

Payments Weblogic JMS Configuration
Oracle Banking Payments
Release 14.2.0.0.0
[November] [2018]



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1. Introduction

1.1 Purpose

The purpose of this document is to explain the steps required for JMS Configuration in cluster mode for

- 1) FCUBS 12.1
- 2) WebLogic Server 12.1.3.0.0

1.2 Introduction

Below is brief description on major components in Weblogic JMS Server architecture

JMS Server

JMS server acts as management container for JMS queue and topic resources defined within JMS modules that are targeted to specific that JMS server. A JMS server's main responsibility is to maintain persistent storage for these resources, maintain the state of durable subscriber and 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 configuration. JMS modules are globally available for targeting to servers and clusters configured in the domain and therefore are available to all the applications deployed on the same targeted. 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. When you create a JMS resource you need to choose one Subdeployment.

JMS Resources

- 1) **Queue** defines a point-to-point destination type, which are used for asynchronous peer communications. A message delivered to queue is distributed to only one customer.
- 2) **Topic** defines a publish/subscribe destination type, which are used for asynchronous peer communication. A message delivered to topic is distributed to all topic consumers
- 3) **Distributed queue** defines a set of queues that are distributed on multiple JMS servers, but are accessible as a single, logical queue to JMS clients
- 4) **Distributed topic** defines a set of topics that are distributed on multiple JMS servers, but which as accessible as a single, logical topic to JMS clients.

- 5) **Uniform Distributed Queue:** 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 type of mechanism to store the message

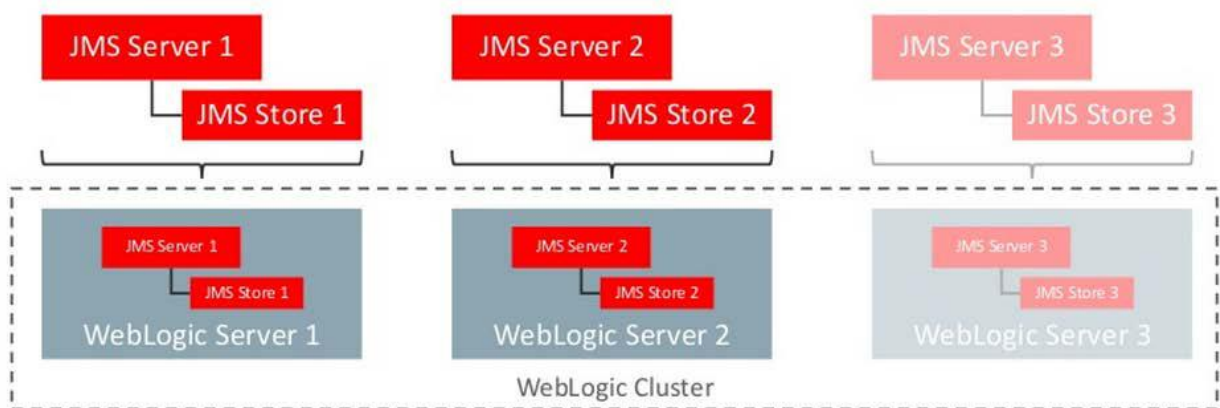
- 1) File based persistence store → Message is stored in a file
- 2) DB based persistence store → Message is stored in Database.

1.3 Weblogic 12c New Features

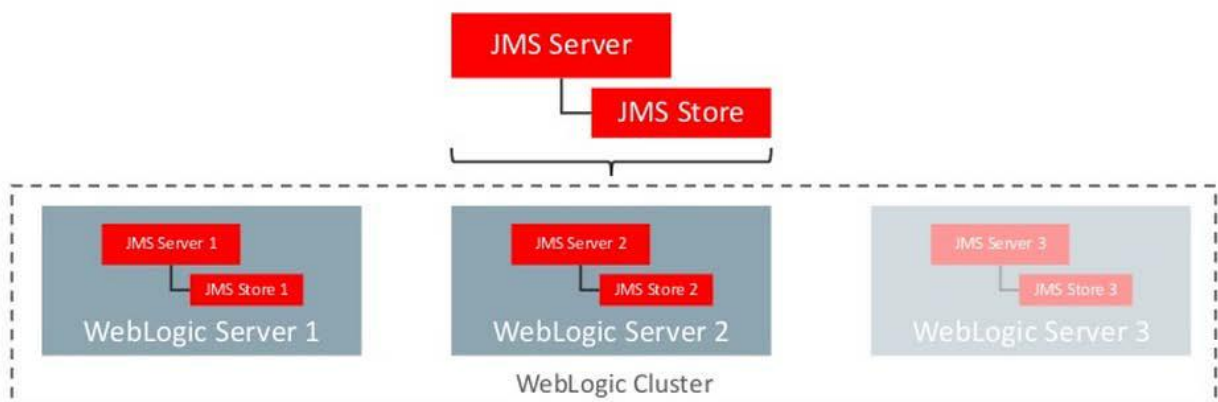
Before weblogic 12c JMS Servers and stores are targeted to individual WLS Servers. Scaling up requires configure the JMS server, the store and target it to new WLS Server

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

Architecture previous to 12c

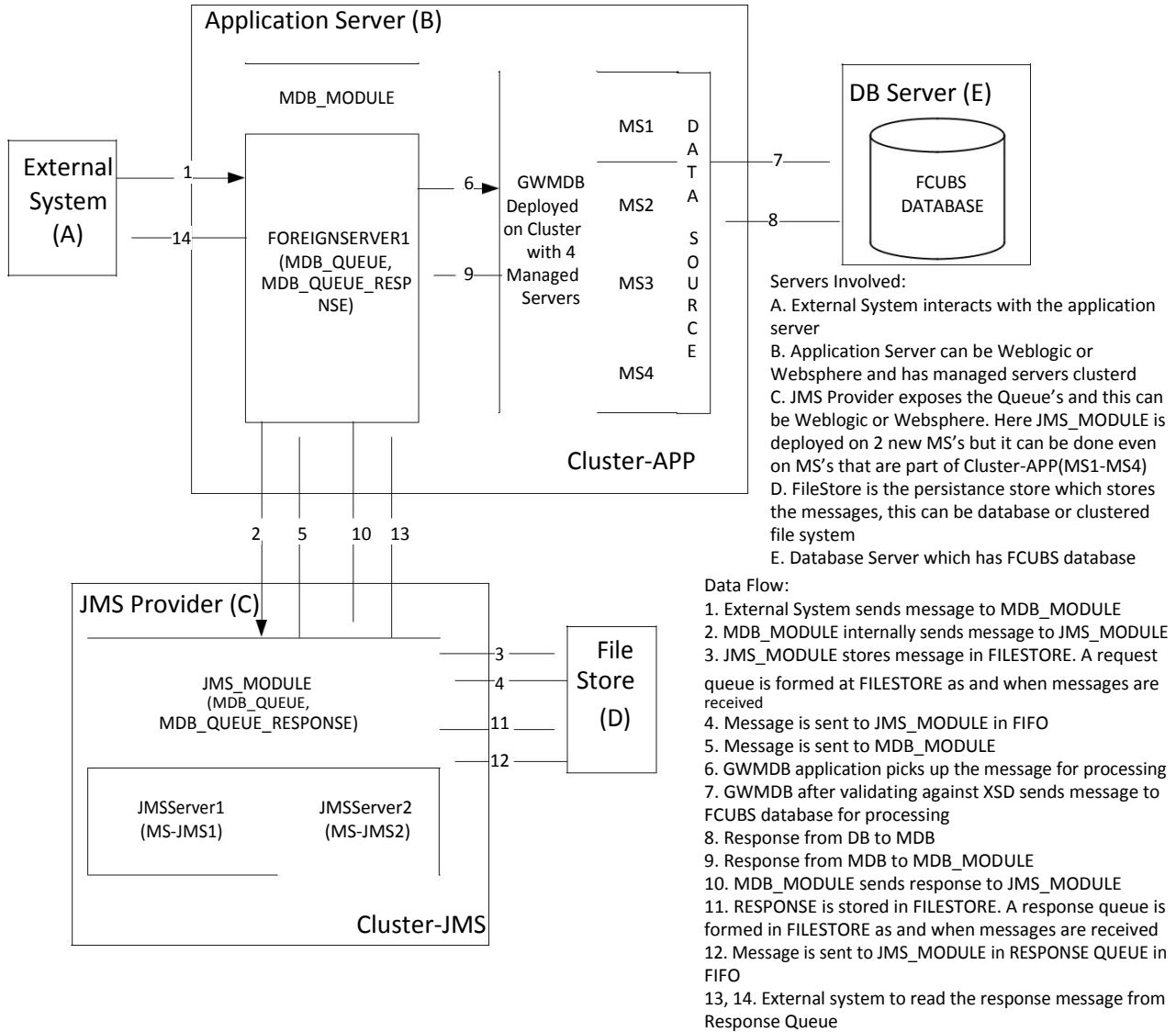


Architecture in 12c



1.4 Components Diagram & Data Flow

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

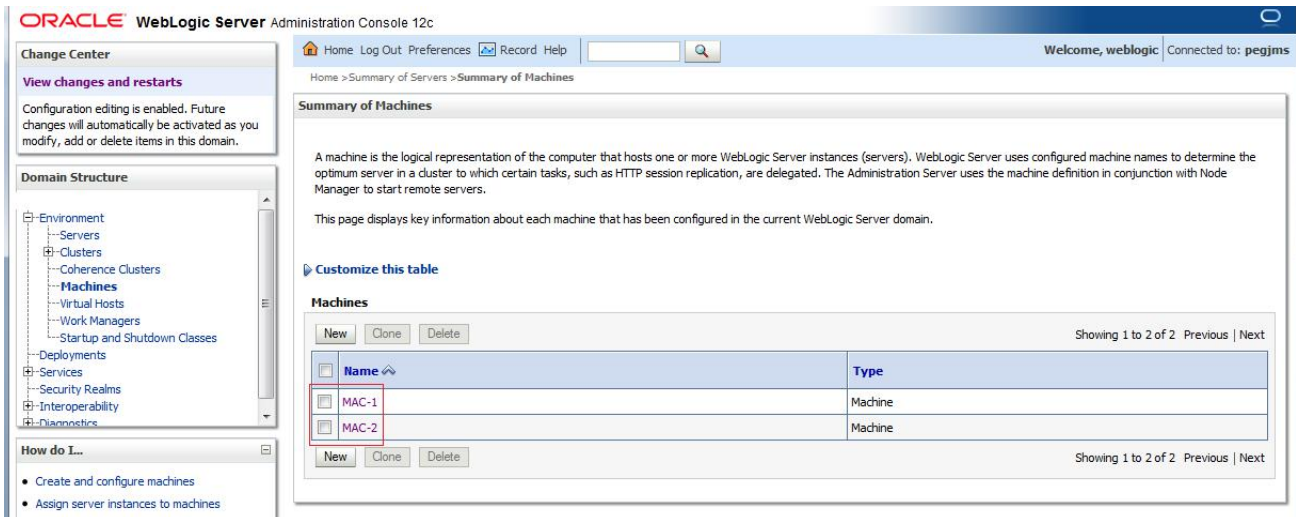


2. Pre-Requisites

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

2.1 Machines

MAC-1 & MAC-2

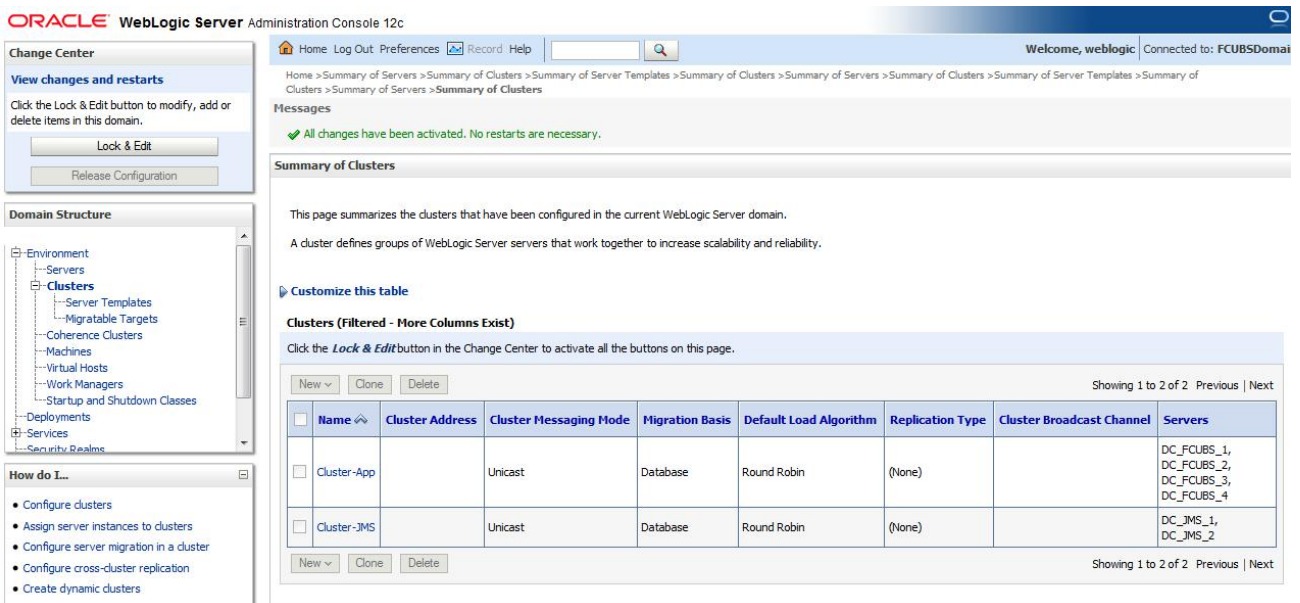


The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled "Summary of Machines". It includes a "Customize this table" section with a table listing machines. The table has two columns: "Name" and "Type".

Name	Type
MAC-1	Machine
MAC-2	Machine

2.2 Dynamic Clusters and Managed Servers

Ensure Dynamic cluster for FCUBS (4 Managed Servers) and Dynamic cluster for JMS Deployment (2 Managed Servers)



The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled "Summary of Clusters". It includes a "Customize this table" section with a table listing clusters. The table has columns: "Name", "Cluster Address", "Cluster Messaging Mode", "Migration Basis", "Default Load Algorithm", "Replication Type", "Cluster Broadcast Channel", and "Servers".

Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
Cluster-App		Unicast	Database	Round Robin	(None)		DC_FCUBS_1, DC_FCUBS_2, DC_FCUBS_3, DC_FCUBS_4
Cluster-JMS		Unicast	Database	Round Robin	(None)		DC_JMS_1, DC_JMS_2

Summary of Servers

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration. This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

Name	Type	Cluster	Machine	State	Health	Listen Port
AdminServer (admin)	Configured			RUNNING	OK	7001
DC_FCUBS_1	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7101
DC_FCUBS_2	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7102
DC_FCUBS_3	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7103
DC_FCUBS_4	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7104
DC_JMS_1	Dynamic	Cluster-JMS	MAC-1	SHUTDOWN	Not reachable	7106
DC_JMS_2	Dynamic	Cluster-JMS	MAC-2	SHUTDOWN	Not reachable	7107

2.3 Data Source

Ensure that DataSource required for the MDB ear is created with Target as Cluster-App

Summary of JDBC Data Sources

A JDBC data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDBC connections. Applications can look up a data source on the JNDI tree and then borrow a database connection from a data source. This page summarizes the JDBC data source objects that have been created in this domain.

Data Sources (Filtered - More Columns Exist)

Name	Type	JNDI Name	Targets
FLEXTTEST.WORLD	Generic	FLEXTTEST.WORLD	Cluster-App

2.4 Shared Folder

A shared folder for File Store Creation is required and this folder should be accessible across both the servers (eg, NFS mount).

3. JMS Configuration

3.1 Persistence Store Creation

- 1) Navigate to Services → Persistent Stores → New → Create FileStore

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Servers > Summary of Persistent Stores

Messages

- Create operation cancelled - no file store created.

Summary of Persistent Stores

A persistent store is a physical repository for storing subsystem data, such as persistent JMS messages. It can be a JDBC-accessible database, disk-based file, or replicated memory storage. This page summarizes the persistent stores that have been created for this domain.

Customize this table

Persistent Stores

New Delete Showing 0 to 0 of 0 Previous | Next

Name	Type	Target
There are no items to display		

New Delete Showing 0 to 0 of 0 Previous | Next

Domain Structure

- Clusters
 - Coherence Clusters
 - Machines
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services
 - Messaging
 - Data Sources
 - Persistent Stores**
 - Foreign JNDI Providers
 - Work Contexts
 - XML Registries

How do I...
• Create File Stores

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Servers > Summary of Persistent Stores

Messages

- Create operation cancelled - no file store created.

Summary of Persistent Stores

A persistent store is a physical repository for storing subsystem data, such as persistent JMS messages. It can be a JDBC-accessible database, disk-based file, or replicated memory storage. This page summarizes the persistent stores that have been created for this domain.

Customize this table

Persistent Stores

New Delete Showing 0 to 0 of 0 Previous | Next

Name	Type	Target
There are no items to display		

New Delete Showing 0 to 0 of 0 Previous | Next

Domain Structure

- Clusters
 - Coherence Clusters
 - Machines
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services
 - Messaging
 - Data Sources
 - Persistent Stores**
 - Foreign JNDI Providers
 - Work Contexts
 - XML Registries

How do I...
• Create File Stores

2) Select **Cluster-JMS** under target dropdown and Click on OK

Oracle WebLogic Server Administration Console 12c

Home > Summary of Clusters > Summary of Servers > Summary of Clusters > Summary of Servers > Summary of Clusters > Cluster-JMS > Summary of Servers > Summary of Clusters > Summary of Servers > Summary of Persistent Stores

Create a New File Store

OK Cancel

File Store Properties

The following properties will be used to identify your new file store.
* Indicates required fields

What would you like to name your new file store?

* **Name:**

Select a server instance for this file store.

Target:

The pathname to the directory on the file system where the file store is kept. This directory must exist on your system, so be sure to create it before completing this tab.

Directory:

OK Cancel

3) **FileStore-1** is created

Oracle WebLogic Server Administration Console 12c

Home > Summary of Clusters > Summary of Servers > Summary of Clusters > Summary of Servers > Summary of Clusters > Cluster-JMS > Summary of Servers > Summary of Clusters > Summary of Servers > Summary of Persistent Stores

Welcome, weblogic | Connected to: FCUBSDomain

Messages

✔ All changes have been activated. No restarts are necessary.

Summary of Persistent Stores

A persistent store is a physical repository for storing subsystem data, such as persistent JMS messages. It can be a JDBC-accessible database, disk-based file, or replicated memory storage. This page summarizes the persistent stores that have been created for this domain.

Customize this table

Persistent Stores

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

New Delete Showing 1 to 1 of 1 Previous | Next

Name	Type	Target
<input type="checkbox"/> FileStore-1	FileStore	Cluster-JMS

New Delete Showing 1 to 1 of 1 Previous | Next

3.2 JMS Server Creation

- 1) Navigate to Services → Messaging → JMS Servers → Click on **New**

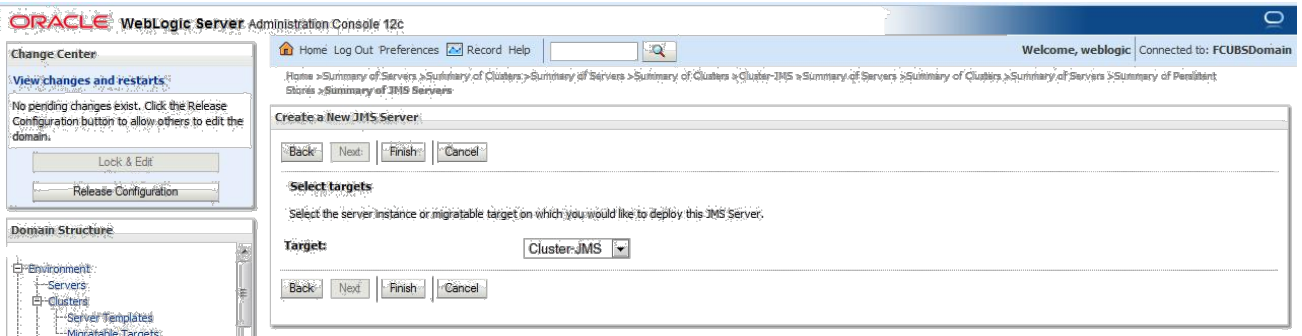
The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The left sidebar contains the 'Domain Structure' tree with 'JMS Servers' highlighted under 'Messaging'. The main content area displays the 'Summary of JMS Servers' page. A message at the top states 'Create operation cancelled - no JMS Servers created.' Below this, there is a table with columns: Name, Persistent Store, Target, Current Target, and Health. The table is currently empty, and the 'New' button is highlighted with a red box.

- 2) .Select FileStore-1 , Click **Next**

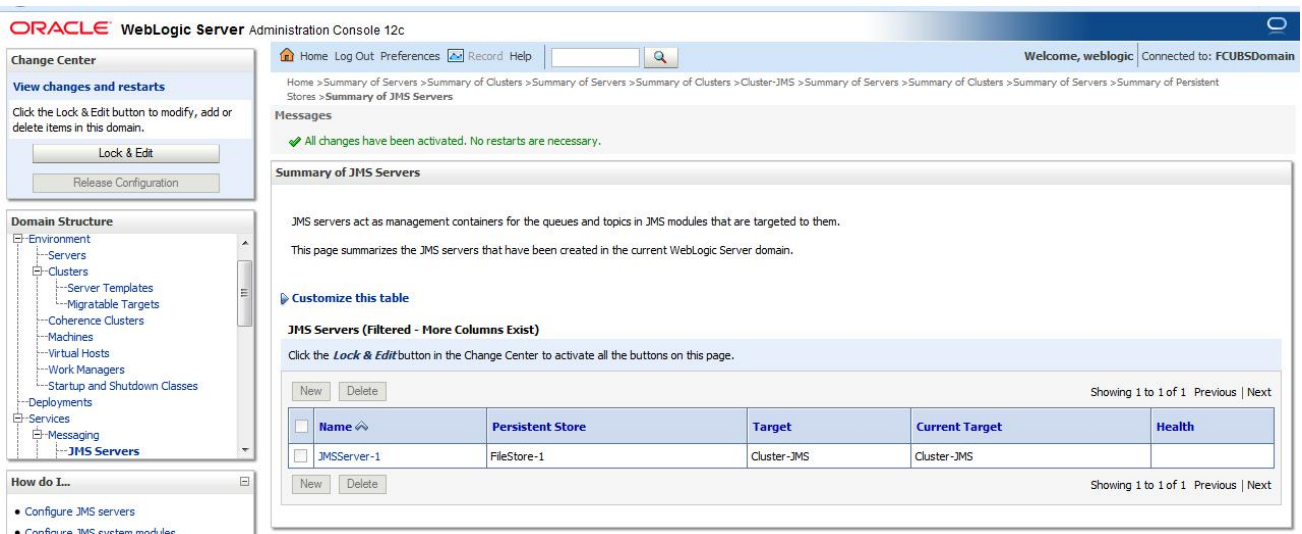
The screenshot shows the 'Create a New JMS Server' wizard in the Oracle WebLogic Server Administration Console 12c. The wizard is at the 'JMS Server Properties' step. The 'Name' field is set to 'JMSServer-1'. The 'Persistent Store' dropdown menu is open, showing 'FileStore-1' selected. The 'Next' button is highlighted with a red box.

- 3) Select Target as Cluster-JMS and click on **Finish**

The screenshot shows the 'Create a New JMS Server' wizard in the Oracle WebLogic Server Administration Console 12c. The wizard is at the 'Select targets' step. The 'Target' dropdown menu is open, showing 'Cluster-JMS' selected. The 'Finish' button is highlighted with a red box.



4) JMS-Server-1 is created

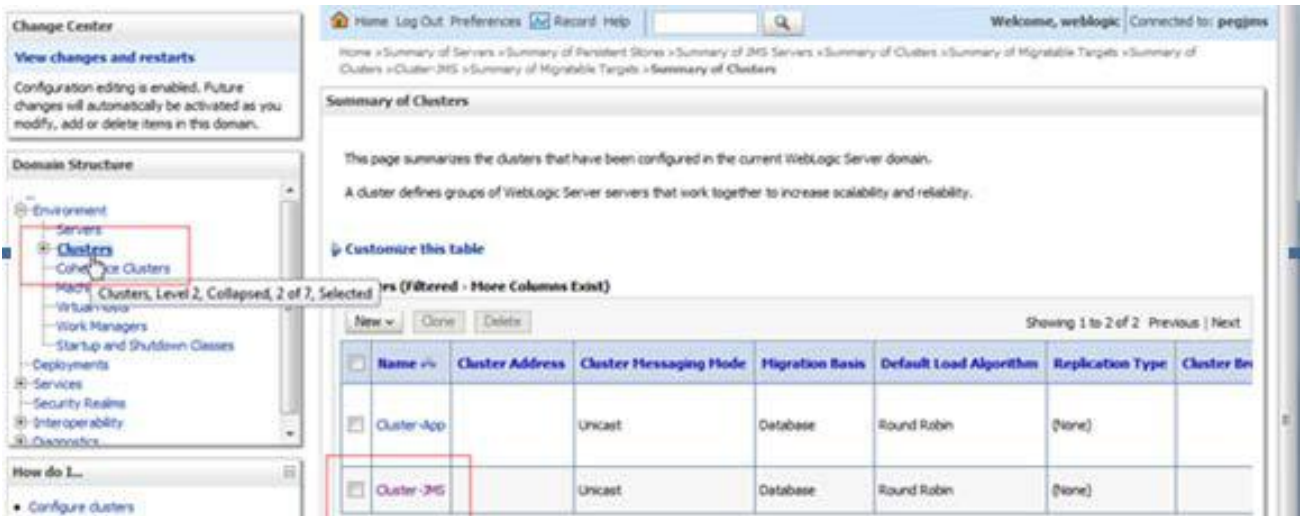


5) In NFS below filestores can be seen

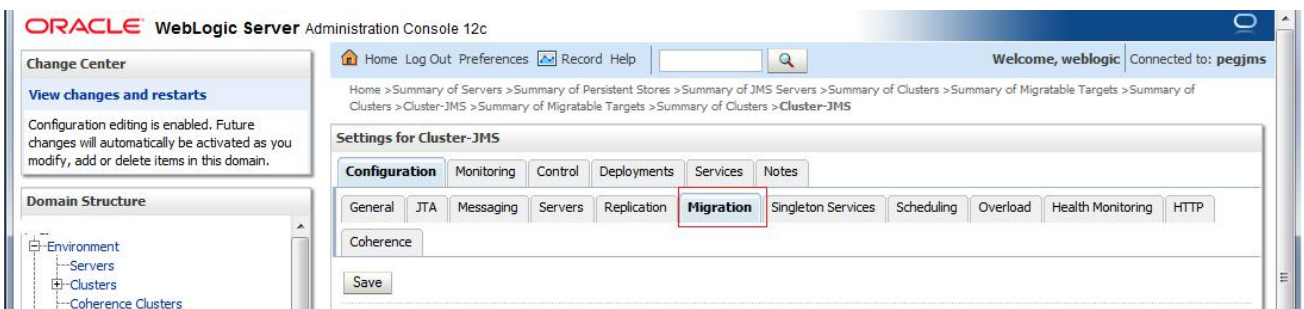
```
[root@                JMS_FILESTORE]# ll
total 2056
-rw-r----- 1 wll2c oinstall 1049088 Jun 16 14:10 FILESTORE-1@DC_JMS_1000000.DAT
-rw-r----- 1 wll2c oinstall 1049088 Jun 16 14:10 FILESTORE-1@DC_JMS_2000000.DAT
[root@                JMS_FILESTORE]# pwd
/scratch/work_area/JMS_FILESTORE
[root@                JMS_FILESTORE]#
```

3.3 Cluster Configuration for Service Migration

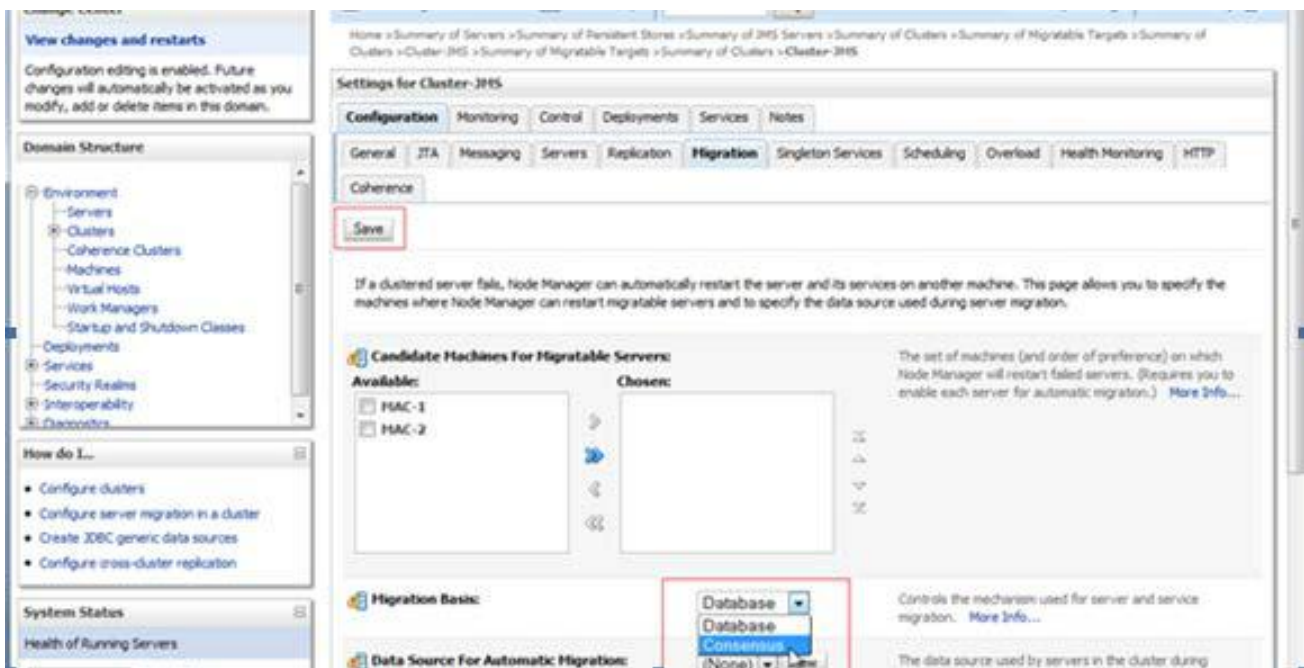
1) Click on Environment → Clusters → Cluster-JMS



2) Click on **Migration Tab**



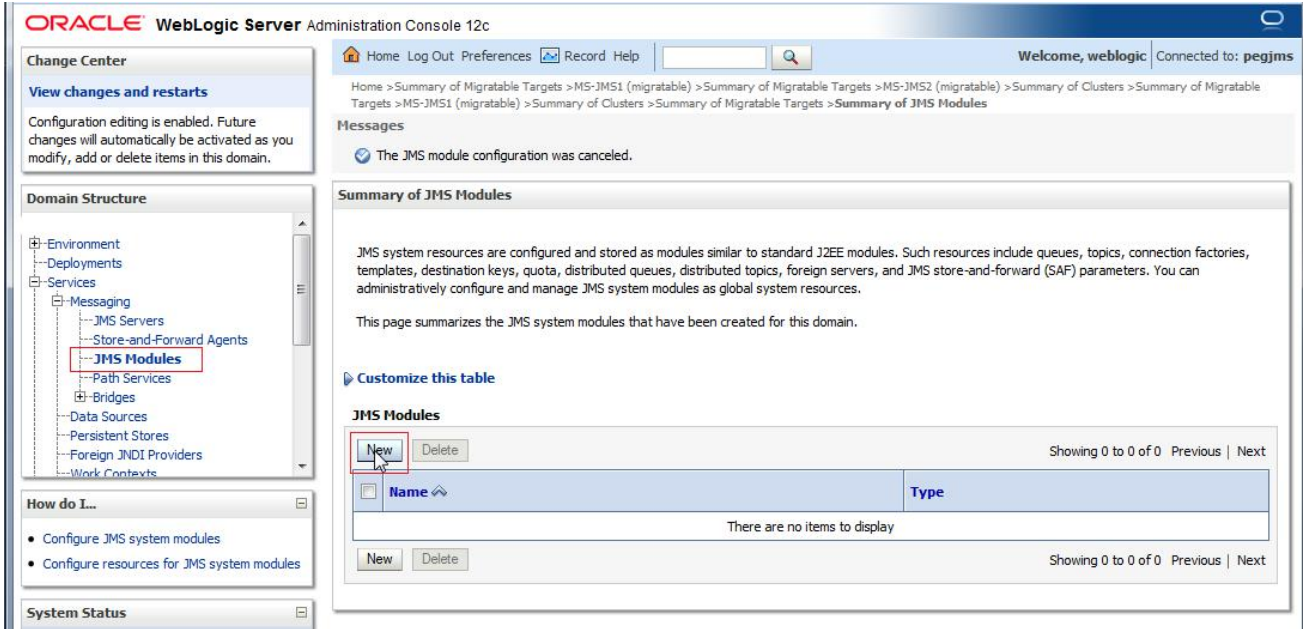
3) Change Migration Basis to Consensus and Click on **Save**



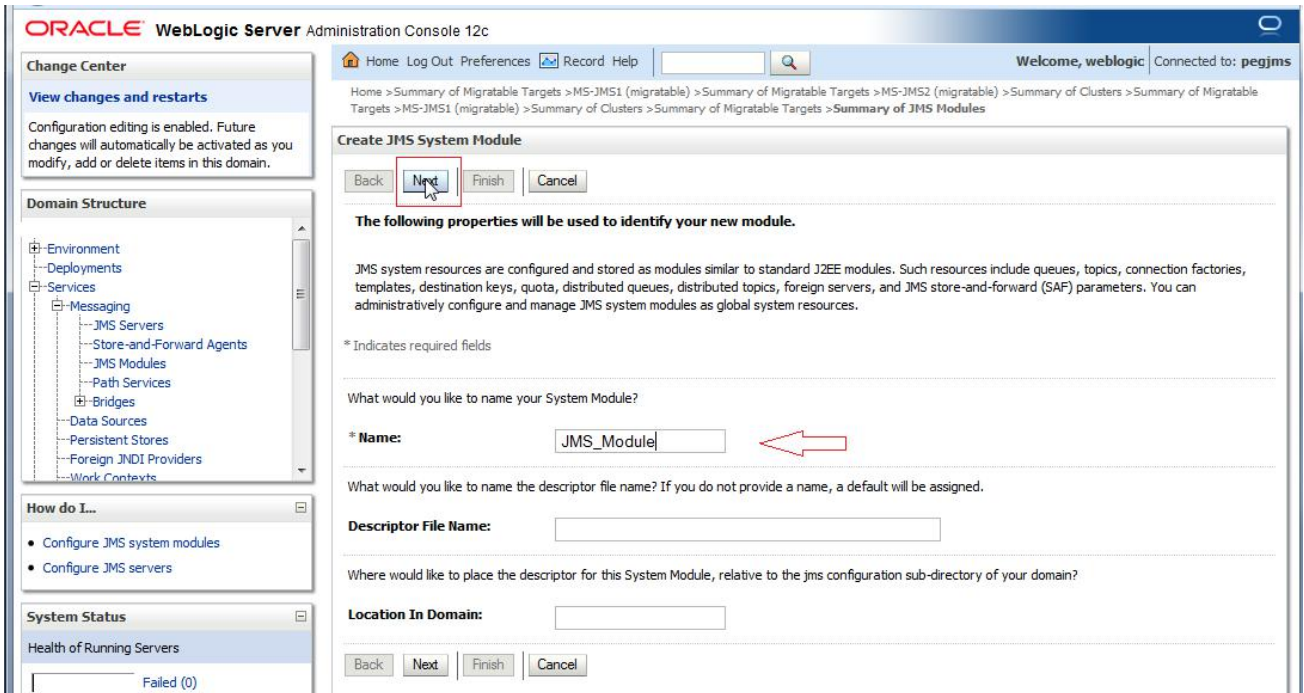
4. JMS Module Creation

4.1 Module Creation

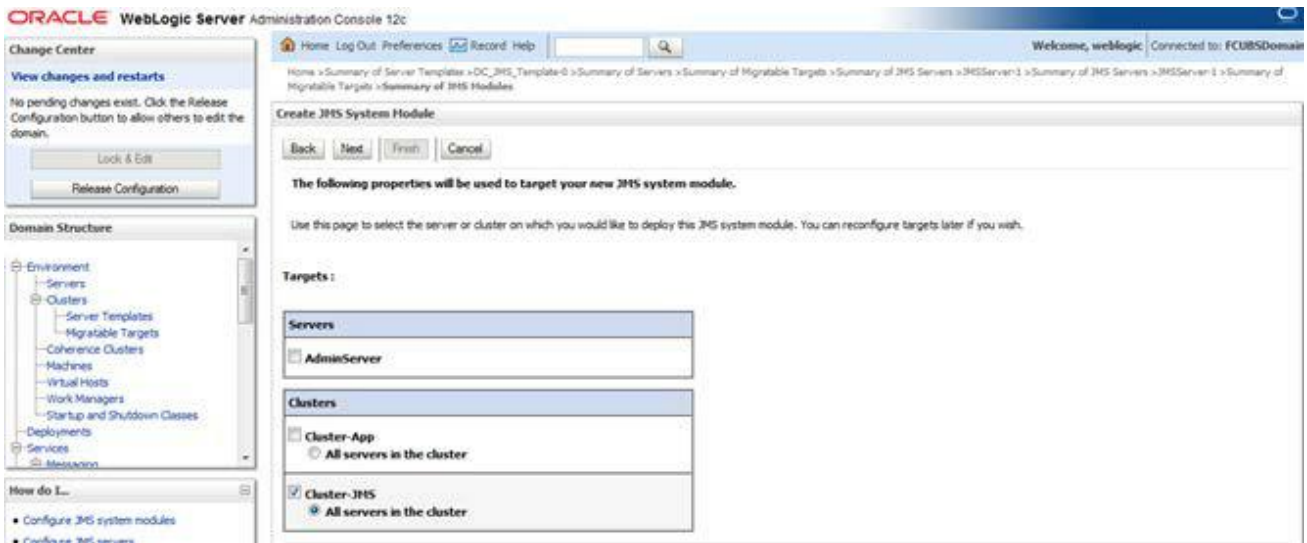
1) Navigate to Services → Messaging → JMS Modules and Click on **New**.



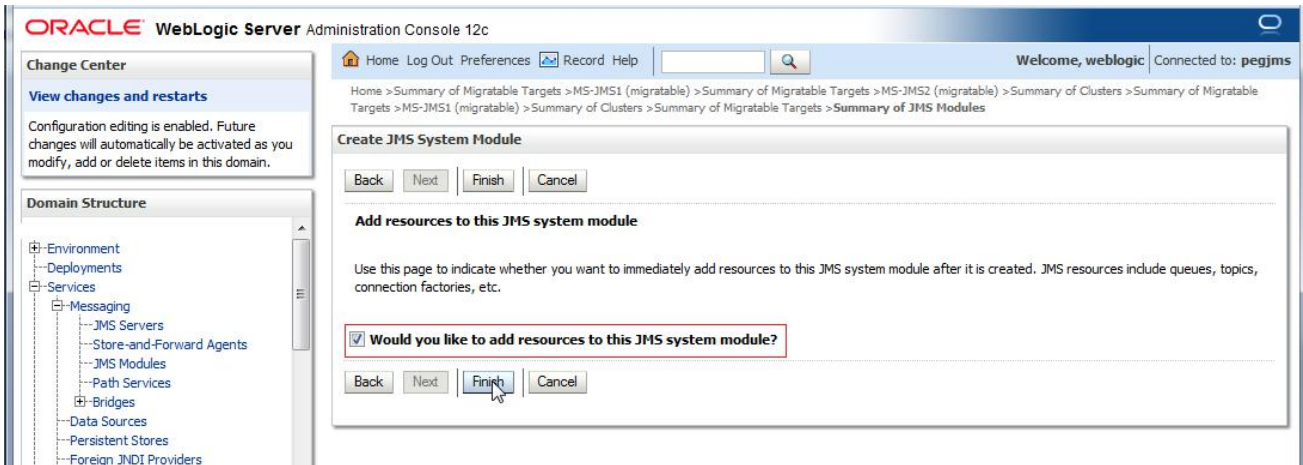
2) Enter name as JMS_MODULE and Click on **Next**



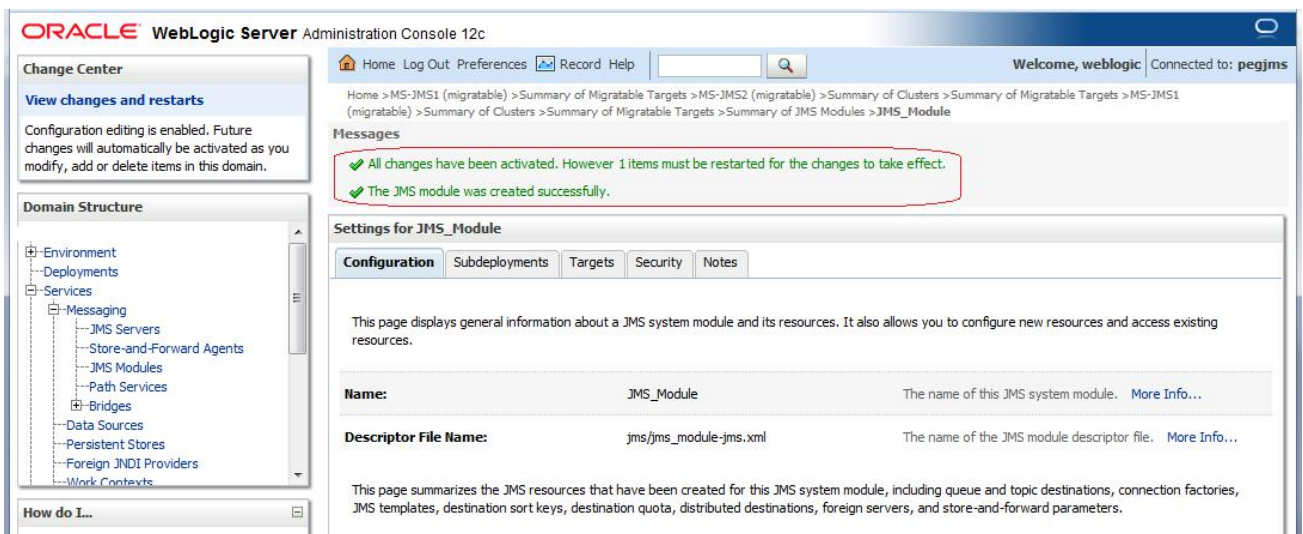
3) Select Target as Cluster-JMS and Click on **Next**



4) Select the checkbox and Click on **Finish**



5) JMS_MODULE is created



4.2 Sub Deployment Creation

- 1) In JMS_MODULE, Click on Sub Deployment tab , Click on **New**

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains navigation panels for 'Change Center', 'Domain Structure', 'How do I...', and 'System Status'. The main content area displays the 'Settings for JMS_Module' page, with the 'Subdeployments' tab selected. The page shows a summary of resources and a table with columns for Name, Type, JNDI Name, Subdeployment, and Targets. A red arrow points to the 'New' button in the table's toolbar.

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help Welcome, weblogic Connected to: pegjms

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Messages

- All changes have been activated. However 1 items must be restarted for the changes to take effect.
- The JMS module was created successfully.

Settings for JMS_Module

Configuration Subdeployments Targets Security Notes

Subdeployments- Tab

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: JMS_Module The name of this JMS system module. More Info...

Descriptor File Name: jms/jms_module-jms.xml The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

Summary of Resources

New Delete Showing 0 to 0 of 0 Previous Next

Name	Type	JNDI Name	Subdeployment	Targets
There are no items to display				

New Delete Showing 0 to 0 of 0 Previous Next

WebLogic Server Version: 12.1.3.0.0
Copyright (c) 1996, 2014, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

- 2) Enter name as JMS_SUB and click on **Next**

The screenshot shows the 'Create a New Subdeployment' dialog box in the Oracle WebLogic Server Administration Console. The dialog has a 'Next' button highlighted with a red box and a red arrow. The 'Subdeployment Properties' section shows the 'Subdeployment Name' field with the value 'JMS_SUB' entered, also highlighted with a red arrow.

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help Welcome, weblogic Connected to: pegjms

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Create a New Subdeployment

Back Next Finish Cancel

Subdeployment Properties

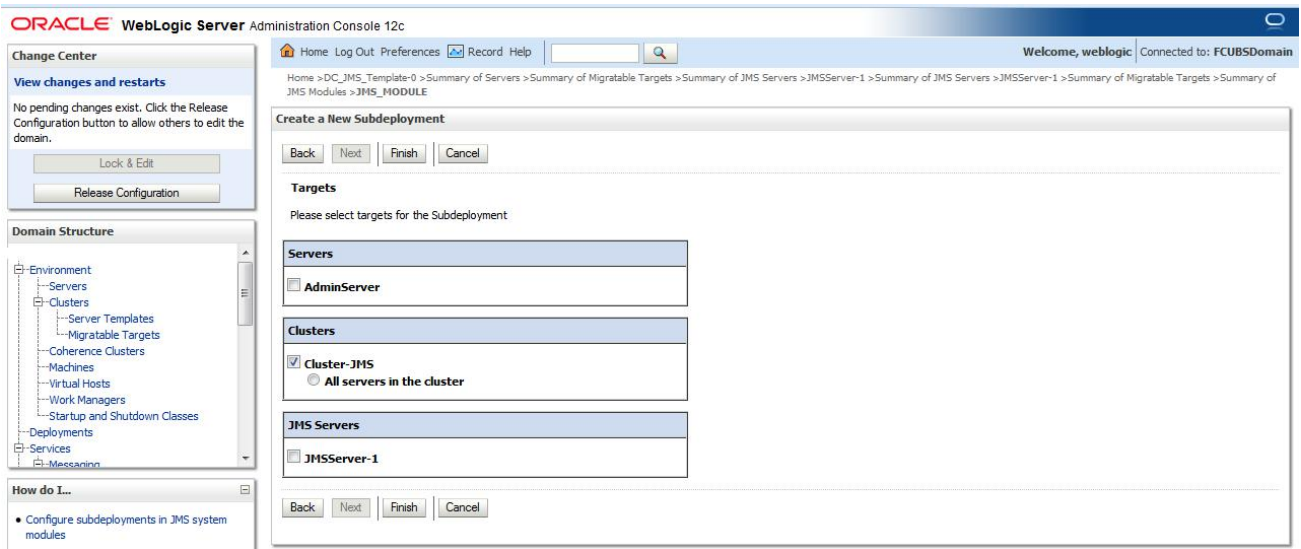
The following properties will be used to identify your new subdeployment.

* Indicates required fields

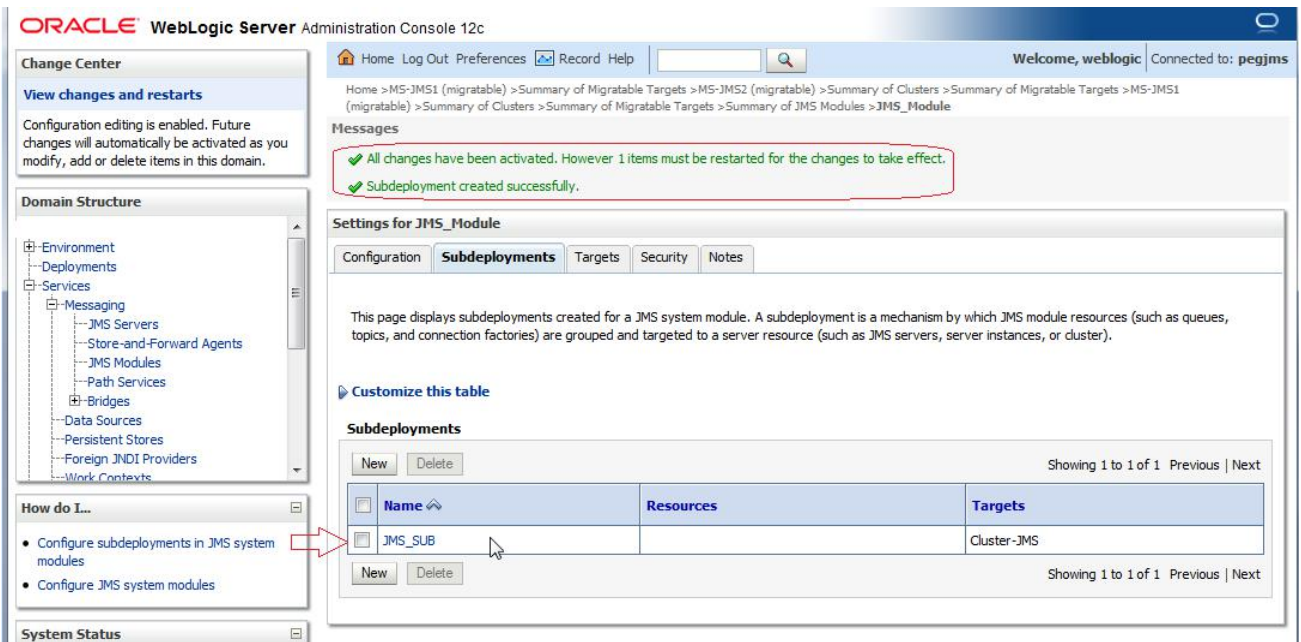
* Subdeployment Name: JMS_SUB

Back Next Finish Cancel

3) Select Target as Cluster-JMS and Click on **Finish**



4) Sub-Deployment is created



4.3 Resource Creation

4.3.1 Queue Creation

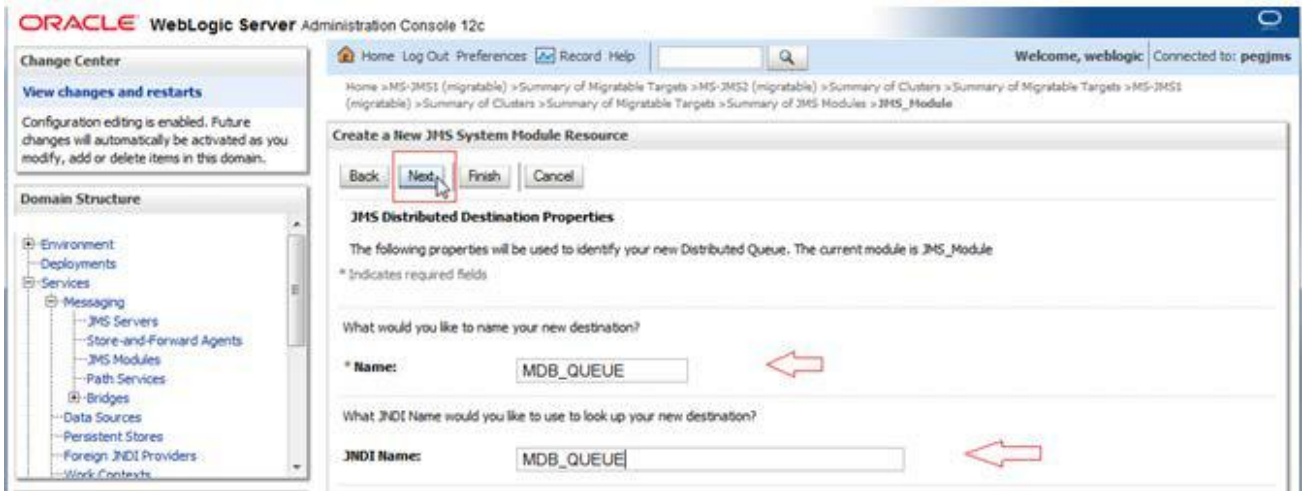
- 1) In JMS_MODULE Click on **New**

The screenshot shows the Oracle WebLogic Server Administration Console. The breadcrumb trail is: Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module. The 'Settings for JMS_Module' page is displayed, with the 'Configuration' tab selected. The 'Summary of Resources' table is empty, and the 'New' button is highlighted with a red box.

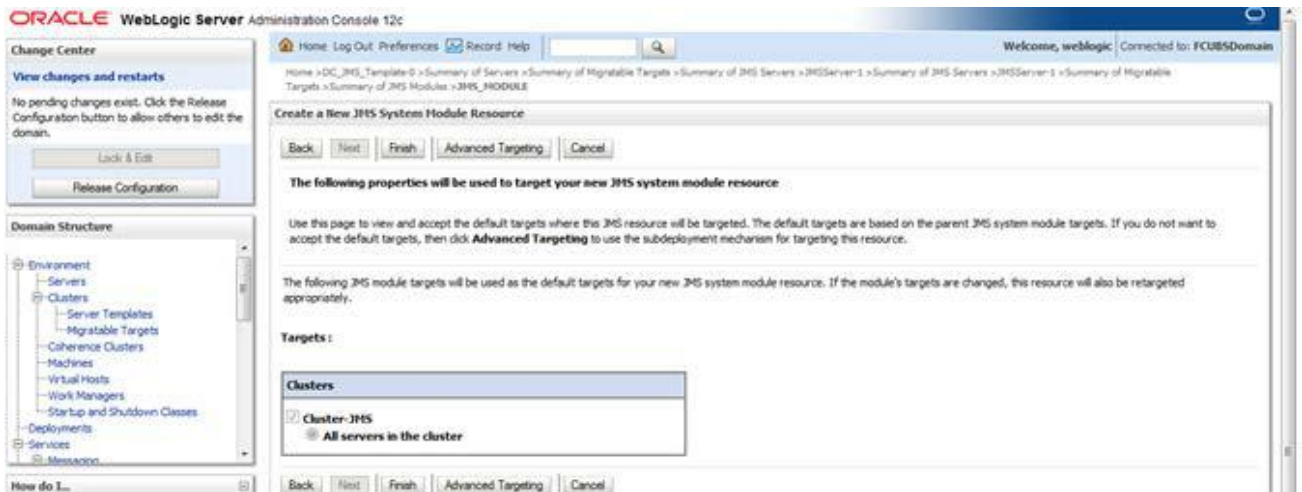
- 2) Select Distributed Queue and Click on **Next**

The screenshot shows the Oracle WebLogic Server Administration Console. The breadcrumb trail is: Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module. The 'Create a New JMS System Module Resource' page is displayed. The 'Next' button is highlighted with a red box. The 'Distributed Queue' radio button is selected, and a red arrow points to it.

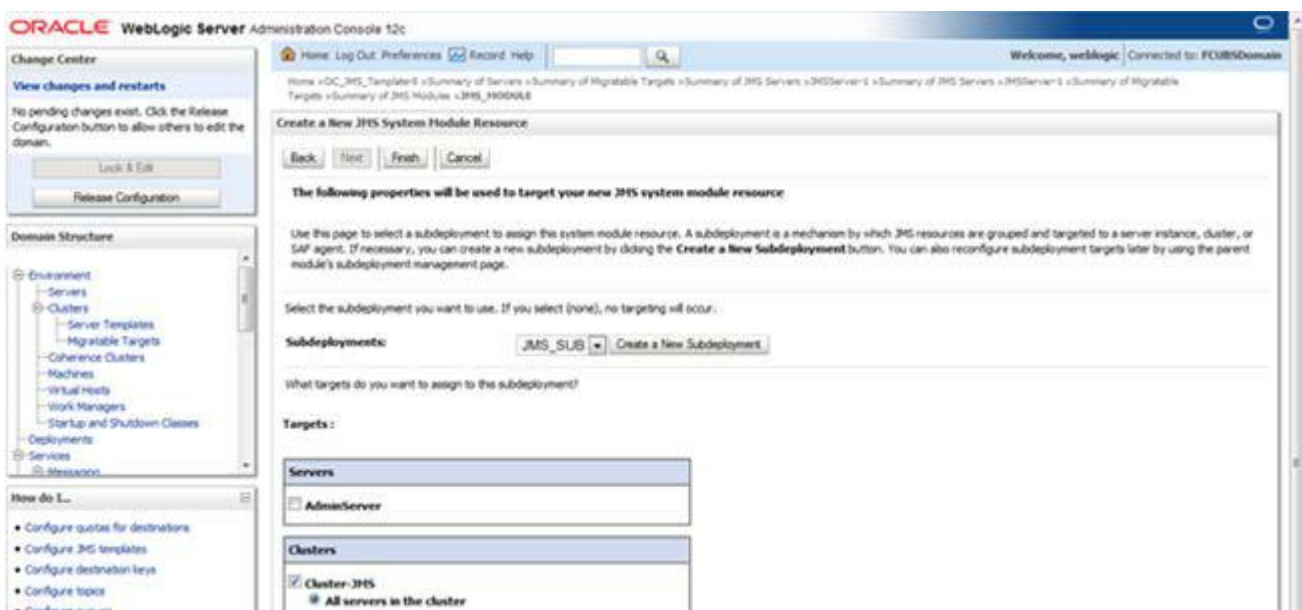
3) Enter the queue name and Click on **Next**



4) Click on **Advance Targeting**



5) Select Subdeployment as JMS_SUB and Click on **Finish**



6) MDB_QUEUE is created

ORACLE WebLogic Server Administration Console 12c

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Messages

- ✓ All changes have been activated. However 1 items must be restarted for the changes to take effect.
- ✓ The JMS distributed queue was created successfully.

Settings for JMS_Module

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: JMS_Module The name of this JMS system module. More Info...

Descriptor File Name: jms/jms_module-jms.xml The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

Summary of Resources

New Delete Showing 1 to 1 of 1 Previous | Next

Name	Type	JNDI Name	Subdeployment	Targets
MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 1 of 1 Previous | Next

System Status

Health of Running Servers

- Failed (0)
- Critical (0)
- Overloaded (0)
- Warning (0)
- OK (1)

7) Similarly Create MDB_QUEUE_RESPONSE and MDB_QUEUE_DLQ

ORACLE WebLogic Server Administration Console 12c

Home > DC_JMS_Template-0 > Summary of Servers > Summary of Migratable Targets > Summary of JMS Servers > JMSServer-1 > Summary of JMS Servers > JMSServer-1 > Summary of Migratable Targets > Summary of JMS Modules > JMS_MODULE

Messages

- ✓ All changes have been activated. No restarts are necessary.

Settings for JMS_MODULE

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: JMS_MODULE The name of this JMS system module. More Info...

Descriptor File Name: jms/jms_module-jms.xml The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

Summary of Resources

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

New Delete Showing 1 to 3 of 3 Previous | Next

Name	Type	JNDI Name	Subdeployment	Targets
MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS
MDB_QUEUE_DLQ	Uniform Distributed Queue	MDB_QUEUE_DLQ	JMS_SUB	Cluster-JMS
MDB_QUEUE_RESPONSE	Uniform Distributed Queue	MDB_QUEUE_RESPONSE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 3 of 3 Previous | Next

System Status

Health of Running Servers

- Failed (0)
- Critical (0)
- Overloaded (0)
- Warning (0)
- OK (5)

4.3.2 Connection Factory Creation

1) In JMS_MODULE, Click on **New**

ORACLE WebLogic Server Administration Console 12c

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Messages

- ✓ All changes have been activated. However 1 items must be restarted for the changes to take effect.
- ✓ The JMS distributed queue was created successfully.

Settings for JMS_Module

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: JMS_Module The name of this JMS system module. [More Info...](#)

Descriptor File Name: jms/jms_module-jms.xml The name of the JMS module descriptor file. [More Info...](#)

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

Summary of Resources

New Delete Showing 1 to 3 of 3 Previous | Next

Name	Type	JNDI Name	Subdeployment	Targets
MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS
MDB_QUEUE_DLQ	Uniform Distributed Queue	MDB_QUEUE_DLQ	JMS_SUB	Cluster-JMS
MDB_QUEUE_RESPONSE	Uniform Distributed Queue	MDB_QUEUE_RESPONSE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 3 of 3 Previous | Next

WebLogic Server Version: 12.1.3.0.0
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2) Select Connection Factory and click on **Next**

ORACLE WebLogic Server Administration Console 12c

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Create a New JMS System Module Resource

Back **Next** Finish Cancel

Choose the type of resource you want to create.

Use these pages to create resources in a JMS system module, such as queues, topics, templates, and connection factories.

Depending on the type of resource you select, you are prompted to enter basic information for creating the resource. For targetable resources, like stand-alone queues and topics, connection factories, distributed queues and topics, foreign servers, and JMS SAF destinations, you can also proceed to targeting pages for selecting appropriate server targets. You can also associate targetable resources with subdeployments, which is an advanced mechanism for grouping JMS module resources and the members to server resources.

Connection Factory Defines a set of connection configuration parameters that are used to create connections for JMS clients. [More Info...](#)

Queue Defines a point-to-point destination type, which are used for asynchronous peer communications. A message

3) Enter the Name and Click on **Next**

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: pegjms

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Create a New JMS System Module Resource

Back **Next** Finish Cancel

Connection Factory Properties

The following properties will be used to identify your new connection factory. The current module is JMS_Module.

* Indicates required fields

What would you like to name your new connection factory?

* Name: ←

What JNDI Name would you like to use to look up your new connection factory?

JNDI Name: ←

4) Click on **Advance Targeting**

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > DC_JMS_Template-0 > Summary of Servers > Summary of Migratable Targets > Summary of JMS Servers > JMSServer-1 > Summary of JMS Servers > JMSServer-1 > Summary of Migratable Targets > Summary of JMS Modules > JMS_MODULE

Create a New JMS System Module Resource

Back Next Finish **Advanced Targeting** Cancel

The following properties will be used to target your new JMS system module resource

Use this page to view and accept the default targets where this JMS resource will be targeted. The default targets are based on the parent JMS system module targets. If you do not want to accept the default targets, then click **Advanced Targeting** to use the subdeployment mechanism for targeting this resource.

The following JMS module targets will be used as the default targets for your new JMS system module resource. If the module's targets are changed, this resource will also be retargeted appropriately.

Targets:

Clusters
<input checked="" type="checkbox"/> Cluster-JMS
<input checked="" type="radio"/> All servers in the cluster

Back Next Finish **Advanced Targeting** Cancel

5) Select JMS_SUB and Click on Finish

ORACLE WebLogic Server Administration Console 12c

Home > DC_JMS_Template-0 > Summary of Migratable Targets > Summary of JMS Servers > JMS-Server-1 > Summary of JMS Servers > JMS-Server-1 > Summary of Migratable Targets > Summary of JMS Modules > JMS_MODULE

Create a New JMS System Module Resource

Back Next Finish Cancel

The following properties will be used to target your new JMS system module resource

Use this page to select a subdeployment to assign this system module resource. A subdeployment is a mechanism by which JMS resources are grouped and targeted to a server instance, cluster, or SAF agent. If necessary, you can create a new subdeployment by clicking the **Create a New Subdeployment** button. You can also reconfigure subdeployment targets later by using the parent module's subdeployment management page.

Select the subdeployment you want to use. If you select (none), no targeting will occur.

Subdeployments: JMS_SUB Create a New Subdeployment

What targets do you want to assign to this subdeployment?

Targets:

Servers

AdminServer

Clusters

Cluster-JMS

All servers in the cluster

JMS Servers

JMS-Server-1

Back Next Finish Cancel

6) Connection Factory is Created

ORACLE WebLogic Server Administration Console 12c

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Messages

✓ All changes have been activated. However 1 items must be restarted for the changes to take effect.

✓ Connection factory created successfully.

Settings for JMS_Module

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: JMS_Module The name of this JMS system module. More Info...

Descriptor File Name: jms/jms_module-jms.xml The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

Summary of Resources

New Delete Showing 1 to 4 of 4 Previous | Next

Name	Type	JNDI Name	Subdeployment	Targets
MDBQCF	Connection Factory	MDBQCF	JMS_SUB	Cluster-JMS
MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS
MDB_QUEUE_DLQ	Uniform Distributed Queue	MDB_QUEUE_DLQ	JMS_SUB	Cluster-JMS
MDB_QUEUE_RESPONSE	Uniform Distributed Queue	MDB_QUEUE_RESPONSE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 4 of 4 Previous | Next

5. Server Restart

- 1) Increase the heap size of both DC_JMS_1 and DC_JMS_2 cluster

Summary of Servers

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration. This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

Name	Type	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)	Configured			RUNNING	OK	7001
DC_FCUBS_1	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7101
DC_FCUBS_2	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7102
DC_FCUBS_3	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7103
DC_FCUBS_4	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7104
DC_JMS_1	Dynamic	Cluster-JMS	MAC-1	SHUTDOWN	Not reachable	7106
DC_JMS_2	Dynamic	Cluster-JMS	MAC-2	SHUTDOWN	Not reachable	7107

- 2) Select the cluster 'DC_JMS_Template-0' and

Summary of Server Templates

This page summarizes each server template that has been configured in the current WebLogic Server domain. A server template contains common, non-default attributes that you can apply to a set of server instances, which then inherit the template configuration. Server templates enable you to easily manage configuration for a group of server instances in one centralized location.

Server Templates

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

Name	Cluster	Machine	Listen Port	Listen Address
DC_FCUBS_Template	Cluster-App		7100	
DC_JMS_Template-0	Cluster-JMS		7105	

3) Click on Server Start Tab and in Arguments Section enter **-XX:MaxPermSize=512m**

The screenshot displays the Oracle WebLogic Server Administration Console interface. The main content area is titled "Settings for DC_JMS_Template-0" and features a "Server Start" tab. Below the tab, there are several configuration fields: "Java Home", "Java Vendor", "BEA Home", "Root Directory", "Class Path", and "Arguments". The "Arguments" field is highlighted with a red box and contains the text "-XX:MaxPermSize=512m". The left sidebar contains navigation menus for "Change Center", "Domain Structure", "How do I...", and "System Status".

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

6. Foreign Server Creation

6.1 Module Creation

1) JMS_Modules and Click on **New**

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Servers > MS-JMS2 > Summary of Virtual Hosts > Summary of Servers > Summary of Clusters > Summary of Migratable Targets > Summary of Servers > Summary of Deployments > Summary of JMS Modules

Summary of JMS Modules

JMS system resources are configured and stored as modules similar to standard J2EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

This page summarizes the JMS system modules that have been created for this domain.

Customize this table

Name	Type
JMS_Module	System

New Delete

Showing 1 to 1 of 1 Previous | Next

New Delete

Showing 1 to 1 of 1 Previous | Next

How do I...
• Configure JMS system modules
• Configure resources for JMS system modules

2) Enter name as MDB_MODULE and click on **Next**

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Migratable Targets > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS1 (migratable) > S

Create JMS System Module

Back **Next** Finish Cancel

The following properties will be used to identify your new module.

JMS system resources are configured and stored as modules similar to standard J2EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

* Indicates required fields

What would you like to name your System Module?

* Name: ←

What would you like to name the descriptor file name? If you do not provide a name, a default will be assigned.

Descriptor File Name:

Where would like to place the descriptor for this System Module, relative to the jms configuration sub-directory of your domain?

Location In Domain:

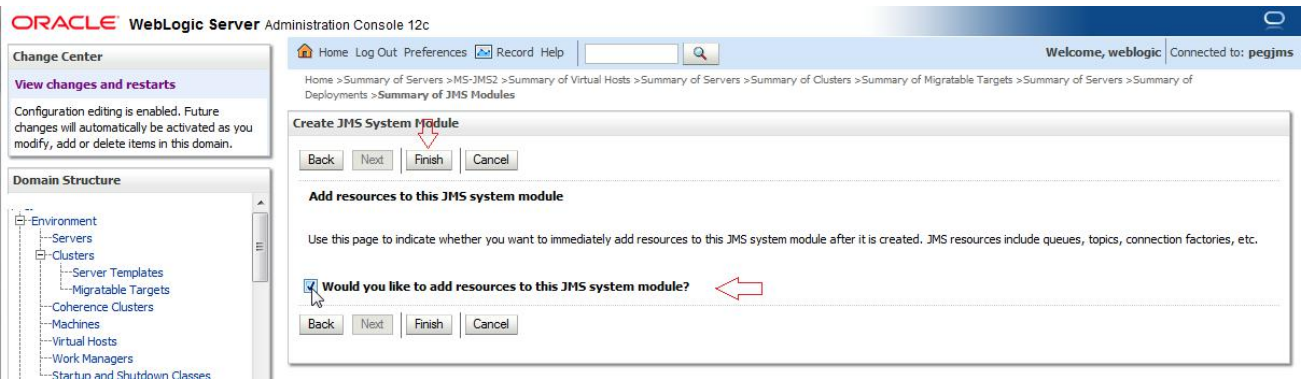
Back Next Finish Cancel

System Status
Health of Running Servers
Failed (0)

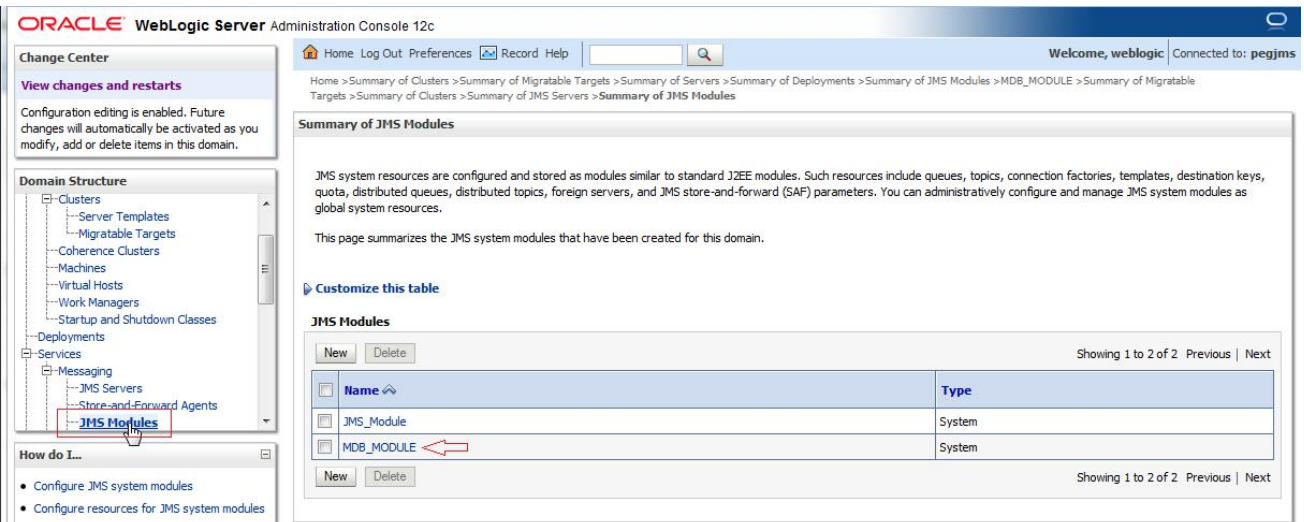
3) Select target as Cluster-App and click on **Next**



4) Select CheckBox and Click on **Finish**



5) MDB_MODULE is **created**



6.2 Foreign Server Creation

1) In MDB_MODULE, Click on New Resource, Select Foreign Server

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Servers > Summary of Deployments > Summary of JMS Modules > MDB_MODULE > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULE > Summary of JMS Modules

Summary of JMS Modules

JMS system resources are configured and stored as modules similar to standard J2EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

This page summarizes the JMS system modules that have been created for this domain.

Customize this table

JMS Modules

New Delete Showing 1 to 2 of 2 Previous | Next

Name	Type
JMS_Module	System
MDB_MODULE	System

New Delete Showing 1 to 2 of 2 Previous | Next

2) Click on Configuration → New

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Deployments > Summary of JMS Modules > MDB_MODULE > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULE

Settings for MDB_MODULE

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: MDB_MODULE The name of this JMS system module. More Info...

Descriptor File Name: jms/mdb_module-jms.xml The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

Customize this table

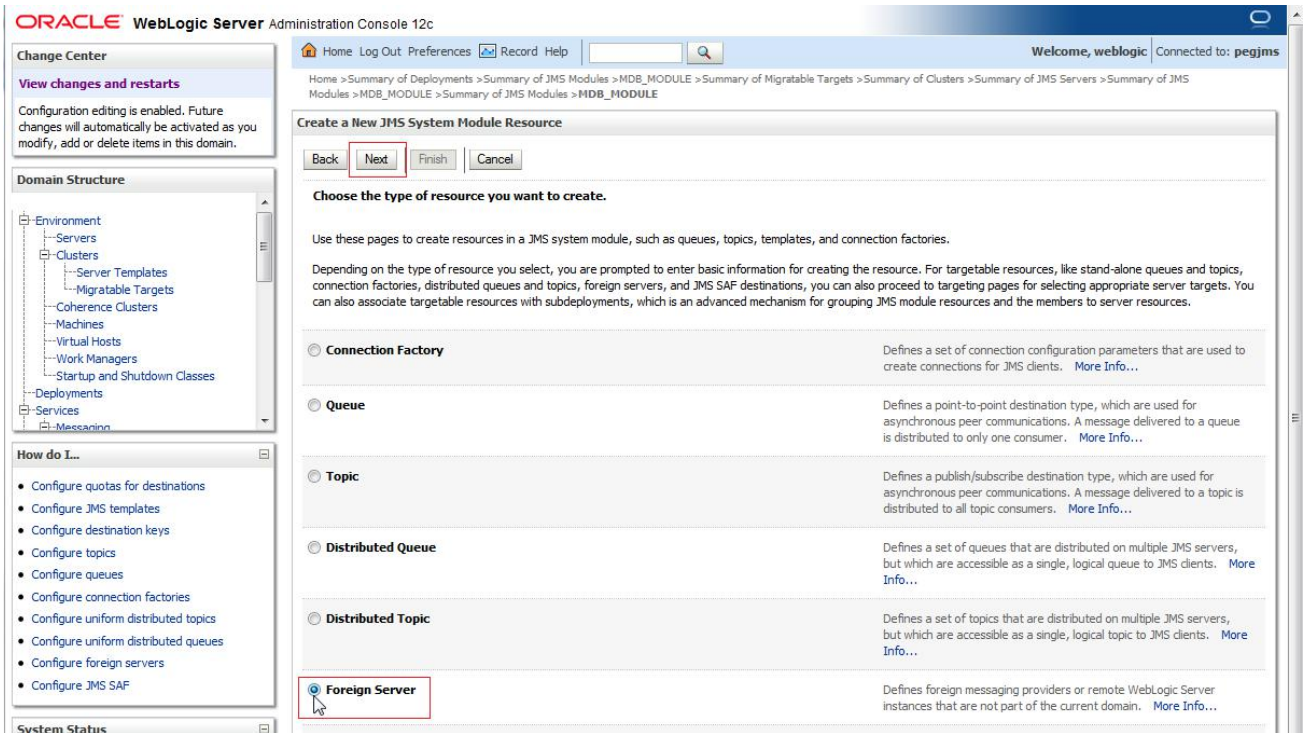
Summary of Resources

New Delete Showing 0 to 0 of 0 Previous | Next

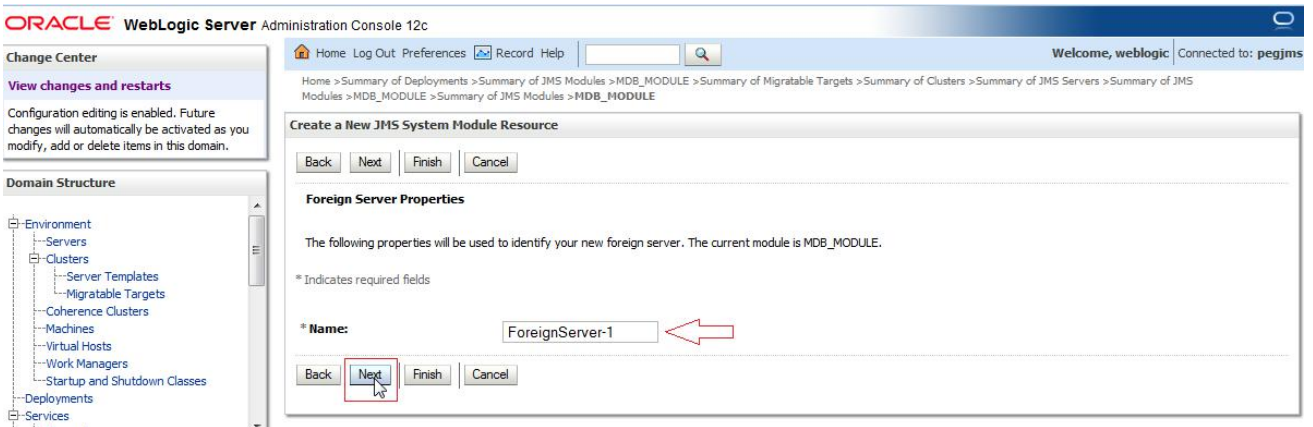
Name	Type	JNDI Name	Subdeployment	Targets
There are no items to display				

New Delete Showing 0 to 0 of 0 Previous | Next

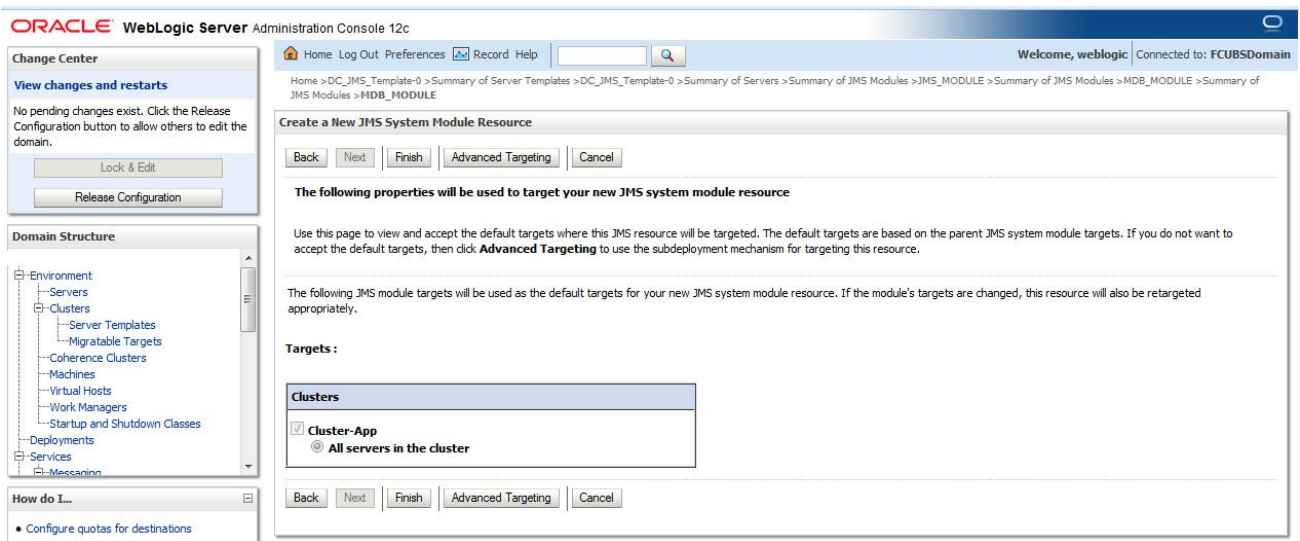
3) Select Foreign Server and Click on Next



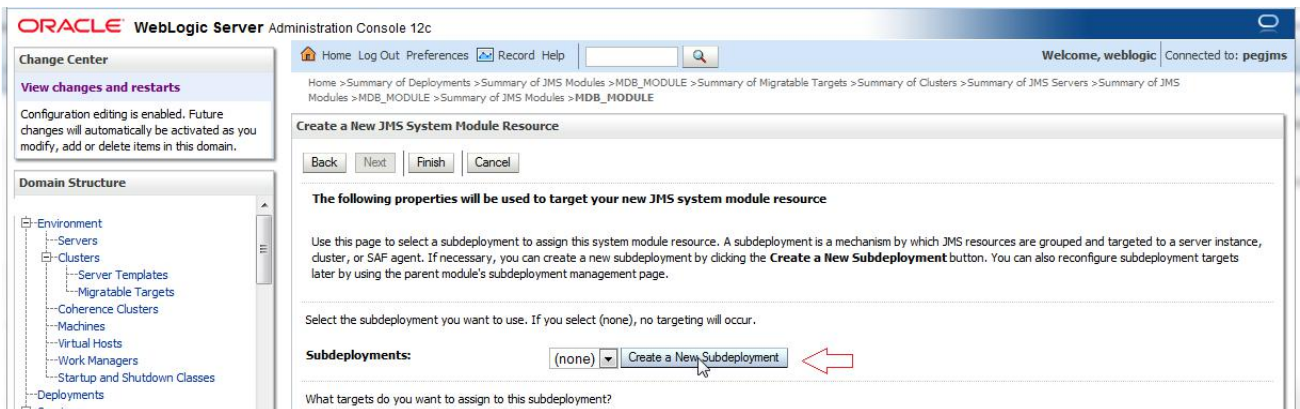
4) Enter name and Click on Next



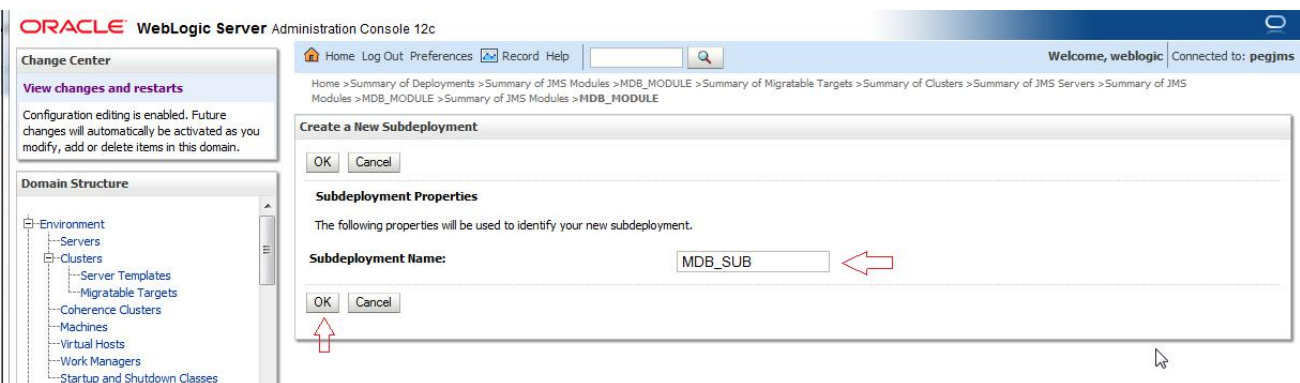
5) Click on Advanced Targeting



6) Click on Create New SubDeployment



7) Enter Name as MDB_SUB and Click on OK



8) Select Target as Cluster-App and Click on Finish

The screenshot shows the 'Create a New JMS System Module Resource' wizard in the Oracle WebLogic Server Administration Console 12c. The breadcrumb trail is: Home > DC_JMS_Template-0 > Summary of Server Templates > DC_JMS_Template-0 > Summary of Servers > Summary of JMS Modules > JMS_MODULE > Summary of JMS Modules > MDB_MODULE > Summary of JMS Modules > MDB_MODULE.

The wizard is titled 'Create a New JMS System Module Resource' and has buttons for Back, Next, Finish, and Cancel. Below the title, it states: 'The following properties will be used to target your new JMS system module resource'. A note explains that a subdeployment is a mechanism for grouping and targeting JMS resources to a server instance, cluster, or SAF agent. It instructs the user to select a subdeployment or create a new one.

The 'Subdeployments' section shows 'MDB_SUB' selected in a dropdown menu, with a 'Create a New Subdeployment' button. Below this, it asks 'What targets do you want to assign to this subdeployment?'. The 'Targets' section is expanded to show three categories: Servers, Clusters, and JMS Servers. Under 'Clusters', 'Cluster-App' is checked, and 'All servers in the cluster' is selected with a radio button. Under 'JMS Servers', 'JMSServer-1' is listed but not selected.

At the bottom of the wizard, there are buttons for Back, Next, Finish, and Cancel.

9) Foreign Server is created

The screenshot shows the 'Settings for MDB_MODULE' page in the Oracle WebLogic Server Administration Console 12c. The breadcrumb trail is: Home > Summary of Deployments > Summary of JMS Modules > MDB_MODULE > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULE > Summary of JMS Modules > MDB_MODULE.

At the top, there are navigation buttons: Home, Log Out, Preferences, Record, Help, and a search box. The user is logged in as 'weblogic' and connected to 'FCUBSDomain'. Below the navigation, there are two success messages: 'All changes have been activated. No restarts are necessary.' and 'The foreign server was created successfully.'

The main content area is titled 'Settings for MDB_MODULE' and has tabs for Configuration, Subdeployments, Targets, Security, and Notes. The 'Configuration' tab is active. It displays general information about the JMS system module and its resources. The 'Name' is 'MDB_MODULE' and the 'Descriptor File Name' is 'jms/mdb_module-jms.xml'. Below this, it summarizes the JMS resources created for this module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

There is a 'Customize this table' link. Below it is a 'Summary of Resources' table with columns for Name, Type, JNDI Name, Subdeployment, and Targets. The table shows one resource: 'ForeignServer-1' of type 'Foreign Server' with JNDI Name 'N/A', Subdeployment 'MDB_SUB', and Target 'Cluster-App'. There are 'New' and 'Delete' buttons above and below the table. The table indicates 'Showing 1 to 1 of 1 Previous | Next'.

On the left side of the console, there are several panels: 'Change Center' (View changes and restarts), 'Domain Structure' (Environment, Servers, Clusters, etc.), 'How do I...' (No task help found), and 'System Status' (Health of Running Servers: Failed (1), Critical (0), Overloaded (0), Warning (0), OK (3)).

6.3 Foreign Server Configuration

1) Click on ForeignServer-1

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains navigation menus for Change Center, Domain Structure, and System Status. The main content area displays the 'Settings for MDB_MODULE' page. The 'Configuration' tab is active, showing a summary of resources. A table lists the resources, with 'ForeignServer-1' highlighted. A red arrow points to the 'Name' column of this row.

Name	Type	JNDI Name	Subdeployment	Targets
ForeignServer-1	Foreign Server	N/A	MDB_SUB	Cluster-App

2) Enter the JNDI URL as Cluster URL(JMS Managed Servers) and Click on Save

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains navigation menus for Change Center, Domain Structure, and System Status. The main content area displays the 'Settings for ForeignServer-1' page. The 'Configuration' tab is active, and the 'General' sub-tab is selected. The 'JNDI Connection URL' field is filled with the value 't3://10.184.148.185:7106,10.184.148.189:7107'. A 'Save' button is visible at the top of the configuration area.

3) Click on Connection Factories

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains a 'Domain Structure' tree with 'Services' expanded. The main content area is titled 'Settings for ForeignServer-1' and has three tabs: 'Configuration', 'Subdeployment', and 'Connection Factories'. The 'Connection Factories' tab is active, showing a table with columns 'Name', 'Local JNDI Name', and 'Remote JNDI Name'. The table is currently empty, with the text 'There are no items to display'. A red arrow points to the 'New' button above the table.

4) Create MDBQCF Connection Factory

The screenshot shows the 'Create a New Foreign JMS Connection Factory' dialog box. The 'Name' field is filled with 'MDBQCF'. The 'Local JNDI Name' and 'Remote JNDI Name' fields are also filled with 'MDBQCF'. Red arrows point to these three fields. The 'OK' button is highlighted with a red arrow.

5) Click on Destination

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains a 'Domain Structure' tree with 'Services' expanded. The main content area is titled 'Settings for ForeignServer-1' and has three tabs: 'Configuration', 'Subdeployment', and 'Destinations'. The 'Destinations' tab is active, showing a table with columns 'Name', 'Local JNDI Name', and 'Remote JNDI Name'. The table contains one entry: 'MDBQCF'. A red arrow points to the 'Destinations' tab.

6) Create MDB_QUEUE

Home > JMS Modules > MDB_MODULE > ForeignServer-1 > MDB_MODULE > ForeignServer-1 > Summary of Servers > JMS Modules > MDB_MODULE > ForeignServer-1 > Configuration

Settings for ForeignServer-1

Configuration | Subdeployment | Notes

General | **Destinations** | Connection Factories

A foreign destination (topic or queue) can be found on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

This page summarizes the foreign destinations that have been created for this domain.

Customize this table

Foreign Destinations

New | Delete Showing 0 to 0 of 0 Previous | Next

Name	Local JNDI Name	Remote JNDI Name
There are no items to display		

New | Delete Showing 0 to 0 of 0 Previous | Next

ORACLE WebLogic Server Administration Console 12c

Home | Log Out | Preferences | Record | Help

Welcome, weblogic | Connected to: pegjms

Home > MDB_MODULE > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULE > Summary of JMS Modules > MDB_MODULE > ForeignServer-1 > Configuration

Create a New Foreign JMS Destination

OK | Cancel

Foreign Destination Properties

The following properties will be used to identify your new foreign destination.

* Indicates required fields

* **Name:**

Local JNDI Name:

Remote JNDI Name:

OK | Cancel

7) Similarly Create MDB_QUEUE_RESPONSE, MDB_QUEUE_DLQ

ORACLE WebLogic Server Administration Console 12c

Home | Log Out | Preferences | Record | Help

Welcome, weblogic | Connected to: pegjms

Home > MDB_MODULE > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULE > Summary of JMS Modules > MDB_MODULE > ForeignServer-1 > Configuration

Create a New Foreign JMS Destination

OK | Cancel

Foreign Destination Properties

The following properties will be used to identify your new foreign destination.

* Indicates required fields

* **Name:**

Local JNDI Name:

Remote JNDI Name:

OK | Cancel

ORACLE WebLogic Server Administration Console 12c

Welcome, weblogic Connected to: pegjms

Home Log Out Preferences Record Help

Home > MDB_MODULES > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULES > Summary of JMS Modules > MDB_MODULES > ForeignServer-1 > Configuration

Messages

All changes have been activated. However, 1 item must be restarted for the changes to take effect.

Settings for ForeignServer-1

Configuration Subdeployment Notes

General Destinations Connection Factories

A foreign destination (topic or queue) can be found on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

This page summarizes the foreign destinations that have been created for this domain.

Customize this Table

Foreign Destinations

Name	Local JNDI Name	Remote JNDI Name
MDB_QUEUE	MDB_QUEUE	MDB_QUEUE
MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE

ORACLE WebLogic Server Administration Console 12c

Welcome, weblogic Connected to: pegjms

Home Log Out Preferences Record Help

Home > MDB_MODULES > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULES > Summary of JMS Modules > MDB_MODULES > ForeignServer-1 > Configuration

Create a New Foreign JMS Destination

Foreign Destination Properties

The following properties will be used to identify your new foreign destination.

Name:

Local JNDI Name:

Remote JNDI Name:

ORACLE WebLogic Server Administration Console 12c

Welcome, weblogic Connected to: pegjms

Home Log Out Preferences Record Help

Home > MDB_MODULES > Summary of Migratable Targets > Summary of Clusters > Summary of JMS Servers > Summary of JMS Modules > MDB_MODULES > Summary of JMS Modules > MDB_MODULES > ForeignServer-1 > Configuration

Messages

All changes have been activated. However, 1 item must be restarted for the changes to take effect.

Settings for ForeignServer-1

Configuration Subdeployment Notes

General Destinations Connection Factories

A foreign destination (topic or queue) can be found on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

This page summarizes the foreign destinations that have been created for this domain.

Customize this Table

Foreign Destinations

Name	Local JNDI Name	Remote JNDI Name
MDB_QUEUE	MDB_QUEUE	MDB_QUEUE
MDB_QUEUE_DLQ	MDB_QUEUE_DLQ	MDB_QUEUE_DLQ
MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE

8) After all the resources are created, **Restart** the Admin and Managed Servers.

7. Application Deployment

1) Deploy the EAR with Target as Cluster-App

The screenshot shows the 'Settings for GWMDB' page in the Oracle WebLogic Administration Console. The 'Targets' tab is active, and the page is used to specify WebLogic Server instances and clusters for deployment. A table titled 'Target Assignments' shows the following data:

Component	Type	Current Targets
GWMDB	Enterprise Application	Cluster-App
GW_MDB_Bean.jar	EJB	(None specified)

2) Health Should be OK if JMS is configured properly, otherwise Warning will be displayed

The screenshot shows the 'Summary of Deployments' page in the Oracle WebLogic Administration Console. The 'Control' tab is active, and the page displays a list of Java EE applications and stand-alone application modules. The table below shows the deployment status:

Name	State	Health	Type	Deployment Order
FCUBSApp	Active	OK	Enterprise Application	100
GWEJB	Active	OK	Enterprise Application	100
GWMDB	Active	OK	Enterprise Application	100
jax-rs(1.1.1.9)	Active		Library	100
SWEJB	Active	OK	Enterprise Application	100

8. Frequently Asked Questions

8.1 Application and JMS Cluster Deployed on Same Cluster

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

- 1) Foreign Server Creation is not required
- 2) Targets should be given accordingly during SubDeployment Creation

8.2 Application Shows Warning upon Restart of Managed Servers

Managed Servers Start Order

- 1) Stop all managed servers.
- 2) Start only the JMS Cluster managed servers.
- 3) After these are started then start the App Cluster managed servers.

Even after proper JMS setup when the managed servers are restarted Health of the Application is Warning

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area displays the 'Summary of Deployments' page. A table lists the deployed applications and their health status. The application 'GWMDB' is highlighted with a red box, showing a 'Warning' health status. The table has columns for Name, State, Health, Type, and Deployment Order.

Name	State	Health	Type	Deployment Order
FCUB5App (12.0.3.0)	Active	OK	Enterprise Application	100
GWJEB	Active	OK	Enterprise Application	100
GWMDB	Active	Warning	Enterprise Application	100
JAX-RS(1.1.1.9)	Active	OK	Library	100
SWEJEB	Active	OK	Enterprise Application	100

- 1) Force Stop the Application
- 2) Then Start the Application, this would resolve the Warning and the Health of Deployment is changed to OK.

8.3 Securing File Store Data

In order 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.

8.4 t3s Protocol

To secure the communication with the JMS Server use 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 server template and the port number used in the URL should be secure port.

8.5 How to Test the Deployment

1) Navigate to Services → JMS Modules → JMS_MODULE → MDB_QUEUE → MONITORING

The screenshot shows the JBoss Administration Console interface. On the left, there is a navigation pane with sections like 'View changes and restarts', 'Domain Structure', 'How do I...', and 'System Status'. The 'Domain Structure' shows a tree view with 'Services' expanded to 'Messaging'. The main content area is titled 'Settings for MDB_QUEUE' and has tabs for 'Configuration', 'Security', 'Monitoring', 'Subdeployment', and 'Notes'. The 'Monitoring' tab is active. It contains instructions on how to view statistics and manage messages. Below this, there is a 'Destinations (Filtered - More Columns Exist)' table with columns for Name, Consumers Current, Consumers High, and Consumers Total. Two destinations are listed, both with 64 consumers.

Name	Consumers Current	Consumers High	Consumers Total
JMS_MODULE JMSServer-1@MDB_QUEUE	64	64	64
JMS_MODULE JMSServer-2@MDB_QUEUE	64	64	64

2) Select any one Server and Click on Show Messages

The screenshot shows the 'Summary of JMS Messages' page in the JBoss Administration Console. It includes instructions on how to view message details and manage messages. There is a 'Message Selector' input field with an 'Apply' button. Below this, there is a 'JMS Messages (Filtered - More Columns Exist)' table with columns for ID, Corrid, Time Stamp, State String, JMS Delivery Mode, and Message Size. The table is currently empty, displaying 'There are no items to display'.

ID	Corrid	Time Stamp	State String	JMS Delivery Mode	Message Size
There are no items to display					

3) Click on New and enter the Message in Body and Click on OK

The screenshot shows the 'Produce JMS Message' dialog box. The 'Priority' is set to 4 and 'Delivery Mode' is set to Persistent. The 'Body' field is currently empty.

4) Message is Sent

The screenshot shows the 'Summary of JMS Messages' page. A green message indicates 'JMS message sent successfully.' Below this, there is a table with one message entry.

ID	Corrid	Time Stamp	State String	JMS Delivery Mode	Message Size
ID:<257876.1411126889162.0>		Fri Sep 19 17:11:29 IST 2014	receive transaction	Persistent	472

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

8.6 Increase maximum number of message-driven bean threads

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 custom work manager

- 1) Modify the MDB deployment descriptor and redeploy the EAR
- 2) Create Custom Workmanager and add constraints to limit the number of the max MDB threads

8.6.1 Modify weblogic-ejb-jar.xml

- 1) Add below line to the weblogic-ejb-jar.xml of the MDB Ear
<dispatch-policy>GWMDBWM</dispatch-policy>

```
weblogic-ejb-jar.xml * x
<?xml version="1.0" encoding="UTF-8"?>
<weblogic-ejb-jar
  xmlns="http://xmlns.oracle.com/weblogic/weblogic-ejb-jar"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://xmlns.oracle.com/weblogic/weblogic-ejb-jar http://xmlns.oracle.com/weblogic/weblogic-ejb-jar">
  <weblogic-enterprise-bean>
    <ejb-name>GWMDB</ejb-name>
    <!-- EJB Reference Descriptions STARTS-->
    <!-- EJB Resource Reference Descriptions STARTS-->
    <resource-description>
      <res-ref-name>FLEXTEST_WORLD</res-ref-name>
      <jndi-name>FLEXTEST_WORLD</jndi-name>
    </resource-description>
    <resource-description>
      <res-ref-name>MDBQCF</res-ref-name>
      <jndi-name>MDBQCF</jndi-name>
    </resource-description>
    <!-- EJB Resource Reference Descriptions ENDS-->
    <!-- EJB Resource environment Reference Descriptions STARTS-->
    <resource-env-description>
      <resource-env-ref-name>MDB_QUEUE_RESPONSE</resource-env-ref-name>
      <jndi-name>MDB_QUEUE_RESPONSE</jndi-name>
    </resource-env-description>
    <resource-env-description>
      <resource-env-ref-name>MDB_QUEUE_DLQ</resource-env-ref-name>
      <jndi-name>MDB_QUEUE_DLQ</jndi-name>
    </resource-env-description>
    <resource-env-description>
      <resource-env-ref-name>SW_MDB_QUEUE_RESPONSE</resource-env-ref-name>
      <jndi-name>SW_MDB_QUEUE_RESPONSE</jndi-name>
    </resource-env-description>
    <!-- EJB Resource environment Reference Descriptions ENDS-->
    <!-- EJB Resource Descriptions ENDS -->
    <dispatch-policy>GWMDBWM</dispatch-policy>
  </weblogic-enterprise-bean>
</weblogic-ejb-jar>
```

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

8.6.2 Work Manager Creation

- 1) Login into weblogic console, navigate to Domain → Environment → WorkManager
Create new workmanager with the name GWMDBWM(as mentioned in property file) by following below steps

Oracle WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Create a New Work Manager Component

Back Next Finish Cancel

Select Work Manager Definition type

What type of Work Manager, Request Class or Constraint do you want to create?

- Work Manager**
- Response Time Request Class
- Fair Share Request Class
- Context Request Class
- Maximum Threads Constraint
- Minimum Threads Constraint
- Capacity Constraint

Back Next Finish Cancel

Oracle WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Create a New Work Manager Component

Back Next Finish Cancel

Work Manager Properties

The following properties will be used to identify your new Work Manager.

* Indicates required fields

What would you like to name your new Work Manager?

* Name:

Back Next Finish Cancel

Oracle WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Create a New Work Manager Component

Back Next Finish Cancel

Select deployment targets

You can target the Work Manager to any of these WebLogic Server instances or Clusters. Select the same targets on which you will deploy applications that reference the Work Manager.

Available targets :

Servers

- AdminServer

Clusters

- Cluster-App**
- All servers in the cluster

Cluster-JMS

- All servers in the cluster

Back Next Finish Cancel

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help Welcome, weblogic Connected to: FCUBSDomain

Change Center
View changes and restarts
Pending changes exist. They must be activated to take effect.
Activate Changes
Undo All Changes

Domain Structure
FCUBSDomain
Environment
Servers
Clusters
Coherence Clusters
Machines
Virtual Hosts
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics

How do I...
Create application-scoped constraints

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Messages
Work Manager created successfully

Summary of Work Managers
A Work Manager defines a set of request classes and thread constraints that manage work performed by WebLogic Server instances. This page displays the global Work Managers, request classes and thread constraints defined for this domain.
Global Work Managers are defined at the domain level. You can also define application-level and module-level Work Managers.

Customize this table

Global Work Managers, Request Classes and Constraints

Name	Type	Targets
GWJDBWMI	Work Manager	Cluster-App

2) Create new Max Thread Constraint and in the Count field give the desired thread count

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help Welcome, weblogic Connected to: FCUBSDomain

Change Center
View changes and restarts
Pending changes exist. They must be activated to take effect.
Activate Changes
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Domain Structure
FCUBSDomain
Environment
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Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics

How do I...
Create application-scoped constraints
Create application-scoped request classes
Create application-scoped Work Managers

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Create a New Work Manager Component
Back Next Finish Cancel

Select Work Manager Definition type
What type of Work Manager, Request Class or Constraint do you want to create?

- Work Manager
- Response Time Request Class
- Fair Share Request Class
- Context Request Class
- Maximum Threads Constraint**
- Minimum Threads Constraint
- Capacity Constraint

Back Next Finish Cancel

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help Welcome, weblogic Connected to: FCUBSDomain

Change Center
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Interoperability
Diagnostics

How do I...
Create application-scoped constraints

Home > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadsConstraint-0 > Summary of Servers > Summary of Environment > Summary of Servers > Summary of Work Managers

Create a New Work Manager Component
Back Next Finish Cancel

Maximum Threads Constraint Properties
The following properties will be used to identify your new Max Threads Request Class.
* Indicates required fields

What would you like to name the new Maximum Threads Constraint?

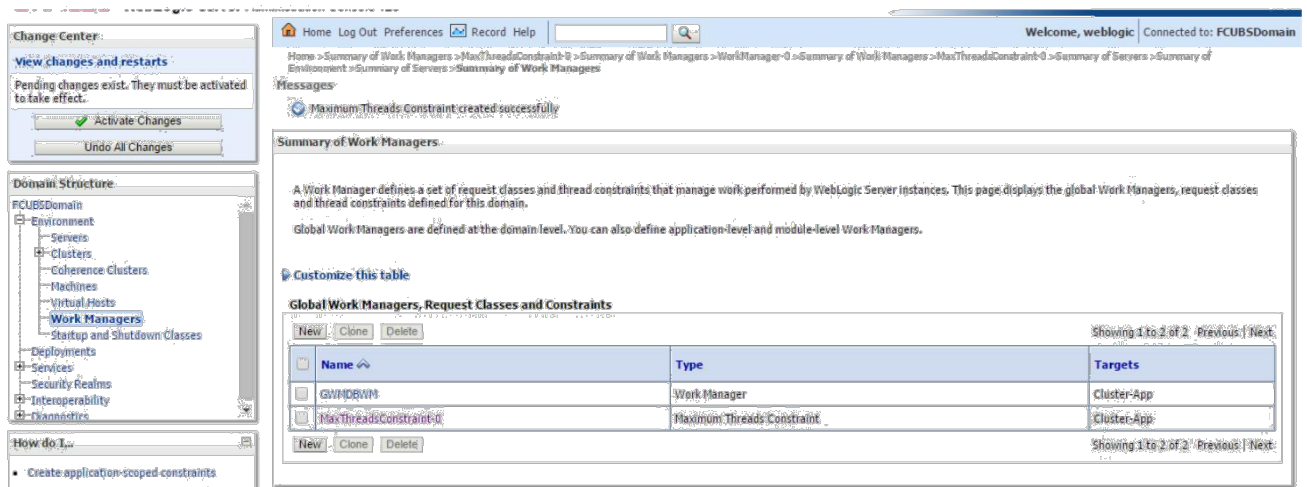
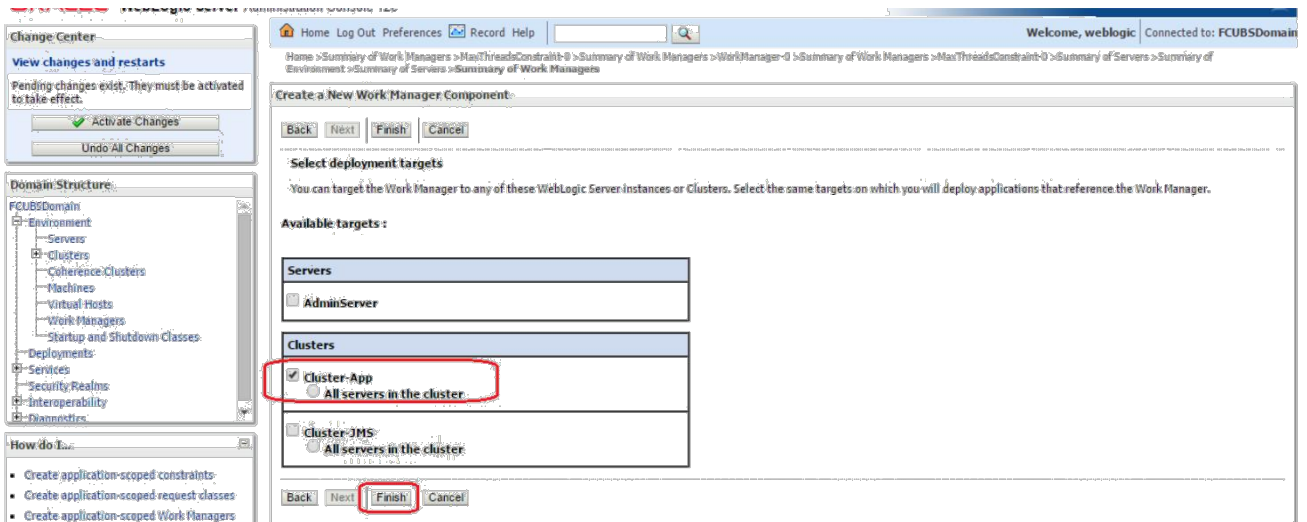
* Name: MaxThreadsConstraint-0

What is the maximum number of concurrent threads to allocate for requests? Enter either a fixed thread count or the name of a Data Source whose size will be used for the constraint.

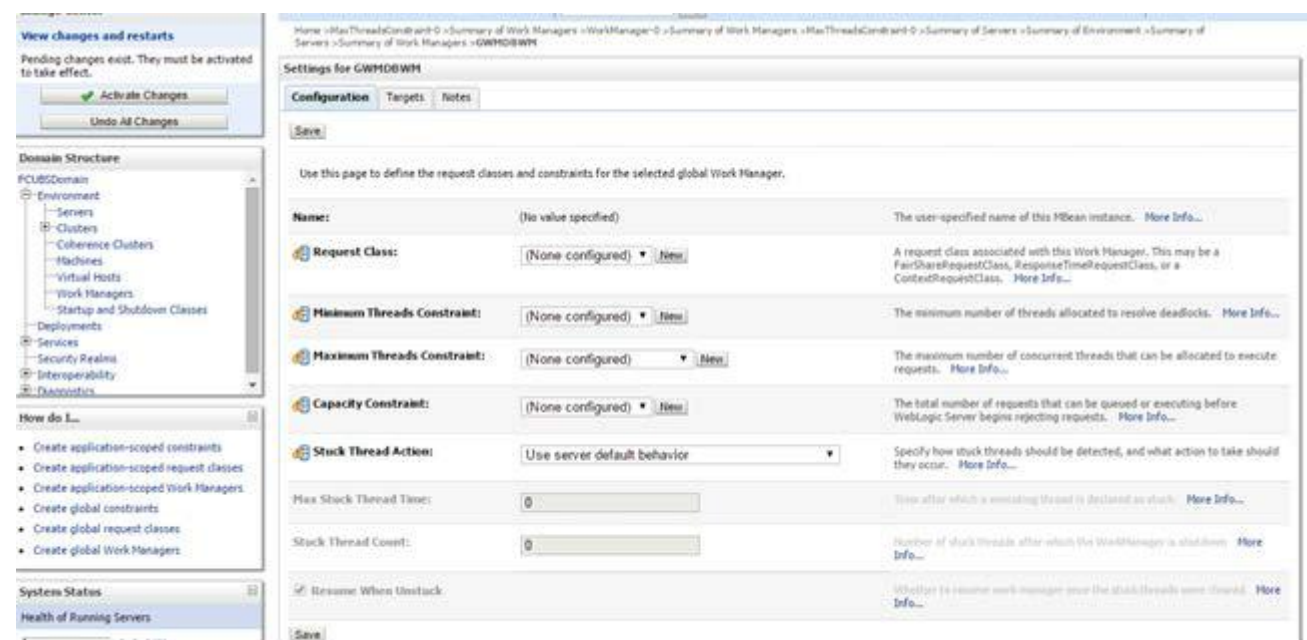
Count: 25

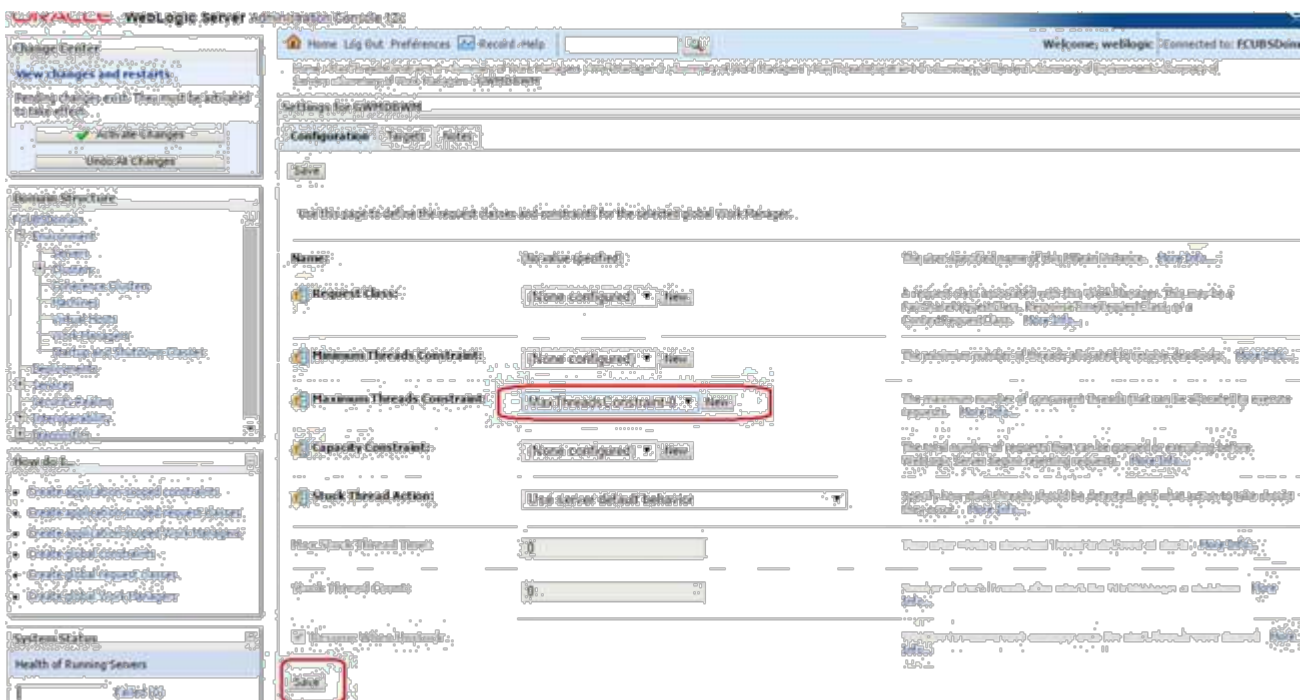
Data Source:

Back Next Finish Cancel



3) Modify the newly created workmanager and assign the Maximum Thread Constraint that is created in above step.





- 4) Restart managed servers and notice the change in the number of consumers for the QUEUE's.

8.7 How High Availability is achieved

- 1) Application Server:
MDB_MODULE and the GWEJB ear are deployed in a cluster. 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 any one goes down other will handle the messages.
- 3) FileStore:
File store is a cluster file system or database where if one node goes down then other will handle the requests.
- 4) DB Server:
Database is installed in RAC mode where it has more than 1 node, if a node goes down then other nodes will handle messages.

8.8 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.

8.9 What other modules uses JMS Queue's

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

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

8.10 References

- 1) FCUBS_12.1_Weblogic12c_Middleware_Practices.doc
- 2) GATEWAY_Applications_WL.doc
- 3) Resource_Creation_WL.doc



Oracle Banking Payments
Weblogic Configuration
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