

Cluster Creation on Websphere Application Server
Oracle Banking Corporate Lending
Release 14.5.0.0.0
[May] [2021]



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1. Purpose

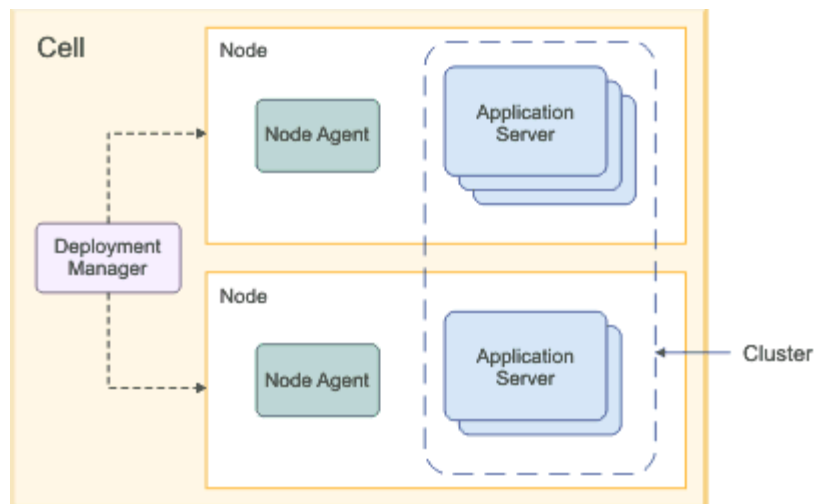
This document explains steps to create Cluster on Websphere Application Server 8.5 and also setup the proxy.

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\WEBSHERE\Resource_Creation_WAS.doc

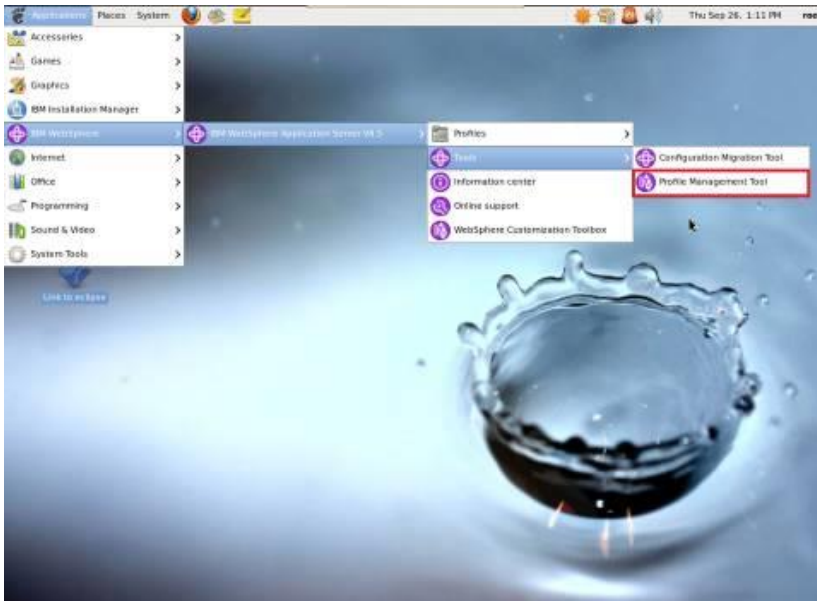
- For SSL configuration in Websphere, refer to the document SSL_Configuration_WAS.doc
- For application deployment, refer to document FCUBS_Application_WAS.doc
- For deployment of Gateway applications, refer to document GATEWAY_Applications_WAS.doc

4. Steps involved for Clustering

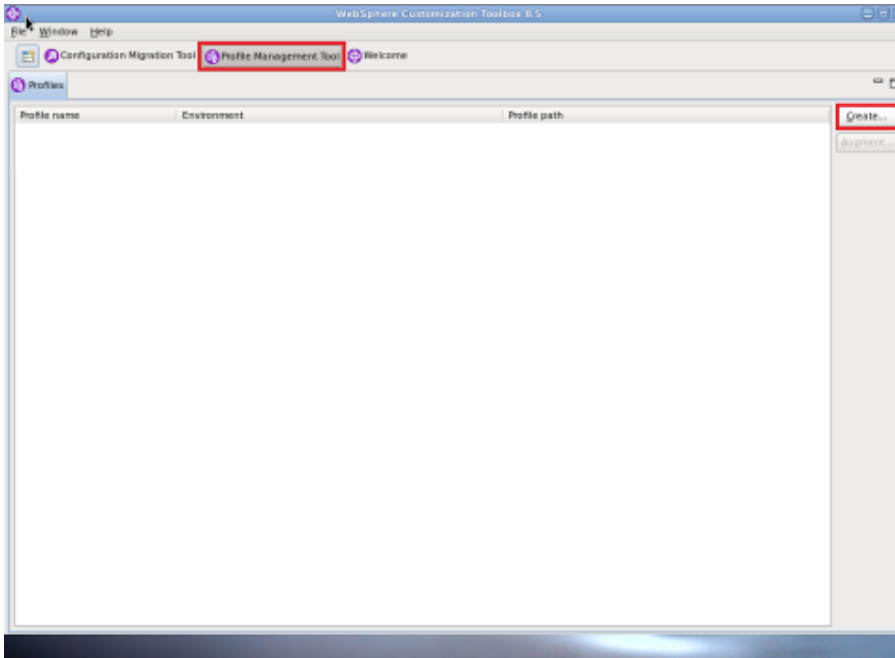
4.1 Create Profile

Go to Profile Management Tool

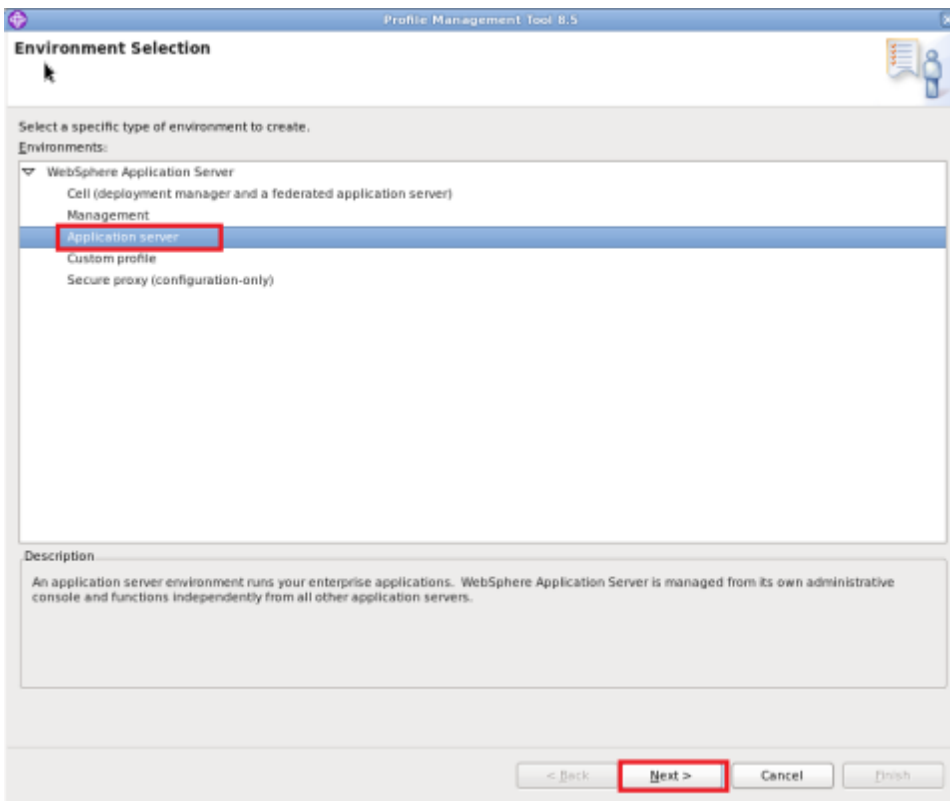
Navigation: IBM WebSphere > *IBM WebSphere Application Server V8.5* > *Tools* > *Profile Management Tool*



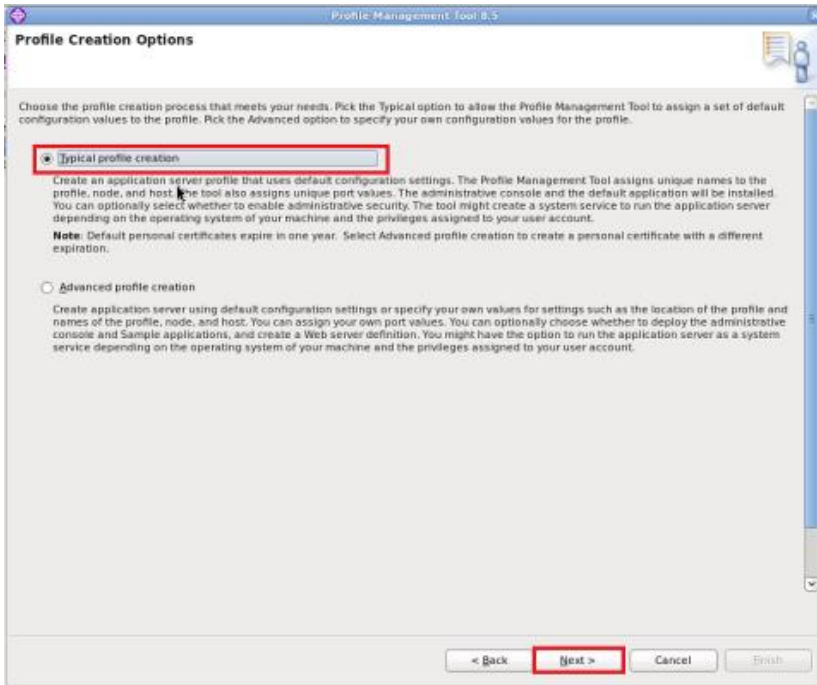
Navigation : *Profile Management Tool* > *Create*



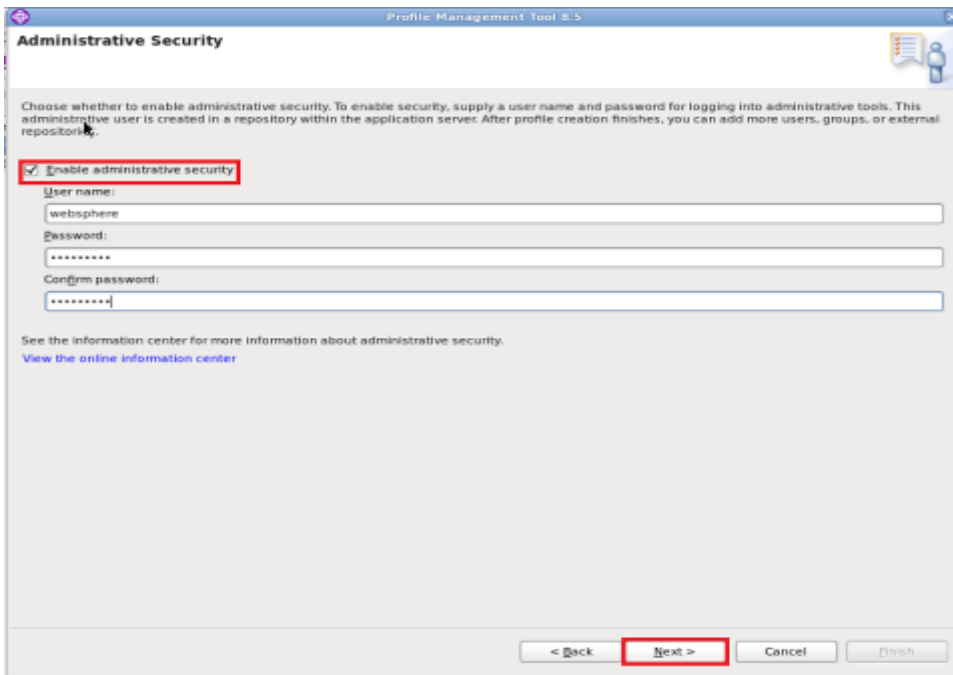
Navigation : *Application Server > Next*



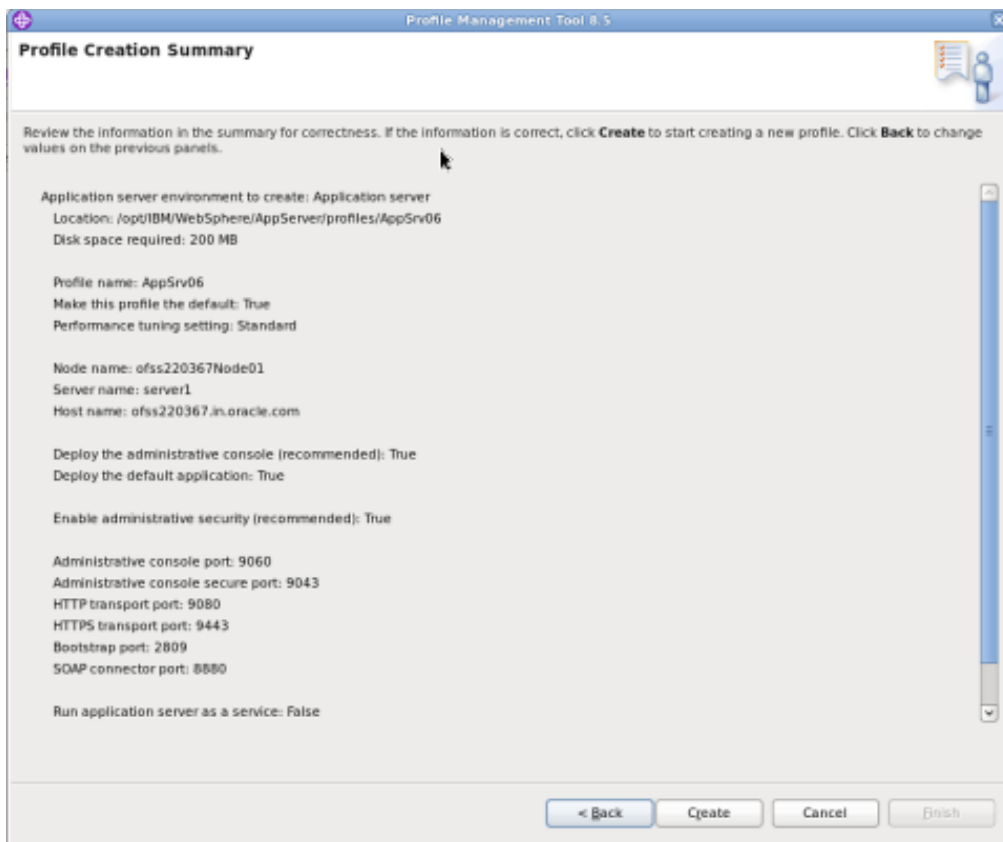
Navigation : *Typical profile creation > Next*



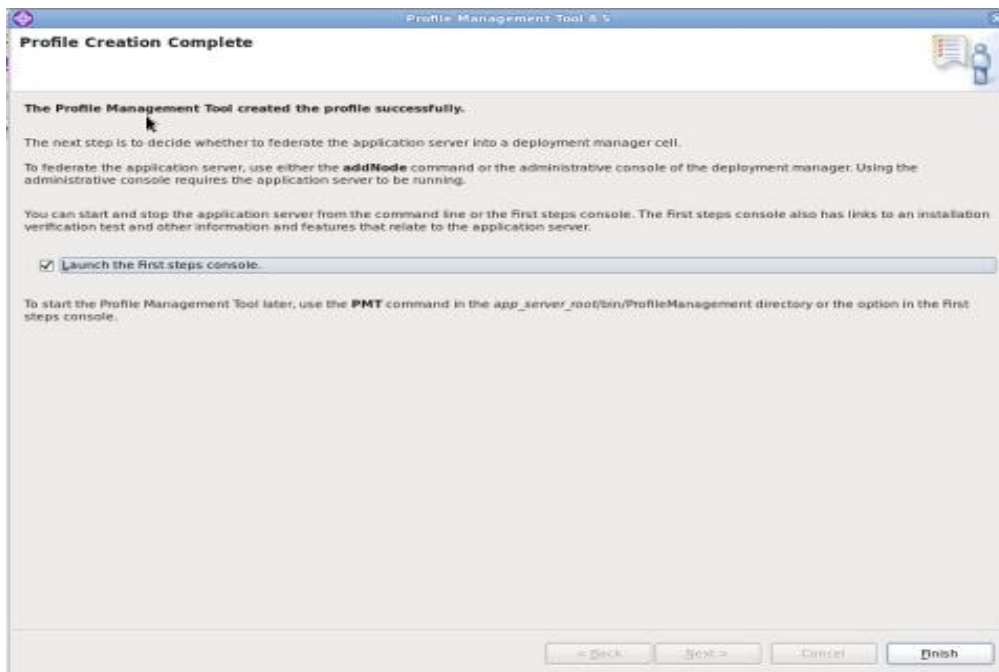
Navigation: *Enable administrative security > Next*



Navigation : *Create Summary*

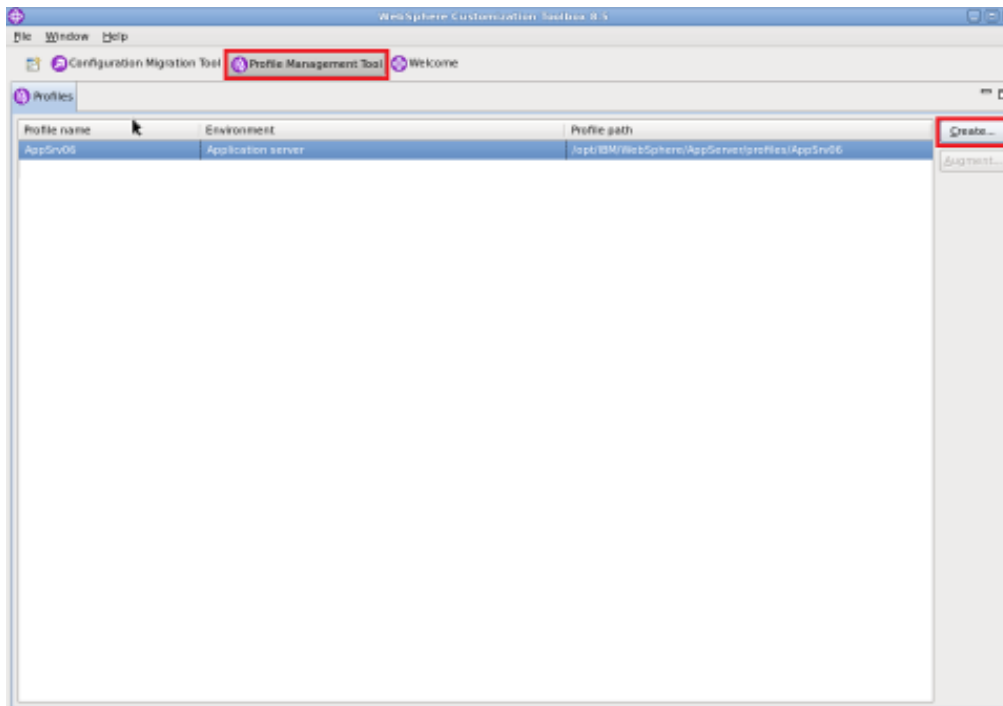


Navigation : *Finish*

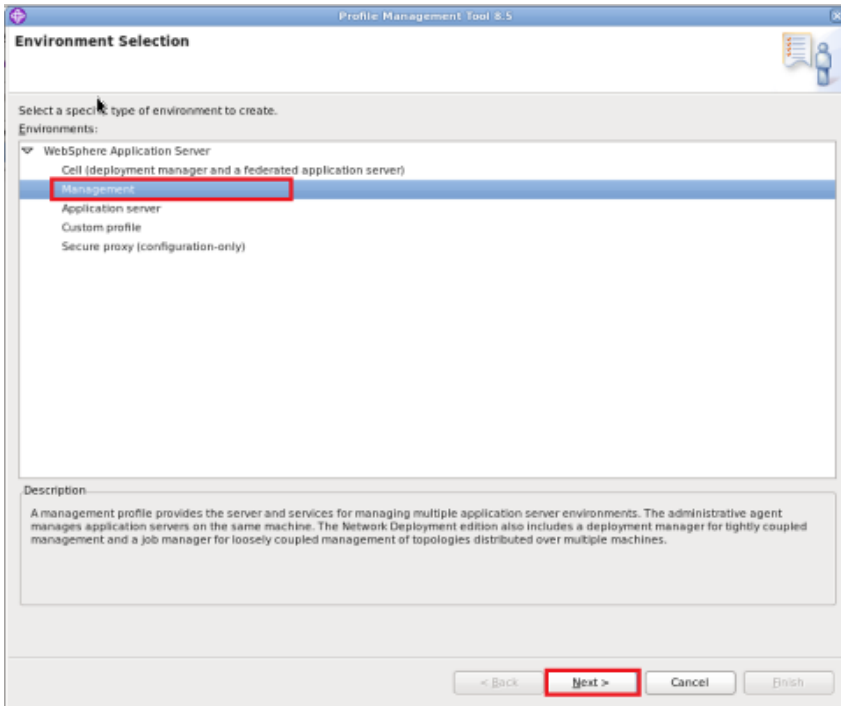


4.1.1 Create Deployment Manager Profile

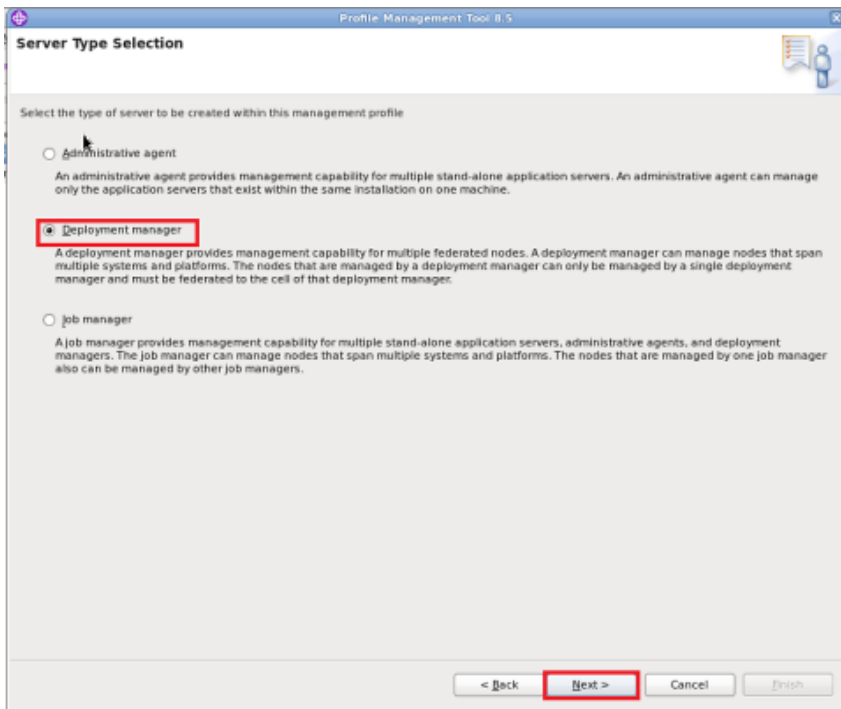
Navigation : *Profile Management Tool > Create*



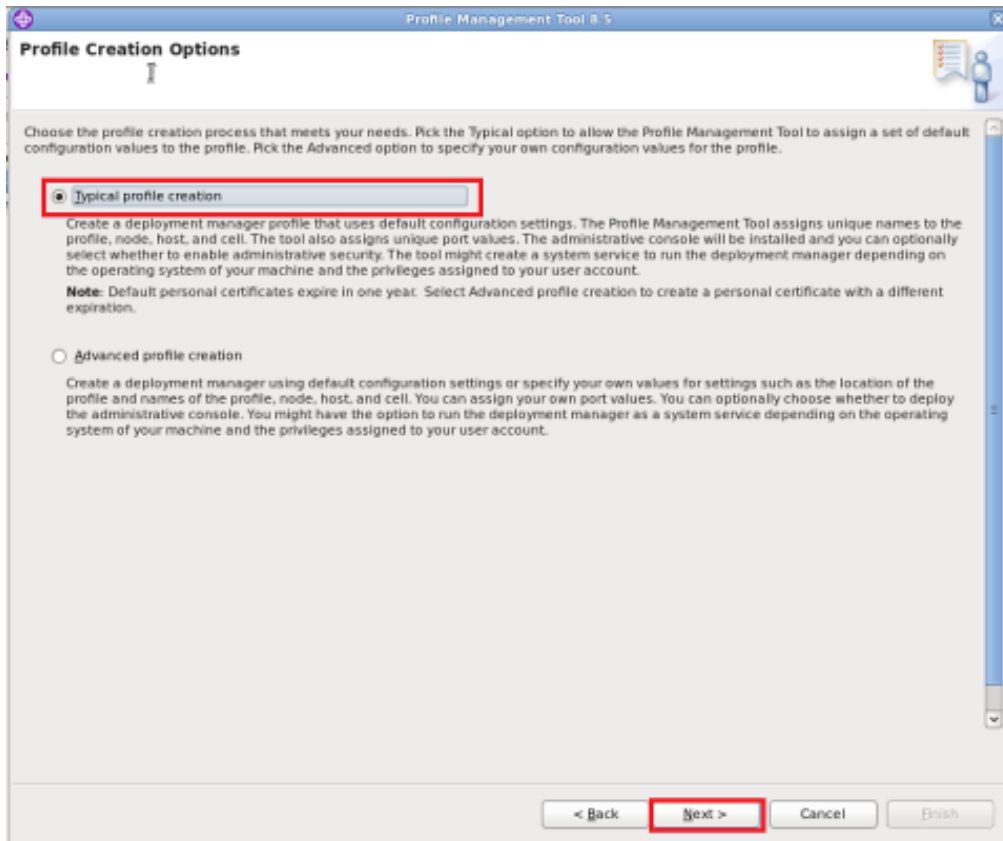
Navigation : *Management >Next*



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

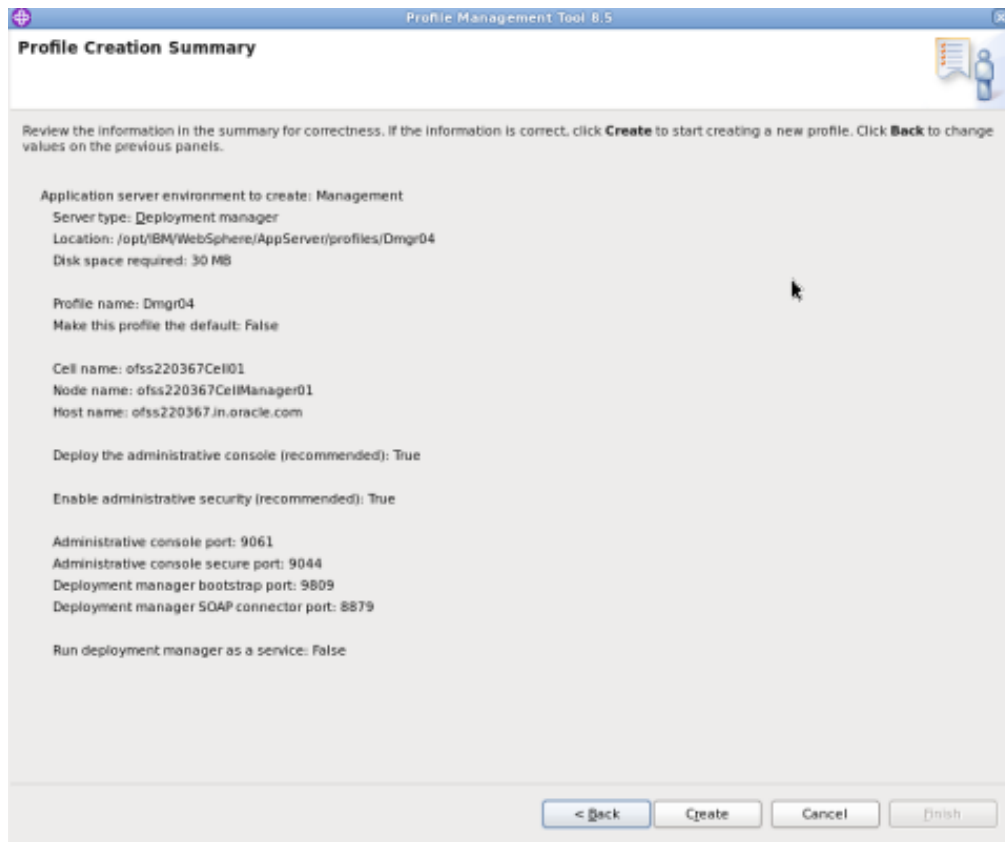
Password:

Confirm password:

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

< Back **Next >** Cancel Finish

Navigation : Create



The screenshot shows a window titled "Profile Management Tool 8.5" with a sub-header "Profile Creation Summary". The window contains a summary of profile creation settings. At the bottom, there are four buttons: "< Back", "Create", "Cancel", and "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: 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

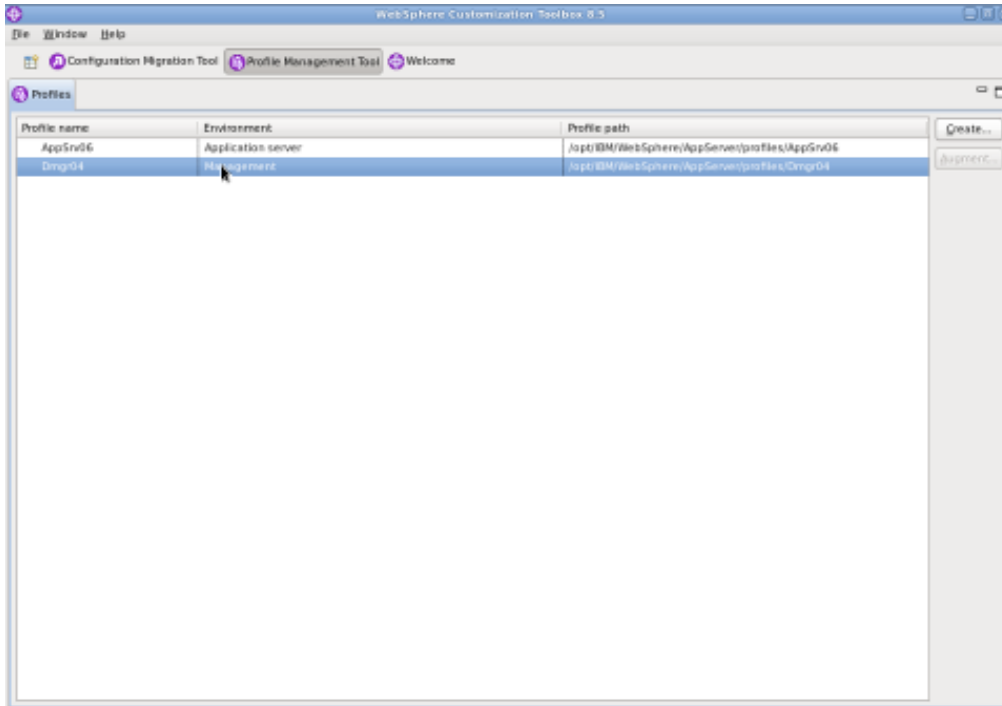
Deploy the administrative console (recommended): True

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

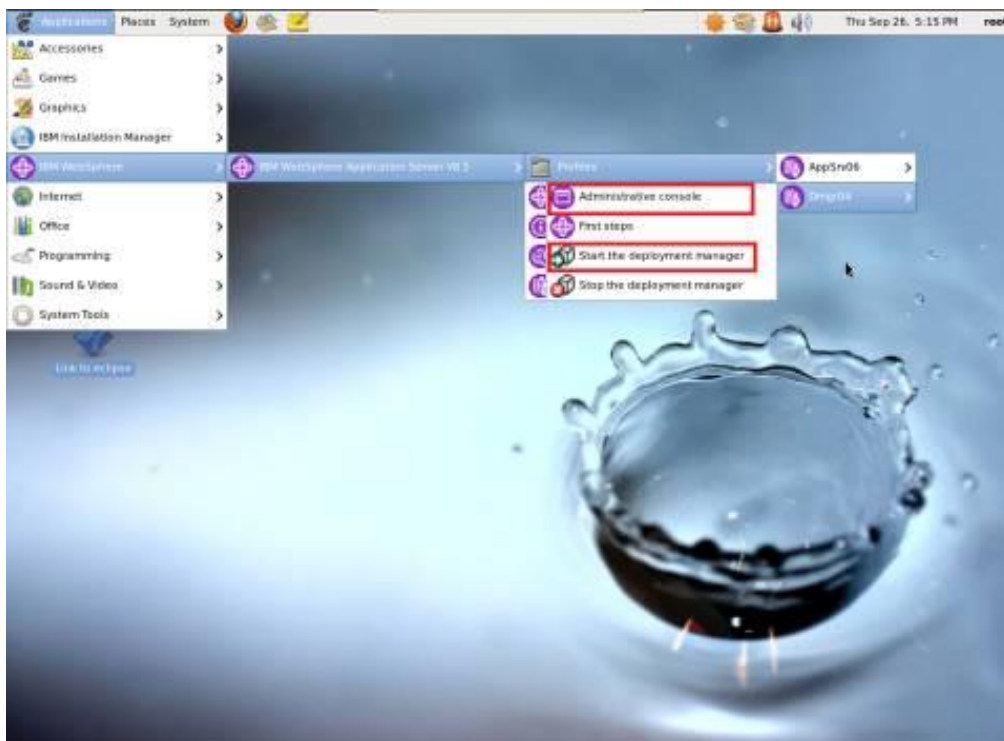
Run deployment manager as a service: False

< Back Create Cancel Finish



Start Deployment Manager & Open Administrative Console

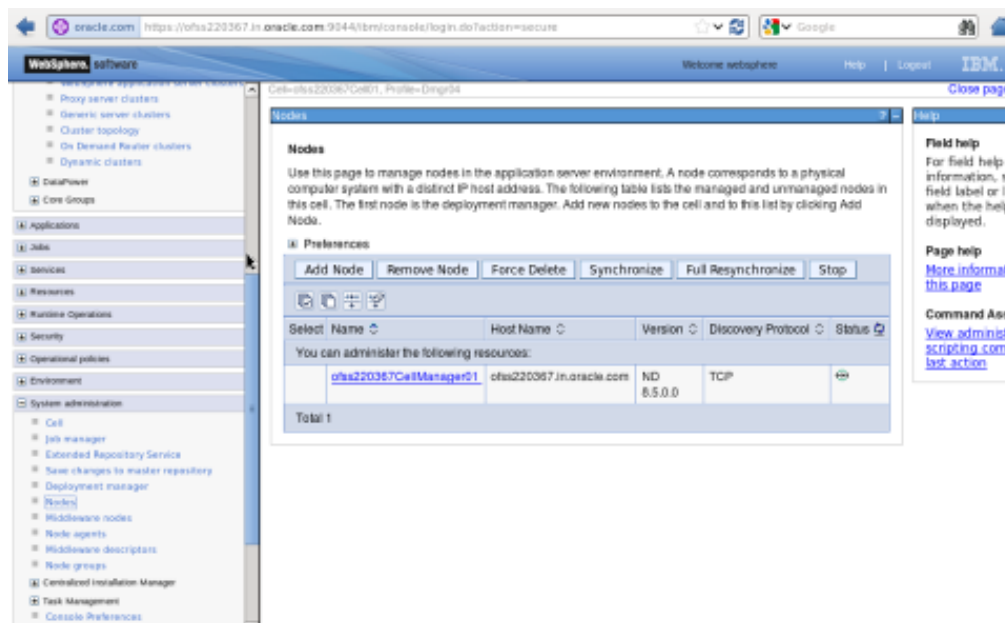
Navigation : IBM WebSphere > IBM WebSphere Application Server V8.5 > Profiles > Dmgr[i]>Start the deployment *manager* > *Administrative console*



Log into Deployment Manger Console

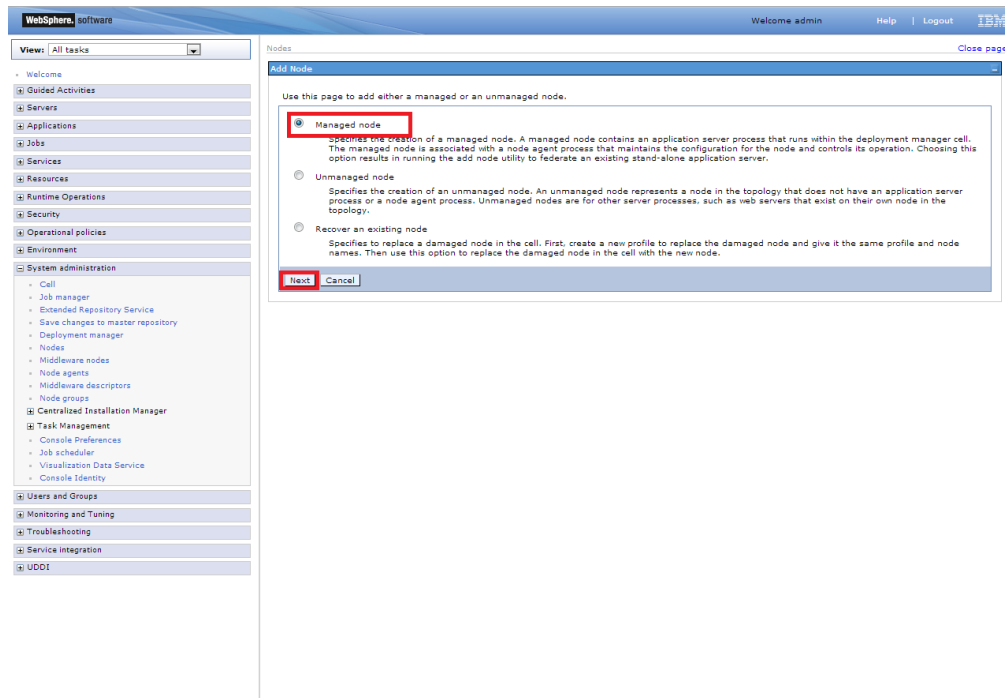


Navigation : System administration > Nodes > Add Node



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

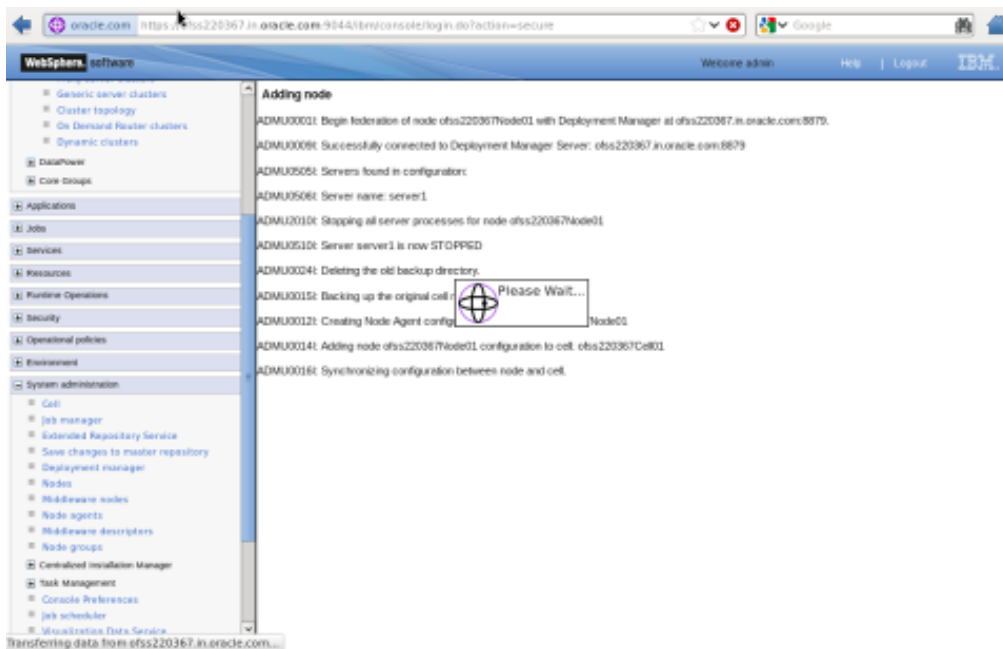
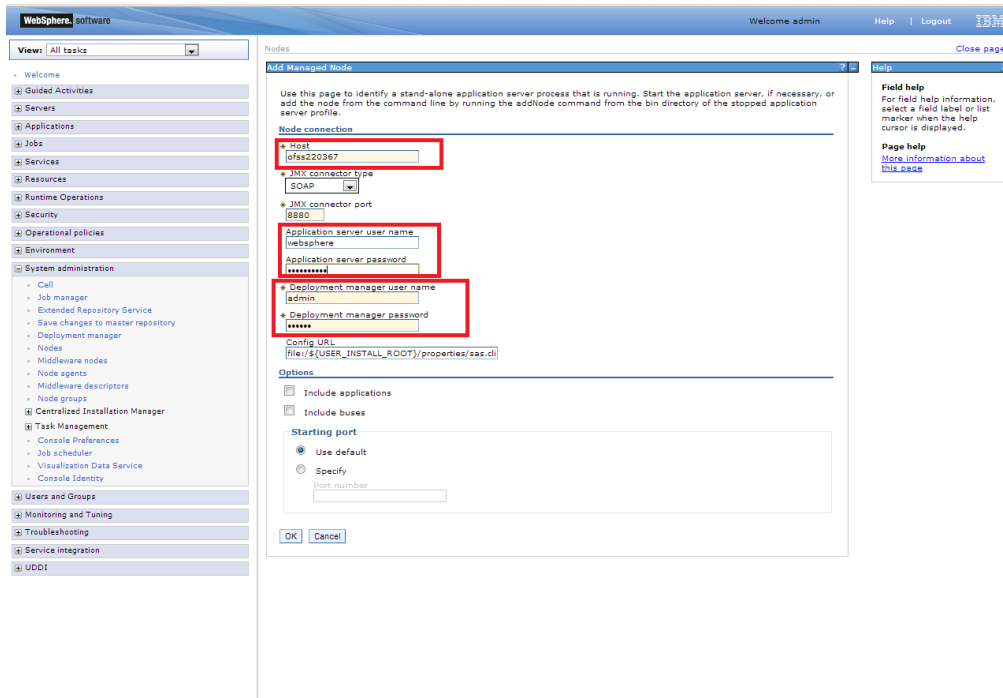
JMX Connector Port : SOAP_CONNECTOR_ADDRESS of Application Server

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"/>	ofsa220367CellManager01	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	ofsa220367Node01	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
Total 2					

You can administer the following resources:

Field help
For field help information, see field label or list when the help is displayed.

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

Command Assit
[View administrator's console](#)
[View administrator's console](#)
[View administrator's console](#)

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"/>	ofsa220367CellManager01	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	ofsa220367Node01	ofsa220367.in.oracle.com	ND 8.5.0.0	TCP	⊕
<input type="checkbox"/>	ofsa220555Node01	ofsa220555.in.oracle.com	ND 8.5.0.0	TCP	⊕
Total 3					

You can administer the following resources:

Field help
For field help information, see field label or list when the help is displayed.

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

Command Assit
[View administrator's console](#)
[View administrator's console](#)
[View administrator's console](#)

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

The screenshot shows the 'Create a new cluster' wizard in the WebSphere software console. The 'Create first cluster member' step is active. The 'Member name' field contains 'MS_1' and the 'Select node' dropdown is set to 'ofsa220367Node01 (ND 8.5.0.0)'. The 'Weight' is set to 2. The 'Generate unique HTTP ports' checkbox is checked. The 'Select how the server resources are promoted in the cluster' dropdown is set to 'Cluster'. The 'Select basis for first cluster member' section has three radio buttons: 'Create the member using an application server template.' (selected), 'Create the member using an existing application server as a template.', and 'Create the member by converting an existing application server.'

Add required number of cluster members

Navigation : Add Member > Next

The screenshot shows the 'Create a new cluster' wizard in the WebSphere software console. The 'Create additional cluster members' step is active. The 'Member name' field contains 'MS_2' and the 'Select node' dropdown is set to 'ofsa222555Node01 (ND 8.5.0.0)'. The 'Weight' is set to 2. The 'Add Member' button is highlighted. Below the form is a table with columns: Select, Member name, Nodes, Version, Weight. The table contains one row: MS_1, ofsa220367Node01, ND 8.5.0.0, 2. The 'Total' row shows 1.

Select	Member name	Nodes	Version	Weight
<input type="checkbox"/>	MS_1	ofsa220367Node01	ND 8.5.0.0	2
Total				1

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 1 (Enter basic cluster information), Step 2 (Create first cluster member), Step 3 (Create additional cluster members), and Step 4 (Summary). Step 3 is currently active.

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

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 type="checkbox"/>	MS_1	otss220367Node01	ND 8.5.0.0	2
<input type="checkbox"/>	MS_2	otss222555Node01	ND 8.5.0.0	2
Total 2				

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

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' step, which provides a 'Summary of actions:' table.

Summary

Summary of actions:

Options	Values
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
Generate unique HTTP ports	true

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](#)

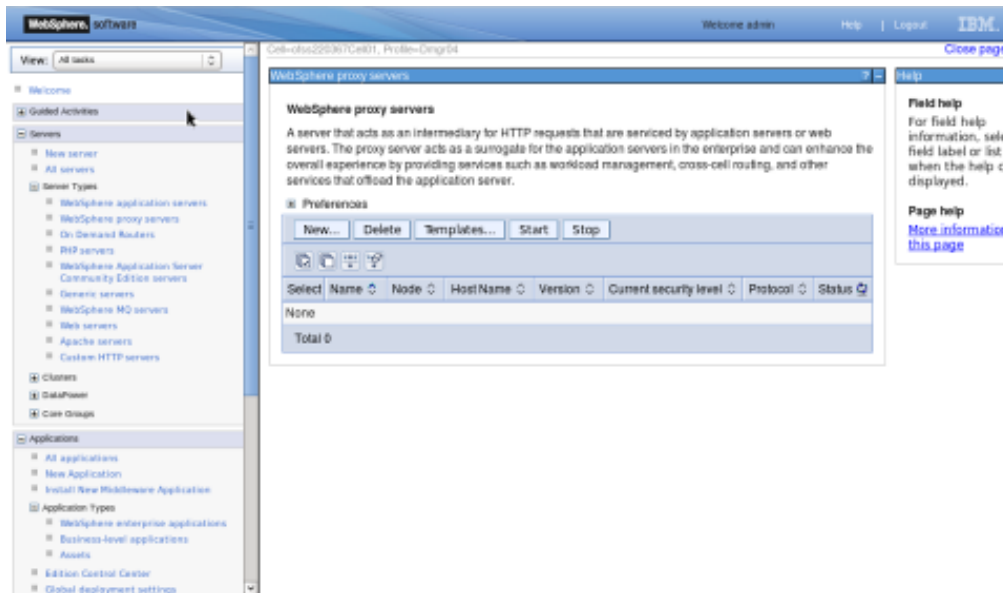
4.3.2 Start Cluster

The screenshot shows the IBM 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, and its status is indicated by a red 'X' icon. A 'Total 1' summary is shown at the bottom of the table. On the right side, there are links for 'Field help', 'Page help', and 'Command Assistant'.

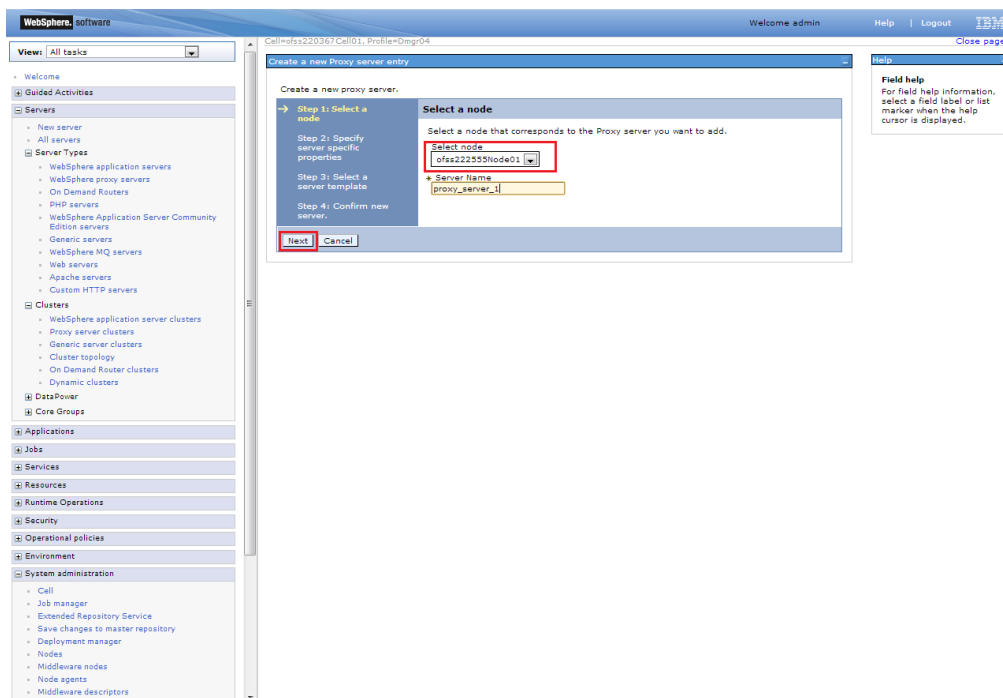
This screenshot shows the same WebSphere administration console after the 'Start' operation has been initiated. A message box at the top of the main content area states: 'The start operation on cluster CLUSTER_1 has been initiated. It may take several minutes for each cluster member to finish starting.' The table below now shows 'CLUSTER_1' with a green arrow icon in the 'Status' column, indicating that the start process is in progress. The rest of the interface, including the navigation pane and help links, 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
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- 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.

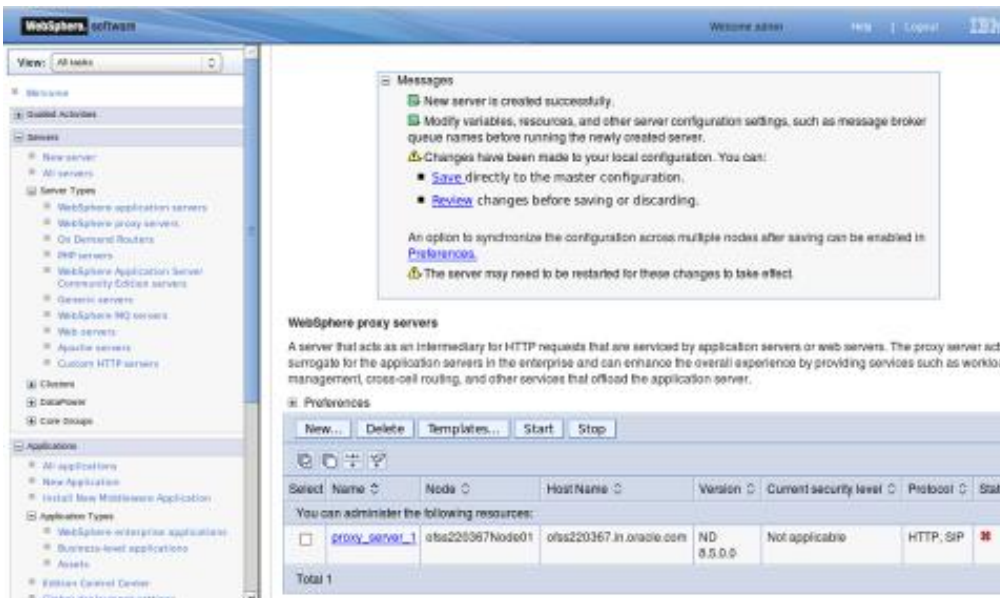
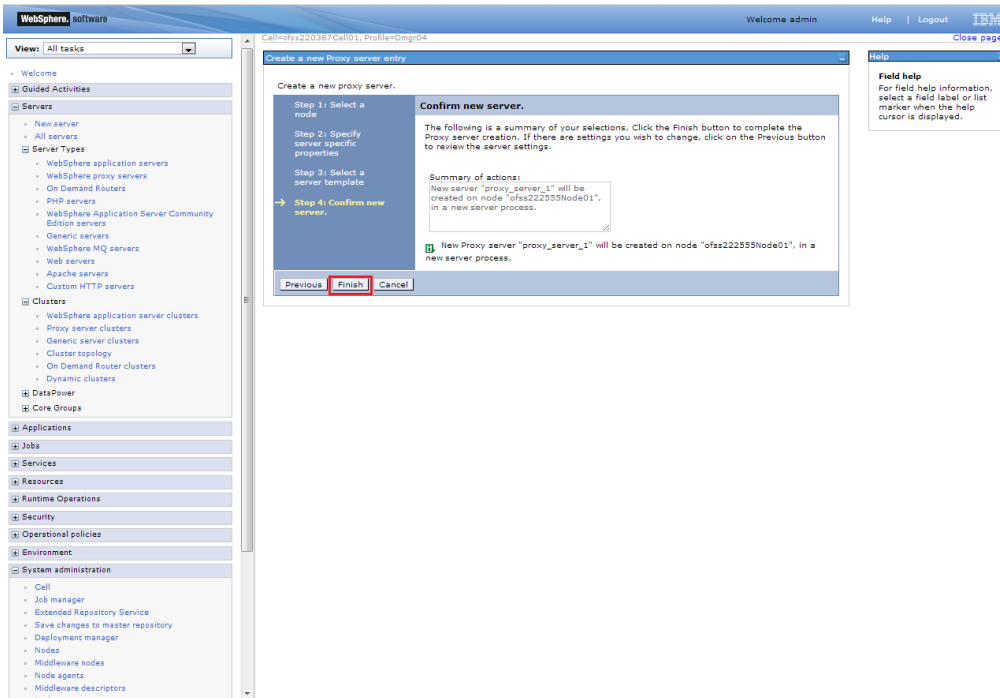
Select a server template

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

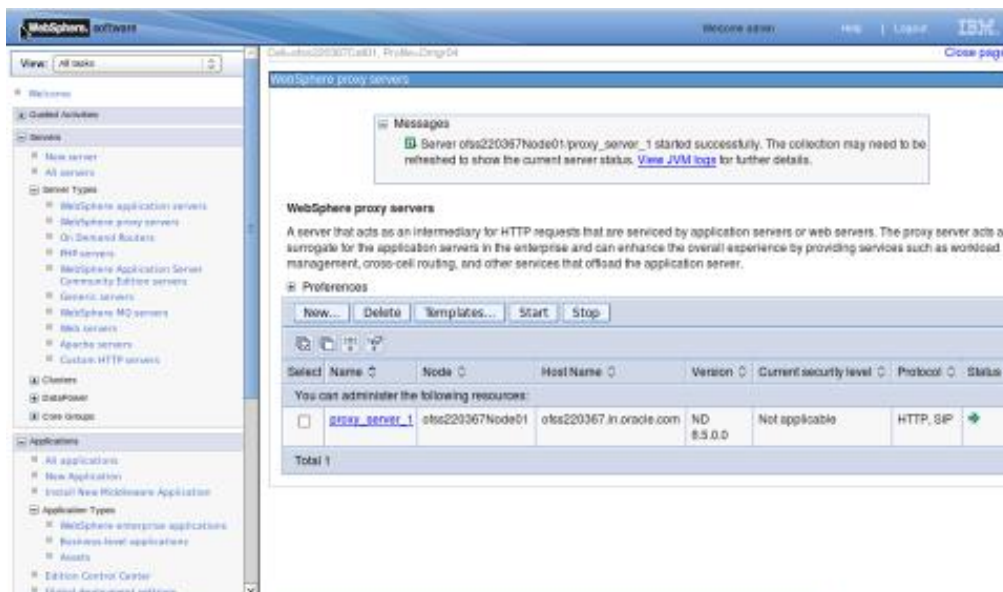
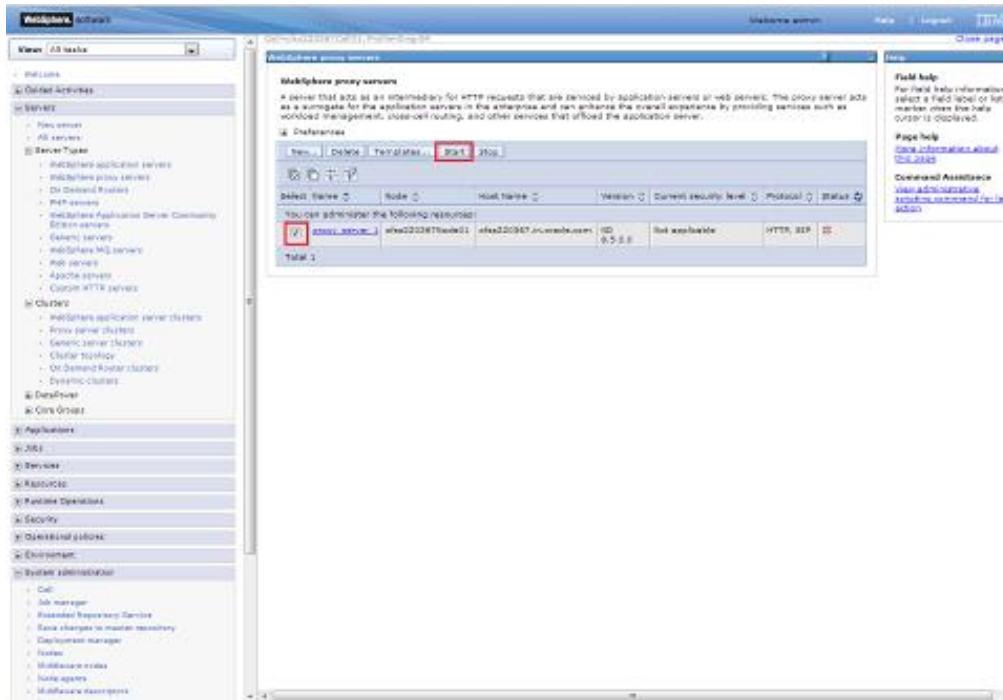
Select	Name	Type	Describe the purpose of this template
<input checked="" type="radio"/>	proxy_server_foundation	System	The WebSphere Default Proxy Server Template

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



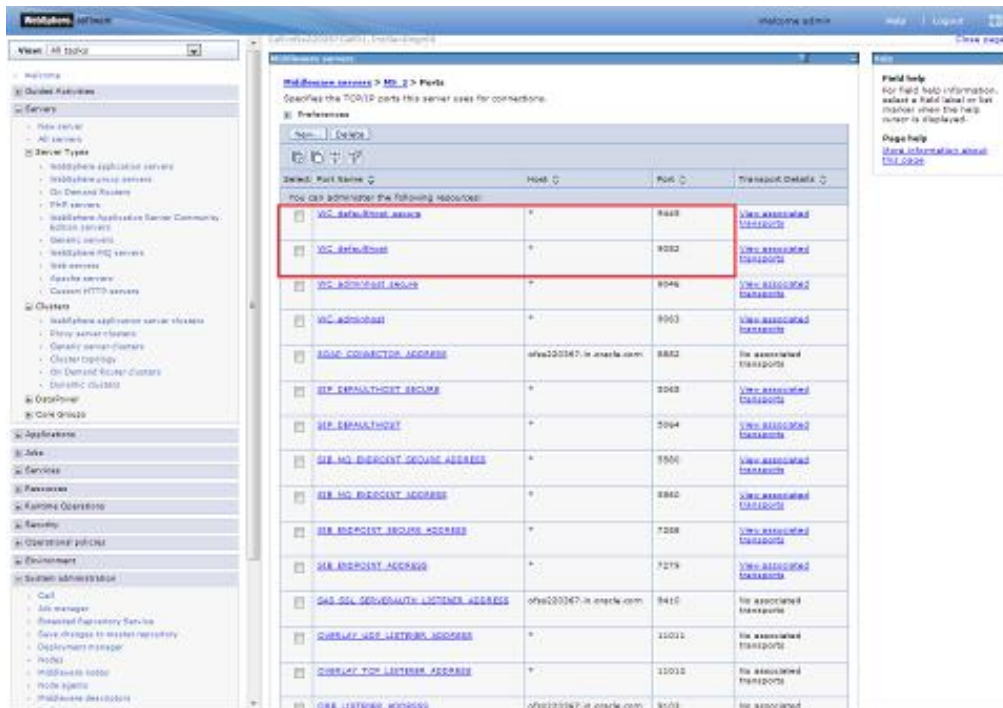
4.5 Configure Virtual Host

Make a note of “WC_defaulthost”/“WS_defaulthost_secure” port for server MS1 : 9081/9444

The screenshot shows the Oracle WebLogic Server Administration Console. The main window displays the 'Virtual Hosts' configuration for 'Middleware Services - MS_1 - Ports'. The page title is 'Specify the TCP/IP ports this server uses for connections.' and the URL is 'http://ms1:9080'. Below the title, there is a table listing various ports and their status. The table has columns for 'Name', 'Port', and 'Transport Details'. Two rows are highlighted with a red border: 'WC_defaulthost_secure' at port 9444 and 'WC_defaulthost' at port 9081. Other ports listed include 'WC_defaulthost_secure' (9043), 'WC_ADMIN_CONSOLE' (9042), 'SOAP_CONNECTOR_ADDRESS' (9081), 'SIS_DEFAULTHOST_SECURE' (9083), 'SIS_DEFAULTHOST' (9042), 'SIS_HTTP_ENDPOINT_SECURE_ADDRESS' (9079), 'SIS_HTTP_ENDPOINT_ADDRESS' (9089), 'SIS_ENDPOINT_SECURE_ADDRESS' (9089), 'SIS_ENDPOINT_ADDRESS' (9078), 'SIS_HTTP_ENDPOINT_SECURE_ADDRESS' (9087), 'QUICKSTART_VOC_LISTENER_ADDRESS' (11009), 'QUICKSTART_TCP_LISTENER_ADDRESS' (11810), and 'JMS_LISTENER_ADDRESS' (9102).

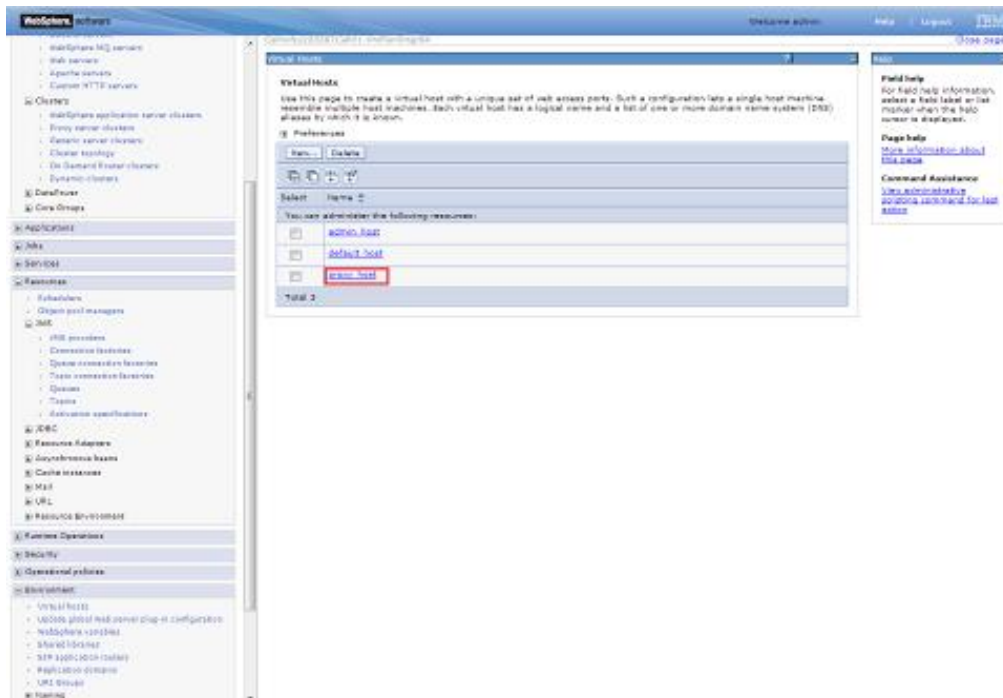
Name	Port	Transport Details
<input type="checkbox"/> WC_defaulthost_secure	9444	No associated transports
<input type="checkbox"/> WC_defaulthost	9081	No associated transports
<input type="checkbox"/> WC_defaulthost_secure	9043	No associated transports
<input type="checkbox"/> WC_ADMIN_CONSOLE	9042	No associated transports
<input type="checkbox"/> SOAP_CONNECTOR_ADDRESS	9081	No associated transports
<input type="checkbox"/> SIS_DEFAULTHOST_SECURE	9083	No associated transports
<input type="checkbox"/> SIS_DEFAULTHOST	9042	No associated transports
<input type="checkbox"/> SIS_HTTP_ENDPOINT_SECURE_ADDRESS	9079	No associated transports
<input type="checkbox"/> SIS_HTTP_ENDPOINT_ADDRESS	9089	No associated transports
<input type="checkbox"/> SIS_ENDPOINT_SECURE_ADDRESS	9089	No associated transports
<input type="checkbox"/> SIS_ENDPOINT_ADDRESS	9078	No associated transports
<input type="checkbox"/> SIS_HTTP_ENDPOINT_SECURE_ADDRESS	9087	No associated transports
<input type="checkbox"/> QUICKSTART_VOC_LISTENER_ADDRESS	11009	No associated transports
<input type="checkbox"/> QUICKSTART_TCP_LISTENER_ADDRESS	11810	No associated transports
<input type="checkbox"/> JMS_LISTENER_ADDRESS	9102	No associated transports

Make a note of “WC_defaulthost”/“WS_defaulthost_secure” for MS2 : 9082/9445

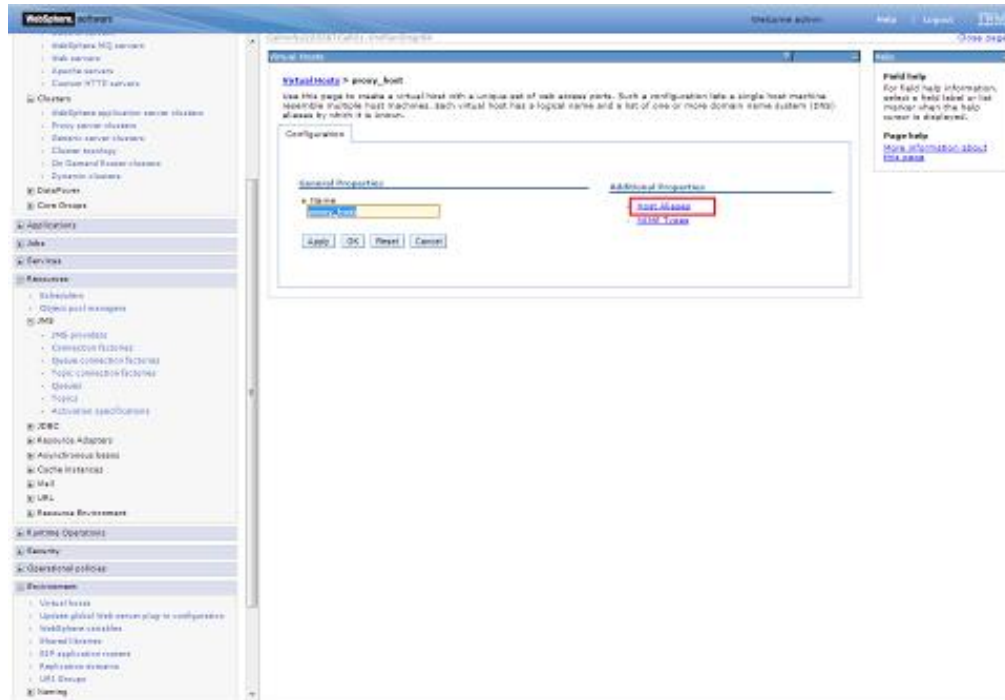


4.5.1 Virtual Host Setup

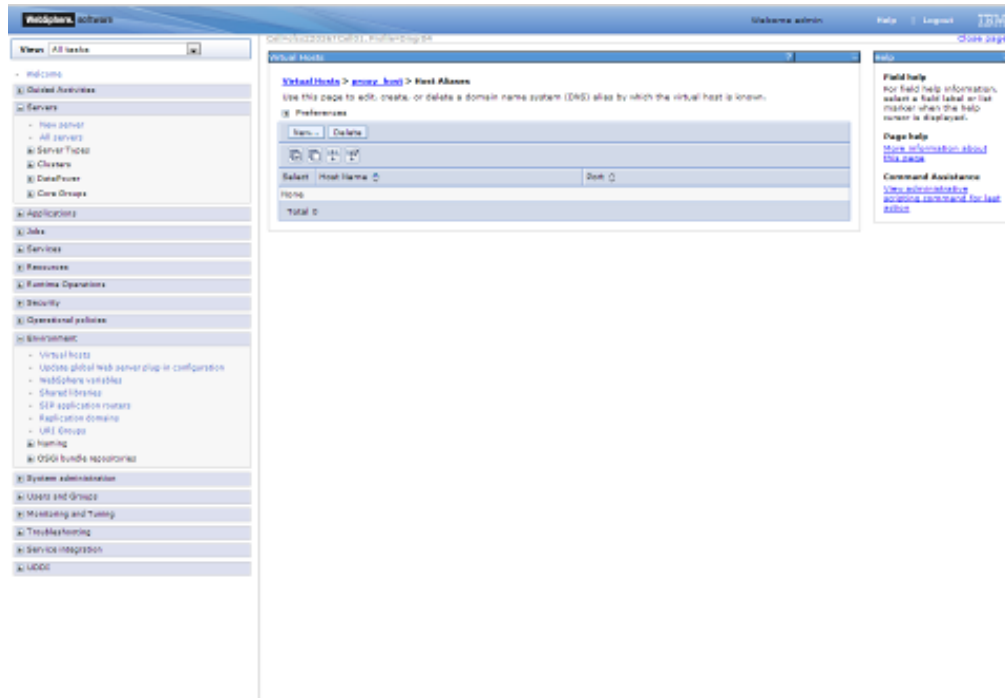
Navigation : *Environment*>*Virtual hosts*>*proxy_host*



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 left-hand navigation pane is expanded to 'Operational policies' > 'Virtual Hosts'. The main content area displays the 'Virtual Hosts' configuration page for a specific virtual host. The breadcrumb path is 'Virtual Hosts > proxy_host > Host Aliases > New...'. Below the breadcrumb, there is a 'Configuration' section with a 'General Properties' sub-section. In this sub-section, the 'Host Name' field contains '1' and the 'Port' field contains '9081'. At the bottom of the configuration area are buttons for 'Apply', 'OK', 'Reset', and 'Cancel'. On the right side of the page, there is a 'Field help' section and a 'Page help' section with a link to 'More information about this page'.

The screenshot shows the Oracle WebLogic Administration Console interface, similar to the previous one, but now displaying the 'Virtual Hosts' configuration page for listing existing aliases. The breadcrumb path is 'Virtual Hosts > proxy_host > Host Aliases'. Below the breadcrumb, there is a 'References' section with buttons for 'New...', 'Delete', and 'Refresh'. Below that, there is a table with columns for 'Default', 'Host Name', and 'Port'. The table contains one entry: '9081' in the 'Port' column. Below the table, there is a section titled 'You can administer the following resources:' with a table containing one entry: '9081'. At the bottom of this section, it says 'Total 1'. On the right side of the page, there is a 'Field help' section and a 'Page help' section with a link to 'More information about this page'. Additionally, there is a 'Command Assistance' section with a link to 'View administrative services command for Java EE6'.

Similarly create proxy alias for all cluster related server default ports

The screenshot shows the Oracle WebCenter console interface. The main content area is titled "Virtual Hosts > proxy_host > Host Aliases". Below the title, there is a description: "Use this page to edit, create, or delete a domain name system (DNS) alias by which the virtual host is known." There is a "Preferences" section with a "Items" button and a "Delete" button. Below that is a table with the following data:

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

The left sidebar contains a navigation menu with the following items:

- Home
- Global Actions
- Servers
 - Item names
 - All servers
 - Server Types
 - Clusters
 - DataPivot
 - Core Groups
- Applications
- Jobs
- Services
- Resources
- Performance Operations
- Security
- Operational policies
- Middleware
 - Virtual hosts
 - Update global web server plug-in configuration
 - WebSphere console
 - Shared libraries
 - HTTP application routers
 - Application domains
 - URL groups
 - Mapping
 - ORB bundle repositories
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UCDI

5. Create Resources in Cluster Scope

JDBC Provider :

The screenshot shows the 'JDBC providers' configuration page in the WebSphere Admin console. The 'Scope' dropdown menu is highlighted with a red box and set to 'Cluster=CLUSTER_1'. Below the configuration, a table lists the resources created:

Resource Name	Scope	Description
<input type="checkbox"/> Oracle JDBC Driver	Cluster=CLUSTER_1	Oracle JDBC Driver
<input type="checkbox"/> Oracle JDBC Driver (XA)	Cluster=CLUSTER_1	Oracle JDBC Driver (XA)

Datasource :

The screenshot shows the 'Data sources' configuration page in the WebSphere Admin console. The 'Scope' dropdown menu is highlighted with a red box and set to 'Cluster=CLUSTER_1'. Below the configuration, a table lists the resources created:

Resource Name	JDBC name	Scope	Provider	Description	Category
<input type="checkbox"/> CLUSTER_1@db	db/JspServletDB	Cluster=CLUSTER_1	Oracle JDBC Driver (XA)	Non-JDBC DataSource	
<input type="checkbox"/> CLUSTER_1@db	JspServletDB	Cluster=CLUSTER_1	Oracle JDBC Driver	Non-JDBC DataSource	

Queue Connection Factory

The screenshot shows the 'Queue connection factories' configuration page in the Oracle WebSphere Admin Console. The page title is 'Queue connection factories'. Below the title, there is a description: 'A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destinations, for point-to-point messaging.' The configuration is for 'Scope: Cell=fe22830fca85, Cluster=CLUSTER_1'. There is a checkbox for 'Show scope selection drop-down list with the all scopes option' which is checked. Below this, a dropdown menu is set to 'Cluster=CLUSTER_1'. The 'References' section contains a table with the following data:

Select	Name	JMS name	Provider	Description	Scope
<input type="checkbox"/>	EMRQCF	EMRQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	PC_QCF	PC_QCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	REBQCF	REBQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	WebSphereQCF	WebSphereQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1

The total count is 4.

JMS Queue:

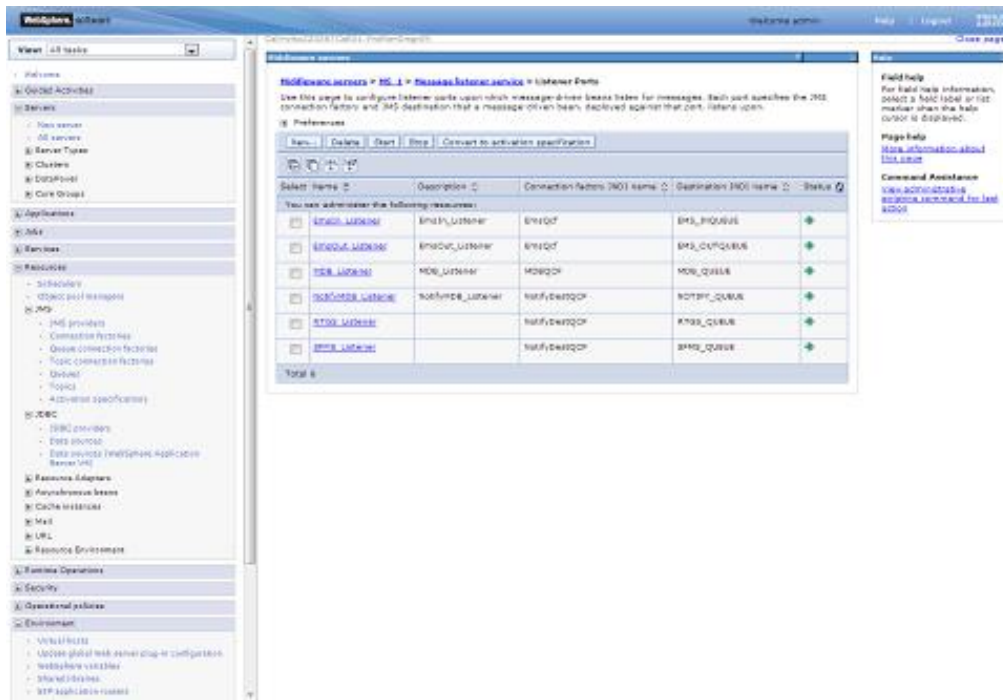
The screenshot shows the 'Queues' configuration page in the Oracle WebSphere Admin Console. The page title is 'Queues'. Below the title, there is a description: 'A JMS queue is used as a destination for point-to-point messaging.' The configuration is for 'Scope: Cell=fe22830fca85, Cluster=CLUSTER_1'. There is a checkbox for 'Show scope selection drop-down list with the all scopes option' which is checked. Below this, a dropdown menu is set to 'Cluster=CLUSTER_1'. The 'References' section contains a table with the following data:

Select	Name	JMS name	Provider	Description	Scope
<input type="checkbox"/>	EMR_QUEUE	EMR_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	EMR_OUT_QUEUE	EMR_OUT_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	PC_QUEUE	PC_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	PC_QUEUE_DLO	PC_QUEUE_DLO	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	PC_QUEUE_REBQCF	PC_QUEUE_REBQCF	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	NOTIFY_DEST_QUEUE	NOTIFY_DEST_QUEUE	WebSphere MQ messaging provider		Cluster=CLUSTER_1
<input type="checkbox"/>	NOTIFY_QUEUE	NOTIFY_QUEUE	WebSphere MQ messaging provider	NOTIFY_QUEUE	Cluster=CLUSTER_1
<input type="checkbox"/>	NOTIFY_QUEUE_DLO	NOTIFY_QUEUE_DLO	WebSphere MQ messaging provider		Cluster=CLUSTER_1

The total count is 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*

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

Select items: [] Description: [] Connection factory JREI name: [] Destination JREI name: [] Status: []

You can administer the following resources:

Item	Description	Connection factory JREI name	Destination JREI name	Status
<input type="checkbox"/> INBOUND_LISTENER		EMDQCF	EMD_QUEUE	+
<input type="checkbox"/> OUTBOUND_LISTENER	EMDOUT_listener	EMDQCF	EMD_OUTQUEUE	+
<input type="checkbox"/> TNS_LISTENER		MSQCF	MSB_QUEUE	+
<input type="checkbox"/> HTTP_LISTENER		MSQCF	HTTP_QUEUE	+
<input type="checkbox"/> XDB_LISTENER		MSQCF	XDB_QUEUE	+
<input type="checkbox"/> HTTP_LISTENER		MSQCF	MSB_QUEUE	+

Total: 6

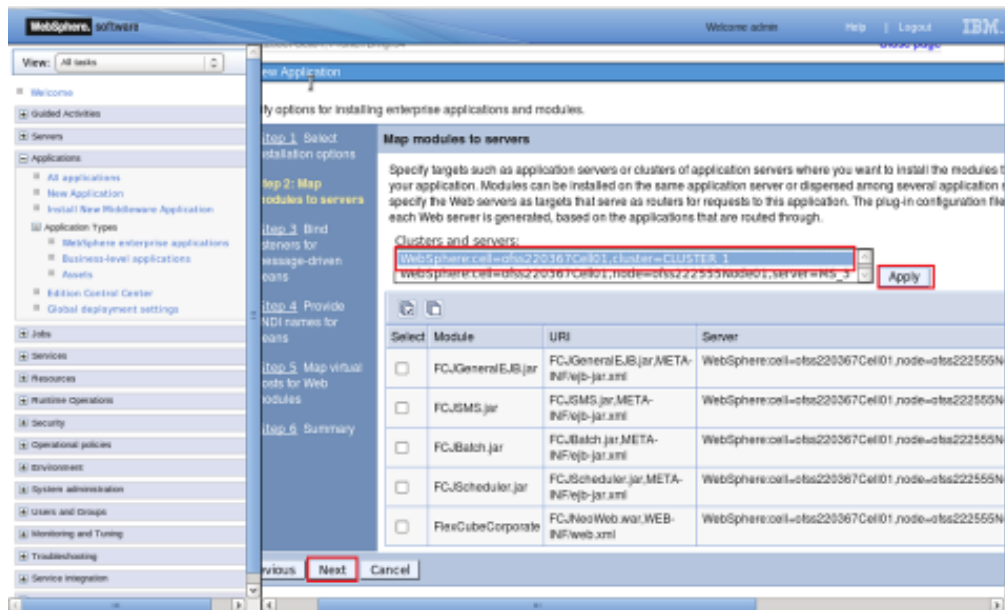
Field Help
For field help information, click a field label or list marker when the help icon is displayed.

Page Help
Click information about this page.

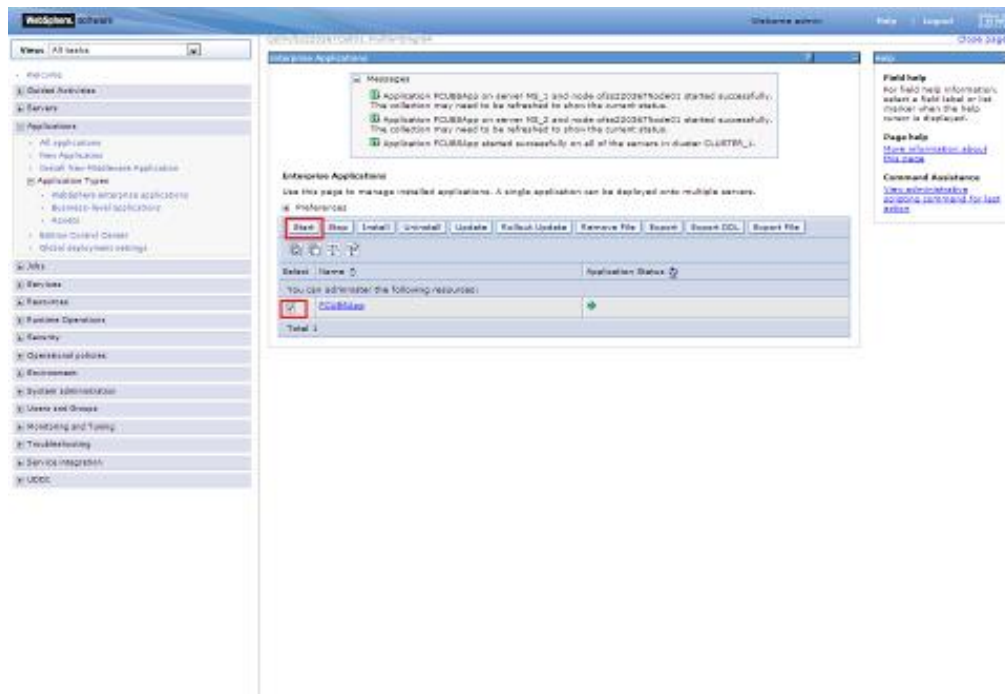
Command Assistance
Click action buttons to obtain assistance for task steps.

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.

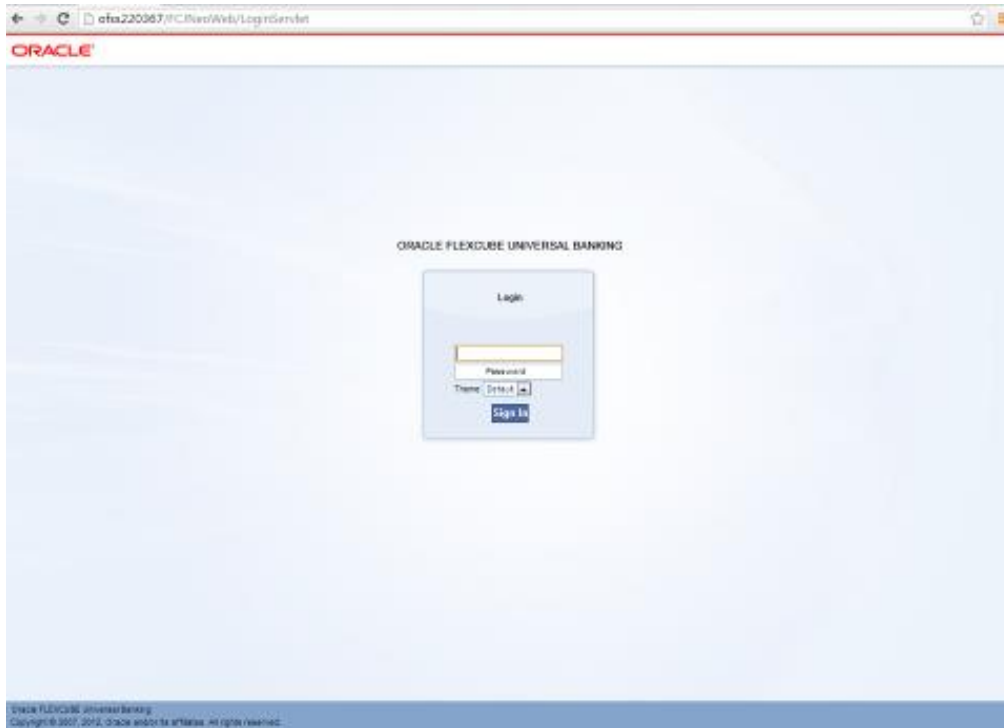
Navigation : `Servers > Server Types > WebSphere proxy servers > [proxy_server_1] > Ports`

The screenshot shows the Oracle WebSphere Administration Console interface. The left sidebar contains a navigation tree with categories like Servers, Clusters, Applications, and Site. The main content area displays the 'Ports' configuration for a specific proxy server. A table lists various ports with columns for Port Name, Host, Port, and Transport Details. Two rows, 'PROXY_HTTPS_ADDRESS' and 'PROXY_HTTP_ADDRESS', are highlighted with a red rectangular box.

Port Name	Host	Port	Transport Details
BOOTSTRAP_ADDRESS	afba222867.in.oracle.com	8813	No associated transports
CEWS_SSL_MUTUALAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
CEWS_SSL_SERVERAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
CGI_SOCKET_ADDRESS	*	9007	No associated transports
CGI_SOCKET_ADDRESS	*	7874	No associated transports
IPC_CONNECTOR_ADDRESS	tcpPort	9006	No associated transports
DIR_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
DUPLEX_TCP_LISTENER_ADDRESS	*	10014	No associated transports
DUPLEX_UDP_LISTENER_ADDRESS	*	10013	No associated transports
PROXY_HTTPS_ADDRESS	*	443	No associated transports
PROXY_HTTP_ADDRESS	*	80	No associated transports
PROXY_IPC_ADDRESS	*	3061	No associated transports
PROXY_IPC_ADDRESS	*	5090	No associated transports
SEC_SSL_SERVERAUTH_LISTENER_ADDRESS	afba222867.in.oracle.com	0	No associated transports
SOCKET_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



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