

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

**Duration:** 5 Days

### What you will learn

This course is aimed at developers who want to build Java EE applications using Oracle ADF. Learn to use Oracle JDeveloper 11g Release 1 Patch Set 1 to build, test and deploy an end-to-end web application.

Learn To:

Build end-to-end web applications.

Develop Java EE components with Oracle ADF.

Build rich user interfaces with ADF Faces.

Use the new capabilities of Oracle JDeveloper 11g Release 1 Patch Set 1.

Benefits to You:

Simplify application development in your organization to increase productivity. Become more efficient at building Java EE applications using Oracle ADF (innovative yet mature Java EE development framework) and deploy an end-to-end web application.

### Build & Deploy

The data model is built with ADF Business Components and the user interface with ADF Faces. During this course, you'll learn to build each part of the application with the Fusion technology stack and then deploy it to WebLogic Server.

### Java EE

Java EE is a standard, robust, scalable and secure platform that forms the basis for many of today's enterprise applications. Oracle Application Development Framework (Oracle ADF) is an innovative, yet mature Java EE development framework that is directly supported and enabled by Oracle JDeveloper 11g.

### Oracle ADF

Oracle ADF simplifies Java EE development by minimizing the need to write code that implements the application's infrastructure, allowing developers to focus on the features of the actual application.

### Audience

Application Developers

J2EE Developer

Java Developers

Java EE Developers

## Related Training

### *Suggested Prerequisites*

Familiarity with JDeveloper

Familiarity with XML concepts

Familiarity with basic Java

## Course Objectives

Expose the data model in a web application with a rich ADF Faces user interface

Create JSF pages

Use rich client components in JSF pages

Add validation to ADF applications

Secure Web applications

Build and customize a data model by using ADF Business Components

## Course Topics

### **Introduction to Fusion and ADF**

Describing Fusion architecture

Explaining how ADF fits into the Fusion architecture

Describing the ADF technology stack (MVC)

### **Getting Started with JDeveloper**

Listing JDeveloper benefits for application development

Using the features of the JDeveloper IDE

Defining IDE preferences

Creating applications, projects, and connections in JDeveloper

### **Building a Data Model with ADF Business Components**

Introducing 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

## **Exposing Data**

- Creating application modules
- Using master-detail view objects in application modules
- Managing Business Components transactions
- Abstracting business services with ADF Model

## **Declaratively Customizing Data Services**

- Internationalizing the data model
- Editing business components
- Modifying default behavior of entity objects
- Changing the locking behavior of an application module

## **Programmatically Customizing Data Services**

- 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

## **Troubleshooting ADF BC Applications**

- Troubleshooting the business service
- Troubleshooting the UI
- Using logging and diagnostics
- Using the JDeveloper debugger

## **Understanding UI Technologies**

- Describing the use of Web browsers and HTML
- Describing the function of Servlets and JSPs
- Defining JavaServer Faces
- Explaining the JSF component architecture and JSF component types
- Explaining the purpose of backing beans and managed beans
- Describing the JSF life cycle
- Explaining how ADF Faces augments the JSF life cycle

## **Binding UI Components to Data**

- Creating a JSF page
- Adding UI components to a page
- Describing the ADF Model layer
- Using Expression Language in data bindings
- Using a Page Definition file
- Examining data binding objects and metadata files
- Binding existing components to data
- Running and testing the page

## **Planning the User Interface**

- Describing the Model-View-Controller design pattern
- Differentiating between bounded and unbounded task flows
- Creating and converting task flows
- Defining control flows
- Defining global navigation
- Creating routers for conditional navigation
- Calling methods and other task flows
- Implementing validation in the user interface

### **Adding Functionality to Pages**

- Internationalizing the user interface
- Using component facets
- Displaying tabular data in tables
- Displaying hierarchical data in trees
- Displaying text or media with icons and images
- Defining search forms and display results
- Displaying data graphically

### **Implementing Navigation on Pages**

- Using ADF Faces navigation components
- Using buttons and links
- Using menus for navigation
- Using breadcrumbs
- Using a train component

### **Achieving the Required Layout**

- Using complex layout components
- Explaining how to use ADF Faces skins
- Using dynamic page layout

### **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

### **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

## **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