

# J2EE Web Component Development

## Training Course

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**Table of Contents**

1. Overview .....	1
2. Objectives .....	1
3. Prerequisites .....	1
4. Methodology .....	2
5. Content .....	2
5.1. J2EE Introduction .....	2
5.2. Vertical Concepts .....	2
5.3. Horizontal Concepts .....	3
5.4. Case Study .....	3
6. Assessment .....	3
7. Organization .....	4
Appendix .....	6
A. Slides .....	6
A.1. Introduction .....	6
A.1.1. J2EE Introduction .....	10
A.1.2. Architecture of J2EE .....	13
A.1.3. Summary .....	20
A.2. Vertical Concepts .....	21
A.2.1. Servlet .....	22
A.2.2. JavaServer Pages .....	50
A.2.3. Filters .....	87
A.3. Horizontal Concepts .....	106
A.3.1. Exceptions .....	107
A.3.2. Database Connectivity .....	113
A.3.3. Security .....	120
A.3.4. Internationalization .....	129
A.3.5. Summary .....	136
A.4. Case Study .....	139
B. Assessment .....	142
B.1. Set 1 .....	142
B.2. Set 2 .....	147



## 1. Overview

The Java 2 Enterprise Edition (J2EE) platform is a standard technology for building Internet applications and particularly Enterprise Applications. J2EE is a suite of Application Programming Interfaces (APIs), a distributed computing architecture, and the method of packaging distributable components for deployment [4]. Enterprise Applications are essential for safe storage, retrieval and manipulations of business data. They are characterised by multiple user interfaces, both web- and desktop-oriented, communication between remote systems and data coordination on different machines.

Enterprise applications are multi-tier applications consisting of client, web, business and enterprise tiers. J2EE provides the necessary APIs and services to develop these tiers, with Web and Business Components implementing web and business tiers respectively.

This course introduces the J2EE Technologies, focusing mainly on the Web Component Technologies. It starts by introducing the J2EE Platform including its origin, architecture and components. Next, the course teaches the core technologies for developing web components: how to develop controllers as Servlets, how to view contents using Java Server Pages and how to use Filters for processing requests and responses. Later, support for horizontal technologies like exception handling, database connectivity, security and internationalization are briefly discussed.

The rest of this document explains the objectives, prerequisites and methodology for teaching the course in Sections 2, 3 and 4 respectively. The content of the course is introduced in some detail in Section 5. The assessment and organization of the course are explained in Sections 6 and 7. Following references, Appendix A includes the complete set of slides and Appendix B contains two sets of assessment questions with answers.

## 2. Objectives

The course has three main objectives:

- 1) To introduce the J2EE Technology to students.
- 2) To equip students with essential skills for developing enterprise applications using three J2EE Web Components technologies:
  - a) Servlets
  - b) JavaServer Pages
  - c) Filters
- 3) To teach techniques for developing multi-lingual, secure web applications.

## 3. Prerequisites

The course requires that students have a working knowledge of the Java Programming Language. Basic understanding of the TCP/IP network protocol is also essential. In addition, the knowledge of XML and HTML are assumed.

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