Configuring Weblogic Server 12c Oracle FLEXCUBE Universal Banking Release 12.87.7.0.0 [May] [2021]



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# 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

- FCUBS 14
- Weblogic Version 12.2.1.2.0
- JDK 1.8.0\_131

## 1.2 WebLogic Server Overview

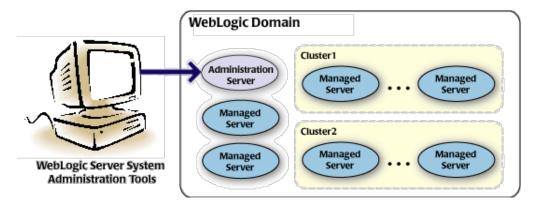
This section of the document provides brief explanation on the main components involved in WebLogic server

#### **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.

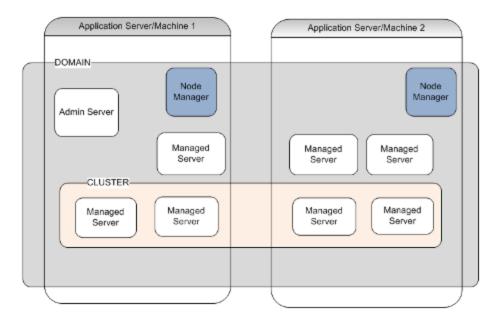
Each WebLogic Server domain must have one server instance that acts as the Administration Server. Administration Server can be used via the Administration Console or using the command line for configuring all other server instances and resources in the domain.

#### 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 associated 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

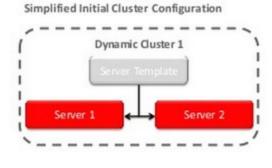


A single server template provides the basis for the creation of the dynamic servers. Using this single template provides the possibility of every member being created with exactly the same attributes. Where some of the server-specific attributes like Servername, listen-ports, machines, etc. can be calculated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

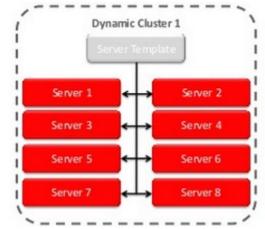
You can pre-create server templates and let Weblogic clone one when a Dynamic Cluster is created.

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



Simplified Operations for Cluster Scale Out





## 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 12.2.1.2 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\_131 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	
🗼 <u>Templates</u>	
Administrator Account	
Domain Mode and JDK	
Advanced Configuration	
Configuration Summary	What do you want to do?
Configuration Progress	
O End Of Configuration	<ul> <li>Create a new <u>domain</u></li> <li>Update an existing domain</li> </ul>
	Domain Location: /scratch/app/w12c/user_projects/domains/FCUBSDomain Browse
	Create a new domain.
Help	< <u>Back</u> <u>N</u> ext> <u>Einish</u> Cancel



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

Templates					
Configuration Progress End Of Configuration	WebLogic Advanced V WebLogic Advanced V WebLogic Coherence		- 12.1.3.0 [oracle_ :rver]		-
	Create Domain Using Cu Template location: //scr	ratch/app/wl12c			Browse
Help		< <u>B</u> ac	k <u>N</u> ext >	<u>F</u> inish	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	
A Create Domain	1
Templates	
Administrator Account	
Domain Mode and JDK	
Advanced Configuration	
Configuration Summary	
Configuration Progress	
U 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> <u>Next</u> Einish Cancel



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

Domain Mode and JDK	
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Administration Server Node Manager	Domain Mode
<u>Configuration Summary</u> Configuration Progress     End Of Configuration	O Other JDK Location:
Help	< Back Next > Einish Cancel



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				FL			
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	AdminServer All Local Addresses 7001 7101 st be between 1 and 65	535, and differ	rent from list	en port and coh	erence poi	▼ ▼
Help				< <u>B</u> ack	<u>N</u> ext >	<u>F</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 username and password for the nodemanager. Click **Next**.

Node Manager		
A Create Domain	1	
Templates		
Administrator Account		
Domain Mode and JDK		
Advanced Configuration	Node Manager Type	
Administration Server	Per <u>D</u> omain Default Le	ocation
🧼 Node Manager	O Per Domain <u>C</u> ustom L	ocation
Configuration Summary	Node Manager Home:	pp/w12c/user_projects/domains/FCUBSDomain/nodemanager Browse
Configuration Progress	🔿 <u>M</u> anual Node Manage	r Setup
ပံ End Of Configuration	Node Manager Credentia Username: Password:	weblogic
	Confirm Password:	••••••
	Must be the same as the pa one number or special cha	assword. Password must contain at least 8 alphanumeric characters with at least racter.
Help	L	< <u>Back</u> Next > <u>Finish</u> Cancel



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

Ľ	Configuration Summary				_
4	Create Domain	View: Deployment 👻	Name	-	ic Server Domain
*	Templates	➢ FCUBSDomain (/scratch/app/wl12c/user_projects/	Description Author	Oreate a basi Oracle Corpo	c WebLogic Server da Iration
÷.	Administrator Account	□ 🗁 Server □ AdminServer	Location		/wdl2c/wdserver/co
÷.	Domain Mode and JDK				
	Advanced Configuration				
÷.	Administration Server				
÷.	Node Manager				
¢	Configuration Summary				
ģ	Configuration Progress				
6	End Of Configuration				
		1 000000 F		335335	
		Select <b>Create</b> to accept the above options and start cre above configuration before starting Domain Creation, <u>y</u> the left pane, or by using the <b>Back</b> button.			



#### 9) Click Next.





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

Configuration Success			
A Create Domain			
A Templates	Oracle Weblogic Server Configuration Succeeded		
Administrator Account	New Domain FCUBSDomain Creation Successful		
Oomain Mode and JDK	Domain Location		
Advanced Configuration	/scratch/app/w12c/user_projects/domains/FCUBSDomai	<u>n</u>	
Administration Server	Admin Server URL		
V Node Manager	http://ofss222565:7001/console		
Configuration Summary			
Configuration Progress			
Configuration Success			
Help	< <u>B</u> ack <u>N</u> ext >	<u>F</u> inish	Cancel

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: <u>https://<server1hostname>:7101/console</u>



## 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.

### <u>Pack</u>

Pack domain in primary server:

./pack.sh -managed=true -domain=/scratch/app/wl12c/user\_projects/domains/FCUBSDomain - template=/tmp/FCUBSDomain.jar -template\_name="FCUBSDomain"

### <u>Unpack</u>

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 mananger 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.
- 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.

 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 FLEXCUBE users require one managed server of size 8GB. i.e. for 300 logged in FLEXCUBE 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

 Login into Admin Console and Navigate to FCUBSDomain → Environment → Machine and Click New

	dministration Console 12c	Q				
Change Center	🔒 Home Log Out Preferences 🔤 Record Help	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	A machine is the logical representation of the computer that hosts one or more WebLogic Server instances (servers), server in a cluster to which certain tasks, such as HTTP session replication, are delegated. The Administration Server servers.					
Domain Structure	This page displays key information about each machine that has been configured in the current WebLogic Server dom	ain.				
FCUBSDomain  Current Fenvironment Fenvironment Fervers F-Clusters Coherence Clusters	© Customize this table Machines					
Machines	Click the Lock & Edit button in the Change Center to activate all the buttons on this page.					
Work Managers	New Clone Delete	Showing 0 to 0 of 0 Previous   Next				
LStartup and Shutdown Classes Deployments B-Services	Name 🗞	Туре				
Security Realms	There are no items to display					
	New Clone Delete	Showing 0 to 0 of 0 Previous   Next				
How do I						
<ul><li>Create and configure machines</li><li>Assign server instances to machines</li><li>Clone machines</li></ul>						

#### 2) Enter the machine name and click Next

ORACLE WebLogic Server A	Iministration Console 12c	õ
Change Center	A Horse Log Out Preferences 🖾 Record Help	Welcome, weblogic Connected to: FCU85Dossain
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	Hachine Identity The following properties will be used to identify your new Machine.	
Domain Structure	* Indicates required fields	
FCUBSOrnais -  Environment	What would you like to name your new Machine? * Name: Machine( Specify the type of machine operating system. Machine OS: Other *	
└──Skrtup and Shutdown Classes └──Septore III Senites IIII Senites IIII Senites IIII Senites IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Tack [Next] Presh [Carca]	
How do I		



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

CHEVALLE Mebrodic server	Administration Console 120				
Change Center	Home Ling Out Preferences	Record Help	Q.		Welcome, weblogic Connected to: FCUBSDomain
Wew changes and restarts	Home >Summary of Machines				
No pending changes exist. Click the Release Configuration batton to allow others to edit the domain.	Create a New Machine Back Next Faish Care	cel			
Leok & Eok Release Configuration	Node Manager Properties The following properties will be	used to configure the Node M	anager on this machine.		
Domain Structure	What type of Node Hanager is nor	ming on this server, and what	protocol should be used to communicat	be with it?	
PCUBSDomain B-Environment Servers	Туре:	SSL •			
B-Clusters Coherence Clusters Machines	Por a Java based node manager, a	tat addam and post in this i	Ende Verager configured to listen at?		
Virtual Hests Work Nanagers Startup and Shutdown Classes	Listen Port:	5556			
Deployments 18 Services Security Realins	For a script based node manager,		eret.		
B-Interoperability B-Disconstin	Node Manager Home:				
Hew do I	Shell Command:				
Create and configure machines	10.070-0400007				
<ul> <li>Assign server instances to machines</li> </ul>	🔲 Debug Enabled				
Delete machines	Back New Falsh Care	(el			
System Status					
Health of Running Servers					

#### 4) Machine is created

ORACLE WebLogic Server	Administration Console 12c		<u> </u>
Change Center	Home Lag Out Preferences 🔤 Record Help	a.	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts Click the Lack & Edit button to modify, add or delete items in this domain.	Horse -Saminnary of Machines Messages # All changes have been activated. No restarts are necessary		
Lock & Edit Release Configuration	Summary of Hachines		
Donsin Structure PCUSSCensin PCUSSCensin PServes PServes PServes PSechare Pachare Pachare Portal Hots Work Parages Party and Studdown Classes Party and Studdown Classes Party and Studdown Classes PSecurity Relates PSecurity Rela	server in a cluster to which certain tools, such as HTTP sessioners in a cluster to which certain tools, such as HTTP sessioners in this page displays key information about each machine that the Costomize this table in the Charge Center to activate in the Charge Center to activate intervent in	has been configured in the current WebLagic Server domain, e all the buttoms on this page.	Server uses configured machine names to determine the optimum achine definition in cargunation with Node Manager to start remote Showing 1 to 1 of 1 Previous   Next
How do I	Machine1	Machine	Showing 1 to 1 of 1 Previous   Next
Create and configure machines     Assign server instances to machines     Orere machines     Delete machines			"second 1 to 1 to 1 License Lines



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

Change Center	A Horse Log Out Preferences A Record Help	Q	Welcome, weblogic Connected to: PCUBSDomai
View changes and restarts	Hore -Summary of Machines		
Click the Lock & Edit battan to modify, add or delete items in this domain.	Pressages # All changes have been activated. No restarts are necessary.		
Look & Eol	Summary of Machines		
Release Configuration			
Iomain Structure	A machine is the logical representation of the computer that hosts one or		
DUBSDomain	<ul> <li>server in a duster to which certain tasks, such as HTTP session replication servers.</li> </ul>	, are delegated. The Administration server uses the mac	are definition in conjunction with hode Panager to start remote
Environment	This page displays key information about each machine that has been can	figured in the current Webt pair Server domain.	
E-Clusters	interest and all of the second s	and the second second second second	
Coherence Chusters	© Customize this table		
Machines			
Wirtual Hests Wark Nanagers	Machines		
	Click the Lock & Edit betton in the Change Center to activate all the butt	toto on this same	
Startup and Shutdown Classes	Citics the zook a zow better in the change center to activate all the put	one on one page.	
Startup and Shatdown Classes Deployments	New Clone Deste	ant on one page.	Showing 1 to 2 of 2 Previous   Nect
Startup and Shutdown Classes Deployments 8-Services Security Realms	[New] [Clone] [Delete]		Showing 1 to 2 of 2 Previous   Next
Stattup and Shutdown Classes Deployments Services Services 		Туре	Showing 1 to 2 of 2 Previous   Next
L-Startup and Shutdown Classes -Deployments 9-Services -Security Rolens 8-Sinteroperability 8-Disconstant	New Clone Deete		Showing 1 to 2 of 2 Previous   Next
Startup and Shutdown Classes Deployments 8-Services Security Realms 8-Sinteroperability 8-Disconsection	New Chone Deere	Туре	Showing 1 to 2 of 2 Previous   Next
La Statup and Statistive Classes — Caployments — Sarvices — Security Rodins — Thereoperability — Discoverability — Discoverability — Security	New Clone Dente	Type Nachise	Showing 1 to 2 of 2 Previous   West
L-Startup and Stattdown Classes -Deployments Security Roalins Security Roalins Hoterosperability Resolution Issue do L Create and configure machines	Kone Deete     None      Padvet     Padvet     Padvet	Type Nachise	
Startup and Shutdown Classes Deployments 8-Services Security Realms 8-Sinteroperability 8-Disconsection	Kone Deete     None      Padvet     Padvet     Padvet	Type Nachise	

#### 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		Q
Change Center	A Home Log Out Preferences 🔤 Record	1 Help	Welcome, weblogic Connected to: PCUBSDomain
View changes and restarts	Home >Summary of Plachines >Hachine1 >Sum	many of Machines >Machine2 >Summary of Plachines >P	Iachine1 >Summary of Machines >Machine2 >Summary of Machines >Machine1
Click the Lock & Edit betten to readify, add or	Settings for Machine1		
delete items in this domain.	Configuration Monitoring Notes		
Release Configuration	Node Manager Status Node Manager	Log	
Domain Structure	This page allows you to view current status	s information for the Node Manager instance configu	and for this machine.
PCUESDomain +			
B Environment Servers	Status:	Reachable	Current status of this Node Manager. More Jafo
B-Clusters Server Templates Higratable Targets	Version:	12.1.3	Version string retained from the Node Manager. Have Tefs
Coherence Chutters Machines "Winds Heads Wack Honagers Startup and Shatdown Classes			

## 3.2 **Dynamic Cluster Creation**

1) Login into Admin Console and Navigate to FCUBSDomain → Environment → Clusters → New → select **Dynamic Cluster** 



ORACLE WebLogic Server	Idministration Console 12c						្ទ
Change Center	A Hume Log Out Preferences 🔤 Re	econd Help	Q			Welcome, weblogic Consected t	o FCUBSDomai
View changes and restarts No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Rone >Machine2 >Summary of Plachine : Pressages © Operation cancelled.	Plachinel >Summary of Plachines	>Machine2 >Summary of	Servers >Summary of Hachines >	Machine2 >Summary of S	evert >Summary of Chattern	
Lock & Edit	Summary of Oksters						
Release Configuration  Dossoin Structure  FCUSDomain  FCUSDomain  Custome  Customes  Customes  Mgrataline Targets	This page seminarizes the dusters the A duster defines proups of WebLagic Distornize this table Clusters (Filtered - Hore Columns Internet) Classe Disters	Server servers that work togethe				Shewaya 0 to 0 ef 0 .	Newtons   Next
Coherence Clusters	Chatter			La presenta a march			
Virtual Hosts	Dynamic Cluster	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
			There an	e no items to display			
Deployments     Services     Services	Ner v Clore Delete					Showing 0 to 0 of 0 P	revious   Next
How do I							
Configure dusters							

#### 2) Enter the **Cluster Name** and Click on **Next**

istration Console 12c		<u> </u>
💼 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
Home >Machine2 >Summary of Machines >Machine1 >Summary of Ma	chines >Machine2 >Summary of Servers >Summary of Machines	>Machine2 >Summary of Servers >Summary of Clusters
Back Next Finish Cancel Specify Cluster Identity and Properties	nic cluster and specify how cluster members should commu	nicate with each other to coordinate work.
* Indicates required fields		
simple broadcast technology that enables multiple applications to does not have these requirements. What messaging mode should	o subscribe to a given IP address and port number and liste this cluster use?	
Unicast Broadcast Channel:	Unicast	
Multicast Address:	239.192.0.0	
Multicast Port: Back Next Finish Cancel	7001	
	Treate a New Dynamic Cluster  Back Next Finish Cancel  Specify Cluster Identity and Properties  The following properties will be used to identify your new dynam  Indicates required fields  What would you like to name your new dynamic cluster?  Name:  Clusters use messaging for sharing session, load balancing and fi single broadcast technology that enables multiple applications to does not have these requirements. What messaging mode should  Messaging Mode:  Unicast Broadcast Channel:  Multicast Address:	Home Log Out Preferences Record Help Home >Machine2 >Summary of Machines >Machine2 >Summary of Servers >Summary of Machines >Machine2 >Summary of Servers >Summary of Machines >Machine2 >Summary of Servers >Summary of Machines >Machine2 >Summary of Machine2 >Summary of Machines >Machine2 >Summary of Machines >Machine2 >Summary of Machine2 >Summary of Machines >Machine2 >Summary of Machine2 >Summary of Machines >Machine2 >Summary of Machines >Summary of Machines >Summary of Machines >Summary of Machines >Machine2 >Summary of Machines >Summary of M



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

	Iministration Console 12c	<u> </u>
Change Center	🏦 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Summary of Machines >Machine2 >Summary of Servers >Summary of Machi	ines >Machine2 >Summary of Servers >Summary of Clusters
No pending changes exist. Click the Release Configuration button to allow others to edit	Create a New Dynamic Cluster	
the domain.	Back Next Finish Cancel	
Lock & Edit Release Configuration	Specify Dynamic Server Properties	
	The following properties will be used to specify the size and characteristics of your new dynamic cluster.	
Domain Structure	How many dynamic servers will you need at peak load?	
FCUBSDomain Environment Servers	Number of Dynamic Servers:	
Clusters     Server Templates	What naming convention would you like to use for new dynamic servers in this cluster?	
	Server Name Prefix:	
Virtual Hosts Work Managers	Server templates are used to configure the characteristics that are common to all dynamic servers in this cluster. Server new server template will be created to support this new cluster.	templates are unique to a cluster and cannot be shared across clusters, so a
Startup and Shutdown Classes	Back Next Finish Cancel	
Services		
How do I		

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** 

ORACLE WebLogic Server A	dministration Console 12c		0
Change Center	🙆 Home Log Dut Preferences 🐼 Record Help	9	Welcome, weblogic Corrected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine3 >Sur	mary of Nachinas >Nachinas >Summary of Servers >Summary of	f Plachines >Plachine2 =Summary of Servers >Summary of Choters
No pending changes exist. Click the Release Configuration batton to allow others to edit the domain.	Create a New Dynamic Claster		
Lock & Exil Release Configuration	Specify Machine Bindings	ial if you intend to use Node Nanager and the Administration	Censole (or WLST) to start server instances.
Domain Structure	How do you want to distribute dynamic servers across	machines?	
PCUBSDomain A	Bue any machine configured in this domain		
B-Clusters	Use a single machine for all dynamic servers		
	Selected Machine;	Machine1 •	
Wachines Wintwal Hests Windk Managers	Use a subset of machines in this domain		
-Starbup and Shatdown Classes	Machine Name Match Expression:		
B Services Security Realins	Back Next Frith Cancel		
How do I			
Create dynamic dusters			



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** 

Change Center	🍙 Home Log Out: Preferences 🖾 Record Help	Q	Welcome, weblogic Connected to: PCUBSDomain
View changes and restarts	Home «Machine2 »Summary of Machines «Machine1 »Summary of I	lachines +Plachine2 +Summary of Servers +Summary of I	technes >Nechne2 >Summery of Servers >Banemary of Clasters
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New Dynamic Cluster Back Next Frink Carcel		
Lock & Edit Release Configuration	Specify Linten Port Bindings Select how these dynamic servers should be bound to listen po	orta.	
Domain Structure	Listen ports for dynamic servers can be specified in a server ten	rplate or can be dynamically generated to be unique.	
PCDIEServais  Clusters  Clusters  Clusters  Server Templates  Ser	Assign each dynamic server unique listen ports Linten Port for First Server: SSL Linten Port for First Server:     Assign each dynamic server fixed listen ports	7102	
	Listen Port:	7100	
- Senatty Realms	SSL Listen Port:	8100	
How do L.,			
Create dynamic clusters     Configure dusters	Back Next Print Cancel		

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

ORACLE WebLogic Server A	dministration Console 12c		Q
Change Center	🍘 Home Log Out: Preferences 🔤 Record Help	9	Welcome, weblogic Connected to: PCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Summary of P	Nochines >Plachine2 >Summary of Servers	>Summary of Machines >Machine2 >Summary of Servers >Summary of Chasters
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           Back         Frenh           Cancel         Cancel           Review Your Dynamic Cluster Configuration           You have elected to create a new dynamic cluster with the following the second secon		
Domain Structure	Configuration details for new dynamic cluster:	ewing comparation.	
PCUBDerrain P-Entitionment P-Servers P-Contens P-Contens P-Contens P-Contens P-Contens P-Contense Clusters P-Contense Clusters P-Contense P-Server part Studdown Clusters P-Server part Studdown Clusters P-Servers Study and Studdown Clusters P-Servers Study Study and Studdown Clusters P-Servers Study Study and S	Corrigueiton delain for rev opnamic cluber: Name of New Dynamic Cluber: Maximum Namber of Dynamic Servers: Server Name Prefix: Enable Cakulated Listen Portsi Enable Cakulated Machine Associations: Configuration delais for new server template: Name of New Server Template;		PCUBSCluster 4 PCUBSMS true true PCUBSMSTemplate
How do L. 10 • Create dynamic clusters • Configure clusters	Listen Port: SSL Listen Port:		7062 7182
Configure server migration in a duster     Configure cross-duster replication     Create server templates	Back Next Finish Cancel		



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

Change Center	😰 Hume Log Out Preferences 🔛 Rei	cord Help	Q		W	Aelcome, weblogic Connected t	E FCUBSDoes
View changes and restarts Pending changes exist. They must be activated to take effect.	Hame >Hachina2 >Summary of Hachina >1 Messages					vers -Sommary of Chatters	
Undo All Changes	Summary of Clusters						
Domain Structure							
	This page summarizes the clusters that A cluster defines groups of WebLogic So @ Constantize this table Chasters (Filtered - Hore Columns E Nexr.v. Close Dente	erver servers that work together to				Showing 1 to 1 of 1 #	tevious   Next
Envirusment     Servers     Contens     Server Templates	A cluster defines groups of WebLogic S & Customaze this table Clusters (Filtered - More Columns E	erver servers that work together to			Replication Type	Showing I to 1 of 1 # Cluster Broadcast Channel	tevious   Next
Centrament     Servers     Centers     Server Templates     Server	A duiter defines groups of WebLogic S © Constantize this table Clusters (Filtered - More Columns E New v. Care, Deste	erver servers that work together to	a increase scalability a	ind reliability.	Replication Type (None)	Constanting of the second	

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

-Server Templates		Deleter				Showing 1 to 1	
Descent Servers	Manual Contract of	- More Columns Ex	int) pr Center to activate all the by	Ators on this page.			
Roleaner Configuration	A cluster defines g	roups of WebLogic Ser	ver servers that work together	to increase scalability	ty and reliability.		
elete items in this domain.			eve been configured in the cur	rent WebLogic Serve	r domain.		
lew changes and restarts lick the Lock & Edit buttor to modify, add or	Hana sPC/85HSTan Seminary of Cluster		e Tanglatas »PCURSHSTanglata	-Sammary of Chat	ten		
		heferences 🔛 Roca		Q		Wekome, weblogic Con	rected to: POUBSDom

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

Change Center	R Hume Log Or	ut Preferences 🐼 🛙	exert Help	9			Welcome, wel	blogic Connected to: PCUBSDoes
View changes and restarts	Hame >PO/RSHS	Pariglate -Summary of 3	Server Templates >POURSP	STemplate >Summary of Ou	stars -Summary of Ser	ven		
Click the Lock & Edit buttoe to modify, add or delete items in this domain.	Summary of Ser	vers						
Lock & Edit	Configuration	Cartral						
Release Configuration	A server is an in	netance of WebLogic S	erver that runs in its our	Zava Virtual Machine (2v1	() and has its own cord	figuration.		
Domain Structure	This page sume	marizes each server the	at has been configured in	the current WebLogic Ser	ver domain.			
Cuttibunain								
8 Environment	0							
B-Cluters								
	D Customire th	his table						
- Cation Tamelahas	A Consideration of							
Server Templates Physicality Terriets	12203-02765		1012					
Server Templates Higratable Targets Coherence Clusters	Servers (Filte	ered - More Column	e Arreste and					
Phyratable Targets	Servers (Filte	ered - More Column	e Arreste and	e all the buttons on this pa	qa.			
Higratable Targets Coherence Clusters	Servers (Filte	ered - More Coloran A Edit button in the C	e Arreste and	e all the buttons on this pa	qe.		Shi	ning 1 to 5 of 5 Previous   Next
- Highstable Targets - Coherence Custers - Notael Heats - Writael Heats - Writael Heats - Startup and Shutdown Cleases - Opployments	Servers (Filte Click the Lock	ered - More Coloran & Edit Sutton in the C E [Dobte:	e Arreste and	e all the buttons on this pa Chaster	qs. Hachine	State	She Nealth	ning 1 to 5 of 5 Previous   Next Listen Port
Hyratable Targets Coherence Couters Hicknes Witail Hiots Witail Hiots Hanagers Sartig and Shutdeven Clesses	Servers (File Cick the Lock Time: Clim	ered - More Coloran & Edit Sutton in the C E [Dobte:	Change Center to activat			State FUNDIG		
- Styntable Tarpets - Coherence Couters - Hochnes - Workian Heads - Which Mesogers - Startug and Shutdevin Classes - Septiments - Santug - Services - Ser	Servers (File Cick the Lock Time: Clim	ered - More Column A Coltitution in the C e [Delete] % mer(admin)	Change Center to activat				Health	Listen Port
- Figurable Targets - Coherence Couters - Nocherence Couters - Nocherence - Nocherence - Statug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Santug	Servers (Filte Cick the Lock	ered - Hore Coloran A Edition in the C e (Delin) No rver(adres) 51	Change Center to activat Type Configured	Chater	Machine	PUNKING	Health # OK	Listen Port 2011
Spatable Targets     Colternar Couters     Plachness     Workal Heats     Workal Heats     Workal Heats     Statup and Shatdown Classes     Copligneents     Satup     Securits Instance     text do L.     Ceate Haraped Servers	Servers (File Click the Lock Time: Class Click The Lock Time: Class Click Advance Click Advance	ered - Hore Coloran A Editional in the C e [Deline] Ne rver(adress) 51 52	Change Center to activat Type Configured Dytamic	Chaster FCutSCutter	Machine Pachine1	PUNADIG SHUTDOVIN	Health III CK Tut reachable	Linten Port           7001           7003
- Figurable Targets - Coherence Couters - Nocherence Couters - Nocherence - Nocherence - Statug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Conjugatements - Santug and Shutdewn Classes - Santug	Servers (Fills Click the Lock Time: Chine Servers (Fills Name of Admirise FCL800 FCL800	ered - Hore Colonia & Edit Sutton in the C e Desite reser(admin) 51 52 53	Charge Center to activat Type Canfigured Dytamic Dytamic	Chaster FCUESCuster PCUESCuster	Hachine Hachine1 Hachine2	PUNING SHUTDOWN SHUTDOWN	Health V OK Not reachable Not reachable	Linten Port 7081 7083 7084



## 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

WEDLOGIC Server Ad	ministration Console 120				<u> </u>
Change Center	🏠 Home Log Out Preferences 🔤 Record	i Help		We	lcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Servers >Summ Templates	nary of Machines >Machine2 >Summary of	Servers >Summary of Clusters >Summ	nary of Servers >Summary of Server Te	emplates >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	This page summarizes each server templat A server template contains common, non-c manage configuration for a group of serve	efault attributes that you can apply to	a set of server instances, which the	en inherit the template configuratio	m. Server templates enable you to easily
FCUBSDomain	Customize this table Server Templates New, Cione Delete				Showing 1 to 1 of 1 Previous   Next
Coherence Clusters Machines	🔲 Name 🗞	Cluster	Machine	Listen Port	Listen Address
Virtual Hosts	FCUBSMSTemplate	FCUBSCluster		7002	
	New Clone Delete				Showing 1 to 1 of 1 Previous   Next
How do I   • Create server templates					

#### 2) Select FCUBSTemplate and naviage to Logging $\rightarrow$ General

Home Log C	Dut Preferen	ces 🛃 Re	cord Help		Q	Welcome, weblogic Connected to: FCUBSDome
Home >PCUBSM	STemplate >5	ummary of Se	erver Templ	ates >FCUB		
iettings for FCI	UBSMSTem	plate				
Configuration	Protocols	Logging	Debug	Notes		
General HT	TP Data 5	iource Dia	agnostic In	nages		
Save						
Use this page	to <mark>d</mark> efine the	e general log	iging settir	ngs for this	server.	
街 Log file na	me:	lo	gs/FCUE	BSMSTen	nplate.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. Hore Info
- Rotation -		_				
- Contraction of				- t		participation of the second second second second second



— 🖓 Advanced —		
赶 Date Format Pattern:	MMM d, yyyy h:mm:ss a z	The date format pattern used for rendering dates in the log. The DateFormatPattern string conforms to the specification of thejava.text.SimpleDateFormat class. More Info
Minimum severity to log:	Warning V	The minimum severity of log messages going to all log destinations. By default all messages are published. More Info
鑦 Logger severity propertie	25:	The configuration of the different logger severities keyed by name. The values are one of the predefined Severity strings namely Emergency, Alert, Critical, Error, Warning, Notice, Info, Debug, Trace. More Info
Log file :		
Severity level:	Warning 🔻	The minimum severity of log messages going 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. More Info
👸 Log File Buffer:	8	Gets the underlying log buffer size in kilobytes More Info
Standard out :		
Severity level:	Critical	The minimum severity of log messages going to the standard out. Messages with a lower severity than the specified 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
Domain log broadcaster :		
Severity level:	Critical	The minimum severity of log messages going to the domain log from this server's log broadcaster. Messages with a lower severity than the specified value will not be published to the domain log. More Info
Filter:	None •	The filter configuration for log events being sent to the domain log. More Info
Buffer Size:	10	Broadcasts log messages to the domain log in batch mode. More Info
Stack Traces to stdout		Specifies whether to dump stack traces to the console when included in logged message. More Info
stdout Stack Trace Depth:	5	Determines the no of stacktrace frames to display on standard out. All frames are displayed in the log file. * -1 means all frames are displayed. More Info
街 stdout Format:	standard	The output format to use when logging to the console. More Info
Save		

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



#### 3.3.2 HTTP Logging

1) FCUBSDomain → Environment → Clusters → FCUBSTemplate → Logging → HTTP → Uncheck the **Access Logs** Flag

Home >FCURSMSTemplate >Summary of	Server Templates >FCUBSMSTemplate	
	to to the second s	
ttings for FCUBSMSTemplate		
onfiguration Protocols Loggin	g Debug Notes	
General HTTP Data Source	Diagnostic Images	
iave		
and the second sec		
		server saves HTTP requests in a separate log file; it does not store HTTP requests in 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.) More Info
server log file or the domain log file		Indicates whether this server logs HTTP requests. (The remaining fields on
server log file or the domain log file	[	Indicates whether this server logs MTTP 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 E Log file name:	[	Indicates whether this server logs MTTP 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 → Environment → Clusters → FCUBSTemplate → Tuning, update the stuck thread max time to **18000** and Click on **Save** 

🛍 Home Log Out Preferences 🔛 Re		Welcome, weblogic Connected to: FCUBSDor
Home >PCUESMSTemplate >Summary of S	ever Templates >FCUBSMSTemplate	
ttings for FCUBSMSTemplate		
Configuration Protocols Logging	Debug Notes	
General HTTP Data Source Dia	ignostic Images	
Save		
	g 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
	g 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.	g for the server. By default, HTTP logging is enabled and the	
	g 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.) More Info
server log file or the domain log file.	g for the server. By default, HTTP logging is enabled and the	Indicates whether this server logs HTTP requests. (The remaining fields on
server log file or the domain log file. HTTP access log file enabled		Indicates whether this server logs MTTP 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	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 MTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info



# 4. Tuning

## 4.1 **General Parameters**

PARAMETER	VALUE	Navigate To
JTA Time out seconds	18000	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 FLEXCUBE Universal Banking Solution.

Basically 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.DTMManagerDefault
-
Dorg.apache.xerces.xni.parser.XMLParserConfiguration=org.apache.xerces.
parsers.XML11Configuration -Dweblogic.threadpool.MinPoolSize=100 -
Dweblogic.threadpool.MaxPoolSize=100 -Xms1536M -Xmx1536M -
XX:MaxPermSize=256m -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 -Xmn4g -server
-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	🙆 Home Log Out Preferences 🔛 Record Help	Q		Welcome, weblogic	Connected to: FCUBSDoesa
View changes and restarts	Hane >ACUESMS7emplate >Summary of Server Template	a HPCUBSHSTemplate >Summary of	/ Outers -Summary of Servers		
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Servers				
Lock & Edit	Configuration Control				
Release Configuration	Use this page to change the state of the servers in t mode requires the domain-wide administration port		ntrol operations on Managed Serv	ers require starting the Node Hanager. Starting Han	aged Servers in Standby
FCL#SDomain -	10				
B Environment	0				
Environment     Servers     Clusters     Clusters	© Customize this table Servers (Filtered - More Columns Exist)				
B-Environment Servers B-Clusters Server Templates	© Customize this table	Restart SSL		Showing	to S of S Previous   Next
Chivronment     Servers     Cutors     Cutors     Server Templates     "Server Templates     "Hopatable Targets     "Coherence Clusters     Haptanes     Writeal Hopts	© Customize this table Servers (Filtered - More Columns Exist)	Restart SSL Machine	Skate	Shaving 1 Skatus of Last Action	Lto 5 of 5 Previous   Next
Churters     Cutters	Customer this table Servers (Fibred - Hore Columns Exist) Stat: Resure: Suspend v: Studowt v:	terration in the second	Skate RUNUNG		to S of S Previous   Next
Chivronment     Servers     Colutions     Colutions	Customize this table Servers (Fibered - Hore Columns Exist) Stat: Resume: Suspend v: Shatboot v: Server +>	terration in the second		Status of Last Action	to Sof S. Previous   Next
Environment     Servers     Clutters     "Server Templates     "Hightable Targets     "Generoc Clusters     "Hightable Targets     "Generoc Clusters     "What indus     "Work Hanagers     "Startup and Shuttown Classes     "Deployments	Customize this table Servers (Filtered - Hore Columns Exist) Bitt Resume Suspend & Shutdown & Server & AccurServer(admin)	Machine	RUNNENG	Status of Last Action	to Sof S. Previous   Next
Conversioner     Clatters     Clatters     Clatters     Clatters     Clatters     Clatters     Coherence Clatters     Coherence Clatters     Cl	Customire this table Servers (Filtered - Hore Columns Exist)  Stati, Resome, Suspend v, Shuldown v,  Server 4  AdverServer(admin)  F 0 85451  F 0 85452	Machine Hachine1	RUNNENG SHUTDOWN	Status of Last Action None None	Lto S of S Previous   Next

Upon successful startup, the status of Managed servers is changed to "RUNNING".

Change Center	A Hot	ne Log Out Preferences 🛃 🕫	cord Help	9			Welcome, we	blogic Connected to: FCUBSDom	
View changes and restarts	Harte	-PCUESPISTemplate >Summary of S	erver Templates >PCU8SHS7ar	eplate >Summary of Clusters >5	ummary of Servers				
Click the Lock & Edit button to modify, add or	Summa	Summary of Servers							
delete items in this domain. Lock & Edit	Config	paration Control							
Release Configuration	Aser	ver is an instance of WebLogic S	erver that runs in its own Jaw	a Virtual Machine (JVH) and I	has its own configuration				
Domain Structure	This	page summarizes each server that	t has been configured in the	current WebLogic Server don	nain.				
FCUBSDomain -									
8 Environment	0	Last Refreshed: Jun 11, 2015	2:57:19 PH						
8-Clusters	P Ore	tomize this table							
	Serv	tomize this table rers (fiftered - More Columns the Lock & Edit button in the C w   Clone   Delete		the buttons on this page.			94	owing 1 to 5 of 5. Previous   Nect	
Outres     Server Templates     Server Templates     Outrestable Targets     Outrestable Targets     Outrestable Targets     With Minagers     Startup and Shutdown Classes     Outpendox     Deployments	Serv	rers (Filtered - More Columns the Lock & Edit button in the C		the buttons on this page.	Hachine	State	5h Health	oving 1 to 5 of 5 Previous   Next	
Oresters     Server Templates     "Server Templates     "Magnatable Targets     "Coherence Clusters     "Machines     "Withuil Notes     "Withuil Notes     "Sturby Annagers     "Sturby and Shutdown Classes	Servi Cick	ers (filtered - More Columns the Lock & Edif button in the C w Clane Diskets	hange Center to activate all		Machine	State RUNDIG	Local State		
Clusters    Server Templates    Server Templates    Server Templates    Virgantable Targets    Virgantable Targets    Virgantable	Serv	rers (Filtered - More Columns the Lock & Edif button in the C W Come Delete Name &	hange Center to activate all		Machine Plachine1		Health	Listen Port	
Outless     Server Templates     Opticable Targets     Observer Clasters     Machines     Work Nees     Startup and Shutdown Classes     Optiopments     Services     Services     Service     Se	Serv	ers (Filtered - Hore Columns the Lock & Edif button in the C W Come Delete Name & AdminServer(admin)	hange Center to activate all Type Configured	Cluster		RUNADIG	Health V OK	Listen Port 7001	
Clusters     -Server Templates     -Server Templates     -Server Clusters     -Wachines     -Withue Heads     -Withue Heads     -Withue Heads     -Withue Alexagers     -Starting and Shutdown Classes     -Deployments     -Services     -Services     -Services     -Services	Serv	ers (Filtered - Hore Columns the Lock & Edif button in the C w) Come Delete Name & AdminServer(admin) FCU85H51	hange Center to activate all Type Configured Dynamic	Cluster FCUBSCluster	Hachine 1	RUNADIG	Health CK CK	Listen Port           7001           7003	

# 6. Data Source creation and JDBC Configuration

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

- jdbc/fcjdevDS This datasource is used by FLEXCUBE online screen excluding branch screens.
- jdbc/fcjdevDSBranch This datasource is used by Branch screens.
- jdbc/fcjSchedulerDS This datasource is used by Quartz scheduler.

#### 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

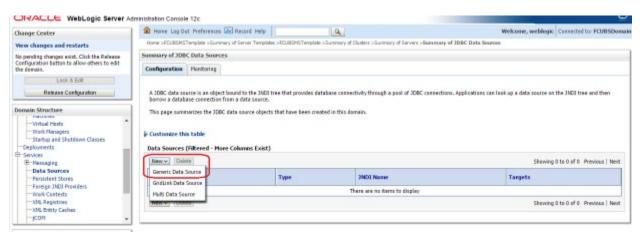
Download Oracle Instant Client corresponding to the used Oracle DB and java (x64 or x32):

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

 Navigate to FCUBSDomain → Services → Data Sources → select New > Generic data source



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

ORACLE WebLogic Server		
Change Center	C Home Log Out Preferences Record Help	Welcome, weblogic Corrected to: FCUBSDomai
View changes and restarts	Warne >PCURSHISTemplate >Summary of Server Templates >PCURSHISTemplate >Summary of Clusters >Summary of Servers >Sea	imary of JDBC Data Sources
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New JOBC Data Source	
Release Configuration	JDBC Data Source Properties The following properties will be used to identify your new JDBC data source.	
Domain Structure	* Indicates required fields	
FCUBSOanain FCUBSOANAINAINAINAINAINAINAINAINAINAINAINAINAI	What would you like to name your new JOBC data source?	
How do L.		
Create JDBC generic data sources     Create LLR-enabled JDBC data sources	What database type would you like to select? Database Type: Oracle •	
System Status	[Bec Nect] Frink Carcel	
Health of Running Servers		
Failed (0)		

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

ORACLE WebLogic Server	Administration Console 12c	Q
Change Center	🔒 Home Lag Out Preferences 🐼 Record Help	Welcome, weblagic Connected to: PCUESDomain
View changes and restarts	Home >POURSMSTemplate >Summary of Server Templates >POURSMSTemplate >Summary of Clusters >Summary of S	Servers >Servers of JDBC Data Searces
No pending changes exist. Click the Release Configuration batton to allow others to edit the domain.	Create a New JDBC Data Source Back, Next, Fronth Cancel	
Lock & Edit	and and locate and	
Release Configuration	JDBC Data Source Properties The following properties will be used to identify your new JDBC data source.	
Domain Structure		
PCUISDornain     Contromerse     Contromerse     Control     Contro     Control     Control     Contro     Control     Control     C	Database Type:         Orade           What database driver would you like to use to create database connections? Note: * indicates that the drive           Database Driver         *Oracle's Driver (Thin) for Instance connections; Versions:Any           Back         Finish         Cascal	r is explicitly supported by Oracle WebLopic Server.
Startup and Shutdown Classes     Deployments     B-Services     Review		•

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

ORACLE WebLogic Server Ad	Iministration Console 12c			Š
Change Center	🏦 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic	Connected to: FCUBSDomain
View changes and restarts	Home >PCUBSMSTemplate >Summary of Server Template	es >FCUBSMSTemplate >Summary of Clusters >Summary o	f Servers >Summary of JDBC Data Sources	
No pending changes exist. Click the Release Configuration button to allow others to edit the domain. Lock & Edit Release Configuration	Create a New JDBC Data Source           Back         Next         Finish         Cancel           Transaction Options         You have selected non-XA JDBC driver to create dat	abase connection in your new data source.		
Domain Structure	Does this data source support global transactions? If	yes, please choose the transaction protocol for this o	lata source.	
FCUBSOmain    FCUBSOmain     FCUBSOmain	Select this option if you want to enable non-XA JDBC Recommended in place of Emulate Two-Phase Comm		obal transactions using the <i>Logging Last Resource</i> (LLR) transactio	n optimization.
	Select this option if you want to enable non-XA JDBC heuristic conditions. Emulate Two-Phase Commit	connections from the data source to emulate partici	bation in global transactions using JTA. Select this option only if yo	ur application can tolerate
How do I	Select this option if you want to enable non-XA JDBC other resources can participate in the global transact		obal transactions using the one-phase commit transaction processi	ing. With this option, no
Create JDBC generic data sources     Create LLR-enabled JDBC data sources	One-Phase Commit      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 Preferences 🚣 Record Help	9	Welcome, weblogic Connected to: PCUBSDomail
View changes and restarts	Home >PCUBSMSTemplate >Summary of Server Templates >PCUBSMSTe	explate >Summary of Clusters >Summary of Servers >84	enmary of 3DBC Data Sources
tio pending changes exist. Click the Release Configuration batter to allow others to edit the domain. Lock & Datt Release Configuration	Create a New JDSC Data Source           Bask         Next         Finish         Cancel           Connection Properties         Define Cancel to Properties.         Cancel to Properties.		
Domain Structure	What is the name of the database you would like to connect to?	(	
Environment Servers	Database Name:	L	1
Clusters     Server Templates     Migratable     Coherence Clusters     Todorees	What is the name or IP address of the database server? Host Name:		1
Wirtual Hosts Work Managers	What is the port on the database server used to connect to the data	and all all all all all all all all all al	
Startup and Shutdown Classes Deployments	Port:	1521	
P Services B-Hessacion	What database account user name do you want to use to create dat	tabase connections?	
How do I 🖂	Database User Name:		1
Create JDBC generic data sources     Create LLR-enabled JDBC data sources	What is the database account password to use to create database	convections?	
	Password:		1
System Status 🖂	Confirm Password:		
Health of Running Servers	Contra Password		
Failed (0) Critical (0)	Additional Connection Properties:		_
Overladed (0) Warning (0)	oracle.jdbc.DRCPConnectionClass:		

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=xxxxxx.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.

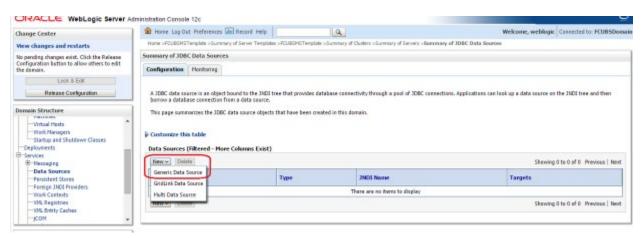
e Lag Out Preferences and Recard Hebp PCLREHESTergalate sourceary of Server Terrgalates New JDBC Data Source refiguration Back Next Press Connection	Q. >PCLREPETemplete >Summary of Clusters >Summary of Servers >Sum memi	Welcome, weblogic Connected to: FOUBSDomai many of 30BC Data Sources
New JDBC Data Source		many of 300C Data Sources
rfgaraton Back Hect Pleint Co	ncel	
atabase Connection		
batabase Connection		
e database availability and the connection pro	perties you provided.	
the full eachage parce of TAC driver class and	of the create database connections in the connection word?	
	oracle.jdbc.OracleDriver	
the URL of the database to connect to? The Fe	rmat of the URL varies by JOBC driver.	
	idb: oracle oci @IDESCRIP'	
stabase account user name do you want to use	to cleate database connections?	
se User Name:	FCUBS121DB	
the database account password to use to crea	te database connections?	
or secure password management, enter the pa	ssound in the Passound field instead of the Propertie field below)	
ord:		
Password:		
ties	en medire delibite correttion:	
	the full package name of 2080 driver class and hat this driver class must be in the classpath of Class Name: the URL of the database to connect to? The fe atabase account user name do you want to use ase User Name: the database account password to use to create for secure password management, enter the pa code: in Passwordt:	the full padage name of 2000 driver class used to create database connections in the connection pool? And this driver class must be in the classpath of any server to which it is deployed.) Class Name:  The URL of the database to connect to? The former of the URL varies by 2000 driver.  If the URL of the database to connect to? The former of the URL varies by 2000 driver.  If the URL of the database to connect to? The former of the URL varies by 2000 driver.  If the URL of the database account user name do you work to use to create database connections?  ase User Name:  If CUBS 121DB  The database account password to use to create database connections?  ase User Name:  If CUBS 121DB  The database account password to use to create database connections?  ase User Name:  If CuBS 121DB  The database account password to use to create database connections?  ase User Name:  If CuBS 121DB  The database account password to use to create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database connections?  ase User Name:  If CuBS 121DB  The database account password to use the create database cannections?  ase User Name:  If CuBS 121DB  The database account password to use the create database cannections?  Ase User Name:  If CuBS 121DB  The database account password to use the create database cannections?  If CuBS 121DB  If the database account password to use the create database cannections?  If the database account password to use the create database cannections?  If the database account password to use the create database cannections?  If the database account passw

### 7) Select Target as FCUBSCluster and click on Finish

ORACLE WebLogic Server A	dministration Console 12c	Q
Change Center	😰 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >PCUBSHISTemplate >Summary of Server Templates >PCUBSHISTemplate >Summary of Cus	ters >Summary of Servers >Sumenary of JDBC Data Sources
No pending changes exist. Cick the Release Configuration button to allow others to edit the domain. Lock & Edit	Create a New JOBC Data Source           Back         Bees         [Finith]         Cancel           Select Targets         Concel         Concel         Concel	
Release Configuration		set a target, the data source will be created but not deployed. You will need to deploy the data source at a
RUBSDenain + B-Endramment B-Clusters E-Clusters E-Server Templates	Servers C AdminServer	
Higratable Targets     Caberence Clusters     Hackines     Work Managers	Chaters FOBSCluster All servers in the cluster	
Startup and Shutdown Classes     Deployments     Services     Bi-Thermation     The Services	Back Next Finite Cancel	

### 6.3 XA Datasource

 Navigate to FCUBSDomain → Services → Data Sources → select New > Generic data source



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

ORACLE WebLogic Server A	ministration Console 12c	9
Change Center	Horre Lug Out Preferences And Record Help	Welcome, weblogic Connected to: FOUBSDoma
View changes and restarts	Nome >FCUESHSTemplate >Summary of Server Templates >FCUESHSTemplate >Summary of Clusters >Su	mmary of Servers >Summary of 30BC Data Sources
Pending changes exist. They must be activated to take effect.	Greate a New JDBC Data Source	
Activate Changes	Back Flext Finish Cancel	
Undo All Changes	30BC Data Source Properties	
Domskin Structure PCUBSDemain PCUBSDemain PCustors PCustors PCustors PSorver Templates PSorver Templates PSorver Conference Pso	The following properties will be used to identify your new JDBC data source. * Indicates required fields What would you like to name your new JDBC data source?  del * Mane:     FCUBSBranchDS What JNCT name would you like to assign to your new JDBC Data Source?  del JNDE Name:     JdBc/fcjdevDSBranch	]
B-Services B-Hessaning		
How do 1		
Create 300C generic data sources     Create LLR-enabled 300C data sources	What database type would you like to select? Database Type: Oracle v	
System Status 🛛 🖂 Health of Running Servers	Sack Real Presh Carcel	
Failed (0)		

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

	Home Log Out Prefer	anner Ing Destant Linds	a	Welcome, weblogic Connected to: FCUBSDomail
Change Center		A CONTRACTOR OF		
Wew changes and restarts	Home >FCUESMSTemplate >	-Summary of Server Templates >PCUESP	STemplate >Summary of Clusters >Summary of Servers	>Summary of JDBC Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data	Source		
Activale Charges	Back Next Finish	Cancel		
Undo All Changes	JDBC Data Source Pro	perties		
Domain Structure	The following properties	will be used to identify your new JDB	C data seurce.	
COUSEDomain  Converses  Colorence Contens  Colorence Clusters  Colorence Clusters  Virtual Nexts  Deployments  Services  B-Mecodine	Database Type: What database driver was Database Driver: Back Piect Finish		connections? Note: * indicates that the driver is eq Instance connections; Versions:Any	Vikilly supported by Orade WebLogic Server.

#### 4) Click on Next

ORACLE WebLogic Server Ad	fministration Console 12c		Q
Change Center	1 Home Log Out Preferences 🔤 Record Help	Q.	Welcome, weblogic Connected to: FOUBSDomai
View changes and restarts	Home >POUBSHSTemplate >Sommary of Server Templatee >POUBSHS	Template >Summery of Clusters >Summary of Server	s > Semmary of 300C Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data Source		
Acts ate Charges	Back Next Prinh Cancel		
Undo All Changes	Transaction Options		
Domain Structure	You have selected an XA JDBC driver to use to create database transaction protocol. No other transaction configuration options		roe will support global transactions and use the Two-Phase Commit' global
PCUEDorrain  Cubbos  Cubbos	Back Hest Pretty Cancel		

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

	dministration Console 12c		<u> </u>
Change Center	Henne Log Out Intelevences Record Help	9	Welcome, weblogic Connected to: FOUBSDomain
View changes and restarts	Home >PCUIESHSTemplate >Summary of Server Templater >PCUIESH	ESTemplete >Summary of Clusters >Summary of Servers >Seamena	ry of JDBC Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data Source		
Activate Changes	Back Next Finith Carcel		
Undo All Changes	Connection Properties		
Domain Structure	Define Connection Properties.		
FOIRSDensin .	What is the name of the database you would like to connect to?	,	
Environment	Database Name:	(	
Servers El-Clusters	catatose name.		
Server Templates Migratable Targets	What is the name or 3P address of the database server?		
Caherence Clusters	Host Name:		
Hachines Virtual Hosts			
Work Managers Startup and Shutdown Classes	What is the port as the database server used to connect to the	database?	
Deployments	Port:	1621	
B-Senices B-Nessacing		and the second sec	-
How do I	What database account user name do you want to use to create	e caracate consertant/	
Create 3DBC generic data sources	Database User Name:		
Create LLR-enabled IDBC data sources	What is the database account password to use to create databa	ase connections?	
	Password:		
System Status 🛛	Password:		
Health of Running Servers	Confirm Password:		
Failed (0)		(	
Critical (0) Overloaded (0)	Additional Connection Properties:		
Warning (0)	oracle.jdbc.DRCPConnectionClass:		
OK (5)	Back Next Finith Cancel		
Change Center View changes and restarts	Home Log Out Preferences Record Help Home >FCUBSHSTemplate >Summary of Server Templates >FCUB	25HSTemplate >Summary of Quaters >Summary of Servers > Su	Welcome, weblogic Connected to: FOUBSDomail
Pending changes exist. They must be activated	Create a New JDBC Data Source		
to take effect.			
Activate Changes	Test Configuration Back Next Presh Cancel		
Undo All Changes	Test Database Connection		
Domain Structure	Test the database availability and the connection propertie	n you provided.	
PCUBSDensis -	What is the full package name of 3DBC driver class used to a	create database connections in the connection pool?	
B-Environment Servers	(Note that this driver class must be in the classpath of an a	erver to which it is deployed.)	
E-Clusters Server Templates	10.000000000000000000000000000000000000	100 C C C C C C C C C C C C C C C C C C	
Higratable Targets	Driver Class Name:	oracle.jdbc xa.client.OracleX	
Coherence Clusters Nachines	What is the URL of the database to connect to? The format	of the URL varies by 3DBC driver.	
Virtual Hests	URL:		
Work Nanagers Startup and Shubdown Classes	UKC.	jdbc oracle oci @(DESCRIP)	
Deployments	What database account user name do you want to use to an	eate database connections?	
B-Senices B-Necconing	Database User Name:	FC121DB	
How do 1		roiziba	
Create JOBC generic data sources	What is the database account password to use to create dat	tabase connections?	
Create ILR-enabled JDBC data sources	(Note: for secare password management, enter the password	d in the Passward field instead of the Properties field below	n)
System Status E	Password:		
Health of Running Servers			
month of monthly softens			
Faled (0)	Confirm Password:		
Failed (0) Dritical (0)			
Failed (0) Critical (8) Overficeded (0)	What are the properties to pass to the JDBC driver when cre		
Failed (0) Dritical (0)			

ORACLE WebLogic Server Ad	ministration Console 12c	
Change Center	😰 Home Log Out Preferences 🐼 Record Help	Welcome, weblogic Connected to: FCUBSDomail
View changes and restarts	Home >POURSMSTemplate >Summary of Server Templates >POURSMSTemplate >Summary of Ou	iters >Summary of Servers >Sammary of 200C Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data Source	
Activate Changes	Back Next Feish Cancel	
Undo Ad Changes	Select Targets	
Domain Structure	You can select one or more targets to deploy your new JOBC data source. If you don't sel later time.	ect a target, the data source will be created but not deployed. You will need to deploy the data source at a
PCUBSDomain + Environment	Servers	
Clusters     Server Templates	AdmanServer	
Coherence Clusters	Clusters	
Machines Virtual Hosts Work Managers	P rcuschater	
Startup and Shutdown Classes		
B-Services *	Back Neur Freich Cancel	

#### 6) Upon Activate Changes would create the XA Datasource

Change Center	A Home Log Out	t Preferences 🔛 Record Help		Q	Welcome, weblogic Connected	Ita: FCUBSDoma
View changes and restarts	Hame >POJESHST	emplate >Surrenary of Server Template	es >PCI/85MS7emplate >5a	mmary of Clusters >Summary of Servers >Summary of	DBC Data Sources >POJESES >Sammary of 3DBC Data 5	Sources
Click the Lock & Edit button to modify, add or	Summary of 3080	Data Sources				
delete items in this domain. Lock & Edit	Configuration	Honitoring				
Domain Structure	borrow a databa	nce is an object bound to the JNDE is se connection from a data source. arizes the JDBC data source object			ns. Applications can look up a data source on the JNDC tr	ee and then
	Click the Lock &	Filtered - More Columns Exist) Edit button in the Change Center		s on this page.		
Startup and Shutdown Classes Deployments Services B: Hessaging Deta Sources Pensistent Scores Foreign XICI Providers	Data Sources ()	Filtered - More Columns Exist) Edit button in the Change Center		s on this page.	Showing 1 to 2 of 2	Previous   Next
Startup and Shutdown Classes Deployments Services Services Pensistent Stores Pensistent Stores	Data Sources () Click the Lock &	Filtered - More Columns Exist) Edit button in the Change Center		s on this page.	Showing 1 to 2 of 2 Targets	Previous   Next
Deployments Deployments Deployments Deployments Deployments Deployment Deployment Deployment Deployment Deployment Deployment Deployment Deployments	Data Sources () Click the Lock &	Nibered - More Columns Exist) Edifbutton in the Change Center	to activate all the button			Previous   fiest

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

	A House Los Out	Preferences Record Help	9		Welcome, weblogic Connected to: R	TIRSDoor
Change Center	100000000000000000000000000000000000000		and the second se			0050088
View changes and restarts	Home >POUBSHST Sources >POUBSBr	emplate >Summary of Clusters >Summary arch05 >Semmary of 30BC Data See	y of Servers >Summary of 3D #Des	BC Data Sources >POJESDS >Summary of 3DBC Data	Sources >POUESDomain >Summary of 3DBC Data	
Click the Lock & Edit buttoe to modify, add or delete items in this domain.	Messages	ave been activated. No restarts are ne				
Lock & Edit	W MI manges I	ave been activated. No restarts are se	oseistir			
Release Configuration	Summary of 3DBC	Data Sources				
	Configuration	Honitoring				
Domain Structure						
18 Messaging						
- Data Sources - Persistent Stores - Foreign JND Providers - Work Contexts - Work Contexts - Work Detety - 300, Reptrice	In Column 2 Column 2 Column	Filtered - Hore Columns Exist) Edit button in the Charge Center to	activate all the buttons or	this page.	Shewing 1 to 6 of 6 Previo	ous   Next
Data Searces "Persistent Stores "Tanégo JIGI Providens "Wisk Centedu "XDL Benty Cadves "XDL Benty Cadves "COM	Data Sources ( Click the Lock & New 2 Date	Filtered - Hore Columns Exist) Edit button in the Charge Center to	activate all the buttons or Type	this page. JNDI Nome	Shewing 1 to 6 of 6 Prevo Tangets	ous   Next
Data Sources "Persistent Stores "Tracing JIOI Providens "White Cesteds "XDL Brithy Cadres "XDL Brithy Cadres "COM	Data Sources ( Click the Lock &	Fibered - Hore Columns Exist) Edit button in the Charge Center to				ous   Next
Persistent Stores     Persistent Stores     President     Transpire     Transpilo     Transpire     Transpire     Transpire	Data Sources ( Click the Lock 8 New 2 Date	Fibered - Hore Columns Exist) Edit button in the Charge Center to	Туре	JNDI Name	Targets	ous   Next
Data Scores     Persistent Stores     Persistent Stores     Provident Stores     "With Centeds     "With Centeds     "With Centers     "Storeste Stores     Create Store     Create Store	Data Sources ( Click the Look & Howw Date	Filtered - Hore Columns Exist) Edit button in the Charge Center to II d/05	Type Generic	JNDI Name Jdbc/tiglev058ranch	Tanpets FCUBSCluster	ous   Next
Create JSBC provides     Create JSBC Providers     Socies     Socies     Socies     Socies     Socies     Socies     Create JSBC provides     Create JSBC provides     Create JSBC provides     Create JSBC provided data sources     Create JSBC provided data sources	Data Sources ( Click the Lock # New (*) Data Rame (*) PCU85Bar PCU85Bar	Filtered - Hore Columns Exist) Edit button in the Charge Center to 0 0 0 0 0 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Type Generic Generic	JMDI Name Jdx:/fijde/DSPandh Jdx:/fijde/DS	Targets FCUBSCluster FCUBSCluster	ous   Next
Create JOBC Senarces     Persistent Stores     Presistent Stores     With Cestents     With Cestents     With Store Cestents     With Store Cestents     With Store Cestents     With Store Cestents     Create JOBC generic data sources     Create JOBC multil data sources     Create JOBC multil data sources     Create JOBC multil data sources	Data Sources ( Click the Lock & New V Date Rame A FCUESDA PCUESDA	Filtered - Hore Columns Exist) Edit button in the Charge Center to a d:05 Assistance GA	Type Generic Generic Generic	3MDI Name Jdc:/fcjde/d5Brandh Jdc:/fcjde/d5Brandh Jdc:/fcjde/d5_ASINC	Targets FOUBSCluster FOUBSCluster FOUBSCluster	ous   Next
Create JOBC press data sources     Create JOBC press data sources     Create JOBC generic data sources     Create JOBC generic data sources     Create JOBC generic data sources     Detete JOBC data sources	Data Sources ( Click the Lock & New V Date Rame A FCUESDS PCUESDS PCUESDS	Ritered - Hore Columns Exist) Edit button in the Change Center to 0.005 Astronc 0.4 solute 05	Type Generic Generic Generic Generic	3ND0 Nome Jdbc/figler/DSBranch Jdbc/figler/DSBranch Jdbc/figler/DS_ASTRIC Jdbc/figler/DS_XA	Targets FCUBSCluster FCUBSCluster PCUBSCluster FCUBSCluster	ous   Hest
Contain Spectropy     Persident Stores     Persident Stores     Parsign JIGI Providens     Parsign JIGI Providens     Parsign JIGI Providens     Parsi Catelog     Parsign JIGI Providens     Contact JIGE genetic data sources     Create JIGE Conduité data sources     Create JIGE Conduité data sources     Delete JIGE multi data sources	Data Sources (     Cidit the Lock #     New *     Data     New *     Data     New *     Data     Poly     Poly	Ritered - Hore Columns Exist) Edit button in the Change Center to dial dial Assist column	Type Generic Generic Generic Generic Generic	3NDI Nome Jdbc/tgde/DSbranch Jdbc/tgde/DSbranch Jdbc/tgde/DS_ASINC Jdbc/tgde/DS_XA Jdbc/tgde/DS_XA	Targets FOUBSChater FOUBSChater FOUBSChater FOUBSChater FOUBSChater	

## 6.4 JDBC Parameters Tuning

**Capacity Increment** 

Shrink Frequency

Test Connection on Reserve

	•	
	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

Below JDBC parameters needs to updated for all the Datasources

5

900

Checked

Connection Pool

Connection Pool->Advance

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 Configuring JMS on Weblogic Server for further details on JMS setup.

# 8. Oracle WebLogic Load Balancing

For Weblogic Load balancing, use

- 1) Oracle HTTP Server: Refer to Configuration for Oracle HTTP Server for setup.
- 2) Apache: Refer to Configuration for Apache for setup.

# 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

WebLogic Server A									ž
Change Center	( R H	ume Log Out Pr	eferences 🔛 Reco	rd Help	Q			Welcome, weblogic Co	nnected to: FCUBSDomain
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Click the Lock & Edit button to modify, add or delete items in this domain.	Summs	ary of Clusters							
Lock & Edit		cate commands	es the clusters that I	have been configured in the cur	ment Webl only Serve	e domain.			
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Domain Structure	1								
B-Environment Servers B-Server Templates Hispatable Targets	Cid	CONTRACTOR OF STREET, ST		oist) Ige Center to activate all the b	uttons on this page.			Showing 1 to	1 of 1 Previous   Next
Coherence Clusters Machines		Name 🖧	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	I Servers
Virtual Honogers     Virtual Honogers		FCU85Cluster		Unicest	Detabese	Round Robin	(None)		PCUBSH51, PCUBSH52, PCUBSH53, PCUBSH54
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#### 2) Click FCUBSCluster $\rightarrow$ Configuration $\rightarrow$ Servers tab

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Change Center	🔒 Home	Log Out	Preferences	🛛 🔁 Reco	rd Help		(	2				Welc	ome, weblog	ic Connected to: FCUBSDomain
View changes and restarts	Home >Su Clusters >I	immary of FCUBSCI	f JDBC Data So uster	urces >Sum	mary of Clusters	>Summary of I	Machines :	MAC-1 >Sum	mary of Machine	s >Summary o	of Servers >Summary of	Server Te	mplates >Sumn	ary of Machines >Summary of
No pending changes exist. Click the Release Configuration button to allow others to edit	Settings for FCUBSCluster													
Lock & Edit	Configuration		Monitoring Control		Deployments	Services	Notes							
Release Configuration	General	JTA	Messaging	Servers	Replication	Migration	Single	ton Services	Scheduling	Overload	Health Monitoring	HTTP	Coherence	
CUBSDomain Structure	Save This pag	je is used	l to configure	the servers	that are assig	ned to this cl	uster.							
Clusters Server Templates Migratable Targets Coherence Clusters Machines	Clusters can contain both explicitly configured an					d dynamically created servers. The following settings a			g settings are u	S	o determine the number and characteristics for these dynamic servers. Specifies the server template that is to be used to configure the dynamic servers in this cluster. Only templates that specify this cluster are valid choices. More Info			
Virtual Hosts Work Managers Startup and Shutdown Classes	Maximum Number of Dynamic Servers:				5: 4	4					Specifies the maximum number of dynamic servers in this cluster. More Info			
Deployments Services	∰ Server Name Prefix:				EC	FCUBSMS				S	Specifies the prefix to be used when naming new dynamic servers in this cluster. More Info			

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

ORACLE WebLogic Server Administration Console 12c										õ				
Change Center 🕜 Home Log Out Preferences 🐼 Record Help									Welcome, weblogic Connected to: FCUBSDomain					
View changes and restarts Home > Summary of JDBC Data Sources > Summary of Clusters > Summary of Machines > MAC-1 > Summary of Machines > Summary of Server Templates > Summary of Machines > Summary of Clusters > FOUBSCluster														
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Domain Structure Save														
FCUBSDomain  -Environment -Servers -Clusters	This page is use Clusters can co	-		-		ster.   servers. The following	g settings are u	used to deter	mine the number and	characte	ristics for the	se dynamic servers.		
Server TemplatesMigratable TargetsCoherence ClustersMachinesMachines	Server Template:					1 CODOMOTEMPIALE					Specifies the server template that is to be used to configure the dynamic servers in this cluster. Only templates that specify this cluster are valid choices. More Info			
Virtual Hosts Work Managers Startup and Shutdown Classes	Maximum Num	ber of Dynan	ic Servers	s: 8						Specifies the maximum number of dynamic servers in this cluster. More Info				
	街 Server Name Prefix:				FCUBSMS				Specifies the prefix to be used when naming new dynamic servers in this cluster. More Info					

### 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
FCUBSM51	Dynamic	MAC-1	7101
FCUBSM52	Dynamic	MAC-2	7102
FCUBSM53	Dynamic	MAC-1	7103
FCUBSM54	Dynamic	MAC-2	7104
FCUBSMS5	Dynamic	MAC-1	7105
FCUBSMS6	Dynamic	MAC-2	7106
FCUBSMS7	Dynamic	MAC-1	7107
FCUBSMS8	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.



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