



Oracle SOA Suite 10g: Services Orchestration

Lo que aprenderá: This course deals with the basic concepts of Service Orchestration (SOA) and implementation of SOA based applications that incorporate Enterprise Services Bus (ESB), business process integration and human workflow management using the Oracle BPEL Process Manager product.

Participants learn how to apply the Business Process Execution Language (BPEL) standard for assembling a set of discrete services into an end-to-end process flow, and how to translate and transform data by using the Oracle BPEL Process Manager adapters, transfer data using the Oracle ESB services, and enable secure interactions by using Oracle Web Services Manager (OWSM). They deploy and test BPEL processes in the Oracle Application Server SOA Suite. These skills help you increase the speed and flexibility of your application. Learn more today.

Audience:

Business Analysts
SOA Architect
SAP Administrator

Prerequisites:

XML, XML Schema, XPath, and XSLT, Web Service basics, such as WSDL and SOAP

Objetivos Del Curso:

Explain the basic SOA concepts and terminology as related to integration technology.

Install and configure Oracle Application Server SOA Edition containing Oracle BPEL Process Manager, Oracle ESB, Oracle Rules, and Oracle Web Services Manager .

Develop and Deploy BPEL processes to an Oracle Application Server 10g environment .

Administer Oracle BPEL Process Manager and monitoring business processes .

Build a BPEL process and invoke synchronous and asynchronous business services .

Employ Oracle ESB to move and transform message data

Secure message contents and exchanges between service endpoint by using Oracle Web Services Manager.

Temas Del Curso:

Introducing the Course and SOA Concepts

- Course Objectives
- Agenda of Lessons
- What is a Service-Oriented Architecture
- Describing SOA Foundations: Web Standards, Web Services, and Adapters
- Orchestrating Services through BPEL
- Adding Decision Services to BPEL
- Routing and Enriching Data with ESB
- Securing SOA Services and Monitoring Services with BPEL and BAM
- **Installing Oracle SOA Suite**
- Selecting an Oracle Application Server 10g (10.1.3.1) SOA Edition Installation Type
- Describing Standalone Installation Options
- Describing Oracle BPEL Process Manager Architecture, Oracle Enterprise Service Bus (ESB) Components and Architecture
- Exploring Services Common to BPEL and ESB and Including Decision Services with Oracle Rules
- Describing Oracle Web Services Manager (OWSM) Components and Architecture
- Integration with Oracle B2B and Monitoring Services with Oracle BAM
- Installing and Administering Oracle Application Server 10g (10.1.3.1) SOA Edition (Basic Installation)
- Installing and Configuring SOA Design Tools
- **Building a Simple BPEL Process**
- Creating a BPEL Project in Oracle BPEL Process Designer and Choosing the Type of BPEL Process Project
- Examining the BPEL Process in the BPEL Process Designer and Developing the BPEL Process

- Configuring BPEL Activities
- Examining the BPEL Process XML Source Structure and Viewing the BPEL Process WSDL
- Deploying the BPEL Process
- Examining the BPEL Suitcase and its Components
- Invoking the BPEL Process as a Web Service

Orchestrating Services with BPEL

- Orchestrating Services through BPEL
- Choosing BPEL Service Type: Synchronous or Asynchronous and Examining the Structure
- Creating the OrderBooking Asynchronous BPEL Process
- Creating the Process Flow for invoking a Synchronous Service
- Creating a Partner Link and Adding an Invoke Activity and Assign Activities
- Creating the Process Flow for invoking an Asynchronous Service
- Creating and Configuring the Partner Link and Adding and Configuring the Invoke,Receive Activity for the RapidDistributors Service
- Examining the BPEL Source Code for the Synchronous and Asynchronous invocation,Deploying and Running the BPEL Process

Processing in Parallel and Conditionally Branching

- Processing Activities in Parallel
- Adding a Flow Activity
- Implementing Conditional Branching
- Adding a Switch Activity
- Working with Non-Blocking Invocations

Implementing Fault Handling and Exception Management

- Including Scope Activities into a BPEL Process
- Adding and Configuring a Catch Exception Branch
- Adding a CatchAll Exception Branch
- Implementing a Pick Activity
- Managing the onMessage component
- Configuring the onAlarm component for Activity Timeouts
- Understanding Compensating Transactions

Adding Transformation Services to BPEL

- Describing Oracle BPEL Process Manager Transformation Services and Tools
- Adding Transformation Services to a BPEL Process
- Using the XSLT Mapper Tool
- Testing and Analyzing the Transformation Mappings

Integrating BPEL with Services Through Adapters

- Defining Adapter Services and Describing the Adapter Framework
- Defining an Out-Bound Adapter Architecture and Listing Types of Out-Bound Adapter Services
- Defining an In-Bound One-Way Asynchronous Adapter Architecture
- Listing Types of In-Bound Adapter Services
- Integrating Adapter Services with Oracle BPEL Process Manager
- Types of Adapters and Choosing a Built-in Technology Adapter
- Selecting an OEM Adapter – A Glue Layer
- Selecting the File Adapter Service and Configuring the Adapter to Read a File and Write to a File

Implementing Adapter-Enabled Services from BPEL

- Creating an FTP Adapter to Transfer Files
- Invoking a Database Adapter from BPEL
- Adding a While Activity to Create Activity Execution Loops
- Using a JMS Adapter

Implementing Human Workflow Management

- Introducing Human Workflow Services Concepts
- Employing BPEL as a Workflow Engine
- Oracle BPEL Workflow Architecture
- Exploring Human Workflow Exchange Patterns
- What is a Task and WorkList
- What is a Workflow Service, Identity Service and Notification Service?

Administering and Monitoring BPEL Processes

- What is the BPEL Console?
- Administering and Monitoring with the BPEL Console
- Exploring the BPEL Console User Interface
- What is a BPEL Domain and How to manage the Domains?
- Managing the Life Cycle of a BPEL Process
- Administering the BPEL Process Manager
- What are Sensors?
- What are Sensors?

Integrating Java Applications and BPEL Processes

- Using Java Inline Embedding
- Describing WSIF Integration
- Invoking a BPEL process from JSP, JSF, or ADF
- Incorporating Java/J2EE Services in a BPEL process
- Deploying a Java-based JCA Adapter and Using it from a BPEL Process
- Implementing a Web Service as a BPEL client
- Implementing an Message-driven Bean for Asynchronous Messaging with a BPEL process

Applying Decision Services and Advanced BPEL

- Defining the Rules for Using a FlowN Activity and Using the FlowN activity
- Invoking different services based on user input or some selection criteria
- Why use Correlation Sets?
- Implementing Correlation Sets ,onAlarm activities and timeouts
- Describing Oracle Business Rules Architecture and Components
- Implementing Decision Service with Oracle Business Rules
- Designing Rules in Oracle Rule Author and Invoking Rules from a BPEL Process
- Working with the Rules SDK

Configuring Oracle Enterprise Service Bus

- Introducing ESB Architecture and Components
- Exploring Oracle ESB topology options
- Enabling SOA and EDA with ESB
- Configuring ESB Connectivity Patterns
- What are the Benefits of ESB?
- Integrating ESB with SOA components

Creating and Routing the Messages with ESB

- Working with the ESB Designer in Oracle JDeveloper
- Specifying Routing Rules
- Creating Transformation on message data
- Specifying Xpath expressions for Routing Rules (in Jdev)
- Creating a Domain Value Map (DVM) in JDeveloper and converting values by look-up
- Exposing the ESB Services as WSDL for external reference
- Integrating ESB Services with a BPEL Process
- Managing the life Cycle of ESB project

Managing ESB Components by Using ESB Control

- Accessing the ESB Control
- Managing an ESB Application
- Testing ESB Services
- Logging ESB Services

Managing Exceptions in ESB Components

- Configuring Exception management in ESB Design
- Configuring Support for global transactions
- Managing Exceptions for Synchronous and Asynchronous Services
- Handling Application and Business Process faults
- Managing Fatal Exceptions
- Specifying Conditions to Retry operations after errors
- Working with the Error Hospital

Configuring the OWSM Component Architecture

- Identifying OWSM Components and Architecture (Policy Manager, Monitor and Console)
- Describing Policy Enforcement Points (PEP)
- Implementing PEP by using Gateways and Agents
- Common Use Case: Combining the use of a Gateway in DMZ and a Server-side Agent
- What are Managers Roles?
- Managing OWSM Access and Permissions
- Assigning OWSM Roles
- Configuring OWSM Users and Groups

Configuring Policies for Gateway and Agents

- Creating a Gateway and Agent Component
- Creating a Policy for a Gateway and Agent
- Register a policy with a Gateway and Agent
- Defining a Policy Management Steps in OWSM
- What is a Pipeline Template?
- Managing Policy History

Securing BPEL and ESB Services with OWSM

- Describing the Oracle Application Service Security Architecture
- Working with Secure BPEL Processes and Services
- Managing Outbound Security
- Managing Inbound Security
- Implementing WS-Security with Oracle Web Security Manager (OWSM)
- Secure SOAP-based ESB services using the OC4J interceptor

Monitoring and Reporting Web Services by Using OWSM

- Monitoring Web Services
- Describing the OWSM Monitor
- Managing the Operational Environment (SLA, QoS)
- Setting up Alarm Rules for a Web Service (email)
- Viewing Alarms by using the OWSM Control
- Monitoring Message Flows
- Managing and Viewing Logging Information for Policies

