Oracle SOA Suite 11g Installing Oracle SOA Suite for HL7 Exploration

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Introduction

As Sun Microsystems, and SeeBeyond before it, Oracle provides support for integration of systems which use HL7 v2.x messaging. Unlike Sun, and SeeBeyond before it, Oracle treats HL7 messaging as Business to Business exchanges (B2B) and uses the B2B part of the Oracle SOA Suite to accomplish the task [1].

There are numerous articles on Oracle SOA Suite and on Oracle B2B. To wade through this material to get to a concise set of steps needed to get started with HL7 messaging is a chore precisely because there is so much material about the SOA Suite and so little on how to deal with HL7 suing it. I set off to work out what it takes to do HL7 messaging and to document it for myself and others.

This article walks through the installation and configuration of all Oracle software necessary to implement HL7 v2.x messaging as development / experimentation environment. It assumes a single machine with limited resources.

I expect that there will be subsequent articles in this series which will use this infrastructure to implement specific HL7 v2.x examples.

Pre-requisites

It is assumed that a Windows XP SP3 platform, with a minimum of 3GB of memory. A machine with less memory will simply not cope with the demands. It is necessary to make sure that a minimum 40Gb of free disk space is available for installation of the necessary software and for use afterwards.

All software that needs to be downloaded adds up to nearly 10Gb. Allow for the time and space needed to complete all downloads.

After installation the software will occupy nearly 9Gb, before any project work is started.

Oracle software can be installed on a number of different platforms. See Oracle Fusion Middleware – System Requirements and Specifications [11]. In this article we are dealing with Windows XP SP3.

Download Software

The Oracle B2B 11g Site [2] contains references to material pertaining to release 11g of the B2B Suite. This is the version which we will use.

Since Oracle B2B 11g is a part of the Oracle SOA Suite 11g, the requisite software, and the order in which it must be installed, is discussed at the Oracle SOA Suite 11g Site[3]. The material presented there is reproduced here for convenience.

JDK 1.6 Update 20

While the SOA Suite comes with a version of the Java Development Kit it is recommended to use the Sun JDK for development work. It is not my recommendation but I don't have grounds on which to say otherwise so I will follow it. Download the jdk-6u20-windows-i586.exe from wherever you get JDKs, for example <u>http://java.sun.com/javase/downloads/widget/jdk6.jsp</u>.

Database

Download the Oracle Database 10g Express Edition [4] for Windows XP from http://www.oracle.com/technology/software/products/database/xe/htdocs/102xewinso ft.html, making sure to choose the Universal variant - OracleXEUniv.exe. This is a 220Mb download. (4 June 2010)

Note that the Oracle Database Express Edition 10g Release 2 (10.2) places restrictions on the database installation and execution environment. For use in production environments it will be necessary to use a regular Oracle Database of the appropriate release. See [8], sections 3.2 - 3.4, for a discussion of these restrictions. See Oracle

SOA Suite documentation for database support information. The Oracle Database Express Edition is sufficient for the purposes of this article series.

WebLogic Server

Download the Oracle WebLogic Server 10.3.3[5], which is the runtime environment for Oracle SOA Suite-based solutions including B2B solutions, from Oracle WebLogic Server Downloads page at

http://www.oracle.com/technology/software/products/ias/htdocs/wls_main.html, choosing "Oracle WebLogic Server 11gR1 (10.3.3) + Coherence - Package Installer" - wls1033_win32.exe. This is an 800Mb download. (4 June 2010)

Repository Creation Utility

Download the Repository Creation Utility through the Required Additional Software section of the Oracle Fusion Middleware Downloads page [5] <u>http://download.oracle.com/otn/nt/middleware/11g/ofm_rcu_win_11.1.1.3.0_disk1_1_of1.zip</u>. This is a 260Mb download. (15 June 2010)

SOA Suite and Patch Set 2

Download the SOA Suite 11.1.1.2.0 through the Oracle Fusion Middleware Downloads page [5] http://download.oracle.com/otn/nt/middleware/11g/ofm_soa_generic_11.1.1.2.0_disk 1_1of1.zip. This is a 1.7Gb download. (4 June 2010)

Download the SOA Suite 11.1.1.3.0 Patch through the Oracle Fusion Middleware Downloads page [5] http://download.oracle.com/otn/nt/middleware/11g/ofm_soa_generic_11.1.1.3.0_disk 1_1of1.zip. This is a 1.9Gb download. (4 June 2010)

Between the two of them the download will be almost 4Gb so make sure you have the space, the bandwidth and the time.

JDeveloper IDE and SOA and BPM Updates

Download jdeveloper 11.1.1.3.0 IDE through the Oracle Fusion Middleware Downloads page [5] <u>http://download.oracle.com/otn/java/jdeveloper/11.1.1.3.0/jdevstudio11113install.exe</u>. This is a 1.2Gb download. (4 June 2010)

To avoid delays when updating JDeveloper it is best to download:

JDeveloper update to Oracle BPM Studio 11g, 11.1.1.3.0.6.84 for oracle.studio (min=11.1.1.3, max=11.1.1.3.99.99), from http://download.oracle.com/otn/java/jdeveloper/11.1.1.3.0/extensions/bpm-jdev-extension.zip

JDeveloper update to SOA Composite Editor 11g, 11.1.1.3.0.25.57 for oracle.j2ee (min=11.1.1.3.37.56.60, max=11.1.1.3.37.56.60) and oracle.studio (min=11.1.1.3.37.56.60, max=11.1.1.3.37.56.60), from http://download.oracle.com/otn/java/jdeveloper/11.1.1.3.0/extensions/soa-jdevextension.zip. We will use these to update JDeveloper instead of having to do this on-line.

B2B Document Editor

Download the B2B Document Editor through the Oracle Fusion Middleware Downloads page [5]. First the B2B Document Editor itself,

http://download.oracle.com/otn/nt/middleware/11g/ofm_b2b_doc_editor_win_11.1.1. <u>1.0_disk1_1of3.zip</u>, then the set of document specifications which include HL7, <u>http://download.oracle.com/otn/nt/middleware/11g/ofm_b2b_doc_editor_win_11.1.1.</u> <u>1.0_disk1_2of3.zip</u>. There are 3 archives that can be downloaded. The first two contains what we need for the HL7 work. The two archives are nearly 3Gb together. (4 June 2010)

Install Software

Nitesh Jain put together a starter kit page for the Oracle B2B [9]. In some sense I am repeating the work he did and documenting it all over again greater detail as I perform the installation independently.

Install Oracle Database Express Edition

The oracle Database Express Edition Getting Started Guide [6] provides material which is useful once the database is installed. The Installation Guide for Windows [8], accessible through the Oracle Database Express Edition 10g R2 site [7], provides the installation instructions. The points relevant to this article are reproduced below.

You must be a member of the Administrators group to successfully install the database.

It is assumed then no Oracle database exists on the target machine. It is assumed that the installation package, OracleXEUniv.exe, has been downloaded to c:\downloads.

Make sure you are logged in as a user with Administrative privileges.

Using Windows Explorer navigate to c:\downloads. Double-click on OracleXEUniv.exe to start installation.

Accept c:\oraclexe as the installation directory.

Enter welcome1 as the password. This is what the default password is elsewhere so let's keep it consistent.

Once the database is installed it is necessary to once-only update database parameters. Open a DOS Command Window and set the processes parameter to >=200 using the following instructions.

```
sqlplus sys/welcome1@XE as sysdba
show parameter session
show parameter processes
alter system reset sessions scope=spfile sid='*';
alter system set processes=200 scope=spfile;
shutdown immediate
```

```
exit
net stop OracleServiceXE
net start OracleServiceXE
sqlplus sys/welcomel@XE as sysdba
show parameter session
show parameter processes
exit
```

Once the database restart is finished launch the database home page (<u>http://localhost:8080/apex</u>) to inspect configuration.

Login as system/welcome1.

X							
🎦 Applic	ation Exp	oress Login	- Windo	ows Internet Exp	olorer		
00) - 🙋	http://127.0	.0.1:808	0/apex/f?p=4550;	11:197446368	363067	728notific
File Ed	it View	Favorites	Tools	Help			
🚖 🏟	🏉 App	lication Expr	ess Login				
OR		Datab	ase E	xpress Editio	n		
				Invalid Login	Credentials		
					_		
		Database	e Logii	n			
Enter	your data	abase useri	name ar	nd password.			
User	name	ystem					
Pas	sword	•••••					
				Login			
	Click h	ere to learn l	how to ge	et started			

Select Administration \rightarrow About Database, check the Settings checkbox and click Go.

ORACLE[®] Database Express Edition

User: SYSTEM

Home > Administration > About Database

☑ Version ☑ Settings □ National Language Support □ CGI Environment ☑ Parameters Go Version

Oracle Database 10g Express Edition Release 10.2.0.1.0 - Product PL/SQL Release 10.2.0.1.0 - Production CORE 10.2.0.1.0 Production TNS for 32-bit Windows: Version 10.2.0.1.0 - Production NLSRTL Version 10.2.0.1.0 - Production

.....

Database

NAME	XE
CREATED	06/04/2010 12:03:49 PM
RESETLOGS_TIME	06/04/2010 12:03:52 PM
PRIOR_RESETLOGS_CHANGE#	1
PRIOR_RESETLOGS_TIME	07-FEB-06
LOG_MODE	NOARCHIVELOG
CHECKPOINT_CHANGE#	215843
ARCHIVE_CHANGE#	0
OPEN_RESETLOGS	NOT ALLOWED
VERSION_TIME	06/04/2010 12:03:49 PM
OPEN_MODE	READ WRITE
PROTECTION_MODE	MAXIMUM PERFORMANCE
PROTECTION_LEVEL	UNPROTECTED
REMOTE_ARCHIVE	ENABLED
DATABASE_ROLE	PRIMARY
ARCHIVELOG_CHANGE#	213419
SWITCHOVER_STATUS	SESSIONS ACTIVE
DATAGUARD_BROKER	DISABLED
GUARD_STATUS	NONE
FORCE_LOGGING	NO

This shows database information.

Remember system and sys passwords: welcome1, and Database SID: XE.

Close the browser.

The database is configured to start when Windows boots.

Run Repository Creation Utility

Repository Creation Utility (RCU) configures the database with whatever schemas and objects are required by the SOA Suite. For more information see Section 2, Running Repository Creation Utility (RCU), in Oracle® Fusion Middleware Repository Creation Utility User's Guide 11g Release 1 (11.1.1) [12].

Assuming the archive ofm_rcu_win_11.1.1.3.0_disk1_1of1.zip is in c:\downloads, navigate to c:\downloads using Windows Explorer.

Extract rcuHome directory and its content to c:\downloads.

Open a command window, change working directory to c:\downloads\rcuHome\bin and execute rcu.bat.

```
cd c:\downloads\rcuHome rcu.bat
```

The bat command returns to the prompt immediately. After a few seconds the Repository Creation Utility UI appears.

Make sure "Create" option is selected.

Repository Creation Utility - Ste	p 1 of 7 : Create Repository	_ _ ×
Create Repository		
Welcome Create Repository	() <u>Create</u>	
	Create and load component schemas into a database.	
Select Components	Oprop	
Schema Passwords	Remove component schemas from a database.	
Map Tablespaces		
U Summary		
Completion Summary		

Specify: Host Name: localhost Port: 1521 Service name: XE Username: sys Password: welcome1

R	Repository Creation Utility - Ste	p 2 of 7 : Database (Connection Details
Da	tabase Connection Detail	s	
Î	Welcome <u>Create Repository</u>	<u>D</u> atabase Type:	Oracle Database 🗸
ľ	Database Connection Details	Host Name:	localhost
ļΨ	Select Components	<u> </u>	For RAC database, specify VIP name or one of the Node name as Host name.
Ϋ́	Schema Passwords	Port	1521
ļΎ	Map Tablespaces		
ļφ	Summary	Service Name:	XE
6	Completion Summary		
		Username:	sys
			User with DBA or SYSDBA privileges. Example:sys
		Password:	••••••
		Role:	SYSDBA
		<u>–</u>	One or more components may require SYSDBA role for the operation to succeed.
		Messages:	
	Help		< Back Next > Finish Cancel

Click Next.

Ignore the warning about unsupported database version.

Ĺ	epository Creation Utility - Checking Prerequisites	>	4
	Checking Global Prerequisites		
	V Initializing repository configuration metadata 00:04.860(s	sec)	
1	✓ Obtain properties of the specified database 00:00.671()	ms)	
	🕒 Check Repository Creation Utility 🛛 🔀	sec)	
	Executi		
	The database you are connecting is not a supported version. Enter Database with version equal to or higher than 10.2.0.4.0 in 10g or version equal to or higher than 11.1.0.7.0 in 11g. Refer to the certification matrix for supported DB versions	Stop	
		Al	

Select SOA and BPM Infrastructure. Dependent options will be selected automatically.

🕌 Repository Creation Utility - St	ep 3 of 7 : Select Components		
Select Components			
0 Welcome	A Prefix groups the components asso	ociated with one deployment.	
Create Repeatery	Select an existing Prefix		•
Detaile Repository	Constant a serve Durafia	DEV	
Database Connection Details	Create a new Prefix	DEV	
Select Components		Prefix can contain only alpha-numeric	characters. Prefix should not
🤟 <u>Schema Passwords</u>		start with a number and should not co	ntain any special characters.
🔶 Map Tablespaces	Component		Schema Owner
O Summarv	🗆 Oracle AS Repository C	omponents	
	B AS Common Schem	las	
Completion Summary	🖉 Metadata Service	9S	DEV_MDS
	Audit Services		IAU
	Enterprise Sched	duler Service	ORAESS
	🗉 🗆 🗄 🗠 Identity Managemen	t	
	Enterprise Content	Management	
	H WebLogic Commun	ication Services	
	🗧 🗌 🖾 SOA and BPM Infras	tructure	
	SOA Infrastructur	e	DEV_SOAINFRA
	Business Activity	Monitoring	DEV_ORABAM
	🗹 User Messaging	Service	DEV_ORASDPM
	⊞		
	⊞ □ Portal and BI		
	Messages:		
Help		< <u>B</u> ac	k Next > Einish Cancel

Click Next.

Select "Use the same password for all schemas" and enter welcome1 for the password.

Repository Creation Utility - S	tep 4 of 7 : Schema Pass	words	-	-			. 101
chema Passwords			June (FUSION N		18
Y Vilicano	Please enter the passw numbers and the follow	ords for the	mein end additionel (aucliary) heracters: \$, # , _ Password	schema users. Pa ihould not start w	issword car th a number	contain alphabets or a special chara	, cter
Greene Repetitive	. Use same passwork	to for all sch	enes				
Select Components	Income Connection Desile Baseword						
Schema Passwords	Confirm Password	•••••	•				
Map Tablespaces	O Lice gain ocherna pr	assiwords fo	r auxiliary schemas				
Same	Specify different par	sowords for	all schends				
Corpletial Summery	Component		Bottema Owner	Bohema	Fassword	Confirm Passa	- Inc
	Webichight Derverung		DEV_MOG				
	90A minumacture		DEV, DIDAINFEA				
	Shallment Activity Inc.		DEV_ORKEAN				
	User Maddagered The	1112	DEV_ORALDPM				
	Component Helialdis Brinnen BOA ministratura Builines Activity Mr. Uter Methologing Da	ware y Hise	Bothema Owner Coty (MOS Dev.) 01040/9784 Dev.) 01040/9784 Dev.) 01040/9784	Schema.	Fassword.	Confor Passa	
	Messages						
	Messages						

Click Next.

Accept defaults for tablespaces and click Next.

🕌 Repository Creation Utility - Ste	p 5 of 7 : Map Tablespaces			<u>_ 0 ×</u>
Map Tablespaces		معر	F	
♀ Welcome ┬ Create Repository	Choose tablespaces for the sel below. To create new tablespaces or r	ected components. The o nodify existing tablespac	default and temporary tablespac	es are specified in the table es' button.
Database Connection Details	Component	Schema Owner	Default Tablespace	Temp Tablespace
O. Select Components	Metadata Services	DEV_MDS	*DEV_MDS	*DEV_IAS_TEMP
	SOA Infrastructure	DEV_SOAINFRA	*DEV_SOAINFRA	*DEV_IAS_TEMP
<u> </u>	Business Activity Monitori	DEV_ORABAM	*DEV_ORABAM	*DEV_IAS_TEMP
🧅 Map Tablespaces	User Messaging Service	DEV_ORASDPM	*DEV_IAS_ORASDPM	*DEV_IAS_TEMP
	* Default tablespaces (specified	I in the configuration files	s) are to be created upon confirm	nation.
	Messages:		· · ·	Manage Tablespaces
Help			< Back	Einish Cancel

Click OK to create tablespaces.



Click Create to create database objects. When completed, click Close.

4	Repository Creation Utility - Ste	p 6 of 7 : Summary			
SL	ummary				
Ĵ) Welcome	Database details:			
	 Database Connection Details 	Port: 1521 Service Name: XE			
ļ) Select Components) Schema Passwords	Connected As: sys Operation: Create			
	Map Tablespaces	Prefix for (prefixable) Schema Owne	rs:DEV		
9	Summary	Component	Schema Owner	Tablespace Type	Tablespace Name
	Completion Summary	Metadata Services	DEV_MDS	Default	DEV_MDS
ł				Temp	DEV_IAS_TEMP
				Additional	None
		SOA Infrastructure	DEV_SOAINFRA	Default	DEV_SOAINFRA
				Temp	DEV_IAS_TEMP
				Additional	None
		Business Activity Monitoring	DEV_ORABAM	Default	DEV_ORABAM
				Temp	DEV_IAS_TEMP
				Additional	None
		User Messaging Service	DEV_ORASDPM	Default	DEV_IAS_ORASDPM
				Temp	DEV_IAS_TEMP
				Additional	None
	Help			< <u>B</u> ack	Next > Cancel

Install SOA Suite

Oracle B2B is installed as part of the Oracle SOA Suite. The SOA Suite Installation Guide [10] discusses the process in detail. The following sections discuss specific steps that need to be performed to install the SOA Suite. The steps illustrate my installation and are derived from the SOA Suite Installation Guide.

Install JDK 1.6.0 Update 20

Install JDK 1.6.0 Update 20 using the installed, jdk-6u20-windows-i586.exe, downloaded earlier. Make sure to change the installation location to c:\jdk1.6.0_20 and c:\jre1.6.0_20 when required. (The screenshots are somewhat dated – use 1.6.0_20)

Custom Setup	
Select the program features you want installed.	l
Select optional features to install from the list below. You can change your choice of features aft installation by using the Add/Remove Programs utility in the Control Panel Feature Description	er
Image: Development Tools Image: Demos and Samples Image: De	
Install to: C:\jdk1.6.0_18\	
< Back Next > Cancel	
Java Setup - Destination Folder	×

(jii) Java	Destination Folder Click "Change" to install Java to a different folder.	Sun riccoystems
nstall to: ::\jre1.6.0	_18\	Change
		/

Install WebLogic Server

Assuming the WebLogic distribution, downloaded earlier, is in c:\downloads, navigate to that directory using Windows Explorer and double-click the distribution, wls1033_win32.exe, to start the installer in GUI mode.

 $Create \ Middleware \ Home \ under \ C: \ Oracle \ Middleware \ 11g_home.$

🔂 Oracle Installer - WebLogic 10.3.3.0	
Choose Middleware Home Directory Specify the Middleware Home where you wish to install WebLogic 10.3.3.0.	ORACLE
Middleware Home Type O Use an existing Middleware Home Image: Create a new Middleware Home	
Middleware Home Directory	
C;\Oracle\Middleware\[11g_home	
Browse Reset	
Exit	Previous Next

Uncheck "I wish to receive security updates ...", dismiss the dialog box that appears and click Next.

🔂 Oracle Installer - WebLogic 10.3.3.0	
Register for Security Updates Provide your email address to be informed of security issues, install the product, and initiate configuration manager. <u>http://www.oracle.com/support/policies.html</u>	ORACLE
Email: Easier for you if you use your My Oracle Support ema	il address/username.
I wish to receive security updates via My Oracle Support My Oracle Support Password:	
Exit	Previous Next

Click "Typical" then Next.

🔂 Oracle Installer - WebLogic 10.3.3.0	
Choose Install Type Select the type of installation you wish to perform.	ORACLE
Typical Install the following product(s) and component(s): WebLogic Server Oracle Coherence	
○ Custom	
Choose software products and components to install a configuration.	nd perform optional
E <u>x</u> it	Previous Next

Accept defaults by clicking Next.

Oracle Installer - WebLogic 10.3.3.0	
Choose Product Installation Directories Provide the directories where you wish to install WebLogic 10.3.3.0.	ORACLE
	💍 Discard Changes
Middleware Home Directory	
C:\Oracle\Middleware\11g_home	
Product Installation Directories	
The Product Home might contain shared utilities and any products or comp are not set. WebLogic Server:	ponents for which unique directories
C:\Oracle\Middleware\11g_home\wlserver_10.3	Browse
Oracle Coherence:	
C:\Oracle\Middleware\11g_home\coherence_3.5	Browse

Accept defaults by clicking Next.



Click Next to commence installation.

🔂 Oracle Installer - WebLogic 10.3.3.0	
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 Hrind Party JDBC Drivers WebLogic Server Clients WebLogic Server Plugins UDDI and Xquery Support	Description Implements JEE technologies, Web services, and other leading Internet standards, to provide a reliable framework for highly available, scalable, and secure applications.
Evaluation Database Oracle Coherence Coherence Product Files INKs Exit Exit	Approximate Installed Size Highlighted item: 716.6 MB Total of all selected items: 1,324.5 MB Previous Next

Uncheck the "Run Quickstart" checkbook and click Done.

Install SOA Suite 11g

The SOA Suite installation will be performed in two stages. First the SOA Suite 11g R1 will be installed, then the Patch Set 2 will be installed.

Installation of the SOA Suite is discussed, in detail, in Section 2, Installing Oracle SOA Suite and Oracle Business Process Management Suite, of the Oracle Fusion

Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite [13]. The following steps walk through the process applicable to the installation for this article.

It is assumed that the SOA Suite archive, ofm_soa_generic_11.1.1.2.0_disk1_1of1.zip, has been extracted to c:\downloads.

Open a command window and enter:

```
cd C:\downloads\ofm_soa_generic_11.1.1.2.0_disk1_1of1\Disk1
.\setup -jreLoc C:\Oracle\Middleware\11g_home\jdk160_18\jre
```

Note: If you are tempted to perform this installation from a network drive, even if mounted locally, don't be. Installation will fail to initialize and will not provide sensible feedback. The distribution files must be available locally.

The command will "complete" pretty quickly but all kinds of other command windows will flash until eventually a GUI dialogue box will appear.



Click Next.

Oracle Fusion Middleware 11g	SOA Suite	e Installation - Step 2 of 6		<u>.e.</u> 11 <i>8</i> ware
Welcome	Selection	Check	Progress	Status
Prerequisite Checks	4	Checking operating system certification	100%	 Image: A set of the set of the
Specify Installation Location	V	Checking service pack	100%	 Image: A set of the set of the
Installation Summary	v	Checking physical memory	100%	×
Installation Complete		Ā	port <u>R</u> etry	Continue
		hecking operating system certification hecking service pack hecking physical memory		
Help		< Back	<u>N</u> ext >	sh Cancel

Click Next.

Wolcomo	1	POSICIO MIDDLEMARE
Prerequisite Checks		
Installation Summary Installation Progress Installation Complete	Oracle <u>M</u> iddleware Home: <u>O</u> racle Home Directory:	Oracle\Middleware\11g_home Browse
	The WebLogic Server	must already be installed in the same Middleware Home.

Accept the defaults and click Next.

Oracle Fusion Middleware 11	9 SOA Suite Installation - Step 4 of 6
Installation Summ	ary ORACLE TISION MIDDLEWARE
Welcome Prerequisite Checks Specify Installation Location Installation Summary Installation Progress Installation Complete	
	Save Response File: Save To change this configuration before installing, select the topic you want to change in the pane on the left. To install this configuration, select install.
	< <u>Back</u> Mext > Install Cancel Elapsed Time: 3m 55s

Click Install.

nstallation Progre	ess ORACLE FUSION MIDDLEWARE 11
Welcome Prerequisite Checks Specify Installation Location	Progress 50% Copying Files Install Log C:\Program Files\Oracle\Inventory\logs\install2010-06-04_09-21-37PM.log
Installation Summary Installation Progress Installation Complete	Install Completed Install Completed Starting File Copy Installing: Installer SDK Component 11.1.0.7.0
Oracle Fu	usion Middleware

Installation will take a while. When completed, click Next.

Installation Complete		
Welcome Prerequisite Checks Specify Installation Location Installation Summary Installation Progress Installation Complete	Install Oracle SOA Suite Directory Details Middleware Home Location: C:\Oracle\Middleware\11g_home Oracle Home Location: C:\Oracle\Middleware\11g_home\Oracle_SOA1 Disk Space Oracle Home Size: 657 MB Available: 91195 MB 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	
<u>H</u> elp	<back next=""> Einish Cance</back>	

Click Finish.

The SOA Suite is installed.

Install Patch Set 2

Let's now install the Patch Set 2. Section 4, Applying the Latest Oracle Fusion Middleware Patch Set with the Patch Set Installers, in the Oracle® Fusion Middleware Patching Guide 11g Release 1 (11.1.1)[14], discusses the process in detail. The following steps apply to the installation in this article.

Assuming you unzipped the Patch Set 2 archive,

ofm_soa_generic_11.1.1.3.0_disk1_1of1.zip, to the c:\downloads directory, open a command window and issue the following commands:

```
cd C:\downloads\ofm_soa_generic_11.1.1.3.0_disk1_1of1\Disk1
.\setup -jreLoc C:\Oracle\Middleware\11g_home\jdk160_18\jre
```

A number of command windows will open and close and eventually the oracle Universal Installer GUI will appear. Patience is advised. It may take a few minutes for the Installer to appear.



Click Next.

Specify instantion	Location	FUSION MIDDLEWARE
<u>Welcome</u> Specify Installation Locatic Installation Summary Installation Progress Installation Complete	Oracle <u>M</u> iddleware Home: Oracle Home Directory:	Oracle/Middleware/11g_home Oracle_SOA1 must already be installed in the Middleware Home.
Help	-	< Back Next > Finish Canc

Accept the defaults and click Next.

Installation Summ	
Velcome Specify Installation Location Installation Summary Installation Progress Installation Complete	
<u>H</u> elp	Save Response File: Save Click Install to start the installation. Click Install to start the installation options, select the topic in the left pane, or use the Back button. Click Install Click Installation options, select the topic in the left pane, or use the Back button. Click Install Click Installation options, select the topic in the left pane, or use the Back button.

Click Install and observe the progress of the installation process.

Installation Progre	
Welcome Specify Installation Location Installation Summary Installation Progress Installation Complete	Progress 100% Completed Install Log C:\Program Files\Oracle\Inventory\logs\install2010-06-05_12-44-55AM.log Installation Successful. Starting execution of post install scripts Execution of post install scripts completed
Oracle Fu	usion Middleware Extreme Productivity

Click Next when the installation process completes.

Installation Compl	
Welcome Specify Installation Location Installation Summary Installation Progress Installation Complete	Install Oracle SOA Suite Patchset Directory Details Middleware Home Location: C:\Oracle\Middleware\11g_home Oracle Home Location: C:\Oracle\Middleware\11g_home\Oracle_SOA1 Disk Space Oracle Home Size: 1058 MB Available: 90268 MB Oracle BPEL PM, Mediator,Rules,B2B,Human Workflow Oracle Business Activity Monitoring (BAM) Oracle Enterprise Manager Oracle Business Process Management Suite 11g
<u>H</u> elp	SOA patchset installation completed successfully < Back Mext > Einish Cancel

Click Finish.

Install Oracle Enterprise Pack for Eclipse (Optional)

If you downloaded the Oracle Service Bus 11.1.1.3.0, intending to use it in other solutions to be developed and exercise in the environment being built, now is the time to install the Oracle Enterprise Pack for Eclipse, which you presumably downloaded also.

Unzip the Oracle Enterprise Pack for Eclipse archive, oepe-galileo-all-in-one-11.1.1.5.0.201003170852-win32.zip, to C:\Oracle\Middleware\, then rename the leaf folder C:\Oracle\Middleware\oepe-galileo-all-in-one-11.1.1.5.0.201003170852-win32 to OEPE to get C:\Oracle\Middleware\OEPE.

Install Oracle Service Bus (Optional)

If you downloaded the Oracle Service Bus 11.1.1.3.0, intending to use it in other solutions to be developed and exercise in the environment being built, now is the time to install it.

Assume that the Oracle Service Bus archive, ofm_osb_generic_11.1.1.3.0_disk1_1of1.zip, has been unzipped to c:\downloads. Open a command window and execute the following commands.

```
cd C:\downloads\ofm_osb_generic_11.1.1.3.0_disk1_lof1\osb\Disk1
setup.exe -jreLoc c:\jre1.6.0_18
```

A number of command windows will open and close and eventually the oracle Universal Installer GUI will appear. Patience is advised. It may take a few minutes for the Installer to appear. Skip the Welcome screen by clicking Next.

Select Typical and click Next.

Select Installation	Type
Welcome Typical Prerequisite Checks Specify Installation Location Installation Summary Installation Progress Installation Completed	Typical Installs Oracle Service Bus Server & Oracle Service Bus IDE binaries in the ORACLE_HOME Custom Installs the chosen software components on your system. Components included are Oracle Service Bus Server, Oracle Service Bus IDE & Oracle Service Bus Examples
<u>H</u> elp	< Back Next > Einish Cancel

Once prerequisite checks are completed successfully, click Next.

racle Service Bus 11g Insta Prerequisite Chec	llation - St <mark>ks</mark>	ep 3 of 7		E. 118
Welcome	Selection	Check	Progress	Status
Typical	41	Checking operating system certification	100%	~
Prerequisite Checks	4	Checking service pack	100%	1
Specify Installation Location	4	Checking physical memory	100%	~
			ort <u>R</u> etry	Continue
		hecking operating system certification hecking service pack hecking physical memory		
100000				
Help		< <u>B</u> ack	Next > Einist	Cancel

Accept defaults for Installation Location, enter C:\Oracle\Middleware\OEPE for OEPE Location and click Next.

Specify Installation	Location		E 11
	Oracle <u>Mi</u> ddleware Home: <u>O</u> racle Home Directory: <u>W</u> eblogic Server Location: OE <u>P</u> E Location:	IOracle\Middleware\11g_home Oracle_OSB1 C:\Oracle\Middleware\11g_hor C:\Oracle\Middleware\0EPE	Browse Browse Browse
Help	Oracle Enterprise pack for Eclip applications to be designed in E	se (OEPE) is inside the Middleware Home clipse	and allows C

Click Install.

Installation Summ	ary ORACLE FUSION MIDDLEWARE 118
	Oracle Service Bus 11g Oracle Service Bus 11g Oracle Home Location: C:\Oracle\Middleware\11g_home\Oracle_OSB1 Middleware Home Location: C:\Oracle\Middleware\11g_home WebLogic Server Home Location: C:\Oracle\Middleware\11g_home\wlserve OEPE Home Location: C:\Oracle\Middleware\OEPE Disk Space Required: 1200 MB Available: 91587 MB Oracle Service Bus Server
	Save Response File:
	Click Install to accept this configuration and start the installation. To change the configuration before starting the installation, select the topic to change in the left pane, or use the <u>B</u> ack button.
Help	< Back: Next > Install Cancel

When the progress bar reaches 100% click Next.

Installation Progre	ess ORACLE FUSION MIDDLEWARE 11
Welcome Typical Prerequisite Checks Specify Installation Locatic Installation Summary Installation Progress Installation Completed	Progress 99% Executing post install scripts Install Log C:\Program Files\Oracle\Inventory\logs\install2010-06-06_11-16-33PM.log Installation Successful. Starting execution of post install scripts
Oracle F	usion Middleware
	ORACLE

Finally, click Finish.

Install JDeveloper IDE and Extensions

Assume that the JDeveloper Studio IDE archive, jdevstudio11113install.exe, has been downloaded to c:\downloads.

Double-click the JDeveloper Studio archive executable, jdevstudio11113install.exe, to commence installation.

When asked to choose the middleware home directory check "Create a New Middleware Home", specify c:\Oracle\Middleware\jdev_home and click Next.

🔂 Oracle Installer - Oracle JDeveloper 11g (11.1.1.3.0)		
Choose Middleware Home Directory Specify the Middleware Home where you wish to install Oracle Products.	ORACLE [.]	
Middleware Home Type C:\Oracle\Middleware\11g_home O Use an existing Middleware Home C:\Oracle\Middleware\11g_home O Create a new Middleware Home C:\Oracle\Middleware\11g_home		
Middleware Home Directory C:\Oracle\Middleware\jdev_home Browse Reset		
Exit	Previous Next	

Check "Complete" for installation type and click Next.

[🔂 Oracle Installer - Oracle JDeveloper 11g (11.1.1.3.0)	×
	Choose Install Type Select the type of installation you wish to perform.	ORACLE
	Complete Install the following software products: IDeveloper and ADF	
:	WebLogic Server O Custom Choose software products and components to configuration.	o install and perform optional
	E _X it	Previous Next

Accept product directories and click Next.

🔂 Oracle Installer - Oracle JDeveloper 11g (11.1.1.3.0)	
Confirm Product Installation Directories Confirm the directories where you wish to install Oracle Products.	ORACLE
	💍 Discard Changes
Middleware Home Directory	
C:\Oracle\Middleware\jdev_home	
Product Installation Directories	
The Product Home might contain shared utilities and any products or components are not set. JDeveloper and ADF:	for which unique directories
C:\Oracle\Middleware\jdev_home\jdeveloper	
WebLogic Server:	
C:\Oracle\Middleware\jdev_home\wlserver_10.3	
E⊻it	Previous Next

Accept default for shortcut location and click Next.



Accept installation summary and click Next.

🔂 Oracle Installer - Oracle JDeveloper 11g (11.1.1.3.0)		
Installation Summary The following Products will be installed.	ORACLE [.]	
 JDeveloper and ADF JDeveloper Studio Application Development Framework Ru WebLogic Server Core Application Server Administration Console Configuration Wizard and Upgrade Fran WebLogic SCA WebLogic JDBC Drivers WebLogic Server Clients UDDI and Xquery Support 	Description Oracle JDeveloper and ADF is a complete IDE for Service-Oriented Architecture (SOA) and Java development that is ranked best among major Java vendors in Forrester TechRankings. As part of Oracle Fusion Middleware, JDeveloper is "hot-pluggable" with Oracle and non-Oracle environments, supporting all major J2EE application servers and databases.	
jdk160_18	Approximate Installed Size Highlighted item: 692.2 MB Total of all selected items: 1,693.9 MB Previous Next	

When the installation completes, uncheck the "Quickstart" checkbox and click Done.

👩 Oracle Installer - Oracle JDevelope	r 11g (11.1.1.3.0)	
Installation Complete Click the Done button to exit the installer.		ORACLE
ORACLE	Message Congratulations! Installation is complete.	
	🗌 Run Quickstart	
Ē _X it.		Pravious Done

Once installation is completed it is necessary to update the BPM and SOA components of JDeveloper.

Start the JDeveloper application.

Accept Default Role and click OK.

Role	c	
۲	Default Role	
0	Customization Developer Configures the product for customizing metadata.	
0	Database Edition Includes only features for core database development.	
0	Java EE Edition Includes only features for core Java EE development.	
0	Java Edition Includes only features for core Java development.	

If you like, uncheck the "Always prompt for role selection on startup" checkbox.

Select Help→Check for Updates



Click Next to the welcome dialogue box.

Theck for Updates	- Step 1 of 5
Welcome	
🥥 Welcome	Welcome to the Check for Updates Wizard
Source Updates Download Summary	This wizard is used to download and install extensions and patches for Oracle JDeveloper 11g Release 1. You can choose whether to install updates from a local update bundle or from a remote update center.
	Skip This Page Next Time
Help	<back next=""> Einish Cancel</back>

Click the "Install From Local File", locate the archive bpm-jdev-extension.zip and click Next. (I changed the archive name, shown in the picture, to remind me of the version after I downloaded it).

Welcome	Choose whether to search for updates on the internet or to install an update fr have already downloaded.	rom a bundle r
Source	◯ <u>S</u> earch Update Centers:	
Download	S Oracle Fusion Middleware Products	Add
Summary	http://www.oracle.com/technology/products/jdev/101/update/fmv	Remove
a contract y	Official Oracle Extensions and Updates http://htmldb.oracle.com/pls/otn/f?p=updatecenter.uc	Edition
	Dpen Source and Partners Extensions http://www.oracle.com/fechnology/products/jdev/101/update/exc	

Confirm the version number and click Finish. Allow JDeveloper to re-start.

Check for Updates -	Step 3 of 3
Summary	
Source	New Extensions L_Oracle BPM Studio 11g version 11.1.1.3.0.6.84
	To close this wizard, click Finish.

Repeat the process with soa-jdev-extension.zip.

urce	and Fring States and Print States and Pr	~~
Welcome Source	Choose whether to search for updates on the internet or to install an update from have already downloaded.	m a bundle
License Agreemen Download	S Oracle Fusion Middleware Products http://www.orade.com/technology/products/jdev/101/update/fn	Add
Summary	Official Oracle Extensions and Updates http://htmldb.oracle.com/pls/otn/f7p=updatecenter:uc	Edit
	Open Source and Partners Extensions http://www.oracle.com/technology/products/jdev/101/update/e:	
	Install From Local File	

Check for Updates	- Step 3 of 3
Summary	
V Welcome Source Summary	New Extensions Composite Editor version 11.1.1.3.0.25.57
Help	To close this wizard, click Finish.

Once JDeveloper restarts click Help \rightarrow About Version tab to see what component versions are installed then exit JDeveloper.

📤 About Oracle JDevelop	er 11g Release 1	×
Oracle JDeveloper 11g Relea	e 1 (11.1.1.3.0)	<u></u>
About Version Prop	rties Extensions	Export -
Component ADE Business Component BPMN Editor Java(TM) Platform Oracle IDE SOA Composite Editor Versioning Support	Version 11.1.1.56.60 11.1.1.3.0.6.84 1.6.0_18 11.1.1.3.37.56.60 11.1.1.3.0.25.57 11.1.1.3.37.56.60	
		OK

Install Oracle B2B Document Editor and Standards Libraries

B2B Document Editor is required to allow extraction of standards-compliant objects for various B2B standards, which are then used to configure messaging and message validation. HL7 v2 is classified as one of these. The B2B Document Editor is also used to customize message strictures if customization is required. For HL7 v2 this is often the case.

Installation of the B2B Document Editor, which is available for Windows only, is discussed in Oracle® Fusion Middleware User's Guide for Oracle B2B 11g Release 1 (11.1.1), Section 3.2, Installing Oracle B2B Document Editor[15]. The reference in that document is somewhat circular in that it sends the reader to the Help facility of the B2B Document Editor (which is assumed to be installed already) to seek help on installing the B2B Document Editor. Follow the steps below to get the job done.

Unzip Part 1 of the B2B Document Editor archive set, ofm_b2b_doc_editor_win_11.1.1.0_disk1_1of3.zip, to c:\downloads.

Unzip Part2 of the B2B Document Editor archive set, ofm_b2b_doc_editor_win_11.1.1.0_disk1_2of3.zip, to c:\downloads.

Disk 1 of 3 contains, in addition to the document editor itself, default standards libraries for Electronics, FinanceXML and RosettaNet.

Disk 2 of 3 and Disk 3 of 3 (the last of which we did not download), contain additional standards libraries, most notably HealthcareXML, HL7, HL7v3, HIPAA, SCRIPT, Positional and Others. Some of these are only relevant to healthcare in the USA (HIPAA) while others are much more universal (HL7, HL7v3).



Copy directories for the standards you need to be supported from C:\downloads\ofm_b2b_doc_editor_win_11.1.1.0_disk1_2of3\Standards to C:\downloads\ofm_b2b_doc_editor_win_11.1.1.0_disk1_1of3\Standards. The installer will look for them there. Choose only the standards you need.

Navigate to C:\downloads\ofm_b2b_doc_editor_win_11.1.1.1.0_disk1_1of3 and double-click Install.exe.

As it starts, the installer will complain about missing or corrupt standards libraries for the standards not found under the Standards directory (this is why we copied the standards directories for the standards we need to be installed). Dismiss these dialogues by clicking OK.

15		_
1	Error.	×
:	Required file\Standards\InlandRevenue\Oracle Standards Database EDI - INLAND REVENUE.msi not found or corrupted.	
:	ОК	
-		

When the installer dialogue opens verify that all standards for which you need support are listed and click Next.

ect Products to be installed:	Item description
Oracle B2B 6.6 Standards EDIFACT X12 X12N Positional Flat File RosettaNet Others HIPAA	Oracle B2B (product version 6.6.0.2801)
RosettaNet Others HIPAA	

The list of operations to be performed will be shown for confirmation. Click Next to commence installation.

Product	Installed version	New version	Operation	nunue.
×12N	mistalica version	660147	Installation	199.22
Positional Flat File	1.02	660145	Installation	
Others		660117	Installation	
HIPAA	1000000	663242	Installation	
External Codelists		6.6.3.348	Installation	
HI 7	1	663149	Installation	
HL7v3		6.6.0.158	Installation	
NCPDP Telecom	() ()	6.6.0.141	Installation	
SCRIPT		6.6.0.131	Installation	
eBusiness XML	(1222))	6.6.0.20	Installation	
HealthCare XML		6.6.0.18	Installation	

Depending on the configuration of your Windows machine .NET framework may be installed and configured as part of the B2B Document Editor installation.

Installation will continue with the Welcome dialogue box. Click Next.

🖶 Oracle B2B - Setup 🗙 🗙					
ORACLE	Welcome to the InstallShield Wizard for Oracle B2B				
B2B	The InstallShield(R) Wizard will install Oracle B2B on your computer. To continue, click Next.				
Powered by EDIFECS					
	<back next=""> Cancel</back>				

Provide "Customer Information" and click Next.

	🙀 Oracle B2B - InstallShield Wizard			×
•	Customer Information		ORAC	I E'
	Please enter your information.			
	<u>U</u> ser Name:			
	XP_user			
	Organization:			
	InstallShield			
		< Back	Next >	Cancel
1				

Change installation directories from defaults to keep all software together. Change "Install Oracle B2B To:" to C:\Oracle\Oracle_B2B\. Change "Install Oracle B2B Common Files To:" to C:\Oracle\Oracle_B2B_Common_Files\. Click Next.

👘 Oracle B	2B - InstallShield Wizard			×
Destinati Click Nex	ion Folder kt to install to this folder, or clic	k Change to install t	o a different folde	CLE [.]
	Install Oracle B2B to: C:\Oracle\Oracle_B2B\			Change
	Install Oracle B2B common file C:\Oracle\Oracle_B2B_Comm	es to: on_Files\		Change
InstallShield -				
		< Back	Next >	Cancel

Accept the default of "Complete" and click Next.

🙀 Oracle B2B - Ir	nstallShield Wizard
Setup Type Choose the set	tup type that best suits your needs.
Please select a	setup type.
Complete	All program features will be installed. (Requires the most disk space.)
C Custom	Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield	< Back Next > Cancel

Click Install and wait for completion.



Check / uncheck the checkboxes in the final dialogue box as you see fit and click Finish.

🙀 Oracle B2B - InstallShield	Wizard	×		
	InstallShield Wizard Completed			
ORACLE B2B	The InstallShield Wizard has successfully installed Oracle B2B. Click Finish to exit the wizard.			
	Show the readme file			
	Launch the program			
	Create Oracle B2B shortcut on:			
	Desktop			
	🔽 Quick Launch			
Powered by EDIFECS				
	< Back Finish Cancel			

A series of Standards configuration wizards will appear for specific standards. In general, the wizard dialogues will ask for confirmation that local installation is to be performed, location of the destination folder and whether a complete or custom installation is to be performed.

A set of dialogue windows for HL7 is shown below.

🙀 Oracle Standards Databas	e HL7 - InstallShield Wizard	×
ORACLE [.] B2B	Welcome to the InstallShield Wizard for Oracle Standards Database HL7 The InstallShield(R) Wizard will install Oracle Standards Database HL7 on your computer. To continue, click Next.	
	Please, select installation type: Local only installation Network enabled installation 	
Powered by EDIFECS	WARNING: This program is protected by copyright law and international treaties.	
	<back next=""> Cancel</back>	

🙀 Oracle S	tandards Database HL7 - Iı	nstallShield Wizard	i	×
Destinati Click Ne:	ion Folder xt to install to this folder, or clic	k Change to install to	a different folde	CLE [.]
	Install Oracle Standards Datal C:\Oracle\Oracle_B2B_Commo	base HL7 to: on_Files\STANDARDS		Change
InstallShield -		< Back	Next >	Cancel

🙀 Oracle Standards Database HL7 - I	nstallShield Wiza	ard	
Oracle Standards Database HL7 Set Choose the setup type that best suits y	t up Type your needs.	ORA	CLE.
Please select a setup type.			
• Complete All program features (ir	ncluding HL7) will b	e installed.	
Custom Choose which program will be installed. Recom	features you wani mended for advan	t installed and wher ced users.	e they
InstallShield	< Back	Next >	Cancel
			-
When the standards Database HL / - In	nstallShield Wiza	nrd	2
Ready to Install the Program		ORA	CI E' 📈
The wizard is ready to begin installation			
Click Install to begin the installation.			
If you want to review or change any of exit the wizard.	your installation se	ettings, click Back. (lick Cancel to

< Back

Install

Cancel

🙀 Oracle Standards Databas	e HL7v3 - InstallShield Wizard	×
	InstallShield Wizard Completed	
ORACLE [.] B2B	The InstallShield Wizard has successfully installed Oracle Standards Database HL7v3. Click Finish to exit the wizard.	
Powered by EDIFECS		
	< Back Finish Cancel	

Once all wizards are done a completion dialogue windows will appear. Click Finish.

Product	Operation	Result	
Oracle B2B 6.6	Installation	Ok	
EDIFACT	Installation	Ok	
X12	Installation	Ok	
×12N	Installation	Ok	
Positional Flat File	Installation	Ok	
Others	Installation	Ok	
HIPAA	Installation	Ok	
External Codelists	Installation	Ok	
HL7	Installation	Ok	
HL7v3	Installation	Ok	
NCPDP Telecom	Installation	Ok	-

Oracle B2B Document Editor-related shortcuts will appear under the Oracle item in the Start menu \rightarrow Programs option.

E	Programs	►	🖬 Oracle 🛛 🕨	👌 Analyzer 🛛
٨	Documents	►	6	🚶 Data Comparator
₽	Settings	►		👌 Data Editor
P	Search	►		Data Generator
0	Help and Support		E	MapBuilder
0	Run		1	🔰 Migrator
	Log Off Oracle		5	🖇 Oracle B2B
0	Turn Off Computer		E.	SpecGenerator
2 1	itart 🛛 🏉 🞯 🎭 🏹 🍤		। 🎗 Process Explorer - Sysint 🛛 🍣 System 🛲	Standards Reference

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Configure WebLogic Domain

With all software installed now is the time to configure the runtime environment.

Normally the infrastructure consists of an admin server and one or more managed servers. The SOA and the BAM typically have a separate managed server each. This requires the physical host to have a fair amount of memory, more then Windows XP supports. Since this article discusses an environment built for development and exploration using a single machine with limited resources, we will configure all components to use that same, single WebLogic server. While this will increase the time the server takes to start, it will minimize the amount memory needed to run all that needs to be run.

Start the WebLogic Configuration Wizard, Start menu \rightarrow Programs \rightarrow Oracle SOA 11g – Home 1 \rightarrow Configure Application Server Wizard.



Accept the default "Create a new WebLogic Domain" and click Next.



Check, in the specified order:

- 1. Oracle WSM Policy Manager
- 2. Oracle Business Activity Monitoring
- 3. Oracle Enterprise Manager
- 4. Oracle SOA Suite
- 5. Oracle BPM Suite
- 6. WebLogic Advanced Web Services for JAX-RPC Extension
- 7. WebLogic Advanced Web Services for JAX-WS Extension

Click Next when done.

Fusion Middleware Configuration Wicard	
elect Domain Source	ORACLE'
Generate a domain configured automatically to support the following processing of the support	products:
Ellies with ogr favor Danas (10.2.2.0 pitteres, 10.2]*	
Oracle BPM Suite - 11.1.1.0 [Oracle_SOA1]	
☑ Oracle SOA Suite - 11.1.1.0 [Oracle_SOA1]	
Oracle Enterprise Manager - 11.1,1.0 [oracle_common]	
Oracle Business Activity Monitoring - 11.1.1.0 [Oracle_SOA1]	
Cracle WSM Policy Manager - 11.1.1.0 [oracle_common]	
Oracle JRF WebServices Asynchronous services - 11.1.1.0 [oracle_common]	
Oracle JRF - 11.1.1.0 [oracle_common]	
WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.3.0 [wberver_10.3]	
WebLogic Advanced Web Services for JAX-WS Extension - 10.3.3.8 [wiserver_10.3]	
O Base this domain on an existing template	
Terroration Chinabilitheastille Inna	(Seinener)
E.a. Line	Denting of Area
eSt Date	Granove Berr

Change the name of the new domain to single_server_domain, accept defaults for domain and application locations and click Next.

pecity Domain Nam	e and Location			
				ORACLE
	Enter the nam	e and location for the domain and its applic	ations:	
	Domain location:	C:\Cracle\Mddeware\11g_home\user_projects\domains	Browse	
	Application location:	C:(Oracle)Middleware(11g_home)user_projects(application	BEOWISE	

Accept the default Name of weblogic. Set the two passwords to the conventional password of welcome1 or a password of your own choosing then click Next.

usion Middleware Configu	ration Wizard	
nfigure Administrato	r User Name and Password	ORACLE
Disgard Changes		
*Name:	weblogic	
"User pessword:		
*Confirm user password:	******	
Description:	This user is the default administrator.	
Egt Heb		Previous

Accept default Development Mode and Sun JDK and click Next.

usion Middleware Configuration Wicard	
onfigure Server Start Mode and JDK	ORACLE
Before putting your domain into production, make sure that Production Environment' in the WebLogic Server documental To use WebLogic JRocht in production, Oracle recommends For information about WebLogic JRocht, see the WebLogic	the production environment is secure. For more information, see the topic 'Securing a son. developing and testing your applications with WebLogic JRockit early in the project cycle. Rockit documentation.
WebLogic Domain Startup Mode	30K Selection
Development Mode Ution boot properties for usernane and password and pol for applications to deploy. Sun JOK recommended for better startup performance during iterative development.	Available 30Ks Rockt 50K 1.6.0_17 @ C:\CracklyNddleware\11g_home\yr Sun 50K 1.6.0_18 @ C:\OraclelyNddleware\11g_home\ydk1(
Production Mode Require the entry of a usemanie and password and do not poll for applications to deploy. WebLogic 3Rockt 3DK recommended for better number performance and management.	Other JDK Locator

Check the checkboxes next to all Component Schemas. Choose Oracle as Vendor. Choose "*Oracle Driver (Thin) for Instance connections" for Driver. Enter welcome1 (or the password specified for the repository creation utility earlier on) for Schema Password. Set DBMS/Service to XE. Set Host Name to localhost. Set Port to 1521. Click Next.

	Checker of the		1.1		DOM: CO	and se	
	versor:	vrace.	1		Uphopolecy	Net NC	
	Driver	*Orade's Onver ()	Thin) for pervice connects	ons; versions:9.0.1,9.2.0	- Hold Na	me: locathost	
Sch	iena Owner:	Varies among comp	ponent schemas		P	ort: 1521	
		Configure select	ed component schemas a	a rome many used avoid to acc		in para	
	Com	Configure select	DBMS/Service	Host Name	Port	Schema Owner	Schema Password
2	Com BAM Schem	Configure select ponent Schema	DBMS/Service	Host Name localhost	Port 1521	Schema Owner DEV_ORABAM	Schema Password
2	Com BAM Schem SOA Infrast	Configure select ponent Schema a ructure	DBMS/Service	Host Name locahost locahost	Port 1521 1521	Schema Owner DEV_ORABAM DEV_SCAINFRA	Schettia Password
N N N	Com BAM Schem SOA Infrast User Messa	Configure select ponent Schema a ructure png Service	CBMS/Service	Host Name locarhost locarhost locarhost	Port 1521 1521 1521	Schems Owner DEV_ORABAM DEV_SOAINFRA DEV_ORASDPM	Schema Password
	Com BAM Schem SOA Infrast User Messa OWSM MDS	Configure select ponent Schema a ructure ping Service Schema	DBMS/Service XE XE XE XE XE	Host Name locahost locahost locahost locahost	Port 1521 1521 1521 1521	Schems Owner DEV_ORABAM DEV_SOAINFRA DEV_ORASDPM DEV_MDS	Schema Password

Test Connections. Click Next.

Fusion	Fusion Middleware Configuration Wizard						
est Co	mpon	ent Schema	ORACLE				
	Status	Component Schema	JDBC Connection URL				
	\checkmark	BAM Schema	jdbc:oracle:thin:@localhost:1521/XE				
	\checkmark	SOA Infrastructure	jdbc:oracle:thin:@localhost:1521/XE				
	\checkmark	User Messaging Service	jdbc:oracle:thin:@localhost:1521/XE				
	\checkmark	OWSM MDS Schema	jdbc:oracle:thin:@localhost:1521/XE				
	\checkmark	SOA MDS Schema	jdbc:oracle:thin:@localhost:1521/XE				
	Select All Unselect All Iest Connections						
Connection Result Log Driver=oracle.jdbc.OracleDriver URL=jdbc:oracle:thin:@localhost:1521/XE User=DEV_MD5 Password=******** SQL Test=select 1 from schema_version_registry where owner=(select user from dual) and mr_type='MD5' and version='11.1.1.2.0' CFGFWK-20850: Test Successful!							
•							
E <u>×</u> it	Ŀ	telp	Previous Next				

Check the "Managed Servers. Clusters and Machines" checkbox and click Next.

Fusion Middleware Configuration Wiz	ard	×
Select Optional Configuration		ORACLE
	 Administration Server Modify Settings JMS Distributed Destination Select JMS Distributed Destination Type Managed Servers, Clusters and Machines Add or Delete Modify Settings Deployments and Services Target to Servers or Clusters JMS File Store Modify Settings RDBMS Security Store Modify Settings 	
Exit Help		Previous Next

Select, one at a time, and delete the bam_server1 and soa_server1 managed server entries. We are configuring a single server domain to conserve machine memory resources.

	Fusion Middleware Configuration Wizard					
c	onfigure Managed Serve	ORACLE				
	📮 Add 🛛 🗙 Delete 💍 Disca		Switch Display			
	Name*	Listen address*	_	Listen port	SSL listen port	SSL enabled
	→ 1 bam_server1	All Local Addresses	-	9001	N/A	
	2 soa_server1	All Local Addresses	-	8001	N/A	
:						
	E <u>x</u> it <u>H</u> elp					Previous Next

Accept default for configure clusters (none) and click Next.

Fusion Middleware Co	Fusion Middleware Configuration Wizard				
Configure Clusters				ORACLE	
🖳 Add 🗱 Delete	O Discard Changes			Switch Display	
Name*	Cluster messaging mode	Multicast address	Multicast port	Cluster address	
E <u>x</u> it <u>H</u> elp				Previous Next	

Accept default for configure machines and click next.

-						
Fusion 1	Fusion Middleware Configuration Wizard					
Configu	re Machines			ORACLE		
Mac	chine Unix Machine					
	Name*	Node manager listen address	Node manager listen port			
\rightarrow 1		localbost	· · · · · · · · · · · · · · · · · · ·	5556		
Exit	Help			Previous Next		

Assign AdminServer to LocalMachine and click Next.

Fusion Middleware Configuration Wizard	
Assign Servers to Machines	ORACLE
Select a machine in the right pane. Then select the server(s) in the left pane.	me and assign them to the machine by clicking the right arrow button. Machine Machine CocalMachine AdminServer
Exit Help	Previous <u>N</u> ext

Review Configuration Summary and click Create.

Fusion Middleware Configuration Wizard		
Configuration Summary		ORACLE [.]
Domain Summary Summary View: Deployment base domain (C:)Oracle/Middleware)11.0	Click on an iter Details pane be prior panel. If e	n in the Domain Summary pane on the left to inspect its attributes in the slow. You can make limited adjustments by clicking Previous to return to a everything is satisfactory, click Create.
	Details	
	Attribute	Value
	Name	Basic WebLogic Server Domain
	Description	Create a basic WebLogic Server domain without installing sample app
E Shutdown Class	Author	Oracle Corporation
DMSShutdown	Location	C:\Oracle\Middleware\11g_home\wlserver_10.3\common\templates\
- - Startup Class	Name	WebLogic Advanced Web Services for JAX-WS Extension
I JRF Startup Class	Description	Extend an existing WebLogic Server domain to add functionality requ
- IPS Startup Class	Author	Oracle Corporation
- ODL-Startup	Location	C:\Oracle\Middleware\11g_home\wlserver_10.3\common\templates\-
Audit Loader Startup Class		
AWT Application Context Startur	Name	WebLogic Advanced Web Services for JAX-RPC Extension
MW Excention Context Starter	Description	Extend an existing WebLogic Server domain to add functionality requ
JMX Framework Startup Class	Author	Oracle Corporation
Duc Startup	Location	C:\Oracle\Middleware\11g_home\wiserver_10.3\common\templates\-
DMS-Startup	Mana	Ovada PDM Suite
OWSM Startup class	Description	Oracle BPM Suite Oracle BDM Suite Extension Template Configures Oracle BDM Comps
SOAStartupClass	Author	Oracle Corporation
	4	
Exit Help		Previous Create

Once condifguration is finished click Done.

Fusion Middleware Configuration W	zard
Creating Domain	ORACLE.
	Progress:
	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!
ORACLE	Domain Location: C:\Oracle\Middleware\11g_home\user_projects\domains\single_server_domain Admin Server URL: http://xponeb2b:7001
	🗌 Start Admin Server
Exit <u>H</u> elp	Previous Done

Shortcuts to start and stop the server, and to connect to start the web-based console are created in the Start menu \rightarrow Programs \rightarrow Oracle WebLogic \rightarrow User Projects \rightarrow single_server_domain folder.

Shared Folders	Cracle - CH2063764084 Cracle Database 10g Express Edition	:) tem) teacourb		
ArGuSoft Mail Server Set Program Access and Defaults Windows Catolog Windows Lipidate	Chacle Welcog: Chacle SOA 15g - Hone1 Chacle SOA 15g - Hone1 Chacle Service Due 11g - Hone1 Chacle Service Due 11g - Hone1 Chacle	WebLog: Server 11gR1 WebLog: Server 11gR1 Quid:Rot Quid:Rot Snart Lpdws Crimital Oracle WebLog:	PDMS Index I bbs m		
Proyens Decoments Settings	E ∰ 900 E ∰ 900 E ∰ 172,168,60.5 E ∰ C_Drive (C)	Terreksper Studio 11.1.1.3.0 Uranstal Oracle Nickleware User Projects	• 🖬 single_server_donan •	🖌 Oracle Service Sus Admin Console	
W Help and Support	E 🔁 downloads E 🛄)Ser E 🔂 ca_what			Sop Serve	
Log Off Orade	H Goowere Jae	Premier 2010 v14.0 build 090+			1

Start the WebLogic Server, watching the console output until strings

"<Notice> <WebLogicServer> <BEA-000365> <Server state changed to RUNNING>" and

"<Notice> <WebLogicServer> <BEA-000360> <Server started in RUNNING mode>" are seen.

Verify that you can start various consoles and tools and log in to get at the relevant functionality. Use the following URLs:

<u>http://localhost:7001/console</u> - WebLogic Applicaion Server Console <u>http://localhost:7001/b2b</u> - Oracle B2B Trading Partner Manager Console <u>http://localhost:7001/em</u> - Oracle Enterprise Manager Console <u>http://localhost:7001/OracleBAM</u> - Oracle BAM Console <u>http://localhost:7001/integration/worklistapp</u> - Worklist Manager Application

The B2B Document Editor can be accessed through the Start menu --> Programs \rightarrow Oracle \rightarrow B2B.

Shut down the WebLogic Server. Back up the system. Defragment the disks onto which you installed the infrastructure components.

Change Runtime Properties for Development

Change WebLogic Server Console Settings

- 1. Start the WebLogic Admin Server (WLS) if it is not already running
- 2. Log in to the WLS console <u>http://localhost:7001/console</u>
- 3. Click on **Deployments** in the left navigation bar

ORACLE WebLogic Server [®] Administration Console				
Change Center	Home Page Cog Out Preferences 🔤 Rec			
View changes and restarts	— Information and Resources			
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	Helpful Tools Configure applications Recent Task Status			
Domain Structure single_server_domain	Set your console preferencesOrade Enterprise Manager			
EnvironmentDeploymentsServicesSecurity RealmsInteroperabilityDiagnostics	Domain Configurations Domain Domain			

- 4. Click on **Customize this table** at the top of the **Deployments** table.
- 5. Change the number of rows per page to **100** (there are only about 30), select the checkbox to exclude libraries and click on **Apply**

Administration Console	Ģ
🏦 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic
	Connected to:
	single_server_doma
Home >Summary of Deployments	
Summary of Deployments	
Control Monitoring	
This page displays a list of Java EE applications and stand-alone application modules that h this domain. Installed applications and modules can be started, stopped, updated (redeplo the domain by first selecting the application name and using the controls on this page. To install a new application or module for deployment to targets in this domain, click the In Customize this table View Number of rows displayed per page: Exclude libraries when displaying deployments Apply Reset	nave been installed to oyed), or deleted from stall button.
Deployments	

When the server is started, internal applications like the WLS console are not deployed completely and a delay is experienced when the console application is first accessed after server startup.

Let's change this behaviour to deploy internal applications at startup to eliminate the delay.

- 1. Click on single_server_domain in the left navigation bar in the WLS console.
- 2. Click on Configuration | General tab
- 3. Deselect Enable on-demand deployment of internal applications checkbox

4. Click on the **Save** button



Increase diagnostics through Enterprise Manager

The Enterprise Manager can provide different levels of information about composite runtime instances.

- 1. Start the WebLogic server if it is not not already running
- 2. Log in to the EM console at http://localhost:7001/em
- 3. Right-click on the **soa-infra** (**AdminServer**) in the left navigation bar to open the SOA menu and select SOA Administration → Common Properties



4. Select Audit Level : Development and check the "Capture Composite Instance State" checkbox, the click Apply.



Expand DB Pools

Log into the WebLogic Application Server Console, <u>http://localhost:7001/console</u>. Navigate through Services --> JDBC --> DataSources.

ORACLE WebLogic Server® Administration Console					
Change Center	🔓 Home Log Out Preferences 🔤 Record Help				
View changes and restarts	Home >Summary of JDBC Data Sources				
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	Summary of JDBC Data Sources				
Domain Structure single_server_domain	A JDBC data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDE JNDI tree and then borrow a database connection from a data source. This page summarizes the JDBC data source objects that have been created in this domain. Customize this table Data Sources (Filtered - More Columns Exist) New Delete				
DeploymentsServicesJDBCJDBCData Sources					
		Name 🌣	JNDI Name		
Coherence Clusters		BAMDataSource	jdbc/oracle/bam/adc		
XML Registries		EDNDataSource	jdbc/EDNDataSource		
How do I		EDNLocalTxDataSource	jdbc/EDNLocalTxDataSource		
Create JDBC data sources Delete JDBC data sources		mds-owsm	jdbc/mds/owsm		
		mds-soa	jdbc/mds/MDS_LocalTxDataSource		
System Status		OraSDPMDataSource	jdbc/OraSDPMDataSource		
Failed (0)		SOADataSource	jdbc/SOADataSource		
Critical (0)		SOALocalTxDataSource	jdbc/SOALocalTxDataSource		

Click on the SOALocalTxDataSource, Connection Pool Tab. Change Maximum Capacity property from the default 50 to 100.

System Sta	atus		
Health of Ru	nning Servers		
	Failed (0) Critical (0)	🎳 Password:	•••••
	Overloaded (0) Warning (0)	Confirm Password:	•••••
	OK (1)	Initial Capacity:	0
		Maximum Capacity	y: 100
		Capacity Incremen	nt: 1

Click Save.

ORACL E Webl ogic Server [®] Administration Console				
Change Center View changes and restarts	Administration Console Home Log Out Preferences Record Help Home >Summary of JDBC Data Sources >SOALocalTxDataSource Messages			
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.	 All changes have been activated. No restarts are necessary. Settings updated successfully. 			
Domain Structure	Settings for SOALocalTxDataSource			
single_server_domain E-Environment Deployments C-Services	Configuration Targets Menitoring Control Security Notes General Connection Pool Transaction Diagnostics Identity Options			
	Save The connection pool within a JDBC data source contains a group of JDBC connections that connections within it are created when the connection pool is registered, usually when star Use this page to define the configuration for this data source's connection pool.			

Repeat the process for the SOADataSource connection pool.

The environment is ready for project work.

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