

# Oracle FLEXCUBE Direct Banking

Clustering on Weblogic 11g

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# 1. Preface

## 1.1. Intended Audience

This document is primarily targeted at

- Oracle FLEXCUBE Direct Banking Development Teams
- Oracle FLEXCUBE Direct Banking Implementation Teams
- Oracle FLEXCUBE Direct Banking Implementation Partners

## 1.2. Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

## 1.3. Access to OFSS Support

<https://support.us.oracle.com>

## 1.4. Structure

This document consists of the following chapter

### Chapter 4, "Introduction to Weblogic Cluster"

This chapter discusses the clustered architecture overview of Weblogic 11g.

### Chapter 5, "Creating Weblogic Cluster"

This chapter discusses the steps to create Weblogic Cluster.

### Chapter 6, "Creating Managed Servers on Remote Machines"

This chapter discusses the ways with which managed servers can be created on remote machines.

### Chapter 7, "Adding Servers to Weblogic Cluster"

This chapter briefs that after creating the managed servers how to add them to already created Weblogic Cluster.

### Chapter 8, "Deploying FCDB on Weblogic Cluster"

**This chapter discusses the way to deploy FCDB on Weblogic Cluster.**

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## 1.5. Related Information Sources

For more information on Oracle FLEXCUBE Direct Banking Release 12.0.3.0.0, refer to the following documents:

- Oracle FLEXCUBE Direct Banking Licensing Guide

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## 2. Abbreviations

FCDB	Oracle FLEXCUBE Direct Banking
HTTP	Hyper Text Transfer Protocol
J2EE	Java 2 Enterprise Edition
WL	Weblogic 11g



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## 3.Overview

This document discusses following topics

- Creating and managing Weblogic 11g Cluster.
- Deploying FCDB Application on Weblogic 11g Cluster.

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### **3.1.Pre-requisites**

1. Oracle FLEXCUBE Direct Banking application is successfully installed using Oracle FCDB Installer.

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## **4. Introduction to Weblogic Cluster**

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Some salient features of the Weblogic 11g Cluster are mentioned below.

- 1) In a cluster, server instances can lie on different machines.
- 2) All server instances will belong to the same domain.
- 3) All the server instances are controlled using a single Admin server.
- 4) That Admin server could be the Admin server on any of the machines or it could be and Admin server on a totally different machine.
- 5) The Node Manager is a service provided by Weblogic that runs on every machine and is generally used to manage managed server instances on that machine.
- 6) We have to ensure that the Admin Server communicates with the Node Manager on each machine so that we can start/shut down the server instances in the cluster using a single Admin server.
- 7) The version of Weblogic used on all the machines must be the same.

---

The following diagram shows you how a managed server on a remote machine can be managed from Admin Server on another machine. (Figure 4.1)

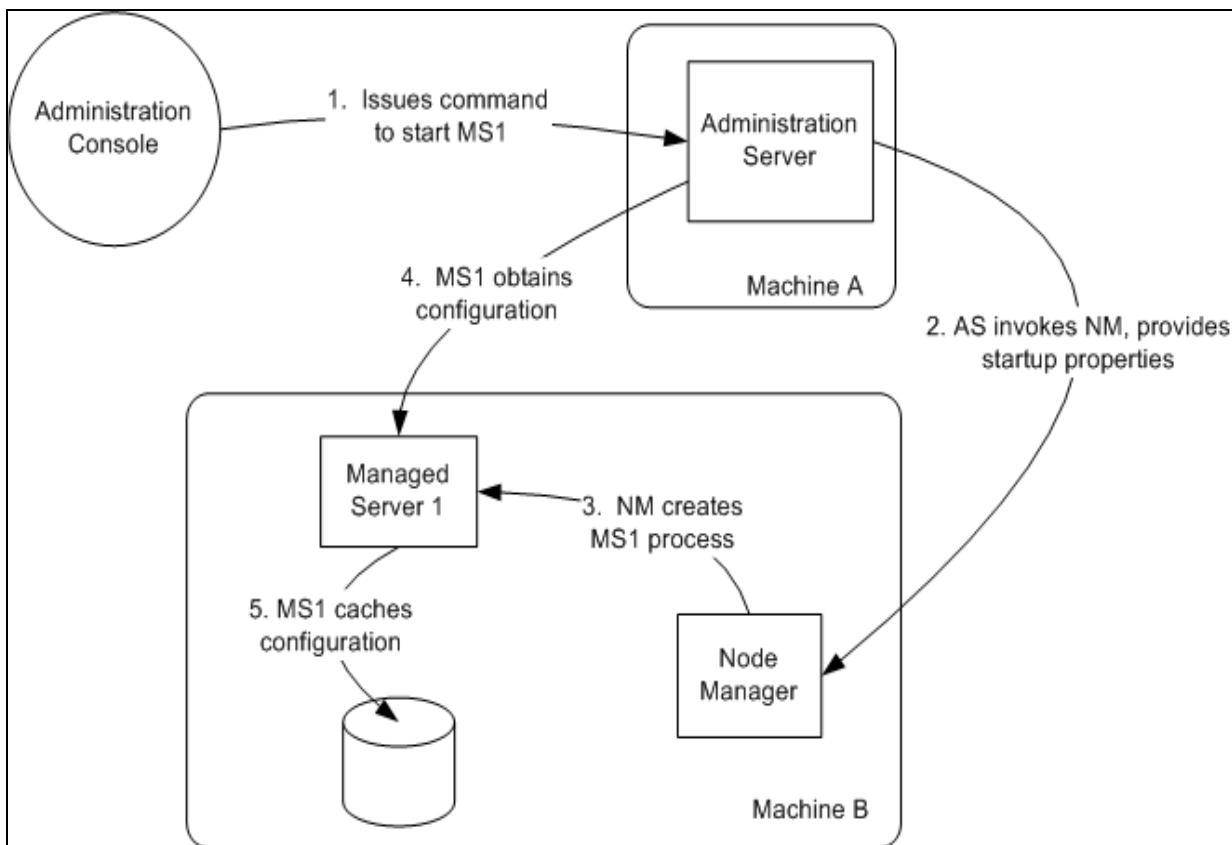


Figure 4.1

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## **5.Creating Weblogic Cluster**

- 1) In the BEA Weblogic Server Administration Console, click on Environment > Clusters

Figure 5.1

- 2) Click on “New”
- 3) Enter the Name as “FCDB\_Cluster\_1” (Figure 4.2)

Figure 5.2

- 4) Click on “OK”

5) Click on “Activate Changes” button (*Figure 5.3*)

ORACLE WebLogic Server® Administration Console

Change Center

**View changes and restarts**

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

Domain Structure

fcdb\_domain

- Environment
- Servers
- Clusters**
- Virtual Hosts
- Migratable Targets
- Machines
- Work Managers
- Startup & Shutdown Classes
- Deployments
- Services
- Security Realms
- Interoperability
- Diagnostics

How do I...

- Configure clusters
- Assign servers to clusters
- Configure server migration in a cluster
- Configure cross-cluster replication

System Status

Health of Running Servers

Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
<b>OK (1)</b>

Messages

All changes have been activated. No restarts are necessary.

Cluster created successfully

Summary of Clusters

This page summarizes the clusters that have been configured in the current WebLogic Server domain.

A cluster defines groups of WebLogic Server servers that work together to increase scalability and reliability.

Customize this table

Clusters (Filtered - More Columns Exist)

<input type="checkbox"/>	Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
<input type="checkbox"/>	FCD8_CLUSTER1	Unicast	Database	Round Robin	(None)	(None)	(None)	(None)

Showing 1 to 1 of 1 Previous | Next

New | Clone | Delete

Showing 1 to 1 of 1 Previous | Next

New | Clone | Delete

WebLogic Server Version: 10.3.1.0  
Copyright © 1996-2009, Oracle and/or its affiliates. All rights reserved.  
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Figure 5.3

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## 6.Creating Managed Servers on Remote Machines

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There are 2 ways in which we can create and manage managed server instances on remote machines. Refer to Figure 5.1 above as an example to create and manage one managed server instance on a remote machine.

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## 6.1.Using admin servers on Machine A and Machine B

- 1) Create Machine B using the Admin Console of Machine A. The “listen address” attribute will be the IP address/machine name of Machine B.
- 2) Create a server Managed Server 1 using the Admin Console of Machine A and associate it with Machine B.
- 3) Create Machine B using the Admin Console of Machine B. The “listen address” attribute will be the IP address/machine name of Machine B.
- 4) Create a server Managed Server 1 using the Admin Console of Machine B and associate it with Machine B.
- 5) Please note that the name and listen port of the managed servers created on both machines should be the same. The domain name used on both machines should also be the same.

The server “Managed Server 1” created using the Admin Console of Machine A is merely a link to the actual managed server instance that we created on Machine B by using Admin Console of Machine B.

If we need to control server instances on different machines using Admin Server of Machine A, then we need to create server instances on those machines using their respective admin servers and then create links to all those server instances on Machine A using the Admin Server of Machine A.

Now, Node Manager on Machine B will not allow the Admin Server on Machine A to start “Managed Server 1” unless the Admin Server of Machine A provides valid credentials. “Valid Credentials” here refer to the username/password of a user of “Managed Server 1” who has the privileges to start “Managed Server 1”.

To pass these credentials,

- 1) Click on “Managed Server 1” using Admin Console of Machine A.
- 2) Click on “Server Start”.
- 3) Specify Arguments

```
-Dweblogic.management.username=<user_name>
-Dweblogic.management.password=<password>
```

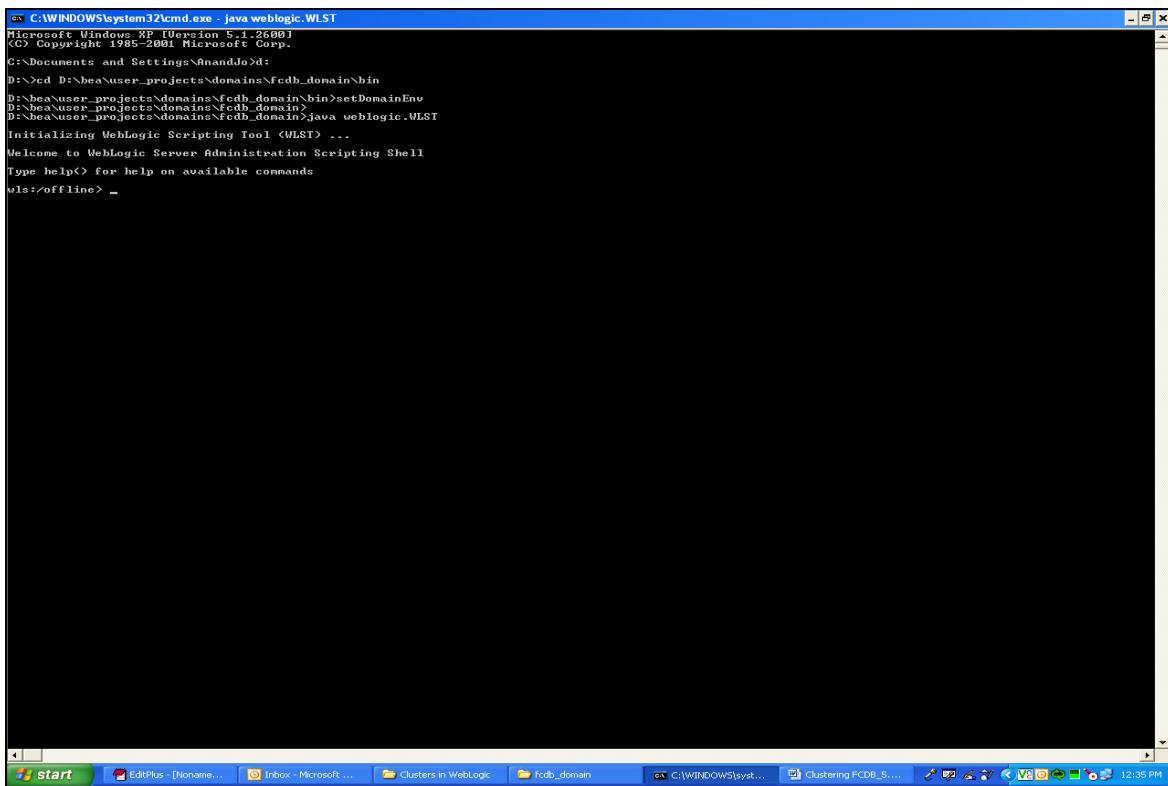
Now if you start “Managed Server 1” using the Admin Console of Machine A, it will start correctly. If you log into Admin Console of Machine B, you will see that the server instance has started correctly.

---

## 6.2.Using admin servers on Admin Server on Machine A and WLST

We use Weblogic Scripting Tool (WLST) so as to register the Node Manager on Machine B with the Admin Server of Machine A so that we don't have to explicitly pass credentials in order to start "Managed Server 1".

- 1) Start the Command Prompt on Machine B.
- 2) Change directory using cd D:\bea\user\_projects\domains\fcdb\_domain\bin
- 3) Run the batch file "setDomainEnv". Running this batch file will set all the appropriate JARs that we will need ahead, in the class path.
- 4) Start the WLST using the command
- 5) java weblogic.WLST (Figure 5.2.1)



```
cmd.exe C:\WINDOWS\system32\cmd.exe - java weblogic.WLST
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\hansandjo>d:
D:\>cd D:\bea\user_projects\domains\fcdb_domain\bin
D:\bea\user_projects\domains\fcdb_domain\bin>setDomainEnv
D:\bea\user_projects\domains\fcdb_domain>java weblogic.WLST
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() for help on available commands
wls:/offline> -
```

Figure 6.2.1

- 6) wls:/offline> connect (userId, pwd, 'AdminServerA:PortA')  
Where 'AdminServerA' is the name of Machine A and 'PortA' is the port on which it listens.
- 7) wls:/offline> nmEnroll ('D:/bea/user\_projects/domains/fcdb\_domain')  
where 'D:/bea/user\_projects/domains/fcdb\_domain' is the path to the fcdb\_domain on Machine B.
- 8) Create Machine B using the Admin Console of Machine A. The "listen address" attribute will be the IP address/machine name of Machine B.

---

- 9) Create a server Managed Server 1 using the Admin Console of Machine A and associate it with Machine B.

The managed server is now created on Machine B. You can start it and shut it down from the Admin Console of Machine A. You don't have to do anything using the Admin Console of Machine B.

---

## **7.Adding Servers to Weblogic Cluster**

This chapter discusses about how to add the managed servers to a already created Weblogic Cluster from Admin console of Weblogic.

- 1) Click on the “Lock & Edit” button
- 2) Click on Environment > Clusters > FCDB\_Cluster\_1

The screenshot shows the Oracle WebLogic Server Administration Console. The main window is titled 'Settings for FCDB\_CLUSTER1'. The 'General' tab is selected. The 'Name' field is set to 'FCDB\_CLUSTER1'. The 'Default Load Algorithm' dropdown is set to 'round-robin'. The 'Cluster Address' field is empty. The 'Number Of Servers In Cluster Address' field is set to '3'. The left sidebar shows the 'Domain Structure' and 'System Status' sections. The 'System Status' section shows 'Health of Running Servers' with 1 OK server. The bottom status bar indicates 'WebLogic Server Version: 10.3.6.0' and 'Copyright © 1996-2009, Oracle and/or its affiliates. All rights reserved.'

Figure 7.1

- 3) Click on “Servers” tab.

The screenshot shows the Oracle WebLogic Server Administration Console. The top navigation bar includes 'Home', 'Log Out', 'Preferences', 'Record', 'Help', and a search bar. The main title is 'ORACLE WebLogic Server® Administration Console' with the sub-title 'Welcome, weblogic | Connected to: fcdb\_domain'. The left sidebar contains 'Change Center' and 'View changes and restarts' sections, a 'Domain Structure' tree (fcdb\_domain > Environment, Servers, Clusters, Virtual Hosts, Migratable Targets, Machines, Work Managers, Deployments, Services, Security Realms, Interoperability, Diagnostics), and a 'How do I...' section with links for clusters, servers, and managed servers. The central content area is titled 'Settings for FCDB\_CLUSTER1' under the 'Configuration' tab. The 'Servers' tab is selected, showing a table with the following columns: Name, Add, Remove, and Status. The table is empty, displaying the message 'There are no items to display'. Below the table are 'Add' and 'Remove' buttons. The status bar at the bottom indicates 'Showing 0 to 0 of 0 Previous | Next'. The footer contains copyright information: 'WebLogic Server Version: 10.3.1.0', 'Copyright © 1996,2009, Oracle and/or its affiliates. All rights reserved.', and 'Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'

Figure7.2

- 4) Click on “Add”
- 5) Check the first option “Select an existing server, and add it as a member of this cluster”

The screenshot shows the Oracle WebLogic Server Administration Console. The top navigation bar and sidebar are identical to Figure 7.2. The central content area is titled 'Add a Server to Cluster'. The 'Identify Server' section is active, with the instruction 'Identify the server to be added' and a radio button for 'Select an existing server, and add it as a member of this cluster' (which is checked). Below this is a 'Select a server:' dropdown menu set to 'FCDBServer'. The 'Create a new server and add it to this cluster' option is also present. At the bottom of the dialog are 'Back', 'Next', 'Finish', and 'Cancel' buttons. The footer contains the same copyright information as Figure 7.2.

Figure 7.3

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- 6) Select a server that must be added to the cluster.
- 7) Click on finish.
- 8) Add as many servers as you want to the cluster.
- 9) Click on “Activate Changes” button

---

## **8.Deploying FCDB on Weblogic Cluster**

This chapter describes the steps on the deployment of FCDB on Weblogic Cluster which is already created.

1) During the installation process of an application, it prompts you to specify the server or cluster to which you wish to deploy the application.

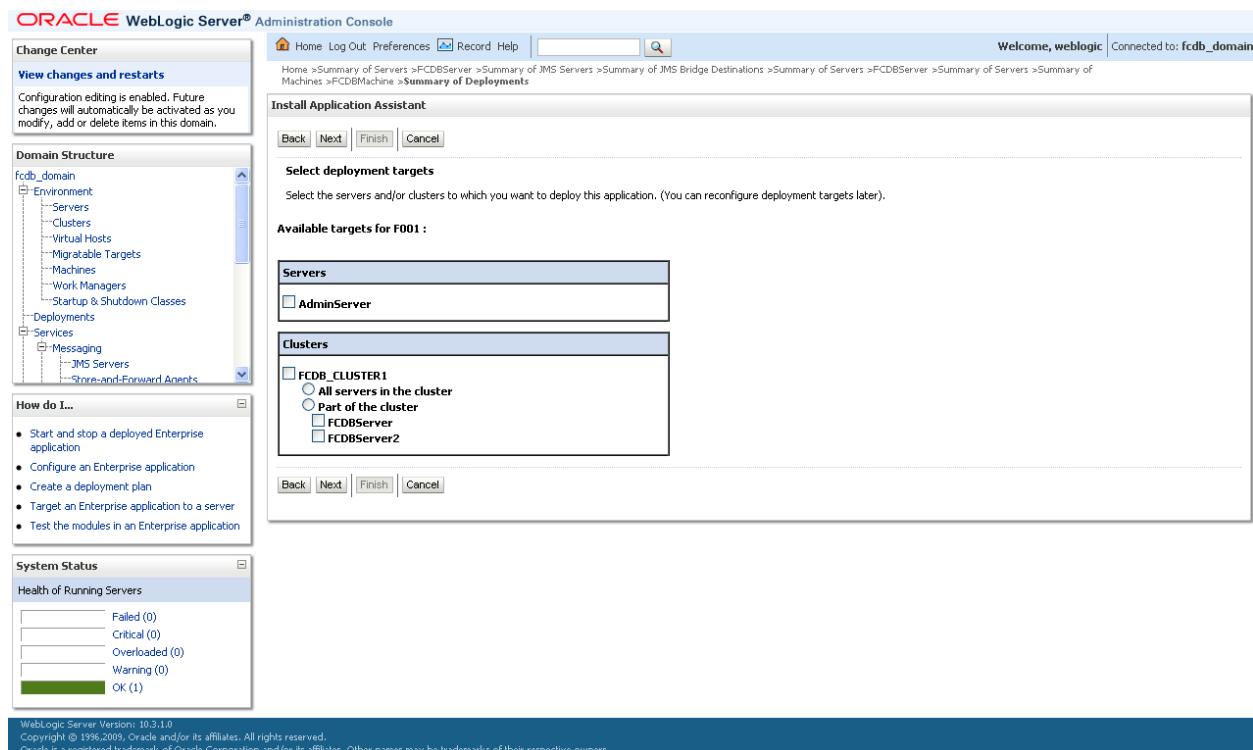


Figure 8.1

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- 2) Instead of Managed Servers, you can select FCDB\_Cluster\_1.