

Cluster Creation on Websphere Application Server  
Oracle Banking Corporate Lending  
Release 14.6.0.0.0  
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# 1. Purpose

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

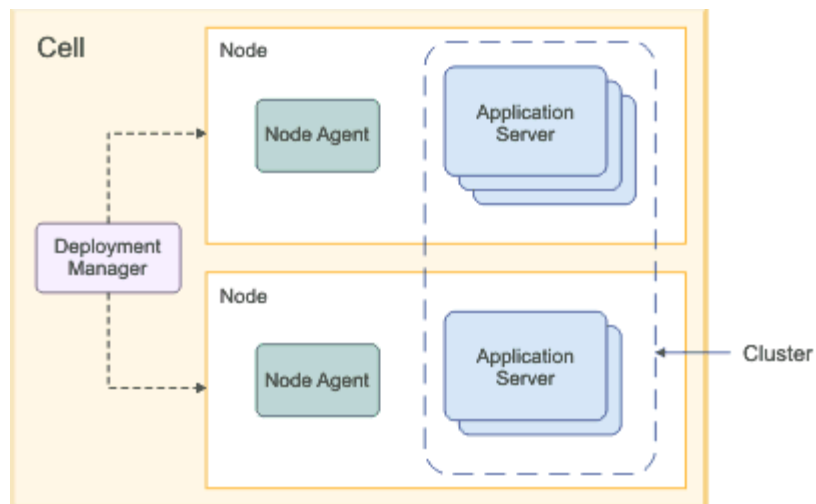
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## 2. Introduction to Websphere

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.

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## 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\WEBSHERE\Resource\_Creation\_WAS.doc

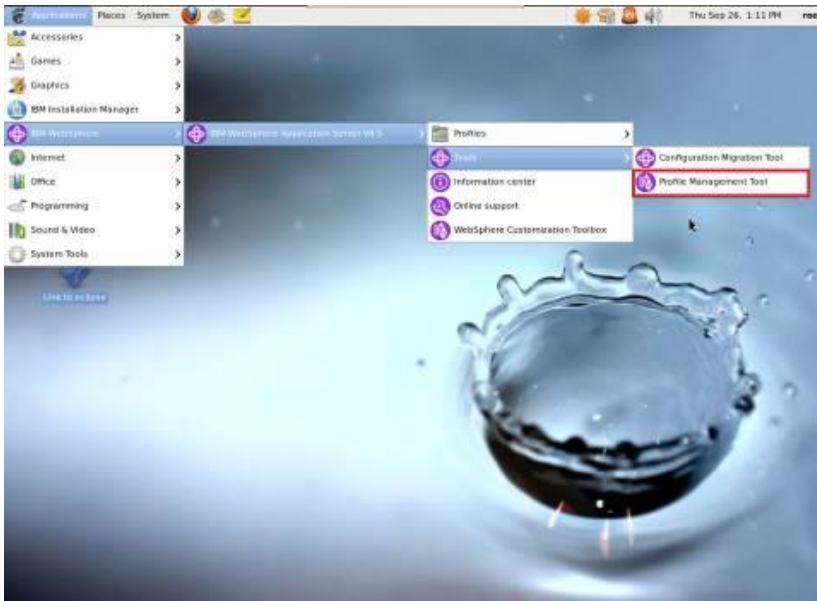
- For SSL configuration in Websphere, refer to the document SSL\_Configuration\_WAS.doc
- For application deployment, refer to document FCUBS\_Application\_WAS.doc
- For deployment of Gateway applications, refer to document GATEWAY\_Applications\_WAS.doc

## 4. Steps involved for Clustering

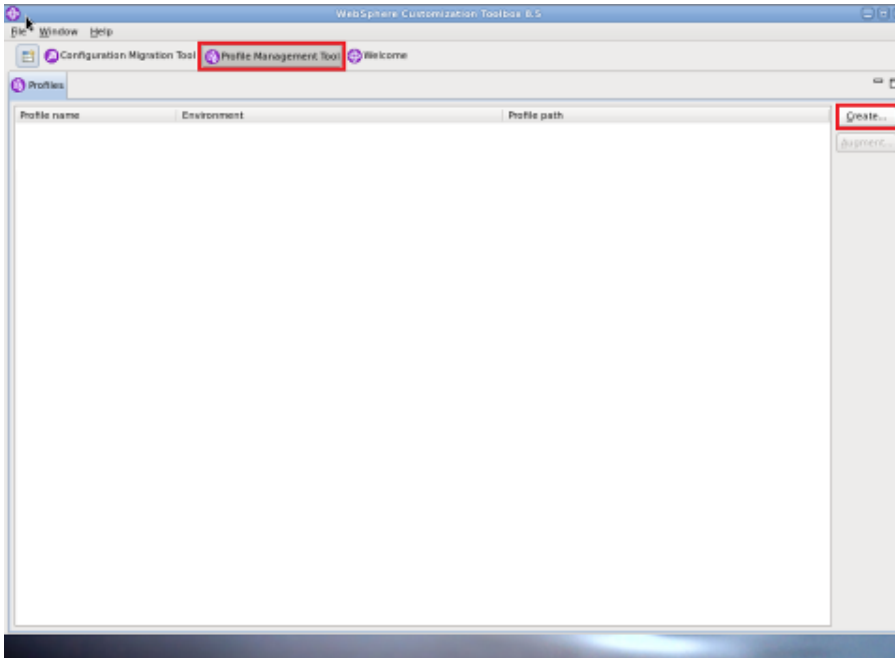
### 4.1 Create Profile

Go to Profile Management Tool

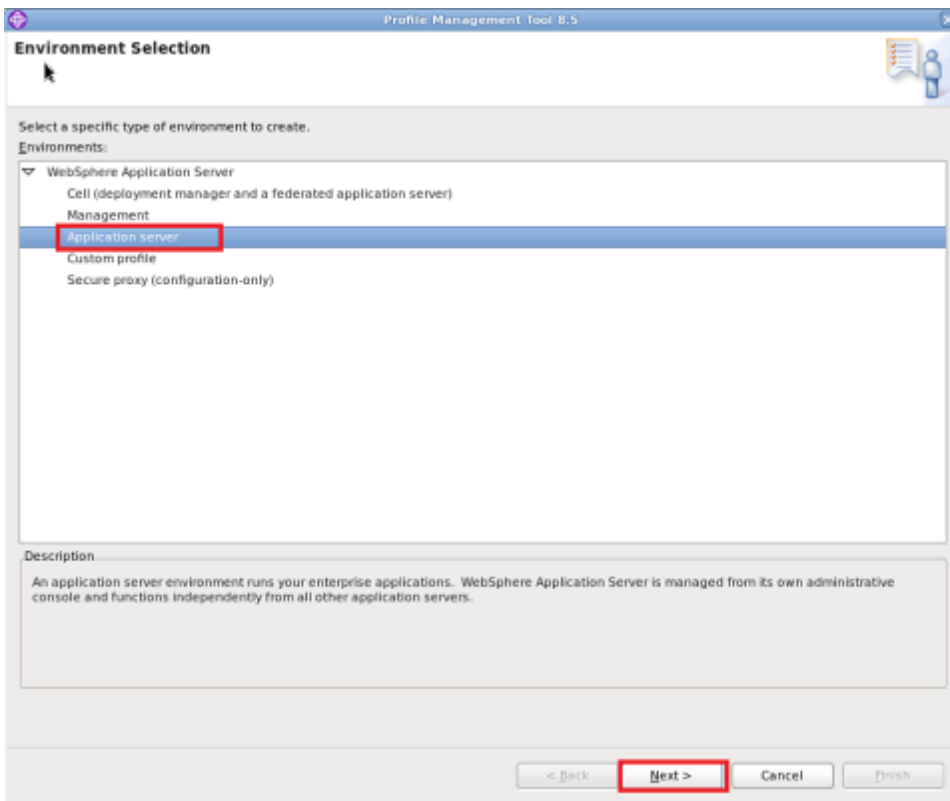
Navigation: IBM WebSphere > *IBM WebSphere Application Server V8.5* > *Tools* > *Profile Management Tool*



Navigation : *Profile Management Tool* > *Create*

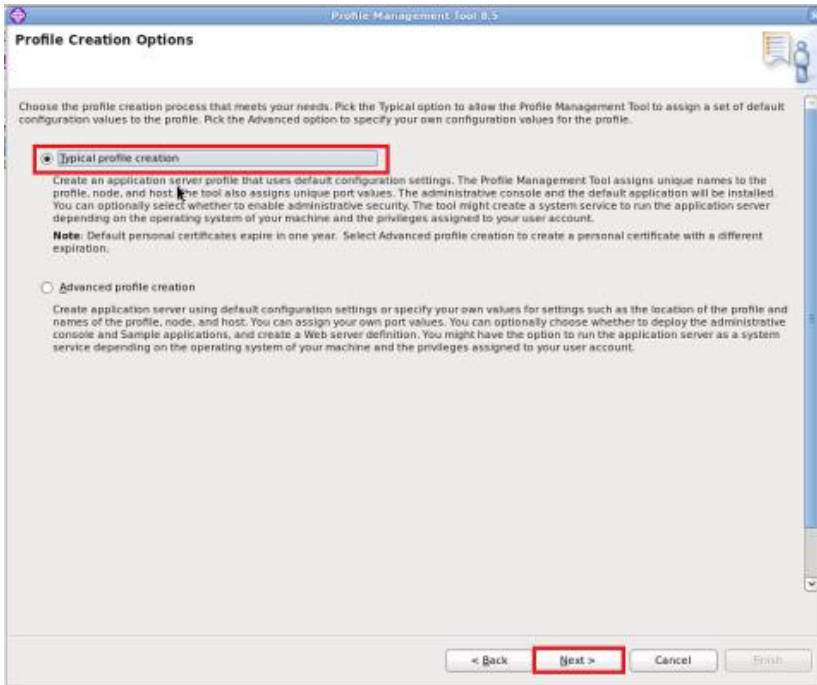


**Navigation :** *Application Server > Next*

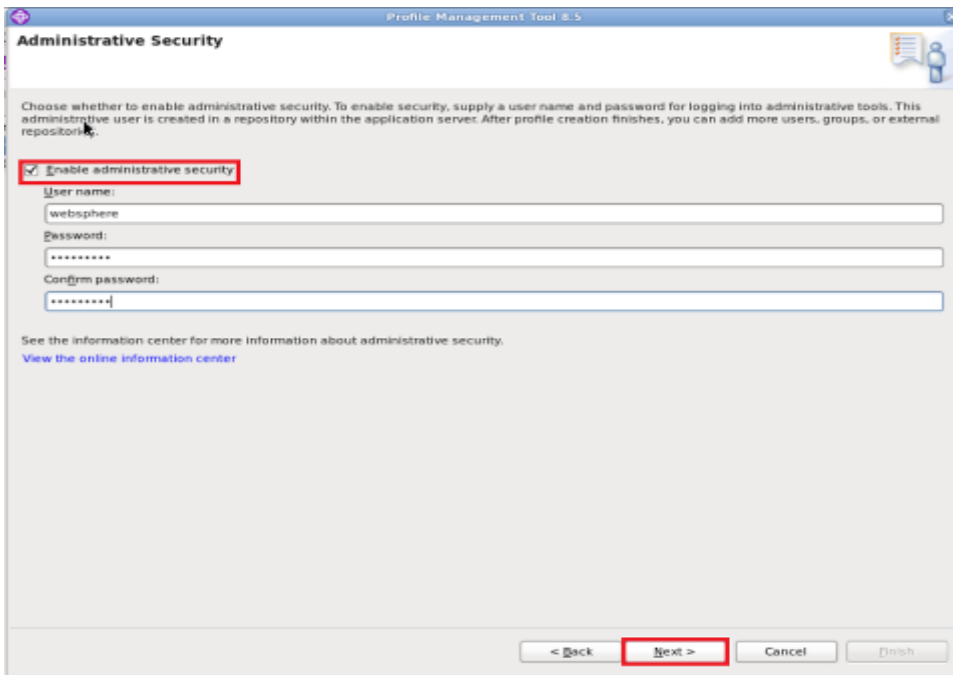


**Navigation :** *Typical profile creation > Next*

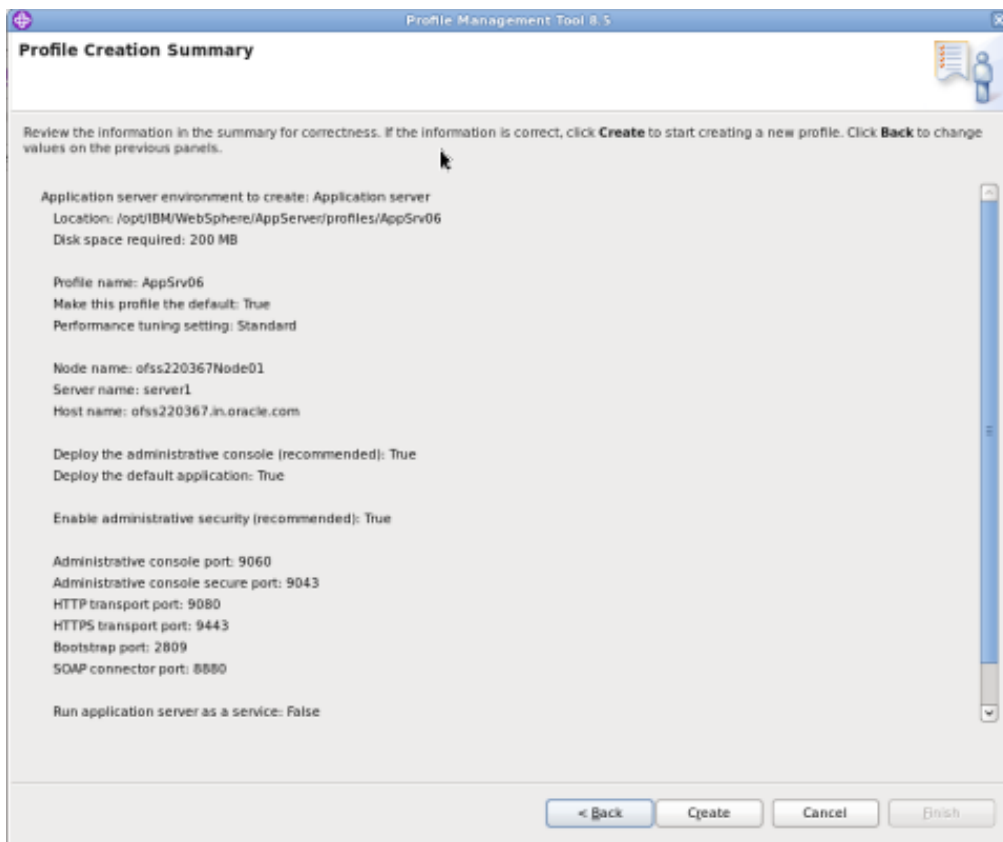




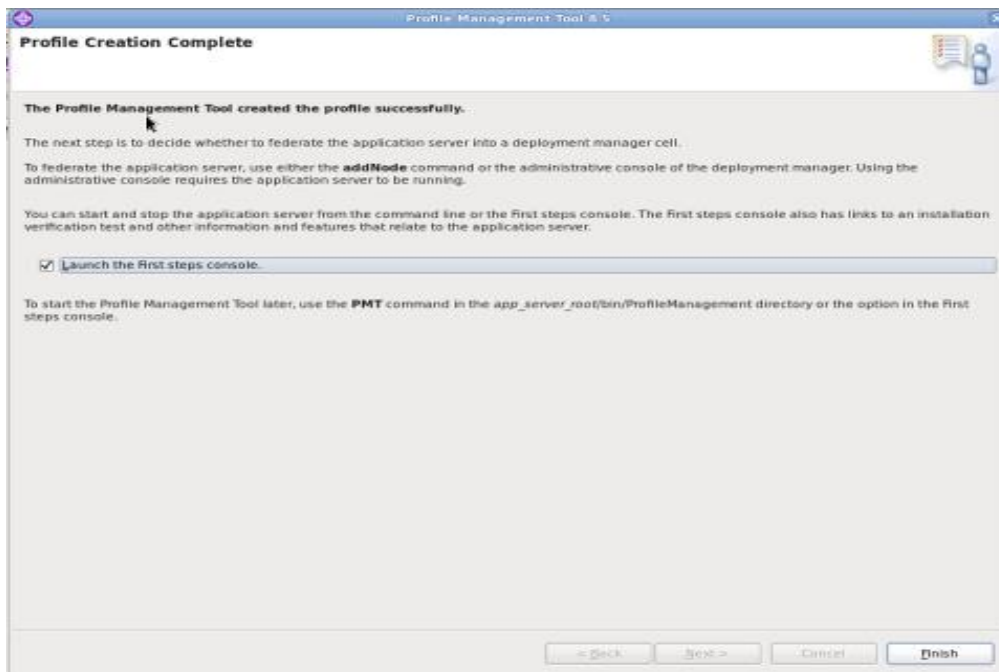
**Navigation:** *Enable administrative security > Next*



**Navigation :** *Create Summary*

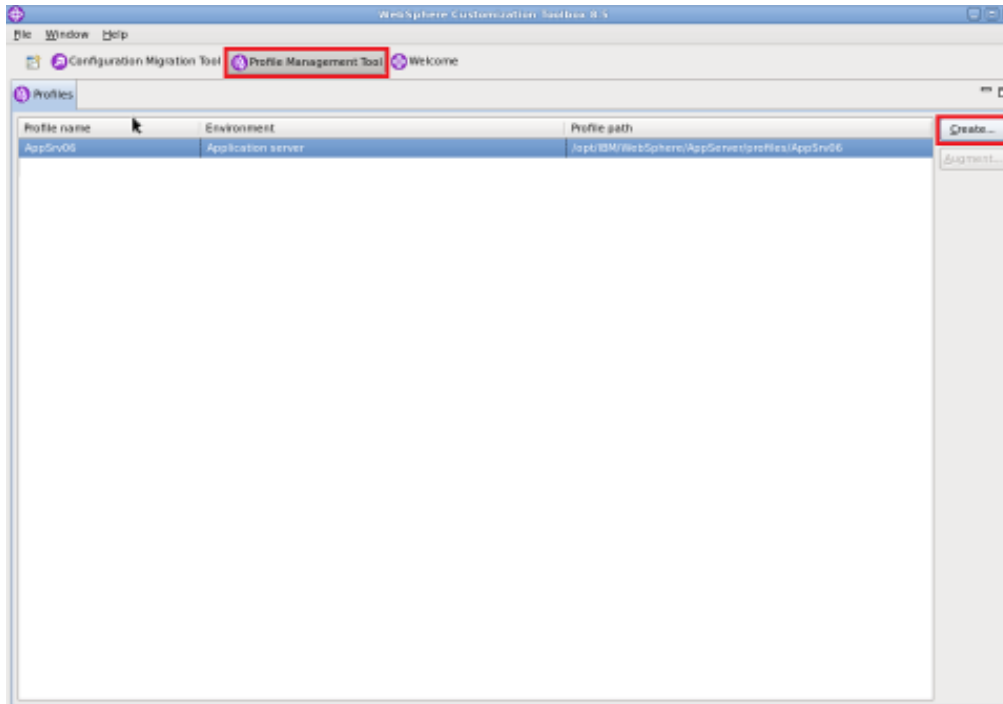


Navigation : *Finish*

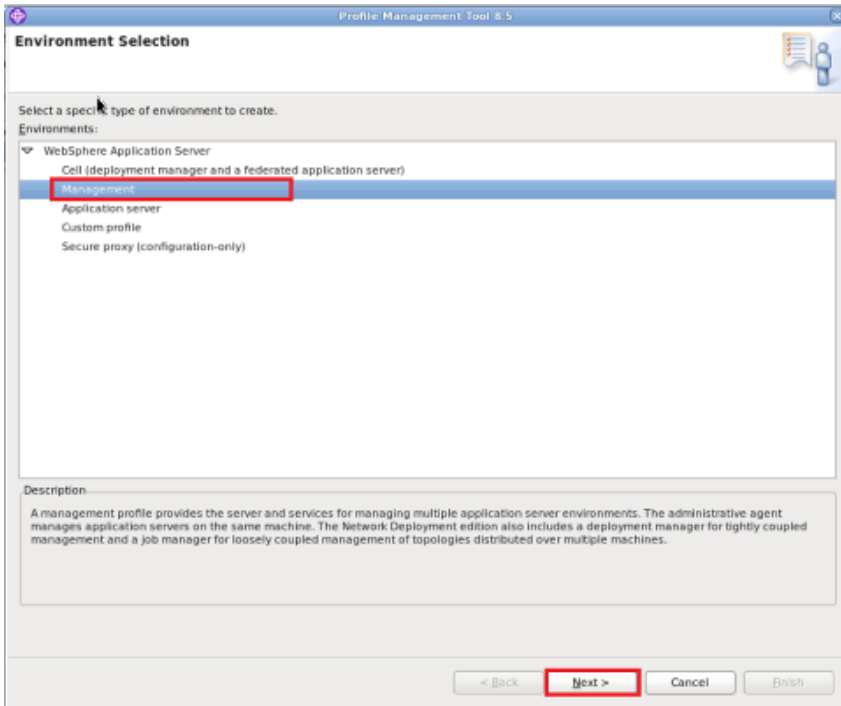


## 4.1.1 Create Deployment Manager Profile

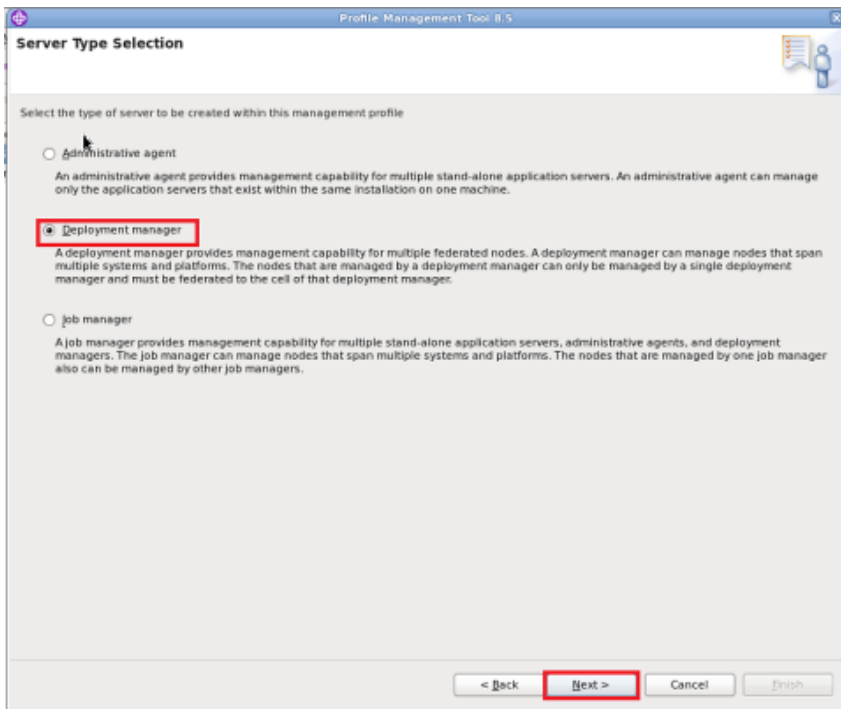
Navigation : *Profile Management Tool > Create*



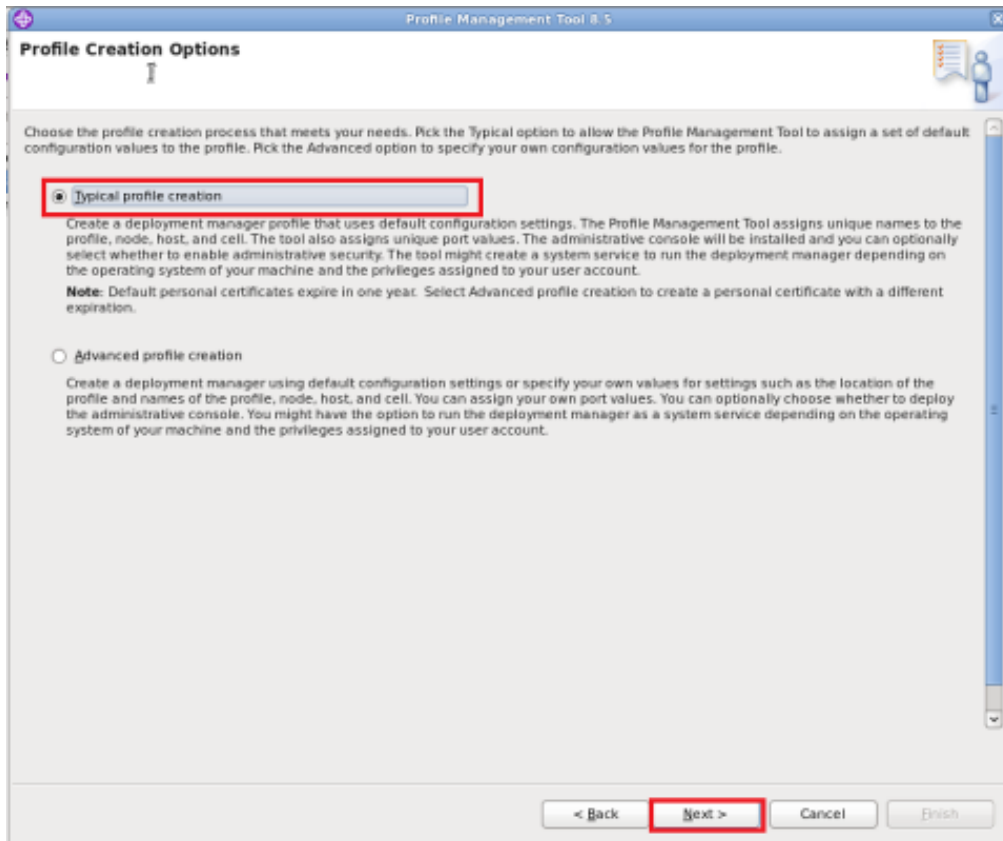
Navigation : *Management >Next*



**Navigation :** *Deployment Manager > Next*



**Navigation:** *Typical profile creation > Next*



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

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:  
admin

Password:  
\*\*\*\*\*

Confirm password:  
\*\*\*\*\*

See the information center for more information about administrative security.  
[View the online information center](#)

< Back   **Next >**   Cancel   Finish

## Navigation : Create

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: Management  
Server type: Deployment manager  
Location: /opt/IBM/WebSphere/AppServer/profiles/Dmgr04  
Disk space required: 30 MB

Profile name: Dmgr04  
Make this profile the default: False

Cell name: ofss220367Cell01  
Node name: ofss220367CellManager01  
Host name: ofss220367.in.oracle.com

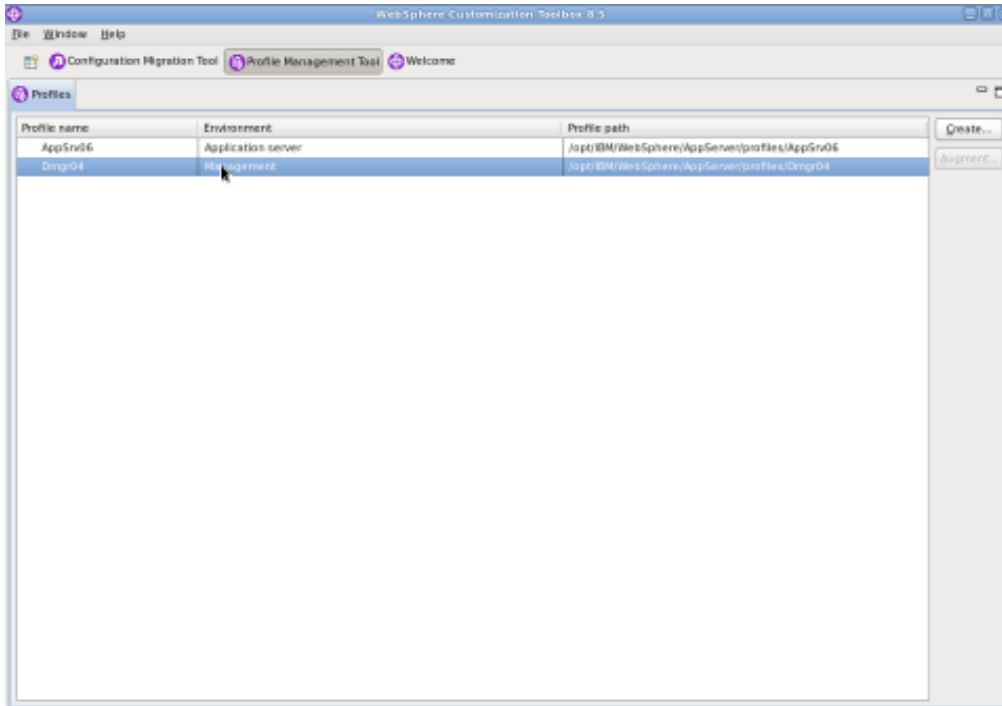
Deploy the administrative console (recommended): True

Enable administrative security (recommended): True

Administrative console port: 9061  
Administrative console secure port: 9044  
Deployment manager bootstrap port: 9809  
Deployment manager SOAP connector port: 8879

Run deployment manager as a service: False

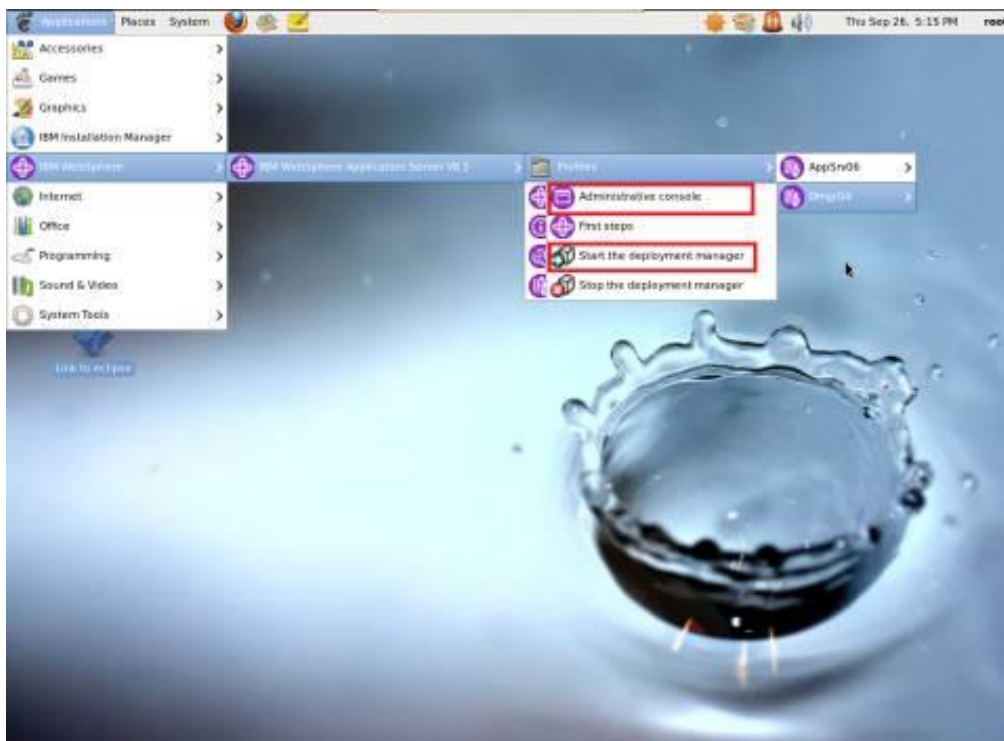
< Back   Create   Cancel   Finish



Start Deployment Manager & Open Administrative Console

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

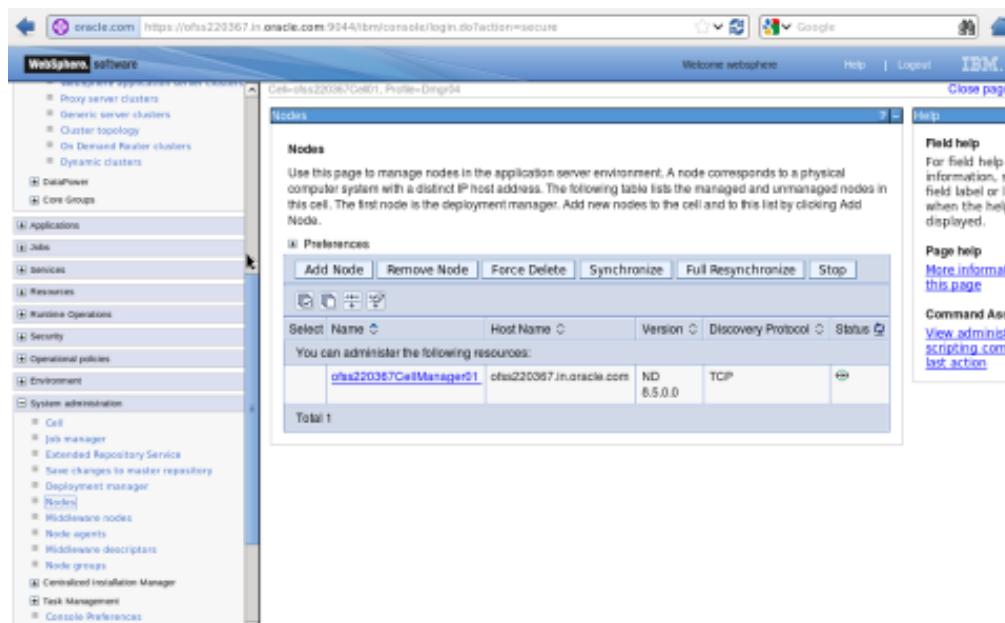




## Log into Deployment Manger Console

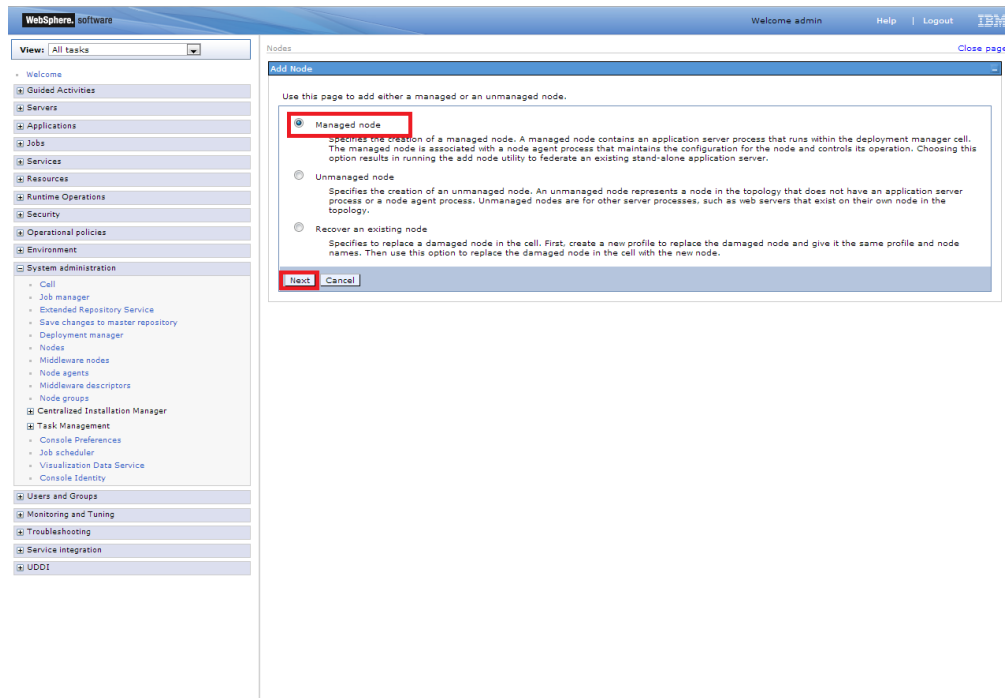


## Navigation : System administration > Nodes > Add Node



## 4.2 Create Node

Navigation : *System administration > Nodes > Add Node*



Provide the following field information and Click 'OK'

Host : Host Machine with running Application Server

JMX Connector type : SOAP

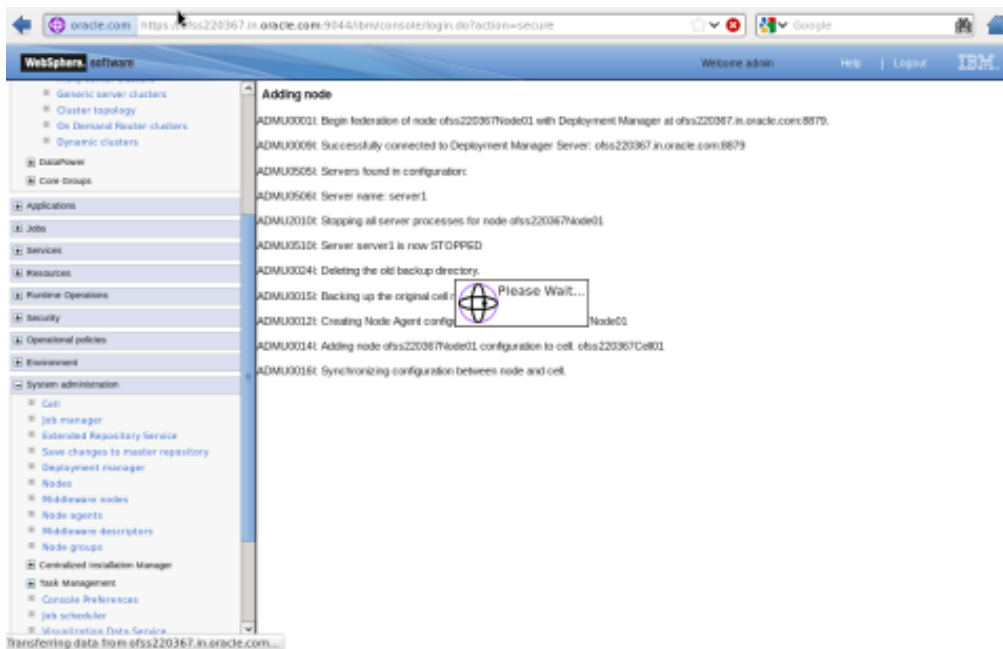
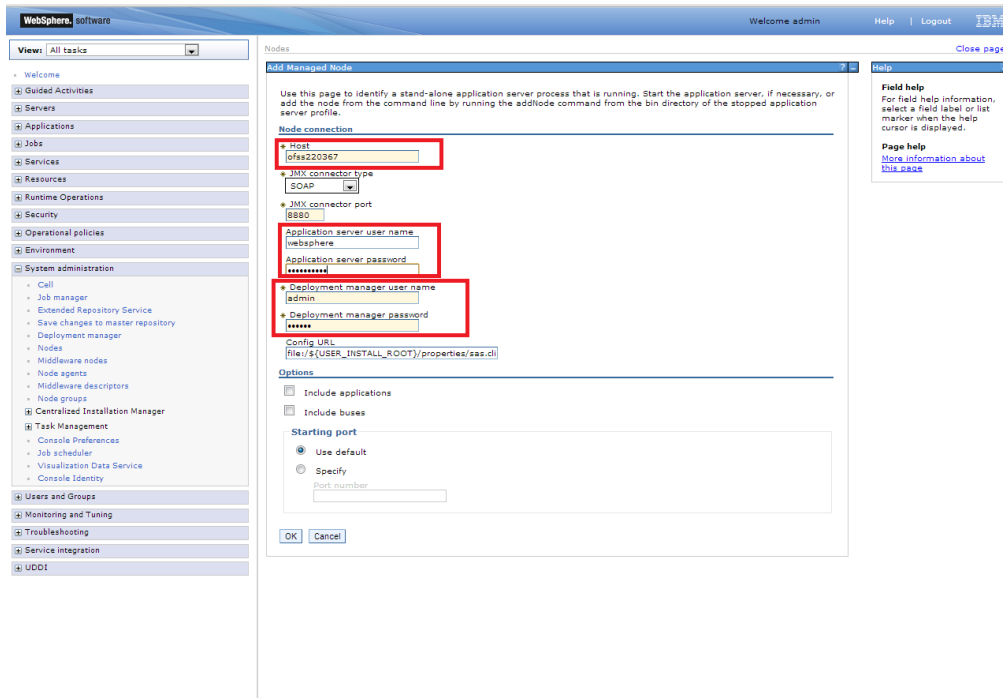
JMX Connector Port : SOAP\_CONNECTOR\_ADDRESS of Application Server

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



**Nodes**

Use this page to manage nodes in the application server environment. A node corresponds to a physical computer system with a distinct IP host address. The following table lists the managed and unmanaged nodes in this cell. The first node is the deployment manager. Add new nodes to the cell and to this list by clicking Add Node.

**Preferences**

Add Node Remove Node Force Delete Synchronize Full Resynchronize Stop

Select	Name	Host Name	Version	Discovery Protocol	Status
<input checked="" type="checkbox"/>	<a href="#">ofsa220367CellManager01</a>	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	<a href="#">ofsa220367Node01</a>	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
Total 2					

You can administer the following resources:

Create necessary number of nodes following same instructions above:

**Nodes**

Use this page to manage nodes in the application server environment. A node corresponds to a physical computer system with a distinct IP host address. The following table lists the managed and unmanaged nodes in this cell. The first node is the deployment manager. Add new nodes to the cell and to this list by clicking Add Node.

**Preferences**

Add Node Remove Node Force Delete Synchronize Full Resynchronize Stop

Select	Name	Host Name	Version	Discovery Protocol	Status
<input checked="" type="checkbox"/>	<a href="#">ofsa220367CellManager01</a>	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	<a href="#">ofsa220367Node01</a>	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	<a href="#">ofsa220367Node01</a>	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
Total 3					

You can administer the following resources:

## 4.2.1 Start Node Agents

Navigation : *System administration> Node agents>Restart*

**Node agents**

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.

**Preferences**

Stop Restart Restart all Servers on Node

You can administer the following resources:

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

Total 2

## 4.3 Create Cluster

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

**WebSphere application server clusters**

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.

**Preferences**

New... Delete Start Stop Ripplestart ImmediateStop

Select Name Status

Select	Name	Status
	None	

Total 0

Navigation : *Uncheck [Prefer Local] > Next*

WebSphere, software | Welcome admin | Help | Logout | Close page

CallInfs220167Call01\_Profile0mgp04

Views: All tasks

- Welcome
- Guided Activities
- Servers
  - New server
  - All servers
  - Server types
  - Clusters
    - WebSphere application server clusters
    - Proxy server clusters
    - Generic server clusters
    - Cluster topology
    - On Demand Router clusters
    - Dynamic 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
    - Node groups
  - Centralized Installation Manager
  - Task Management
    - Console Preferences
    - Job scheduler
    - Visualization Data Service
    - Console Identity
- Users and Groups
- Monitoring and Tuning
- Troubleshooting

Create a new cluster

Enter basic cluster information

Cluster name: [CLUSTER\_1]

Prefer local: Specifies whether enterprise bean requests will be routed to the node on which the client resides when possible.

Configure HTTP session memory-to-memory replication

Next Cancel

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

## 4.3.1 Add Cluster Members

**WebSphere** software

Welcome admin Help | Logout IBM

Cell=ofas220367Cell01, Profile=Dmgr04

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 first cluster member**

The first cluster member determines the server settings for the cluster members. 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: MS\_1

Select node: ofas220367Node01 (ND 8.5.0.0)

Weight: 2 (0..100)

Generate unique HTTP ports

Select how the server resources are promoted in the cluster: Cluster

Select basis for first cluster member:

- Create the member using an application server template.
  - default
- Create the member using an existing application server as a template.
  - ofas220367Cell01/ofas220367Node01 (ND 8.5.0.0)/MS\_1
- Create the member by converting an existing application server.
  - ofas220367Cell01/ofas220367Node01 (ND 8.5.0.0)/MS\_3
- None. Create an empty cluster.

Previous Next Cancel

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

Add required number of cluster members

Navigation : Add Member > Next

**WebSphere** software

Welcome admin Help | Logout IBM

Cell=ofas220367Cell01, Profile=Dmgr04

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: MS\_2

Select node: ofas220367Node01 (ND 8.5.0.0)

Weight: 2 (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.

Edit Delete

Select	Member name	Nodes	Version	Weight
<input type="checkbox"/>	MS_1	ofas220367Node01	ND 8.5.0.0	2
Total				1

Previous Next Cancel

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 : Next

The screenshot shows the 'Create a new cluster' wizard in the Oracle WebSphere Administration Console. The left sidebar contains a navigation tree with categories like Servers, Clusters, and Applications. The main content area is titled 'Create a new cluster' and shows the progress through four steps. Step 3, 'Create additional cluster members', is the active step. It includes a 'Create additional cluster members' section with a 'Member name' field, a 'Select node' dropdown menu (currently showing 'otss222555Node01(ND 8.5.0.0)'), a 'Weight' field (set to 2), and a checked checkbox for 'Generate unique HTTP ports'. An 'Add Member' button is present. Below this is a table with columns 'Select', 'Member name', 'Nodes', 'Version', and 'Weight'. The table contains two rows: one for 'MS\_1' and one for 'MS\_2', both with a weight of 2. A 'Total 2' is shown at the bottom of the table. A 'Previous' button is visible at the bottom left. On the right, there is a 'Help' box with 'Field help' and 'Page help' sections.

## Navigation : Finish

The screenshot shows the 'Create a new cluster' wizard in the Oracle WebSphere Administration Console, now at Step 4: Summary. The left sidebar is the same as in the previous screenshot. The main content area shows the 'Summary' section, which provides a 'Summary of actions:' table. The table has two columns: 'Options' and 'Values'. The options and their values are: Cluster Name (CLUSTER\_1), Core Group (DefaultCoreGroup), Node group (DefaultNodeGroup), Prefer local (false), Configure HTTP session memory-to-memory replication (false), Server name (MS\_1), Node (otss220367Node01(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 (otss220367Node01(ND 8.5.0.0)), Weight (2), Clone Template (Version 8.5 member template), and Generate unique HTTP ports (true). 'Previous', 'Finish', and 'Cancel' buttons are at the bottom. A 'Help' box is on the right.

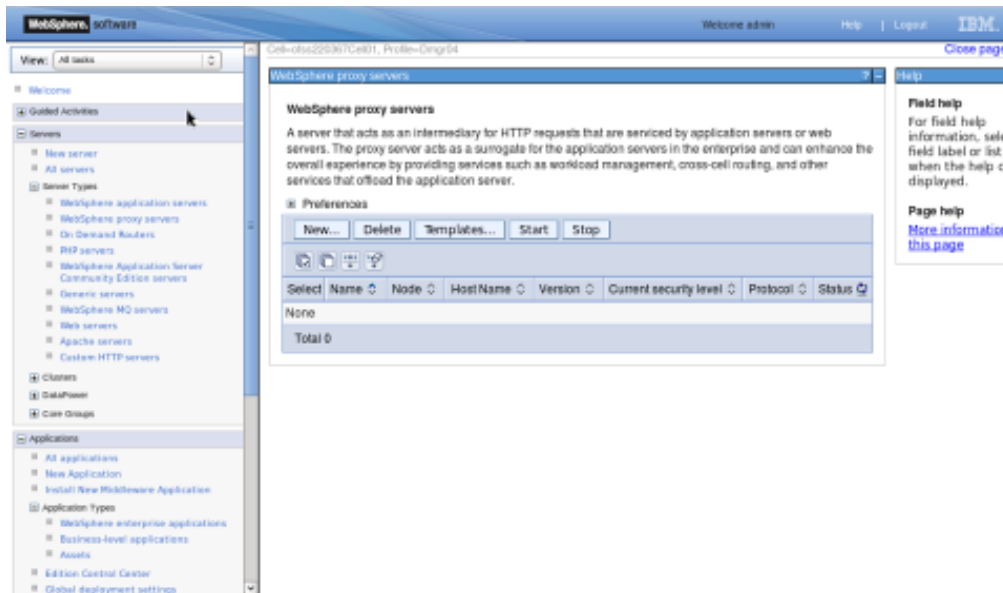
## 4.3.2 Start Cluster

The screenshot shows the WebSphere software administration console. The left-hand navigation pane is expanded to 'Clusters' > 'WebSphere application server clusters'. The main content area displays the 'WebSphere application server clusters' page. At the top, there are buttons for 'New...', 'Delete', 'Start', 'Stop', 'Ripplstart', and 'ImmediateStop'. Below these is a table with columns for 'Select', 'Name', and 'Status'. One resource, 'CLUSTER\_1', is selected with a checkmark in the 'Select' column, and its status is indicated by a red 'X' in the 'Status' column. The text below the table reads 'Total 1'. On the right side, there is a 'Help' section with links for 'Field help', 'Page help', and 'Command Assistant'.

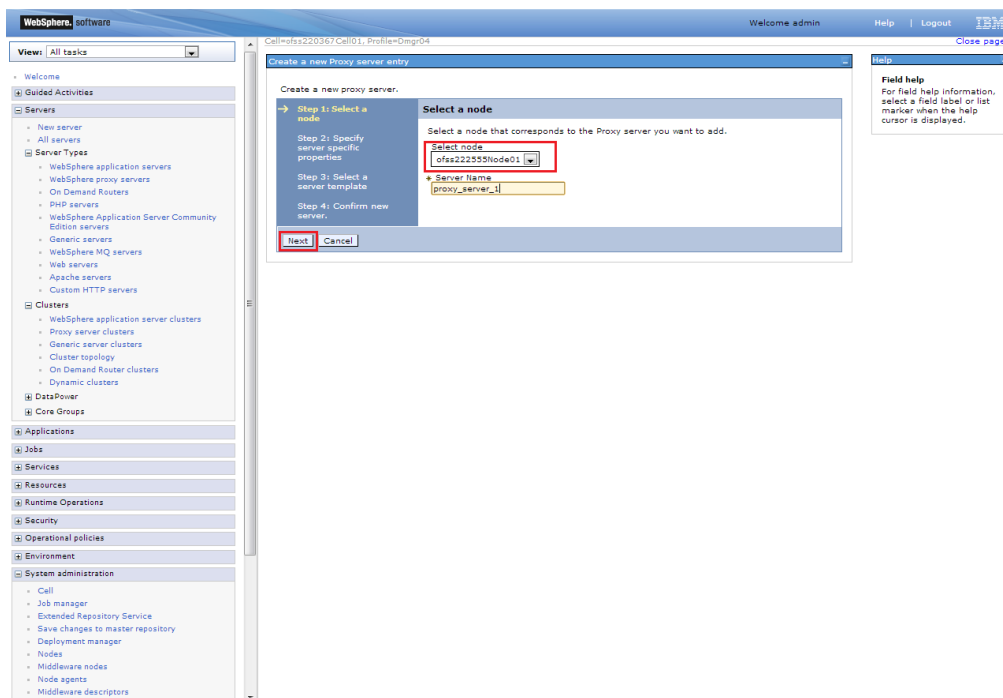
This screenshot shows the same WebSphere software administration console as the previous one, but with a message box displayed. The message box contains the text: 'The start operation on cluster CLUSTER\_1 has been initiated. It may take several minutes for each cluster member to finish starting.' The 'CLUSTER\_1' resource in the table below now has a green arrow in the 'Status' column, indicating that the start operation is in progress. The rest of the interface, including the navigation pane and the 'WebSphere application server clusters' page title and buttons, remains the same.

## 4.4 Create Proxy Server

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



Navigation : [Select appropriate Node] > Next



WebSphere, software | Welcome admin | Help | Logout | Close page

Cell:fofs220367Call01, Profile:Dmgr04

Views: 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
    - WebSphere application server clusters
    - Proxy server clusters
    - Generic server clusters
    - Cluster topology
    - On Demand Router clusters
    - Dynamic 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

Create a new Proxy server entry

Step 1: Select a node

Step 2: Specify server specific properties

Step 3: Select a server template

Step 4: Confirm new server.

Specify server specific properties

Supported protocols

- HTTP
- SIP
- Generate unique ports

Previous Next Cancel

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

WebSphere, software | Welcome admin | Help | Logout | Close page

Cell:fofs220367Call01, Profile:Dmgr04

Views: 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
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    - WebSphere application server clusters
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- Core Groups

Applications

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Create a new Proxy server entry

Step 1: Select a node

Step 2: Specify server specific properties

Step 3: Select a server template

Step 4: Confirm new server.

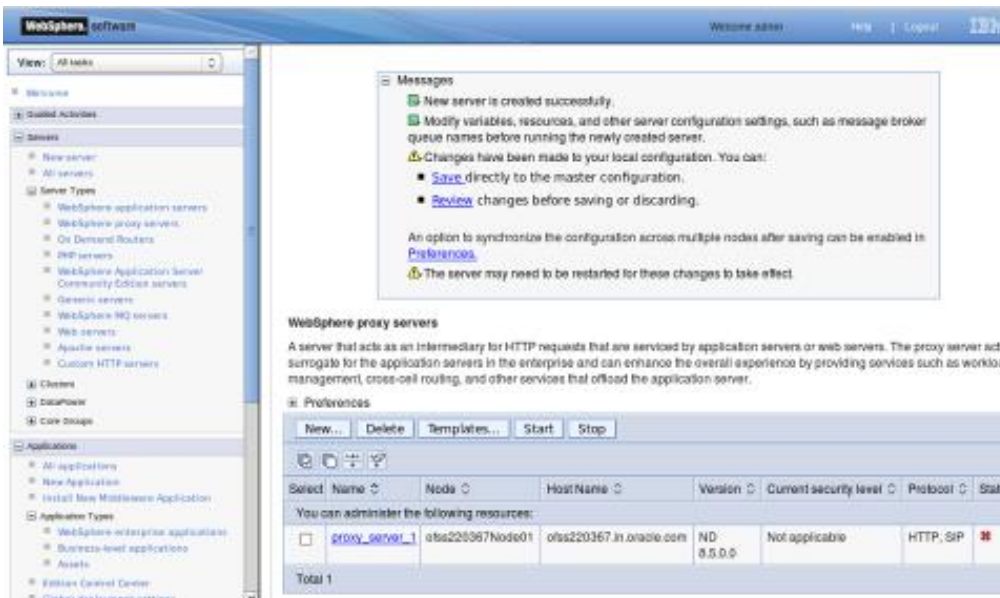
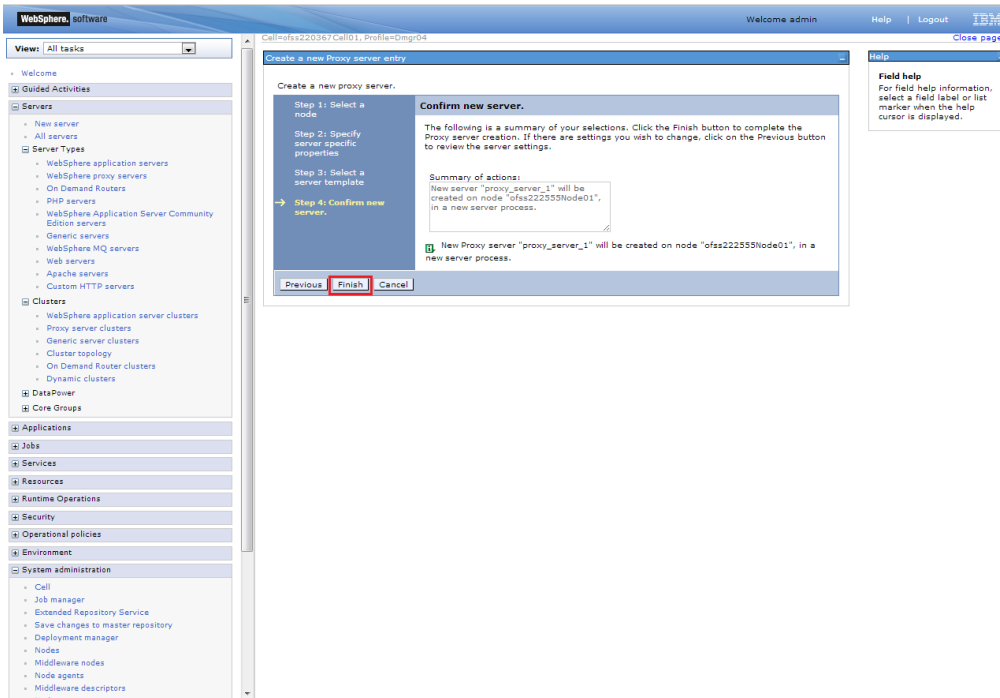
Select a server template

Select the template that best specifies the attributes of the server you wish to create.

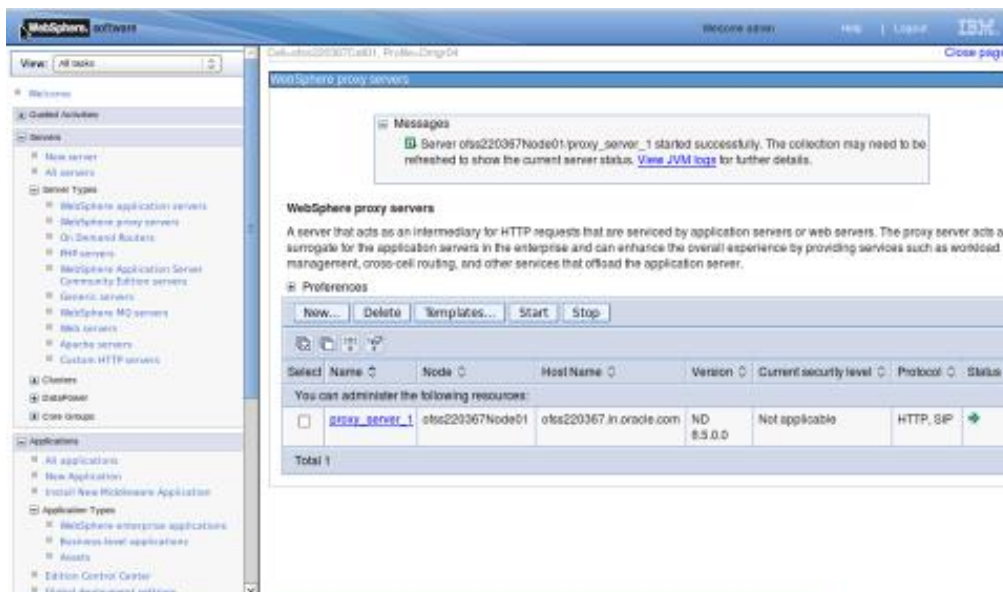
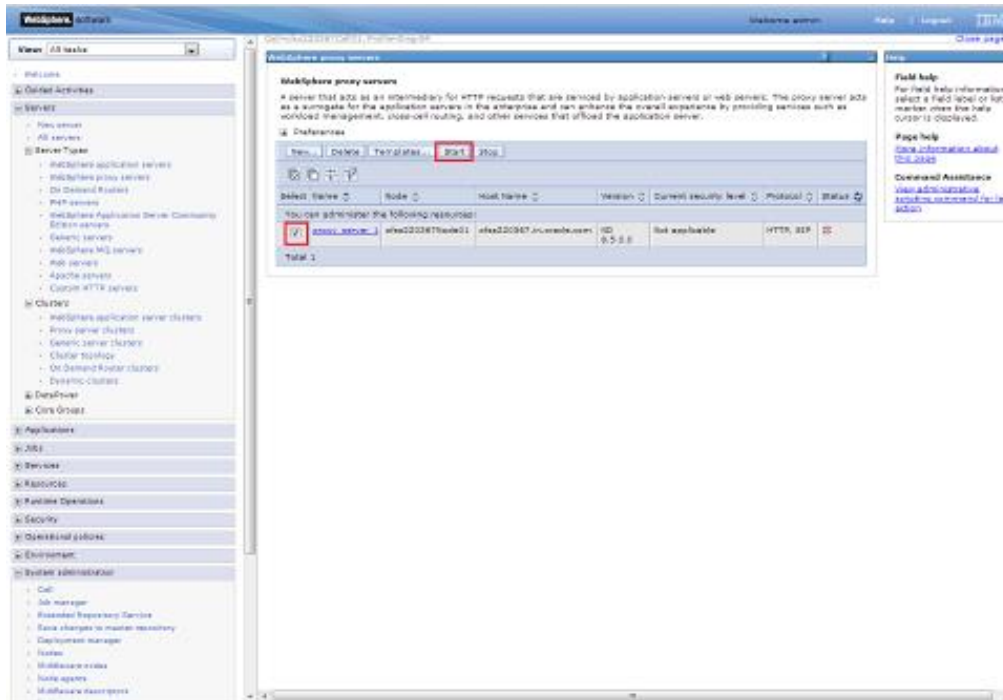
Select	Name	Type	Describe the purpose of this template
<input checked="" type="radio"/>	proxy_server_foundation	System	The WebSphere Default Proxy Server Template

Previous Next Cancel

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



## 4.4.1 Start Proxy Server



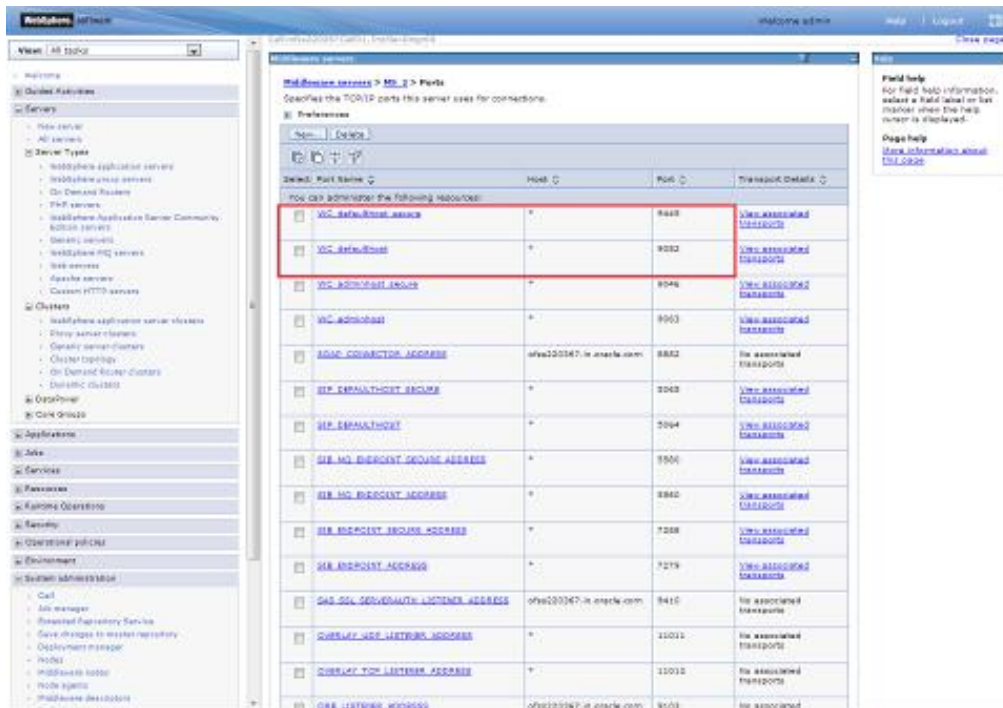
## 4.5 Configure Virtual Host

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

The screenshot shows the Oracle WebLogic Server Administration Console interface. The main content area displays the 'Virtual Hosts' configuration for 'Middleware services / MS\_1 / Ports'. The page title is 'Middleware services / MS\_1 / Ports' and it includes instructions: 'Specify the TCP/IP ports this server uses for connections.' and 'Use the following table to view the configuration of the virtual hosts.' Below this is a table with columns: 'Name', 'Port', 'Port', and 'Transport Details'. The table lists various ports and their status. Two rows are highlighted with a red border: 'WC\_defaulthost\_secure' (Port 9444) and 'WC\_defaulthost' (Port 9081). Both are marked as 'Not associated to a node'. Other ports listed include 'WC\_defaulthost\_secure' (9043), 'WC\_ADMIN\_CONSOLE' (9042), 'SOAP\_CONNECTOR\_ADDRESS' (8881), 'SIS\_DEFAULTHOST\_SECURE' (9063), 'SIS\_DEFAULTHOST' (9062), 'SIS\_HTTP\_ENDPOINT\_SECURE\_ADDRESS' (8879), 'SIS\_HTTP\_ENDPOINT\_ADDRESS' (8889), 'SIS\_ENDPOINT\_SECURE\_800899' (7287), 'SIS\_ENDPOINT\_ADDRESS' (7076), 'SIS\_HTTP\_ENDPOINT\_SECURE\_ADDRESS' (8407), 'QUICKSTART\_VOC\_LISTENER\_ADDRESS' (11009), 'QUICKSTART\_TCP\_LISTENER\_ADDRESS' (11810), and 'JMS\_LISTENER\_ADDRESS' (9102).

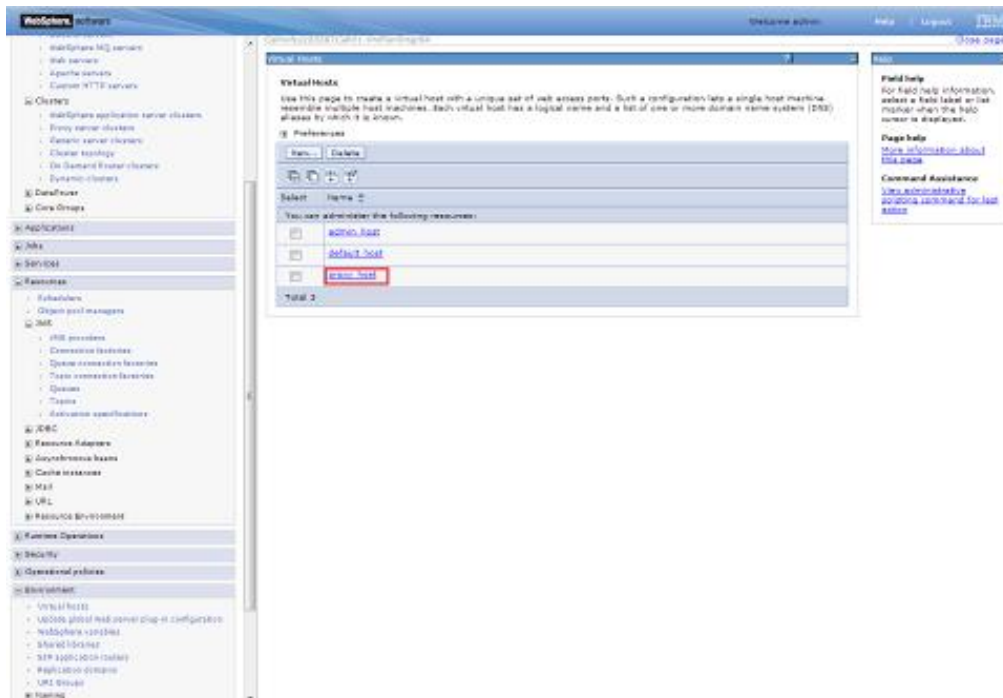
Name	Port	Port	Transport Details
<input type="checkbox"/> WC_defaulthost_secure	+	9444	Not associated to a node
<input type="checkbox"/> WC_defaulthost	+	9081	Not associated to a node
<input type="checkbox"/> WC_defaulthost_secure	+	9043	Not associated to a node
<input type="checkbox"/> WC_ADMIN_CONSOLE	+	9042	Not associated to a node
<input type="checkbox"/> SOAP_CONNECTOR_ADDRESS		8881	Not associated to a node
<input type="checkbox"/> SIS_DEFAULTHOST_SECURE	+	9063	Not associated to a node
<input type="checkbox"/> SIS_DEFAULTHOST	+	9062	Not associated to a node
<input type="checkbox"/> SIS_HTTP_ENDPOINT_SECURE_ADDRESS	+	8879	Not associated to a node
<input type="checkbox"/> SIS_HTTP_ENDPOINT_ADDRESS	+	8889	Not associated to a node
<input type="checkbox"/> SIS_ENDPOINT_SECURE_800899	+	7287	Not associated to a node
<input type="checkbox"/> SIS_ENDPOINT_ADDRESS	+	7076	Not associated to a node
<input type="checkbox"/> SIS_HTTP_ENDPOINT_SECURE_ADDRESS		8407	Not associated to a node
<input type="checkbox"/> QUICKSTART_VOC_LISTENER_ADDRESS	+	11009	Not associated to a node
<input type="checkbox"/> QUICKSTART_TCP_LISTENER_ADDRESS	+	11810	Not associated to a node
<input type="checkbox"/> JMS_LISTENER_ADDRESS		9102	Not associated to a node

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



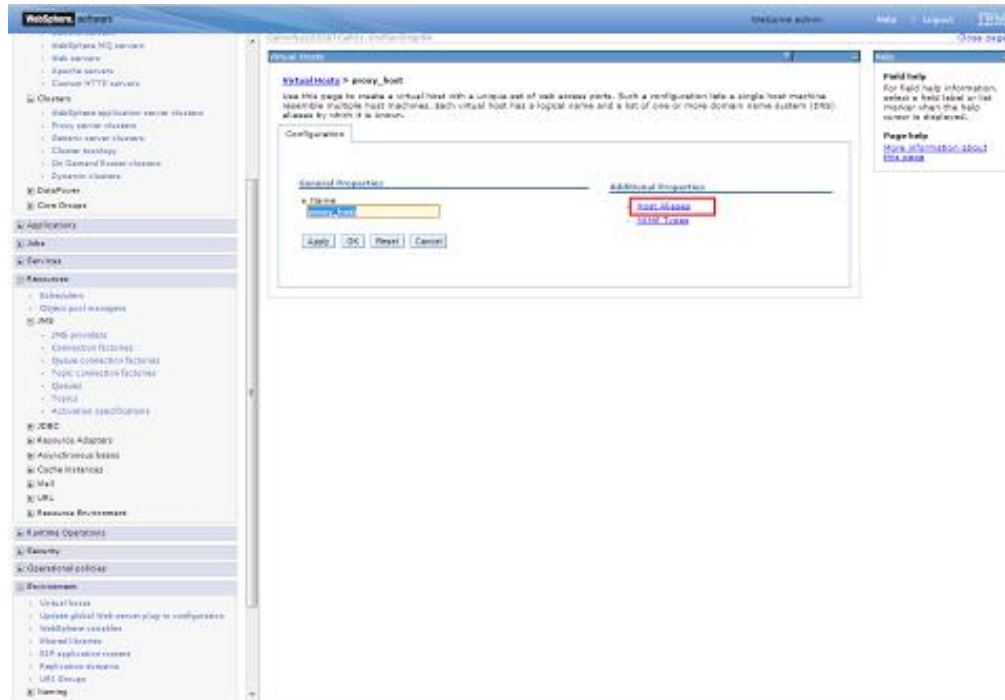
## 4.5.1 Virtual Host Setup

Navigation : *Environment*>*Virtual hosts*>*proxy\_host*

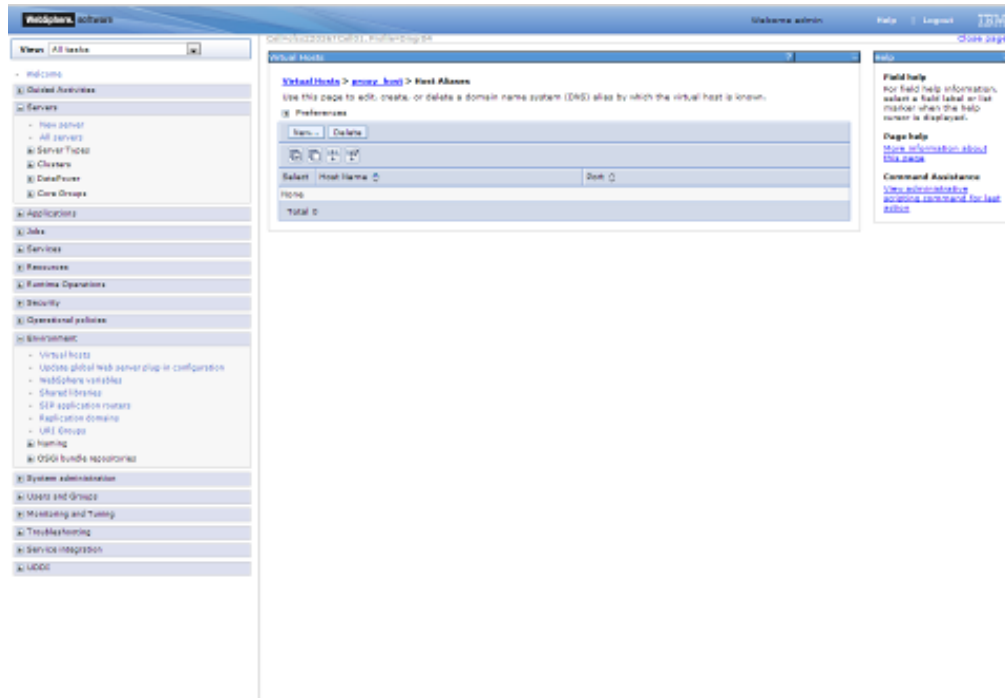




## Navigation : Host Aliases



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



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

The screenshot shows the Oracle WebLogic Administration Console interface. The breadcrumb navigation is **Virtual Hosts > proxy\_host > Host Aliases > New...**. The main content area contains the following text:

Use this page to add or create a domain name system (DNS) alias by which the virtual host is known. An alias is the combination of DNS host name and a unique port number. A web client uses the alias to form the URL request of a web application resource. Application resources include services, JSP files, or HTML pages. For example, the default\_host alias is the myhost.example.com (DNS) portion of http://myhost.example.com:9080/services/ or the myhost.example.com:9080 portion of a resource https://myhost.example.com:9080/external/soap/URL.

Below the text is a configuration form with the following fields:

- General Properties**
  - Host Name:
  - Port:

At the bottom of the form are buttons for **Apply**, **OK**, **Reset**, and **Cancel**.

The screenshot shows the Oracle WebLogic Administration Console interface. The breadcrumb navigation is **Virtual Hosts > proxy\_host > Host Aliases**. The main content area contains the following text:

Use this page to add, create, or delete a domain name system (DNS) alias by which the virtual host is known.

Below the text is a table with the following columns: **Default**, **Host Name**, and **Port**.

Default	Host Name	Port
<input type="checkbox"/>	9081	9081

Below the table, it says "You can administer the following resources:" and shows a summary row:

Total	1
-------	---

Similarly create proxy alias for all cluster related server default ports

Virtual Hosts > proxy\_host > Host Aliases

Use this page to edit, create, or delete a domain name system (DNS) alias by which the virtual host is known.

Preferences

Select	Host Name	Port
<input type="checkbox"/>		8080
<input type="checkbox"/>		8084
<input type="checkbox"/>		8082
<input type="checkbox"/>		8448
Total 4		

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

Page Help  
[More information about this page](#)

Command Reference  
[View administrative procedures, instructions, and tasks](#)

# 5. Create Resources in Cluster Scope

JDBC Provider :

The screenshot shows the 'JDBC providers' configuration page in the WebSphere administrator console. The left-hand navigation pane is expanded to 'Resources' > 'JDBC'. The main content area shows the configuration for a JDBC provider. The 'Scope' dropdown menu is highlighted with a red box and set to 'Cluster=CLUSTER\_1'. Below the configuration, a table lists the resources associated with this provider.

Resource 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' configuration page in the WebSphere administrator console. The left-hand navigation pane is expanded to 'Resources' > 'JDBC' > 'Data sources'. The main content area shows the configuration for a data source. The 'Scope' dropdown menu is highlighted with a red box and set to 'Cluster=CLUSTER\_1'. Below the configuration, a table lists the resources associated with this data source.

Resource Name	JDBC name	Scope	Provider	Description	Category
CLUSTER_1DataSource	jdbc/cluster1ds	Cluster=CLUSTER_1	Oracle JDBC Driver (XA)	Non-JDBC DataSource	
CLUSTER_1DS	jdbc/cluster1ds	Cluster=CLUSTER_1	Oracle JDBC Driver	Non-JDBC DataSource	

## Queue Connection Factory

**Queue connection factories**

A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destinations, for point-to-point messaging.

Scope: `Cell=fes22830fcd85, Cluster=CLUSTER_1`

Show scope selection drop-down 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 definition help](#).

Cluster=CLUSTER\_1

**References**

Select	Name	JMS name	Provider	Description	Scope
<input type="checkbox"/>	<a href="#">EmailCF</a>	EmailCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">FC_QCF</a>	FC_QCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">HEBQCF</a>	HEBQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">WebSphereQCF</a>	WebSphereQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1

Total: 4

## JMS Queue:

**Queues**

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

Scope: `Cell=fes22830fcd85, Cluster=CLUSTER_1`

Show scope selection drop-down 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 definition help](#).

Cluster=CLUSTER\_1

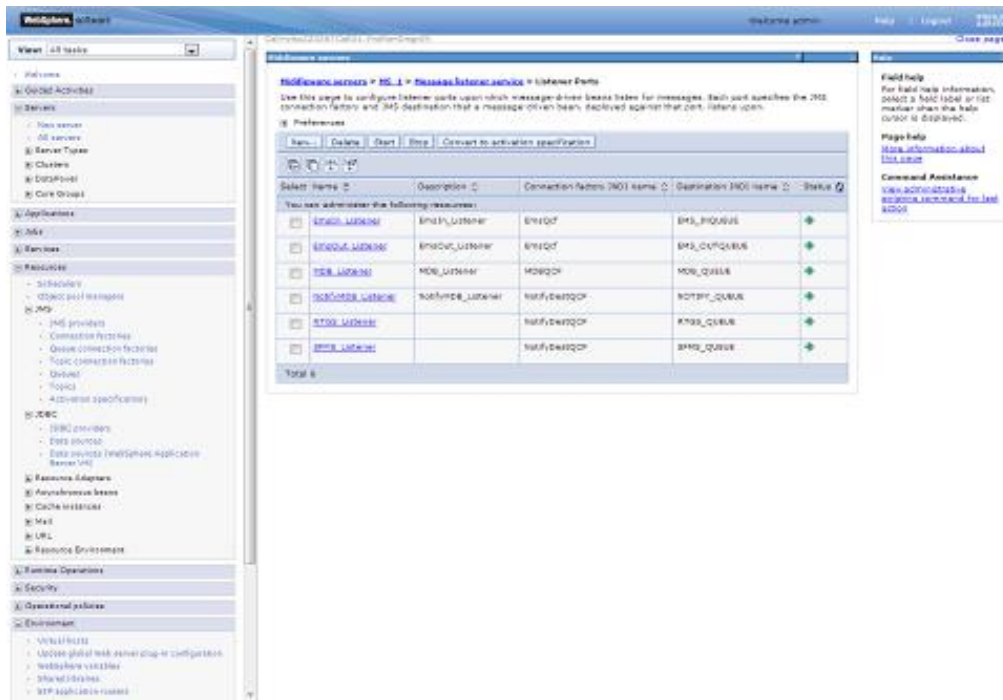
**References**

Select	Name	JMS name	Provider	Description	Scope
<input type="checkbox"/>	<a href="#">EHS_INQUEUE</a>	EHS_INQUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">EHS_OUTQUEUE</a>	EHS_OUTQUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">EHS_QUEUE</a>	EHS_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">EHS_QUEUE_DLG</a>	EHS_QUEUE_DLG	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">EHS_QUEUE_RECEIVER</a>	EHS_QUEUE_RECEIVER	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">NOTIFY_DEST_QUEUE</a>	NOTIFY_DEST_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">NOTIFY_QUEUE</a>	NOTIFY_QUEUE	WebSphere MQ messaging provider	NOTIFY_QUEUE	Cluster=CLUSTER_1
<input type="checkbox"/>	<a href="#">NOTIFY_QUEUE_DLG</a>	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*

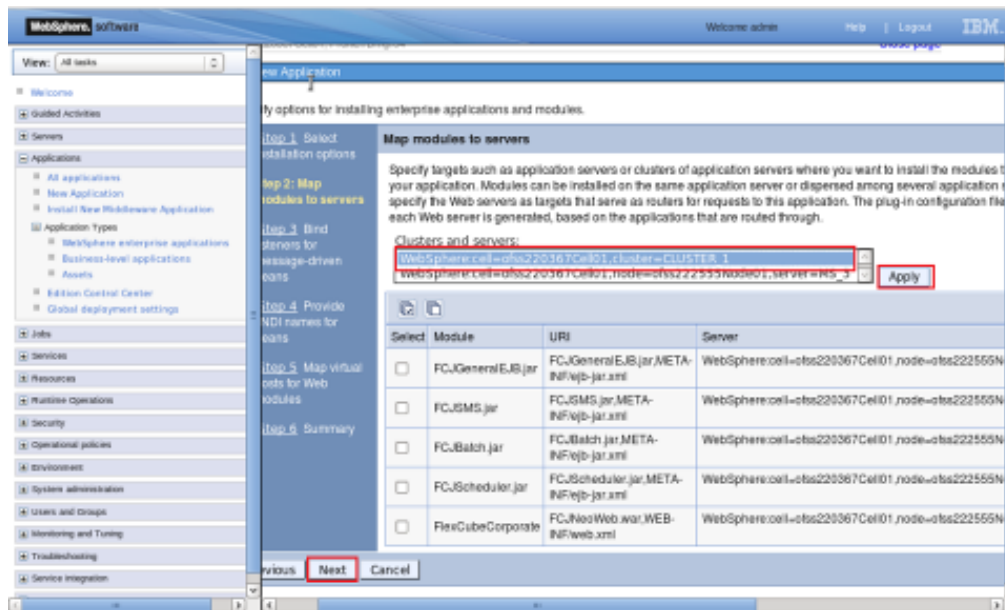


**Navigation :** *Middleware servers > MS\_2 > Message listener service > Listener Ports*

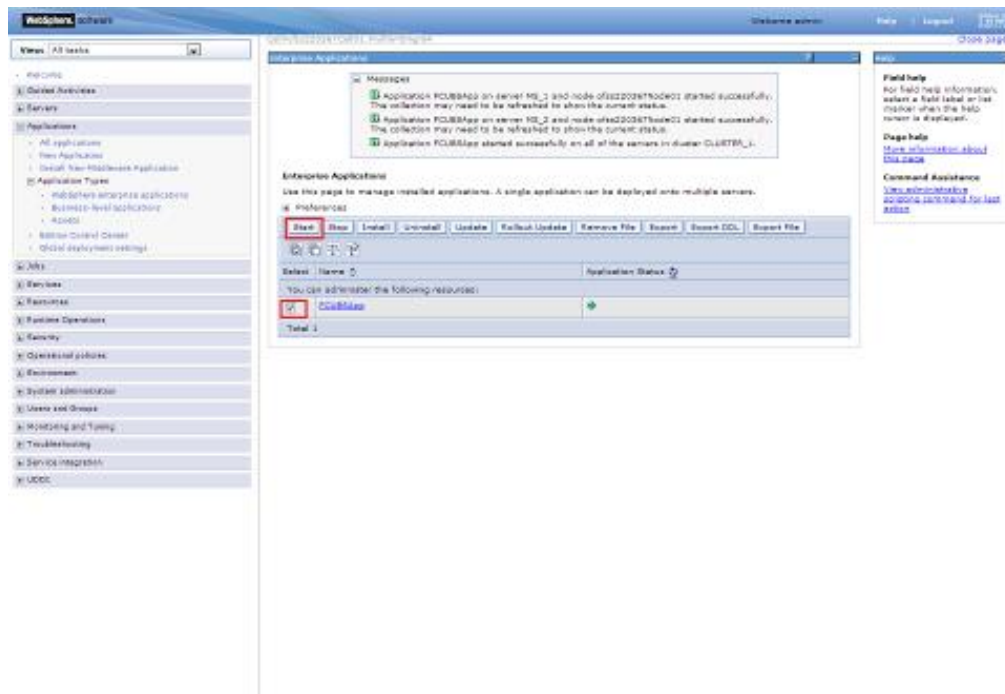


## 6. Deploy Application to Cluster

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.

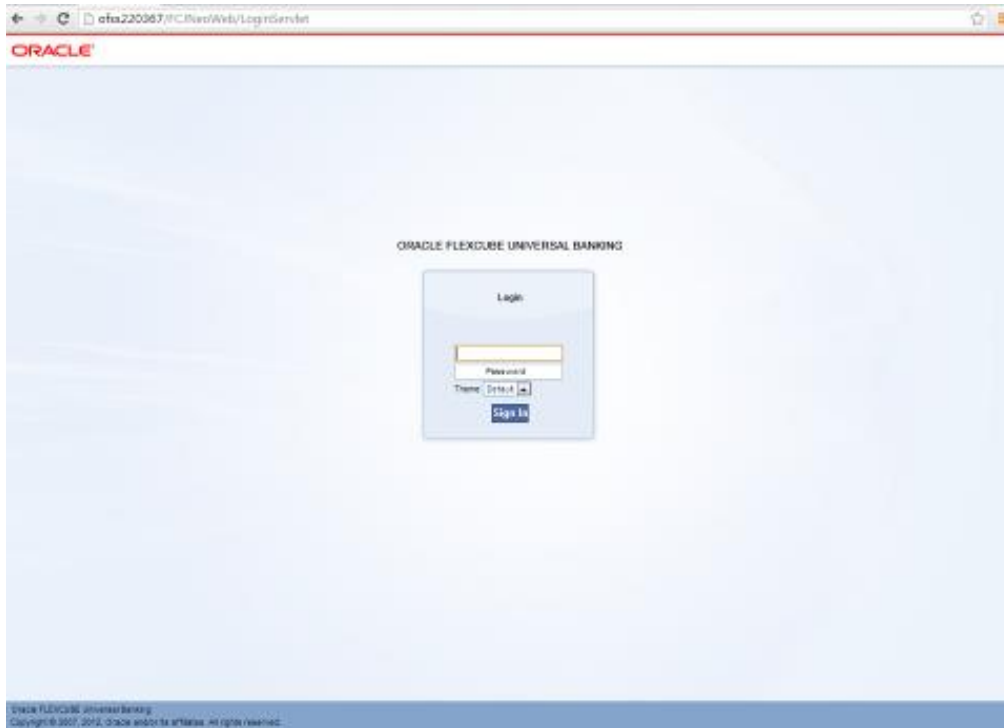
**Navigation :** *Servers > Server Types > WebSphere proxy servers > [proxy\_server\_1] > Ports*

The screenshot shows the 'Ports' configuration page in the WebSphere Admin Center. The page title is 'WebSphere proxy servers > proxy\_server\_1 > Ports'. Below the title, there is a search bar and a 'Preferences' section. The main content is a table with columns: 'Select', 'Port Name', 'Host', 'Port', and 'Transport Details'. The table lists various ports, with 'PROXY\_HTTPS\_ADDRESS' and 'PROXY\_HTTP\_ADDRESS' highlighted in red. The 'PROXY\_HTTPS\_ADDRESS' row shows port 443 and 'No associated transports'. The 'PROXY\_HTTP\_ADDRESS' row shows port 80 and 'No associated transports'.

Select	Port Name	Host	Port	Transport Details
<input type="checkbox"/>	BOOTSTRAP_ADDRESS	afba222867.in.oracle.com	8813	No associated transports
<input type="checkbox"/>	CEWS_SSL_MUTUALAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
<input type="checkbox"/>	CEWS_SSL_SECUREAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
<input type="checkbox"/>	ICE_ADAPTER_ADDRESS	*	9387	No associated transports
<input type="checkbox"/>	ICE_CLIENT_ADDRESS	*	7874	No associated transports
<input type="checkbox"/>	IPC_CONNECTOR_ADDRESS	tcpPort	9626	No associated transports
<input type="checkbox"/>	ORCL_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
<input type="checkbox"/>	ORCL_TSP_LISTENER_ADDRESS	*	10014	No associated transports
<input type="checkbox"/>	ORCL_VIP_LISTENER_ADDRESS	*	10013	No associated transports
<input type="checkbox"/>	PROXY_HTTPS_ADDRESS	*	443	No associated transports
<input type="checkbox"/>	PROXY_HTTP_ADDRESS	*	80	No associated transports
<input type="checkbox"/>	PROXY_IPC_ADDRESS	*	3061	No associated transports
<input type="checkbox"/>	PROXY_IPC_ADDRESS	*	5690	No associated transports
<input type="checkbox"/>	SEC_SSL_MUTUALAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
<input type="checkbox"/>	SEC_CONNECTOR_ADDRESS	afba222867.in.oracle.com	8883	No associated transports

Launch Application:

URL : `http://<host>:<PROXY_HTTP_ADDRESS>/FCJNeoWeb` or  
`https://<host>:<PROXY_HTTPS_ADDRESS>/FCJNeoWeb`



ORACLE



Cluster Creation on Websphere  
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