SOA Suite Setup for BPEL Process Flow
Oracle FLEXCUBE Universal Banking
Release 12.1.0.0.0
[October] [2015]

Table of Contents

1. PREFACE 1-1

1.1 BACKGROUND 1-1
1.2 AUDIENCE 1-1
1.3 ORGANIZATION 1-1
1.4 ACRONYMS AND ABBREVIATIONS 1-1

2. REPOSITORY CREATION UTILITY (RCU) 2-1

2.1 INTRODUCTION 2-1
2.2 RUNNING RCU UTILITY 2-1

3. ORACLE WEBLOGIC 11GR1 (10.3.6) 3-1

3.1 INTRODUCTION 3-1
3.2 DOWNLOAD URL FROM ORACLE 3-1

4. ORACLE SOA SUITE 11GR1(11.1.1.7) 4-1

4.1 INTRODUCTION 4-1
4.2 DOWNLOAD URL FROM ORACLE 4-1

5. DOMAIN CONFIGURATION WITH ORACLE SOA SUITE 5-1

5.1 INTRODUCTION 5-1
5.2 NEW DOMAIN CONFIGURATION 5-1

6. ORACLE HTTP SERVER INSTALLATION AND CONFIGURATION 6-1

6.1 INTRODUCTION 6-1
6.2 INSTALLATION & CONFIGURATION 6-1

7. GENERATING SELF SIGNED CERTIFICATE AND CONFIGURING SSL 7-1

7.1 ORAPKI UTILITY TO CREATE WALLET AND SELF SIGNED CERTIFICATE 7-1

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 process flows FLEXCUBE Universal Banking.

1.3 Organization

This manual is organized as follows:

- The chapter 2 (Repository Creation Utility (RCU)) guides you through the use of repository creation utility
- Subsequent chapters contain implementation specific information

1.4 Acronyms and Abbreviations

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

2. Repository Creation Utility (RCU)

2.1 Introduction

You can use Oracle Repository Creation Utility (RCU) to create schemas that are required for SOA suite installation.

Refer to the Oracle certification matrix for qualified databases.

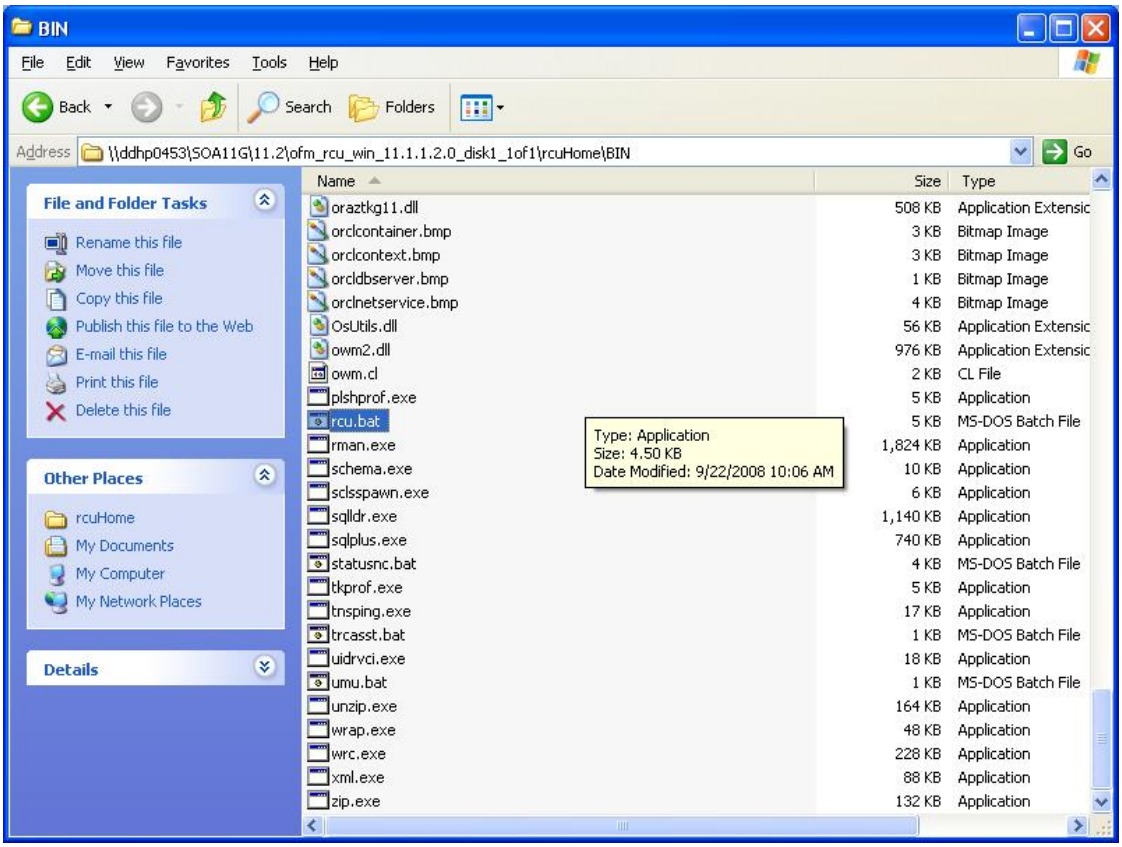
2.2 Running RCU Utility

For running RCU utility, follow the steps given below.

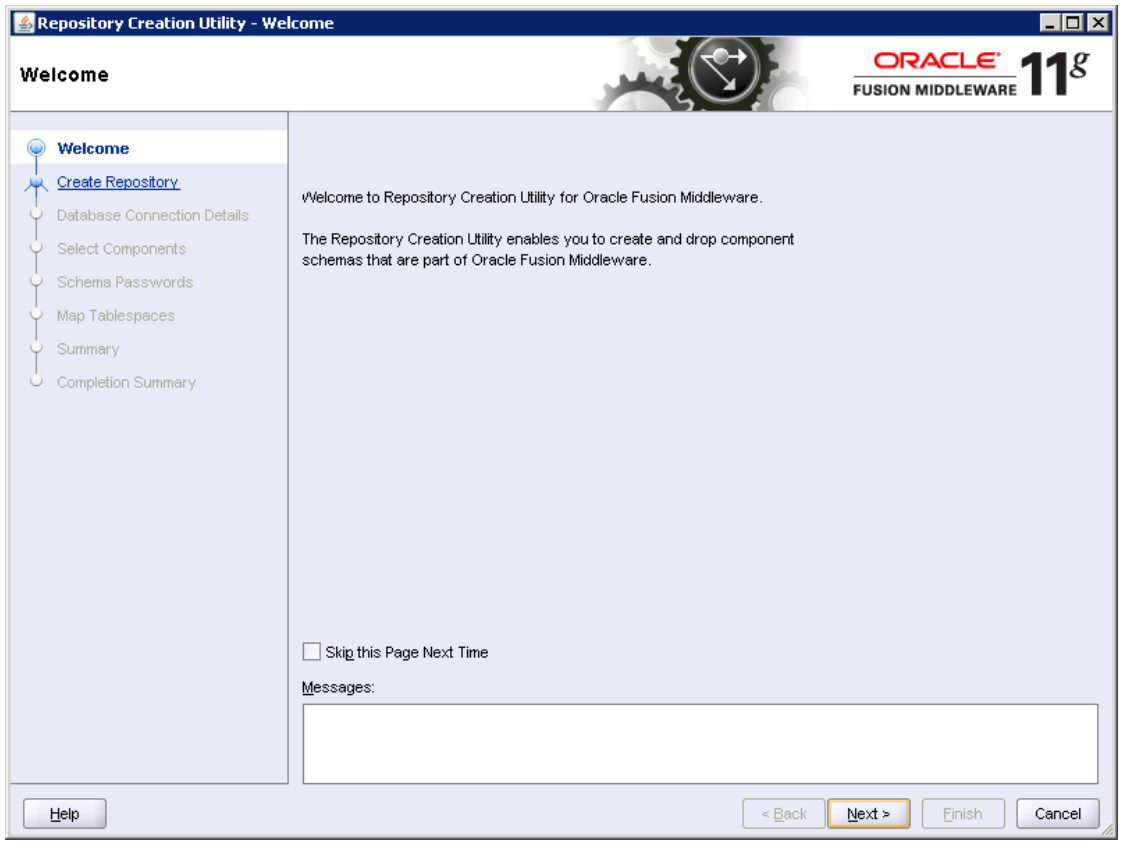
1. Download the RCU utility from the following URL.

   http://download.oracle.com/otn/nt/middleware/11g/ofm_rcu_win32_11.1.1.2.1_disk1_1of1.zip

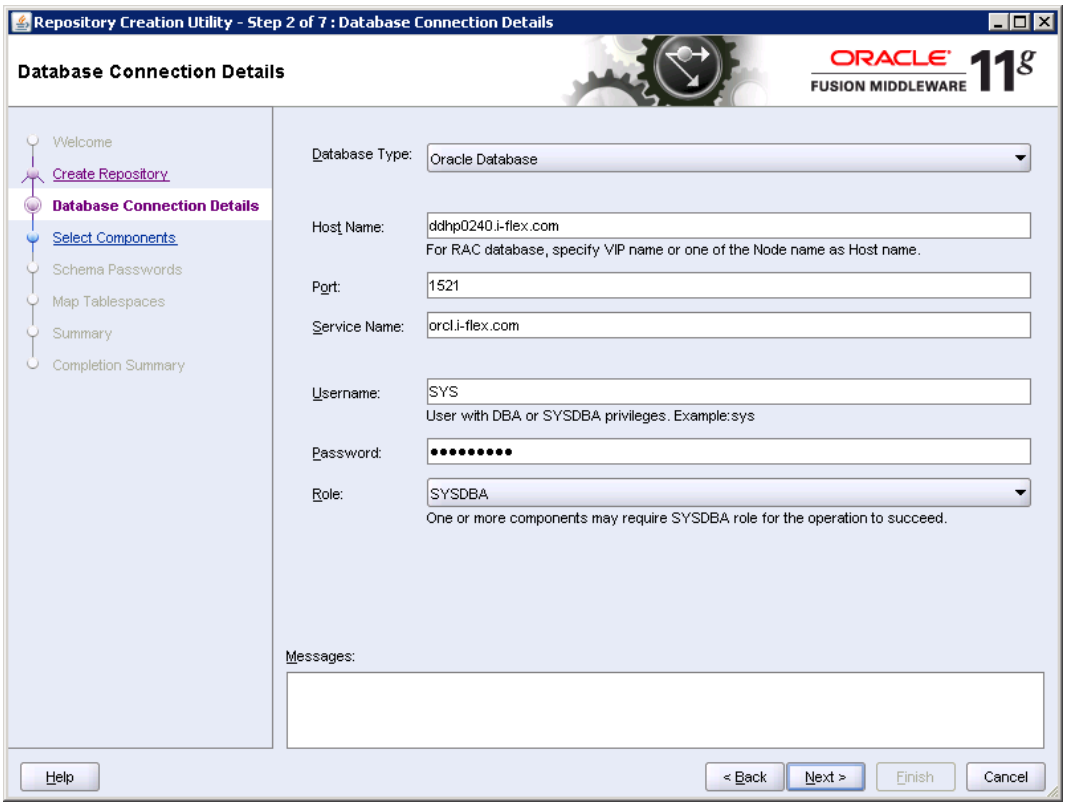
2. Unzip the contents into a folder.



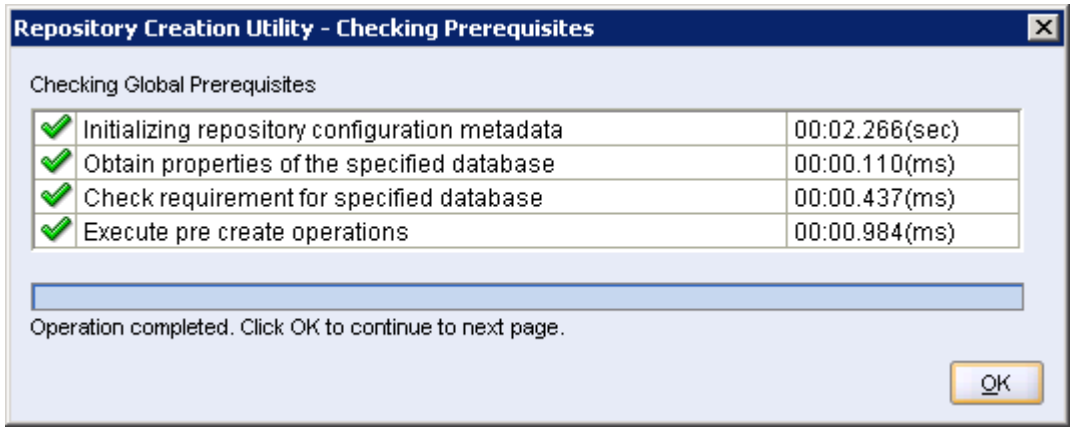
3. Run the *rcu.bat* from the extracted folder.

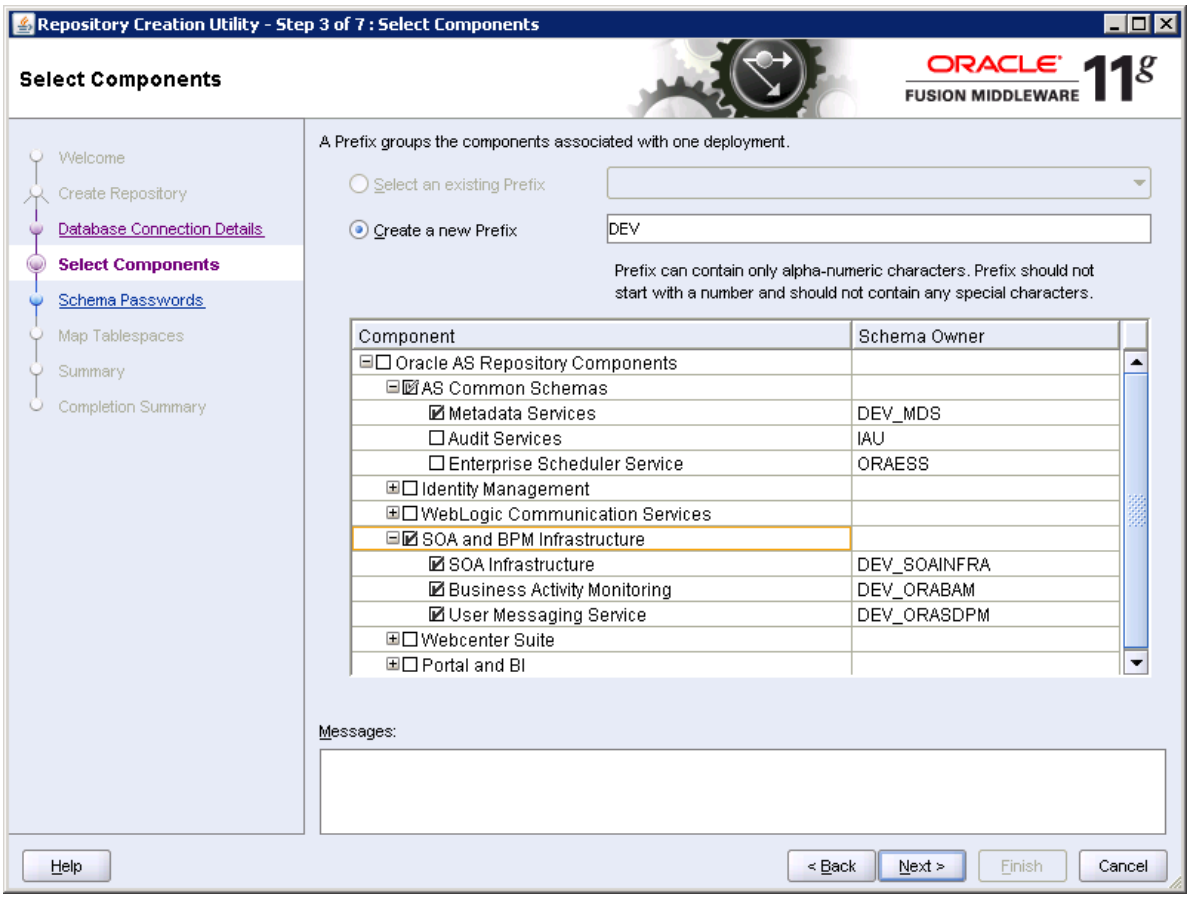


4. Select ‘Create Repository’ option and click ‘Next’ button.

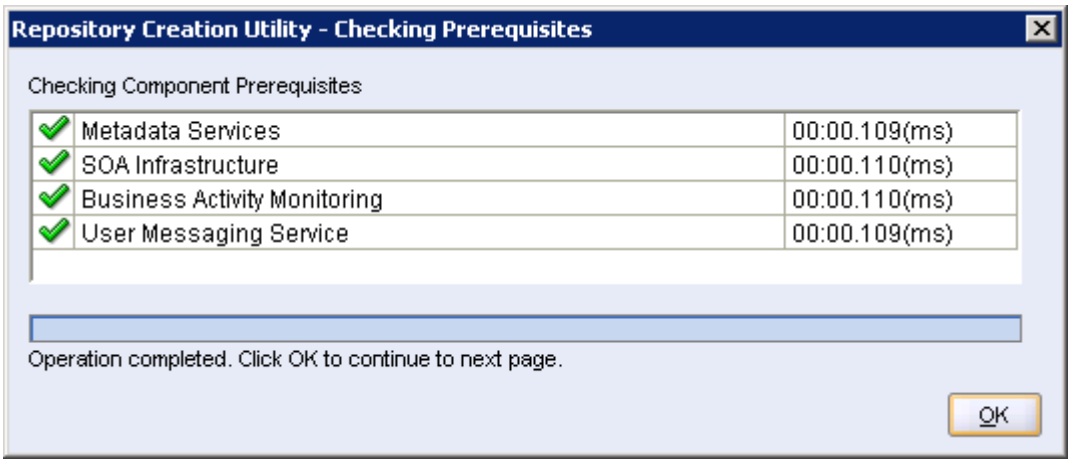


5. Provide oracle database connection properties. SYS credentials are required. Once you have specified the details, click 'Next' button.

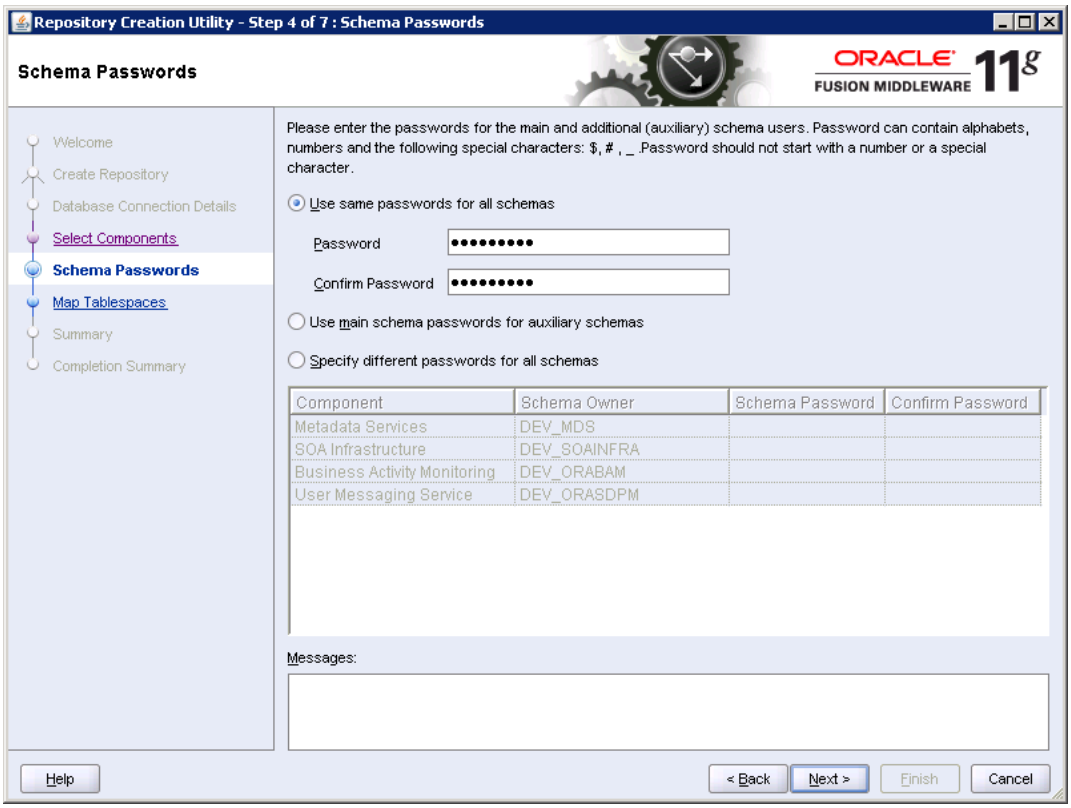




6. Create a new prefix in order to add multiple SOA schemas in the same instance.
7. On selecting SOA & BPM Infrastructure, by default ‘AS Common Schemas’ and ‘Metadata Services’ check-boxes are checked. Do not uncheck these options.
8. If you do not wish to use ‘Business Activity Monitoring’, you may uncheck it.

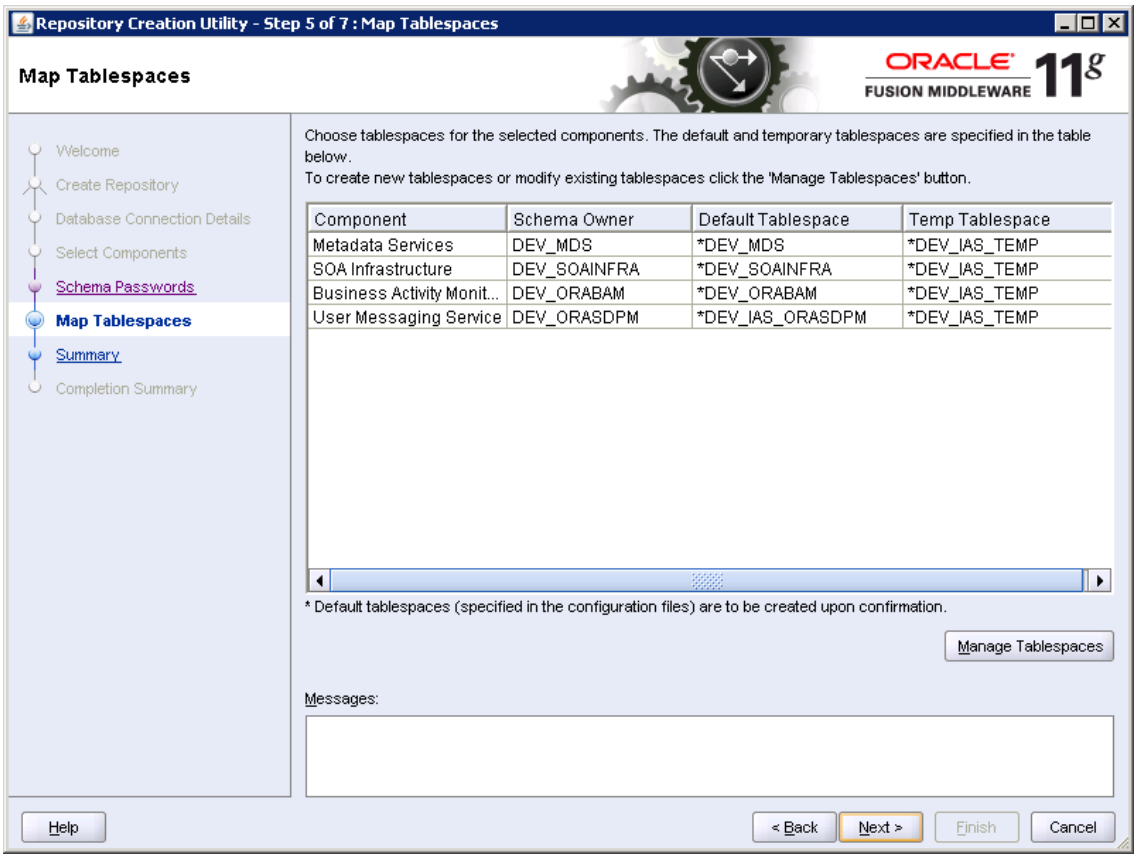


Click ‘OK’.

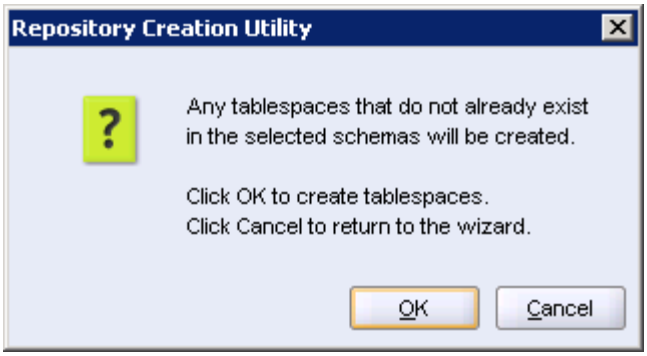


Note: It is important to remember the password or passwords that you enter during the process.

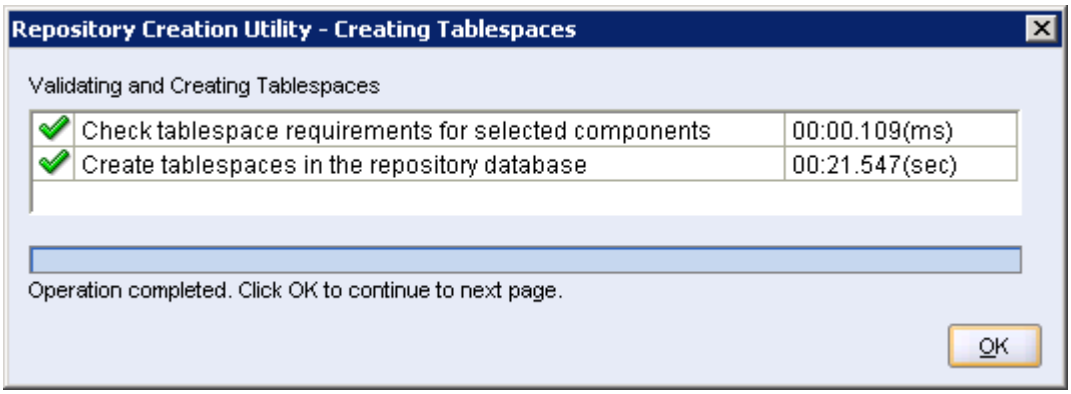
9. Specify the passwords and click ‘Next’ button.



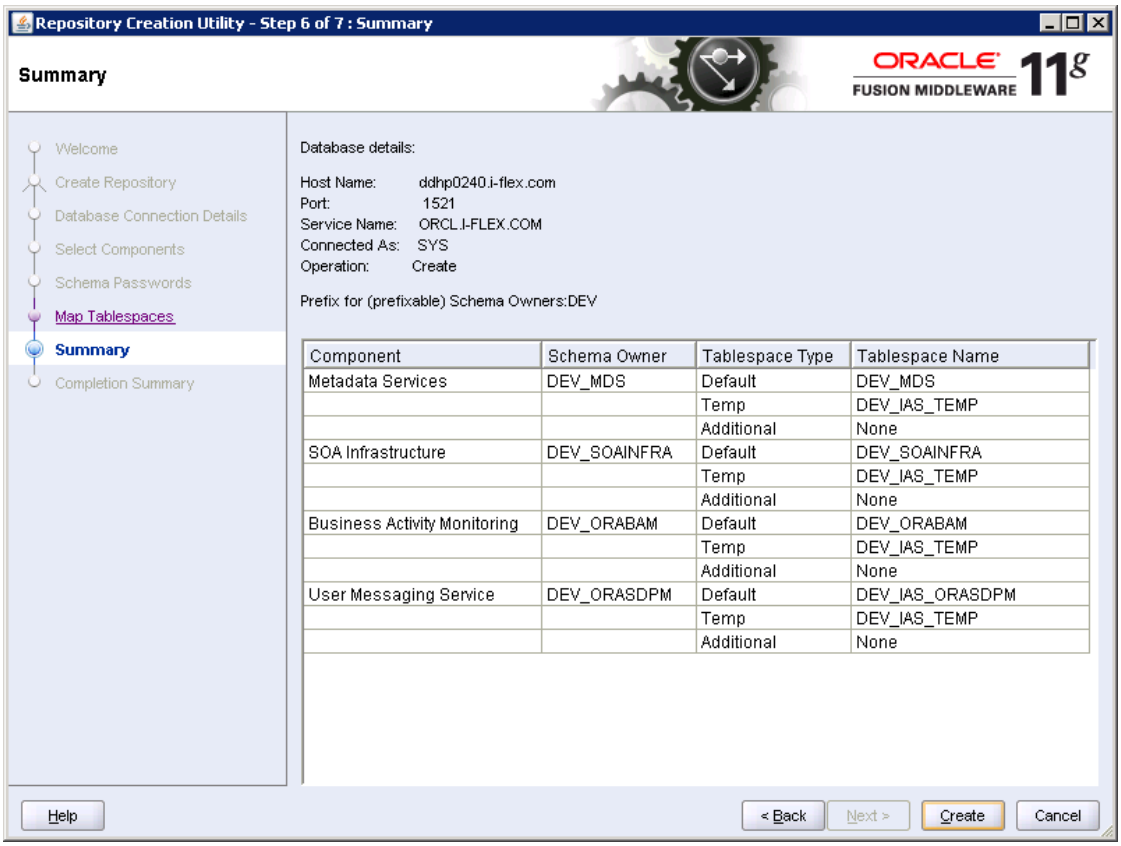
10. Click ‘Next’.



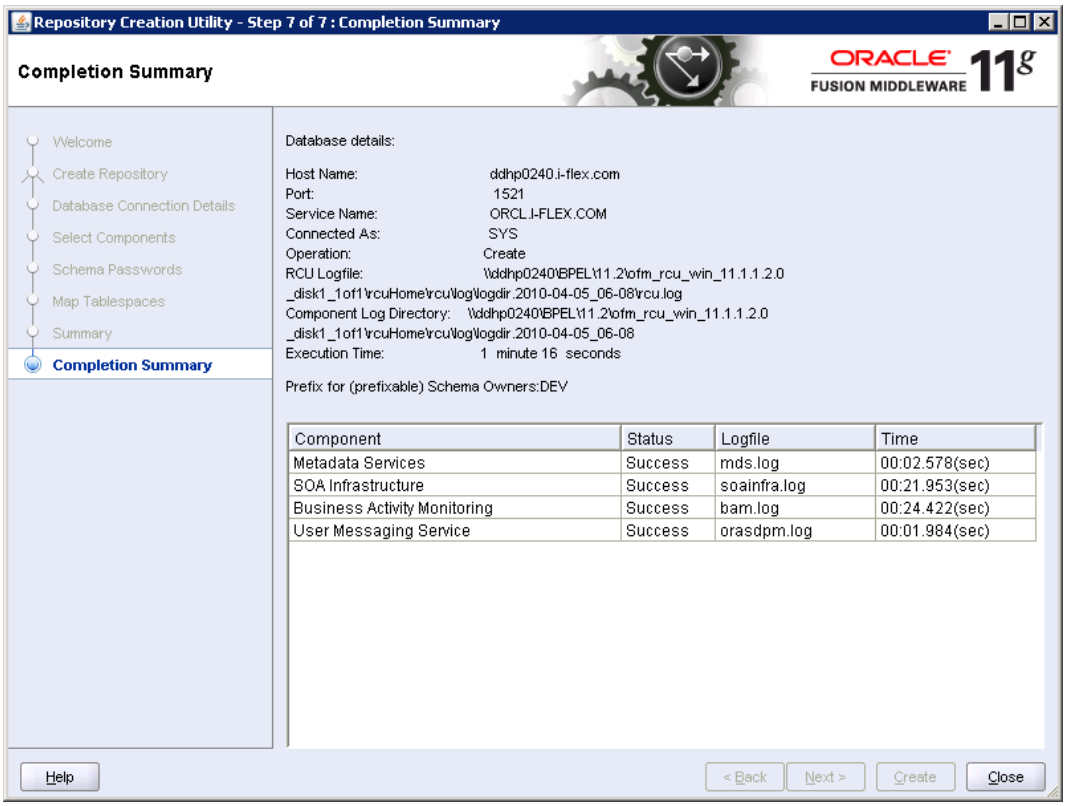
11. Click ‘OK’.



12. Tablespaces creation.



13. Summary .



14. Completion Summary

3. Oracle Weblogic 11gR1 (10.3.6)

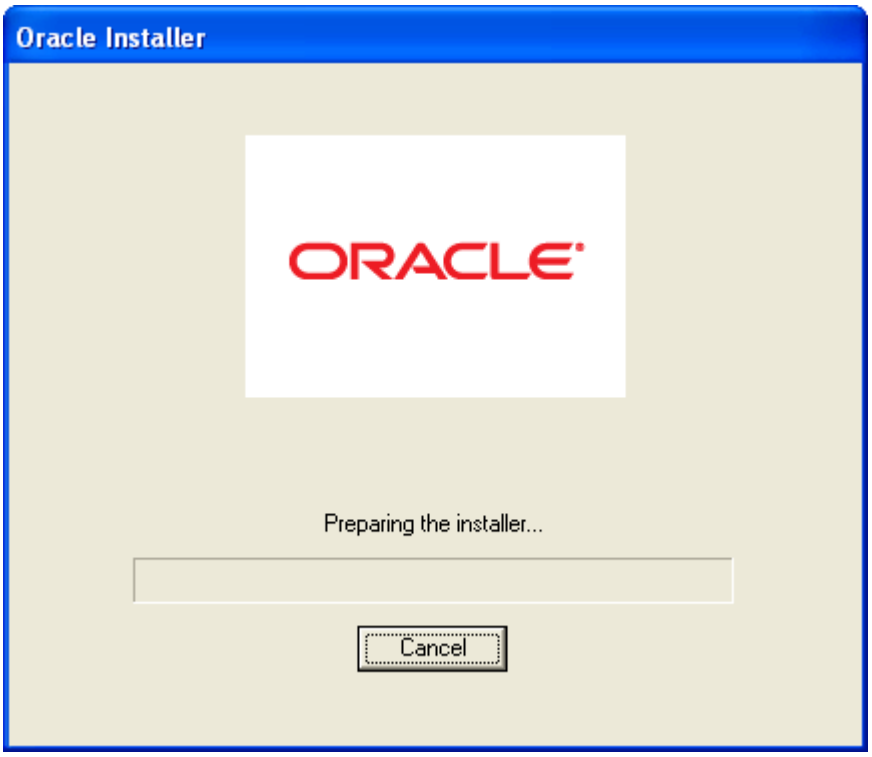
3.1 Introduction

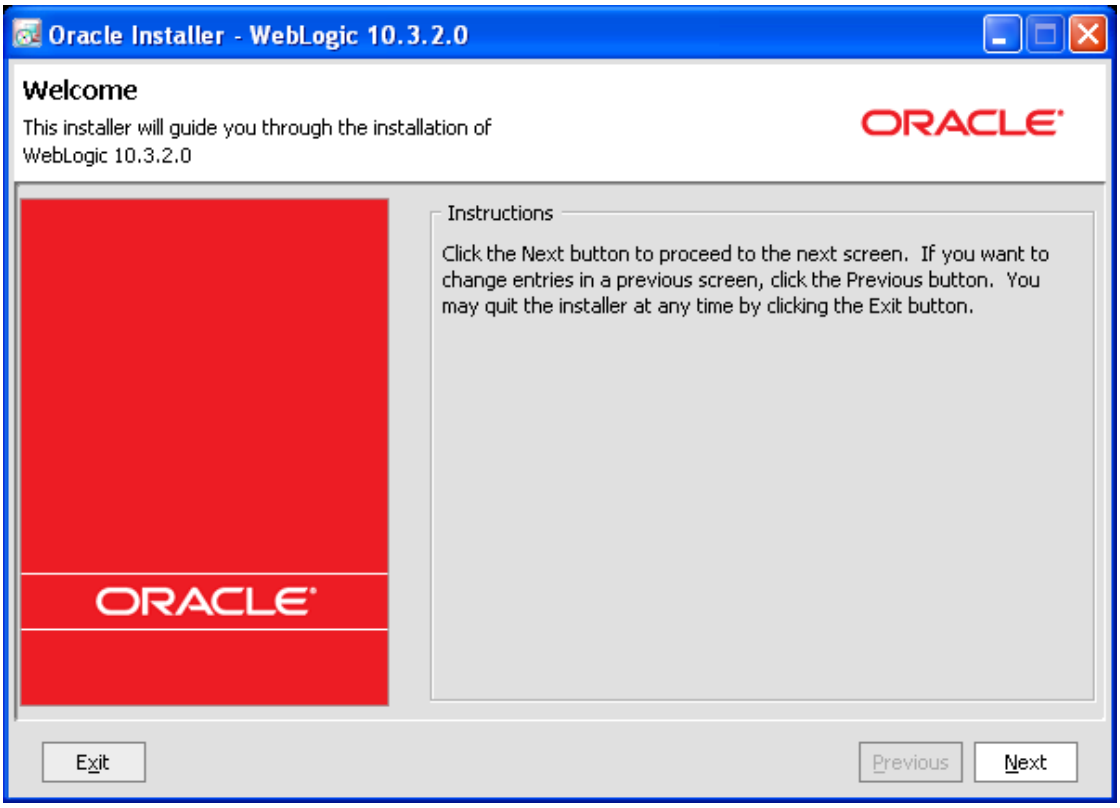
Oracle Weblogic 11gR1 I is the j2ee container for soa suite

The version required is 10.3.6

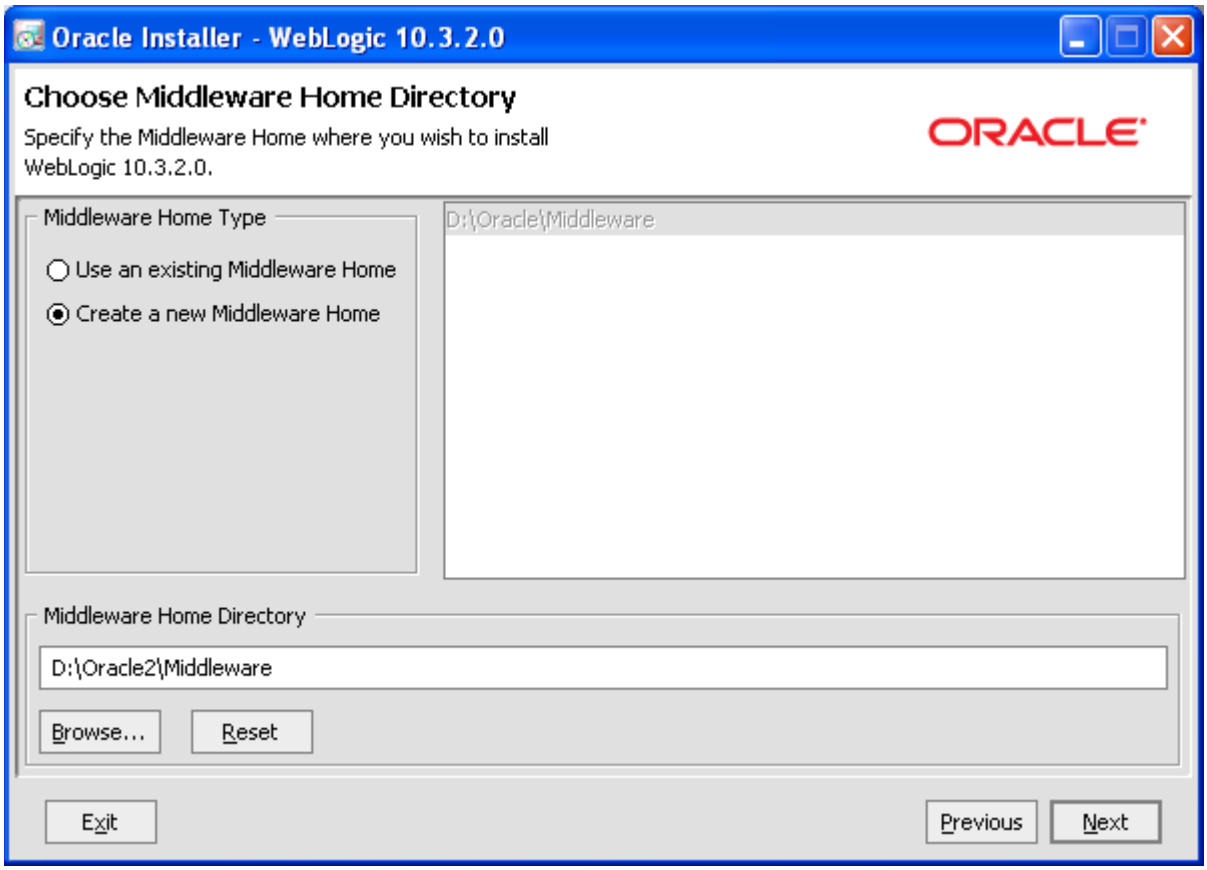
3.2 Download URL from Oracle

1. http://www.oracle.com/technology/software/products/ias/htdocs/wls_main.html
2. Download based on your needs (Windows / Linux / Generic)
3. The installation process might slightly vary depending on the platform OS
4. This step may be skipped if the weblogic installation is available
5. Run the <….wls1032_win32..>.exe

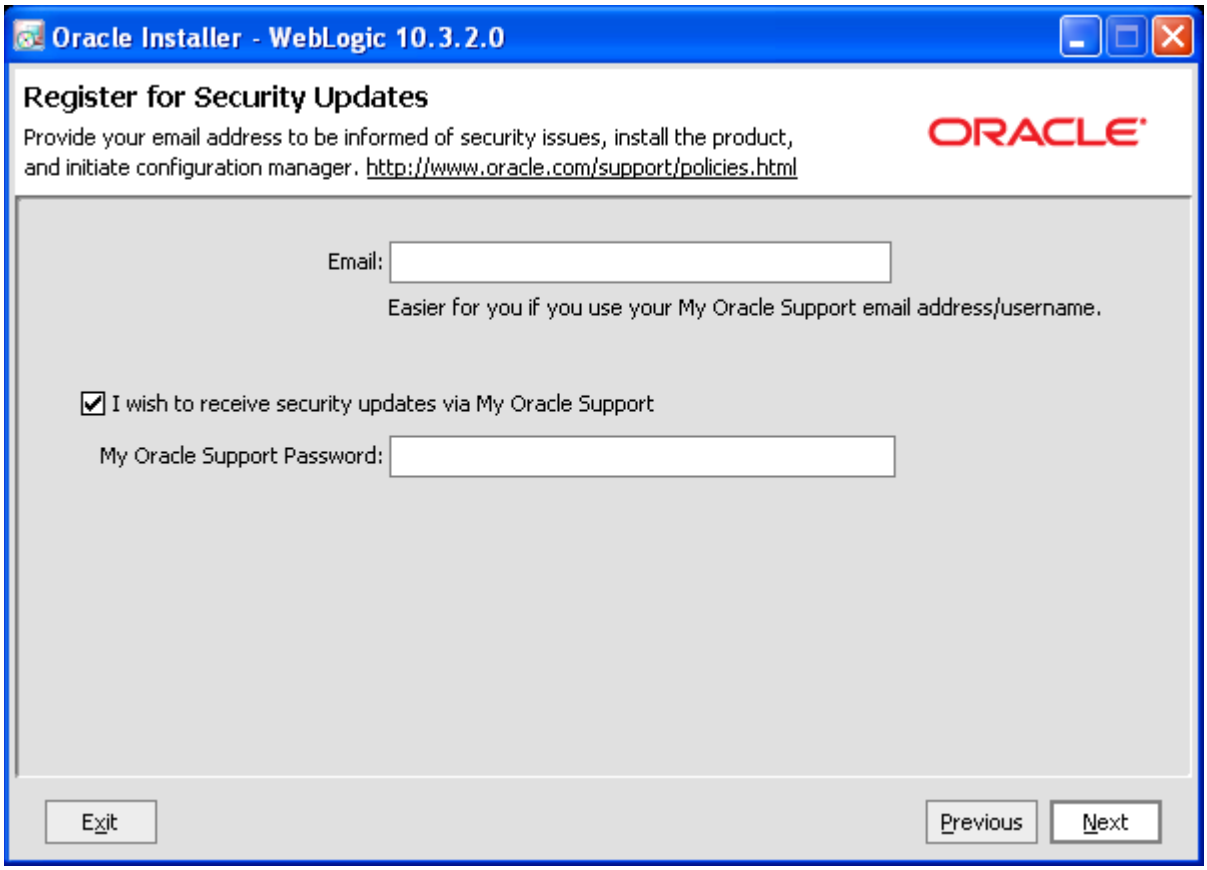



Oracle Installer - WebLogic 10.3.2.0
Welcome
This installer will guide you through the installation of WebLogic 10.3.2.0
ORACLE
Instructions
Click the Next button to proceed to the next screen. If you want to change entries in a previous screen, click the Previous button. You may quit the installer at any time by clicking the Exit button.
ORACLE
Exit
Previous
Next

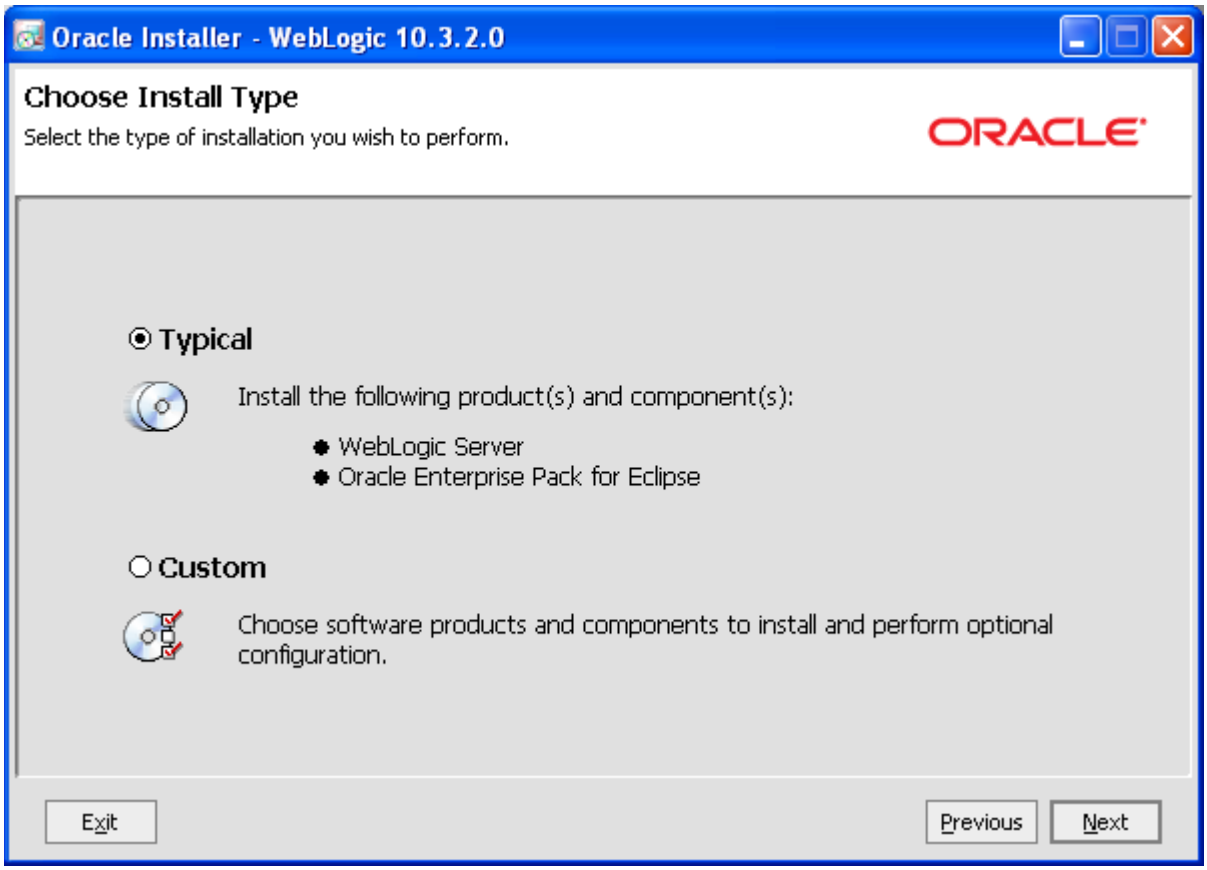
6. Click ‘Next’.



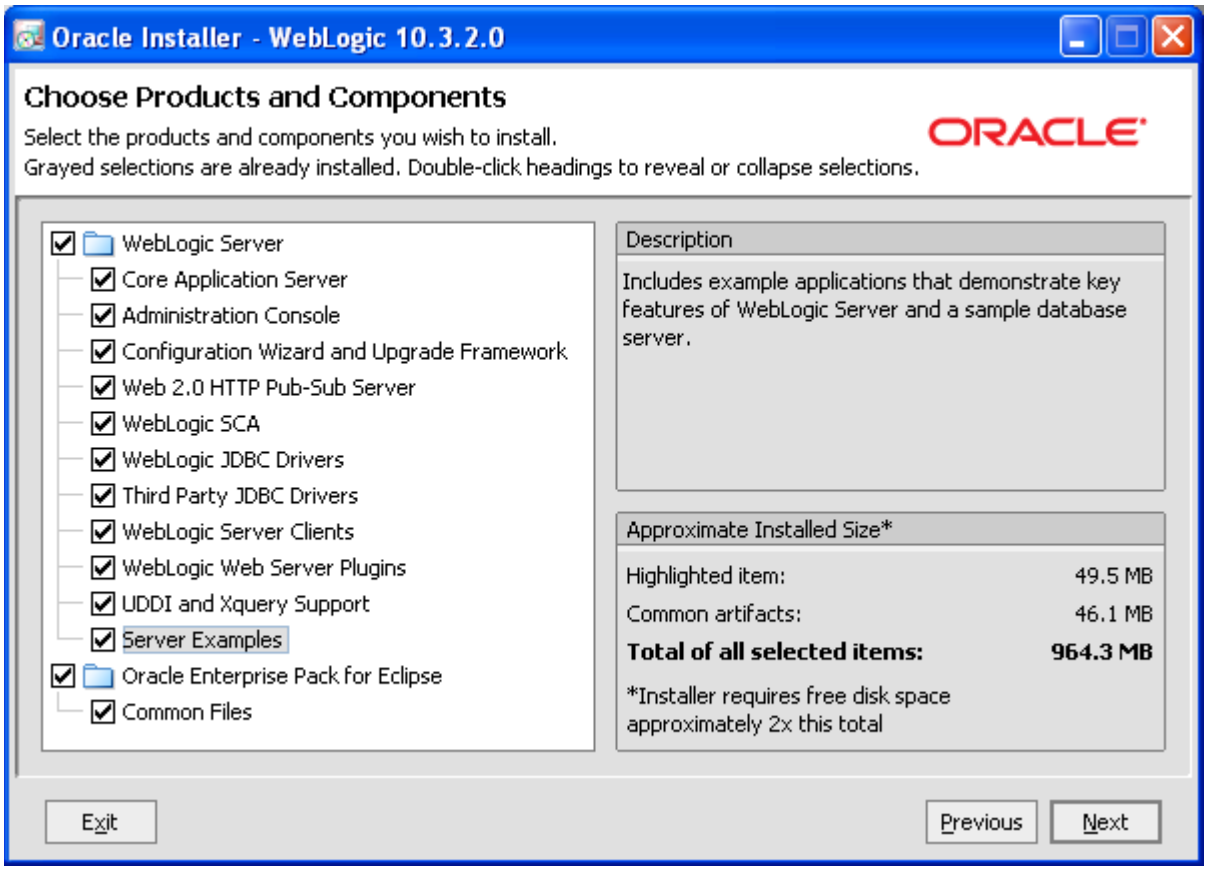
7. Specify the middleware home the same will be used during SOA suite installation.



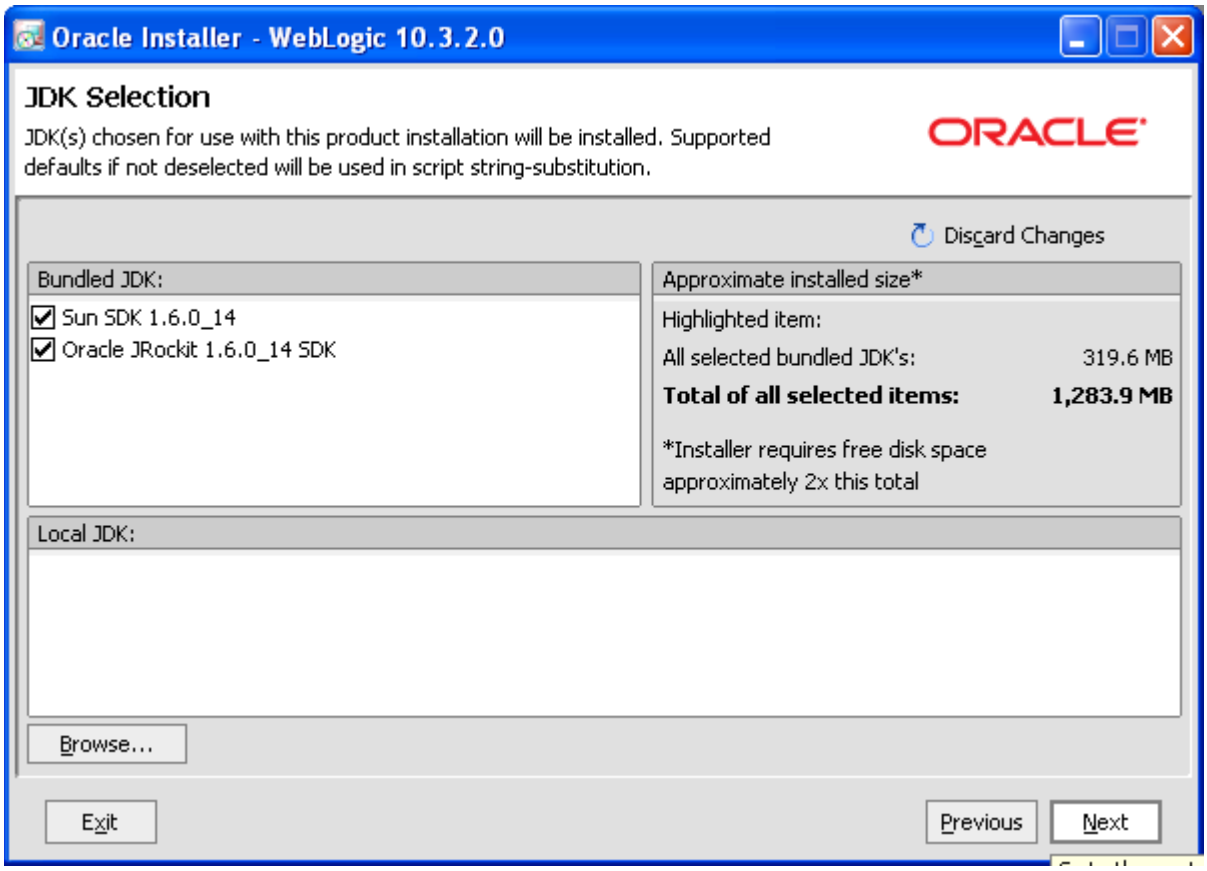
8. Register for security updates if needed



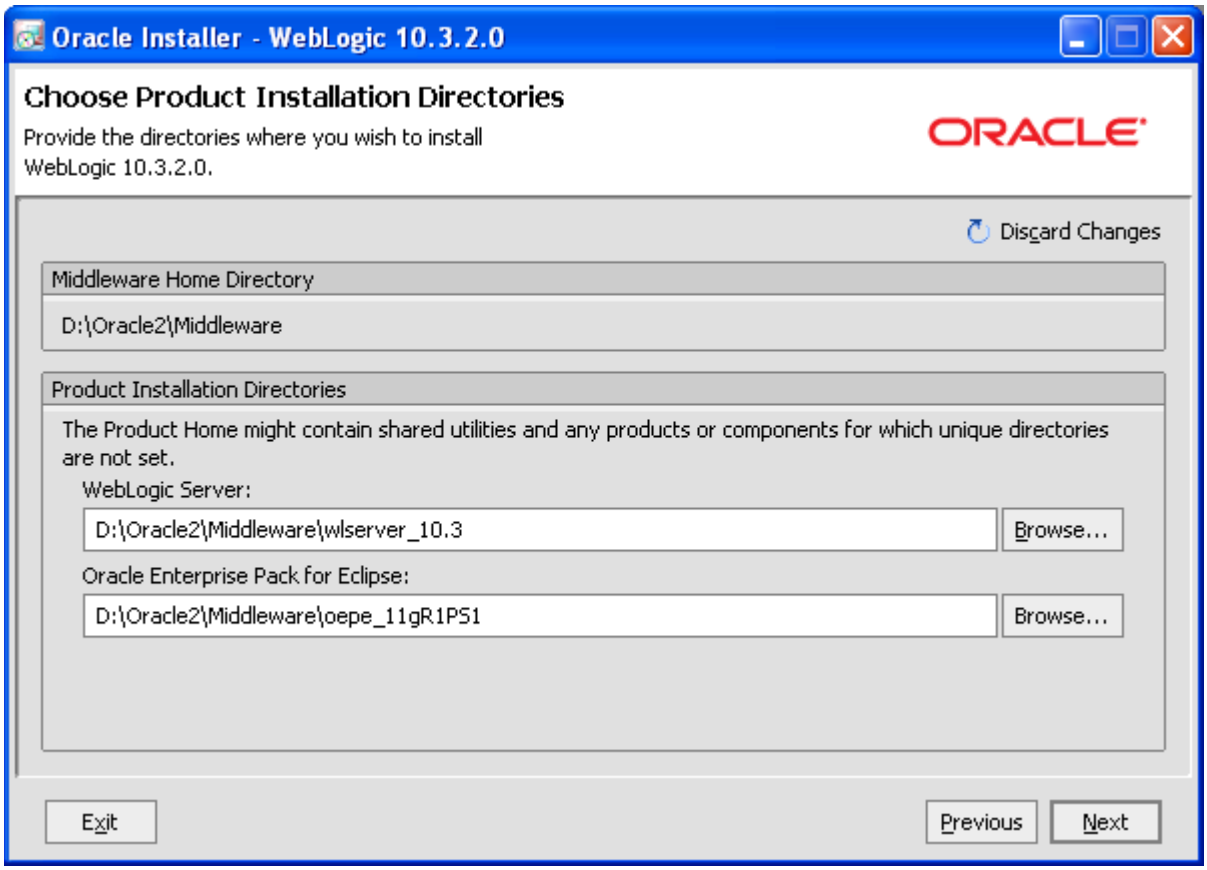
9. Choose typical or custom to customize installation



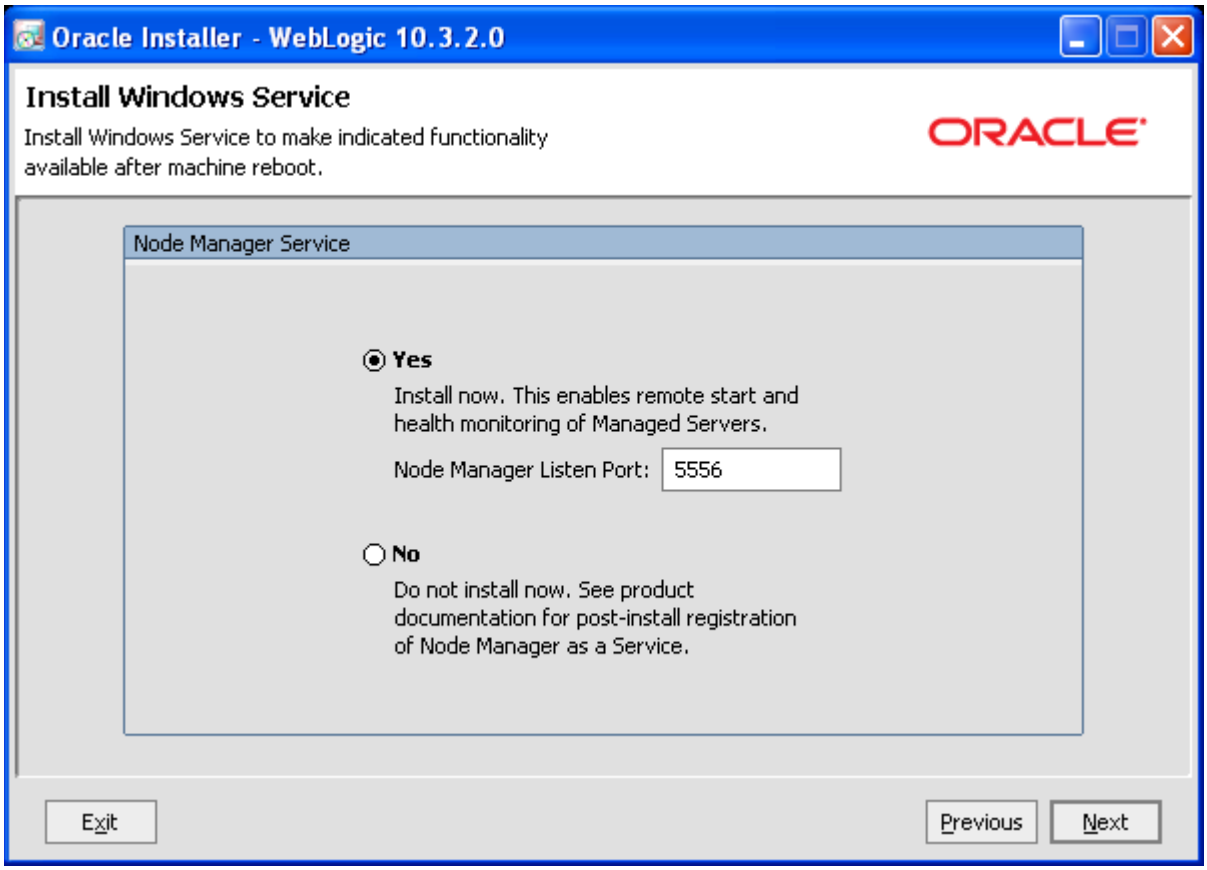
10. If custom , customize installation



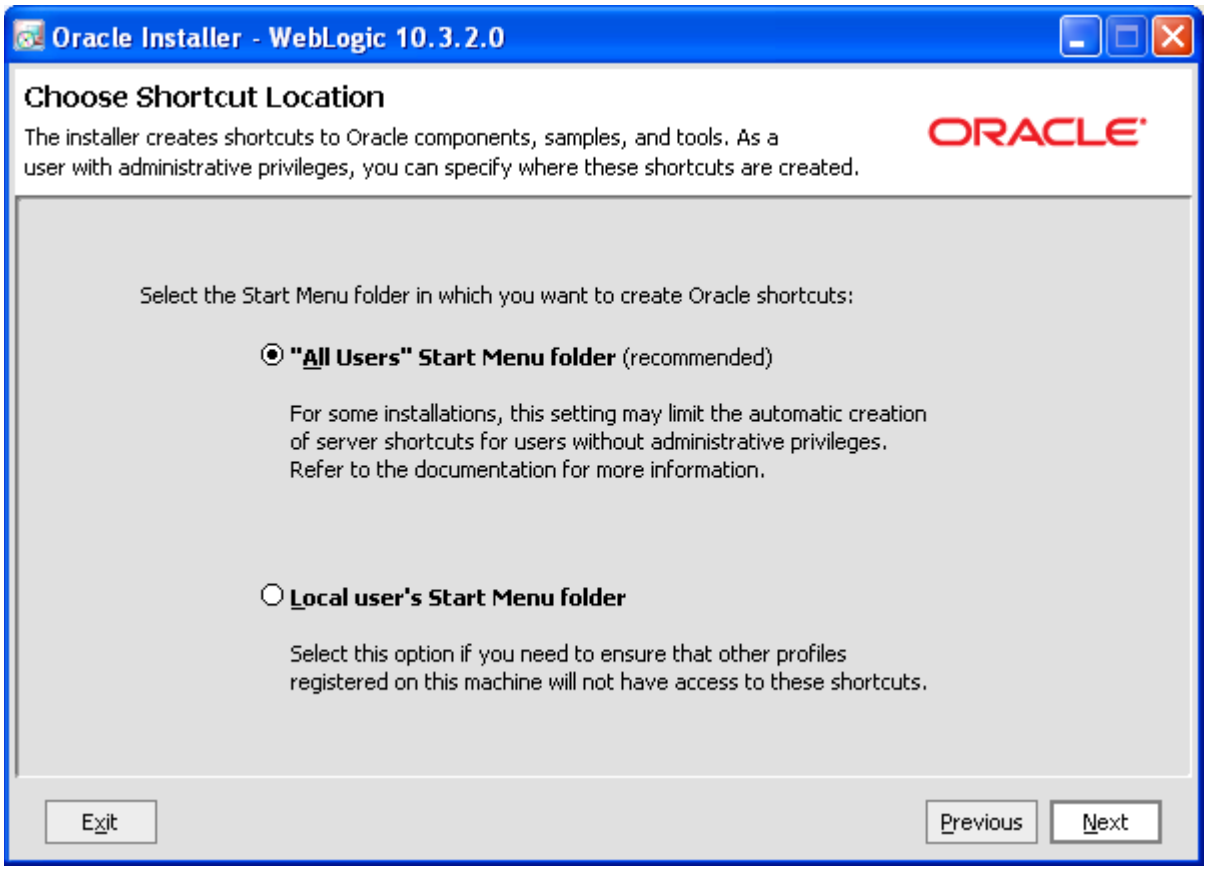
11. Select Bundled JDK that is needed

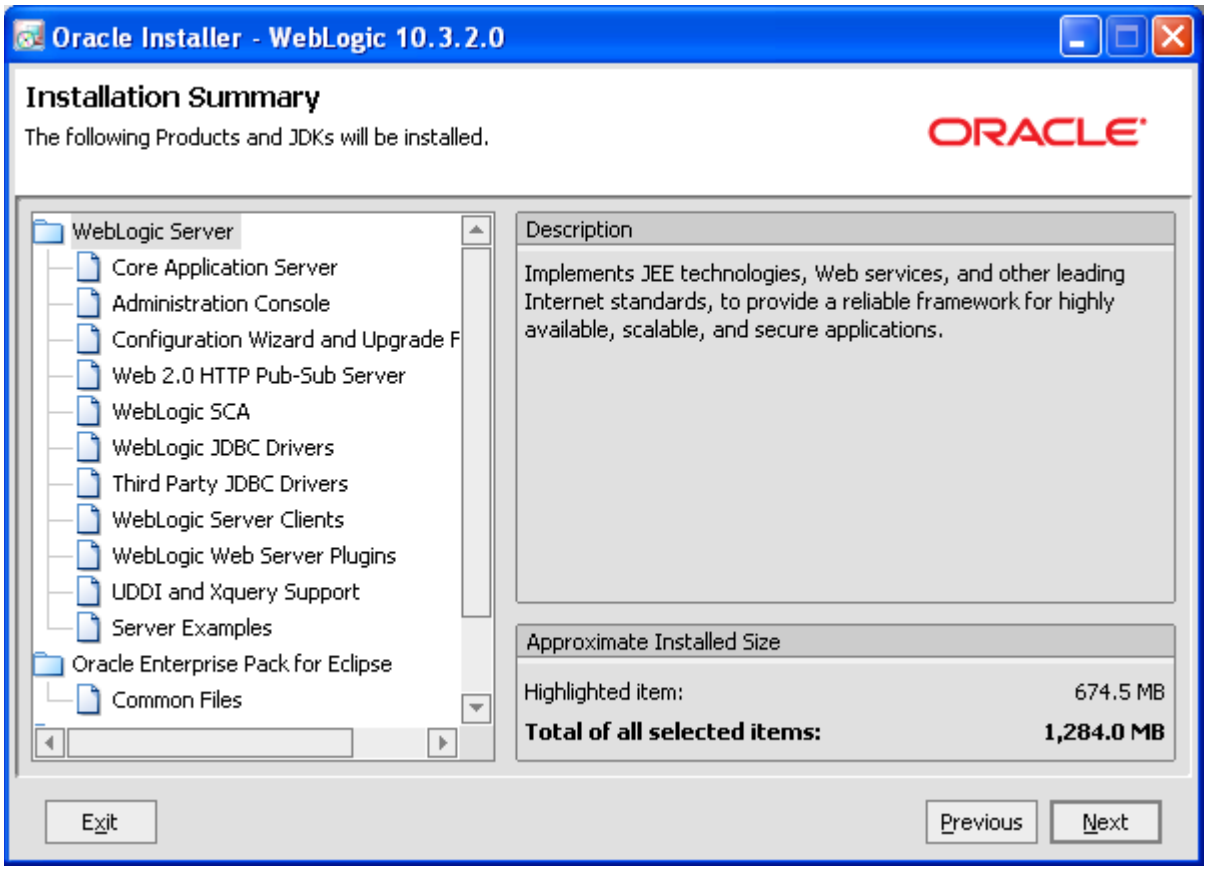


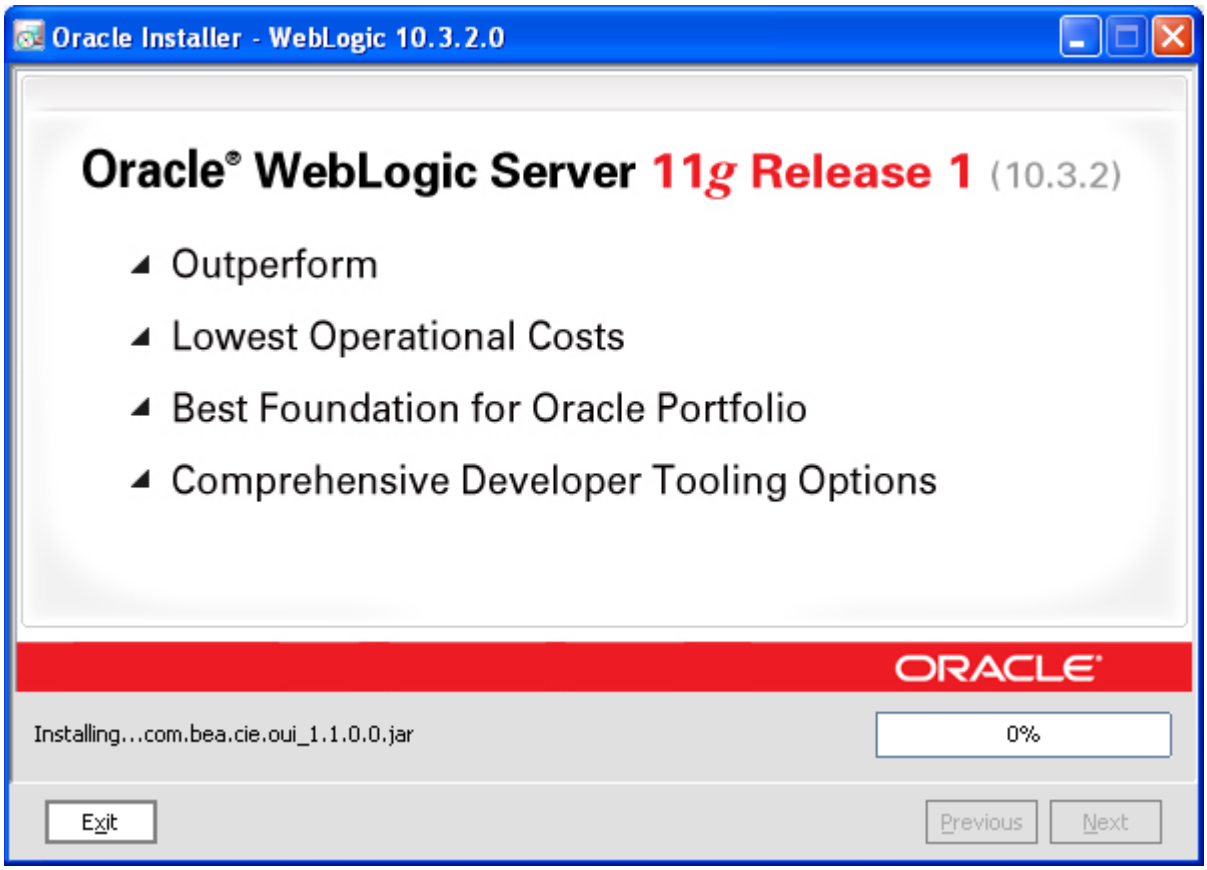
12. Click ‘Next’.



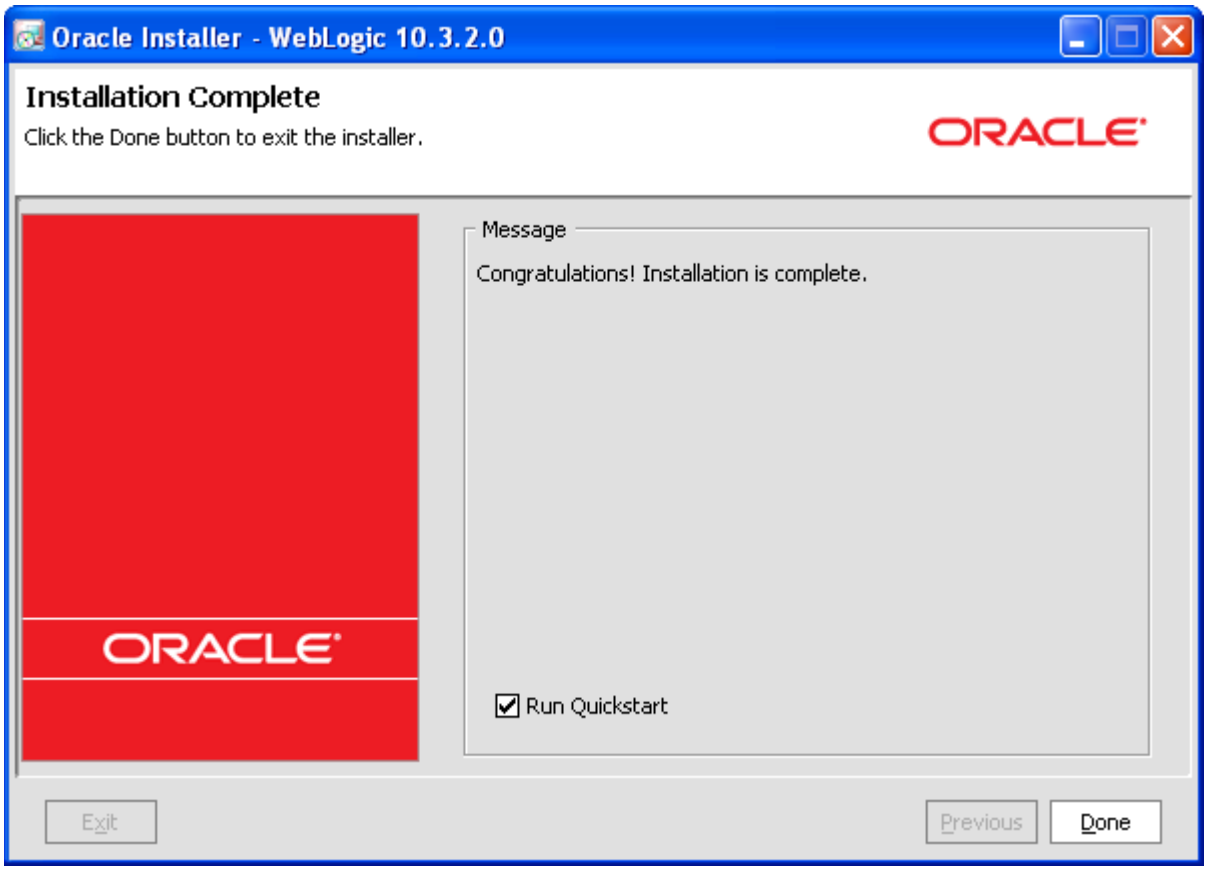
13. Install Node manager if remote start and monitoring is required needed.


Oracle Installer - WebLogic 10.3.2.0
Choose Shortcut Location
The installer creates shortcuts to Oracle components, samples, and tools. As a user with administrative privileges, you can specify where these shortcuts are created.
ORACLE
Select the Start Menu folder in which you want to create Oracle shortcuts:
"All Users" Start Menu folder (recommended)
For some installations, this setting may limit the automatic creation of server shortcuts for users without administrative privileges. Refer to the documentation for more information.
Local user's Start Menu folder
Select this option if you need to ensure that other profiles registered on this machine will not have access to these shortcuts.
Exit
Previous
Next


Oracle Installer - WebLogic 10.3.2.0
Installation Summary
The following Products and JDKs will be installed.
ORACLE
WebLogic Server
Core Application Server
Administration Console
Configuration Wizard and Upgrade F
Web 2.0 HTTP Pub-Sub Server
WebLogic SCA
WebLogic JDBC Drivers
Third Party JDBC Drivers
WebLogic Server Clients
WebLogic Web Server Plugins
UDDI and Xquery Support
Server Examples
Oracle Enterprise Pack for Eclipse
Common Files
Description
Implements JEE technologies, Web services, and other leading Internet standards, to provide a reliable framework for highly available, scalable, and secure applications.
Approximate Installed Size
Highlighted item: 674.5 MB
Total of all selected items: 1,284.0 MB
Exit
Previous
Next


Oracle Installer - WebLogic 10.3.2.0
Oracle® WebLogic Server 11g Release 1 (10.3.2)
Outperform
Lowest Operational Costs
Best Foundation for Oracle Portfolio
Comprehensive Developer Tooling Options
ORACLE
Installing...com.bea.cie.oui_1.1.0.0.jar
0%
Exit
Previous
Next

ORACLE


Oracle Installer - WebLogic 10.3.2.0
Installation Complete
Click the Done button to exit the installer.
ORACLE
ORACLE
Message
Congratulations! Installation is complete.
Run Quickstart
Exit
Previous
Done

4. Oracle SOA Suite 11gR1(11.1.1.7)

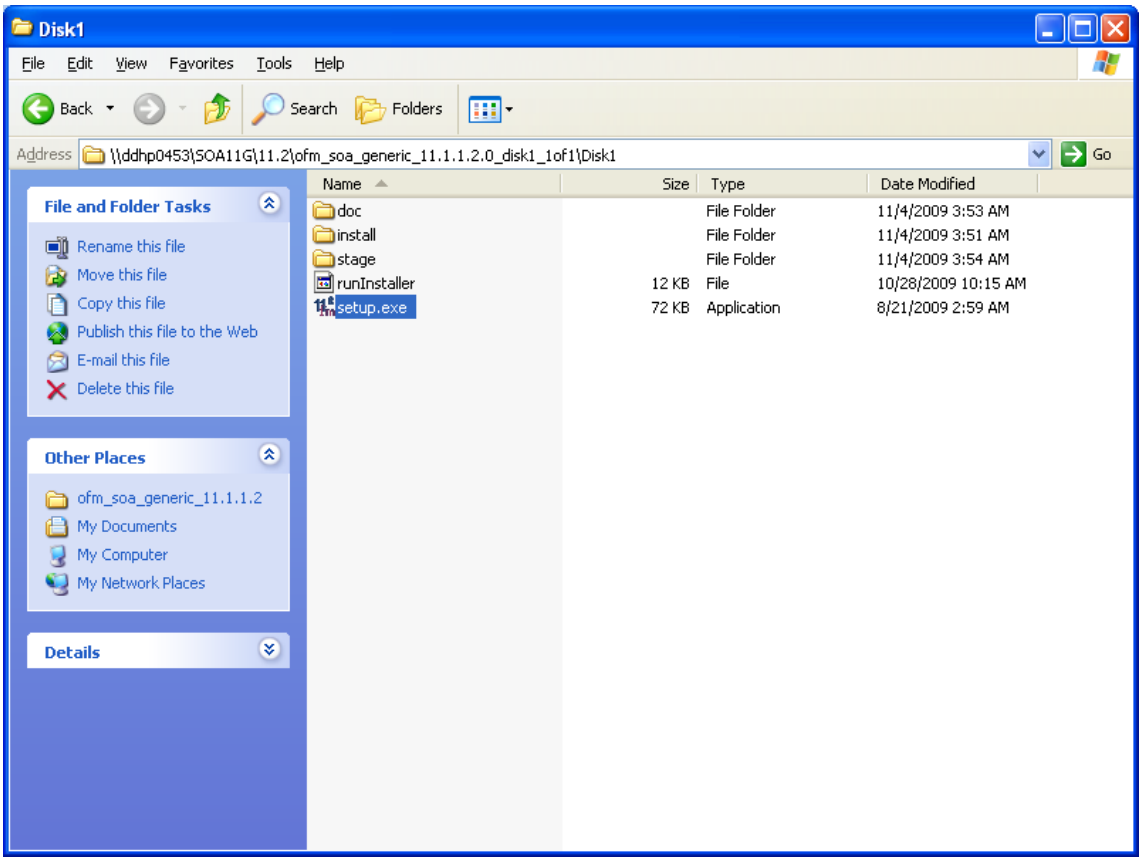
4.1 Introduction

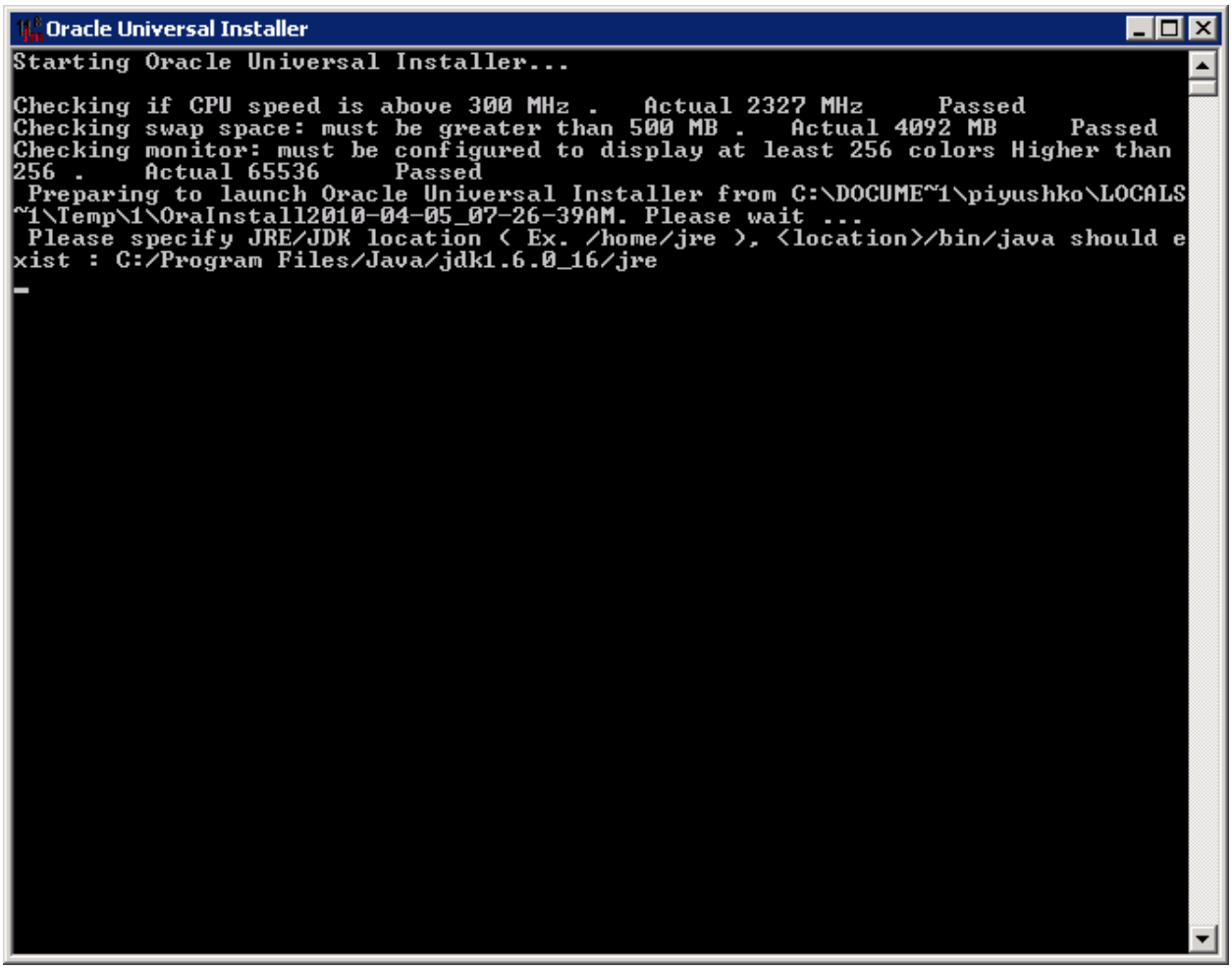
Oracle SOA suite 11gR1 (11.1.1.7) is required for running FCUBS BPEL Process flows

The version required is 11.1.1.7

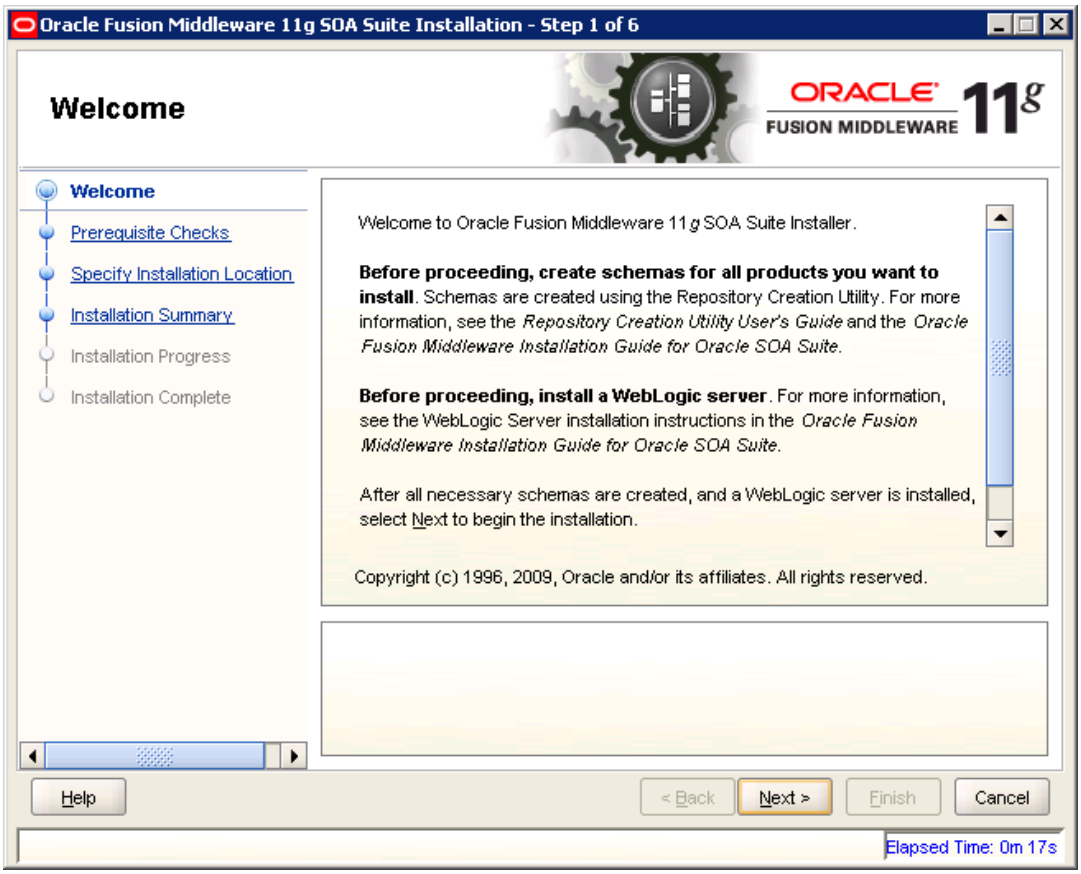
4.2 Download URL from Oracle

1. http://www.oracle.com/technology/software/products/ias/htdocs/wls_main.html
2. Download based on your needs (Windows / Linux / Generic)
3. The installation process might slightly vary depending on the platform / mode if installation (package / net..)
4. Unzip to a folder and run from Disk1 folder setup.exe

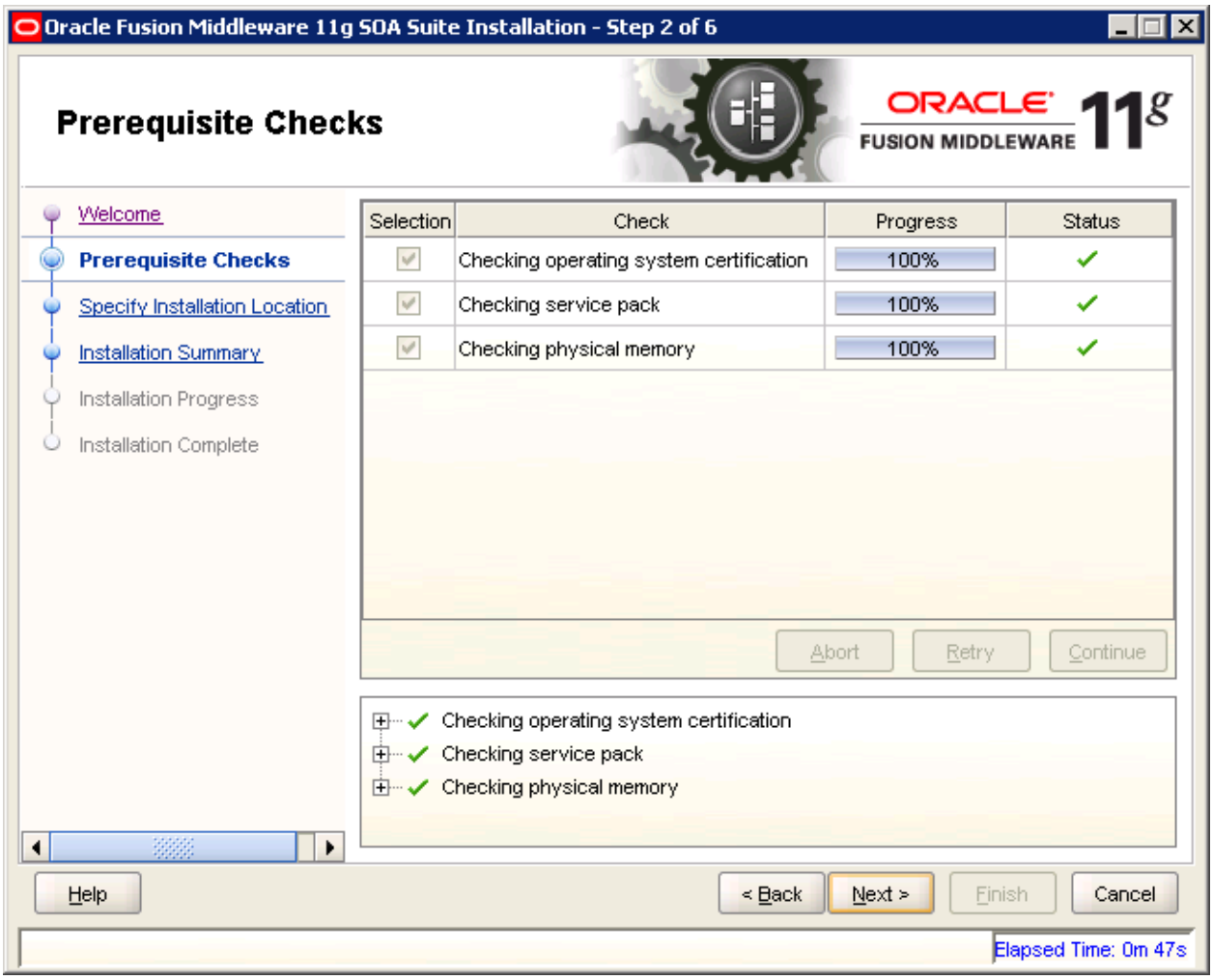

Disk1
File Edit View Favorites Tools Help
Back Search Folders
Address \\ddhp0453\SOA11G\11.2\ofm_soa_generic_11.1.1.2.0_disk1_1of1\Disk1
Go
File and Folder Tasks
Rename this file
Move this file
Copy this file
Publish this file to the Web
E-mail this file
Delete this file
Other Places
ofm_soa_generic_11.1.1.2
My Documents
My Computer
My Network Places
Details
Name
Size
Type
Date Modified
doc
File Folder
11/4/2009 3:53 AM
install
File Folder
11/4/2009 3:51 AM
stage
File Folder
11/4/2009 3:54 AM
runInstaller
12 KB
File
10/28/2009 10:15 AM
setup.exe
72 KB
Application
8/21/2009 2:59 AM



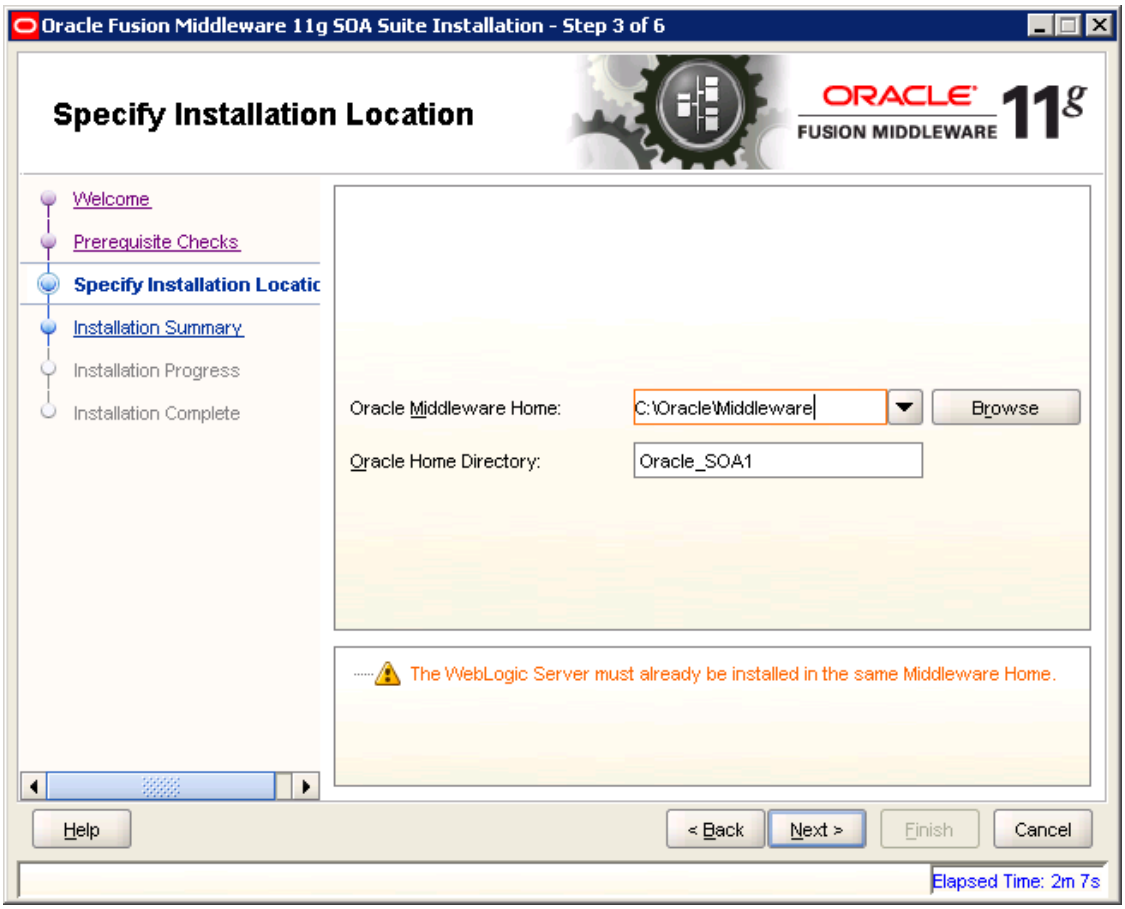
5. Specify JRE/JDK location for installation to proceed.


Oracle Fusion Middleware 11g SOA Suite Installation - Step 1 of 6
Welcome
ORACLE
FUSION MIDDLEWARE 11g
Welcome
Prerequisite Checks
Specify Installation Location
Installation Summary
Installation Progress
Installation Complete
Welcome to Oracle Fusion Middleware 11g SOA Suite Installer.
Before proceeding, create schemas for all products you want to install. Schemas are created using the Repository Creation Utility. For more information, see the Repository Creation Utility User's Guide and the Oracle Fusion Middleware Installation Guide for Oracle SOA Suite.
Before proceeding, install a WebLogic server. For more information, see the WebLogic Server installation instructions in the Oracle Fusion Middleware Installation Guide for Oracle SOA Suite.
After all necessary schemas are created, and a WebLogic server is installed, select Next to begin the installation.
Copyright (c) 1996, 2009, Oracle and/or its affiliates. All rights reserved.
Help
< Back
Next >
Finish
Cancel
Elapsed Time: 0m 17s

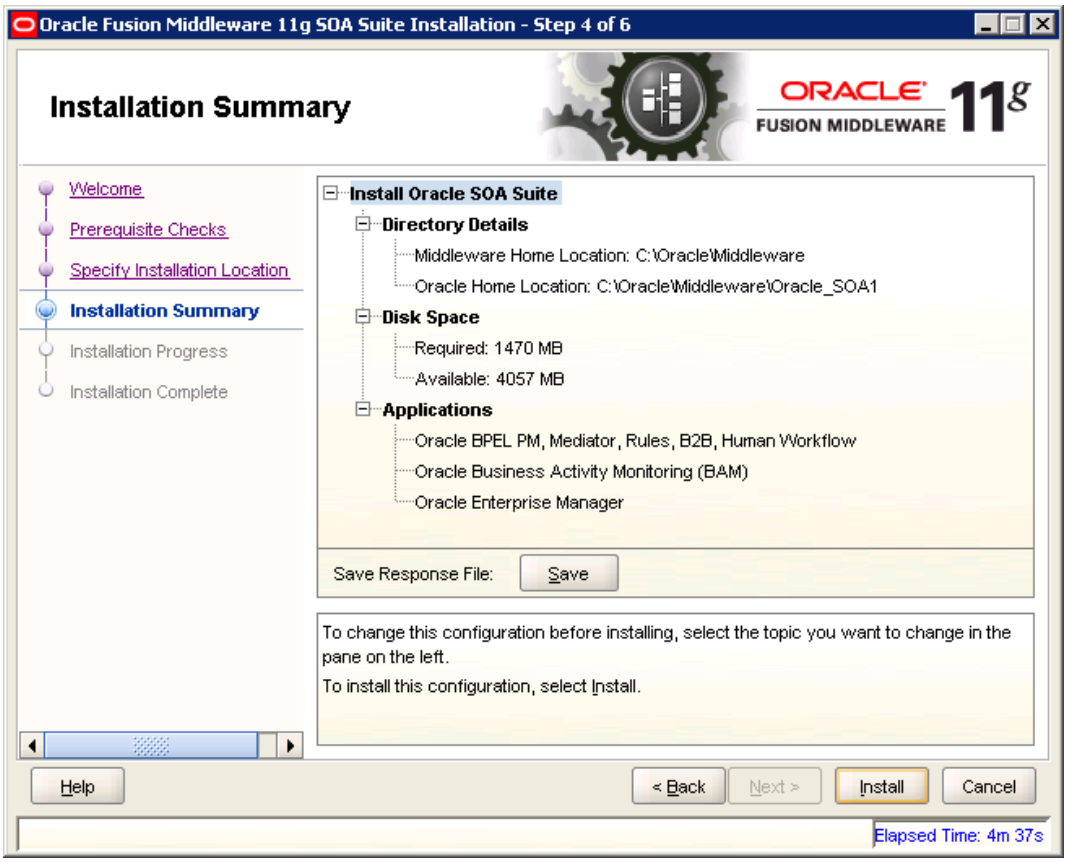
6. Click'Next'.


Oracle Fusion Middleware 11g SOA Suite Installation - Step 2 of 6
Prerequisite Checks
ORACLE
FUSION MIDDLEWARE 11g
Welcome
Prerequisite Checks
Specify Installation Location
Installation Summary
Installation Progress
Installation Complete
Selection
Check
Progress
Status
Checking operating system certification
100%
Checking service pack
100%
Checking physical memory
100%
Abort
Retry
Continue
Checking operating system certification
Checking service pack
Checking physical memory
Help
< Back
Next >
Finish
Cancel
Elapsed Time: 0m 47s

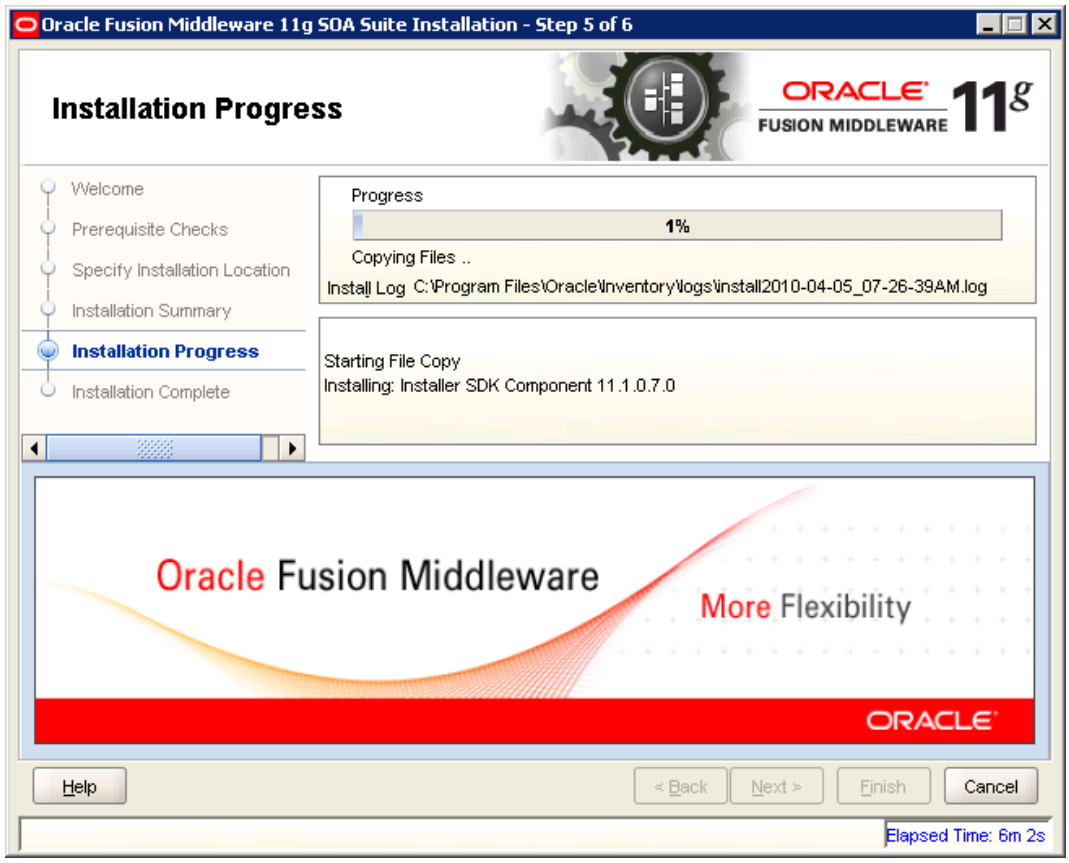
7. Click ‘Next’.



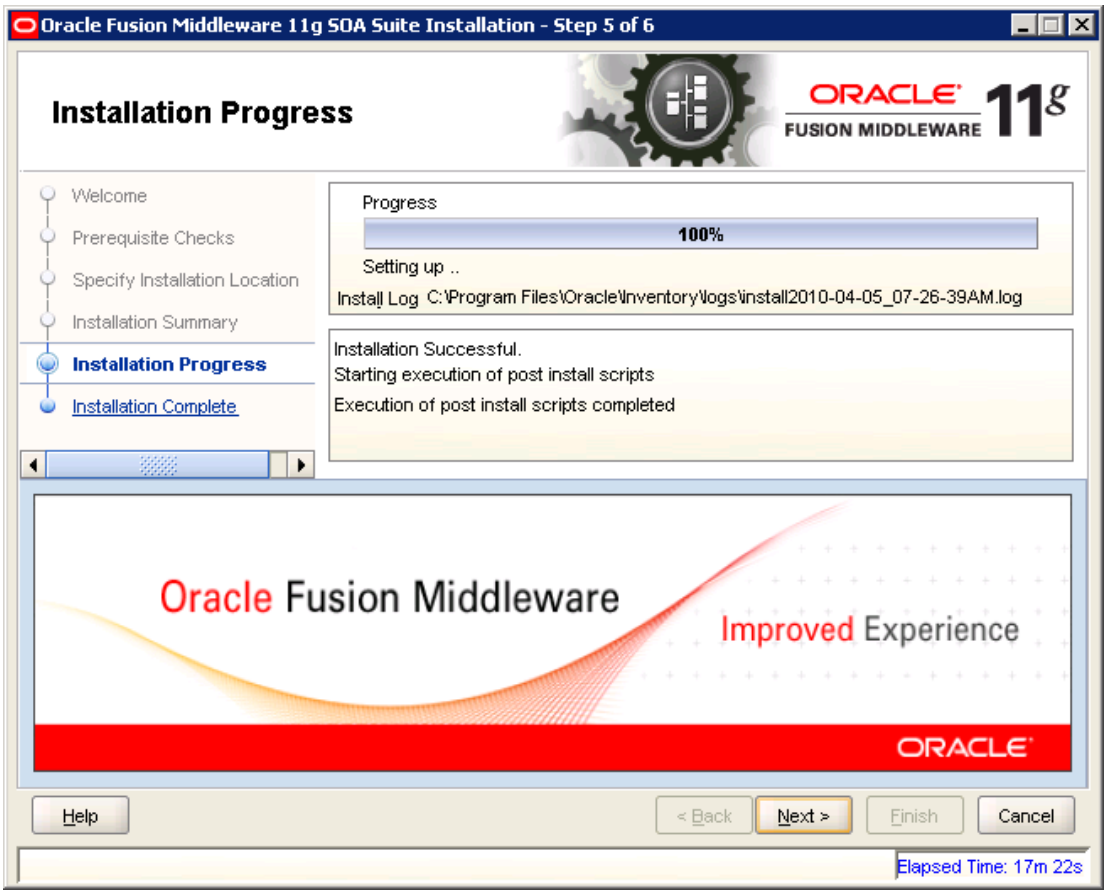
8. Specify the same middleware home that was used for Weblogic server.



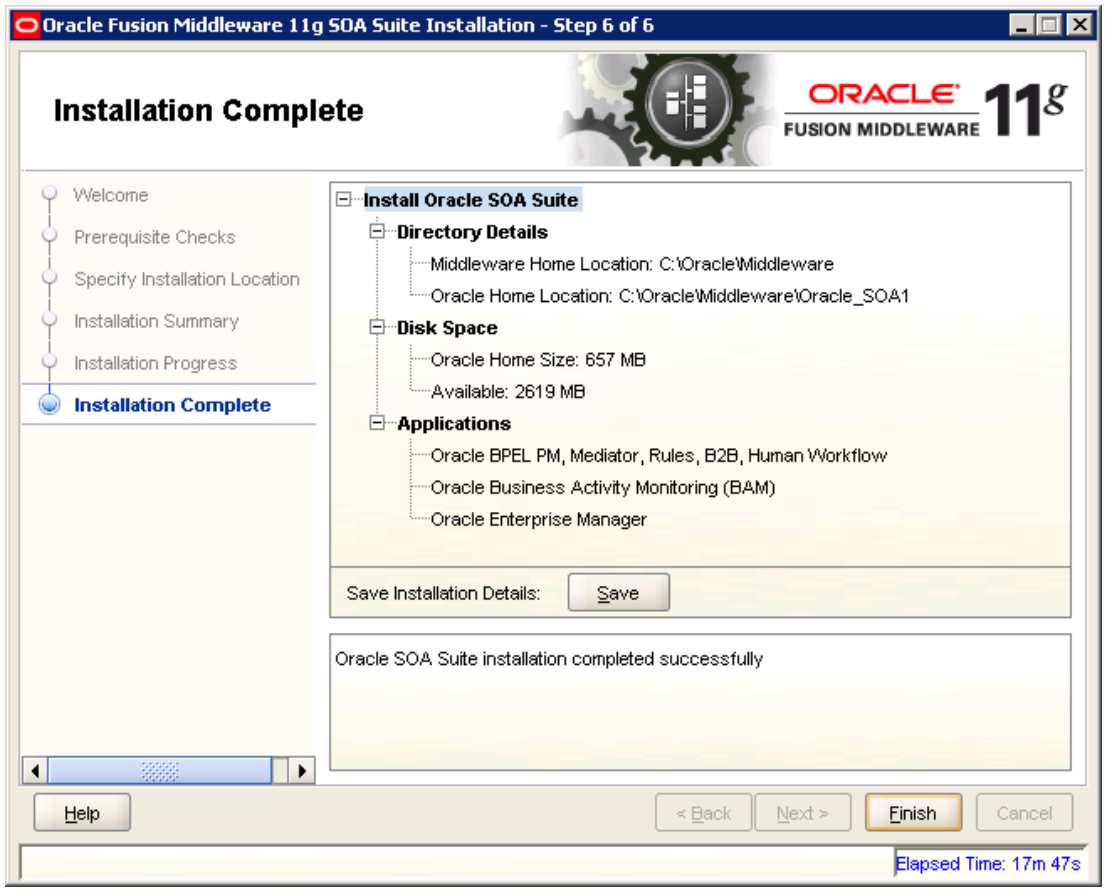
9. Click ‘Install’.


Oracle Fusion Middleware 11g SOA Suite Installation - Step 5 of 6
Installation Progress
ORACLE
FUSION MIDDLEWARE 11g
Welcome
Prerequisite Checks
Specify Installation Location
Installation Summary
Installation Progress
Installation Complete
Progress
1%
Copying Files ..
Install Log C:\Program Files\Oracle\Inventory\logs\install2010-04-05_07-26-39AM.log
Starting File Copy
Installing: Installer SDK Component 11.1.0.7.0
Oracle Fusion Middleware
More Flexibility
ORACLE
Help
< Back
Next >
Finish
Cancel
Elapsed Time: 6m 2s

ORACLE



10. Click ‘Next’.


Oracle Fusion Middleware 11g SOA Suite Installation - Step 6 of 6
Installation Complete
ORACLE
FUSION MIDDLEWARE 11g
Welcome
Prerequisite Checks
Specify Installation Location
Installation Summary
Installation Progress
Installation Complete
Install Oracle SOA Suite
Directory Details
Middleware Home Location: C:\Oracle\Middleware
Oracle Home Location: C:\Oracle\Middleware\Oracle_SOA1
Disk Space
Oracle Home Size: 657 MB
Available: 2619 MB
Applications
Oracle BPEL PM, Mediator, Rules, B2B, Human Workflow
Oracle Business Activity Monitoring (BAM)
Oracle Enterprise Manager
Save Installation Details:
Save
Oracle SOA Suite installation completed successfully
Help
< Back
Next >
Finish
Cancel
Elapsed Time: 17m 47s

ORACLE

5. Domain Configuration with Oracle SOA suite

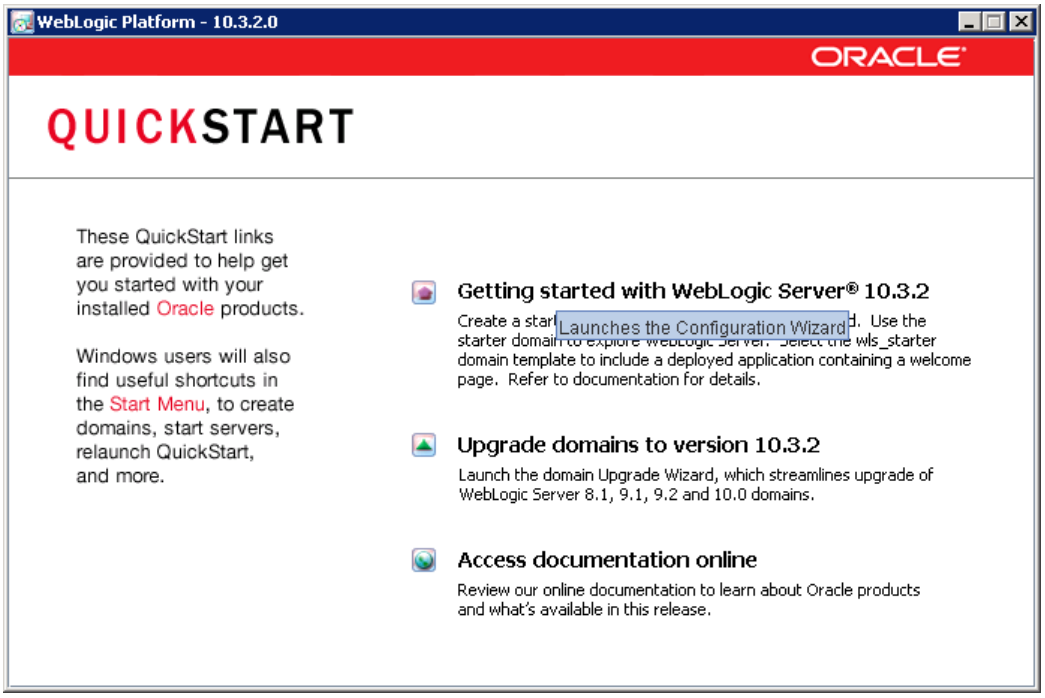
5.1 Introduction

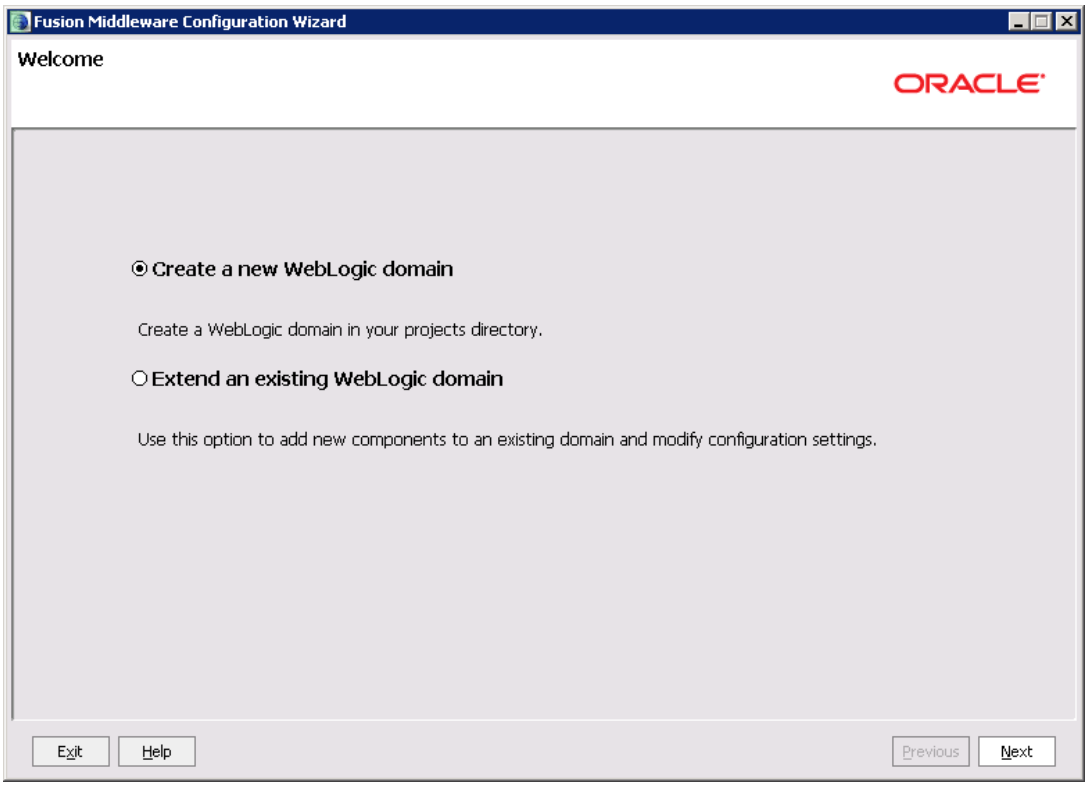
New domain can be configured or an existing domain can be extended with Oracle SOA suite components.

5.2 New Domain Configuration

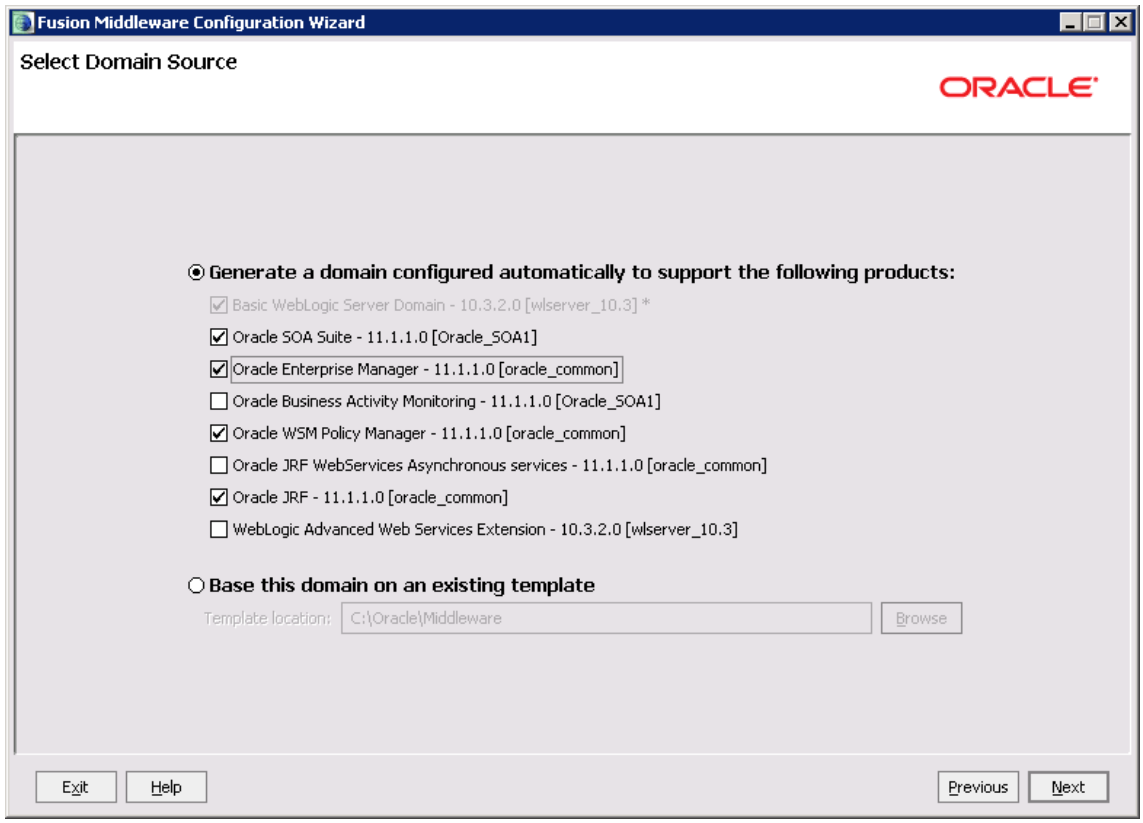
1. Run Config command

<middleware_home> wlserver_10.3\common\bin\config or
<middleware_home> \Oracle_SOA1\common\bin\config

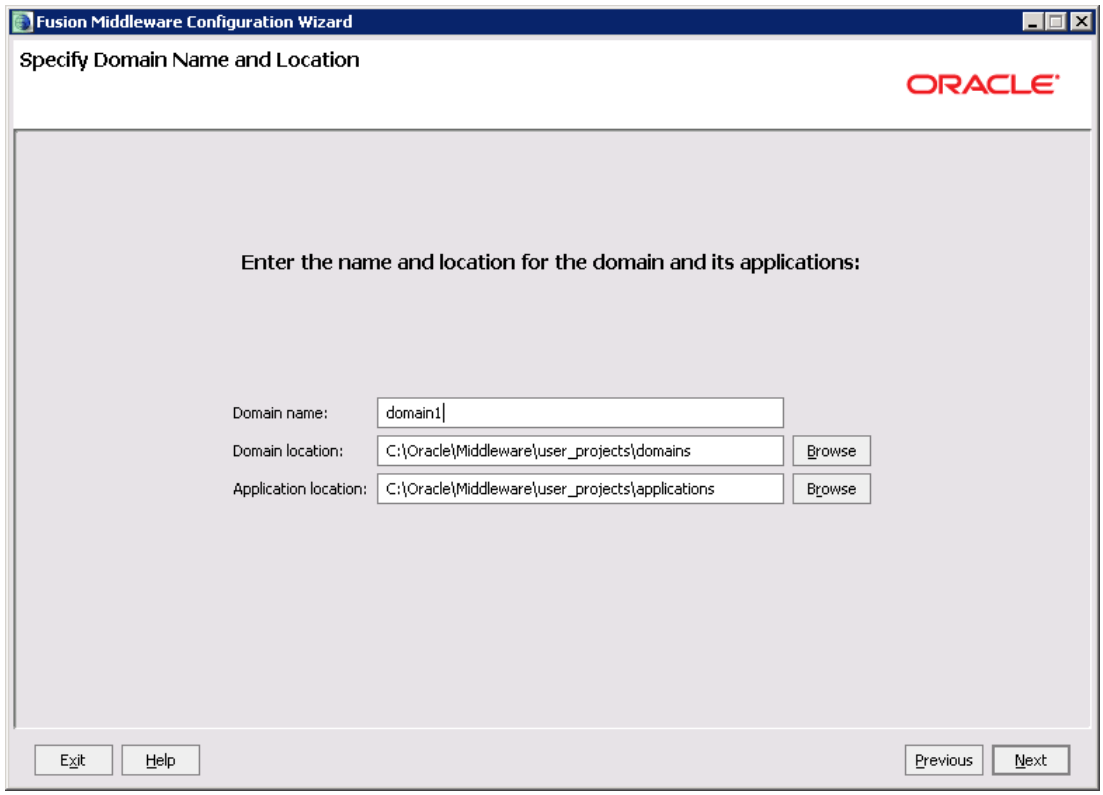




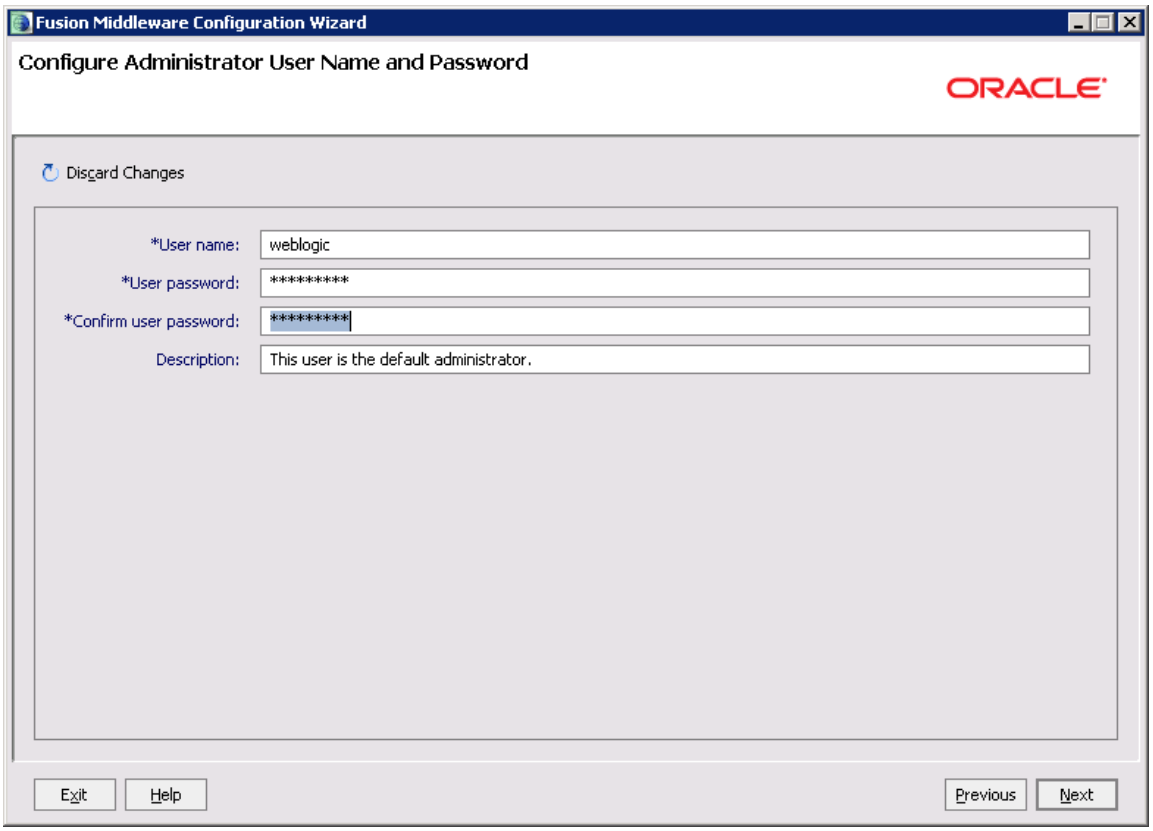
2. Create a new domain or extend an existing domain to include soa suite components.



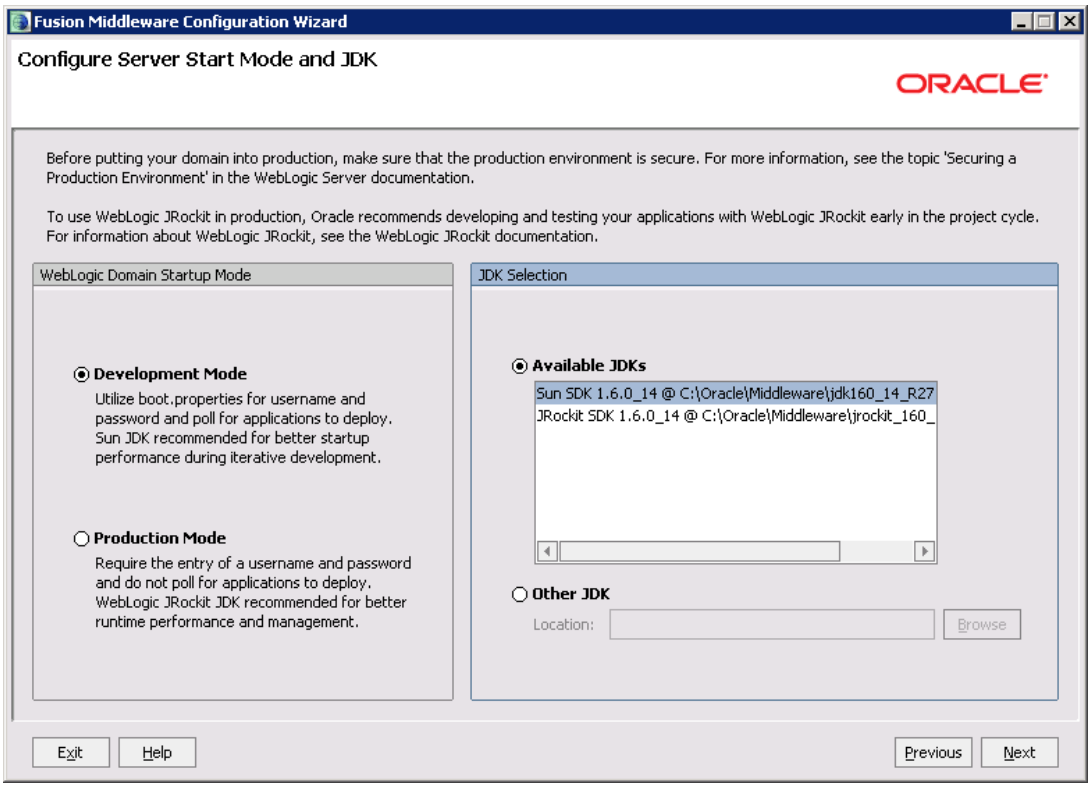
3. On selecting Oracle SOA suite it automatically selects Oracle WSM Policy Manager, Oracle JRF
4. Select Oracle Enterprise Manager for managing / monitoring BPEL processes


Fusion Middleware Configuration Wizard
Specify Domain Name and Location
ORACLE
Enter the name and location for the domain and its applications:
Domain name:
domain1
Domain location:
C:\Oracle\Middleware\user_projects\domains
Browse
Application location:
C:\Oracle\Middleware\user_projects\applications
Browse
Exit
Help
Previous
Next

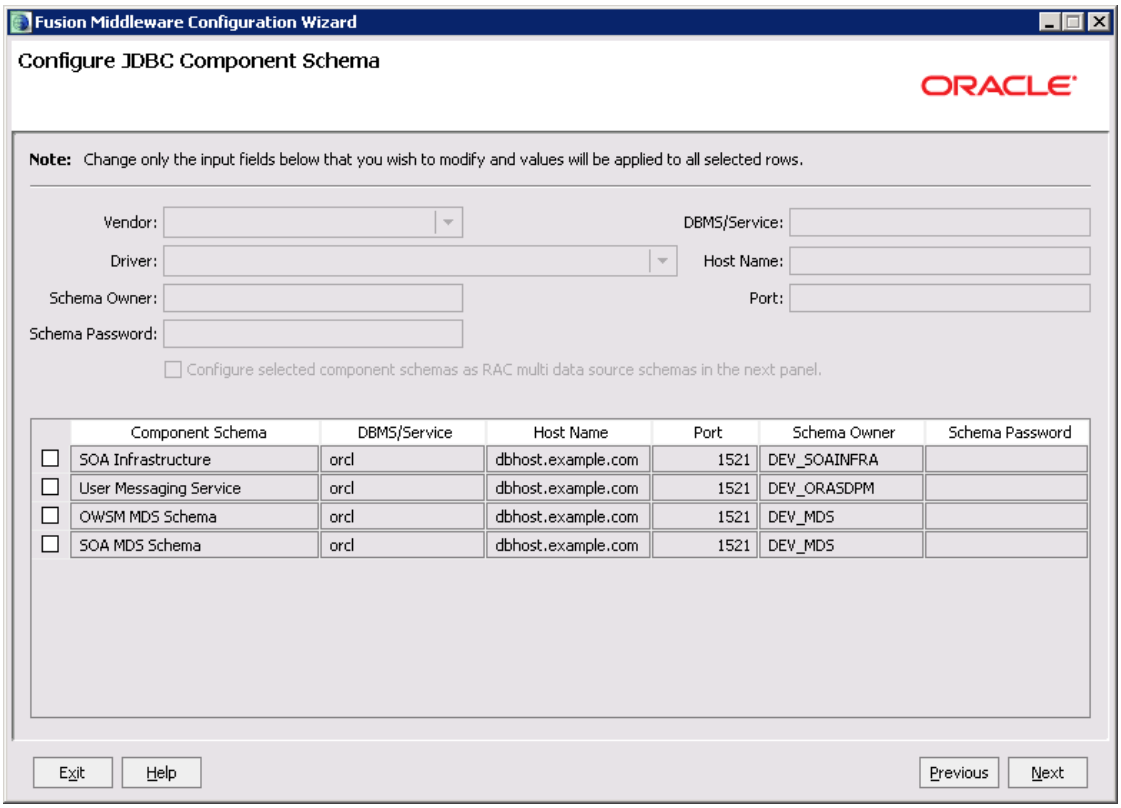
ORACLE



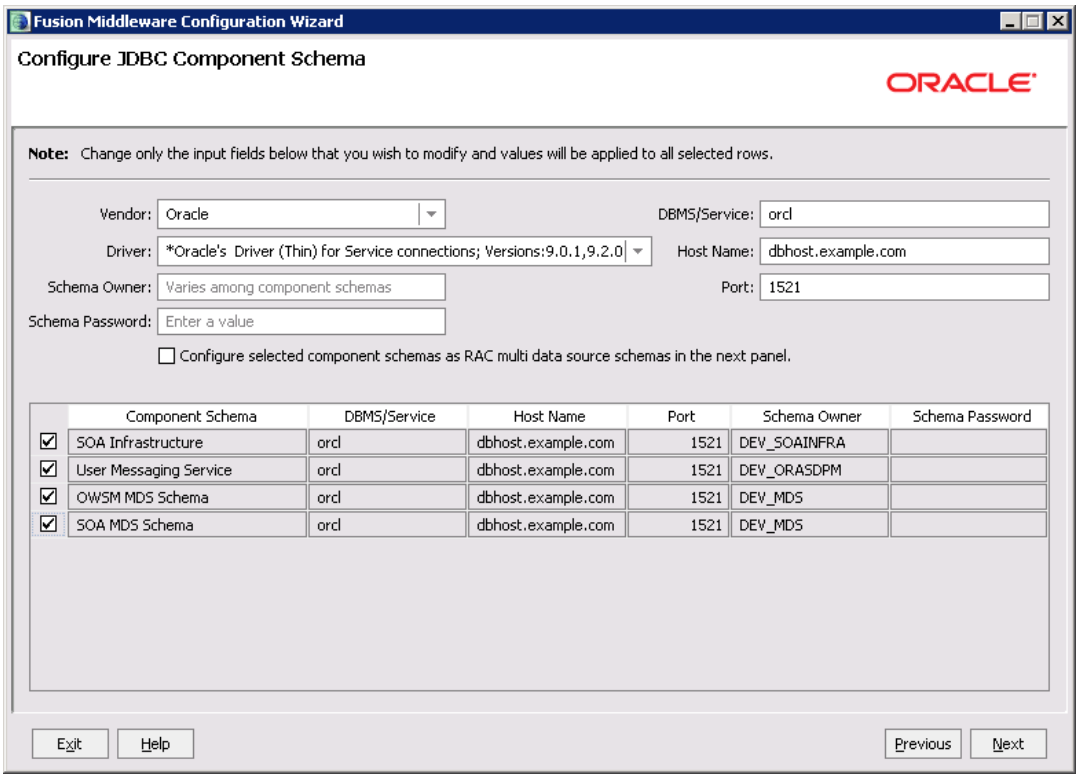
5. Configure Administrator user / password.



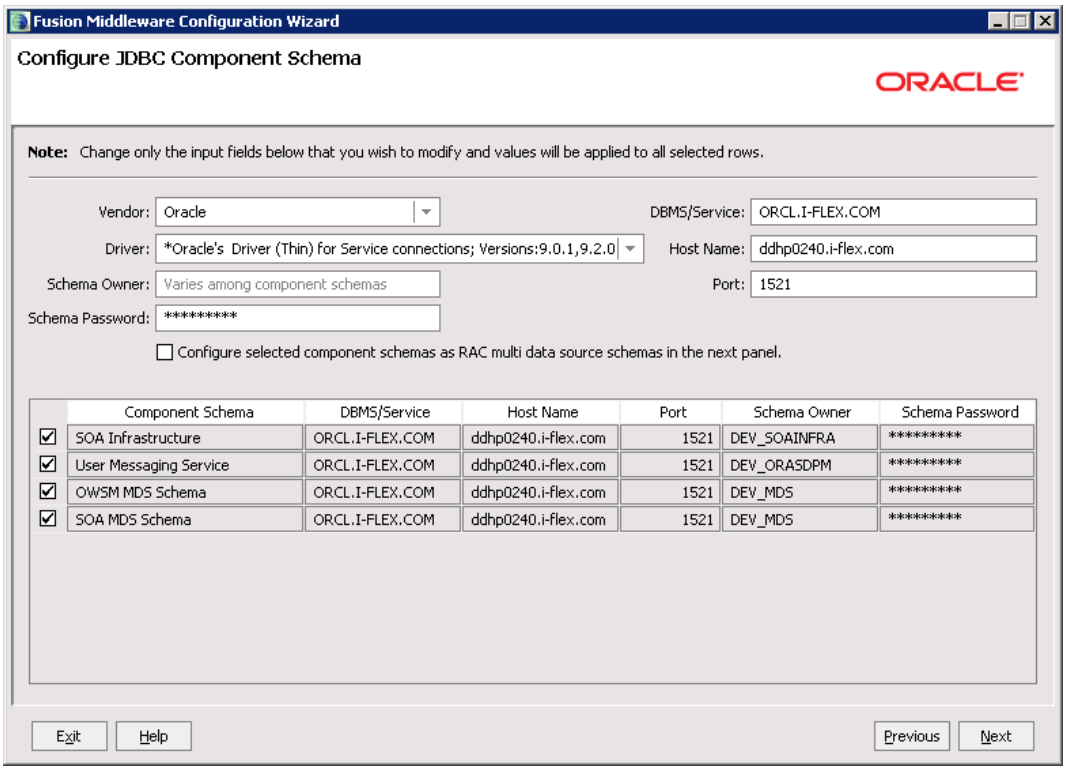
6. Select jdk depending on the startup mode.

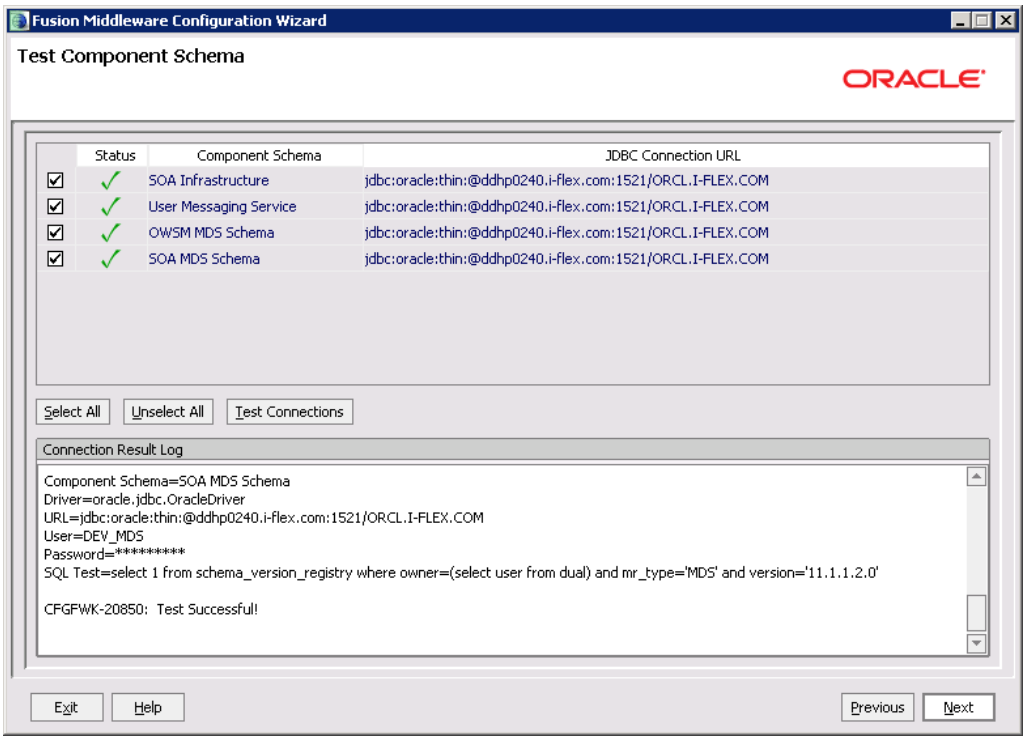


7. Configure schema components.
8. Select all the check boxes.

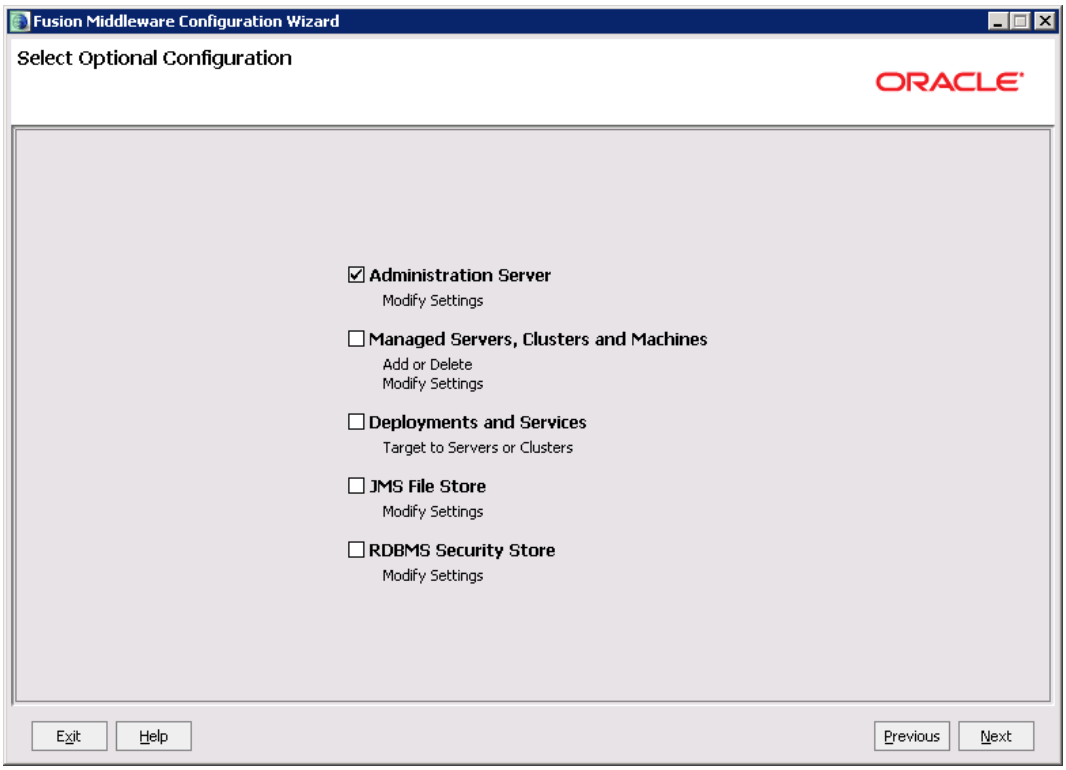


9. Provide the db parameters used during schema creation (RCU Utility)

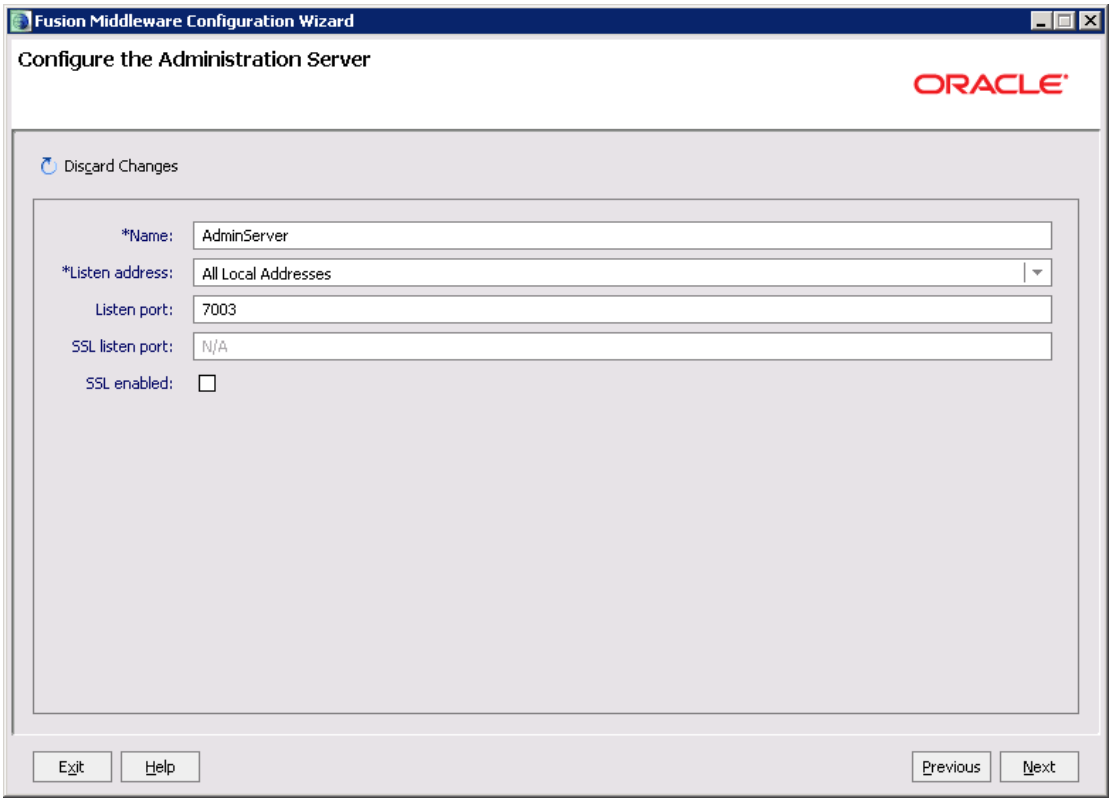

Fusion Middleware Configuration Wizard
Configure JDBC Component Schema
ORACLE
Note: Change only the input fields below that you wish to modify and values will be applied to all selected rows.
Vendor: Oracle
DBMS/Service: ORCL.I-FLEX.COM
Driver: *Oracle's Driver (Thin) for Service connections; Versions:9.0.1,9.2.0
Host Name: ddhp0240.i-flex.com
Schema Owner: Varies among component schemas
Port: 1521
Schema Password: *********
Configure selected component schemas as RAC multi data source schemas in the next panel.
Component Schema | DBMS/Service | Host Name | Port | Schema Owner | Schema Password
SOA Infrastructure | ORCL.I-FLEX.COM | ddhp0240.i-flex.com | 1521 | DEV_SOAINFRA | *********
User Messaging Service | ORCL.I-FLEX.COM | ddhp0240.i-flex.com | 1521 | DEV_ORASDPM | *********
OWSM MDS Schema | ORCL.I-FLEX.COM | ddhp0240.i-flex.com | 1521 | DEV_MDS | *********
SOA MDS Schema | ORCL.I-FLEX.COM | ddhp0240.i-flex.com | 1521 | DEV_MDS | *********
Exit
Help
Previous
Next



10. Test the database connectivity

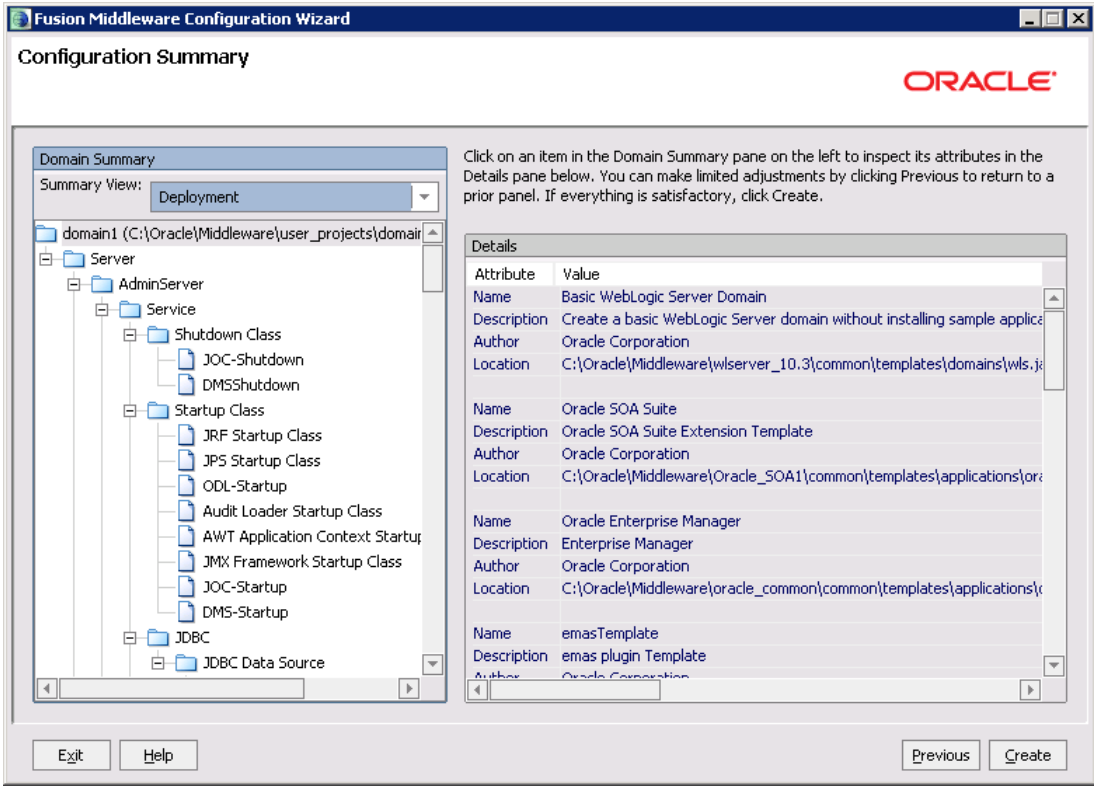


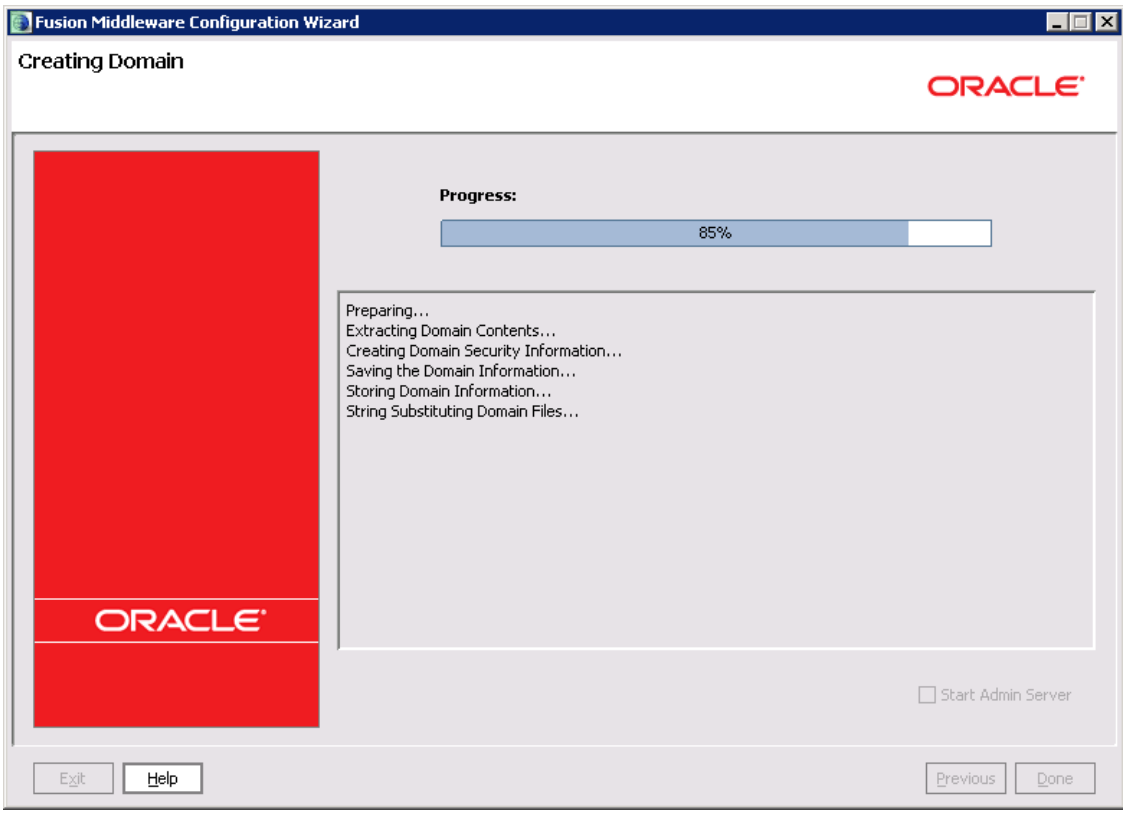
11. Select the Administration Server & Managed Server

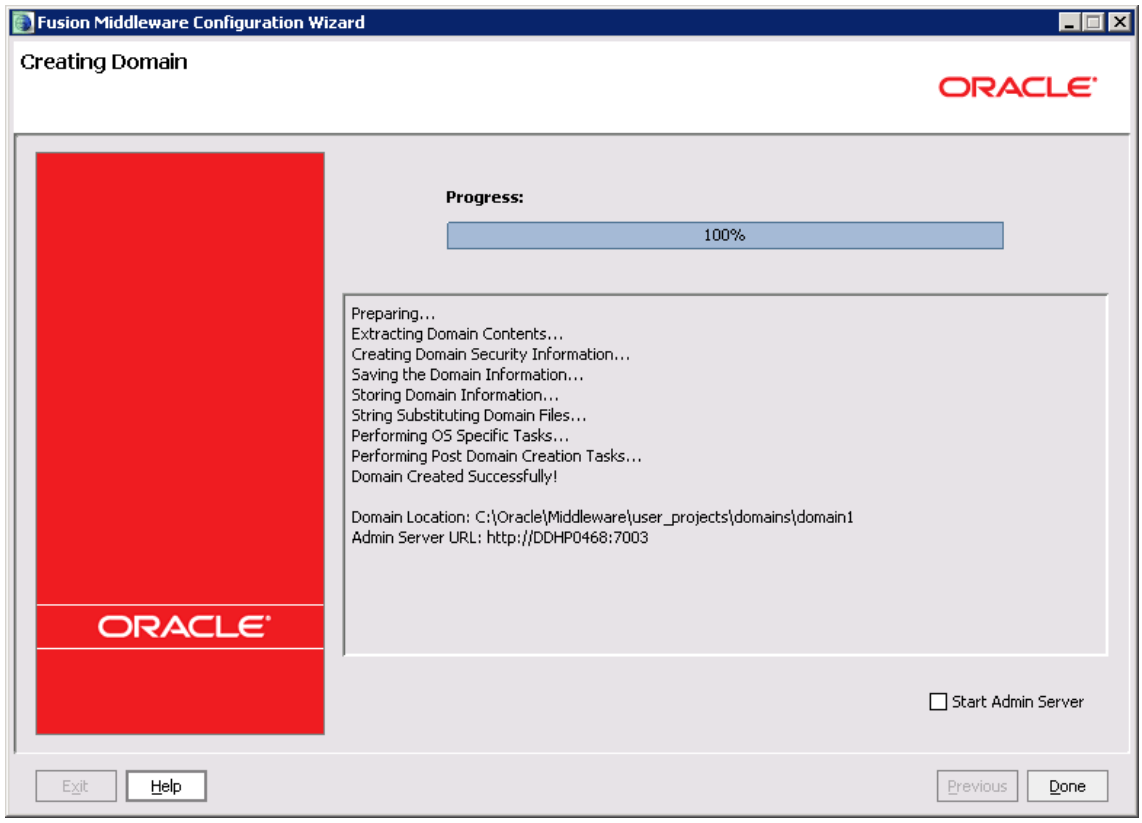


ORACLE

12. Configure the Administration Server & Managed Server.




Fusion Middleware Configuration Wizard
Creating Domain
ORACLE
Progress:
85%
Preparing...
Extracting Domain Contents...
Creating Domain Security Information...
Saving the Domain Information...
Storing Domain Information...
String Substituting Domain Files...
Start Admin Server
Exit
Help
Previous
Done


Fusion Middleware Configuration Wizard
Creating Domain
ORACLE
Progress:
100%
Preparing...
Extracting Domain Contents...
Creating Domain Security Information...
Saving the Domain Information...
Storing Domain Information...
String Substituting Domain Files...
Performing OS Specific Tasks...
Performing Post Domain Creation Tasks...
Domain Created Successfully!
Domain Location: C:\Oracle\Middleware\user_projects\domains\domain1
Admin Server URL: http://DDHP0468:7003
Start Admin Server
ORACLE
Exit
Help
Previous
Done

6. Oracle HTTP server Installation and Configuration

6.1 Introduction

Oracle HTTP server is typically configured in front of weblogic application server , The choice of deployment and SSL terminator will depend on the deployment configuration expected .

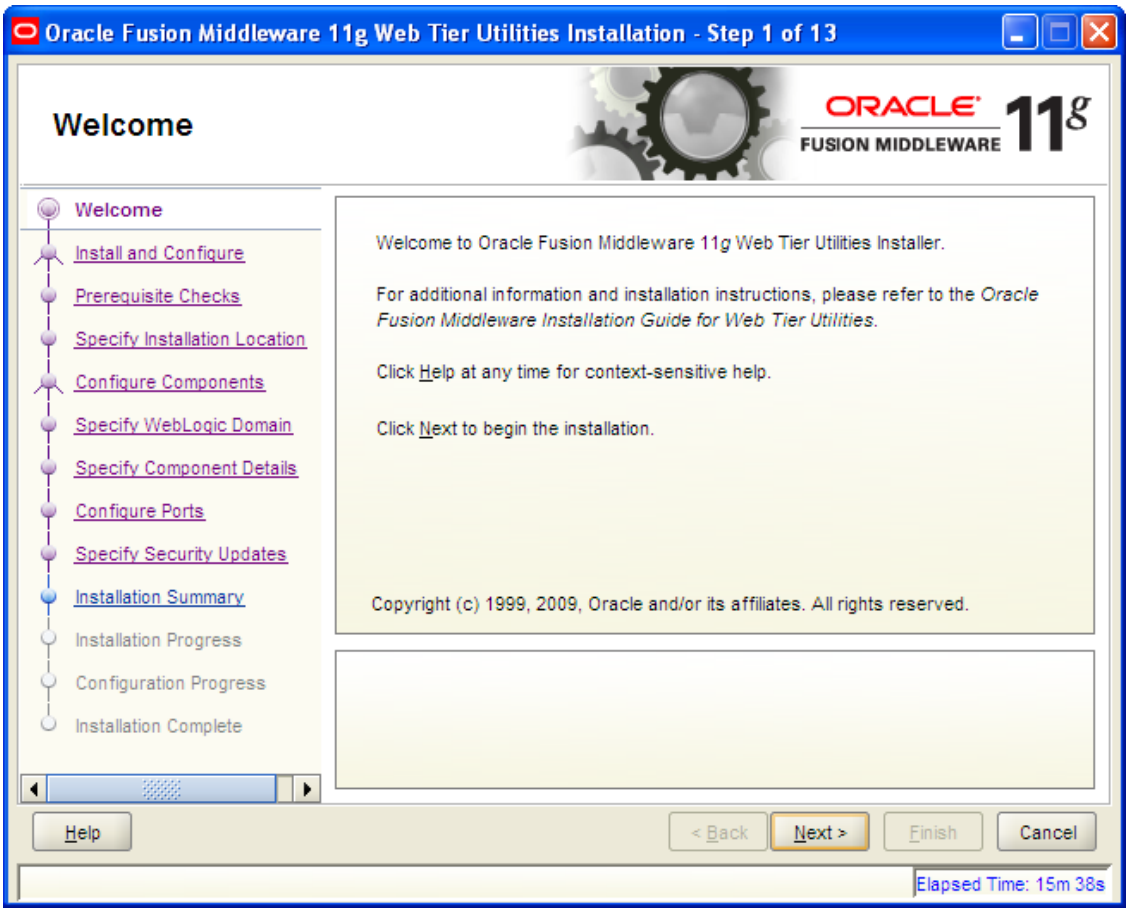
Download URL – Please check for appropriate version , The version depicted here is 11.1.1.7

http://www.oracle.com/technology/software/index.html

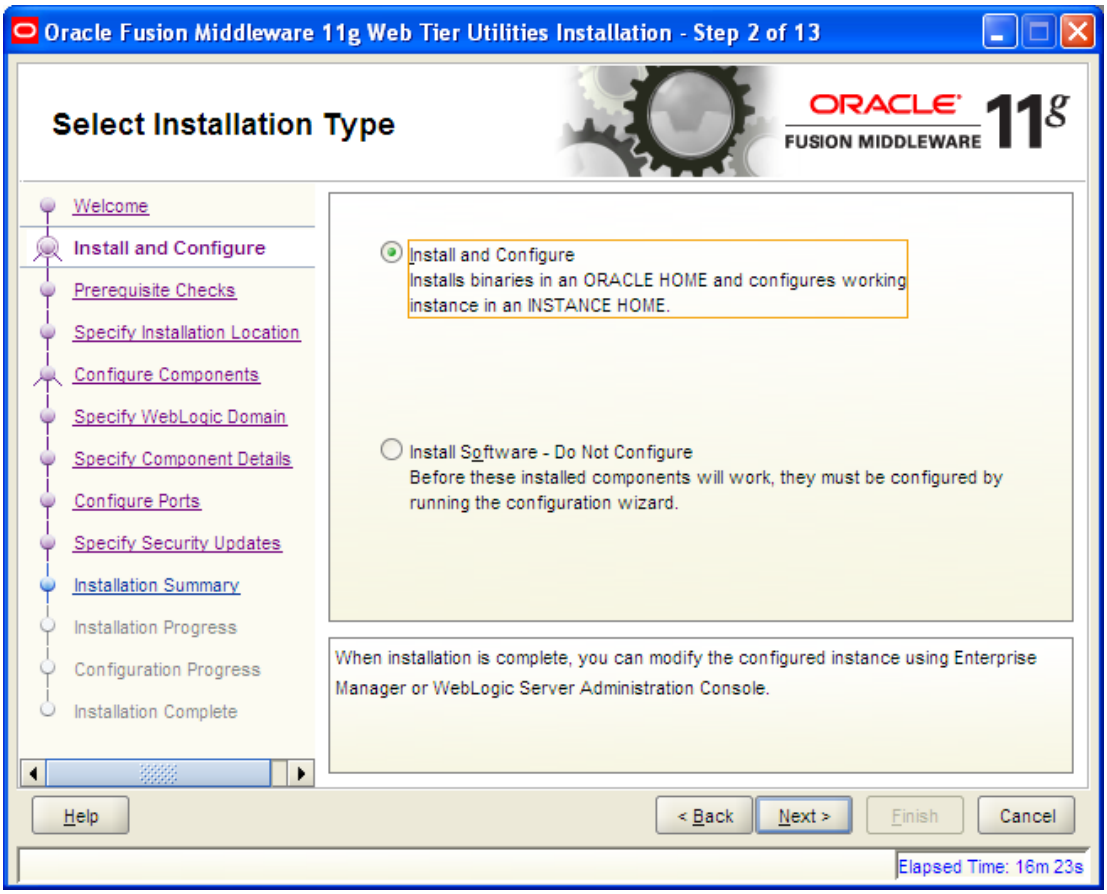
6.2 Installation & Configuration

1. Run setup.exe

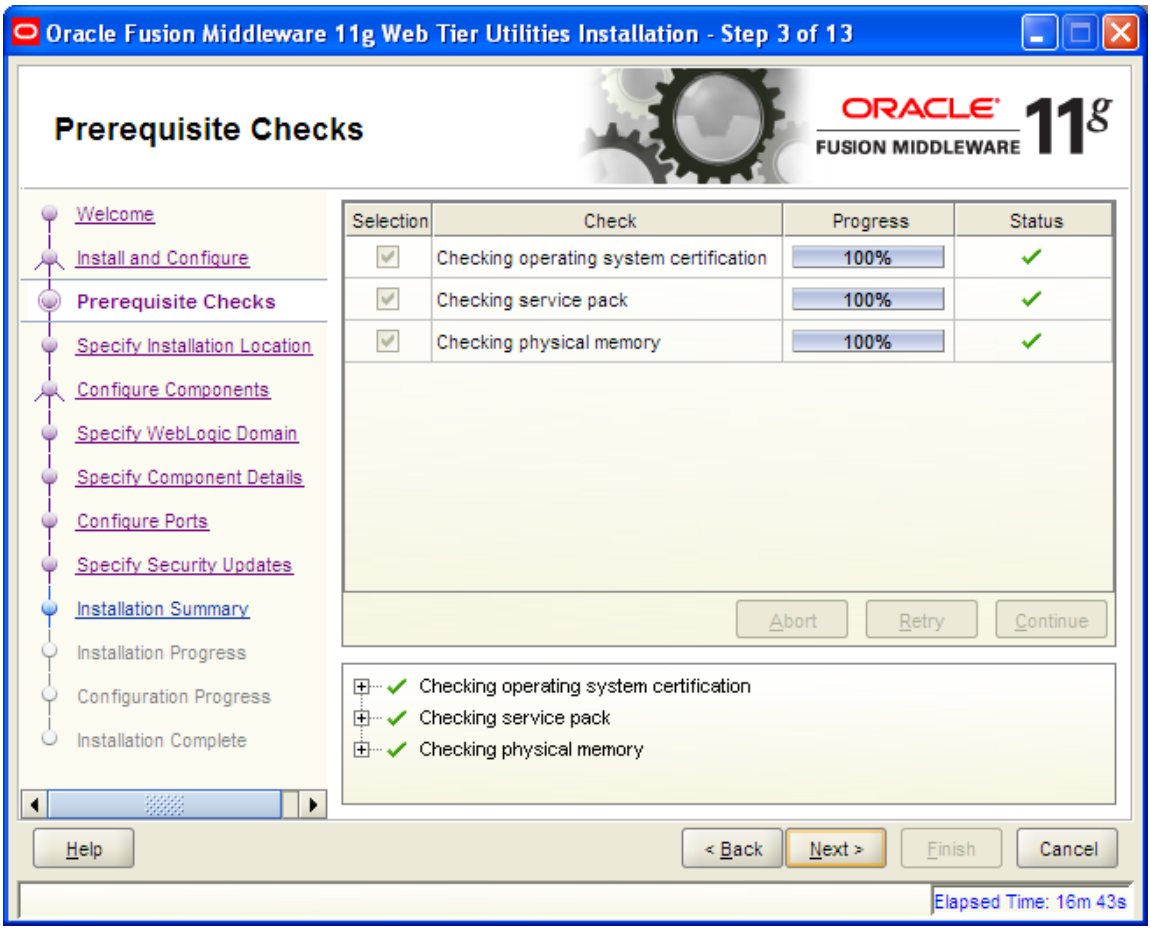
ORACLE



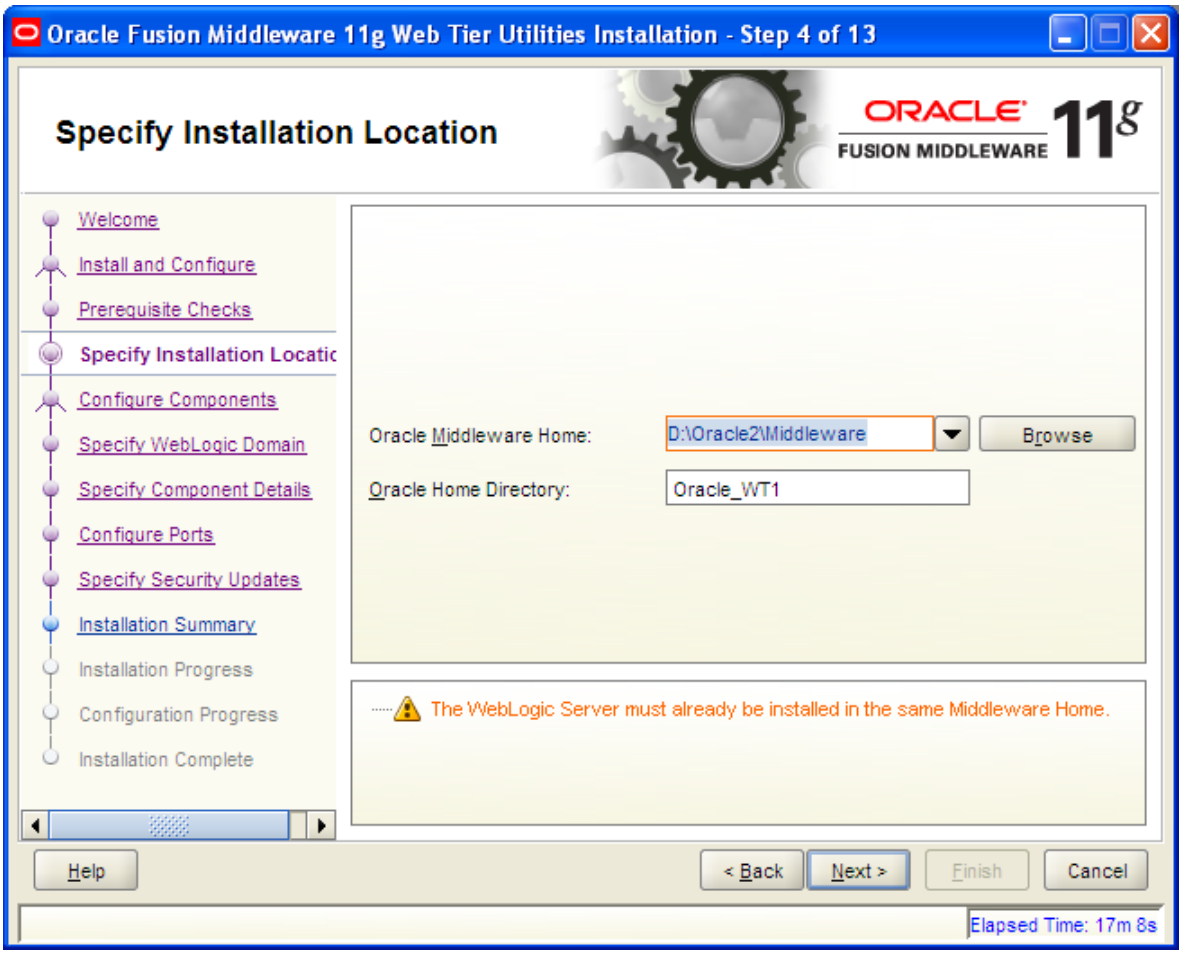
2. Select Install & Configure



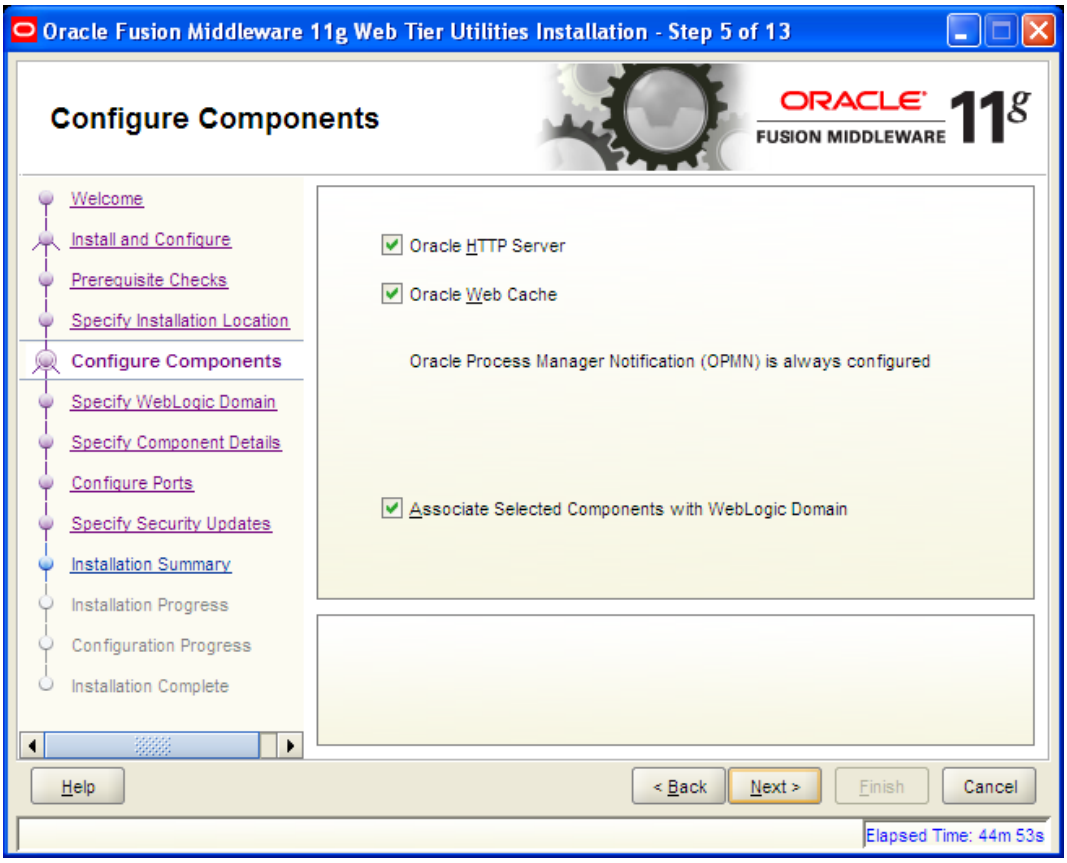
3. Check if prerequisite checks are passed.



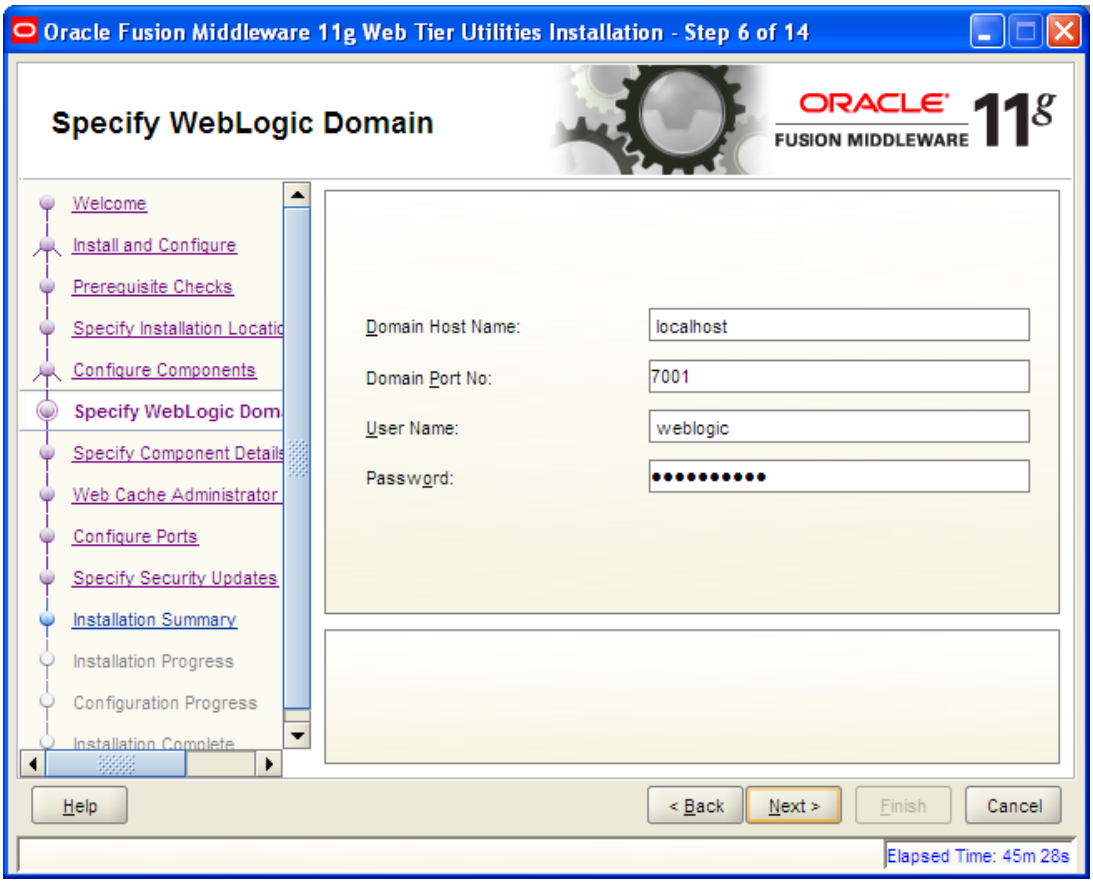
4. Select the middleware home where weblogic server is already installed.



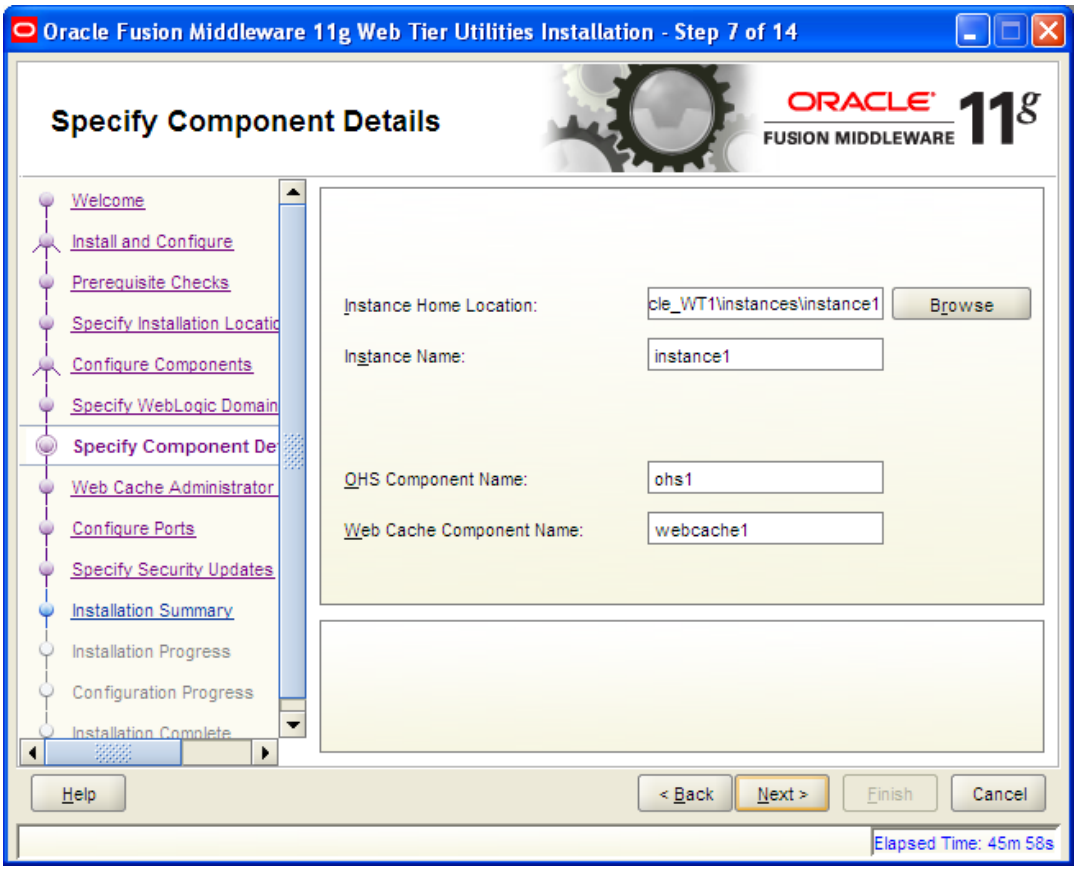
5. Choose components Oracle HTTP Server / Oracle Webcache.



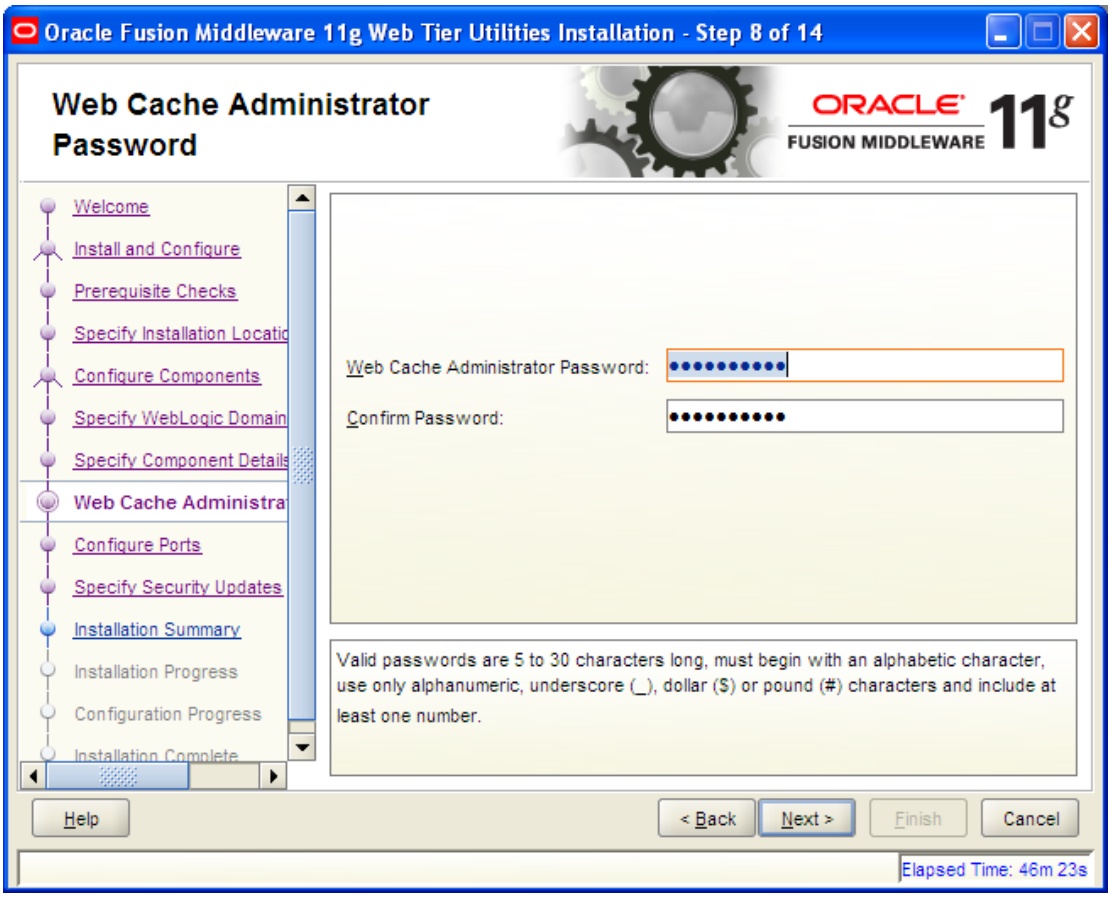
6. Specify weblogic domain details.



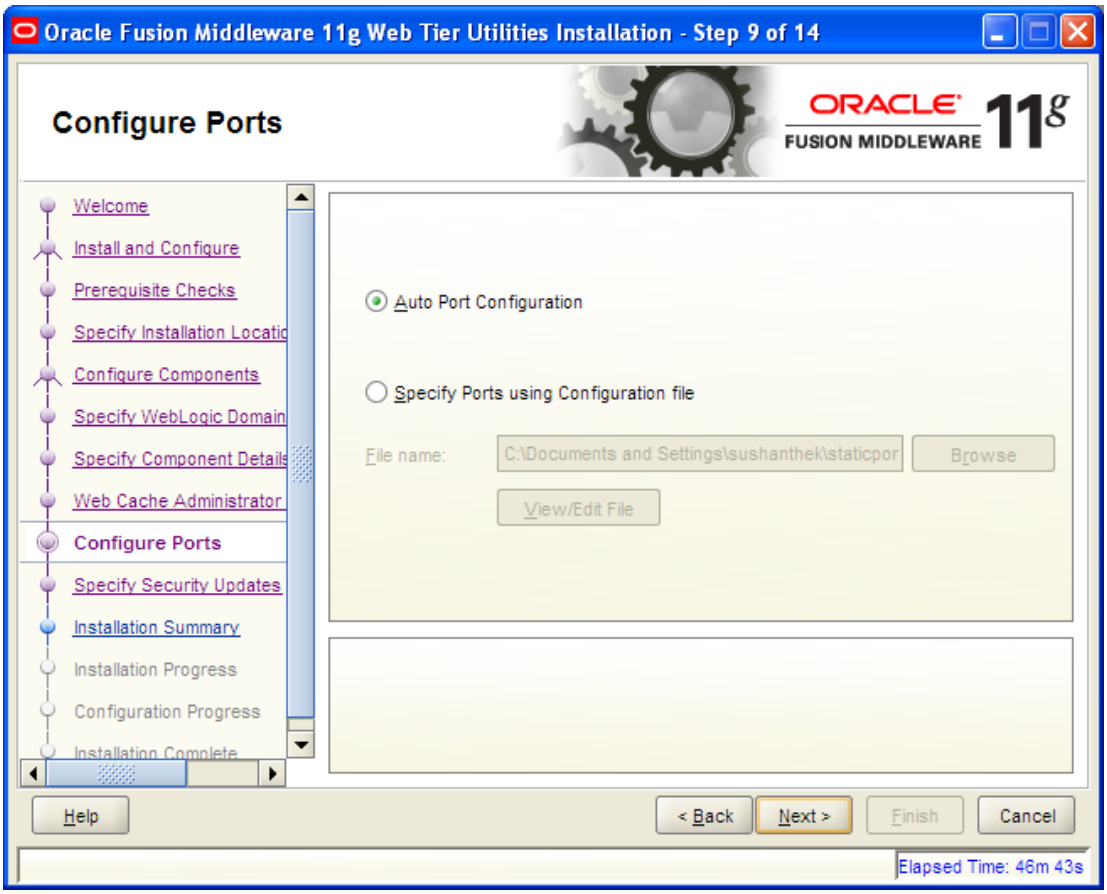
7. Location where components to be installed.



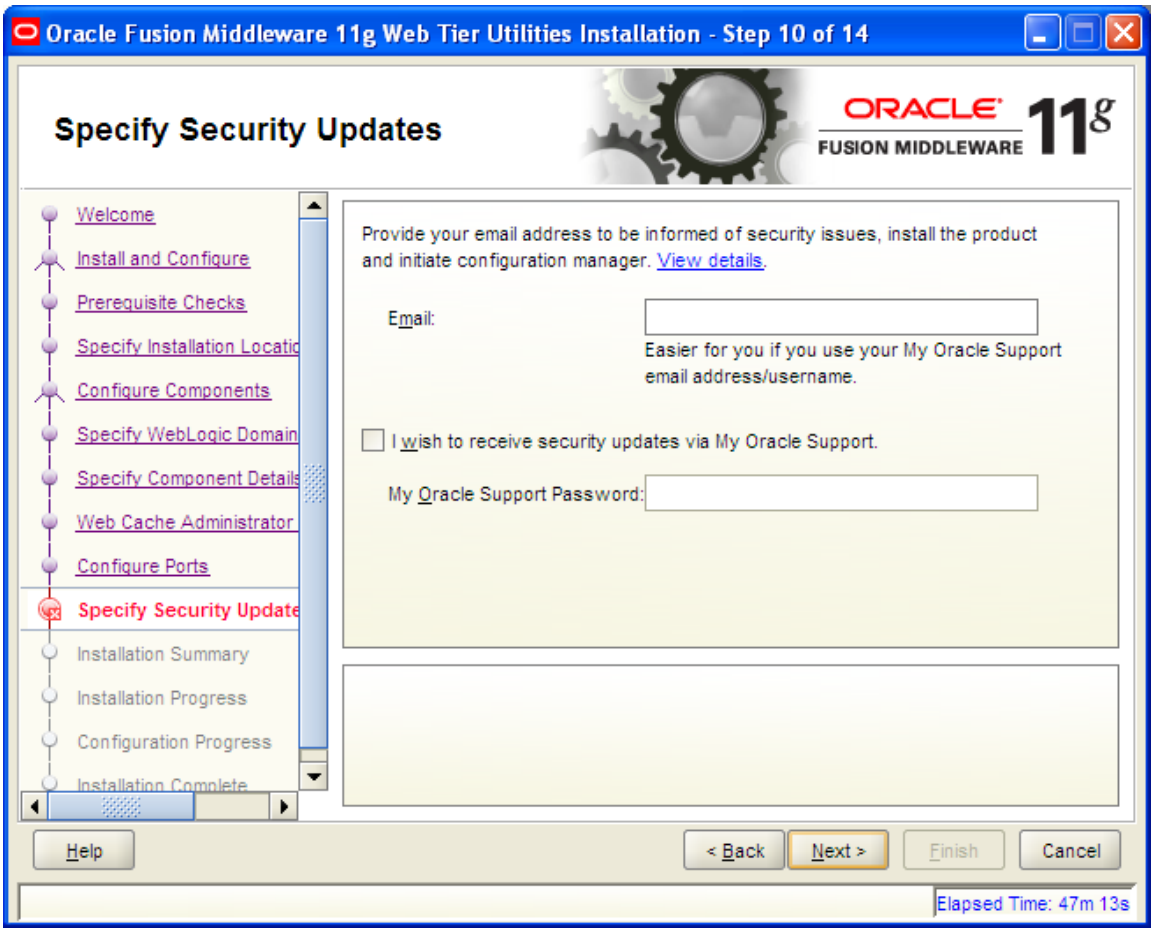
8. Credentials for web cache administrator.



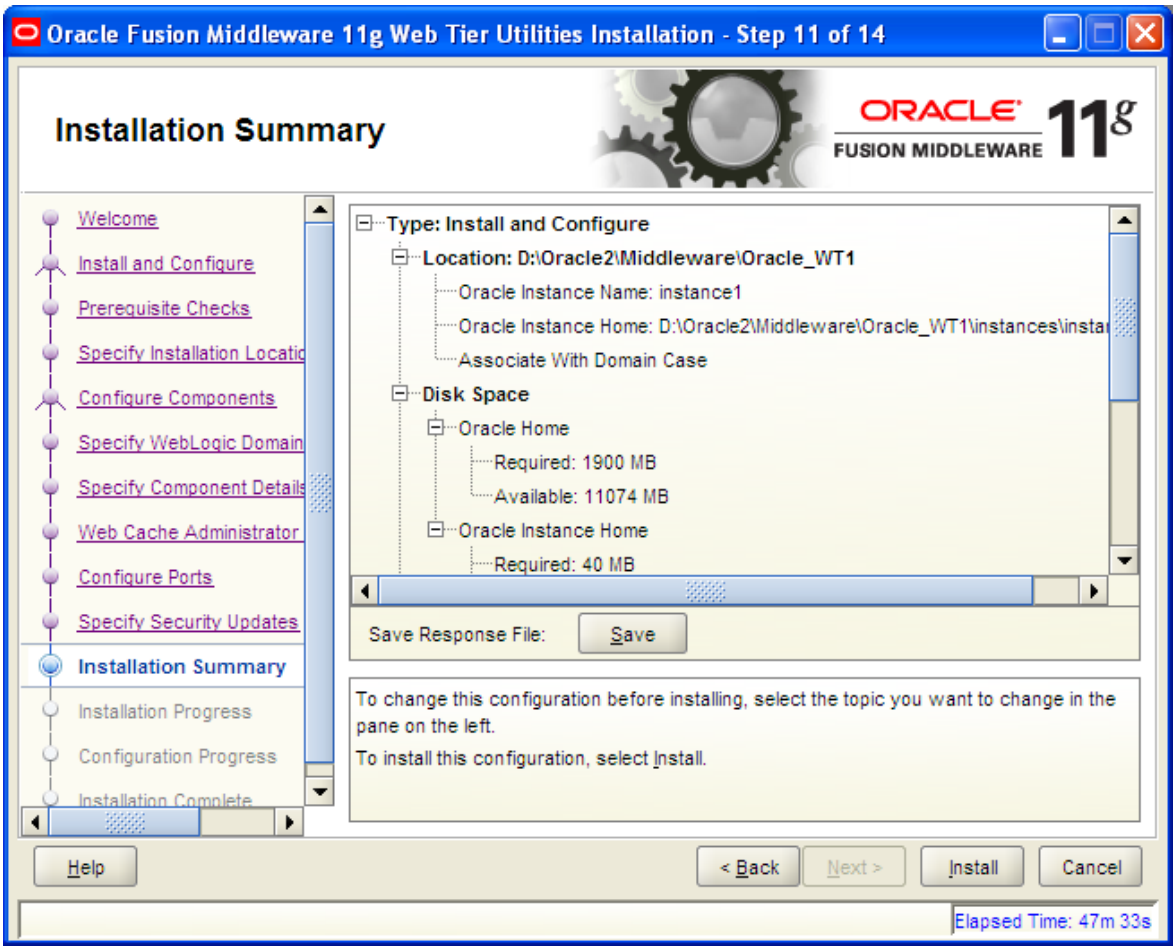
9. Port configuration – Use specify port if custom ports are to be configured for various services.



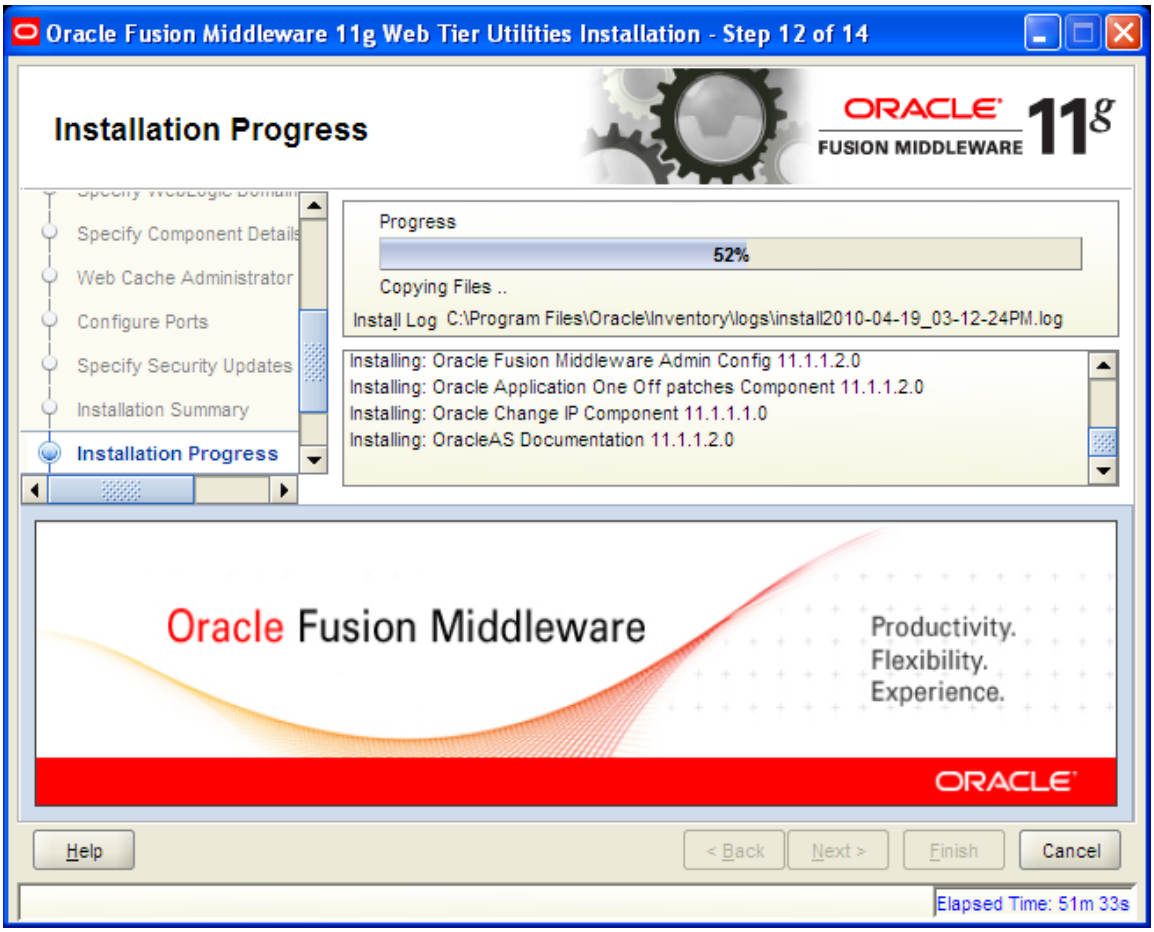
10. If you are an administrator and require security updates from oracle , provide details and subscribe.



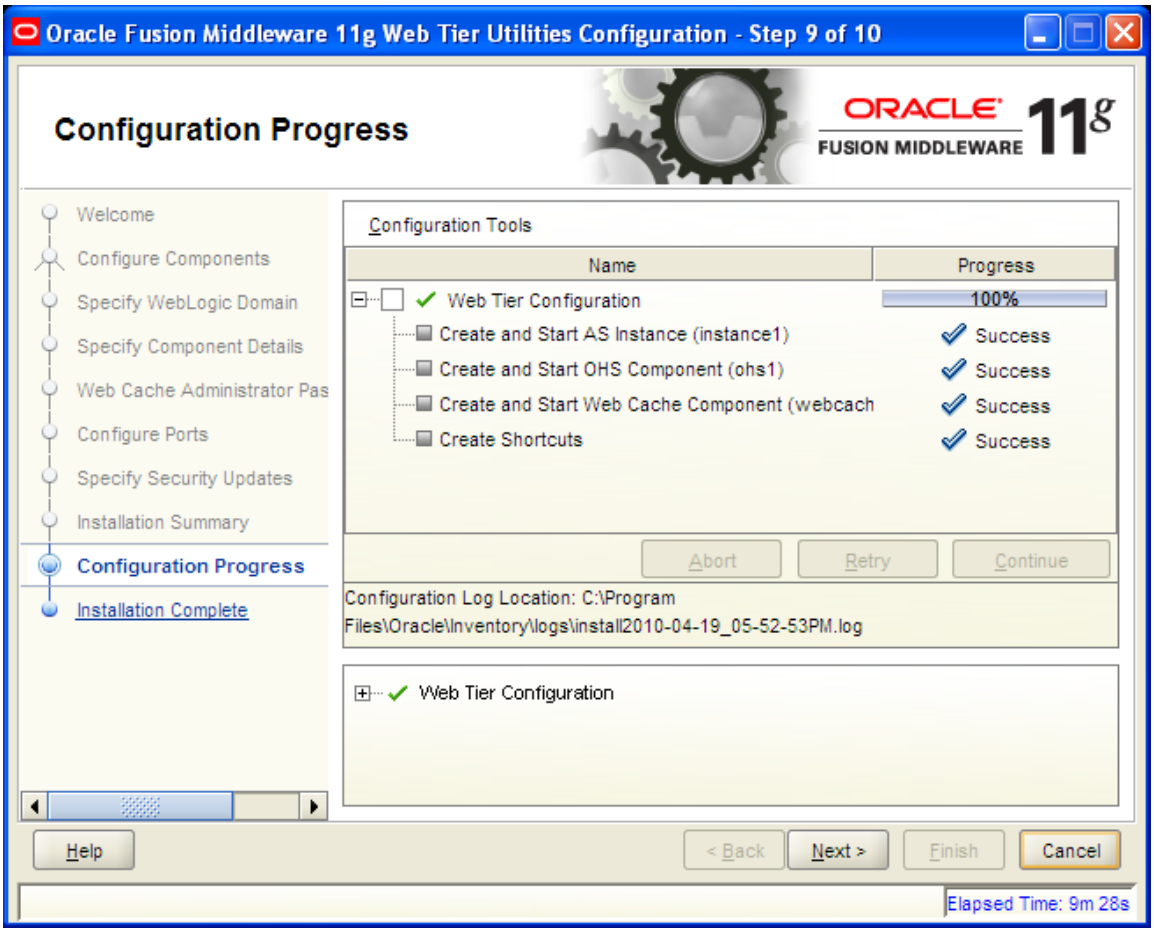
11. Review installation summary.



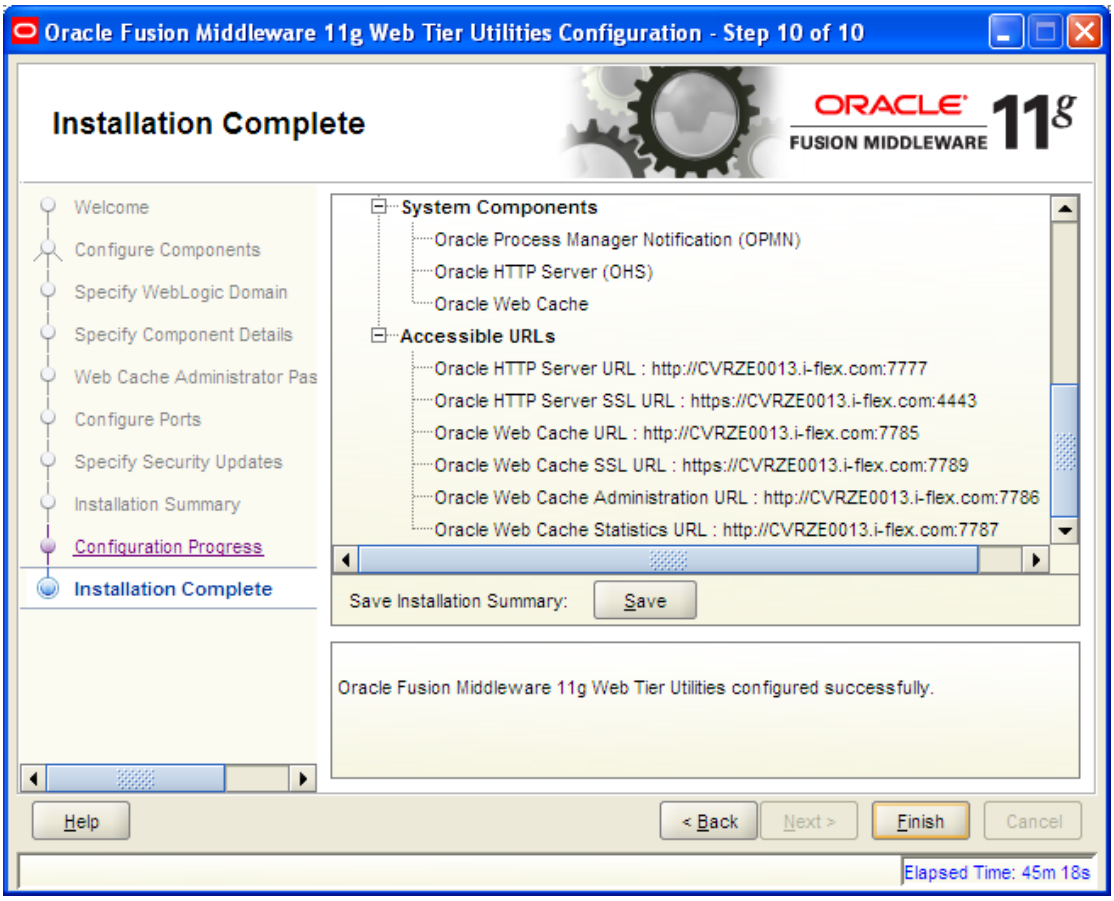
12. Review installation progress.



13. Review configuration progress.



14. Installation complete.


Oracle Fusion Middleware 11g Web Tier Utilities Configuration - Step 10 of 10
Installation Complete
ORACLE
FUSION MIDDLEWARE
11g
Welcome
Configure Components
Specify WebLogic Domain
Specify Component Details
Web Cache Administrator Pas
Configure Ports
Specify Security Updates
Installation Summary
Configuration Progress
Installation Complete
System Components
Oracle Process Manager Notification (OPMN)
Oracle HTTP Server (OHS)
Oracle Web Cache
Accessible URLs
Oracle HTTP Server URL : http://CVRZE0013.i-flex.com:7777
Oracle HTTP Server SSL URL : https://CVRZE0013.i-flex.com:4443
Oracle Web Cache URL : http://CVRZE0013.i-flex.com:7785
Oracle Web Cache SSL URL : https://CVRZE0013.i-flex.com:7789
Oracle Web Cache Administration URL : http://CVRZE0013.i-flex.com:7786
Oracle Web Cache Statistics URL : http://CVRZE0013.i-flex.com:7787
Save Installation Summary:
Save
Oracle Fusion Middleware 11g Web Tier Utilities configured successfully.
Help
< Back
Next >
Finish
Cancel
Elapsed Time: 45m 18s

7. Generating Self Signed Certificate and Configuring SSL

Self signed certificates are used for development environment , for production environment certificate from a issuing authorities like (verisign / thwarte..) are to be used.

7.1 Orapki Utility to Create Wallet and Self Signed Certificate

This document gives details of using orapki utility for creating wallet and self signed certificates.

1. Orapki Utility

With

- Oracle Client < bin>
- WLS <<middleware>/oracle_common/bin

2. Wallet creation

orapki wallet create -wallet D:\oracle2\Middleware\wallet\ -pwd welcome123 -auto_login

3. Generating self signed certificatey

orapki wallet add -wallet D:\oracle2\Middleware\wallet\ -dn "CN=cvrze0013.i-flex.com,OU=BPD,O=Oracle,L=iflexpark,ST=Karnataka,C=IN" -keysize 1024 -self_signed -validity 365 -pwd welcome123

4. Add wallet to ssl.conf

ssl.conf can be located in
<middleware_home>/<ohs_home>/instances/<instance_name>/config/OHS/<ohsname>

E.g

<middleware_home>Oracle_WT1/instances/instance1/config/OHS/ohs1/ssl.conf

```
# SSL Certificate Revocation List Check

# Valid values are On and Off

SSLCRLCheck Off

#Path to the wallet

SSLWallet /data1/appsrvrs/wls1032/Oracle/Middleware/wallet

<FilesMatch "\.(cgi|shtml|phtml|php)$">

  SSLOptions +StdEnvVars
```


ORACLE

</FilesMatch>

5. Mod_wl_ohs.conf modification to forward request to weblogic server

Mod_wl_ohs.conf can be located in
<middleware_home>/<ohs_home>/instances/<instance_name>/config/OHS/<ohsname>

E.g

<middleware_home>Oracle_WT1/instances/instance1/config/OHS/ohs1/mod_wl_ohs.coonf

Sample configuration given below , please modify as per the application context and ports configured.

This is a template to configure mod_weblogic.

LoadModule weblogic_module "${ORACLE_HOME}/ohs/modules/mod_wl_ohs.so"

This empty block is needed to save mod_wl related configuration from EM to this file when changes are made at the Base Virtual Host Level

<IfModule weblogic_module>

WebLogicHost <WEBLOGIC_HOST>

WebLogicPort <WEBLOGIC_PORT>

Debug ON

WLLogFile /tmp/weblogic.log

MatchExpression *.jsp

</IfModule>

<Location /weblogic>

SetHandler weblogic-handler

PathTrim /weblogic

ErrorPage http:/WEBLOGIC_HOME:WEBLOGIC_PORT/

</Location>

<Location /console>

SetHandler weblogic-handler

WebLogicHost localhost

WeblogicPort 9001

```
</Location>
<Location /em>
    SetHandler weblogic-handler
    WebLogicHost localhost
    WeblogicPort 9001
</Location>
<Location /consolehelp>
    SetHandler weblogic-handler
    WebLogicHost localhost
    WeblogicPort 9001
 </Location>
<Location /FCJNeoWeb>
    SetHandler weblogic-handler
    WebLogicHost localhost
    WeblogicPort 9003
</Location>
<Location /FCJNeoFgl>
    SetHandler weblogic-handler
    WebLogicHost localhost
    WeblogicPort 9003
</Location>
<Location /ELGatewayClient>
    SetHandler weblogic-handler
    WebLogicHost localhost
    WeblogicPort 9003
</Location>
```

SOA Suite Setup for BPEL Process Flow
[October] [2015]
Version 12.1.0.0.0

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