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## Oracle Fusion Middleware 11g: Build Applications with ADF Acceleration

Duration: 5 Days Course Code: O11GBAADFA

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### Overview:

This is a bundled course comprising of Oracle Fusion Middleware 11g: Build Applications with ADF I and Oracle Fusion Middleware 11g: Build Applications with ADF II courses.

The ADF I course is aimed at developers who need to build Java EE applications using Oracle ADF. The ADF II course deals with advanced techniques and aids developers add more comprehensive functionality to their applications.

Participants learn to implement Model-View-Controller (MVC) design pattern, an ADF architecture. The data model is built with ADF Business Components and the user interface with ADF Faces. Oracle JDeveloper 11g is used to build, test and deploy an end-to-end web application.

Learn To:

Develop Java EE components with Oracle ADF

Build rich user interfaces with ADF Faces

Display dynamically changing data

Use skins to control the look-and-feel

Use the new capabilities of Oracle JDeveloper 11g

Build end-to-end web applications

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### Target Audience:

Developer J2EE Developer Java Developer Java EE Developer

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### Objectives:

- Extend Business Components to support company standards
  - Build and customize a data model by using ADF Business Components
  - Expose the data model in a web application with a rich ADF Faces user interface
  - Provide validation, calculations and LOVs
  - Dissect and employ essential databinding components
  - Design application components for reuse
  - Leverage Expression Language, Managed Beans and Java Server Pages
  - Enhance an application with Active Data Service and ADF visualization components
  - Customize the look-and-feel of an application by using skins
  - Secure web applications
  - Deploy Web applications
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### Prerequisites:

- Required Prerequisites
  - Familiarity with basic Java
  - Familiarity with Oracle JDeveloper IDE
  - Familiarity with basic XML and HTML
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## Content:

### Introduction to Fusion and ADF

- Describing Fusion architecture
- Explaining how ADF fits into the Fusion architecture
- Describing the ADF technology stack (MVC)
- More about ADF
- Listing JDeveloper benefits for application development
- Using the features of the JDeveloper IDE
- Defining IDE preferences
- Creating applications, projects, and connections in JDeveloper

### Modeling the Database Schema and Building a Data Model with ADF BC

- Creating a database diagram
- Generating changes to the database
- Importing database objects without a diagram
- Importing tables
- Types of ADF Business Components
- Creating Business Components from tables
- Testing the data model

### Querying and Persisting Data

- Using View Objects
- Using Entity Objects to persist data
- Synchronizing Entity Objects with database table changes
- Creating Associations
- Creating updateable View Objects
- Creating Master-Detail relationships
- Refactoring

### Declaratively and Programmatically Customizing Data Services

- Internationalizing the data model
- Editing Business Components
- Changing the locking behavior of an Application Module
- Generating Java classes
- Programmatically modifying the behavior of Entity Objects
- Programmatically modifying the behavior of View Objects
- Adding service methods to an Application Module
- Using Client APIs

### Validating User Input

- Understanding Validation Options: Database, Data Model, or UI
- Triggering validation execution
- Handling validation errors
- Using Groovy expressions in validation
- Using programmatic validation

### Understanding UI Technologies and Binding UI Components to Data

### Passing Values Between UI Elements

- Defining the data model to reduce the need to pass values
- Using a managed bean to hold values
- Using page parameters
- Using task flow parameters
- Passing values from containing pages to regions

### Responding to Application Events

- Using Managed Beans
- Coordinating JSF and ADF Lifecycles
- Using Phase and Event Listeners
- Using Action listeners and methods
- Understanding additional AJAX events
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### Implementing Transactional Capabilities

- Handling Transactions with ADF BC
- Using Task Flows to Control Transactions
- Sharing Data Controls
- Handling transaction exceptions
- Defining response to the Back button

### Implementing Security in ADF BC Applications

- Exploring ADF Application Security Options
- Understanding ADF Security Framework
- Enabling users to access resources
- Implementing a Login page
- Understanding ADF Controller Authorization
- Using Expression Language to Extend Security Capabilities

### Troubleshooting and Deploying ADF BC Applications

- Troubleshooting the Business Service and UI
- Using Logging and Diagnostics
- About Web Services Sample Client
- Creating Deployment Profiles
- Configuring Deployment Options
- Deploying an application with JDeveloper
- Deploying an application with WebLogic Server Administration Console
- Automating the Deployment Process with Ant

### Explore the Project Structure and Core File Architecture

- Defining File Structure of a Project
- Examining Metadata Structure
- Understanding Page Definition Files
- Defining ADF Data Control and Data

### Use Inheritance in the Business Domain Layer

- Implementing Inheritance
- About Domain Layer and Discriminators
- Understanding Polymorphic Entity Usage
- Creating Polymorphic View Rows
- About Dynamic Rendering

### Implement Data Binding Concepts

- JSR-227 Data Controls and Bindings
- Understanding ADF Model
- About Method, Accessor and Variable Iterators
- Value and Action Bindings
- About DataBindings.cpx file
- Synchronization
- About Data Control and Named Bind Variables

### Practical Data Binding in Action

- Understanding JSF ; Data Model
- Understanding ADFm Life Cycle
- About Custom Controllers
- Customizing ADF Page Lifecycle
- Understanding Custom Listeners
- About Conditional Values
- About Google-Style Query

### Work with Managed Beans and JavaServer Faces

- About Expression Language
- Understanding JSF Architecture and Life Cycle
- About Component Model and Navigation Model
- Understanding Managed Properties
- JSF Value Binding
- About Backing Beans and Context Objects

### ADF Faces Advanced Features

- Understanding JSR-127 JSF Components
- Describing AJAX ; Partial Page Rendering
- About PRP Attributes: partialSubmit, autoSubmit, partialTriggers
- About Runtime Layout
- Understanding Page-Level Actions
- About Printable pages
- Understanding Graphs and Charts

### Customize the Application Look and Feel with Skins

- Using CSS
- Skinning architecture
- Skin Configuration
- Skin Selectors
- Skin Development by example
- Instance-specific component skins
- Skin inheritance

- Defining JavaServer Faces
- Explaining the JSF component architecture and JSF component types
- Explaining how ADF Faces augments the JSF life cycle
- Creating a JSF page
- Adding UI Components to a page
- Describing the ADF Model layer
- Using Expression Language in Data Bindings
- Binding Existing components to data

#### Adding Functionality to Pages and Implementing Navigation on Pages

- Internationalizing the user interface
- Using component facets
- Displaying tabular data in tables and hierarchical data in trees
- Defining search forms and display results
- Using ADF Faces Navigation Components
- Using Menus for navigation
- Using Breadcrumbs
- Using a Train component

#### Ensuring Reusability

- Designing for reuse
- Using Task Flow templates
- Creating and Using Page templates
- Creating and Using Declarative components
- Creating and Using Page Fragments
- Deciding which type of reusable component to use

#### Binding Files

- Exploring Connections
- Exploring ADF Faces and Web Configuration files

#### Extend the ADF Business Components Framework

- Examining general considerations when using ADF Business Components
- Understanding Framework Classes and Framework Hierarchy
- About PL/SQL in Business Components
- About DML and Database Views
- About DB Constraints, Compositions and Associations
- Transactions with Compositions and Associations
- Many-to Many relationships and Auditing

#### Use ADF Business Components for Validation, Calculations and List of Values

- Understanding LOV View Objects
- List Data Source
- About View Accessors
- Understanding Transient Attribute
- Understanding FK, Compare and Script Validations
- About Groovy code
- About View Criterias
- Registering Business Rules

### Further Information:

For More information, or to book your course, please Email us on:

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