

Oracle Access Manager Integration
Oracle FLEXCUBE Investor Servicing

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1. Preface

1.1 Introduction

This manual discusses the integration of Oracle FLEXCUBE Investor Servicing and the Oracle Access Manager system. The configurations required for proper functioning of this integration and further processing are documented in this manual.

1.2 Audience

This manual is intended for the following User/User Roles:

Role	Function
Back office data entry Clerks	Input functions for maintenance related to the interface.
Implementation team	Implementation of Oracle FLEXCUBE Investor Servicing

1.3 Abbreviations

Abbreviation	Description
System	Unless specified, it shall always refer to Oracle FLEXCUBE
OAM	Oracle Access Manager
IS	Investor Servicing
SSO	Single Sign-on
LDAP	Lightweight Directory Access Protocol

1.4 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>.

1.5 Organization

This manual is organized into the following chapters:

Chapter 1	<i>Preface</i> gives information on the intended audience. It also lists the various chapters covered in this User Manual.
Chapter 2	<i>Enabling Single Sign-on (SSO) with Oracle Access Manager</i> discusses the method to integrate Oracle FLEXCUBE with Oracle Access Manager for Single Sign-on.

1.6 Glossary of Icons

This User Manual may refer to all or some of the following icons.

Icons	Function
	Exit
	Add row
	Delete row
	Option List

1.6.1 Related Documents

You may refer the following manual for more information

- Oracle Access Manager User Manual (not included with Oracle FLEXCUBE User Manuals)

2. Enabling Single Sign-on with Oracle Access Manager

2.1 Introduction

For the purpose of single sign-on FLEXCUBE is qualified with Oracle Identity Management 11.1.2 (Fusion Middleware 11gR2) – specifically using the Access Manager component of Oracle Identity Management. This feature is available in FLEXCUBE since the release FC IS V.UM 7.3.0.0.0.0 .

This document provides an understanding as to how single sign-on can be enabled for a FLEXCUBE deployment using Oracle Fusion Middleware 11gR2.

In addition to providing a background to the various components of the deployment, this document also talks about Configuration to be done in FLEXCUBE and Oracle Access Manager to enable single sign-on using Oracle Internet Directory as a LDAP server.

2.2 Background and Prerequisites

2.2.1 Software Requirements

Oracle Identity and Access Management 11g R2 - 11.1.2.2.0

- Oracle Access Manager – 11.1.2.2.0
- Oracle Fusion Middleware Web Tier Utilities 11g Patch Set 6 - 11.1.1.7.0
 - Oracle HTTP Server
- Oracle Access Manager OHS 11gR2 WebGates - 11.1.2.2.0
- Oracle Access Manager patch set – 18333689, 19269297, 18662903
- Optional: Oracle Adaptive Access Manager – 11.1.2.2.0 (Strong Authentication purpose only)

Note *: In case of **java.security.InvalidKeyException: Illegal key size** error in Admin Server, while starting the OAM Server based applications, then refer Oracle Support Document ID: 1901181.1.

LDAP Directory Server

Please make sure that the LDAP server to be used for FLEXCUBE Single Sign on deployment is certified to work with OAM.

List of few LDAP Directory servers supported as per OAM document (note – this is an indicative list. The conclusive list can be obtained from the Oracle Access Manager documentation. Though we have only use OID for our testing purposes):

- Oracle Internet Directory
- Active Directory
- ADAM
- ADSI
- Data Anywhere (Oracle Virtual Directory)
- IBM Directory Server
- NDS

- Sun Directory Server

Oracle Weblogic (10.3.6)

For the purpose of achieving single sign on for FLEXCUBE in FMW 11gR2, it is necessary for the weblogic instance to have an explicit **Oracle HTTP server (OHS)**.

2.3 Background of SSO related components

2.3.1 Oracle Access Manager (OAM)

Oracle Access Manager consists of the Access System and the Identity System. The Access System secures applications by providing centralized authentication, authorization and auditing to enable single sign-on and secure access control across enterprise resources. The Identity System manages information about individuals, groups and organizations. It enables delegated administration of users, as well as self-registration interfaces with approval workflows. These systems integrate seamlessly.

The backend repository for the Access Manager is an LDAP-based directory service that can be a combination of a multiple directory servers, which is leveraged for two main purposes:

- As the store for policy, configuration and workflow related data, which is used and managed by the Access and Identity Systems
- As the identity store, containing the user, group and organization data that is managed through the Identity System and is used by the Access System to evaluate access policies.

2.3.2 LDAP Directory Server

To integrate Flexcube with OAM to achieve Single Sign-on feature, Flexcube's password policy management, like password syntax and password expiry parameters will no longer be handled by Flexcube. Instead, the password policy management can be delegated to the Directory Server. All password policy enforcements would be on the LDAP user id's password and NOT Flexcube application users' passwords.

2.3.3 WebGate/AccessGate

A WebGate is a Web server plug-in that is shipped out-of-the-box with Oracle Access Manager. The WebGate intercepts HTTP requests from users for Web resources and forwards it to the Access Server for authentication and authorization.

Whether you need a WebGate or an AccessGate depends on your use of the Oracle Access Manager Authentication provider. For instance, the:

Identity Asserter for Single Sign-On: Requires a separate WebGate and configuration profile for each application to define perimeter authentication. Ensure that the Access Management Service is On.

Authenticator or Oracle Web Services Manager: Requires a separate AccessGate and configuration profile for each application. Ensure that the Access Management Service is On.

2.3.4 Oracle Adaptive Access Manager

Oracle Adaptive Access Manager provides an innovative, comprehensive feature set to help organizations prevent fraud and misuse. Strengthening standard authentication mechanisms, innovative risk-based challenge methods, intuitive policy administration and integration across the Identity and Access Management Suite and with third party products make Oracle Adaptive Access Manager uniquely flexible and effective. Oracle Adaptive Access Manager provides real-time and batch risk analytics to combat fraud and misuse across multiple channels of access. Real-time evaluation of multiple data types helps stop fraud as it occurs. Oracle Adaptive Access Manager makes exposing sensitive data, transactions and business processes to consumers, remote employees or partners via your intranet and extranet safer.

Oracle Adaptive Access Manager provides an extensive set of capabilities including device fingerprinting, real-time behavioral profiling and risk analytics that can be harnessed across both Web and mobile channels. It also provides risk-based authentication methods including knowledge-based authentication (KBA) challenge infrastructure with Answer Logic and OTP Anywhere server-generated one-time passwords, delivered out of band via Short Message Service (SMS), e-mail or Instant Messaging (IM) delivery channels. Oracle Adaptive Access Manager also provides standard integration with Oracle Identity Management, the industry leading identity management and Web Single Sign-On products, which are integrated with leading enterprise applications.

2.4 Configuration

2.4.1 Pre-requisites

- The steps provided below assume that FLEXCUBE has already been deployed and is working (without single sign-on)
- The below provided steps assume that Oracle Access Manager and the LDAP server have been installed already and the requisite setup are already done with respect to connecting the two along with Weblogic's Identity Asserter.

2.5 Enabling SSL for Weblogic and OAM Console

2.5.1 Self-signed Certificate Creation:

To enable SSL mode, WebLogic requires a keystore which contains private and trusted certificates. We have to use the same version of JDK (which is used by Weblogic Domain) to create the keystore and certificates, otherwise it may lead to many difficulties (suggested by Oracle Support).

Keytool utility available in Java JDK will be used to create Keystore. In command prompt set PATH to the JDK\bin location. Follow the below steps to create keystore and self-signed certificates:

2.5.1.1 Keystore Creation

```
keytool -genkey -keystore <keystore_name.jks> -alias <alias_name> -dname "CN=<hostname>,
OU=<Organization Unit>, O=<Organization>, L=<Location>, ST=<State>, C=<Country_Code>" -keyalg
<Key Algorithm> -sigalg <Signature Algorithm> -keysize <key size> -validity <Number of Days> -keypass
<Private key Password> -storepass <Store Password>
```

For example:

```
keytool -genkey -keystore AdminFlexcubeKeyStore.jks -alias FlexcubeCert -dname
"CN=ofss00001.in.oracle.com, OU=OFSS, O=OFSS, L=Chennai, ST=TN, C=IN" -keyalg "RSA" -sigalg
"SHA1withRSA" -keysize 2048 -validity 3650 -keypass Password@123 -storepass Password@123
```

Note: **CN=ofss00001.in.oracle.com** is the Host Name of the weblogic server

2.5.1.2 Export private key as certificate

```
keytool -export -v -alias <alias_name> -file <export_certificate_file_name_with_location.cer> -keystore <keystore_name.jks> > -keypass <Private key Password> -storepass <Store Password>
```

For example:

```
keytool -export -v -alias FlexcubeCert -file AdminFlexcubeCert.cer -keystore AdminFlexcubeKeyStore.jks -keypass Password@123 -storepass Password@123
```

If successful the following message will be displayed :

Certificate stored in file < AdminFlexcubeCert.cer>

2.5.1.3 Import as trusted certificate

```
keytool -import -v -trustcacerts -alias rootcacert -file <export_certificate_file_name_with_location.cer> -keystore <keystore_name.jks> > -keypass <Private key Password> -storepass <Store Password>
```

For example:

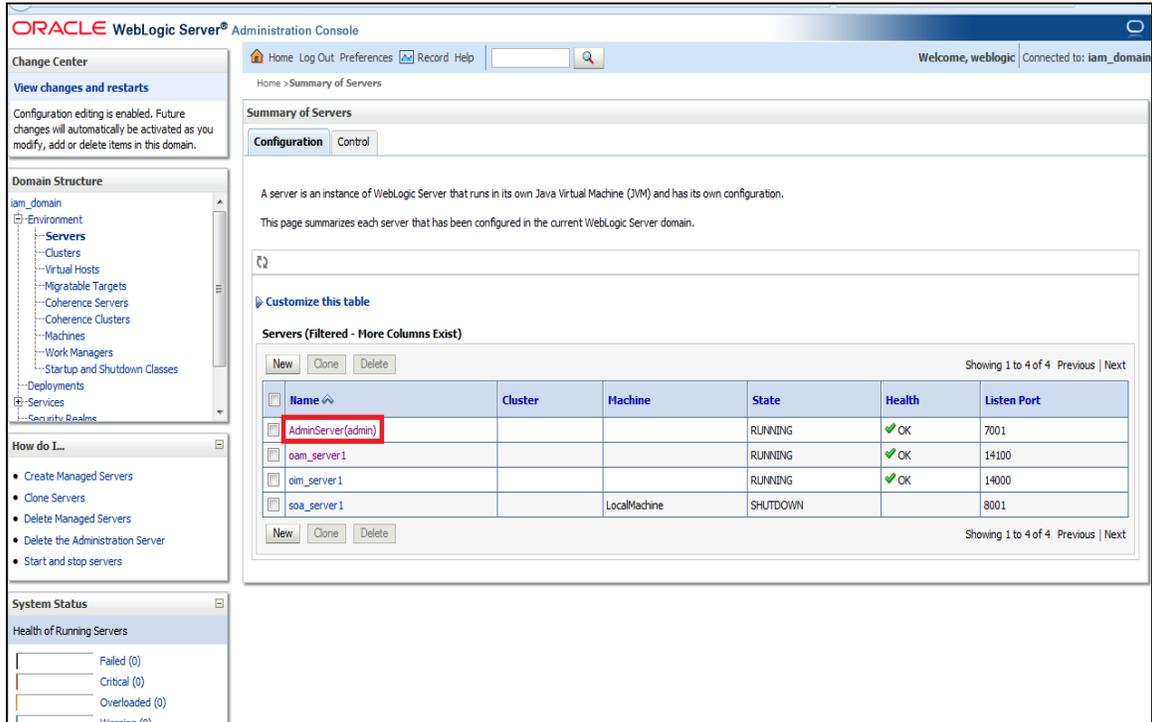
```
keytool -import -v -trustcacerts -alias rootcacert -file AdminFlexcubeCert.cer -keystore AdminFlexcubeKeyStore.jks -keypass Password@123 -storepass Password@123
```

References: Oracle Support Articles (Article ID 1281035.1, Article ID 1218695.1), in case of Certificates issued by the Trusted Authorities

2.5.2 Configuring Weblogic Console

After domain creation, follow the below steps to enable SSL in weblogic Admin server and OAM Server.

2.5.2.1 Select Admin Server to enable SSL options



The screenshot displays the Oracle WebLogic Server Administration Console interface. The main content area shows the 'Summary of Servers' page, which includes a table of configured servers. The 'AdminServer(admin)' server is highlighted with a red box. The table lists the following servers:

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)			RUNNING	OK	7001
oam_server1			RUNNING	OK	14100
oim_server1			RUNNING	OK	14000
soa_server1		LocalMachine	SHUTDOWN		8001

2.5.2.2 Follow the steps in General Tab as shown below:

1. Select SSL Listen Port Enabled, Client Cert Proxy Enabled, Weblogic Plug-In Enabled.
2. Click on Save.

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar contains a 'Domain Structure' tree and a 'System Status' section. The main area is the 'General' tab, which is used to configure general features of the server. The 'Save' button is highlighted in red. The configuration table below shows several settings that are highlighted with red boxes:

Property	Value	Description
Name	AdminServer	An alphanumeric name for this server instance. More Info...
Machine	(None)	The WebLogic Server host computer (machine) on which this server is meant to run. More Info...
Cluster	(Standalone)	The cluster, or group of WebLogic Server instances, to which this server belongs. More Info...
Listen Address		The IP address or DNS name this server uses to listen for incoming connections. More Info...
Listen Port Enabled	<input checked="" type="checkbox"/>	Specifies whether this server can be reached through the default plain-text (non-SSL) listen port. More Info...
Listen Port	7001	The default TCP port that this server uses to listen for regular (non-SSL) incoming connections. More Info...
SSL Listen Port Enabled	<input checked="" type="checkbox"/>	Indicates whether the server can be reached through the default SSL listen port. More Info...
SSL Listen Port	7002	The TCP/IP port at which this server listens for SSL connection requests. More Info...
Client Cert Proxy Enabled	<input checked="" type="checkbox"/>	Specifies whether the HttpClusterServlet proxies the client certificate in a special header. More Info...
Java Compiler	javac	The Java compiler to use for all applications hosted on this server that need to compile Java code. More Info...
Diagnostic Volume	Low	Specifies the volume of diagnostic data that is automatically produced by WebLogic Server at run time. Note that the WLDF diagnostic volume setting does not affect explicitly configured diagnostic modules. For example, this controls the volume of events generated for JRockit Flight Recorder. More Info...
Virtual Machine Name	iam_domain_AdminSe	When WLS is running on JRVe, this specifies the name of the virtual machine running this server. More Info...
WebLogic Plug-In Enabled	<input checked="" type="checkbox"/>	Specifies whether this server uses the proprietary WL-Proxy-Client-IP header, which is recommended if the server instance will receive requests from a proxy plug-in. More Info...

2.5.2.3 Follow the steps in Keystores Tab as shown below:

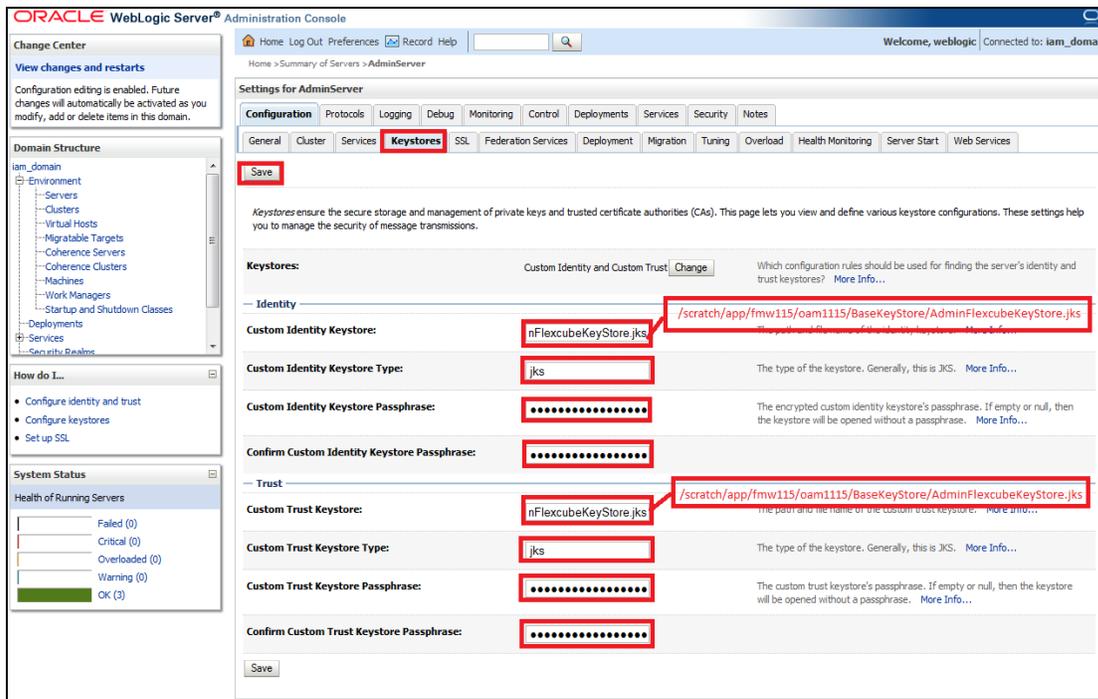
1. Click Change and select Keystores as Custom Identity and Custom Trust.
2. Click on Save.

Keystores as Custom Identity and Custom Trust is as suggested by Oracle Support Team.

The screenshot displays the Oracle WebLogic Server Administration Console interface. The main content area is titled "Settings for AdminServer" and features a "Keystores" tab. Below the tab, there are "Save" and "Cancel" buttons. A descriptive paragraph states: "Keystores ensure the secure storage and management of private keys and trusted certificate authorities (CAs). This page lets you view and define various keystore configurations. These settings help you to manage the security of message transmissions." Below this, a "Keystores:" label is followed by a dropdown menu. The dropdown menu is open, showing several options: "Demo Identity and Demo Trust", "Custom Identity and Command Line Trust", "Custom Identity and Custom Trust" (which is highlighted with a red box), "Custom Identity and Java Standard Trust", and "Demo Identity and Demo Trust". To the right of the dropdown, a question asks: "Which configuration rules should be used for finding the server's identity and trust keystores?" with a "More Info..." link. On the left side of the console, there are several panels: "Change Center" with "View changes and restarts", "Domain Structure" showing a tree view of the domain, "How do I..." with links to "Configure identity and trust", "Configure keystores", and "Set up SSL", and "System Status" showing the health of running servers with a bar chart indicating 3 OK servers and 0 in other states. The footer contains version information: "WebLogic Server Version: 10.3.5.0" and copyright notices.

2.5.2.4 Follow the steps in Keystores Tab as shown below:

1. Enter Custom Identity Keystore and Custom Trust Keystore same as the Keystore Name created in step 3.2.1.1 with full path.
2. Enter Custom Identity Keystore Type and Custom Trust Keystore Type as jks.
3. Enter Custom Identity Keystore Passphrase, Confirm Custom Identity Keystore Passphrase, Custom Trust Keystore Passphrase and Confirm Custom Trust Keystore Passphrase same as the Store Password entered in step 3.2.1.1.
4. Click on Save.



2.5.2.5 Follow the steps in SSL Tab as shown below:

1. Enter Private Key Alias as same as the alias name entered in step 3.2.1.1.
2. Enter Private Key Passphrase and Confirm Private Key Passphrase as same as the Private Key Password entered in step 3.2.1.1.
3. Change the Hostname Verification to None.
4. Click on Save.

The screenshot displays the Oracle WebLogic Admin Console interface for configuring the SSL settings of the AdminServer. The left sidebar shows the 'Change Center' with a 'View changes and restarts' section, a 'Domain Structure' tree, and 'How do I...' links. The main content area is titled 'Settings for AdminServer' and includes a navigation menu with tabs for Configuration, Protocols, Logging, Debug, Monitoring, Control, Deployments, Services, Security, and Notes. The 'SSL' tab is active, and a 'Save' button is highlighted in red. The page content includes a 'Save' button, a description of the SSL settings page, and several configuration sections: 'Identity and Trust Locations' (with a 'Change' link), 'Identity' (with 'Private Key Location' set to 'from Custom Identity Keystore'), 'Private Key Alias' (set to 'FlexcubeCert'), 'Private Key Passphrase' (masked with asterisks), 'Confirm Private Key Passphrase' (masked with asterisks), 'Certificate Location' (set to 'from Custom Identity Keystore'), 'Trust' (with 'Trusted Certificate Authorities' set to 'from Custom Trust Keystore'), 'Advanced' (with 'Hostname Verification' set to 'None' and 'Custom Hostname Verifier' set to 'None'), and 'Export Key Lifespan' (set to '500'). A 'Use Server Certs' checkbox is also present at the bottom.

5. Select OAM Server to enable SSL options and Repeat the steps performed in 2.2.2.2 to 2.2.2.5

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area displays the 'Summary of Servers' page, which includes a table of servers. The 'oam_server1' entry is highlighted with a red box. The table has columns for Name, Cluster, Machine, State, Health, and Listen Port. The 'oam_server1' row shows it is in a 'RUNNING' state with a 'Health' of 'OK' and a 'Listen Port' of 14100. The 'soa_server1' row shows it is in a 'SHUTDOWN' state with a 'Health' of 'SHUTDOWN' and a 'Listen Port' of 8001. The 'AdminServer (admin)' and 'oim_server1' rows show they are in a 'RUNNING' state with a 'Health' of 'OK' and 'Listen Port' of 7001 and 14000 respectively.

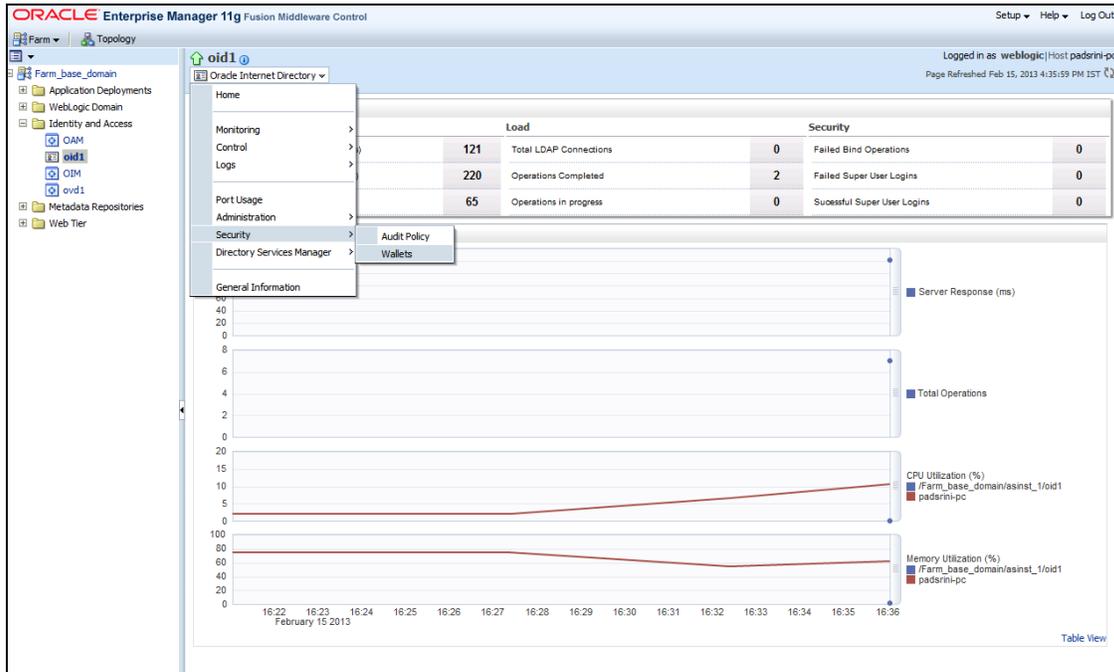
Name	Cluster	Machine	State	Health	Listen Port
AdminServer (admin)			RUNNING	OK	7001
oam_server1			RUNNING	OK	14100
oim_server1			RUNNING	OK	14000
soa_server1		LocalMachine	SHUTDOWN	SHUTDOWN	8001

6. Now the admin server and OAM servers are SSL enabled. Restart both the servers.

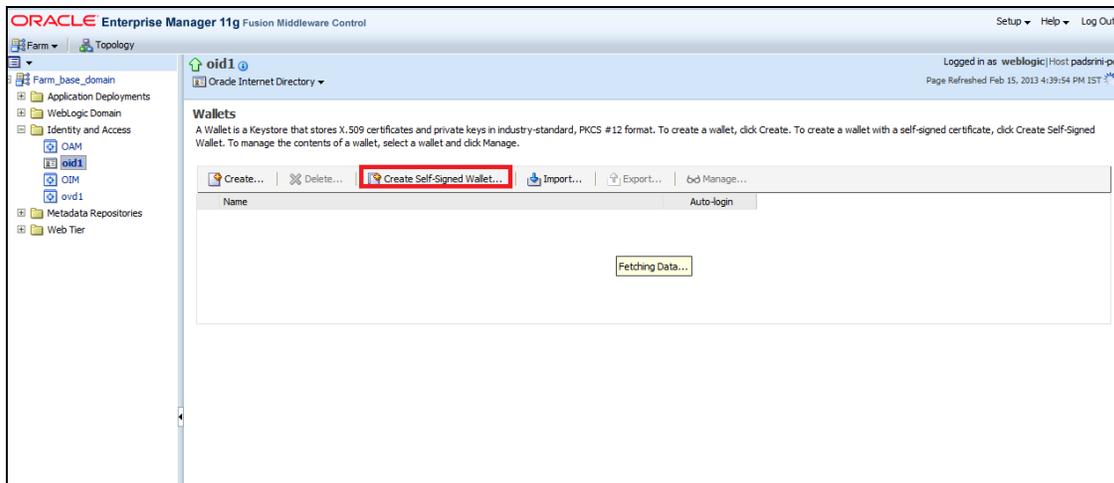
2.5.3 Configuring SSL Mode in Oracle Internet Directory

To enable SSL for OID LDAP Server refer, follow the below steps.

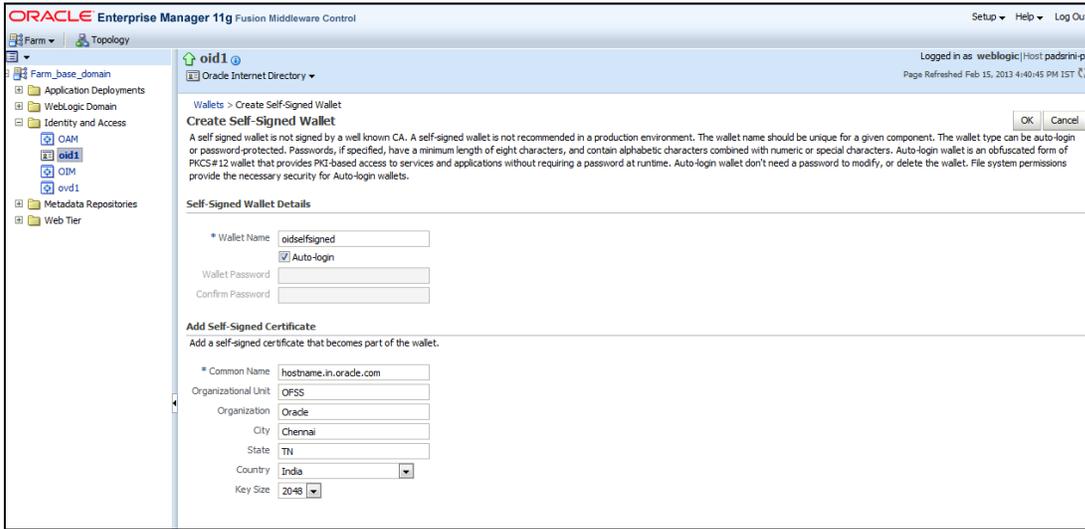
1. Login to the Enterprise Manager Console of the domain, in which Oracle Internet Directory is associated.

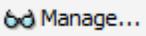


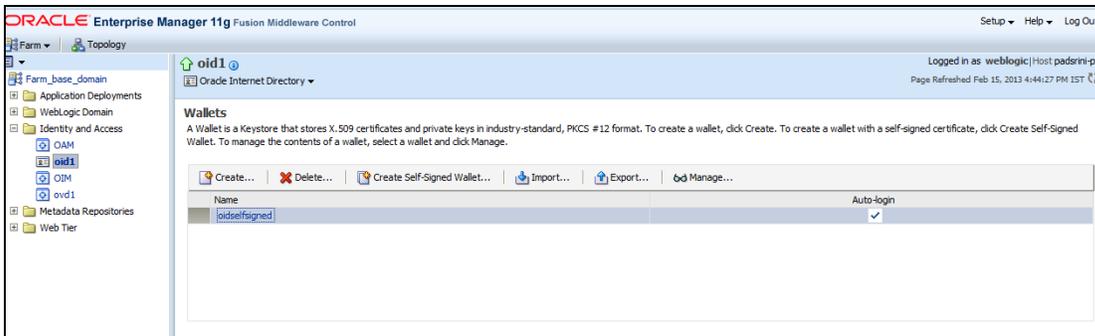
2. Click 'Create Self-Signed Wallet'.



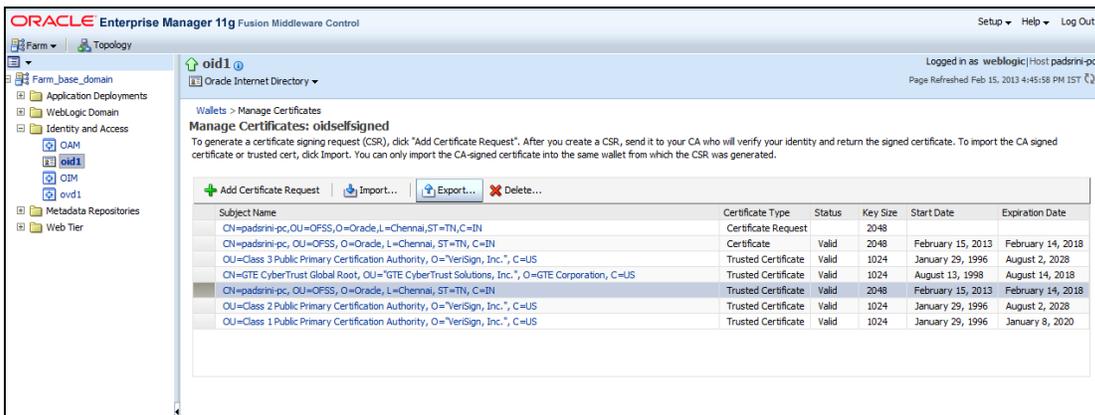
3. Enter the Details as below and Click 'OK'.



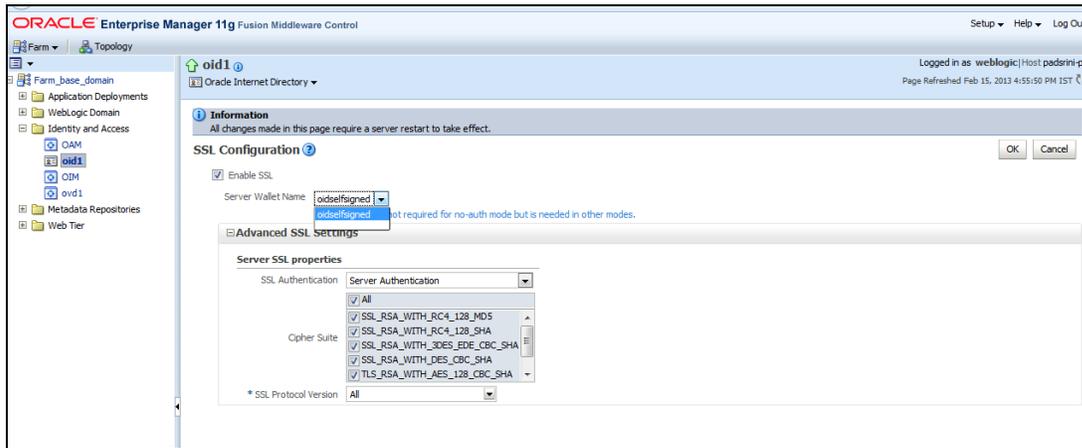
4. Click  Manage...



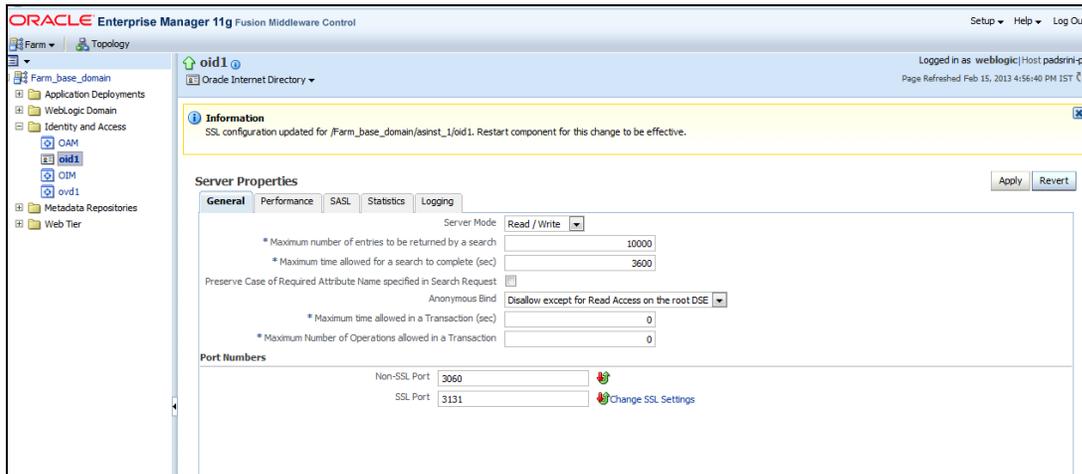
5. Select the Trusted Certificate and Click 'Export'.



- Select the Wallet, SSL Authentication as Server Authentication, Cipher Suite, SSL Protocol Version as below and click 'OK'.



- Click 'Apply'.



2.5.3.1 Import LDAP Server SSL Certificate into OAM Server

We have to import the LDAP – Server certificatefile into OAM server's JAVA_HOME/jre/lib/security/cacerts. Default Password is “changeit”.

For eg:

```
keytool -import -v -trustcacerts -alias ldapcert -file ldap_server_certificate.cer -keystore
JAVA_HOME/jre/lib/security/cacerts -storepass changeit
```

Restart Both OID & OAM Server.

2.6 Configuring SSO in OAM Console

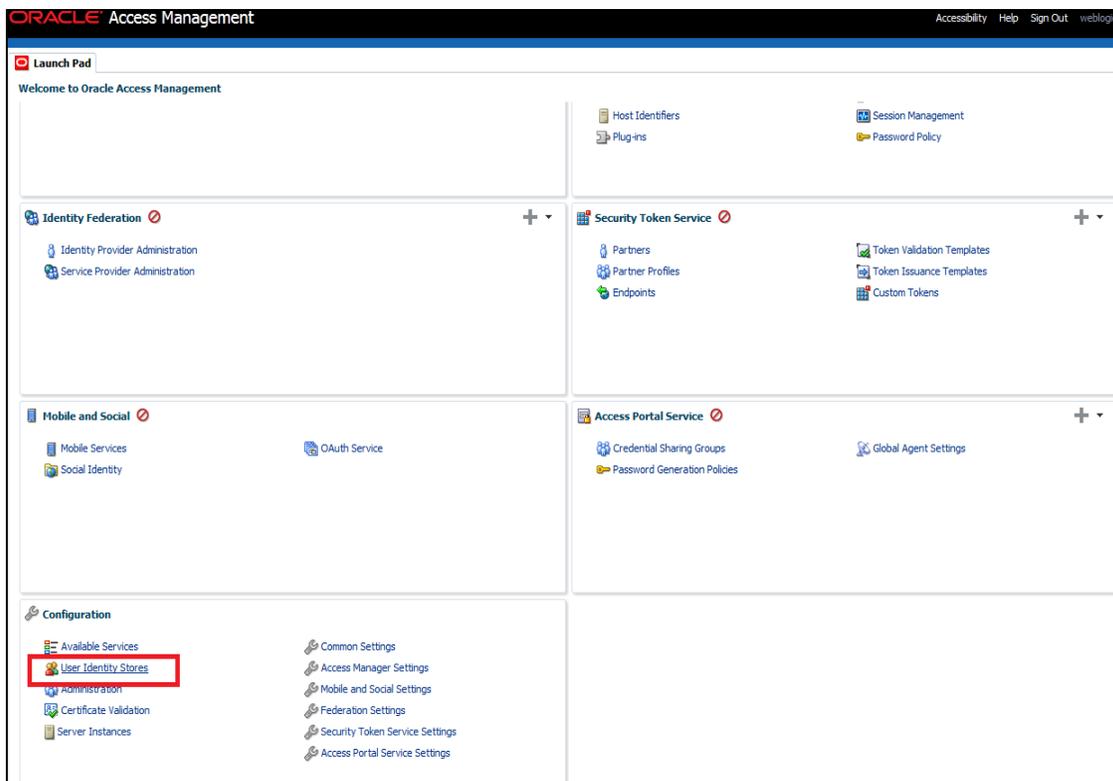
After installing OAM, Webtier Utilities and Webgate, extend the Weblogic domain to create OAM server.

Follow the post installation scripts `deployWebGate` and `EditHttpConf` as provided in (http://docs.oracle.com/cd/E37115_01/install.1112/e38922/webgate_ohs.htm#CACDEJAD)

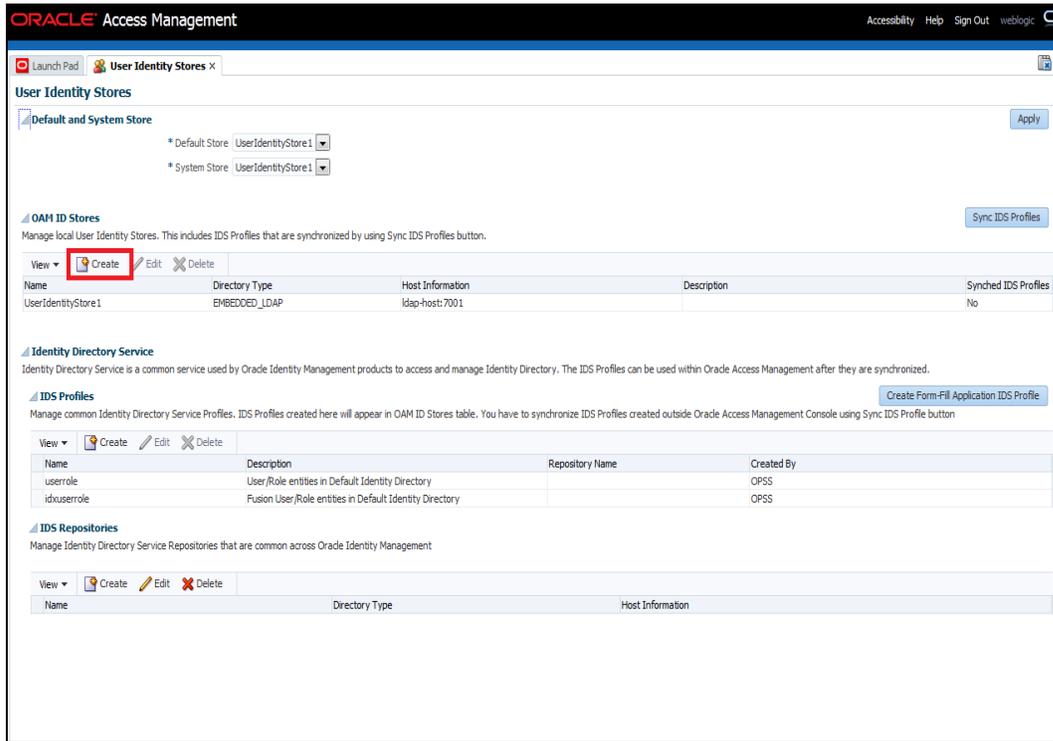
Refer the Oracle Support Document ID: 1678062.1 , before configuring Webgate against Oracle HTTP Server.

2.6.1 Identity Store Creation

1. To create new User Identity Store, Login to OAM Console and Click 'User Identity Store' under Configuration.



2. Click 'Create' under OAM ID Stores.



3. Enter the below details in the Create User Identity Store Form

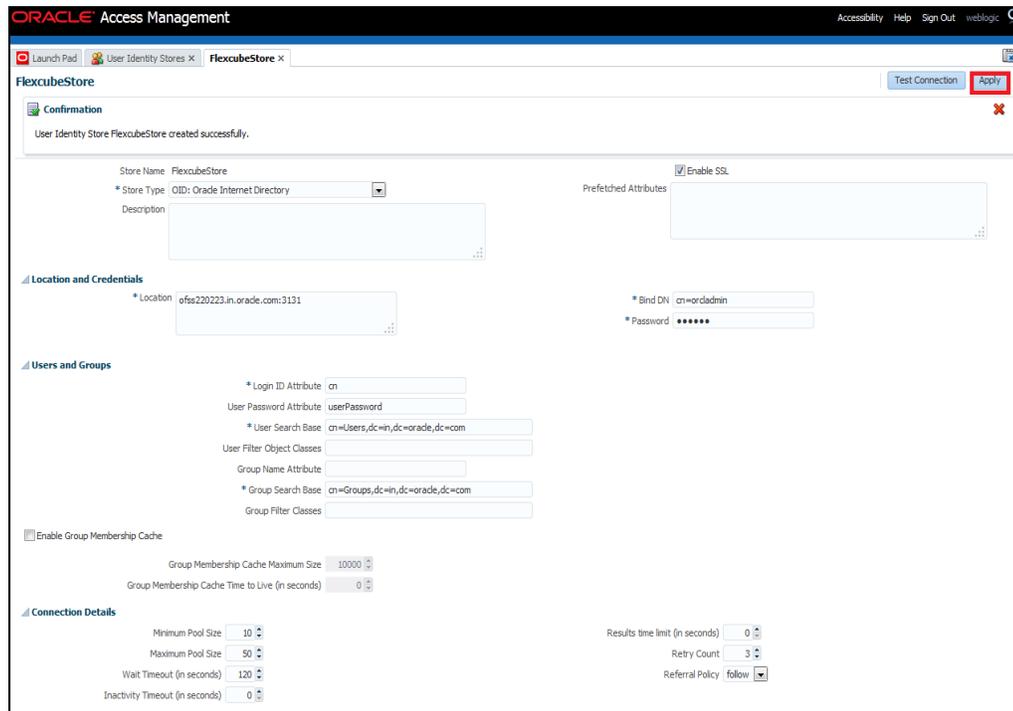
- Choose Store Type as OID: Oracle Internet Directory.
- Location: LDAP server Host name and Port Number in <HOSTNAME>:SSL PORT format
- Select Enable SSL check box
- Bind DN: Admin User name to connect the LDAP Server
- Password: Admin Password to connect the LDAP Server
- Login ID Attribute: Specify the LDAP attribute from which the login ID specifying the User will be extracted.
- User Search Base: Full DN for the node at which enterprise users are stored in the directory; for example, cn=Users,realm_DN.

Group Search Base: Currently only static groups are supported, with the uniquemember attribute. The node in the directory information tree (DIT) under which group data is stored, and the highest possible base for all group data searches.

4. Click 'Test Connection' to validate the Credentials Passed.

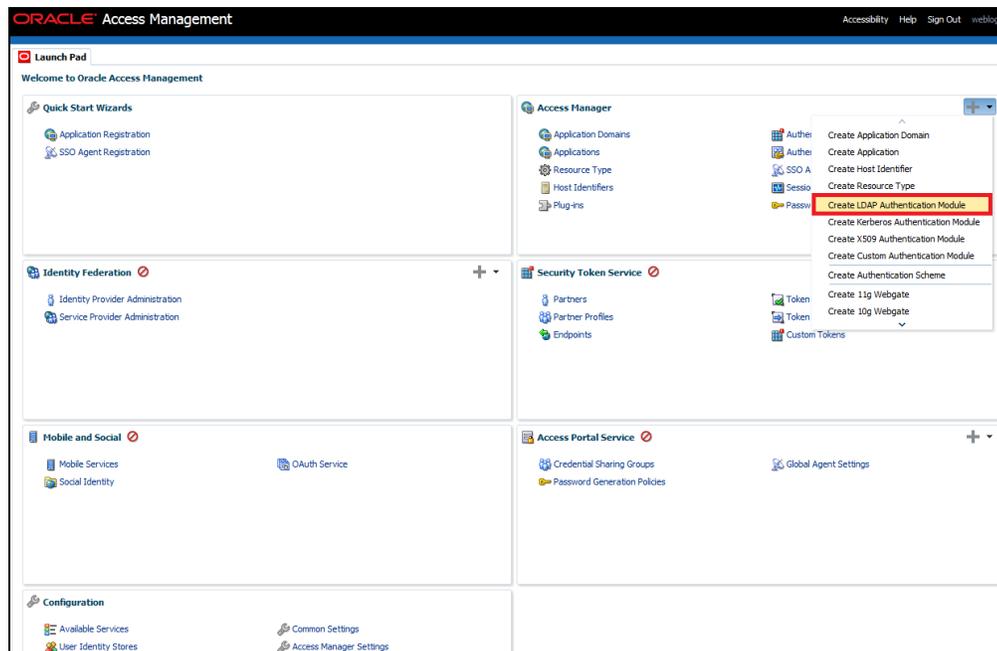
5. Click 'Apply' to Create the User Identity Store.

Note: User Identity Store will be created only if valid LDAP Parameters are passed.



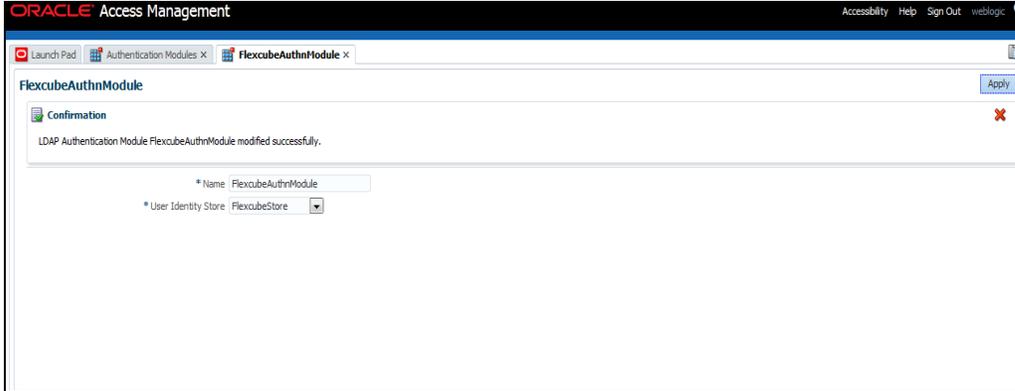
2.6.2 Creating Authentication Module

1. Click on  in Access Manager to Create LDAP Authentication Modules .



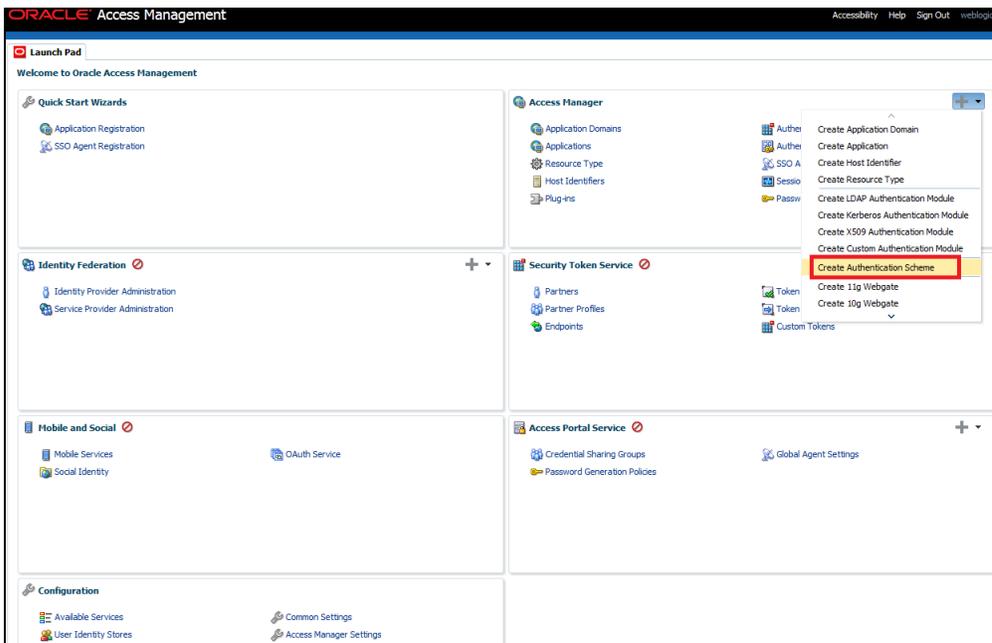
2. Click 'Apply' to create Authentication Module.
3. Choose the User Identity Created.

Refer the section 'Identity Store Location' of this document.



2.6.3 Creating Authentication Scheme

1. Click 'Create Authentication Scheme' under Access Manager .



Select any of the challenge method for creating an authentication Scheme as explained below and refer to OAM documentation for more details on the same.

http://docs.oracle.com/cd/E27559_01/admin.1112/e27239/shared.htm#BABFCIHA

2.6.3.1.1 Basic Style Authentication Scheme

Enter the below details and click 'Apply':

Name : Name of the Authentication Scheme

Authentication Level : 1

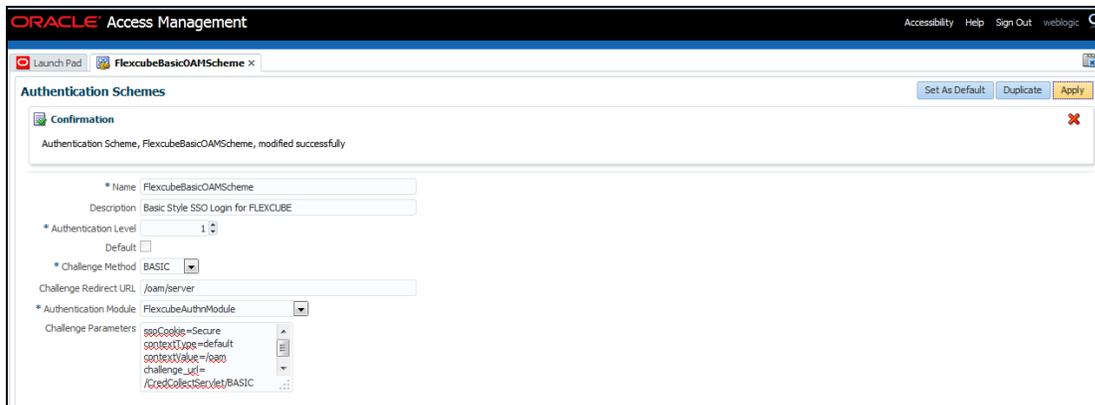
Challenge Method : BASIC

Challenge Redirect URL : /oam/server

Authentication Module : Authentication Module

Refer the section 'Creating Authentication Module' of this document.

Challenge Parameters : ssoCookie=Secure
contextType=default
contextValue=/oam
challenge_url=/CredCollectServlet/BASIC



We need to add the 'enforce-valid-basic-auth-credentials' tag to the config.xml file ,located under <weblogic deployment path>/user_projects/domains/<MyDomain>/config/.

The tag must be inserted within the <security-configuration> tag as follows: [Just above </security-configuration> tag]

```
<enforce-valid-basic-auth-credentials>>false</enforce-valid-basic-auth-credentials>
```

2.6.3.2 Form Style Authentication Scheme

Enter the below details and click 'Apply':

Name : Name of the Authentication Scheme

Authentication Level : 2

Challenge Method : FORM

Challenge Redirect URL : /oam/server

Authentication Module : Authentication Module

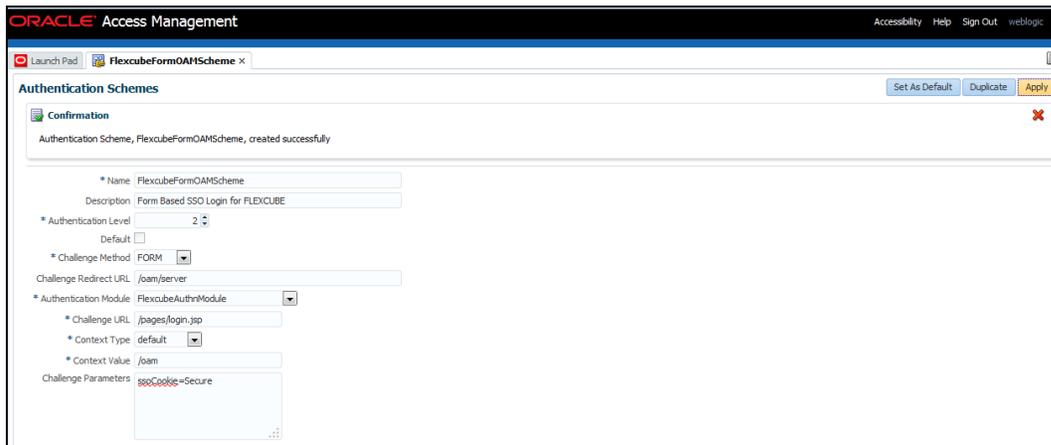
Refer the section 'Creating Authentication Module' of this document.

Challenge URL : /pages/login.jsp

Context Type : default

Context Value : /oam

Challenge Parameters : ssoCookie=Secure



2.6.3.3 KBA Based Strong Authentication Scheme (Only in case OAAM is used)

Enter the Below Details and click 'Apply':

Name : Name of the Authentication Scheme

Authentication Level : 2

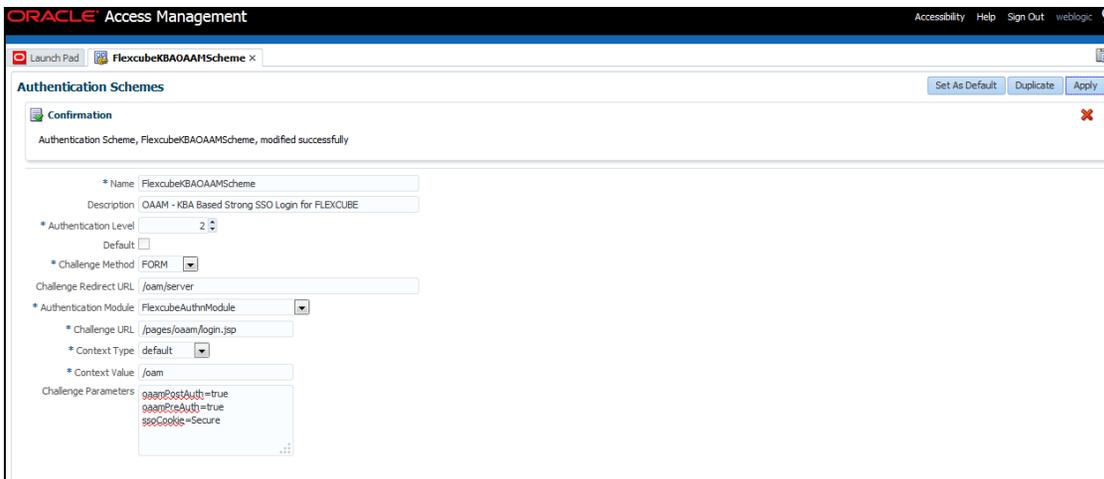
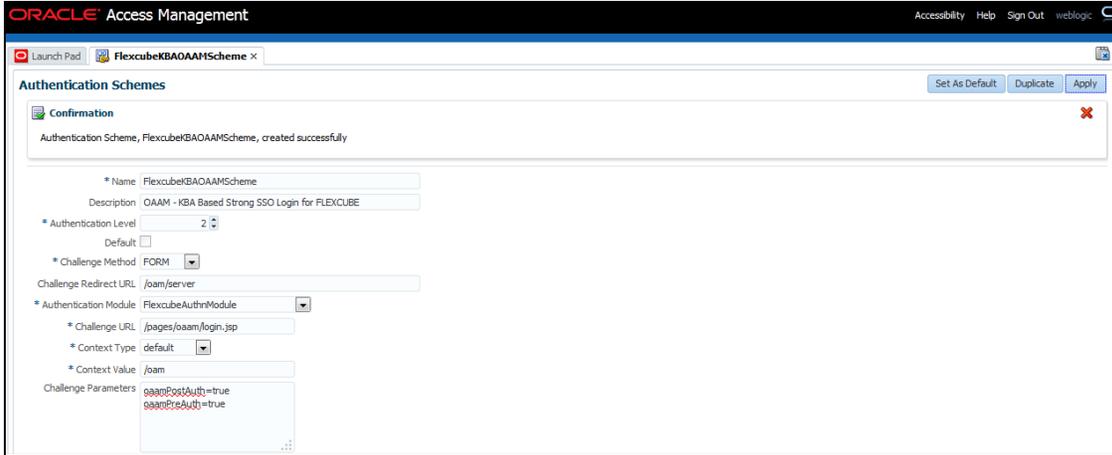
Challenge Method : FORM

Challenge Redirect URL : /oam/server

Authentication Module : Authentication Module

Refer the section 'Creating Authentication Module' of this document.

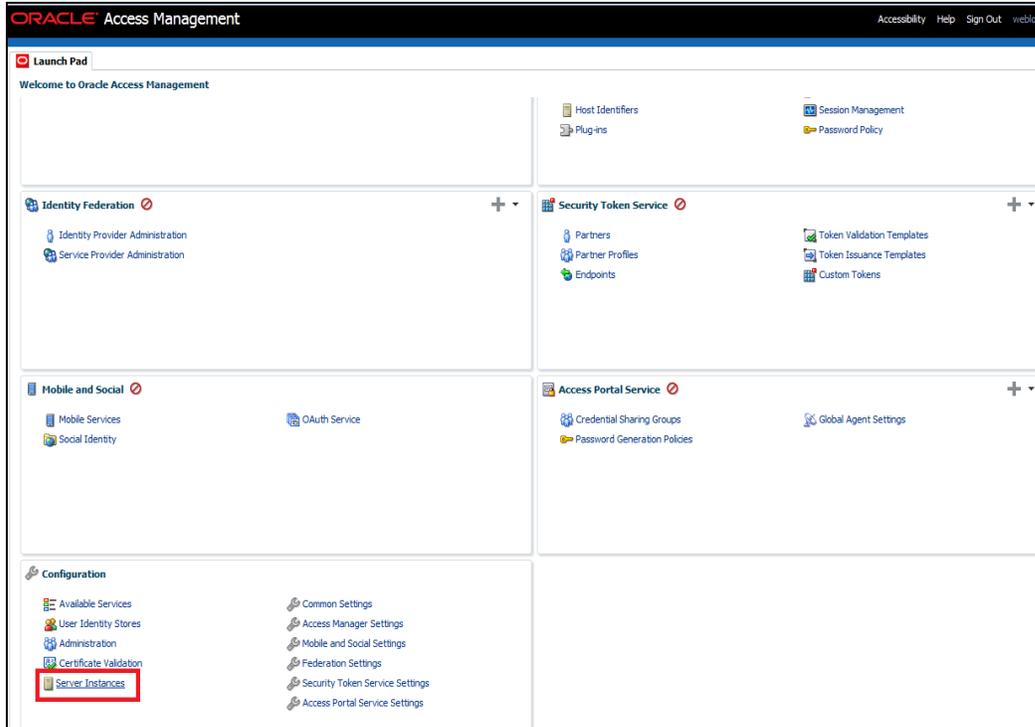
Challenge URL : /pages/oaam/login.jsp
Context Type : default
Context Value : /oam
Challenge Parameters : ssoCookie=Secure
oamPostAuth=true
oamPreAuth=true



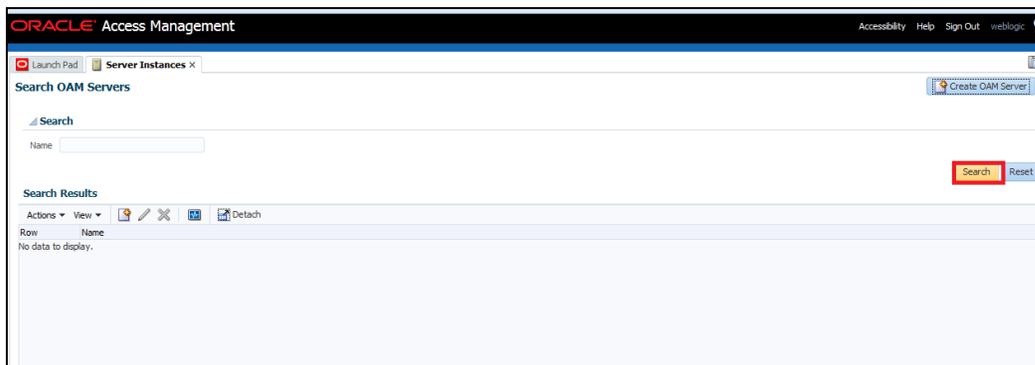
2.6.4 Creating OAM 11g Webgate

Follow the below steps to create a Webgate:

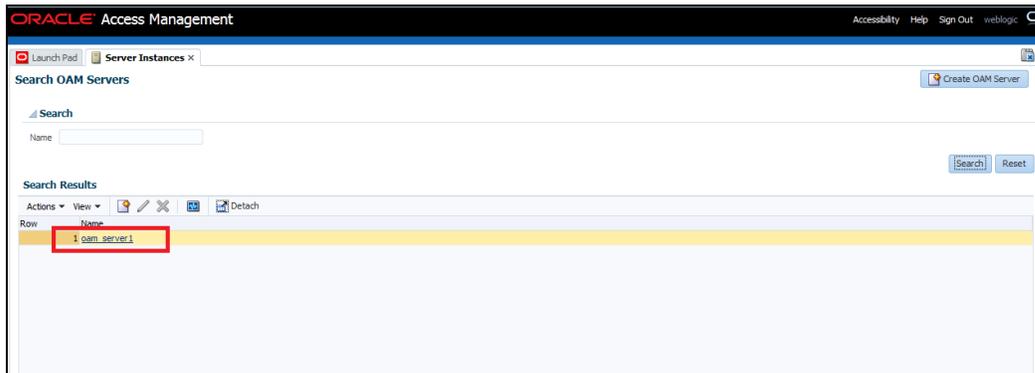
1. Click 'Server Instances' under Configuration.



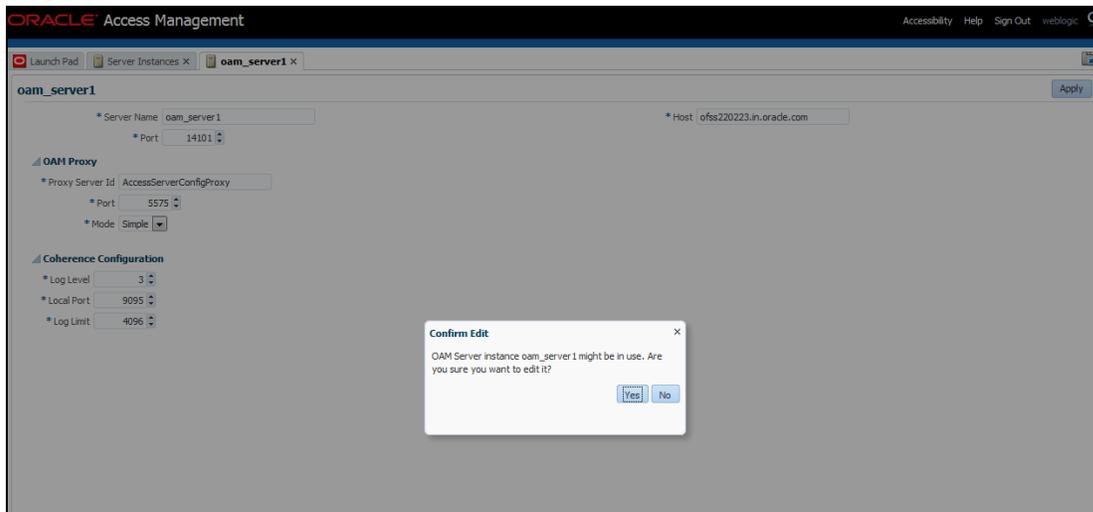
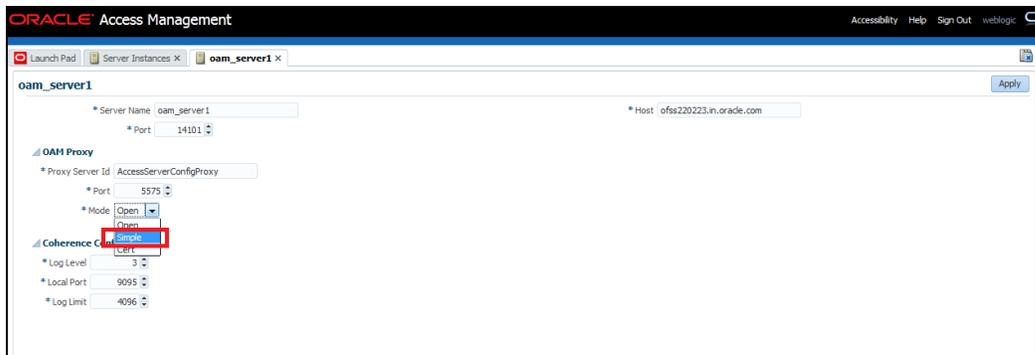
2. Click 'Search'.

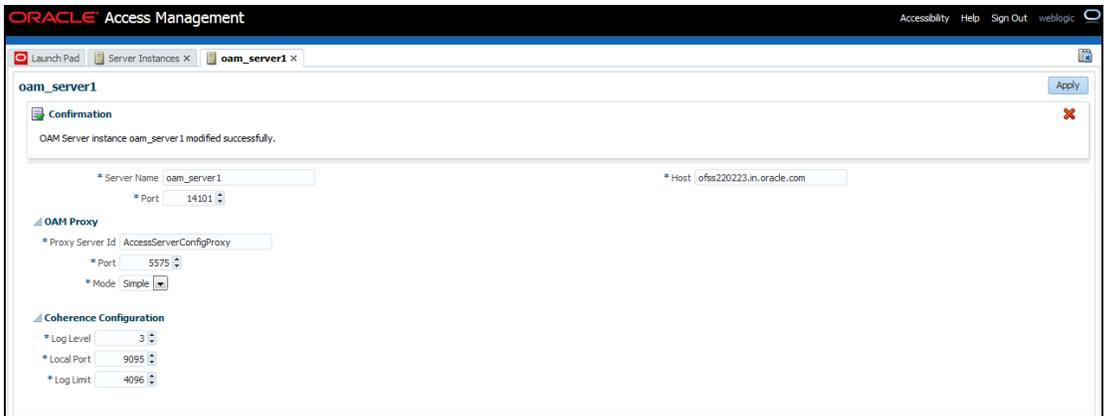


3. Edit oam_server1.

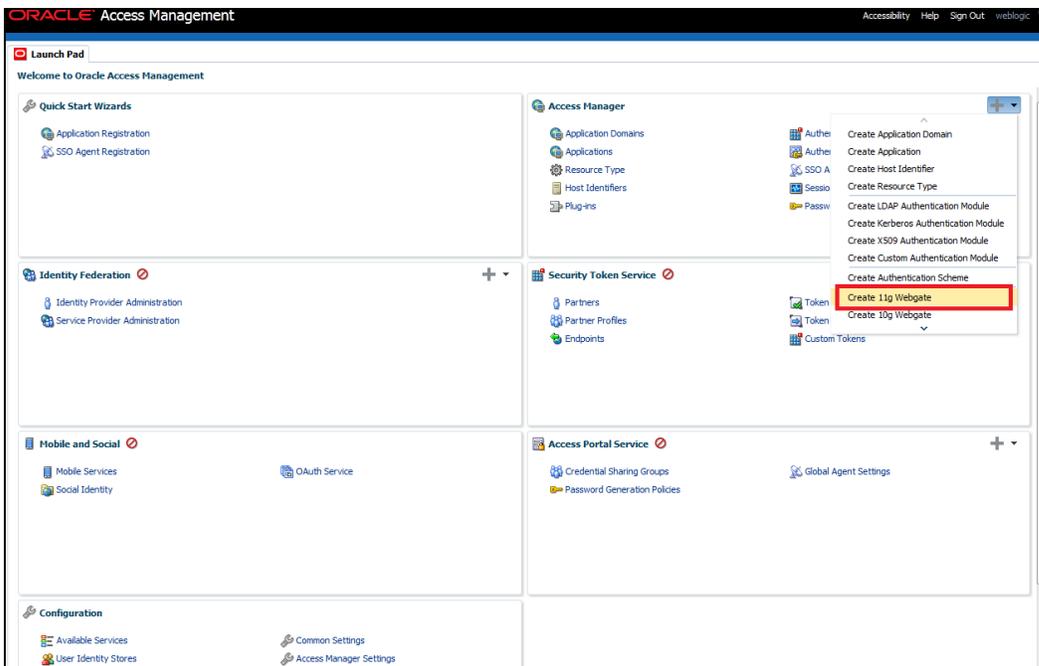


4. Modify the Mode from Open to Simple and click 'Apply'.





5. Click on Create 11g Webgate under Access Manager  .



6. Enter the below and Click 'Apply':

Name : Custom Webgate Name

Base URL : The host and port of the computer on which the Web server for the Webgate is installed. For example, http://example_host:port or https://example_host:port. The port number is optional.

Security : Simple

Protected Resource List : for FCUBS : /FCJNeoWeb
For FCIS : /FCISNeoWeb

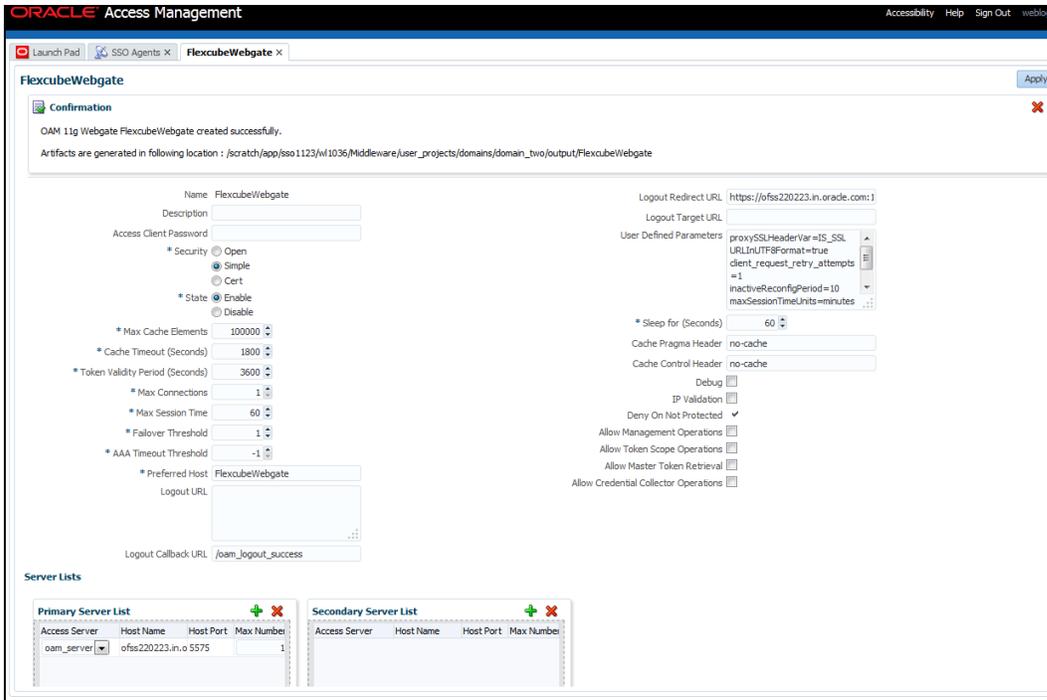
User Defined Parameters : filterOAMAuthnCookie=false

The screenshot shows the Oracle Access Management web interface for creating a new OAM 11g Webgate. The page title is "Create OAM 11g Webgate" and it includes an "Apply" button in the top right corner. The configuration fields are as follows:

- Version: 11g
- Name: FlexcubeWebgate
- Description: (empty)
- Base URL: https://ofss220223.in.oracle.com
- Access Client Password: (empty)
- Security: Simple (selected)
- Host Identifier: FlexcubeWebgate
- User Defined Parameters: filterOAMAuthnCookie=false
- Virtual host: (unchecked)
- Auto Create Policies: (checked)
- IP Validation: (unchecked)

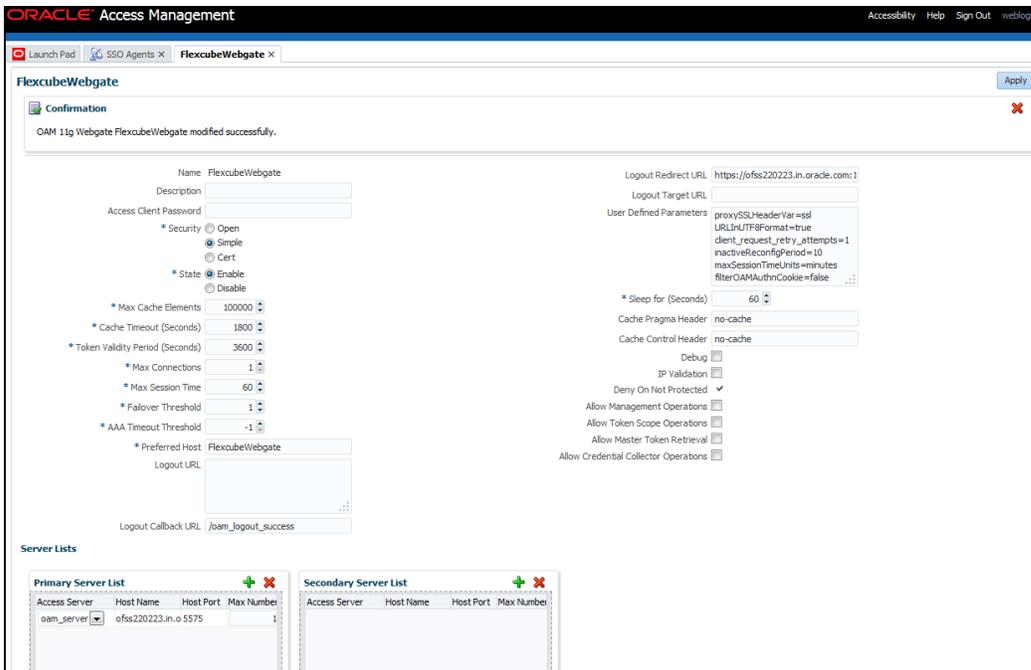
Under the "Resource Lists" section, there are two panels:

- Protected Resource List:** Contains two entries: /FCJNeoWeb and /FCISNeoWeb.
- Public Resource List:** Is currently empty.



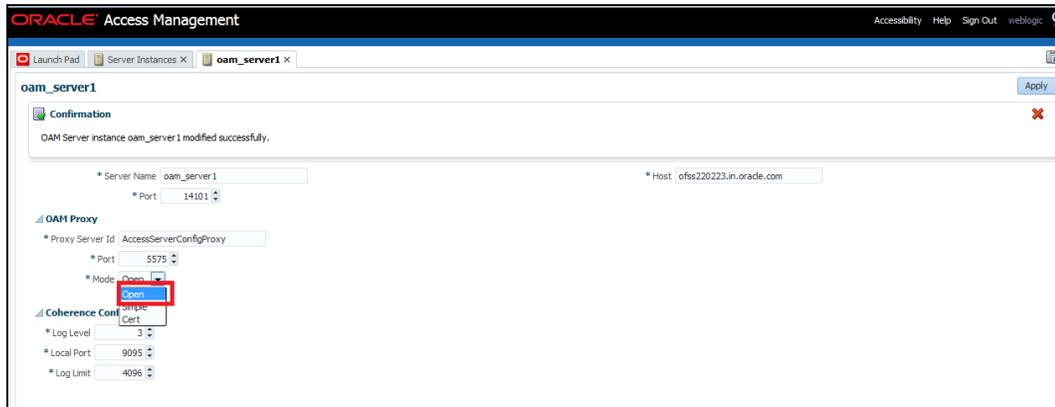
7. Once the OAM 11g Webgate is created, Change the parameter from **proxySSLHeaderVar=IS_SSL** to **proxySSLHeaderVar=ssl** along with other parameters in User Defined Parameters.

8. Click 'Apply'.



9. Change the value of Mode back to Open in oam_server1 on Server Instance and click 'Apply'.

Refer 'Creating OAM 11g Webgate' section of this document.

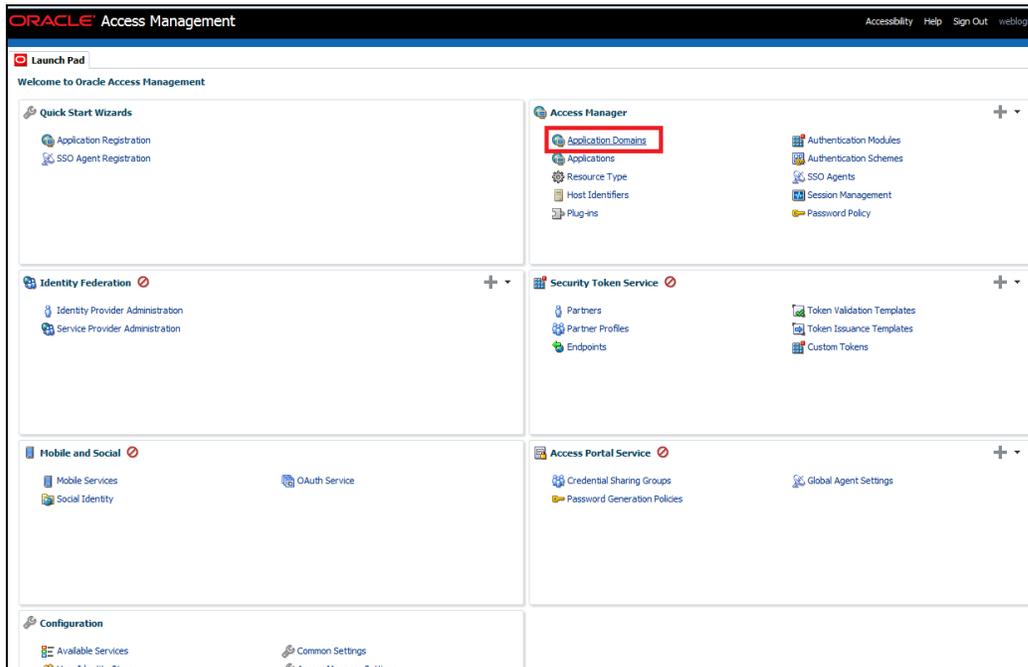


2.6.5 Post OAM Webgate 11g Creation

Follow the below steps to configure the webgate created .

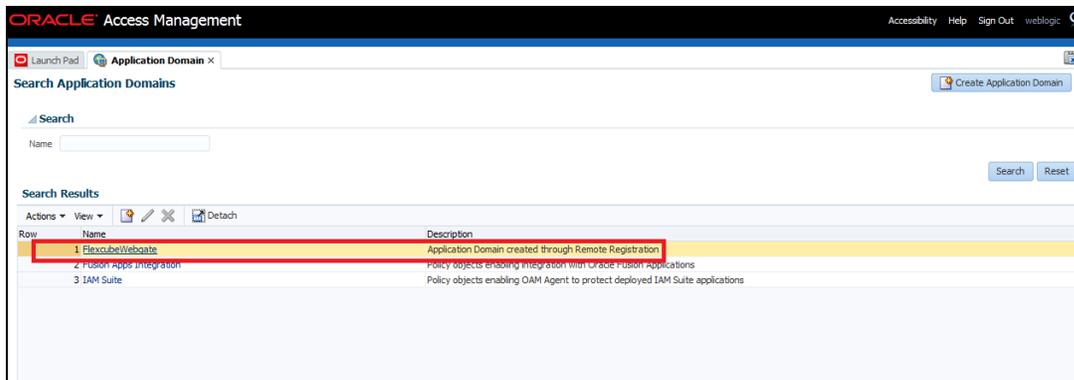
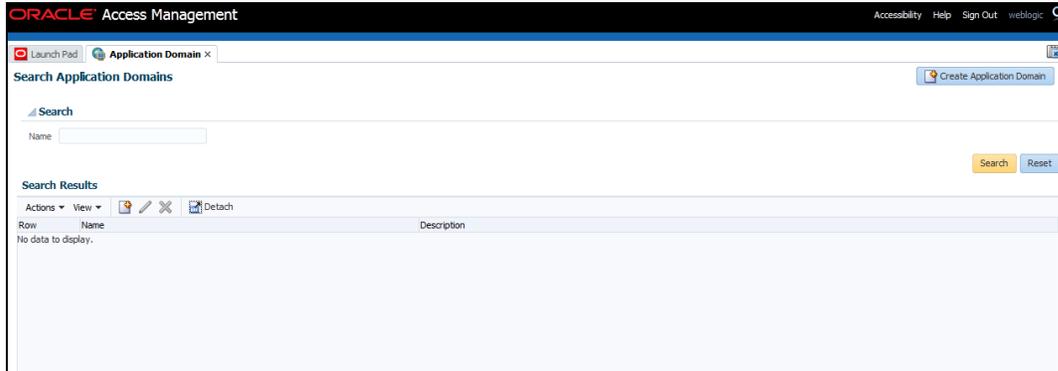
2.6.5.1 Application Domains Changes

1. Click 'Application Domains' under Access Manager

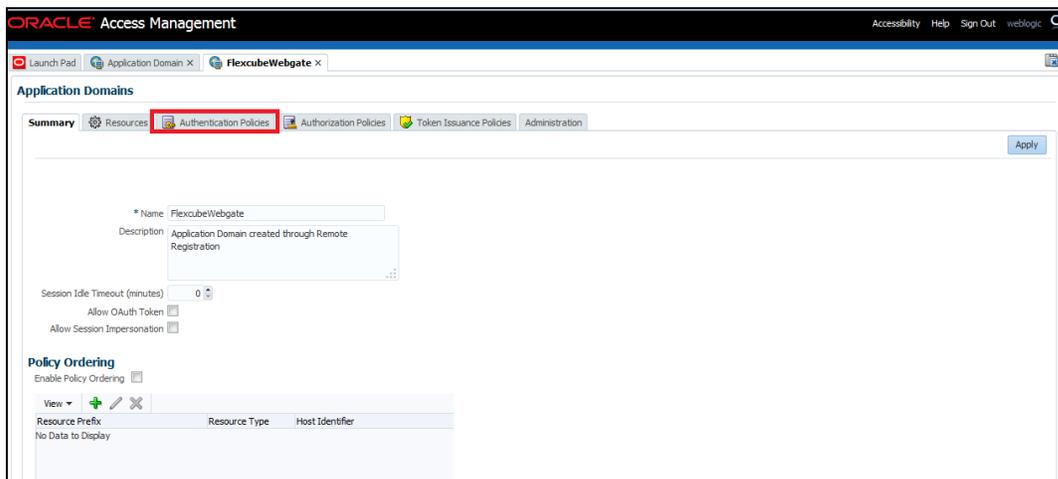


2. Click 'Search' to find the 11g Webgate.

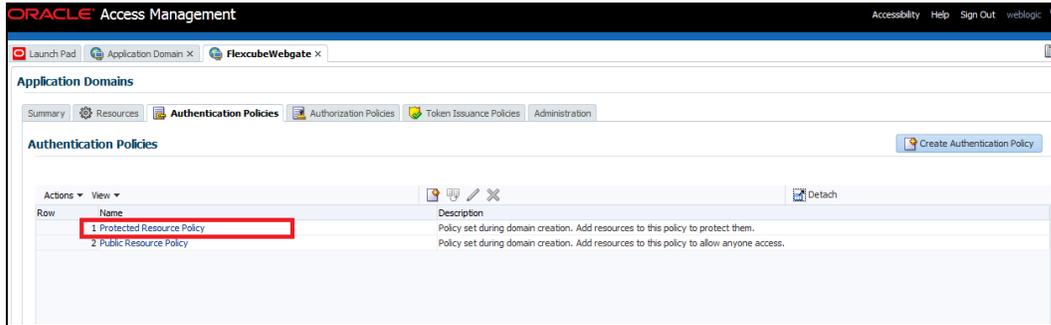
Refer the section 'Creating OAM 11g Creation' of this document.



3. Click 'Authentication Policies'.

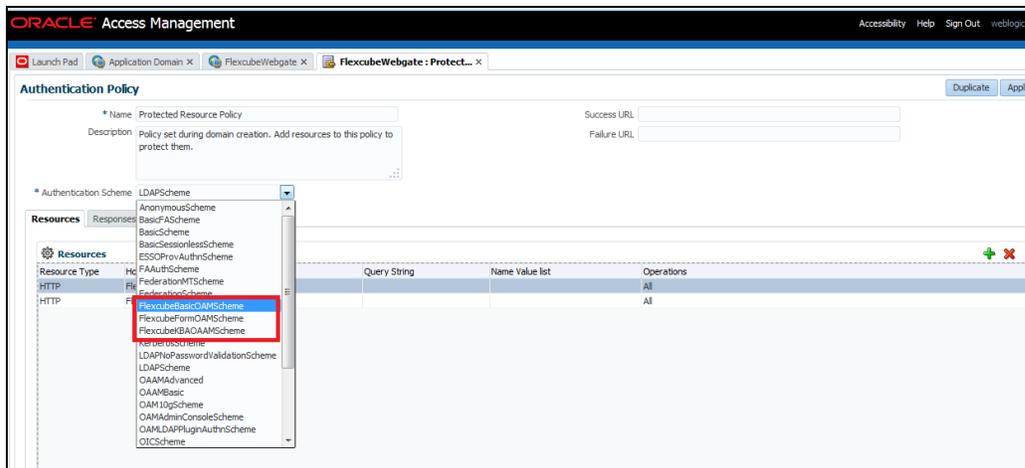


4. Click 'Protected Resource Policy'.

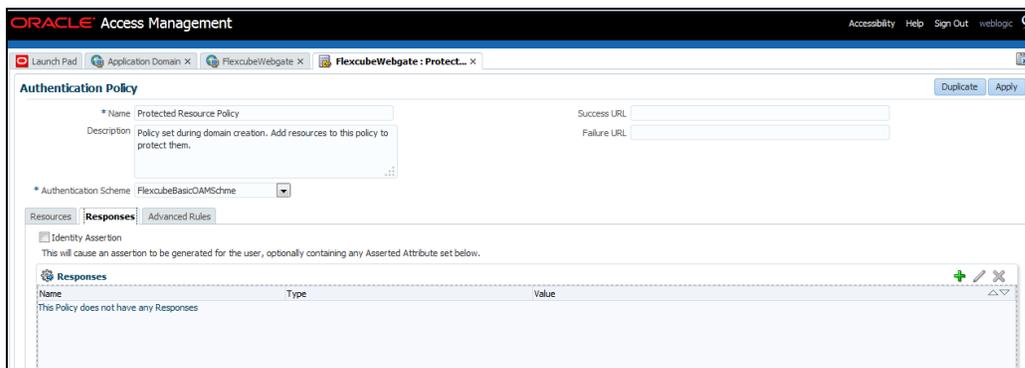


5. Choose the Authentication Scheme created earlier in 'Creating Authentication Scheme'.

Refer the section 'Creating Authentication Scheme' of this document.



6. Click 'Responses' tab and click '+' button to Add 'DN' variable to the Response Header.

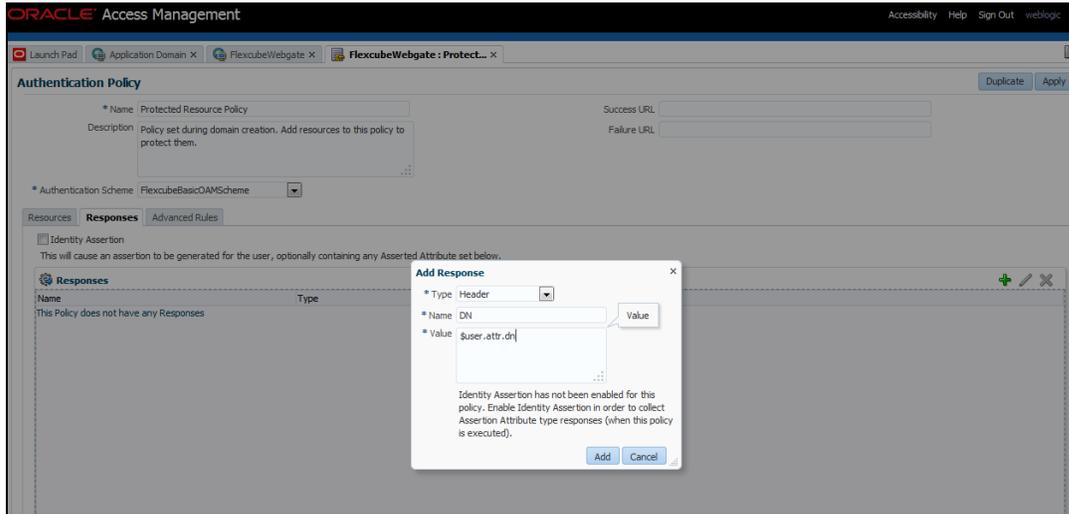


7. Enter the following values in the Add Response Window:

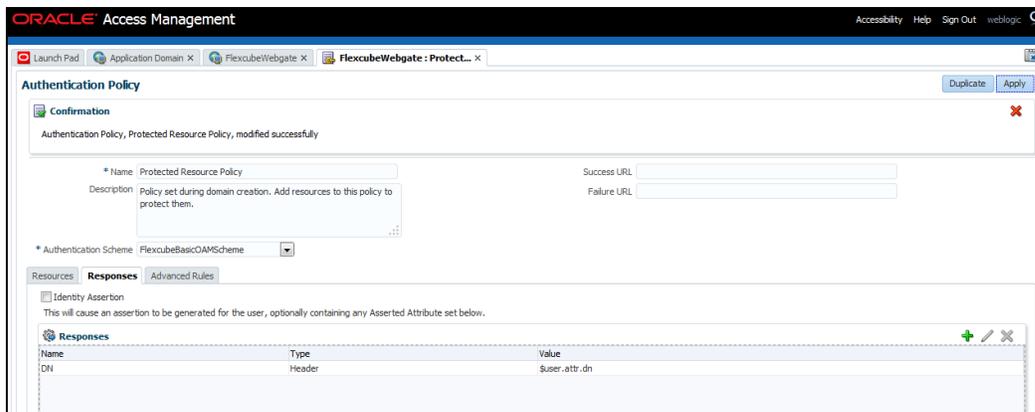
Type : Header

Name : DN

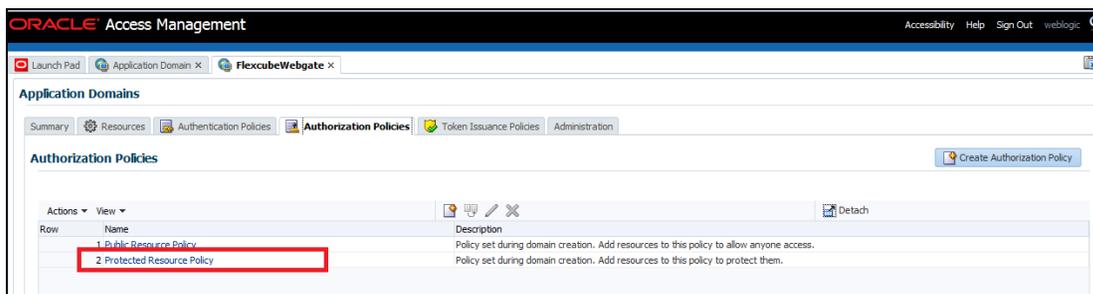
Value : \$user.attr.dn



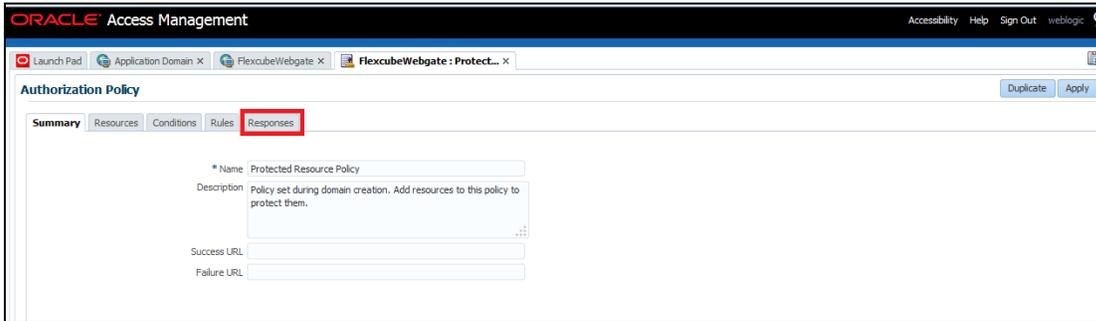
8. Click on Apply to Save the Changes



9. Click 'Authorization Policies' and 'Protected Resource Policy'.



10. Click 'Response' and click on '+' button to Add 'DN' variable to the Response Header.

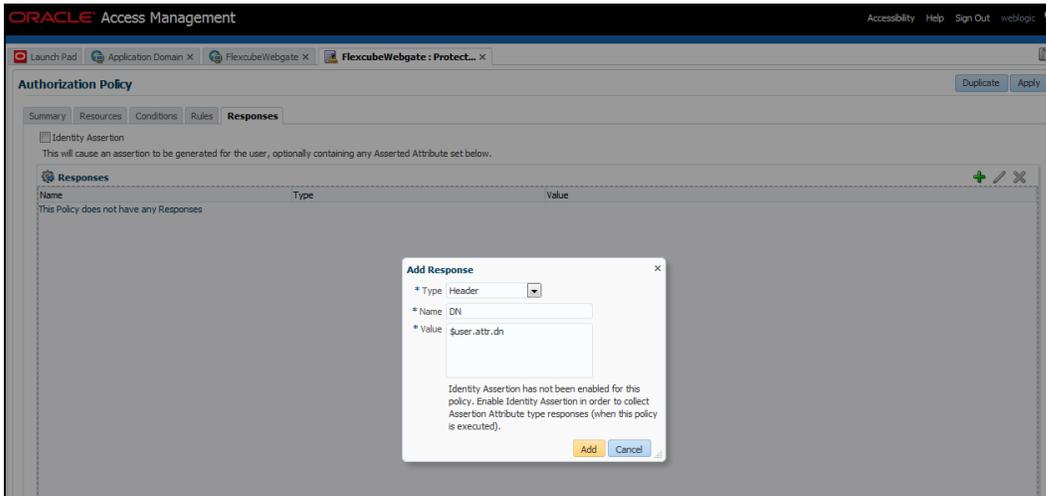
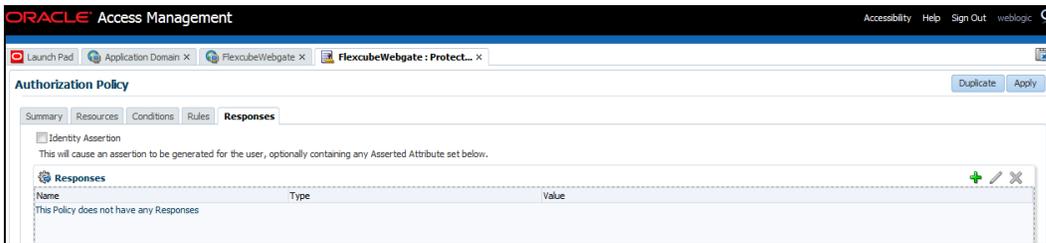


11. Enter the following values in the Add Response Window :

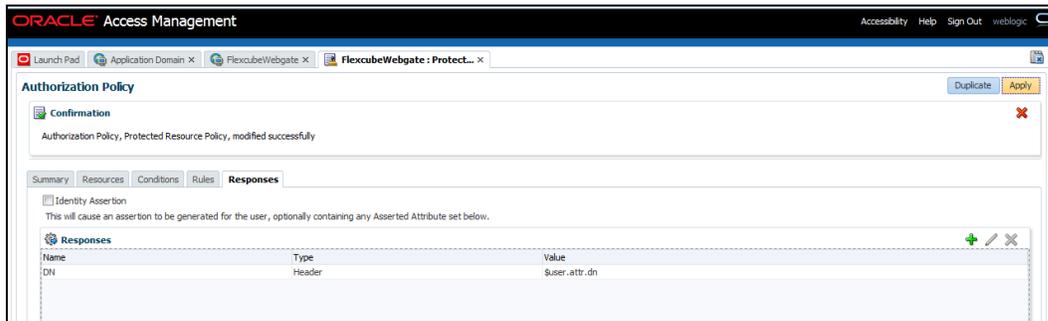
Type : Header

Name : DN

Value : \$user.attr.dn



12. Click 'Apply' to Save the changes.



2.6.5.2 Copying Generated Files and Artifacts to the Oracle HTTP Server WebGate Instance

Perform the following steps to copy the artifacts generated while creating the Oracle 11g Webgate to the Webgate installation directory:

- Navigate to <DOMAIN_HOME>/output/\$WebgateAgentName
- Select the following files
ObAccessClient.xml
password.xml
- cwallet.sso

Copy the files to <ORACLE_MIDDLEWARE>/<ORACLE_WIBTIER_HOME> /instances/instance1/config/OHS/ohs1/webgate/config/

- Select the remaining 2 files
aaa_key.pem
aaa_cert.pem
- Copy the files to <ORACLE_MIDDLEWARE>/<ORACLE_WIBTIER_HOME> /instances/instance1/ config/OHS/ohs1/webgate/config/simple

2.6.5.3 Add the Application Certificates to Oracle HTTP Server to work in SSL mode.

Use the ORAPKI tool to import the Flexcube and OAM Server certificates to Oracle HTTP Server. Add <Oracle_MIDDLEWARE>/oracle_common/bin to PATH environment variable and also set JAVA_HOME environment variable. Execute the below command in the command line.

```
orapki wallet add -wallet  
<Oracle_MIDDLEWARE>/<ORACLE_WEBTIER_HOME>/instances/instance1/config/OHS/ohs1/keystore  
s/default -trusted_cert -cert <export_certificate_file_name_with_location.cer> -auto_login_only
```

Note: Certificate has to be imported into OHS Wallet.

2.6.5.4 Configuring mod_wl_ohs for Oracle HTTP server Routing

To enable the Oracle HTTP Server instances to route to applications deployed on the Oracle Weblogic Server, add the directive shown below to the mod_wl_ohs.conf file available in <ORACLE_MIDDLEWARE> /<ORACLE_WEBTIER_HOME>/instances/instance1/config/OHS/ohs1.

<Location /FCJNeoWeb>

SetHandler weblogic-handler

WebLogicHost ofss00002.in.oracle.com

WeblogicPort 7002

WLProxySSL ON

SecureProxy ON

WLSSLWallet

"<ORACLE_MIDDLEWARE>/<ORACLE_WEBTIER_HOME>/instances/instance1/config/OHS/ohs1/keystores/default"

</Location>

Note: In the above example, ofss00002.in.oracle.com is the server name where the Flexcube Application is deployed, 7002 is the SSL port and FCJNeoWeb is the context root of the FLEXCUBE application

2.6.5.5 Verify the Webgate 11g Agent Created

After configuring webgate 11g agent , launch the URL

https://<hostname>:<ohs_Port>/ohs/modules/webgate.cgi?progid=1 to verify whether the webgate configuration is working fine. If the URL launches a screen as below then the webgate configuration is working fine.

Note *: To enable this option refer Oracle Doc ID: 1624131.1

Access Server	Connection State	Created	Installation Directory	Num Of Threads	Directory Information
ofss220028.in.oracle.com:5575, 1	Up	Friday, January 11, 2013 16:18:27			

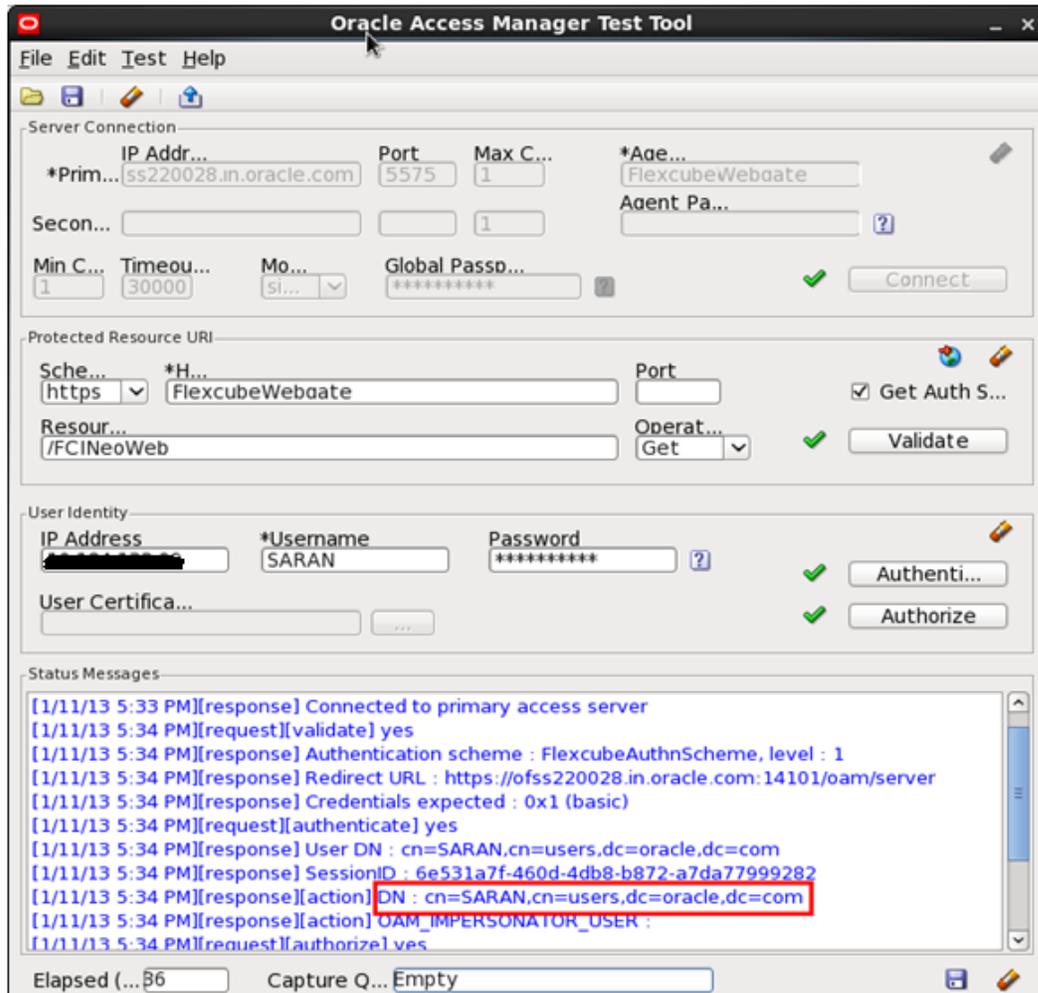
Cache Name	State	Max Elems	Curr Elems	Timeout (seconds)	Cache Stats (Hits:Misses:Expired:Flushed)	Memory Footprint (bytes)
Resource to Authentication Scheme	active	100000	100	1800	6451:273:61:0	59750
Authentication Scheme	active	25	1	1800	15012:34:33:0	802
Resource to Authorization Policy	active	100000	100	1800	381:127:27:0	43200
Authorization Result	active	1000	5	15	372:9:3:0	10845

2.6.5.6 Using OAM Test Tool (This step is not mandatory)

There is a test tool provided in OAM software which helps us to check the response parameter values. The test tool is available in <OAM Install Dir>\oam\server\tester.

For eg. D:\weblogic\Middleware\Oracle_IDM1\oam\server\tester

Use `java -jar oamtest.jar` to launch the OAM test tool.



2.7 First launch of FLEXCUBE after installation

After installing FLEXCUBE and while launching it for first time, the normal login screen with userid and password will appear. This is because the bank parameter maintenance will have the value for sso_intalled set to 'N' by default during installation.

2.7.1 Parameter Maintenance

2.7.1.1 Bank Parameter maintenance - IS

To enable SSO in FLEXCUBE IS, login into the application and enable “SSO Enabled” Check box in “Bank Maintenance [SMDBANKP]” screen.

2.7.1.2 Parameters Maintenance – IS

There is no such a screen to maintain the SSO Enabled Parameter in FLEXCUBE Investor Servicing.

2.7.2 Maintaining LDAP DN for FLEXCUBE users

For each user id in FLEXCUBE a user has to be created in the LDAP.

When creating the user in LDAP, ensure that the DN used is same as the LDAP DN value that will be updated in user maintenance form. Once the user is created in LDAP go to the user maintenance form in FCIS. If the FCIS user already exists then unlock the user and update the LDAP DN value which was set when creating the user in LDAP. Click on Validate button to check whether any other user is having the same LDAP DN value.

LDAP DN value should be entered as complete DN value.

eg.

cn=FCUSR,cn=Users,dc=oracle,dc=com

For FLEXCUBE - IS

The screenshot shows the 'User Admin' window with the following details:

- User Details:**
 - User Identification: FCISUSER
 - Name: FCIS User
 - External Identifier: (empty)
 - LDAP DN: cn=FCUSR,cn=Users,d (highlighted with a red box)
 - Number Format: XXX,XXX,XXX,XXX (selected)
 - Language: ENG
 - Home Branch: 000
 - Home Module: FMG
 - Classification: Staff (selected)
 - Auto End Of Day: (unselected)
 - Customer: (unselected)
 - Debug Window Enabled: (checked)
- Modules:**
 - Investments: (unchecked)
 - Corporate: (unchecked)
- Status Description:**
 - User Status: Enabled (selected)
 - Hold: (unselected)
 - Disabled: (unselected)
 - Locked: (unselected)
 - Time Level: 9
 - Status Changed On: (empty)
 - Last Signed On: (empty)
- Invalid Logins:**
 - Cumulative: 0
 - Successive: 0
- User Passwords:**
 - Password: (empty)
 - Password Changed On: (empty)
 - Email: (empty)
 - Start Date: 07/26/2014
 - End Date: (empty)
- Amount Limits:**
 - Override Amount: (empty)
 - Transaction Amount: (empty)
 - Auth Amount: (empty)
 - Date Format: MM/DD/YYYY
 - Auto Auth: No
 - Amount Format: Dot Comma

At the bottom, there are tabs for 'Restricted Passwords', 'Roles', 'Functions', 'Branches', 'Module', and 'Disallowed Functions'. A table with columns 'Input by', 'Date/Time', and 'Mod No' is partially visible, along with 'Authorized by', 'Date/Time', and 'Open' columns. 'Authorized' is written below the 'Open' column. 'Ok' and 'Cancel' buttons are at the bottom right.

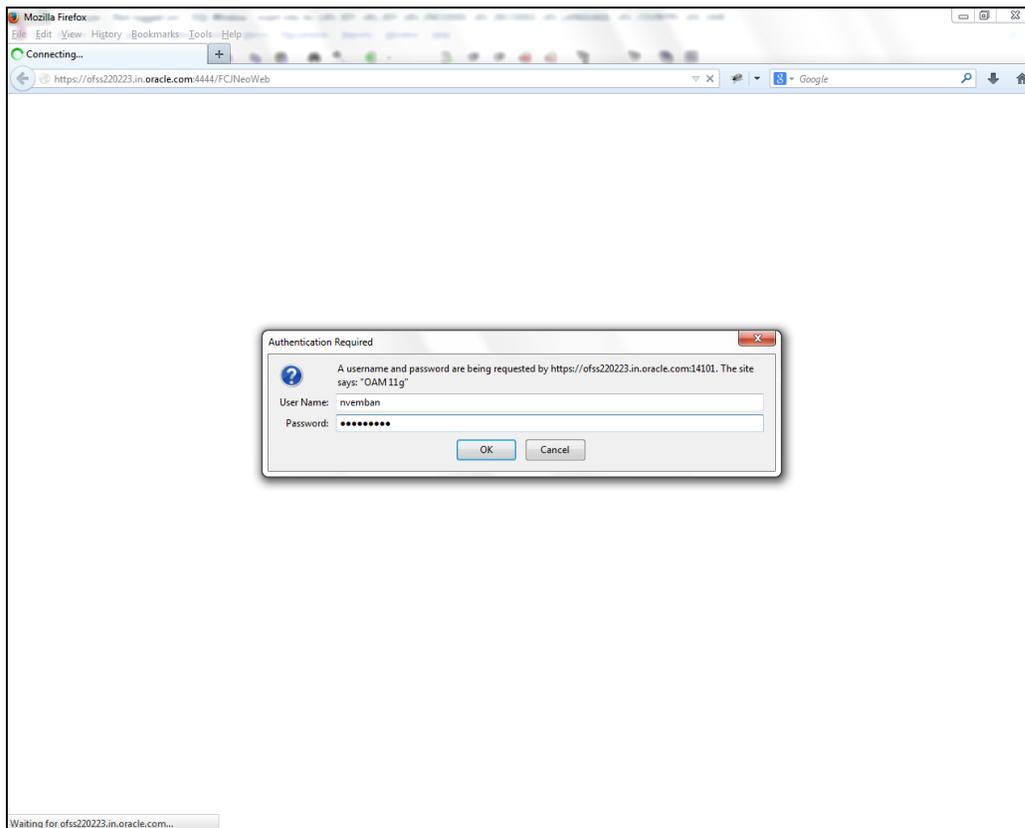
2.7.3 Launching FLEXCUBE

After setting up FLEXCUBE to work on Single Sign on mode, navigate to the URL <https://<hostname>:<OHS SSL Port>/<Context Root>> from your browser

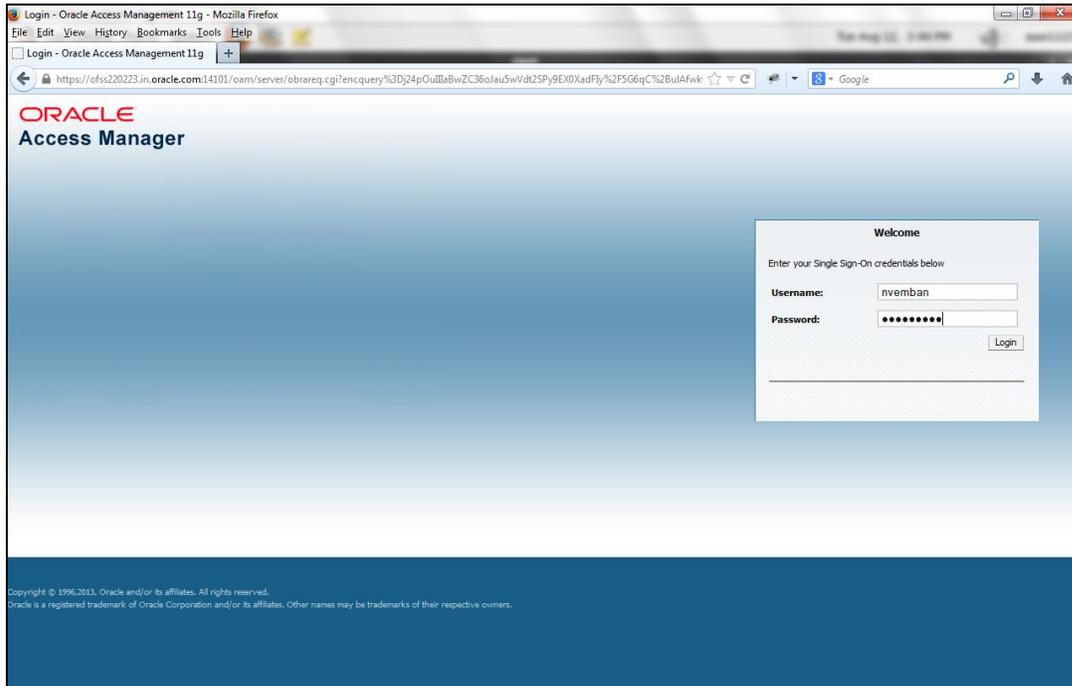
eg: <https://ofss00001.in.oracle.com:4443/FCISNeoWeb>

Since the resource is protected, the WebGate challenges the user for credentials as shown below.

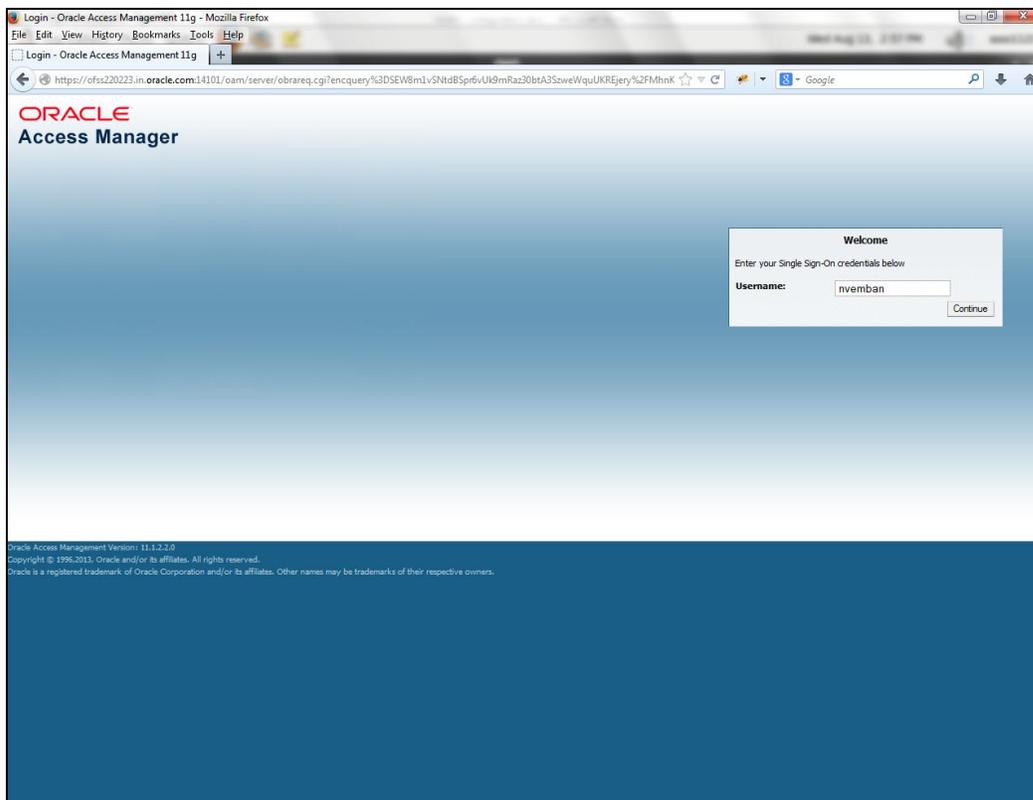
2.7.3.1 Basic Style Challenge by Webgate



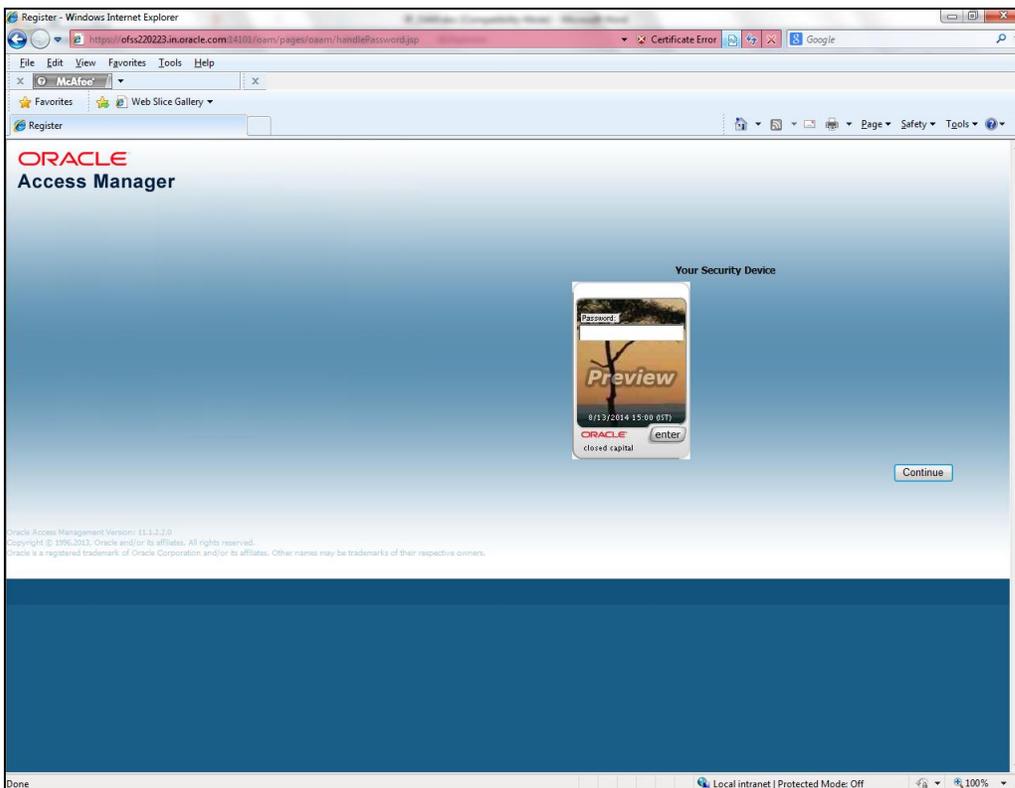
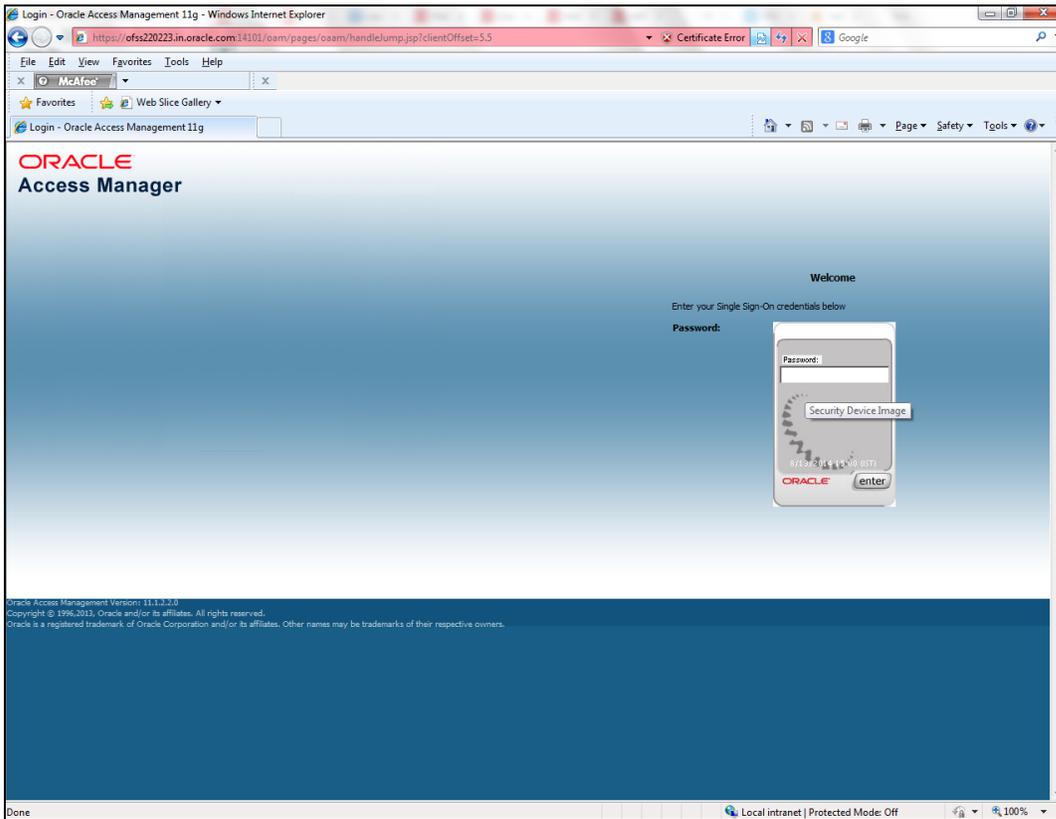
2.7.3.2 Form Style Challenge by Webgate

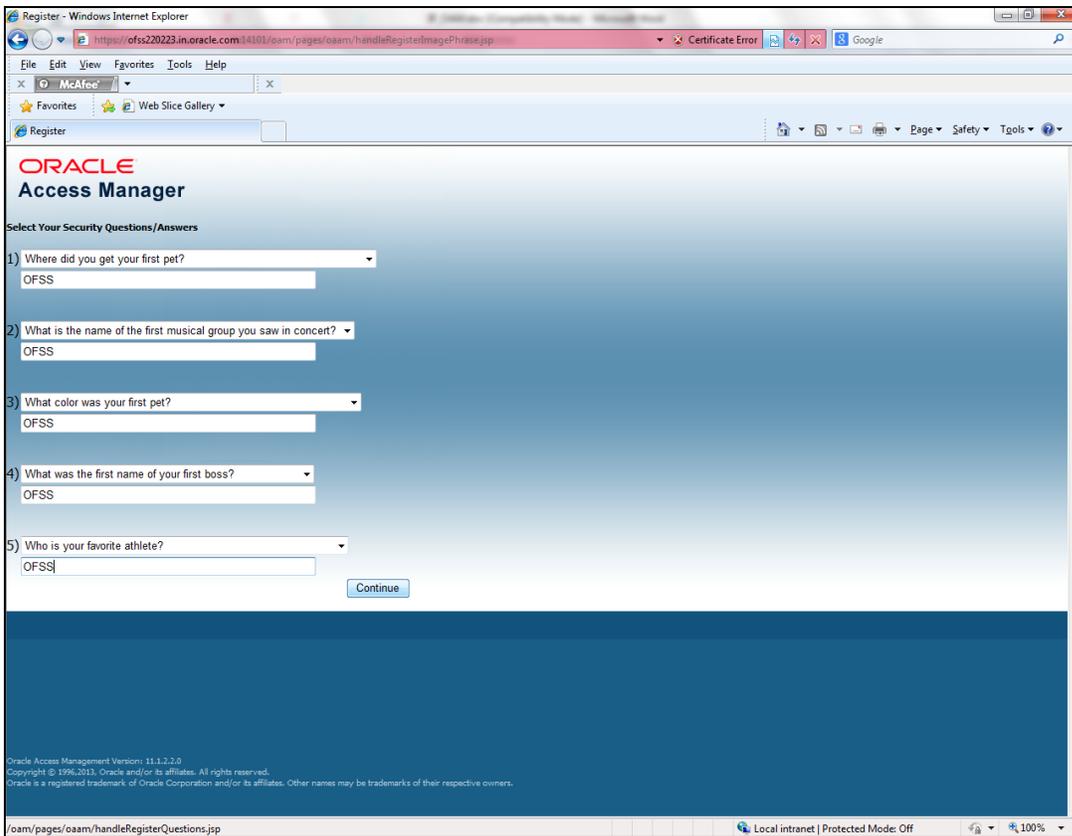
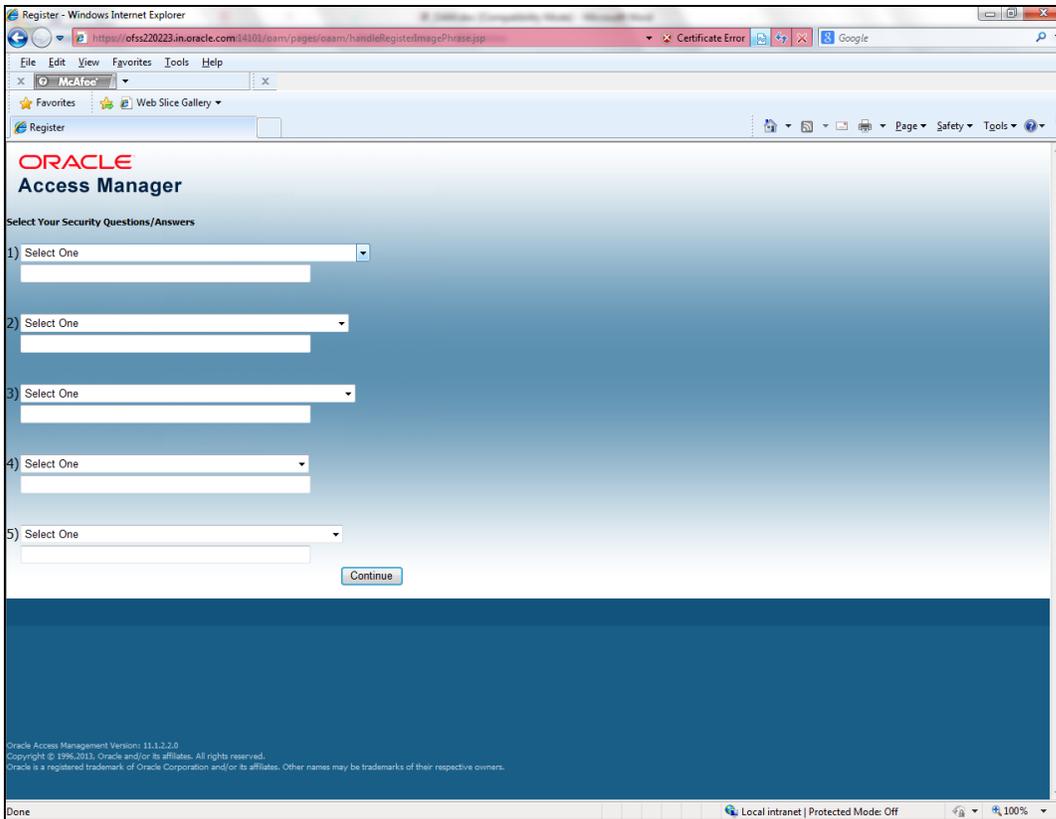


2.7.3.3 KBA Based Strong Authentication Challenge by Webgate(Only when OAM is used)

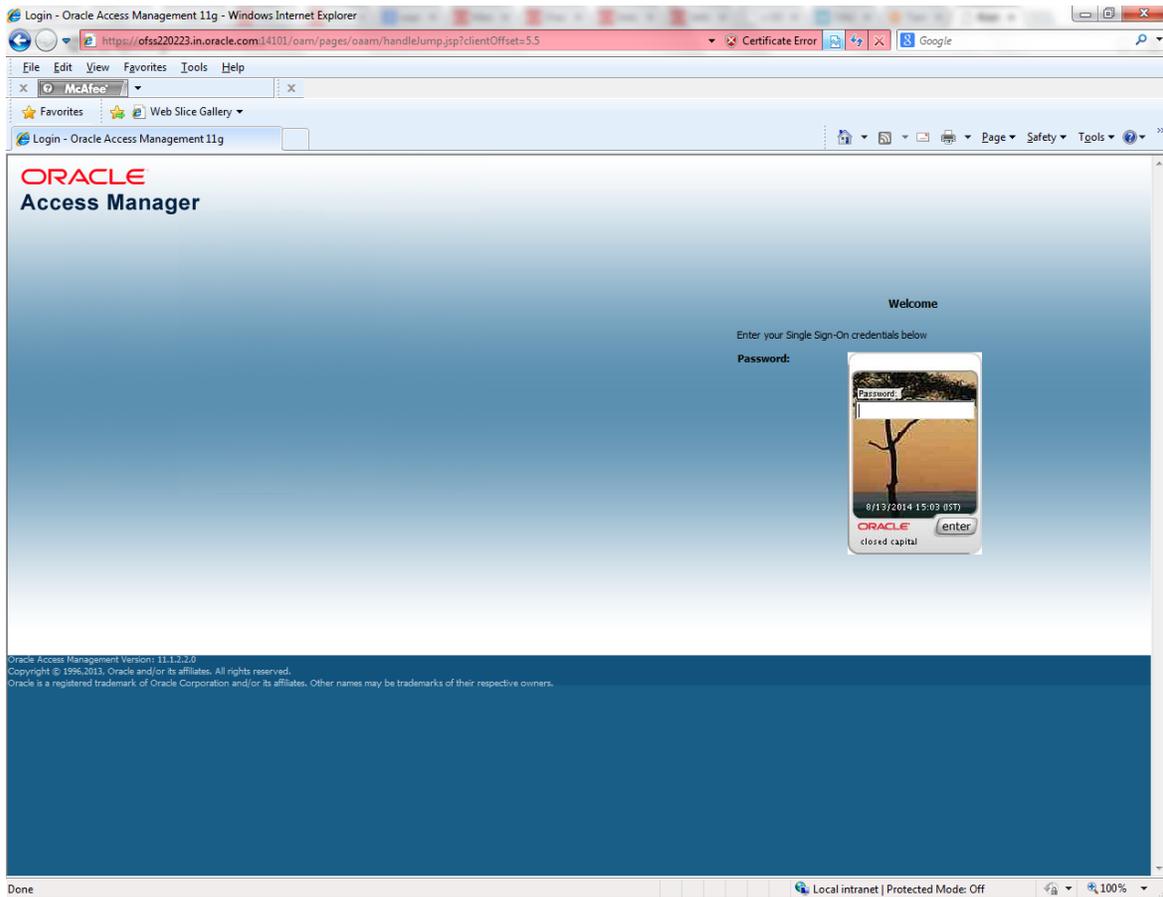


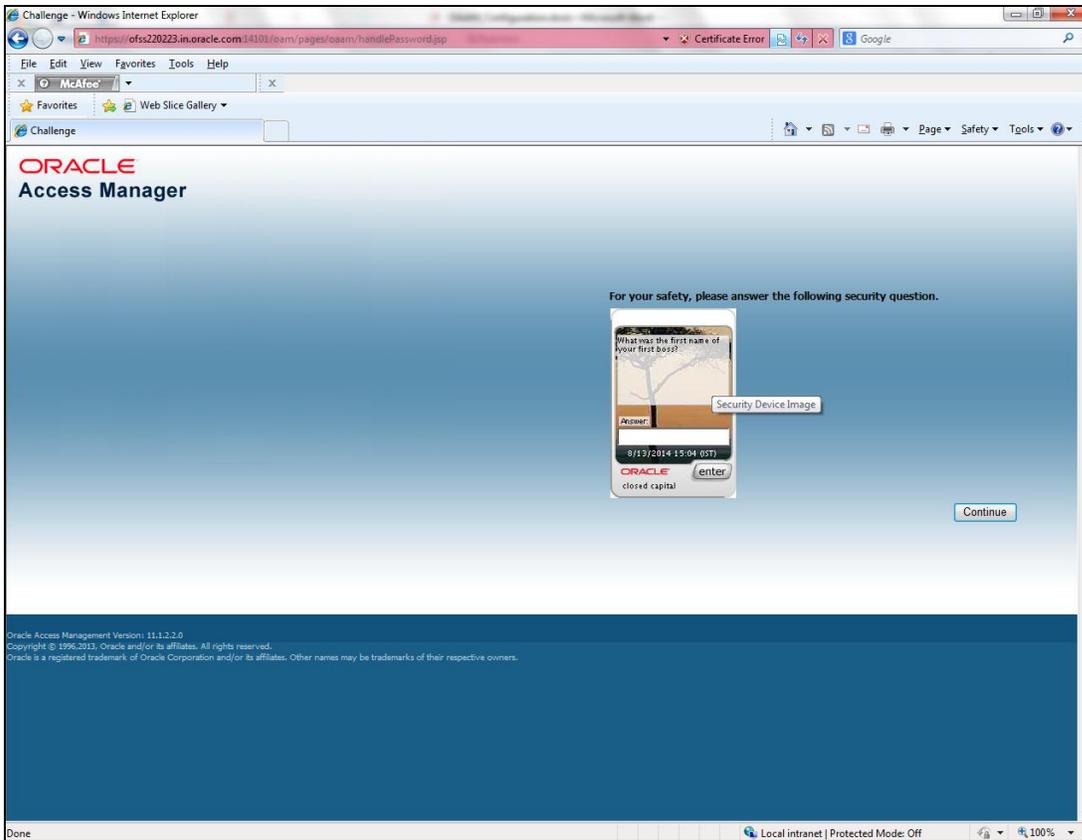
First Time Login





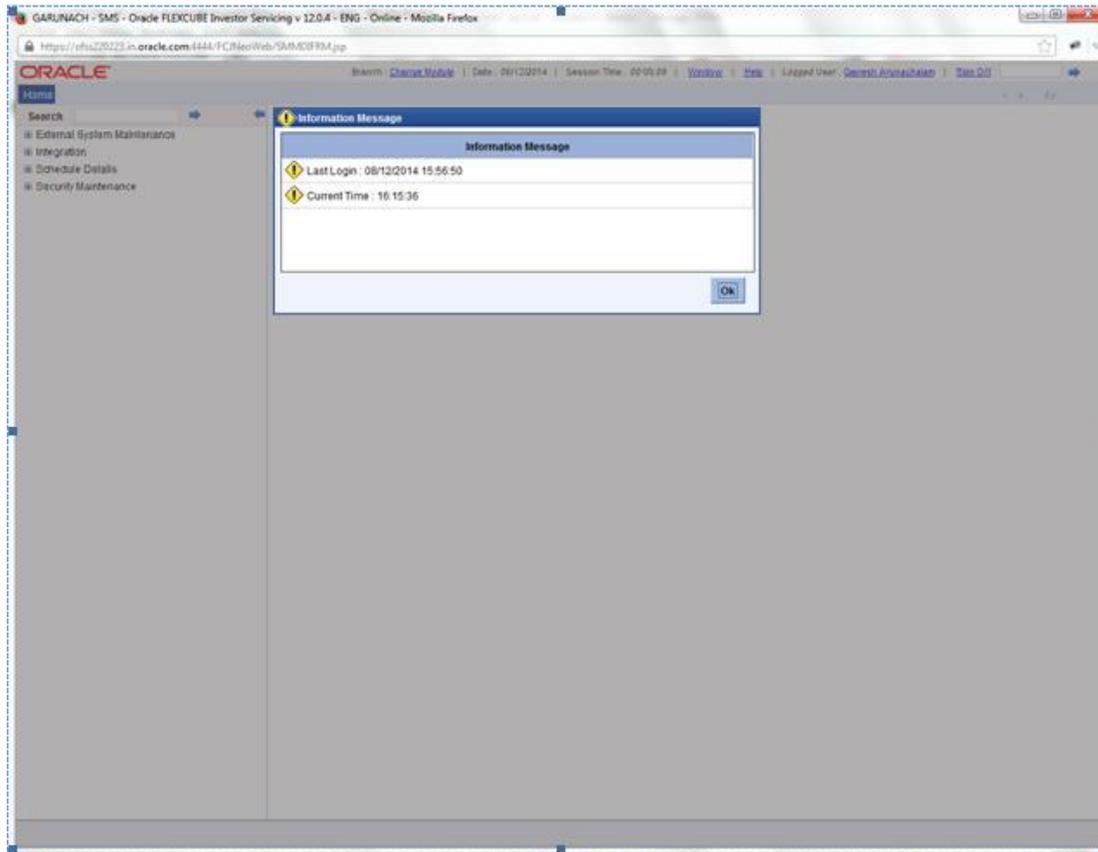
Post First Login





Once the user is authenticated and authorized to access the resource, the request gets redirected to normal FLEXCUBE application and it will take the user to Home Branch.

2.7.3.4 After SSO Login FLEXCUBE Application launch - Home Branch / Module



2.7.4 Signoff in a SSO Situation

FLEXCUBE does not provide for single signoff currently, i.e., when a user signs off in FLEXCUBE, the session established with Oracle Access Manager by the user will not be modified in any manner.

In a SSO situation the “Exit” and “Logoff” actions in FLEXCUBE will function as “Exit”, i.e., on clicking these, the user will “exit” FLEXCUBE and will need to re-launch FLEXCUBE using the FLEXCUBE launch URL.



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