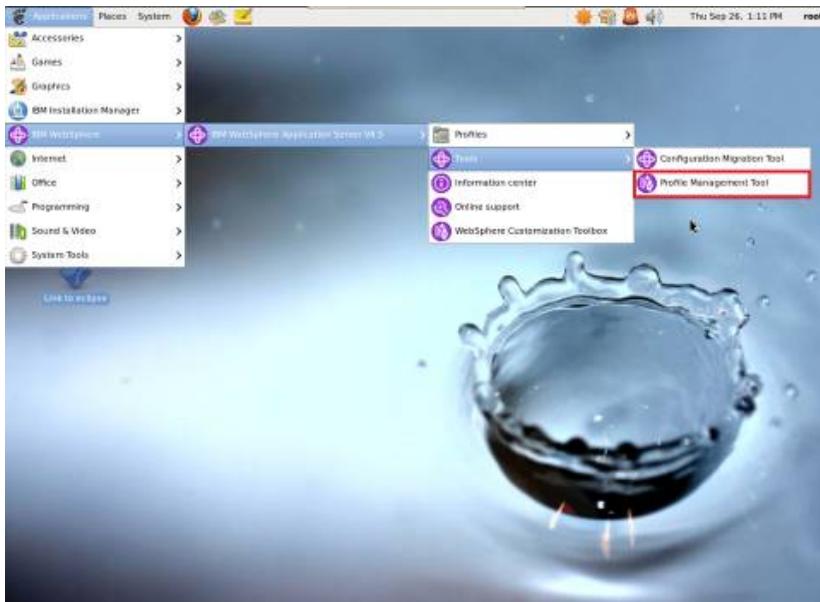
- For SSL configuration in Websphere, refer to the document SSL\_Configuration\_WAS.doc
- For application deployment, refer to document FCUBS\_Application\_WAS.doc
- For deployment of Gateway applications, refer to document GATEWAY\_Applications\_WAS.doc

## 4. Steps involved for Clustering

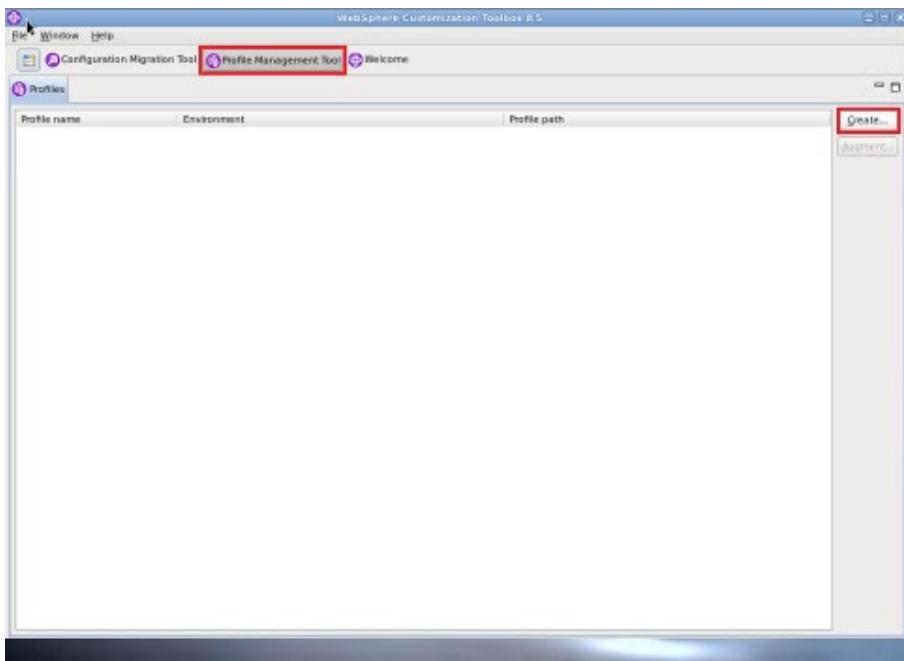
### 4.1 Create Profile

Go to Profile Management Tool

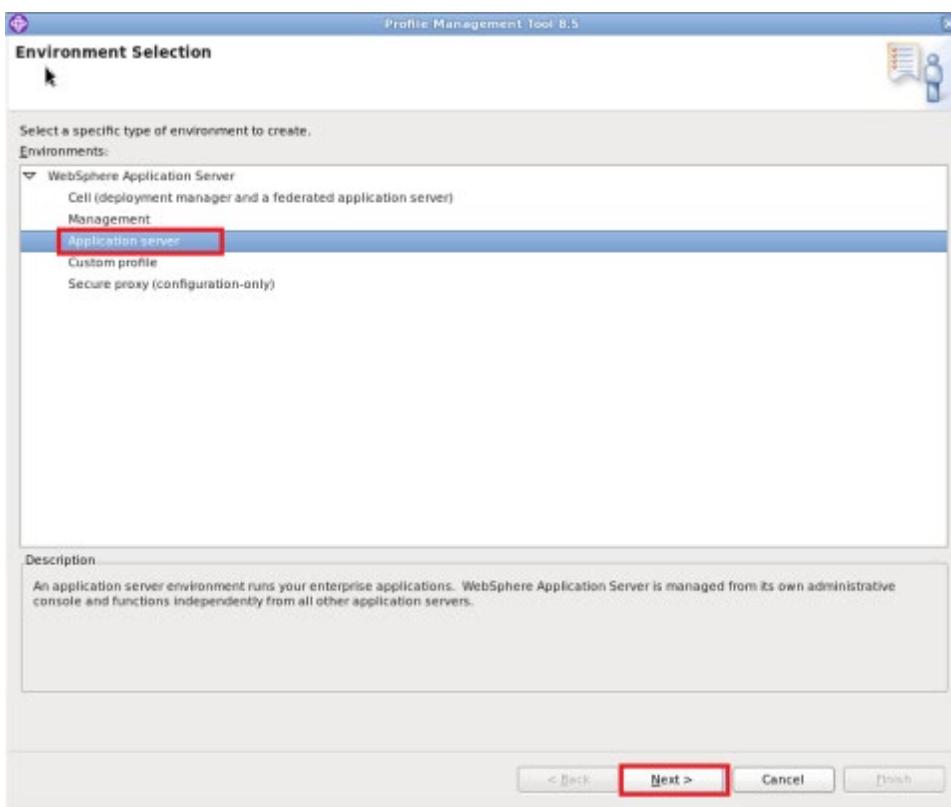
Navigation: IBM WebSphere > *IBM WebSphere Application Server V8.5* > Tools > *Profile Management Tool*



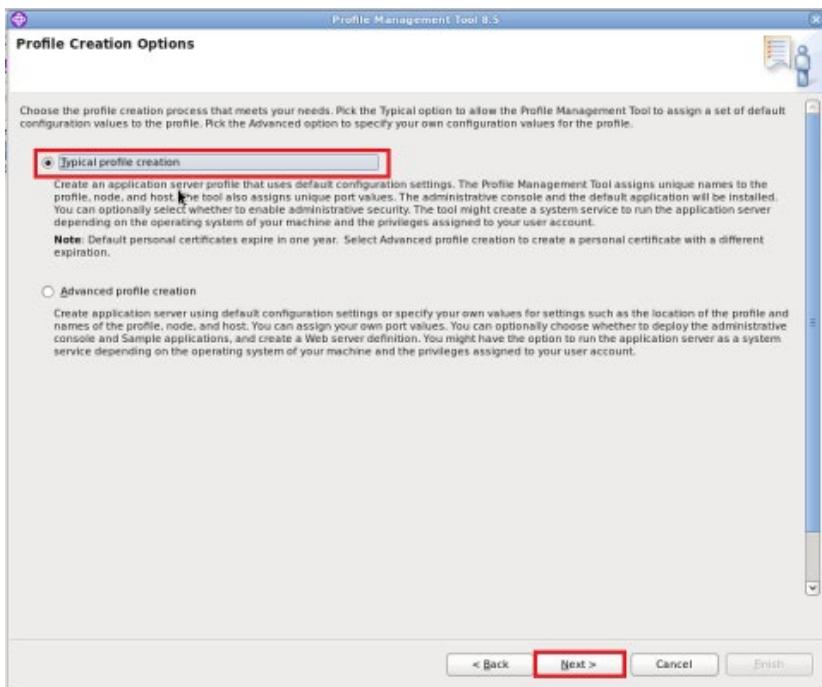
Navigation : *Profile Management Tool* > *Create*



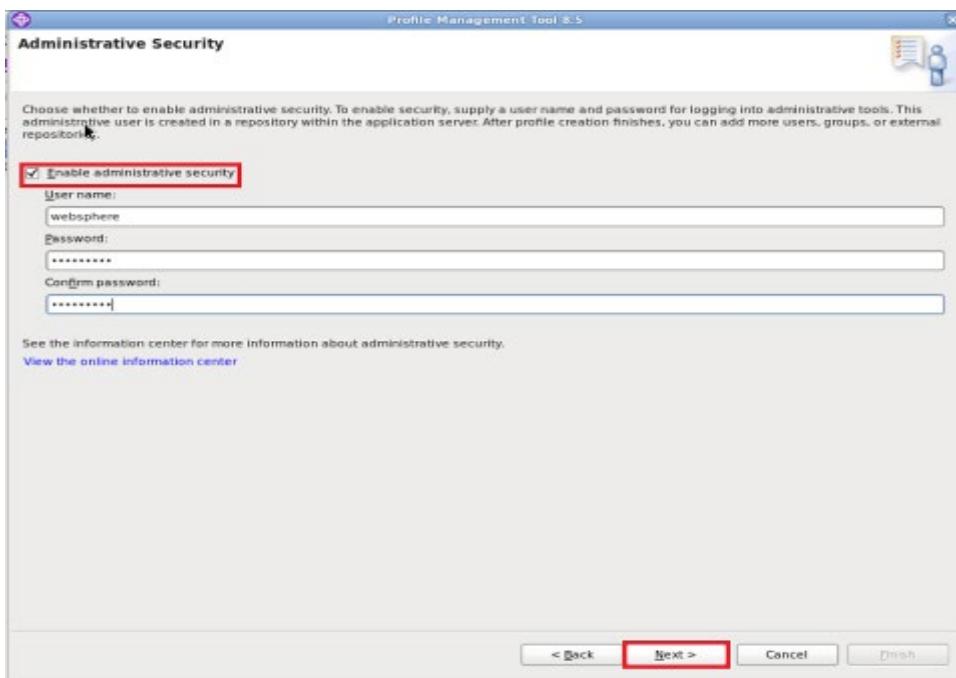
**Navigation :** Application Server > Next



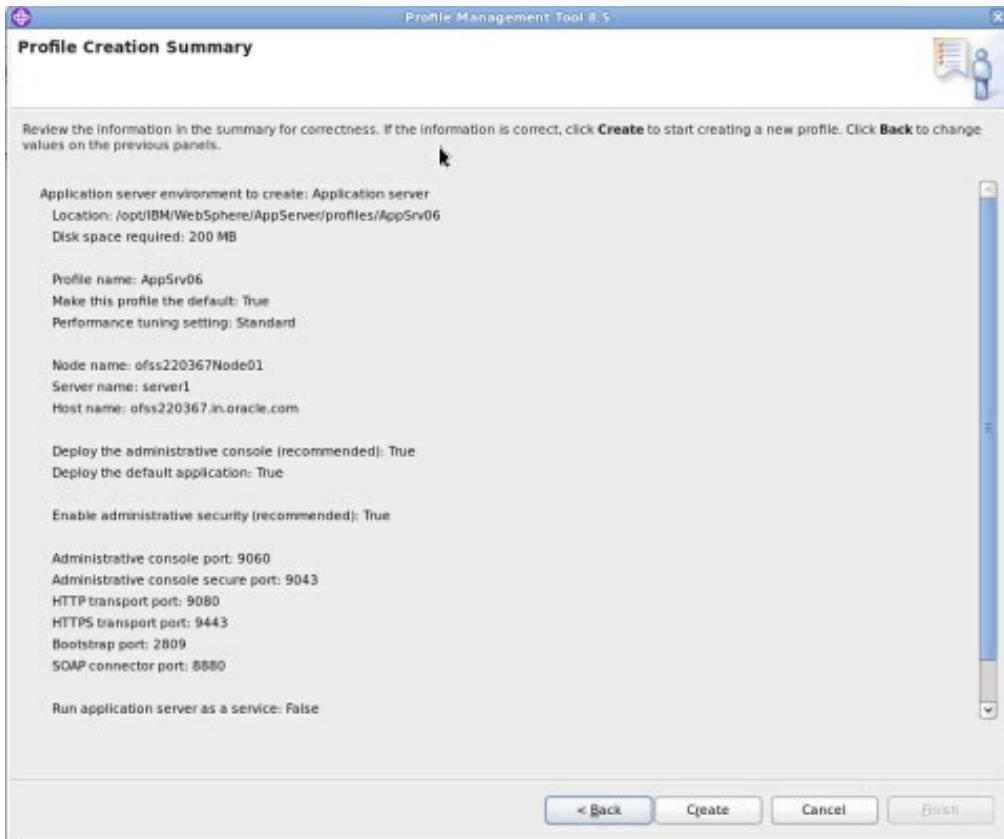
**Navigation :** Typical profile creation > Next



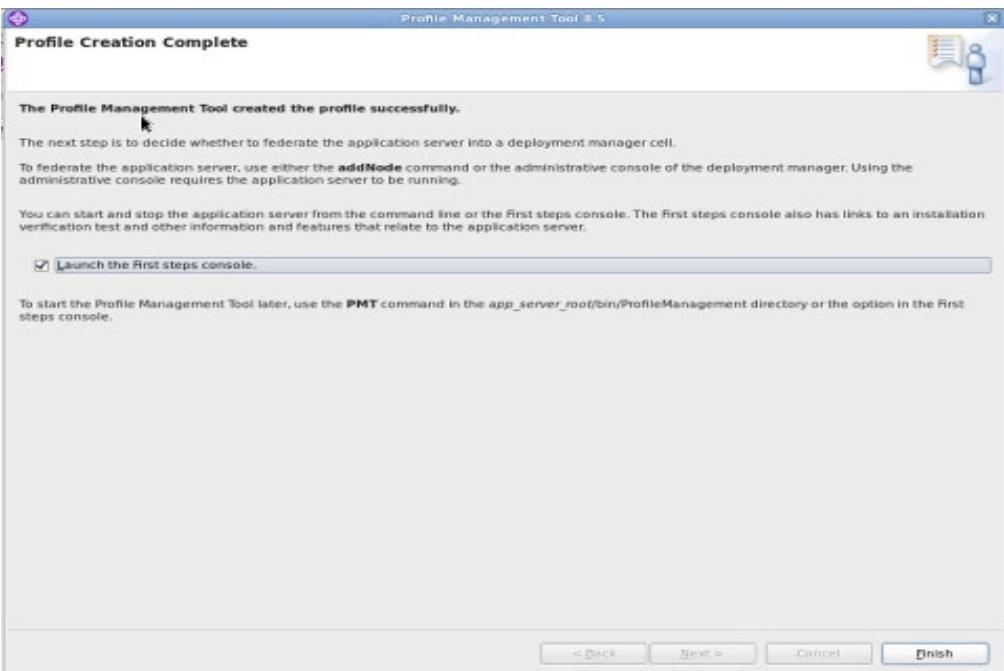
**Navigation:** *Enable administrative security > Next*



**Navigation :** *Create Summary*

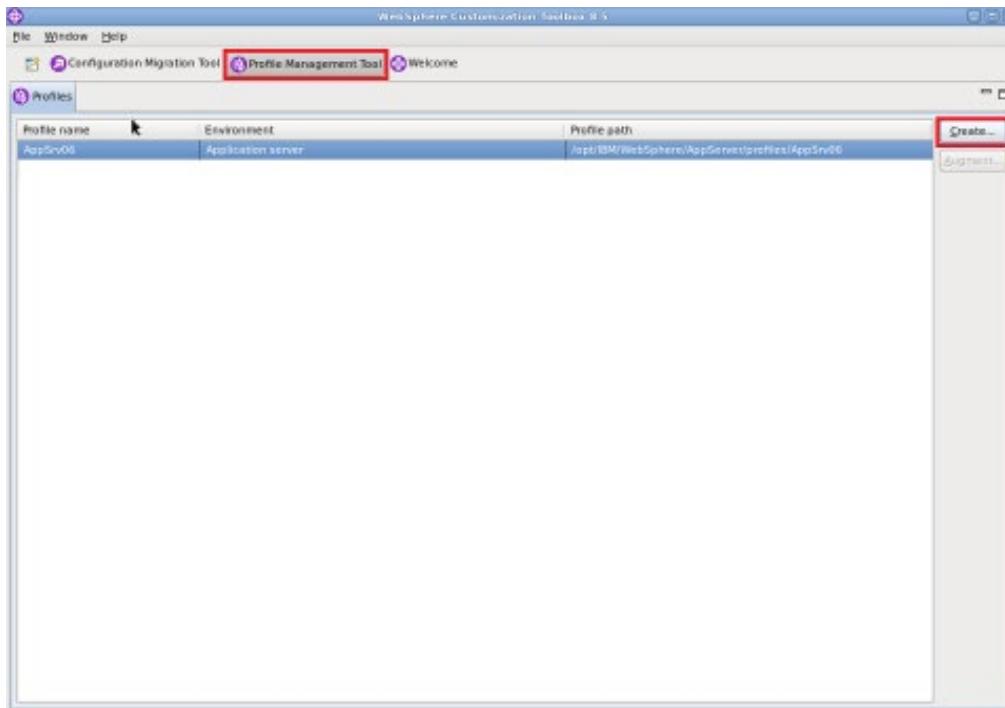


## Navigation : *Finish*

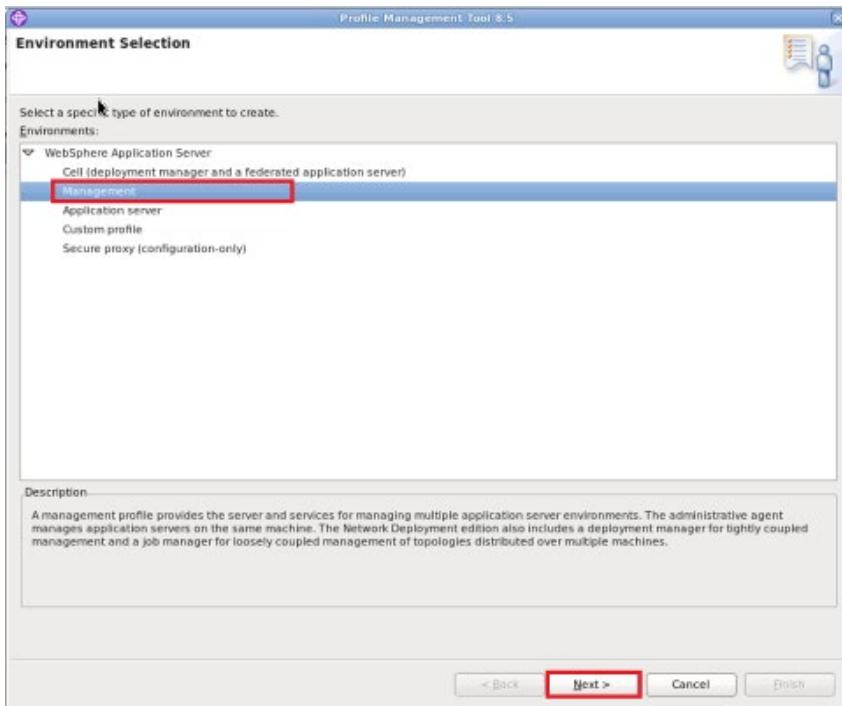


#### **4.1.1 Create Deployment Manager Profile**

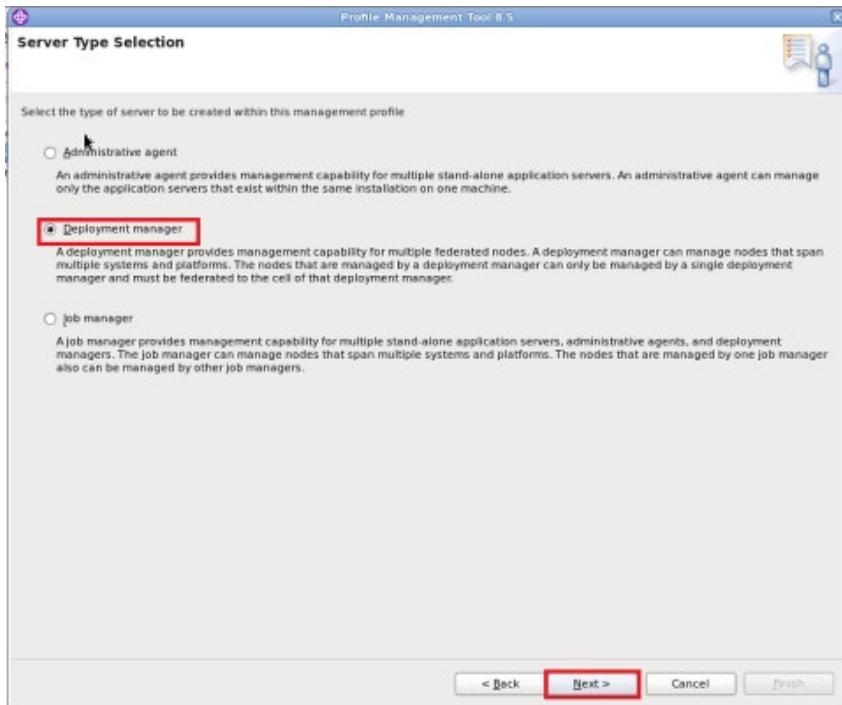
**Navigation :** *Profile Management Tool > Create*



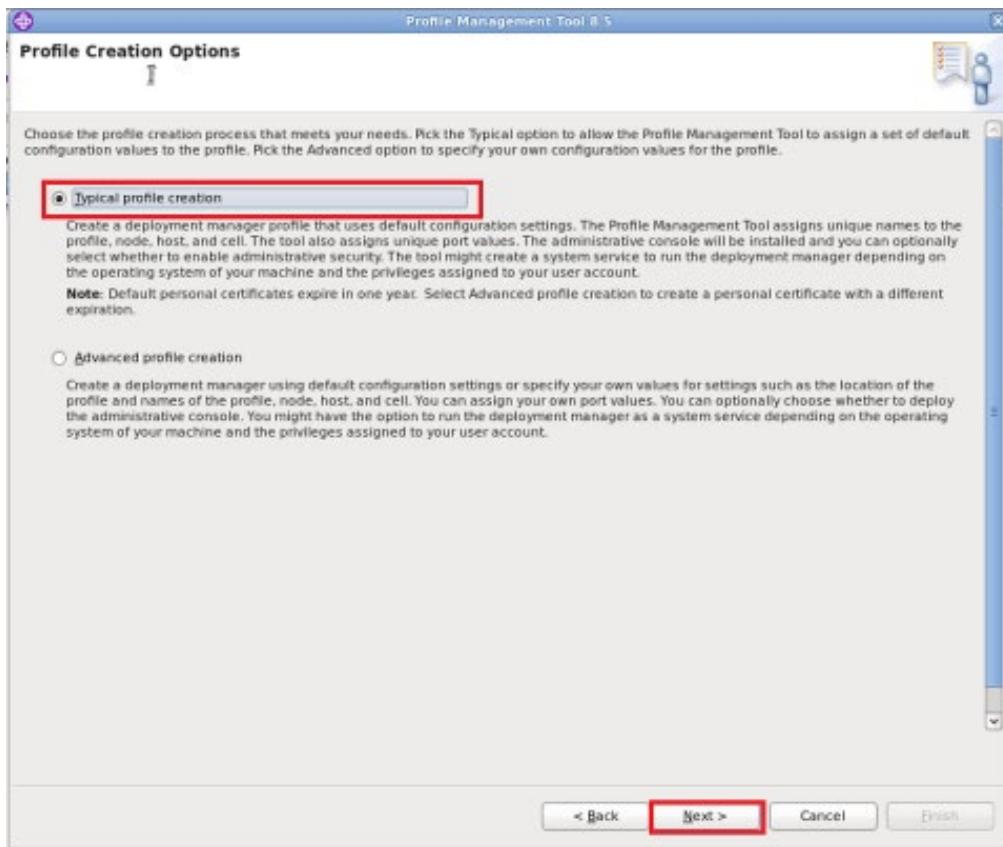
**Navigation :** *Management >Next*



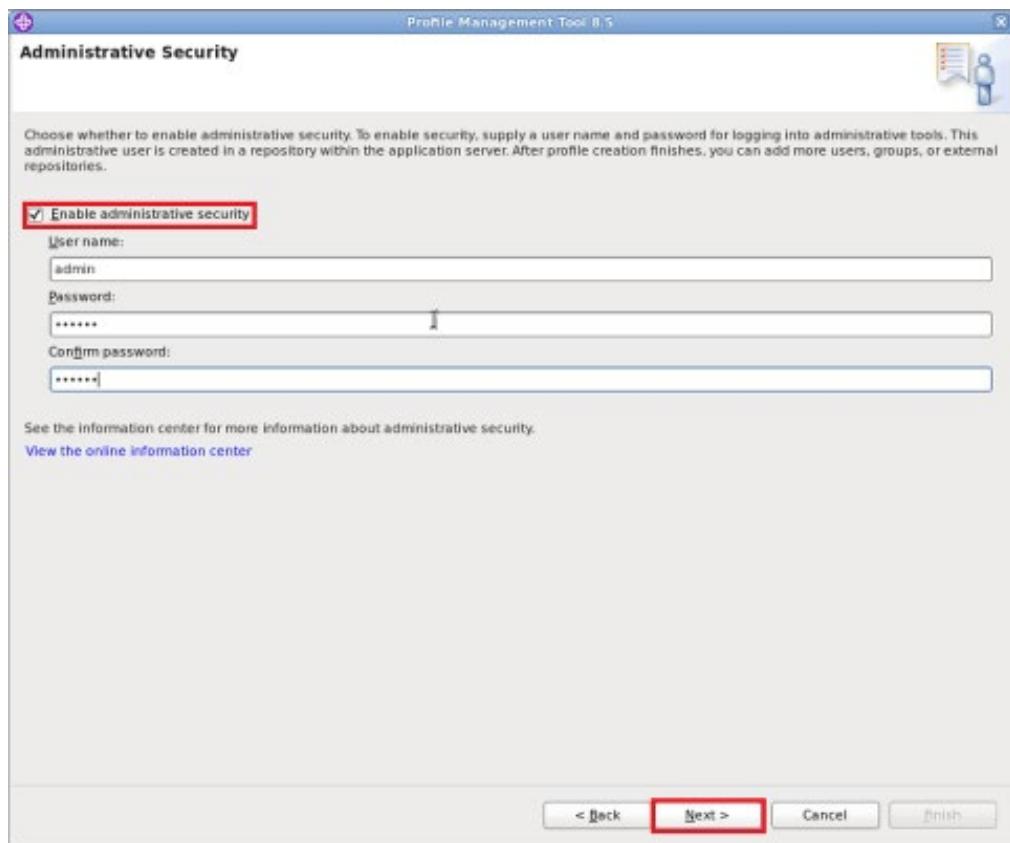
**Navigation : Deployment Manager > Next**



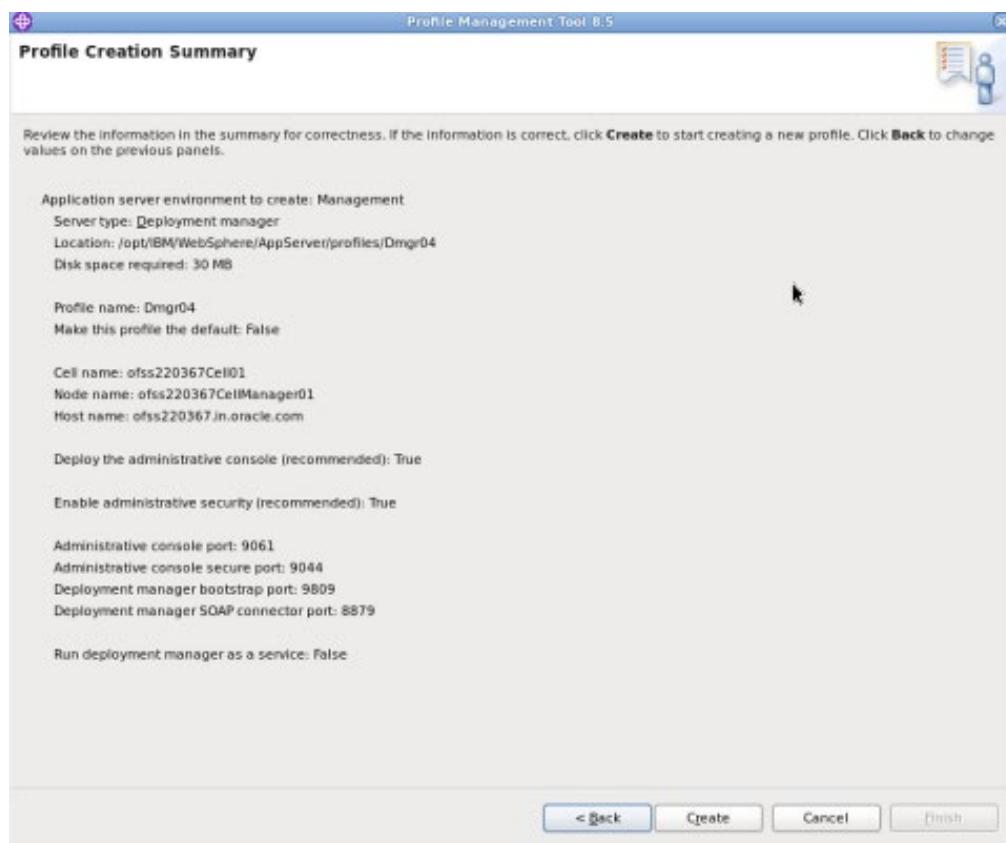
**Navigation: Typical profile creation > Next**

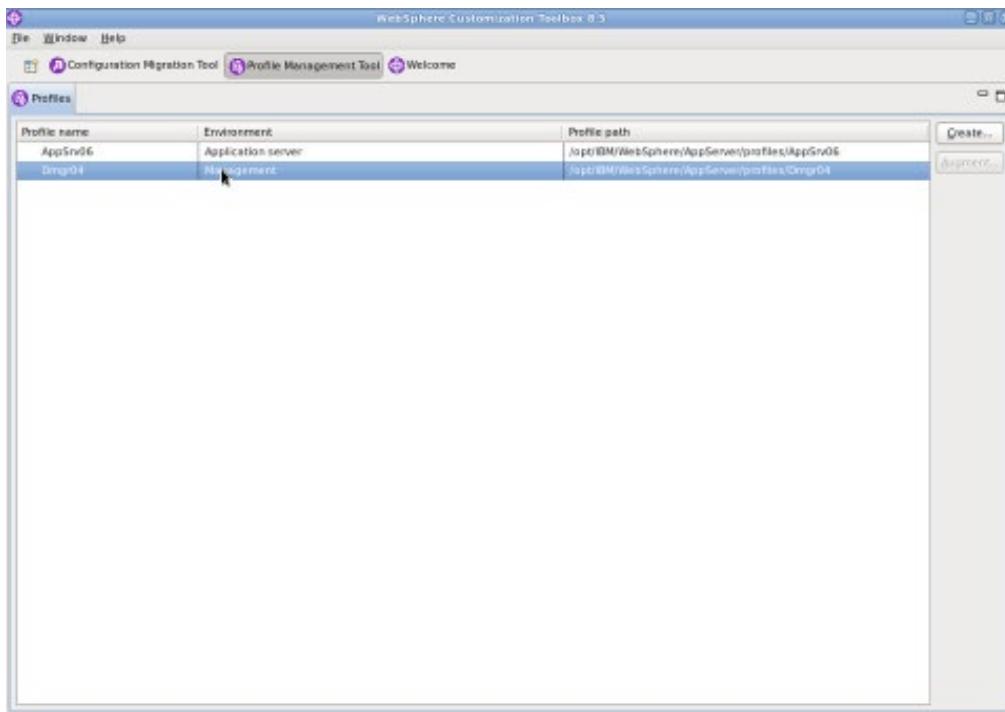


**Navigation:** *Enable administrative security > Next*



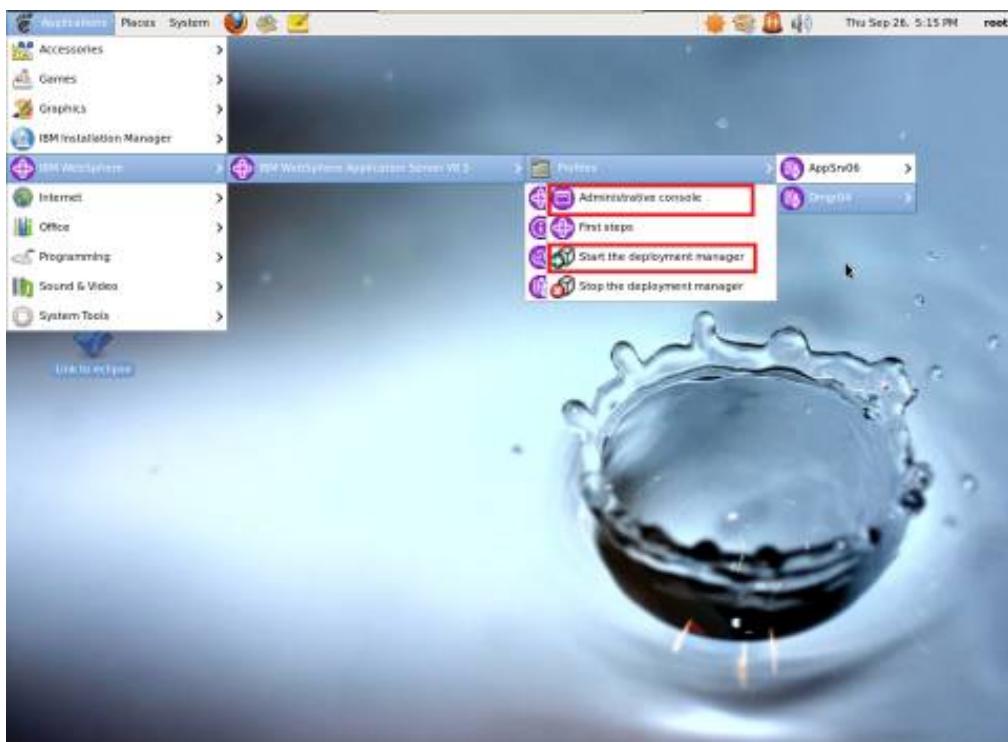
## Navigation : Create





Start Deployment Manager & Open Administrative Console

**Navigation :** IBM WebSphere > IBM WebSphere Application Server V8.5 > Profiles > Dmgr[i]>Start the deployment *manager* > *Administrative console*



## Log into Deployment Manager Console



## Navigation : System administration > Nodes > Add Node

A screenshot of the 'Nodes' management page within the WebSphere Integrated Solutions Console. The URL is https://ofsa220367.in.oracle.com:9044/ibm/console/logIn.do?cellName=secure. The left sidebar shows a navigation tree with 'System administration' selected, followed by 'Nodes'. The main content area displays a table of nodes. One row is selected, showing details: Name (ofsa220367CellManager01), Host Name (ofsa220367.in.oracle.com), Version (ND), Discovery Protocol (TCP), and Status (8.5.0.0). Action buttons at the top of the table include 'Add Node', 'Remove Node', 'Force Delete', 'Synchronize', 'Full Resynchronize', and 'Stop'. To the right of the table, there are 'Field help', 'Page help', and 'Command Assist' sections. The 'Field help' section provides instructions for using the help feature. The 'Page help' section links to more information about the page. The 'Command Assist' section provides links to administrative scripting commands and last action history.

## 4.2 Create Node

**Navigation :** System administration > Nodes > Add Node

The screenshot shows the WebSphere software interface. The left sidebar is titled 'WebSphere software' and contains a navigation tree with categories like Guided Activities, Servers, Jobs, Services, Resources, Runtime Operations, Security, Operational policies, Environment, System administration, Task Management, and several monitoring and troubleshooting sections. The main content area is titled 'Add Node' and provides instructions for creating a node. It includes three radio button options: 'Managed node' (selected and highlighted with a red box), 'Unmanaged node', and 'Recover an existing node'. Each option has a detailed description below it. At the bottom of the form are 'Next' and 'Cancel' buttons.

Provide the following field information and Click 'OK'

- |   |  |
|---|--|
| Host  | : Host Machine with running Application Server |
| JMX Connector type  | : SOAP   |
| JMX Connector Port  | : SOAP_CONNECTOR_ADDRESS of Application Server |
| Application server user name                              | : Application server user id                   |
| Application server password                               | : Application server password                  |
| Deployment manager user name                              | : Deployment manager user id                   |
| Deployment manager password : Deployment manager password |  |

WebSphere software

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Jobs
- Services
- Resources
- Runtime Operations
- Security
- Operational policies
- Environment
- System administration
  - Cell
  - Job manager
  - Extended Repository Service
  - Save changes to master repository
  - Deployment manager
  - Nodes
  - Middleware nodes
  - Node agents
  - Middleware descriptors
  - Node groups
- Centralized Installation Manager
- Task Management
  - Console Preferences
  - Job schedule
  - Visualization Data Service
  - Console Identity
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service Integration
- UDDI

**Add Managed Node**

Use this page to identify a stand-alone application server process that is running. Start the application server, if necessary, or add the node from the command line by running the `addNode` command from the bin directory of the stopped application server profile.

**Node connection**

Host: `ofss220367`

JMX connector type: SCOP

JMX connector port: 8880

Application server user name: `websphere`

Application server password: `*****`

Deployment manager user name: `admin`

Deployment manager password: `*****`

Config URL: `file:/${USER_INSTALL_ROOT}/properties/sas.cl`

**Options**

Include applications

Include buses

**Starting port**

Use default

Specify  
Port number:

**Buttons**

OK Cancel

WebSphere software

Adding node

ADMU0002: Begin Federation of node ofss220367/Node01 with Deployment Manager at ofss220367.in.oracle.com:8879.

ADMU0008: Successfully connected to Deployment Manager Server: ofss220367.in.oracle.com:8879

ADMU0505: Servers found in configuration:

ADMU0506: Server name: server1

ADMU2010: Stopping all server processes for node ofss220367/Node01

ADMU0510: Server server1 is now STOPPED.

ADMU0041: Deleting the old backup directory.

ADMU0015: Backing up the original cell  Node01

ADMU0012: Creating Node Agent config

ADMU0014: Adding node ofss220367/Node01 configuration to cell: ofss220367/Cell01

ADMU0016: Synchronizing configuration between node and cell.

Transferring data from ofss220367.in.oracle.com...

Nodes

Select Name HostName Version Discovery Protocol Status

<a href="#">ots220367CellManager01</a>	ots220367.in.oracle.com	ND	TCP	
<input type="checkbox"/> <a href="#">ots220367Node01</a>	ots220367.in.oracle.com	ND	TCP	

Total 2

Create necessary number of nodes following same instructions above:

Messages

Your workspace has been auto-refreshed from the master configuration.

Nodes

Select Name HostName Version Discovery Protocol Status

<a href="#">ots220367CellManager01</a>	ots220367.in.oracle.com	ND	TCP	
<input type="checkbox"/> <a href="#">ots220367Node01</a>	ots220367.in.oracle.com	ND	TCP	
<input type="checkbox"/> <a href="#">ots222555Node01</a>	ots222555.in.oracle.com	ND	TCP	

Total 3

#### **4.2.1 Start Node Agents**

**Navigation :** System administration> Node agents>Restart

The screenshot shows the WebSphere Software interface with the following details:

- Left Navigation Bar:** Includes links for Jobs, Services, Resources, Runtime Operations, Security, Operational policies, Environment, System administration (with Cell, Job manager, Extended Repository Service, New changes to master repository, Deployment manager, Nodes, Middleware nodes, Node agents, Middleware descriptions, Node groups, and Consolidated Installation Manager), Task Management (with Console Preferences, Job scheduler, Visualization Data Service, and Container Identity), Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and Help.
- Central Content Area:** Titled "Node agents". It says: "Use this page to manage node agents and application servers on the node that a node agent manages. The node agent process serves as an intermediary between the application servers on the node and the deployment manager. The node agent process runs on every node and is specialized to perform node-specific administration functions, such as server process monitoring, configuration synchronization, file transfer, and request routing." It includes a "Preferences" section with "Stop", "Restart", and "Restart all Servers on Node" buttons. Below this is a table titled "You can administer the following resources:" with two entries:

Select	Name	Node	Host Name	Version	Status
<input type="checkbox"/>	nodeagent	ots222555Node01	ots222555.in.oracle.com	ND 8.5.0.0	
<input type="checkbox"/>	nodeagent	ots220367Node01	ots220367.in.oracle.com	ND 8.5.0.0	

A "Total 2" summary is at the bottom.
- Right Sidebar:** Includes "Help" sections for "Field help" (with "More information...") and "Page help" (with "More information... this page"). It also has a "Command Assist" section with "View administrative scripting command list action".

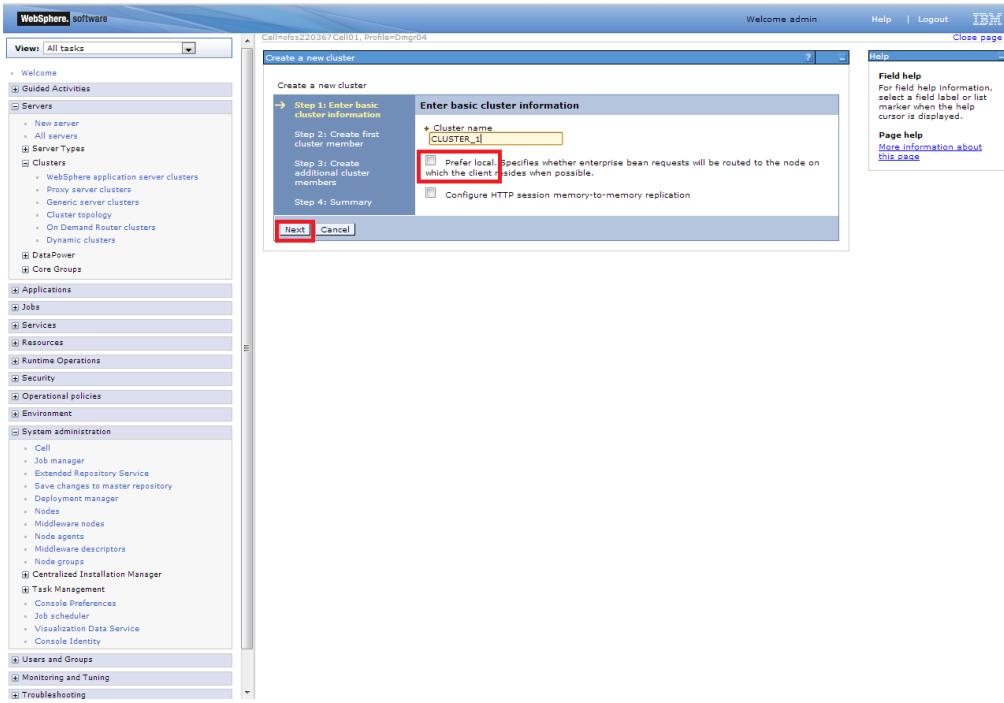
#### **4.3 Create Cluster**

**Navigation:** Servers>Clusters> WebSphere application server clusters > New

The screenshot shows the WebSphere Software interface with the following details:

- Left Navigation Bar:** Includes links for Welcome, Guided Activities (with New server, All servers, Server Types, Clusters, WebSphere application server clusters, Proxy server clusters, Generic server clusters, Cluster topology, On Demand Router clusters, and Dynamic clusters), Enterprise, Core Groups, Applications, Jobs, Services, Resources, Runtime Operations, Security, Operational policies, Environment, System administration, Users and Groups, and Monitoring and Tuning.
- Central Content Area:** Titled "WebSphere application server clusters". It says: "Use this page to change the configuration settings for a cluster. A server cluster consists of a group of application servers. If one of the member servers fails, requests will be routed to other members of the cluster. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic." It includes a "Preferences" section with "New...", "Delete", "Start", "Stop", "Ripplestart", and "ImmediateStop" buttons. Below this is a table titled "Select" with columns "Name" and "Status". The table shows "None" and "Total 0".
- Right Sidebar:** Includes "Help" sections for "Field help" (with "More information...") and "Page help" (with "More information... this page"). It also has a "Command Assist" section with "View administrative scripting command list action".

**Navigation :** Uncheck [Prefer Local] > Next



### 4.3.1 Add Cluster Members

The screenshot shows the 'Create a new cluster' wizard in progress. The current step is 'Step 2: Create first cluster member'. The 'Member name' field contains 'MS\_1'. The 'Select node' dropdown menu is open, showing 'ofss220367Node01(ND 8.5.0.0)'. Below these fields, there is a 'Weight' input field with the value '2' and a checkbox for 'Generate unique HTTP ports'. A dropdown for 'Select how the server resources are promoted in the cluster' is set to 'Cluster'. Under 'Select basis for first cluster member', the radio button for 'Create the member using an application server template' is selected, with a dropdown menu showing 'default'. Other options include creating from an existing application server or converting an existing application server. At the bottom of the wizard, the 'Next' button is highlighted with a red box.

Add required number of cluster members

Navigation : Add Member > Next

The screenshot shows the 'Create additional cluster members' step of the wizard. The 'Member name' field contains 'MS\_2'. The 'Select node' dropdown menu is open, showing 'ofss222355Node01(ND 8.5.0.0)'. Below these fields, there is a 'Weight' input field with the value '2' and a checkbox for 'Generate unique HTTP ports'. A 'Add Member' button is highlighted with a red box. A table at the bottom lists the current cluster members: MS\_1 (Nodes: ofss220367Node01, Version: ND 8.5.0.0, Weight: 2). The 'Edit' and 'Delete' buttons for this row are also visible. At the bottom of the wizard, the 'Next' button is highlighted with a red box.

## Navigation : Next

**Create a new cluster**

**Step 1: Enter basic cluster information**

**Step 2: Create first cluster member**

**Step 3: Create additional cluster members**

**Step 4: Summary**

**Create additional cluster members**

Enter information about this new cluster member, and click Add Member to add this cluster member to the member list. A server configuration template is created from the first member, and stored as part of the cluster data. Additional cluster members are copied from this template.

+ Member name:

Select node:

+ Weight:  (0..100)

Generate unique HTTP ports

**Add Member**

Use the Edit function to modify the properties of a cluster member in this list. Use the Delete function to remove a cluster member from this list. You are not allowed to edit or remove the first cluster member.

Select	Member name	Nodes	Version	Weight
<input checked="" type="checkbox"/>	MS_1	otfs220367Node01	ND 8.5.0.0	2
<input type="checkbox"/>	MS_2	otfs222555Node01	ND 8.5.0.0	2
Total 2				

**Help**

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

## Navigation : Finish

**Create a new cluster**

**Step 1: Enter basic cluster information**

**Step 2: Create first cluster member**

**Step 3: Create additional cluster members**

**Step 4: Summary**

**Summary**

Summary of actions:

Options	Values
Cluster Name	CLUSTER1_1
Core Group	DefaultCoreGroup
Node group	DefaultNodeGroup
Prefer local	false
Configure HTTP session memory-to-memory replication	false
Server name	MS_1
Node	otfs220367Node01(ND 8.5.0.0)
Weight	2
Clone Template	default
Clone Basis	Create the member using an application server template.
Select how the server resources are promoted in the cluster.	cluster
Generate unique HTTP ports	true
Server name	MS_2
Node	otfs222555Node01(ND 8.5.0.0)
Weight	2
Clone Template	Version 8.5 member template
Generate unique HTTP ports	true

**Help**

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

## 4.3.2 Start Cluster

The screenshot shows the WebSphere Application Server Clusters management interface. On the left, a navigation sidebar lists various administrative tasks under categories like Servers, Clusters, Applications, and System Administration. The main panel displays the 'WebSphere application server clusters' configuration page. It includes a brief description of what a server cluster is, a guided activity for configuration, and a preferences section with buttons for New, Delete, Start, Stop, Ripplestart, and ImmediateStop. A table lists a single cluster entry: CLUSTER\_1, which has a status icon indicating an error. The right side of the screen features a help panel with links for Field help, Page help, and Command Assistants.

This screenshot shows the same WebSphere Application Server Clusters page after the cluster has been started. The status icon for CLUSTER\_1 now displays a green checkmark, indicating successful operation. The rest of the interface remains largely the same, with the guided activity and command assistants still visible.

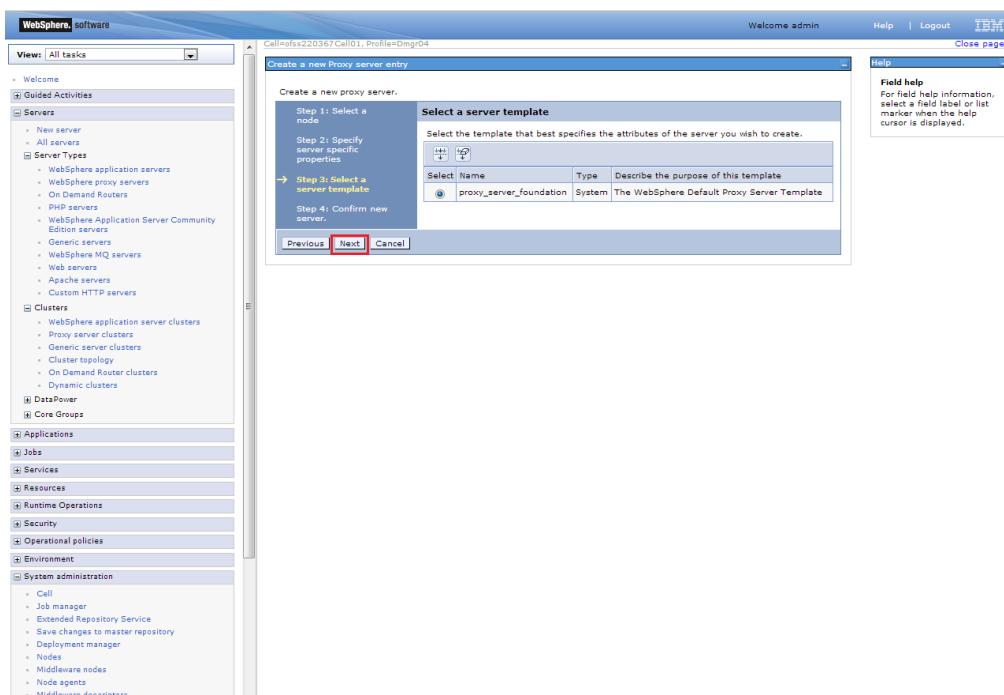
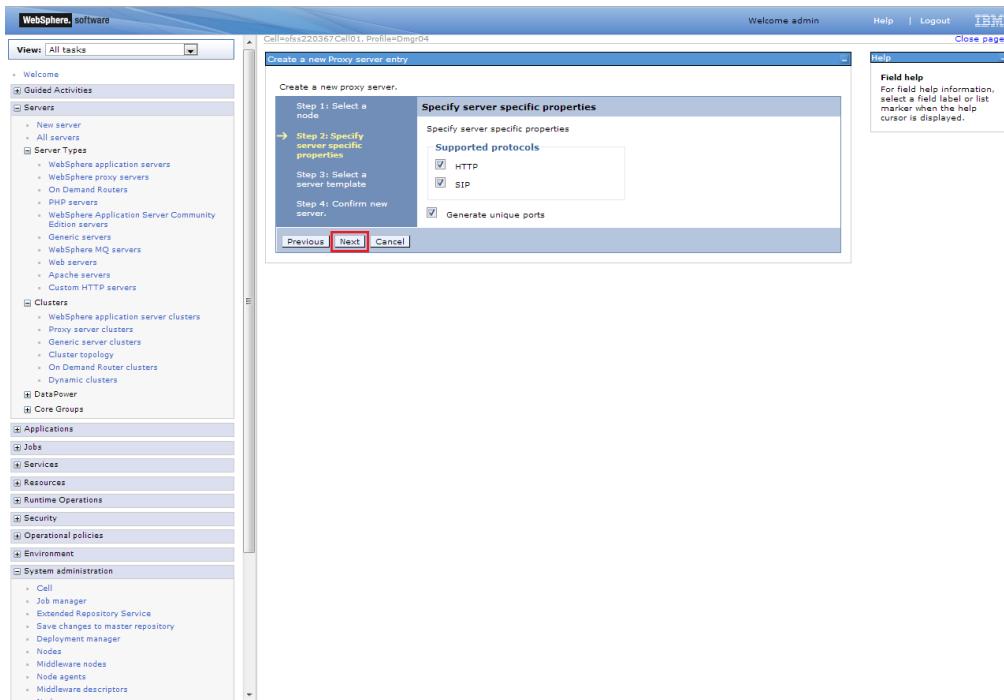
## 4.4 Create Proxy Server

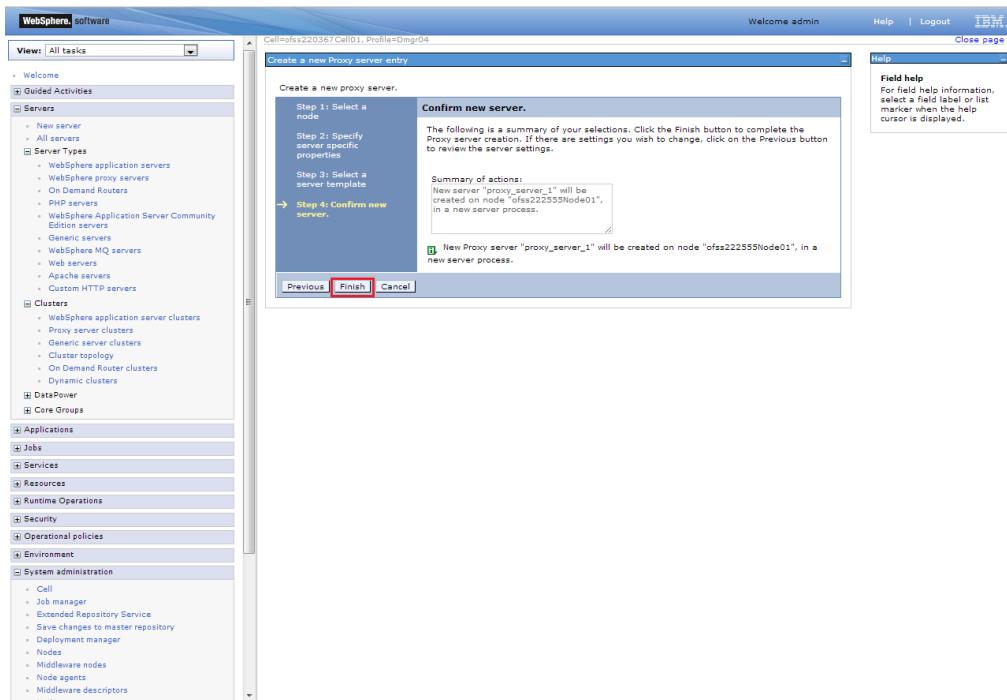
Navigation : Servers > Server Types > WebSphere proxy servers > New

The screenshot shows the WebSphere software interface. The left sidebar has a tree view with 'Server Types' expanded, showing 'WebSphere proxy servers' as a child node. The main panel displays a table titled 'WebSphere proxy servers' with one row: 'None'. A toolbar at the top of the main panel includes 'New...', 'Delete', 'Templates...', 'Start', and 'Stop' buttons.

Navigation : [Select appropriate Node] > Next

The screenshot shows the 'Create a new Proxy server entry' wizard. Step 1: Select a node. It asks to select a node that corresponds to the Proxy server you want to add. A dropdown menu labeled 'Select node' contains the value 'lfs222255Node01'. Step 2: Specify server specific properties is shown below. Step 3: Select a server template is also visible. Step 4: Confirm new server is at the bottom. The 'Next' button is highlighted with a red box. A help panel on the right provides information about field help.





WebSphere software

Welcome admin Help | Logout IBM

View: All tasks

Guided Activities

Servers

- New server
- All servers
- Server Types**
  - WebSphere application servers
  - WebSphere proxy servers
  - On Demand Routers
  - PHP servers
  - WebSphere Application Server Community Edition servers
  - Generic servers
  - WebSphere MQ servers
  - Web servers
  - Apache servers
  - Custom HTTP servers
- Clusters
- DataPower
- Core Groups
- Applications
- Jobs
- Services
- Resources
- Runtime Operations
- Security
- Operational policies
- Environment
- System administration
  - Cell
  - Job manager
  - Extended Repository Service
  - Save changes to master repository
  - Deployment manager
  - Nodes
  - Middleware nodes
  - Node agents
  - Middleware descriptors

Messages

- New server is created successfully.
- Modify variables, resources, and other server configuration settings, such as message broker queue names before running the newly created server.
- Changes have been made to your local configuration. You can:
  - Save directly to the master configuration.
  - Review changes before saving or discarding.

An option to synchronize the configuration across multiple nodes after saving can be enabled in [Preferences](#).

The server may need to be restarted for these changes to take effect.

**WebSphere proxy servers**

A server that acts as an intermediary for HTTP requests that are serviced by application servers or web servers. The proxy server acts as a surrogate for the application servers in the enterprise and can enhance the overall experience by providing services such as workload management, cross-cell routing, and other services that offload the application server.

Preferences

New...	Delete	Templates...	Start	Stop
Select	Name	Node	HostName	Version
You can administer the following resources:				
<input type="checkbox"/>	proxy_server_1	ofss220367Node01	ofss220367.in.oracle.com	ND 8.5.0.0
Total 1				

#### 4.4.1 Start Proxy Server

**WebSphere Admin Console**

View: All tasks

Welcome admin | Help | Logout | IBM | Close page

**WebSphere proxy servers**

A server that acts as an intermediary for HTTP requests that are serviced by application servers or web servers. The proxy server acts as a surrogate for the application servers in the enterprise and can enhance the overall experience by providing services such as workload management, cross-cell routing, and other services that offload the application server.

**Preferences**

New... Delete Templates... Start Stop

Select	Name	Node	Host Name	Version	Current security level	Protocol	Status
<input checked="" type="checkbox"/>	proxy_server_1	ots220367Node01	ots220367.in.oracle.com	ND 8.5.0.0	Not applicable	HTTP, SIP	

Total 1

**Field help:**  
For field info information, just click a field, tap or click anywhere else in the editor to display.

**Page help:**  
[View information about this page](#)

**Related Assistance:**  
[View administration](#)  
[View configuration details](#)

**WebSphere Software**

View: All tasks

Welcome admin | Help | Logout | IBM | Close page

**WebSphere proxy servers**

Messages

Server ots220367Node01|proxy\_server\_1 started successfully. The collection may need to be refreshed to show the current server status. [View JVM logs](#) for further details.

**WebSphere proxy servers**

A server that acts as an intermediary for HTTP requests that are serviced by application servers or web servers. The proxy server acts as a surrogate for the application servers in the enterprise and can enhance the overall experience by providing services such as workload management, cross-cell routing, and other services that offload the application server.

**Preferences**

New... Delete Templates... Start Stop

Select	Name	Node	Host Name	Version	Current security level	Protocol	Status
<input type="checkbox"/>	proxy_server_1	ots220367Node01	ots220367.in.oracle.com	ND 8.5.0.0	Not applicable	HTTP, SIP	

Total 1

## **4.5 Configure Virtual Host**

Make a note of "WC\_defaulthost"/"WS\_defaulthost\_secure" port for server MS1 : 9081/9444

The screenshot shows the WebLogic Admin Console interface. On the left, there's a navigation tree with sections like Servers, Clusters, Applications, and System Administration. The main panel is titled 'Configure WebLogic Server: Ports' and shows a table of ports. Two specific rows are highlighted with red boxes:

Name	Host	Port	Transport Details
WC_defaulthost		9444	Plain associated transport
WC_defaulthost		9081	Plain associated transport
SOC_defaulthost_secure		9043	User associated transport
WC_adminhttp		9042	Plain associated transport
SOAP CONNECTION ADDRESS	infra20087.in.oracle.com	8081	Plain associated transport
AJAX_DEFAULT_SECURE_ADDRESS		3043	Plain associated transport
AJAX_DEFAULT_SECURE_ADDRESS		5042	Plain associated transport
AJAX_HTTP-ENDPOINT-SECURE_ADDRESSES		8079	Plain associated transport
AJAX_HTTP-ENDPOINT-SECURE_ADDRESSES		8039	Plain associated transport
AJAX_SSO-ENDPOINT-SECURE_ADDRESSES		7187	Plain associated transport
AJAX-ENDPOINT-ADDRESS		7078	Plain associated transport
AJAX_SSO-ENDPOINT-ADDRESS	infra20087.in.oracle.com	8087	Plain associated transport
HTTP/2 LISTENER ADDRESS		11809	HTTP/2 associated transport
OVERLAY-TCP-LISTENER_ADDRESSES		11810	Plain associated transport
HTTP LISTENER ADDRESS	infra20087.in.oracle.com	8102	Plain associated

Make a note of "WC\_defaulthost"/"WS\_defaulthost\_secure" for MS2 : 9082/9445

Defined Port Name	Host	Port	Transport Details
<a href="#">HTTP Default Listener</a>		8080	<a href="#">View associated transports</a>
<a href="#">HTTP Default Host</a>		8082	<a href="#">View associated transports</a>
<a href="#">HTTP Administration Listener</a>		9046	<a href="#">View associated transports</a>
<a href="#">WL Admin</a>		9063	<a href="#">View associated transports</a>
<a href="#">SOAP Connection Address</a>	ofws20067-in-oracle.com	8882	No associated transports
<a href="#">HTTP Default SSL Secure</a>		8043	<a href="#">View associated transports</a>
<a href="#">HTTP Default Host</a>		8084	<a href="#">View associated transports</a>
<a href="#">HTTP No Broadcast Secure Address</a>		8956	<a href="#">View associated transports</a>
<a href="#">HTTP No Broadcast Address</a>		8962	<a href="#">View associated transports</a>
<a href="#">HTTP Endpoint Secure Address</a>		7288	<a href="#">View associated transports</a>
<a href="#">HTTP Endpoint Address</a>		7279	<a href="#">View associated transports</a>
<a href="#">GAS SQL Connection Listener Address</a>	ofws20067-in-oracle.com	9410	No associated transports
<a href="#">GUISERVER UDP LISTENER ADDRESS</a>		11011	No associated transports
<a href="#">GUISERVER TCP LISTENER ADDRESS</a>		11012	No associated transports
<a href="#">GUISERVER LISTENER ADDRESS</a>	ofws20067-in-oracle.com	9509	No associated transports

#### 4.5.1 Virtual Host Setup

Navigation : Environment>Virtual hosts>proxy\_host

Name	Host	Port	Protocol
<a href="#">admin_host</a>		8080	HTTP
<a href="#">default_host</a>		8082	HTTP
<a href="#">proxy_host</a>		8084	HTTP

## Navigation : Host Aliases

The screenshot shows the 'Virtual Hosts' configuration page for a 'proxy\_host'. In the 'Configuration' tab, under 'General Properties', the 'Host Name' is set to 'proxy\_host' and the 'Host Aliases' field contains 'http://www'. The 'Additional Properties' tab is also visible. The left sidebar lists various management categories like Clusters, DataSources, Applications, Jobs, Services, Resources, and Monitoring.

## Navigation : Environment>Virtual hosts>proxy\_host>Host Aliases > New

The screenshot shows the 'Host Aliases' creation page for a 'proxy\_host'. It includes fields for 'Host Name' (set to 'www') and 'Server Type'. A 'Select' dropdown is shown above the table. The right sidebar provides help and command assistance. The left sidebar lists various management categories.

## Create New Alias for default port in managed server <<9081>>:

The image consists of two vertically stacked screenshots of the WebSphere administrative console interface.

**Screenshot 1: Creating a New Host Alias**

- Left Panel (Navigation):** Shows the navigation tree under "Virtual Hosts". The "Host Aliases" node is selected.
- Right Panel (Form):**
  - Title Bar:** VirtualHosts > proxy\_host > HostAliases > New...
  - Description:** Use this page to edit, create, or delete a domain name system (DNS) alias by which the virtual host is known. An alias is the identifier of the host name or a unique port number. Append them onto the URL endpoint of a web application resource. Application resources include services, JSP files, or HTML pages. For example, the default\_host alias is the myhost.mylink.com:9081 port from http://myhost.mylink.com:9080/lenfetshop or the myhost.mylink.com:9081 portion of a secure https://myhost.mylink.com:9081/lenfetshop URL.
  - Configuration:** A panel containing fields for "Host Name" (set to \*) and "Port" (set to 9081).
  - Buttons:** Apply, OK, Reset, Cancel.
  - Help:** Field help, Page help, More information about this page.

**Screenshot 2: View of Existing Host Aliases**

- Left Panel (Navigation):** Same as Screenshot 1.
- Right Panel (Table):**
  - Title Bar:** VirtualHosts > proxy\_host > Host Aliases
  - Description:** Use this page to edit, create, or delete a domain name system (DNS) alias by which the virtual host is known.
  - Table:** Displays a single row of host aliases:
 

Host Name	Port
*	9081
  - Buttons:** New, Delete.
  - Help:** Field help, Page help, More information about this page, Command Assistance.

Similarly create proxy alias for all cluster related server default ports

The screenshot shows the WebSphere administrative console interface. The left sidebar contains a navigation tree with categories like 'Server', 'Applications', 'Security', and 'System administration'. The main content area is titled 'Virtual Hosts > proxy\_host > Port Aliases'. It displays a table of port aliases:

Select	Host Name	Port
<input type="checkbox"/>	proxy_host	8080
<input type="checkbox"/>	proxy_host	8084
<input type="checkbox"/>	proxy_host	8083
<input type="checkbox"/>	proxy_host	8085

Below the table, it says 'Total 4'.

## 5. Create Resources in Cluster Scope

JDBC Provider :

The screenshot shows the 'JDBC providers' page under the 'Resources' section. A guided activity is displayed, asking to select a scope level. The 'Cluster' option is selected. The table lists two entries:

Select Name	Scope	Description
Oracle JDBC Driver	Cluster(CLUSTER_1)	Oracle JDBC Driver
Oracle JDBC Driver (XA)	Cluster(CLUSTER_1)	Oracle JDBC Driver (XA)

Datasource :

The screenshot shows the 'Data sources' page under the 'Resources' section. A guided activity is displayed, asking to select a scope level. The 'Cluster' option is selected. The table lists two entries:

Select Name	SID Name	Scope	Provider	Description	Category
DB2 JDBC	db2q360000000000	Cluster(CLUSTER_1)	Oracle JDBC Driver (XA)	New JDBC Database	
MySQL JDBC	jdbcQ360000	Cluster(CLUSTER_1)	Oracle JDBC Driver	New JDBC Database	

## Queue Connection Factory

**WebSphere Admin Console**

Default connection factories

Queue connection factories

A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destination. For point-to-point messaging.

id: SC0241\_CtrMqFactory200904080\_Cluster=CLUSTER\_1

Show scope selection dropdown list with the all scopes option

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the scope reference help.

**Cluster=CLUSTER\_1**

**Preferences**

Name	Type	Provider	Description	Scope
amq	Point-to-point	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
PC_QCF	PC_QCF	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
MPCQCF	MPCQCF	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
SubjSubQCF	SubjDestQCF	WebSphere MQ messaging provider	Cluster=CLUSTER_1	

Total 4

## JMS Queue:

**WebSphere Admin Console**

20090411\_0901\_mqAdmin08

Queues

A JMS queue is used as a destination for point-to-point messaging.

id: SC0241\_CtrMq200904080\_Cluster=CLUSTER\_1

Show scope selection dropdown list with the all scopes option

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the scope reference help.

**Cluster=CLUSTER\_1**

**Preferences**

Name	Dest name	Provider	Description	Scope
AMQ_INQUEUE	AMQ_INQUEUE	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
AMQ_OUTQUEUE	AMQ_OUTQUEUE	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
IDE_QUEUE	IDE_QUEUE	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
IDE_QUEUE_DLG	IDE_QUEUE_DLG	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
IDE_QUEUE_RESPONSE	IDE_QUEUE_RESPONSE	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
NOTIFY_DEBT_QUEUE	NOTIFY_DEBT_QUEUE	WebSphere MQ messaging provider	Cluster=CLUSTER_1	
NOTIFY_QUEUE	NOTIFY_QUEUE	WebSphere MQ messaging provider	NOTIFY_QUEUE	Cluster=CLUSTER_1
NOTIFY_QUEUE_DLG	NOTIFY_QUEUE_DLG	WebSphere MQ messaging provider	Cluster=CLUSTER_1	

Total 8

## Create Message Listeners for individual Servers in Cluster

**Navigation :** *Middleware servers > MS\_1 > Message listener service > Listener Ports*

Select Name	Description	Connection factory (JNDI name)	Destination (JNDI name)	Status
EMS_INQ_LISTENER	EMSInqListener	EMS_Inflater	MSQ_QUEUES	Green
EMS_CTF_INQ_LISTENER	EMSCtfInqListener	EMS_CtfInflater	MSQ_QUEUES	Green
EMS_CTF_QUS_LISTENER	EMSCtfQusListener	MSQ_QusQus	MSQ_QUEUES	Green
NOTIFYMSQ_LISTENER	NotifyMSQListener	NotifyInqQCP	NOTIFYQUEUE	Green
EMS_STG_LISTENER		NotifyStgQCP	MSQ_QUEUES	Green
NOTIFYMSQ_LISTENER		NotifyStgQCP	MSQ_QUEUES	Green

**Navigation :** *Middleware servers > MS\_2 > Message listener service > Listener Ports*

WebSphere Software

Welcome admin Help Log out Close page

View All nodes

- Nodes
- All nodes
- Server Types
- Clusters
- DB2Pools
- Core Objects
- Applications
- Jobs
- Services
- Resources
- JMS
- JDBC
- Resource Adapters
- Administrative Domains
- Cloud Initiative
- Mail
- URL
- Resource Environment
- Feature Operations
- Security
- Operational policies
- Deployment
- Virtual Hosts
- Update global host server plug-in configuration
- Hosted servers created
- Shared libraries
- STP application routers

IBM WebSphere Application Server 8.0 (Cell 1), ListenerConfig01

Listeners > NS\_2 > MessageListenerService In Listener Ports

Use this page to configure listener ports upon which message-driven beans listen for messages. Each port specifies the JMS connection factory and JMS destination that a message-driven bean deployed against that port listens upon.

Preferences

Name Delete Start Stop Convert to activation specification

Select Name	Description	Connection factory JNDI name	Destination JNDI name	Status
AMQINQ_LISTENER	EmqQueue	EMQ_INQUEUE		
AMQOUT_LISTENER	EmqOutListener	EMQ_OUTQUEUE		
EMQ_LISTENER	MQQueue	MDB_QUEUE		
HTTP_MQListener	soeHttpMQTCP	NOTIFY_QUEUE		
HTTP_MQListener	soeHttpMQTCP	RTSP_QUEUE		
HTTP_Listener	soeHttpTCP	RMQ_QUEUE		

Total 6

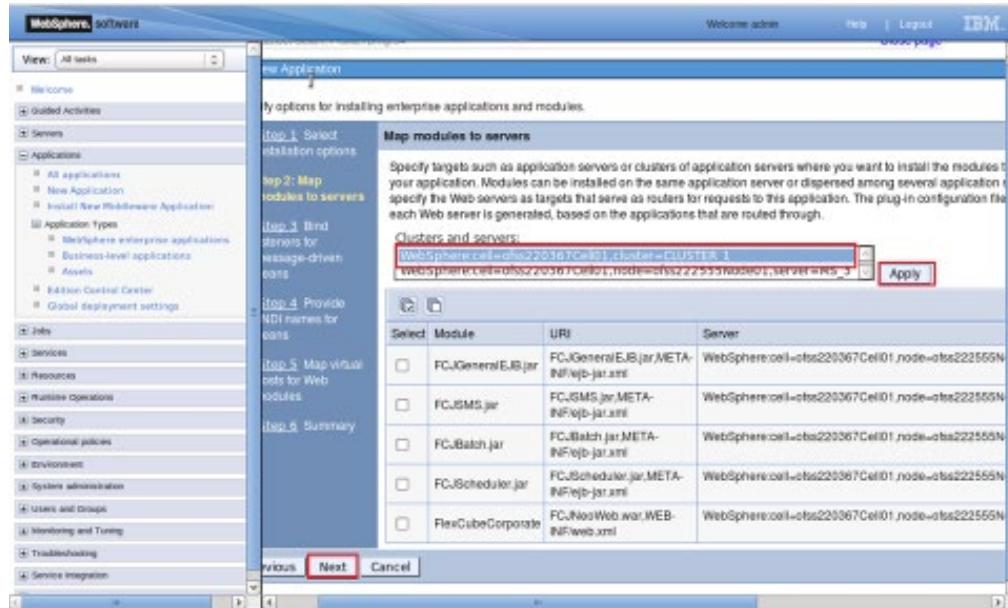
Field help  
Provide detailed information, including a field label or list, similar to the help content displayed.

page help  
[More information about this page](#)

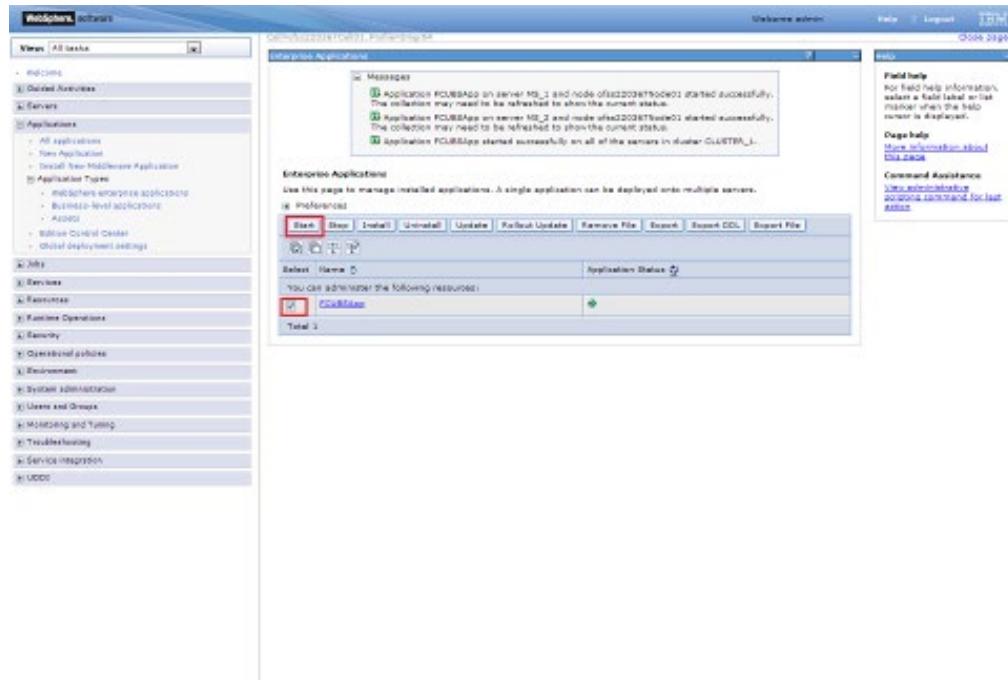
Command Assistance  
[View administrative assistance command for last 4000s](#)

# 6. Deploy Application to Cluster

While deploying ensure the application is installed to Cluster



Start FCUBS application



### **6.1.1 Test the application**

Make a note of the ports *PROXY\_HTTPS\_ADDRESS/PROXY\_HTTP\_ADDRESS* to access the application.

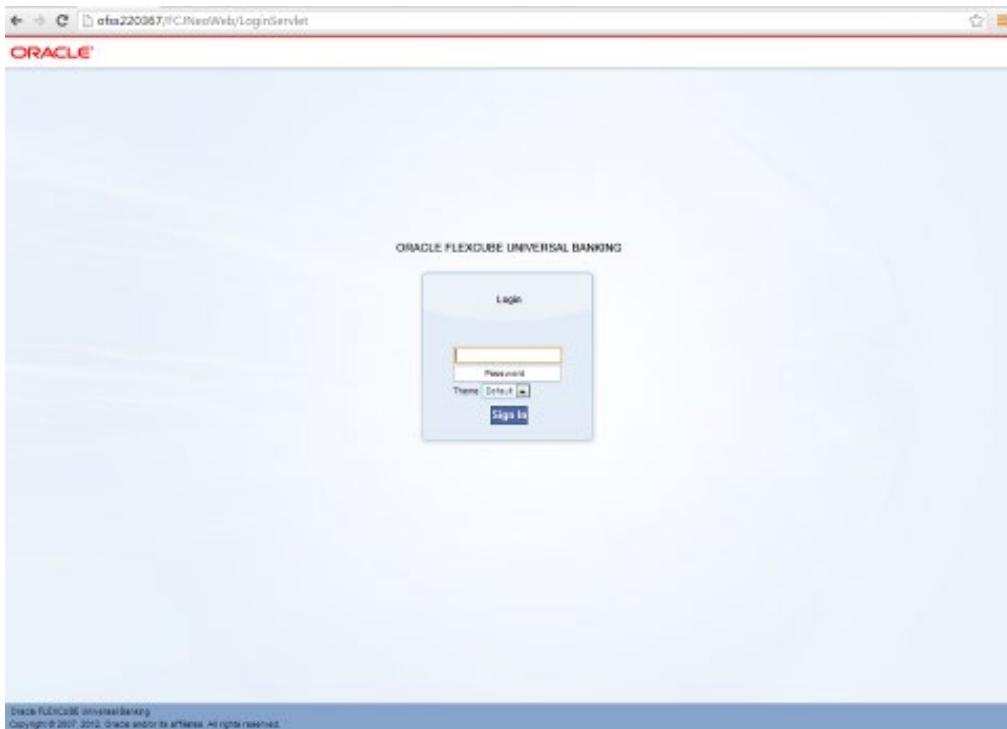
**Navigation :** Servers > Server Types > WebSphere proxy servers > [proxy\_server\_1] > Ports

The screenshot shows the WebSphere Application Server Administration Console interface. The left sidebar navigation tree includes: Home, Shared Resources, Servers, Server Types (selected), Clusters, DataPump, Core Groups, Application Types (selected), JNDI, Services, Passives, Runtime Operations, Facility, Operational policies, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, and Service Integrations. The main content area is titled "WebSphere proxy servers" and shows the "proxy\_server\_1 > Ports" configuration. It displays a table of port configurations:

Select Port Name	Host	Port	Transport Details
HTTP/TCP 4001889	afex220367.in.oracle.com	8813	No associated transports
HTTP/SSL_MUTUALAUTH_LISTENER_ADDRESS	afex220367.in.oracle.com	0	No associated transports
HTTP listener			No associated transports
Apache services			No associated transports
Custom HTTP listener			No associated transports
ICMP UNICAST ADDRESS	"	8387	<a href="#">View associated transports</a>
ICMP CLIENT ADDRESS	"	7374	No associated transports
JMS CONNECTOR ADDRESS	localPort	9626	No associated transports
MQ LISTENER ADDRESS	afex220367.in.oracle.com	0	No associated transports
SSL/TLS TCP LISTENER ADDRESS	"	12024	No associated transports
SSL/TLS UDP LISTENER ADDRESS	"	12013	No associated transports
<b>PROXY HTTPS ADDRESS</b>	"	<b>443</b>	<b><a href="#">View associated transports</a></b>
<b>PROXY HTTP ADDRESS</b>	"	<b>80</b>	<b><a href="#">View associated transports</a></b>
PROXY SIP ADDRESS	"	3961	<a href="#">View associated transports</a>
PROXY SIP ADDRESS	"	5940	<a href="#">View associated transports</a>
SSO SSL SERVERAUTH LISTENER ADDRESS	afex220367.in.oracle.com	0	No associated transports
SOAP CONNECTOR ADDRESS	afex220367.in.oracle.com	8803	No associated transports

Launch Application:

URL : [http://<host>:<PROXY\\_HTTP\\_ADDRESS>/FCJNeoWeb](http://<host>:<PROXY_HTTP_ADDRESS>/FCJNeoWeb) or  
[https://<host>:<PROXY\\_HTTPS\\_ADDRESS>/FCJNeoWeb](https://<host>:<PROXY_HTTPS_ADDRESS>/FCJNeoWeb)



ORACLE®



Cluster Creation on Websphere  
[May] [2021]  
Version 12.87.7.0.0

Oracle Financial Services Software Limited  
Oracle Park  
Off Western Express Highway  
Goregaon (East)  
Mumbai, Maharashtra 400 063  
India

Worldwide Inquiries:  
Phone: +91 22 6718 3000  
Fax: +91 22 6718 3001  
<https://www.oracle.com/industries/financial-services/index.html>

Copyright © [2007], [2021], Oracle and/or its affiliates. All rights reserved.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

**U.S. GOVERNMENT END USERS:** Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate failsafe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

This software or hardware and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.