

5 Days

Java SE 7: Develop Rich Client Applications

The Java SE 7 - Develop Rich Client Applications training helps you to advance through the process of designing a rich client application deploying Java SE 7 and JavaFX 2. This course uses the Model-View-Controller (MVC) pattern and a case study approach that will help the participants to analyze, design and develops the user interface, connect the user interface to a database and finally connect the user interface to a RESTful web service.

Completion of this training course will enable candidates in:

- Signing a JavaFX application.
- Connecting to a JavaFX GUI to the database using JPA.
- Connecting to a JavaFX GUI to a RESTful web service.
- Creating a graphical user interface using Java FX.
- Packaging and deploying a JavaFX application.
- Connect their application to a RESTful web service using JAX-RS and the Jersey API.

How to Create a User Interface

The user interface is created with the key JavaFX components such as:

- UI Controls
- Layouts
- JavaFX concurrency libraries.
- Data Structures like Observable list, charts, smart tables, CSS

You'll also learn to add tier two and three features to your application by connecting to a database using the Java Persistence API (JPA).

Course Details

Course Outline

1. Introduction

- Overview of JavaFX
- Overview of Rich Client applications(RIAs)

2. The Broker Tool Application

- Describe an overview of BrokerTool
- Describe Broker Tool database schema
- Provide an overview of Henley Automobile application

3. JavaFX Overview

- Demonstrate Simple JavaFX Applications
- What is JavaFX?
- Explore JavaFX API
- Understand JavaFX Scene Graph
- How to create a JavaFX app?
- Create JavaFX FXML Application
- Compare JavaFX with Swing
- Overview of JavaFX features

4. Generics and JavaFX Collections

- Review Java Generics syntax
- Review Java Generic Collection objects
- Review JavaFX Collection's ObservableList and ObservableMap

5. UI Controls, Layouts, Charts, and CSS

- Understand Scene Graph in depth
- Use UI controls in JavaFX application
- Use Layout features in JavaFX application
- Use Charts in JavaFX application
- Understand the usage of CSS in JavaFX application
- Add events to JavaFX controls

6. Visual Effects, Animation, Web View, and Media

- Use Visual Effects in JavaFX application
- Use Animation and transition features in JavaFX application
- Describe the benefits of Using WebView and Webnode
- Describe the implementation of Multimedia in JavaFX

7. JavaFX Tables and Client GUI

- Creating smart Table
- Describe the BrokerTool app interface
- Determine which JavaFX components to Using in the BrokerTool interface

- Display BrokerTool data and determine which charts and tables to use to display data
- Apply CSS to a JavaFX application

8. JavaFX Concurrency and Binding

- Describe properties and binding in JavaFX
- Implement Threading and Concurrency in JavaFX

9. Java Persistence API (JPA)

- Understand JPA concepts
- Understand Components of JPA architecture
- What is Transactions?
- Perform CRUD operations Use Entity and Queries

10. Applying the JPA

- Identify Entity Relationships
- Use Criteria API in JavaFX application
- Apply JPA in Henley App application
- Apply two-tier design

11. Implementing a Multi-Tier Design with RESTful Web Services

- Compare Three-tier design versus Two-tier design
- Describe JAX-RS web services
- Use JAX-RS web services in the Henley Server application

12. Connecting to a RESTful Web Service

- Test REST web service with HTTP and HTML
- Develop JAX-RS web service clients
- Identify how to develop a Jersey RESTful client
- Review the implementation of Web service clients of Henley App

13. Packaging and Deploying Applications

- Use jar to package up Java applications
- Deploy applications
- Deploy Embedded applications
- Deploy Jar using Java Web Start
- Use an Installer
- Deploy Rich Internet using Deployment Toolkit

14. Developing Secure Applications

- Describe the Aspects of security
- Describe Fundamental secure coding concepts
- Avoid common Injection and inclusion attacks
- Protect Confidential data
- Limit the accessibility of classes
- Understand Mutability
- Listing Security resources available on the Internet

15. Signing an Application and Authentication

- Describe Public and private key encryption
- Describe Digital Signatures
- Introduction to SSL/TLS
- Understand HTTP Authentication mechanism
- Use HTTPS with an application

16. Logging

- Overview of Java Logging API
- Create a Logger Object
- Setting Log levels
- Review Logging methods
- Configure Logger Handlers and formatter
- Use Logger Configuration

17. Implementing Unit Testing and Using Version Control

- Understand Unit Testing, Test Cases and features of JUnit
- Understand and Writing JUnit test cases
- Use NetBeans support for JUnit
- Use Version control system
-

Who Should Attend

The Java SE 7 Develop Rich Client Applications certification course is ideal for:

- Java EE Developers
- Application Developers

- Java Developers
- Developer

Pre Requisite

Experience in:

- Java SE7 Fundamentals
- Java SE7 Programming

464, Udyog Vihar Phase
V, Gurgaon (Delhi
NCR)-122016, India

+91 8882 233 777

training@mercury.co.in

www.mercurysolutions.co

Date - Apr 19, 2024