SOA Suite Setup for BPEL Process Flow
Oracle FLEXCUBE Universal Banking
Release 12.3.0.0.0
[December] [2016]

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1.   Preface

1.1   Background

This document provides an overview of configuring SOA suite for Oracle FLEXCUBE Universal Banking BPEL process deployment.

Refer to the Oracle documentation for HA and other configuration patterns.

1.2   Audience

The audience for this document will be the development groups of BPEL/BPM process flows FLEXCUBE Universal Banking.

1.3   Organization

This manual is organized as follows:

- The document helps in download and installation of Oracle SOA 12c.

1.4   Acronyms and Abbreviations

Acronym/Abbreviation	Description
BPEL	Business Process Execution Language
HA	High Availability

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2. Installing the JDK, WebLogic, RCU, SOA and domain Creation

2.1 Introduction

The download of software can be done from the oracle edelivery portal

https://edelivery.oracle.com

Refer to the Oracle certification matrix for qualified databases.

2.2 List of downloaded files

Latest Oracle JDK 8 Update for Linux x86-64

Search: Oracle Fusion Middleware 12c Infrastructure 12.2.1(**WebLogic Installation**)

V78156-01.zip– Oracle Fusion Middleware 12c (12.2.1) Infrastructure

Search: Oracle Business Process Management 12.2.1.0.0(**BPM/BPEL**)

V78169-01.zip– Oracle Fusion Middleware 12c (12.2.1.0.0) SOA Suite and Business Process Management

List of platform which can be selected based on the installation

☐	HP-UX Itanium
☐	IBM AIX on POWER Systems (64-bit)
☐	IBM z/OS on System z
☐	IBM: Linux on System z
☐	Linux x86-64
☐	Microsoft Windows (32-bit)
☐	Microsoft Windows x64 (64-bit)
☐	Oracle Solaris on SPARC (32-bit)
☐	Oracle Solaris on SPARC (64-bit)
☐	Oracle Solaris on x86-64 (64-bit)

Select   Cancel

platform

NOTE (Doc ID 1904280.1): As part of the new Release of SOA 12c, you need to get WebLogic 12c through the Oracle Fusion Middleware Infrastructure installation, which contains all required components for SOA. The standard WebLogic 12.2.1.0.0 Installer i.e. fmw_12.2.1.0.0_wls.jar, does not have the required JRF templates.

2.3   Install JDK.

Login to WebLogic server host upload and install JDK package. Refer to the release certificate for the version of java JDK.

2.4   Installing WebLogic Server software

```
[oracle@wls12c-node1 ~]$ cd /scratch/app/fmwTemp1221/
[oracle@wls12c-node1 fmwTemp1221]$ unzip V78156-01.zip
Archive:  V78156-01.zip
inflating: fmw 12.2.1 infrastructure.jar
[oracle@wls12c-node1 fmwTemp1221]$ java -jar fmw_12.2.1 _infrastructure.jar
```

Step 1:
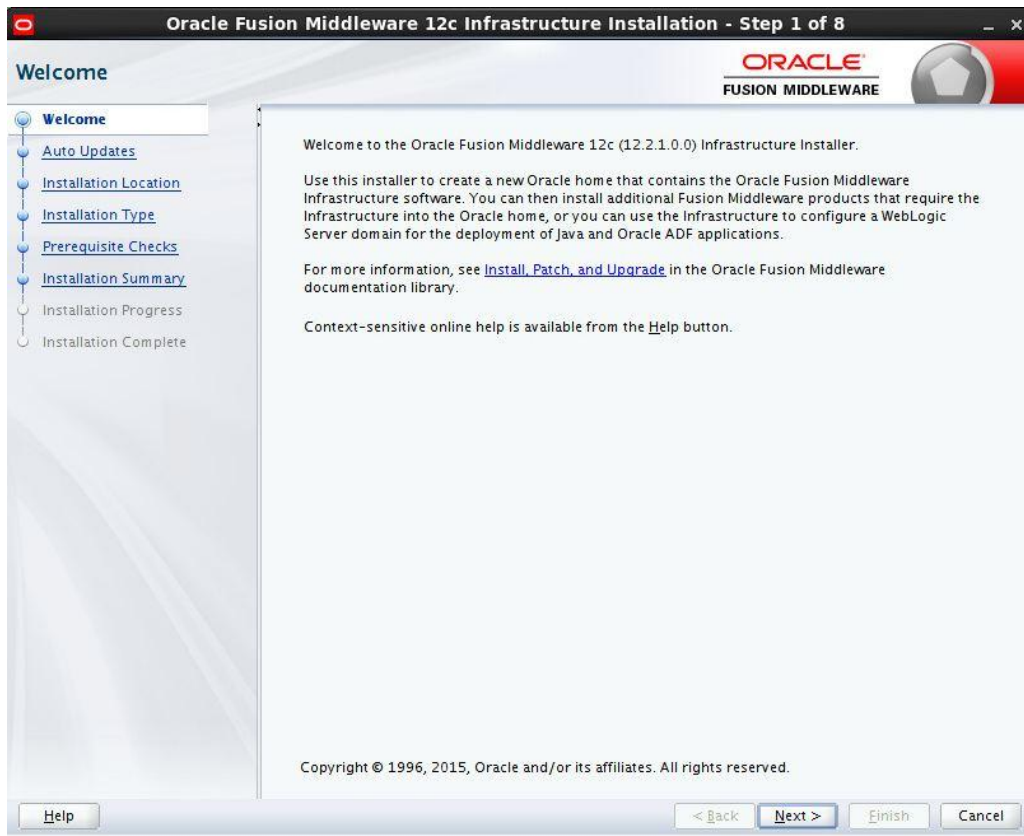
Step 2 :

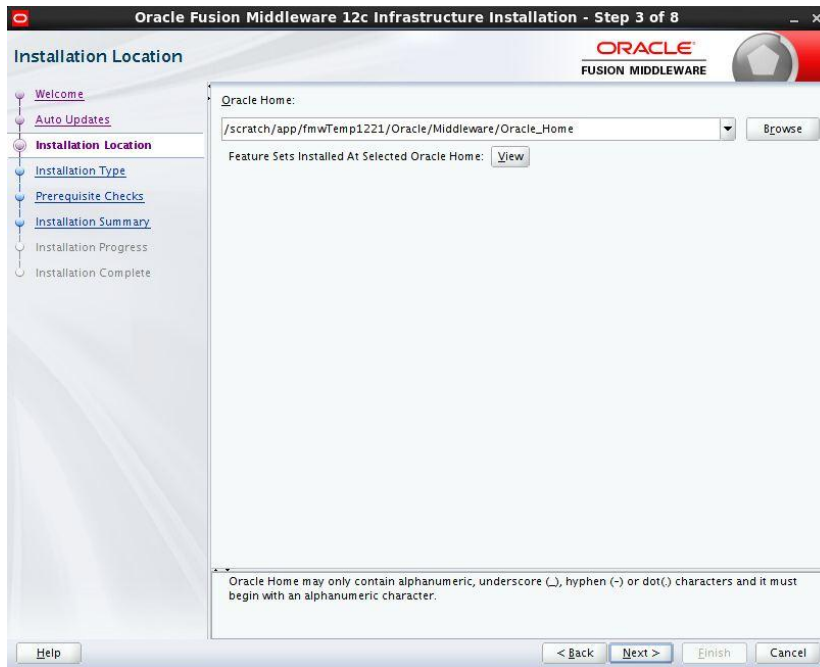Option need to be selected based on the requirement :

If you don't want the auto updates, select the first option.

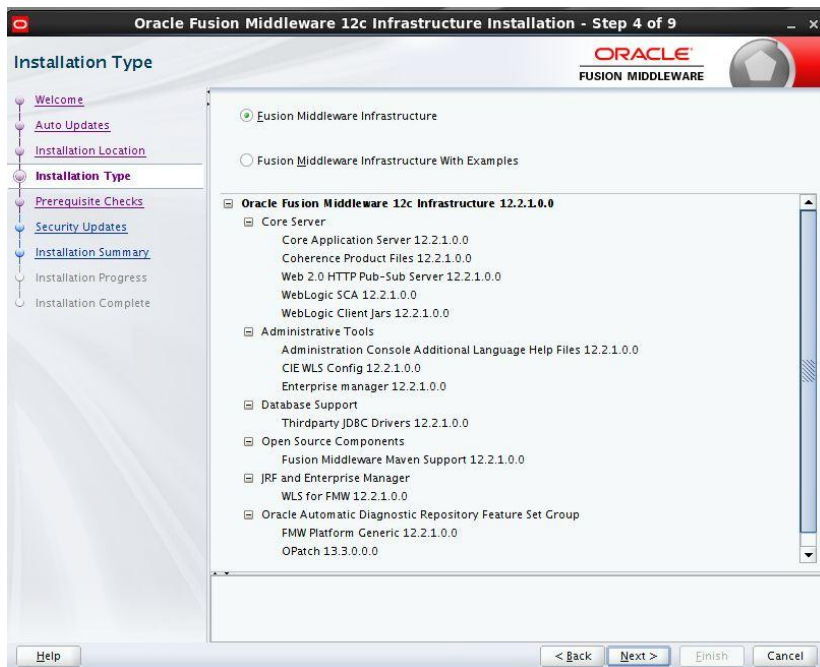If you are applying patches , select the second option.

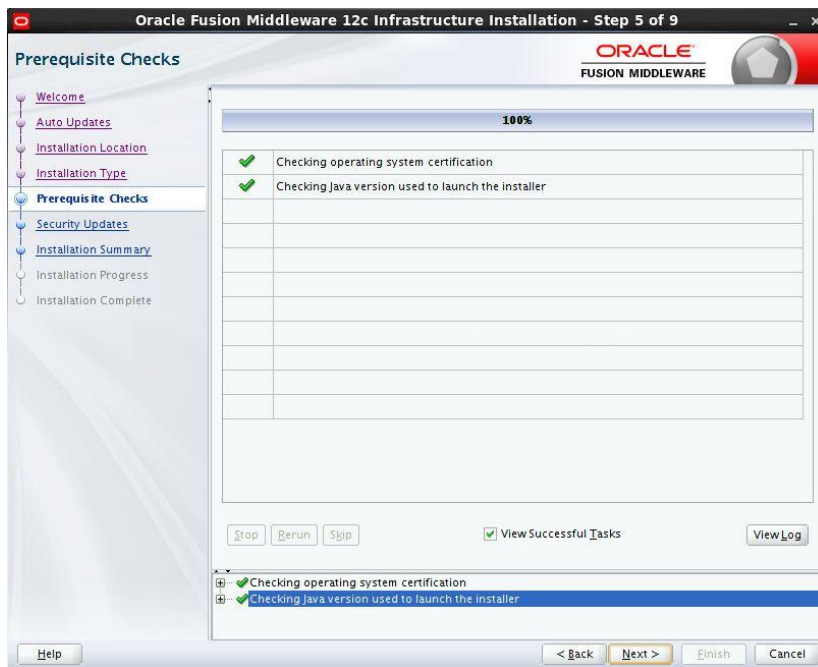Please select the option based on the requirement :
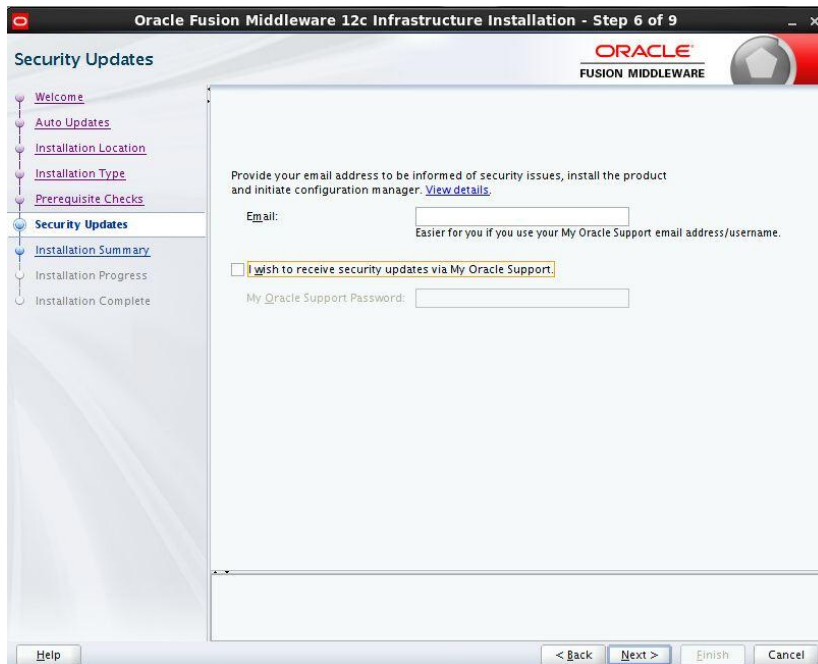
Step 3: Define the oracle home path

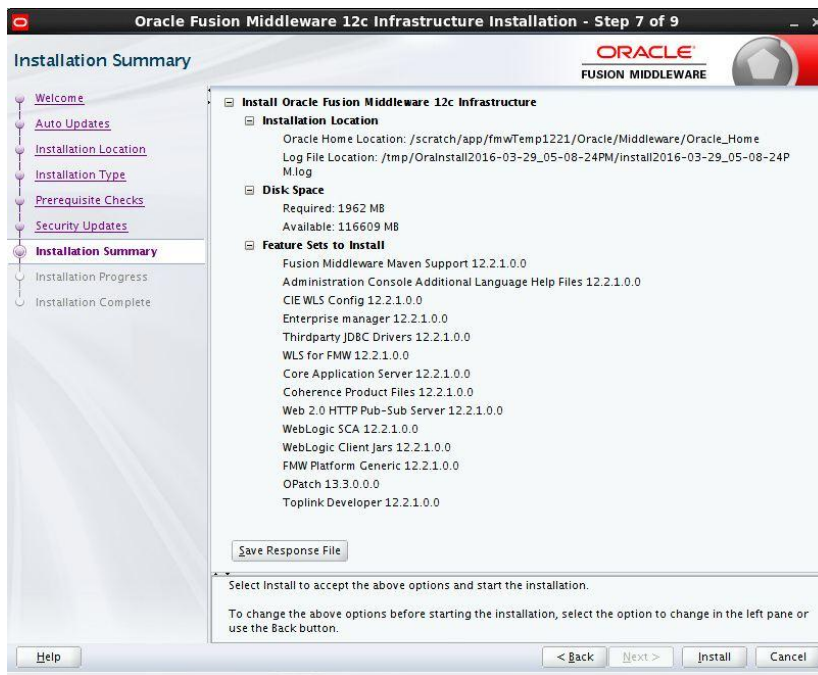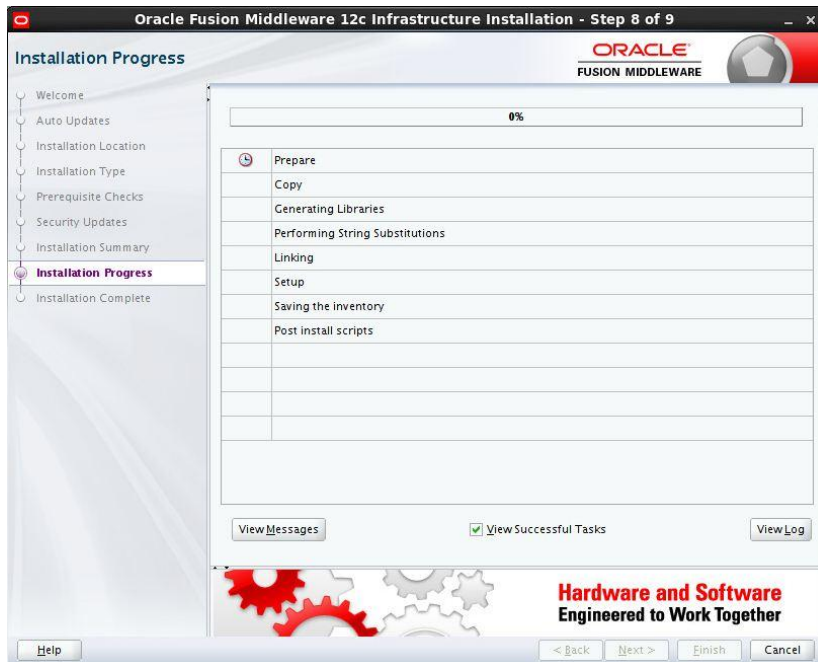Step 4: select fusion middleware infrastructure

Step 5:

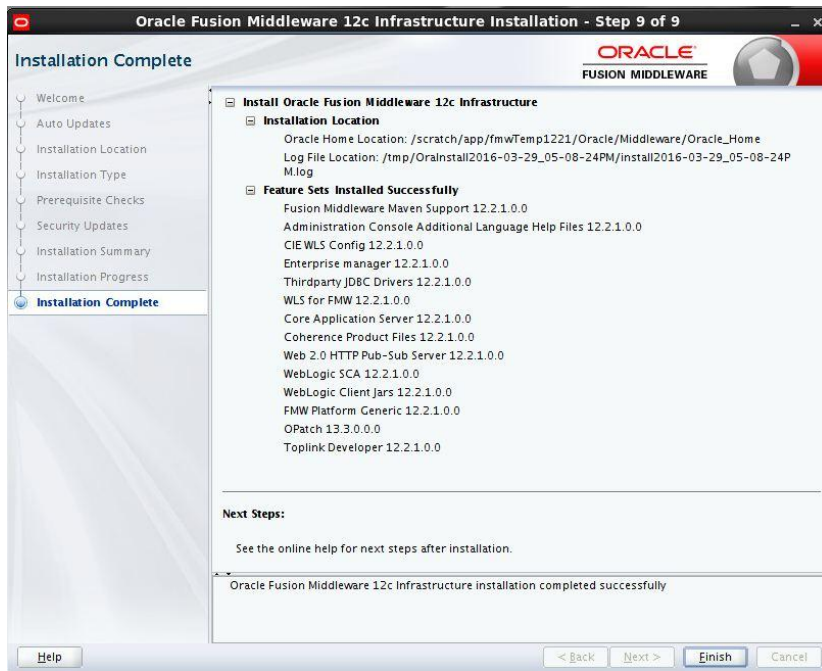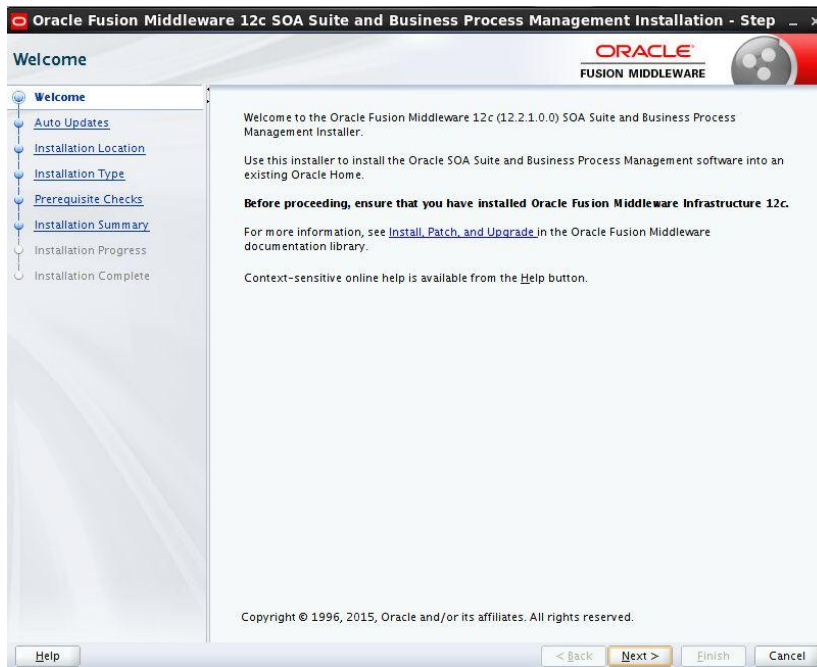Step 6: optional based on installation requirement

Step 7:

Step 8:

Step 9:

2.5　Installing Oracle Fusion Middleware 12c software.

```
[oracle@wls12c-node1 ~]$ cd /scratch/app/fmwTemp1221/
[oracle@wls12c-node1 fmwTemp1221]$ unzip V78169-01.zip
Archive:  V78169-01.zip
  inflating: fmw 12.2.1.0.0  soa.jar

[oracle@wls12c-node1 fmwTemp1221]$ java -jar fmw_12.2.1 _soa.jar
```

Step 1:

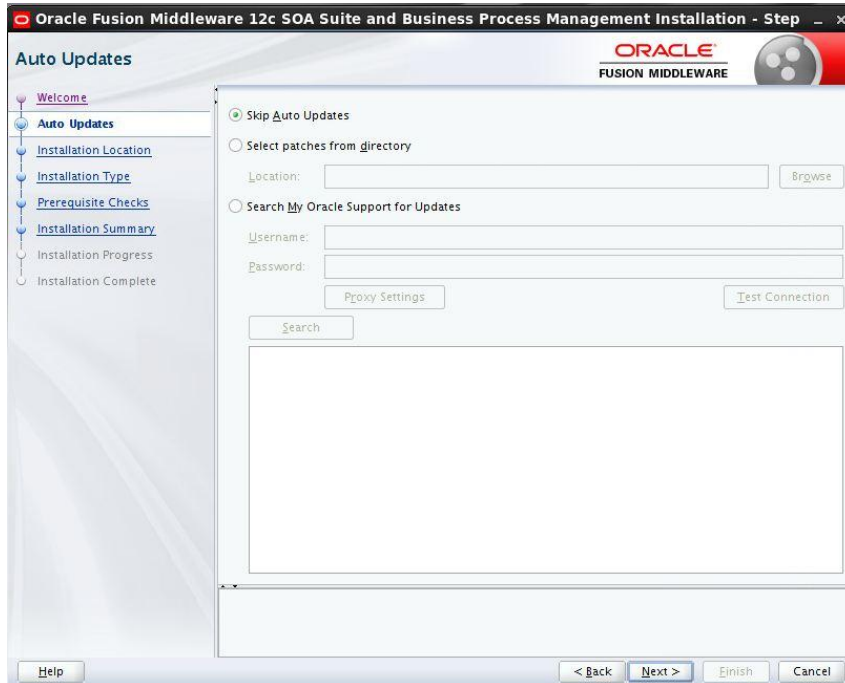Step 2:
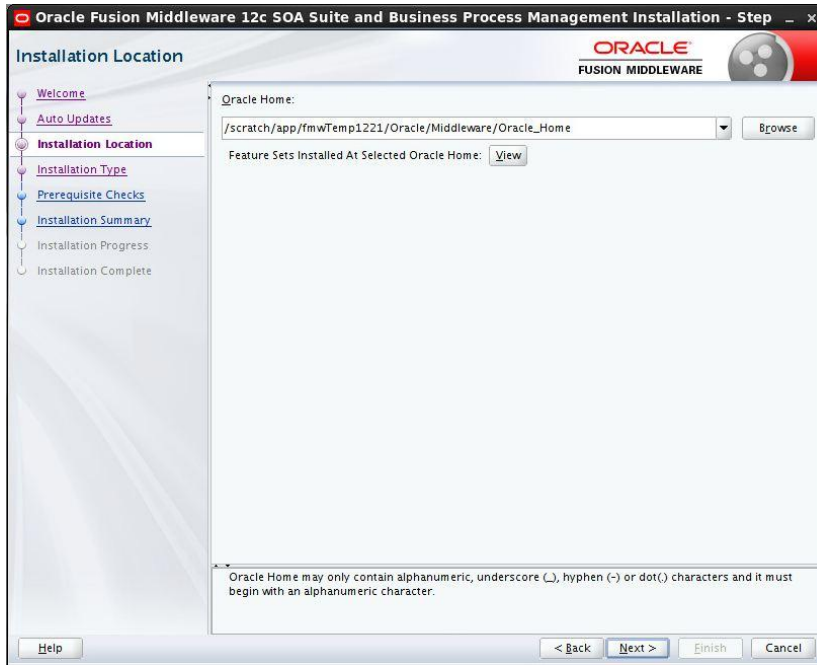
Option need to be selected based on the requirement :

    a)   If you don't want the auto updates, select the first option.
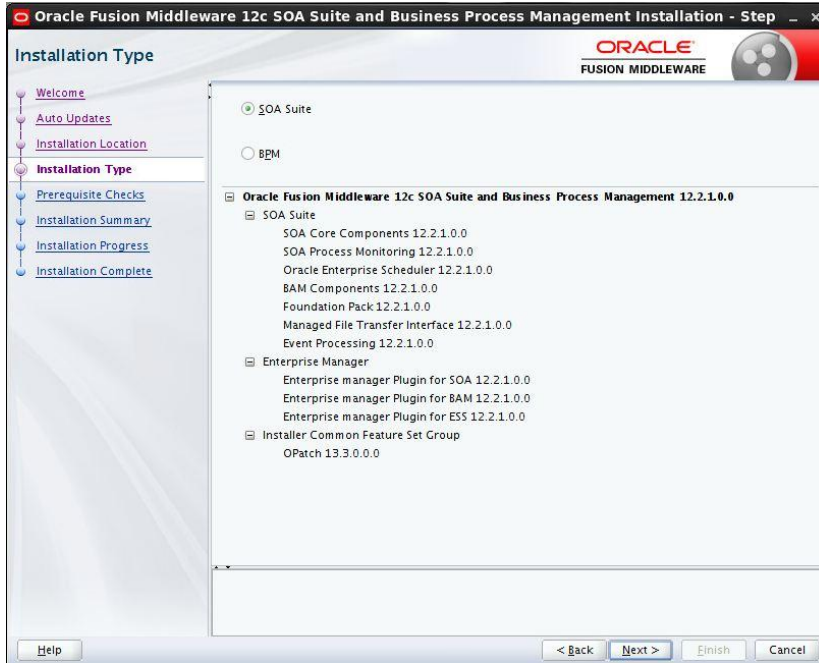   b)   If you are applying patches , select the second option .
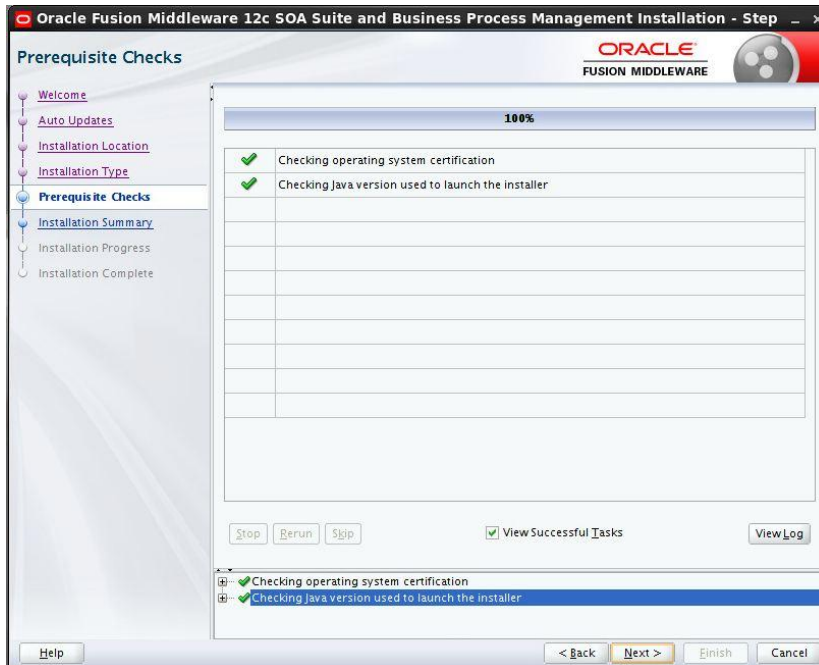
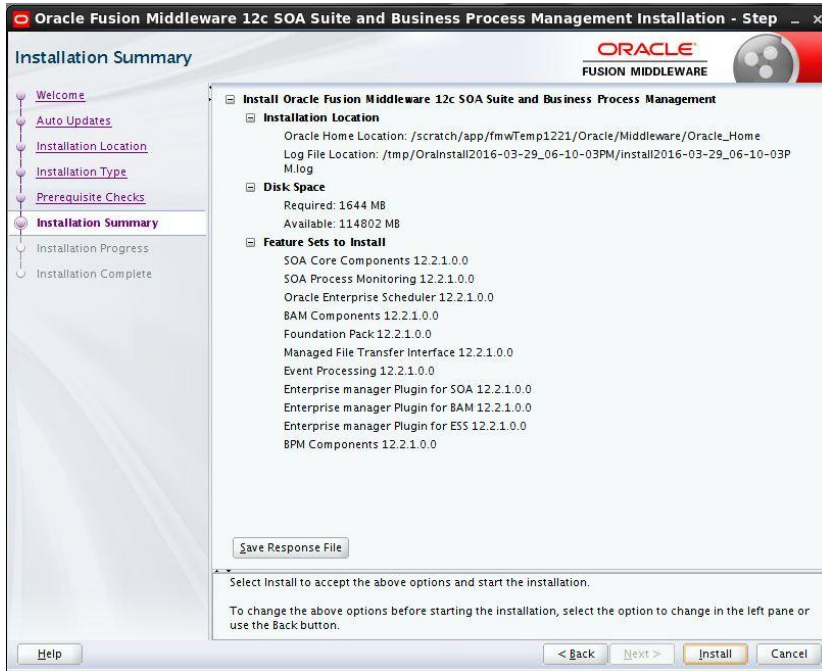Please select the below option based on the requirement:

Step 3:

Step 4: **STOP** Please select BPM if the environment requires BPM process flow deployment

Step 5:

Step 6:

Step 7:
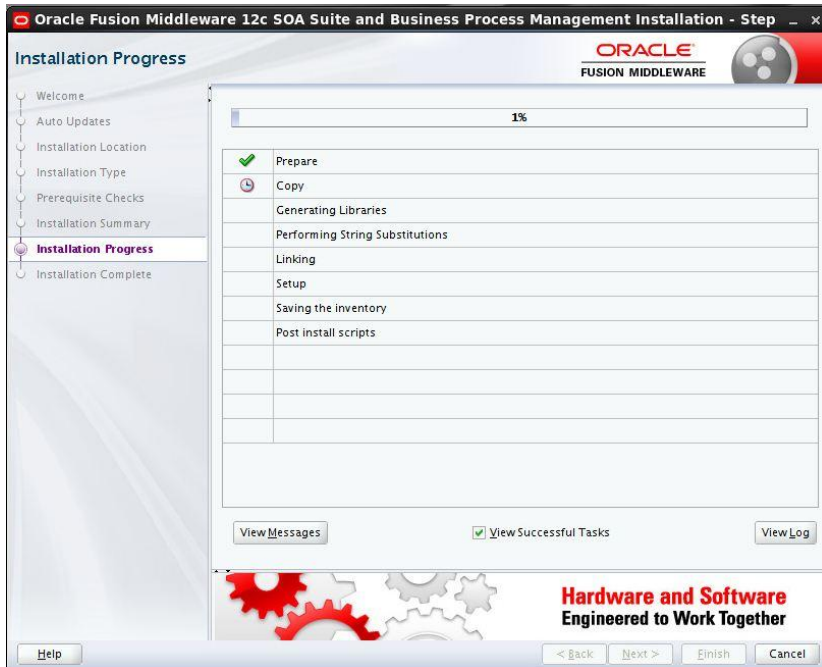
Step 8:
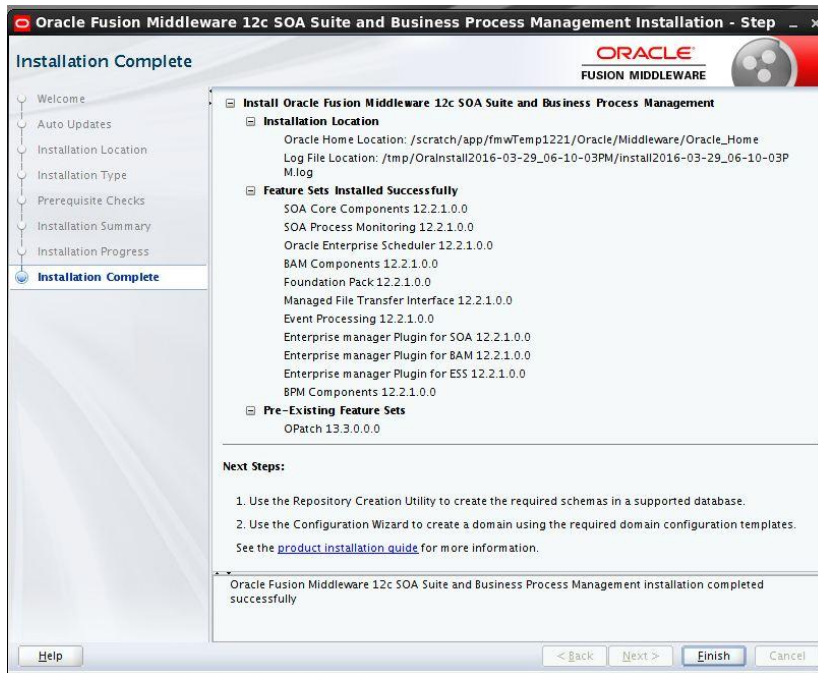
2.6 Creating product schemas in Oracle database

The Repository Creation Utility (RCU) is the tool used to create schemas in a database. This tool is available once we've installed the Oracle Fusion Middleware Infrastructure software (Point 2).

Refer to [Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility](#) for more information about the Repository Creation Utility.

- ```
  [oracle@wls12c-node1 fmwTemp1221]$ cd /scratch/app/fmwTemp1221/Oracle/Middleware/Oracle_Home/bin/
  ```
- ```
  [oracle@wls12c-node1 bin]$ ./rcu
  ```

Step 1:
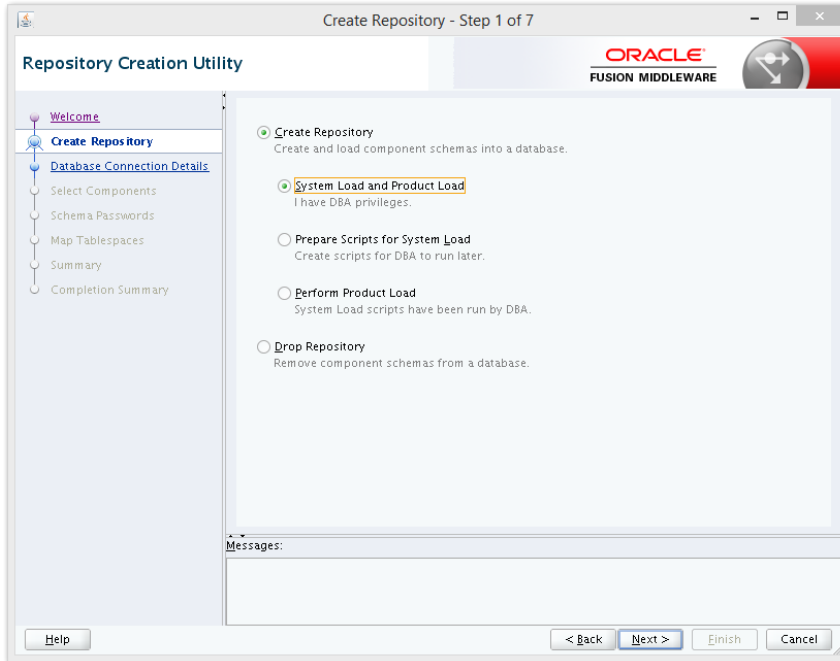
Step 2: Define the host name port username and password for creating the RCU schemas in the database. The sys user required to create the rcu schemas.
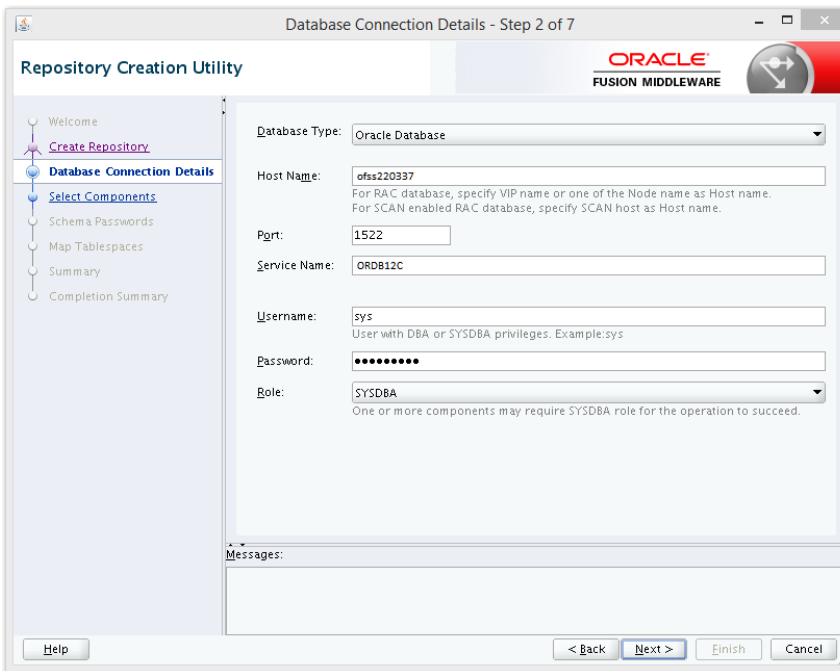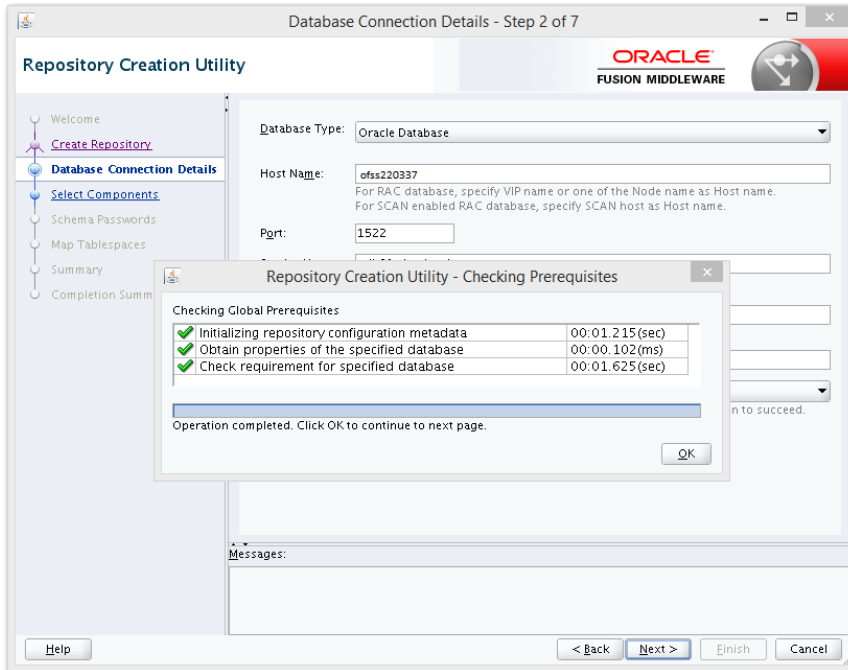
Step 3: Define the prefix to be used for the schemas

Step 4: Define the password for the schemas.

Note: It is important to remember the password or passwords that you enter during the process.

Step 5: 🛑 Please select the database profile based on requirement (SMALL/MED/LARGE)

Step 6:

Repository Creation Utility

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- Welcome
- Create Repository
- Database Connection Details
- Select Components
- Schema Passwords
- Custom Variables
- **Map Tablespaces**
- Summary
- Completion Summary

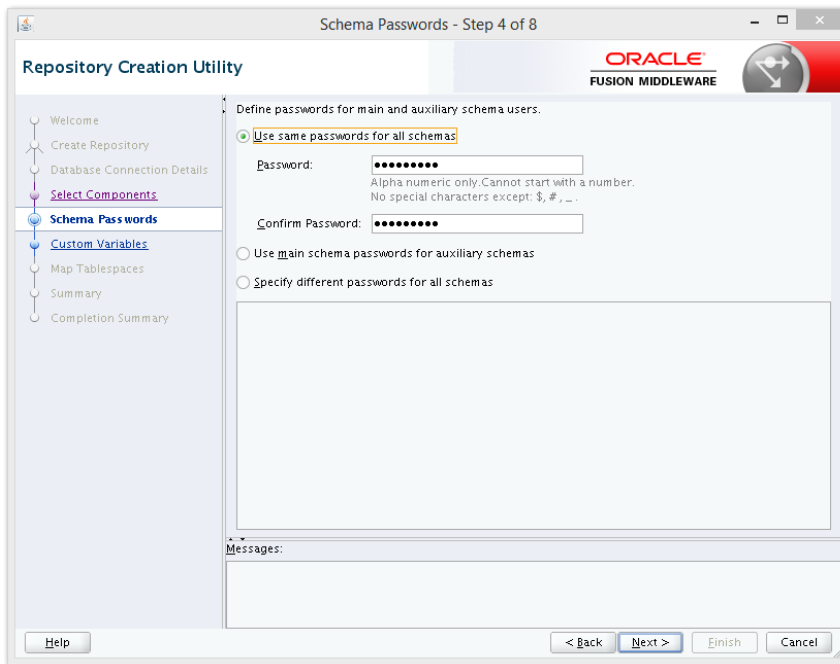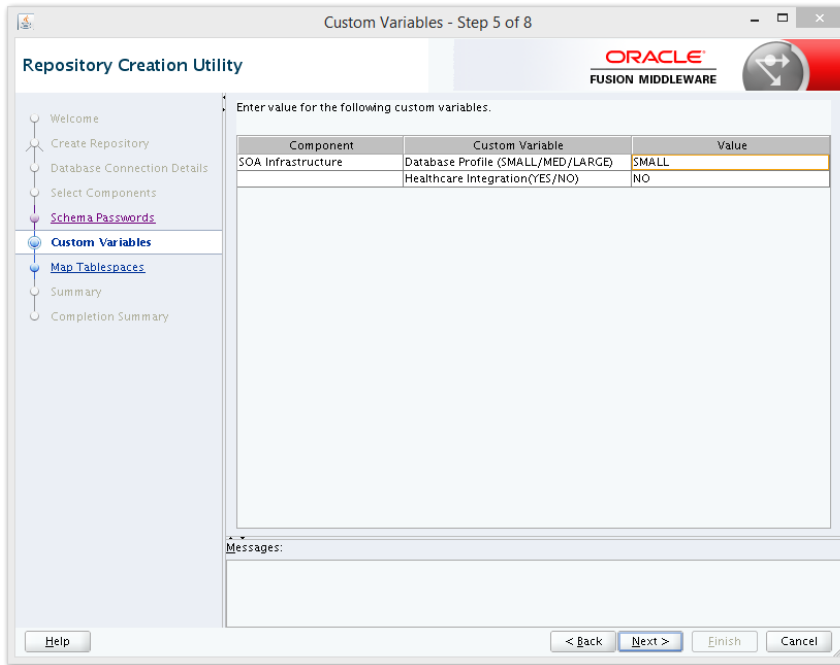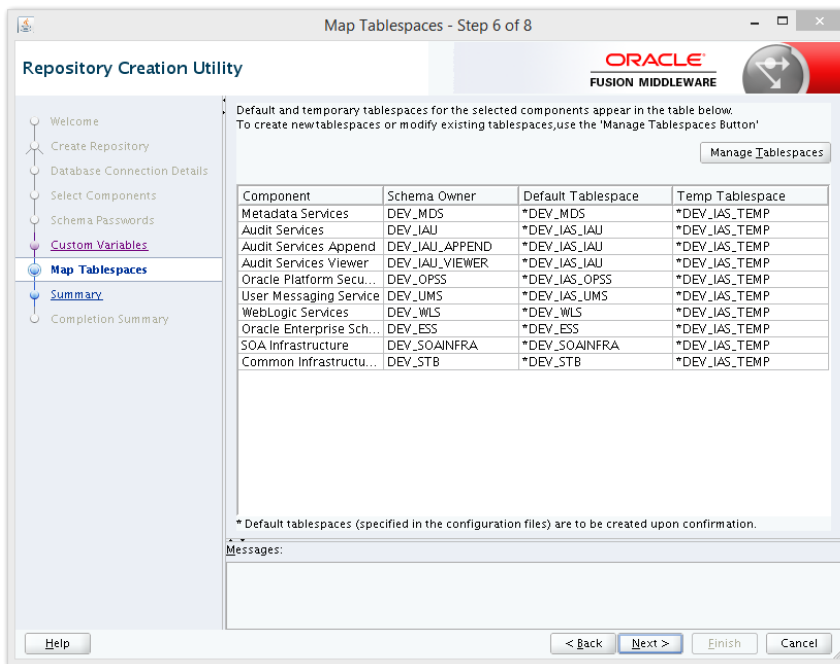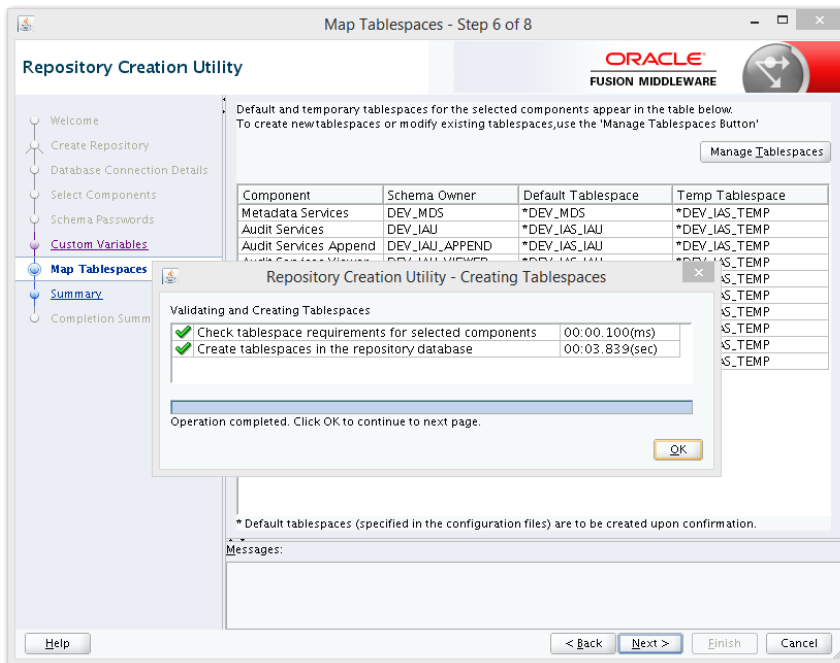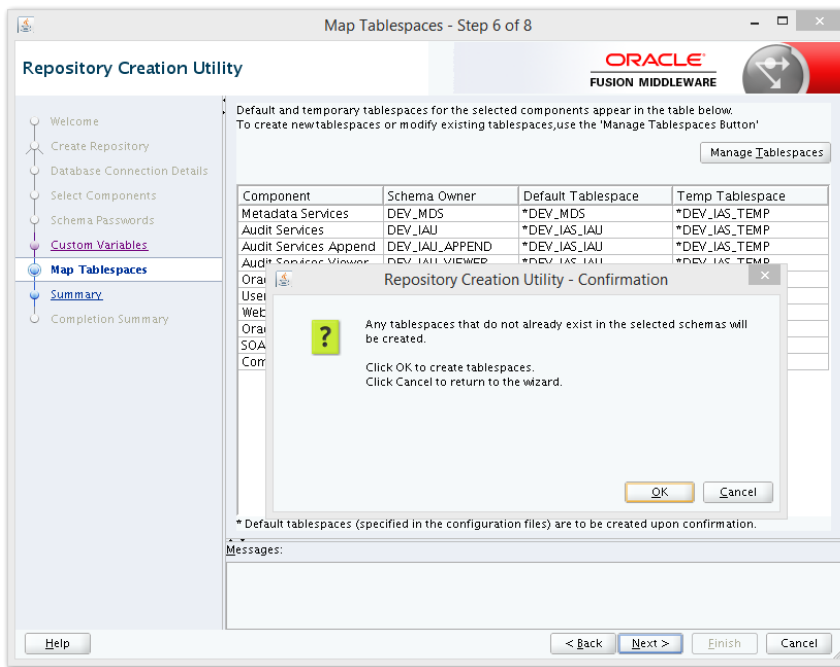Default and temporary tablespaces for the selected components appear in the table below.
To create new tablespaces or modify existing tablespaces, use the 'Manage Tablespaces Button'

[Manage Tablespaces]

Component	Schema Owner	Default Tablespace	Temp Tablespace
Metadata Services	DEV_MDS	*DEV_MDS	*DEV_IAS_TEMP
Audit Services	DEV_IAU	*DEV_IAS_IAU	*DEV_IAS_TEMP
Audit Services Append	DEV_IAU_APPEND	*DEV_IAS_IAU	*DEV_IAS_TEMP
Audit Services Viewer	DEV_IAU_VIEWER	*DEV_IAS_IAU	*DEV_IAS_TEMP
Ora			
User			
Web			
Ora			
SOA			
Com			

Repository Creation Utility - Confirmation ✕

? Any tablespaces that do not already exist in the selected schemas will be created.

Click OK to create tablespaces.
Click Cancel to return to the wizard.

[OK] [Cancel]

* Default tablespaces (specified in the configuration files) are to be created upon confirmation.

Messages:

[Help]   [< Back] [Next >] [Finish] [Cancel]

Repository Creation Utility

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FUSION MIDDLEWARE

- Welcome
- Create Repository
- Database Connection Details
- Select Components
- Schema Passwords
- Custom Variables
- **Map Tablespaces**
- Summary
- Completion Summ

Default and temporary tablespaces for the selected components appear in the table below.
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[Manage Tablespaces]

Component	Schema Owner	Default Tablespace	Temp Tablespace
Metadata Services	DEV_MDS	*DEV_MDS	*DEV_IAS_TEMP
Audit Services	DEV_IAU	*DEV_IAS_IAU	*DEV_IAS_TEMP
Audit Services Append	DEV_IAU_APPEND	*DEV_IAS_IAU	*DEV_IAS_TEMP
Audit Services Viewer	DEV_IAU_VIEWER	*DEV_IAS_IAU	S_TEMP

Repository Creation Utility - Creating Tablespaces ✕

Validating and Creating Tablespaces

| ✔ | Check tablespace requirements for selected components | 00:00.100(ms) |
| ✔ | Create tablespaces in the repository database | 00:03.839(sec) |

Operation completed. Click OK to continue to next page.

[OK]

* Default tablespaces (specified in the configuration files) are to be created upon confirmation.

Messages:

[Help]   [< Back] [Next >] [Finish] [Cancel]

Step 7:

Completion Summary - Step 8 of 8

Repository Creation Utility

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- Welcome
- Create Repository
- Database Connection Details
- Select Components
- Schema Passwords
- Custom Variables
- Map Tablespaces
- Summary
- **Completion Summary**

Database details:

Host Name:	zeus.zion.local
Port:	1522
Service Name:	PDB01.ZION.LOCAL
Connected As:	sys
Operation:	System and Data Load concurrently
RCU Logfile:	/u01/app/oracle/logdir.2014-07-17_22-48/rcu.log
Component Log Directory:	/u01/app/oracle/logdir.2014-07-17_22-48
Execution Time:	2 minutes 55 seconds
View Log:	rcu.log
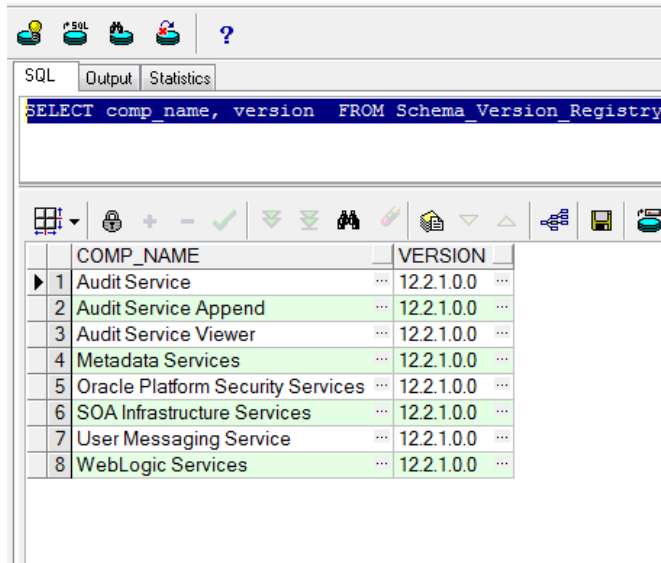
Prefix for (prefixable) Schema Owners:DEV

Component	Status	Time	Logfile(Click to view)
Metadata Services	Success	00:11.435(sec)	mds.log
Audit Services	Success	00:11.217(sec)	iau.log
Audit Services Append	Success	00:09.193(sec)	iau_append.log
Audit Services Viewer	Success	00:09.148(sec)	iau_viewer.log
Oracle Platform Security Services	Success	00:15.581(sec)	opss.log
User Messaging Service	Success	00:13.453(sec)	ucsums.log
WebLogic Services	Success	00:10.039(sec)	wls.log
Oracle Enterprise Scheduler	Success	00:13.767(sec)	ess.log
SOA Infrastructure	Success	00:59.186(sec)	soainfra.log
Common Infrastructure Services	Success	00:09.259(sec)	stb.log

Help   < Back   Next >   Create   Close

Note: Verifying Schema Version Numbers in the database where RCU is executed

```
SQL> select comp_name, version from schema_version_registry;
```

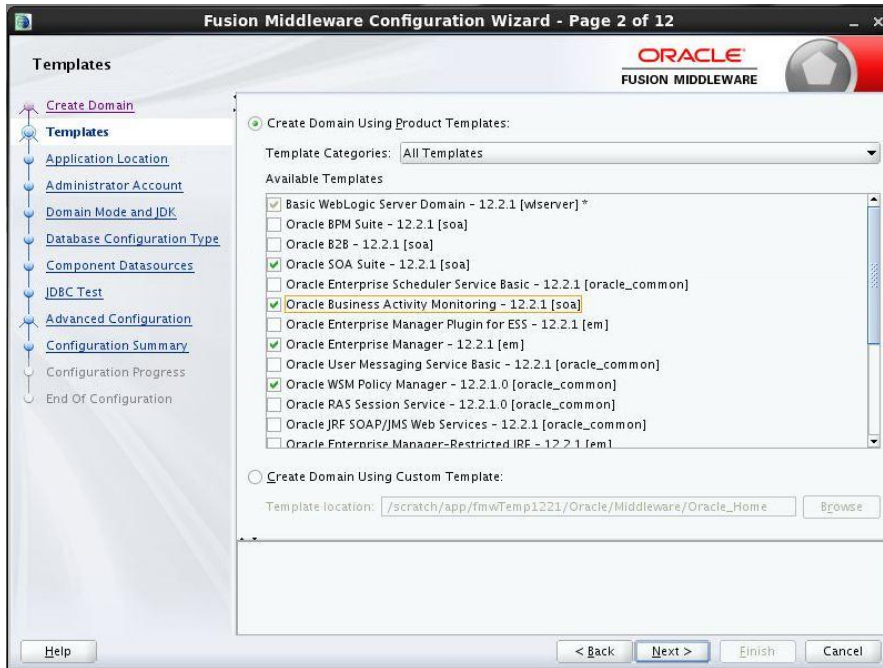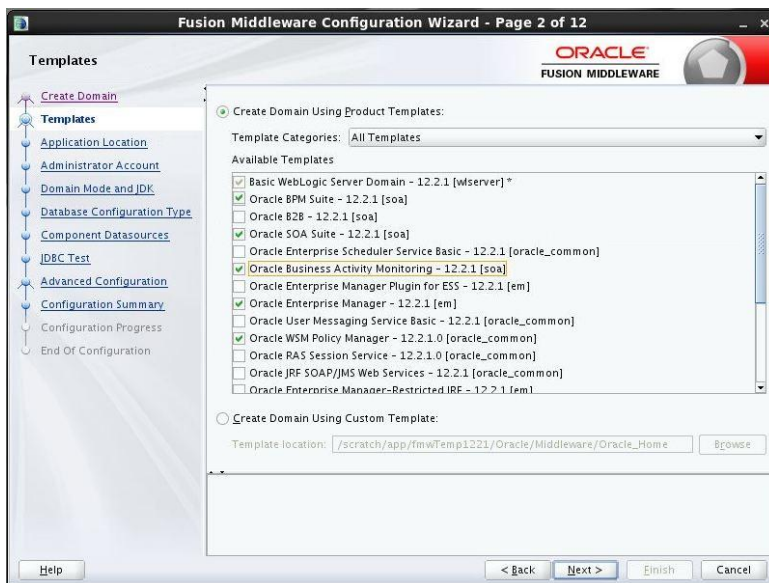## 2.7 WebLogic Server Domain Configuration

Step 1:
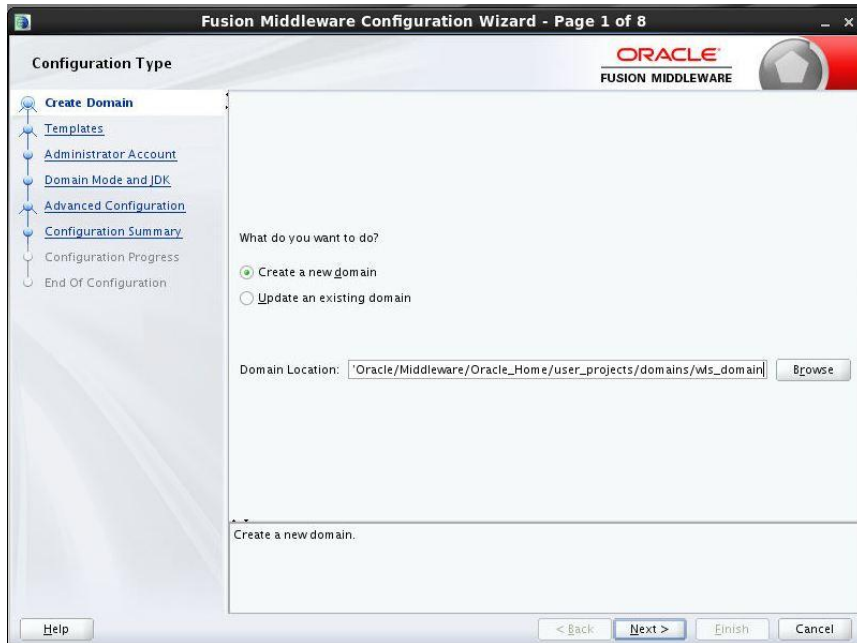
Step 2: Domain creation template
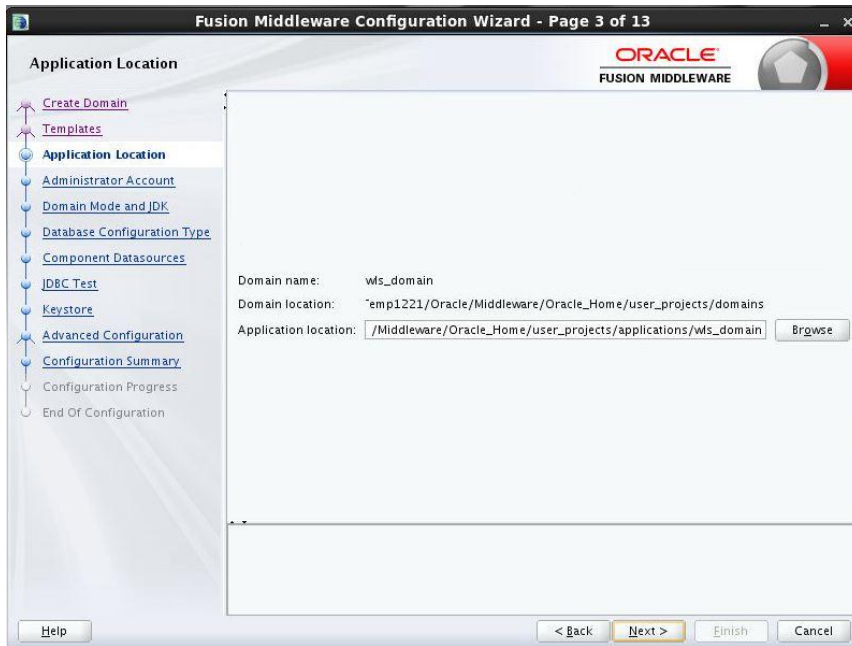
    a.   For BPEL only domain

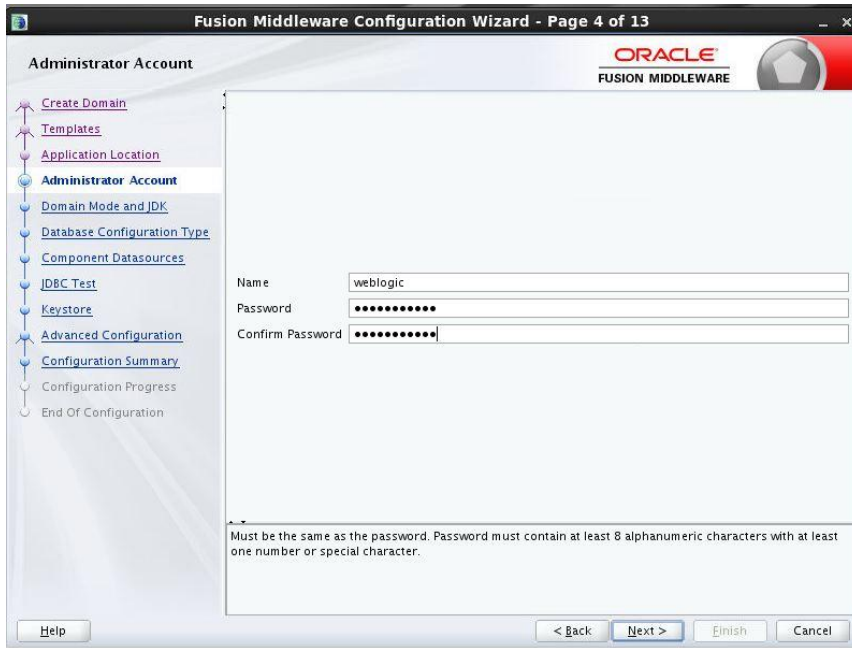b. 🛑 Based on the requirement select the Oracle Business Activity Monitoring (BAM) check box.

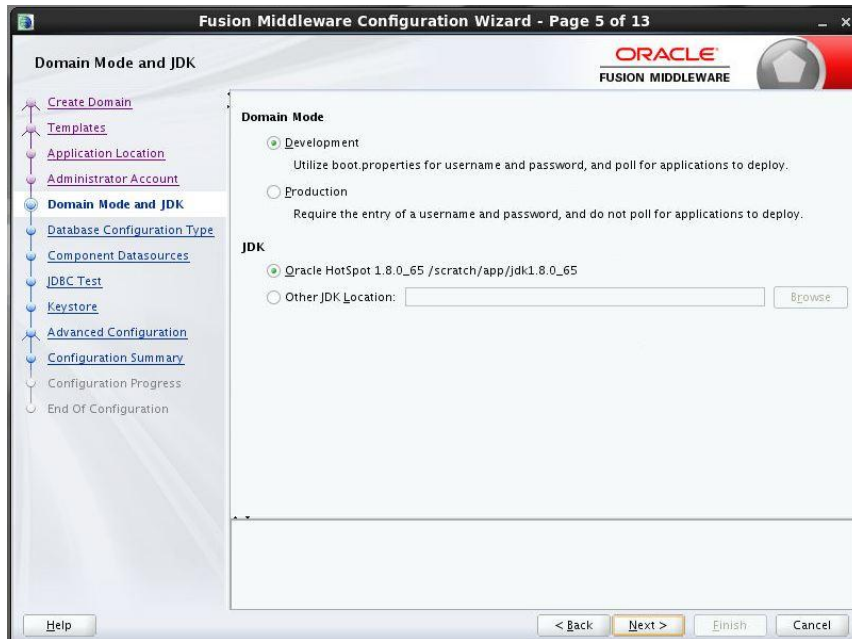   c.   For BPM enabled domain (_If BPM process flows deployment is required then we have to select the Oracle BPM Suite – 12.2.1)

Step 3:

Step 4: Defining the domain user name and password

Step 5: 🛑Domain mode needs to be production for all installations.

Step 6: Define the RCU schema details and the TNS connection details
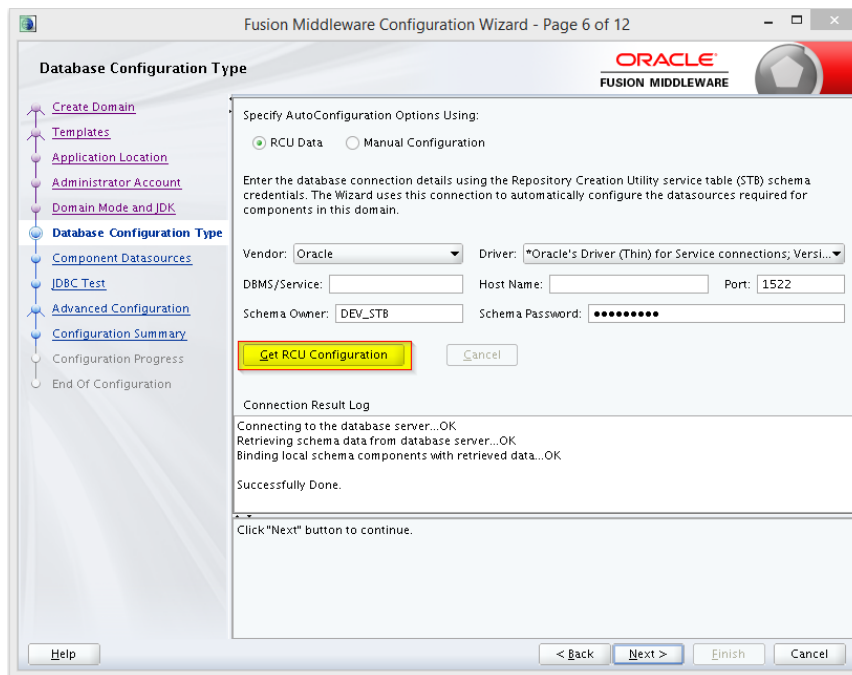
Step 7:
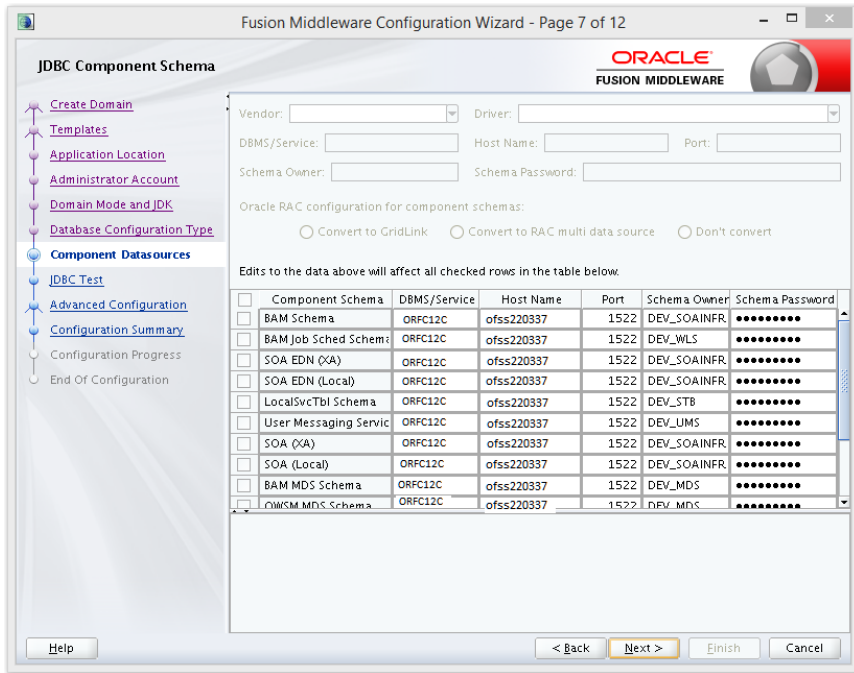
Step 8:
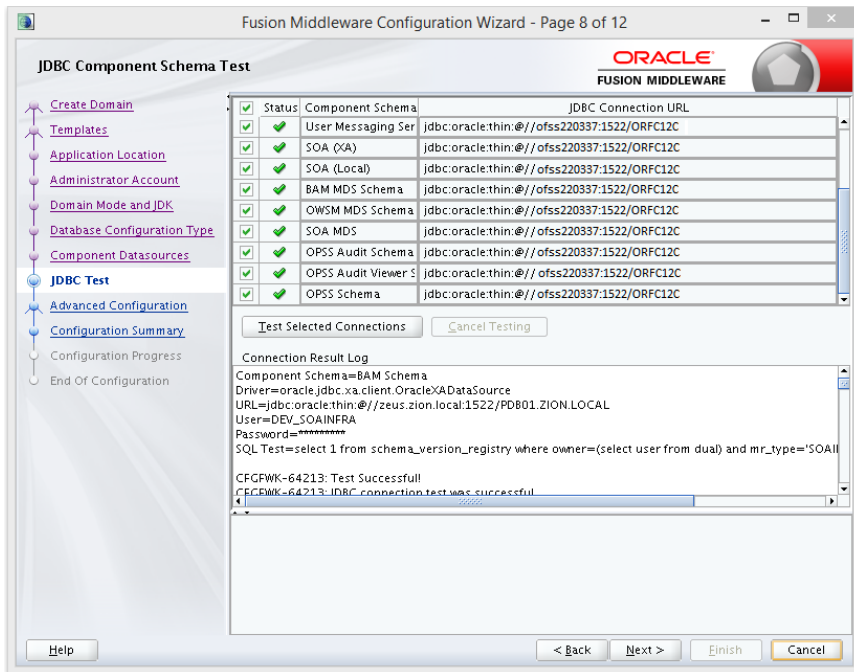
Step 9: Select the admin server, node manager and managed servers.
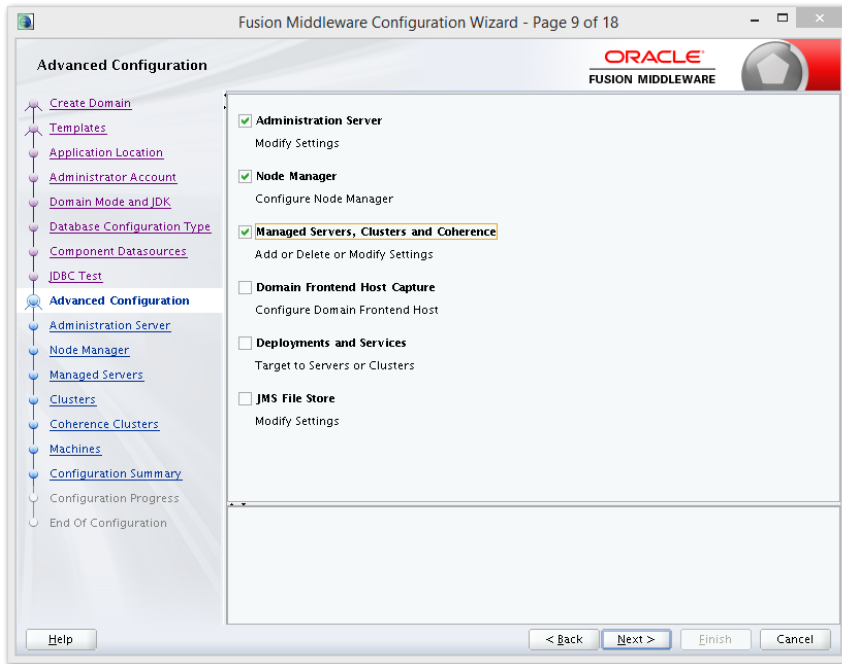
Step 10: Specify the server name as AdminServer and listener address as hostname.   Based on the installation requirement SSL need to be enabled.
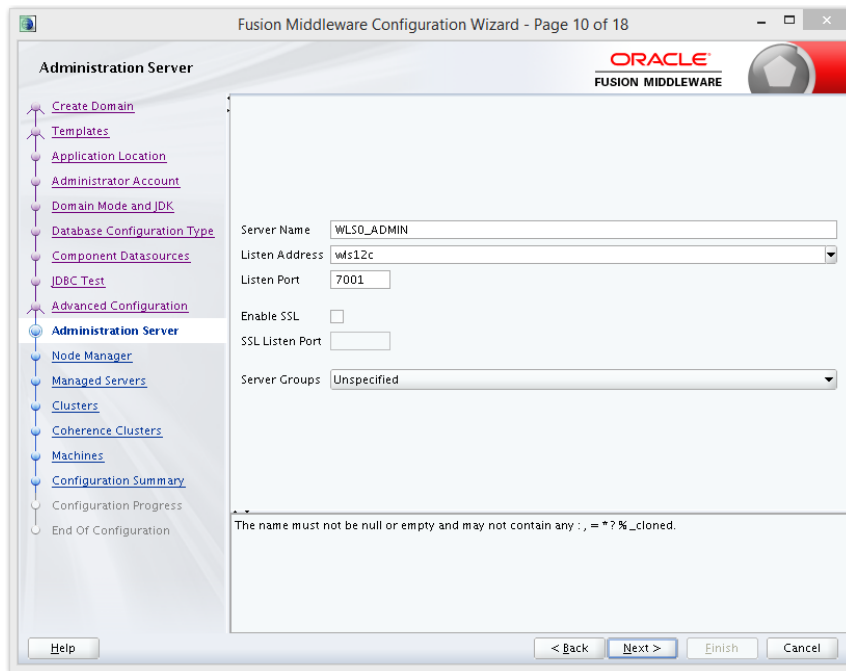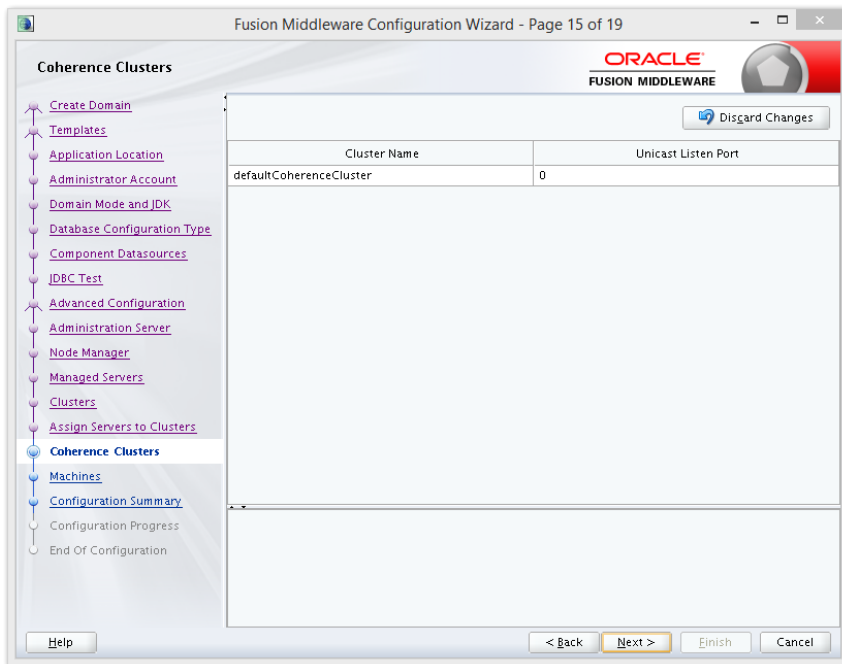
Step 11: specify the server name as soa_server1 and bam_server1 for the managed servers.
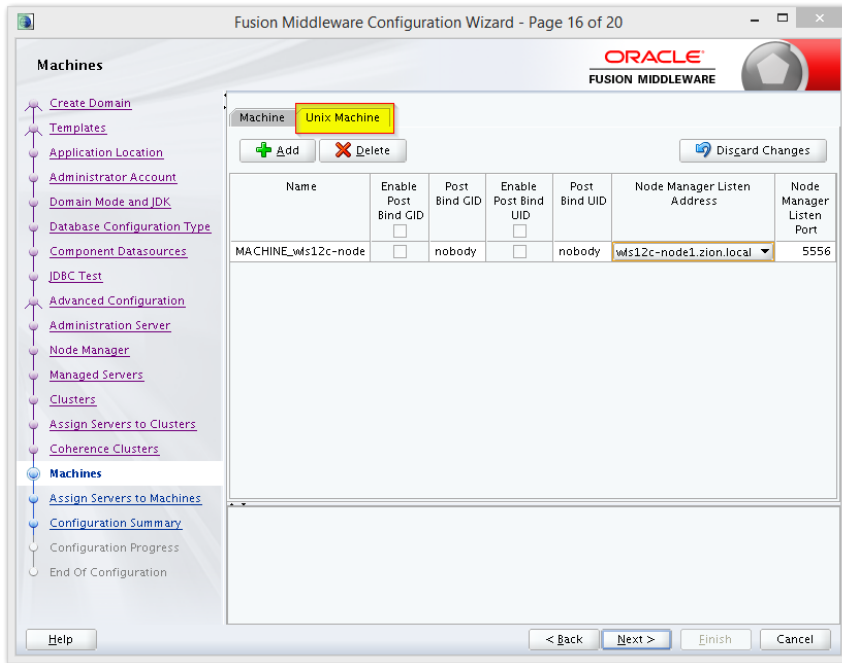
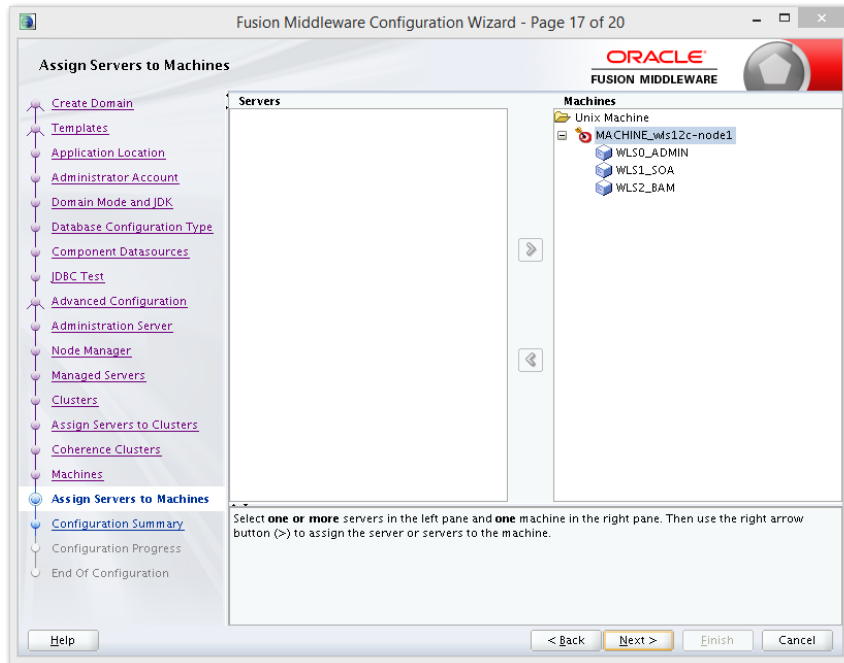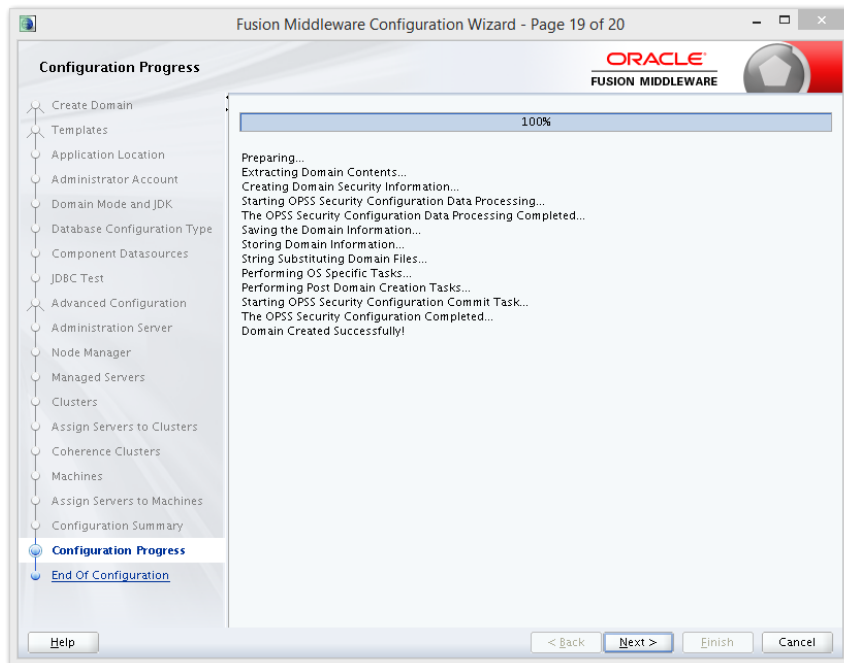Based on the installation requirement SSL need to be enabled for managed servers
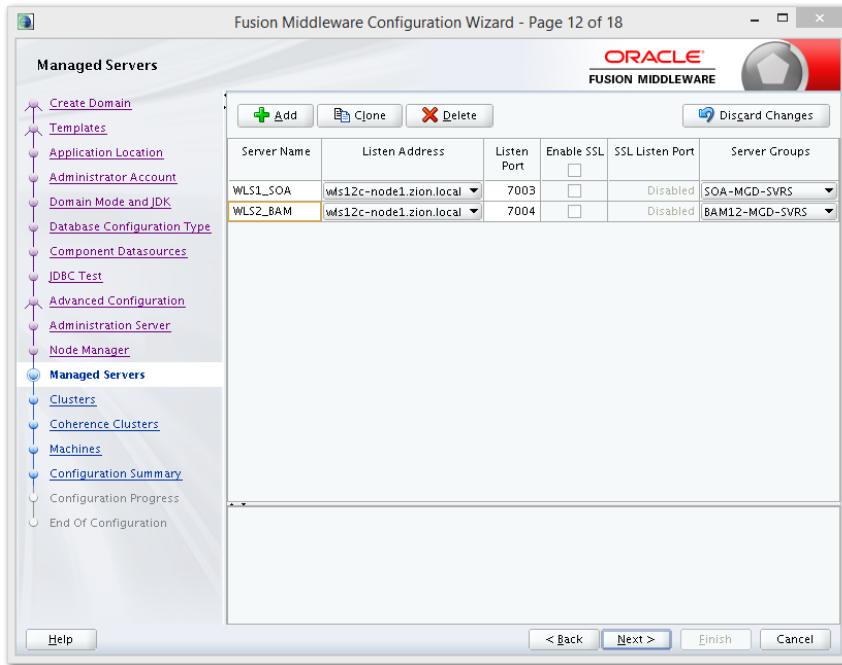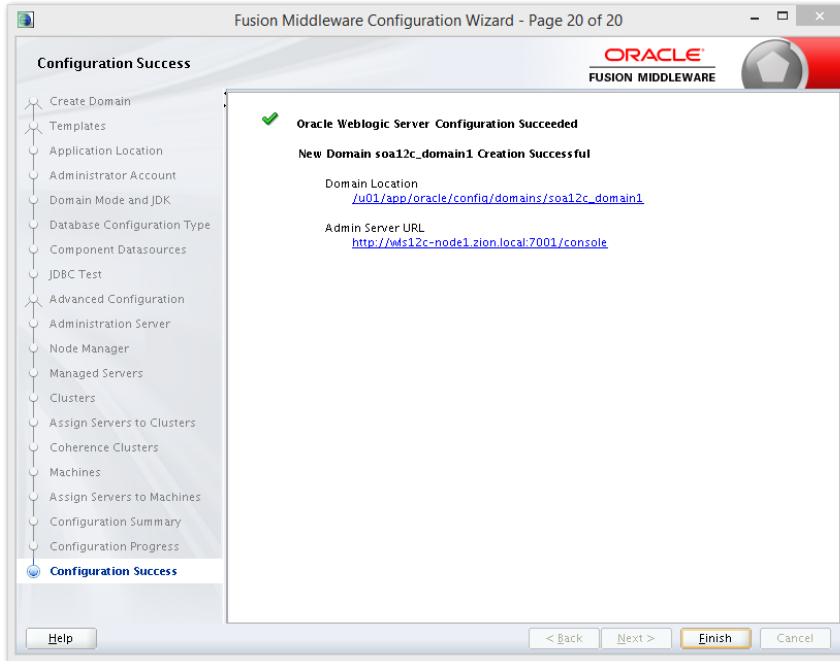

Step 12:

Step 13:

Step 14:

Step 15:

2.8   Remote Setup Configuration:

Remote setup means SOA is installed in different machine and EAR is running in different machine.

Configuring Flexcube Application to point to remote BPEL instances.

1. Following Jars has to be copied to <Weblogic_home>\<domain>\lib

Jar to be copied	Path where the jar is available in SOA Middleware
bpm-services.jar	%Middleware Home%/soa/soa/modules/oracle.soa.workflow_11.1.1
fabric-runtime.jar	%Middleware Home%/soa/soa/modules/oracle.soa.fabric_11.1.1
tracking-fabric.jar	
tracking-api.jar	

jrf-api.jar	%Middleware Home%/oracle_common/modules/oracle.jrf
orabpel-common.jar	%Middleware Home%/soa/soa/modules/oracle.soa.bpel_11.1.1
orabpel-thirdparty.jar	
orabpel.jar	
soa-infra-mgmt.jar	%Middleware Home%/soa/soa/modules/oracle.soa.mgmt_11.1.1
xml.jar	%Middleware Home%/oracle_common/modules/oracle.xdk
xmlparserv2.jar	
mdsrt.jar	%Middleware Home%/oracle_common/modules/oracle.mds
com.oracle.webservices.fmw.wsclient-rt-impl.jar	%Middleware Home%/oracle_common/modules

2. Additionally if BPMN enabled

Jar to be copied	Path where the jar is available in SOA Middleware
oracle.bpm.bpm-services.client.jar	%Middleware Home%/soa/soa/modules/oracle.bpm.client_11.1.1
oracle.bpm.bpm-services.interface.jar	
oracle.bpm.project.draw.jar	%Middleware Home%/soa/soa/modules/oracle.bpm.project_11.1.1
oracle.bpm.project.model.jar	
oracle.bpm.core.jar	%Middleware Home%/soa/soa/modules/oracle.bpm.runtime_11.1.1
oracle.bpm.ui.jar	%Middleware Home%/soa/soa/modules/oracle.bpm.workspace_11.1.1
oracle.bpm.casemgmt.interface.jar	%Middleware Home%/soa/soa/modules/oracle.bpm.runtime_11.1.1

3. The jars copied have to be from same soa-suite version where BPEL processflows deployed. Ie,
   We cannot have jars from soa12.1.3.0.0 and BPEL deployed in soa12.2.1.0.0
   It should be consistent.
4. The properties file **fcubs.properties** should read as below
   WORKFLOW_CLIENT_TYPE   =REMOTE
   java.naming.provider.url   =t3://10.184.74.143:8001/?partitionName=DOMAIN (Remote
   soa server provider url)
   java.naming.security.principal   =weblogic (Remote bpel server userid)
   java.naming.security.credentials=RF2MRTP/MG8TB1T5QG6lnQ== (Remote soa server
   password)
   dedicated.connection   =true
   domain.name   =default (Remote soa server partition)
   domain.pwd   =RF2MRTP/MG8TB1T5QG6lnQ==
   (Remote soa server password)

5. Configure domain password same as for both fcj ear domain and remote BPEL domain and DowngradeUntrusted Principals has to be checked
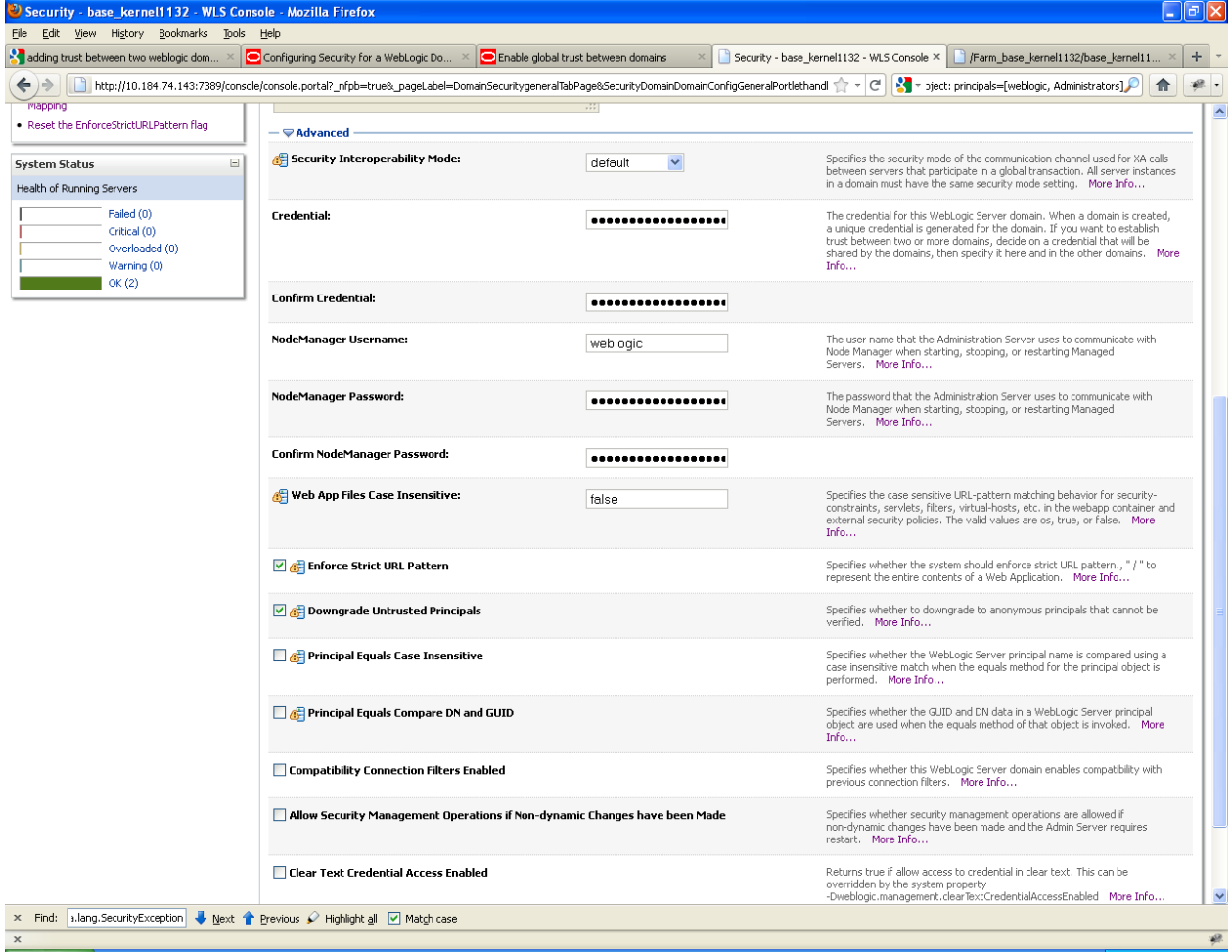
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SOA Suite Setup for BPEL Process Flow
[December] [2016]
Version 12.3.0.0.0

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