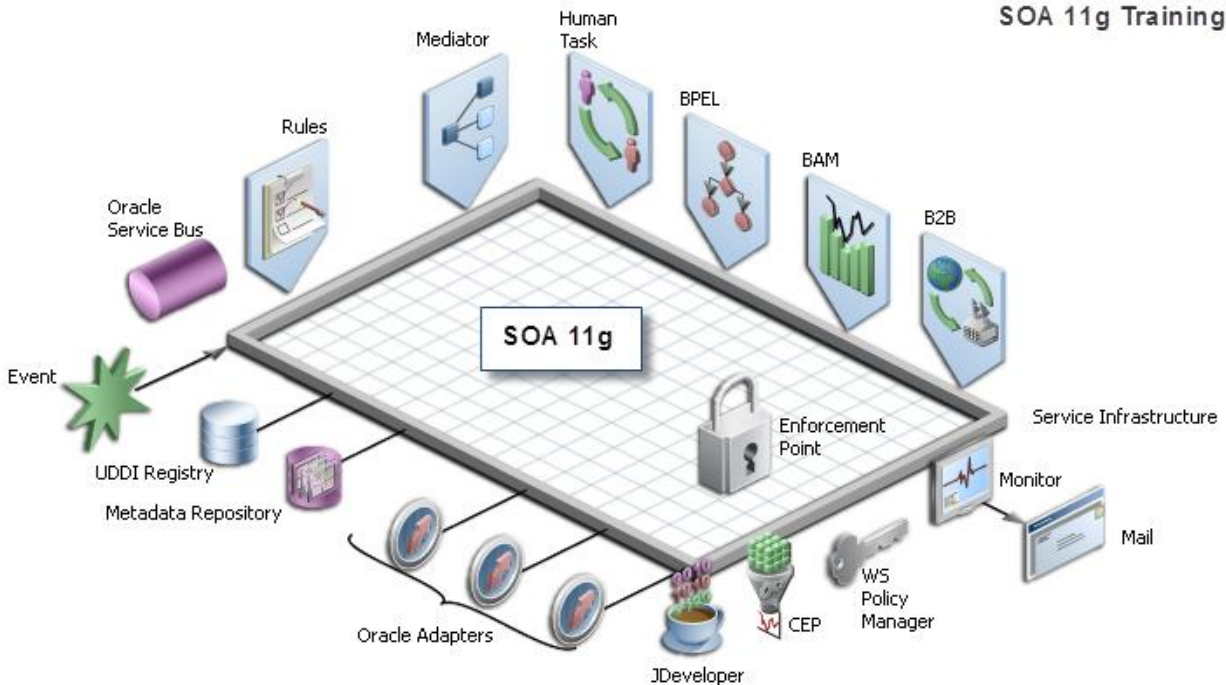


Oracle SOA Suite 11g : Build Composite Applications

SOA 11g Training



Duration: 1 month

What you will learn

Installation and web logic architecture, domain concepts, cluster(one session)

Main focus of this course covers designing and developing SOA composite applications for application integration with services by using a Service-Oriented Architecture (SOA) implementation approach. Composite applications are modeled and developed according to the Service Component Architecture (SCA) specifications. With the Oracle JDeveloper 11g Integrated Development Environment (IDE), participants learn how to design, develop, deploy, and test SOA Composite applications comprising of Mediator, BPEL, Business Rules, Human Tasks (Workflow) components. The course also discusses how to secure interactions between services using Oracle Web Services Manager policies.

Learn To:

- ✚ Create a SOA Composite application using JDeveloper.
- ✚ Initiate SOA composite applications using the Events Delivery Network.
- ✚ Test, debug, and troubleshoot a SOA composite application.
- ✚ Apply security policies to service endpoints.

Audience

- Application Developers
- Business Analysts
- Developer
- SOA Architect
- Technical Consultant

Related Training

Required Prerequisites (**one session to go over these**)

Knowledge of XML, XML Schema, XSL Transformations and XPath

Knowledge of web service standards, including SOAP and WSDL.

Course Objectives

Describe SOA concepts and related technology

Create a SOA composite application using JDeveloper

Work with Mediator components with routing rules, filters, and transformations

Orchestrate business process flows by using BPEL

Implement Business Rule component with IF-THEN rules and decision tables

Test, debug, and troubleshoot a SOA composite application

Initiate SOA composite applications using the Events Delivery Network

Apply security policies to service endpoints to secure interactions

Implement Human workflow with Human Task components

Course Topics

1. Introduction to Service Oriented Architecture

Describing Service-Oriented Architecture (SOA)

Explaining Service Component Architecture

Reviewing of services and key standards

Explaining the Oracle SOA Suite 11g architecture and components

Explaining Business Events and the Event Delivery Network

2. Getting Started with Composite Applications

Describing basic synchronous and asynchronous interaction patterns

Discussing XSD and Web Services Description Language (WSDL)

Creating a Mediator component

Defining a Routing Service

Creating XSL Transformations with the XSLT Mapper

Introducing working with adapters

Creating a file adapter service reference

Examining the composite.xml Source

3. Managing and Monitoring a Composite Application

Deploying a Composite Application

Versioning Applications

Discussing Application state

Using Configuration Plans

Managing the life cycle of a Composite Application

Testing a Composite Application

Managing SOA Applications with JDeveloper

Testing a Composite Application in Enterprise Manager

4. Working With Data

Discussing Data Standards

Using Attributes

Introducing XSL Transformations

Using XPath Functions

Using the Mapper in JDeveloper

Using Dictionaries

Testing Transformations

Working with native format data

5. Using the JMS and JDBC Adapters

Introducing Binding Components and JCA Adapters

- Monitoring Adapters
- Discussing JMS Messaging
- Discussing Adapters and the WebLogic Application Server
- Introducing the Oracle JMS Adapter
- Configuring JMS Resources with WebLogic Administration Console
- Configuring the JDBC Adapter
- Discussing Transactionality

6. Introduction to BPEL

- Defining Business Processes and BPEL
- Introducing parts of a BPEL Process
- Discussing variables in a BPEL Process
- Using the Sequence and Scope Activities
- Using the BPEL Design Editor
- Testing a BPEL Process in Enterprise Manager

7. More BPEL Activities

- Conditional Branching with the If activity
- Processing with the Flow activity
- Parallel and Sequential Looping with the Foreach activity
- Suspending a process with the Wait activity
- Waiting for a message with the Pick activity
- Looping with the While activity
- Indexing XML arrays dynamically
- Discussing Synchronous and Asynchronous Interaction Patterns

8. Handling Faults in Composite Applications

- Introducing Faults and Fault Handling options
- Managing Faults in Synchronous and Asynchronous Mediators
- Introducing Faults and Fault Handlers in BPEL Processes
- Returning Faults from Synchronous and Asynchronous Processes
- Throwing Faults
- Introducing Compensation and Compensation Handlers
- Introducing the Fault Management Framework
- Recovering Faults with Enterprise Manager Fusion Middleware Control

9. Introducing Human Tasks

- Introducing Human Tasks
- Creating and configuring a Human Task in a Composite Application
- Adding a Human Task to a BPEL Process
- Generating and deploying Task Display Forms
- Using the Worklist Application to view and act on task information
- Introducing the Oracle User Messaging Service
- Configuring UMS Notification Properties
- Sending Notifications to Users Preferred Channel

10. Introducing Business Rules

- Introducing the Business Rule Component
- Describing the Oracle Business Rules architecture
- Creating rules and decision tables with the JDeveloper Rule Editor
- Examining Business Rule Component Files
- Describing the role of the Rules SDK
- Editing Business Rules at Runtime

11. Testing SOA Composite Applications

- Introducing the Composite Test Framework
- Defining Emulations and Assertions
- Discussing Test Suites and Test Cases

- Testing initiation of inbound messages
- Emulating outbound, fault, and callback messages
- Running Test Cases
- Examining results of a Test Run
- Debugging Composite Applications

12. Securing Services and Composite Applications

- Explaining security for services
- Describing the Fusion Middleware security architecture
- Attaching security policies at design time in JDeveloper
- Attaching security policies post-deployment in Enterprise Manager

13. Designing and Managing Business Events

- Describing the Event Delivery Network
- Creating a business event
- Publishing an event
- Subscribing to an event
- Managing events in Oracle Enterprise Manager

14. Monitoring Composite Applications with Sensors and Oracle BAM

- Creating and configuring BPEL sensors
- Creating and configuring composite sensors
- Introducing Business Activity Monitoring
- Creating a Data Object with BAM Architect
- Preparing an Oracle BAM Dashboard
- Integrating Oracle BAM with the BAM Adapter
- Creating and configuring a BAM Sensor Action in a BPEL Process
- Introducing Oracle Complex Event Processing

15. Oracle BPM, Governance, and the SOA Suite

- Exploring another definition of Business Process
- Introducing the Oracle Business Process Management Suite
- Explaining the elements of a BPMN Business Process Model
- Discussing SOA challenges and governance objectives
- Introducing the Oracle Governance solution
- Describing the governance lifecycle