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Oracle E-Business Suite 12.2: Fusion Middleware (WebLogic Server) Administration

Session ID 10532

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ORACLE

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Program Agenda

1. Architecture
2. Administration and Maintenance
3. Configure
4. Monitor and Troubleshoot

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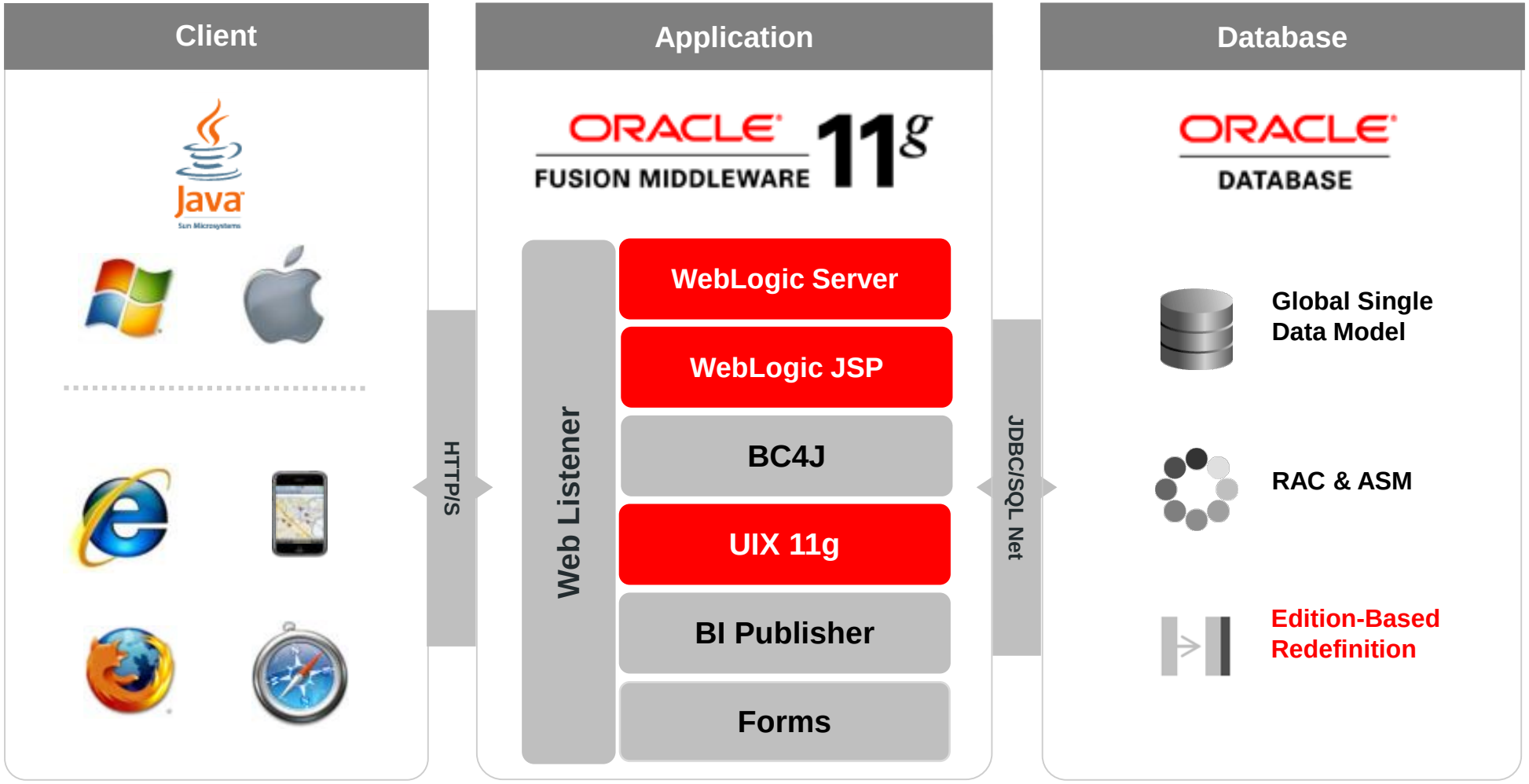
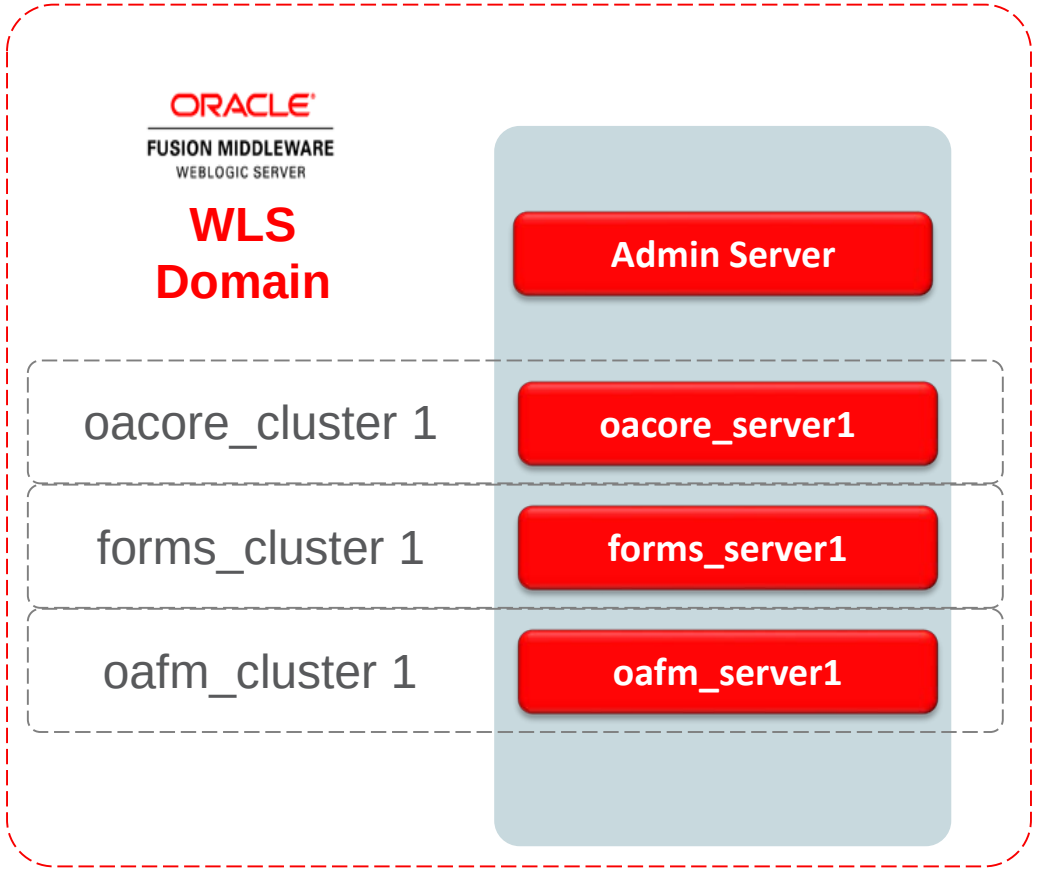
Oracle E-Business Suite 12.2 Architecture



Oracle E-Business Suite 12.2 Architecture

What is E-Business Suite from a WebLogic Perspective?

- In a nutshell, E-Business Suite 12.2 feels like:
  - A handful of *web applications*…
  - Deployed to *Clusters* of *Managed Servers*…
  - Supervised by an *Admin Server*…
  - Deployed to a *WebLogic Server Domain*



Oracle E-Business Suite 12.2 Architecture

Oracle WebLogic Server Domain

- **oacore:** Core functionality in EBS middle tier Java code, including OAF based functionality for EBS products
- **forms:** Serves all Oracle forms functionality
- **oafm:** Web services, Secure Search and Oracle Transport Agent (OXTA)

oacore_server

forms_server

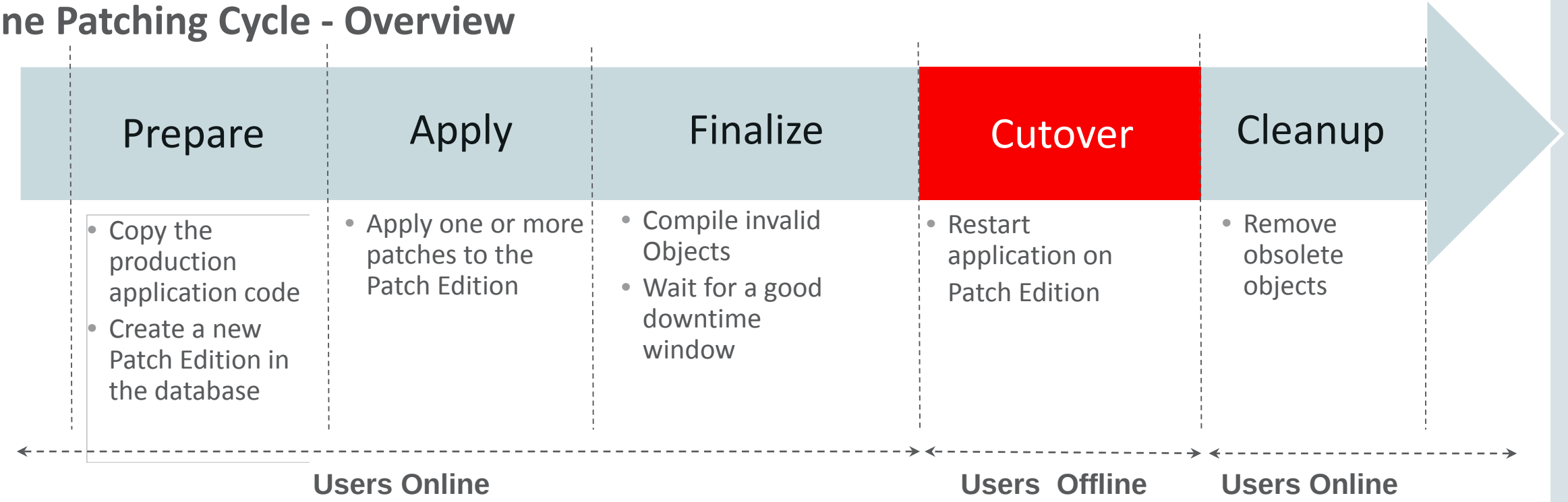
oafm_server

Note: As of AD-TXK Delta 6, **forms-c4ws is <u>disabled</u>**

forms-c4ws_server

Understanding the Online Patching Cycle

Online Patching Cycle - Overview



- Online Patching is used to apply **all** patches in 12.2
- Online Patching cycle includes **5 major phases**
- Application is only offline during the **Cutover** phase

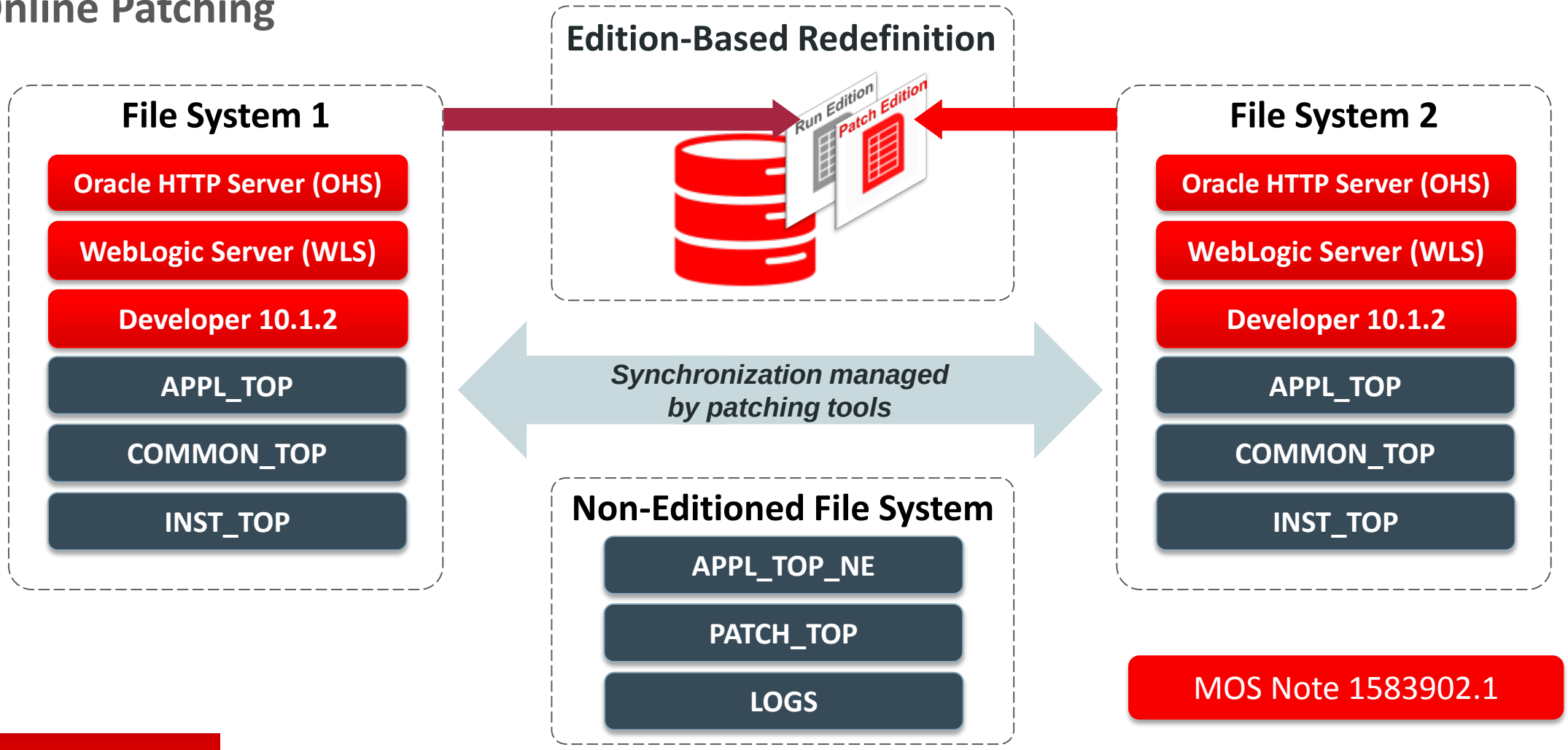
Online Patching uses a Dual File System

- **Run file system**
  - Used by online users
  - Stores a complete copy of all Applications and Middle Tier code
  - Logically mapped to either fs1 or fs2
- **Patch file system**
  - Used by patching tools
  - Stores a complete copy of all Applications and Middle Tier code
  - Logically mapped to either fs1 or fs2
- **Non-Editioned file system**
  - Used for data files e.g.: data import/export files, log files, report output files
  - Only stores data files

fs1 and **fs2** switch **Run** and **Patch** designation during the cutover phase of an Online Patching cycle

Oracle E-Business Suite 12.2 Architecture: Dual File System

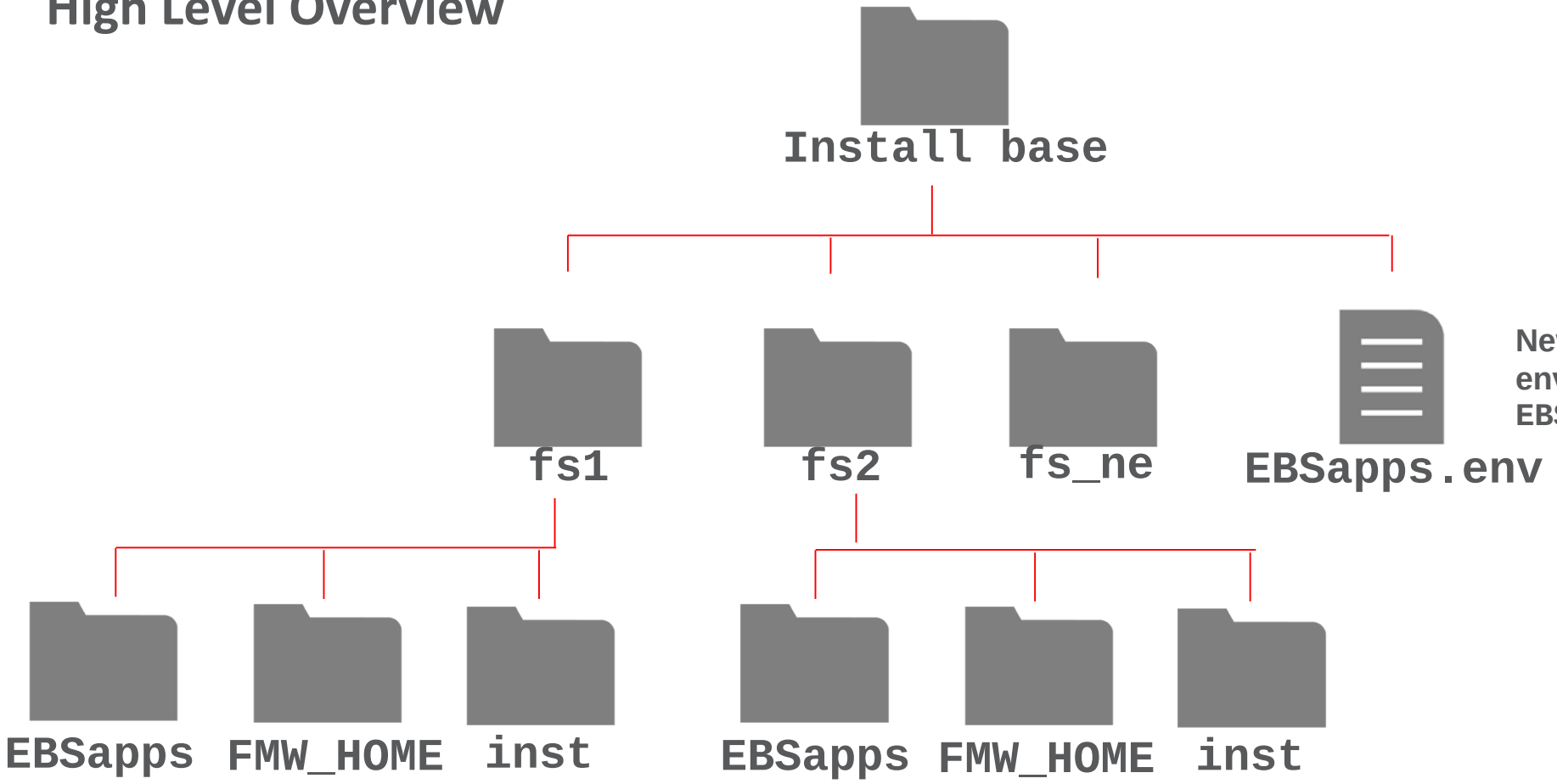
Online Patching



MOS Note 1583902.1

Oracle E-Business Suite 12.2 Rapid Install File System Layout

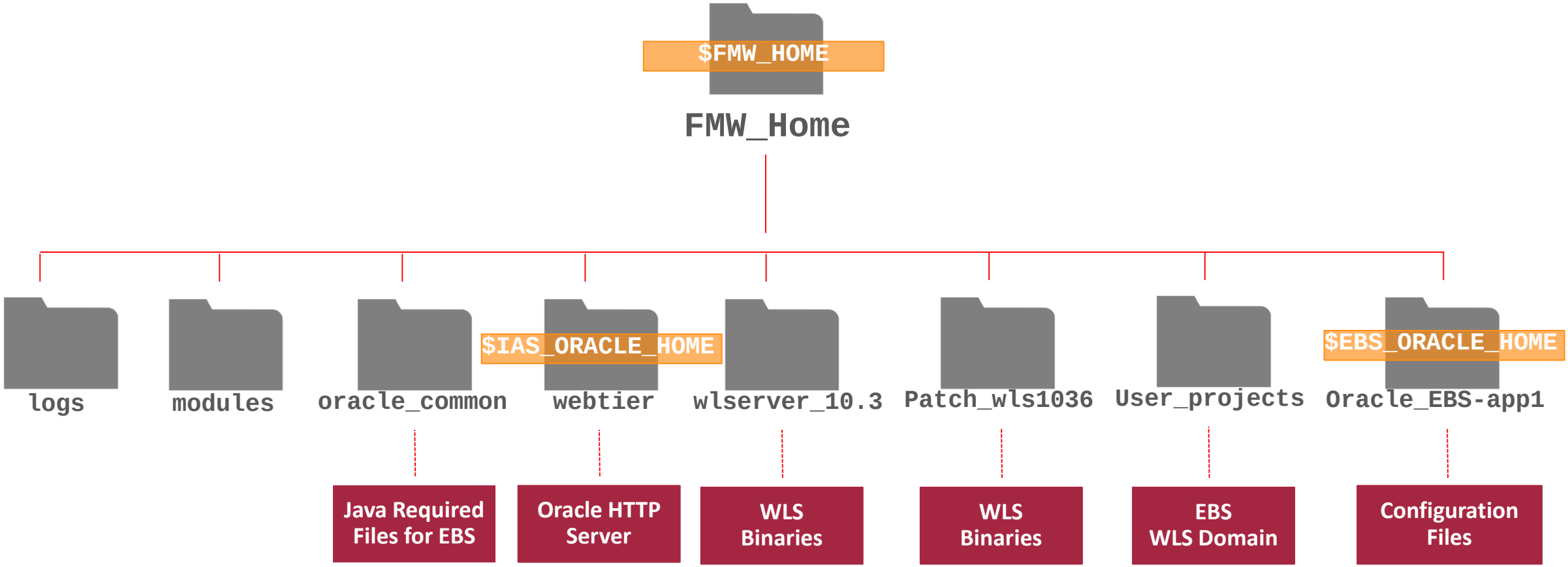
High Level Overview



New file to set the environment:
`EBSapps.env RUN|PATCH`

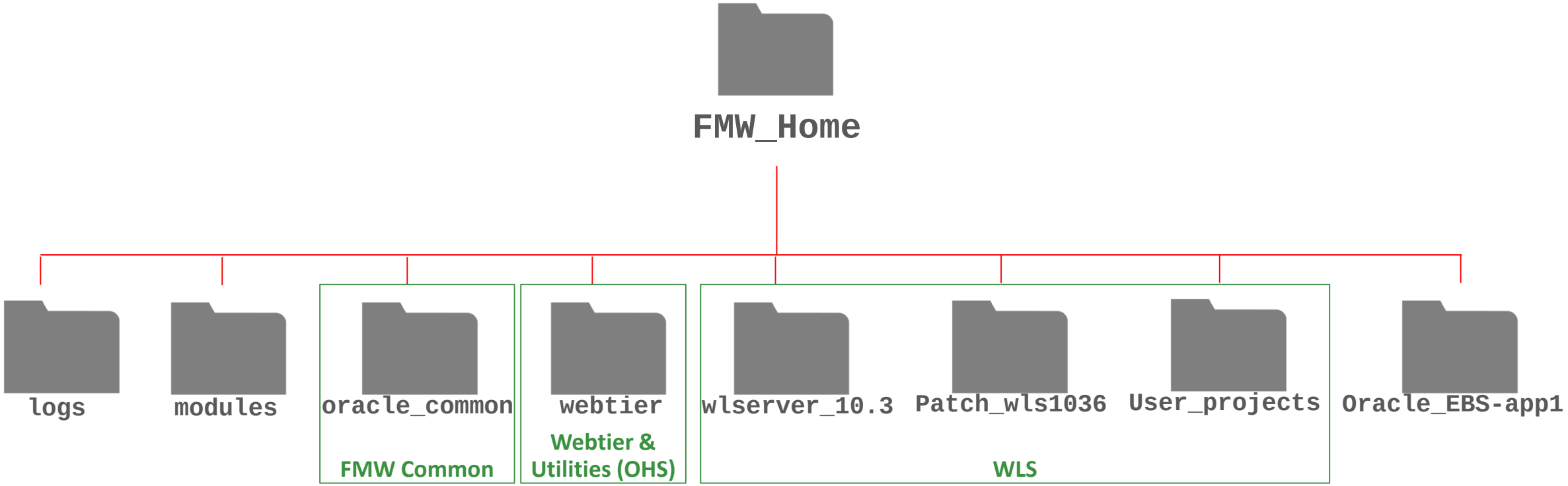
Oracle E-Business Suite 12.2 Fusion Middleware Home

Directory Structure Under /[install_base]/FS1 and /[install_base]/FS2



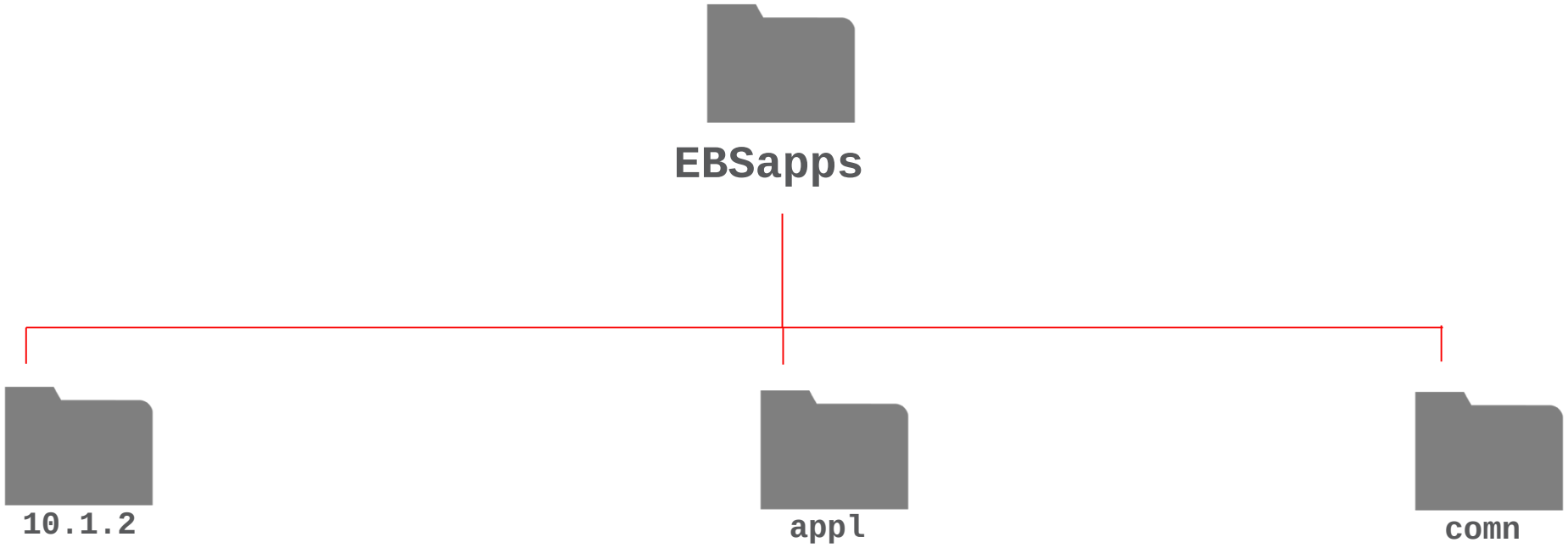
Oracle E-Business Suite 12.2 Fusion Middleware Home

Directory Structure Under `/[install_base]/FS1` and `/[install_base]/FS2`



Oracle E-Business Suite 10.1.2 Oracle Home

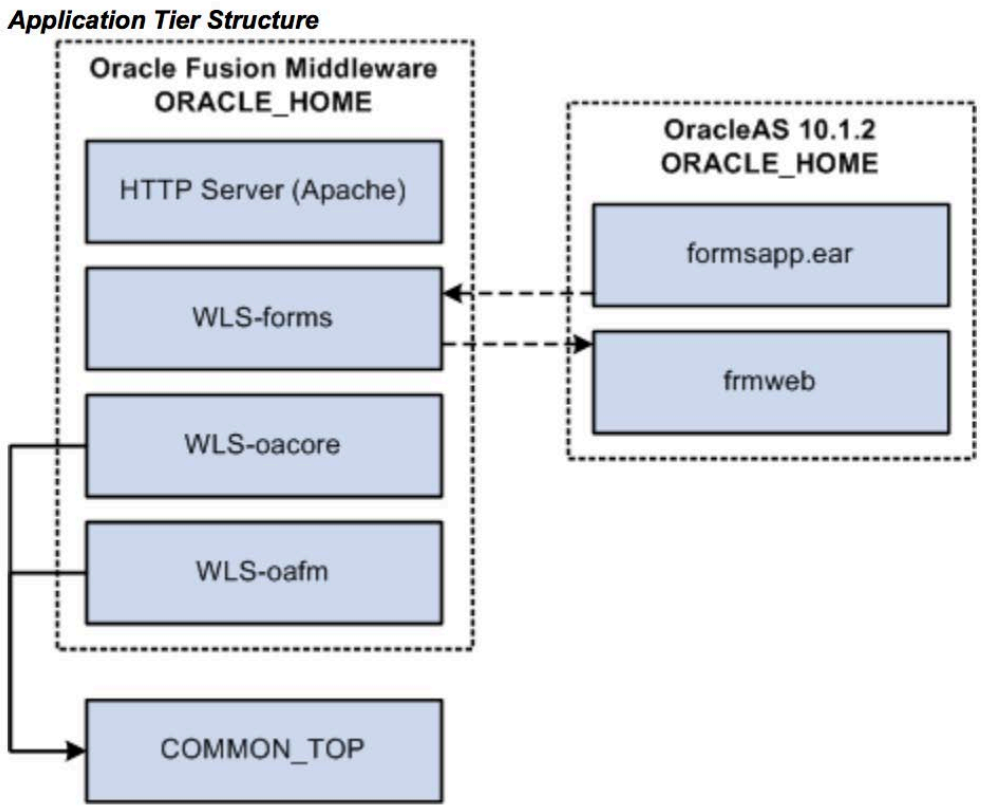
Used for Oracle forms technology



10.1.2 Oracle Home

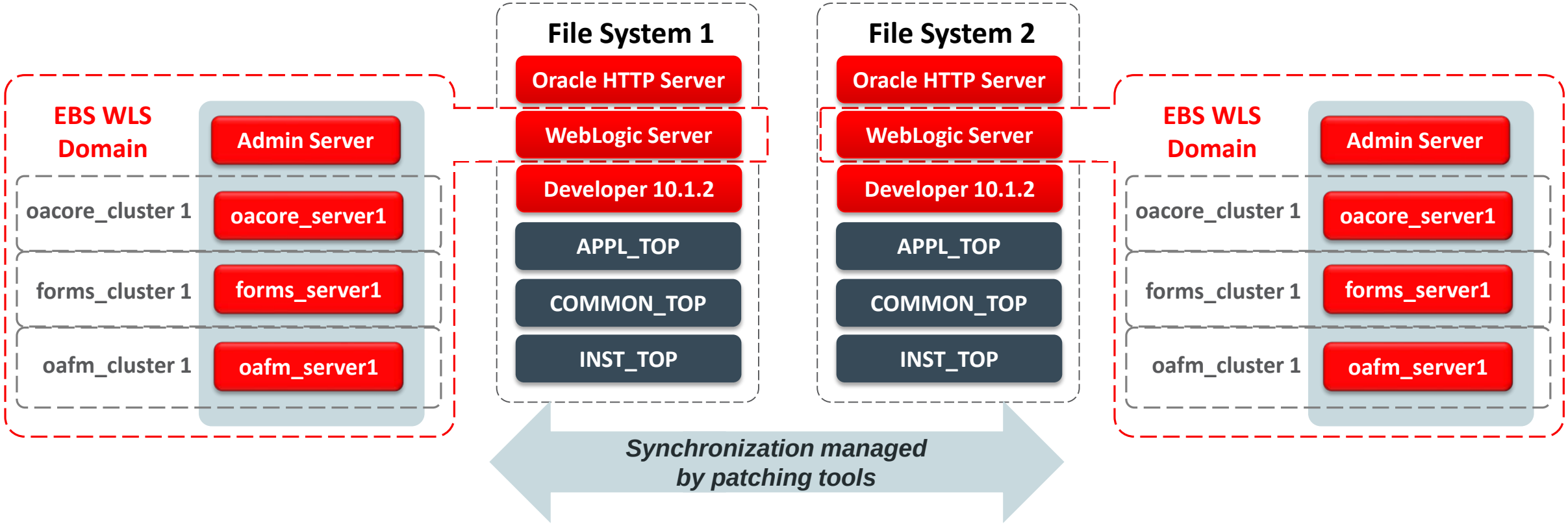
Used for Oracle forms technology

- All major services are started out of the Fusion Middleware ORACLE_HOME
  - formsapp.ear is deployed out of the 10.1.2 ORACLE_HOME
  - frmweb executable is also invoked out of 10.1.2 ORACLE_HOME.

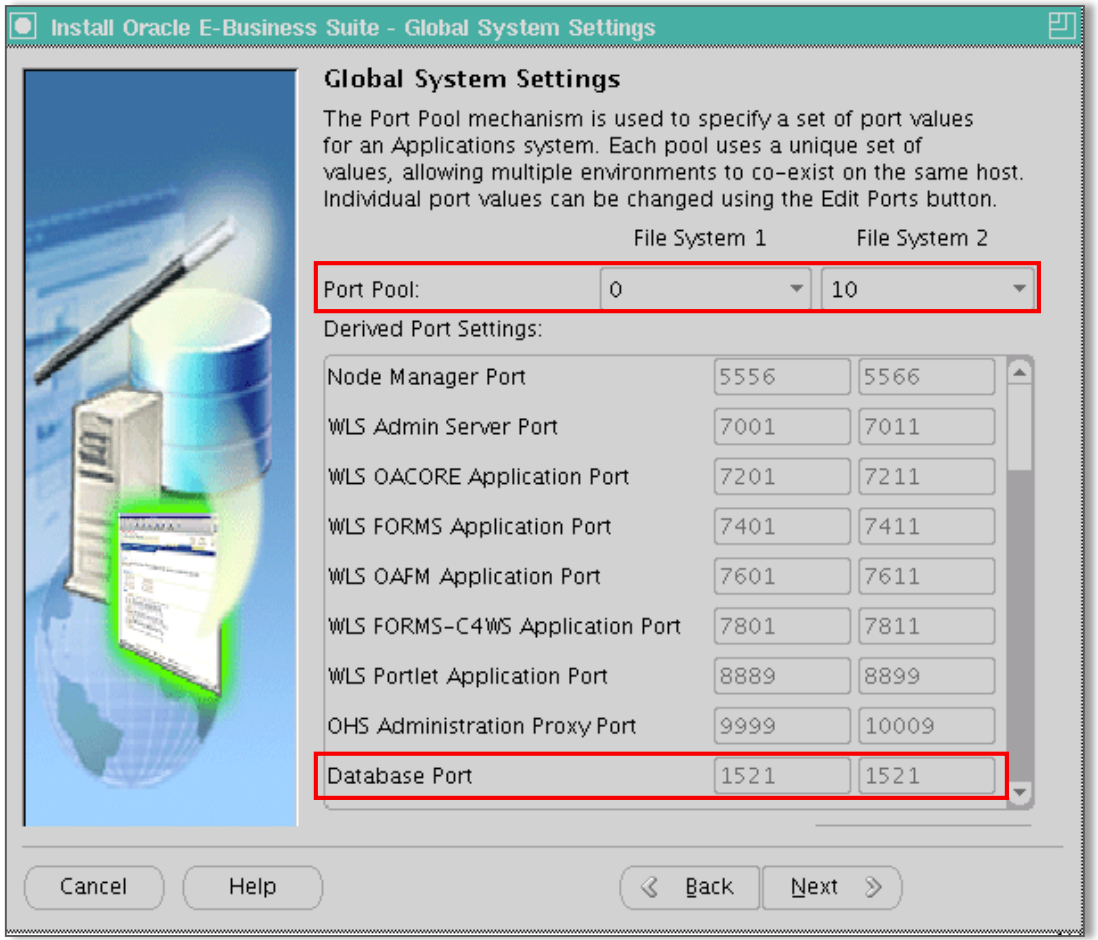


Oracle E-Business Suite 12.2 Architecture: Dual File System

One EBS WLS Domain and Managed Servers for Each File System

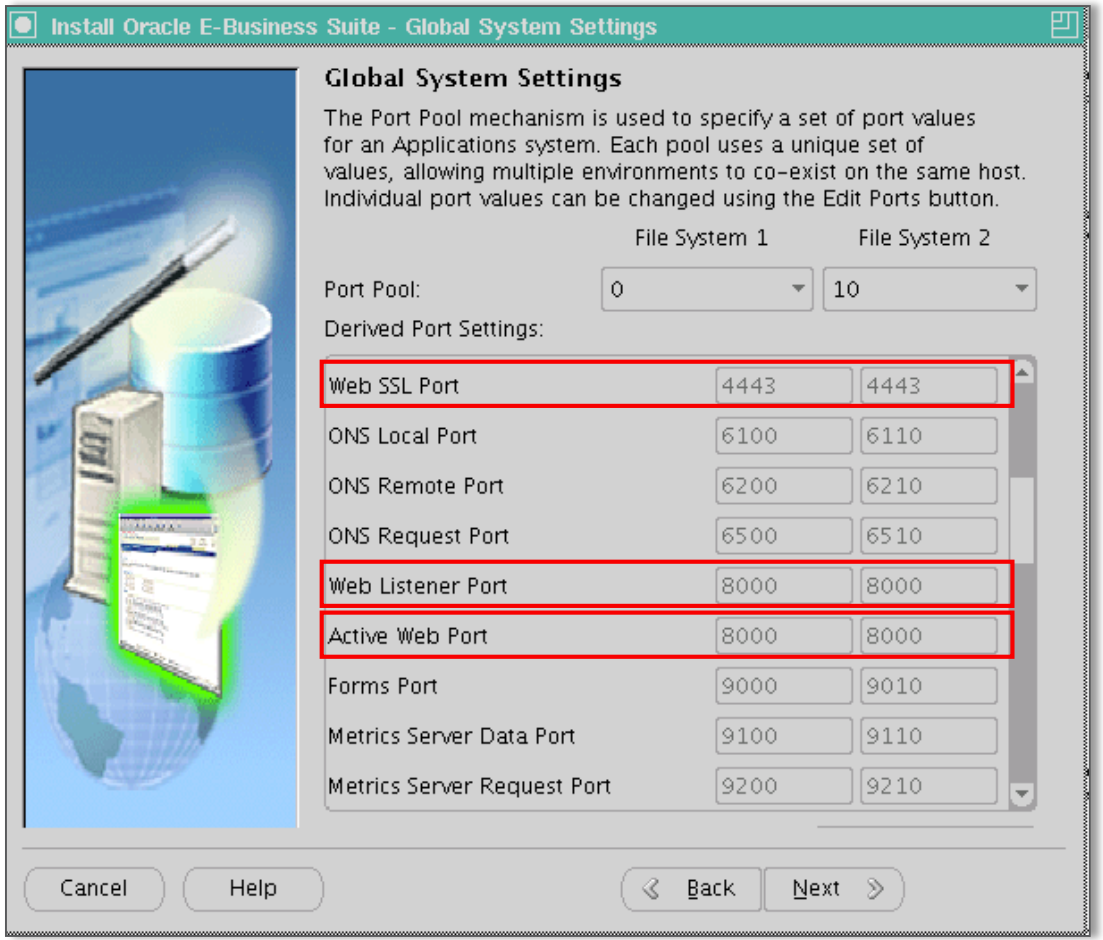


Oracle E-Business Suite 12.2 Architecture: Dual File System



- One Port Pool for each file system (fs1, fs2)
- All ports must be free on the node
- Recommend assigning Port Pools for one environment a minimum 10 pools apart
  For example:
  - Port Pool **fs1=0**, **fs2=10** on node=testserver1
  - Port Pool **fs1=0**, **fs2=10** on node=testserver2
- Port Pools must be unique for each EBS environment on a same server
  For example:
  - Port Pool: **fs1=0**, **fs2=10** on node=**testserver3**
  - Port Pool: **fs1=11**, **fs2=21** on node=**testserver3**
- Most ports are unique to each file system

Oracle E-Business Suite 12.2 Architecture: Dual File System



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  For example:
  - Port Pool: **fs1=0**, **fs2=10** on node=**testserver3**
  - Port Pool: **fs1=11**, **fs2=21** on node=**testserver3**
- Most ports are unique to each file system

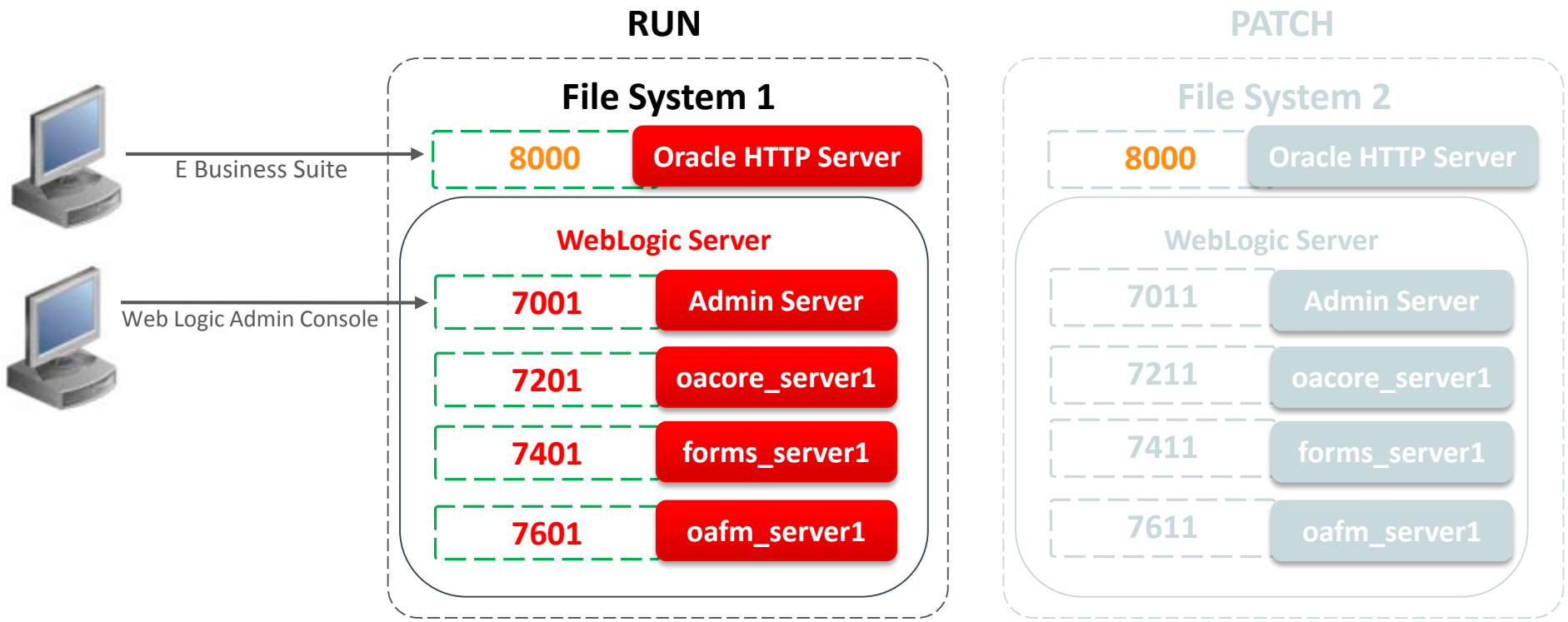
Oracle E-Business Suite 12.2: Dual File System

Key Ports for OHS, WLS

Description	Context File Variable	Unique Across Dual File Systems	Example File System 1	Example File System 2
Port Pool	s_port_pool	No	0	10
Web Listener Port	s_webport	No	8000	8000
Web SSL Port	s_webssl_port	No	4443	4443
Active Web Port	s_active_webport	No	8000/4443	8000/4443
OHS Administration Proxy Port	s_ohs_adminport	Yes	9999	10009
Node Manager Port	s_nmport	Yes	5556	5566
WLS Admin Server Port	s_wls_adminport	Yes	7001	7011
WLS oacore Application port	s_wls_oacoreport	Yes	7201	7211
WLS Forms Application Port	s_wls_formsport	Yes	7401	7411
WLS oafm Application Port	s_wls_oafmport	Yes	7601	7611

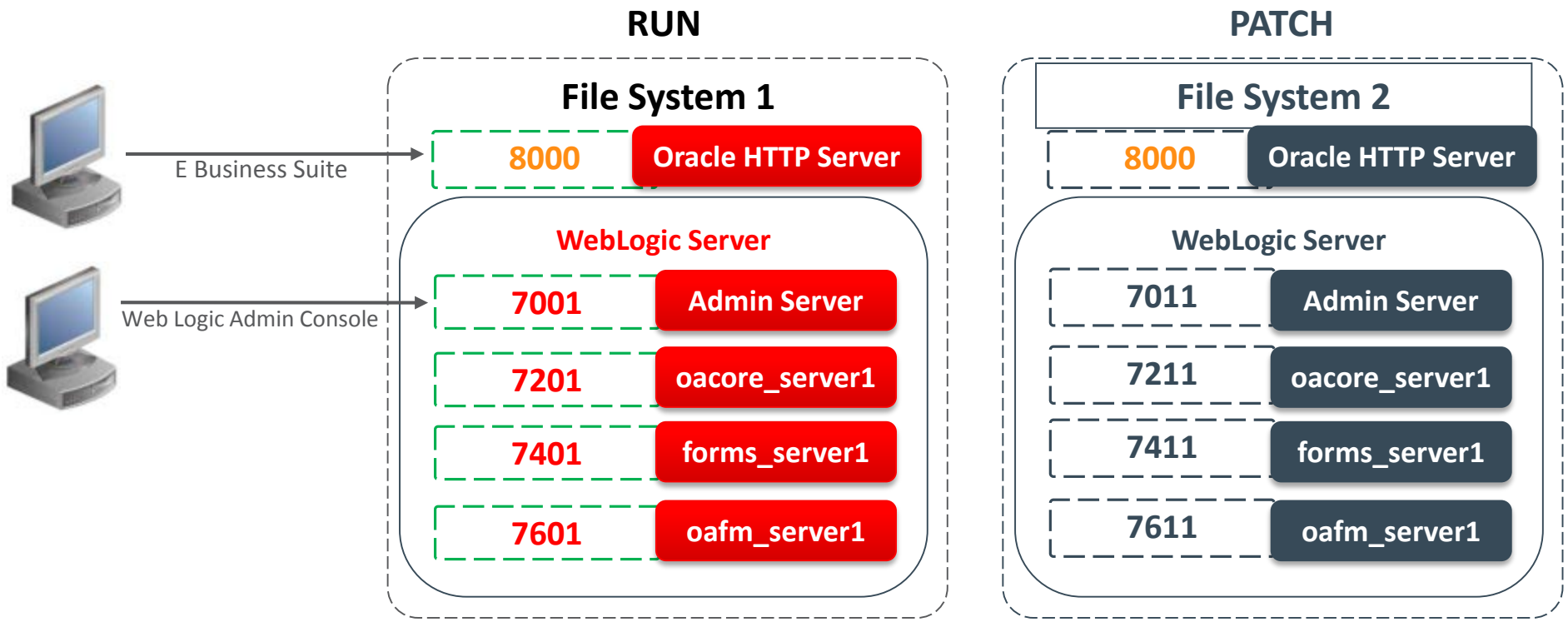
Oracle E-Business Suite 12.2 Architecture: Dual File System

Separate Ports for Each File System with Common Web Entry Point



Oracle E-Business Suite 12.2 Architecture: Dual File System

During Cutover, File Systems Rotate



Oracle E-Business Suite 12.2 Architecture: Dual File System

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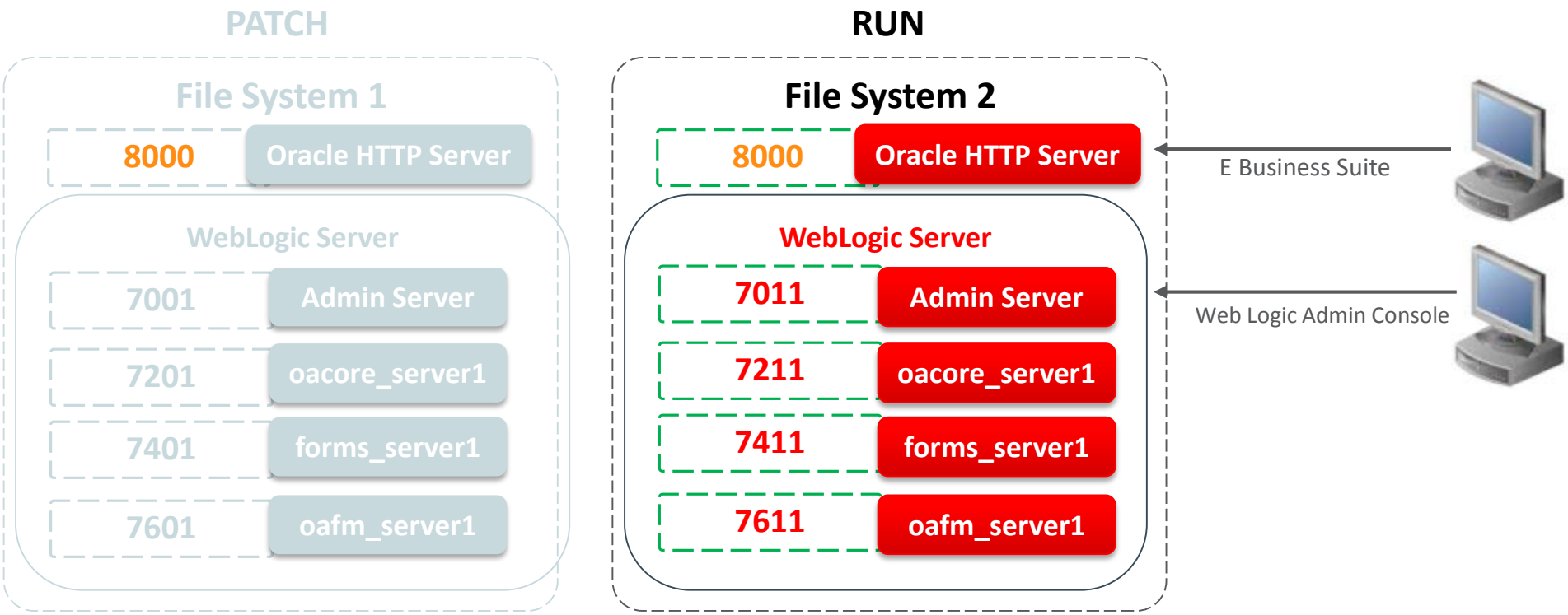
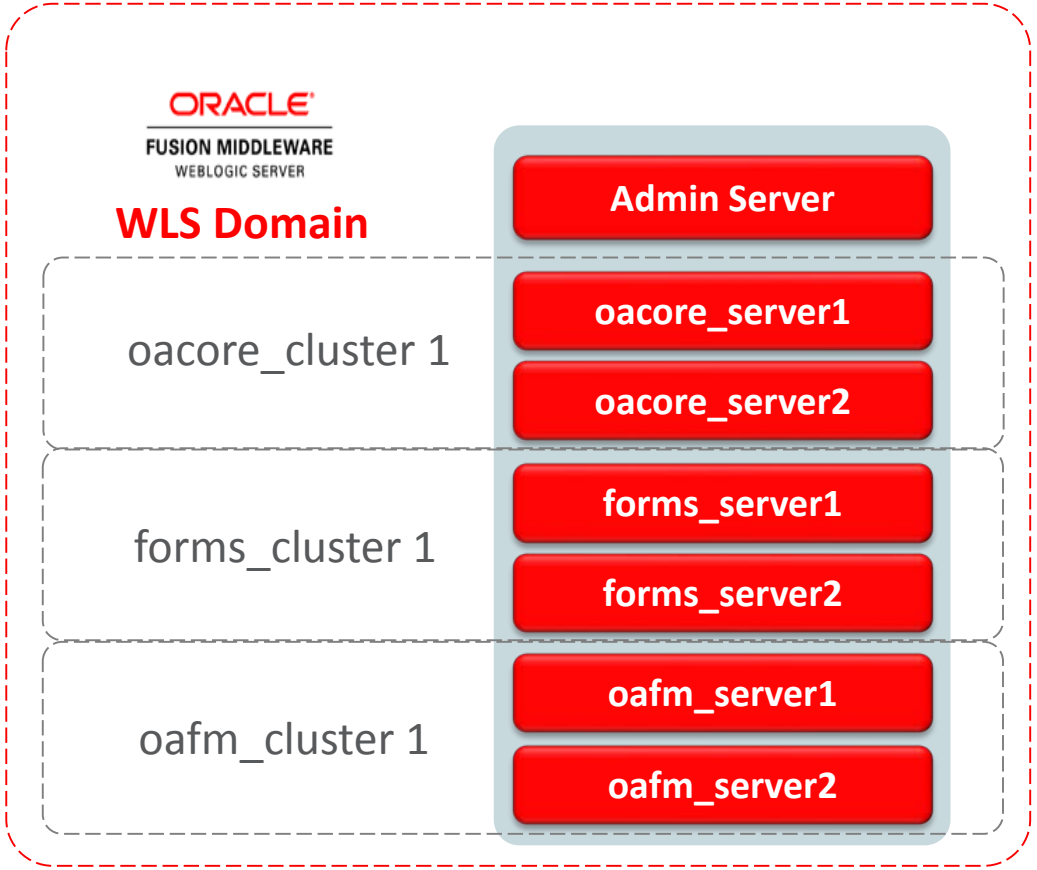


Adding WLS Managed Servers in the EBS Cluster

Application Tier – Scale Up



Why add managed servers?

- Meet load and user concurrency requirements

  ~100-150 concurrent users per JVM

  oacore jvm heap: M= (N/ 150) * 1 GB
  where M = total memory used by oacore VMs
  N = total number of concurrent Self-Service users

  Use one JVM per 1-2 CPUs (dependent on the CPU speed)

- Provide redundancy
- Add services to an existing node

Oracle E-Business Suite 12.2 Architecture

Application Tier Vertical Scaling: Add WLS Managed Servers

What to Know

- Add to any of the managed servers in the Oracle E-Business Suite WLS Domain: **oacore, oafm** and **forms**
- Add using the Oracle E-Business Suite 12.2 **provisioner API, `adProvisionEBS.pl`**
- Execute **`adProvisionEBS.pl`**on the **RUN** File System when there is **no active Online Patching cycle**
- Follow naming convention which must be **unique** for the WLS Domain: **`<service_type>_server<n>`**
- Verify port numbers are **FREE** and **UNIQUE** across the RUN and PATCH file systems and the node
- The next Online Patching Cycle (**`adop phase=prepare`**) will synchronize the PATCH file system by adding the new managed server

What to Do

- Syntax for **`adProvisionEBS.pl`:**

```
perl \
$AD_TOP/patch/115/bin/adProvisionEBS.pl \
ebs-create-managedserver \
-contextfile=<CONTEXT_FILE> \
-managedsrvname=<MANAGED_SERVER_NAME> \
-servicetype=<SERVICE_TYPE> \
-managedsrvport=<MANAGED_SERVER_PORT>
-logfile=<LOGFILE>
```

Section 4.4.1 Adding a New Managed Server, MOS Doc ID 1905593.1

Oracle E-Business Suite 12.2 Architecture

Application Tier Vertical Scaling: Add WLS Managed Servers

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- Verify port numbers are **FREE** and **UNIQUE** across the RUN and PATCH file systems and the node
- The next Online Patching Cycle will synchronize the PATCH file system by adding the new managed server

What to Do

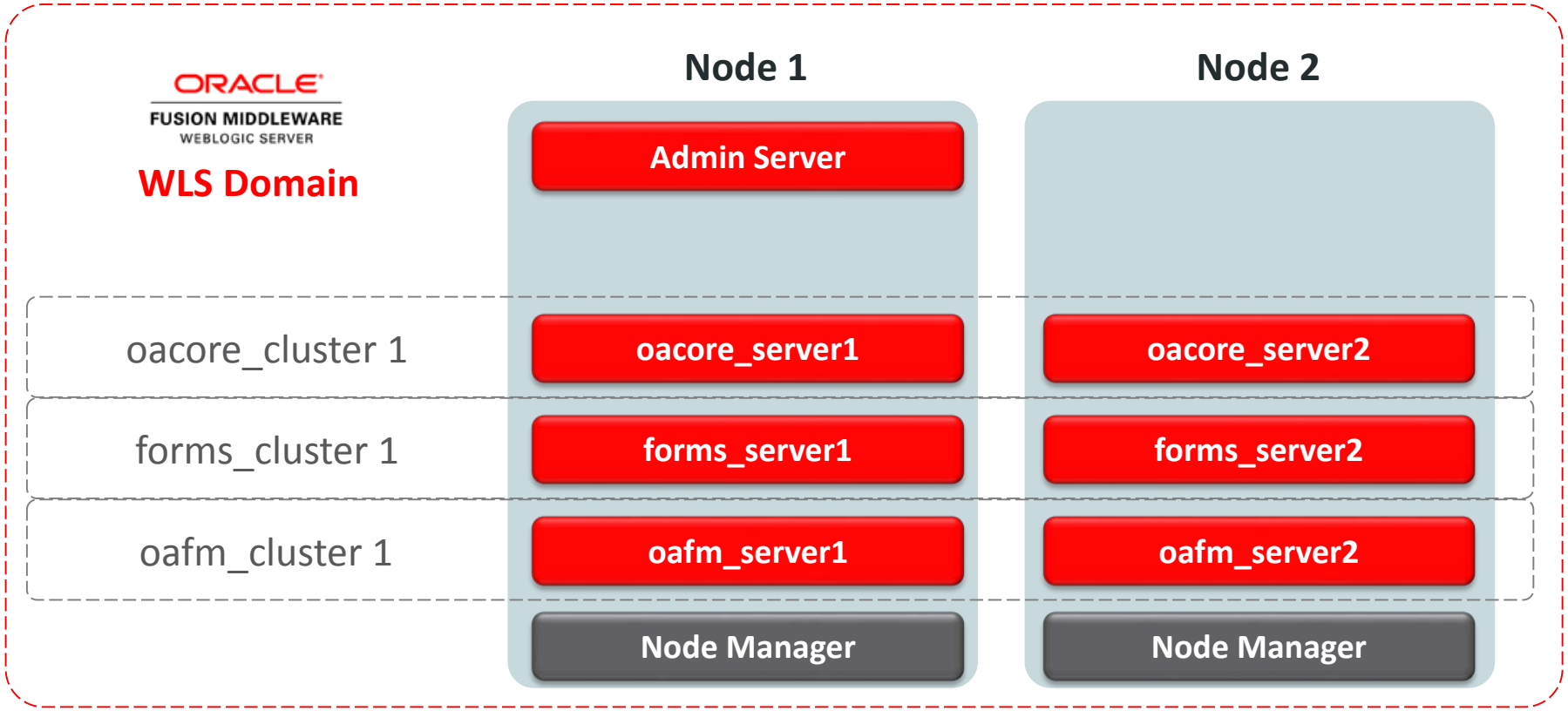
- Example add **'oacore_server2'** of type **oacore** with port **7203**:

```
perl \
$AD_TOP/patch/115/bin/adProvisionEBS.pl \
ebs-create-managedserver \
-contextfile=<CONTEXT_FILE> \
-managedsrvname=oacore_server2 \
-servicetype=oacore \
-managedsrvport=7203
-logfile=<APPLRGF>/TXK/addMSoacore_server2.log
```

Section 4.4.1 Adding a New Managed Server, MOS Doc ID 1905593.1

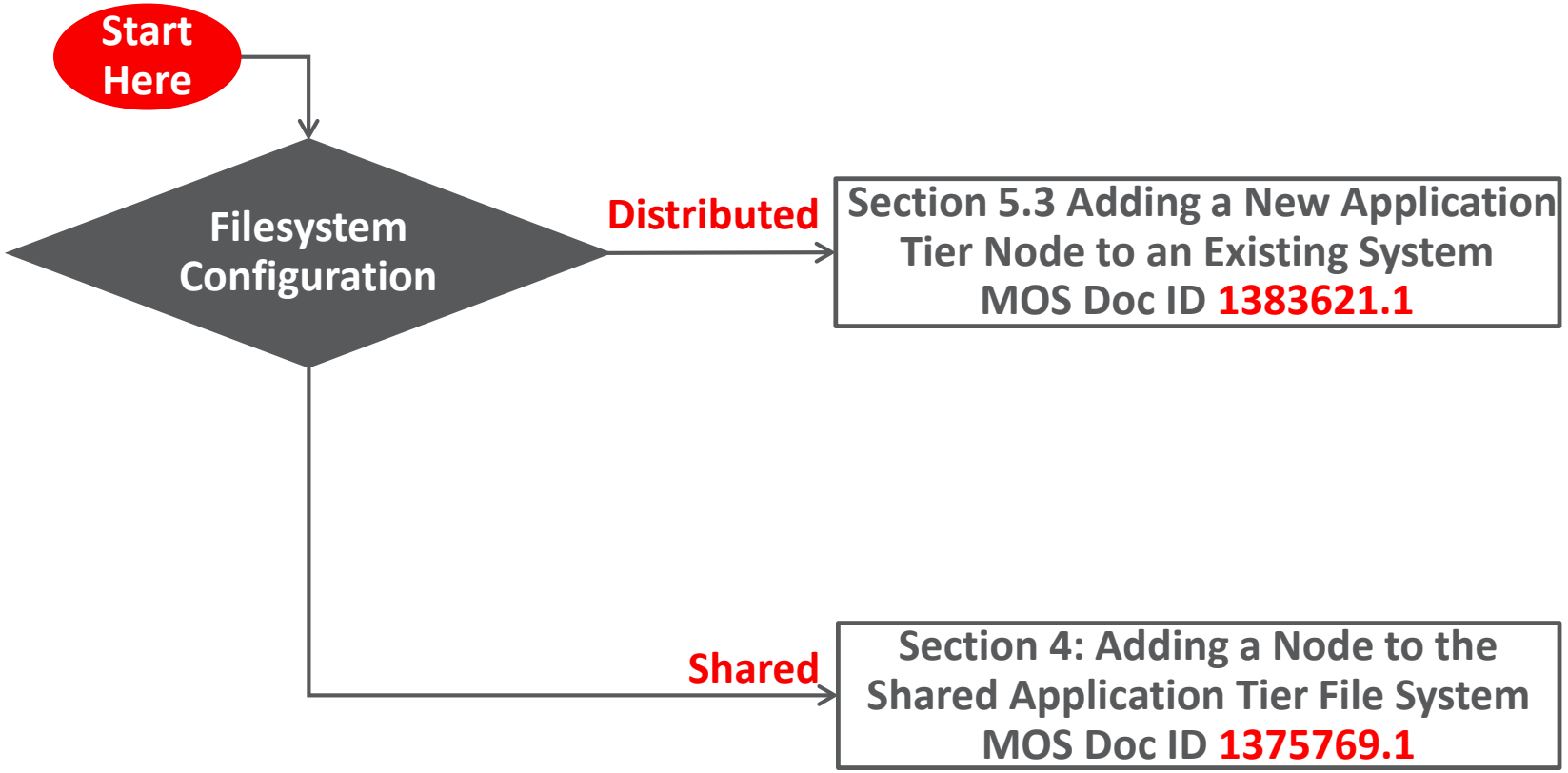
Add Oracle E-Business Suite Application Node

Application Tier Scale Out: Add a Node and Managed Servers



Add Oracle E-Business Suite 12.2 Application Nodes

File System Configuration: Distributed or Shared



Overview of Steps

- Prepare the PATCH and RUN filesystems
- Copy the RUN filesystems to the new node
- Configure the PATCH and RUN filesystems
- Register the new topology
- Finalize service configuration

Overview of Steps

- Configure shared filesystem for sharing
- Mount filesystem on new node
- Perform configuration steps to add the new node

Add Oracle E-Business Suite 12.2 Application Nodes

Pairs File Configuration for Distributed and Shared File Systems

- Copy the sample pairsfile to a new directory and file name. For example:

```
$cd $INST_TOP/appl/admin
$cp $CONTEXT_NAME.txt /install_base/pairsfile/patch/mynewpairsfile.txt
```

- Update values for specific parameters for the node being added. The updated pairsfile is referenced by configuration commands.
- Make sure that the RUN and PATCH Port Pools are unique. For example:

```
s_port_pool=0
patch_s_port_pool=10
```

Note: The value of **s_port_pool** should match the **$RUN_BASE** port pool and need not be updated.

Add Oracle E-Business Suite 12.2 Application Nodes

Pairs File Configuration for Distributed and Shared File Systems – Instance

```
[Instance Specific]
# Please provide values for the context variables listed below. On the source
# instance they are instantiated as shown in the comment section below.
# These values should only be used as reference to fill out the instance
# values for the new node.

s_temp=/[temp_directory]
s_contextname=[context_name_for_new_node]
s_hostname=[new_node_name]
s_domainname=us.exampledomain.com
s_cphost=[new_node_name]
s_webhost=[new_node_name]
s_config_home=/[INST_TOP]
s_inst_base=/[install_base]
s_display=[new_node_name]:0.0
s_forms-c4ws_display=[new_node_name]:0.0
s_ohs_instance=EBS_web_<SID>_OHS[n]
s_webport=8000
s_http_listen_parameter=8000
s_https_listen_parameter=4443
```

Add Oracle E-Business Suite 12.2 Application Nodes

Pairs File Configuration for Distributed and Shared File Systems - Services

```
[Services]
# Please provide values for the context variables listed below
# Enter "enabled" without the quotes to enable the service on the new node
# Enter "disabled" without the quotes to disable the service on the new node
# The Root service include the Node Manager .
# The Web Application Services include the Node Manager, Admin Server,
# Managed Servers ( oacore, forms, oafm, formsc4-ws).


s_web_applications_status=enabled
s_web_entry_status=enabled
s_apcstatus=enabled
s_root_status=enabled
s_batch_status=enabled
s_other_service_group_status=disabled
s_adminserverstatus=disabled
s_web_admin_status=disabled`
```

Add Oracle E-Business Suite 12.2 Application Nodes

Pairs File Configuration

Distributed File System

Set `s_shared_file_system=false`

Set `s_atName` to the hostname of the node being added

Shared Application Tier File System

Set `s_shared_file_system=true`

Set `s_atName` to the **primary node** across all nodes

Set **user id** and **group id** the same across all nodes

Set absolute path of the shared file system mount point the same across all nodes

Add Oracle E-Business Suite 12.2 Application Nodes

Use Latest Feature to Add the Node

Distributed File System

- Configure RUN and PATCH file systems with a single command with **dualfs** (not currently default option)

```
$perl adcfgclone.pl \
 component=appsTier \
 pairsfile=<PAIRSFILE> \ addnode=yes
 dualfs=yes*
```

Shared Application Tier File System

- Execute **adclonectx** utility to configure both RUN and PATCH file system with **dualfs** (not currently default option)

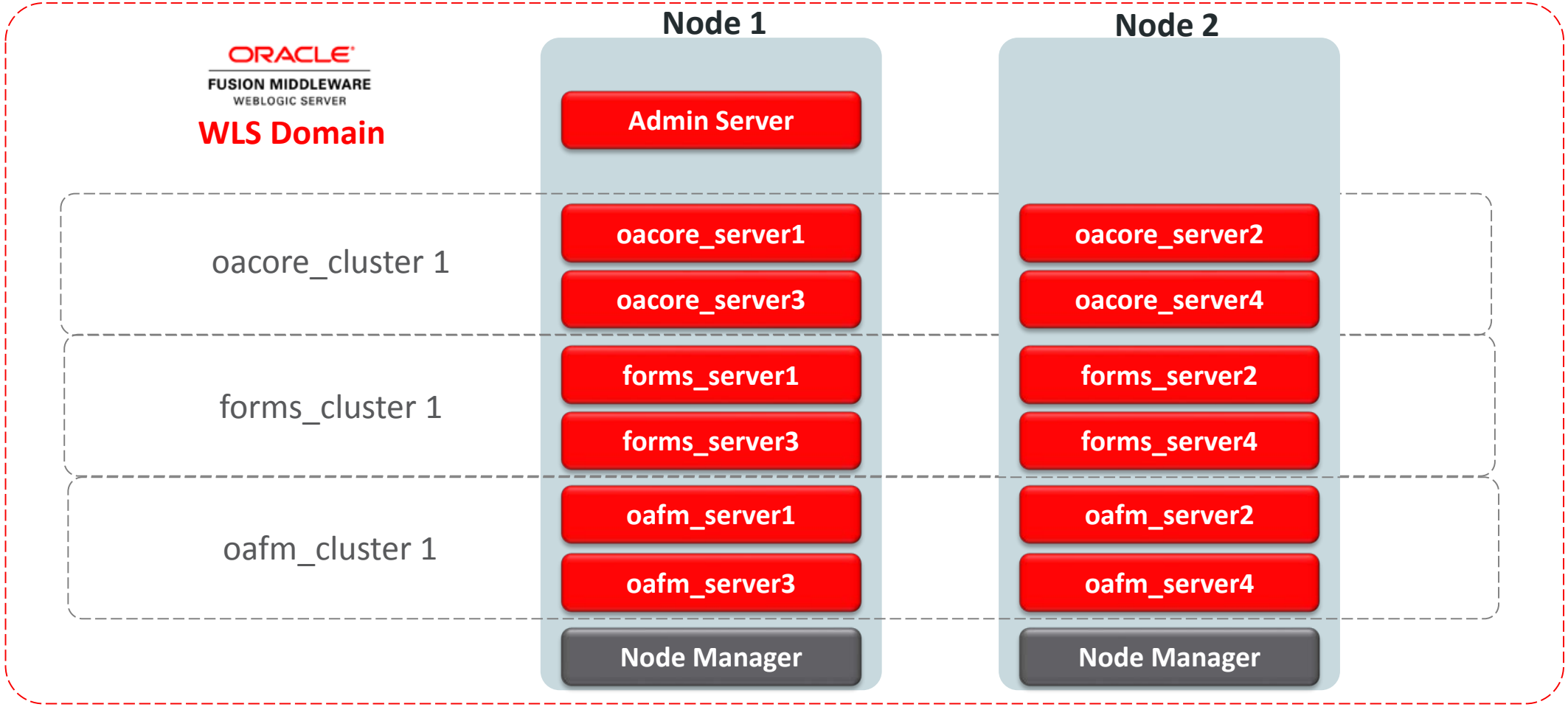
```
$export PATH= \
  $IAS_ORACLE_HOME/perl/bin:$PATH

$perl ./adclonectx.pl addnode \
  contextfile=$CONTEXT_FILE \
  pairsfile=/install_base/mypairsfile.txt \
  dualfs=yes*
```

* dualfs available as of AD-TXK Delta 7, Latest available AD-TXK Delta 10 R12.AD.C.Delta.10 (25820806), R12.TXK.C.Delta.10 (25828573)

MOS Doc ID 1617461.1

Oracle E-Business Suite 12.2 Architecture

Application Tier Scale Up and Scale Out



Delete an Oracle E-Business Suite Application Tier Node

- If the application tier node **is accessible** and needs to be deleted, execute the following on the node that is being deleted:

```
$perl $AD_TOP/patch/115/bin/adProvisionEBS.pl ebs-delete-node -
 contextfile=$CONTEXT_FILE -logfile=del.log
```

- If the application tier node **is not accessible** and needs to be deleted, execute the following on the **primary node**:

```
$perl $AD_TOP/patch/115/bin/adProvisionEBS.pl ebs-delete-node \
 -contextfile=$CONTEXT_FILE -hostname=<HOSTNAME OF NODE TO BE DELETED> \
 -logfile=<LOG_FILE>
```

Program Agenda

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Starting and Stopping Services

RUN File System

Service Group	Service(s)	Service Control Script
N/A	All Application Tier Services on All Nodes	adstrtal.sh –mode=allnodes
N/A	All Application Tier Services on All Nodes	adstpall.sh –mode=allnodes
Web Entry Point Services	Oracle HTTP Server Oracle Process Manager	adapcctl.sh [start | stop] | adopmnctl.sh [start | stop | status]
Root Service	Node Manager	adnodemgrctl.sh [start | stop]
Web Administration	WebLogic Admin Server	adadminsrvctl.sh [start | stop | abort |]
Web Application Services	oacore oafm forms	admanagedsrvctl.sh [stop| start] <managed_server_name>

Starting and Stopping Services

PATCH File System

Service Group	Service(s)	Service Control Script
N/A	All Application Tier Services on All Nodes	adstrtal.sh–mode=allnodes forcepatchfs
N/A	All Application Tier Services on All Nodes	adstpall.sh –mode=allnodes forcepatchfs
Web Entry Point Services	Oracle HTTP Server Oracle Process Manager	adapcctl.sh [start | stop] | adopmnctl.sh [start | stop | status]
Root Service	Node Manager	adnodemgrctl.sh [start | stop]
Web Administration	WebLogic Admin Server	adadminsrvctl.sh [start forcepatchfs | stop forcepatchfs | abort forcepatchfs|]
Web Application Services	oacore oafm forms	admanagedsrvctl.sh [stop| start] <managed_server_name>

Changing the WebLogic Admin Password

What to Know

- Use the EBS defined process for changing the **WLS Administration User** password
- Changing the WebLogic Admin password requires downtime
- Change the password from the **RUN** file system when there is **NO** active Online Patching Cycle
- The perl script **`txkUpdateEBSDomain.pl`** with the action **`updateAdminPassword`** will prompt for the context file, current WLS Admin password, new WLS Admin password and the APPS password

What to Do

Step 1: On the Admin Server, stop all application tier services **EXCEPT** the **Node Manager** and the **Admin Server**:

```
$EBSAPPS.env run
$$ADMIN_SCRIPTS_HOME\adstpall.sh –skipNM -skipAdmin
```

Step 2: In a multi-node environment, run the following command on all secondary nodes (conditional):

```
$EBSAPPS.env run
$$ADMIN_SCRIPTS_HOME\adstpall.sh
```

Step 3: On the Admin Server, run the following:

```
$perl FND_TOP/patch/115/bin/txkUpdateEBSDomain.pl \
 -action=updateAdminPassword
```

Step 4: Restart all services on all nodes with the following:

```
$adstrtal.sh –mode=allnodes
```

Oracle E-Business Suite Setup Guide, Changing the Oracle WebLogic Server Administration User Password

Changing the APPS Password

What to Know

- Use the EBS defined process for changing the **APPS** password
- Changing the APPS password requires downtime
- You can use either **AFPASSWD** (recommended) or **FNDCPASS**
- The command used will change the **APPS, APPLSYS, and APPS_NE**
- After you change the password, you MUST update the **WLS Data Source**
- The final step is to run AutoConfig and then restart the applications.

What to Do

Step 1: On the Admin Server, stop all application tier services:

```
$EBSAPPS.env run
$$ADMIN_SCRIPTS_HOME\adstpall.sh –mode=allnodes
```

Step 2: Execute **AFPASSWD** to change the **APPS** password:

```
$ AFPASSWD –C APPS -s APPLSYS
```

Step 3: Start the admin server and update the WLS Data Source

```
$ $INST_TOP/admin/scripts/adadminsrvctl.sh
$ perl \
$FND_TOP/patch/115/bin/txkManageDBConnectionPool.pl
```

Note: When prompted select updateDSPassword

Step 4: Run autoconfig:

```
$sh <INST_TOP>/admin/scripts/adautocfg.sh
```

Step 5: Restart all services on all nodes with the following:

```
$adstrtal.sh –mode=allnodes
```

Oracle E-Business Suite Maintenance Guide

Identify Required Technology Stack Updates

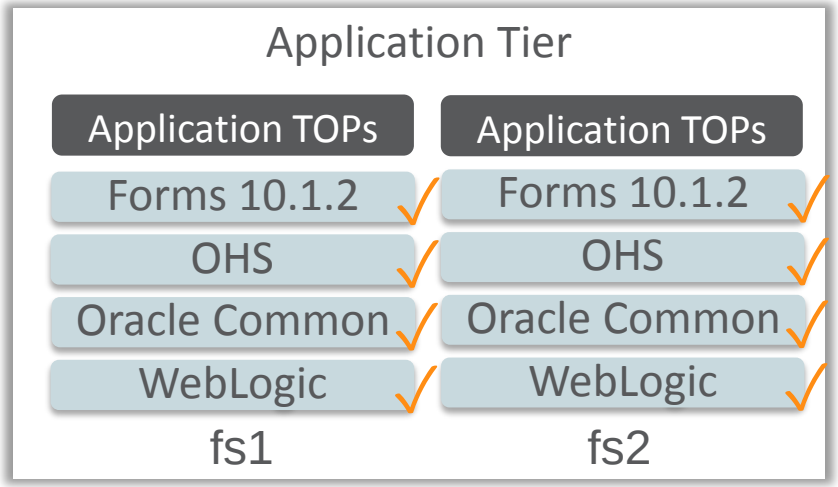
EBS Technology Code level Checker (ETCC)

Database Code Level Checker

Identifies required database patches for EBS 12.2

Application Tier Code Level Checker

Identifies required application tier technology stack patches for EBS 12.2



ETCC ensures you identify the required database and middle tier bugfixes for your Oracle E-Business Suite Release 12.2 system

EBS Technology Code level Checker (ETCC)

- ETCC can be downloaded via Patch 17537119 from My Oracle Support
- Oracle strongly recommends the use of this utility to ensure that all required database and middle tier bugfixes have been installed
- Database EBS Technology Codelevel Checker (DB-ETCC)
  - **`checkDBpatch.sh`**
- Middle Tier EBS Technology Codelevel Checker (MT-ETCC)
  - **`checkMTpatch.sh`**

MOS Doc ID 1594274.1

EBS Technology Codelevel Checker (ETCC)

Automatically maps bug fixes to patches and recommends patches

gbr10266.uk.oracle.com - PuTTY

```
Obtained list of bugfixes to be applied and the list to be
Now checking Database ORACLE_HOME.

The opatch utility is at the required version.

Found patch records in the inventory.

  Missing Bugfix: 14696962  ->  Patch 22165788
  Missing Bugfix: 18485835  ->  Patch 21841318
  Missing Bugfix: 18893947  ->  Patch 18893947
  Missing Bugfix: 20476776  ->  Patch 20476776
  Missing Bugfix: 20825533  ->  Patch 21443504
  Missing Bugfix: 20887355  ->  Patch 20887355
  Missing Bugfix: 20936905  ->  Patch 21443504
  Missing Bugfix: 21028698  ->  Patch 22098146
  Missing Bugfix: 21091431  ->  Patch 21443504
  Missing Bugfix: 21153266  ->  Patch 21153266
  Missing Bugfix: 21188532  ->  Patch 21188532
  Missing Bugfix: 21614112  ->  Patch 21841318
  Missing Bugfix: 21751519  ->  Patch 22165788

Generating Patch Recommendation Summary.
```

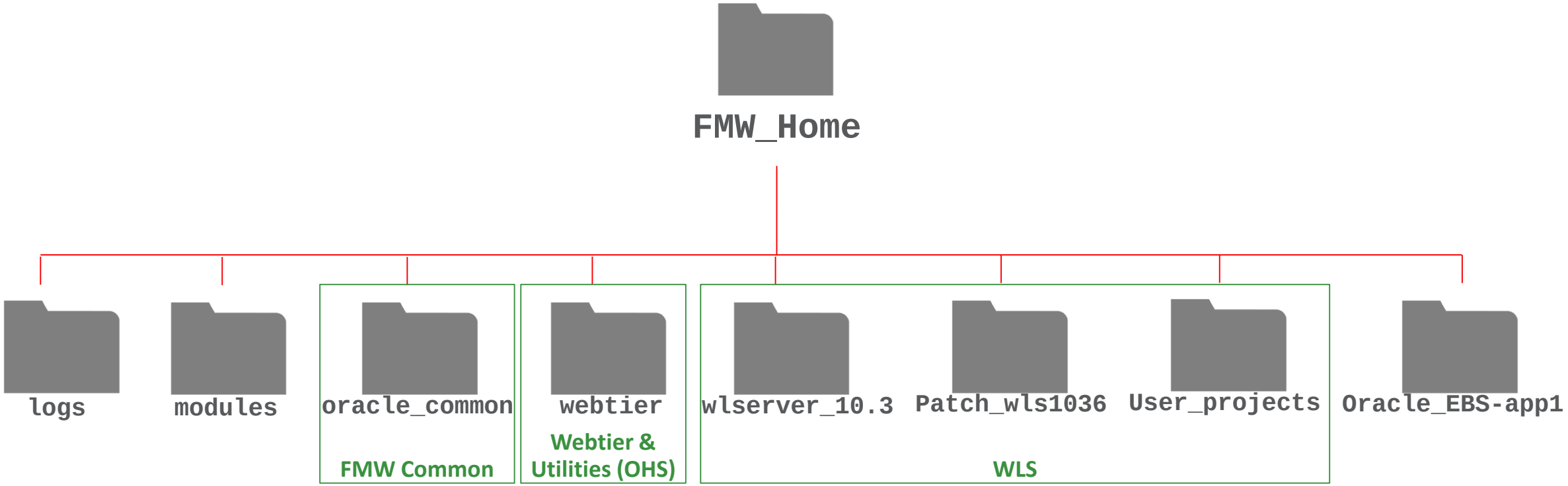
gbr10266.uk.oracle.com - PuTTY

```
==========================================================================
PATCH RECOMMENDATION SUMMARY
==========================================================================
The default patch recommendations to install these missing bugfixes are:
--------------------------------------------------------------------------
Oracle Database Release 12.1.0.2  (No PSU applied)
--------------------------------------------------------------------------
  Patch 22165788
    - Filename: p22165788_121020_Generic.zip

  Patch 21841318
    - Filename: p21841318_121020_Linux-x86-64.zip

  Patch 18893947
    - Filename: p18893947_121020_Linux-x86-64.zip

  Patch 20476776
    - Filename: p20476776_121020_Generic.zip

  Patch 21443504
    - Filename: p21443504_121020_Linux-x86-64.zip

  Patch 20887355
    - Filename: p20887355_121020_Generic.zip
```

MOS Doc ID 1594274.1

Oracle E-Business Suite 12.2 Fusion Middleware Home

Directory Structure Under /[install_base]/FS1 and /[install_base]/FS2



EBS FMW 11g Environment & Patch Inventory Commands

FMW Common

Set Environment (ORACLE_HOME & Path)

```
$. $FMW_HOME/SetCommon.env
```

Patch Inventory Command

```
$ opatch lsinventory
```

WebLogic Server

Change Directory

```
$cd $FMW_HOME/utils/bsu
```

Patch Inventory Report

```
$ bsu.sh -report
  -bea_home=$FMW_HOME  \
```

Web Tier & Utilities (OHS)

Set Environment (ORACLE_HOME & Path)

```
$. $FMW_HOME/SetWebtier.env
```

Patch Inventory Command

```
$ opatch lsinventory
```

Developer (Forms & Reports)

Set Environment (ORACLE_HOME & Path)

```
$ source .EBSapps.env PATCH
```

Patch Inventory Command

```
$ opatch lsinventory
```

Applying Application Tier Technology Stack Updates

Oracle E-Business Suite 12.2

What to Know

- Application tier technology stack updates can be
  - Applied to the PATCH file system while EBS is online
  - Applied in conjunction with an EBS Online Patching cycle

    or
  - Applied as a separate Online Patching exercise
- A full re-clone must be performed after applying Application tier patches to synchronize the RUN and PATCH file systems

What to Do

- Prepare the PATCH filesystem.
- Apply technology stack patches to PATCH filesystem.
- Apply EBS patches (optional).
- Coordinate time for CUTOVER and complete the online patching cycle.
- Synchronize the technology stack patches between the RUN and PATCH filesystems.

MOS Doc ID 1594274.1

Applying Application Tier Technology Stack Updates

Oracle FMW Common for Oracle E-Business Suite 12.2

What to Know

- Application tier technology stack updates can be
  - Applied to the PATCH filesystem while EBS is online
  - Applied in conjunction with an EBS Online Patching cycle

    or
  - Applied as a separate Online Patching exercise
- You should follow the instructions in the patch README
- A full re-clone must be performed after applying Application tier patches to synchronize the RUN and PATCH file systems

What to Do

- Prepare the instance for patching and set the ORACLE_HOME
```
$ source .EBSapps.env PATCH
$ adop phase=prepare
```
- Set environment and apply patches to the PATCH file system
```
$ . $FMW_HOME/SetCommon.env
$ opatch apply
```
- Apply EBS patches (optional)
```
$ adop phase=apply inputfile=myinputfile
```
- Complete the Online Patching cycle
```
$ adop phase=finalize
$ adop phase=cutover
$ source .EBSapps.env RUN
$ adop phase=cleanup
```
- Synchronize technology patches between the RUN and PATCH file systems
```
$ adop phase=fs_clone
```

MOS Doc ID 1355068.1

source <EBS_ROOT>/EBSapps.env=run

Applying Application Tier Technology Stack Updates

Webtier & Utilities (OHS) for Oracle E-Business Suite 12.2

What to Know

- Application tier technology stack updates can be
  - Applied to the PATCH filesystem while EBS is online
  - Applied in conjunction with an EBS Online Patching cycle

    or
  - Applied as a separate Online Patching exercise
- You should follow the instructions in the patch README
- A full re-clone must be performed after applying Application tier patches to synchronize the RUN and PATCH file systems

What to Do

- Prepare the instance for patching
```
$ source .EBSapps.env PATCH
$ adop phase=prepare
```
- Set environment and apply patches to the PATCH file system
```
$ . $FMW_HOME/SetWebtier.env
$ cd [patch_directory]
$ opatch apply
```
- Apply EBS patches (optional)
```
$ adop phase=apply inputfile=myinputfile
```
- Complete the Online Patching cycle
```
$ adop phase=finalize
$ adop phase=cutover
$ source .EBSapps.env RUN
$ adop phase=cleanup
```
- Synchronize technology patches between the RUN and PATCH file systems
```
$ adop phase=fs_clone
```

MOS Doc ID 1355068.1

Applying Application Tier Technology Stack Updates

WebLogic Server for Oracle E-Business Suite 12.2

What to Know

- Application tier technology stack updates can be
  - Applied to the PATCH filesystem while EBS is online
  - Applied in conjunction with an EBS Online Patching cycle

    or
  - Applied as a separate Online Patching exercise
- You should follow the instructions in the Patch README
- A full re-clone must be performed after applying Application tier patches to synchronize the RUN and PATCH file systems

What to Do

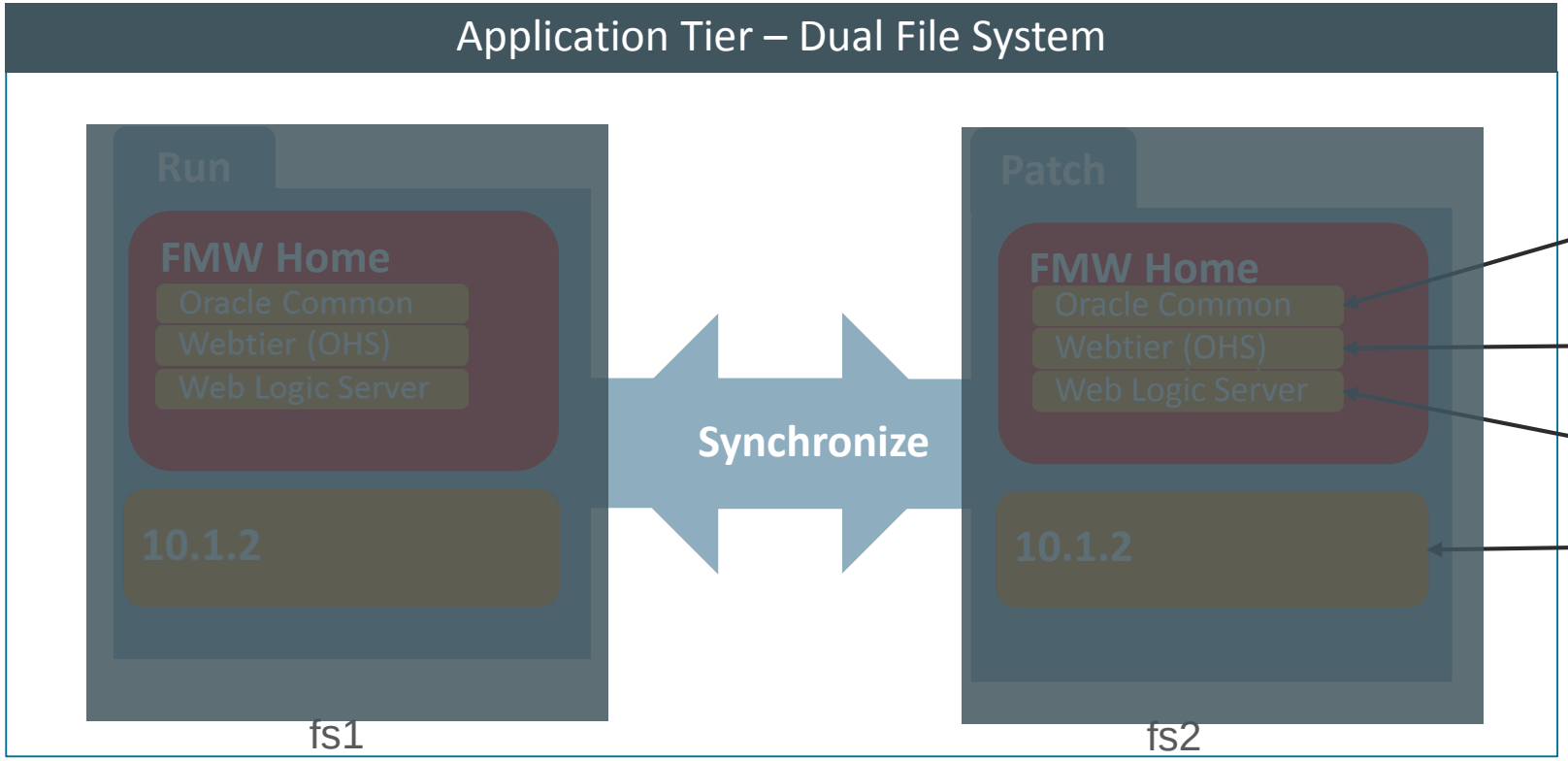
- Prepare the instance for patching
```
$ source .EBSapps.env PATCH
$ adop phase=prepare
```
- Apply WLS patches to the PATCH file system
```
$ cd $FMW_HOME/utils/bsu
$ bsu.sh \
-prod_dir=$FMW_HOME\wlserver_10.3 \
-patchlist=<patchID1> -verbose -install
```
- Apply EBS patches (optional)
```
$ adop phase=apply inputfile=myinputfile
```
- Complete the Online Patching cycle
```
$ adop phase=finalize
$ adop phase=cutover
$ source .EBSapps.env RUN
$ adop phase=cleanup
```
- Synchronize technology patches for the RUN and PATCH file systems
```
$ adop phase=fs_clone
```

MOS Doc ID 1355068.1

Applying Application Tier Technology Stack Updates

Online Patching Cycle

- **Prepare**
- Apply
- Finalize
- Cutover
- Cleanup
- FS Clone




```
$adop phase=fs_clone
```

```
$.FMW_HOME/SetCommon.env
$ opatch apply
```

```
$.FMW_HOME/SetCommon.env
$ opatch apply
```

```
$ cd $FMW_HOME/utils/bsu
$ bsu.sh
```

```
$.EBSapps.env
$ opatch apply
```

Program Agenda

1. Architecture
2. Administration and Maintenance
3. Configure
4. Monitor and Troubleshoot

Oracle E-Business Suite 12.2

Where to Perform OHS & WLS Configuration Changes

	Oracle Application Manager & Autoconfig	Fusion Middleware Control http://hostname.domain:admin_port/em	WLS Administration Console http://hostname:admin_port/console
Oracle HTTP Server		✓ Performance directives, log configuration, ports, mod_perl, mod_wl_ohs, etc	
WLS Admin Server	✓ Initialization parameters		✓ All other parameters
WLS Managed Server			✓ All parameters for oacore, oafm and forms services

MOS Doc ID 1905593.1

Oracle E-Business Suite 12.2 Configuration

When to Perform OHS & WLS Configuration Changes

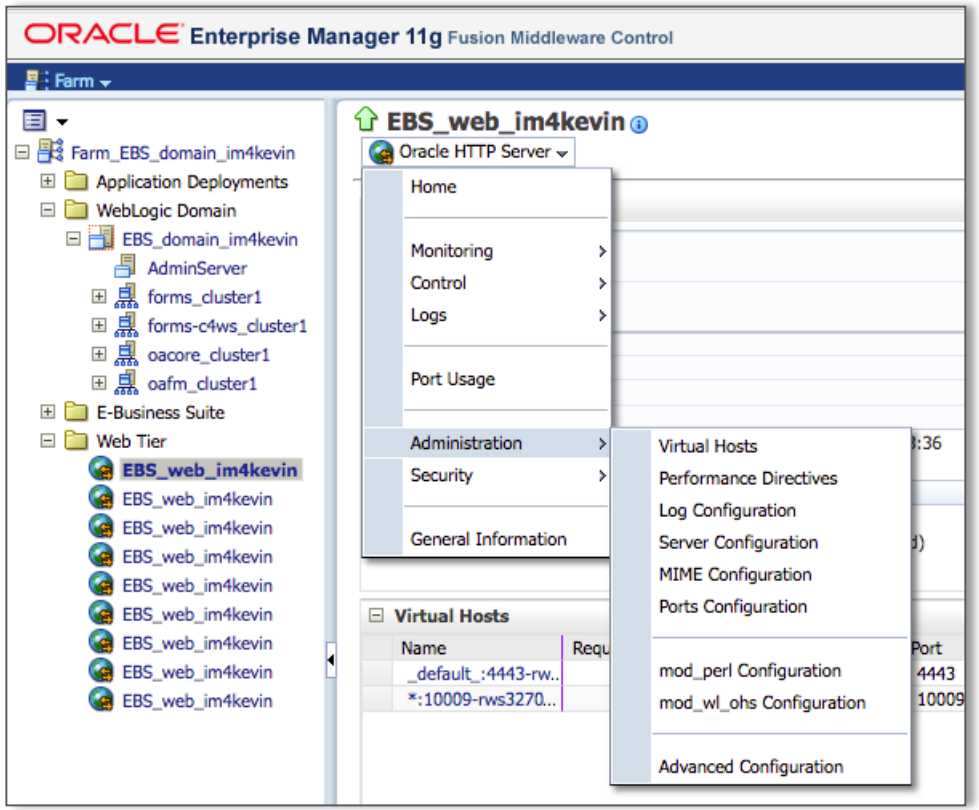
- If a Patching Cycle is **not open**:
  - Perform Configuration Changes in Run-Edition File System
    - Otherwise changes done in Patch Edition will be lost after patching!
- If a Patching Cycle is **open**:
  - Wait for patching cycle to finish
    - Perform configuration changes in the Run Edition file system after Cutover, otherwise changes done will be lost!
    - If there are post-patch configuration changes needed, perform them in the Run-Edition File System after cutover

Run File System

- Oracle HTTP Server (OHS)
- WebLogic Server (WLS)
- Developer 10.1.2
- APPL_TOP
- COMMON_TOP
- INST_TOP

MOS Doc ID 1905593.1

Oracle HTTP Server Configuration



MOS Doc ID 1905593.1

- Update limited set of configuration files with AutoConfig
- Update all other seeded configurations using Fusion Middleware Control
  http://hostname.domain:admin_port/em
- Edit the relevant file and parameters
- Synchronize the changes with **`adSyncContext.pl`**
- Update to the PATCH file system will happen with the next patching cycle (**`adop phase=prepare`**)

WebLogic AdminServer Configuration

Updating the Classpath and JVM Arguments

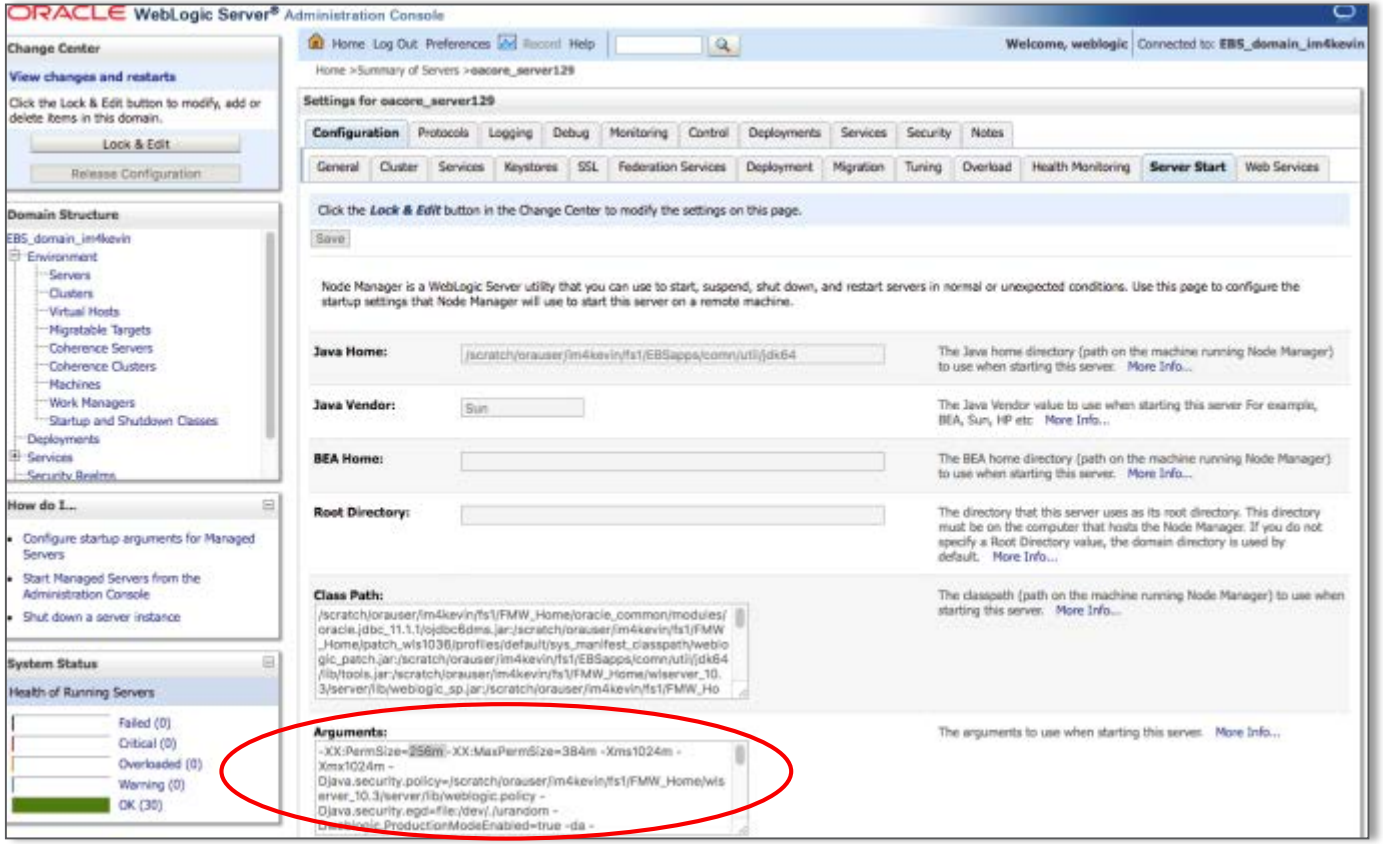
- Classpath and JVM arguments are read from context variables upon startup of the WLS Admin Server

- To update edit the following context variables:
  - `s_adminserver_classpath`
  - `s_nm_jvm_startup_properties`

MOS Doc ID 1905593.1

WebLogic Server Configuration

Updating the Classpath and JVM Arguments



- Go to WebLogic server Administration Console
- Select Configuration → Server Start
- Click Lock & Edit
- Edit parameters
- Click Release Configuration
- Next Online Patching cycle will update Patch file system

MOS Doc ID 1905593.1

Program Agenda

1. Architecture
2. Administration and Maintenance
3. Configure
4. Monitor and Troubleshoot

Log File Locations

Oracle E-Business Suite 12.2

- Oracle HTTP Server
  - **$IAS_ORACLE_HOME/instances/<OHS_INSTANCE>/diagnostics/logs/OHS/EBS_web_<SID>**
- WebLogic Server
  - **$EBS_DOMAIN_HOME/servers/AdminServer/logs**
  - **$EBS_DOMAIN_HOME/servers/oacore_server[n]/logs**
  - **$EBS_DOMAIN_HOME/servers/forms_server[n]/logs**
  - **$EBS_DOMAIN_HOME/servers/oacore_server[n]/logs**
  - **$EBS_DOMAIN_HOME/servers/oafm_server[n]/logs**

Note: **EBS_DOMAIN_HOME=$FMW_HOME/user_projects/domains/[EBS_DOMAIN]**

Oracle HTTP Server Access Log

Oracle E-Business Suite 12.2

- Default log file name: **`access_log`**
- All requests processed by OHS
- Location and content are controlled by **`CustomLog`** directive in **`http.conf`**
- Example from **`access_log`**:

```
172.17.122.44 - - [10/Aug/2015:17:53:52 -0400] "GET /page.jsp?p1=search
 HTTP/1.0" 200 1197
```

Oracle HTTP Server Error Log

Oracle E-Business Suite 12.2

- Default log file name: **`EBS_web_<SID>.log`**
- Key log file for the Oracle HTTP Server (OHS)
- Apache **`httpd`**, including **`ModSecurity`**, will send diagnostic information and record any errors that it encounters in processing requests here
- **`ModSecurity`** will log whenever it denies a request
- Example of a blocked request:

```
[Tue May 12 00:11:45 2015] [error] [cli  ent 172.17.121.2]
 mod_security: Access denied with code 400. Pattern match "\\.\\./" at
 THE_REQUEST.
 [hostname "apps.example.com"] [uri "/P?path=../"] [unique_id
 VVF9gawReR8AAAVDA2M]
```

Check Service Status

Oracle E-Business Suite 12.2

Service(s)	Service Control Script
Oracle HTTP Server Oracle Process Manager	`adapcctl.sh status` `adopmnctl.sh status`
Node Manager	`adnodemgrctl.sh status`
WebLogic Admin Server	`adadminsrvctl.sh status`
oacore oafm forms	`admanagedsrvctl.sh status <managed_server_name>`

Check Service Status

Execute Configuration Check Utility

What to Know	What to Do
• Review the status of services on a node • HTML file is generated by the Check Config Utility	• For example: **`AD_TOP/bin/adchkcfg.sh`** • Review the HTML output generated in the following: **`cfgcheck.html`**

MOS Doc ID 387859.1

Check Service Status

Execute Configuration Check Utility

Section 2: Service Group Status

Below is the Status of the Service Groups and corresponding Services

Show

Services	Current Status	Changed Status
Root Service	Enabled	Enabled
NodeManager	Enabled	Enabled
Web Administration	Enabled	Enabled
AdminServer	Enabled	Enabled
OracleTNSListenerAPPS_testserver	Enabled	Enabled
Web Entry Point Services	Enabled	Enabled
Oracle HTTP Server testserver	Enabled	Enabled
Oracle Process Manager for testserver	Enabled	Enabled
Web Application Services	Enabled	Enabled
oacore_server1	Enabled	Enabled
forms_server1	Enabled	Enabled
oafm_server1	Enabled	Enabled
forms-c4ws_server1	Disabled	Disabled
oaea_server1	Disabled	Disabled
OracleTNSListenerAPPS_testserver	Enabled	Enabled

MOS Doc ID 387859.1

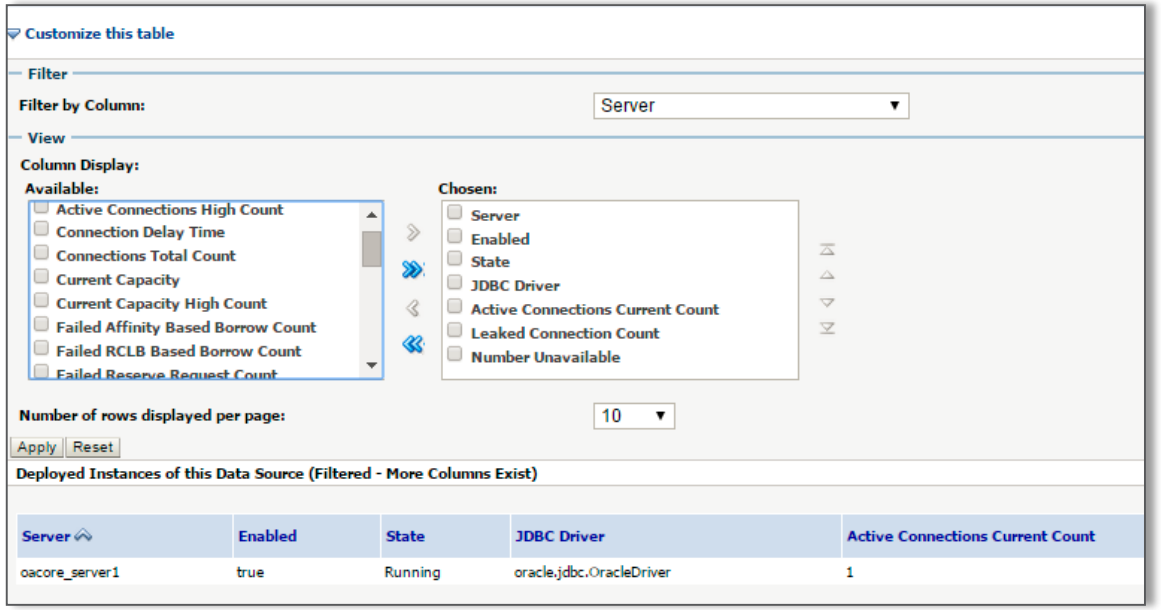
Monitor WLS Admin Server and Port

Command Line

```
$ps –ef | grep java
oracle 24386 24289 0 Feb28 ? 00:03:06
 /u01/R122_EBS/fs2/EBSapps/comn/util/jdk64/jre/bin/java -
 Dweblogic.Name=AdminServer -Djava.security.policy=
$ss –l –p –n | grep 24386
0 0 ::ffff:10.210.44.110:7001 :::*
 users:(("java",24386,792))
```

Note: WLS Admin Server Port is also located in the context variable **s_wls_adminport**

Data Source Connection Pool Diagnostics



- Use WebLogic Console to monitor JDBC connections
  - Navigation: Services (Tree Link) → Data Sources (Tree Link) → EBSDataSource (Page Link) → Monitoring (Tab)
- Turn on Diagnostics
  - Level 1 – minimally invasive
  - Level 2 - increased memory requirements and may affect performance

MOS Doc ID 1940996.1

Oracle Fusion Middleware Diagnostic Framework

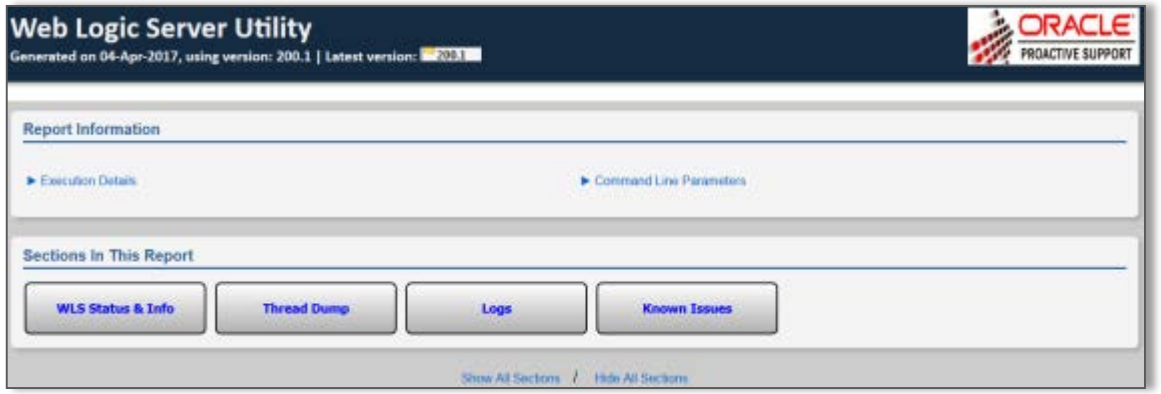
```
$ . appl/<sid_machine>.env
$ cd $FMW_HOME/webtier/common/bin/
$ ./wlst.sh
wls:/offline> connect('weblogic','<password>','<hostname.domain>:<admin server port>')
Connecting to t3://server1.company.com:7001 with userid weblogic ...
Successfully connected to Admin Server 'AdminServer' that belongs to domain 'EBS_domain_PROD'.
```

```
wls:/EBS_domain_PROD/serverConfig> listProblems(server='oacore_server1')
Location changed to domainRuntime tree. This is a read-only tree with DomainMBean as the root.
For more help, use help(domainRuntime)
Problem Id Problem Key
1 SUN-402030 [MANUAL]
2 BEA-101020 [HTTP][java.lang.IllegalArgumentException]
3 MDS-50500 [MANUAL]
.
wls:/EBS_domain_PROD/serverConfig> listIncidents(server='oacore_server1')
.
Incident Id Problem Key Incident Time
4 MDS-50500 [MANUAL] Mon Oct 24 13:49:10 BST 2011
3 BEA-101020 [HTTP][java.lang.IllegalArgumentException] Fri Oct 21 16:42:38 BST 2011
2 BEA-101020 [HTTP][java.lang.IllegalArgumentException] Fri Oct 21 16:41:09 BST 2011
1 SUN-402030 [MANUAL] Fri Oct 21 16:34:43 BST 2011
.
wls:/EBS_domain_PROD/serverConfig> showIncident(id='1',server='oacore_server1')
Incident Id: 1
Problem Id: 1
Problem Key: SUN-402030 [MANUAL]
Incident Time:Fri Oct 21 16:34:43 BST 2011
Error Message Id: SUN-402030
Execution Context:
Flood Controlled: false
Dump Files :
jvm_threads1_i1.dmp
dms_metrics2_i1.dmp
odl_quicktrace3_i1.dmp
odl_logs4_i1.dmp
diagnostic_image_oacore_server1_2011_10_21_16_34_44.zip
readme.txt
```

- Provides features designed to aid in detecting, diagnosing and resolving problems
- Enabled by default with EBS 12.2
- Automatically captures set of diagnostics and creates an incident
- Incidents can be packaged with ADR Command Interpreter (ADCRI)

MOS Doc ID 1428056.1

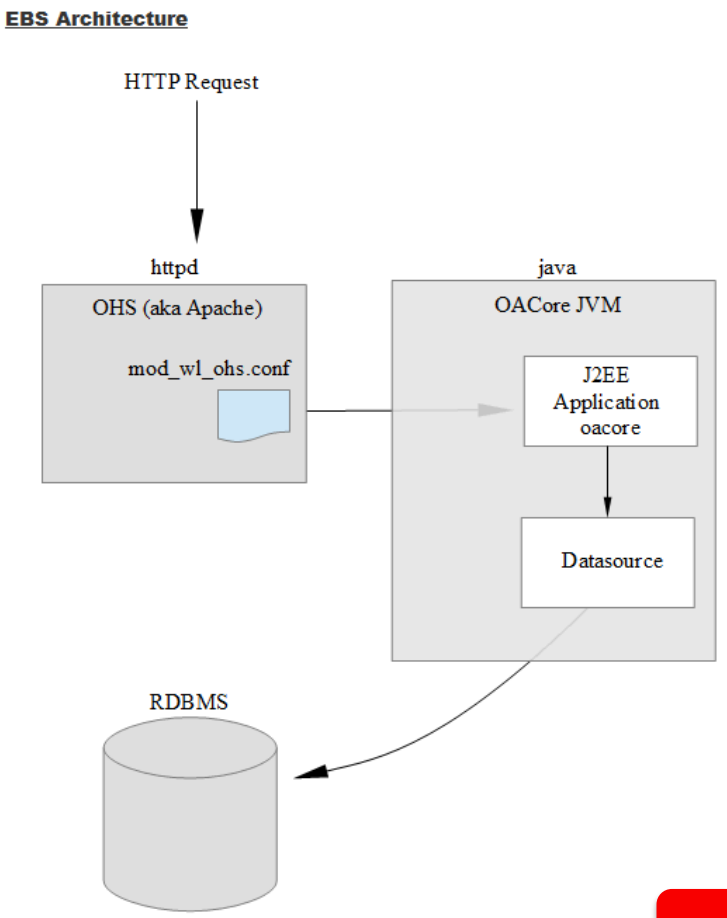
Oracle Support: WLS (WebLogic Server) Utility



- Developed and maintained by Oracle Support
- Utility designed to aid in monitoring and troubleshooting EBS 12.2 WLS

MOS Doc ID 2230225.1

Oracle Support: Summary of EBS Login



- Developed and maintained by Oracle Support
- Documentation to aid troubleshooting connections issues for EBS 12.2

MOS Doc ID 1984710.1

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blogs.oracle.com/stevenChan

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Welcome to Oracle E-Business Suite and Oracle Cloud Blog

By Nadia Bendjedou-EBS-Oracle on Jun 01, 2016

*[Publisher's note: We are pleased to launch this new blog with the following introductory article by **Cliff Godwin**, Senior Vice President, Oracle E-Business Suite Development.]*

Welcome to the Oracle E-Business Suite and Oracle Cloud Blog, which will cover all aspects of running Oracle E-Business Suite on Oracle Cloud - including what you can do right now, and what you can plan for as our offerings evolve.

Larry Ellison, Founder and Executive Chairman of Oracle stated, "Coexistence of cloud and on-premises computing is going to be a decades-long process, if not forever".

Oracle has invested extensively in providing solutions to help customers realize the benefits of cloud computing at the infrastructure, platform, and business application levels. These cloud services are broadly grouped as follows:

- Oracle's Infrastructure as a Service (IaaS)
- Oracle's Platform as a Service (PaaS)
- Oracle's Software as a Service (SaaS)

While each Oracle product line (including Oracle E-Business Suite) continues its development roadmap to serve its target markets and customer base, Oracle is actively promoting a coexistence or hybrid model that enables customers to adopt Oracle's cloud services in ways that complement and augment their existing enterprise applications.

Most Oracle E-Business Suite customers will think about embracing cloud computing as a journey, rather than a "big

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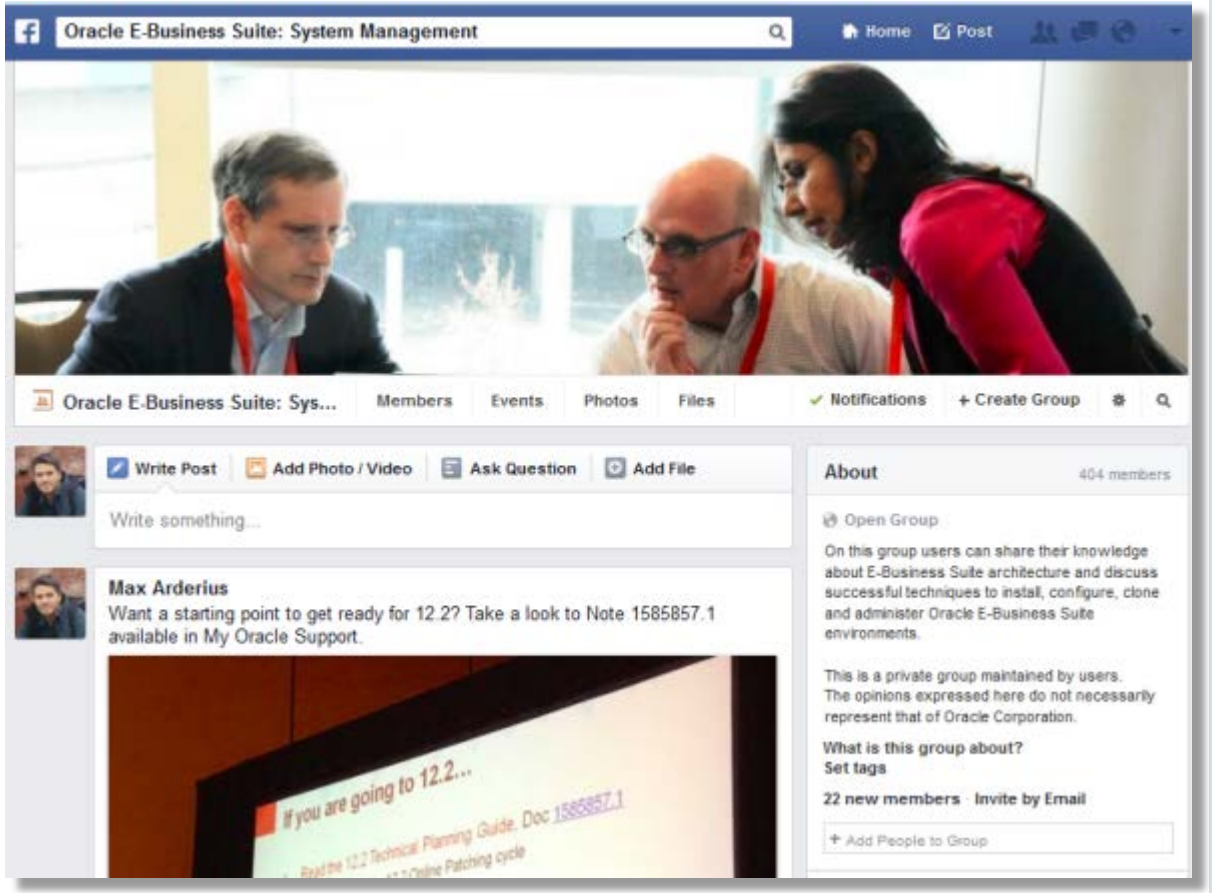

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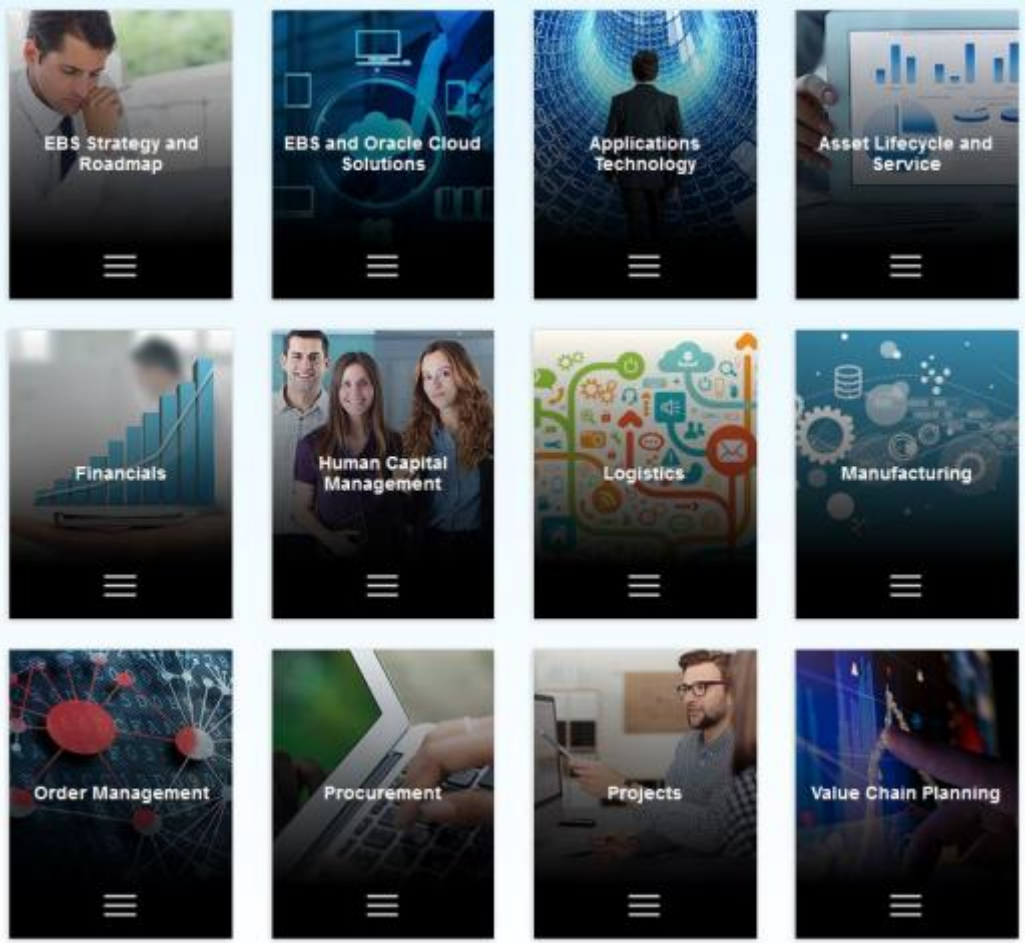

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