

Cluster Creation on Websphere Application Server 8.5
Oracle FLEXCUBE Investor Servicing
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Table of Contents

| | |
|---|-----------|
| 1. PURPOSE | 3 |
| 2. INTRODUCTION TO WEBSPHERE | 3 |
| 3. PRE-REQUISITES: | 4 |
| 4. STEPS INVOLVED FOR CLUSTERING | 5 |
| 4.1 CREATE PROFILE | 5 |
| 4.1.1 Create Deployment Manager Profile | 9 |
| 4.2 CREATE NODE | 14 |
| 4.2.1 Start Node Agents | 17 |
| 4.3 CREATE CLUSTER | 18 |
| 4.3.1 Add Cluster Members | 19 |
| 4.3.2 Start Cluster | 21 |
| 4.4 CREATE PROXY SERVER | 22 |
| 4.4.1 Start Proxy Server | 25 |
| 4.5 CONFIGURE VIRTUAL HOST | 26 |
| 4.5.1 Virtual Host Setup | 27 |
| 5. CREATE RESOURCES IN CLUSTER SCOPE | 30 |
| 6. DEPLOY APPLICATION TO CLUSTER | 33 |
| 6.1.1 Test the application | 34 |

1. Purpose

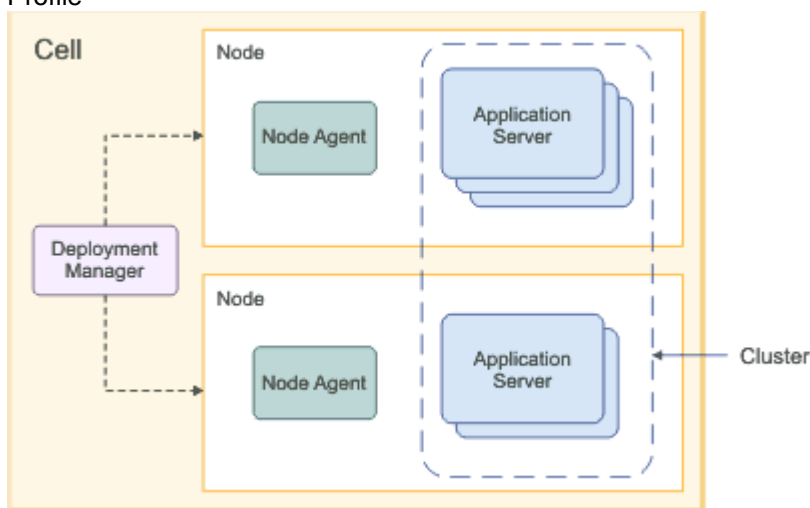
This document explains steps to create Cluster on Websphere Application Server 8.5 and also setup the proxy.

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\WEBSPPHERE\Resource_Creation_WAS.doc

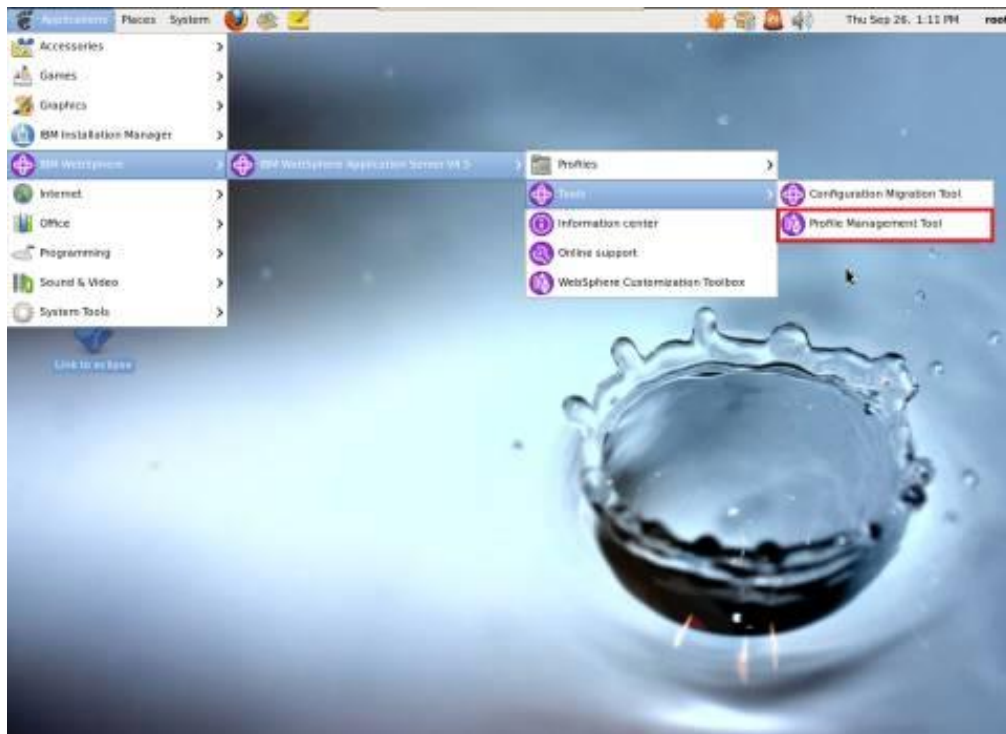
- For SSL configuration in Websphere, refer to the document SSL_Configuration_WAS.doc
- For application deployment, refer to document FCIS_Application_WAS.doc
- For deployment of Gateway applications, refer to document GATEWAY_Applications_WAS.doc

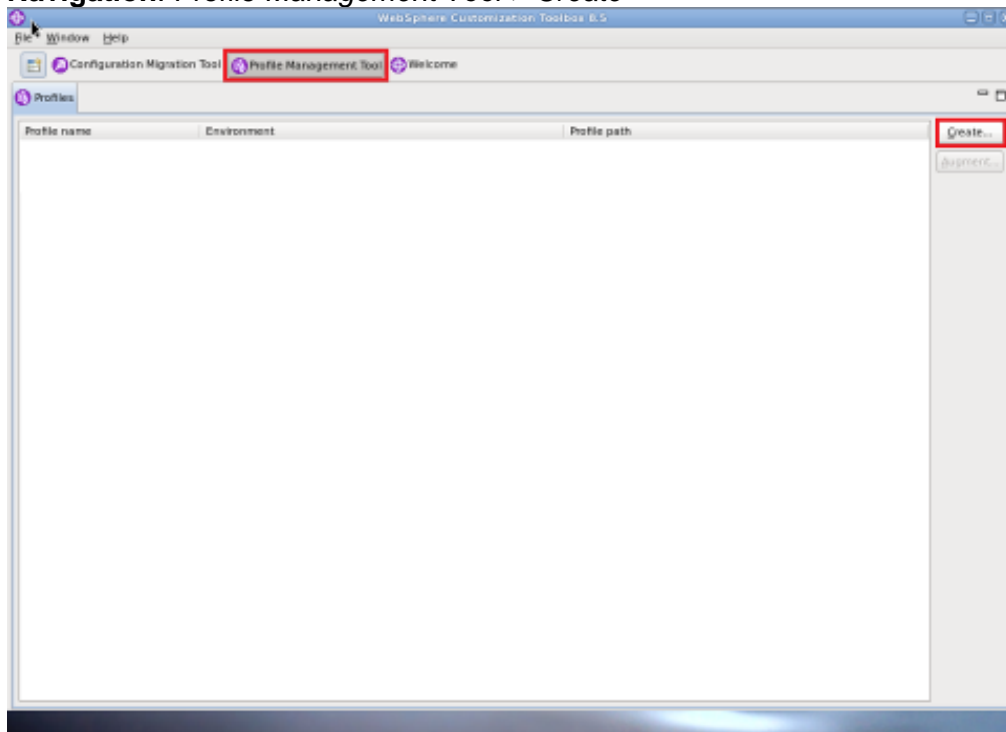
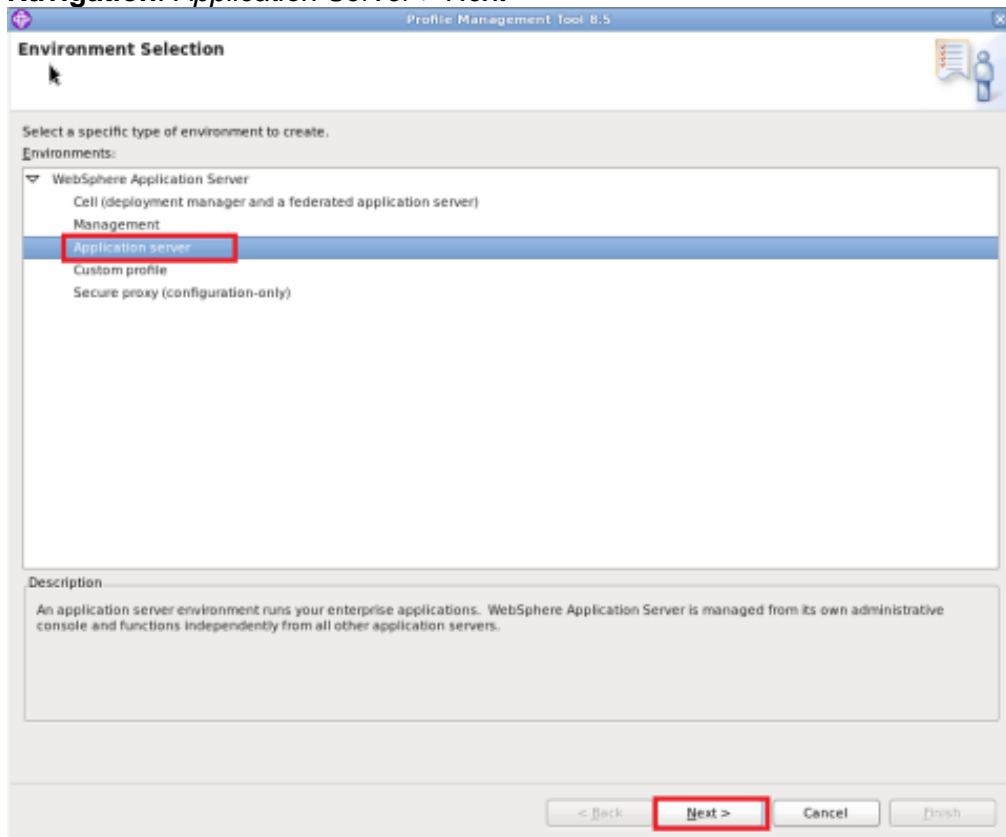
4. Steps involved for Clustering

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*

Profile Creation Options

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

☒ **Typical profile creation**

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

Note: Default personal certificates expire in one year. Select Advanced profile creation to create a personal certificate with a different expiration.

☐ **Advanced profile creation**

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

< Back **Next >** Cancel Finish

Navigation: *Enable administrative security > Next*

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:
websphere

Password:

Confirm password:

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

< Back **Next >** Cancel Finish

Navigation: *Create Summary*

Profile Creation Summary

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

Application server environment to create: Application server
 Location: /opt/IBM/WebSphere/AppServer/profiles/AppSrv06
 Disk space required: 200 MB

Profile name: AppSrv06
 Make this profile the default: True
 Performance tuning setting: Standard

Node name: ofss220367Node01
 Server name: server1
 Host name: ofss220367.in.oracle.com

Deploy the administrative console (recommended): True
 Deploy the default application: True

Enable administrative security (recommended): True

Administrative console port: 9060
 Administrative console secure port: 9043
 HTTP transport port: 9080
 HTTPS transport port: 9443
 Bootstrap port: 2809
 SOAP connector port: 8880

Run application server as a service: False

< Back Create Cancel Finish

Navigation: *Finish*

Profile Creation Complete

The Profile Management Tool created the profile successfully.

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

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

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

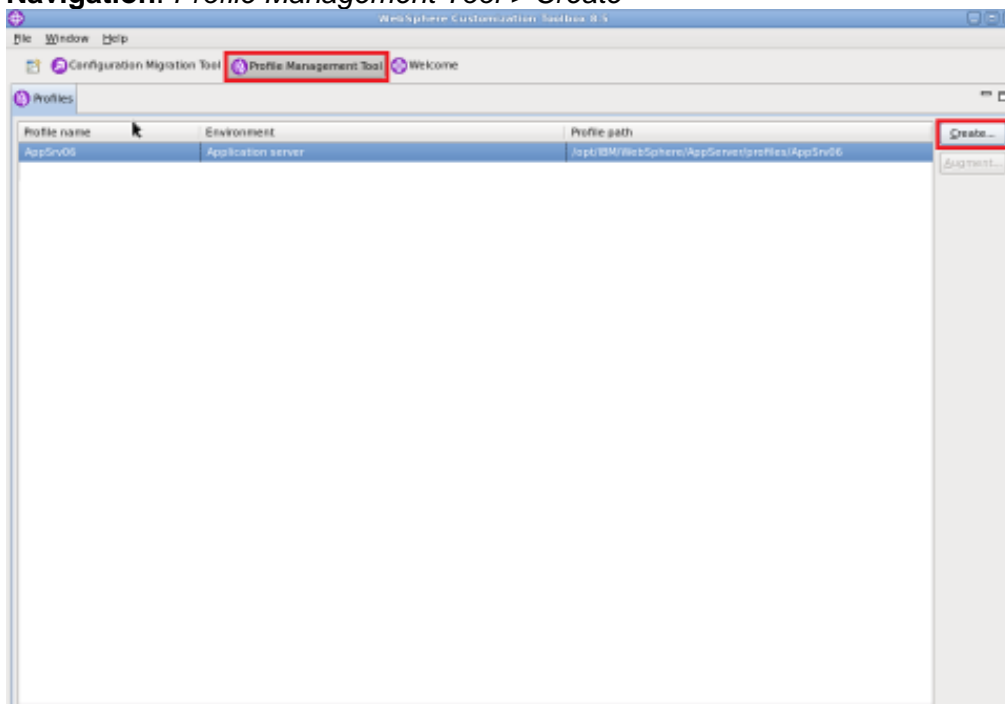
☒ Launch the first steps console.

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

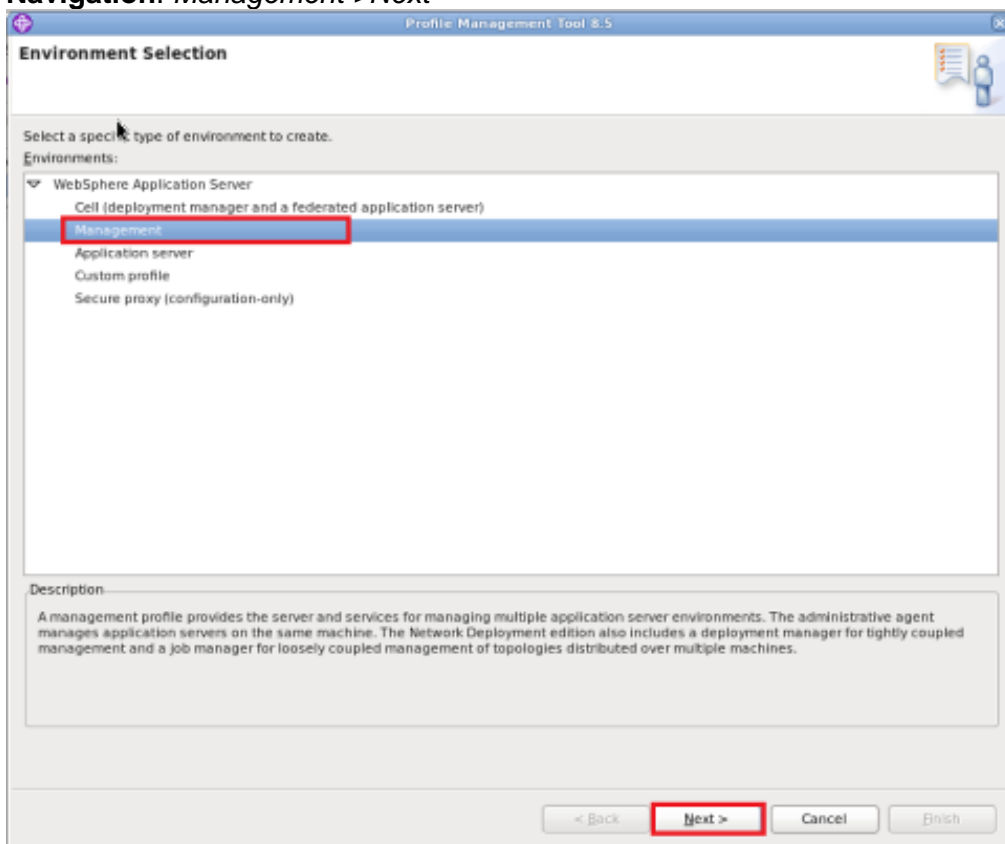
< Back Next > Cancel Finish

4.1.1 Create Deployment Manager Profile

Navigation: *Profile Management Tool > Create*



Navigation: *Management > Next*



Navigation: *Deployment Manager > Next*

Server Type Selection

Select the type of server to be created within this management profile

☐ **Administrative agent**
An administrative agent provides management capability for multiple stand-alone application servers. An administrative agent can manage only the application servers that exist within the same installation on one machine.

☒ **Deployment manager**
A deployment manager provides management capability for multiple federated nodes. A deployment manager can manage nodes that span multiple systems and platforms. The nodes that are managed by a deployment manager can only be managed by a single deployment manager and must be federated to the cell of that deployment manager.

☐ **Job manager**
A job manager provides management capability for multiple stand-alone application servers, administrative agents, and deployment managers. The job manager can manage nodes that span multiple systems and platforms. The nodes that are managed by one job manager also can be managed by other job managers.

< Back **Next >** Cancel Finish

Navigation: *Typical profile creation > Next*

Profile Creation Options

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

☒ **Typical profile creation**
Create a deployment manager profile that uses default configuration settings. The Profile Management Tool assigns unique names to the profile, node, host, and cell. The tool also assigns unique port values. The administrative console will be installed and you can optionally select whether to enable administrative security. The tool might create a system service to run the deployment manager depending on the operating system of your machine and the privileges assigned to your user account.
Note: Default personal certificates expire in one year. Select Advanced profile creation to create a personal certificate with a different expiration.

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

< Back **Next >** Cancel Finish

Navigation: *Enable administrative security > Next*

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 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

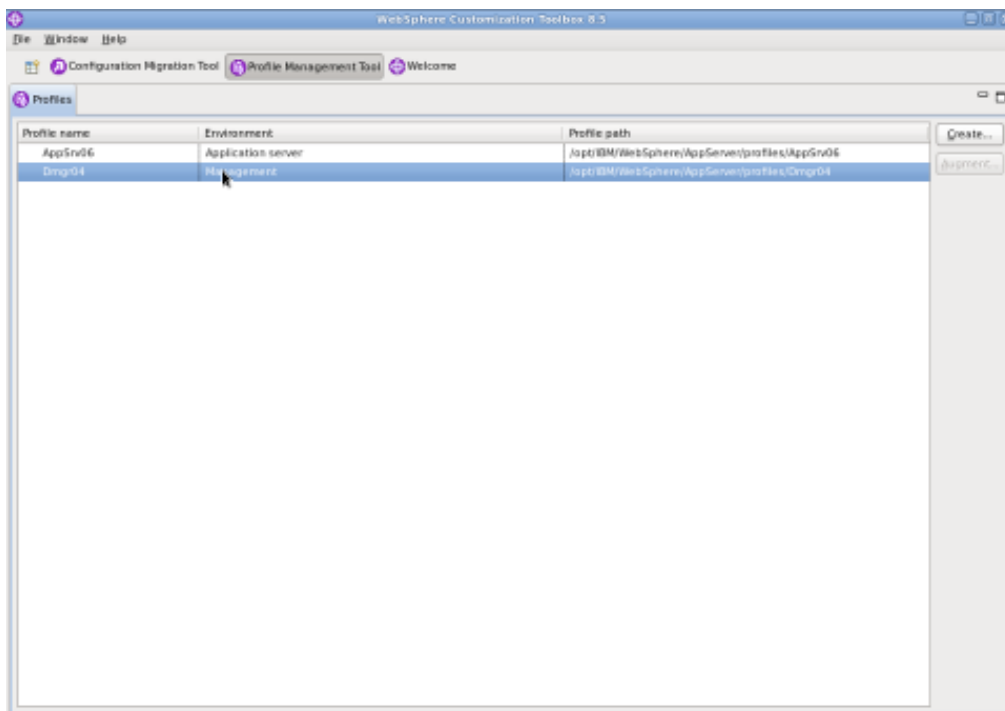
Cell name: ofss220367Cell01
 Node name: ofss220367CellManager01
 Host name: ofss220367.in.oracle.com

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

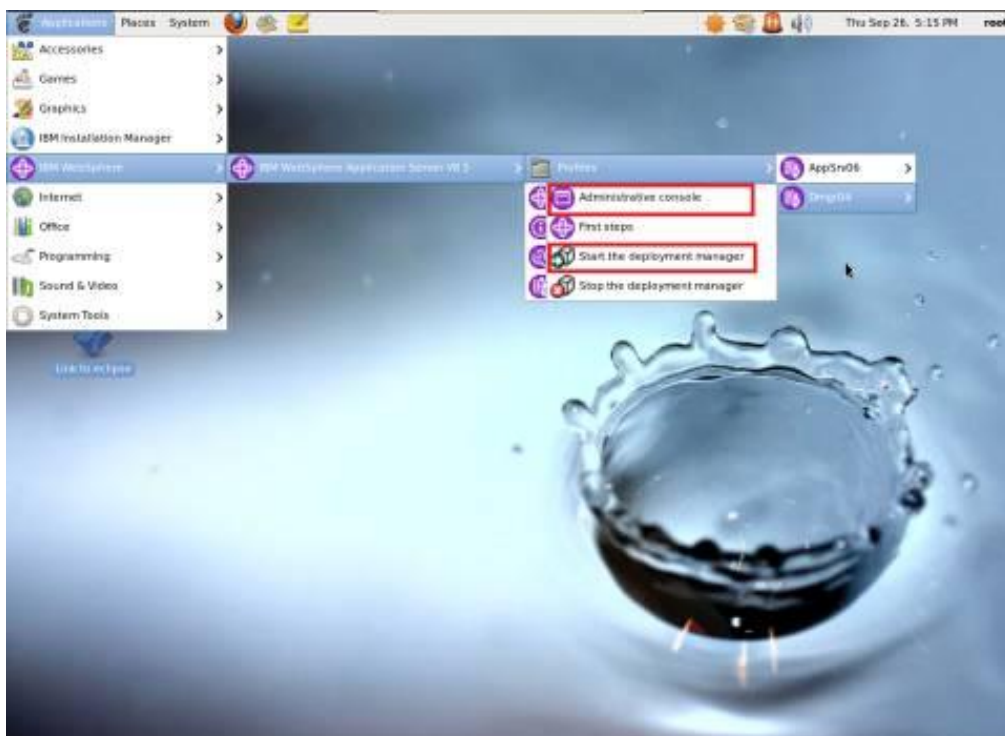
Run deployment manager as a service: False

< Back **Create** Cancel Finish



Start Deployment Manager & Open Administrative Console

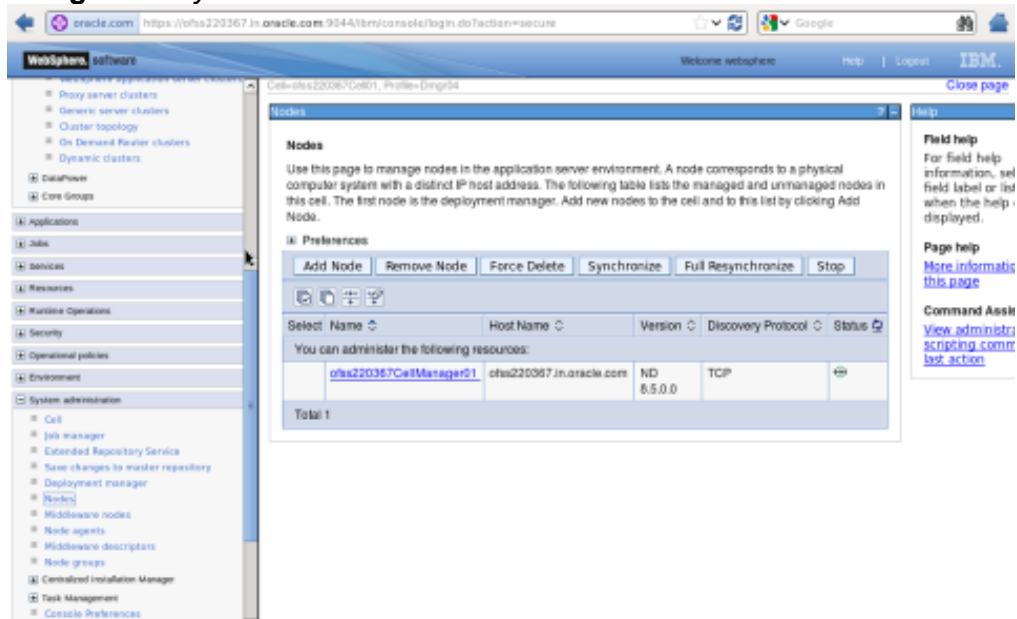
Navigation: IBM WebSphere > IBM WebSphere Application Server V8.5 > Profiles > Dmgr[i] > Start the deployment *manager* > *Administrative console*



Log into Deployment Manager Console

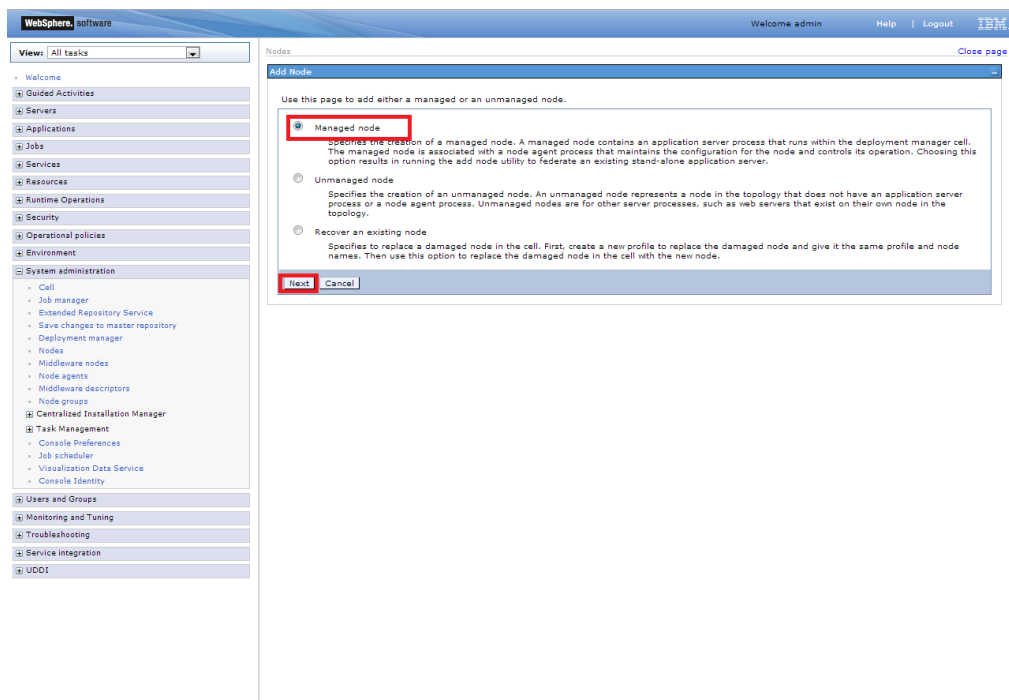


Navigation: *System administration > Nodes > Add Node*



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 |

WebSphere software

Welcome admin Help Logout IBM

Views: All tasks

Nodes

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: SOAP

JMX connector port: 8880

Application server user name: wasphere

Application server password: *****

Deployment manager user name: admin

Deployment manager password: *****

Config URL: file:\${USER_INSTALL_ROOT}/properties/sas.dll

Options

☐ Include applications

☐ Include buses

Starting port

☒ Use default

☐ Specify

Port number:

OK 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

WebSphere software

Welcome admin Help Logout IBM

Generic server clusters

Cluster topology

On Demand Router clusters

Dynamic clusters

Dashboard

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 group

Centralized Installation Manager

Task Management

Console Preferences

Job scheduler

Visualization Data Service

Adding node

ADMU0002I: Begin federation of node ofss220367Node01 with Deployment Manager at ofss220367.in.oracle.com:8870.

ADMU0008I: Successfully connected to Deployment Manager Server: ofss220367.in.oracle.com:8870

ADMU0505I: Servers found in configuration:

ADMU0506I: Server name: server1

ADMU0201I: Stopping all server processes for node ofss220367Node01

ADMU0510I: Server server1 is now STOPPED

ADMU0024I: Deleting the old backup directory.

ADMU0015I: Backing up the original cell configuration. Please Wait...

ADMU0012I: Creating Node Agent configuration for Node00

ADMU0014I: Adding node ofss220367Node01 configuration to cell: ofss220367Cell01

ADMU0016I: Synchronizing configuration between node and cell.

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

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"/> | otbs220367CellManager01 | otbs220367.in.oracle.com | ND 8.5.0.0 | TCP | ↔ |
| <input type="checkbox"/> | otbs220367Node01 | otbs220367.in.oracle.com | ND 8.5.0.0 | TCP | ↔ |

Total: 2

Create necessary number of nodes following same instructions above:

Messages

Your workspace has been auto-refreshed from the master configuration. You can disable auto-refresh in your user preferences.

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"/> | otbs220367CellManager01 | otbs220367.in.oracle.com | ND 8.5.0.0 | TCP | ↔ |
| <input type="checkbox"/> | otbs220367Node01 | otbs220367.in.oracle.com | ND 8.5.0.0 | TCP | ↔ |
| <input type="checkbox"/> | otbs222555Node01 | otbs222555.in.oracle.com | ND 8.5.0.0 | TCP | ↔ |

Total: 3

4.2.1 Start Node Agents

Navigation: *System administration> Node agents>Restart*

The screenshot shows the IBM WebSphere software interface. The left navigation pane is expanded to 'System administration' > 'Node agents'. The main content area displays the 'Node agents' page, which includes a description of the node agent process and a table of managed node agents.

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

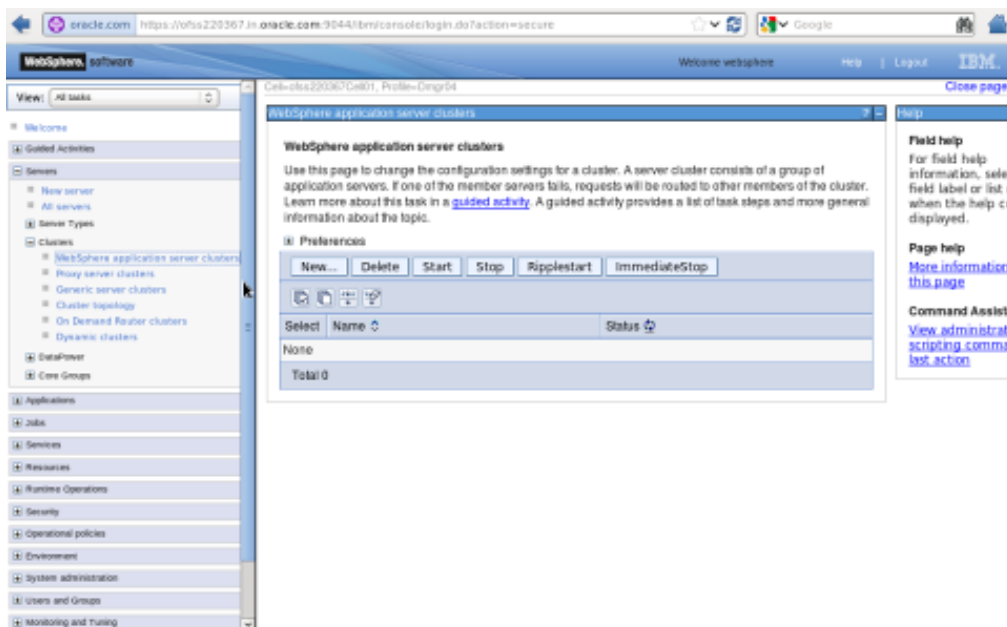
| Select | Name | Node | Host Name | Version | Status |
|--------------------------|-----------|------------------|--------------------------|------------|--------|
| <input type="checkbox"/> | nodeagent | otss222555Node01 | otss222555.in.oracle.com | ND 8.5.0.0 | ➔ |
| <input type="checkbox"/> | nodeagent | otss220367Node01 | otss220367.in.oracle.com | ND 8.5.0.0 | ➔ |
| Total 2 | | | | | |

Field help
For field help information, select field label or list item when the help icon is displayed.

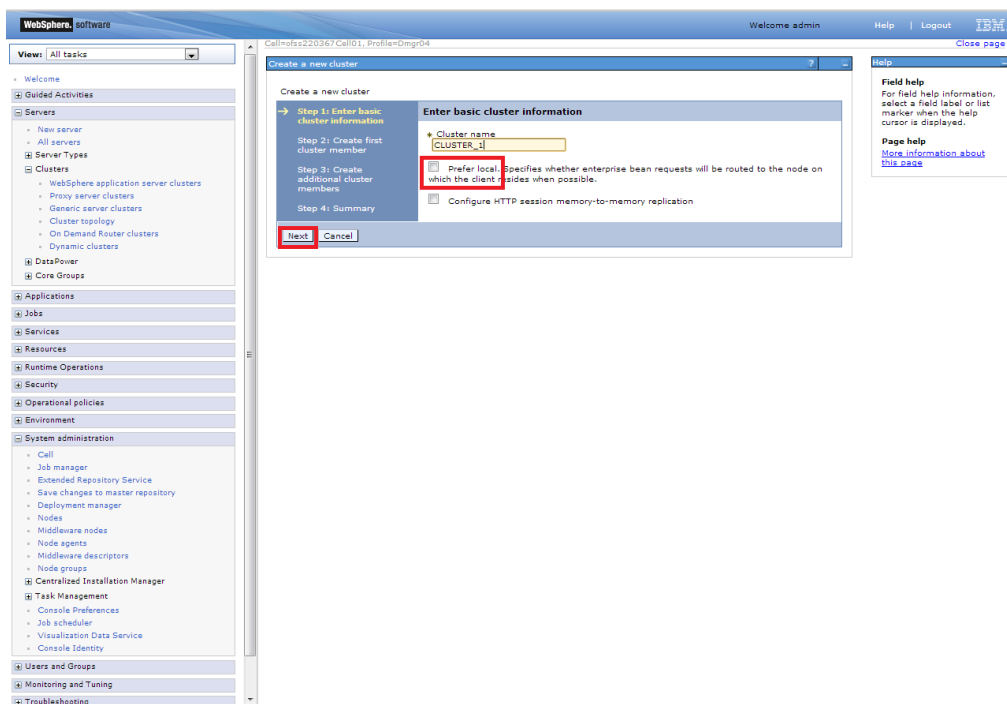
Page help
[More information this page](#)

4.3 Create Cluster

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



Navigation : Uncheck [Prefer Local] > Next



4.3.1 Add Cluster Members

Add required number of cluster members

Navigation: *Add Member > Next*

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

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 type="checkbox"/> | MS_1 | ofss220367Node01 | ND 8.5.0.0 | 2 |
| <input type="checkbox"/> | MS_2 | ofss222555Node01 | ND 8.5.0.0 | 2 |
| Total 2 | | | | |

Previous Next Cancel

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 | CLUSTER_1 |
| Core Group | DefaultCoreGroup |
| Node group | DefaultNodeGroup |
| Prefer local | false |
| Configure HTTP session memory-to-memory replication | false |
| Server name | MS_1 |
| Node | ofss220367Node01(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 | ofss220367Node01(ND 8.5.0.0) |
| Weight | 2 |
| Clone Template | Version 8.5 member template |
| Generate unique HTTP ports | true |

Previous Finish Cancel

4.3.2 Start Cluster

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 |
|-------------------------------------|-----------|--------|
| <input checked="" type="checkbox"/> | CLUSTER_1 | |
| Total 1 | | |

You can administer the following resources:

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

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

Command Assistance
[View administrative scripting command list action](#)

WebSphere application server clusters

Messages

The start operation on cluster CLUSTER_1 has been initiated. It may take several minutes for each cluster member to finish starting.

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 |
|--------------------------|-----------|--------|
| <input type="checkbox"/> | CLUSTER_1 | |
| Total 1 | | |

You can administer the following resources:

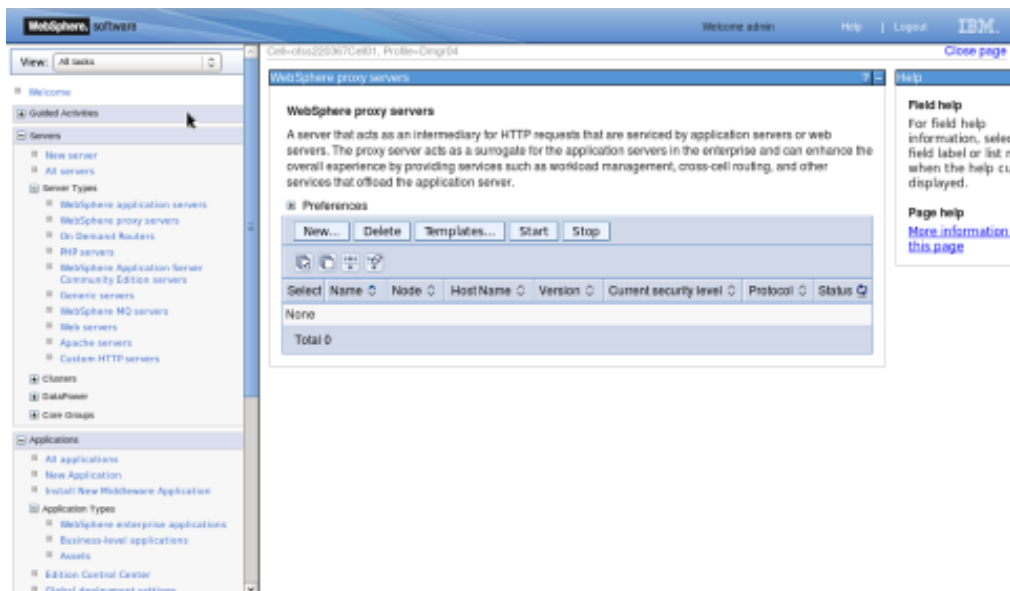
Field help
For field help information, select field label or list item when the help is displayed.

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

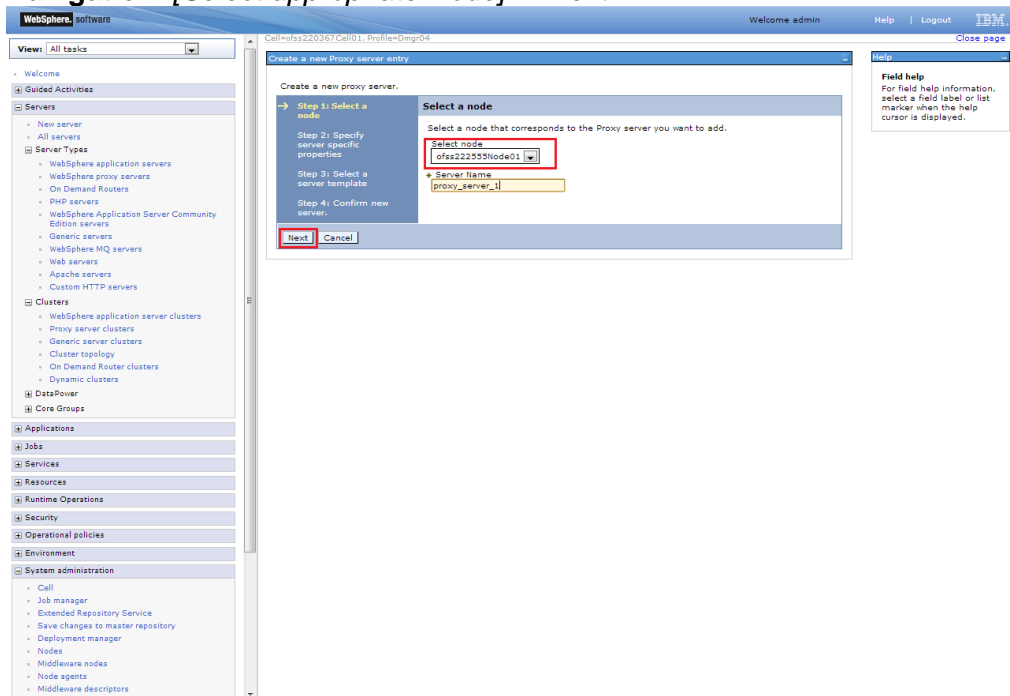
Command Assistance
[View administrative scripting command list action](#)

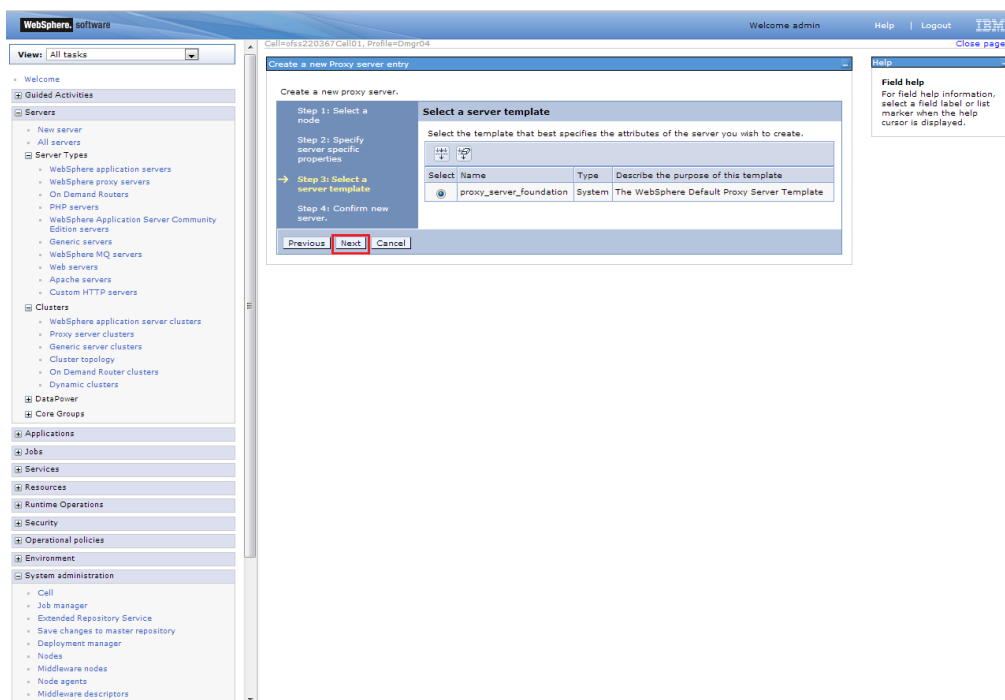
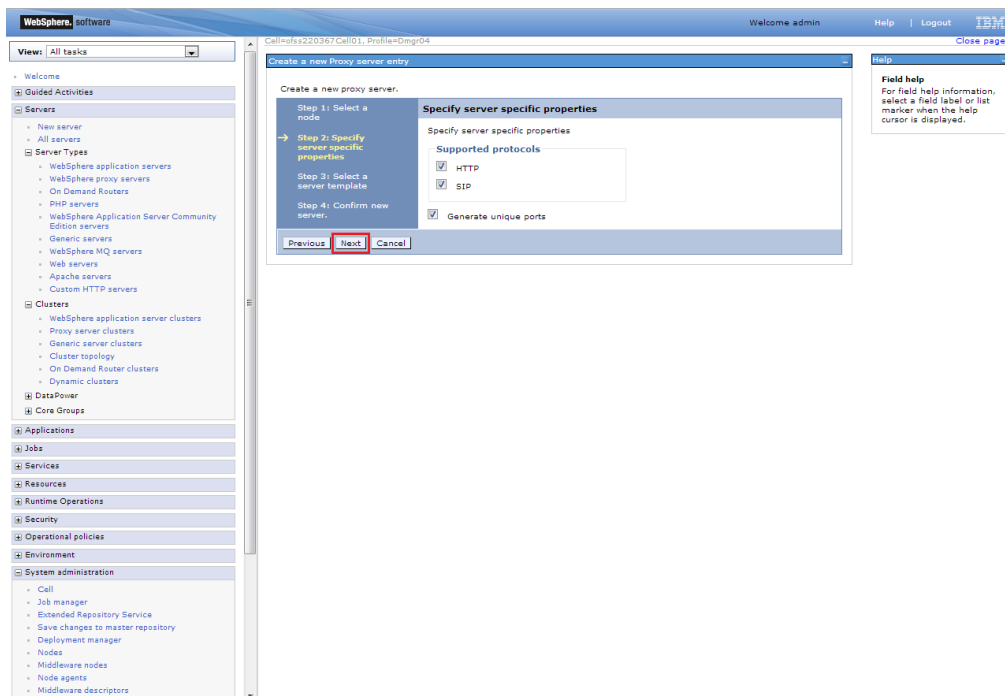
4.4 Create Proxy Server

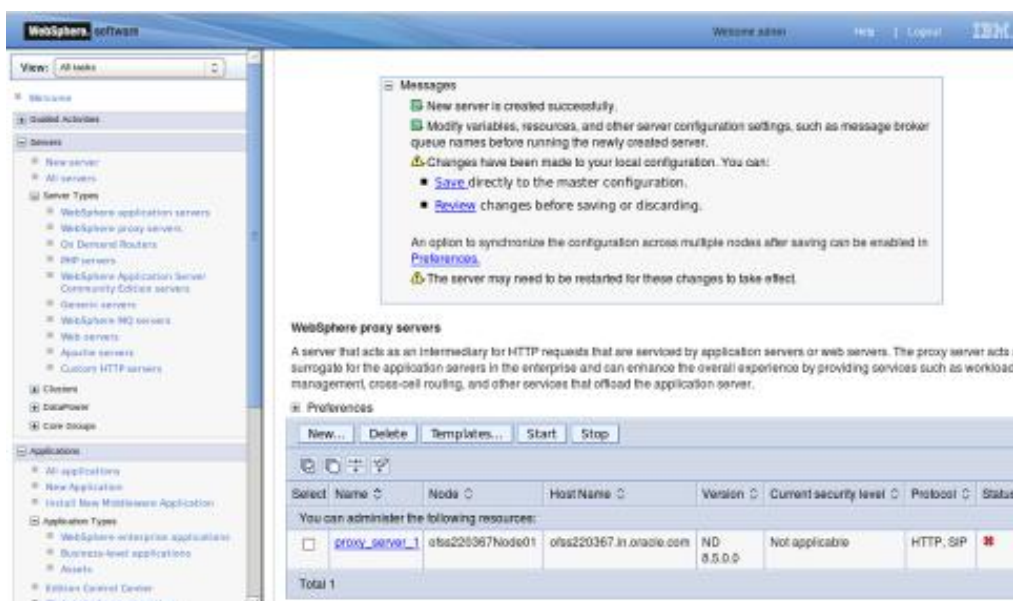
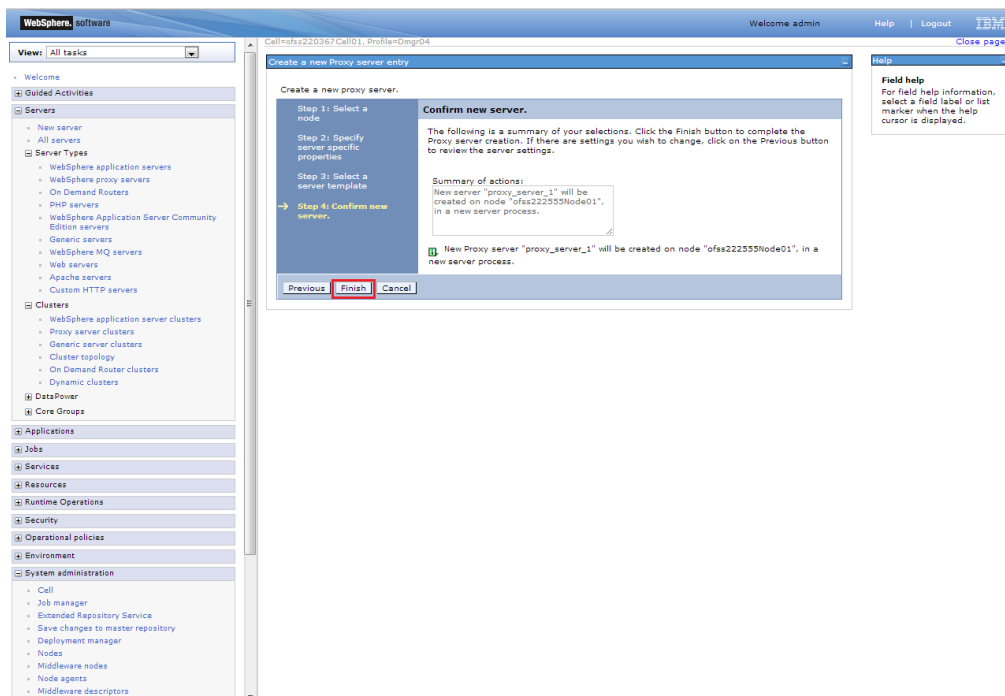
Navigation: *Servers > Server Types > WebSphere proxy servers > New*



Navigation: *[Select appropriate Node] > Next*







4.4.1 Start Proxy Server

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

How... 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 | Not available |

Total 1

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

How... 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 | Running |

Total 1

4.5 Configure Virtual Host

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

MS_1 > Ports

Specifies the TCP/IP ports this server uses for connections.

Preferences

You can administer the following resources:

| Name | Host | Port | Transport Details |
|--|-------------------------|-------|--------------------------|
| WC_defaulthost_secure | * | 9444 | Not associated transport |
| WC_defaulthost | * | 9081 | Not associated transport |
| WC_adminhost_secure | * | 9043 | Not associated transport |
| WC_adminhost | * | 9042 | Not associated transport |
| ASDC_CONNECTION_ADDRESS | afes20067.in.oracle.com | 8881 | Not associated transport |
| WS_DEFAULTHOST_SECURE | * | 9081 | Not associated transport |
| WS_DEFAULTHOST | * | 9082 | Not associated transport |
| WS_WS_ENDPOINT_SECURE_ADDRESS | * | 9079 | Not associated transport |
| WS_WS_ENDPOINT_ADDRESS | * | 9080 | Not associated transport |
| WS_ENDPOINT_SECURE_ADDRESS | * | 7287 | Not associated transport |
| WS_ENDPOINT_ADDRESS | * | 7278 | Not associated transport |
| WS_WS_DEFAULTHOST_LISTENER_ADDRESS | afes20067.in.oracle.com | 9407 | Not associated transport |
| OVERLAY_WS_LISTENER_ADDRESS | * | 11009 | Not associated transport |
| OVERLAY_TCP_LISTENER_ADDRESS | * | 11110 | Not associated transport |
| WS_LISTENER_ADDRESS | afes20067.in.oracle.com | 9102 | Not associated |

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

MS_2 > Ports

Specifies the TCP/IP ports this server uses for connections.

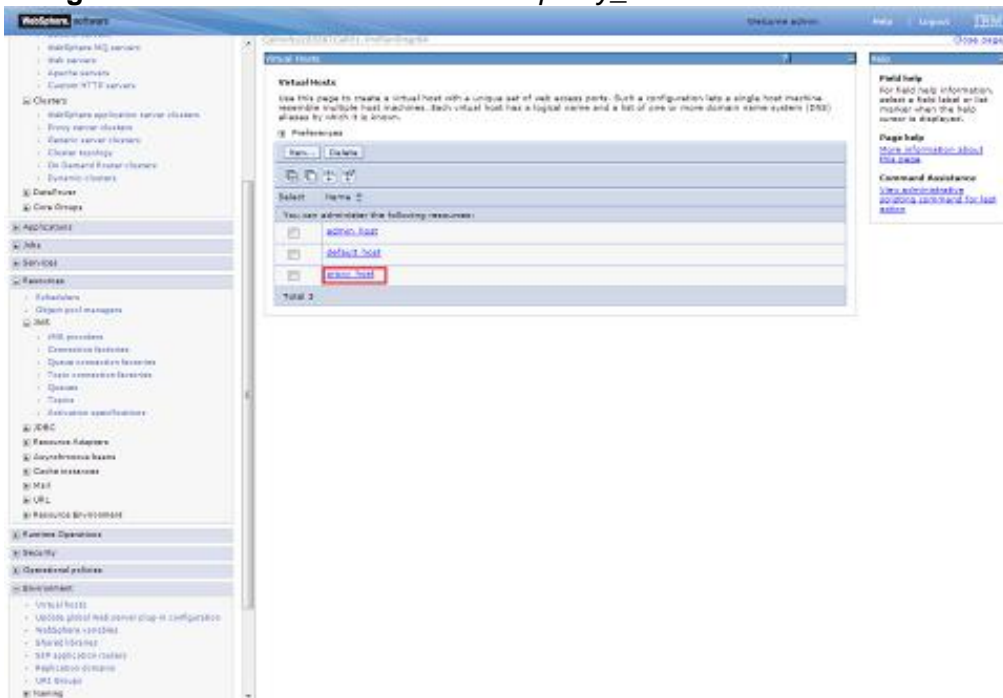
Preferences

You can administer the following resources:

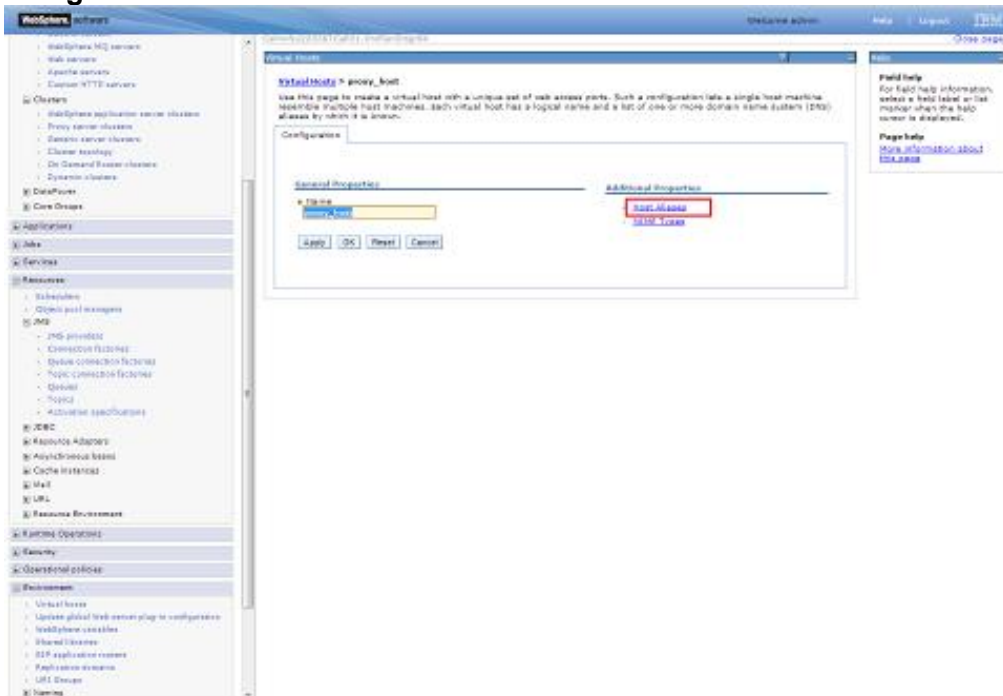
| Name | Host | Port | Transport Details |
|--|-------------------------|-------|--------------------------|
| WC_defaulthost_secure | * | 9445 | Not associated transport |
| WC_defaulthost | * | 9082 | Not associated transport |
| WC_adminhost_secure | * | 9046 | Not associated transport |
| WC_adminhost | * | 9043 | Not associated transport |
| ASDC_CONNECTION_ADDRESS | afes20067.in.oracle.com | 8882 | Not associated transport |
| WS_DEFAULTHOST_SECURE | * | 9082 | Not associated transport |
| WS_DEFAULTHOST | * | 9084 | Not associated transport |
| WS_WS_ENDPOINT_SECURE_ADDRESS | * | 9080 | Not associated transport |
| WS_WS_ENDPOINT_ADDRESS | * | 9080 | Not associated transport |
| WS_ENDPOINT_SECURE_ADDRESS | * | 7288 | Not associated transport |
| WS_ENDPOINT_ADDRESS | * | 7279 | Not associated transport |
| WS_WS_DEFAULTHOST_LISTENER_ADDRESS | afes20067.in.oracle.com | 9410 | Not associated transport |
| OVERLAY_WS_LISTENER_ADDRESS | * | 11010 | Not associated transport |
| OVERLAY_TCP_LISTENER_ADDRESS | * | 11010 | Not associated transport |
| WS_LISTENER_ADDRESS | afes20067.in.oracle.com | 9103 | Not associated |

4.5.1 Virtual Host Setup

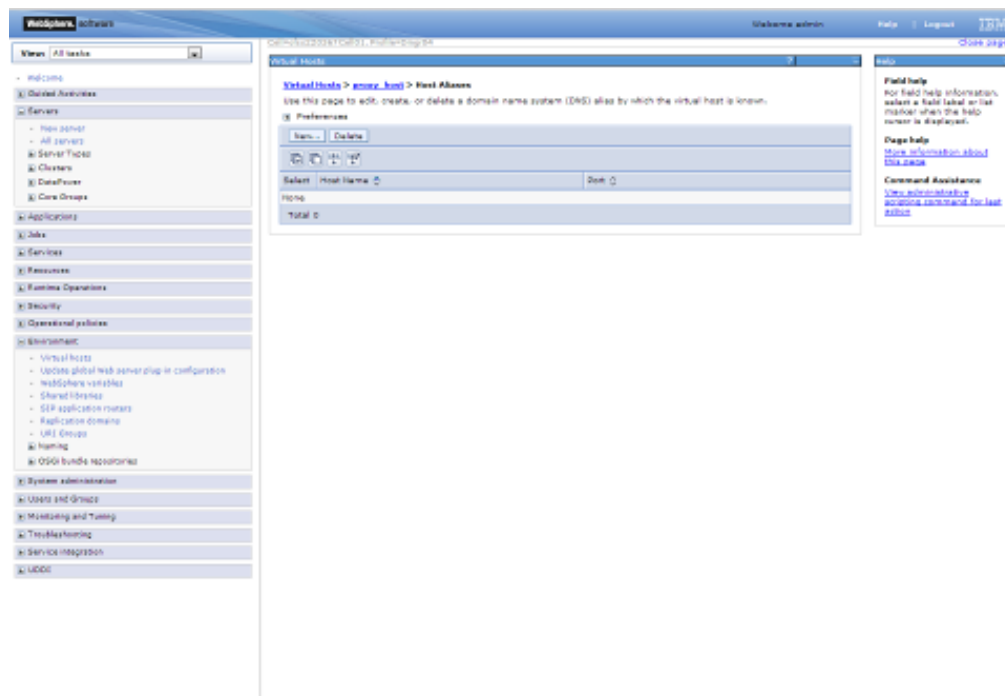
Navigation : *Environment>Virtual hosts>proxy_host*



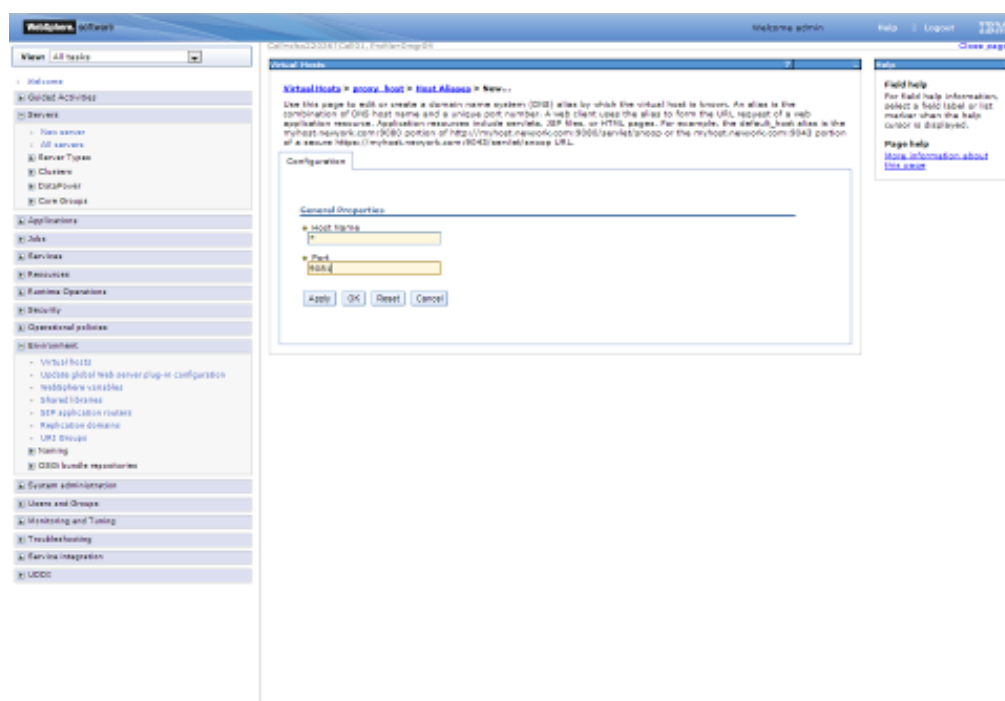
Navigation: *Host Aliases*



Navigation: *Environment>Virtual hosts>proxy_host>Host Aliases > New*



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



Virtual Hosts **myhost** **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"/> | myhost | 8080 |
| Total: 1 | | |

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

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

Command Assistance
[View administrative command information for Java EE](#)

Similarly create proxy alias for all cluster related server default ports

Virtual Hosts **myhost** **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"/> | myhost | 8080 |
| <input type="checkbox"/> | myhost | 8084 |
| <input type="checkbox"/> | myhost | 8082 |
| <input type="checkbox"/> | myhost | 8088 |
| Total: 4 | | |

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

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

Command Assistance
[View administrative command information for Java EE](#)

5. Create Resources in Cluster Scope

JDBC Provider:

The screenshot shows the 'JDBC providers' configuration page in the WebSphere Admin Center. The left sidebar displays a tree view with 'Resources' > 'JDBC' > 'JDBC providers' selected. The main content area shows the 'JDBC providers' configuration for 'CLUSTER_1'. The 'Scope' dropdown is set to 'CLUSTER_1'. Below the 'Scope' dropdown, there is a table listing the resources associated with this provider.

| Select | Name | Scope | Description |
|-------------------------------------|-------------------------|-------------------|-------------------------|
| <input checked="" type="checkbox"/> | Oracle JDBC Driver | Cluster=CLUSTER_1 | Oracle JDBC Driver |
| <input checked="" type="checkbox"/> | Oracle JDBC Driver (XA) | Cluster=CLUSTER_1 | Oracle JDBC Driver (XA) |
| Total: 2 | | | |

Datasource:

The screenshot shows the 'Data sources' configuration page in the WebSphere Admin Center. The left sidebar displays a tree view with 'Resources' > 'JDBC' > 'Data sources' selected. The main content area shows the 'Data sources' configuration for 'CLUSTER_1'. The 'Scope' dropdown is set to 'CLUSTER_1'. Below the 'Scope' dropdown, there is a table listing the resources associated with this provider.

| Select | Name | JDBC name | Scope | Provider | Description | Category |
|-------------------------------------|-------------------|------------------------|-------------------|-------------------------|---------------------|----------|
| <input checked="" type="checkbox"/> | CLUSTERDataSource | jdbc/CLUSTERDataSource | Cluster=CLUSTER_1 | Oracle JDBC Driver (XA) | Non-JDBC DataSource | |
| <input checked="" type="checkbox"/> | CLUSTER_JDBC | jdbc/CLUSTER_JDBC | Cluster=CLUSTER_1 | Oracle JDBC Driver | Non-JDBC DataSource | |
| Total: 2 | | | | | | |

Queue Connection Factory

Queue Connection Factory

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

Scope: **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 selection help](#).

Preferences

| Name | JMS name | Provider | Description | Scope |
|-------|----------|---------------------------------|-------------|-------------------|
| JMS_1 | JMS_1 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_2 | JMS_2 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_3 | JMS_3 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_4 | JMS_4 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |

Total: 4

JMS Queue:

JMS Queue

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

Scope: **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 selection help](#).

Preferences

| Name | JMS name | Provider | Description | Scope |
|-------|----------|---------------------------------|-------------|-------------------|
| JMS_1 | JMS_1 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_2 | JMS_2 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_3 | JMS_3 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_4 | JMS_4 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_5 | JMS_5 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_6 | JMS_6 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_7 | JMS_7 | WebSphere MQ messaging provider | | Cluster=CLUSTER_1 |
| JMS_8 | JMS_8 | 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*

The screenshot displays the Oracle WebLogic Server Administration Console. The left-hand navigation pane shows the tree structure: **Home** > **Overview** > **Services** > **Message Listener Service** > **Listener Ports**. The main content area is titled "WebLogic servers > MS_1 > Message listener service > Listener Ports". It contains a table of listener ports and a "Total" row.

| Select | Name | Description | Connection factory JNDI name | Destination JNDI name | Status |
|--------------------------|--------------------|--------------------|------------------------------|-----------------------|--------|
| <input type="checkbox"/> | EMailListener | EMailListener | EMail | EMail_QUEUE | + |
| <input type="checkbox"/> | EMailOutListener | EMailOutListener | EMailOut | EMail_OUT_QUEUE | + |
| <input type="checkbox"/> | MSListener | MSListener | MSQueue | MS_QUEUE | + |
| <input type="checkbox"/> | MSOutListener | MSOutListener | MSOutQueue | MS_OUT_QUEUE | + |
| <input type="checkbox"/> | MSQueueListener | MSQueueListener | MSQueue | MS_QUEUE | + |
| <input type="checkbox"/> | MSQueueOutListener | MSQueueOutListener | MSQueueOut | MS_QUEUE_OUT | + |
| Total: 6 | | | | | |

On the right side of the console, there is a "Field Help" section with links for "Field help", "Page help", and "Command Assistance".

Navigation: *Middleware servers > MS_2 > Message listener service > Listener Ports*

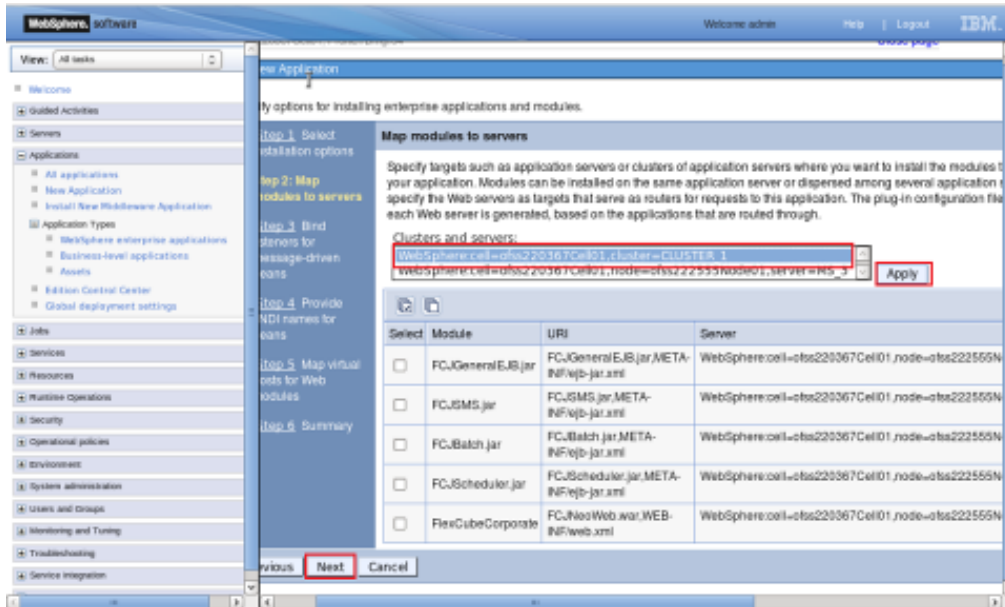
The screenshot displays the Oracle WebLogic Server Administration Console for MS_2. The left-hand navigation pane shows the tree structure: **Home** > **Overview** > **Services** > **Message Listener Service** > **Listener Ports**. The main content area is titled "WebLogic servers > MS_2 > Message listener service > Listener Ports". It contains a table of listener ports and a "Total" row.

| Select | Name | Description | Connection factory JNDI name | Destination JNDI name | Status |
|--------------------------|--------------------|--------------------|------------------------------|-----------------------|--------|
| <input type="checkbox"/> | EMailListener | EMailListener | EMail | EMail_QUEUE | + |
| <input type="checkbox"/> | EMailOutListener | EMailOutListener | EMailOut | EMail_OUT_QUEUE | + |
| <input type="checkbox"/> | MSListener | MSListener | MSQueue | MS_QUEUE | + |
| <input type="checkbox"/> | MSOutListener | MSOutListener | MSOutQueue | MS_OUT_QUEUE | + |
| <input type="checkbox"/> | MSQueueListener | MSQueueListener | MSQueue | MS_QUEUE | + |
| <input type="checkbox"/> | MSQueueOutListener | MSQueueOutListener | MSQueueOut | MS_QUEUE_OUT | + |
| Total: 6 | | | | | |

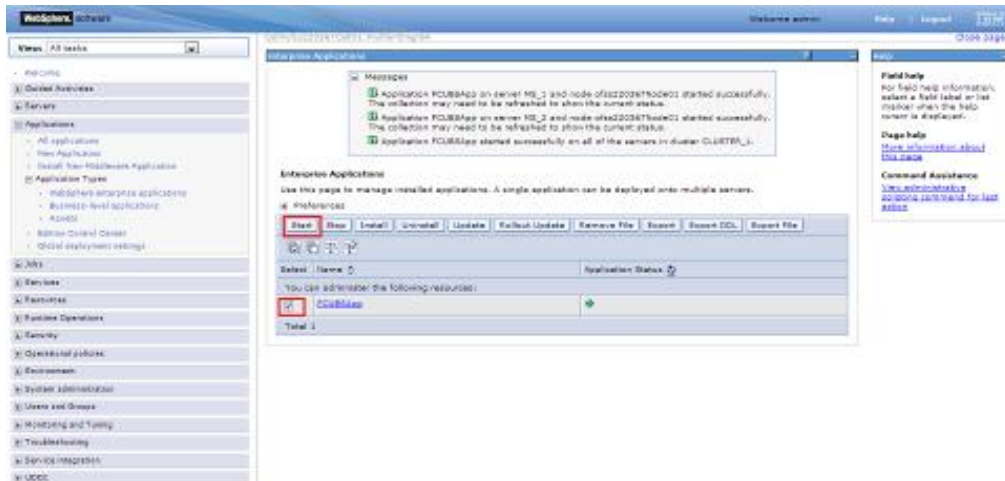
On the right side of the console, there is a "Field Help" section with links for "Field help", "Page help", and "Command Assistance".

6. Deploy Application to Cluster

While deploying ensure the application is installed to Cluster



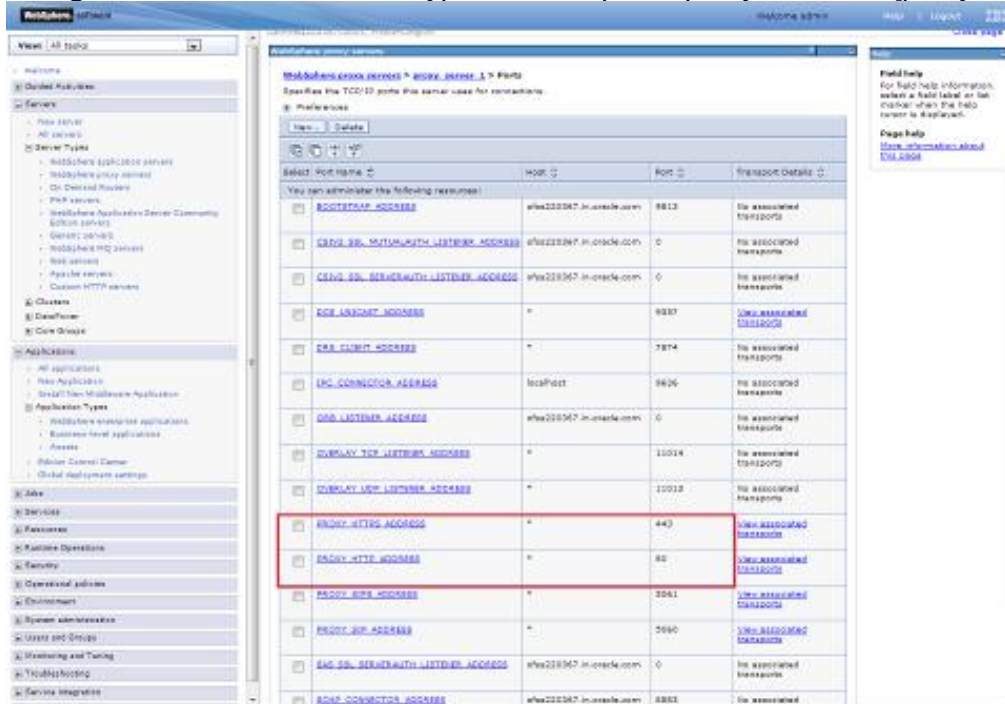
Start FCIS application



6.1.1 Test the application

Make a note of the ports `PROXY_HTTPS_ADDRESS/PROXY_HTTP_ADDRESS` to access the application.

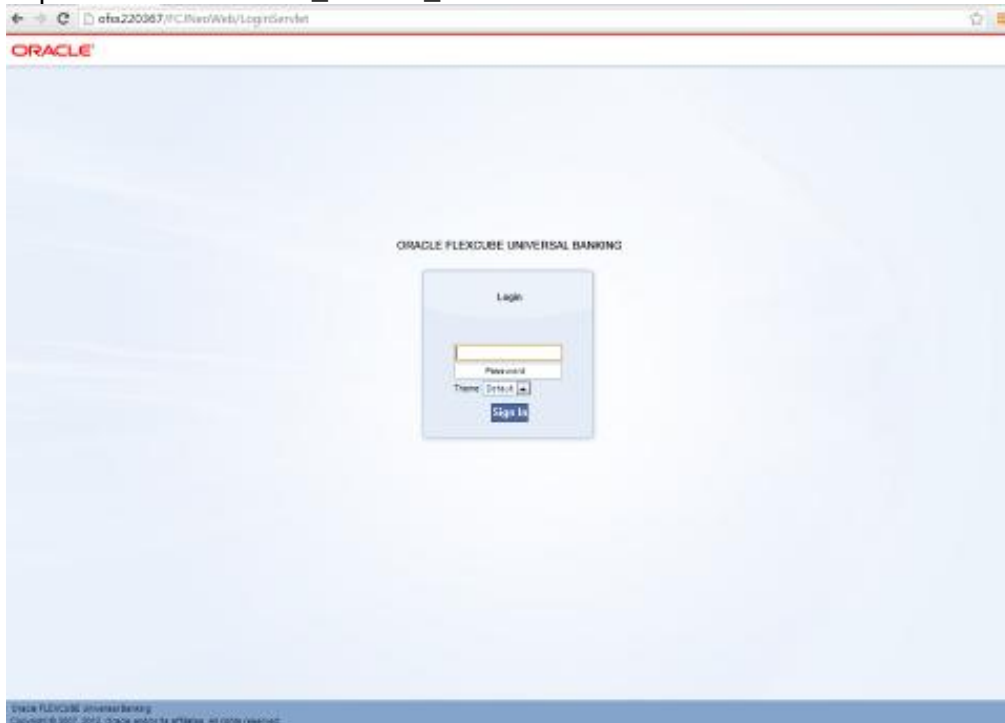
Navigation : *Servers > Server Types > WebSphere proxy servers > [proxy_server_1] > Ports*



Launch Application:

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

`https://<host>:<PROXY_HTTPS_ADDRESS>/FCJNeoWeb`





FCIS_Cluster_Creation_WAS8.5
[May] [2016]
Version 12.2.0.0.0

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