

Configuring JMS on Weblogic Server 12c
Oracle FLEXCUBE Universal Banking
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1. Introduction

1.1 Introduction

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

1.2 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

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

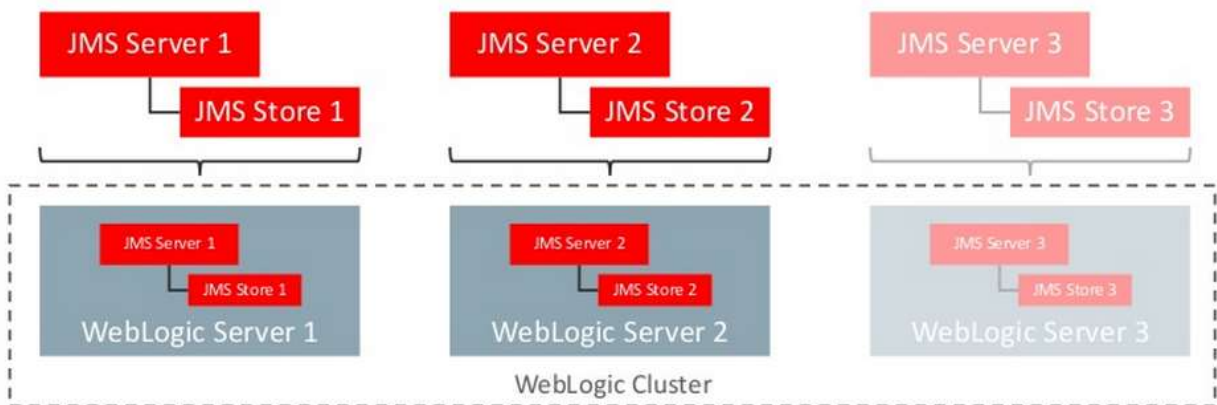
- 1) File based persistence store → Message is stored in a file
- 2) DB based persistence store → Message is stored in Database.

1.3 Weblogic 12c New Features

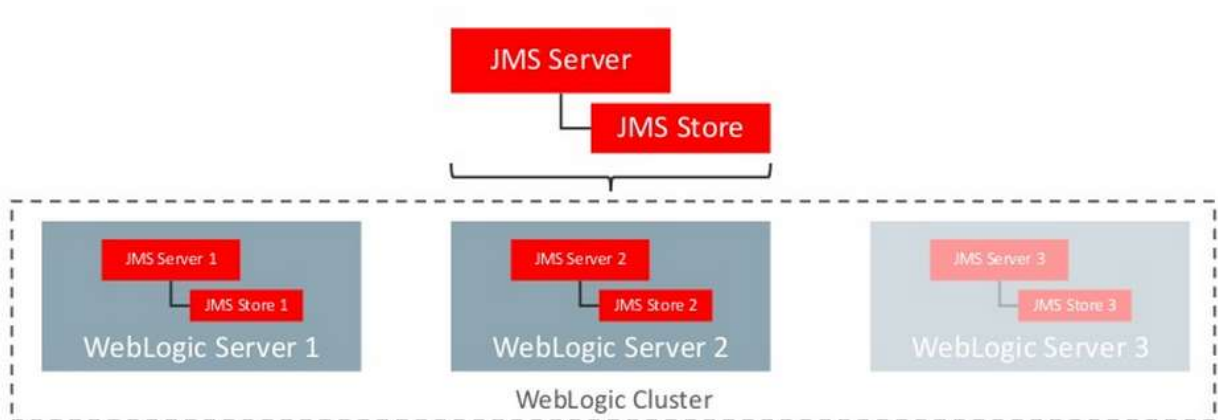
Before weblogic 12c JMS Servers and stores are targeted to individual WLS Servers. Scaling up requires configure the JMS server, the store and target it to new WLS Server

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

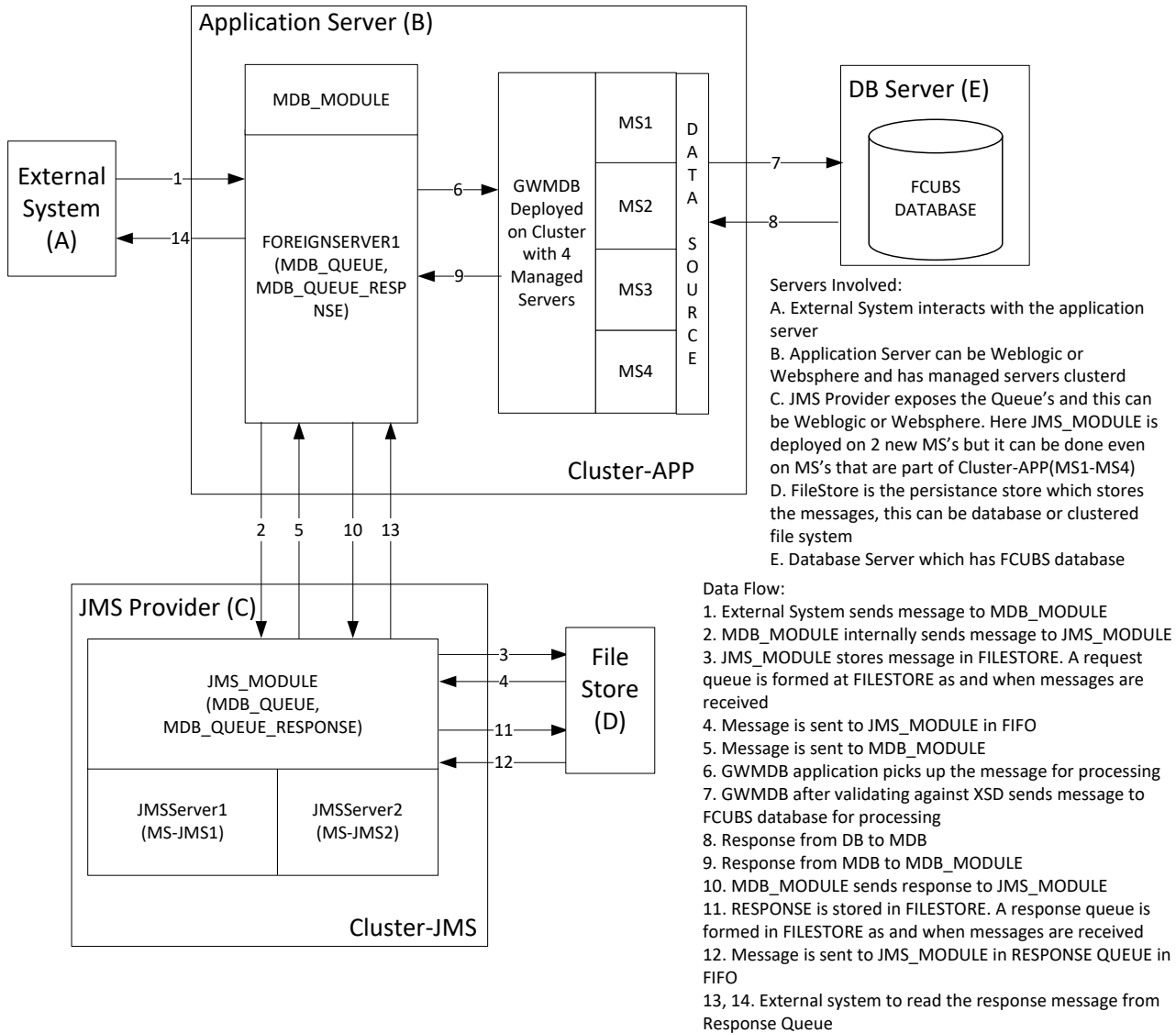


Architecture in 12c



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.

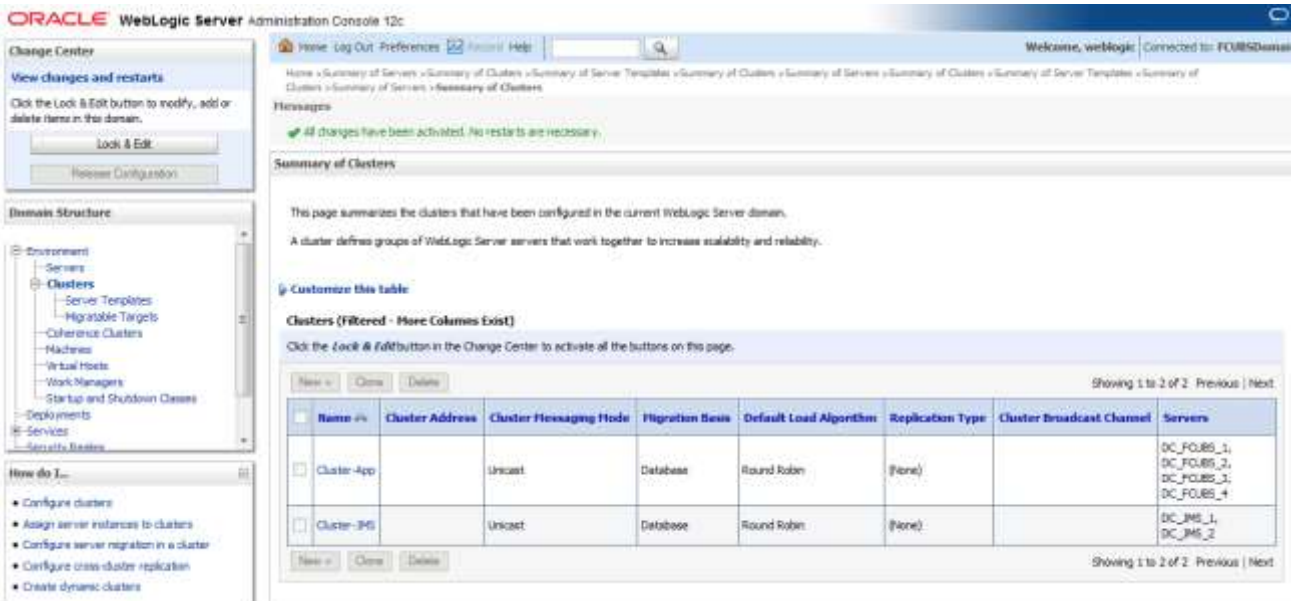
2.1 Machines

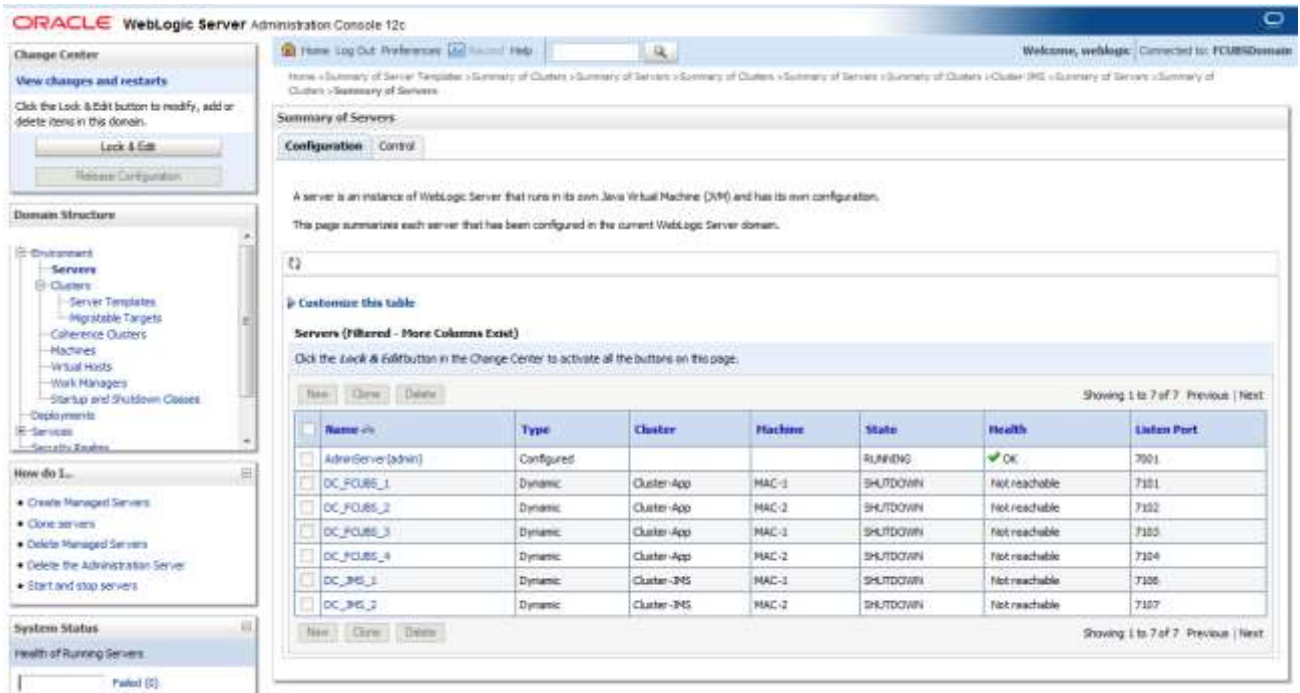
MAC-1 & MAC-2



2.2 Dynamic Clusters and Managed Servers

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





2.3 DataSource

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



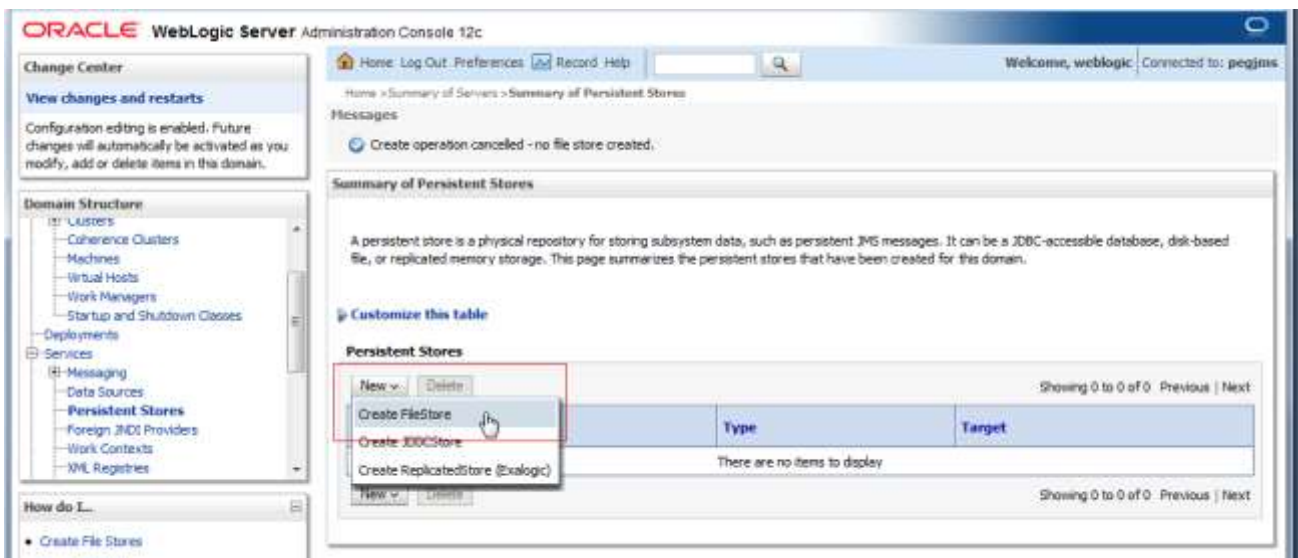
2.4 Shared Folder

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

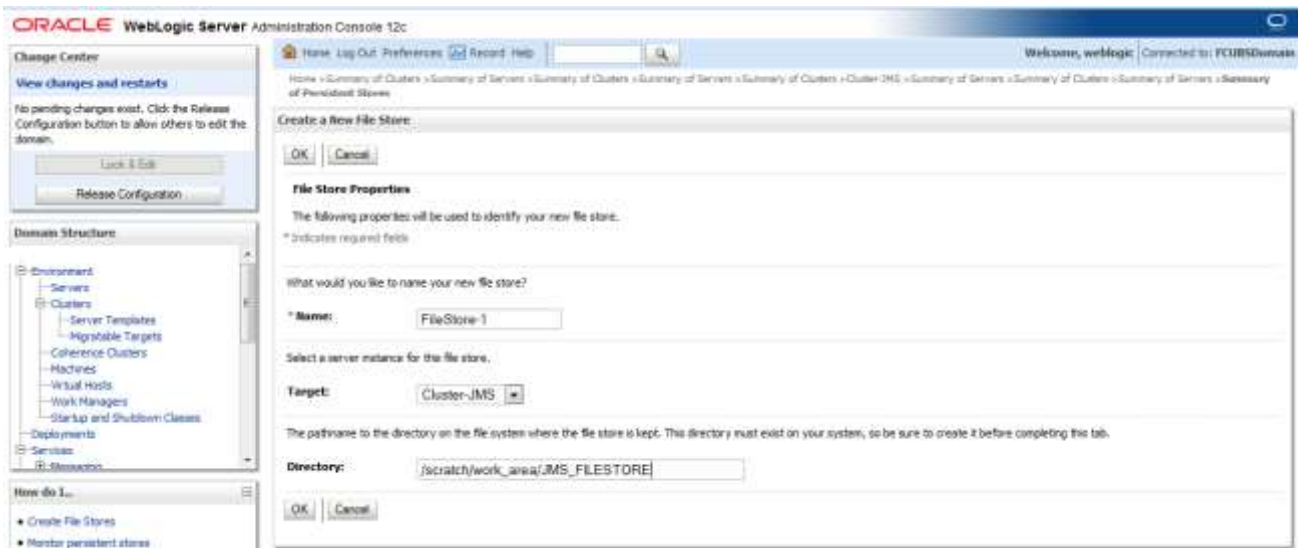
3. JMS Configuration

3.1 Persistence Store Creation

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



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

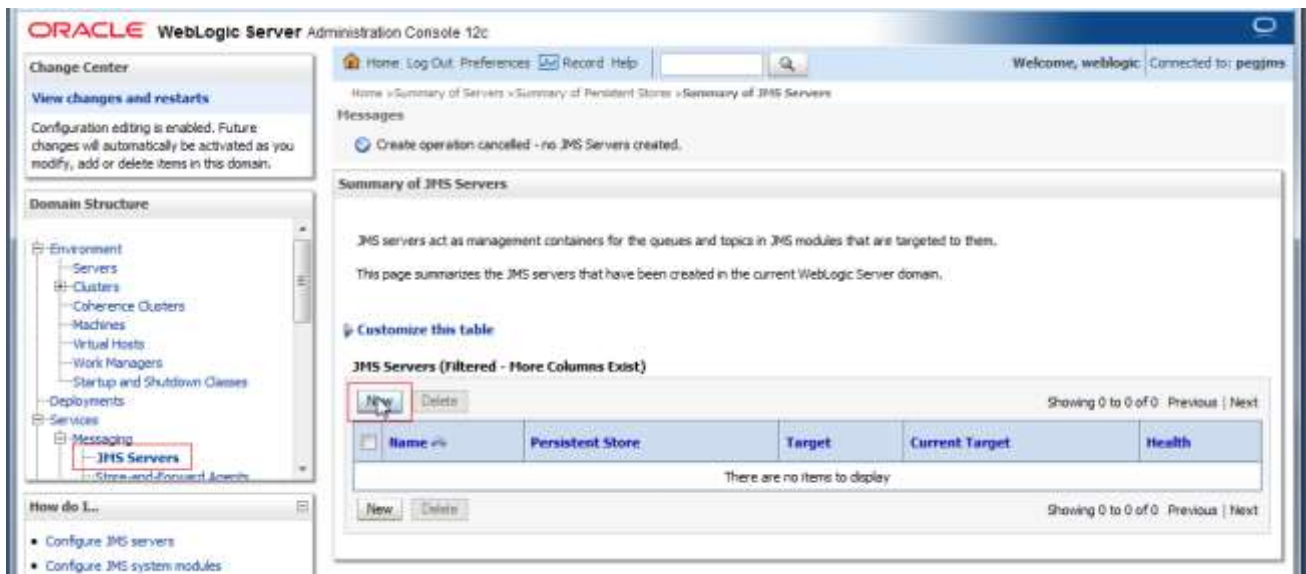


3) **FileStore-1** is created

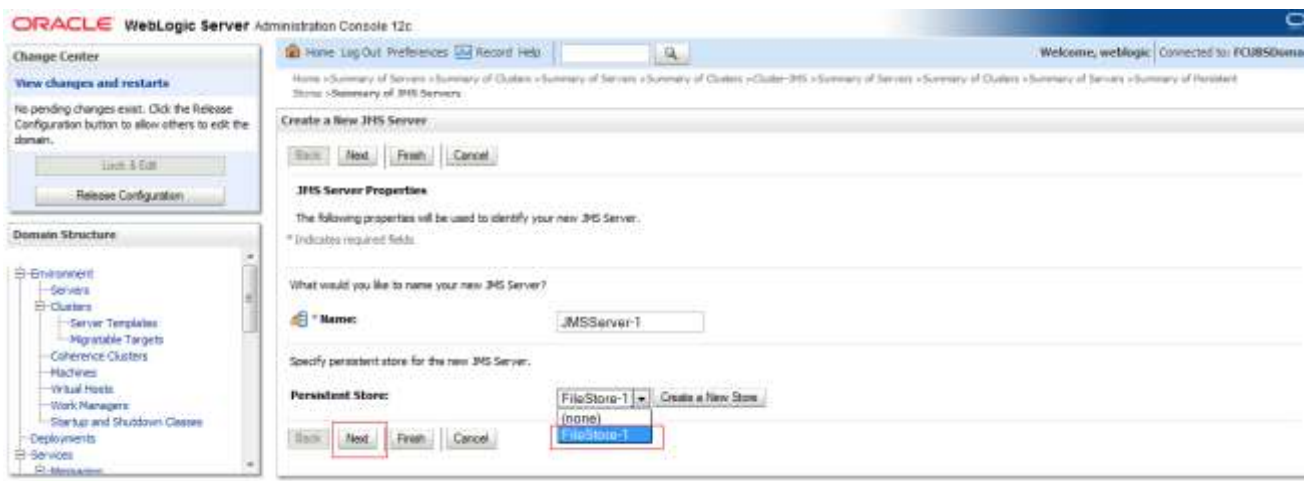


3.2 JMS Server Creation

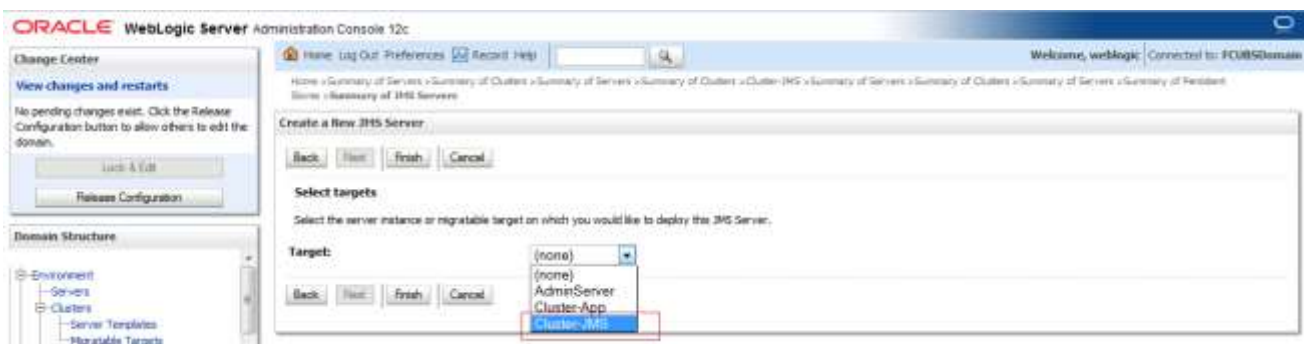
- 1) Navigate to Services → Messaging → JMS Servers → Click on **New**



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



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





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**

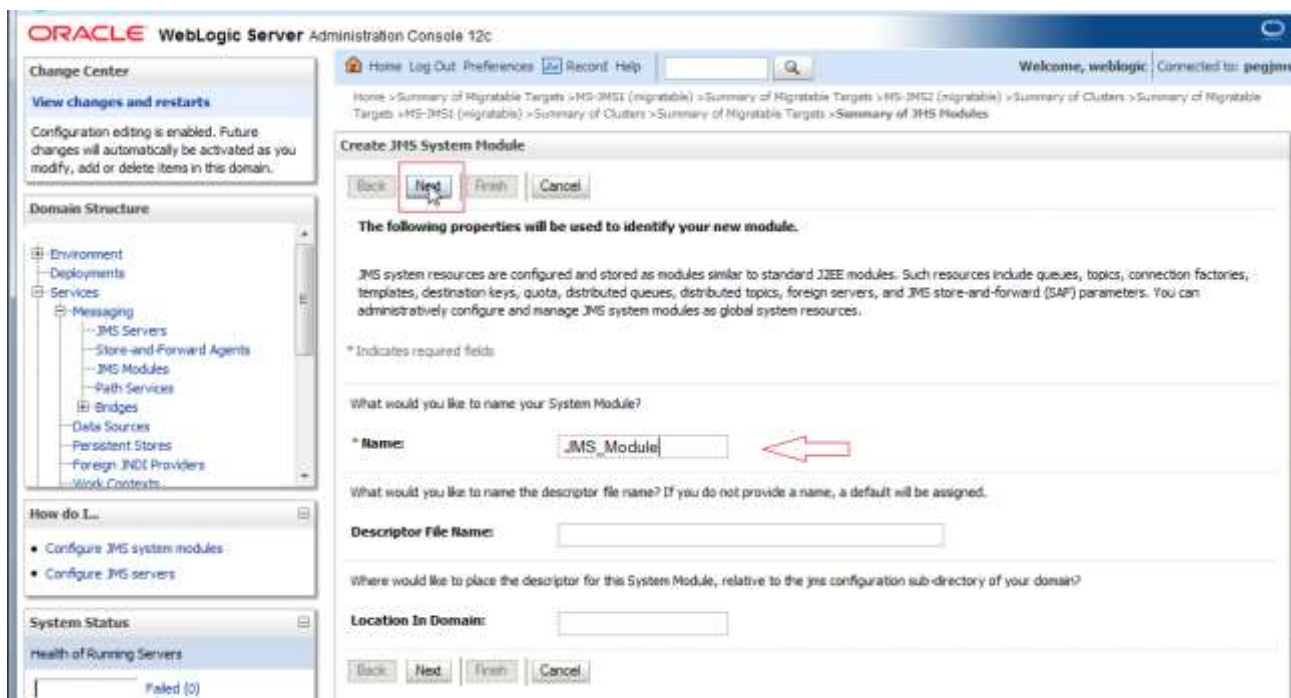
4. JMS Module Creation

4.1 Module Creation

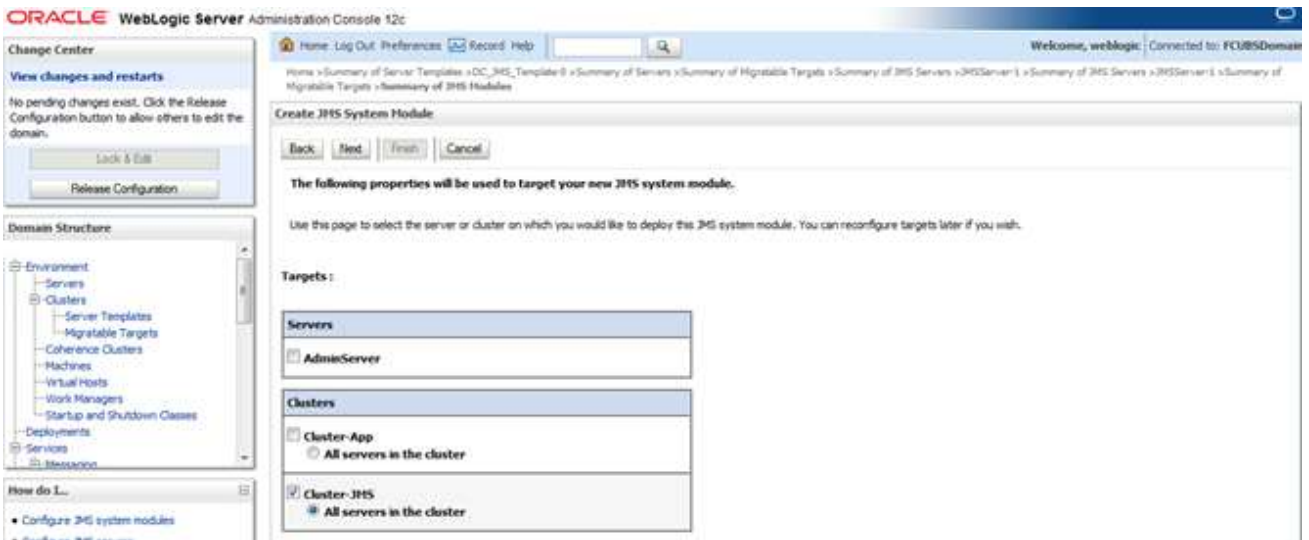
- 1) Navigate to Services → Messaging → JMS Modules and Click on **New**.



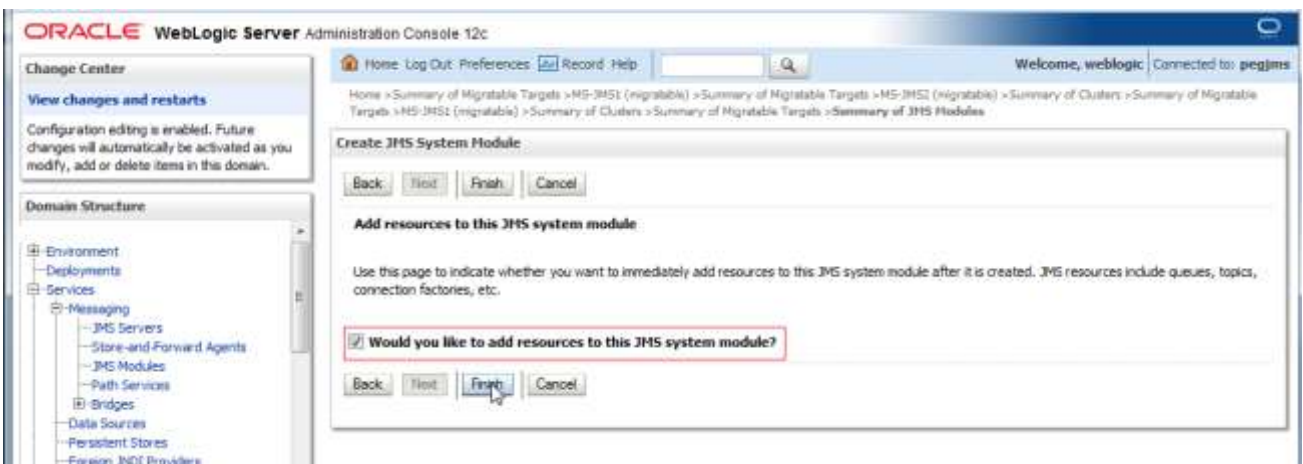
- 2) Enter name as JMS_MODULE and Click on **Next**



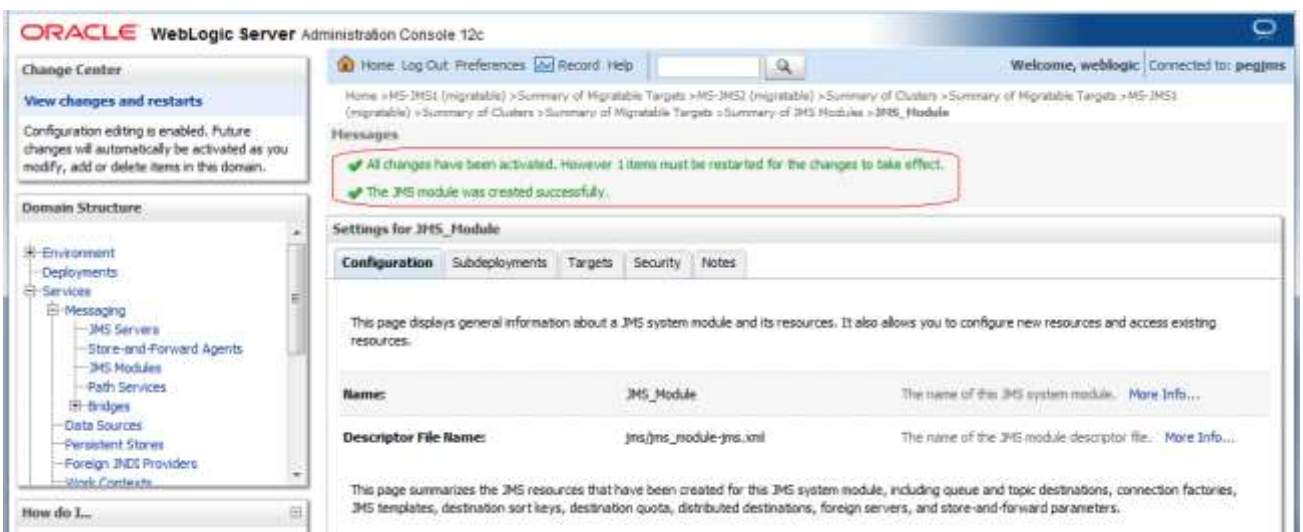
- 3) Select Target as Cluster-JMS and Click on **Next**



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



5) JMS_MODULE is created



4.2 Sub Deployment Creation

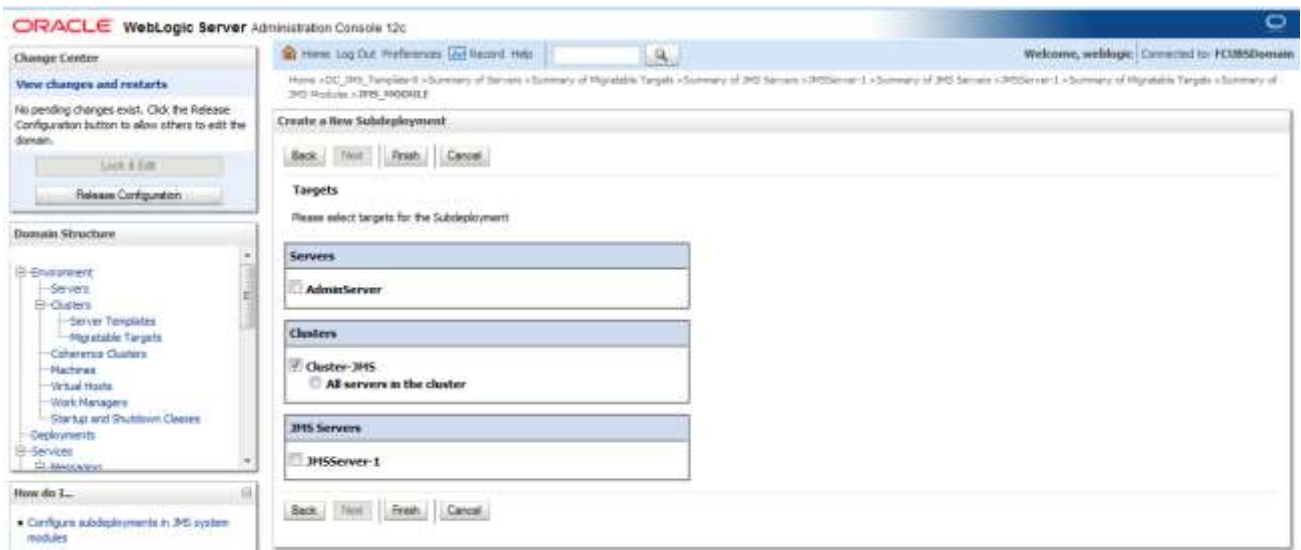
- 1) In JMS_MODULE, Click on Sub Deployment tab , Click on **New**

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains the 'Domain Structure' tree with 'JMS Modules' highlighted. The main content area displays the 'Settings for JMS_Module' page. The 'Subdeployments' tab is selected, and the 'Subdeployments-Tab' is highlighted. The 'Summary of Resources' table is empty, and a red arrow points to the 'New' button.

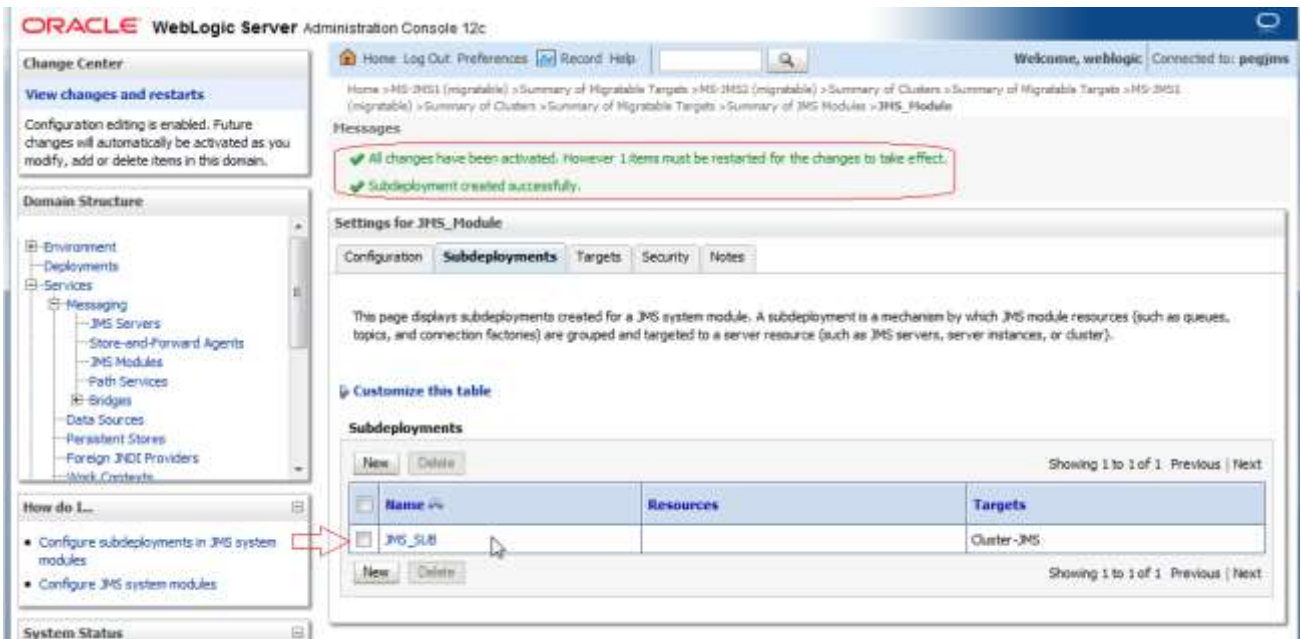
- 2) Enter name as JMS_SUB and click on **Next**

The screenshot shows the 'Create a New Subdeployment' dialog. The 'Subdeployment Name' field is filled with 'JMS_SUB', and the 'Next' button is highlighted with a red arrow.

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



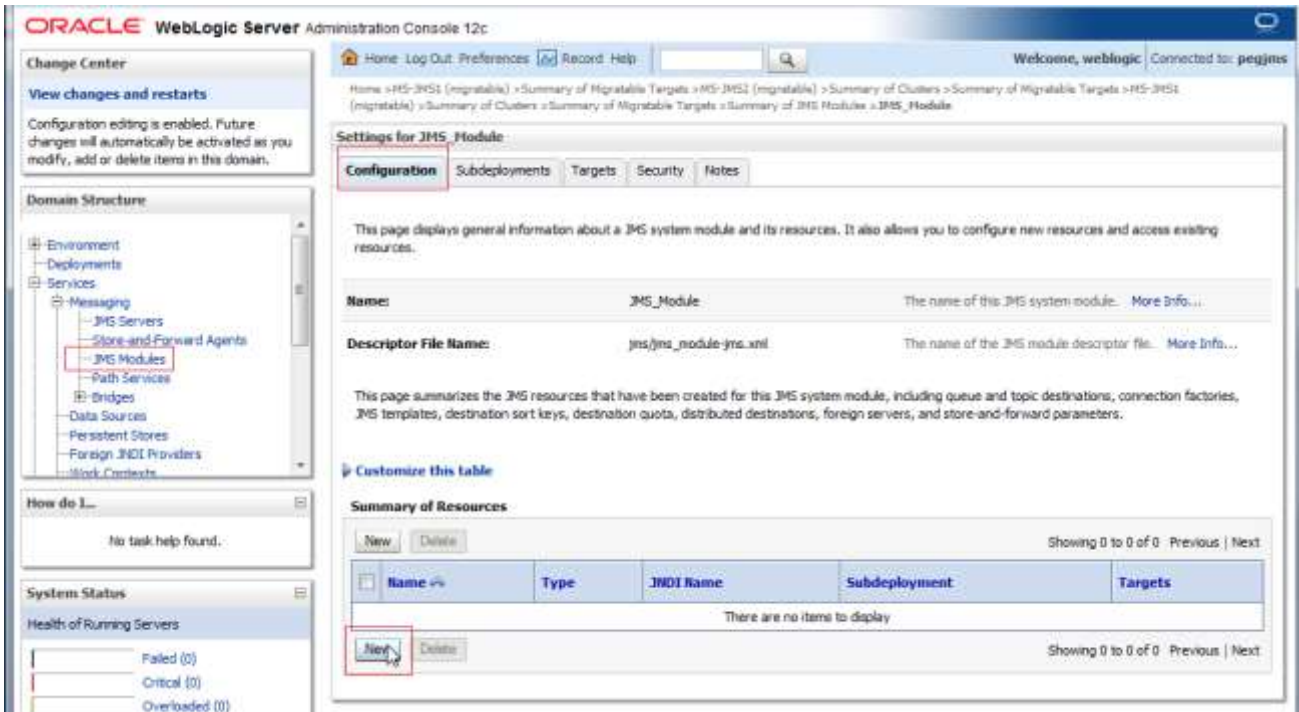
4) Sub-Deployment is created



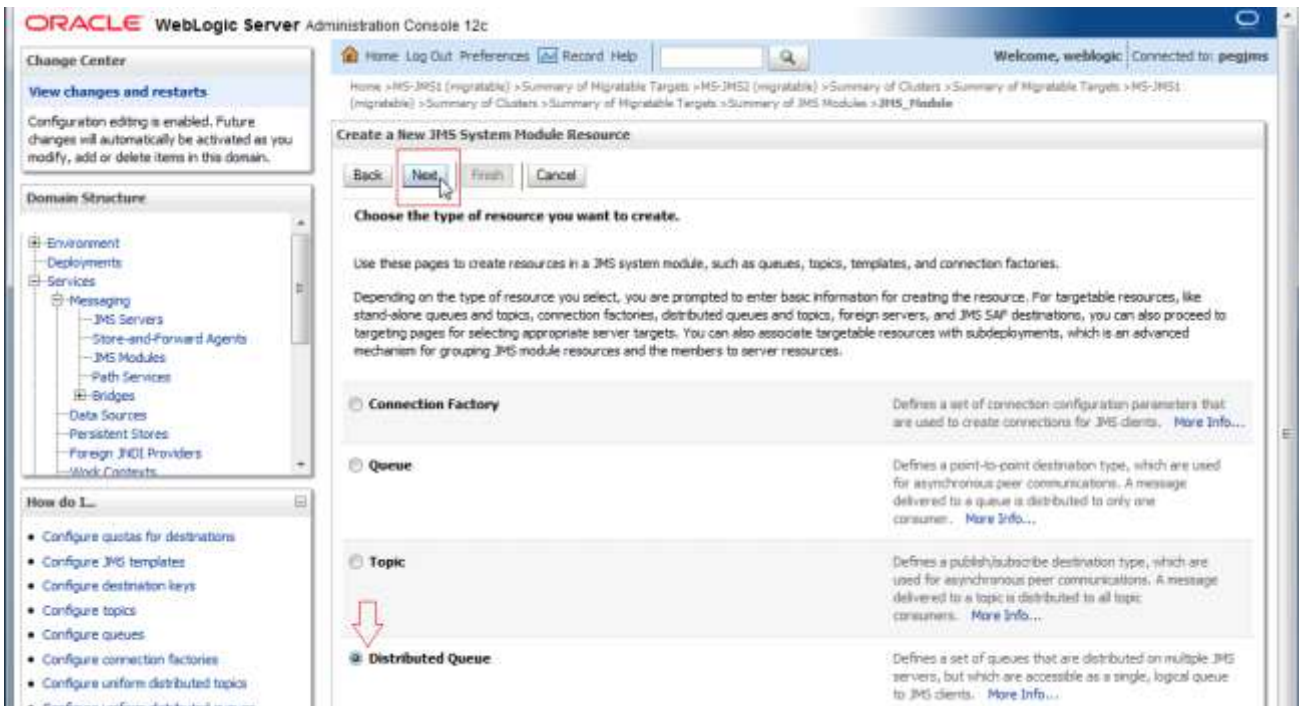
4.3 Resource Creation

4.3.1 Queue Creation

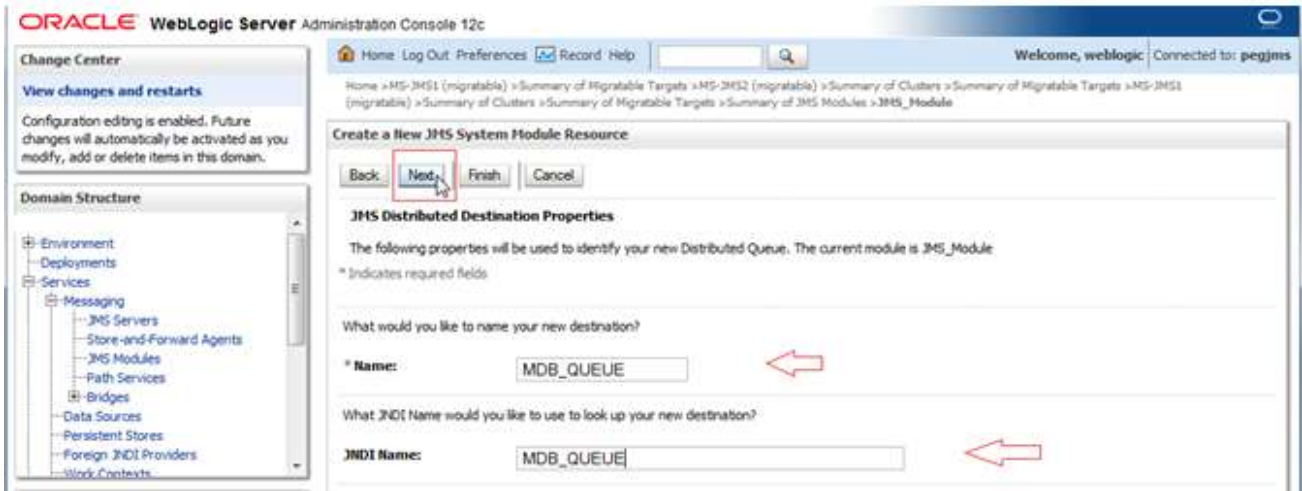
1) In JMS_MODULE Click on **New**



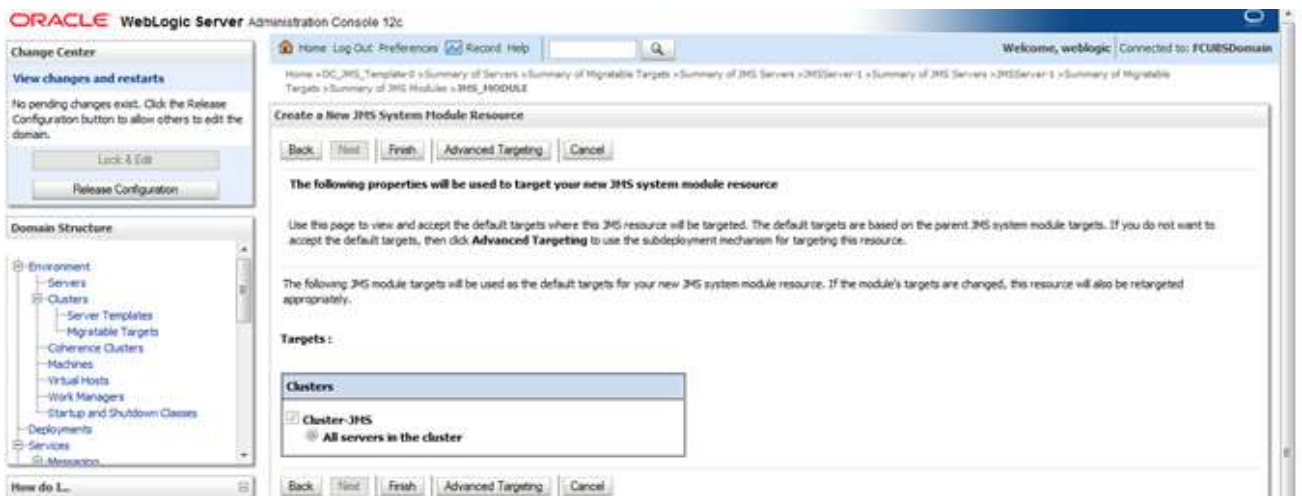
2) Select Distributed Queue and Click on **Next**



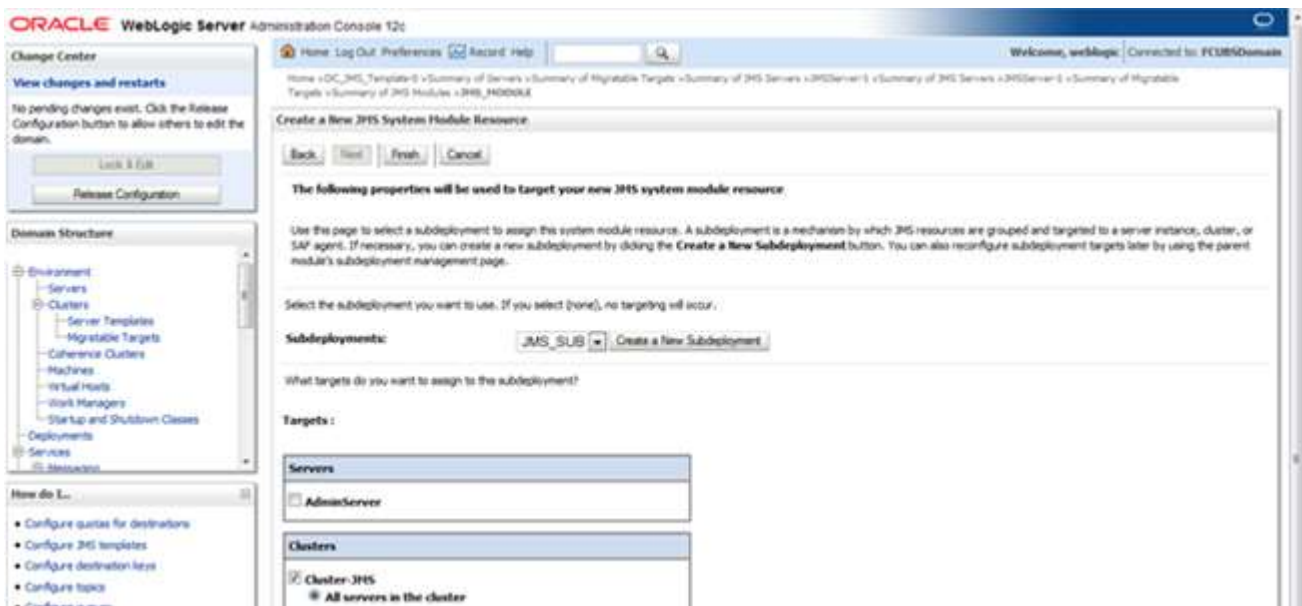
3) Enter the queue name and Click on **Next**



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 Log Out Preferences Record Help

Welcome, weblogic Connected to: pegjms

Home > JMS-INST (Migratable) > Summary of Migratable Targets > JMS-INST (Migratable) > Summary of Clusters > Summary of Migratable Targets > JMS-INST (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 quotas, 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

<input type="checkbox"/>	Name	Type	JNDI Name	Subdeployment	Targets
<input type="checkbox"/>	MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 1 of 1 Previous Next

Change Center

View changes and restarts

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

- Environment
 - Deployments
 - Services
 - Messaging
 - JMS Servers
 - Store-and-Forward Agents
 - JMS Modules
 - Path Services
 - Bridges
 - Data Sources
 - Persistent Stores
 - Foreign JNDI Providers
 - Work Contexts

How do I... No task help found.

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 Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > DC_JMS_Template > Summary of Servers > Summary of Migratable Targets > Summary of JMS Servers > JMSModule-1 > Summary of JMS Servers > JMSModule-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 the 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 quotas, 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

<input type="checkbox"/>	Name	Type	JNDI Name	Subdeployment	Targets
<input type="checkbox"/>	MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS
<input type="checkbox"/>	MDB_QUEUE_DLQ	Uniform Distributed Queue	MDB_QUEUE_DLQ	JMS_SUB	Cluster-JMS
<input type="checkbox"/>	MDB_QUEUE_RESPONSE	Uniform Distributed Queue	MDB_QUEUE_RESPONSE	JMS_SUB	Cluster-JMS

New Delete Showing 1 to 3 of 3 Previous Next

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

- Environment
 - Servers
 - Clusters
 - Server Templates
 - Migratable Targets
 - Coherence Clusters
 - Machines
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Messaging

How do I... No task help found.

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**

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains the Domain Structure tree with 'JMS Modules' highlighted. The main content area is titled 'Settings for JMS_Module' and has a 'Configuration' tab selected. Below the tabs, there is a 'Summary of Resources' table with the following data:

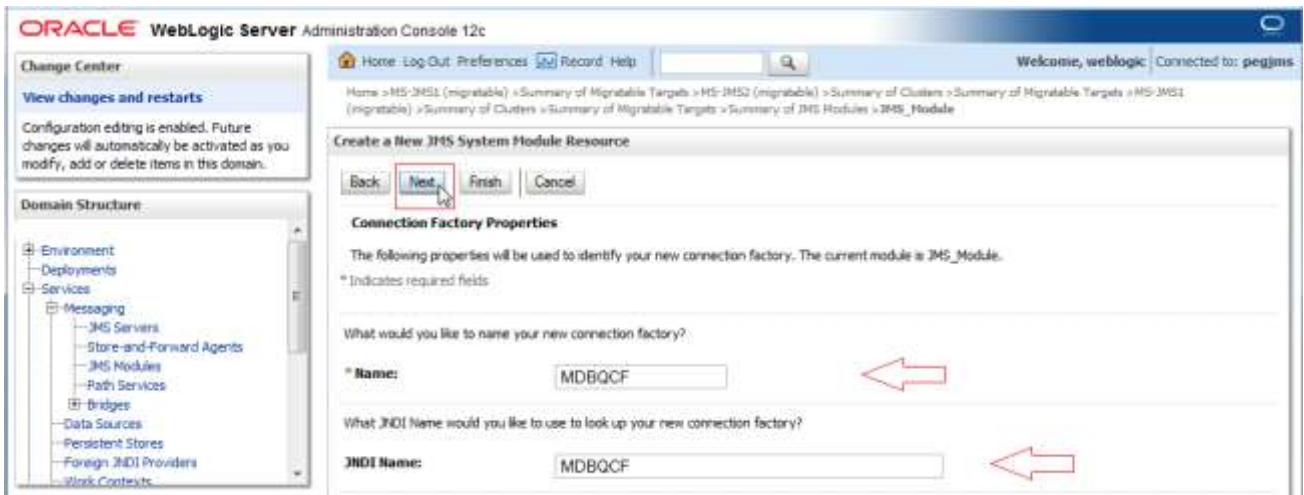
Name	Type	JNDI Name	Subdeployment	Targets
MDB_QUEUE	Uniform Distributed Queue	MDB_QUEUE	JMS_SUB	Cluster-JMS
MDB_QUEUE_DLQ	Uniform Distributed Queue	MDB_QUEUE_DLQ	JMS_SUB	Cluster-JMS
MDB_QUEUE_RESPONSE	Uniform Distributed Queue	MDB_QUEUE_RESPONSE	JMS_SUB	Cluster-JMS

A red box highlights the 'New' button above the table. The bottom of the console shows the version '12.1.3.0.0' and copyright information.

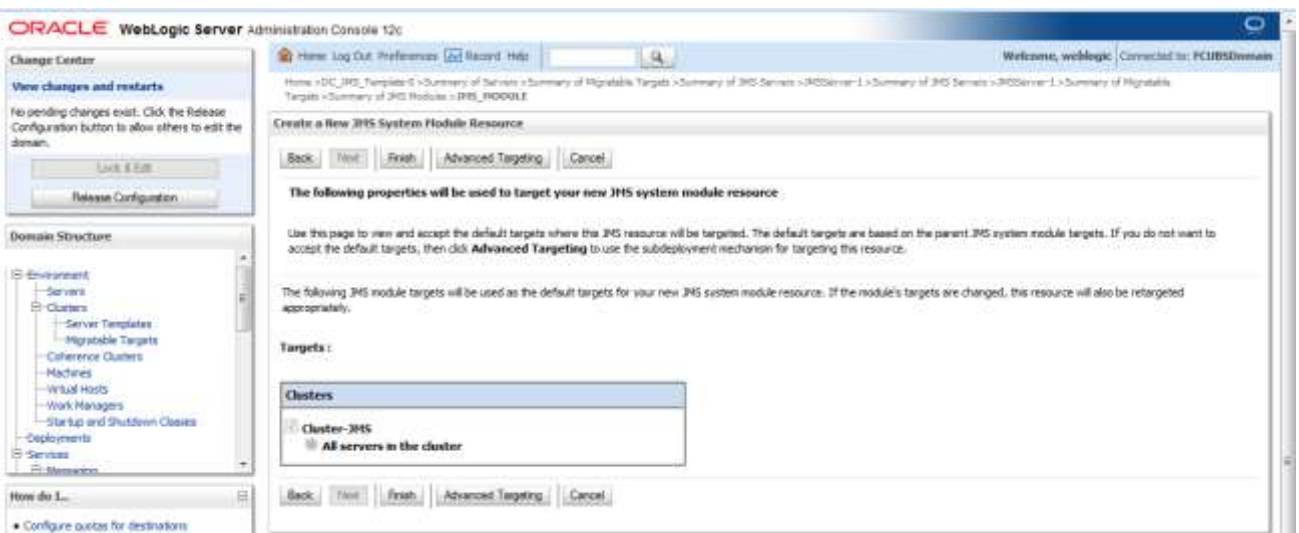
2) Select Connection Factory and click on **Next**

The screenshot shows the 'Create a New JMS System Module Resource' wizard. The 'Next' button is highlighted with a red box. Below the buttons, the text reads: 'Choose the type of resource you want to create.' The 'Connection Factory' option is selected and highlighted with a red box. The description for 'Connection Factory' is: 'Defines a set of connection configuration parameters that are used to create connectors for JMS clients.' The 'Queue' option is also visible but not selected.

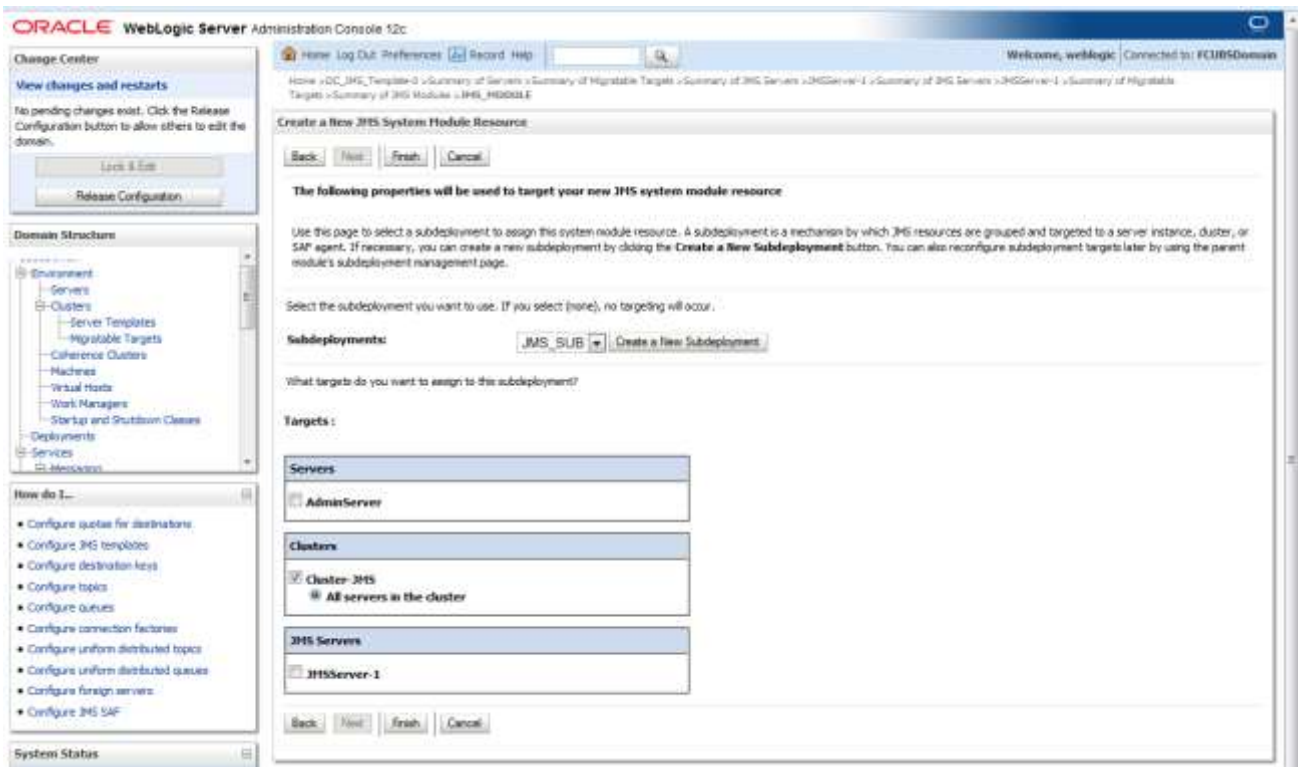
3) Enter the Name and Click on **Next**



4) Click on **Advanced Targeting**



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



6) Connection Factory is **Created**

ORACLE WebLogic Server Administration Console 12c

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

Home > MS-JMS1 (migratable) > Summary of Migratable Targets > MS-JMS2 (migratable) > Summary of Clusters > Summary of Migratable Targets > MS-JMS3 (migratable) > Summary of Clusters > Summary of Migratable Targets > Summary of JMS Modules > JMS_Module

Change Center
View changes and restarts
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

- Environment
 - Deployments
 - Services
 - Messaging
 - JMS Servers
 - Store-and-Forward Agents
 - JMS Modules
 - Path Services
 - Bridges
 - Data Sources
 - Persistent Stores
 - Foreign JNDI Providers
 - Block Contexts

How do I...
No task help found.

System Status
Health of Running Servers

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

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 quotas, 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

The screenshot shows the Oracle WebLogic Server Administration Console interface. The main content area displays the 'Summary of Servers' page. On the left, there is a 'Change Center' panel with 'Lock & Edit' and 'Release Configuration' buttons. Below it is the 'Domain Structure' tree, showing a hierarchy from Environment to Servers, Clusters, and Server Templates. The 'How do I...' panel provides links for creating, cloning, deleting, and starting/stopping servers. The 'System Status' panel shows the health of running servers.

The 'Summary of Servers' page includes a 'Configuration' tab and a table of servers. The table is titled 'Servers (Filtered - More Columns Exist)' and contains the following data:

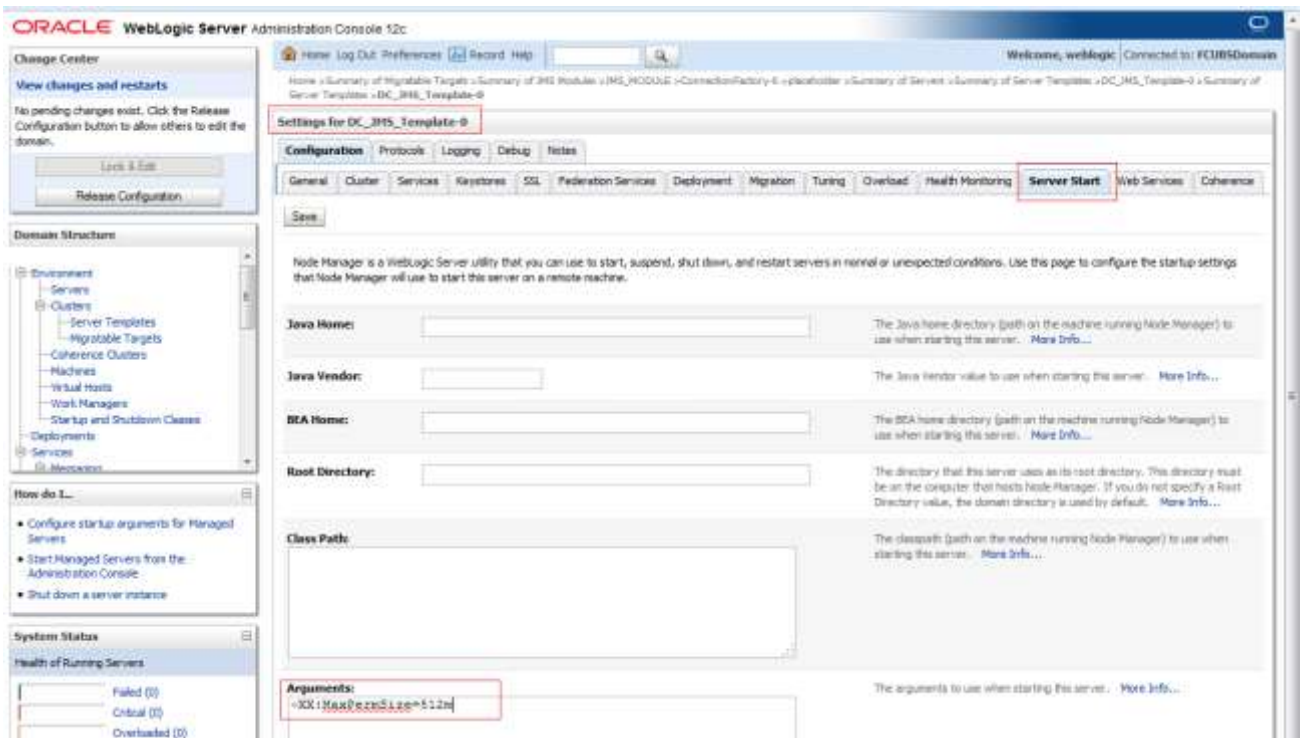
Name	Type	Cluster	Machine	State	Health	Listen Port
AdminServer (admin)	Configured			RUNNING	OK	7001
DC_JCLBS_1	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7321
DC_JCLBS_2	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7322
DC_JCLBS_3	Dynamic	Cluster-App	MAC-1	SHUTDOWN	Not reachable	7323
DC_JCLBS_4	Dynamic	Cluster-App	MAC-2	SHUTDOWN	Not reachable	7324
DC_JMS_1	Dynamic	Cluster-JMS	MAC-1	SHUTDOWN	Not reachable	7326
DC_JMS_2	Dynamic	Cluster-JMS	MAC-2	SHUTDOWN	Not reachable	7327

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

The screenshot shows the Oracle WebLogic Server Administration Console interface, specifically the 'Summary of Server Templates' page. The 'Domain Structure' tree on the left has 'Server Templates' highlighted. The 'Summary of Server Templates' page includes a 'Configuration' tab and a table of server templates. The table is titled 'Server Templates' and contains the following data:

Name	Cluster	Machine	Listen Port	Listen Address
DC_JCLBS_Template	Cluster-App		7320	
DC_JMS_Template-0	Cluster-JMS		7325	

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



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**

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains a 'Domain Structure' tree with 'JMS Modules' selected. The main content area displays the 'Summary of JMS Modules' page. Below the introductory text, there is a table titled 'JMS Modules' with one row: 'JMS_Module' (System). Below the table, a red arrow points to the 'New' button.

Name	Type
JMS_Module	System

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

The screenshot shows the 'Create JMS System Module' wizard. The 'Name' field is filled with 'MDB_MODULE'. A red arrow points to the 'Next' button.

What would you like to name your System Module?

* Name:

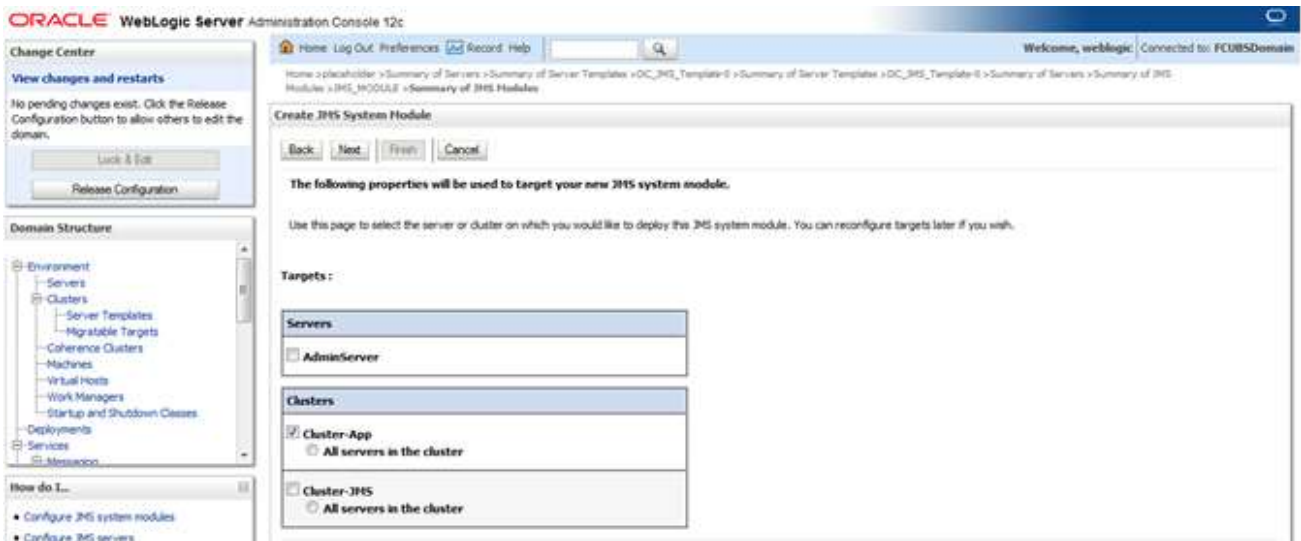
What would you like to name the descriptor file name? If you do not provide a name, a default will be assigned.

Descriptor File Name:

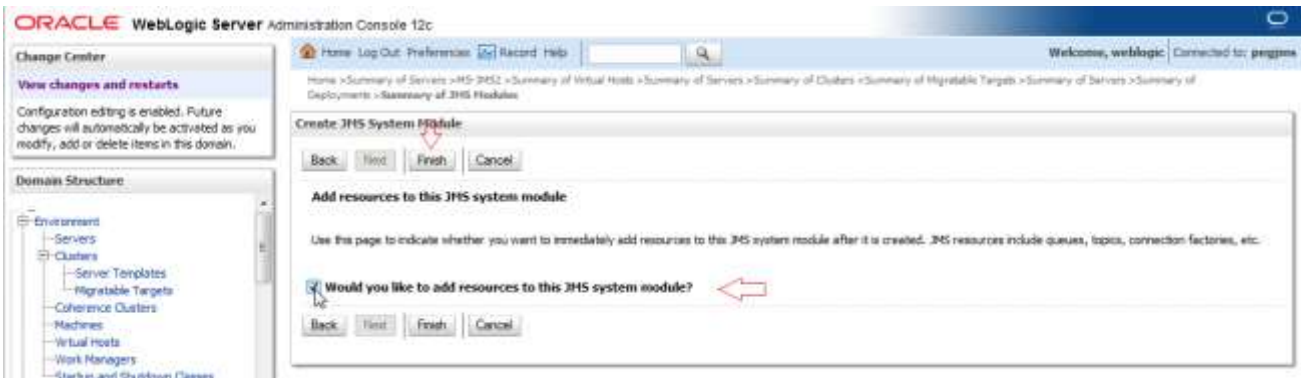
Where would you like to place the descriptor for this System Module, relative to the jms configuration sub-directory of your domain?

Location In Domain:

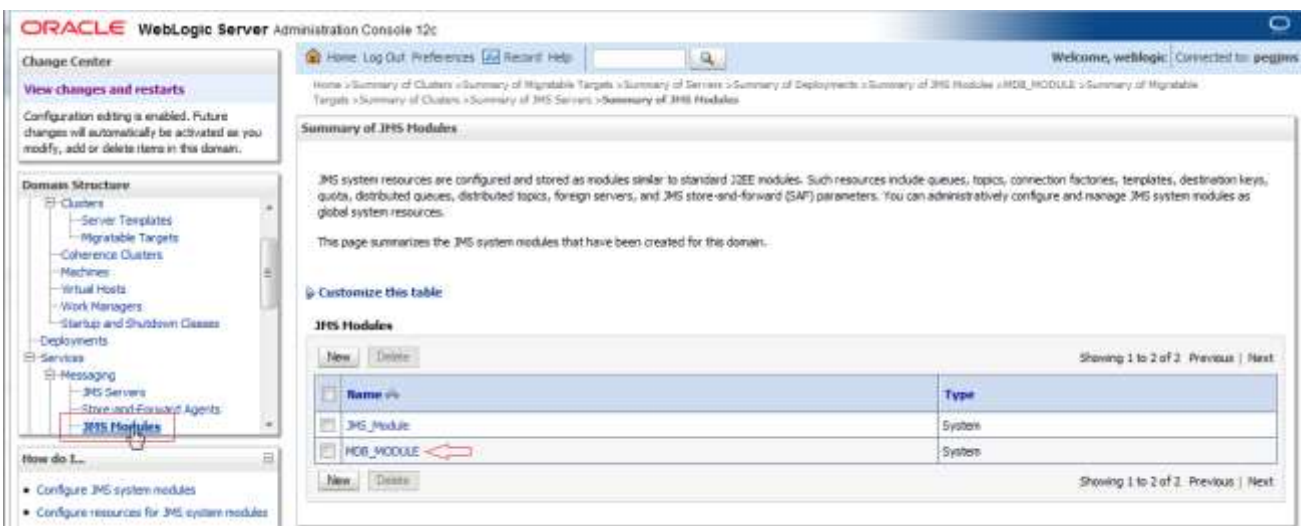
3) Select target as Cluster-App and click on **Next**



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



5) MDB_MODULE is **created**



6.2 Foreign Server Creation

In MDB_MODULE, Click on New Resource, Select Foreign Server

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface. The main content area displays the 'Summary of JMS Modules' page. A table lists the JMS modules:

Name	Type
JMS_Module	System
MDB_MODULE	System

Below the table, there are 'New' and 'Delete' buttons. A red arrow points to the 'New' button. The left sidebar shows the 'Domain Structure' tree with 'JMS Modules' selected under 'Services'.

1) Click on Configuration → New

The screenshot shows the Oracle WebLogic Server Administration Console 12c interface for the 'Settings for MDB_MODULE' page. The 'Configuration' tab is selected. The page displays general information about the JMS system module:

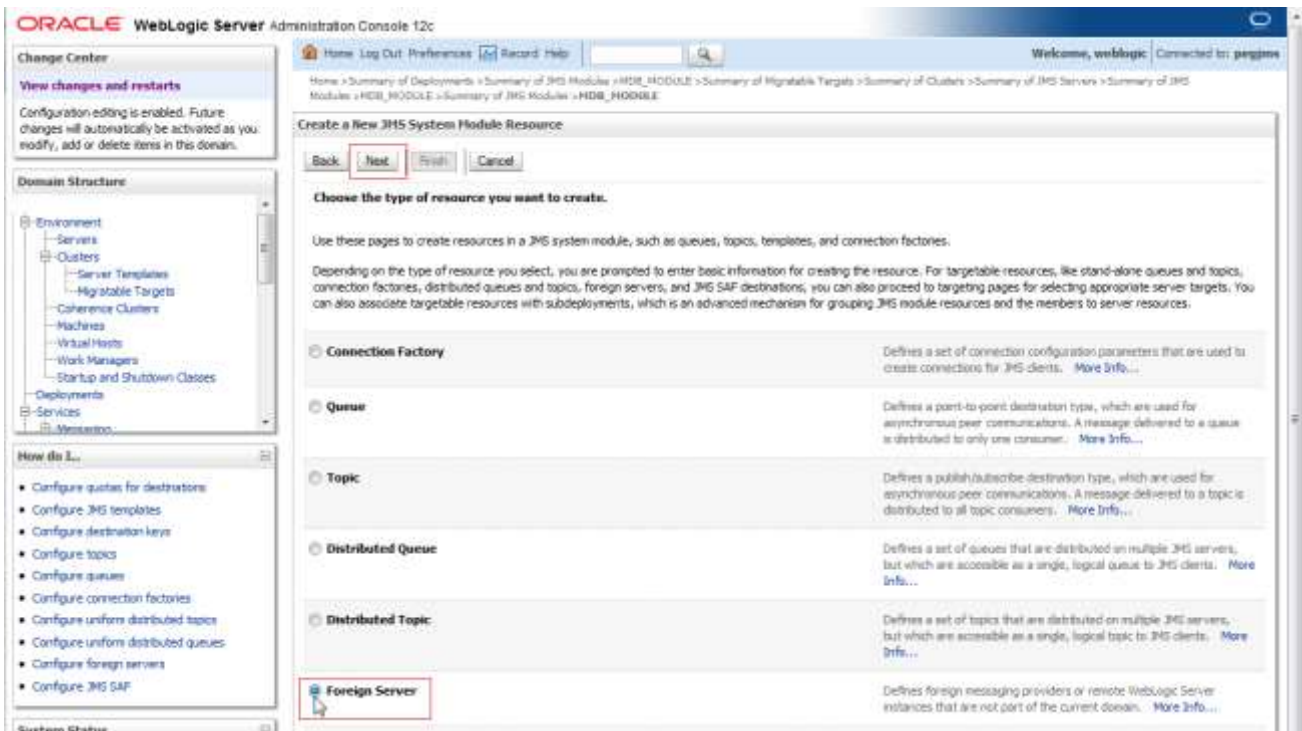
- Name:** MDB_MODULE
- Descriptor File Name:** jms/mdb_module-jms.xml

Below this information, there is a 'Summary of Resources' table:

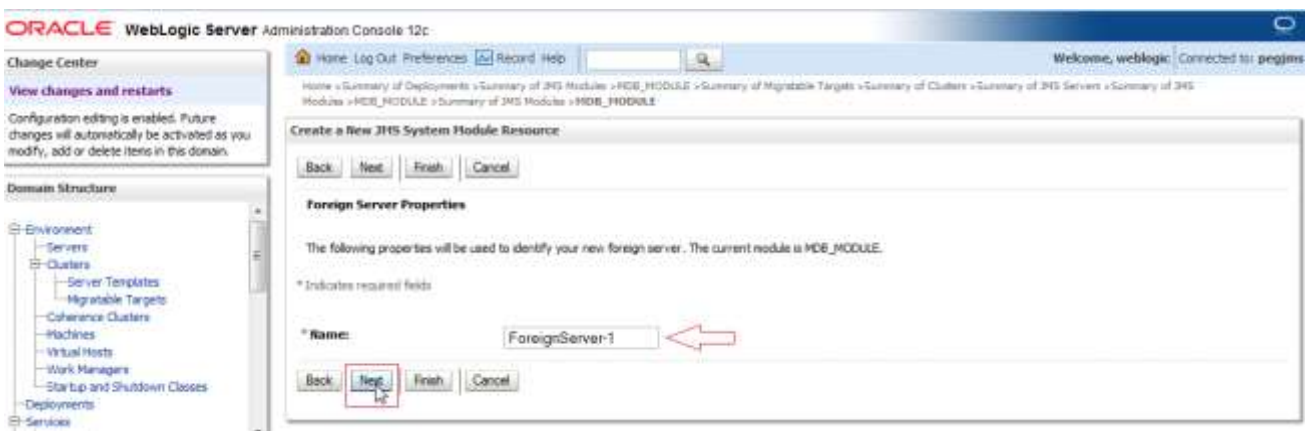
Name	Type	JMDF Name	Subdeployment	Targets
There are no items to display				

A red arrow points to the 'New' button located below the table. The left sidebar shows the 'Domain Structure' tree with 'MDB_MODULE' selected under 'Services'.

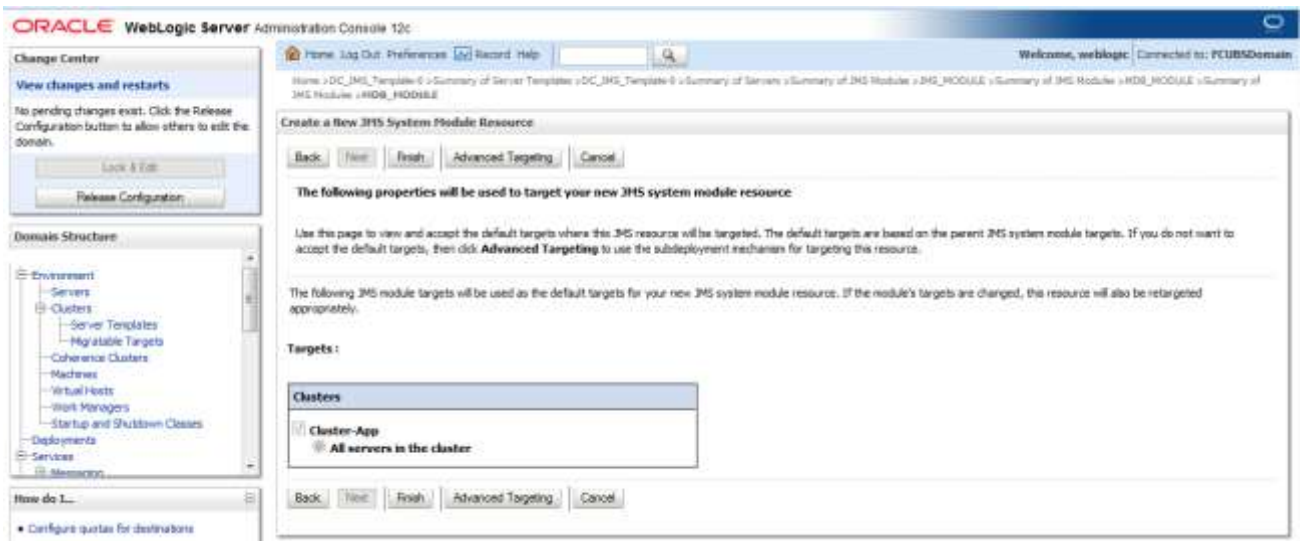
2) Select Foreign Server and Click on **Next**



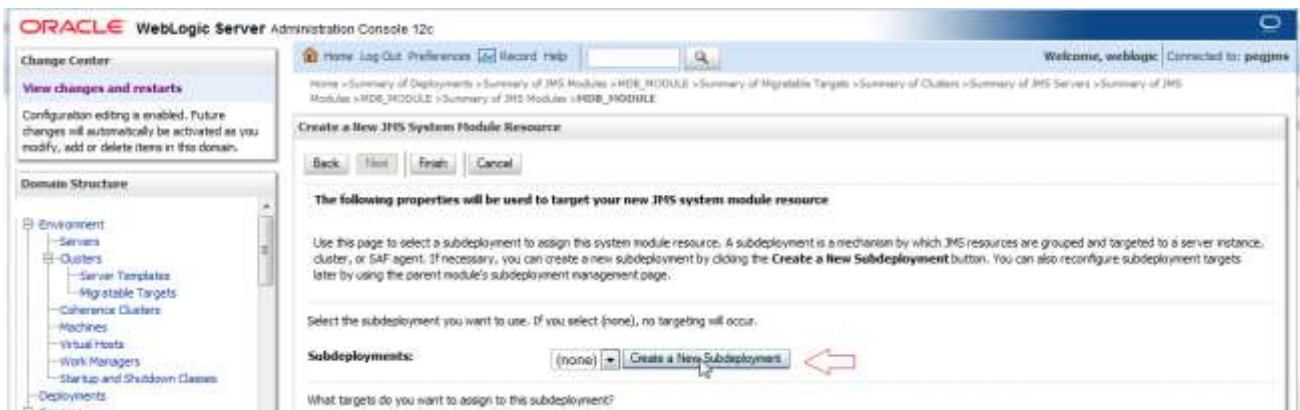
3) Enter name and Click on **Next**



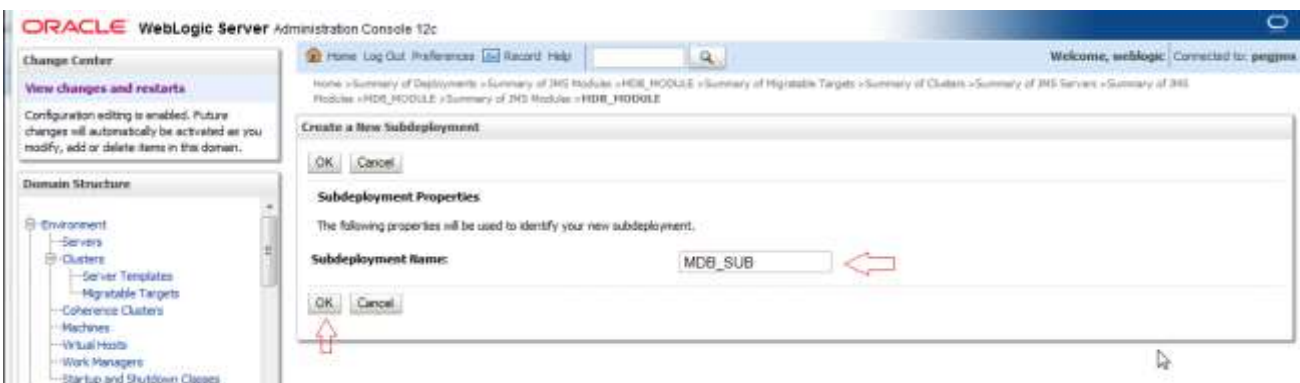
4) Click on Advanced Targeting



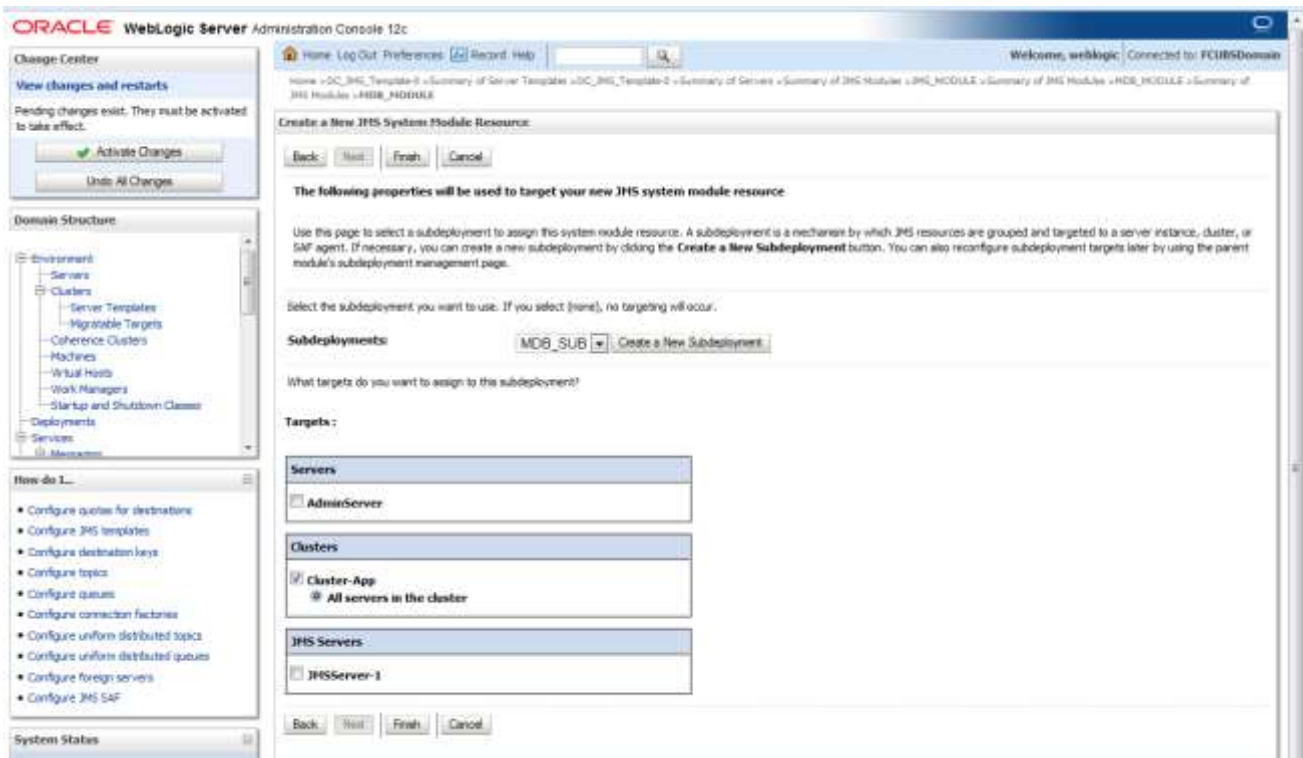
5) Click on Create New SubDeployment



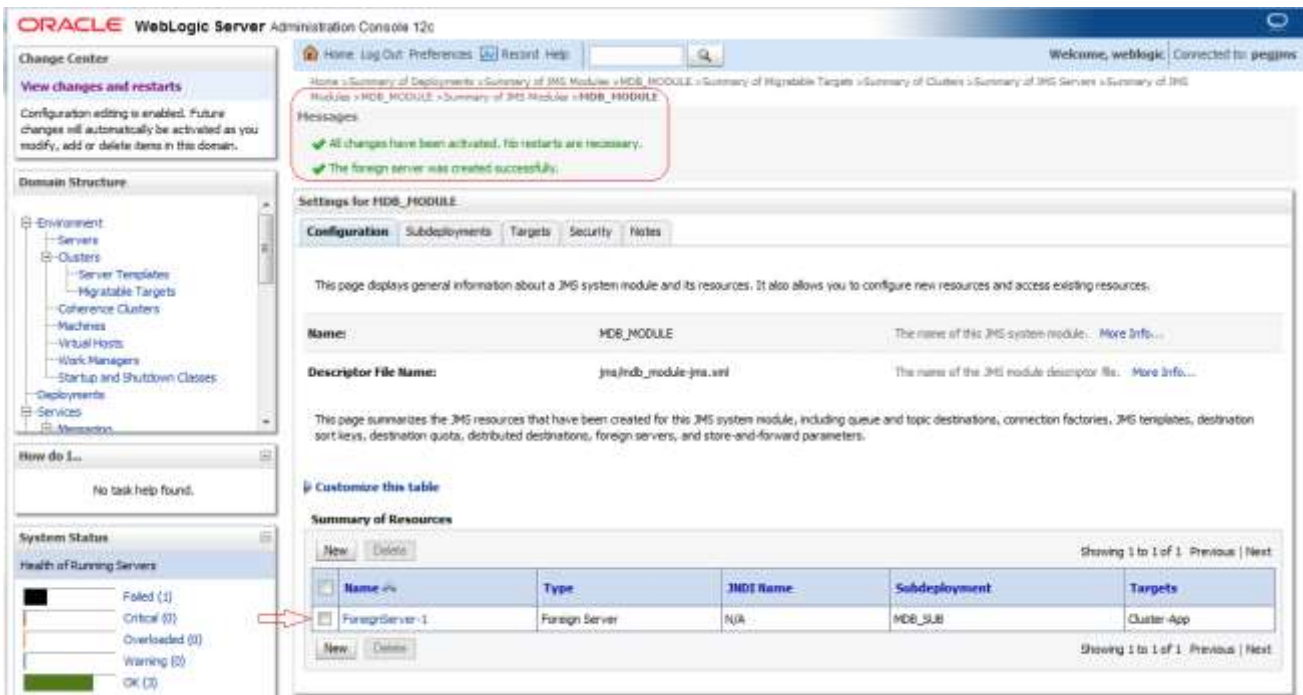
6) Enter Name as MDB_SUB and Click on OK



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



8) Foreign Server is created



6.3 Foreign Server Configuration

1) Click on ForeignServer-1

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area displays the 'Settings for MDS_MODULE' page. Under the 'Summary of Resources' section, there is a table with the following data:

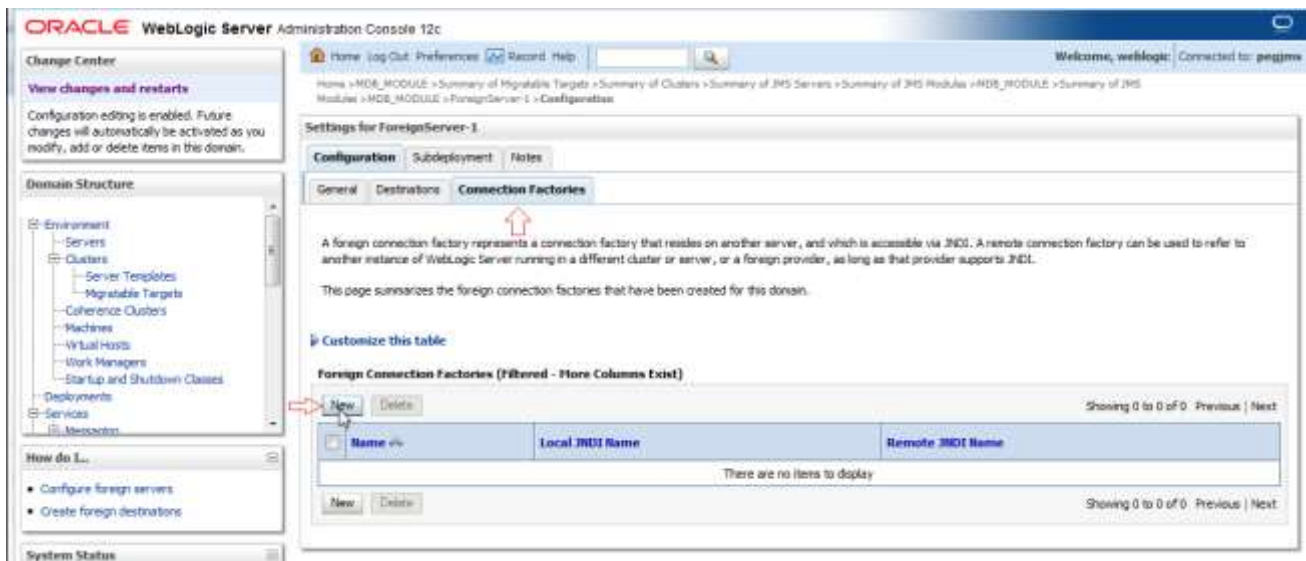
Name	Type	JNDI Name	Subdeployment	Targets
ForeignServer-1	Foreign Server	N/A	MDS_SJS	Cluster-App

A red arrow points to the 'ForeignServer-1' row in the table.

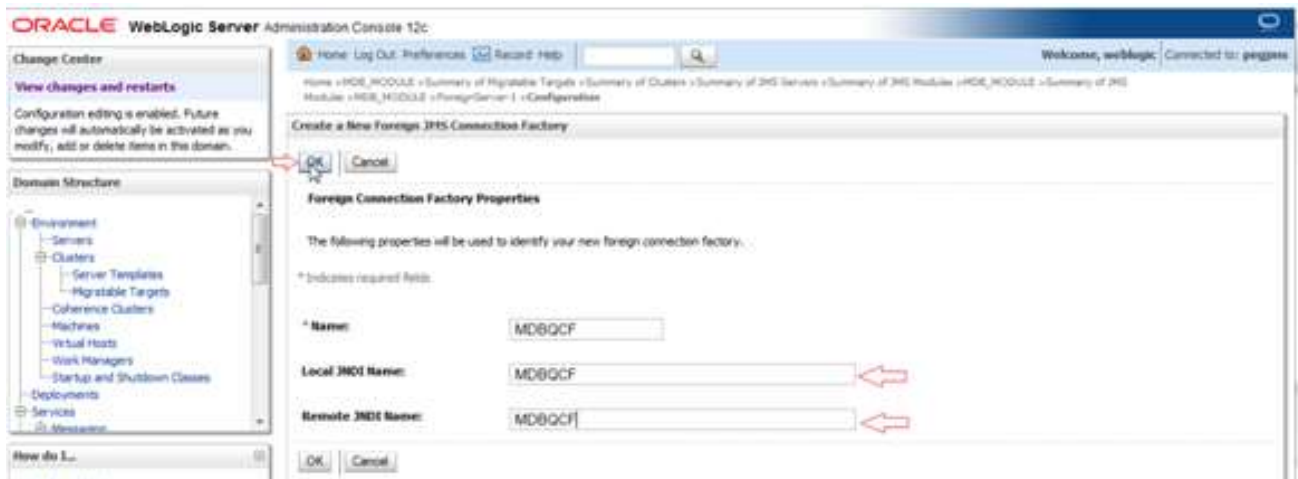
2) Enter the JNDI URL as Cluster URL (JMS Managed Servers) and Click on Save

The screenshot shows the Oracle WebLogic Server Administration Console for 'ForeignServer-1'. The 'JNDI Connection URL' field is filled with the value: `t3://10.184.145.185:7106,10.184.145.189:7107`.

3) Click on Connection Factories



4) Create MDBQCF Connection Factory



5) Click on Destination



6) Create MDB_QUEUE

Home » JMS Modules » MDB_MODULE » ForeignServer 1 » MDB_QUEUE » ForeignServer 1 » Summary of Servers » JMS Modules » MDB_QUEUE » ForeignServer 1 » Configuration

Settings for ForeignServer 1

Configuration | Subdeployment | Items

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
Showing 0 to 0 of 0 Previous Next		
There are no items to display		
Showing 0 to 0 of 0 Previous Next		

ORACLE WebLogic Server Administration Console 12c

Home | Log Out | Preferences | Record | Help

Welcome, weblogic | Connected to: pegasus

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: pegasus

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

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

Messages

All changes have been activated. However, 1 items 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

Showing 1 to 2 of 2 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

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

Messages

All changes have been activated. However, 1 items 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

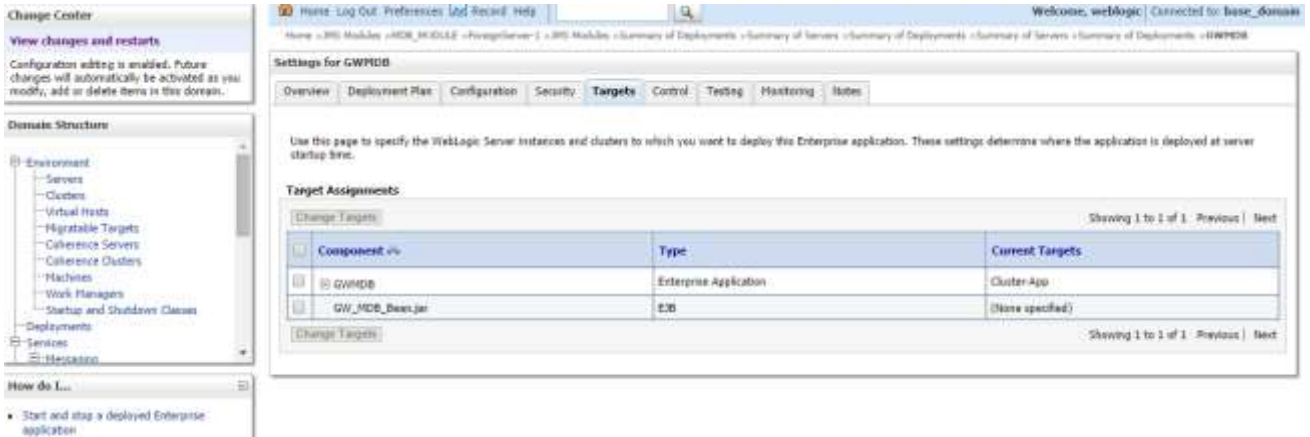
Name ↕	Local JNDI Name	Remote JNDI Name
MDB_QUEUE	MDB_QUEUE	MDB_QUEUE
MDB_QUEUE_DLQ	MDB_QUEUE_DLQ	MDB_QUEUE_DLQ
MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE	MDB_QUEUE_RESPONSE

Showing 1 to 3 of 3 Previous | Next

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 displays the Oracle WebLogic Administration Console interface. On the left, the 'Change Center' and 'Domain Structure' panels are visible. The main area shows the 'Settings for GWPEDB' page with the 'Targets' tab selected. A table titled 'Target Assignments' lists the components and their current targets.

Component	Type	Current Targets
GWPEDB	Enterprise Application	Cluster-App
GW_MDE_Bean.jar	EB	(None specified)

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

Change Center
View changes and restarts
 Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

- Domain Structure**
- Environment
 - Deployments**
 - Services
 - Messaging
 - JMS Servers
 - Store-and-Forward Agents
 - JMS Modules
 - Path Services
 - Bridges
 - Data Sources
 - Persistent Stores
 - Foreign JMS Providers
 - Work Contexts

- How do I...**
- Install an Enterprise application
 - Configure an Enterprise application
 - Update (redeploy) an Enterprise application
 - Start and stop a deployed Enterprise application
 - Monitor the modules of an Enterprise application

Home > Summary of Environment > Summary of Servers > Summary of Deployments > JMS Modules > WDG_MIDDLE > Summary of Environment > Summary of Servers > Summary of Deployments > GWEDB > Summary of Deployments

Summary of Deployments

Control | **Monitoring**

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Customize this table

Deployments

Install | Update | Delete | Start | Stop

Showing 1 to 5 of 5 | Previous | Next

Name	State	Health	Type	Deployment Order
mg.FOBSApp	Active	OK	Enterprise Application	100
mg.GWEDB	Active	OK	Enterprise Application	100
mg.WDDB	Active	OK	Enterprise Application	100
lib:1.1.1.3	Active		Library	100
mg.GWEDB	Active	OK	Enterprise Application	100

Showing 1 to 5 of 5 | Previous | Next

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

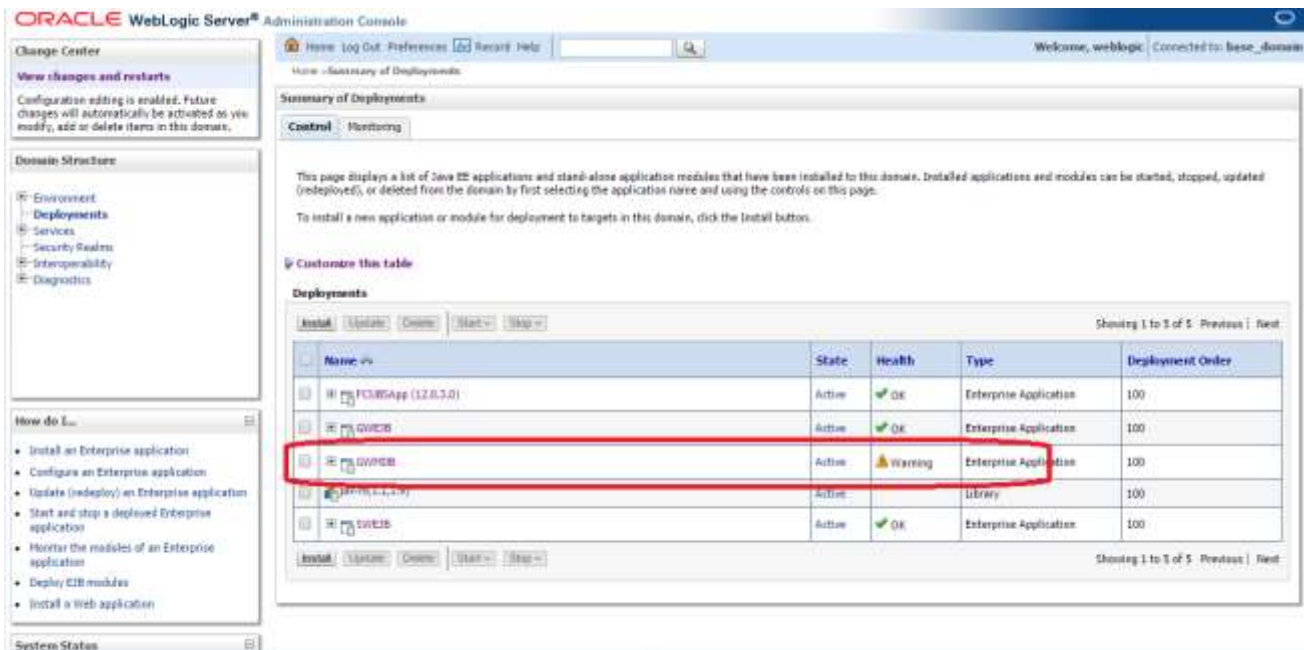
- 1) Foreign Server Creation is not required
- 2) Targets should be given accordingly during SubDeployment Creation

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 area displays a 'Summary of Deployments' section with a 'Control' tab selected. Below this is a table of deployments. The table has columns for Name, State, Health, Type, and Deployment Order. The row for 'GWPDB' is highlighted with a red box, showing a 'Warning' health status. The other rows show 'OK' health status.

Name	State	Health	Type	Deployment Order
FCURApp (12.0.3.0)	Active	OK	Enterprise Application	100
GWCDB	Active	OK	Enterprise Application	100
GWPDB	Active	Warning	Enterprise Application	100
LIBRARY	Active	OK	Library	100
SWEDB	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



View changes and restarts
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
 - Services
 - Messages

How do I...

- Manage distributed queue messages
- Configure uniform distributed queues

Home » PreopServer-1 » Configuration » JMS » JMS Modules » JMS_MODULE » MDB_QUEUE » Summary of JMS Messages » JMS Modules » JMS_MODULE » MDB_QUEUE

Settings for MDB_QUEUE

Configuration Security **Monitoring** Subdeployment Notes

Use this page to view statistics about all of the members of a uniform distributed queue. Click on the individual member destination name in the table below to manage the messages on that destination.

To access the uniform distributed queue's message management page, select the check box next to its name, and then click the **Show Messages** button.

Customize this table

Destinations (Filtered - More Columns Exist)

Show Messages Showing 1 to 2 of 2 Previous Next

<input type="checkbox"/>	Name	Consumers Current	Consumers High	Consumers Total
<input type="checkbox"/>	JMS_MODULE:JMS-Server-1@MDB_QUEUE	64	64	64
<input type="checkbox"/>	JMS_MODULE:JMS-Server-2@MDB_QUEUE	64	64	64

Show Messages Showing 1 to 2 of 2 Previous Next

2) Select any one Server and Click on Show Messages



Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
 - Services
 - Messages

How do I...

- Manage queue messages
- Manage distributed queue messages
- Manage topic durable subscribers

System Status

Home » PreopServer-1 » Configuration » JMS » JMS Modules » JMS_MODULE » MDB_QUEUE » Summary of JMS Messages

Summary of JMS Messages

This page summarizes the available messages for a stand-alone queue, a distributed queue, or a topic durable subscriber. Use this page to view message details, create new messages, delete selected messages, move messages to another destination, export message contents in XML format to another file, import XML formatted message contents from another file, or drain all the messages from a destination.

Click on a message to view its contents.

Message Selector:

Customize this table

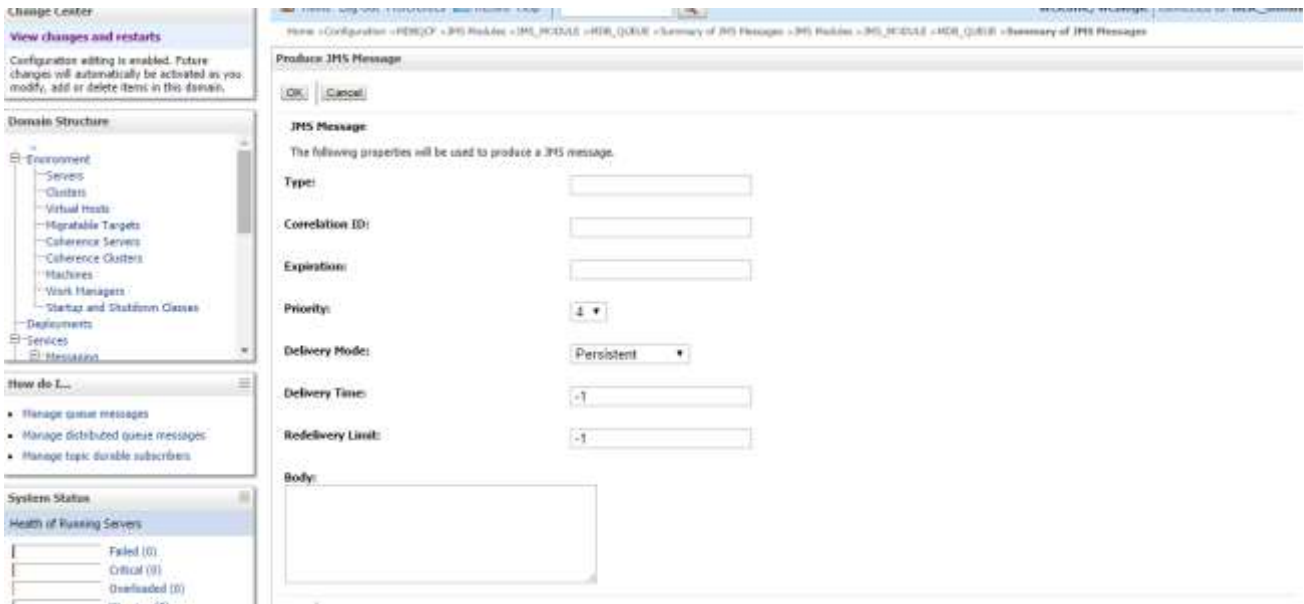
JMS Messages (Filtered - More Columns Exist)

View Delete Move Inject Export Showing 1 to 0 of 0 Previous Next

<input type="checkbox"/>	ID	Corrid	Time Stamp	State String	JMS Delivery Mode	Message Size
There are no items to display.						

View Delete Move Inject Export Showing 1 to 0 of 0 Previous Next

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



4) Message is Sent



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.

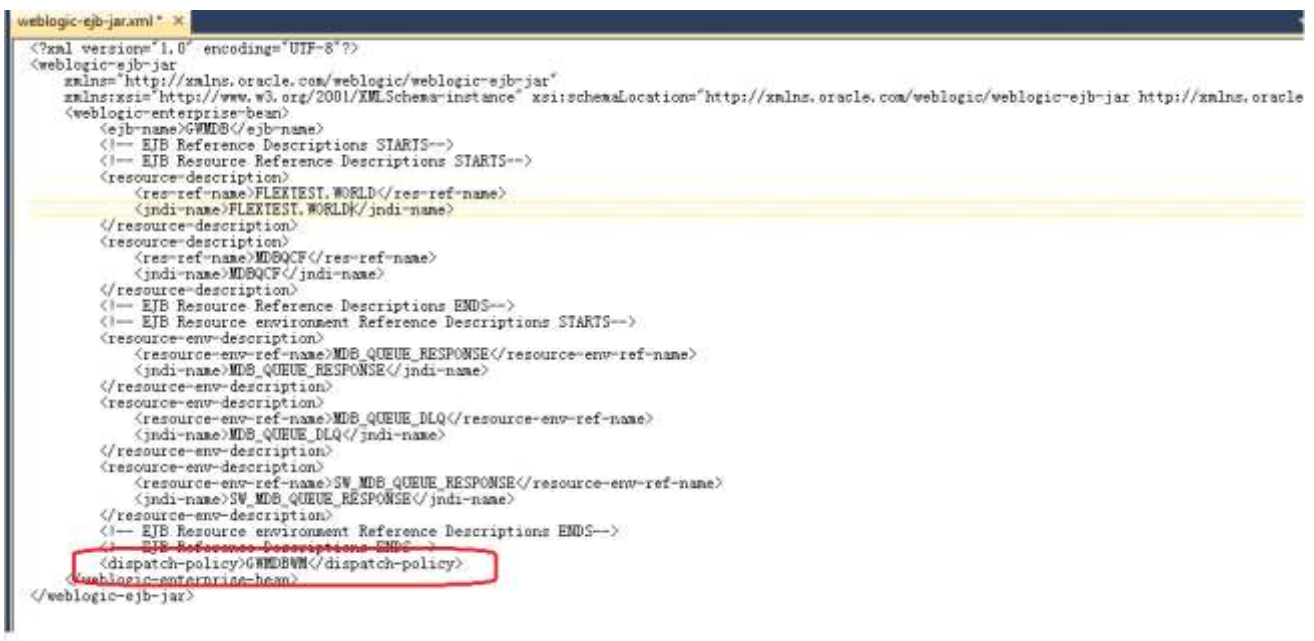
The solution is to create a work manager with a max threads constraint and assign the proxy services dispatch policy to this work manager.

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>

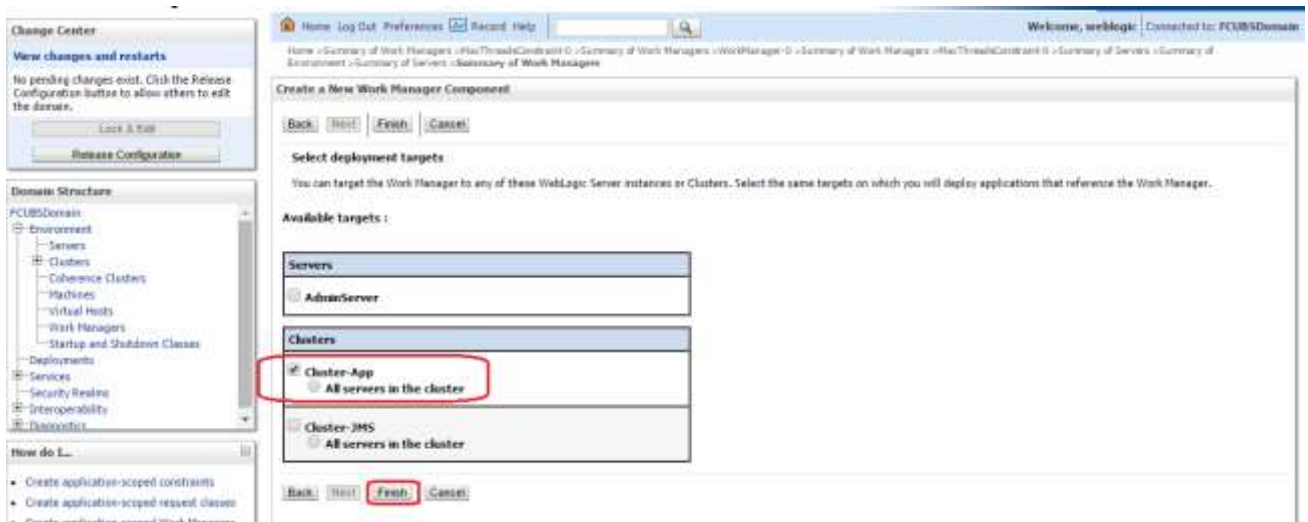
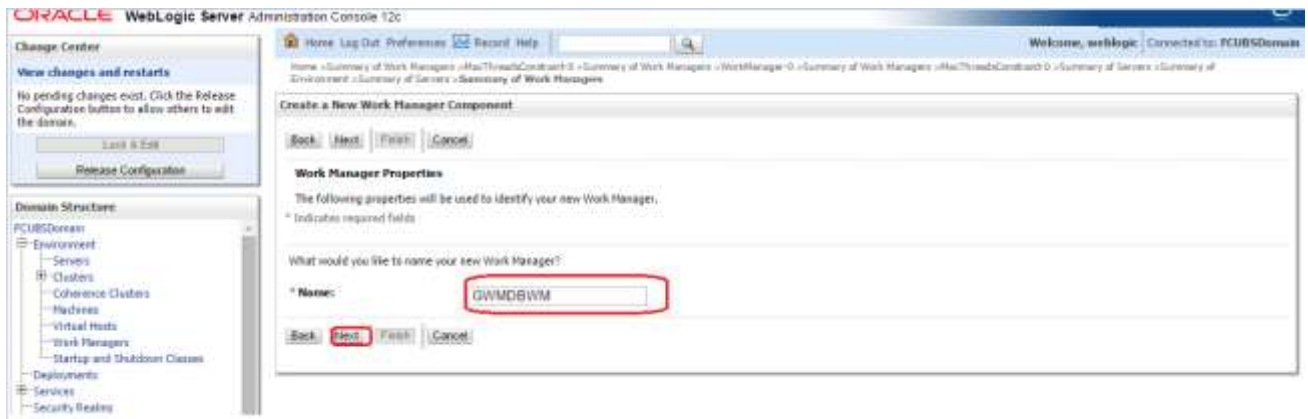
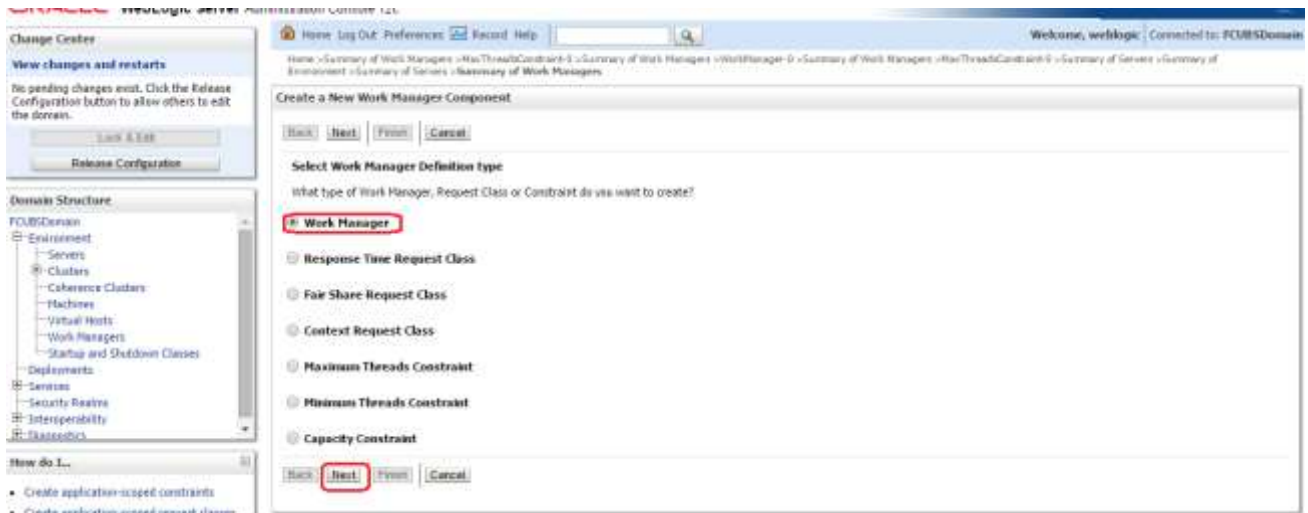


```
<?xml version='1.0' encoding='UTF-8'?>
<weblogic-ejb-jar
  xmlns='http://xmlns.oracle.com/weblogic/weblogic-ejb-jar'
  xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:schemaLocation='http://xmlns.oracle.com/weblogic/weblogic-ejb-jar http://xmlns.oracle.com/weblogic-enterprise-bean'
  <ejb-name>GWMDB</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 Reference 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 > MaxThreadConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadConstraint-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
MAXTHREAD	Work Manager	Cluster-App

Showing 1 to 1 of 1 Previous Next

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
 - Machine
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms
 - Interoperability
 - Diagnosics

How do I...?

- Create application-scoped constraints

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

Home > Summary of Work Managers > MaxThreadConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadConstraint-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

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
 - Machine
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms
 - Interoperability
 - Diagnosics

How do I...?

- Create application-scoped constraints
- Create application-scoped request classes
- Create application-scoped Work Managers

ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: FCUBSDomain

Home > Summary of Work Managers > MaxThreadConstraint-0 > Summary of Work Managers > WorkManager-0 > Summary of Work Managers > MaxThreadConstraint-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

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
 - Machine
 - Virtual Hosts
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms
 - Interoperability
 - Diagnosics

How do I...?

- Create application-scoped constraints

Create a New Work Manager Component

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

Buttons: Back, Next, **Finish**, Cancel

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.

Global Work Managers, Request Classes and Constraints

Name	Type	Targets
GWPBWH	Work Manager	Cluster-App
MaxThreadsConstraint-0	Maximum Threads Constraint	Cluster-App

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

Settings for GWPBWH

Configuration | Targets | Notes

Use this page to define the request classes and constraints for the selected global Work Manager.

Name: (No value specified) [Here Info...](#)

Request Class: (None configured) [New](#) [Here Info...](#)

Minimum Threads Constraint: (None configured) [New](#) [Here Info...](#)

Maximum Threads Constraint: (None configured) [New](#) [Here Info...](#)

Capacity Constraint: (None configured) [New](#) [Here Info...](#)

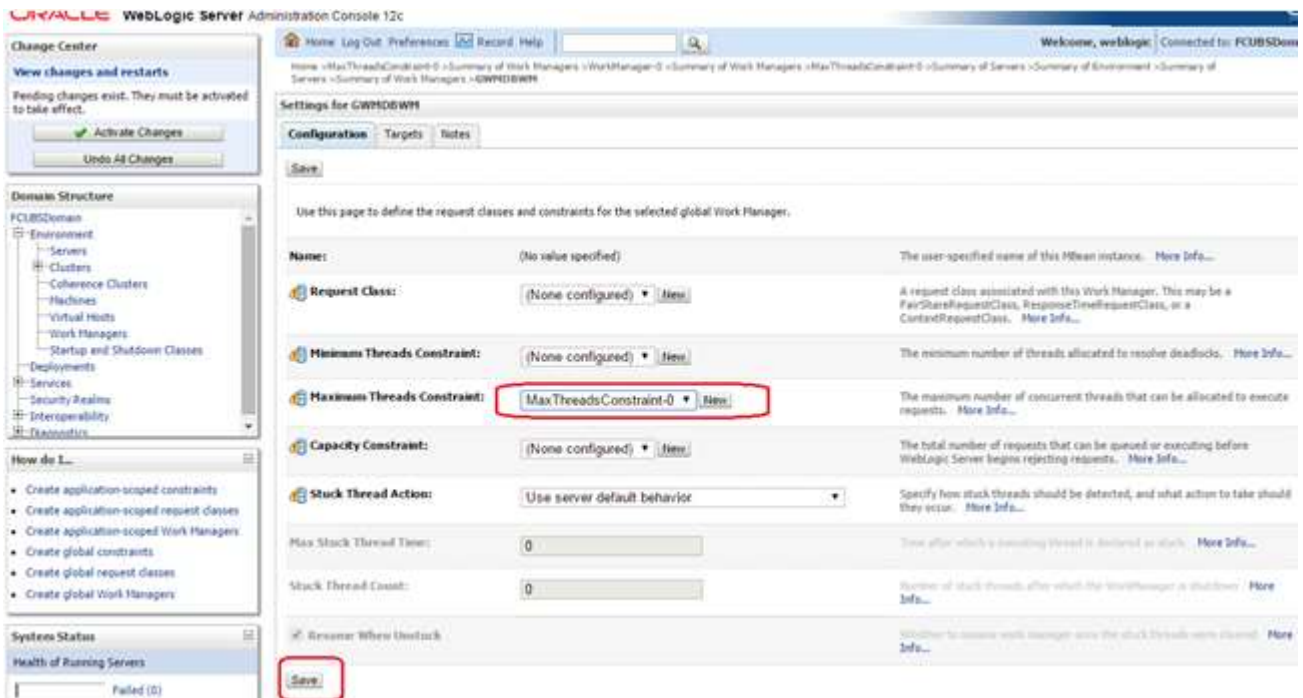
Stack Thread Action: Use server default behavior [Here Info...](#)

Max Stack Thread Time: 0 [Here Info...](#)

Stack Thread Count: 0 [Here Info...](#)

Reserve When Overload [Here Info...](#)

Buttons: Save



- 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



FCUBS JMS Cluster Configuration 12c
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