Configuring Weblogic Server Oracle Banking Payments Release 14.1.0.0.0 Part No E96620-01 Oct 2020

FINANCIAL SERVICES





Table of Contents

TA	BLE OF CONTENTS	
1.	INTRODUCTION	
1	1.1 PURPOSE OF THIS DOCUMENT	
2.	DOMAIN CONFIGURATION	
2 2	2.1 DOMAIN CREATION	
3.	CLUSTER CONFIGURATION	
3	3.1 MACHINES CONFIGURATION 3.2 DYNAMIC CLUSTER CREATION 3.3 MANAGED SERVER TEMPLATE CONFIGURATION 3.3.1 Logging 3.3.2 HTTP Logging 3.3.3 Stuck Tread Max Time	
4.	TUNING	
	 4.1 General Parameters 4.2 JVM TUNING 	
5.	START MANAGED SERVERS	
6.	DATA SOURCE CREATION AND JDBC CONFIGURATION	
6	 5.1 SETUP REQUIRED FOR OCI DRIVER	
7.	JMS RESOURCE CREATION	
8.	ORACLE WEBLOGIC LOAD BALANCING	
9.	FREQUENTLY ASKED QUESTIONS	
9 9	 MACHINE STATUS IS UNREACHABLE. HOW TO RESTART NODE MANAGER? SCALING UP DYNAMIC CLUSTER. SESSION TIMEOUT 	



1. Introduction

1.1 Purpose of this Document

The purpose of this document is to explain the steps required for Configuration and applying best practices in cluster mode for

- Weblogic Version 12.2.1.4.0
- JDK 1.8.0_241

1.2 WebLogic Server Overview

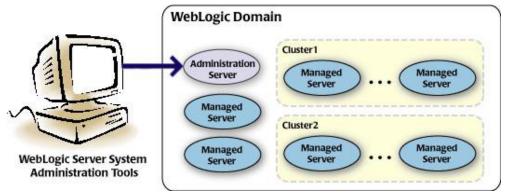
This section of the document provides brief explanation on the main components involved in WebLogic server

Domain

A domain is the basic administration unit for WebLogic Server instances. A domain consists of one or more WebLogic Server instances (and their associated resources) that is managed with a single Administration Server. Multiple domains can be defined based on different system administrators' responsibilities, application boundaries, or geographical locations of servers. Conversely, a single domain can be used to centralize all WebLogic Server administration activities.

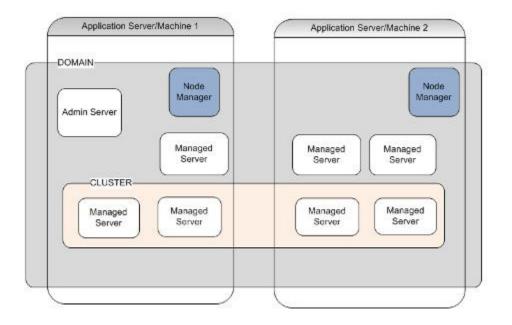
Each WebLogic Server domain must have one server instance that acts as the Administration Server. Administration Server can be used via the Administration Console or using the command line for configuring all other server instances and resources in the domain.

WebLogic Domain Structure





Weblogic 12c Domain Overview



Administration Server

A domain includes one WebLogic Server instance that is configured as an Administration Server. All changes to configuration and deployment of applications are done through the Administration Server. The Administration Server provides a central point for managing the domain and providing access to the WebLogic Server administration tools.

These tools include the following:

- WebLogic Server Administration Console: Graphical user interface to the Administration Server.
- WebLogic Server Node Manager: A Java program that lets you start and stop server instances both Administration Servers and Managed Servers remotely, and to monitor and automatically restart them after an unexpected failure.

Admin server start mode needs to be configured as Production Mode.

Managed Server

In a domain, server instances other than the Administration Server are referred to as Managed Servers. Managed servers host the components and as sociated resources that constitute your applications—for example, JSPs and EJBs.

When a Managed Server starts up, it connects to the domain's Administration Server to obtain configuration and deployment settings. In a domain with only a single WebLogic Server instance, that single server works as both the administration server and managed server.



Node Manager

The Managed Servers in a production WebLogic Server environment are often distributed across multiple machines and geographic locations.

Node Manager is a Java utility that runs as separate process from WebLogic Server and allows you to perform common operations tasks for a Managed Server, regardless of its location with respect to its Administration Server. While use of Node Manager is optional, it provides valuable benefits if your WebLogic Server environment hosts applications with high availability requirements.

If you run Node Manager on a machine that hosts Managed Servers, you can start and stop the Managed Servers remotely using the Administration Console or from the command line. Node Manager can also automatically restart a Managed Server after an unexpected failure.

Machine

A machine in the Weblogic Serve context is the logical representation of the computer that hosts one or more Weblogic Server instances(servers). The Admin Server uses the machine definitions to start remote servers through the Node Managers that run on those servers. A machine could be a physical or virtual server that hosts an Admin or Managed Server that belongs to a domain.

Managed Server Cluster

Two or more Managed Servers can be configured as a WebLogic Server cluster to increase application scalability and availability. In a WebLogic Server cluster, most resources and services are deployed to each Managed Server (as opposed to a single Managed Server,) enabling failover and load balancing.

The servers within a cluster can either run on the same machine or reside in different machines. To the client, a cluster appears as a single WebLogic Server instance.

Dynamic Cluster

A dynamic cluster is any cluster that contains one or more dynamic servers. Each server in the cluster will be based upon a single shared server template. The server template allows you to configure each server the same and ensures that servers do not need to be manually configured before being added to the cluster. This allows you to easily scale up or down the number of servers in your cluster without the need for setting up each server manually. Changes made to the server template are rolled out to all servers that use that template.

You cannot configure dynamic servers individually; there are no server instance definitions in the config.xml file when using a dynamic cluster. Therefore, you cannot override the server template with server-specific attributes or target applications to an individual dynamic server instance.



When configuring your cluster you specify the maximum number of servers you expect to need at peak times. The specified number of server instances is then created, each based upon your server template. You can then start up however many you need and scale up or down over time according to your needs. If you need additional server instances on top of the number you originally specified, you can increase the maximum number of servers instances (dynamic) in the dynamic cluster configuration.

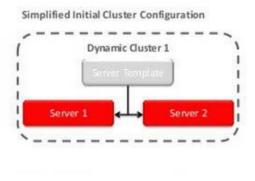
Server Templates

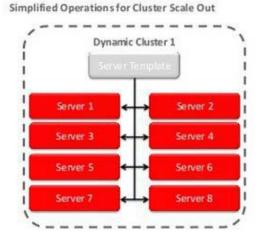
A single server template provides the basis for the creation of the dynamic servers. Using this single template provides the possibility of every member being created with exactly the same attributes. Where some of the server-specific attributes like Servername, listen-ports, machines, etc. can be calculated based upon tokens.

You can pre-create server templates and let Weblogic clone one when a Dynamic Cluster is created.

When none is available a server template is created with the Dynamic Cluster. The name and the listen ports are the only server template attributes that you provide during Dynamic Cluster creation.

Simplified Configuration with Scalability and Elasticity





1.3 Pre-Requisites

In this document, we are going to create a domain with two managed servers. The managed servers are going to be created on two different physical servers (nodes). Note that, this document has been prepared based on a test conducted in Linux servers.

This requires Weblogic Server of same version to be installed on both the machines and services



Environment

2 servers where linux is installed, 1 will be primary where admin console will be running along with managed servers and the other where only managed servers will be.

Softwares

1) Oracle Weblogic Server 12.2.1.4.0 installed on both the machines under same folder structure.

2) JDK 1.8 Latest available version installed on both the machines. In this document

JDK1.8.0_241 version is used.

Clock Synchronization

The clocks of both the servers participating in the cluster must be synchronized to within one second difference to enable proper functioning of jobs otherwise it will lead to session timeouts.

Enable Graphical User Interface (GUI)

Establish a telnet or SSH connection to primary server. Start X- manager (or any similar tool) in windows desktop. Export DISPLAY environment variable to the machine IP where x-manager is running.

Syntax: export DISPLAY=<ip-address>:<port> Test using xclock



2. Domain Configuration

2.1 Domain Creation

Weblogic domain creation and configuration will be done from primary server.

From primary server, launch the fusion Middleware configuration wizard using the command

config.sh available under \$WLS_HOME/common/bin directory.

1) In the Welcome screen, select "Create a new domain" option. Enter the domain name and Click on Next.

Configuration Type			
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Configuration Summary Configuration Progress End Of Configuration	What do you want to do? Create a new domain Domain Location: /scratch/app/w12c/user Create a new domain.	_projects/domains/FCUBSDomain	BLowse
Help		< Back Next > Einish	Cancel



2) Select the required templates from **Available Templates** and click **Next**.

Templates	
Create Domain Templates	 Oreate Domain Using Product Templates:
Administrator Account Domain Mode and JDK Advanced Configuration Configuration Summary Configuration Progress End Of Configuration	Template Categories: All Templates Available Templates Basic WebLogic Server Domain - 12.1.3.0 [wlserver] * WebLogic Advanced Web Services for JAX-RPC Extension - 12.1.3.0 [oracle_common] WebLogic Advanced Web Services for JAX-WS Extension - 12.1.3.0 [oracle_common] WebLogic Coherence Cluster Extension - 12.1.3.0 [wlserver] WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [oracle_common] WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [oracle_common]
	Create Domain Using Custom Template: Template location: /scratch/app/wl12c Browse
Help	< <u>Back</u> <u>Next</u> > <u>Einish</u> Cancel

3) Specify Administrator User Name and Password.

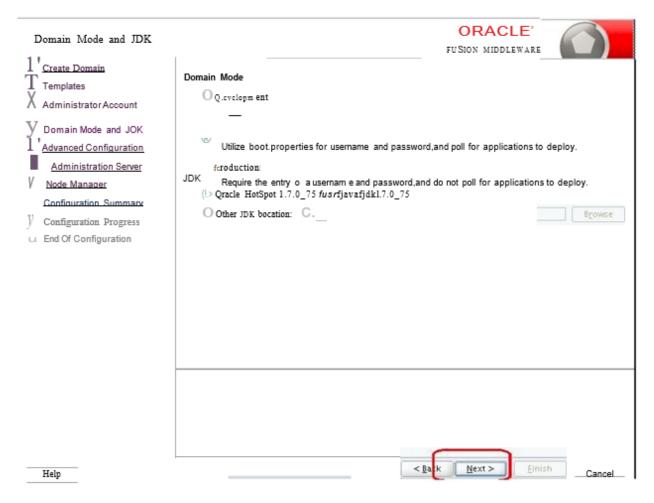
- > The specified credentials are used to access Administration console.
- You can use this screen to define the default WebLogic Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server. Click Next.



Administrator Account	
🕂 Create Domain	1
Templates	
Administrator Account	
Domain Mode and JDK	
Advanced Configuration	
Configuration Summary	
Configuration Progress	
End Of Configuration	Name weblogic
	Password ••••••
	Confirm Password
	Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least
	one number or special character.
Help	< <u>Back</u> Next > Finish Cancel

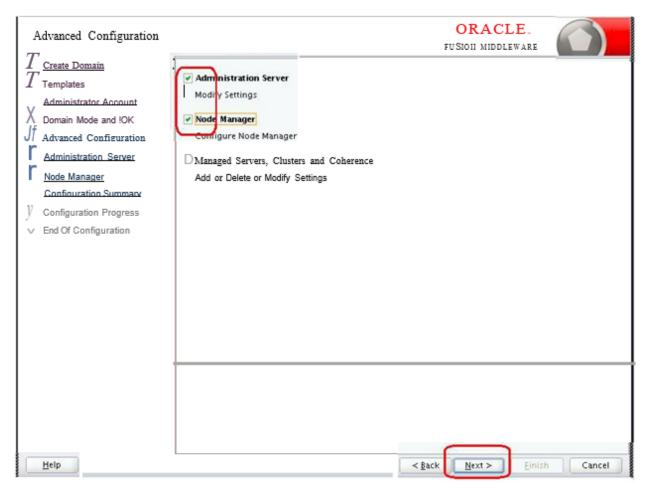


4) Select Server Startup as **Production Mode** and the available JDKs. Click **Next**.





5) Select the check box adjacent to Administration Server and Node Manager Click Next.





6) Specify the Administration server Listen address and Listen port.

Administration Server				F			
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Administration Server Node Manager Configuration Summary Configuration Progress End Of Configuration	SSL Listen Port	7001	35, and differ				
Help	-		ĺ	< <u>B</u> ack	<u>N</u> ext >	<u>E</u> inish	Cancel

Note: The default Listen port is 7001 and SSL port is 7101. This could be changed to any other available port. Ensure to make a note, of this port since the same is required for launching the Admin console, post domain creation.

Note: Check for the port availability using the command - netstat -anp |grep <Port no>

The next screen navigates to **NodeManager configuration**.

7) Configure Node Manager

Select Per Domain Default Location option from Node Manager Type. And in the Node

Manager Credentials, provide the usernam e and password for the nodem anager Click Next.



Node Manager	
$T rac{ ext{Create Domain}}{ ext{T}}$ Templates	
Administrator Account Domain Mode and	
!OK	Node Manager Twe
T Advanced Configuration	((!) P}r Qomain Default Location
X Administration Server	O Per Domain ustom Location
V Node Manager	
1	Node Manager Home: P'PJVL>112s/user_projects/dom ains/FCUBSDom ain/nodem anag) [8rowse
<u>Configu</u>	O ManualNode Manage ç Setup
Configuration Progress	Node Manaoer O'edential
End Of Configuration	Username:
	Password:
	Must be the same as the password.Password must contain at least 8 alphanumeric characters WAth at least one number or special character.

8) Verify the details and click **Create**. The domain creation process is initiated and the progress of completion is indicated.



Configuration Summary					
<pre>1 'Create Domain Templates Administrator Account Domain Mode and !OK Advanced Confinuration Advanced Confinuration Administration Server Node Manager V Configuration Summary Configuration Progress End Of Configuration</pre>	View: Deployment FCUBSDomain (/scratch/app/w12c/user_projects/ AdminServer AdminServer Select Oeate to accept the above options and stan creatabove configuration before starting Domain Creation.go left pane,or by using the Bac:k button.	Name Description Author Location	Basic Wi Create a Oracle o /scratcl	ebLogic Server a basic WebLog Corporation h/app/w12c/v	c Server domain Aserver/commo
J::lelp		< <u>B</u> ack	Next >	<u>C</u> reate	Cancel

9) Click Next.



Configuration Progress		F	ORACLE'	
+		100-		
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!ielp		< <u>B</u> ack	Next > Eini	sh Cancel

10) The Configuration Success message will be displayed as follows:





The Admin Server console URL is as indicated below:

http://<IP address>:<admin console port>/console

- <IP address >: Host on which domain was created.
- <admin console port> : Port specified in Administration Server configuration page.

In this case the Admin Console URL is: https://<server1hostname>:7101/console

2.2 Pack and Unpack Domain

The domain structure is expected to be copied to the second server during domain creation. To copy the same, you can use pack and unpack utility provided under \$WLSHOME/common/bin.

Pack

Pack domain in primary server:



./pack.sh -managed=true -domain=/scratch/app/wl12c/user_projects/domains/FCUBSDomain

- template=/tmp/FCUBSDomain.jar -template_name="FCUBSDomain"

Unpack

Unpack FTP FCBUSDomain.jar in binary mode to secondary server under /tmp area and unpack the domain using unpack utility provided under \$WLSHOME/common/bin

./unpack.sh -domain=/scratch/app/wl12c/user_projects/domains/FCUBSDomain

- template=/tmp/FCUBSDomain.jar

2.3 Start Admin server

Admin server is started on the primary server. Login to primary server and navigate to folder \$DOMAIN_HOME/bin and execute startWeblogic.sh.

2.4 Start Node Manager

Node Manager needs to be started on both the servers. Before starting the node manager update ListenAddress to the Hostname/IP Address of the machine in nodemanager.properties located in folder \$DOMAIN_HOME/nodemanager

To start the node manager login to the servers and navigate to folder \$DOMAIN_HOME/bin and execute **NodeManager.sh**



3. Cluster Configuration

Dynamic Cluster configuration involves below steps

1) Machine Configuration

2) Dynamic Cluster Creation: In a normal WebLogic Cluster you define Managed Server and add them to Cluster. In Dynamic Cluster, you select number of Servers you want in Cluster and Server Template you wish to assign to Servers in this WebLogic Dynamic Cluster.

3) Server template modification: Servers (or Managed Server) that are part of WebLogic

Dynamic Cluster will have properties taken from Server Template.

Modify server template for best practices parameters for Dynamic Servers (part of Dynamic Cluster), you modify Server Template that is applicable to Dynamic Cluster. These settings are applicable to all the managed servers.

4) Activate Changes which would automatically create the managed servers (as mentioned in the number of servers required parameter).

Calculate Number of Servers Required:

For every 50 logged in Oracle Banking users require one managed server of size 4GB. i.e. for 300 logged in Oracle Banking users, it is recommended to have 6 managed servers. Based on the logged in users that needs to be supported decide on the number of the managed servers required. This parameter is required later in the dynamic cluster creation.



3.1 Machines Configuration

1) Login into Admin Console and Navigate to FCUBSDomain \rightarrow Environment \rightarrow Machine and

Click New.

ORACLE WebLogic Server	dministration Console 12c		<u>Q</u>
Change Center	🔒 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Summary of Machines		
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Machines		
Lock & Edit Release Configuration	server in a cluster to which certain tasks, such as HTTP sess servers.	ion replication, are delegated. The Administration Server u	VebLogic Server uses configured machine names to determine the optimum ses the machine definition in conjunction with Node Manager to start remote
Domain Structure	This page displays key information about each machine that	t has been configured in the current WebLogic Server doma	in.
FCUBSDomain	Customize this table		
Clusters	Machines		
Coherence Clusters Machines	Click the Lock & Edit button in the Change Center to activa	ate all the buttons on this page.	
Virtual Hosts Work Managers	New Clone Delete		Showing 0 to 0 of 0 Previous Next
Startup and Shutdown Classes Deployments	💿 Name 🏟		Туре
		There are no items to display	
Interoperability Jinopostics	New Clone Delete		Showing 0 to 0 of 0 Previous Next
How do I	l — — — — — — — — — — — — — — — — — — —		
Create and configure machines			
Assign server instances to machines			
Clone machines			

2) Enter the machine name and click Next.

ORACLE WebLogic Server A	Ininistration Console 12c	0
Change Center	A Home Lag Out. Preferences and Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Summary of Machines	
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New Machine	
Release Configuration	Machine Identity The following properties will be used to identify your new Machine. * Indicates required fields	
FCUESDensin FCUESDensin Forwas Countees C	What would you like to name your new Machine? * Marke: Specify the type of machine operating system. Machine OS: Dither Bios Next Provin Cancel	
How do I		



3) Enter the **Listen Address** and **Listen Port** (this is the port mentioned in nodemanager.properties file) and click **Finish.**

CHARTER Mebrodic selver	seministration Console 120	
Change Center	Home Lag Out Preferences God Record: Help	Welcome, weblogic Connected to: FCUBSDoesan
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tio pending changes with. Click the Release Configuration batters to allow others to edit the density. Loss & Edit Release Configuration	Create a New Machine Back Binit [Fanh] Cancel Node Hanager Properties Imager Properties Imager Properties	
	The following properties will be used to configure the Hude Manager on this machine.	
Domain Structure	What type of Node Planager is naming on this server, and what protocol should be used to communicate	e with it?
FC05Donan B Sevenent Seven B Clasters Coherens Clasters Hadrines Hadrines Hadrines Hadrines Startup and Batterin Classer Seven B Server B Server B Server B Server B Server B Server	Type: SSL • Por 4 Jave based tode mensager, orbit access stringert acting priod to listen et? Listen Address: Listen Port: S556 For a script based node manager. Moder Manager items:	
How do L_	shell Command:	
Create and coefigure machines Assign server instances to machines Delete machines	Back, Telen Carcel	
System Status		
Health of Running Servers		

4) Machine is created

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Click the Lock & Edit button to modify, add or delete items in this domain.	Hennages All changes have been activited. No restarts are recessar	19-	
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How do Let 🗧 🗟	Name Clene Dolete		Showing 1 to 1 of 5 Previous Next
Create and configure machines Analge server instances to machines Orice machines Delete machines	Electrical de la Constantia de la Consta		



5) Similarly create a **new machine** entry for the other server.

Change Center	A Home Log Out: Preferences 🖾 Record Help	R Welcome, weblogic Connected to: PCUBSDomai
View changes and restarts Click the Lock & Edit bettan to modify, add ar delete Herrs in this domain.	Non-stansmay of Heckleys MicsHoges W All changes have been activated. No restarts are recessary.	
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- Deployments 8-Services	[Heu] (Clore) [Deste]	Showing 1 to 2 of 2 Previous Next
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		1000 C C C C C C C C C C C C C C C C C C
E-Distriction Iow do L.	E Hadviez	Madrine

Verifying machine status

Before starting the managed servers, ensure that the Node manager Status of all the machines are "Reachable".

In the console, navigate through Domain structure \rightarrow Machines \rightarrow machine1 \rightarrow Monitoring \rightarrow

Node Manager Status. Status should be Reachable.

ORACLE WebLogic Server A	dministration Console 12c		0
Change Center	👔 Home Log Out Preferences 🖾 Head Held	9	Welcome, weblagic Connected to FCUBSDomain
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Click the Lock & Bolt batton to modify, add or delete items in this domain.	Settings for Machinet		
Lock & Entl	Configuration Homitoring Notes		
Release Configuration	Node Manager Status Node Nonager Log		
Domain Structure PCUBSDomain PCUBSDomain PCUBSDomain Servers	This page allows you to view current status inflar Statust	nation for the Node Manager instance configured f Reachable	for this machine.
Costers Server Templates Hightable Targets Coherenses Clusters Nachines Winduk Hests Wink Nacions	Version:	12.13	Section string returned from the Node Managery - More Tetra



3.2 Dynamic Cluster Creation

1) Login into Admin Console and Navigate to FCUBSDomain \rightarrow Environment \rightarrow Clusters \rightarrow

New →select Dynamic Cluster.

ORACLE WebLogic Server	Administration Console 12c						<u> </u>
Change Center	🙆 Home Log Out. Preferences 🖬 Record	d Help				Welcome, weblogic Connected	to: FCUBSDoes
View changes and restarts	Rome - Machinel - Summary of Placheses - He Resistors	chineL -Summary of Plachines	Haching Summary of	Servers - Sormary of Hachines >	Hacking >Summary of S	irvert -Summary of Chattere	
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Operation cancelled						
Lock & Edit	Summary of Ousters						
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- Hadnines Virtual Hosts	Chater Dester Address C	Juster Hessaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
-Work Planagers	Denamic Gaster		There are	no items to display			
Startup and Stutidown Classes Deployments Sensites Sensite Reakes	Nervi (Ctra) (Date)					Shewing 8 to 0 of 0. A	Previous Next
How do 1	1						
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2) Enter the Cluster Name and Click on Next.

	dministration Console 12c		Q
Change Center	🔒 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Summary	of Machines >Machine2 >Summary of Servers >Summary of Ma	chines >Machine2 >Summary of Servers >Summary of Clusters
No pending changes exist. Click the Release Configuration button to allow others to edit the domain. Lock & Edit Release Configuration	Create a New Dynamic Cluster Back Next Frish Cancel Specify Cluster Identity and Properties The following properties will be used to identify your new of the following properties will be used to identify your new of the following properties will be used to identify your new of the following properties	dynamic cluster and specify how cluster members should c	ommunicate with each other to coordinate work.
Domain Structure	* Indicates required fields		
FCUBSDomain Environment FCUBSters Generation Forest Fores		ons to subscribe to a given IP address and port number an	nembers. Clusters can use either unicast or multicast messaging. Multicast is a d listen for messages, but requires hardware configuration and support. Unicast
How do I	Multicast Address:	239.192.0.0	
Create dynamic clusters Configure clusters Configure server migration in a cluster Configure cross-cluster replication	Multicast Port: Back Next Finish Cancel	7001	
Create server templates			



3) Enter the number of dynamic servers you want to configure, enter the server name prefix and click on **Next**.

Change Center	🛍 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDomai
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Summary of Machine2 >Summary of S	ervers >Summary of Machines >Machine2 >Summary of Servers >Summary of Clusters
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New Dynamic Cluster	
Release Configuration	Specify Dynamic Server Properties The following properties will be used to specify the size and characteristics of your new dynami	c duster.
Domain Structure	How many dynamic servers will you need at peak load?	
FCUBSDomain A		
Ervironment Servers ⊡-Clusters	Number of Dynamic Servers:	
Server Templates	What naming convention would you like to use for new dynamic servers in this cluster?	
	Server Name Prefix: FCUBSMS	
Virtual Hosts Work Managers Startup and Shutdown Classes	Server templates are used to configure the characteristics that are common to all dynamic serve new server template will be created to support this new cluster.	rs in this cluster. Server templates are unique to a cluster and cannot be shared across clusters, so a
Services Services	Back Next Finish Cancel	

4) Select Machines that participate in domain, in this case all machines will be part of the domain, select Use any machine configured in this domain and click on **Next**.

Change Center	A Home Log Out Preferences 🛃 Record Help	9	Welcome, weblogic Connected to: PCUBSDonusio
view changes and restarts	Hore effectivel charactery of Machines of Automatical	enery of Harlows (Harlow) (Summer of Servers (Summer) of S	Nachines all actions? a Sammery of Servers a finesessary of Classess
to pending dranges exist. Click the Release Cerfiguration bottom to allow others to edit the domain. Lock & Doll Release Coefiguration	Create a New Dynamic Cluster Box. Itest. Frinth Canot. Specify Hackine Bindings Associating dynamic servers with machines is asser	tal if you intend to use Node Nanager and the Administration	Canadie (ar WLST) to start server instances.
Demain Structure COREDemain Services Services Collector	How do you want to distribute dynamic servers actives		
New de L. 🖯			



5) Select the listen port for the first server in the dynamic cluster and then the SSL listener port for the first server in the dynamic cluster. The subsequent servers will be assigned with an incremental port number. Click **Next**.

ORACLE WebLogic Server	Idministration Console 12c		9
Change Center	🙆 Home Log Out: Preferences 🖾 Record Help	A.	Welcone, weblagic Connected to: PCUBSDomain
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Configuration button to allow others to edit the domain.	Back Next Front Carcel		
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Release Configuration	Specify Listen Port Bindings		
Trees runs and	Select how these dynamic servers should be bound to listen ports.		
Donain Structure	Usten ports for dynamic servers can be specified in a server temptal	te or can be donamically generated to be smigue.	
PCUB(Domain -			
E-Entroperant Servers	# Assign each dynamic server unique listen ports	\frown	
El-Chotens Server Templates	Listen Port for First Server:	7002	
Coberrence Clusters Hechtres	SSI. Listen Part for First Server:	7102	
- Vetual Hosts Work Managers	Assign each dynamic server fixed listen ports	0 0 0	
E-Startup and Shutdown Classes Deployments E-Services	Listen Port:	7100	
-Senzity Realms	SSI, Listen Parts	8100	
How do La			
Create dynamic clusters	Back Next Print Cancel		
 Configure dusters 			

6) Summary of new Dynamic Cluster configuration is presented. Click **Finish** to create.

Change Center	🔒 Home Log Out: Preferences 🖂 Record Help	Welcore, weblogic Corrected to: PCUBSDomail
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	Server Name Profix:	FOLIEGHIS
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Work Managers Startup and Shubdown Classes	Enable Calculated Machine Associations:	true -
En Services	Configuration details for new server template:	
1 Sen rity Realms	Name of New Server Template:	FOUBSMSTemplate
	Listen Port:	7062
 Create dynamic clusters Configure clusters 	SSL Listen Part:	7382
Configure server migration in a duster Configure cross-dister replication	Back Hert Fresh Cancel	



7) The Summary of Clusters screens should show the recently created Dynamic Cluster.

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8) Upon Activate Changes would automatically create 4 managed servers.

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 Services Service Realma 	Hins of Class	Delate					Showing 1 to	1 of 1 Previous (Next

9) Navigate to FCUBSDomain \rightarrow Environment \rightarrow Servers tab and 4 new servers are created

Change Center	I rame Log Out Po	dermons 🛃 Toriari Help		9			Welconst, weblog	pic Connected by FCURSONNA
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delete thems in this dumain.	Configuration Con	ed]						
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3.3 Managed Server Template configuration

The server template created is modified to apply the below parameters

3.3.1 Logging

The process of log file writing in a Weblogic server can impact the performance. Hence, you need to keep the logging to minimum in a production environment.

Update below parameters by in Logging Screen

Minimum Severity to log	Warning
Log file Severity level	Warning
Standard Out Severity level	Critical
Domain broadcaster Severity level	Critical

1) Navigate to FCUBSDomain \rightarrow Environment \rightarrow Clusters

Change Center	Home Log Out Preferences 🔤 Re	ecord Help	Q		Welcome, weblogic Connected to: FCUBSDoma
View changes and restarts	Home >Machine2 >Summary of Servers >S Templates	Summary of Machines >Machine2 >Summary	of Servers >Summary of Clusters	s >Summary of Servers >Summary of	f Server Templates >FCUBSMSTemplate >Summary of Server
Pending changes exist. They must be activated to take effect.	Summary of Server Templates				
Activate Changes Undo All Changes Domain Structure	A server template contains common, r	mplate that has been configured in the c non-default attributes that you can apply server instances in one centralized locati	to a set of server instances, w		nfiguration. Server templates enable you to easily
FCUBSDomain					
⊖-Environment →Servers ⊖-Clusters →Mgratable Targets	Customize this table Server Templates New Cone Delete				Showing 1 to 1 of 1 Previous Next
B-Environment Servers Clusters Migratable Targets Coherence Clusters Machines	Server Templates	Cluster	Machine	Listen Port	Showing 1 to 1 of 1 Previous Next
Environment Servers Clusters Magnatable Targets "Coherence Clusters "Machines "Wirtual Hosts	Server Templates	Cluster FCUBSCluster	Machine	Listen Port 7002	
B-Environment Servers Clusters Migratable Targets Coherence Clusters Machines	Server Templates New Clone Delete Name	PL-PLA	Machine		

2) Select FCUBSTemplate and naviage to Logging \rightarrow General

A Home Log Out Preferen	ces 🐼 Record Help	9	Welcome, weblogic Connected to: FCUBSDom
Home >PCUBSMSTemplate >So	mmiry of Server Templates >FCU85P	tSTemplate	
Settings for FCUBSMSTemp	olate		
Configuration Protocols	Logging Debug Notes		
General HTTP Data Se	Diagnostic Images		
Save			
Use this page to define the	general logging settings for this se	rver.	
🕂 Log file name:	logs/FCUBSMSTemp	iate.log	The name of the file that stores current log messages. Usually it is a computed value based on the name of the parent of this MBean. For example, for a server log, it isSERVER_NAME.log. More Info
Rotation			
C. C. Lawrence and C.	12121		Possible Production of the Construction of the



'Y Advanced		1
🕼 Date Format Pattern:	MMM d_{\circ} yyyy h mm:ss a z	The date format pattern used for rendening dates in the log. The Diste Form at Pattern string conforms to the specification of the) ava.text.S.mpleDisteform at dass. More Info
Minimum severity to log.(waming •)	The mor mum seventy or log messages goong to all log desbnabons. By default all R165ag5 are published. More Info
logger severity properties:		The configurabon of the different logger seventies keyed by name. The values are one of the predefined Seventy strings namely Emergency AJert, Cubcal, Error, Warmug, Nobce, Info, Debug, Trace. More Info.
	2	
log file :		
Serverity vel:	Warning •	Themmtmum severity of log ssages gong to the server log file. By default all messages go to the log file. More Info
Filter:	None -	The filter configuration for the server log file. t.tore Info
Log Fole Buffer:	8	Gets the underlying log buffer slzeln lalobytes More Infa
Standard out:		
Severity level:	Critical -	The mimmum seventy of log messages going to the standard out. Messages With a lower seventy than the speofted value Will not be published to standard out. More Info
Filter:	None •	The filter configuration for log events being sent to the standard out. More Info
	ntical T	Them lmmum seventy of log messages gong to the dom am log from this server's log broadcaster. Messag With a lower seventy than the speafied value will not be poblished to the domain log. low info
Filter:	None -	The filter configuration for log events being sent to the domain log. lore Info
Buffer Size:	10	Broadcasts log messages to the domam log '" batch mode. love Info
** Stack Traces to stdout		Speafles whether to dum p stack traces to the console when mduded m logged message. (Nore lnfo
stdout Stack Trace Depth :	5	O eterm mes the no of stacktrace frames to display on standard out.All frames are displayed in the log file1 means all frames are displayed. More Info
stdout Fomlat :	standard	The output format to use when loggmg to the console. More Info

3) Under Advanced Tab, update the below parameters and Click on **Save**.



3.3.2 HTTP Logging

1) FCUBSDomain \rightarrow Environment \rightarrow Clusters \rightarrow FCUBSTemplate \rightarrow Logging \rightarrow HTTP \rightarrow Uncheck the Access Logs Flag.

🗈 Home Log Out Preferences 🔛 Re	SSPECIAL CONTRACTOR OF STREET	Welcome, weblogic Connected to: FCUBSDo
Home >FCU85NSTemplate >Summary of S	erver Templates >FCUBSMSTemplate	
ettings for FCUBSMSTemplate		
Configuration Protocols Logging	Debug Notes	
General HTTP Data Source Di	agnostic Images	
Save		
Use this page to configure HTTP loggin server log file or the domain log file.	ng for the server. By default, HTTP logging is enabled and t	e server saves HTTP requests in a separate log file; it does not store HTTP requests in the
Use this page to configure HTTP loggin server log file or the domain log file.	ng for the server. By default, HTTP logging is enabled and t	e server saves MTTP requests in a separate log file; it does not store MTTP requests in the Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info
server log file or the domain log file.	ng for the server. By default, HTTP logging is enabled and the server. By default, HTTP logging is enabled and t	Indicates whether this server logs HTTP requests. (The remaining fields on
server log file or the domain log file.	logs/access.log	Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info The name of the log file. More Info
server log file or the domain log file.		Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info

3.3.3 Stuck Tread Max Time

1) FCUBSDomain \rightarrow Environment \rightarrow Clusters \rightarrow FCUBSTemplate \rightarrow Tuning, update the stuck thread max time to 900 and Click on **Save**.

🖬 Home Log Out Preferences 🔤 Reco	ord Help	Welcome, weblogic Connected to: FCUBSDo
Home >FCU85MS7emplate >Summary of Ser	ver Templates >FCUIISMSTemplate	
ettings for FCUBSMSTemplate		
Configuration Protocols Logging	Debug Notes	
General HTTP Data Source Diag	nostic Images	
Save		
the this pass to configure MTTD Incolor.	For the senser Buddfadt MTTD lessing is applied and the	cannot stone MTTD concursts in a concerning los files it does not store MTTD concursts in the
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	for the server. By default, HTTP logging is enabled and the	server saves HTTP requests in a separate log file; it does not store HTTP requests in the
server log file or the domain log file.	for the server. By default, HTTP logging is enabled and the	
	for the server. By default, HTTP logging is enabled and the	server saves HTTP requests in a separate log file; it does not store HTTP requests in the Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) Hore Info
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server log file or the domain log file.		Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) Hore Info
server log file or the domain log file.		Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info
server log file or the domain log file. HTTP access log file enabled Cog file name: Rotation Rotation type:	logs/access log By Size 💌	Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info The name of the log file. More Info Criteria for moving old log messages to a separate file. More Info
server log file or the domain log file. HTTP access log file enabled Cog file name: Rotation	logs/access log	Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info The name of the log file. More Info



4. Tuning

4.1 General Parameters

PARAMETER	VALUE	Navigate To
JTA Time out seconds	900	Login to Weblogic Server console. Click on the domain name (ex: FCUBSDomain) which is under 'Domain Structure'.
		Go to Configuration > JTA, parameter and values is found on the right side panel of console.
Session Timeout	900	Login to Weblogic Server console Click on Deployments which is under 'Domain Structure'. Click on the deployed FCJ application from right side panel. Click on FCJNeoWeb from 'Modules and components'. Go to Configuration General, the parameter values can be found here.

4.2 JVM Tuning

This section of the document provides JVM optimization for Oracle Banking Payments Solution.

It is strictly recommended to use 64 bit JVM for OBPM installation, as 32 bit JVM is obsolete for enterprise application and imposes a restriction on heap size to 4GB.

The JAVA minimum and maximum heap size needs to be reset for 32 and 64 bit environments. Both the minimum and maximum heap size is set to 1.5GB and 4GB in case of 32 bit and 64 bit environments respectively.

How to find whether the JVM is 32bit or 64bit?

Go to \$JAVA_HOME/bin directory. Check java version using command ./java –d64 – version 64 bit JVM shows the version details where as 32bit throws an error.



How to modify the JVM heap parameters?

To change the JVM heap parameters modify setDomainEnv.sh under domain FCUBSCL in both servers. This file is located at

"\$WL_HOME/user_projects/domains/\$WLS_DOMAIN/bin" in both the servers.

Use below USER_ MEM_ARGS variable to override the standard memory arguments passed to java for SUN JDK.

32 bit JDK

```
USER_MEM_ARGS="-
```

```
Dorg.apache.xml.dtm.DTMManager=org.apache.xml.dtm.ref.DTMManagerDefaul t
```

_

```
Dorg.apache.xerces.xni.parser.XMLParserConfiguration=org.apache.xerces.
parsers.XML11Configuration -Dweblogic.threadpool.MinPoolSize=100 -
Dweblogic.threadpool.MaxPoolSize=100 -Xms4096M -Xmx4096M -server -
XX:+UseParallelOldGC - XX:ParallelGCThreads=4"
```

export USER_MEM_ARGS

64 bit JDK

```
USER_MEM_ARGS="-
Dorg.apache.xml.dtm.DTMManager=org.apache.xml.dtm.ref.DTMManagerDefault
- Dorg.a
pache.xerces.xni.parser.XMLParserConfiguration=org.apache.xerces.parser
s.XML11Configuration -Dweblogic.threadpool.MinPoolSize=100 -
Dweblogic.threadpool.MaxPoolSize=100 -Xms8g -Xmx8g -server -d64 -
XX:+UseParallelOldGC -XX:ParallelGCThreads=4"
```

export USER_MEM_ARGS

Note: Take a backup of the files before modifying the same.



5. Start Managed Servers

Starting using scripts

Managed Servers can be started by executing startManagedWebLogic.sh script present in folder

\$DOMAIN_HOME/bin

Usage: ./startManagedWebLogic.sh SERVER_NAME {ADMIN_URL}

Eg: ./startManagedWeblogic.sh FCUBSMS1 https://<hostname1>/console

Starting using console

Alternatively, login to admin console, navigate to FCUBSDoamin \rightarrow Environment \rightarrow Servers

 \rightarrow Control, select the managed servers to be started and click on **Start**.

Change Center	R Hume Log Out Profesences R Second	rela		Welcome, weblogic Connected to: P	CUB5Doess		
West changes and restarts	Hare HOUBSHSTergiale charanary of Server 1	Semplates >PCUBSHSTemplate >Summary of	Childre's -Summary of Servers				
Click the Lock & Edit button to modify, add or	Summary of Servers						
delete items in this domain. Lock & Edit	Carfiguration Control						
Baleane Configuration	NAME OF STREET						
Donain Structure	Use this page to change the state of the ser mode requires the domain-wide administrat		ittol operations on Managed Serv	ers require starting the Node Hanager. Starting Managed Servers in St	Hidby		
POUBSDomain ·	0						
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Coherence Oustans Historiane Windel Hosto Track Managers Rahise and Shutdown Classes Deployments Fishwares	Server vis Active Conversional Active Conversion Registrational Active Conversion Registratio	Machine Nachine1	PUMPIDING SHUTDOWN	Status of Last Action Tune Tune	nt Next		
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Upon successful startup, the status of Managed servers is changed to "RUNNING".



hange Cester	Pione Log Out Preferences	Ferrer Help	9			Welcome, we	blogic Connected to: FCUBSDoma
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Sick the Lock & Edit button to modify, add or	Summary of Servers						
elete items in this domain. Lock & Ede	Configuration Control						
Resease Configuration	A server is an instance of WebLogic	Server that runs in its own Javi	a Virtual Nachine (JVH) and	has its own configuration	8		
omain Structure	This page summarizes each server th	ut has been configured in the	current WebLagic Server dar	rain.			
UBSDomain +							
Environment Services	(2) Lest Refreshed: Jun 11, 201	5 2:57 13 PM					
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- Startup and Shutzlown Classes	Name vo	Type	Ouster	Hachine	State	Health	Listen Port
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w do L	PCUBSH51	Dysamic	FCUBSCluster	Redinel	PUNNENG	₩ OK	2003
	E POJ85162	Dynamic	FCUBS/Cluster	Mechane2	RUNADIG	₽ OK.	7004
Create Hanaged Servers	E POLESHS3	Dynamic	PCUBSChater	Hachine1	RUNIDIG	₩ OK	7005
Close servers							

ORACLE

6. Data Source creation and JDBC Configuration

Following are the JNDI names of those data sources used by Oracle Banking application.

- jdbc/fcjCoreDS This datasource is used by Oracle Banking Core online screen excluding branch screens.
- jdbc/fcjdevDSBranch This datasource is used by Branch screens.
- jdbc/fcjSchedulerDS This datasource is used by Quartz scheduler.
- fcjPayDS_GTXN Datasource for Oracle Banking Payment OLTP with Global Transaction supported to enable the transaction management by the container and also to
- fcjPayDS Datasource used by Payment Batch operations where transaction is handled programmatically.

Note:

- jdbc/fcjdevDS should be NonXA and make use of OCI driver.
- jdbc/fcjdevDSBranch and jdbc/fcjSchedulerDS should be XA

6.1 Setup Required for OCI Driver

Data sources are created with OCI enabled. For this, Oracle Instant Client is required, below steps needs to be followed

• Download Oracle Instant Client corresponding to the used Oracle DB and java (x64 or x32):

http://www.oracle.com/technetwork/database/features/instant-client/index-097480.html

- Set {ORACLE_HOME} in the environment variable.
- Update the environment variable LD_LIBRARY_PATH as {ORACLE_HOME}/lib. This is to load all the .so files.
- Ensure that the ojdbc*.jar file in {WL_HOME}/server/lib/ojdbc*.jar is the same as the file {ORACLE_HOME}/jdbc/lib/ojdbc*.jar. This is to ensure compatibility.
- Update LD_LIBRARY_PATH in StartWebLogic.sh or in setDomainEnv.sh. This must be the path of directory where Oracle Instant Client is installed.
- If you are still not able to load the .so files, then you need to update the EXTRA_JAVA_PROPERTIES by setting Djava.library.path as {ORACLE_HOME}/lib in StartWebLogic.sh or in setDomainEnv.sh.



6.2 Data source creation: non XA

1) Navigate to FCUBSDomain \rightarrow Services \rightarrow Data Sources \rightarrow select New \rightarrow Generic data source.

Change Center.	Howe Lag On	t Preferences 🐼 Record Help		a	Welcome, weblogic	Cannetted to: FCUBSDoma
Wew changes and restarts	Hore SPOURSHS	Template >Summary of Server Templ	alex >FCU9SPGTemplate >1	iumnury of Cluders -Summary of Second -Summa	ry of JDBC Data Sources	
No pending changes exist. Click the Release	Summary of 308	C Data Sources				
Configuration batton to allow others to edit the domain.	Configuration	Honiboring				
Look & Edit						
Release Configuration		interis an object bound to the 35D ise connection from a data source		nate connectivity through a pool of 308C connec	tiovs. Applications can look up a date scene or	the JHDI tree and then
Domain Structure	04035455503	varizes the 300C data source obje	cts that have been create	d in this domain.		
Startup and Shutdowi Classes Deployments	© Customize thi					
B-Services		Filtered - Hore Columns Exis	0			
#-Heinaging	hines Date	and the second se			Shewing	0 to 0 of 0 Previous Next
Perintent Stores	Generic Data		Type	3NDI Name	Targets	
- Foreign JHOL Providers - Wash Casterts	Piulti Cata Sea		-	There are no herrs to display		
- 134. Pegistries	TENOTOER	EL			Shewing	0 to 0 of 0 Previous Next

2) Enter the Name and JNDI Name and Click on Next.

Change Center	😰 Harrie Liss Out. Areferences 🔛 Record Help	Q.	Welcome, weblogic Currected to: FOUBSDomai
View changes and restarts	Horse -FCURSHSTemplate -Summary of Server Template	LI-POURSHSTemplate >Summary of Oliveters >Summary of Ser	vive information of JOBC Data Sources
No performance of the selection of the selection of the selection of allow others to edit the domain.	Create a New JDBC Data Source Illiert Mant, Philip Canon, JDBC Data Source Properties The following properties will be used to identify your * Indicates required fields What would you like to name your new XOEC data you def * Name: What JDBC name would you like to assign to your new Comments JDBC/fcjdevDS	18	
How do I E • Create JDBC generic data sources • Create JDR- enabled JDBC data sources	What database type would you like to select? Database Type: Oracle		
System Status 🛛 🕞 Health of Russing Servers Field (0)	Tar Ned Tailit Gancel		



3) Select the Driver as "Oracle's Driver (thin) for Instance connection: Versions: Any" and Click on **Next**.

ORACLE WebLogic Server	dministration Console 12c		0
Change Center	😭 Harter Lag Out Preferences 🚈 Record Help	4	Welcome, weblagic Connected to: PCUBSDomain
Wese changes and restarts	Hore >POURSHSTemplate >Surrows of Server Templates >POURS	POTemplete - Summery of Clusters - Summery of Servers -	Services of 200C Date Seators
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New JOBC Data Source Back (Next) Fronty Cancel		
Lack & Edit			
Release Configuration	JDBC Data Source Properties The following properties will be used to identify your new JD	OC data source.	
Domain Structure	 Intersionation Sector Lange Community of the Intersion Sector Community of the Intersion Sector		
FCU65Deman - 	Detabase Type: Oracle What database driver would use far to use to create database Detabase Driver Oracle's Driver (Thin) for in Back (Finit) Frinch: Cancel	e connections? Note: * indicates that the driver is expli- istance connections; Versions Any	
- Startup and Shatdown Classes Deployments B-Services			•

4) Uncheck the "Supports Global Transactions" and click on Next.

Change Center	🔒 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDom
view changes and restarts	Home >FCUBSMSTemplate >Summary of Server Templates >FCUBSMS	Template >Summary of Clusters >Summary of Servers	>Summary of JDBC Data Sources
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New JDBC Data Source		
Lock & Edit Release Configuration	Transaction Options You have selected non-XA JDBC driver to create database conne	ection in your new data source.	
Oomain Structure	Does this data source support global transactions? If yes, please	choose the transaction protocol for this data sour	
CUBSDomain D-Environment	Supports Global Transactions	crosse are cransaction protocor for alls data sour	
⊟Clusters Server Templates Migratable Targets	Select this option if you want to enable non-XA JDBC connections Recommended in place of Emulate Two-Phase Commit.	s from the data source to participate in global tran	sactions using the <i>Logging Last Resource</i> (LLR) transaction optimization.
Coherence Clusters	Logging Last Resource		
	Select this option if you want to enable non-XA JDBC connections heuristic conditions.	s from the data source to emulate participation in	global transactions using JTA. Select this option only if your application can tolerate
Deployments	Emulate Two-Phase Commit		
Services			
	Select this option if you want to enable non-XA JDBC connections other resources can participate in the global transaction.	s from the data source to participate in global tran	sactions using the one-phase commit transaction processing. With this option, no
łow do I			
Create JDBC generic data sources	One-Phase Commit		
Create LLR-enabled JDBC data sources	Back Next Finish Cancel		
System Status			



5) Enter the Database Name, Host Name, Port, User Name, Password, Confirm Password and Click on **Next**.

Change Center	🔒 Horne Log Out Prefarences 🐼 Record Help	9	Welcome, weblogic Connected to: PCUIISDonnal
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Domain Structure	What is the name of the database you would like to connect to?	(
Environment	Database Name:	Ę.	3
El-Clusters Server Templates Highritable Targets Coherence Clasters Histoises	What is the name or IP address of the database server? Host Name:	Ē	I.
- Withel Hosts - Work Managers - Startup and Statiotics Clemes.	What is the port on the delabase server used to connect to the d	etabane?	-
Diployments El Services R: Hessaum	 What database account user name do you want to use to create 	100014	
How do I	Database User Name:		
Create 100C generic data sources Create U.Benabled JDBC data sources	What is the database account password to use to create database	e convediues?	_
System Status	Password.		
Health of Running Servers	Confirm Password:	1	
Federal (0) Critical (0) Oranita adad (0) Warring (0)	Additional Connection Properties: oracle-jdlo:CRCPConnectionClass:]
0K(S)	Bask Next First Carcel		

6) Replace the JDBC URL in the below format and click on Next

Default URL: jdbc:oracle:thin:@<IP_Adress>:<Port>:<INSTANCE_NAME>. Change the default URL to:

jdbc:oracle:oci:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOS T=xxxxx.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=fcubs)))

Where,

Scan IP = xxxxxx.com Service Name = fcubs Port = 1521

Make sure that in URL, we make the changes to reflect oci.

Then Click on Test Configuration. The connection test should be successful.



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7) Select Target as FCUBSCluster and click on **Finish**.

ORACLE WebLogic Server A	dministration Console 12c		0
Change Center	🔞 Harne Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FOUBSDomain
View changes and restarts	Rome -ROUSSPISTemplate -Summary of Server Templates -ROUBSM	STemplate »Summery of Ocalans »Summary of Serve	1 - Summary of JDBC Data Sources
No panding changes exist. Click the Release Configuration button to allow others to edit the domain. Lock & Edit	Create a New JUBC Data Source		
Release Configuration	Select Targets You can select one or more targets to deplay your new JDBC da later time.	ta source. If you don't select a target, the data o	same will be created but not deployed. You will need to deploy the data source at a
FCUBSDanaki - Erzbeitnament - Server Templates - Hi Clusters - Hi Clusters - Hightsbilt Targets - Collevance Clusters - Vartual Hosts - Wohl Managers - Safting and Shuddown Clusters - - Safting and Shuddown Clusters - 	Servers AdminServer Clanters Clanters Clasters Clasters All servers in the claster		
Deployments El-Senitos Bi-Nersenten	Beck Hutt Frank Cancel		



6.3 XA Datasource

1) Navigate to FCUBSDomain \rightarrow Services \rightarrow Data Sources \rightarrow select New \rightarrow Generic data source.

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Wew changes and restarts	Hare SPOLESHS	Template Summary of Server Tem	plates - FCURGHGTemplate -	Summery of Clutters >Summery of Service >Summers	y of JDBC Data Sources
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Configuration batton to allow others to edit the domain.	Configuration	Honitoring			
LICK & Edit	and the second second				
Release Configuration		arce is an object bound to the 35 are connection from a data sour		base connectivity through a pool of 3DBC connecti	ons. Applications can look up a data score on the JHDI tree and then
Demain Structure - viscome - Viscol Plasts - Viscol Pl	P Customize the	varizes the JDDC data source ob a table (Filtered - More Columns Exi		eð in týst durnain.	
B-Services B-Neckaging	New y Dia	n			Shewing 0 to 0 of 0 Previous Next
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- Foreign JHOI Providers - Mark Contexts	Huiti Cata See	IDE	- N	There are no iterra to display	
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2) Enter the Name and JNDI Name and Click on Next.

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View changes and restarts	Hane -FCUESHSTamplets -Summary of Server Templetes -FCUESHSTemplets -Summary of Clusters -Summary of Servers -	Summary of 30BC Data Sources
Pending changes exist. They must be activited to take effect.	Greate a New JDBC Data Source	
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Domain Structure	The following properties will be used to identify your new JDBC data source, * Inductors required fields	
Environment Server: Server:	What would you like to name your new JDBC data counce?	
How do L_ 🖂		
Create IDBC generic data sources Create ILR-mattled IDBC data sources	What database type would you like to select? Database Type: Oracle •	
System Status		
Health of Ranning Servers	Bart Next From Carcol	



3) Select the Driver as "Oracle's Driver(thin XA) for Instance connection: Versions: Any" and Click on **Next**.

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Wew changes and restarts	Hone -PCL85MSTemplate -Summery of Server Templates -PCU85PtSTemplate -Summary of Clusters -Summary of Servers -Semena	ny of JDBC Data Sources
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4) Click on Next.

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View changes and restarts	Hore -POJ65NSTurplets >Sammery of Server Templetei >POJ65NSTemple	In Summary of Outlets Summary of Servery	-Summary of 300C Data Solaton
Pending changes exist. They must be activated to take effect.	Greate a New JOBC Data Source		
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FCUESContain	Rack. Rent Print: Gancal		



5) From this step to target setting step follow as mentioned in non-xa.

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Domain Structure	Define Connection Properties.		
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B'Environment Hervers B-Chuthers	Database Name:		
Server Tempfates Migratable Targets	What is the name or IP address of the database server?		
Calerence Clusters	Host Name:		
Virtual Hosts Work Planagers	What is the port on the database server used to convect to the data	base?	
L-Startup and Shutdown Classes Deployments	Ports	1521	
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R Henecion *	What database account user name do you want to use to create dat	abase convertione?	
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6) Upon Activate Changes would create the XA Datasource.





7) Similarly create all the other Datasource required for the FCUBS Application and Gateway Deployments.

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OBPM related datasource parameter recommendation are provided in Annexure A

6.4 JDBC Parameters Tuning

Below JDBC parameters needs to updated for all the Datasources

	VALUE	Navigate To
PARAMETER		
Connection Reserve time out	30	Connection Pool->Advance
Test Frequency	60	Connection Pool->Advance
Inactive connection time out	30	Connection Pool->Advance
Initial Capacity	1	Connection Pool
Max capacity	Based on Site Requirement	Connection Pool
Capacity Increment	5	Connection Pool
Shrink Frequency	900	Connection Pool->Advance
Test Connection on Reserve	Checked	Connection Pool->Advance



7. JMS Resource Creation

JMS Resource Creation involves various steps

- Persistence Store Creation
- JMS Server Creation
- JMS Module Creation
- Resource Creation: Connection Factory and Queue's

Refer to the JMS Cluster Configuration document for further details on JMS setup.



8. Oracle WebLogic Load Balancing

There are four major components for load balancing:

- 1. HTTPS Requests (HTTPS)
- 2. Web Service Requests (HTTPS)
- 3. Rest API Requests (HTTPS)
- 4. JMS Requests (t3)

External Load Balancer:

First three modes can be load balanced by fronting a simple web server to virtualize the IP address/host name to one and route the requests to the managed servers in a round robin or weight based or any other supported algorithm. Oracle HTTP server is an example for such web server.

JMS uses a t3 protocol and it requires load balancer which can intercept the request at level 7 (TCP level) and route the request. Example is Oracle Traffic Director (OTD). Such load balancers can be used for first three type of requests as well.

Internal Load Balancer:

For http/s protocols, there is no production level internal load balancing support from weblogic. This has to be handled using an external load balancer.

Weblogic supports JMS load balancing internally. For this, the client have to know the host name/ip address and port of all the managed servers in a cluster. In all the places where the Initial Context Provider URL is configured in OBPM application, specify the URL as:

t3://[HOST NAME 1]:[PORT 1],[HOST NAME 2]:[PORT 2]

HOST NAME - This is a DNS name of individual manager servers

PORT - Port number of individual managed servers.



9. Frequently Asked Questions

9.1 Machine status is Unreachable.

If the machine status is unreachable, means that machine is not reachable and from console you cannot start/stop the managed servers.

In the console, navigate through Domain structure \rightarrow Machines \rightarrow machine1 \rightarrow Monitoring \rightarrow Node Manager Status will be Unreachable

To change the status, you need to start the nodemanager on that server. Refer to start nodemanager section on steps to start the nodemanager.

9.2 How to restart node manager?

- 1) Locate node manager pid using ps -ef|grep weblogic.nodemanager.javaHome
- 2) Change directory to \$DOMAIN_HOME/bin
- 3) Kill the unix process using kill -9 <pid>
- 4) Verify that the node manager is killed by tail -f nohup.out
- 5) Start node manager using nohup ./startNodeManager.sh &
- 6) Verify nodemanager is started using tail -f nohup.out

9.3 Scaling Up Dynamic Cluster

When the capacity is insufficient and you need to scale-up, you can add dynamic servers on demand. It requires only a few clicks.



1) Navigate to FCUBSDomain \rightarrow Environment \rightarrow Clusters.

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2) Click FCUBSCluster \rightarrow Configuration \rightarrow Servers tab.

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3) Change the Maximum Number of Dynamic Servers to: 8 and Click Save.

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Deployments Services Messaging	🖉 Server Name Prefix:	FC	UBSMS				pecifies the prefix to b uster. More Info	be used v	hen naming new	dynamic servers in this

4) Activate changes in the Change Center of the Weblogic Console. After activation 4 new Dynamic Servers are added to the Dynamic Cluster.

Name 🚕	Туре	Machine	Listen Port
FCUBSMS1	Dynamic	MAC-1	7101
FCUBSMS2	Dynamic	MAC-2	7102
FCUBSMS3	Dynamic	MAC-1	7103
FCUBSM54	Dynamic	MAC-2	7104
FCUBSMS5	Dynamic	MAC-1	7105
FCUBSMS6	Dynamic	MAC-2	7106
FCUBSM57	Dynamic	MAC-1	7107
FCUBSM58	Dynamic	MAC-2	7108

5) Start the 4 new Dynamic Servers and you have doubled you capacity.

9.4 Session Timeout

Session timeouts occur intermittently during load condition. Verify the following:

1. Clock Synchronization: Time across the nodes/machines is same.

2. Session Stickiness in load balancer: Persistence Type in load balancer should be set to SOURCE IP and should not be cookie.



Annexure A – Datasource Parameter Recommendations

Refer to attached document for the recommended parameter values for data sources.







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