

OBTR JMS Configuration Using Websphere Default
Messaging Provider
Oracle Banking Treasury Management
Release 14.4.0.1.0
[August] [2020]



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1. Purpose

The purpose of this document is to explain the steps required for JMS Configuration using WEBSphere
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

WebSphere, software

Views: All tasks

Cell: ofss222565Cell01, Profile: Dmgr01

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
☐	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	TCP	++
☐	ofss222565CellManager01	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	++
☐	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	++

Total 3

3.2 Node Agents

Both the Node Agents are started.

WebSphere, software

Views: All tasks

Cell: ofss222565Cell01, Profile: Dmgr01

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
☐	nodeagent	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	→
☐	nodeagent	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	→

Total 2

3.3 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
☐	CLUSTER_1	+

Total 1

3.4 Managed Servers

Application servers

Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server.

Preferences

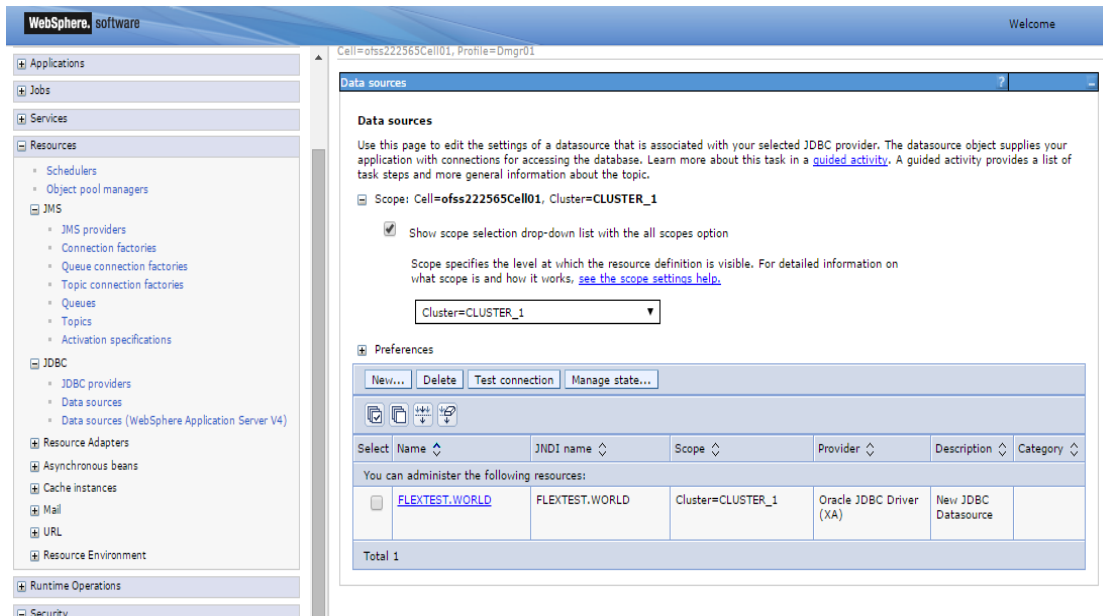
New... Delete Templates... Start Stop Restart ImmediateStop Terminate

Select	Name	Node	Host Name	Version	Cluster Name	Status
☐	MS_1	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	CLUSTER_1	+
☐	MS_2	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	CLUSTER_1	+
☐	SERVER1	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0		+
☐	SERVER1	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0		+

Total 4

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/

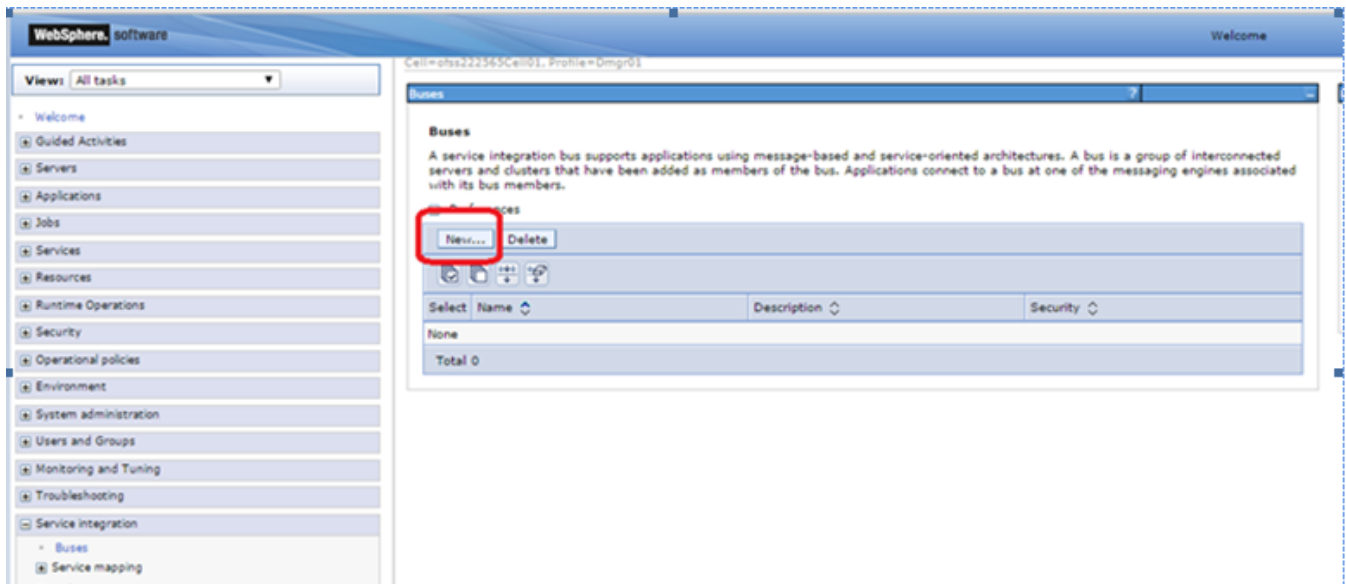
/scratch/MessageStore/JMS_2/

/scratch/ MessageStore /JMS_3/

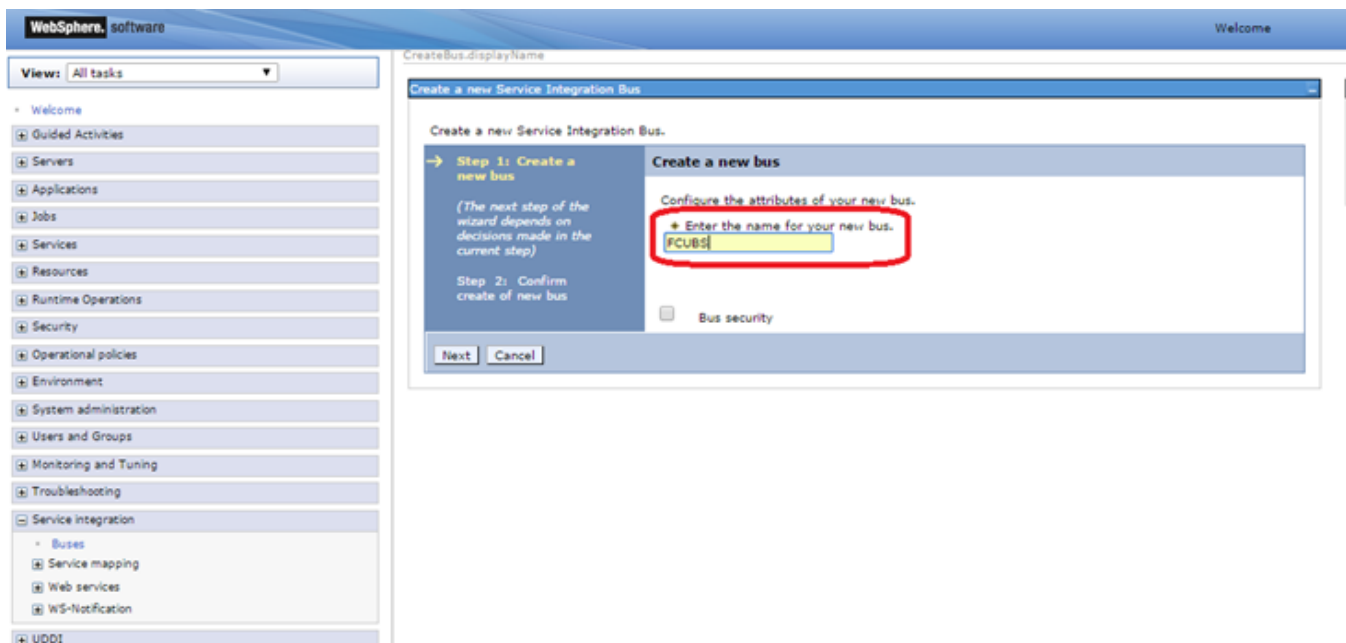
4. JMS Configuration

4.1 Service Integration Bus Creation

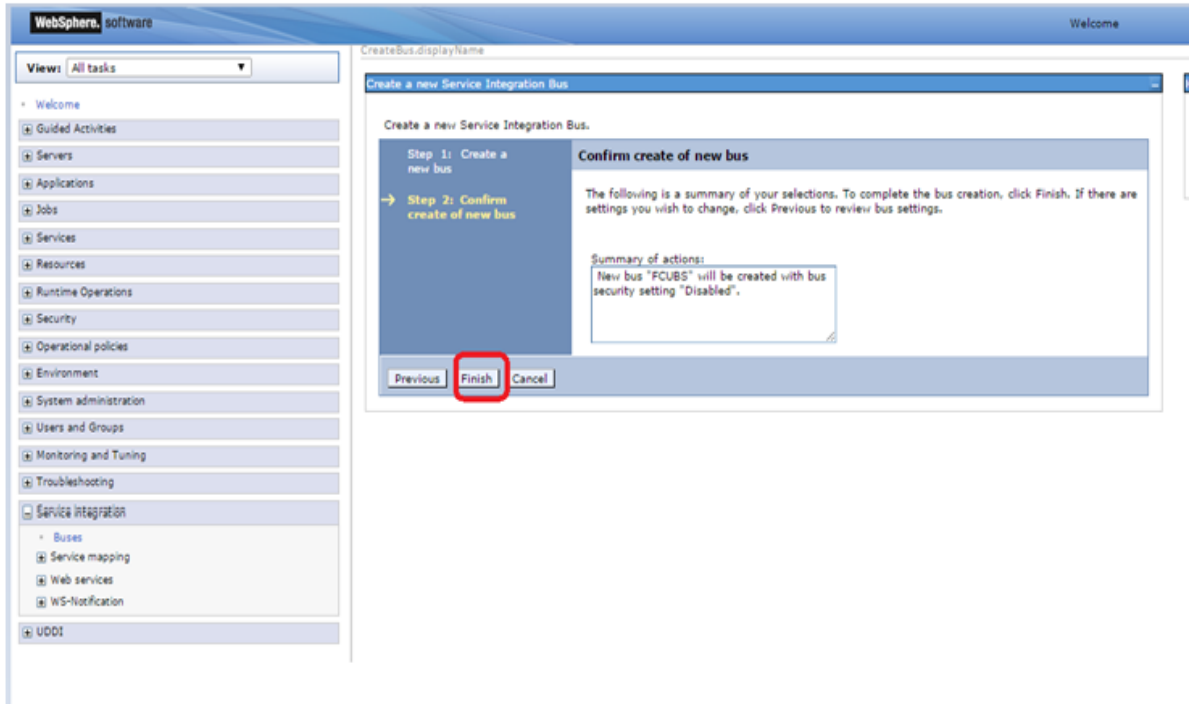
- 1) Navigate to Service Integration > Buses > Click on New.



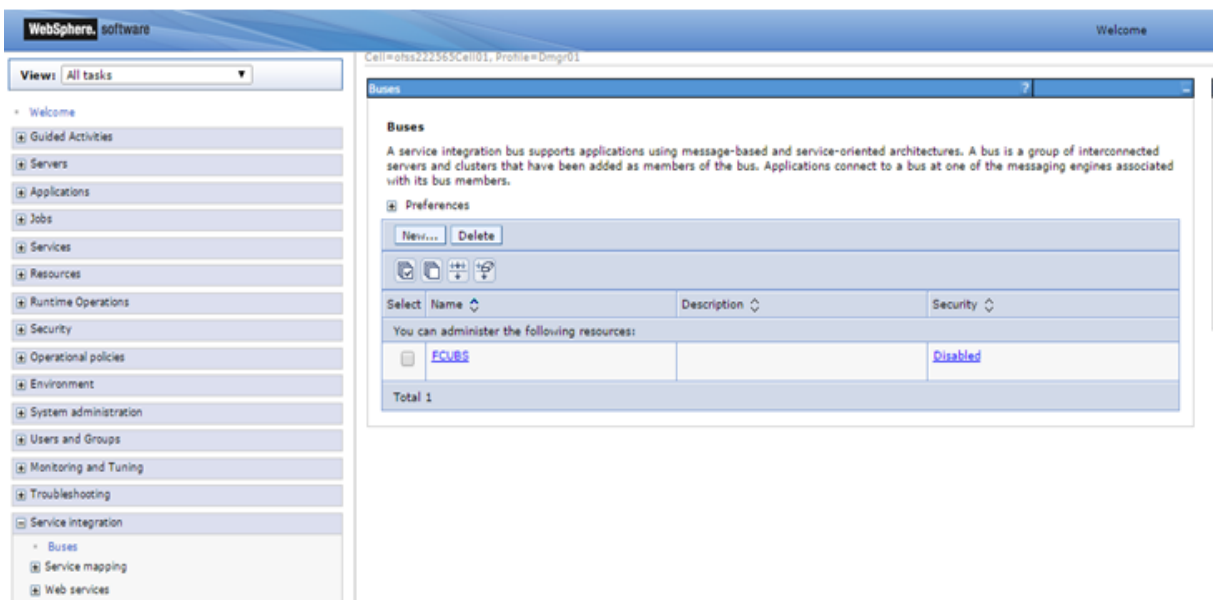
- 2) Enter Name for the new Bus, Uncheck "Bus Security" if security is not enabled during OBTR property file build and click on Next.



- 3) Click on Finish.

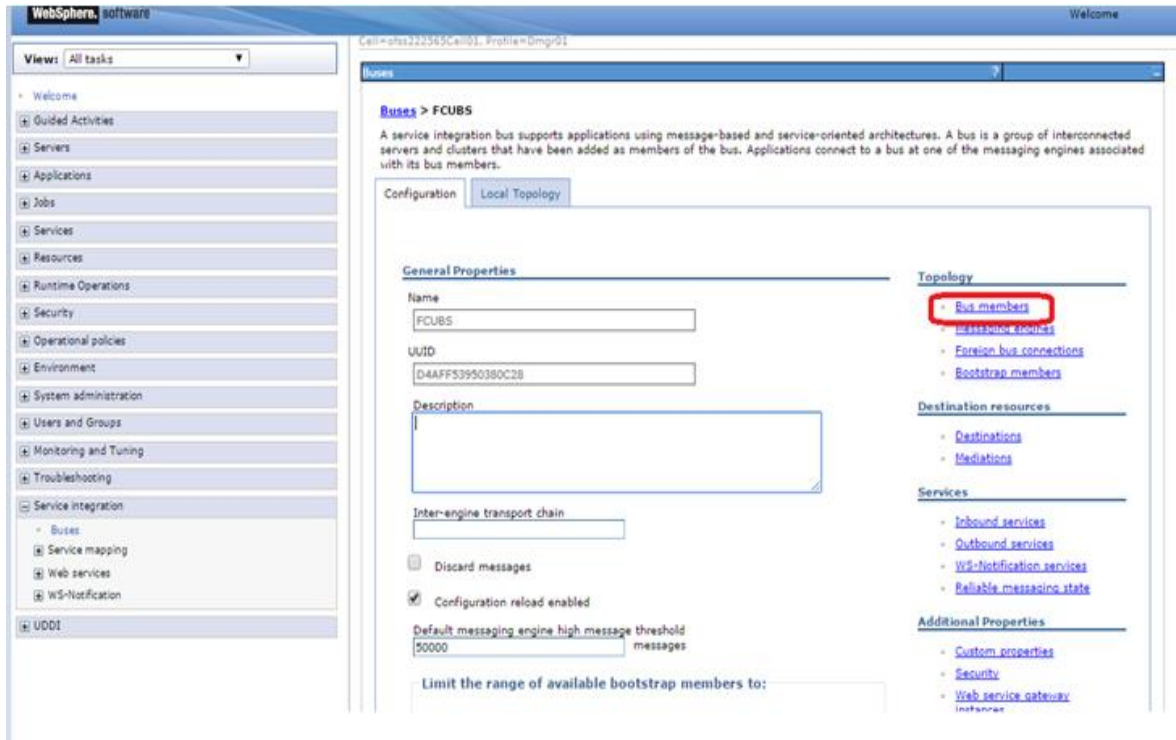


4) New Bus FCUBS is created.

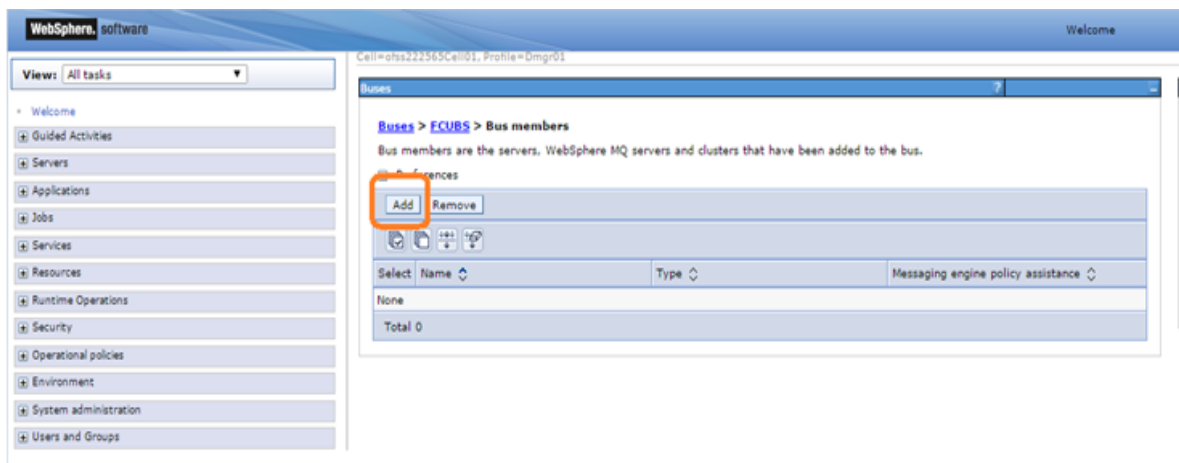


4.2 Bus Member (File Store Creation)

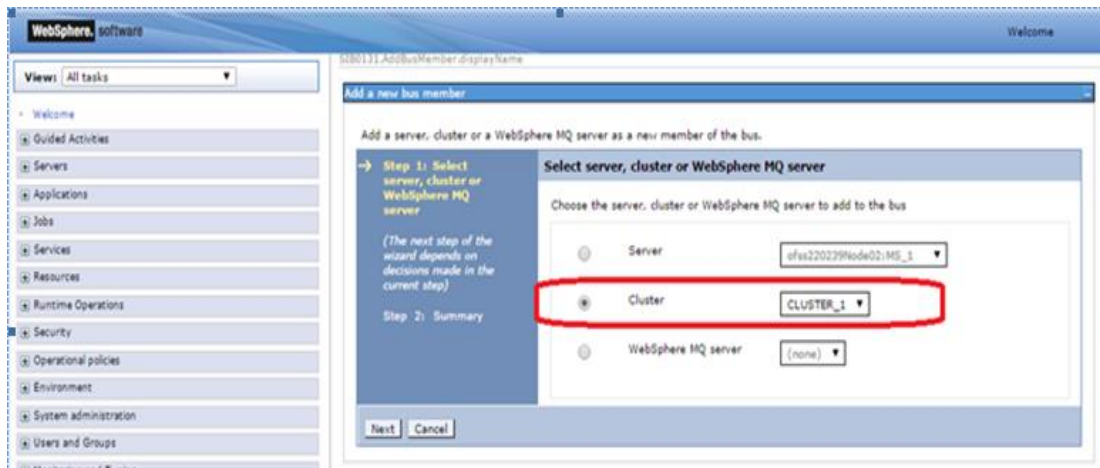
- 1) Navigate to Service Integration > Buses > Click on FCUBS(new bus Created) > Click on Bus Member under Topology



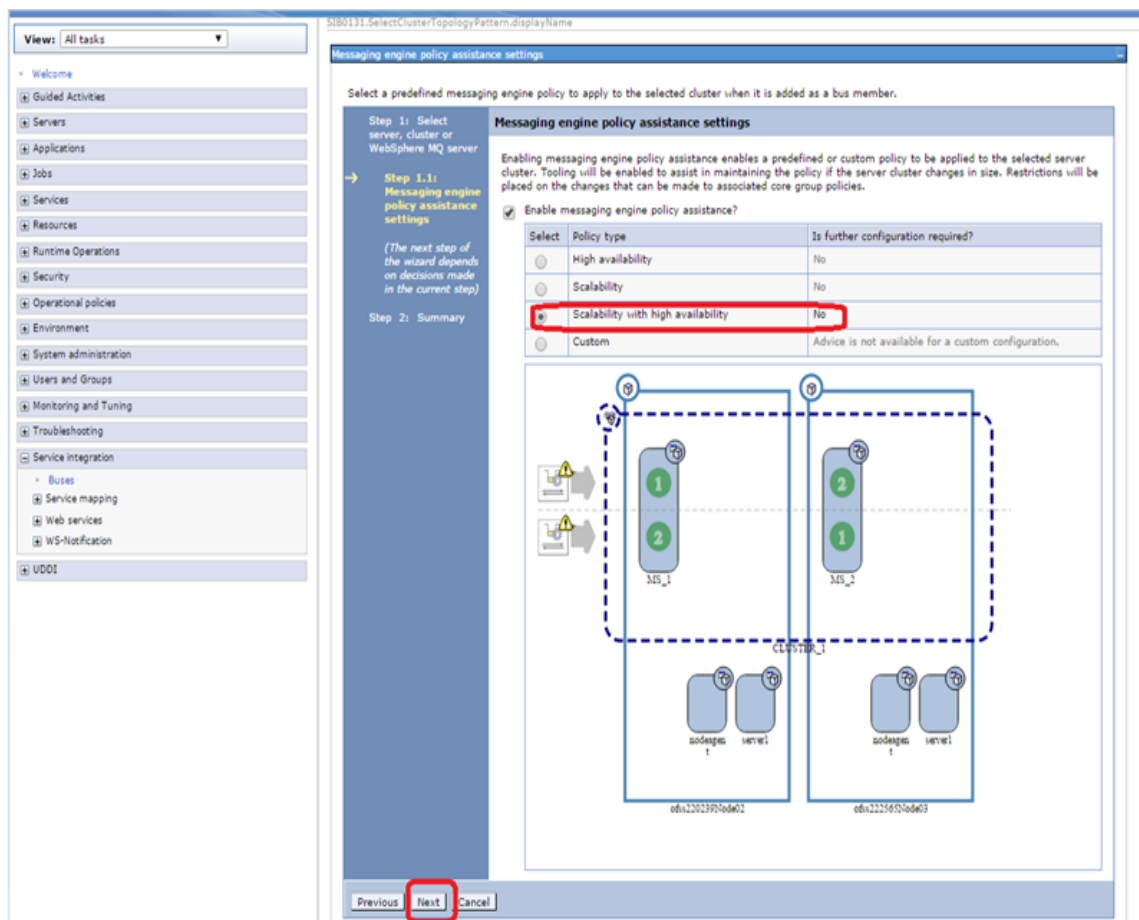
- 2) Click On Add



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

WebSphere, software

Views: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Jobs
- Services
- Resources
- Runtime Operations
- Security
- Operational policies
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
 - Buses
 - Service mapping
 - Web services
 - WS-Notification
- UDDI

S180131.SelectMsgStoreType.displayName

Select message store type

Choose the type of message store for the persistence of message state

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

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

Step 2: Summary

Previous **Next** Cancel

Select the type of message store

Choose the type of message store for the persistence of message state

☒ File store

☐ Data store

6) Select the Node 1 Message Engine

WebSphere, software

Views: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Jobs
- Services
- Resources
- Runtime Operations
- Security
- Operational policies
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
 - Buses
 - Service mapping
 - Web services
 - WS-Notification
- UDDI

S180131.CreateCustomMSTopology.displayName

Configure messaging engines

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

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

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	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	No
CLUSTER_1_001-FCUBS	Yes	Yes	ofss222565Node03:MS_2, ofss220239Node02:MS_1	Yes	No

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

WebSphere software Welcome

SIB0131.ConfigureFileStore.displayName

Specify file store properties

Provide the properties for the file store

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

Step 1.1.2.1: Configure file store

Step 2: Summary

Configure file store

Specify the properties for the file store

Log

Log size: 100 MB

Log directory path: /scratch/work_area/DEV/JMS/MS_1/lo

Store

☒ Same settings for permanent and temporary stores

Permanent and temporary stores

Minimum permanent store size: 200 MB

☐ Unlimited permanent store size

Maximum permanent store size: 500 MB

Permanent store directory path: /scratch/work_area/DEV/JMS/MS_1/

Previous **Next** Cancel

- 8) Click on other message engine and set the File Store

WebSphere software Welcome

SIB0131.CreateCustomMTETopology.displayName

Configure messaging engines

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

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

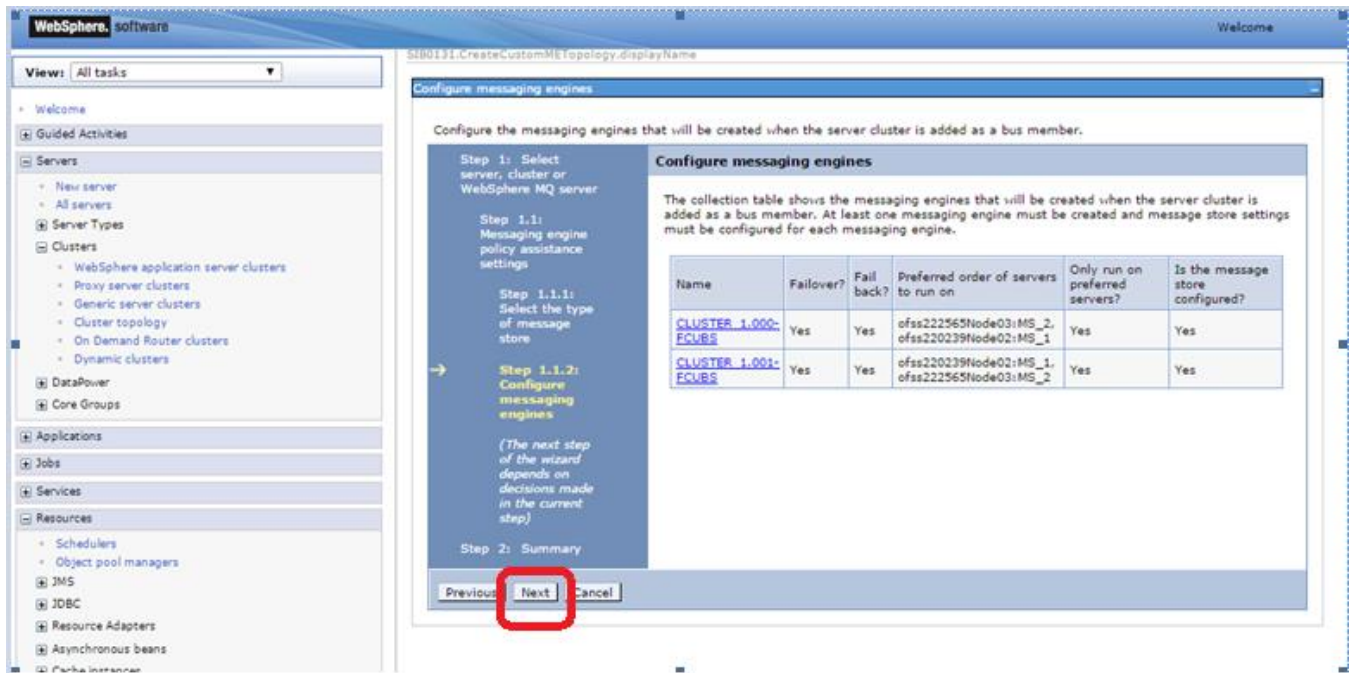
Previous **Next** Cancel

Configure messaging engines

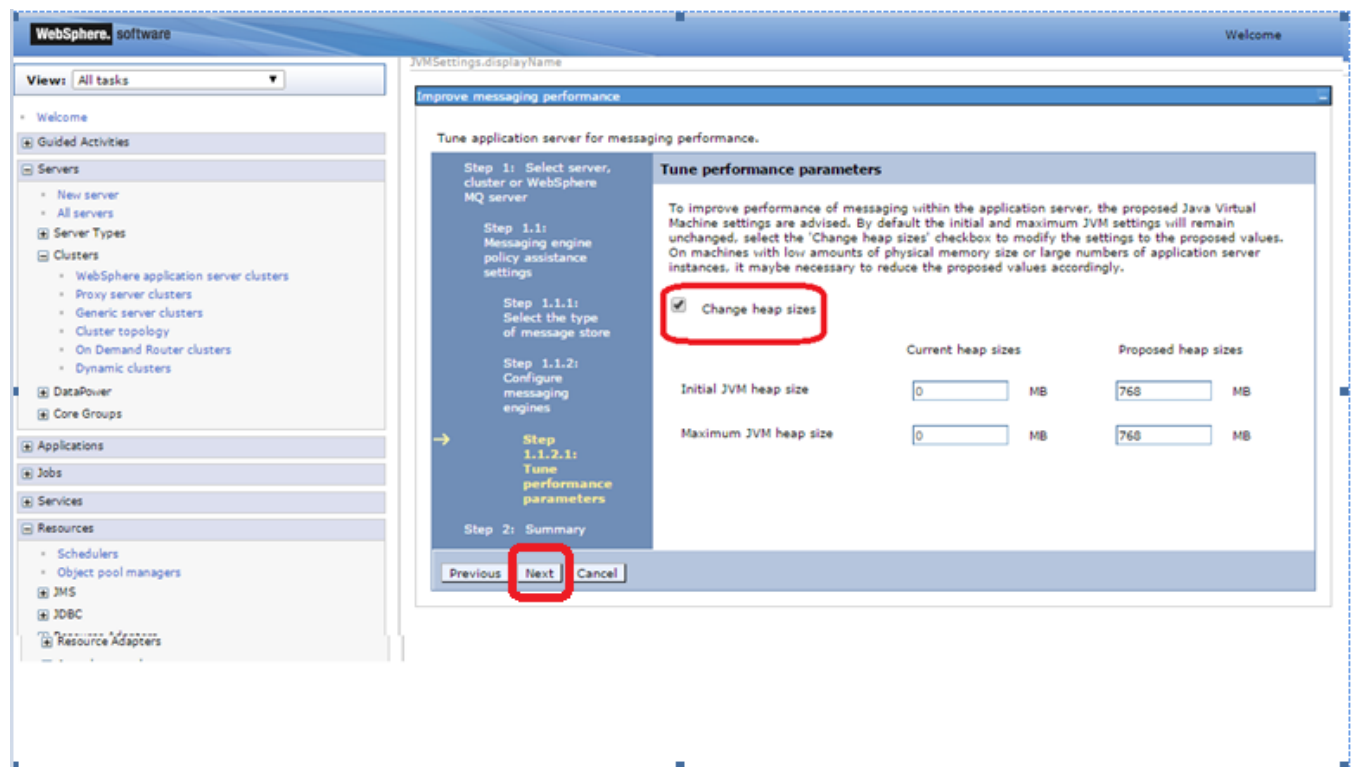
The collection table shows the messaging engines that will be created when the server cluster is added as a bus member. At least one messaging engine must be created and message store settings must be configured for each messaging engine.

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-FCUB2	Yes	Yes	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	No

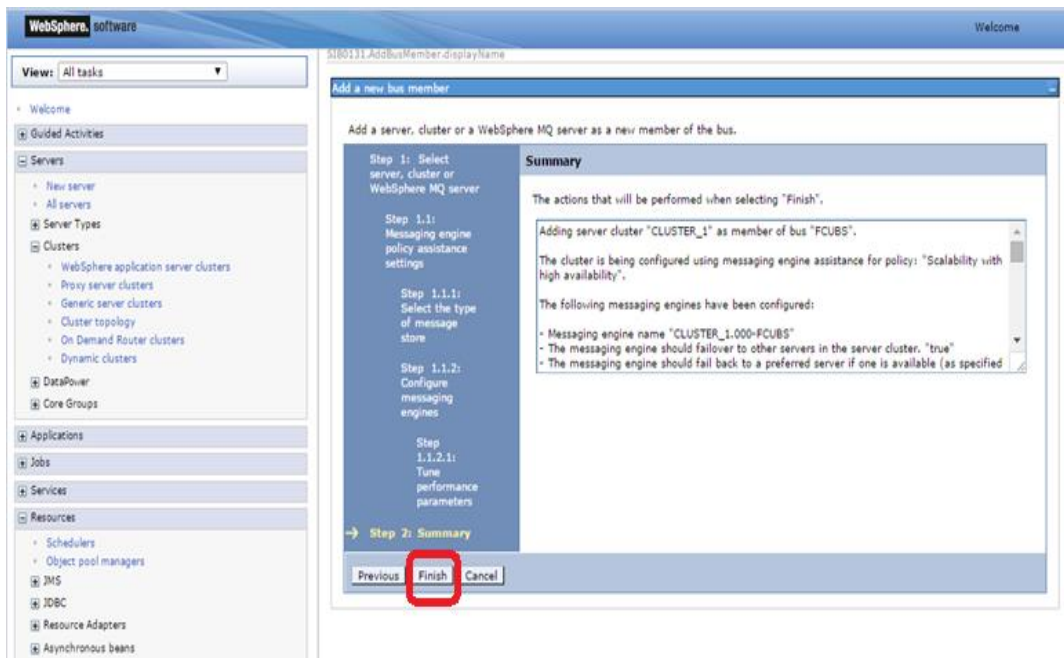
9) Click on Next after Setting File Store for all messaging engines.



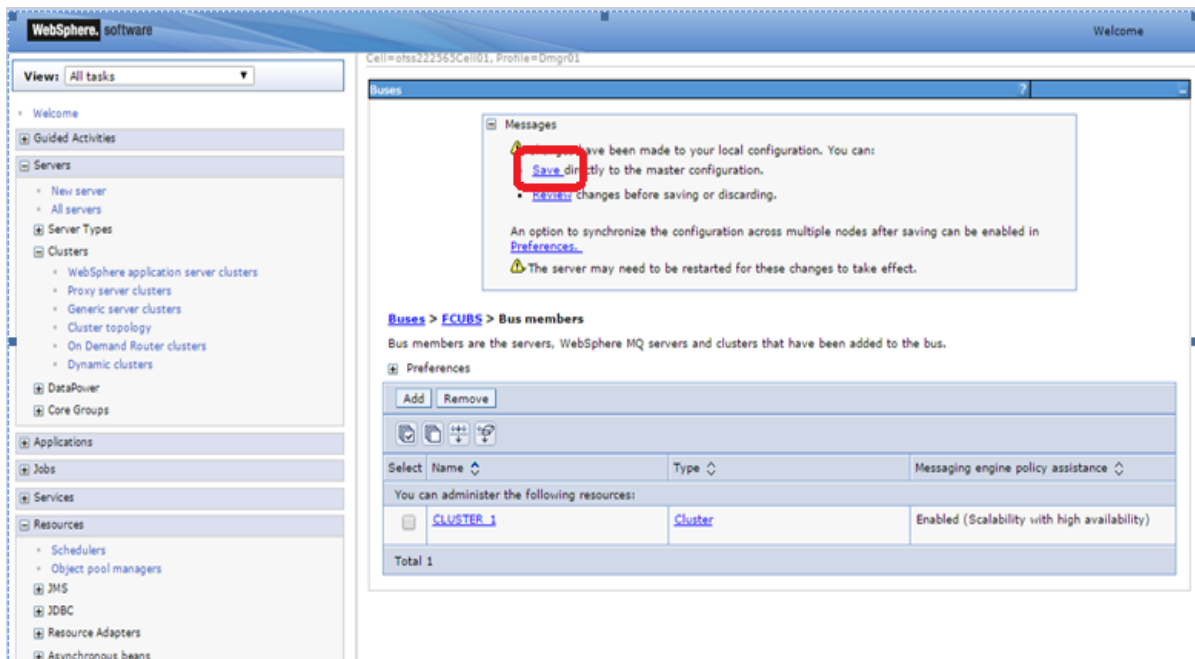
10) Select Change Heap Sizes and Click on Next



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

WebSphere, software

Cell=otss222565Cell01, Profile=Dmgr01

Buses

Buses > FCUBS

A service integration bus supports applications using message-based and service-oriented architectures. A bus is a group of interconnected servers and clusters that have been added as members of the bus. Applications connect to a bus at one of the messaging engines associated with its bus members.

Configuration Local Topology

General Properties

Name: FCUBS

UUID: D4AFF53950380C28

Description:

Inter-engine transport chain:

☐ Discard messages

☒ Configuration reload enabled

Topology

- Bus members
- Messaging engines
- Foreign bus connections
- Bootstrap members

Destination resources

- Destinations
- Mediations

Services

- Inbound services
- Outbound services
- WS-Notification services
- Reliable messaging state

- 2) Click on New

WebSphere, software

Cell=otss222565Cell01, Profile=Dmgr01

Buses

Buses > FCUBS > Destinations

A bus destination is defined on a service integration bus, and is hosted by one or more locations within the bus. Applications can attach to the destination as producers, consumers, or both to exchange messages.

Destinations

New... Delete Mediate Unmediate

Select	Identifier	Bus	Type	Description	Mediation
☐	Default.Topic.Space	FCUBS	Topic space		
☐	SYSTEM.Exception.Destination.CLUSTER_1.000-FCUBS	FCUBS	Queue		
☐	SYSTEM.Exception.Destination.CLUSTER_1.001-FCUBS	FCUBS	Queue		

Total 3

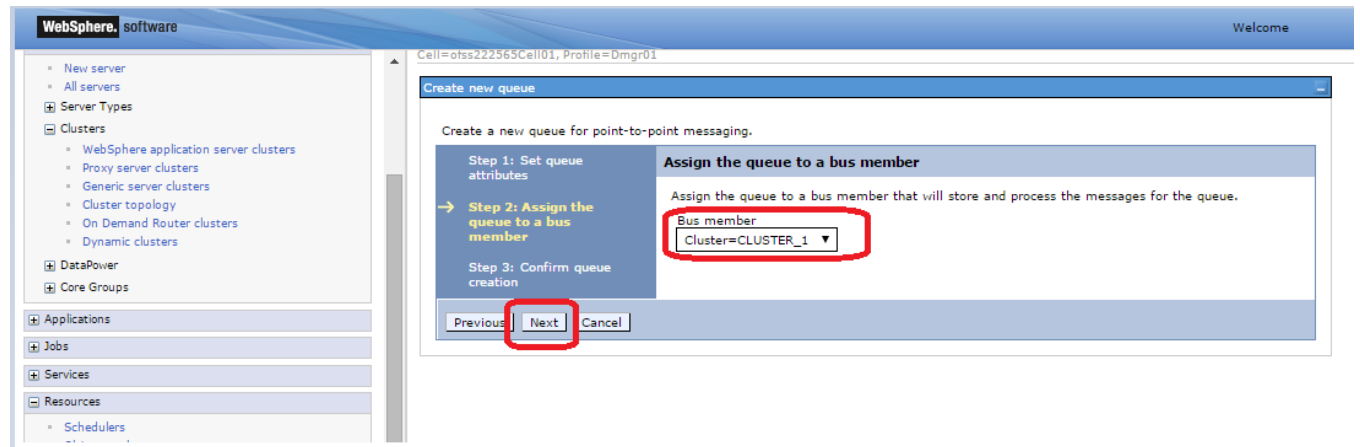
3) Select Queue and Click on Next

The screenshot shows the WebSphere software interface. On the left is a navigation tree with categories like 'New server', 'Server Types', 'Clusters', 'DataPower', 'Core Groups', 'Applications', 'Jobs', 'Services', and 'Resources'. The main panel is titled 'Buses' and contains a 'Create new destination' dialog. The dialog has a header 'Create a new destination on this bus.' and a section 'Select destination type' with four radio buttons: 'Queue' (selected), 'Topic space', 'Alias', and 'Foreign'. At the bottom of the dialog are 'Next' and 'Cancel' buttons. The 'Queue' radio button and the 'Next' button are both highlighted with red rectangles.

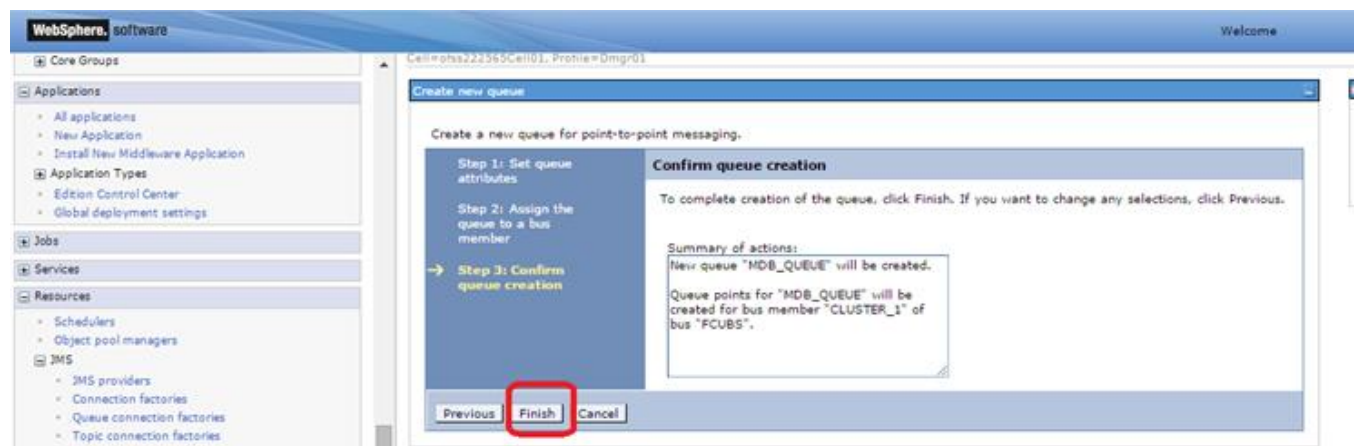
4) Enter Identifier as MDB_QUEUE and Click on Next

The screenshot shows the WebSphere software interface. On the left is a navigation tree with categories like 'Core Groups', 'Applications', 'Jobs', 'Services', and 'Resources'. The main panel is titled 'Cell=otss222565Cell01, Profile=Dmgr01' and contains a 'Create new queue' dialog. The dialog has a header 'Create a new queue for point-to-point messaging.' and a section 'Set queue attributes' with the sub-header 'Configure the attributes of your new queue'. There are three steps: 'Step 1: Set queue attributes' (active), 'Step 2: Assign the queue to a bus member', and 'Step 3: Confirm queue creation'. In the 'Set queue attributes' section, there is an 'Identifier' field containing 'MDB_QUEUE' and a 'Description' text area. At the bottom of the dialog are 'Next' and 'Cancel' buttons. The 'Identifier' field and the 'Next' button are both highlighted with red rectangles.

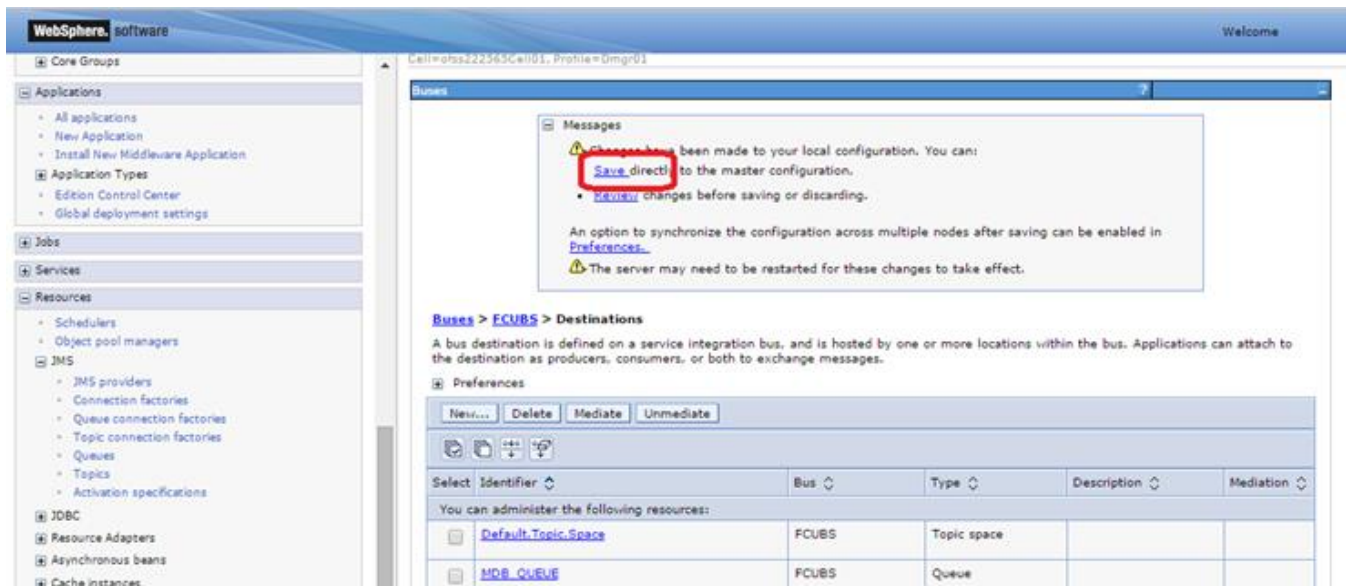
5) Select Bus Member as Cluster and Click on Next



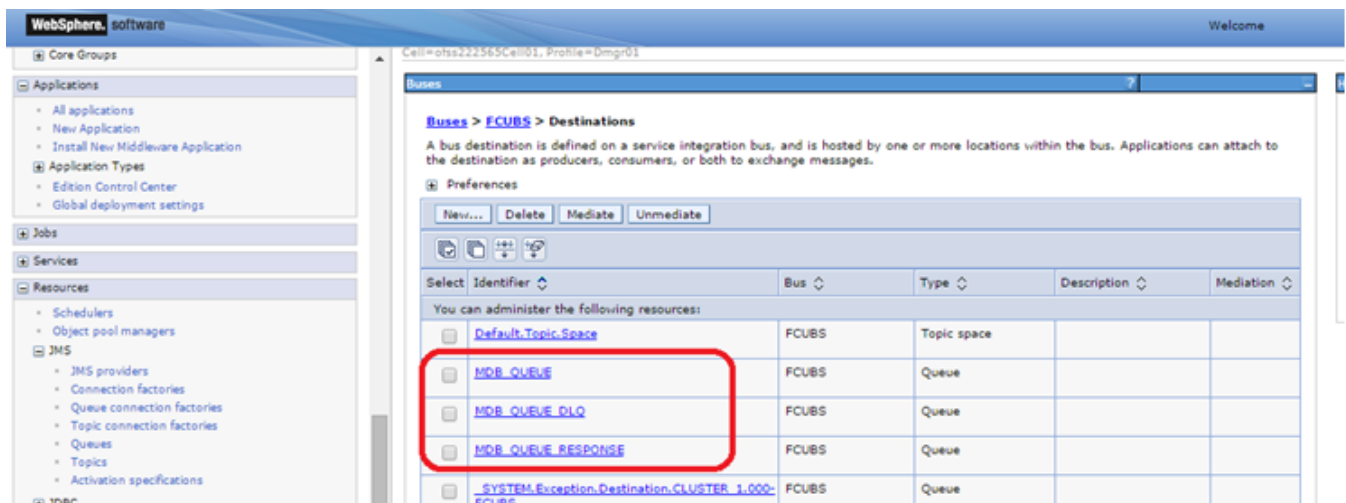
6) Click on Finish



7) Click on Save



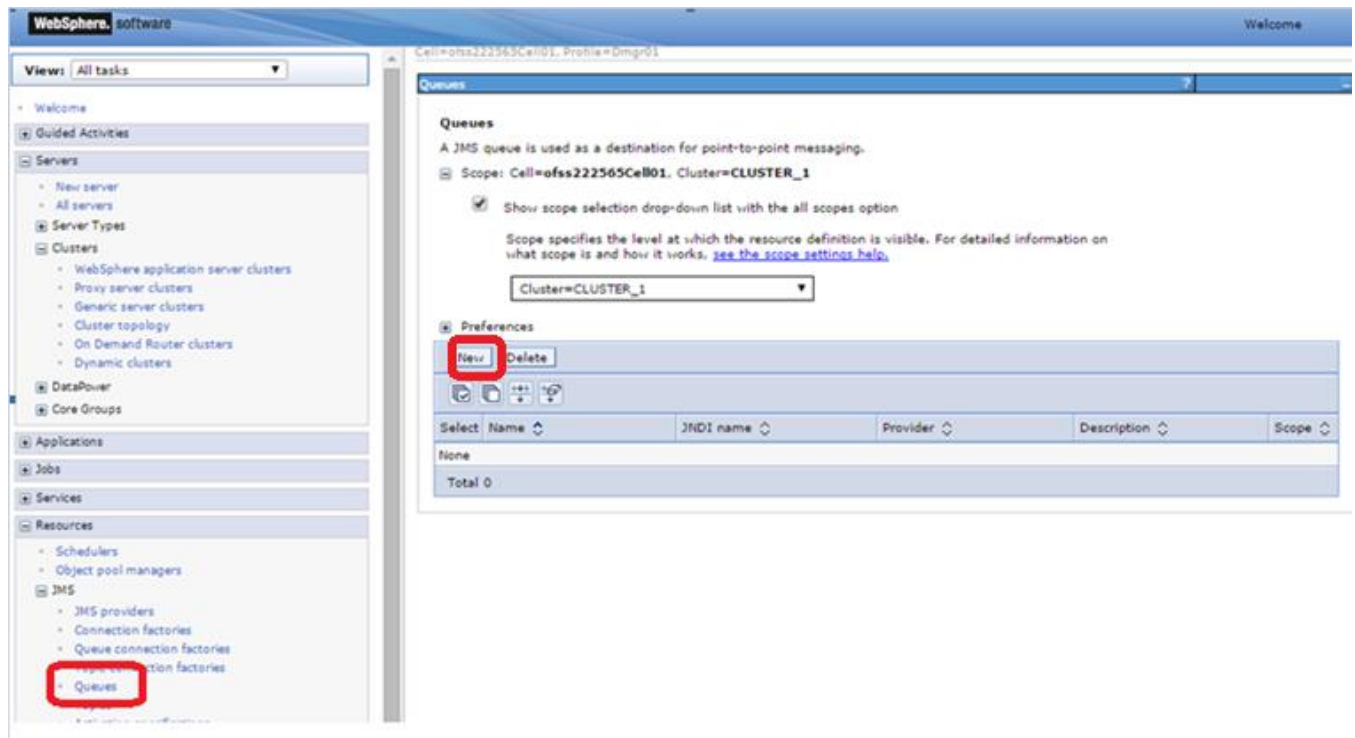
8) Similarly create Destinations for all the other Queue's required



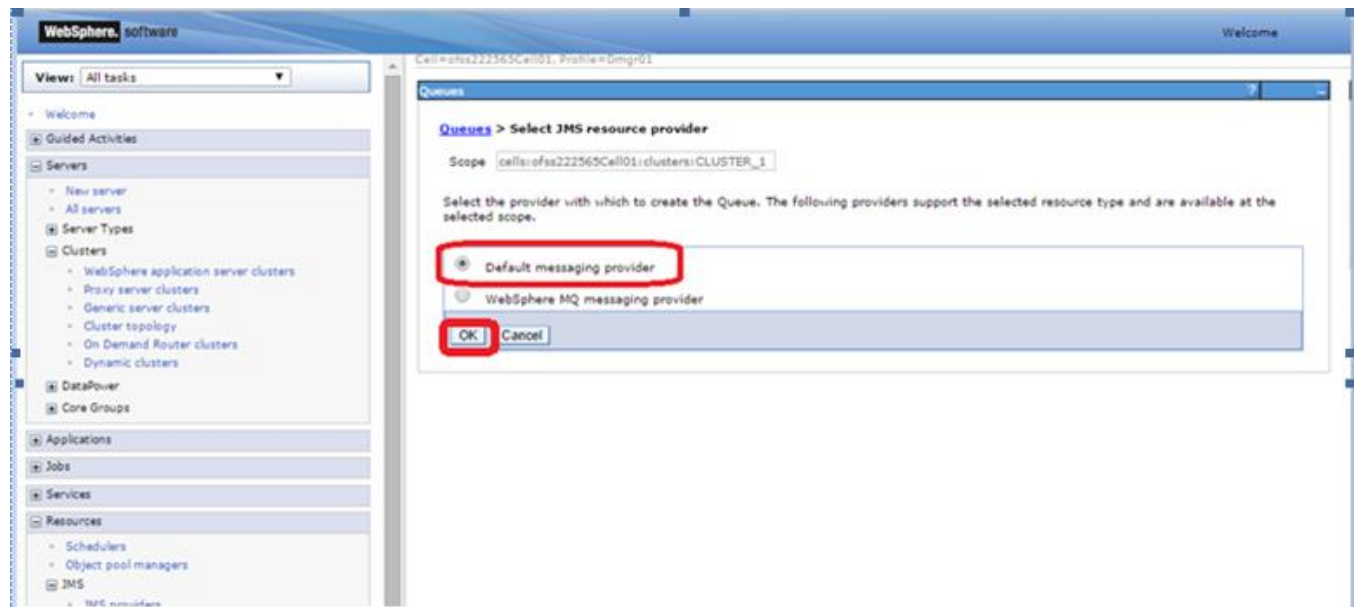
5. Resource Creation

5.1 Queue Creation

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



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.

Queues > MDB_QUEUE

A JMS queue is used as a destination for point-to-point messaging. Use JMS queue destination administrative objects to manage JMS queues for the

Configuration

General Properties

Administration

Scope: Cluster=CLUSTER_1

Provider: Default messaging provider

* Name: **MDB_QUEUE**

* JNDI name: **MDB_QUEUE**

Description:

Connection

Bus name: FCUBS

* Queue name: **MDB_QUEUE**

Delivery mode:

4) Similarly create other Queue's required

Queues

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

Scope: Cell=ofss222565Cell01, 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 settings help](#).

Cluster=CLUSTER_1

Preferences

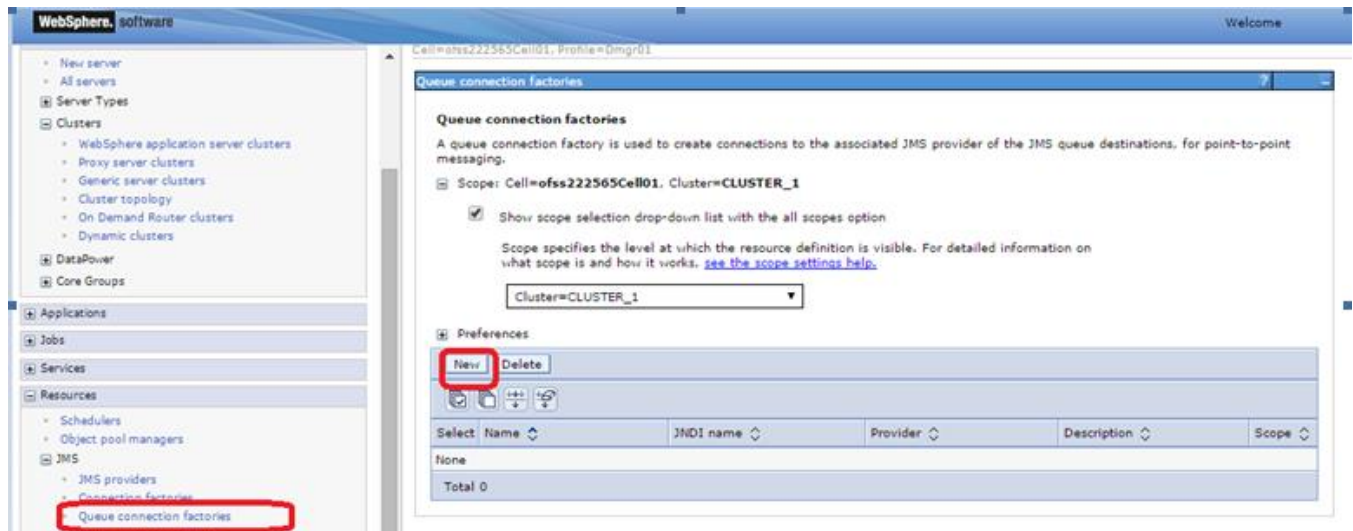
New Delete

Select	Name	JNDI name	Provider	Description	Scope
☐	MDB_QUEUE	MDB_QUEUE	Default messaging provider		Cluster=CLUSTER_1
☐	MDB_QUEUE_DLQ	MDB_QUEUE_DLQ	Default messaging provider		Cluster=CLUSTER_1
☐	MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE	Default messaging provider		Cluster=CLUSTER_1

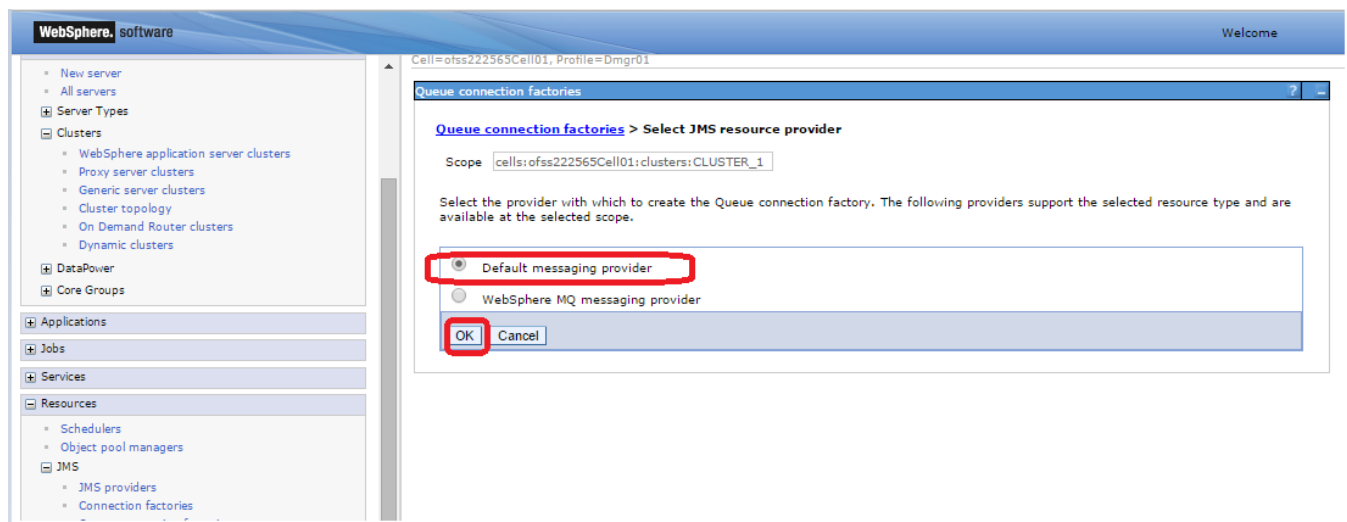
Total 3

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=ofss22256Scell01, 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

Additional Properties

Connection pool properties

Related Items

JAAS - J2C authentication data

Buses

Connection

Bus name

FCUBS

Target

Target type

Bus member name

3) Click on Save

WebSphere, software

Cell=ofss22256Scell01, Profile=Dmgr01

Queue connection factories

Messages

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

- Save this configuration to the master configuration.
- Revert 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=ofss22256Scell01, 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 settings help.

Cluster=CLUSTER_1

Preferences

New Delete

Select	Name	JNDI name	Provider	Description	Scope
☒	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 shows the WebSphere Administration Console interface. On the left is a navigation tree with categories like Servers, Clusters, DataPower, Applications, Jobs, Services, and Resources. The main panel displays the 'Ports' configuration for a specific managed server (MS_1). It lists various ports and their associated hosts and transport details. The 'SIB_ENDPOINT_ADDRESS' port is highlighted with a red rectangle.

Select	Port Name	Host	Port	Transport Details
☐	BOOTSTRAP_ADDRESS	ofss220239.in.oracle.com	9814	No associated transports
☐	CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9431	No associated transports
☐	CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9430	No associated transports
☐	DCS_UNICAST_ADDRESS	*	9362	View associated transports
☐	IPC_CONNECTOR_ADDRESS	localhost	9640	No associated transports
☐	ORB_LISTENER_ADDRESS	ofss220239.in.oracle.com	9108	No associated transports
☐	OVERLAY_TCP_LISTENER_ADDRESS	*	11024	No associated transports
☐	OVERLAY_UDP_LISTENER_ADDRESS	*	11023	No associated transports
☐	SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	ofss220239.in.oracle.com	9429	No associated transports
☐	SIB_ENDPOINT_ADDRESS	*	7284	View associated transports
☐	SIB_ENDPOINT_SECURE_ADDRESS	*	7293	View associated transports
☐	SIB_MQ_ENDPOINT_ADDRESS	*	5565	View associated transports
☐	SIB_MQ_ENDPOINT_SECURE_ADDRESS	*	5585	View associated transports
☐	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

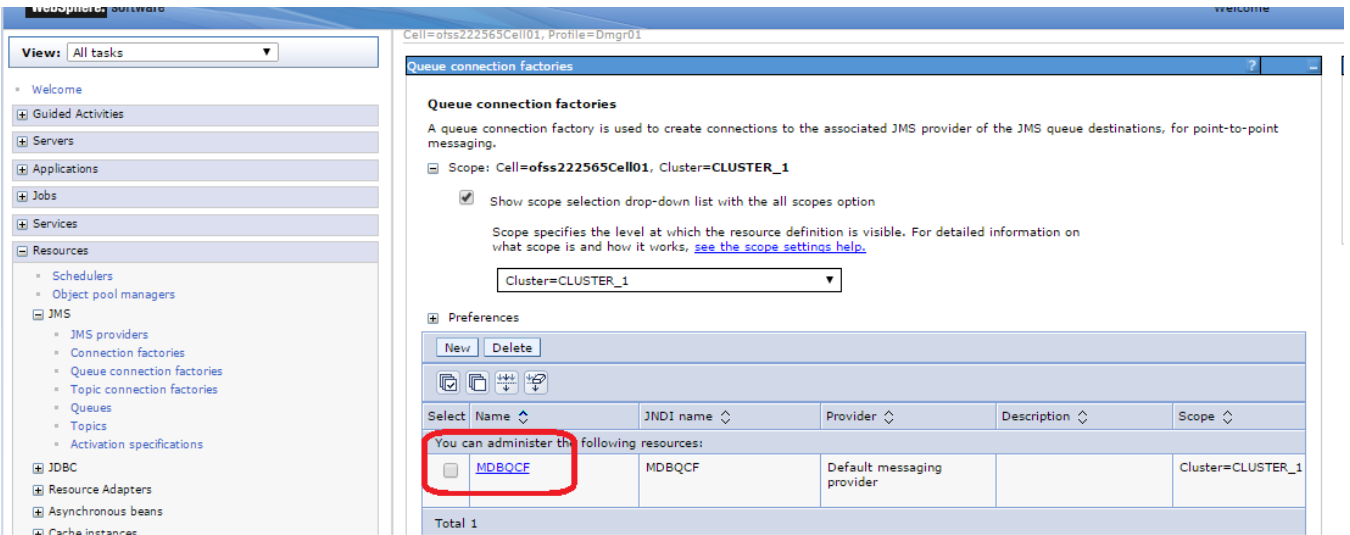
- 3) Prepare the "Provider Endpoint" String as below

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

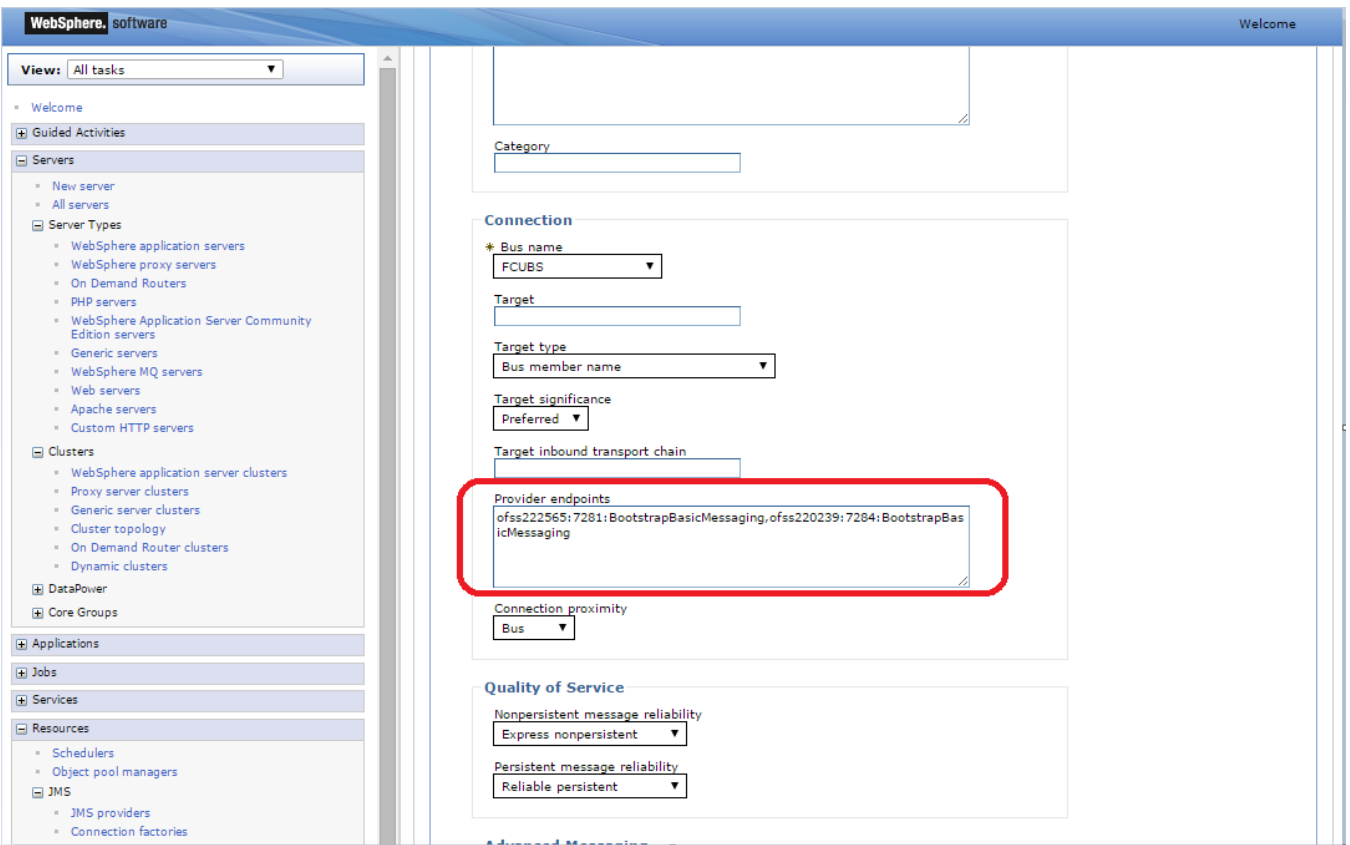
In this case the Provider Endpoint String would be

ofss222565:7281:BootstrapBasicMessaging,ofss220239:7284:BootstrapBasicMessaging

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

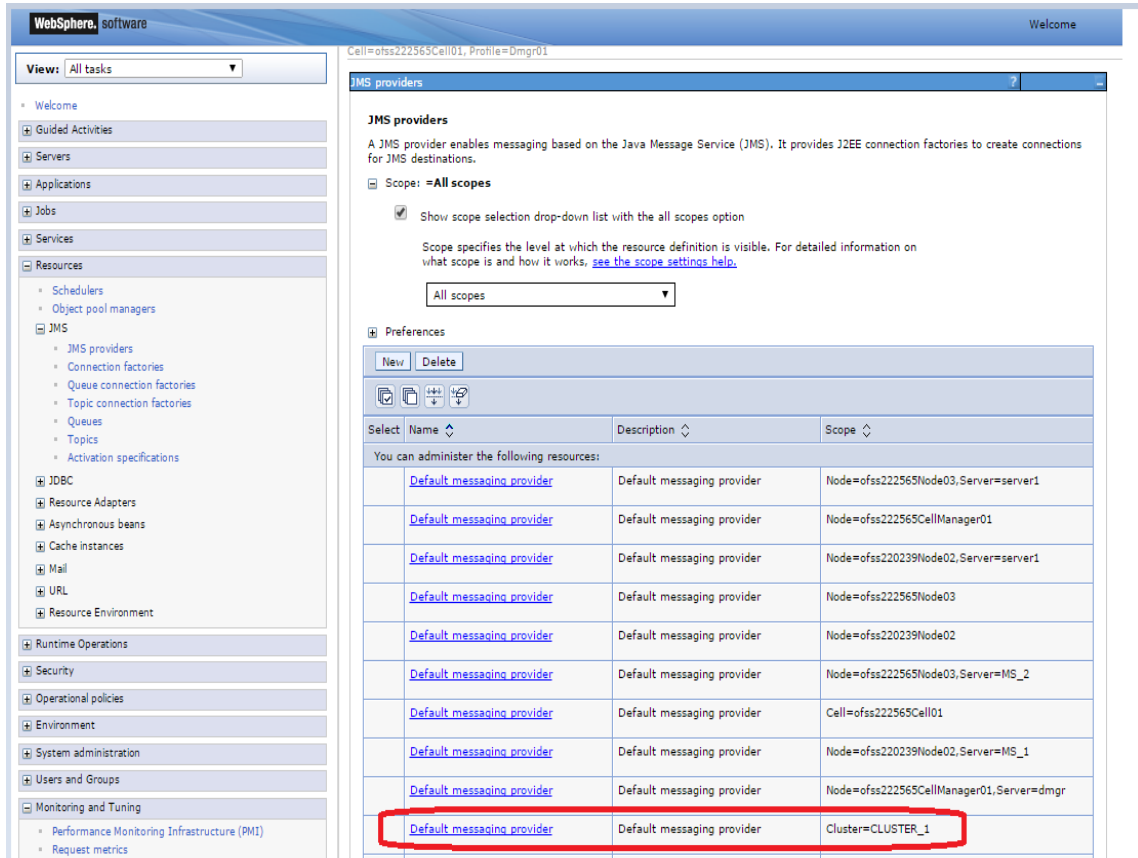


4) Update the Provider endpoints as prepared above and Click on OK.



5.3 JMS Activation Specifications for Cluster

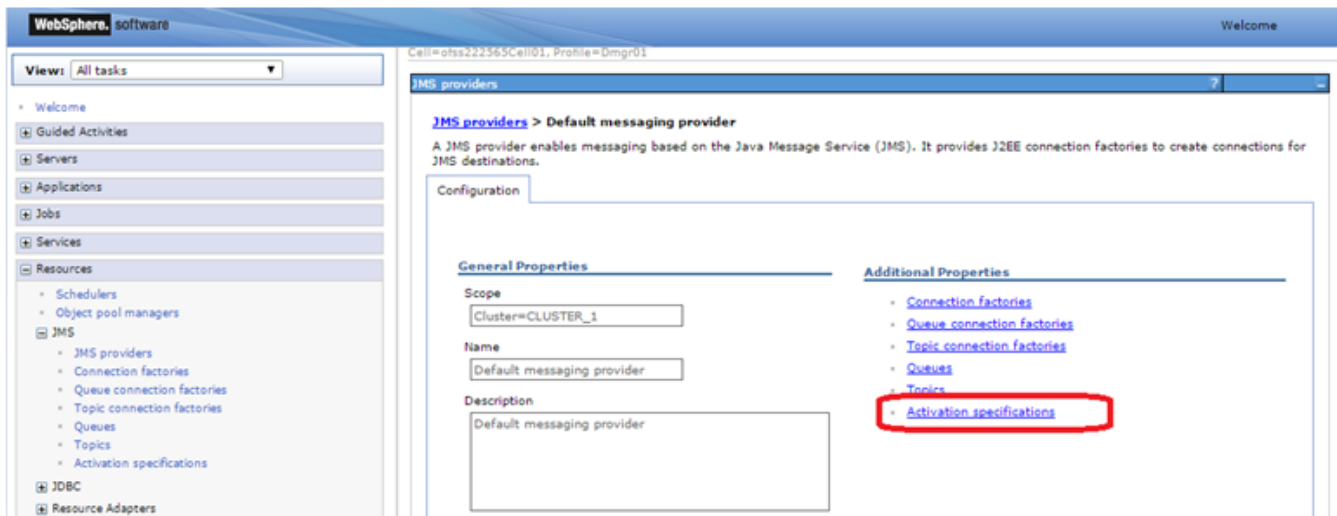
- 1) Navigate to Resources > JMS > JMS Providers > Click Default messaging provider for the cluster created



The screenshot shows the WebSphere JMS providers configuration page. The left sidebar contains a navigation tree with 'Resources' expanded, showing 'JMS' and 'JMS providers'. The main content area is titled 'JMS providers' and includes a description of JMS providers. Below this, there is a 'Scope' dropdown set to 'All scopes' and a 'Show scope selection drop-down list with the all scopes option' checkbox. A table lists the JMS providers, with the 'Default messaging provider' for 'Cluster=CLUSTER_1' highlighted by 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

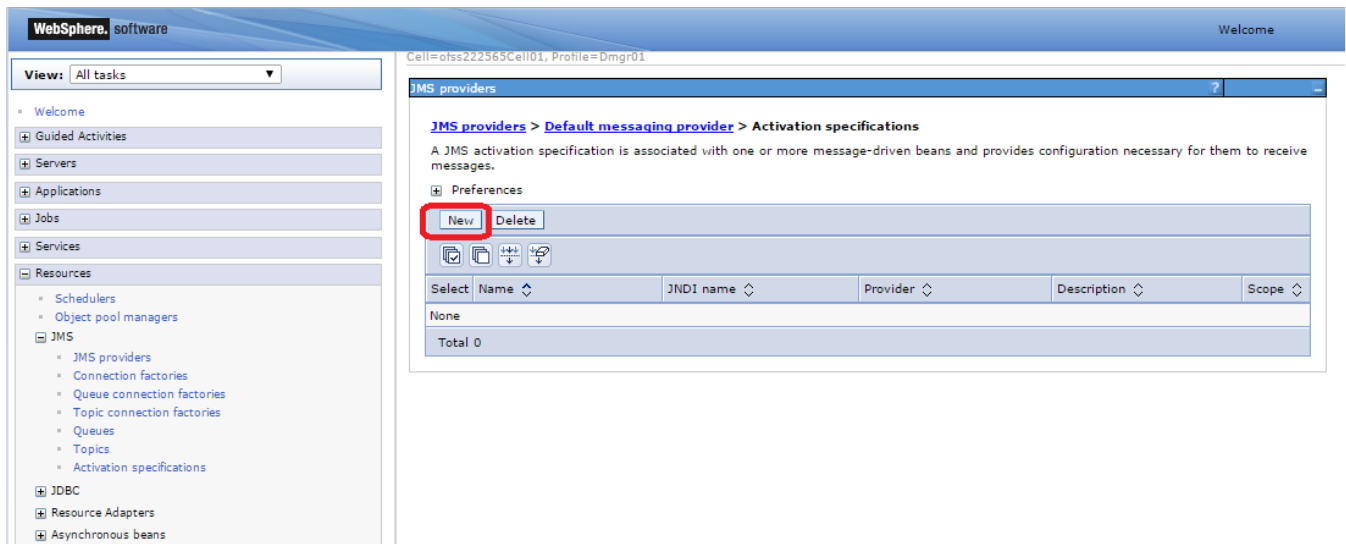
- 2) Under Additional Properties, click Activation specifications.



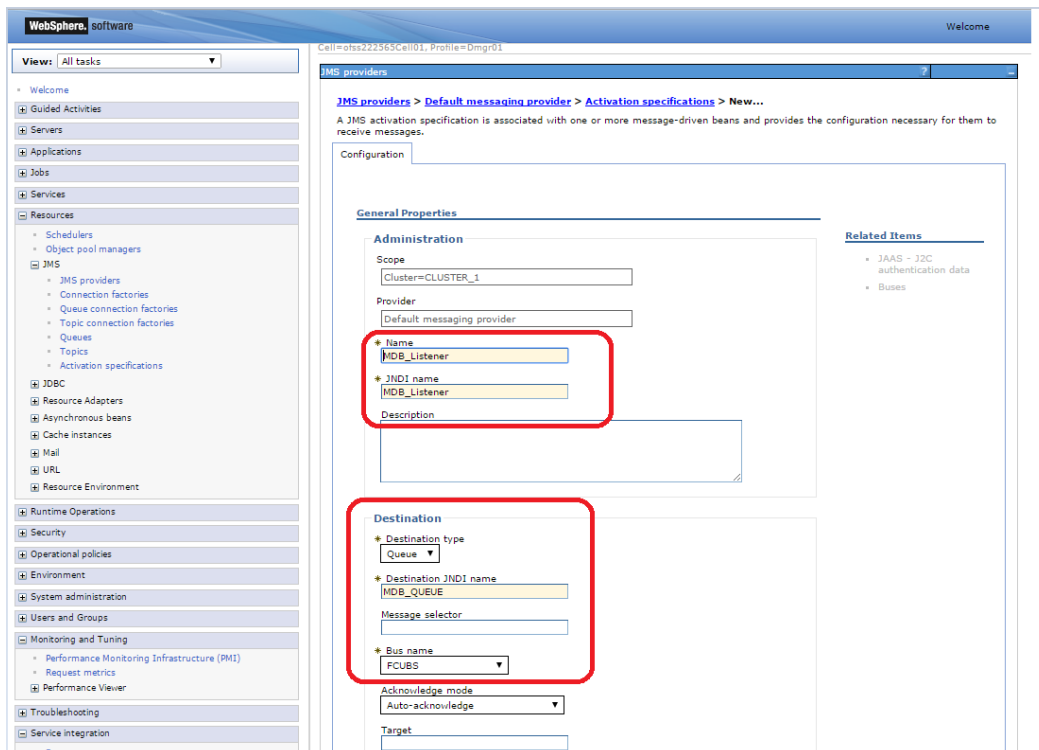
The screenshot shows the WebSphere JMS provider configuration page for the 'Default messaging provider'. The left sidebar contains a navigation tree with 'Resources' expanded, showing 'JMS' and 'JMS providers'. The main content area is titled 'JMS providers > Default messaging provider' and includes a description of JMS providers. Below this, there is a 'Configuration' section with 'General Properties' and 'Additional Properties'. The 'Additional Properties' section is expanded, showing a list of links including 'Activation specifications', which is highlighted by a red rectangle.

General Properties	Additional Properties
Scope Cluster=CLUSTER_1	Connection factories
Name Default messaging provider	Queue connection factories
Description Default messaging provider	Topic connection factories
	Queues
	Topics
	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



5) Click on Save.

WebSphere software

Cell=otss222565Cell01, Profile=Dmgr01

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Jobs
- Services
- Resources
 - Schedulers
 - Object pool managers
 - JMS
 - JMS providers
 - Connection factories
 - Queue connection factories
 - Topic connection factories
 - Queues
 - Topics
 - Activation specifications
 - JDBC
 - Resource Adapters
 - Asynchronous beans
 - Cache instances
 - Mail
 - URL
 - Resource Environment

JMS 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

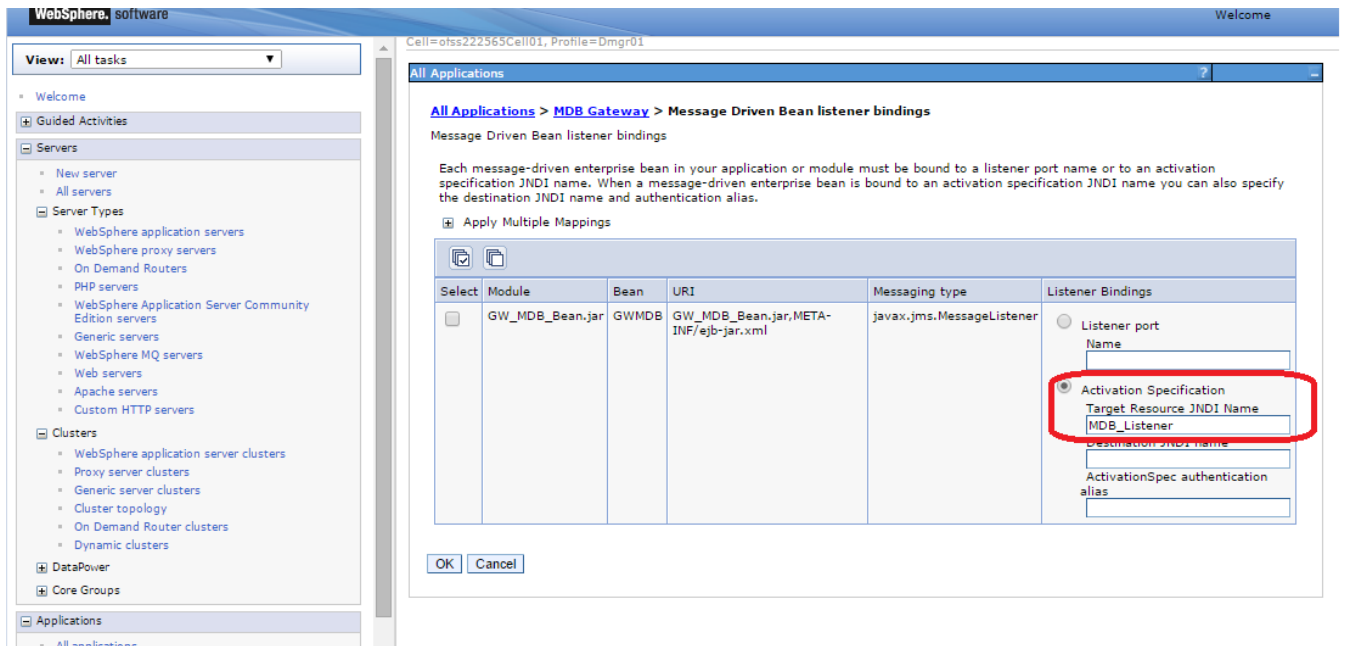
New Delete

Select	Name	JNDI name	Provider	Description	Scope
☐	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?”

WebSphere, software

View: All tasks

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

Users and Groups

Monitoring and Tuning

Troubleshooting

Service integration

- Buses
- Service mapping
- Web services
- WS-Notification

UDDI

51B0131.SelectClusterTopologyPattern.displayName

Messaging engine policy assistance settings

Select a predefined messaging engine policy to apply to the selected cluster when it is added as a bus member.

Step 1: Select server, cluster or WebSphere MQ server

Step 1.1: Messaging engine policy assistance settings

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

Step 2: Summary

Messaging engine policy assistance settings

Enabling messaging engine policy assistance enables a predefined or custom policy to be applied to the selected server cluster. Tooling will be enabled to assist in maintaining the policy if the server cluster changes in size. Restrictions will be placed on the changes that can be made to associated core group policies.

☒ Enable messaging engine policy assistance?

Select	Policy type	Is further configuration required?
☒	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.
☐	Scalability	No
☐	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.
☐	Custom	Advice is not available for a custom configuration.

Diagram showing a cluster topology with two nodes, 'node01' and 'server1', and a dashed box labeled 'CLUSTER_1'.

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) OBTRM_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

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