
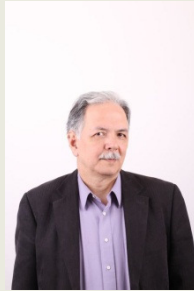




Identity Management in Fusion Middleware for Oracle Forms applications

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Technical Support Manager



About me

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- ◆ Oracle ACE 2011
- ◆ Working with Oracle technology since 1989
- ◆ Installation, configuration and support for various Oracle products
 - Database
 - Internet application server
 - Fusion middleware
 - Hyperion EPM
- ◆ System architect
 - Architecture planning
 - Capacity planning
 - Performance tuning
- ◆ Numerous successful projects based on Oracle technology
- ◆ Trainer experience, Oracle courses for
 - Database administrators
 - Application server administrators
- ◆ Speaker on various Oracle conferences
 - IOUG
 - EOUG
 - HrOUG
 - SiOUG
 - SrOUG

Support for Oracle Forms - Version 10.1.2.0.2 to 10.1.2.3.0

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- ◆ the End of Premier Support is December 31, 2011 for Oracle Application Server 10g (10.1.2) and Identity Management 10g (10.1.4) releases
- ◆ For customers with current support contracts running Oracle Application Server 10gR2, Oracle Developer Suite 10gR2 or Oracle Single Sign-On 10gR3, Extended Support will be made available for the period of January 2012 - December 2012

Support for Oracle Forms - Version 10.1.2.0.2 to 10.1.2.3.0

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Customers should consider the following planning steps:

- ◆ Review all Oracle Fusion Middleware 10g version 10.1.2 and 10.1.4 environments.
- ◆ Plan to upgrade to Oracle Fusion Middleware 11g as soon as possible.
- ◆ Review Oracle Fusion Middleware 11g Documentation.
- ◆ Upgrade to Oracle Fusion Middleware 11g (11.1.1.x), where x is the latest release.

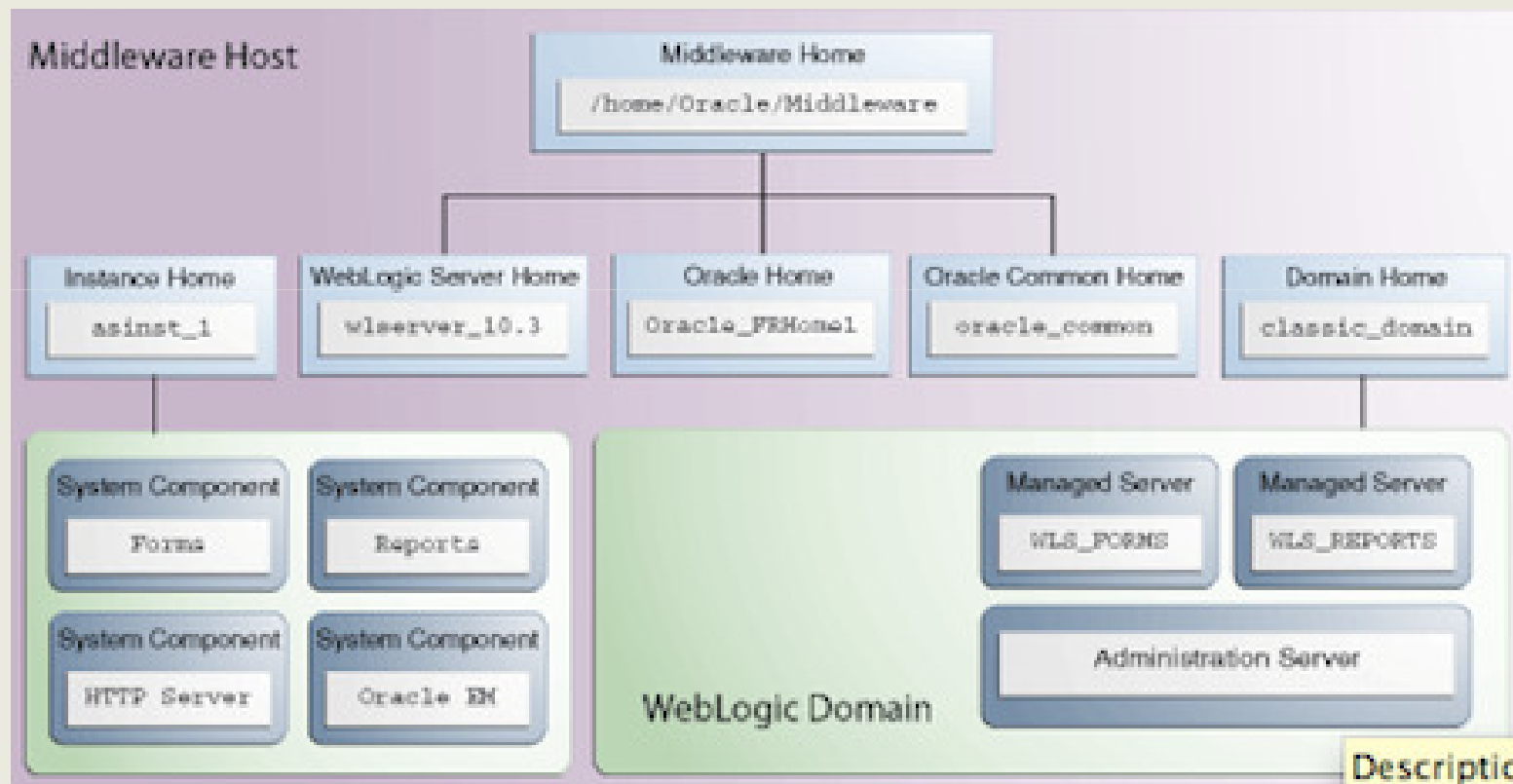
Deploying forms 11g services

5

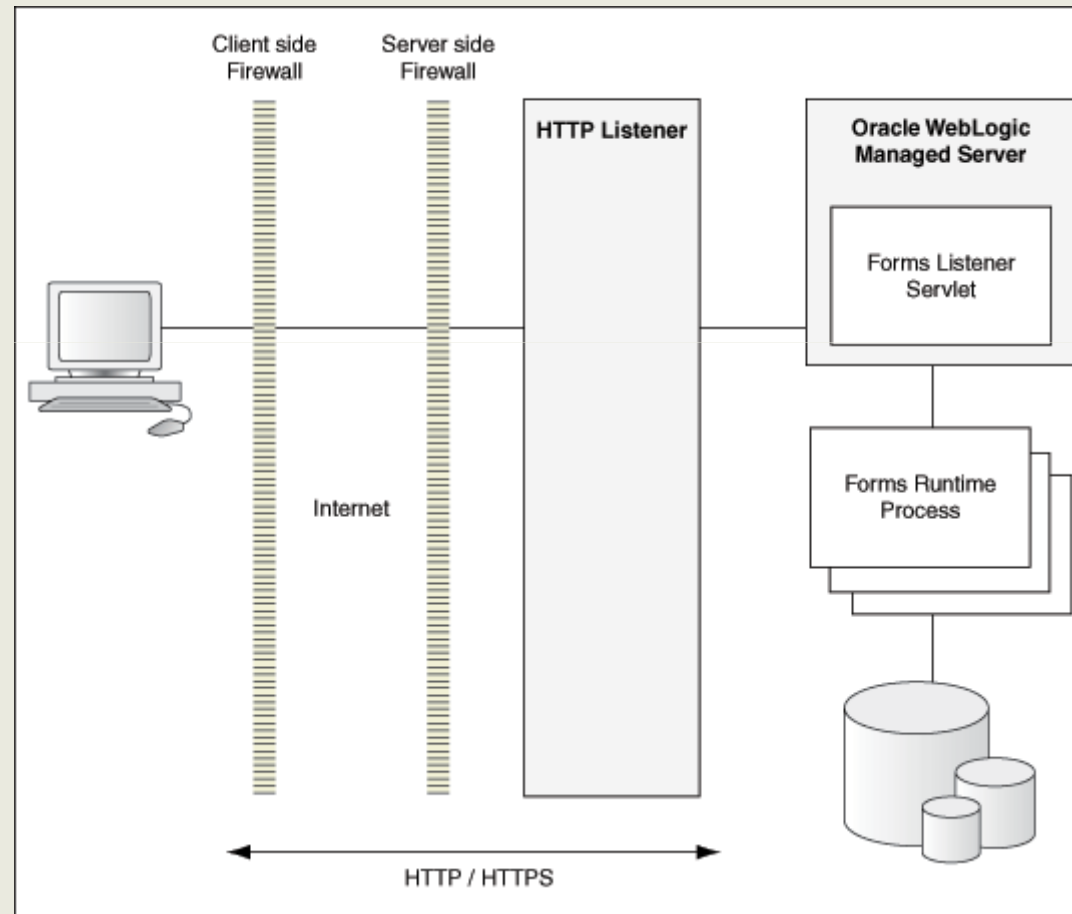
- ◆ The Forms Services Java EE application EAR (Enterprise Archive) file formsapp.ear is deployed to the WLS_FORMS (Oracle WebLogic Managed Server) when you configure Oracle Forms.
- ◆ Oracle Fusion Middleware system components (such as SOA, WebCenter, and Identity Management components), as well as customer-deployed applications, are deployed to managed servers in the Weblogic domain.

Deploying forms 11g services

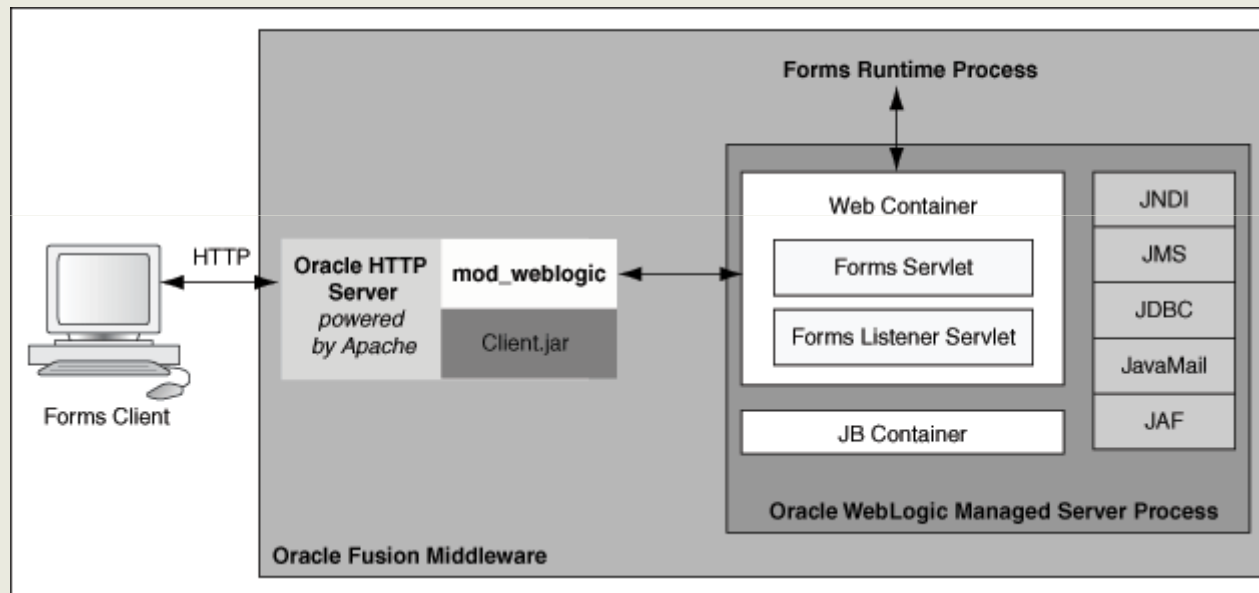
6



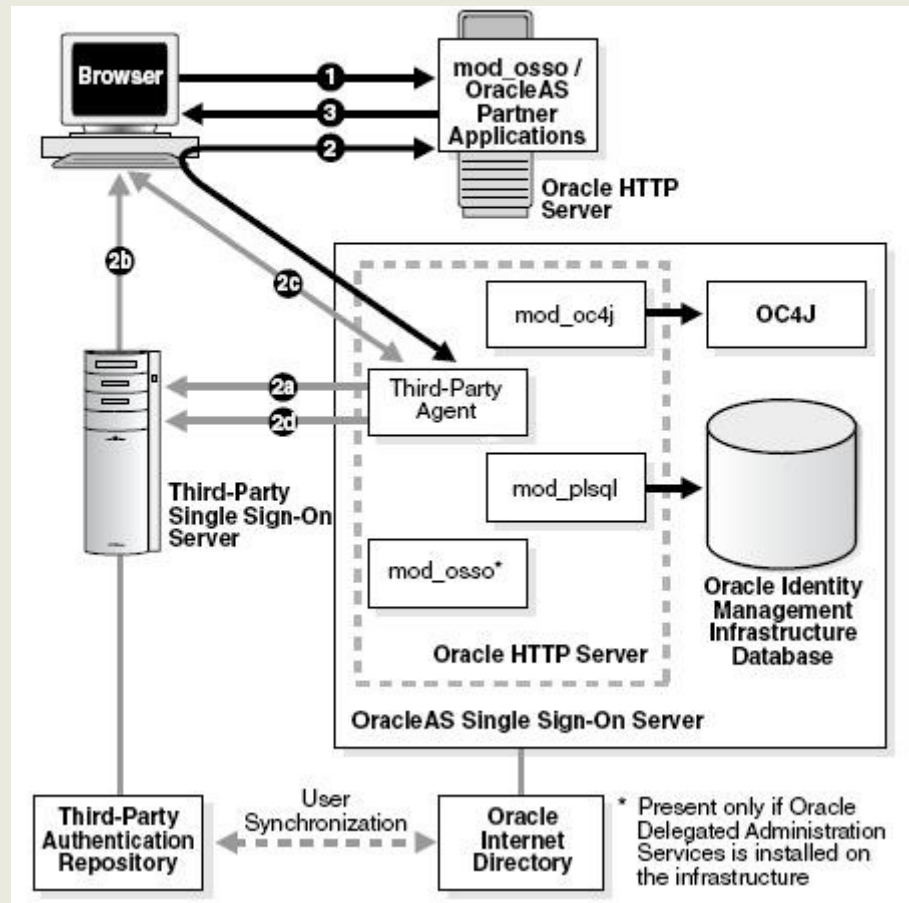
Architecture using the Forms Listener Servlet



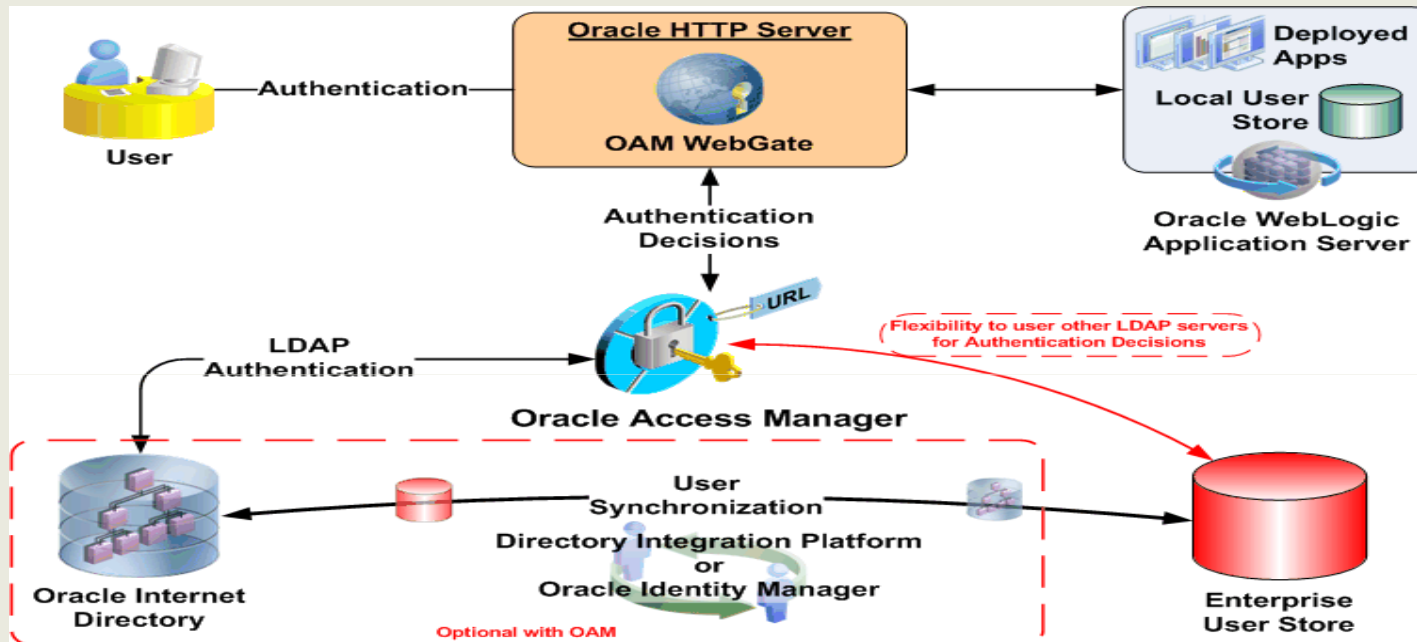
Oracle WebLogic Managed Server and Forms Services



Oracle Application Server 10g Single Sign-on Server



SSO for Fusion Middleware Apps



- OAM is the recommended default SSO solution for OFM11g
- Oracle Access Manager provides Authentication, Identity Assertion and SSO services to Fusion Middleware 11g

Single Sign-on for Forms Services

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- ◆ In addition to working with Oracle Single Sign-On Server 10g (OSSO), Oracle Forms Services applications can now run in a Single Sign-on environment using Oracle Access Manager 11g (OAM) and Oracle Internet Directory (OID)
- ◆ Oracle Forms Services applications in Oracle FMW 11g Release 2 can be protected by one of the following authentication servers:
 - Oracle Access Manager (OAM) 11g
 - Oracle Single Sign-On Server (OSSO) 10g

Single Sign-on for Forms Services

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Oracle Single Sign-On Server (OSSO Server)

- ◆ It is an OracleAS 10g authentication server.
- ◆ It uses Oracle Internet Directory as the Identity Store.
- ◆ Oracle Single Sign-On Server uses mod_osso as the access client configured with Oracle HTTP Server.

Single Sign-on for Forms Services

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Oracle Access Manager 11g

- ◆ component of Oracle Fusion Middleware 11g
- ◆ Java Platform, Enterprise Edition (Java EE)-based enterprise-level security application
- ◆ provides restricted access to confidential information
- ◆ centralized authentication and authorization services.
- ◆ Single Sign-On solution for authentication and authorization.
- ◆ uses Oracle Internet Directory as the Identity Store
- ◆ can use either mod_osso or webgate as the access client configured with Oracle HTTP Server

Single Sign-on for Forms Services

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WebGate

- ◆ provides single sign-on support.
- ◆ It intercepts incoming HTTP requests and forwards them to the Access Server for authentication.
- ◆ Oracle Forms Services and Oracle Reports Services can use webgate as an access client with OAM server.

Single Sign-on for Forms Services

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mod_osso

- ◆ HTTP module that simplifies the authentication process
- ◆ Oracle Forms Services and Oracle Reports Services can use mod_osso to register as partner applications with the OAM Server.
- ◆ mod_osso is also used as an access client with Oracle Single Sign-On server (OSSO).

Single Sign-on for Forms Services

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Oracle Internet Directory (OID)

- ◆ LDAP server that is used as the Identity store by the authentication server and the Forms applications.
- ◆ LDAP server is a special database that is optimized for read access.

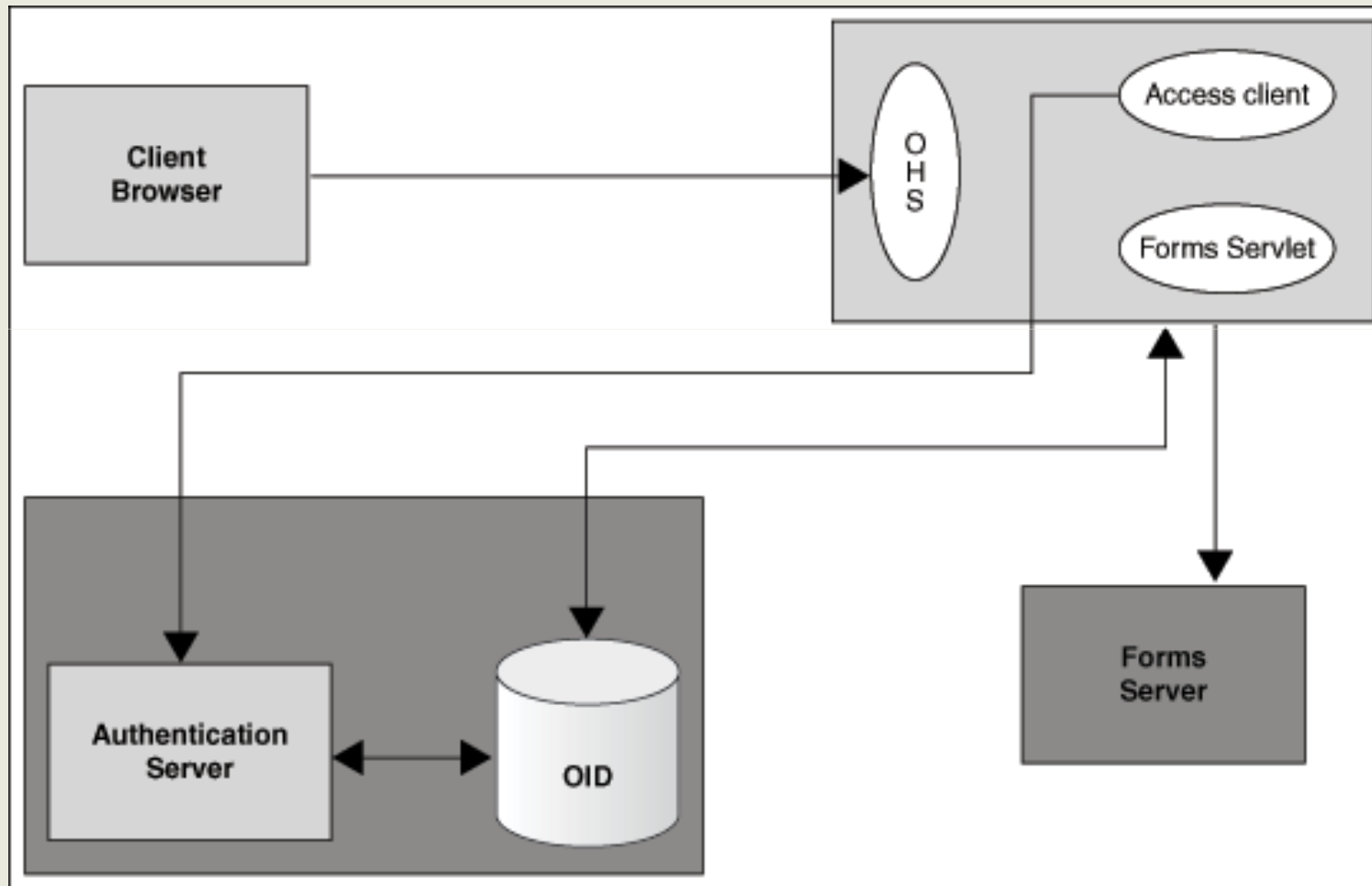
Single Sign-on for Forms Services

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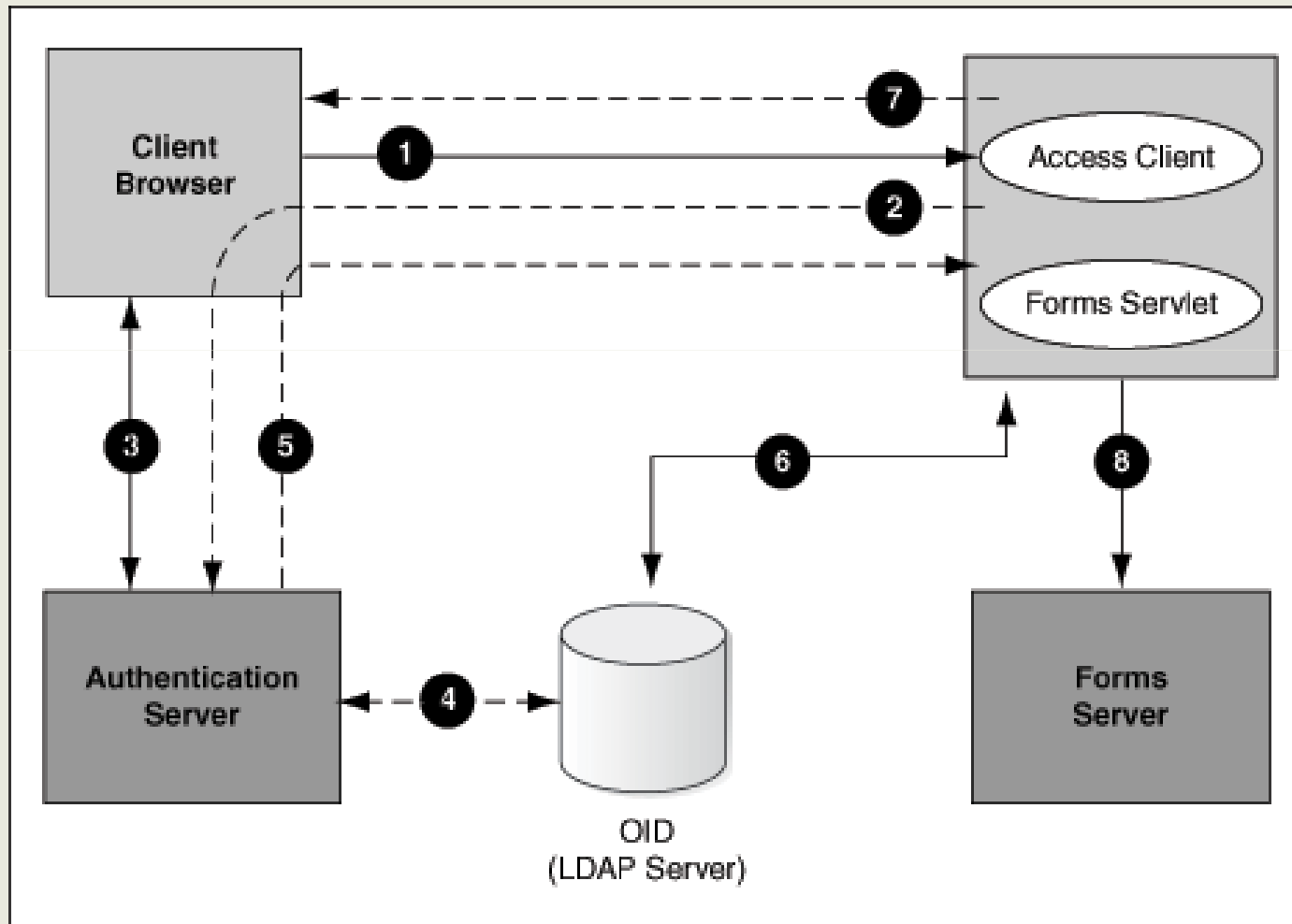
- ◆ Forms applications use a single sign-on solution only for obtaining database connection information from Oracle Internet Directory.
- ◆ Once the database information is obtained, interaction with the authentication server no longer occurs.
- ◆ Exiting a Forms application does not perform a single sign-on logout.
- ◆ logging out of a single sign-on session does not terminate an active Forms session.
- ◆ The database session exists until the Forms Runtime (for example, frmweb.exe) on the server terminates

Single Sign-On Components used by Oracle Forms

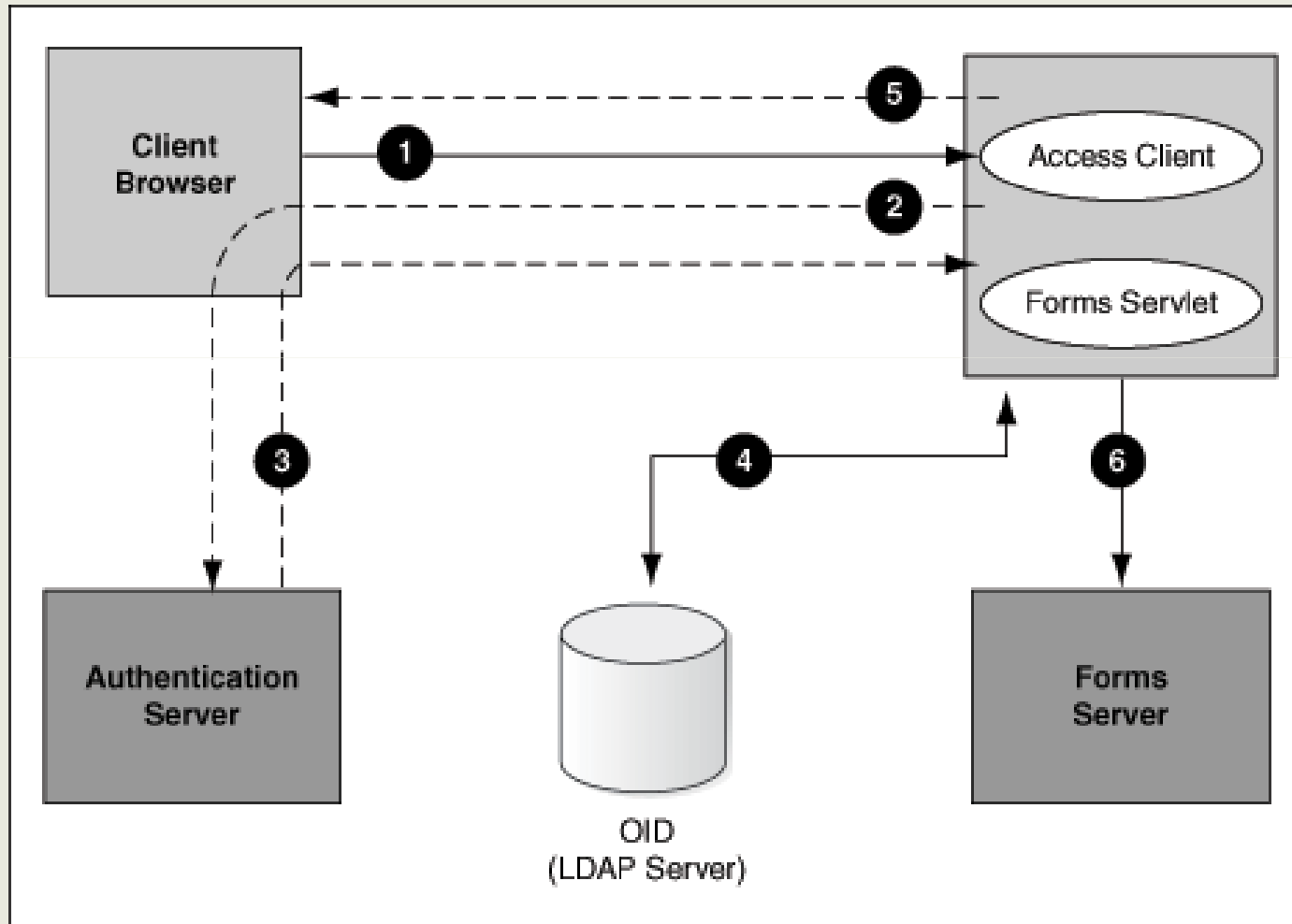
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Authentication Flow for First Time Client Request



Authentication Flow for Subsequent Client Requests



Forms Services Features with Authentication Server Protection

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◆ **Dynamic Resource Creation**

- ◆ When an authorized Forms user has neither the resource for a particular application that is being requested nor a default resource in Oracle Internet Directory, then the user is redirected to DAS or the Forms RAD Servlet for the creation of the Resource Access Descriptor

Support for Dynamic Directives

- ◆ the single sign-on parameter, ssoMode allows a Forms Services instance to handle both application types, those that rely or do not rely on single sign-on

Forms Services Features with Authentication Server Protection

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Support for Database Password Expiration

- ◆ if the database password has expired and the Forms Services application, running in single sign-on mode, is used to renew it, the new password entered by the user is used to update the Resource Access Descriptor (RAD)

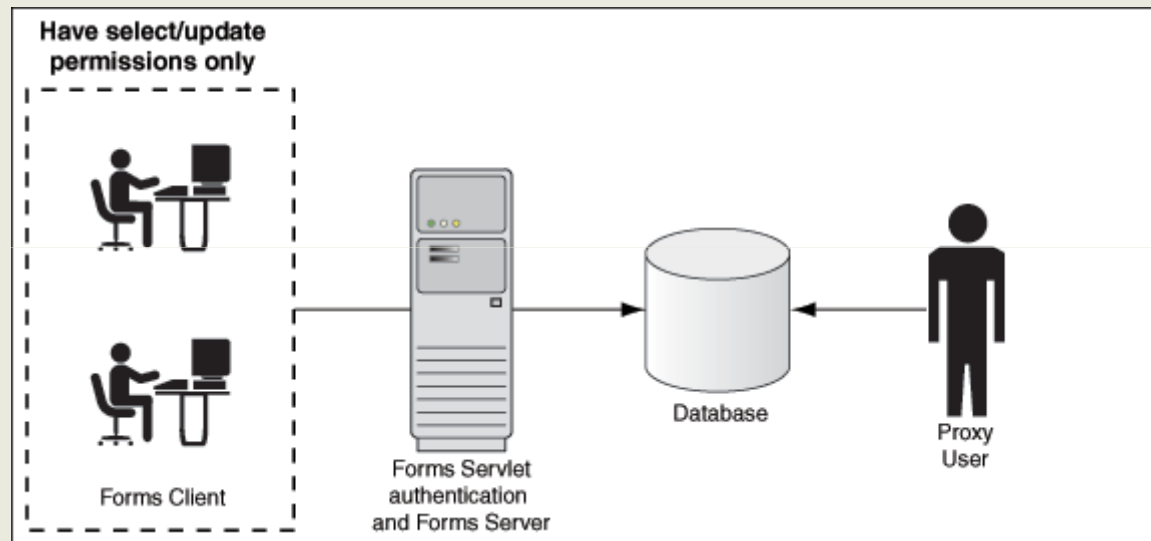
Proxy User Overview

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Without proxy user

- ◆ all database modifications are audited as actions of single user
- ◆ If single user access is compromised than that user can compromise whole application schema
- ◆ Oracle Database supports proxy user authentication, which allows a client user to connect to the database through an application server, as a proxy user

Proxy User Authentication



Enabling Proxy User Connections

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1. Create a proxy user in the database.

```
SQL> CREATE USER midtier IDENTIFIED BY midtierPW;
```

2. Assign connect and create session privileges to midtier:

```
SQL> GRANT CONNECT,CREATE SESSION TO midtier;
```

3. Create a database user which has one-to-one mapping with a SSO username

```
SQL> CREATE USER appuser IDENTIFIED BY appuserPW;
```

4. Assign create session privileges to appuser.

```
SQL> GRANT CREATE SESSION TO appuser;
```

5. To make it possible to connect through the midtier user you need to alter the database user:

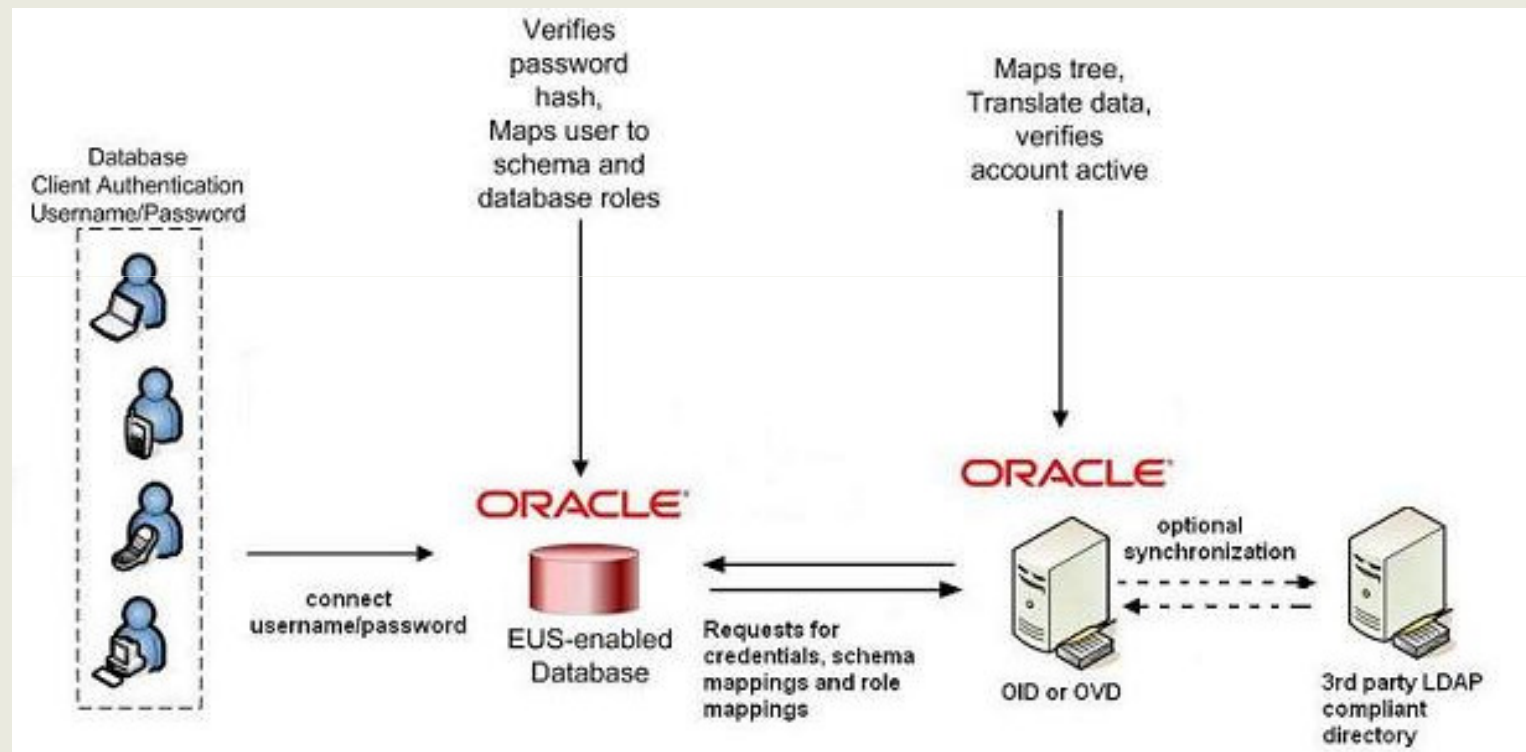
```
SQL> ALTER USER appuser GRANT CONNECT THROUGH midtier;
```

Enabling Proxy User Connections

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- ◆ It is also possible to set up the database users in Oracle Internet Directory with the help of the database functionality called Enterprise User Security.
- ◆ If you choose this method, the proxy user is the only user defined in the database and the additional benefit of easy administration is gained.

Oracle Enterprise User Security Concepts and Overview



Oracle Enterprise User Security Concepts and Overview

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- ◆ enabling database user accounts to be centrally managed in an LDAP compliant directory
- ◆ Third party directories can be used if they are synchronized with OID or integrated with OVD
- ◆ you no longer need to license the Oracle Advanced Security Option for password-based authentication

Enabling SSO for Proxy Users

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- ◆ Create a configuration section in formweb.cfg for single sign-on (for example, ssoapp) and set SSOProxyConnect to yes and ssoMode to true or mod_osso or webgate.
- ◆ The username and password that is used for the proxy connection is defined in the RAD entry in OID

Prerequisites for Oracle Application Server 10g upgrade

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- ◆ Apply the latest Oracle Application Server 10g Release 2 patchset and Critical Patch Advisory to the source Oracle Home
- ◆ Take a full backup of the source Oracle Application Server 10g Release 2 Home
- ◆ it is mandatory to install Oracle Fusion Middleware 11g Release 2 on the SAME Machine as the source Oracle Application Server 10g Release 2 home
- ◆ Make sure System Requirements, Prerequisites, and Specifications for Oracle Fusion Middleware 11g Release 2 are met

Prerequisites for Oracle Application Server 10g upgrade

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- ◆ If the existing Oracle Application Server 10g Release 2 environment has multiple Report Servers configured, the Upgrade Assistant does not have the ability to assess which Oracle Report Servers are active, and which may be redundant
- ◆ consider removing any .conf files of reports servers which are not being used

Licensing prerequisites for an upgrade

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- ◆ WebLogic Server Basic = OC4J Functionality
- ◆ All editions of the products Oracle Internet Application Server and Oracle Forms and Reports Server include rights to WebLogic Server Basic.
- ◆ Specialized WebLogic Server for iAS customers
 - Formal Name: WebLogic Server Basic
 - Limited to the minimum equivalent features in WebLogic Server to OC4J 10.1.3
 - Only available within Oracle iAS editions – not available independent of Oracle iAS
- ◆ WebLogic Server Basic is WebLogic server with license restricted features to match capabilities of OC4J

Licensing prerequisites for an upgrade

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- ◆ Oracle Access Manager Basic is a version of Oracle Access Manager that is available in licenses for the following Oracle products:
 - Oracle Internet Application Server Standard Edition
 - Oracle Internet Application Server Standard Edition One
 - Oracle Internet Application Server Enterprise Edition
- ◆ Oracle Access Manager Basic is only for providing single sign-on capabilities to Oracle Internet Application Server and for custom Java applications previously developed for Oracle Containers for J2EE (OC4J).

Upgrade Application Server 10g to Fusion Middleware

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- ◆ An upgrade of an existing Oracle Application Server 10g Release 2 instance to a new Oracle Fusion Middleware 11g Release 2 environment can be performed using the **Upgrade Assistant (ua)**.
- ◆ Any upgrade to Oracle Fusion Middleware 11g Release 2 (11.1.2) will upgrade only Oracle Forms and Reports
- ◆ Only the following components can be upgraded to this release:
 - Oracle Forms Services
 - Oracle Reports
 - Oracle HTTP Server

Upgrade Application Server 10g to Fusion Middleware

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- ◆ Upgrade to Oracle Fusion Middleware 11g Release 2 does NOT convert/upgrade the application modules (i.e., fmx's, mmx's, rep's, plx's). These modules should be recompiled as usual
- ◆ It is supported to upgrade the application modules directly from Forms/Reports 6i to Oracle Fusion Middleware 11g Release 2

Upgrade Application Server 10g to Fusion Middleware

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- ◆ Install the new Oracle Fusion Middleware 11g Release 2 software in the SAME machine where your existing Oracle Application Server 10g Release 2 or Oracle Fusion Middleware 11g Release 1 is already installed.
- ◆ The new Oracle Fusion Middleware 11g Release 2 must be in a new Middleware Home in the same host

Upgrading Oracle Forms Services Application Modules

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- ◆ Copy the Oracle 6i Forms application files to a server where Forms 11g are installed
- ◆ Optionally, use the Forms Migration Assistant to upgrade the Forms Application Modules (.fmb files), Forms menu modules (.mmb files), and the Library modules (.pll files).
- ◆ Use the Forms Compiler (frmcmp.sh on Unix or frmcmp.exe on Windows) to regenerate the Forms Application executable files (fmx, mmx, and plx files).

Upgrading Forms Modules Migration Assistant

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- ◆ Utility provided with Forms 11g
- ◆ Provided as a command line utility
 <Middleware_Home>\asinst\bin\frmpsqlconv.bat
and in GUI mode (mode=wizard)
- ◆ Wizard interface alerts you if using obsolete features
- ◆ Makes changes if possible
- ◆ Use before Forms Builder or Compiler, but not necessary
- ◆ Forms Compiler will find errors if you dont use Migration Assistant
- ◆ You should upgrade the common modules (such as OLB files) and Libraries (PLL files) that a Form relies upon and ensure that these are available in the FORMS_PATH, before running the migration assistant.

Upgrading Oracle Identity Management

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- ◆ The Oracle Fusion Middleware Upgrade Assistant allows you to upgrade the following 10g Oracle Identity Management products:
 - Oracle Internet Directory
 - Oracle Directory Integration Platform
 - Oracle Virtual Directory
 - Oracle Identity Federation
- ◆ The upgrade also ensures that existing 10g Oracle Single Sign-On configurations can continue working with the upgraded Oracle Identity Management components .

Invoking the Fusion Middleware Upgrade Assistant (UA)

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Execute ua:

- ◆ UNIX/Linux

```
cd /home/oracle/MiddlewareR2/Classic_Home
./ua
```

- ◆ MS Windows

- ◆ Go to Start --> Programs --> Oracle Classic 11g - OH_name --> Oracle Fusion Middleware Upgrade Assistance (ua.bat)

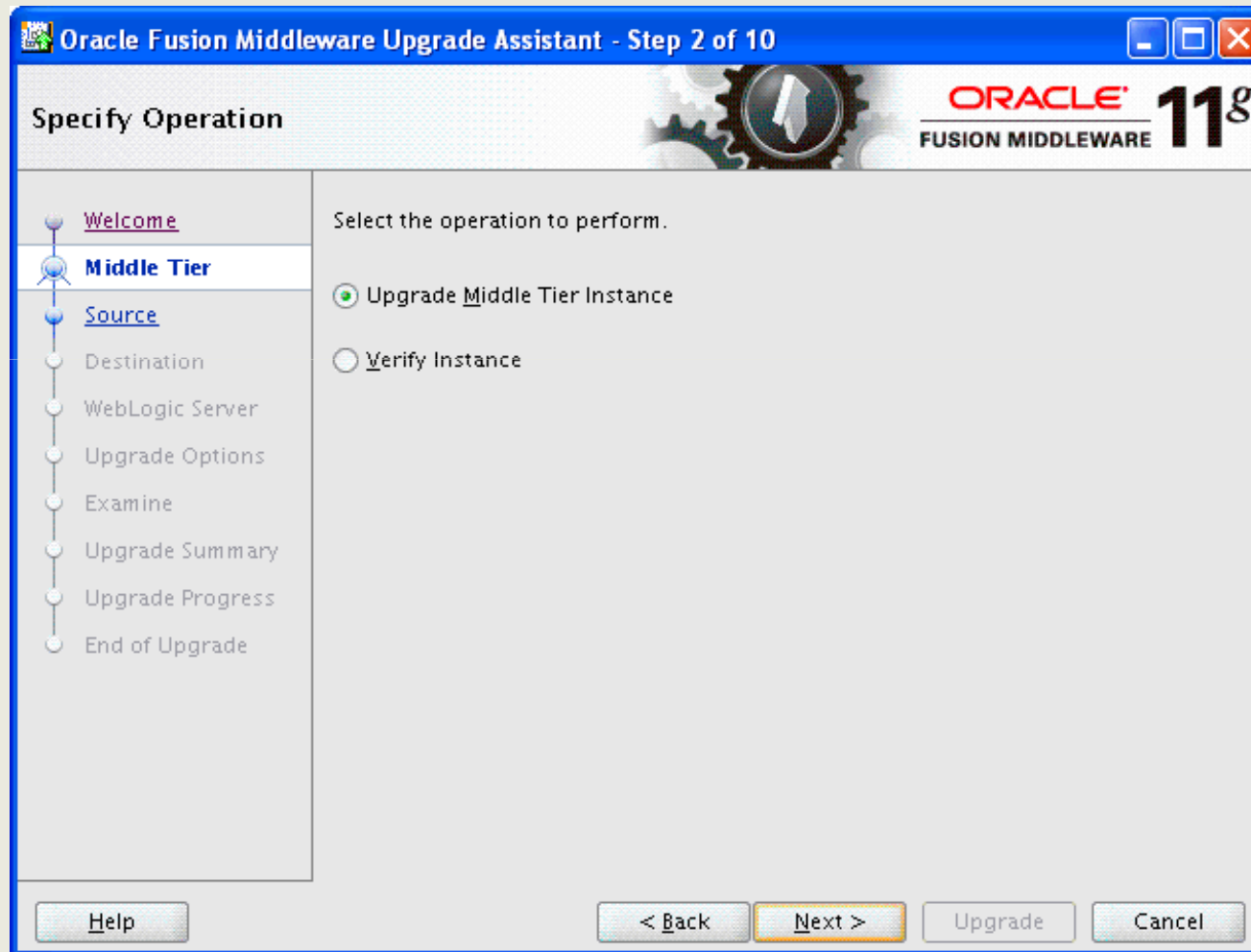
- ◆ or Open command prompt, go to OH\bin and execute ua:

```
D:\Oracle\MT11gR2\FR11gR2_oh\bin\ua.bat
```


Invoking the Fusion Middleware Upgrade Assistant (UA)



Invoking the Fusion Middleware Upgrade Assistant (UA)



Invoking the Fusion Middleware Upgrade Assistant (UA)

Oracle Fusion Middleware Upgrade Assistant - Step 5 of 10

Specify WebLogic Server

ORACLE 11g
FUSION MIDDLEWARE

Enter the WebLogic Admin Server connection details.

[Welcome](#)
[Middle Tier](#)
[Source](#)
[Destination](#)
[WebLogic Server](#)
[Upgrade Options](#)
[Examine](#)
[Upgrade Summary](#)
[Upgrade Progress](#)
[End of Upgrade](#)

Host:

Port:

Username:

Password:

Invoking the Fusion Middleware Upgrade Assistant (UA)

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Next you be offered the following options

- ◆ Use source Oracle home ports in destination"
- and
- ◆ "Start destination components after successful upgrade

Invoking the Fusion Middleware Upgrade Assistant (UA)

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- ◆ Upgrade Assistant will examine the components.
- ◆ It should display "Status = Succeeded". The log path and name will be displayed at the bottom.
- ◆ Click Next.
- ◆ A summary of the upgrade to be performed will be displayed.
- ◆ Click on Upgrade button.

Invoking the Fusion Middleware Upgrade Assistant (UA)

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- ◆ Note: On UNIX/Linux, after some minutes, you may see a pop-up window "Root Action Required" will indicate a script needs to be run as root.
- ◆ Open other terminal window and run the indicated script, i.e:
- ◆ `/home/oracle/MiddlewareR2/Classic_Home/upgroot.sh`
- ◆ The script will be executing without displaying any message in terminal. Return to Upgrade Assistance pop-up Window and click OK Button.

Invoking the Fusion Middleware Upgrade Assistant (UA)

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- ◆ As the Upgrade Assistant (UA) does its work, an "Upgrade Progress" bar will be displayed.
- ◆ Typically the UA should take no longer than 10 - 15 minutes to complete (usually completes just in a few minutes) .
- ◆ At the end, it should display a screen indicating "All components were upgraded successfully."
- ◆ it is recommended to verify the upgrade, too.
- ◆ If UA fails, review the log file, the path and log filename are indicated in this last screen

Verifying the Upgrade

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- ◆ Verify from Weblogic Server Admin Console and OPMN that core omponents are running successfully
- ◆ you can use the Upgrade Assistant to verify the Upgrade

Verifying the Upgrade

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- ◆ Go to Oracle Fusion Middleware Oracle Portal, Forms, Reports and Discoverer 11g
\$ORACLE_HOME/bin and execute UA

- ◆ UNIX/Linux

```
cd /home/oracle/Middleware/Classic_Home/bin
./ua
```

- ◆ MS Windows

- Go to Start --> Programs --> Oracle Classic 11g - <OH_name> --> Oracle Fusion Middleware Upgrade Assistance (ua.bat)
- or Open command prompt, go to OH\bin and execute ua enabling trace option:

```
c:\oracle\Middleware\classicfrmrep_oh\bin\ua.bat
```

Verifying the Upgrade

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- ◆ Select Verify Instance and Click Next. Next step will ask for the Oracle Fusion Middleware 11g Release 2 \$ORACLE_INSTANCE directory
- ◆ It will display the verification Report with the test passed/failed for the components tested

