

Oracle SOA Suite 11g: Build Composite Applications

Duration: 5 Days

What you will learn

This course teaches you to design and develop SOA composite applications for application integration with services. You'll use a Service-Oriented Architecture (SOA) implementation approach.

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

Oracle JDeveloper 11g Integrated Development Environment

With the Oracle JDeveloper 11g Integrated Development Environment (IDE), you'll learn how to design, develop, deploy and test SOA Composite applications. Composite applications are modeled and developed according to the Service Component Architecture (SCA) specifications.

Secure Interactions Between Services

These applications are comprised of Mediator, BPEL, Business Rules and Human Tasks (Workflow) components. You'll also learn how to secure interactions between services using Oracle Web Services Manager policies.

Benefits to You:

Learn how to integrate your organization's applications into agile, reusable, service-based connectivity to reduce risk and respond faster to business requirements. Become more effective at managing and monitoring a composite application to support your organization's integration roadmap strategy and lower its total cost of ownership.

Audience

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

Related Training

Required Prerequisites

Knowledge of web service standards, including SOAP and WSDL.

Knowledge of XML, XML Schema, XSL Transformations and XPath

Course Objectives

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

Describe SOA concepts and related technology

Create a SOA composite application using JDeveloper

Course Topics

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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