

FCUBS JMS Configuration Using Websphere Default Messaging
Provider

Oracle FLEXCUBE Universal Banking

Release 12.87.7.0.0

[May] [2021]



Table of Contents

1. PURPOSE.....	1-3
2. INTRODUCTION	2-4
3. PRE-REQUISITES.....	3-5
3.1 NODES	3-5
3.2 NODE AGENTS	3-5
3.3 CLUSTER.....	3-6
3.4 MANAGED SERVERS	3-6
3.5 DATASOURCE.....	3-7
3.6 SHARED FOLDER.....	3-7
4. JMS CONFIGURATION.....	4-8
4.1 SERVICE INTEGRATION BUS CREATION	4-8
4.2 BUS MEMBER (FILE STORE CREATION)	4-10
4.3 DESTINATION QUEUE CREATION	4-17
5. RESOURCE CREATION.....	5-21
5.1 QUEUE CREATION.....	5-21
5.2 CONNECTION FACTORY CREATION.....	5-24
5.2.1 Managed Servers SIB Ports	5-26
5.3 JMS ACTIVATION SPECIFICATIONS FOR CLUSTER	5-28
6. APPLICATION DEPLOYMENT	6-31
6.1 RESTART SERVERS	6-31
7. FREQUENTLY ASKED QUESTIONS.....	7-32
7.1 HOW TO TEST THE DEPLOYMENT	7-32
7.2 WARNING DURING BUS MEMBER CREATION	7-35
7.3 MESSAGE ENGINES NOT GETTING STARTED	7-36
7.4 CANNOT ESTABLISH CONNECTION ERROR	7-36
7.5 HOW TO SETUP FOR SCHEDULER/NOTIFICATIONS	7-37
7.6 WHAT OTHER MODULES USES JMS QUEUE'S.....	7-37
8. REFERENCES	8-38

1. Purpose

The purpose of this document is to explain the steps required for JMS Configuration in cluster mode using WEBSHERE DEFAULT MESSAGING PROVIDER for Websphere 8.5.5

2. Introduction

The default messaging provider is installed and runs as part of WebSphere Application Server, and needs no further administration. WebSphere administrative console is used to configure JMS resources for applications and can manage messages and subscriptions associated with JMS destinations.

The default messaging provider is the Java™ Message Service (JMS) API implementation for messaging (connection factories, JMS destinations, and so on). The concrete destinations (queues and topic spaces) behind the default messaging provider interface are implemented in a service integration bus.

The default messaging provider is based on service integration technologies., this document deals with

- Service Bus Creation

A service integration bus consists of one or more bus members. A bus member can be an application server or a cluster. Each bus member will have one (or possibly more in the case of clusters) messaging engine that manages connections to the bus and messages.

- JMS connection factories and service integration

A JMS connection factory is used to create connections to JMS resources on a service integration bus.

- JMS queue resources and service integration

Creation of JMS queue resources provided by the default messaging provider for JMS point-to-point messaging and supported by a service integration bus.

- Application access to JMS resources

Describes the application access to Java Message Service (JMS) resources provided by the default messaging provider.

3. Pre-Requisites

The document assumes that the below are created before proceeding JMS creation.

3.1 Nodes

2 nodes are created

The screenshot shows the WebSphere software interface. On the left is a navigation pane with 'Views' set to 'All tasks'. The main content area is titled 'Nodes' and contains the following information:

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 type="checkbox"/>	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	TCP	+
<input type="checkbox"/>	ofss222565CellManager01	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	+
<input type="checkbox"/>	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	+

Total 3

3.2 Node Agents

Both the Node Agents are started.

The screenshot shows the WebSphere software interface. On the left is a navigation pane with 'Views' set to 'All tasks'. The main content area is titled 'Node agents' and contains the following information:

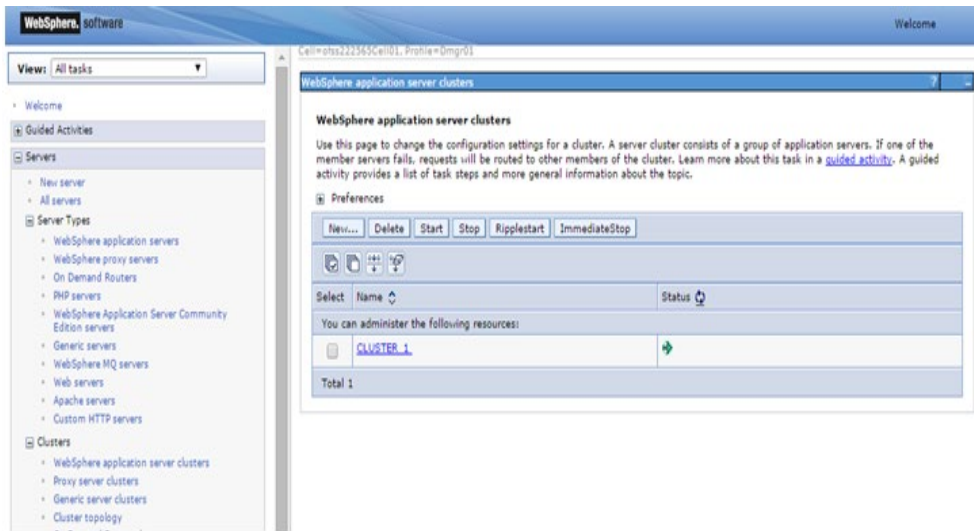
Node agents
Use this page to manage node agents and application servers on the node that a node agent manages. The node agent process serves as an intermediary between the application servers on the node and the deployment manager. The node agent process runs on every node and is specialized to perform node-specific administration functions, such as server process monitoring, configuration synchronization, file transfer, and request routing.

Preferences
Stop Restart Restart all Servers on Node

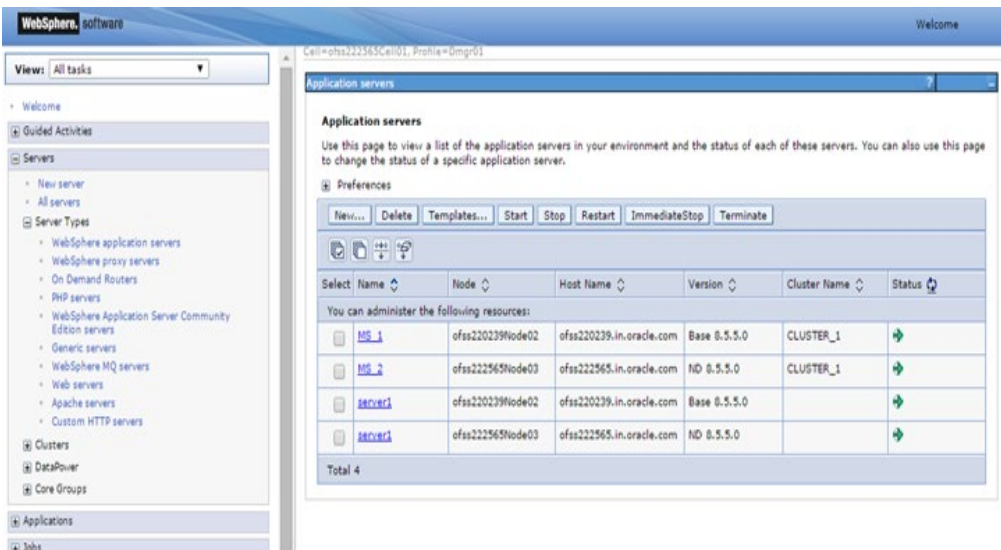
Select	Name	Node	Host Name	Version	Status
<input type="checkbox"/>	nodeagent	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	→
<input type="checkbox"/>	nodeagent	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	→

Total 2

3.3 Cluster

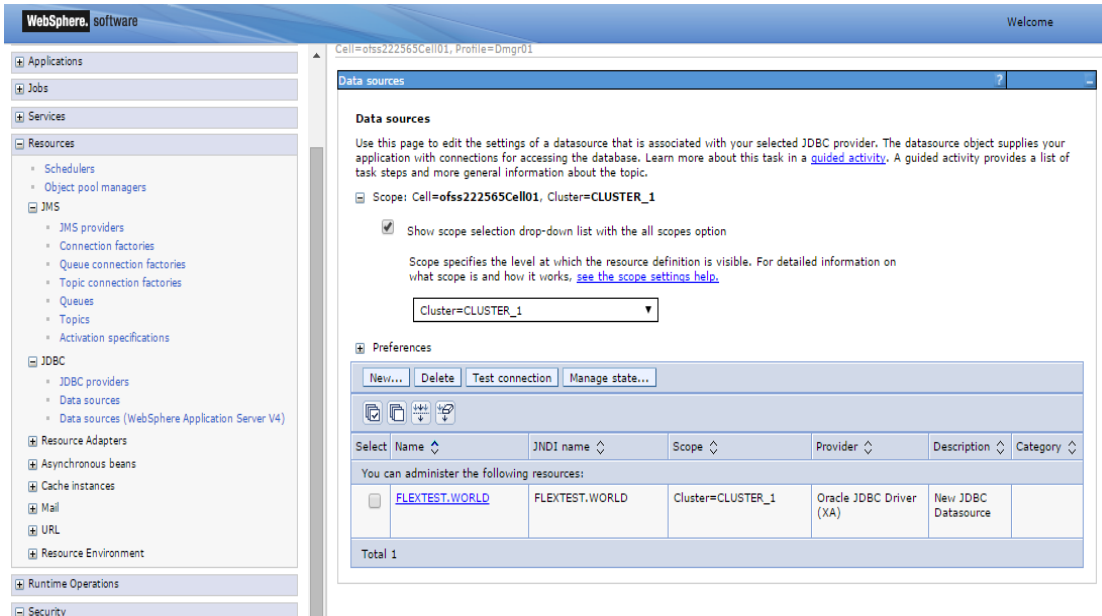


3.4 Managed Servers



3.5 DataSource

Ensure that DataSource required for the MDB ear is created with Target as Cluster_1



3.6 Shared Folder

Shared folders for File Store Creation are required and this folder should be accessible across both the servers (eg, NFS mount). For fail over of messaging engines to another, all servers in cluster require a separate folder. If there are 4 Managed Servers in the clusters then 4 separate folders are required.

Eg,

/scratch/MessageStore/JMS_1/

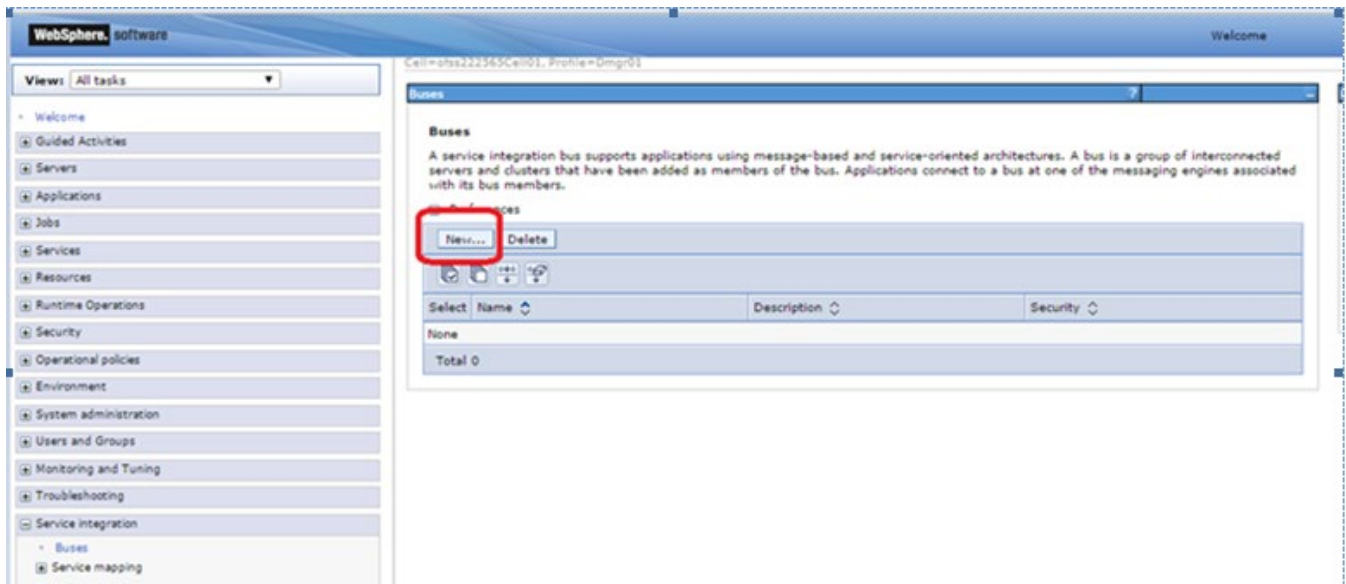
/scratch/MessageStore/JMS_2/

/scratch/ MessageStore /JMS_3/

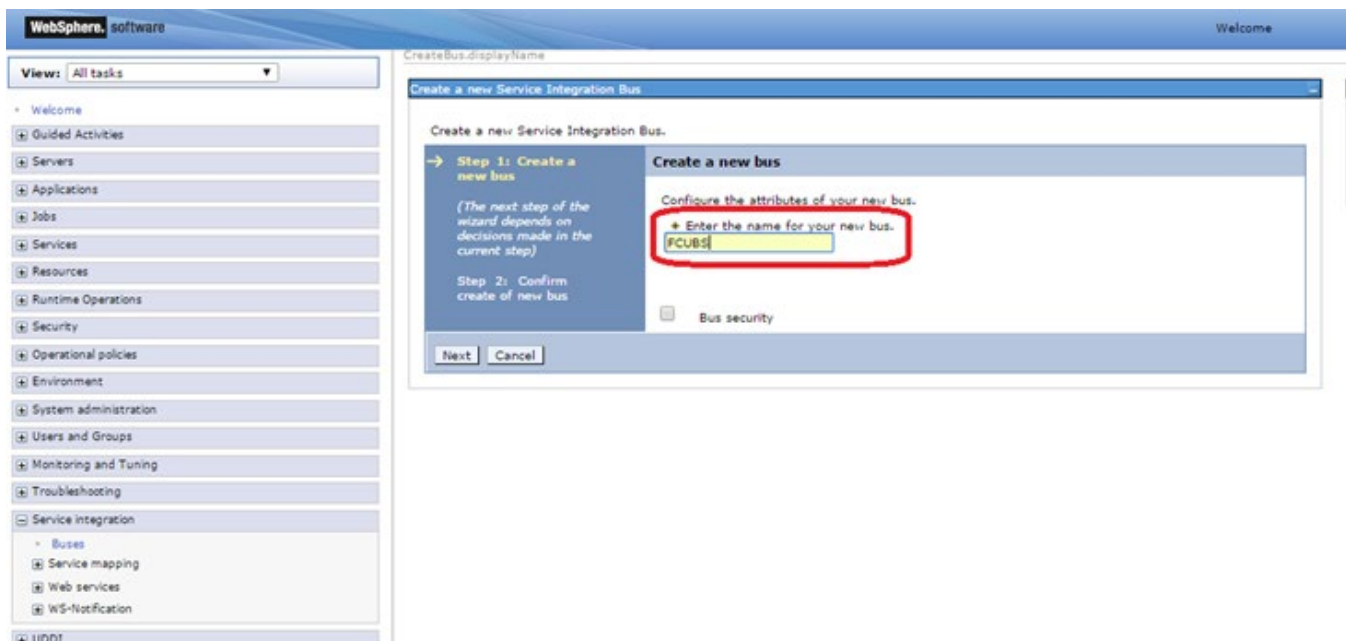
4. JMS Configuration

4.1 Service Integration Bus Creation

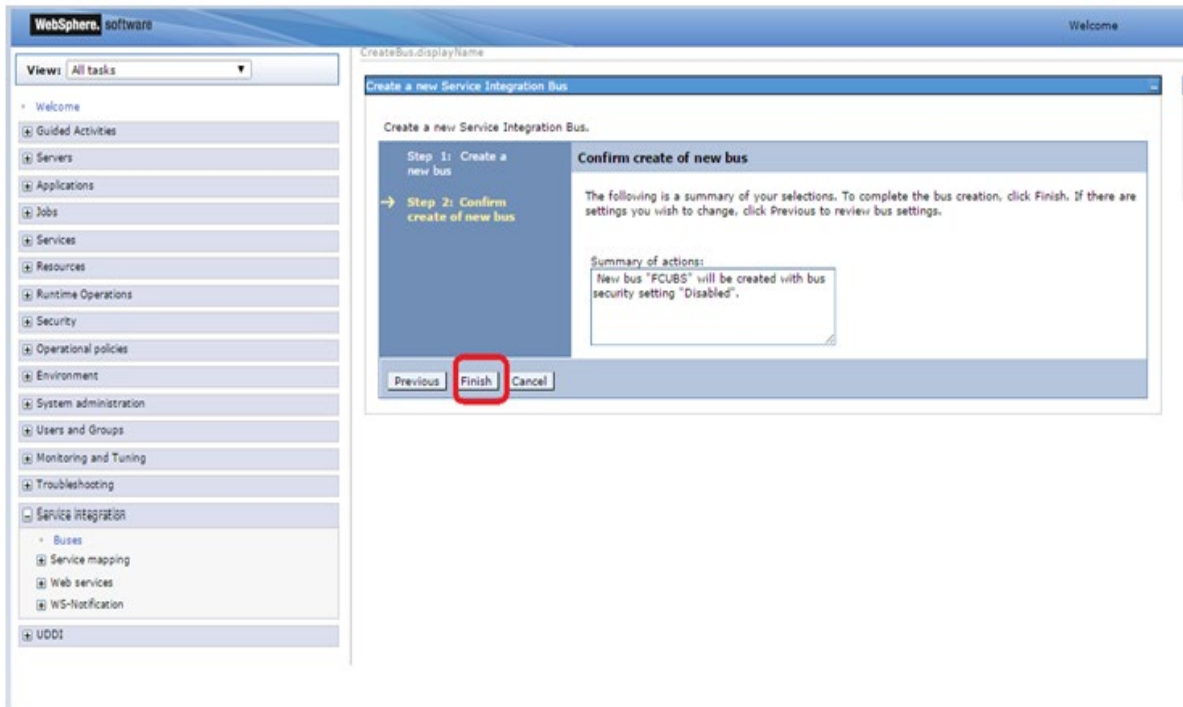
- 1) Navigate to Service Integration > Buses > Click on New



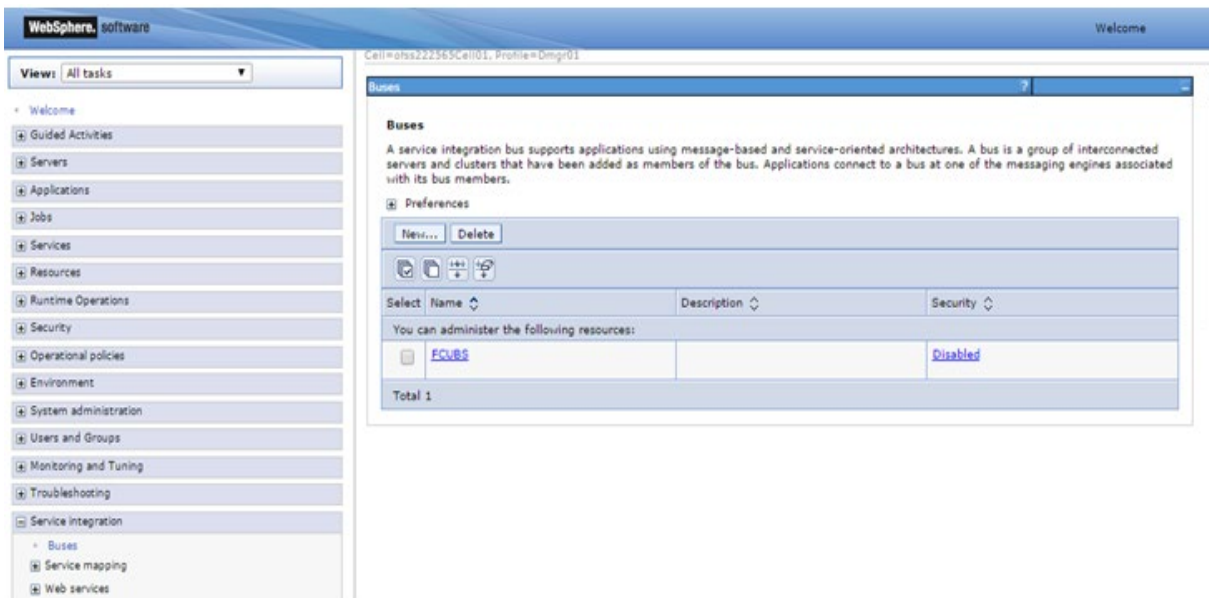
- 2) Enter Name for the new Bus, Uncheck "Bus Security" if security is not enabled during FCUBS property file build and click on Next



3) Click on Finish



4) New Bus FCUBS is created



4.2 Bus Member (File Store Creation)

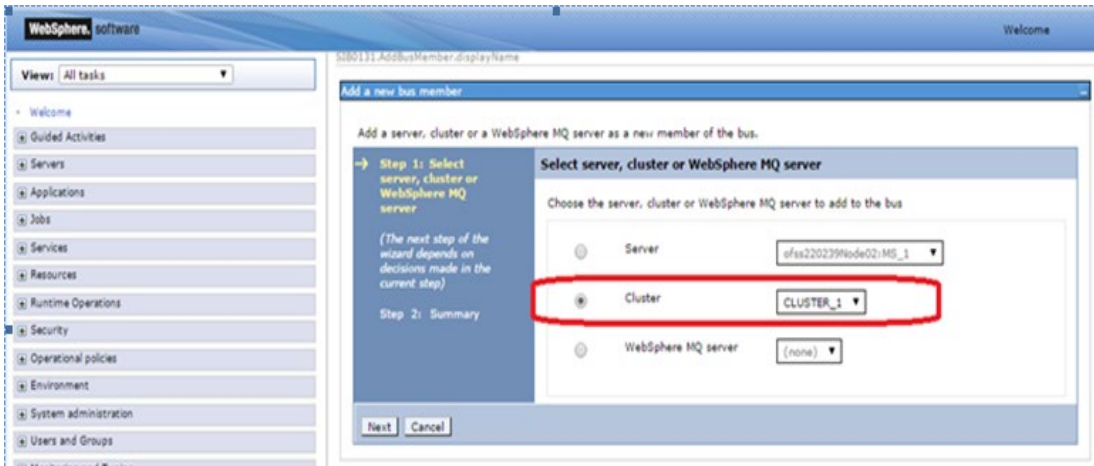
- 1) Navigate to Service Integration > Buses > Click on FCUBS(new bus Created) > Click on Bus Member under Topology

The screenshot shows the WebSphere software interface. On the left is a navigation tree with 'Service Integration' expanded to 'Buses'. The main content area is titled 'Buses > FCUBS'. Below this, there are tabs for 'Configuration' and 'Local Topology'. The 'Local Topology' tab is active, showing a 'General Properties' section with fields for Name (FCUBS), UUID (D4AFF53950380C28), and Description. To the right, there is a 'Topology' section with a list of links: 'Bus members' (highlighted with a red box), 'Associate bindings', 'Foreign bus connections', and 'Bootstrap members'. Below this are sections for 'Destination resources' (Destinations, Mediations), 'Services' (Inbound services, Outbound services, WS-Notification services, Reliable messaging state), and 'Additional Properties' (Custom properties, Security, Web service gateway instances).

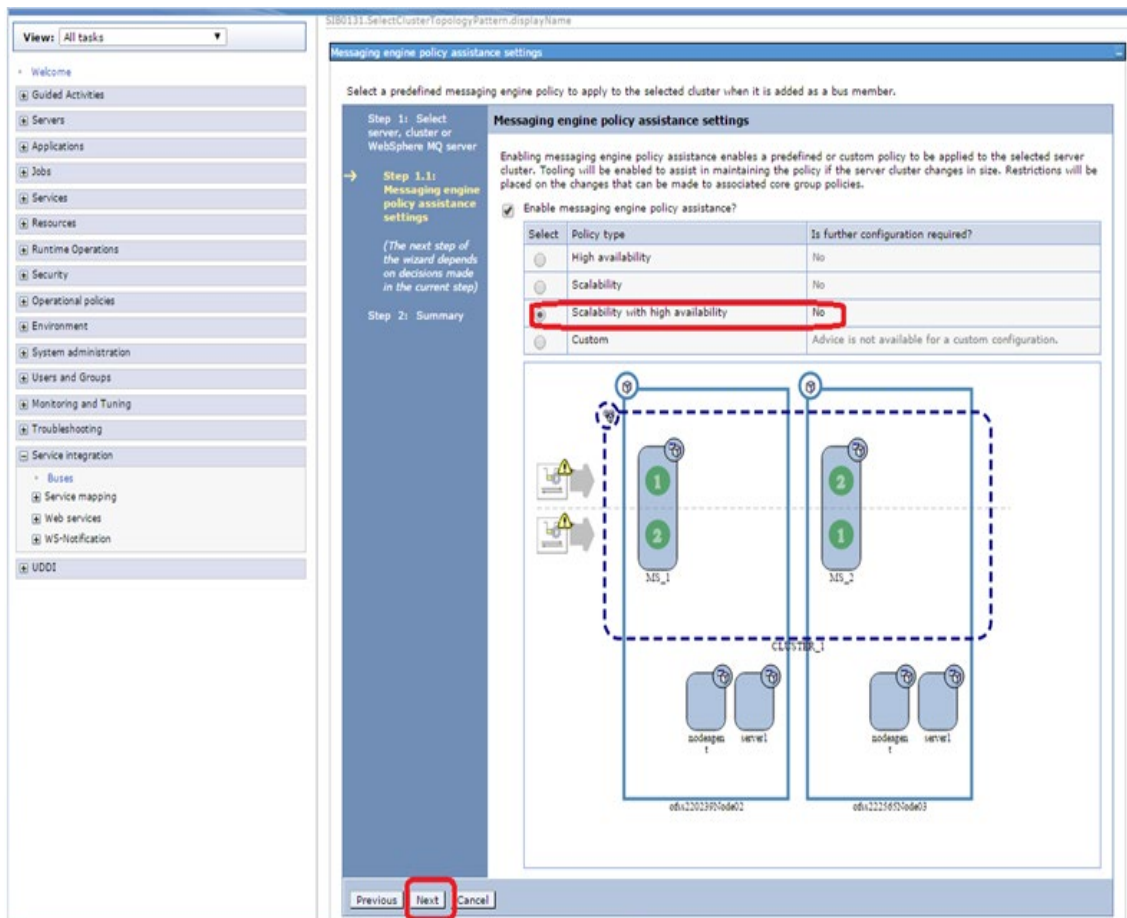
- 2) Click On Add

The screenshot shows the WebSphere software interface. The navigation tree on the left is the same as in the previous screenshot. The main content area is titled 'Buses > FCUBS > Bus members'. Below this, there is a description: 'Bus members are the servers, WebSphere MQ servers and clusters that have been added to the bus.' There are 'Add' and 'Remove' buttons, with the 'Add' button highlighted by a red box. Below the buttons is a table with columns for 'Name', 'Type', and 'Messaging engine policy assistance'. The table is currently empty, showing 'None' in the Name column and 'Total 0' at the bottom.

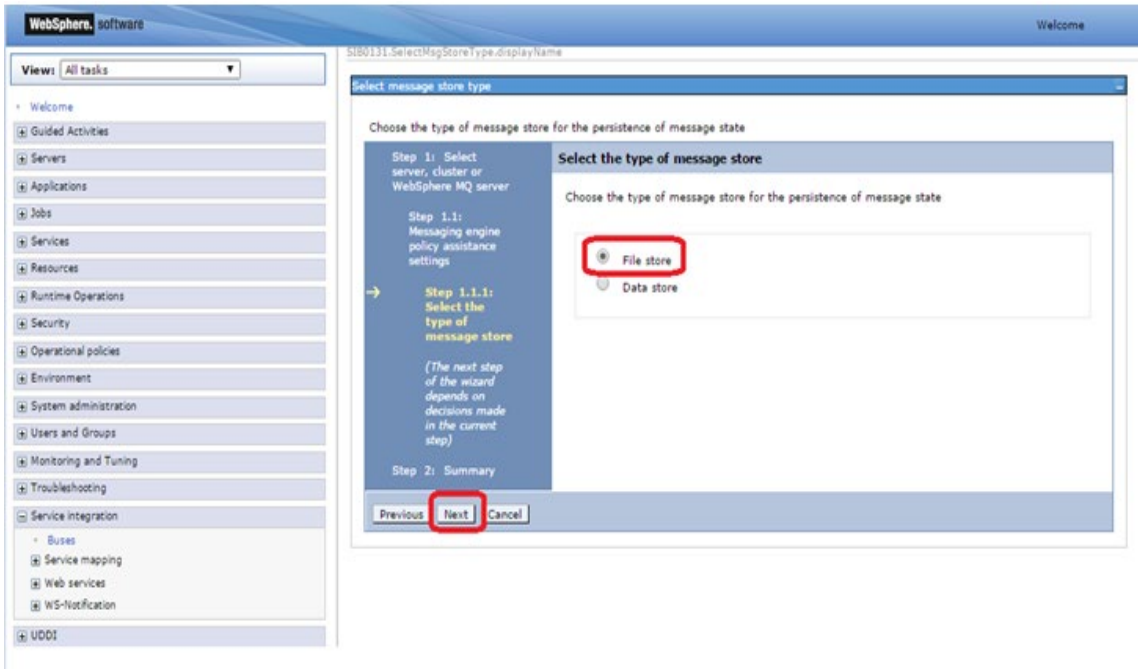
3) Select Cluster and Click on Next



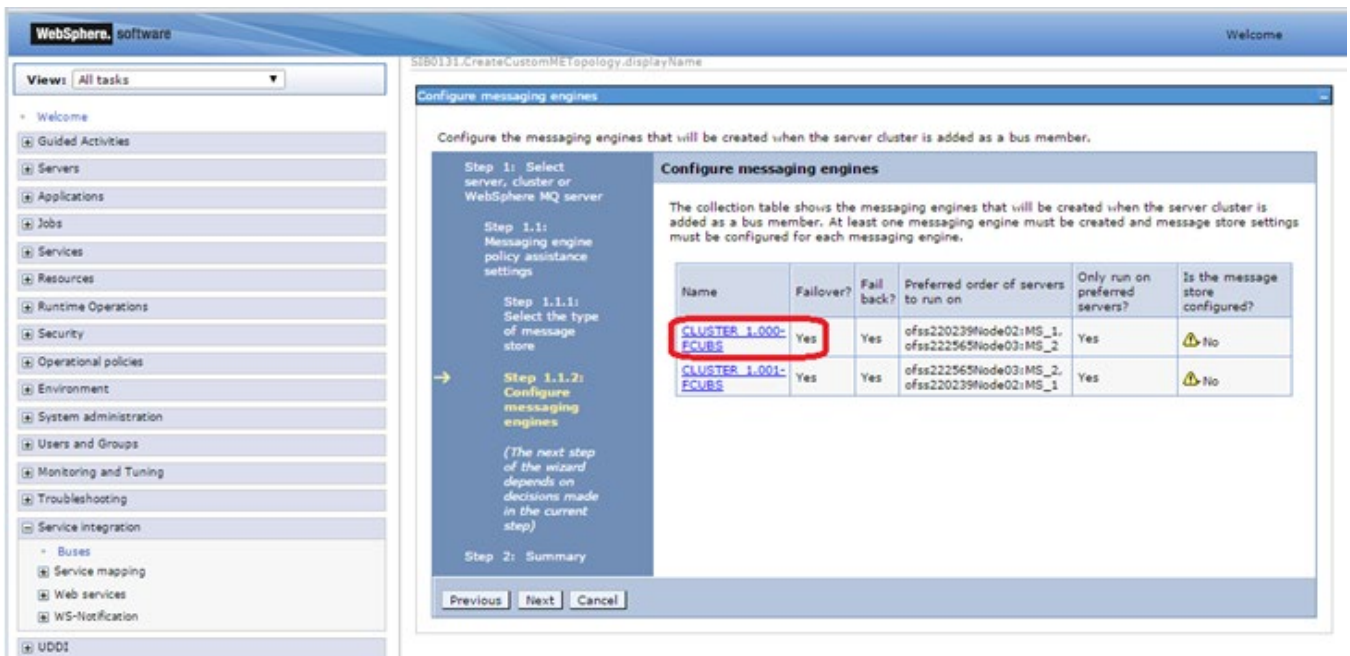
4) Select Scalability and High Availability Policy Type and Click on Next.



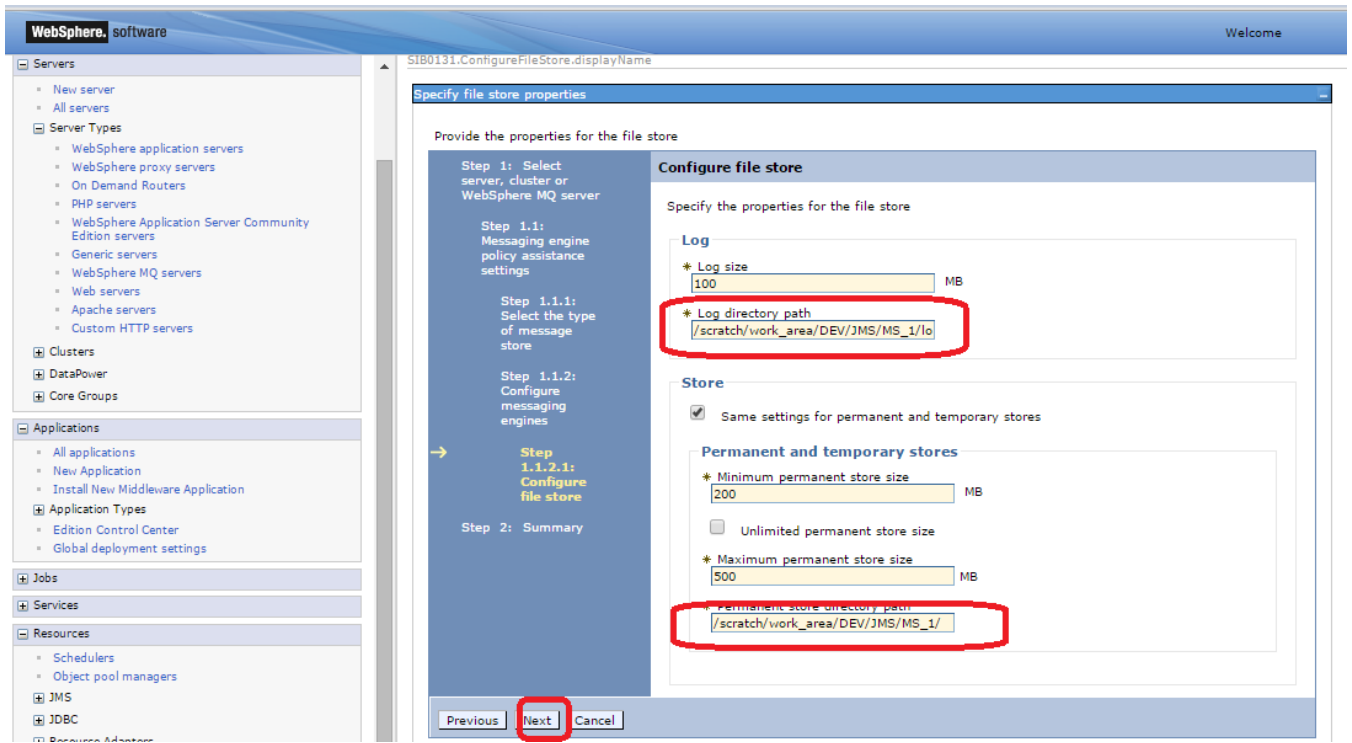
5) Select File Store and Click on Next



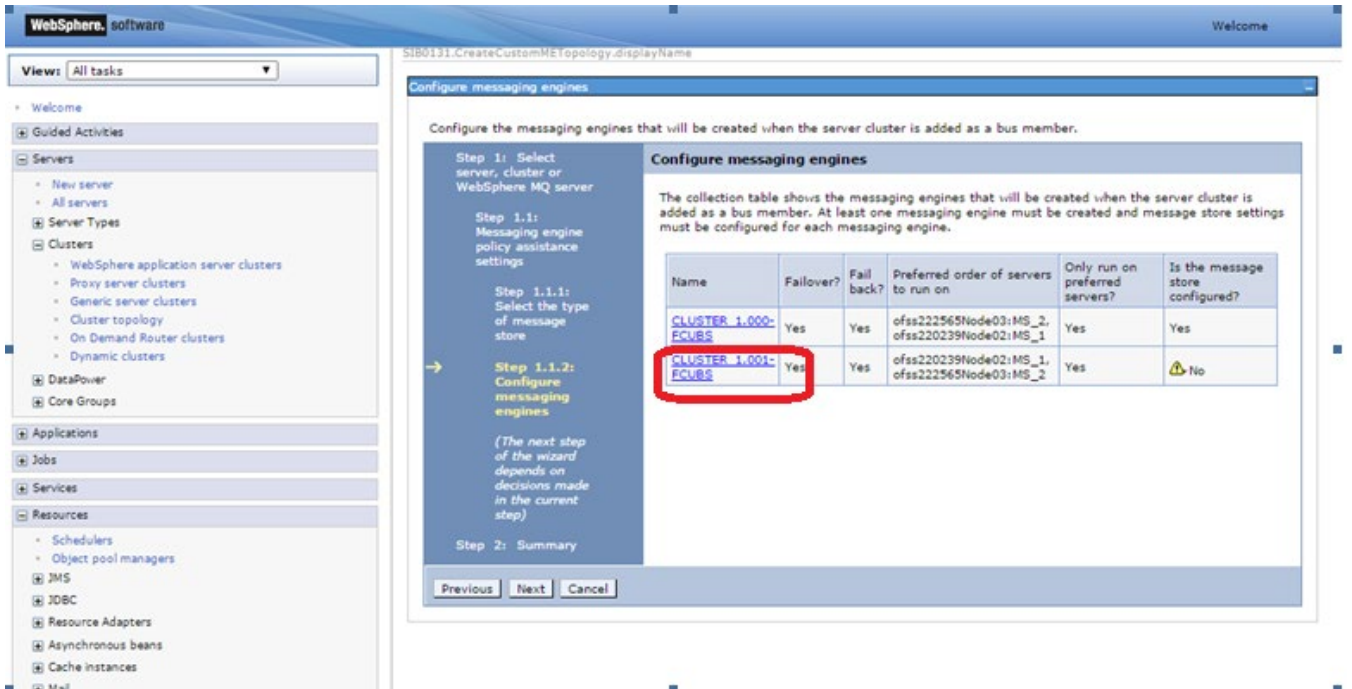
6) Select the Node 1 Message Engine



- 7) Enter the Log Directory Path and Permanent store directory path(shared path across the nodes) and Click on Next



- 8) Click on other message engine and set the FileStore



9) Click on Next after Setting FileStore for all messaging engines

The screenshot shows the 'Configure messaging engines' wizard in the WebSphere software interface. The left sidebar contains a navigation tree with categories like Servers, Clusters, DataPower, Applications, Jobs, Services, and Resources. The main window displays the configuration steps and a table of messaging engines.

Configure messaging engines

Configure the messaging engines that will be created when the server cluster is added as a bus member.

Configure messaging engines

The collection table shows the messaging engines that will be created when the server cluster is added as a bus member. At least one messaging engine must be created and message store settings must be configured for each messaging engine.

Name	Failover?	Fail back?	Preferred order of servers to run on	Only run on preferred servers?	Is the message store configured?
CLUSTER_1.000-FCUBS	Yes	Yes	ofss222565Node03:MS_2, ofss220239Node02:MS_1	Yes	Yes
CLUSTER_1.001-FCUBS	Yes	Yes	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	Yes

Step 1: Select server, cluster or WebSphere MQ server

Step 1.1: Messaging engine policy assistance settings

Step 1.1.1: Select the type of message store

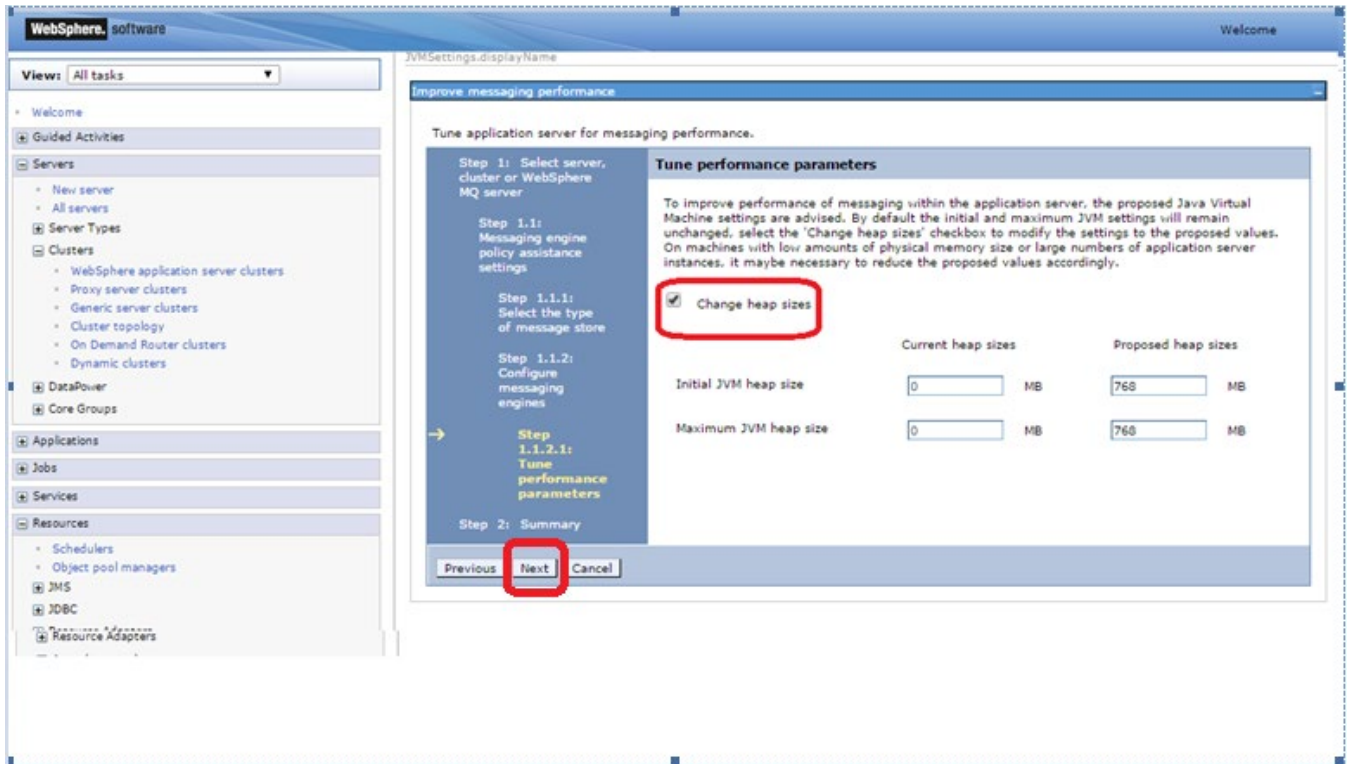
Step 1.1.2: Configure messaging engines

(The next step of the wizard depends on decisions made in the current step)

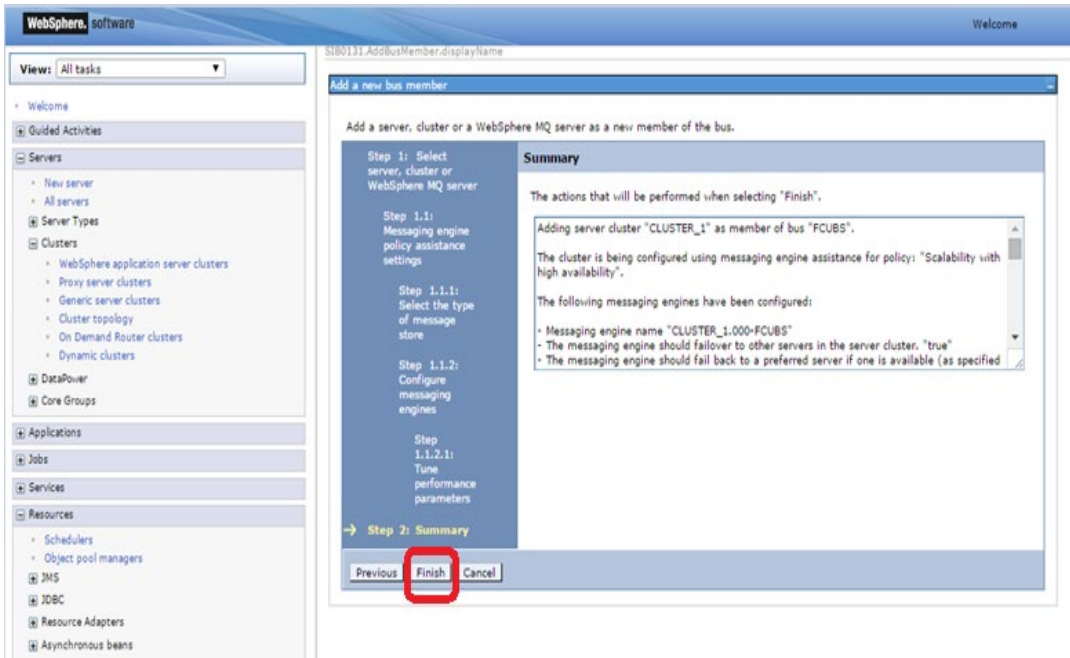
Step 2: Summary

Previous **Next** Cancel

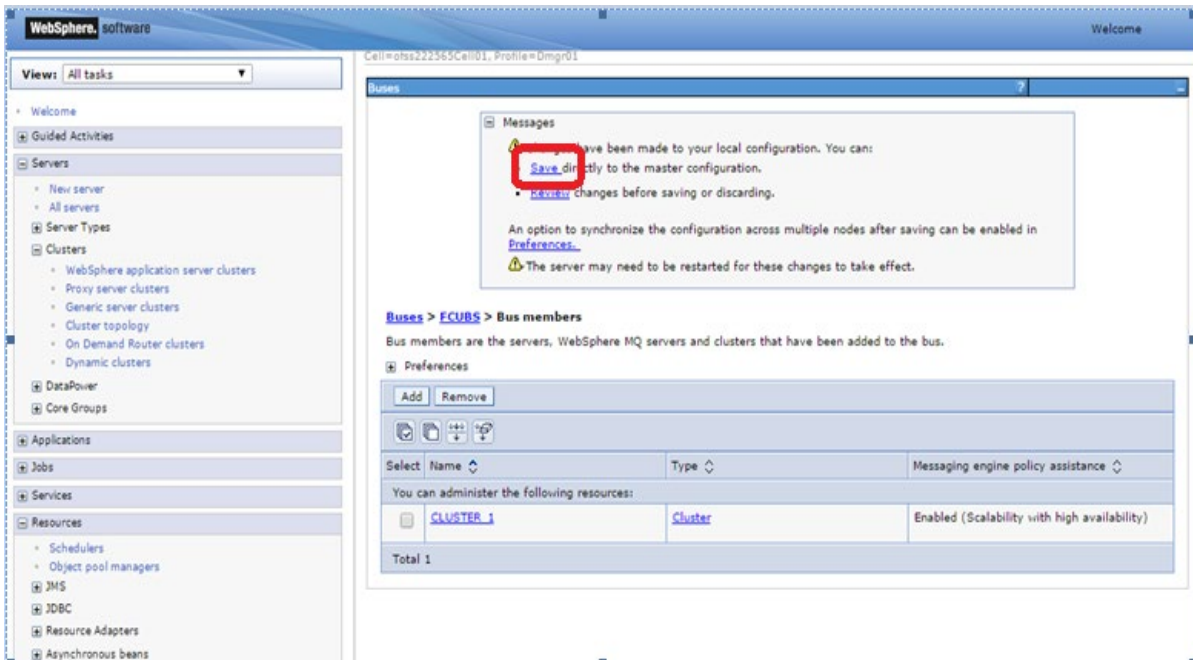
10) Select Change Heap Sizes and Click on Next



11) Click on Finish



12) Click on Save



4.3 Destination Queue Creation

- 1) Navigate to Service Integration > Buses > Click on FCUBS(new bus Created) > Click on Destination under Destination Resources

The screenshot shows the WebSphere software interface. On the left is a navigation tree with categories like Clusters, DataPower, Core Groups, Applications, Jobs, Services, and Resources. The main area displays the configuration for a bus named 'FCUBS'. The 'General Properties' section includes fields for Name (FCUBS), UUID (D4AFF53950380C28), and Description. The 'Topology' section has links for Bus members, Messaging engines, Foreign bus connections, and Bootstrap members. The 'Destination resources' section is highlighted with a red box and contains links for Destinations and Mediations. The 'Services' section has links for Inbound services, Outbound services, WS-Notification services, and Reliable messaging state.

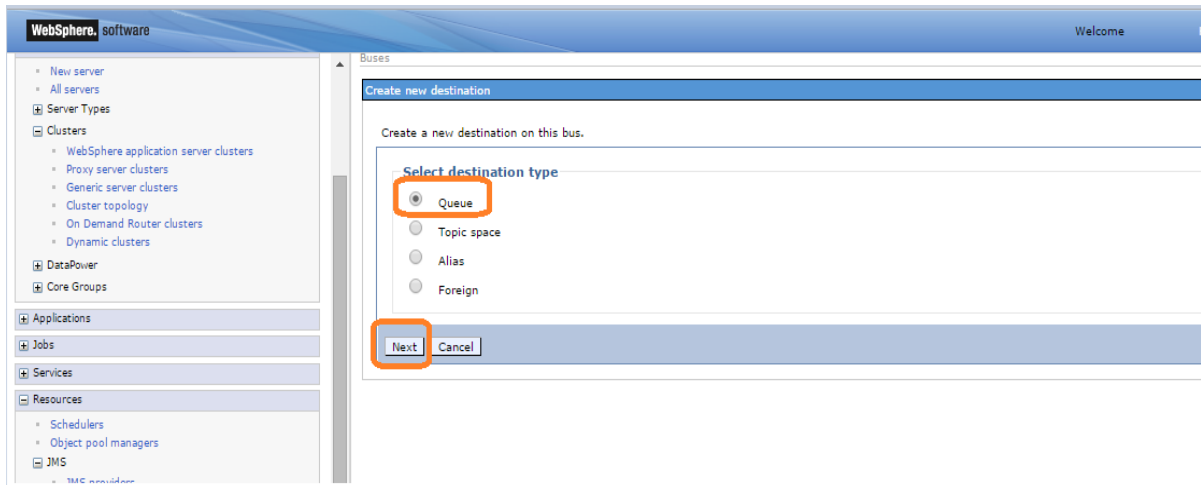
- 2) Click on New

The screenshot shows the 'Destinations' page for the FCUBS bus. The 'New...' button is highlighted with a red box. Below the button is a table listing existing destinations. The table has columns for Select, Identifier, Bus, Type, Description, and Mediation. There are three entries in the table, all with Bus type 'FCUBS' and Type 'Queue'.

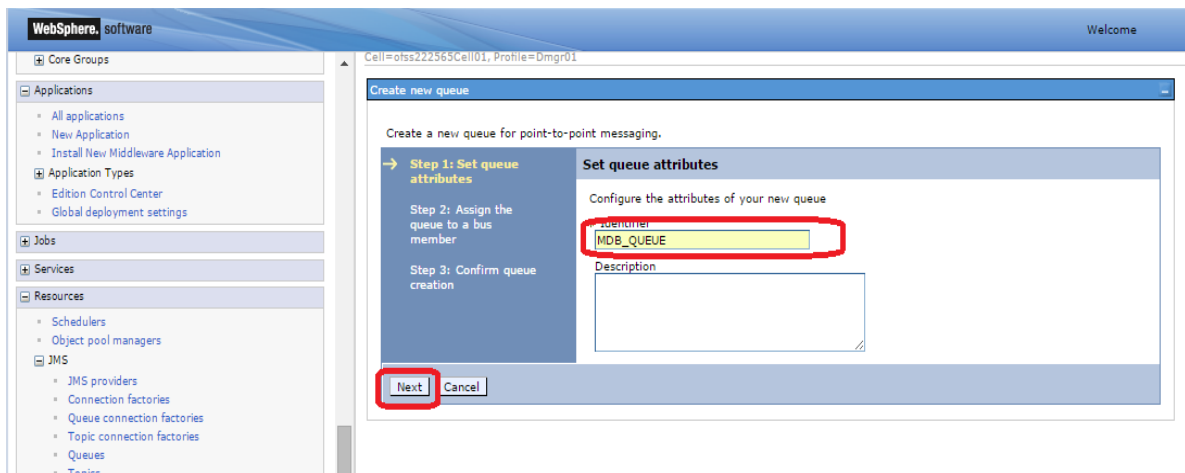
Select	Identifier	Bus	Type	Description	Mediation
<input type="checkbox"/>	Default.Topic.Space	FCUBS	Topic space		
<input type="checkbox"/>	SYSTEM.Exception.Destination.CLUSTER_1.000-FCUBS	FCUBS	Queue		
<input type="checkbox"/>	SYSTEM.Exception.Destination.CLUSTER_1.001-FCUBS	FCUBS	Queue		

Total 3

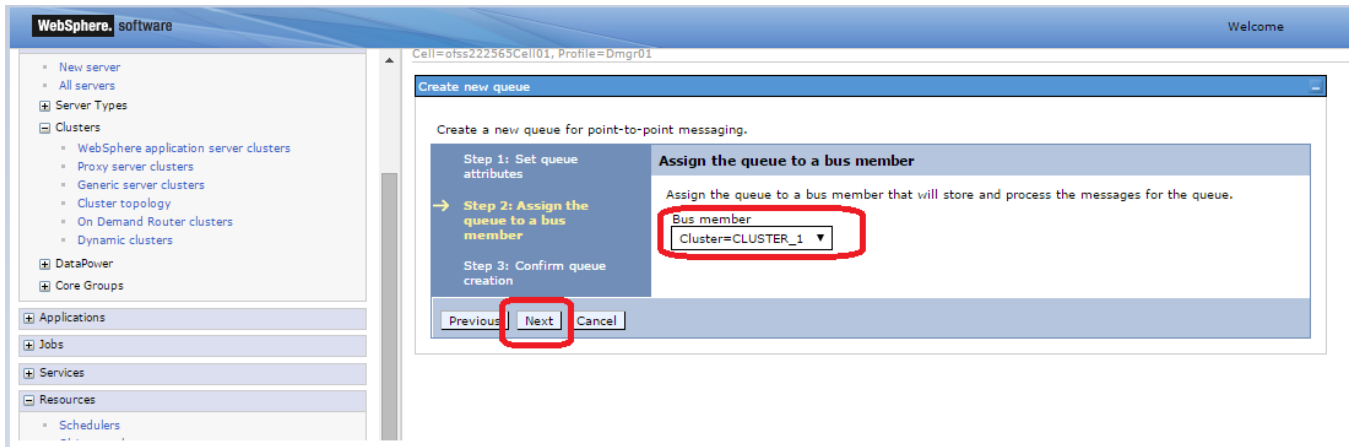
3) Select Queue and Click on Next



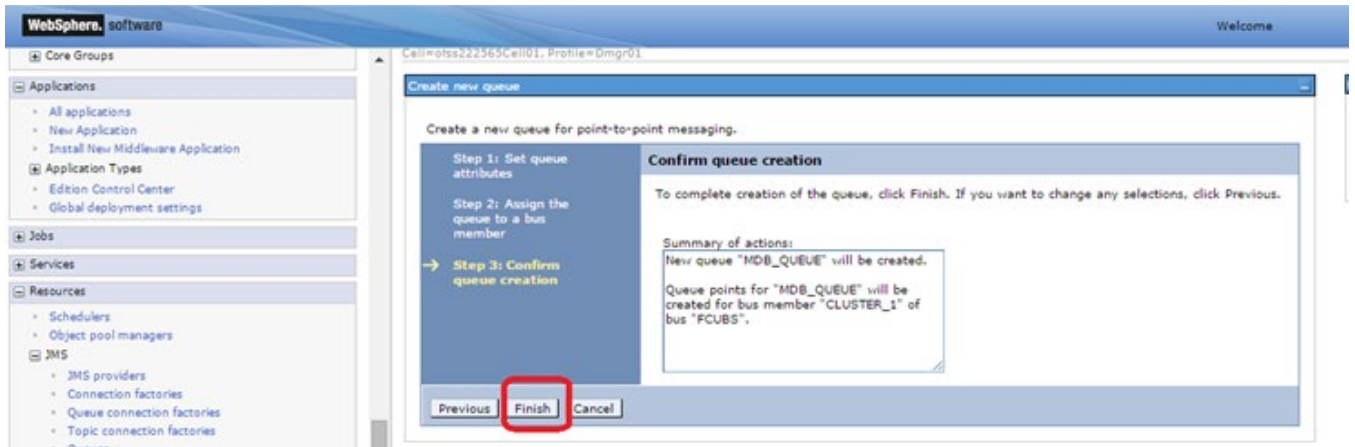
4) Enter Identifier as MDB_QUEUE and Click on Next



5) Select Bus Member as Cluster and Click on Next



6) Click on Finish



7) Click on Save

The screenshot shows the WebSphere software interface. A message dialog box is displayed, indicating that changes have been made to the local configuration. The dialog box contains the following text:

Changes have been made to your local configuration. You can:

- Save directly** to the master configuration.
- Review changes before saving or discarding.

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

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

Below the dialog box, the breadcrumb navigation is **Buses > FCUBS > Destinations**. A table lists the resources that can be administered:

Select	Identifier	Bus	Type	Description	Mediation
<input type="checkbox"/>	Default.Topic.Space	FCUBS	Topic space		
<input type="checkbox"/>	MDB_QUEUE	FCUBS	Queue		

8) Similarly create Destinations for all the other Queue's required

The screenshot shows the WebSphere software interface with the breadcrumb navigation **Buses > FCUBS > Destinations**. A table lists the resources that can be administered:

Select	Identifier	Bus	Type	Description	Mediation
<input type="checkbox"/>	Default.Topic.Space	FCUBS	Topic space		
<input type="checkbox"/>	MDB_QUEUE	FCUBS	Queue		
<input type="checkbox"/>	MDB_QUEUE_DLO	FCUBS	Queue		
<input type="checkbox"/>	MDB_QUEUE_RESPONSE	FCUBS	Queue		
<input type="checkbox"/>	_SYSTEM.Exception.Destination.CLUSTER_1.000-FCUBS	FCUBS	Queue		

5. Resource Creation

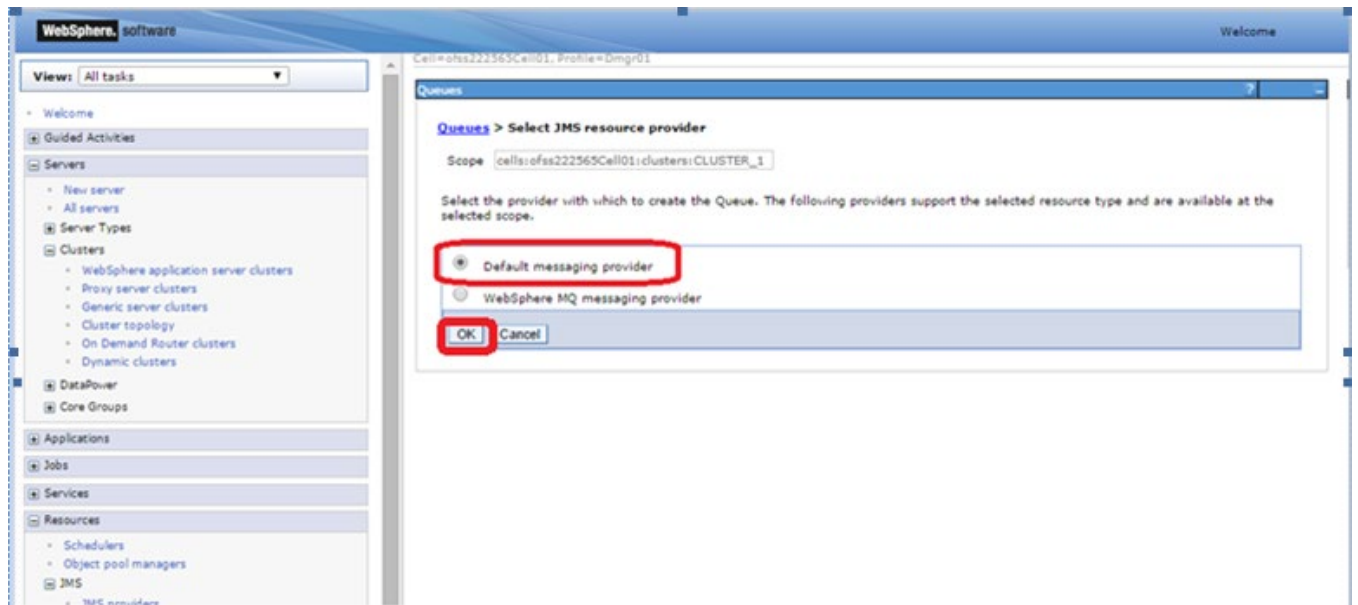
5.1 Queue Creation

- 1) Navigate to Resources > JMS > Queues > Select Scope as Cluster and Click on New

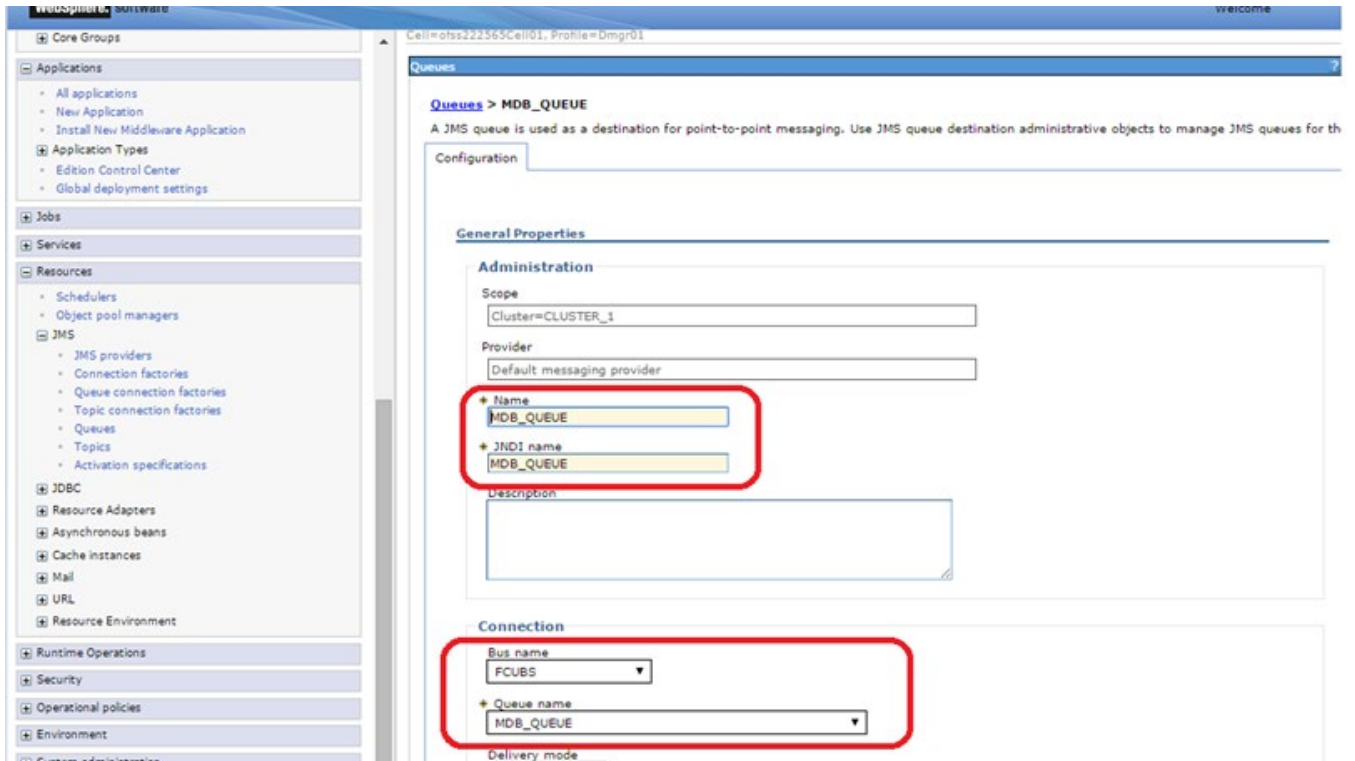
The screenshot displays the WebSphere Administration Console interface. On the left, the navigation tree is expanded to 'Resources' > 'JMS' > 'Queues', with 'Queues' highlighted by a red box. The main content area shows the 'Queues' configuration page. The 'Scope' is set to 'Cell=ofss222565Cell01, Cluster=CLUSTER_1'. A 'Show scope selection drop-down list with the all scopes option' checkbox is checked. Below this, a dropdown menu shows 'Cluster=CLUSTER_1'. The 'Preferences' section contains a 'New' button, which is also highlighted by a red box. Below the preferences is a table with columns: Select, Name, JNDI name, Provider, Description, and Scope. The table currently shows 'None' and a 'Total 0'.

Select	Name	JNDI name	Provider	Description	Scope
	None				
Total 0					

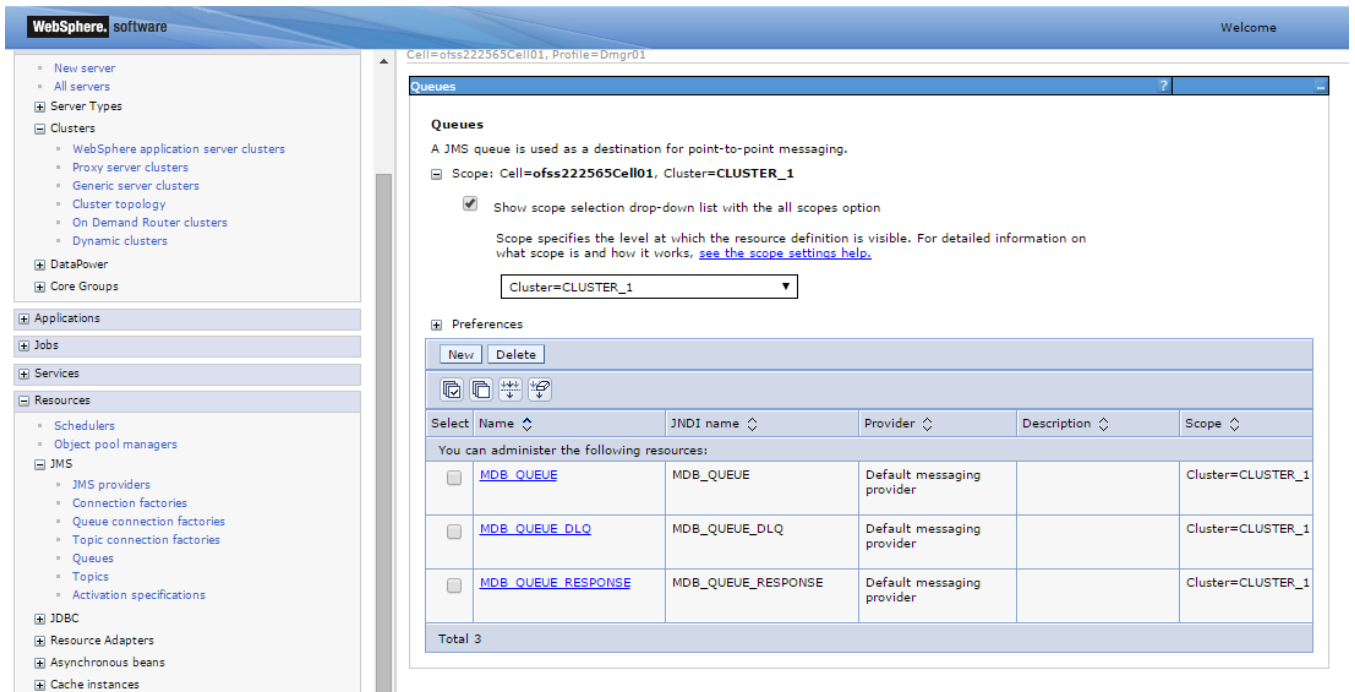
2) Select “Default messaging provider” and Click on OK



3) Enter The Name, JNDI Name. Select Bus and Queue Name accordingly and Click on OK

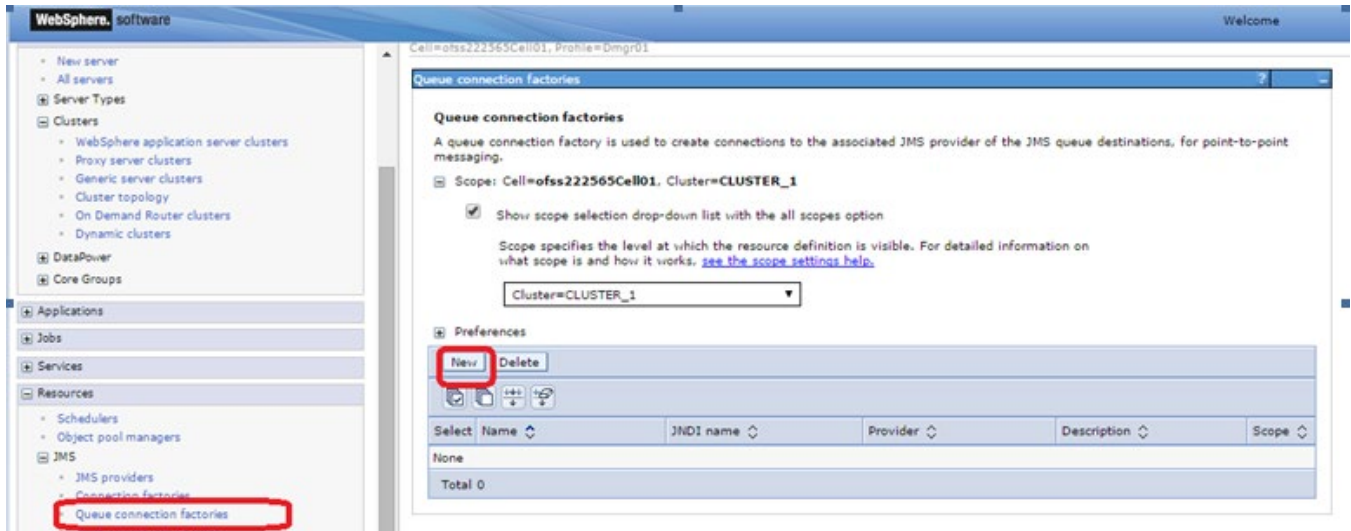


4) Similarly create other Queue's required

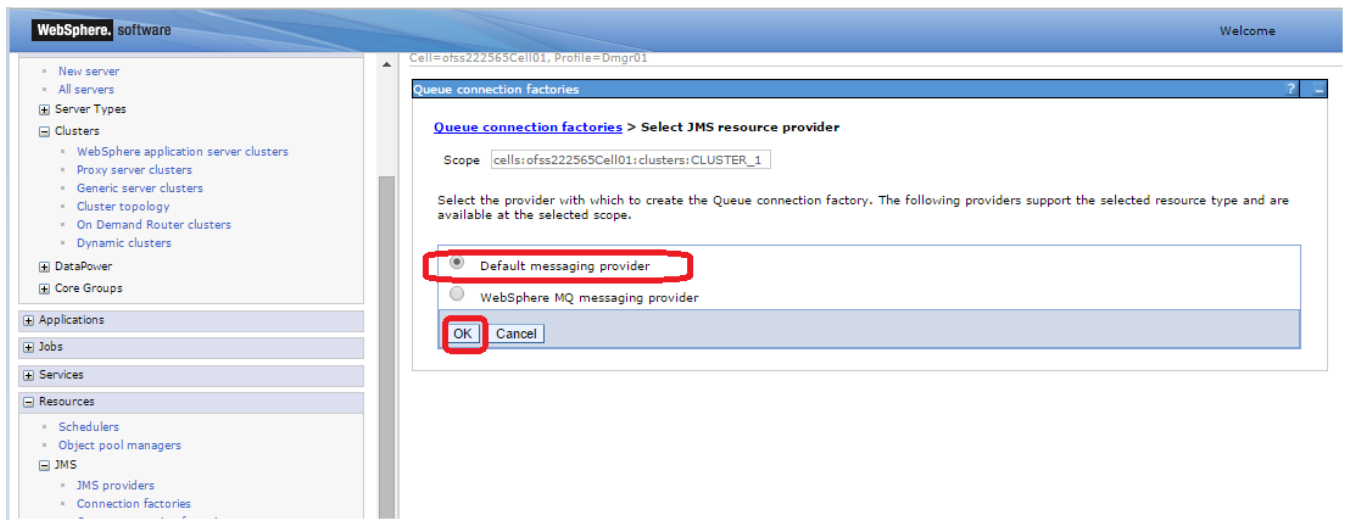


5.2 Connection Factory Creation

- 1) Navigate to Resources > JMS > Queue Connection Factory > Select Scope as Cluster and Click on New



- 2) Select "Default messaging provider" and Click on OK



Enter Name, JNDI Name, Select Bus Name and Click on OK

WebSphere software

Cell=otss22255Cell01, Profile=Dmgr01

Queue connection factories

Queue connection factories > MDBQCF

A JMS queue connection factory is used to create connections to the associated JMS provider of JMS queues, for point-to-point messaging. Use queue connection factory administrative objects to manage JMS queue connection factories for the default messaging provider.

Configuration

General Properties

Administration

Scope: Cluster=CLUSTER_1

Provider: Default messaging provider

Name: MDBQCF

JNDI name: MDBQCF

Description:

Category:

Connection

Bus name: FCUBS

Target:

Target type: Bus member name

Additional Properties

- Connection pool properties

Related Items

- JMS - J2C authentication data
- Buses

3) Click on Save

Cell=otss22255Cell01, Profile=Dmgr01

Queue connection factories

Messages

Changes have been made to your local configuration. You can:

- Save directly to the master configuration.
- Review changes before saving or discarding.

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

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

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=otss22255Cell01, 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 list/notes help](#).

Cluster=CLUSTER_1

Preferences

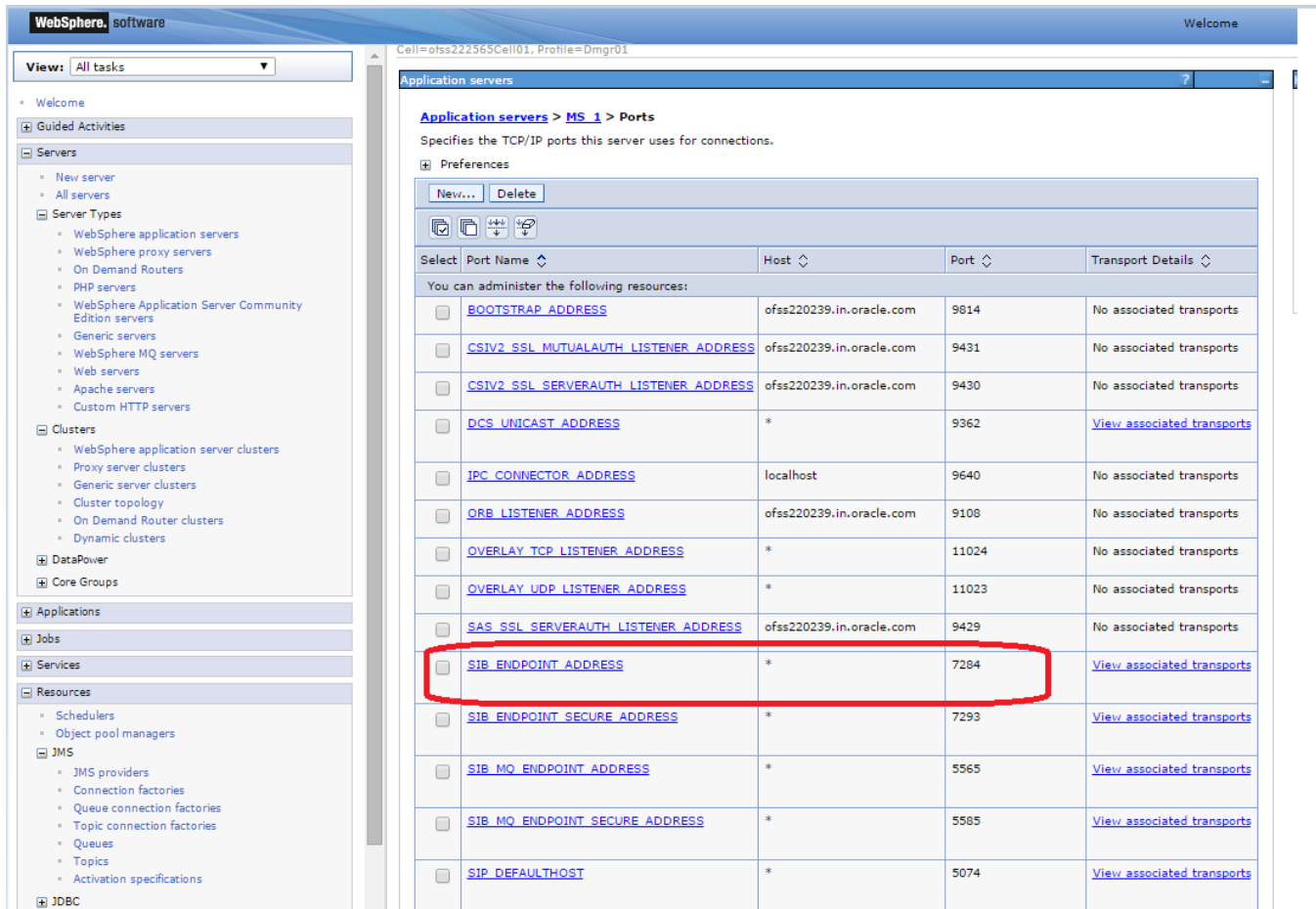
New Delete

Select	Name	JNDI name	Provider	Description	Scope
<input type="checkbox"/>	MDBQCF	MDBQCF	Default messaging provider		Cluster=CLUSTER_1

You can administer the following resources:

5.2.1 Managed Servers SIB Ports

- 1) Navigate to Servers > Websphere Application Servers > SERVER_NAME > Click on Ports under Communications > Note down the port of SIB_ENDPOINT_ADDRESS



The screenshot displays the WebSphere Administration Console interface. The left-hand navigation pane shows a tree structure with categories like Servers, Clusters, DataPower, Applications, Jobs, Services, and Resources. The main content area is titled 'Application servers' and shows the configuration for 'MS_1' > 'Ports'. A table lists various ports and their configurations. The 'SIB_ENDPOINT_ADDRESS' row is highlighted with a red rectangle.

Select	Port Name	Host	Port	Transport Details
<input type="checkbox"/>	BOOTSTRAP_ADDRESS	ofss220239.in.oracle.com	9814	No associated transports
<input type="checkbox"/>	CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9431	No associated transports
<input type="checkbox"/>	CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9430	No associated transports
<input type="checkbox"/>	DCS_UNICAST_ADDRESS	*	9362	View associated transports
<input type="checkbox"/>	IPC_CONNECTOR_ADDRESS	localhost	9640	No associated transports
<input type="checkbox"/>	ORB_LISTENER_ADDRESS	ofss220239.in.oracle.com	9108	No associated transports
<input type="checkbox"/>	OVERLAY_TCP_LISTENER_ADDRESS	*	11024	No associated transports
<input type="checkbox"/>	OVERLAY_UDP_LISTENER_ADDRESS	*	11023	No associated transports
<input type="checkbox"/>	SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9429	No associated transports
<input type="checkbox"/>	SIB_ENDPOINT_ADDRESS	*	7284	View associated transports
<input type="checkbox"/>	SIB_ENDPOINT_SECURE_ADDRESS	*	7293	View associated transports
<input type="checkbox"/>	SIB_MO_ENDPOINT_ADDRESS	*	5565	View associated transports
<input type="checkbox"/>	SIB_MO_ENDPOINT_SECURE_ADDRESS	*	5585	View associated transports
<input type="checkbox"/>	SIP_DEFAULTHOST	*	5074	View associated transports

- 2) Similarly navigate to all other managed servers in the cluster and note down the port of SIB_ENDPOINT_ADDRESS

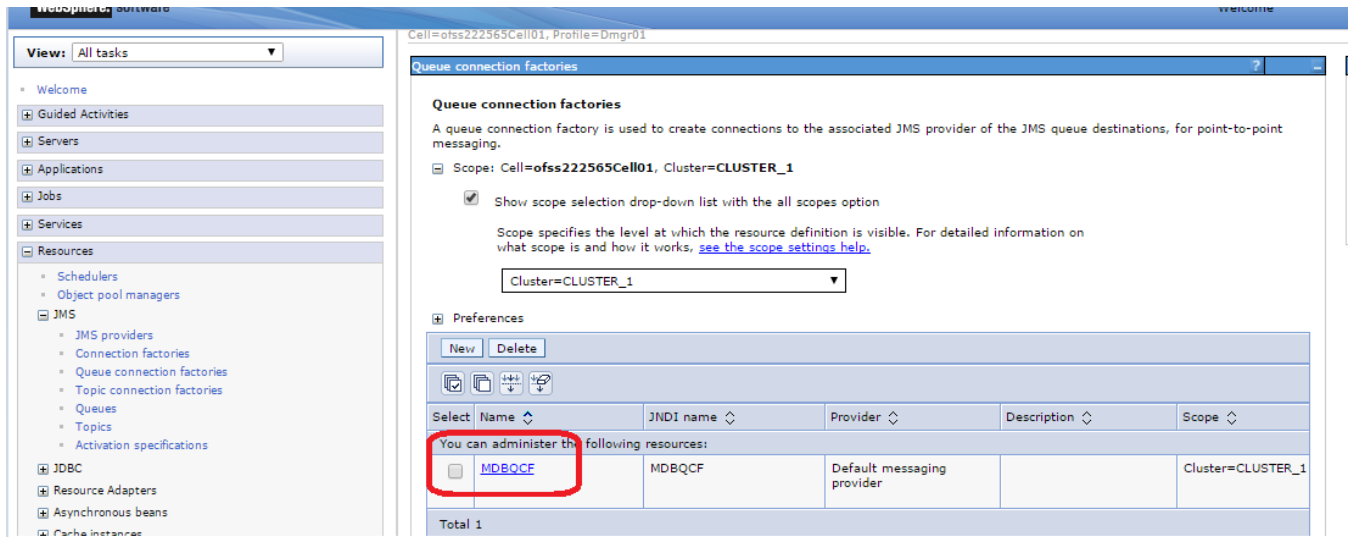
- 3) Prepare the "Provider Endpoint" String as below

<hostname1/IP Address1>:<PORT of SIB_ENDPOINT_ADDRESS>:BootstrapBasicMessaging

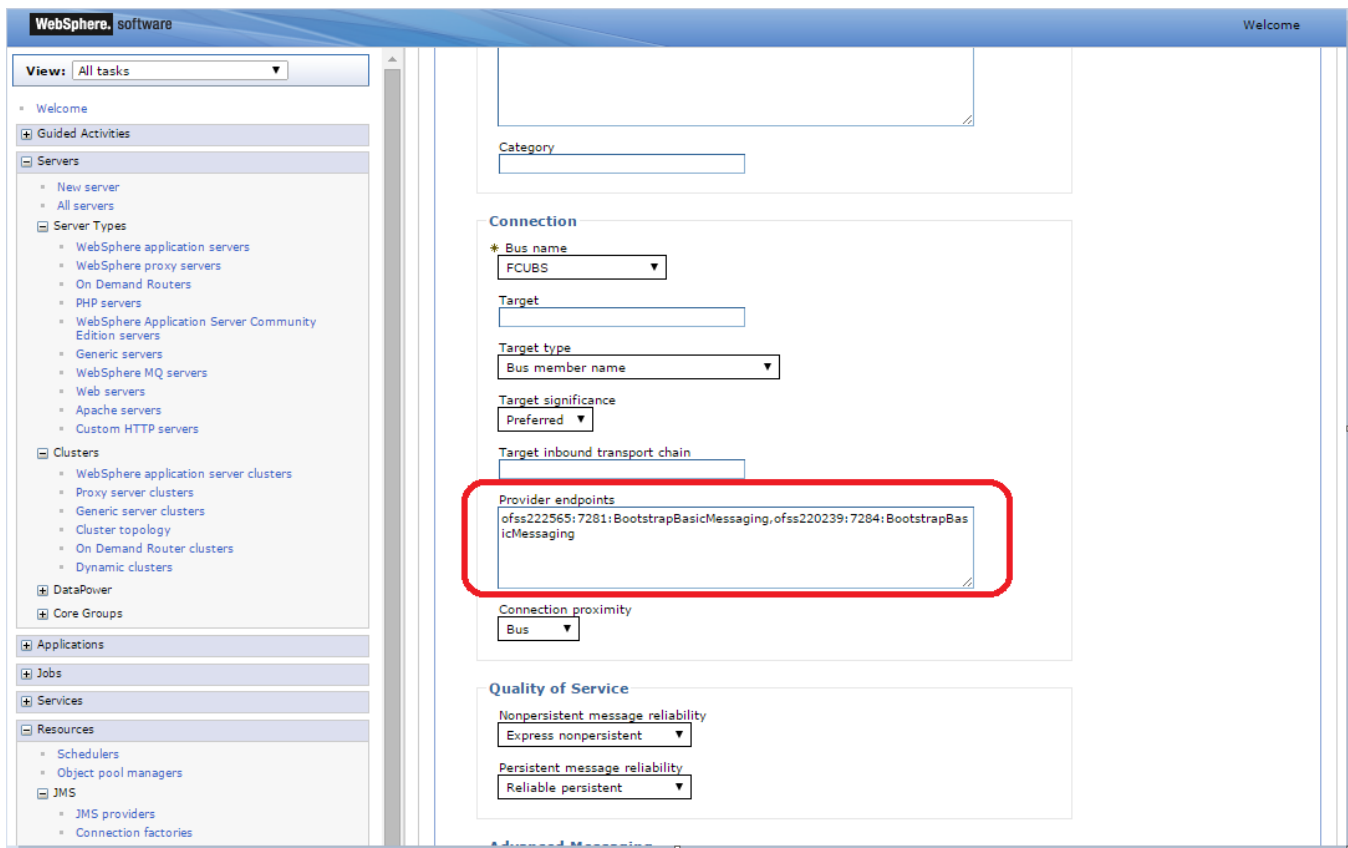
In this case the Provider Endpoint String would be

ofss222565:7281:BootstrapBasicMessaging,ofss220239:7284:BootstrapBasicMessaging

Navigate to Resources > JMS > Queue Connection Factory > Click on newly created connection factory



4) Update the Provider endpoints as prepared above and Click on OK



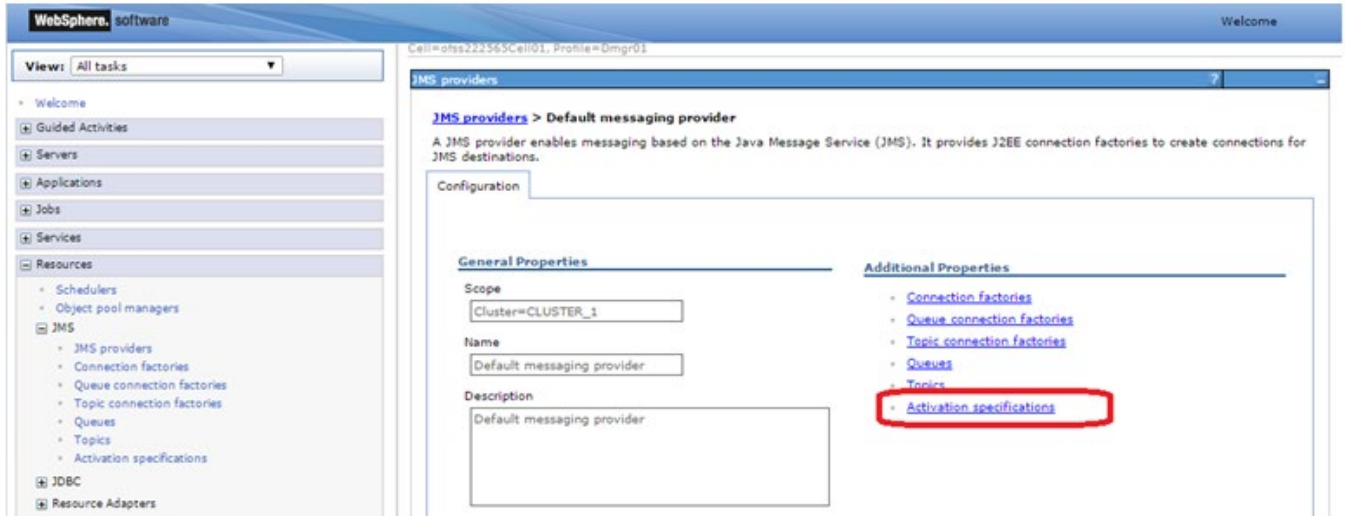
5.3 JMS Activation Specifications for Cluster

- 1) Navigate to Resources > JMS > JMS Providers > Click Default messaging provider for the cluster created

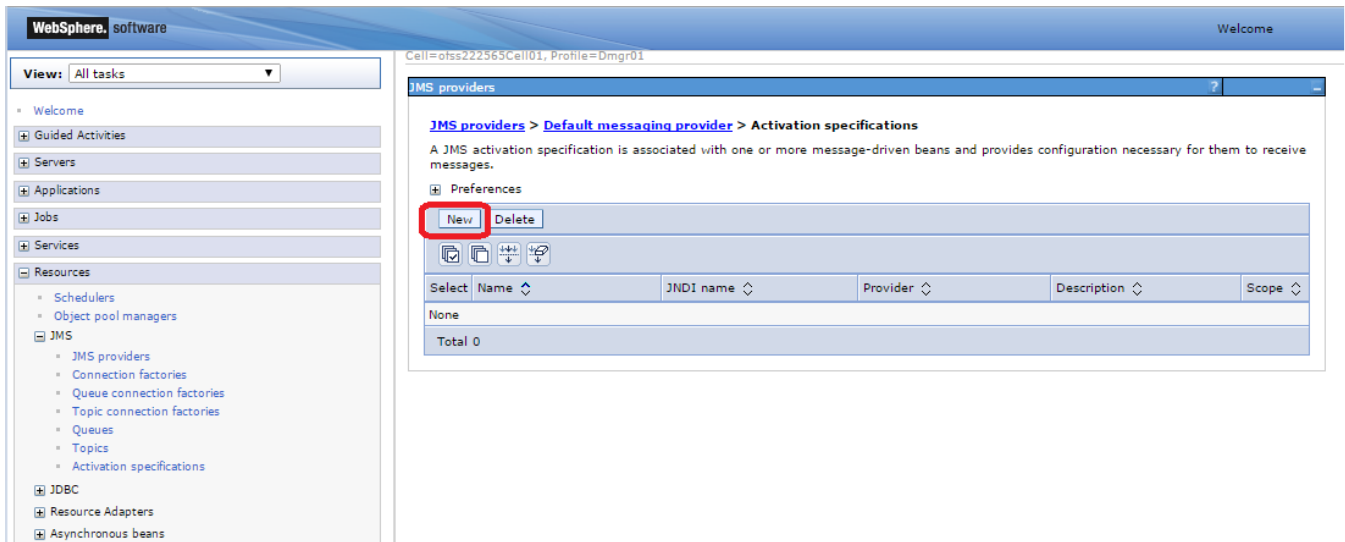
The screenshot displays the WebSphere software interface for configuring JMS providers. The left sidebar shows the navigation tree with 'Resources > JMS > JMS providers' selected. The main content area shows the 'JMS providers' configuration page. A table lists several 'Default messaging provider' resources. The last row, 'Default messaging provider' with scope 'Cluster=CLUSTER_1', is highlighted with a red rectangle.

Select	Name	Description	Scope
	Default messaging provider	Default messaging provider	Node=ofss222565Node03,Server=server1
	Default messaging provider	Default messaging provider	Node=ofss222565CellManager01
	Default messaging provider	Default messaging provider	Node=ofss220239Node02,Server=server1
	Default messaging provider	Default messaging provider	Node=ofss222565Node03
	Default messaging provider	Default messaging provider	Node=ofss220239Node02
	Default messaging provider	Default messaging provider	Node=ofss222565Node03,Server=MS_2
	Default messaging provider	Default messaging provider	Cell=ofss222565Cell01
	Default messaging provider	Default messaging provider	Node=ofss220239Node02,Server=MS_1
	Default messaging provider	Default messaging provider	Node=ofss222565CellManager01,Server=dmgr
	Default messaging provider	Default messaging provider	Cluster=CLUSTER_1

- 2) Under Additional Properties, click Activation specifications



3) Click on New



4) Enter Name, JNDI Name, Select Destination Type as Queue and Enter Queue Name, Select Bus and Click on OK

WebSphere, software

Cell=otss222565Cell01, Profile=Dmgr01

View: All tasks

WMS providers

JMS providers > Default messaging provider > Activation specifications > New...

A JMS activation specification is associated with one or more message-driven beans and provides the configuration necessary for them to receive messages.

Configuration

General Properties

Administration

Scope
Cluster=CLUSTER_1

Provider
Default messaging provider

Name
MDB_Listener

JNDI name
MDB_Listener

Description

Destination

Destination type
Queue

Destination JNDI name
MDB_QUEUE

Message selector

Bus name
FCUBS

Acknowledge mode
Auto-acknowledge

Target

Related Items

- JAAS - J2C authentication data
- Buses

5) Click on Save

WebSphere, software

Cell=otss222565Cell01, Profile=Dmgr01

View: All tasks

WMS providers

Messages

Changes have been made to your local configuration. You can:

- Save directly to the master configuration.
- Review changes before saving or discarding.

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

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

JMS providers > Default messaging provider > Activation specifications

A JMS activation specification is associated with one or more message-driven beans and provides configuration necessary for them to receive messages.

Preferences

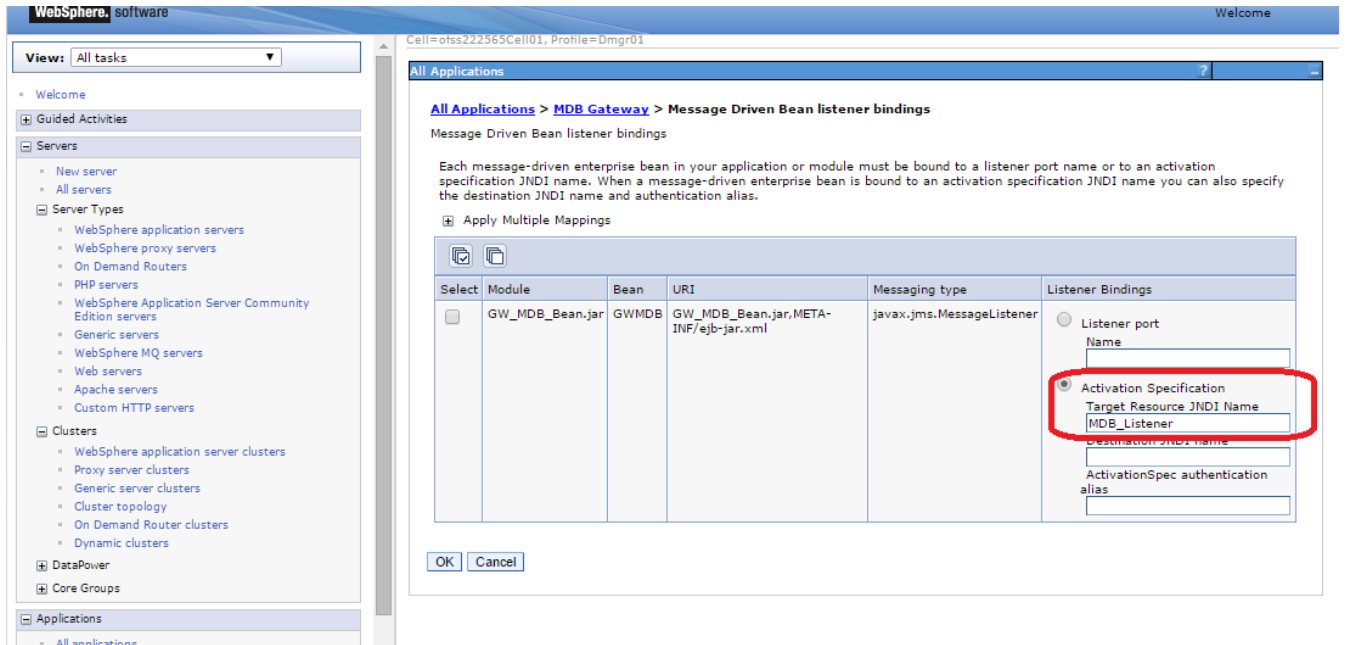
New Delete

Select	Name	JNDI name	Provider	Description	Scope
<input type="checkbox"/>	MDB_Listener	MDB_Listener	Default messaging provider		Cluster=CLUSTER_1

Total 1

6. Application Deployment

- 1) Deploy the EAR with Target as Cluster_1. Except below step rest is usual way of deploying the EAR.
- 2) During deployment give the Activation Specification Created above in the Activation Specification.



6.1 Restart Servers

Restart the Admin and Managed Servers.

7. Frequently Asked Questions

7.1 How to Test the Deployment

- 1) Send a sample message from the any third party application by connecting to
iiop://<hostname or ip>:<BOOTSTRAP_ADDRESS>
eg: iiop://ofss222565:9811
- 2) Verify at backend or in the MDB log if the message is processed successfully.

Or

- 1) Use the below java program to send a sample message.
- 2) Set Java Home
- 3) Set \$WAS_HOME/runtimes/com.ibm.ws.ejb.thinclient_8.5.0.jar,
\$WAS_HOME/runtimes/com.ibm.ws.sib.client.thin.jms_8.5.0.jar and javaee.jar in the CLASSPATH.
- 4) Change the URL, USER, PASSWORD, messageText in the Java Program and Compile.
- 5) Run the program and verify at backend or in MDB log.

```
import java.util.Hashtable;

import javax.jms.JMSEException;

import javax.jms.Queue;

import javax.jms.QueueConnection;

import javax.jms.QueueConnectionFactory;

import javax.jms.QueueSender;

import javax.jms.QueueSession;

import javax.jms.Session;

import javax.naming.Context;

import javax.naming.InitialContext;

import javax.naming.NamingException;
```



```

import javax.jms.TextMessage;

public class JMSQueueTest {

    public JMSQueueTest() {

        super(); }

    private Context ctx;

    private InitialContext initialContext;

    private QueueConnectionFactory queueCF;

    private QueueConnection queueConn;

    private QueueSession queueSession;

    private Queue queue;

    private QueueSender queueSender;

    private final static String JNDI_FACTORY =
"com.ibm.websphere.naming.WsnInitialContextFactory";

    private final static String JMS_FACTORY = "MDBQCF";

    private final static String QUEUE = "MDB_QUEUE";

    private final static String URL = "iiop://ofss222565:9811";

    private TextMessage txtMessage;

    private static String USER = "wasadmin";

    private static String PASSWORD = "wasadmin123";

    private static String messageText = "Hello!";

    private InitialContext getInitialContext(String url) throws Exception {

        Hashtable envHash = new Hashtable();

        envHash.put(Context.INITIAL_CONTEXT_FACTORY, JNDI_FACTORY);

        envHash.put(Context.PROVIDER_URL, url);

        envHash.put(Context.SECURITY_PRINCIPAL, USER);

        envHash.put(Context.SECURITY_CREDENTIALS, PASSWORD);

```

```

try {
    return new InitialContext(envHash);
} catch (NamingException e) {
    e.printStackTrace();    }
return new InitialContext(envHash);    }

private void init(Context ctx, String queueName) {

try {

    ctx = getInitialContext(URL);

    queueCF = (QueueConnectionFactory)ctx.lookup(JMS_FACTORY);

    queueConn = queueCF.createQueueConnection();

    queueSession = queueConn.createQueueSession(false,Session.SESSION_TRANSACTED);

    queue = (Queue)ctx.lookup(queueName);

    queueSender = queueSession.createSender(queue);

    txtMessage = queueSession.createTextMessage();

    queueConn.start();

} catch (Exception e) {
    e.printStackTrace();    }    }

private void close() throws JMSEException {

    queueSender.close();

    queueSession.close();

    queueConn.close();    }

private void sendMessage(String message) throws JMSEException {

    txtMessage.setText(messageText);

    queueSender.send(txtMessage);    }

public static void main(String[] args) throws Exception {

    JMSQueueTest jmsq = new JMSQueueTest();

    InitialContext ico = jmsq.getInitialContext(URL);

```

```

try {
    jmsq.init(ico, QUEUE);
    jmsq.sendMessage(messageText);
} catch (JMSEException jmse) {
    jmse.printStackTrace();
} finally {
    jmsq.close();
}
}

```

7.2 Warning during Bus Member Creation

During Bus member creation Warning is shown in “Is Further configuration Required?”

The screenshot displays the WebSphere software interface. On the left is a navigation tree with categories like Servers, Clusters, DataPower, Core Groups, Applications, Jobs, Services, Resources, Runtime Operations, Security, Operational policies, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area shows the 'Messaging engine policy assistance settings' dialog. The dialog title is 'Select a predefined messaging engine policy to apply to the selected cluster when it is added as a bus member.' It contains a table with the following data:

Select	Policy type	Is further configuration required?
<input checked="" type="radio"/>	High availability	The current configuration has a single point of failure because there is only a single node. Consider adding a cluster member configured on a separate node.
<input type="radio"/>	Scalability	No
<input type="radio"/>	Scalability with high availability	The current configuration has a single point of failure because there is only a single node. Consider adding a cluster member configured on a separate node.
<input type="radio"/>	Custom	Advice is not available for a custom configuration.

Below the table is a diagram showing a cluster named 'CLUSTER_1' with two nodes: 'nodesgen1' and 'server1'. A dashed box highlights the cluster, and a warning icon is shown next to it. The diagram also shows a 'MS_2' node and a '2' node, indicating a single node configuration.

Examine the resulting diagram and the messages for the selected messaging engine policy type. Act on the messages as follows:

- 1) To add a server or a node, go back and change the cluster topology before you continue with the current procedure.
- 2) To add or remove messaging engines, under Additional Properties, click Messaging engines and use the options on the resulting pane.
- 3) To correct messaging engine policies, under Additional Properties, click Messaging engine policy maintenance and use the options on the resulting pane.

When the "Is further configuration required" column for the selected messaging engine policy type displays No, the configuration is complete.

7.3 Message Engines Not Getting Started

Message engine fail to start and gives SIB Service Bus Unavailable error.

- 1) Ensure that shared folders are empty
- 2) Restart the Managed Servers
- 3) Check the Status of message engines

7.4 Cannot Establish Connection Error

When a message is received on the Queue it throws below error

Caused by: com.ibm.websphere.sib.exception.SIResourceException: CWSIC1001E: A client attempted to connect with a remote messaging engine but the connection cannot be completed. Ensure the messaging engine is started: exception com.ibm.ws.sib.jfapchannel.JFapConnectFailedException: CWSIJ0063E: A network connection to host name localhost/127.0.0.1, port 7,276 cannot be established.

- 1) Ensure that Provider EndPoint contains the SIB_ENDPOINT_ADDRESS of all the servers comma separated
- 2) Eg: <hostname1>:<port1>:BootstrapBasicMessaging, <hostname2>:<port 2>:BootstrapBasicMessaging,
- 3) Restart the servers after making changes

7.5 How to setup for Scheduler/Notifications

The above document can be used for setting up JMS for scheduler/notifications but additional queues and connection factory needs to be created. Also the FCUBS application needs to be deployed.

7.6 What other modules uses JMS Queue's

JMS is used by following modules, relevant queues and factories needs to be created additionally

- EMS for swift messages
- GI for upload
- ELCM
- BIP

8. References

- 1) GATEWAY_Applications_WAS.doc
- 2) Resource_Creation_WAS.doc
- 3) FCUBS_Application_WAS.doc
- 4) http://129.33.205.81/support/knowledgecenter/SSAW57_8.5.5/com.ibm.websphere.nd.iseries.doc/ae/welc6topmanaging.html
- 5) <http://publib.boulder.ibm.com/infocenter/wsdoc400/v6r0/index.jsp?topic=/com.ibm.websphere.pmc.iseries.doc/tasks/tjn9999.html>



FCUBS_JMS_Websphere_Configuration
[May] [2021]
Version 12.87.7.0.0

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

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

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

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

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

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

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

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

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