Oracle® Database

Configuring JMS on Weblogic Server 12c

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Oracle Database Configuring JMS on Weblogic Server 12c, Release 14.7.5.0.0

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Contents

1 Preface

1.1 Purpose 1-1
1.2 Audience 1-1
1.3 Documentation Accessibility 1-1
1.4 Conventions 1-1
1.5 Critical Patches 1-2
1.6 Diversity and Inclusion 1-2
1.7 Basic Actions 1-2
1.8 Screenshot Disclaimer 1-3

2 Introduction

2.1 Purpose 2-1
2.2 Weblogic 12c New Features 2-2
2.3 Components Diagram and Data Flow 2-3

3 Prerequisites

4 JMS Configuration

4.1 Create Persistence Store 4-1
4.2 Create JMS Server 4-2
4.3 Configure Cluster for Service Migration 4-4

5 Introduction

5.1 Create JMS Module 5-1
5.2 Create Sub Deployment 5-3
5.3 Resource Creation 5-5
5.4 Create Queue 5-5
5.5 Create Connection Factory 5-8

6 Restart Server

7 Foreign Server Creation

7.1 Create Foreign Server Module 7-1
7.2 Create Foreign Server 7-2
7.3 Configure Foreign Server 7-6

8 Application Deployment

9 Frequently Asked Questions

9.1 Application and JMS Cluster Deployed on Same Cluster 9-1
9.2 Restart of Managed Servers 9-1
9.3 Secure File Store Data 9-1
9.4 t3s Protocol 9-1
9.5 Test the Deployment 9-2
9.6 Increase maximum number of message-driven bean threads 9-4
9.6.1 Modify weblogic-ejb-jar.xml 9-5
9.6.2 Create Work Manager 9-5
9.7 High Availability of Servers 9-6
9.8 Setup for Scheduler/Notifications 9-6
9.9 Other Modules uses JMS Queue's 9-7
9.10 References 9-7

Index

List of Figures

2-1	Architecture Previous to 12c	2-2
2-2	Architecture in 12c	2-3
2-3	Components Diagram and Data Flow	2-3
3-1	Summary of Machines	3-1
3-2	Summary of Clusters	3-1
3-3	Summary of Servers	3-2
3-4	Summary of JDBC Data Sources	3-2
4-1	Summary of Persistent Stores	4-1
4-2	Summary of Persistent Stores - Select New	4-1
4-3	Create a New File Store	4-2
4-4	Summary of Persistent Stores Message	4-2
4-5	Summary of JMS Servers	4-3
4-6	Create a New JMS Server	4-3
4-7	Create a New JMS Server- Target	4-3
4-8	Target Cluster JMS	4-4
4-9	Summary of JMS Servers	4-4
4-10	JMS Filestore	4-4
4-11	Summary of Clusters	4-5
4-12	Settings for Cluster-JMS	4-5
5-1	Summary of JMS Module	5-1
5-2	Create JMS System Module	5-2
5-3	Targets	5-2
5-4	Add resources to this JMS system module	5-3
5-5	Settings For JMS_MODULE - Messages	5-3
5-6	Settings for JMS_Module	5-4
5-7	Create a New Subdeployment	5-4
5-8	Targets	5-4
5-9	Settings for JMS_Module- Messages	5-5
5-10	Settings for JMS_Module	5-5
5-11	Create a New JMS System Module Resources	5-6
5-12	Create a New JMS System Module Resources	5-6
5-13	Create a New JMS System Module Resources	5-7
5-14	Create a New JMS System Module Resources	5-7
5-15	Summary of Resources	5-7
5-16	Settings for JMS_Module - Message	5-8
5-17	Settings for JMS_Module	5-9

5-18	Create a New JMS System Module Resource	5-9
5-19	Create a New JMS System Module Resource	5-9
5-20	Create a New JMS System Module Resource	5-10
5-21	Create a New JMS System Module Resource	5-10
5-22	Settings for JMS_Module- Summary of Resources	5-10
5-23	Settings for JMS_Module	5-11
6-1	Summary of Servers	6-1
6-2	Summary of Server Templates	6-1
6-3	Settings for DC_JMS_Template-0	6-2
7-1	Summary of JMS Module	7-1
7-2	Create JMS System Module	7-1
7-3	Add resources to this JMS system module	7-2
7-4	Summary of JMS Modules	7-2
7-5	Settings for MDB_MODULE	7-3
7-6	Create a New JMS System Module Resource	7-3
7-7	Create a New JMS System Module Resource	7-4
7-8	Create a New JMS System Module Resource	7-4
7-9	Create a New JMS System Module Resource	7-5
7-10	Create a New Subdeployment	7-5
7-11	Create a New JMS System Module Resource	7-5
7-12	Settings for MDB_Module - Message	7-6
7-13	Settings for MDB_MODULE	7-6
7-14	Settings for ForeignServer-1	7-7
7-15	Configuration- General	7-7
7-16	Create a New Foreign JMS Connection Factory	7-8
7-17	Foreign Connection Factories	7-8
7-18	Foreign Destinations	7-8
7-19	Create a New Foreign JMS Destination	7-9
7-20	Settings for ForeignServer-1	7-9
8-1	Settings for GWMDB	8-1
8-2	Summary of Deployments	8-1
9-1	Summary of Deployments Warning	9-1
9-2	Summary of JMS Module	9-2
9-3	Settings for MDB_QUEUE	9-2
9-4	Settings for MDB_QUEUE	9-3
9-5	Summary of JMS Messages	9-3
9-6	Produce JMS Message	9-4

9-7	Summary of JMS Messages	9-4
9-8	weblogic-ejb-jar.xml	9-5
9-9	Create a New Work Manager Component	9-5
9-10	Work Manager Properties	9-5
9-11	Select deployment targets	9-5
9-12	Summary of Work Managers	9-5
9-13	Create a New Work Manager Component	9-6
9-14	Maximum Threads Constraints Properties	9-6
9-15	Select deployment targets	9-6
9-16	Summary of Work Managers	9-6
9-17	Settings for GWMDBWM	9-6
9-18	Settings for GWMDBWM - Maximum Threads Constraint	9-6

List of Tables

1-1	Conventions	1-1
1-2	Basic Actions	1-2
2-1	JMS Resources- Description	2-1

1
Preface

- Purpose
- Audience
- Documentation Accessibility
- Conventions
- Critical Patches
- Diversity and Inclusion
- Basic Actions
- Screenshot Disclaimer

1.1 Purpose

This guide is designed to help the user to quickly get acquainted with the Customer Standard Instructions maintenance process.

1.2 Audience

This guide is intended for the central administrator of the Bank who controls the system and application parameters and ensures smooth functionality and flexibility of the banking application.

1.3 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at https://www.oracle.com/corporate/accessibility/.

Access to Oracle Support

Oracle customer access to and use of Oracle support services will be pursuant to the terms and conditions specified in their Oracle order for the applicable services.

1.4 Conventions

The following text conventions are used in this document:

Table 1-1 Conventions

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Table 1-1 (Cont.) Conventions

Convention	Meaning
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1.5 Critical Patches

Oracle advises customers to get all their security vulnerability information from the Oracle Critical Patch Update Advisory, which is available at Critical Patches, Security Alerts and Bulletins. All critical patches should be applied in a timely manner to ensure effective security, as strongly recommended by Oracle Software Security Assurance.

1.6 Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

1.7 Basic Actions

Table 1-2 Basic Actions

Action	Description
Approve	Used to approve the initiated report. This button is displayed, once the user click **Authorize**.
Audit	Used to view the maker details, checker details, and report status.
Authorize	Used to authorize the report created. A maker of the screen is not allowed to authorize the report. Only a checker can authorize a report, created by a maker.
Close	Used to close a record. This action is available only when a record is created.
Confirm	Used to confirm the performed action.
Cancel	Used to cancel the performed action.
Compare	Used to view the comparison through the field values of old record and the current record. This button is displayed in the widget, once the user click **Authorize**.
Collapse All	Used to hide the details in the sections. This button is displayed, once the user click **Compare**.
Expand All	Used to expand and view all the details in the sections. This button is displayed, once the user click **Compare**.

Table 1-2 (Cont.) Basic Actions

Action	Description
New	Used to add a new record. When the user click **New**, the system displays a new record enabling to specify the required data.
OK	Used to confirm the details in the screen.
Save	Used to save the details entered or selected in the screen.
View	Used to view the report details in a particular modification stage. This button is displayed in the widget, once the user click **Authorize**.
View Difference only	Used to view a comparison through the field element values of old record and the current record, which has undergone changes. This button is displayed, once the user click **Compare**.
Unlock	Used to update the details of an existing record. System displays an existing record in editable mode.

1.8 Screenshot Disclaimer

Personal information used in the interface or documents is dummy and does not exist in the real world. It is only for reference purposes.

2
Introduction

This document describes the major components of Weblogic JMS Server architecture.

- Purpose
- Weblogic 12c New Features
- Components Diagram and Data Flow

2.1 Purpose

The purpose of this topic is to explain the steps required for JMS configuration in cluster mode for -

1. Oracle FLEXCUBE Universal Banking 12.1
2. WebLogic Server 12.1.3.0.0

JMS Server

The JMS server acts as a management container for the JMS queue and topic resources defined within JMS modules that are targeted to specific JMS servers. A JMS server's main responsibility is to maintain persistent storage for these resources, maintain the state of the durable subscriber, etc. JMS servers can host a defined set of modules and any associated persistent storage that reside on a WebLogic Server instance.

JMS Module

JMS modules are application-related definitions that are independent of the domain environment. JMS modules group JMS configuration resources (such as queues, topics, and connections factories). These are outside domain configurations. JMS modules are globally available for targeting servers, and clusters configured in the domain, and therefore are available to all the applications deployed on the same target. JMS modules contain configuration resources, such as standalone queue and topic destinations, distributed destinations, and connection factories.

Subdeployment

Subdeployment is also known as Advanced Targeting. Subdeployment resource is a bridge between the group of JMS resources and JMS Servers. While creating a JMS resource, the user needs to choose one Subdeployment.

JMS Resources

Table 2-1 JMS Resources- Description

JMS Resources	Description
Queue	This defines a point-to-point destination type, which is used for asynchronous peer communications. A message delivered to the queue is distributed to only one customer.

Table 2-1 (Cont.) JMS Resources- Description

JMS Resources	Description
Topic	This defines a publish/subscribe destination type, which is used for asynchronous peer communication. A message delivered to the topic is distributed to all topic consumers.
Distributed queue	This defines a set of queues that are distributed on multiple JMS servers, but are accessible as a single, logical queue to JMS clients.
Distributed topic	This defines a set of topics that are distributed on multiple JMS servers, but which are as accessible as a single, logical topic to JMS clients.
Uniform Distributed Queue	This queue members are created uniformly from a common configuration.

Persistence store

A persistent store provides a built-in, high-performance storage solution for WebLogic Server subsystems and services that required persistence. There are two types of mechanisms to store the message -

1. File-based persistence store - Message is stored in a file
2. DB-based persistence store - Message is stored in Database.

2.2 Weblogic 12c New Features

Before Weblogic 12c JMS Servers and stores are targeted to individual WLS Servers. Scaling up requires configuring the JMS server, storing and targetting it to the new WLS Server.

n 12c JMS Servers and stores are targeted to the WLS cluster. Scaling up requires adding a WLS server to the cluster.

Figure 2-1 Architecture Previous to 12c

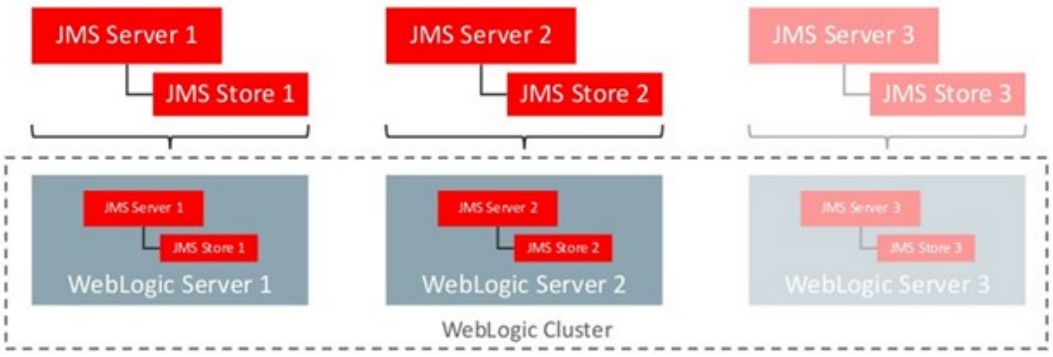
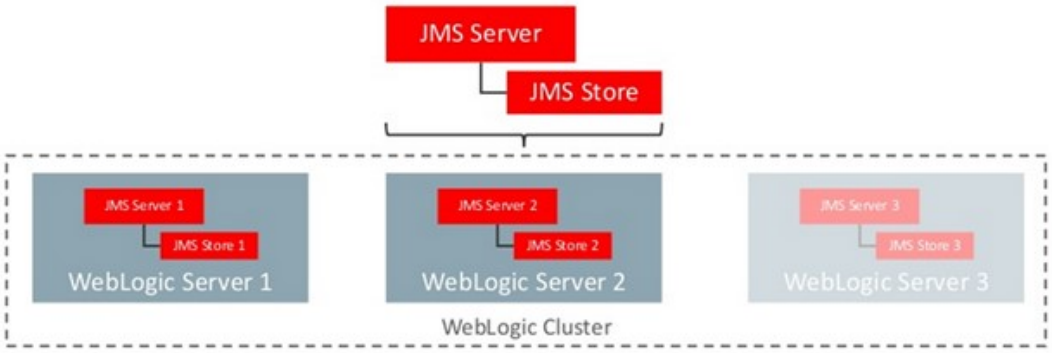


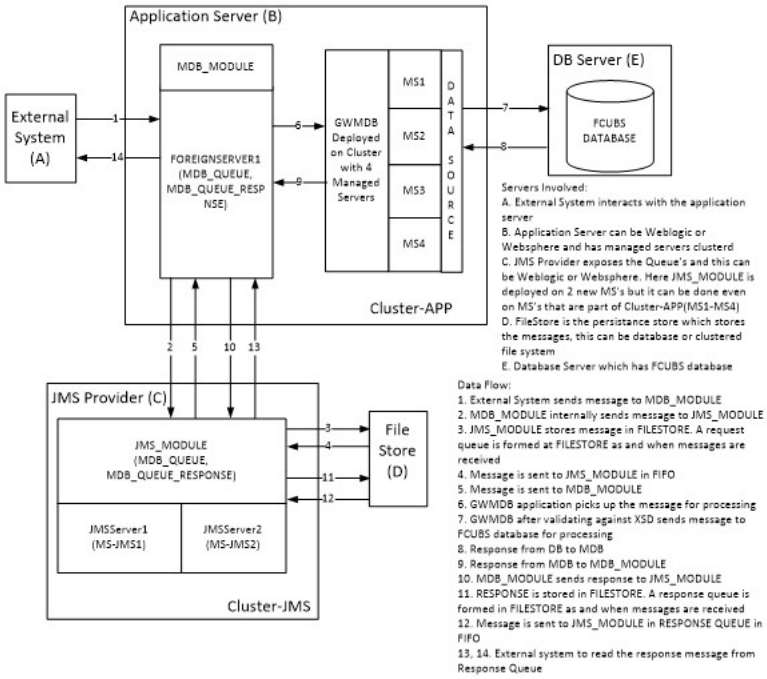
Figure 2-2 Architecture in 12c



2.3 Components Diagram and Data Flow

Below is the flow diagram which indicates various components that are used and the document explains the steps to create.

Figure 2-3 Components Diagram and Data Flow



Servers Involved -

1. External System interacts with the application server.
2. The application server can be Weblogic or Websphere and has managed servers clustered.

3. JMS provider exposes the Queue and this can be Weblogic or Websphere. Here JMS_MODULE is deployed on 2 new MSs but it can be done even on MSs that are part of Cluster-APP(MS1-MS4).
4. FileStore is the persistence store that stores the messages, this can be a database or clustered file system.
5. Database Server which has FCUBS database.

Data Flow -

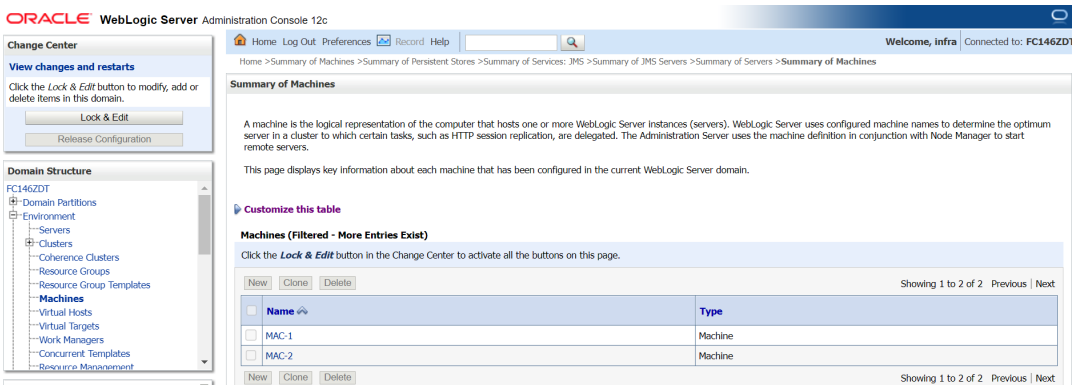
1. External System sends a message to MDB_MODULE.
2. MDB_MODULE internally sends a message to JMS_MODULE.
3. JMS_MODULE stores messages in FILESTORE. A request queue is formed at FILESTORE as and when messages are received.
4. The message is sent to JMS_MODULE in FIFO.
5. The message is sent to MDB_MODULE.
6. GWMDB application picks up the message for processing.
7. GWMDB after validating against XSD sends a message to the FCUBS database for processing.
8. Response from DB to MDB
9. Response from MDB to MDB_MODULE
10. MDB_MODULE sends a response to JMS_MODULE.
11. RESPONSE is stored in FILESTORE. A response queue is formed in FILESTORE as and when messages are received.
12. The message is sent to JMS_MODULE in RESPONSE QUEUE in FIFO.
13. The message is sent to JMS_MODULE in RESPONSE QUEUE in FIFO.

3
Prerequisites

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

- **Machines**
  Make sure that **MAC-1** and **MAC-2** machines are created.

Figure 3-1 Summary of Machines



- **Dynamic Clusters and Managed Servers**
  Make sure that the dynamic cluster for FCUBS (4 Managed Servers) and Dynamic cluster for JMS Deployment (2 Managed Servers) are created.

Figure 3-2 Summary of Clusters

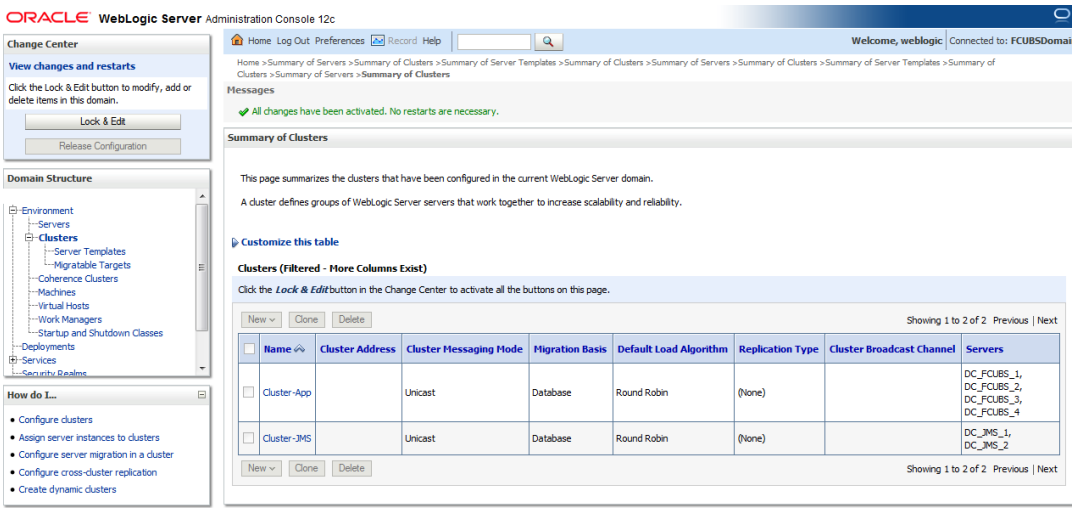
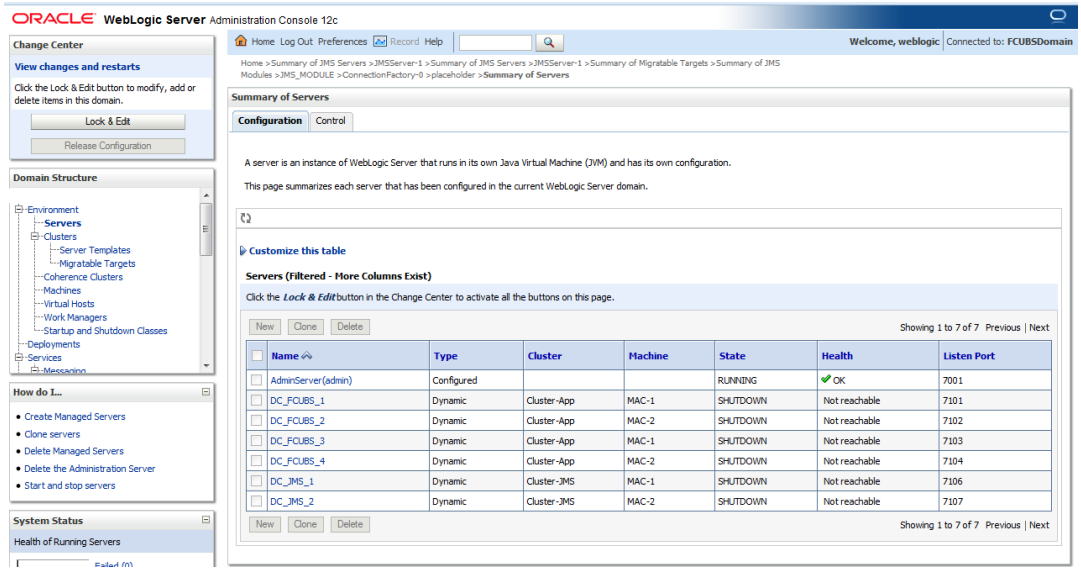
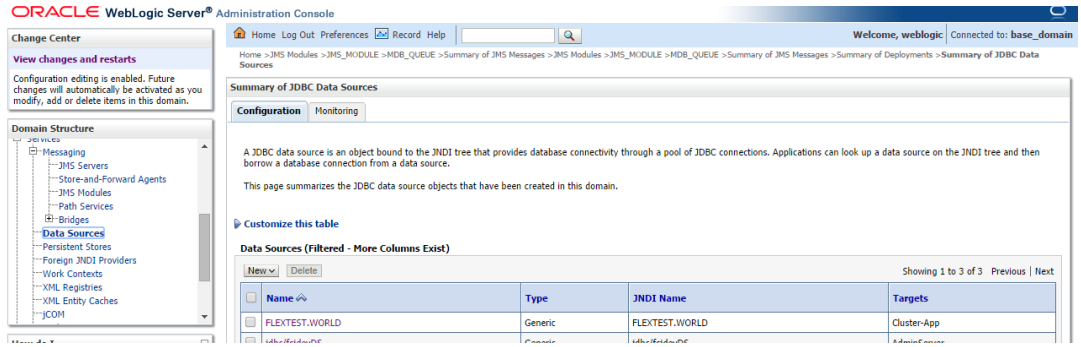


Figure 3-3 Summary of Servers



- **Data Source**
  Make sure that Data Source required for the MDB EAR is created with target as **Cluster-App**.

Figure 3-4 Summary of JDBC Data Sources



- **Shared Folder**
  A shared folder for File Store Creation is required, and this folder should be accessible across both servers (For example, NFS mount).

4
JMS Configuration

This chapter describes the JMS module and its configuration.

- Create Persistence Store
  This topic explains systematic instructions to create the Persistence Store.
- Create JMS Server
  This topic explains systematic instructions to create the JMS Server.
- Configure Cluster for Service Migration
  This topic explains systematic instructions to configure cluster for service migration.

4.1 Create Persistence Store

This topic explains systematic instructions to create the Persistence Store.

1. Under the **Domain Structure** left panel, navigate to the **Services**, and click **Messaging**, and then **Persistent Stores**.

   The **Summary of Persistent Stores** screen displays.

Figure 4-1 Summary of Persistent Stores

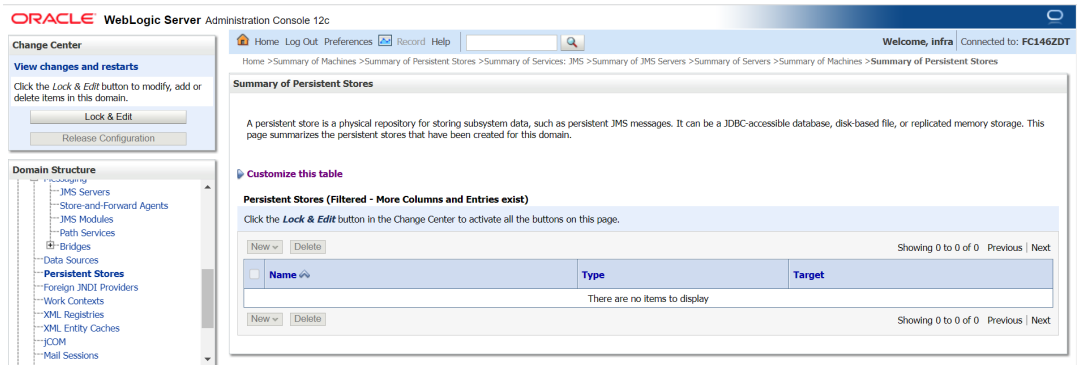
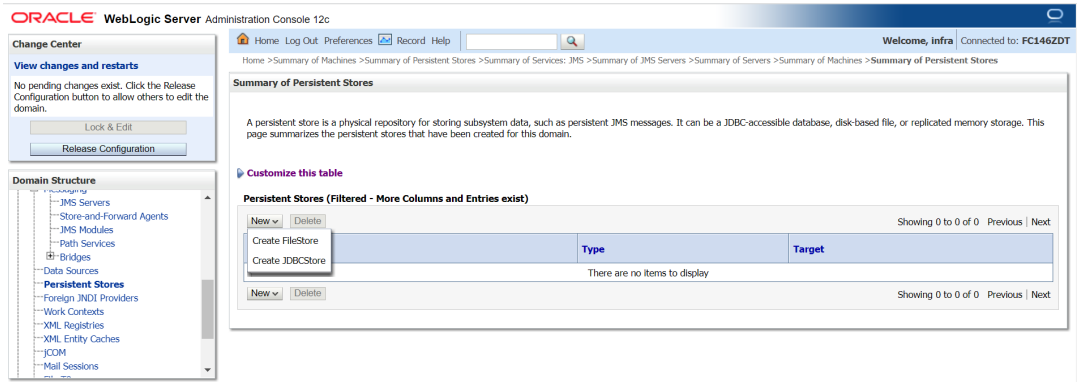


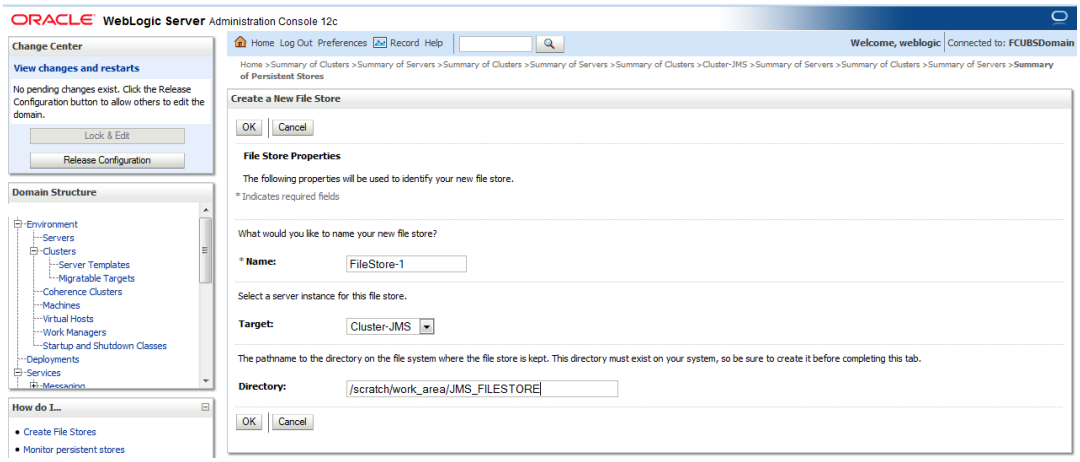
Figure 4-2 Summary of Persistent Stores - Select New



2. Navigate to **New** in the Persistent Stores table, and then select **Create FileStore** by navigating through the drop-down option.

   The **Create a New File Store** screen displays.

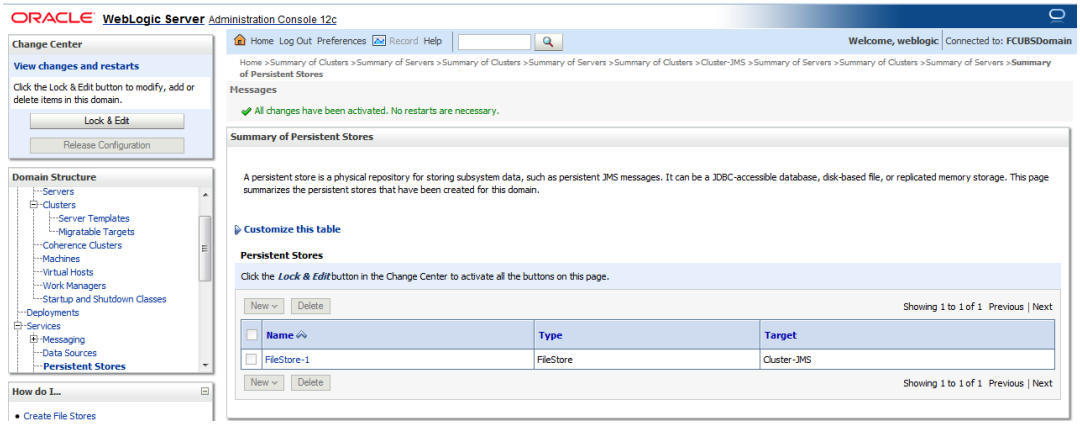
Figure 4-3 Create a New File Store



3. Select **Cluster-JMS** under **Target** drop-down, and then click **OK**.

   The **FileStore-1** is created.

Figure 4-4 Summary of Persistent Stores Message



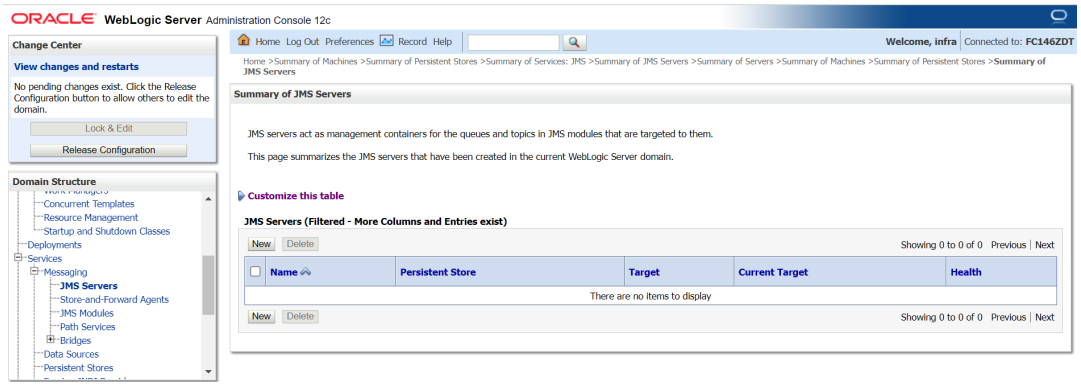
4.2 Create JMS Server

This topic explains systematic instructions to create the JMS Server.

1. Under the **Domain Structure** left panel, navigate to the **Services**, and click **Messaging**, and then **JMS Servers**.

   The **Summary of JMS Servers** screen displays.

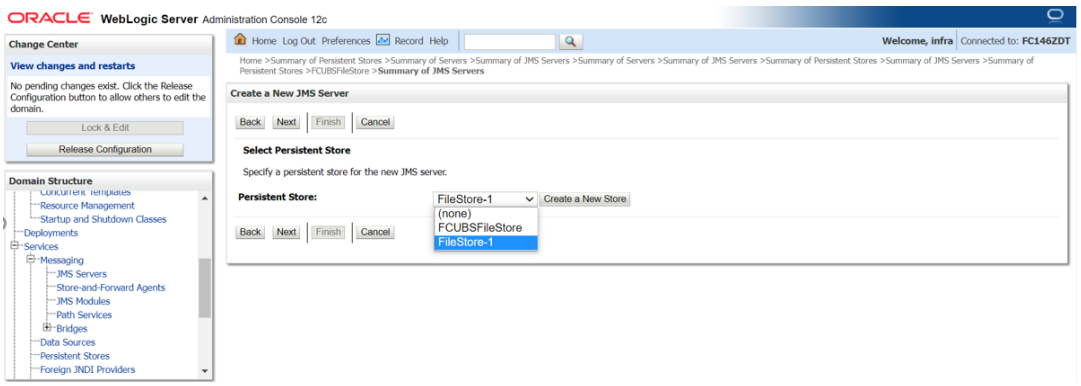
Figure 4-5 Summary of JMS Servers



2. Under JMS server table, click **New**.

   The **Create a New JMS Server** screen displays.

Figure 4-6 Create a New JMS Server



3. Select **FileStore-1** in the field of **Persistent Store**, and then click **Next**.

   The **Create a New JMS Server- Target** screen displays.

Figure 4-7 Create a New JMS Server- Target

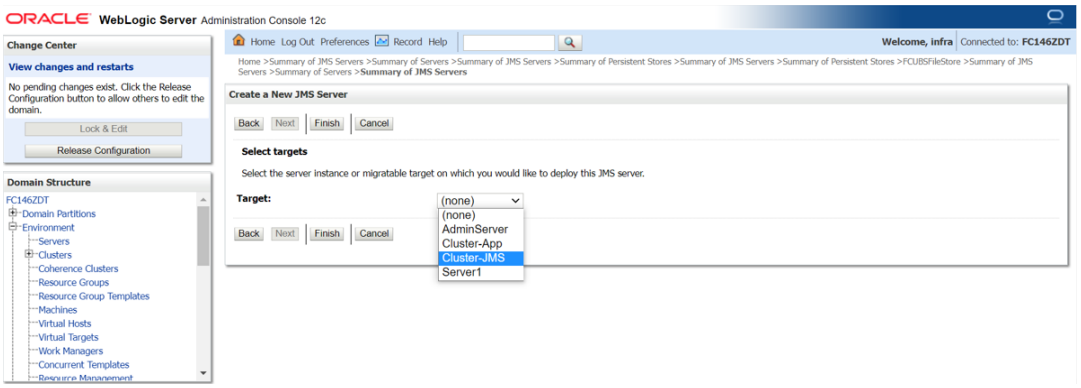
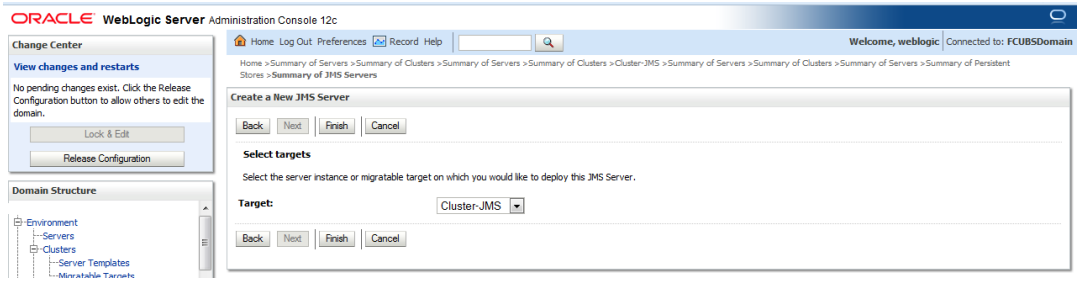


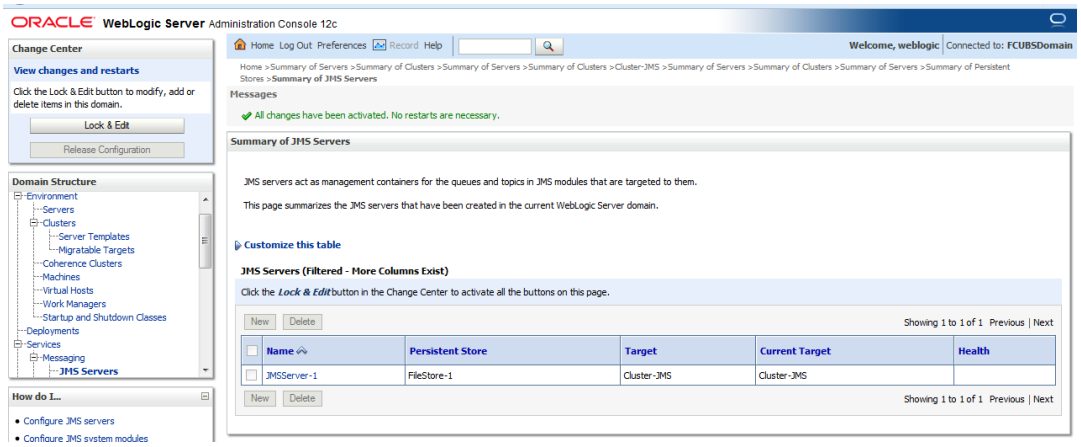
Figure 4-8 Target Cluster JMS



4. Select **Target** as **Cluster-JMS**, and then click **Finish**.

   The **JMS-Server-1** is created.

Figure 4-9 Summary of JMS Servers



In NFS below filestores can be seen.

Figure 4-10 JMS Filestore

```
[root@           JMS_FILESTORE]# ll
total 2056
-rw-r----- 1 wl12c oinstall 1049088 Jun 16 14:10 FILESTORE-1@DC_JMS_1000000.DAT
-rw-r----- 1 wl12c oinstall 1049088 Jun 16 14:10 FILESTORE-1@DC_JMS_2000000.DAT
[root@           JMS_FILESTORE]# pwd
/scratch/work_area/JMS_FILESTORE
[root@           JMS_FILESTORE]#
```

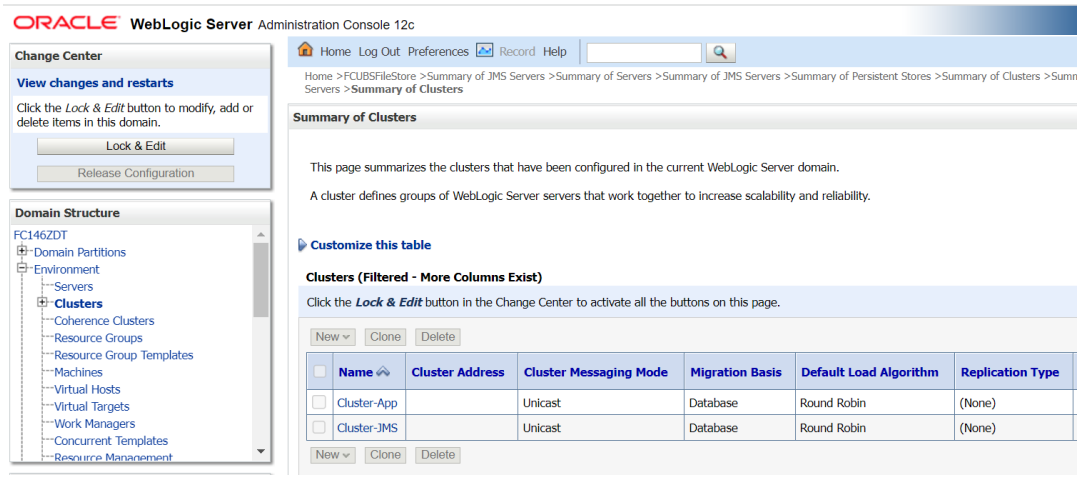
4.3 Configure Cluster for Service Migration

This topic explains systematic instructions to configure cluster for service migration.

1. Under the **Domain Structure** left panel, click the **Environment** drop-down option, and then click **Clusters**.

   The **Summary of Clusters** screen displays.

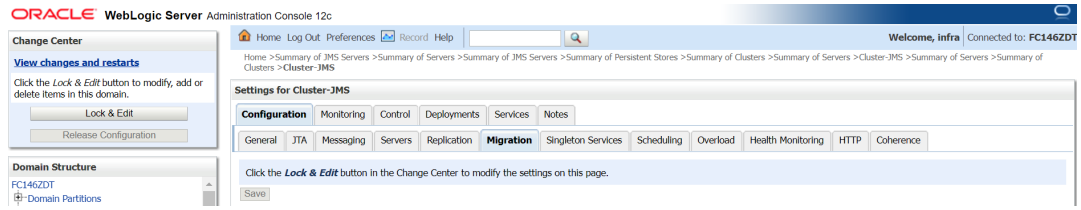
Figure 4-11 Summary of Clusters



2. Select **Cluster-JMS** from clusters table.

   The **Settings for Cluster-JMS** screen displays.

Figure 4-12 Settings for Cluster-JMS



3. Click the **Migration** Tab.
4. Change Migration Basis to Consensus, and then click **Save**.

5
Introduction

This chapter explains the creation of JMS module, sub deployment, queue and connection factory.

- Create JMS Module
  This topic explains systematic instructions to create the JMS Module.
- Create Sub Deployment
  This topic explains systematic instructions to create the Subdeployment.
- Create Queue
  This topic explains systematic instructions to create the Queue.
- Create Connection Factory
  This topic explains systematic instructions to create the Connection Factory.

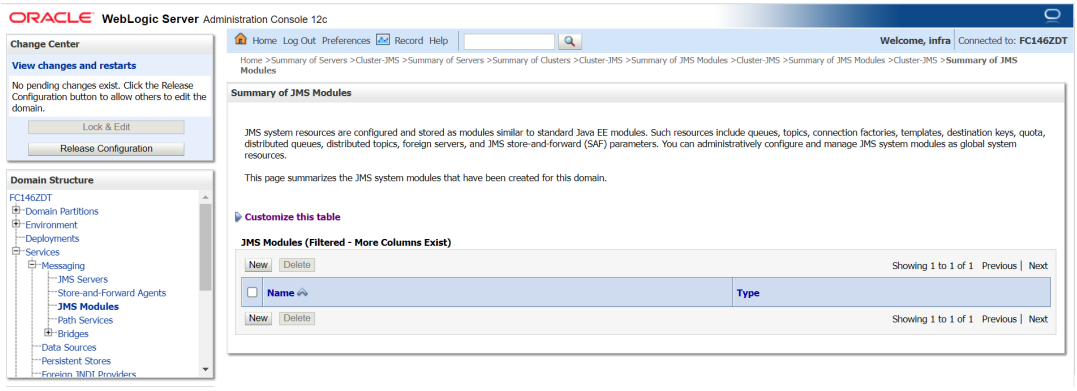
5.1 Create JMS Module

This topic explains systematic instructions to create the JMS Module.

1. Under the **Domain Structure** left panel, navigate to the **Services** drop-down option, and click **Messaging**, and then **JMS Modules**.

   The **Summary of JMS Module** screen displays.

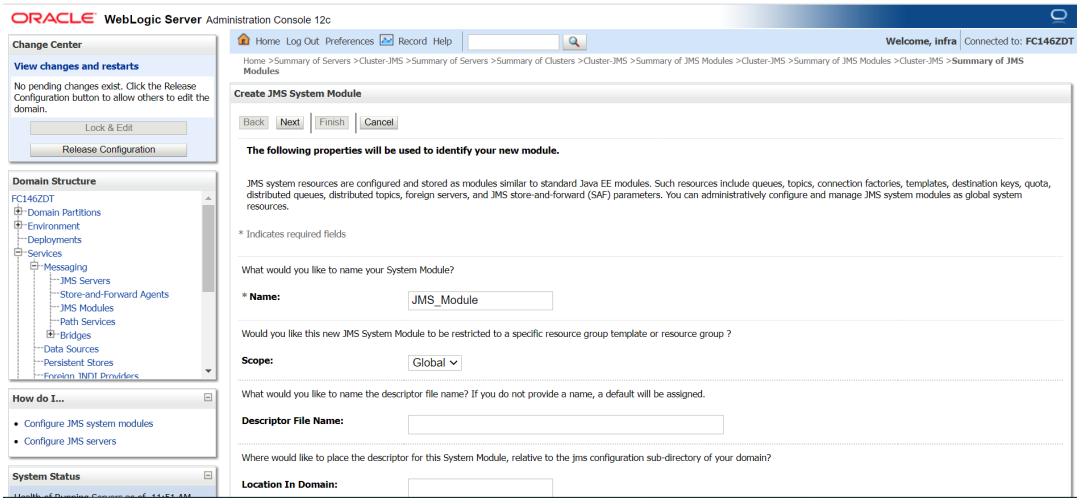
Figure 5-1 Summary of JMS Module



2. Click **New** under the **JMS Module** tab.

   The **Create JMS System Module** screen displays.

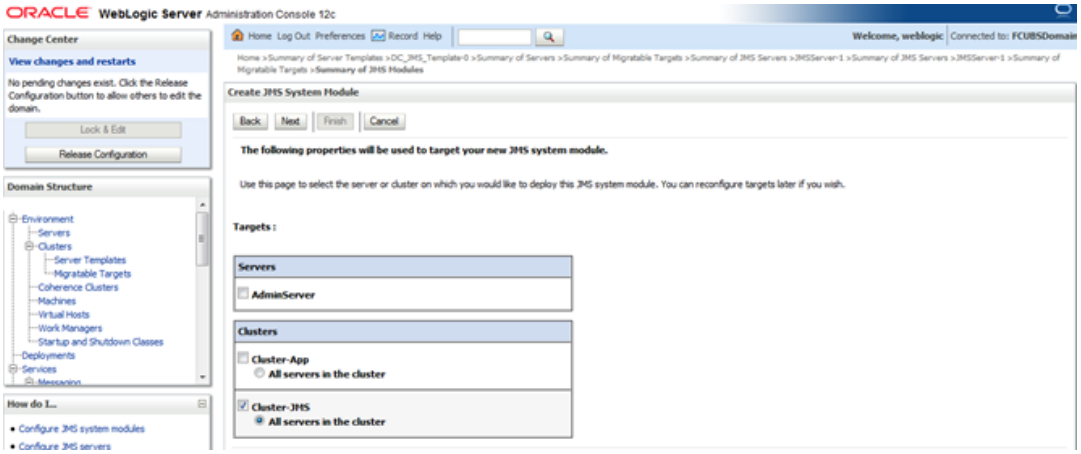
Figure 5-2 Create JMS System Module



3. Enter the **Name** as **JMS_MODULE**, and click **Next**.

   The **Targets** tab displays under the **Create JMS System Module** screen.

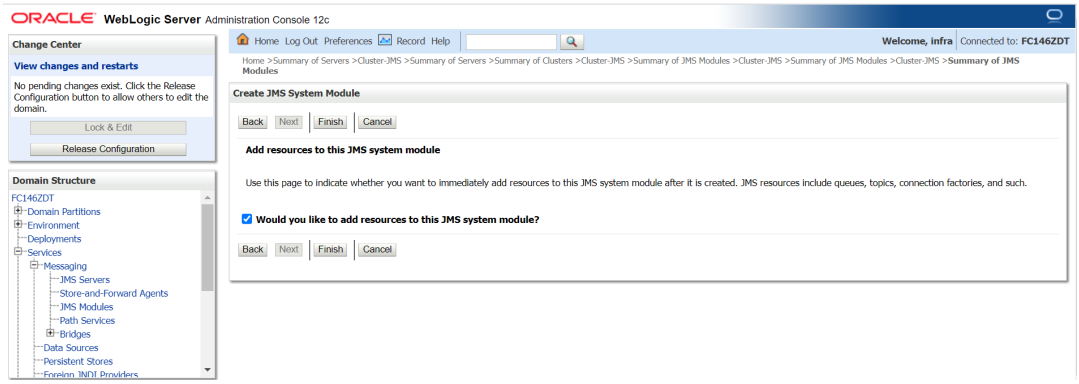
Figure 5-3 Targets



4. Select the target as **Cluster-JMS**, and then click **Next**.

   Add resources to this JMS system module tab displays under the **Create JMS System Module** screen.

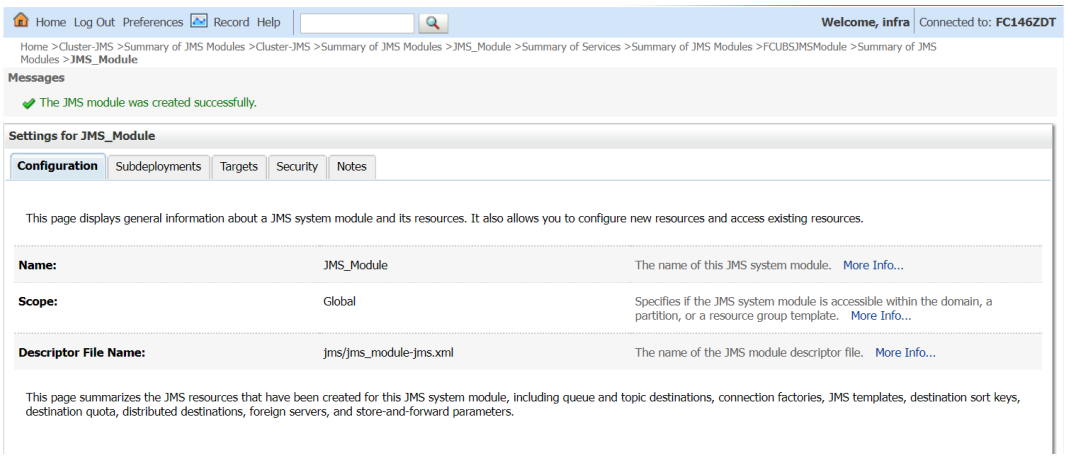
Figure 5-4 Add resources to this JMS system module



5. Select the check box, and click **Finish**.

   The **JMS_MODULE** is created.

Figure 5-5 Settings For JMS_MODULE - Messages



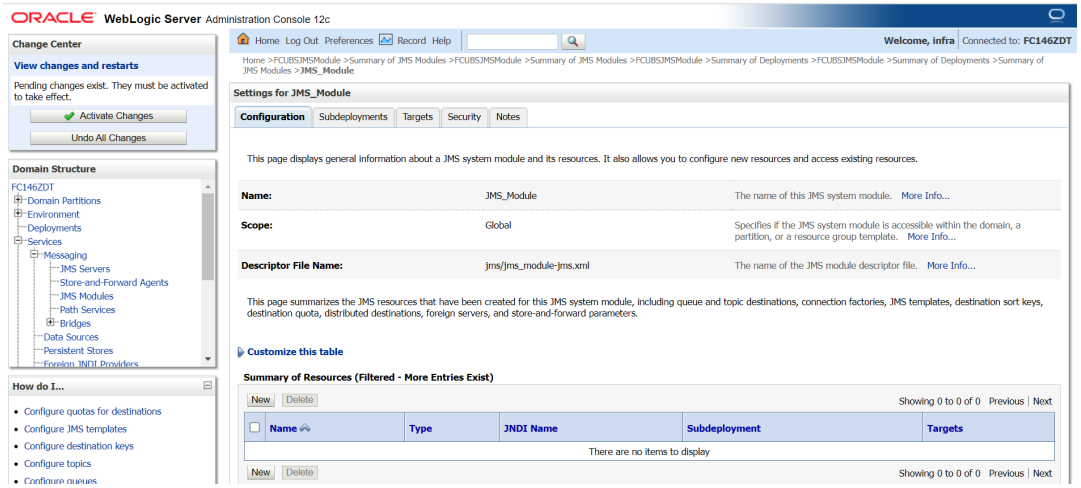
5.2 Create Sub Deployment

This topic explains systematic instructions to create the Subdeployment.

1. Under the **Domain Structure** left panel, navigate to the **Services** drop-down option.
2. Click **Messaging**, and then click **JMS Modules**.

   The **Settings for JMS_Module** screen displays.

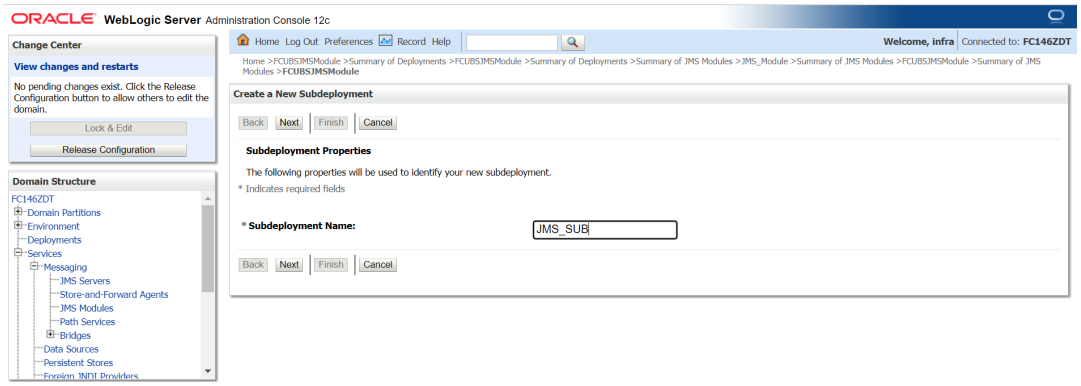
Figure 5-6 Settings for JMS_Module



3. Click the **Subdeployments** tab, and then click **New**.

   The **Create a New Subdeployment** screen displays.

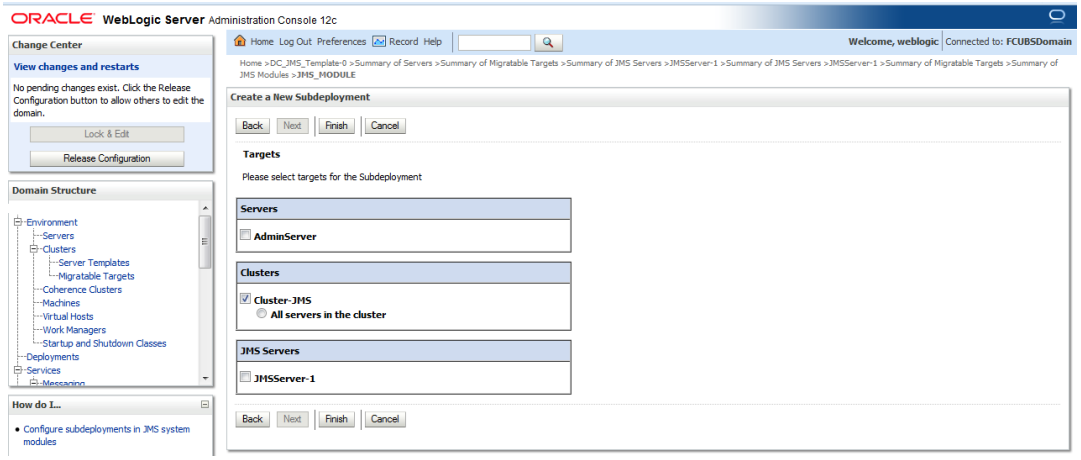
Figure 5-7 Create a New Subdeployment



4. Enter the **Subdeployment Name** as **JMS_SUB**, and then click **Next**.

   Under the **Create a New Subdeployment** screen, **Targets** tab displays.

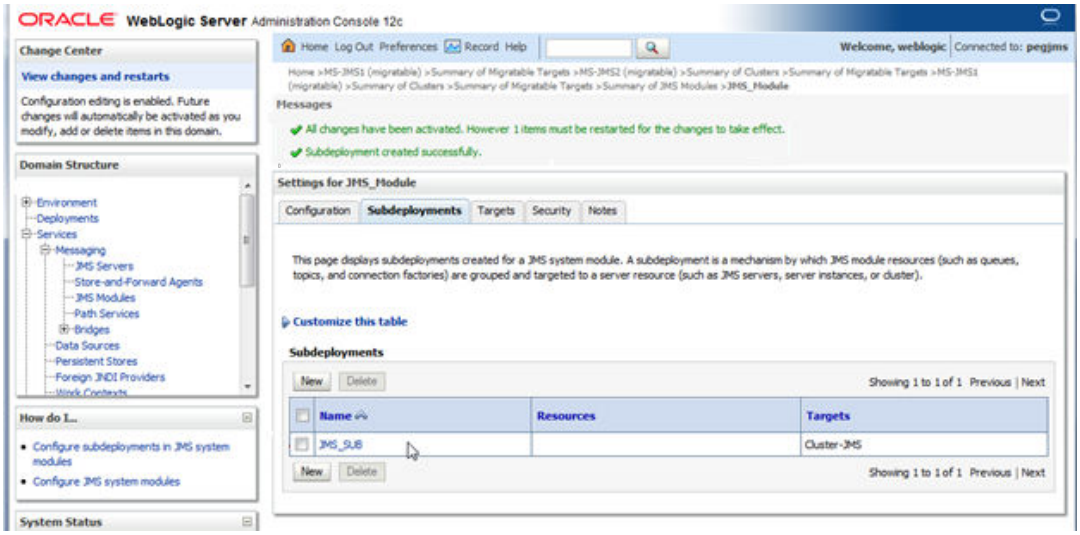
Figure 5-8 Targets



5. Select the target as **Cluster-JMS**, and then click **Finish**.

   The **JMS_SUB** subdeployment is created.

Figure 5-9 Settings for JMS_Module- Messages



5.3 Resource Creation

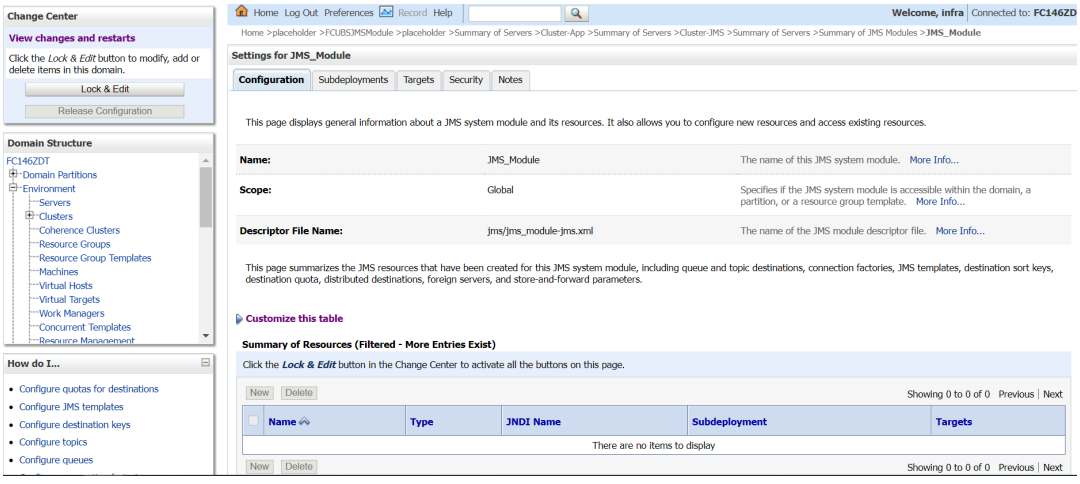
5.4 Create Queue

This topic explains systematic instructions to create the Queue.

1. Under the **Domain Structure** left panel, navigate to the **Services** drop-down option.
2. Click **Messaging**, and then click **JMS Modules**.

   The **Settings for JMS_Module** screen displays.

Figure 5-10 Settings for JMS_Module



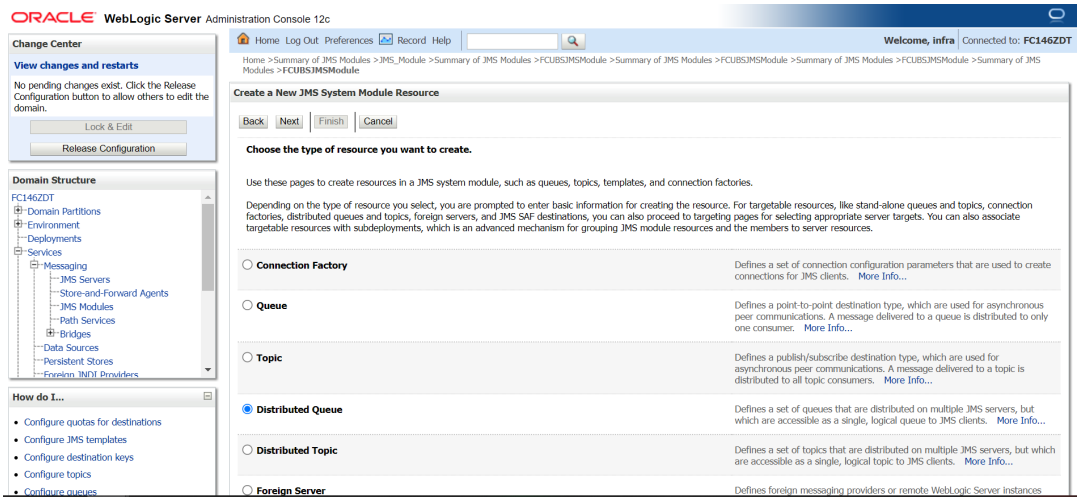
3. Click the **Configuration** tab, and then click **New**.

The **Create a New JMS System Module Resources** screen displays to choose the type of resources.

4. Select the **Distributed Queue**, and then click **Next**.

   The **Create a New JMS System Module Resources** screen displays to enter the name of the resources.

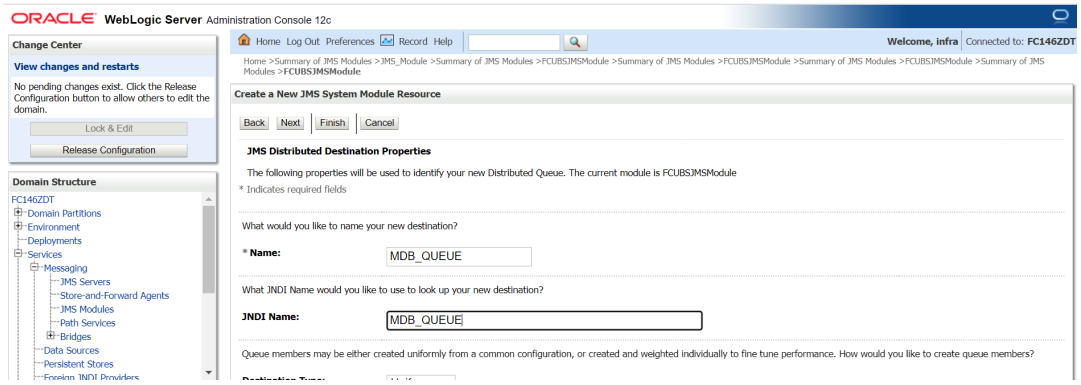
Figure 5-11 Create a New JMS System Module Resources



5. Enter the **Name** as MDB_QUEUE, and Click **Next**.

   The **Create a New JMS System Module Resources** screen displays to enter the name of the resources.

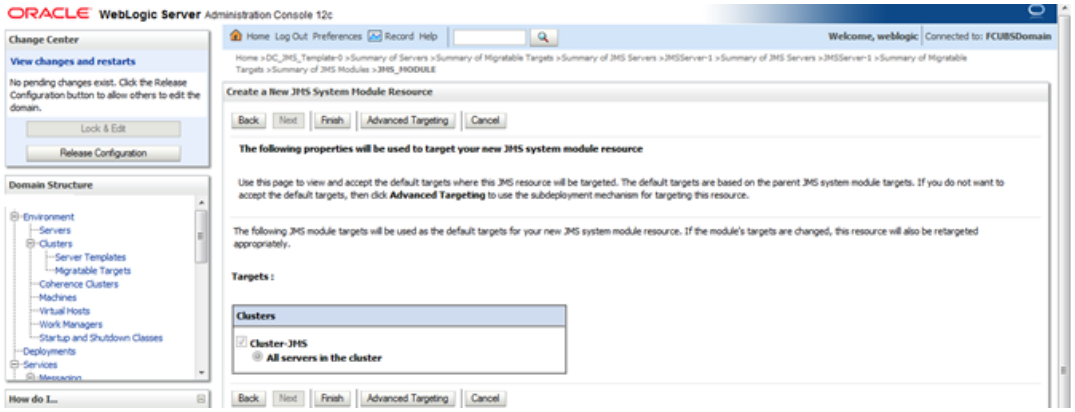
Figure 5-12 Create a New JMS System Module Resources



6. Click the **Advance Targeting** tab.

   The **Targets** tab opens in **Create a New JMS System Module Resources** screen.

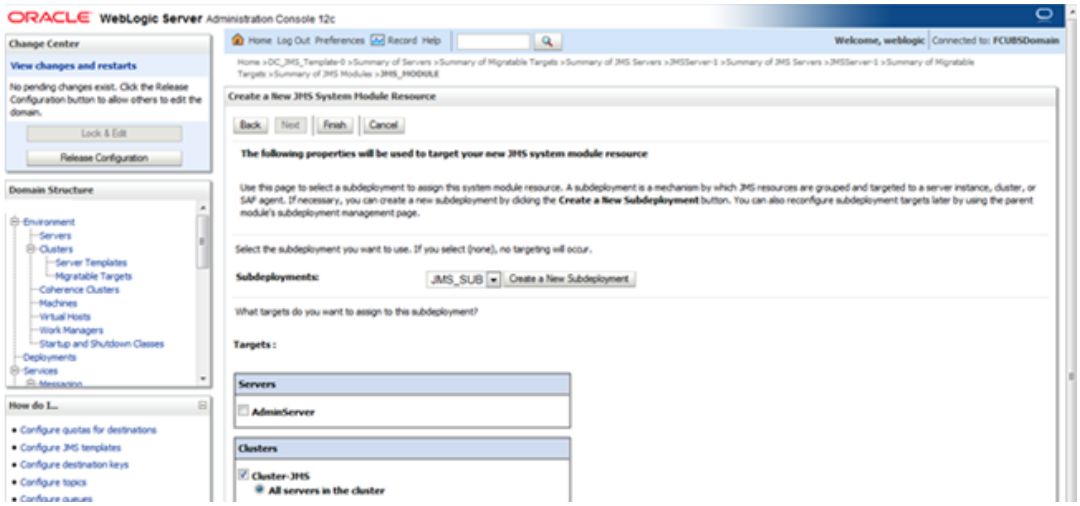
Figure 5-13 Create a New JMS System Module Resources



7. Select **Subdeployement** as **JMS_SUB**, and then click **Finish**.

   Create a New JMS System Module Resources screen displays with subdeployement and target details.

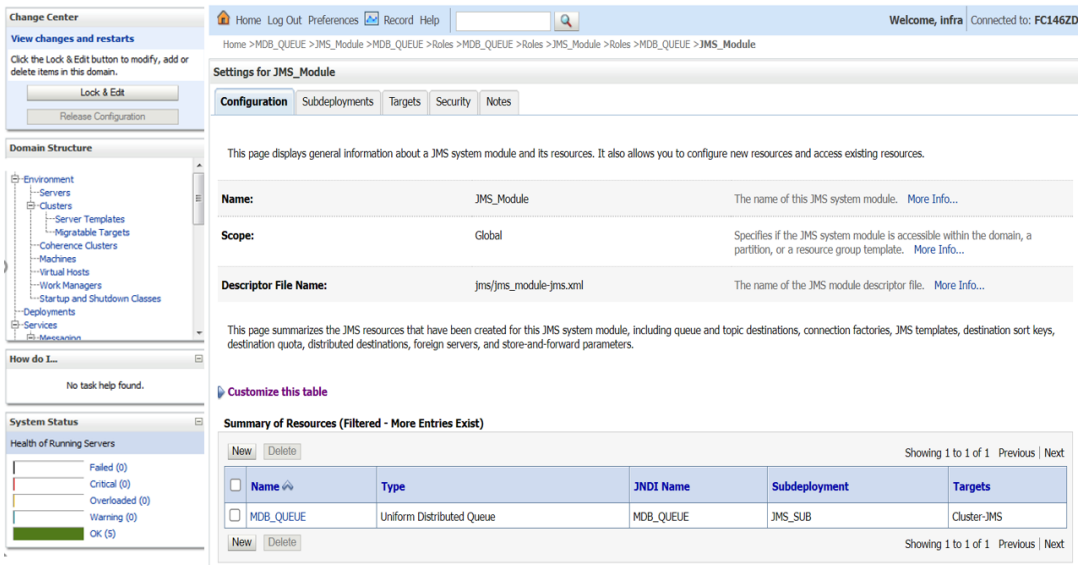
Figure 5-14 Create a New JMS System Module Resources



8. **MDB-QUEUE** is created.

   The **MDB-QUEUE** is reflected under Summary of Resources.

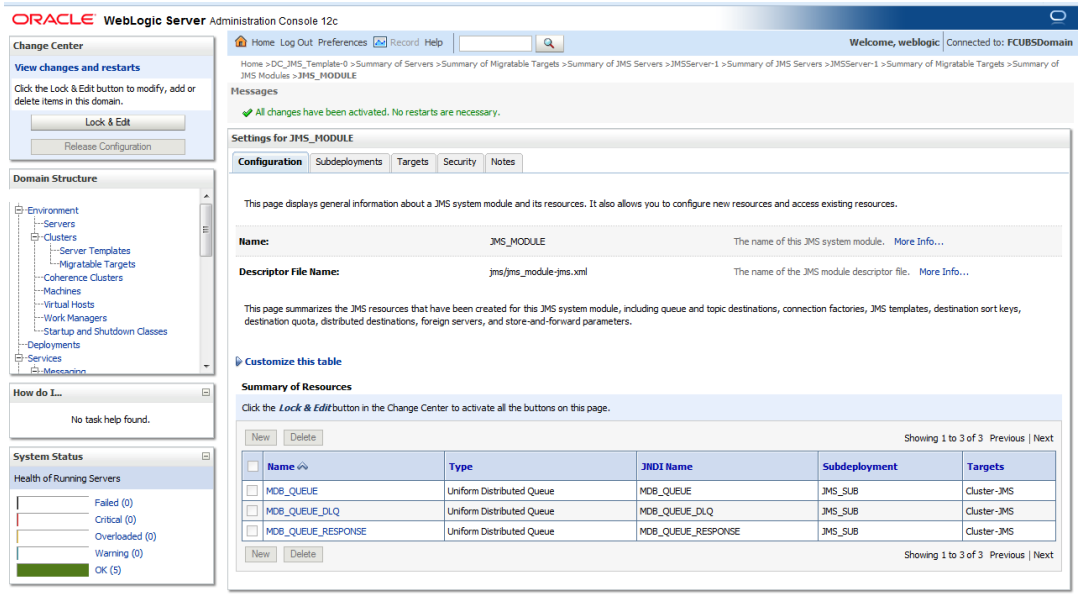
Figure 5-15 Summary of Resources



9. Similarly create the **MDB_QUEUE_RESPONSE** and **MDB_QUEUE_DLQ**.

   The **MDB_QUEUE_RESPONSE** and **MDB_QUEUE_DLQ** displays under the tab **Summary of Resources**.

Figure 5-16 Settings for JMS_Module - Message



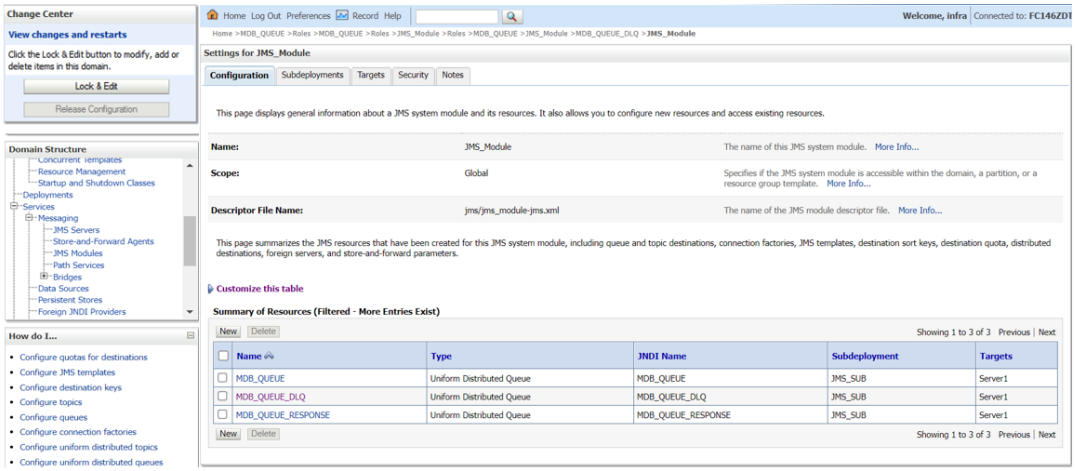
5.5 Create Connection Factory

This topic explains systematic instructions to create the Connection Factory.

1. From the **Domain Structure** left panel, navigate to the **Services** drop-down option, and click **Messaging** and then click **JMS Modules**.

   The **Settings for JMS_Module** screen displays.

Figure 5-17 Settings for JMS_Module



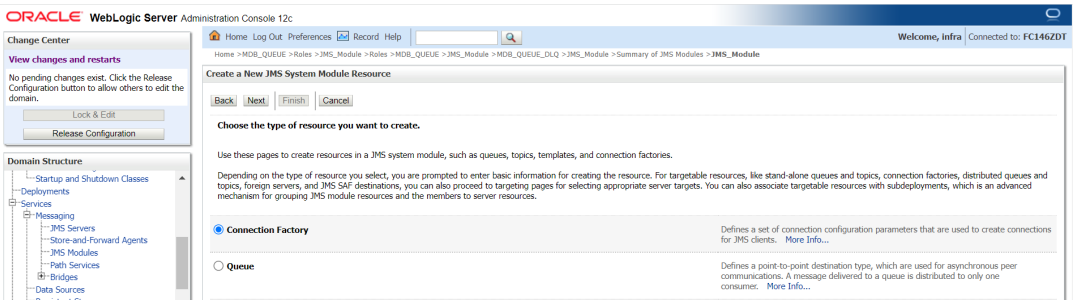
2. Click the **Configuration** tab, and then click **New**.

   The **Create a New JMS System Module Resource** screen displays to choose the type of resource.

3. Select the resource **Connection Factory**, and click **Next**.

   The **Create a New JMS System Module Resource** screen displays to specify the resource.

Figure 5-18 Create a New JMS System Module Resource



4. Specify the **Name** for connection factory, and then click **Next**.

   The **Create a New JMS System Module Resource** screen displays to target new JMS module resource.

Figure 5-19 Create a New JMS System Module Resource

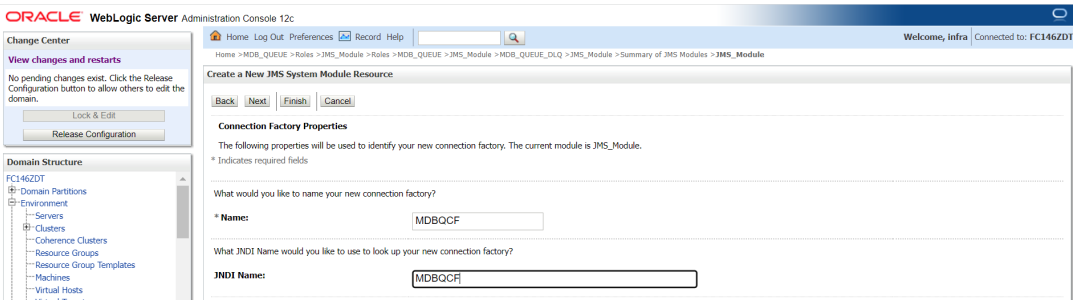
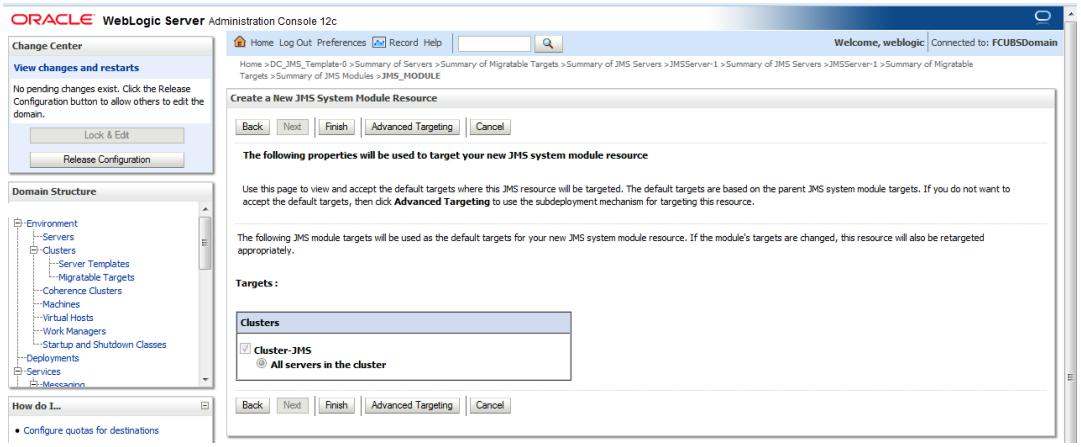


Figure 5-20 Create a New JMS System Module Resource

5. Click **Advanced Targeting**.

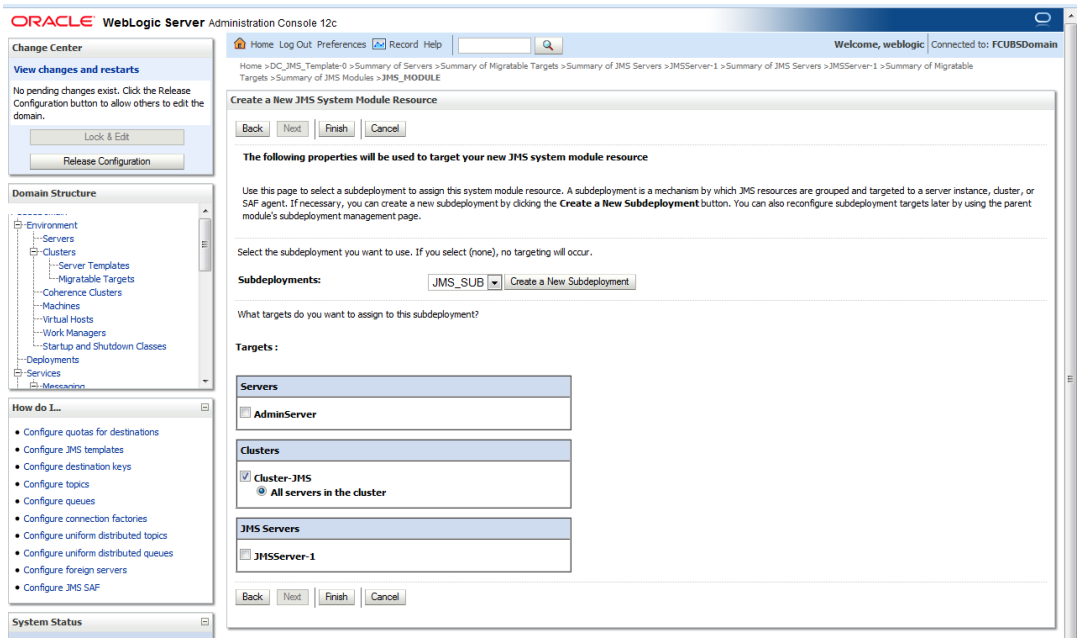
Figure 5-21 Create a New JMS System Module Resource



6. Select **JMS_SUB** as **Subdeployments**, and then click **Finish**.

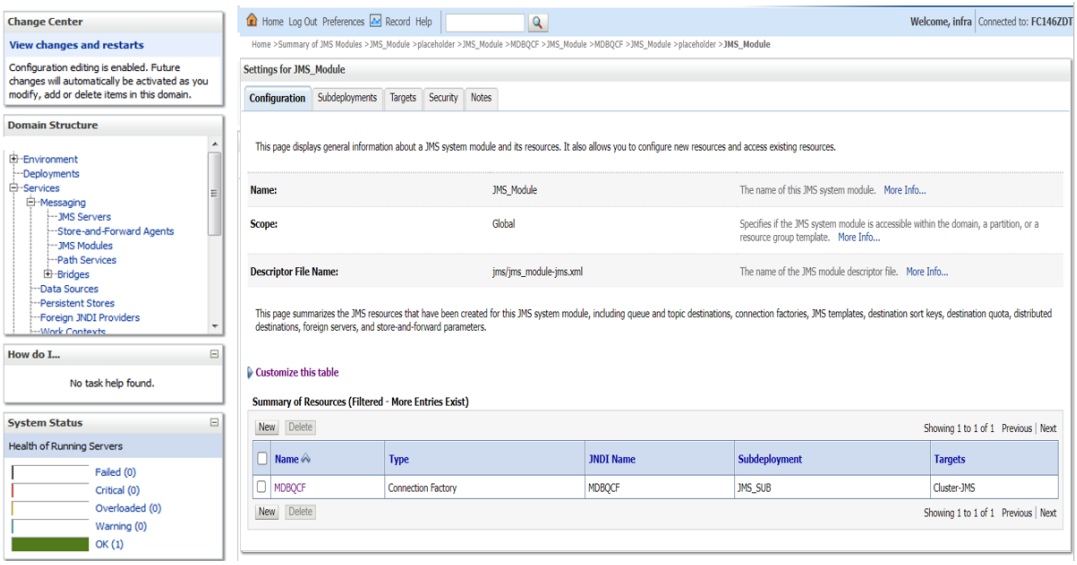
   The **Connection Factory** is created, and displays under the **Summary of Resources** tab.

Figure 5-22 Settings for JMS_Module- Summary of Resources



7. New connection Factory is Created.

Figure 5-23 Settings for JMS_Module

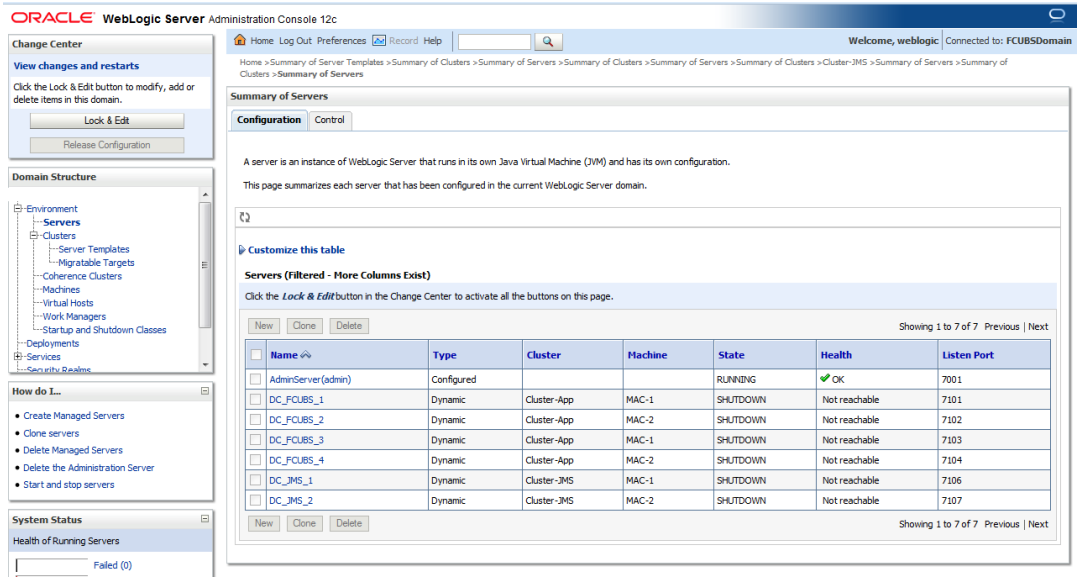


6
Restart Server

This topic explains systematic instructions to restart the JMS servers.

1. Increase the heap size of both **DC_JMS_1** and **DC_JMS_2** clusters.

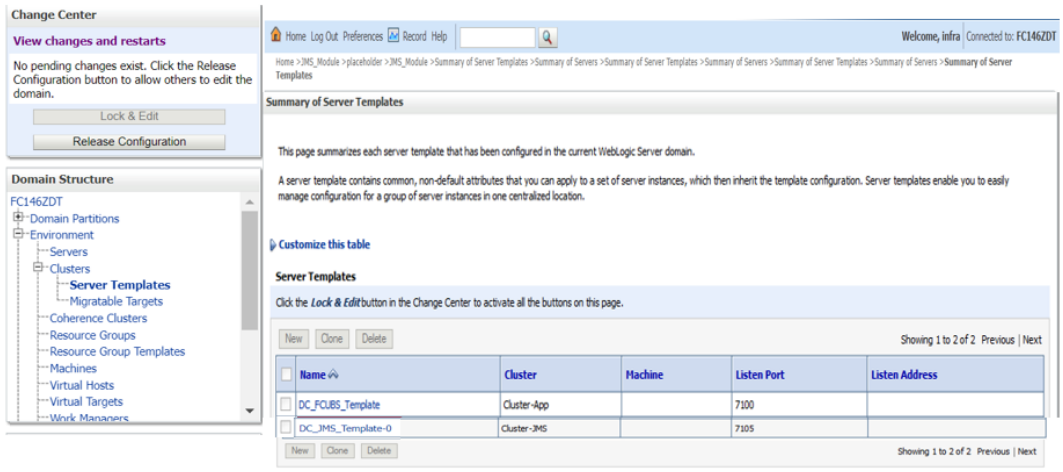
Figure 6-1 Summary of Servers



2. Select the cluster **DC_JMS_Template-0**, and click the **Server Start** tab.

   The **Settings for DC_JMS_Template-0** screen displays.

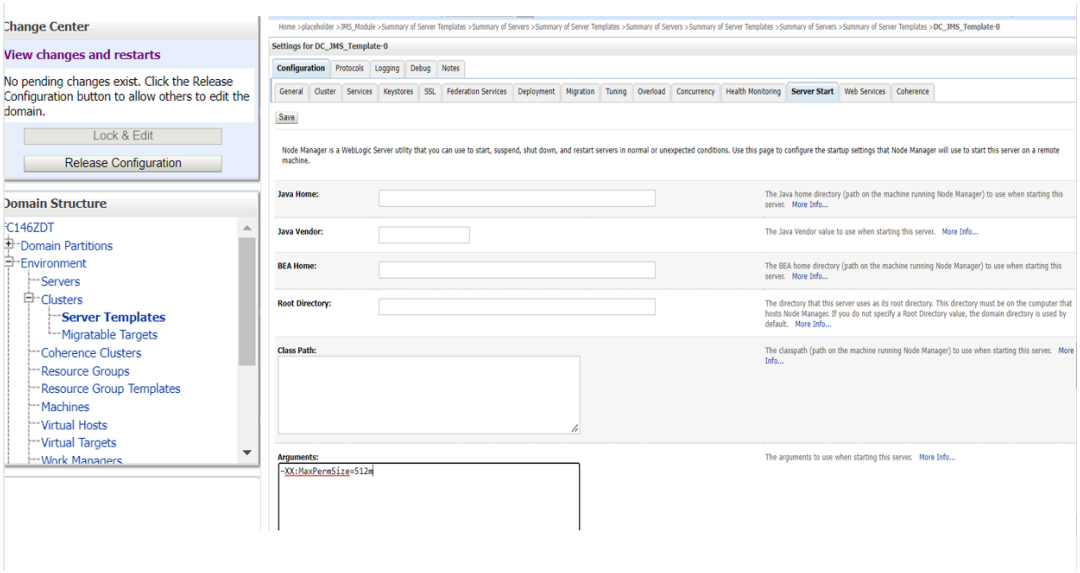
Figure 6-2 Summary of Server Templates



3. Enter **–XX:MaxPermSize=512m** in an **Arguments** section.

   Settings for DC_JMS_Template-0 is displayed.

Figure 6-3 Settings for DC_JMS_Template-0



4. Restart the AdminServer and **DC_JMS_1** and **DC_JMS_2** managed servers.

7

Foreign Server Creation

- Create Foreign Server Module
  This topic explains systematic instructions to create the MDB Module.
- Create Foreign Server
  This topic provides systematic instructions to create the Foreign server.
- Configure Foreign Server
  This topic explains systematic instructions to configure the foreign server.

7.1 Create Foreign Server Module

This topic explains systematic instructions to create the MDB Module.

1. Under the **Domain Structure** left panel, navigate to the **Services** drop-down option, and click **Messaging**, and then **JMS Modules**.

   The **Summary of JMS Module** screen displays.

Figure 7-1 Summary of JMS Module

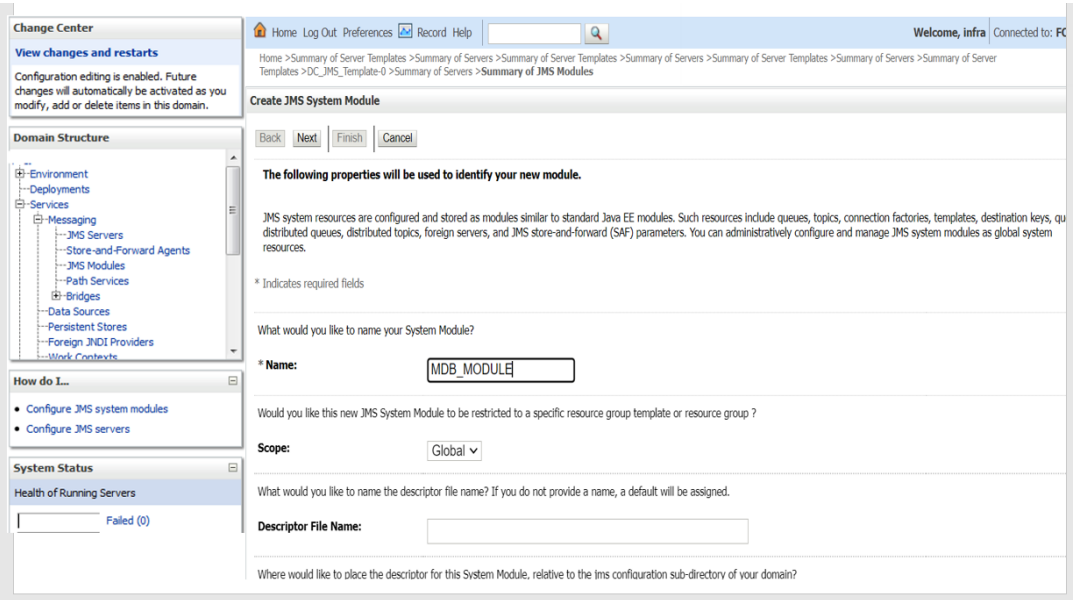
2. Click **New** under the **Customize the table** tab.

   The **Create JMS System Module** screen displays.

3. Enter the **Name** as **MDB_MODULE**, and then click **Next**.

   The **Targets** tab displays under the **Create JMS System Module** screen.

Figure 7-2 Create JMS System Module



4. Select the target as **Cluster-App**, and then click **Next**.

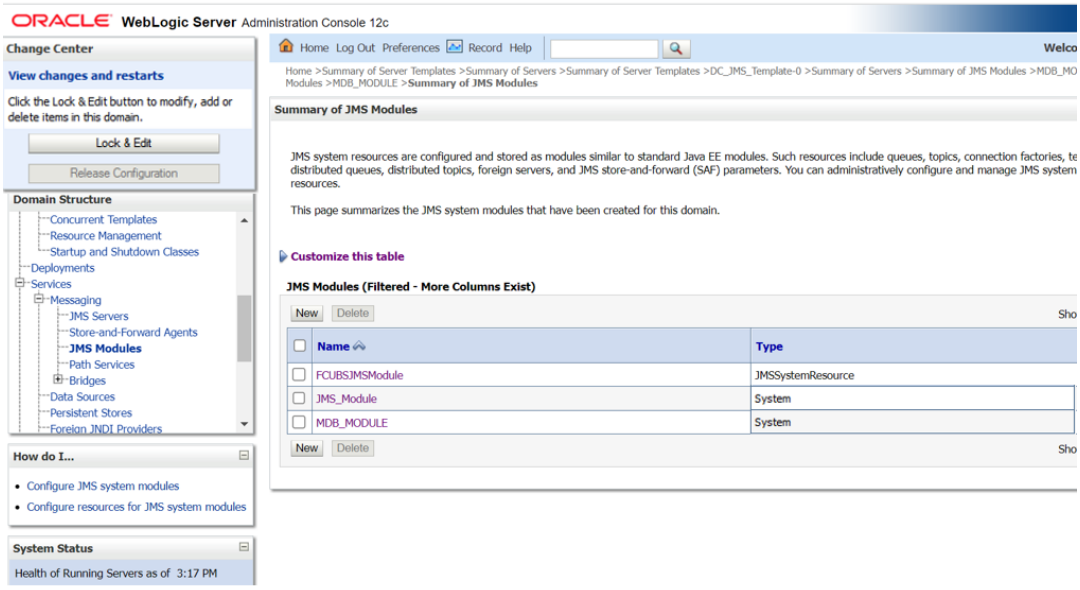
   The **Add resources to this JMS system module** tab displays under the **Create JMS System Module** screen.

Figure 7-3 Add resources to this JMS system module

5. Select the check box, and click **Finish**.

   The **MDB_MODULE** is created.

Figure 7-4 Summary of JMS Modules

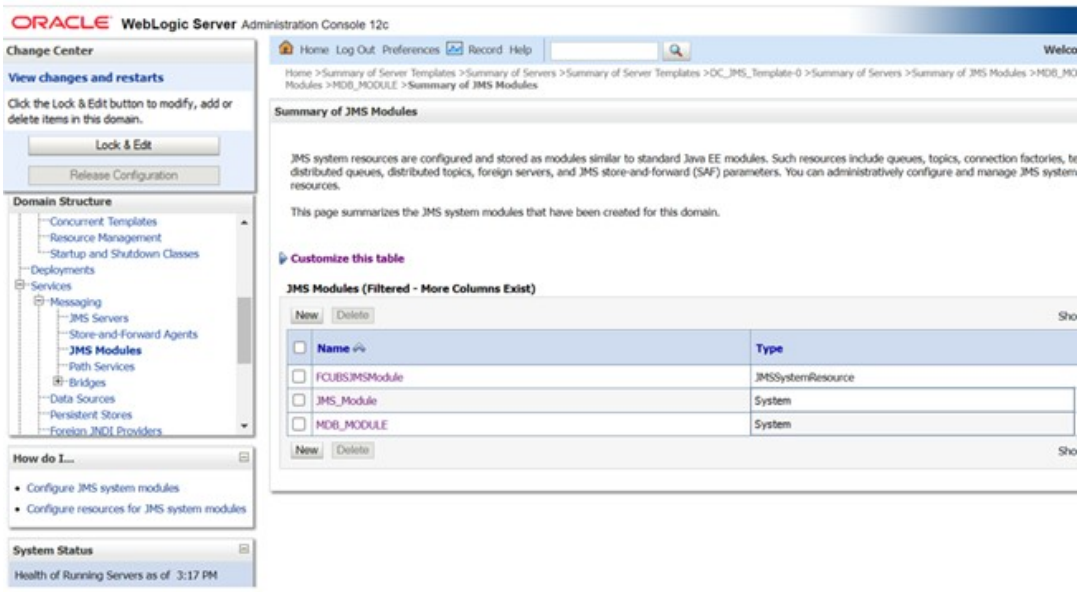


7.2 Create Foreign Server

This topic provides systematic instructions to create the Foreign server.

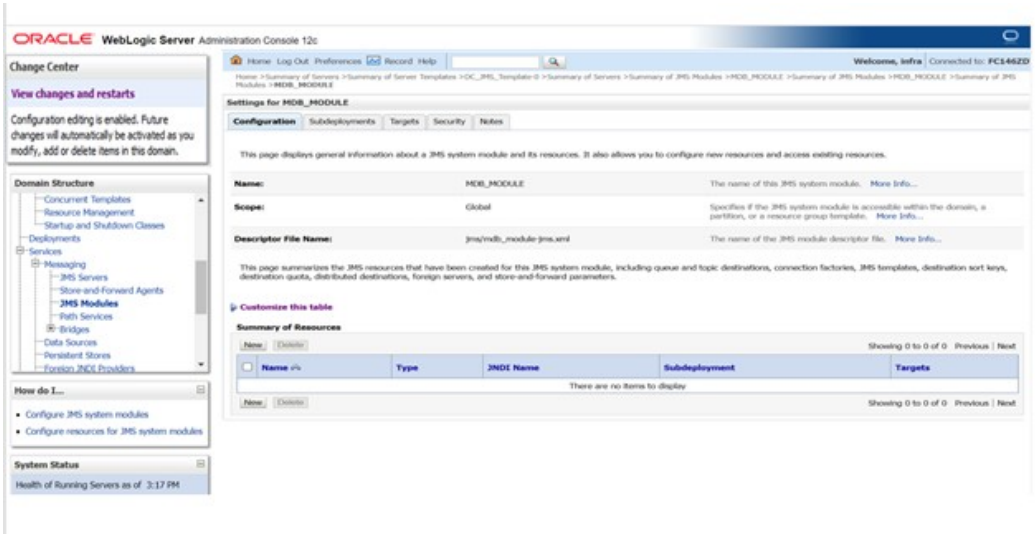
1. In **MDB_MODULE**, click the **Configuration** tab, and then click **New**.

Figure 7-5 Settings for MDB_MODULE



Create a New JMS System Module Resource screen displays to choose the type of resources.

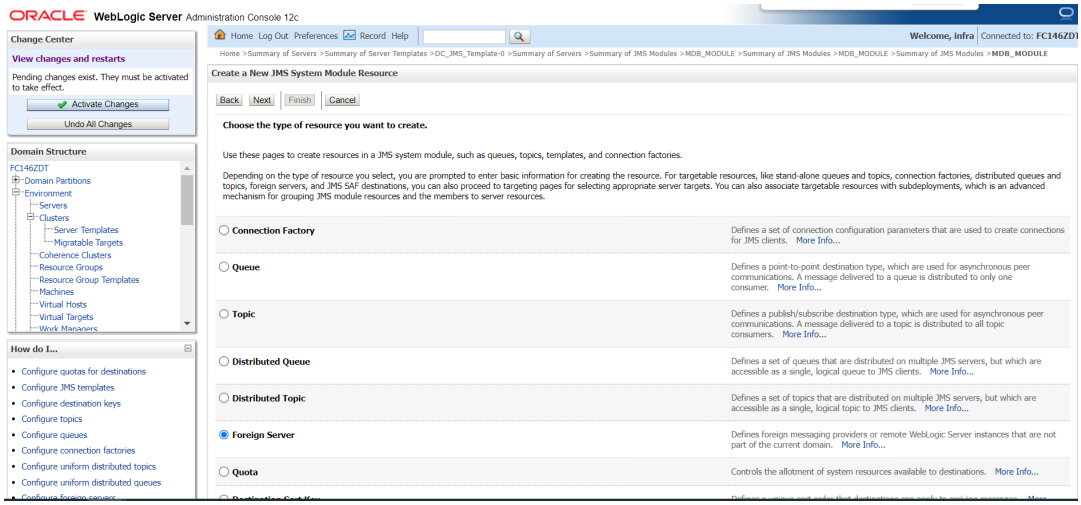
Figure 7-6 Create a New JMS System Module Resource



2. Select the **Foreign Server** resource, and click **Next**.

   Create a New JMS System Module Resource screen displays to define foreign server properties.

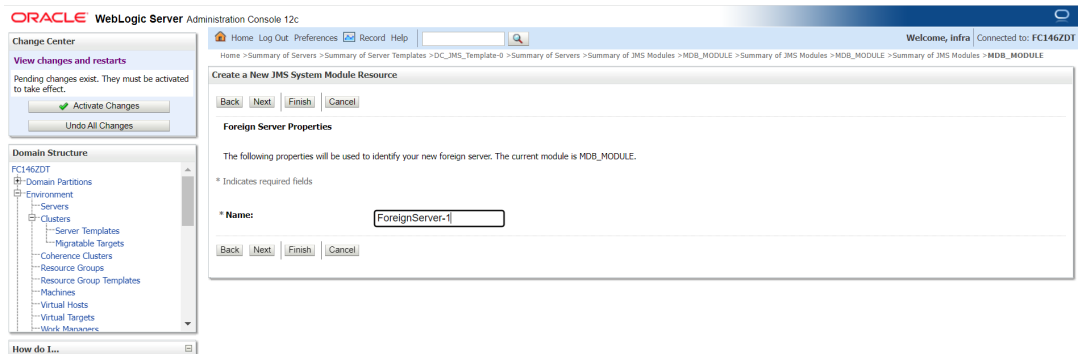
Figure 7-7 Create a New JMS System Module Resource



3. Enter **Name** of the foreign server, and then click **Next**.

   The **Create a New JMS System Module Resource** screen displays to target foreign server module.

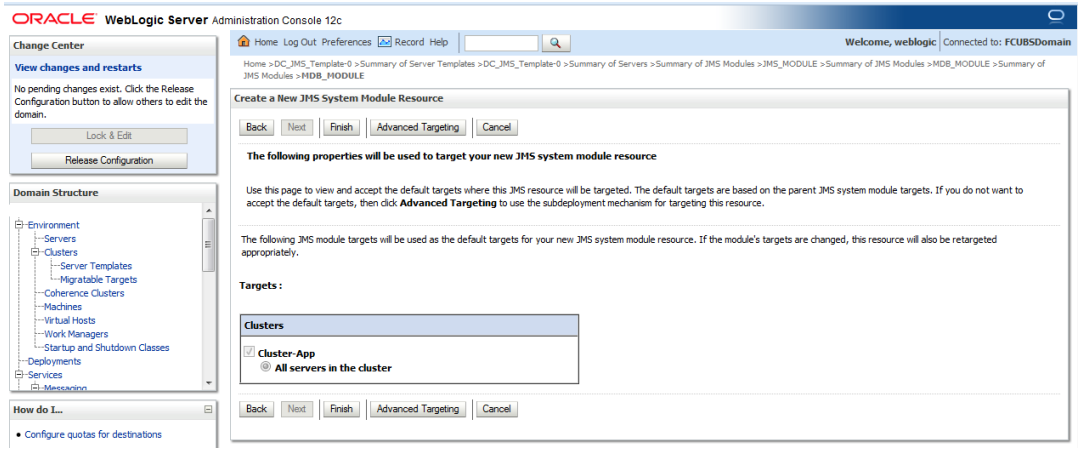
Figure 7-8 Create a New JMS System Module Resource



4. Click the **Advanced Targeting** tab.

   The **Create a New JMS System Module Resource** screen displays to select sub deployment target.

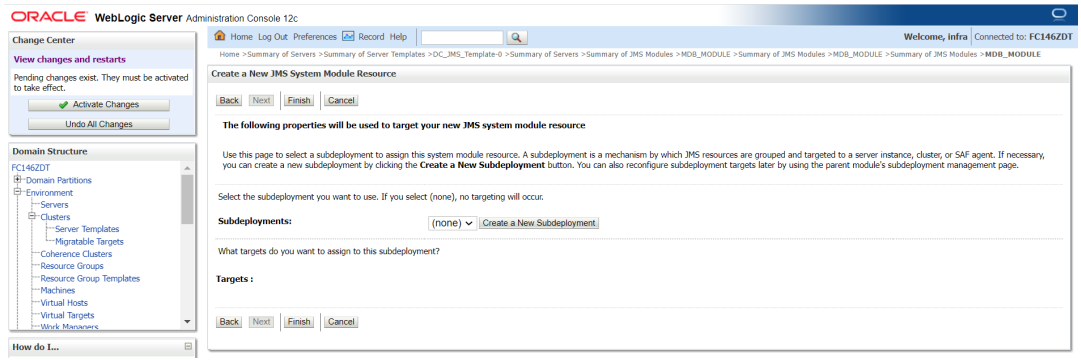
Figure 7-9 Create a New JMS System Module Resource



5. Click the **Create a New Subdeployment** tab.

   The **Create a New Subdeployment** screen displays.

Figure 7-10 Create a New Subdeployment



6. Enter **Subdeployment Name** as **MDB_SUB**, and click **OK**.

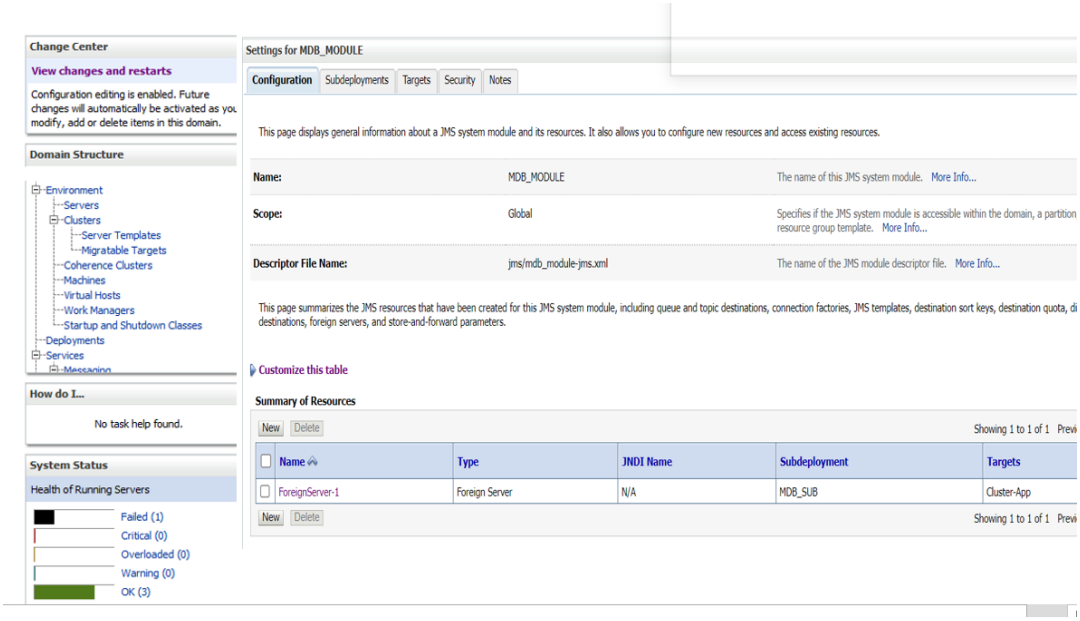
   The **Create a New JMS System Module Resource** screen displays to target **MDB_SUB** module.

Figure 7-11 Create a New JMS System Module Resource

7. Select **Targets** as a **Cluster-App**, and then click **Finish**.

   The foreign server is created.

Figure 7-12 Settings for MDB_Module - Message



7.3 Configure Foreign Server

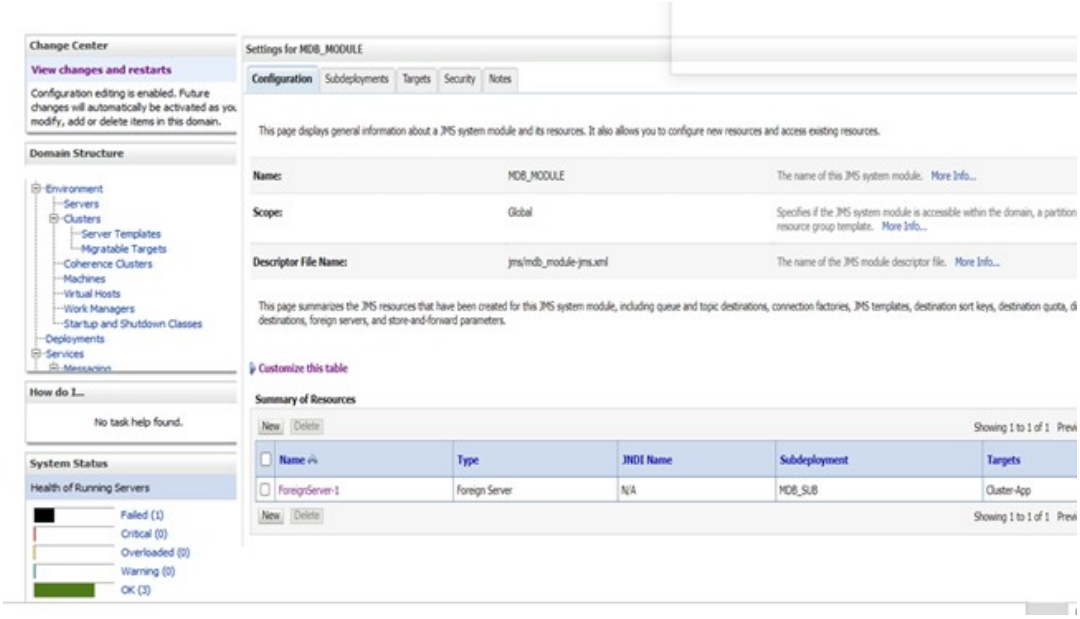
This topic explains systematic instructions to configure the foreign server.

1. In the **Settings for MDB_MODULE** screen, click **ForeignServer-1** in the **Summary of Resources** table.

Figure 7-13 Settings for MDB_MODULE

The **Settings for ForeignServer-1** screen displays.

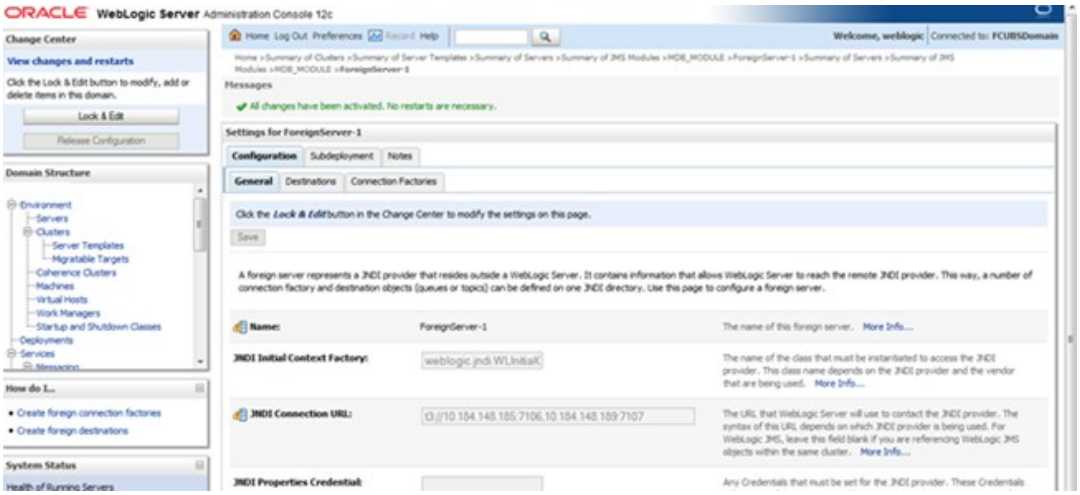
Figure 7-14 Settings for ForeignServer-1



2. Under the **Configuration- General** tab, enter the **JNDI Connection URL** as Cluster URL (JMS Managed Servers), and then click **Save**.

   The Cluster URL get saved.

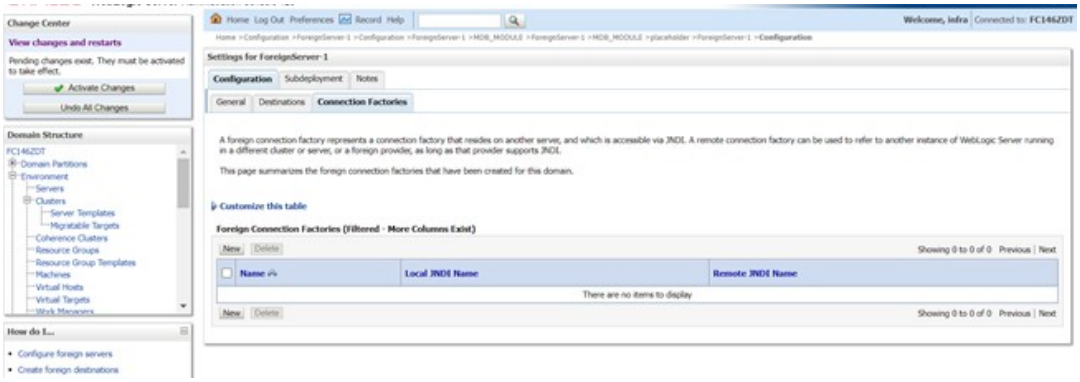
Figure 7-15 Configuration- General



3. Click the **Configuration- Connection Factories** tab, and then click **New**.

   Create a New Foreign JMS Connection Factory screen displays.

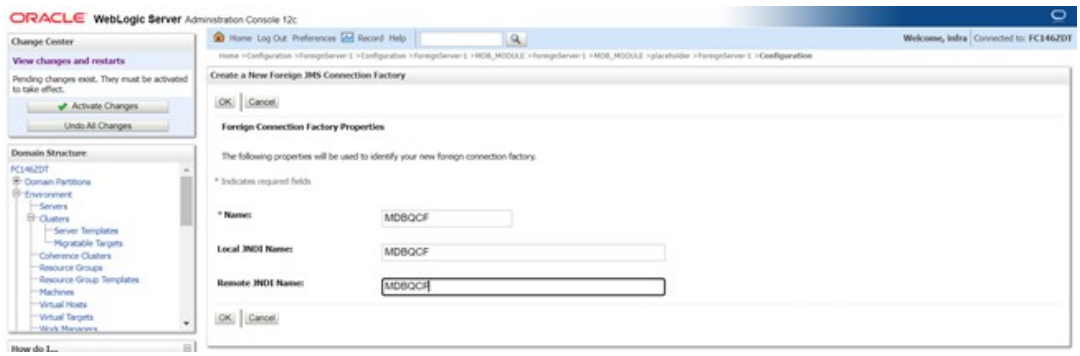
Figure 7-16 Create a New Foreign JMS Connection Factory



4. Enter the fields **Name**, **Local JNDI Name** and **Remote JNDI Name** as a **MDBQCF**, and click **OK** to create the foreign connection factory.

   MDBQCF foreign connection factory is created, and displays in **Foreign Connection Factories** table.

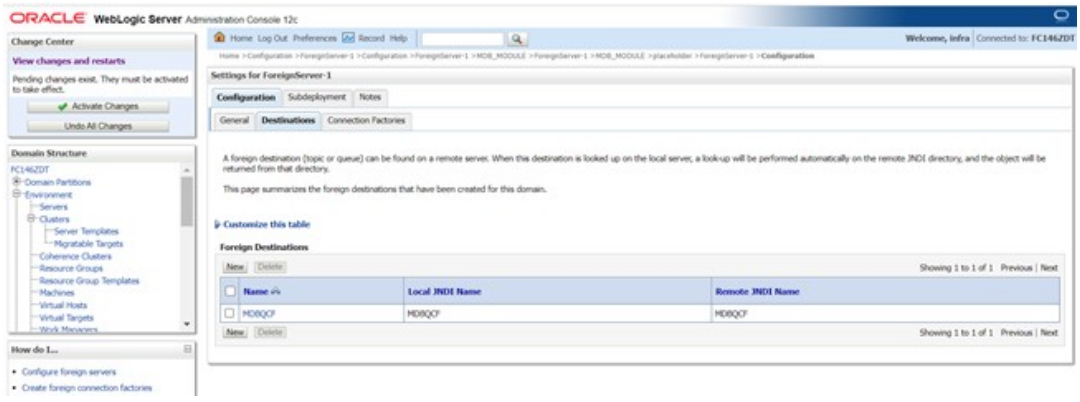
Figure 7-17 Foreign Connection Factories



5. Click the **Configuration- Destination** tab.

   The **Foreign Destinations** tab opens under the **Settings for ForeignServer-1** screen.

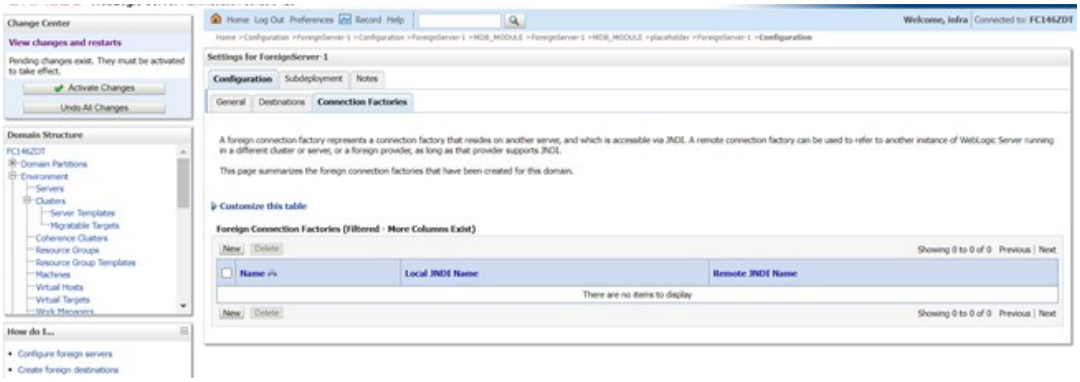
Figure 7-18 Foreign Destinations



6. Click **New** to create the Queue.

   The **Create a New Foreign JMS Destination** screen displays.

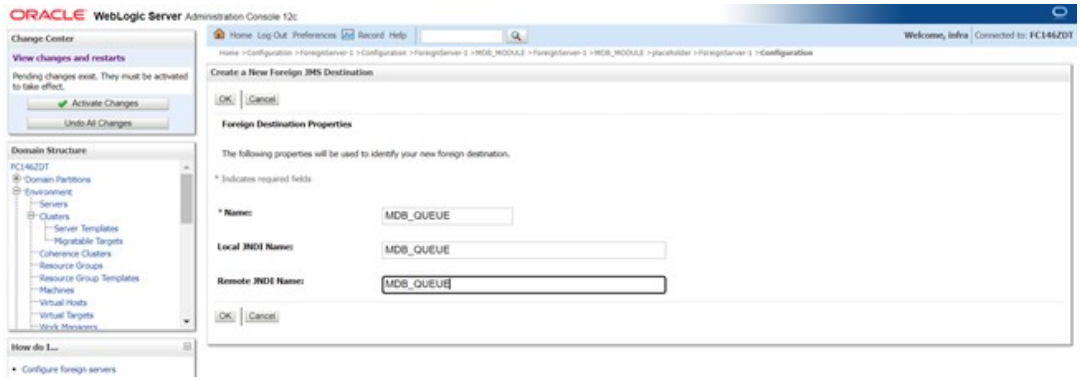
Figure 7-19 Create a New Foreign JMS Destination



7. Enter the Queue name fields as **MDB_QUEUE**, and then click **OK**.

   MDB_QUEUE is created, and displays under the **Foreign Destinations** table.

Figure 7-20 Settings for ForeignServer-1



8. Similarly Create **MDB_QUEUE_RESPONSE**, **MDB_QUEUE_DLQ**.
9. After creating all the resources, Restart the Admin and Managed Servers.

8
Application Deployment

This topic explains systematic instructions to deploy an application.

1. Deploy the EAR with **Target** as **Cluster-App**.

Figure 8-1 Settings for GWMDB

2. If JMS is configured properly, the **Health** column should show **OK** in the **Deployments** table, otherwise, the warning will be displayed.

Figure 8-2 Summary of Deployments

9
Frequently Asked Questions

9.1 Application and JMS Cluster Deployed on Same Cluster

This topic describes the process of deploying Application and JMS clusters on the same cluster.

Application and JMS Module can be deployed on the same cluster. In this topic both are on different clusters, however, it is possible to deploy on one cluster. When it is deployed on the same cluster then -

1. Foreign Server Creation is not required.
2. Targets should be given accordingly during the SubDeployment Creation.

9.2 Restart of Managed Servers

This topic explains systematic instructions to start managed servers.

1. Stop all managed servers.
2. Start only the JMS Cluster-managed servers.
3. After starting the MS Cluster-managed servers, start the App Cluster managed servers.

   Even after proper JMS setup when the managed servers are restarted, the health of the application is **Warning**.

   Figure 9-1 Summary of Deployments Warning
4. Force stop the application.
5. Again start the application.

   The system resolves the **Warning**, and the health of the deployment is changed to **OK**.

9.3 Secure File Store Data

To properly secure file store data, set appropriate directory permissions on all file store directories. If data encryption is required, use appropriate third-party encryption software.

9.4 t3s Protocol

To secure the communication with the JMS Server use the t3s protocol instead of t3. This is applicable when connecting to the connection factory to send or receive messages, and also in the JNDI Connection URL provided in foreign server creation.

> **Note:**
>
> When using the t3s protocol **SSL Listen Port Enabled** should be checked in the server template, and the port number used in the URL should be a secure port.

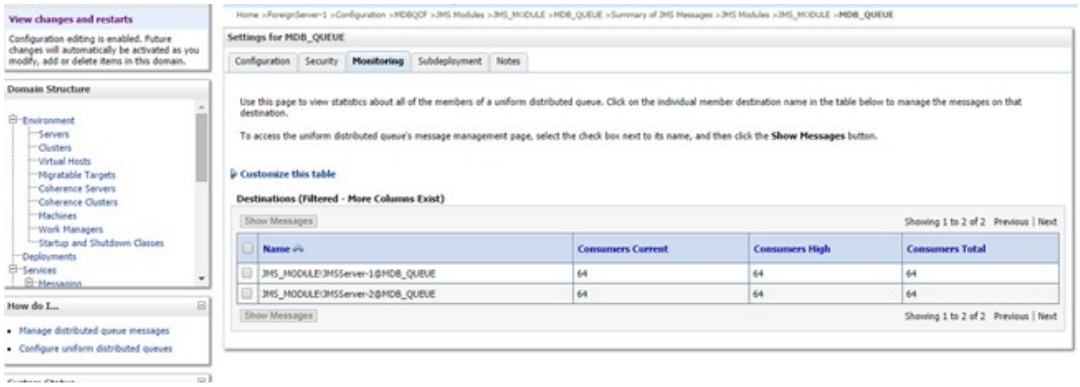
9.5 Test the Deployment

This topic explains systematic instructions to test the deployment.

1. Under the **Domain Structure** left panel, navigate to the **Services** drop-down option, and click **Messaging**, and then **JMS Modules**.

   The **Summary of JMS Module** screen displays.

Figure 9-2 Summary of JMS Module



2. Navigate into **JMS_MODULE**, and then **MDB_QUEUE**.

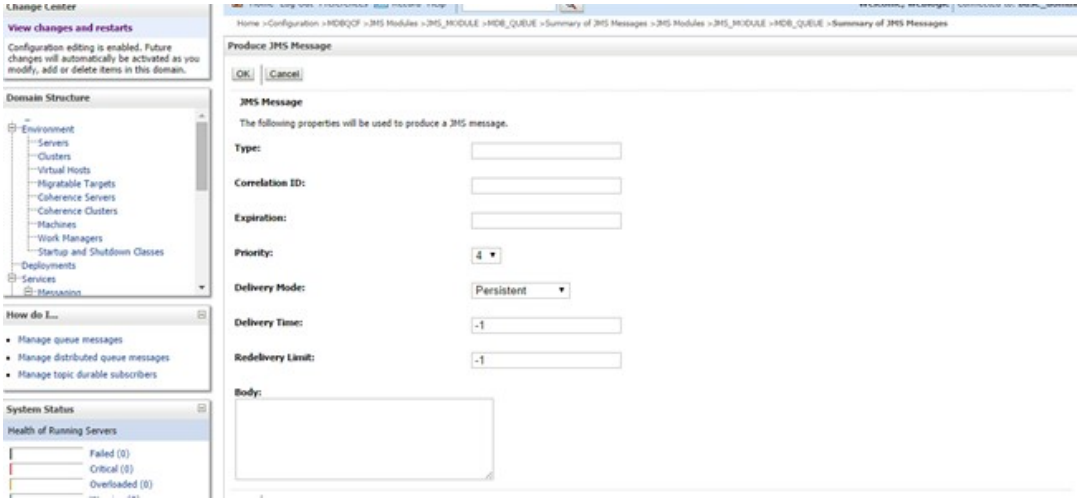
   The **Settings for MDB_QUEUE** screen displays.

Figure 9-3 Settings for MDB_QUEUE

3. Click the **MONITORING** tab.

   The **Settings for MDB_QUEUE** screen displays with **Destinations** table.

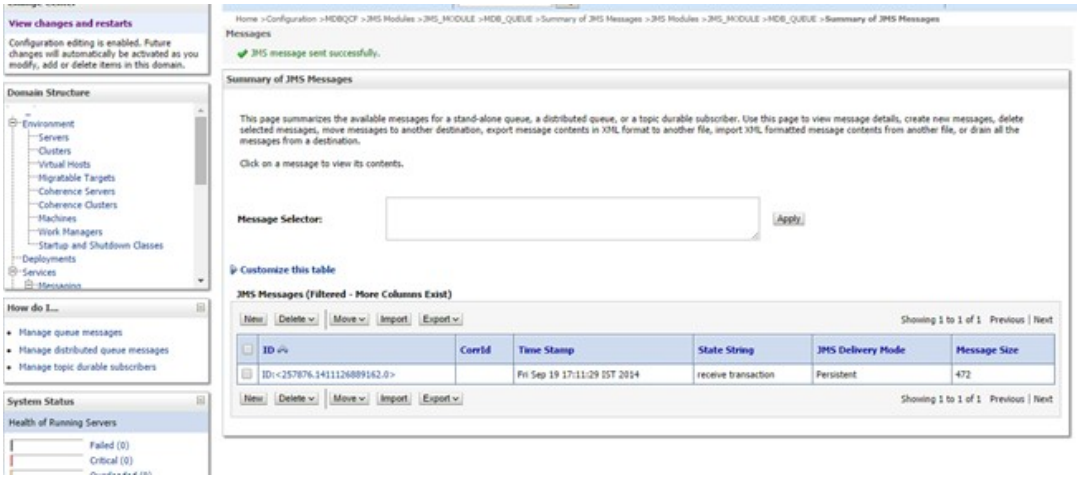
Figure 9-4 Settings for MDB_QUEUE



4. Select any one server, and click **Show Messages**.

   The **Summary of JMS Messages** screen displays.

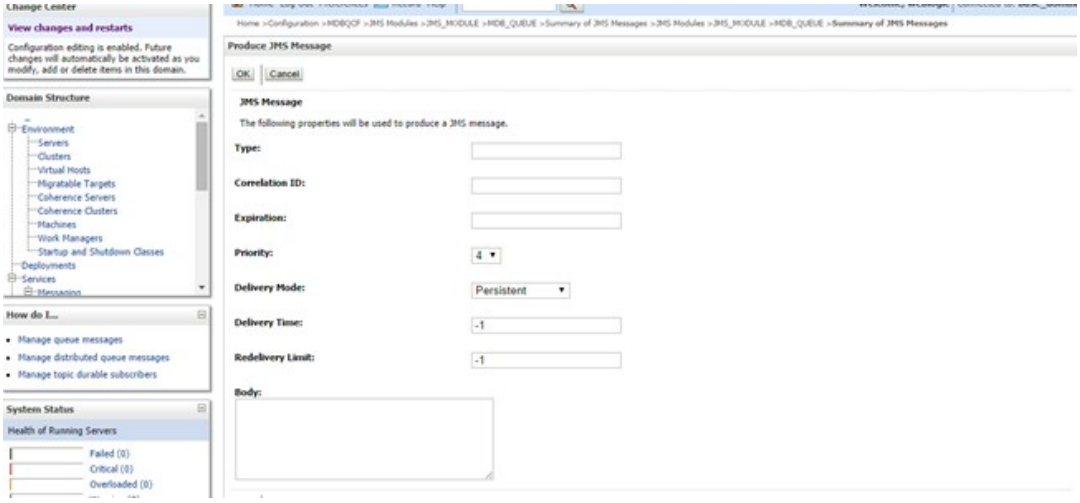
Figure 9-5 Summary of JMS Messages



5. Click **New**.

   The **Produce JMS Message** screen displays.

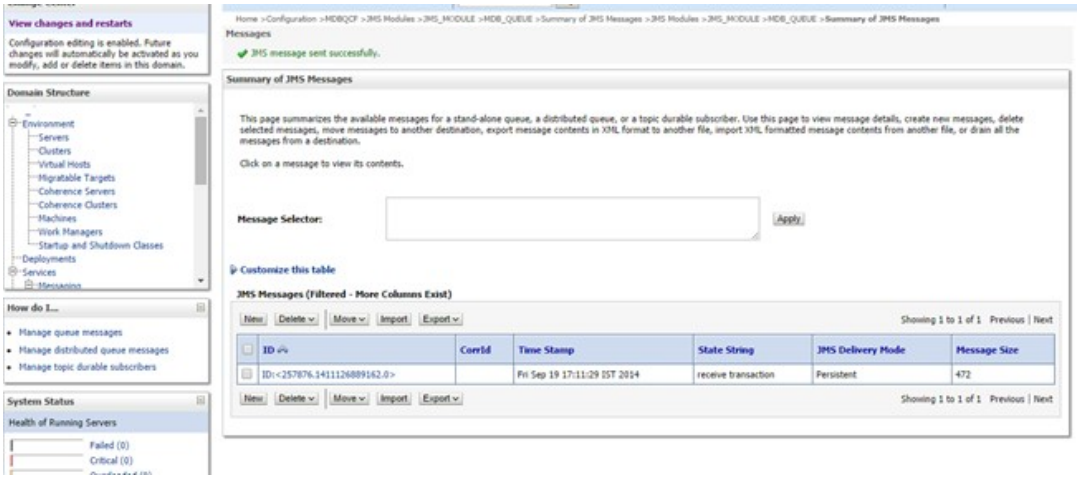
Figure 9-6 Produce JMS Message



6. Enter the message in the field of **Body**, and click **OK**.

   The message is sent, and displays under the **JMS Messages** table.

Figure 9-7 Summary of JMS Messages



7. Verify at the backend or in the MDB log if the message is processed successfully.

9.6 Increase maximum number of message-driven bean threads

The default number of consumers for an MDB is 16. To increase or restrict this number create Custom Work Manager with a Max Threads Constraint in conjunction with MDBs.

The solution is to create a work manager with a max threads constraint and assign the proxy services dispatch policy to this work manager. Steps to create a custom work manager -

1. Modify the MDB deployment descriptor, and redeploy the EAR
2. Create a Custom Work manager, and add constraints to limit the number of the max MDB threads

- Modify weblogic-ejb-jar.xml
  This topic explains systematic instructions to modify the **weblogic-ejb-jar.xml**.

- Create Work Manager
  This topic explains systematic instructions to create the work manager.

9.6.1 Modify weblogic-ejb-jar.xml

This topic explains systematic instructions to modify the **weblogic-ejb-jar.xml**.

1. Add **<dispatch-policy>GWMDBWM</dispatch-policy>** line to the **weblogic-ejb-jar.xml** of the MDB EAR.

   Figure 9-8 weblogic-ejb-jar.xml

2. Remove if any of the below tags are present in **weblogic-ejb-jar.xml**.
   - **max-beans-in-free-pool**
   - **initial-beans-in-free-pool**
3. Save the EAR file, and redeploy the EAR file.

9.6.2 Create Work Manager

This topic explains systematic instructions to create the work manager.

Create a new work manager with the name GWMDBWM (as mentioned in the property file) by below steps -

1. Log in to the WebLogic console, and navigate to the **Domain Structure**, and then **Environment**, and then **Work Managers**.

   The **Create a New Work Manager Component** screen displays.

   Figure 9-9 Create a New Work Manager Component

2. Select **Work Manager**, and then click **Next**.

   The **Work Manager Properties** screen displays.

   Figure 9-10 Work Manager Properties

3. Enter the field **Name** as **GWMDBWM** that is mentioned in the property file, and then click **Next**.

   The **Select deployment targets** screen displays.

   Figure 9-11 Select deployment targets

4. Select **Cluster-App** in available targets, and click **Finish**.

   The **Summary of Work Managers** screen displays.

   Figure 9-12 Summary of Work Managers

5. Click **New** in the **Global Work Managers, Request Classes and Constraints** table.

   The **Create a New Work Manager Component** screen displays.

Figure 9-13 Create a New Work Manager Component

6. Select **Maximum Threads Constraints**, and then click **Next**.

   The **Maximum Threads Constraints Properties** screen displays.

Figure 9-14 Maximum Threads Constraints Properties

7. Enter the desired thread count in the **Count** field, and then click **Next**.

   The **Select deployment targets** screen displays.

Figure 9-15 Select deployment targets

8. Select **Cluster-App** target, and then click **Finish**.

   The **Summary of Work Managers** screen displays.

Figure 9-16 Summary of Work Managers

9. Navigate to newly created Work Manager **GWMDBWM**.

   The **Settings for GWMDBWM** screen displays.

Figure 9-17 Settings for GWMDBWM

10. Assign the **Maximum Threads Constraint** field to newly created **MaxThreadsConstraint-0**, and click **Save**.

    The **Settings for GWMDBWM** screen displays.

Figure 9-18 Settings for GWMDBWM - Maximum Threads Constraint

11. Restart managed servers, and notice the change in the number of consumers for the queues.

9.7 High Availability of Servers

This topic describes the high availability of servers.

1. **Application Server** - MDB_MODULE and the GWEJB EAR are deployed in a cluster. The cluster has 4 managed servers, if any server goes down then the messages are processed by other managed servers.
2. **JMS Provider** - JMS is deployed on 2 managed servers, JMSServer1 and JMSServer2, if anyone goes down others will handle the messages.
3. **FileStore** - Filestore is a cluster file system or database where if one node goes down then the other will handle the requests.
4. **DB Server** - The database is installed in RAC mode where it has more than 1 node, if a node goes down then other nodes will handle messages.

9.8 Setup for Scheduler/Notifications

The above topics can be used for setting up JMS for scheduler/notifications but additional queues and connection factory needs to be created.

9.9 Other Modules uses JMS Queue's

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

1. EMS for swift messages
2. GI for upload
3. ELCM
4. BIP

9.10 References

Refer to the Resource To Be Created document for more details.

Glossary

Index