

ORACLE BUSINESS PROCESS ENTERPRISE LANGUAGE (BPEL) COURSE CONTENT

❖ INTRODUCING SERVICE-ORIENTED ARCHITECTURE CONCEPTS AND ORACLE SOA SUITE 10G:

- Describing Service-Oriented Architecture and Standards Enabling SOA
- Describing Oracle ESB Architecture
- Orchestrating Services with BPEL
- Adding Business Rules and Decision Services
- Oracle BPEL Process Designer and Oracle ESB Designer
- Creating Connections in Oracle JDeveloper
- Creating an Application Server and Integration Server Connection

❖ PROVIDING SERVICES FOR SOA:

- Defining an XML Schema and Creating the WSDL Document
- Creating the Web Service by Using Oracle JDeveloper 10g
- Deploying and Testing a Java Web Service
- Oracle Service Registry Consoles
- Publishing a Service Provider and WSDL Service
- Testing a Web Service in the Service Registry

❖ CONFIGURING ORACLE ENTERPRISE SERVICE BUS (ESB):

- Enterprise Service Bus Architecture: Single Instance
- Creating an ESB Project in JDeveloper and Creating a ESB System
- Creating an ESB Service and Routing Rules in ESB
- Adding Target Service to Routing Rules
- Adding a SOAP Service to an ESB Project
- ESB/BPEL Native Integration
- Registering an ESB Project
- Benefits of ESB

❖ DEVELOPING A SIMPLE BPEL PROCESS:

- Introducing Business Process Execution Language (BPEL)
- Describing Oracle BPEL Process Designer
- Creating a BPEL Process Project
- Designing the BPEL Process and Orchestrating with BPEL Activities
- Describing the Assign Activity
- Using the XPath Expression Builder
- Examining the BPEL Process XML Source Structure
- Deploying the BPEL Process and Executing a BPEL Process

❖ ORCHESTRATING SERVICES WITH BPEL:

- Developing a BPEL Process
- Importing a User-Defined XML Schema
- Creating and Configuring a Partner Link
- Exchanging Message Data with a Service
- Grouping Activities by Using a BPEL Scope
- Adding Activities to a Scope and Configuring a Scope

❖ PROCESSING BPEL ACTIVITIES IN PARALLEL:

- Processing Activities in Parallel
- Processing in Parallel with a FlowN Activity
- Working with a FlowN Activity
- Adding a While Activity for Execution Loops

- Implementing a Pick Activity
- BPEL Deployment Descriptor Properties
- Defining Preference Properties
- Defining Deployment Descriptor Properties in JDeveloper

❖ **INTEGRATING SERVICES WITH ADAPTERS:**

- Describing the Adapter Framework
- Identifying OracleAS Adapter Types
- Technology, Application, Legacy, and Custom Adapters
- File and FTP Adapter
- Working with the File Adapter
- Creating and Configuring a File Adapter in BPEL and ESB
- Invoking a Database Adapter from BPEL
- Configuring the Database Adapter

❖ **TRANSFORMING DATA IN ESB AND BPEL:**

- Routing Rules in ESB
- Adding a Filter Expression to a Routing Rule
- Synchronous or Asynchronous Execution
- Transformation Services in BPEL and ESB
- Adding and Configuring Transformation Services in BPEL
- Using the XSLT Mapper in BPEL
- Adding Transformation to an ESB Service
- Dictionary and Report Generation

❖ **ADMINISTRATION AND EXCEPTION HANDLING IN ESB:**

- Managing ESB Metadata Server and ESB Runtime Server
- Testing an ESB Service
- Error Handling in ESB
- Errors Raised in Synchronously and Asynchronously Called Services
- Changing Routing Rules
- Viewing Application Logs in ESB
- Configuring Logging Levels
- Import and Export Utilities in ESB

❖ **HANDLING EXCEPTIONS AND MONITORING IN BPEL:**

- Reviewing the Scope Activity
- Managing Faults
- Throwing Exceptions in BPEL
- Compensation in Transactions
- BPEL compensation Handler
- Monitoring BPEL Processes with Sensors
- Introduction to Monitoring with Oracle BAM
- Interfacing with Oracle BAM

❖ **DEVELOPING BUSINESS RULES:**

- Introducing Business Rules Technology
- Introducing Oracle Business Rules and Decision Service
- Developing a Rule-Enabled Application and accessing Oracle Rule Author
- Defining Oracle Business Rules Development Concepts
- Creating a Rule Repository and Rule Definitions 1
- Identifying the Structure of a Rule and creating a Rule
- Integrating Rules with a BPEL Process

- Creating a Decision Service Partner Link

❖ **IMPLEMENTING HUMAN WORKFLOW IN BPEL:**

- Workflow Services in Oracle BPEL Process Manager
- Implementing Human Workflow Services
- Workflow Exchange Patterns
- Describing Workflow As a Service
- Creating a Human Task in BPEL
- Working with Notification Services
- Configuring E-Mail Notification for a BPEL Process
- Understanding XMail E-Mail Server and Configuring the E-Mail Client

❖ **INTEGRATING JAVA APPLICATIONS AND BPEL:**

- Invoking a BPEL Process from Java
- Invoking One-Way and Two-Way Operations from Java
- Invoking a BPEL Process from JSP and with the JSP Tag Library
- Executing Java Code in a BPEL Process
- Web Services Invocation Framework
- Java Code with WSIF Bindings
- WSIF Java Calls
- Embedding Java Code in BPEL

❖ **CONFIGURING THE ORACLE WSM COMPONENT ARCHIT:**

- Oracle WSM Component Architecture and Oracle WSM Server Components
- Configuring a Gateway and a Server Agent
- Registering a Web Service with the Gateway
- Policy Management in Oracle WSM
- Understanding Oracle WSM Policy Steps
- Pipeline Templates
- Creating a Policy Pipeline Template
- Using the Pipeline Template in the Server Agents Policy

❖ **SECURING BPEL AND ESB SERVICES WITH ORACLE WSM:**

- Securing the Endpoints of the SOA Order Booking Application
- Invoking a Secured Service from BPEL
- Using Oracle WSM Client and Server Agents to Enforce Security Policies
- Installing and Configuring a Client Agent
- Securing a BPEL Process in Oracle WSM
- Invoking a Secured Web Service from BPEL
- Deploying and Testing the BPEL Process
- Invoking a Secured Web Service from ESB

❖ **BPEL PROCESS DEPLOYMENT COMPILING AND DEPLOYING A BPEL PROCESS:**

- Compiling and Deploying on JDeveloper BPEL Designer.
- Compiling Without Deploying on JDeveloper BPEL Designer.
- Compiling and Deploying on Eclipse BPEL Designer..
- BPEL Suitcase JAR File.

❖ **DOMAIN MANAGEMENT CREATING AND MANAGING A BPEL DOMAIN:**

- Changing the Default Domain Password
- Changing Oracle BPEL Admin Console Password...
- Creating a BPEL Domain
- Changing Oracle BPEL Server Mode.

- Deploying a BPEL Suitcase to a Specific Domain...
- Location of BPEL JAR Suitcase Files in a Specific Domain..
- Underplaying a BPEL Process from a Specific Domain

❖ **VIEWING BPEL PROCESSES IN ORACLE BPEL CONSOLE:**

- Dashboard Tab: Viewing Processes..
- BPEL Processes Tab: Managing the Process Life Cycle...
- Process Life Cycle Recommendations for a Production Environment...
- Example: Life Cycle of Processes..
- Instances Tab: Viewing Process Instances
- Activities Tab: Viewing Process Activities...

❖ **BUILD AND COMMAND LINE TOOLS:**

- Apache Ant.. Bpelc... Examples...Schemac Examples.

