

## Fundamentals of Java Enterprise (JEE)

**Level:** medium

**Length:** 35 hours

**Course Objective:** Participants will receive a solid introduction to Java EE architecture and key technologies in order to get clarity for specific applications and technology methods. At the end of the course participants will be able to choose the right architecture for a given business scenario and will be familiar with writing related code.

### What You Will Learn

- Why should participants use Java EE technologies to create enterprise applications
- Multilevel architecture and customization options
- Introduction to specific technologies from frontend, backend and integration layers
- How to choose, think and write applications using Java EE technologies
- Enhance soft skills: communication, team work, presentation, critical thinking, problem solving, decision making, risk mitigation and resources evaluation

### Who Can Attend

- Programmers familiar with Java programming language who want to develop enterprise applications using Java EE technologies
- Enterprise Applications Architects who want to understand the flexibility and customization of Java EE architecture and specific business scenarios that influence these decisions

### Prerequisites

- Comfortable using Windows or Linux OS
- Comfortable with the basics about using a database and SQL language
- Fundamentals of Java Programming Language

**Required Facilities:** projector, whiteboard, markers, Internet access, personal computer on which are installed the following applications: JDK 8 Eclipse for Java EE, WildFly 10 MySQL Community Server, DbVisualizer

**Bibliography:** Java EE 7 Essentials, O'Reilly Media; 1 edition (September 6, 2013), ISBN 978-1449370176. There is no need for bibliography covering before attending this course.

## Related Courses

### Before this course:

- Java Programming Language

### After this course:

- Java EE: Design Patterns
- Java EE: Develop Business Components with JMS and EJB
- Java EE: Develop Web API with REST Services
- Java EE: Develop SOAP Web Services
- Java EE: Develop Web Applications with Servlets and JSP
- Java EE: Develop Web Applications with JSF
- Java EE: Architect Enterprise Applications
- Java EE: Develop Secured Enterprise Applications

## Description

During the first day we talk about the Java EE services, technologies, data structures and communication specific protocols. It aims to obtain answers to the following questions:

- Why should I use Java EE technologies in an enterprise project?
- What are the essential concepts necessary to understand in order to design and implement Java EE applications?
- How we approach a proper multilayer architecture starting with non-functional and functional requirement?

Next days are discussed, exemplified and practiced main Java EE technologies. The goal is to familiarize with Java EE development and assure the necessary competencies in order to build "from scratch" enterprise applications.

Participants will learn also about the tools required to develop and deploy Java EE applications.

The focus of this training is on the way we think these applications, the motivation of using a technology or another, through examples and projects that address specific business contexts.

**Note:** topics covered and the practice will be adapted to the profile of participants, their expertise and experience on the intended objectives.

## Contents

1. Introduction to Java EE architecture and main technologies
2. Specific services, communication protocols and data structures
3. The HTTP protocol
4. Servlets, JSP and JSF
5. Web Services. SOAP and REST
6. Enterprise Java Beans (EJB)
7. Messaging (JMS)
8. Java Persistence API (JPA)
9. Security and Transactions