Oracle SOA Suite 12c: Build Composite Applications

Duration: 5 Days

What you will learn

This Oracle SOA Suite 12c: Build Composite Applications training teaches you how 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.

Benefits to You

By taking this course, you'll 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.

Oracle JDeveloper 11g Integrated Development Environment

With the Oracle JDeveloper 12c 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.

Audience
Application Developers
Business Analysts
Developer
SOA Architect
Technical Consultant

Required Prerequisites

Knowledge of XML, XML Schema, XSL Transformations and XPath

Knowledge of web service standards, including SOAP and WSDL.

Course Objectives

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

Orchestrate business process flows by using BPEL

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

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 12c Architecture and Components
Explaining Business Events and the Event Delivery Network
Installing the Oracle SOA Suite 12c Quickstart

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 and XQuery 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
Testing a Composite Application in Enterprise Manager

Working With Data
Discussing Data Standards
Using Attributes
Introducing XSL Transformations
Using XPath Functions
Using the Mapper in JDeveloper
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
Examining Structured and Extension BPEL 2.0 Activities

Handling Faults in Composite Applications
Introducing Faults and Fault Handling Options
Managing Faults in Synchronous and Asynchronous Mediators
Returning Faults from Synchronous and Asynchronous BPEL Processes
Throwing Faults in BPEL Processes
Introducing Compensation and Compensation Handlers
Introducing the Fault Management Framework

Configuring Fault Policies
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 User's Preferred Channel

Sharing Functionality
Using the Design-time Meta Data Services (MDS) Repository to share files
Introducing Templates
Creating and Using Project, Service Component, and Scope Activity Templates
Introducing BPEL Subprocesses
Creating and Using Standalone Subprocesses
Creating and Using Inline Subprocesses
Describing the Differences Between Templates and Subprocesses

Using the REST Adapter
Introducing REST Services
Comparing REST and SOAP Web Services
Creating and Configuring a REST Adapter

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

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

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
Using the SOA Debugger to Debug 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