Mastering JEE Web Development (TT5100)

Category: Software Development & Programming | **Vendor:** Trivera Tech

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This course is for experienced Java developers who are new to JEE and need to get up and running with essential dynamic web development skills. You will gain core JEE knowledge and skills that can be used as the foundation for developing production-quality web applications to a basic level.

About This Course

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Who Should Attend

This is an introductory- level Java programming course, designed for experienced developers who wish to get up and running with JEE, or who need to reinforce sound Java for Web / JEE coding practices. Attendees should have a working knowledge of developing basic Java software applications.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Students who attend Mastering JEE Web Application Development will leave the course armed with the required skills to design and build scalable, secure, maintainable web applications - leveraging our extensive experience in the delivery of scalable enterprise applications with complex web interfaces based on JEE technologies. Throughout this training, you will be confronted with common web application design problems and given the tools you will need to solve them, such as JEE design patterns. You will also be exposed to a range of JEE and web technologies such as Servlets, JSPs, JSF, JNDI, CDI and advice on when and how to use them. Students will also learn about the capabilities of servlets, their advantages, servlet architecture, and session management. Developers will also learn about managing resources, deployment, and application models, how to use custom tags, and how to build robust and capable web applications using servlets and other components. The course begins with a discussion of web application architecture. A major part of the course is spent on the various web components that are used to implement dynamic web applications. Students will learn not only specific topics and APIs but also how to fit the pieces together into a complete application.
Working within in an engaging, hands-on learning environment, guided by our expert team, attendees will learn to:
Design and build web applications from both business and technical requirements
Build web interfaces with JSF, JSPs and Servlets, using the latest technologies in JEE.
Write maintainable web applications that separate HTML and Java
Understand the design and development of web applications using Servlets, JSPs, web fragments, and JSF
Work JEE’s version of dependency injection (CDI)
Make Servlets cooperate and share data
Store and process session information
Deal with concurrency issues
Access databases with JPA
Work with annotations included in JEE
Work with WebSockets as well as asynchronous servlets
Use Java Bean validation in a web application
Properly handle various types of exceptions

Detailed Course Outline

Developing Java EE applications

- Enterprise Development
- Java EE Core Components

JEE Dynamic Web Applications

- Introduction to Servlets
- Form processing using Servlets
- Java Server Pages
- Implementing MVC in JEE
- Session Management

JEE Servlet Filters and Listeners

- Servlet Filters

Expression Language 3.0 (EL)

- Overview of EL
- The EL language

Custom Tags

- Introduction to Custom Tags
- The Java Standard Tag Library

Contexts and Dependency Injection (CDI)

- Introduction to CDI
- Using CDI
- CDI and Java EE

Using Resources

- JEE DataSources
- Overview of JPA

Java API for WebSocket

- Introduction to WebSocket
- Implementing WebSocket Endpoint
- Extending WebSockets

Java Bean Validation (JSR 349)

- Introduction to Bean Validation
- Bean Validation

Managing Web Applications

- Web Fragments
- Error Handling
- Asynchronous Servlets
- Web Security

Introduction to Java Server Faces

- Introduction to JSF
- JSF Components

Facelets

- Facelets
- Facelets Templating and Resources

, Session: Developing Enterprise Applications

Lesson: Enterprise Development

¢ Enterprise Application Software

¢ Requirements of Enterprise applications

¢ Scalability, Load Balancing, Fail Over

¢ Resource pooling

Lesson: Jakarta EE Core Components

¢ Overview of Jakarta EE Core Components

¢ Web Tier Components

¢ Application Tier

¢ Deployable Units

¢ Deployment Descriptors

¢ The Java Naming and Directory Interface (JNDI)

¢ Tutorial: Building web Applications in Eclipse

Session: JEE Dynamic Web Applications

Lesson: Introduction to Servlets

¢ The Servlet Interface

¢ The Web Container

¢ Creating HTML Output Using Servlets

¢ The @Webservlet Annotation

¢ Interaction Between web.xml and Annotations

¢ The @Webinitparam Annotation

¢ Lab: A First Servlet

Lesson: Form processing using Servlets

¢ Using HTML5 Forms with Servlets

¢ Processing Request Parameters

¢ HttpServletRequest Methods

¢ HttpServletResponse Methods

¢ Lab: Form Processing

Lesson: Jakarta Server Pages

¢ Jakarta Server Pages (JSPs)

¢ The Relationship Between JSPs and Servlets

¢ The JSP lifecycle

¢ Lab: A First JSP

Lesson: Implementing MVC in JEE

¢ Model View Control

¢ Using the RequestDispatcher

¢ Handling Requests

¢ The Request Scope

¢ Handling Request Attributes

¢ The Expression Language (JSR 341)

¢ EL in Template text

¢ Lab: Implementing MVC

Lesson: Session Management

¢ Sessions in Web Applications

¢ The HttpSession object

¢ Session Management in JEE

¢ Handling Cookies

¢ URL-Rewriting

¢ Lab: Managing Sessions

Session: JEE Servlet Filters and Listeners

Lesson: Servlet Filters

¢ Introduce Servlet Filters

¢ Modify the request data

¢ Modify the response data

¢ The @WebFilter annotation

¢ Define Filter Mappings

¢ Move functionality out into a decorator pattern

¢ Lab: Adding Filters

Lesson: Events, Listeners and Initializers

¢ Introduce Web Listeners

¢ Listen for context events

¢ Respond to Session modifications

¢ Session aware objects

¢ ServletContextInitialzer and the Service Provider interface

¢ The HandlesTypes annotation

¢ Lab: Listeners

Session: Jakarta Expression Language (EL)

Lesson: Overview of EL

¢ The Expression Language (JSR 341)

¢ Value and Method Expressions

¢ Immediate and Deferred Evaluation Syntax

¢ Read and Read/Write expressions

Lesson: The EL language

¢ Apply EL operators

¢ Use the EL implicit objects

¢ Explain the steps involved in creating EL functions

¢ Create a function implementation

¢ Define the function in the tag-library

¢ Use a function within a JSP page

¢ Lab: Using EL Expressions

Session: Custom Tags

Lesson: Introduction to Custom Tags

¢ Custom tags

¢ Using the taglib Page Directive

¢ The TLD File

¢ The Tag Implementation Class

Lesson: Jakarta Standard Tag Library

¢ Use the JSTL core and formatting libraries

¢ The core functionality of the library

¢ JSTL functions

¢ Lab: Using JSTL

Session: Contexts and Dependency Injection (CDI)

Lesson: Introduction to CDI

¢ Understand the value of CDI

¢ Explore dependency injection (DI)

¢ Understand alternatives

¢ Understand annotation processing

¢ Use and configure CDI

¢ Lab: Using CDI

Lesson: Using CDI

¢ Use qualifiers to discriminate which object gets injected

¢ Understand when a bean is assignable to a given injection point

¢ Define you own Qualifier annotation

¢ Understand post construction annotations and pre destruction annotations

¢ Create factory methods with @Produces

¢ Lab: Using Qualifiers

Lesson: CDI and Jakarta EE

¢ CDI's Relationship to Jakarta EE

¢ The @Model annotation

¢ Built-in CDI scopes

¢ Lab: Using CDI and Servlets

Lesson: Interceptors and Decorators

¢ Introducing CDI Interceptors

¢ Implementing Interceptors

¢ Adding (Multiple) Decorators

¢ CDI Events

¢ Lab: Using Interceptors and Decorators

Session: Using Resources

Lesson: JEE DataSources

¢ DataSources in JEE

¢ Setup a DataSource

¢ Using CDI to inject a DataSource

¢ Lab: Using DataSources

Lesson: Overview of JPA

¢ Object to Relational (O/R) Mapping (ORM)

¢ The Jakarta Persistence Architecture

¢ The ORM framework configuration

¢ Map a Ëœsimple' entity to a database table

¢ Read, write and search for entities

¢ Lab: Using JPA

Session: Java API for WebSocket

Lesson: Introduction to WebSocket

¢ Java API for WebSocket Overview

¢ Using WebSockets in JEE

¢ Endpoint Instances

Lesson: Implementing WebSocket Endpoint

¢ Annotated Endpoints

¢ Receiving messages

¢ Send Response to Client(s)

¢ JavaScript to Setup a WebSocket Connection

¢ Lab: Implementing a WebSocket

Lesson: Extending WebSockets

¢ Understand the use of configurators

¢ Share user data between multiple requests

¢ Use JSON message objects for communication

¢ Write message encoders and decoders

¢ Handle exceptions in endpoints

¢ Lab: Encoding and Decoding Messages

Session: Jakarta Bean Validation

Lesson: Introduction to Bean Validation

¢ Bean Validation

¢ Define Constraints on Object Models

¢ Core Validation Annotations

¢ Validate Objects and Object Graphs

¢ Internationalized error messages

¢ Lab: Bean Validation

Lesson: Bean Validation

¢ Define custom validation constraints

¢ Implement constraint validators

¢ Use validation groups

¢ Use bean validation on methods and constructors

¢ Lab: Creating Constraints

Session: Managing Web Applications

Lesson: Web Fragments

¢ Need for Web Fragments

¢ The web-fragment Element

¢ Fragment Ordering

¢ Lab: Fragments

Lesson: Error Handling

¢ Handle exceptions in web applications

¢ Declaring error pages

Lesson: Asynchronous Servlets

¢ Invoking a ËœLong Running' Process

¢ The asyncSupported Attribute

¢ Using the AsyncContext Class

¢ Handling AsyncEvent Objects

¢ Nonblocking I/O in Servlets

¢ Lab: ASync Servlets

Lesson: Web Security

¢ Specify the Servlet Security Model

¢ Roles in the Web Application

¢ Access Control and Authentication Requirements

¢ Security-Related Annotations

¢ Lab: Web Security

Session: Introduction to Jakarta Faces

Lesson: Introduction to Faces

¢ Faces Overview

¢ The Faces ËœComponents'

¢ Configuring a Faces Application

¢ MVC using Jakarta Faces

¢ Lab: First JSF

Lesson: JSF Components

¢ Understand the component architecture of JSF

¢ Explain the use of the RenderKit

¢ User Interface Component Model

¢ Introduce the JSF Custom Tags

¢ Explain the functionality of the various input tags

¢ Panels and tables in JSF

¢ Lab: JSF HTML Tags

Session: Facelets

Lesson: Facelets

¢ Introduce Facelets

¢ Use Facelets to create the view of the JSF application

¢ Access properties of a Managed Bean using EL

¢ Lab: Working with Facelets

Lesson: Facelets Templating and Resources

¢ Creating a Consistent Look and Feel

¢ Templating and Placeholders

¢ JSF resource management

¢ Lab: Facelets Templating

Additional Course Details

Nexus Humans Mastering JEE Web Development (TT5100) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Mastering JEE Web Development (TT5100) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for Mastering JEE Web Development (TT5100)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Mastering JEE Web Development (TT5100) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Mastering JEE Web Development (TT5100) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Mastering JEE Web Development (TT5100)?

Yes, we provide corporate training, dedicated training, and closed classes for Mastering JEE Web Development (TT5100). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Java; JEE

Q: Why choose Nexus Human for Mastering JEE Web Development (TT5100)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Mastering JEE Web Development (TT5100) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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