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# An Introduction to Java™ Enterprise Development

## Description

This 5-day course teaches participants the key concepts of application development using java™ and J2EE™.

The course has Lecture-style presentation with numerous hands on exercises that apply the concepts discussed.

The various Java technologies such as JDBC, Java Beans, and distributed object capability have been delivered and proved. Add to this Java's affinity for web-based working, dynamic code and in-built security, and you are presented with a solution for serious corporate distributed applications.

## Format

5 days 50% lecture 50% lab exercises

## Participants

The course is intended for developers who need to develop web based distributed applications based on a multi-Tier Architecture

## Prerequisites

Delegates need good general computing experience with some development experience using J2SE™ (approx 6 months)  
Working knowledge of Windows® or Linux®/Unix® operating systems

## Presentation Requirements

The maximum number of delegates for the course is 12

A room that allows delegates to both work freely at their workstation and view a screen

Direct project from computer system for Tutor for display of slides and demonstration of Programming

PC to screen projector  
Whiteboard or flipchart

## J2EE Application Architecture

The client-server-database 3-tier model: , Application Programmers Model  
Overview of J2EE Architecture, Deploying applications on J2EE, The Java Pet Shop Demo

## Java and Databases (JDBC)

Connecting to Databases, Prepared statements. Stored procedures, Transaction control, architectures, Scrollable result sets

## Java Naming and Directory Interface (JNDI)

Locating resources with JNDI; architecture; JNDI providers  
**Java Servlets and Java Server Pages**

Servlet lifecycles

Java Server Pages (JSP)

## Distributing Functionality with RMI

The RMI Distributed object model; The Remote interface; Using a Remote Object; Parameter passing; Exception handling; Locating remote objects; Dynamic stub loading, Callbacks; Persistent references and activation

## Distributing Functionality with CORBA

The CORBA Distributed object model; Java and IDL; IDL to Java mapping; Parameter passing; Implementing the server; The ImplBase Approach, The TIE Approach, Locating remote objects; Invoking remote methods; Callbacks; RMI over IIOP

## Java and XML

Creating and Using XML, SAX Programming, DOM Programming, Servlets, JSP and XML

## Enterprise Java Beans

Enterprise Java Beans architecture; types of EJB; deploying EJBs on the J2EE platform; locating EJBs; Home and Remote interfaces; writing an EJB; persisting an Entity EJB

## Java Message Service

Accessing enterprise messaging systems from Java programs; architecture; providers; point-to-point; publish-subscribe

## On-Site Equipment Requirements

The course is based on the Java language as described by The Java Language Specification and associated documents

To deliver the course each delegate should have individual access to a system, the system shall have:

A Java 2 compiler and runtime virtual machine (e.g. JDK1.3.1)  
The J2EE SDK (j2sdkee1.2.1)  
The Java Bean Developer Kit (BDK1.1)  
A text editor such as Notepad or JBuilder IDE  
Adobe Acrobat Reader

An Account on the system that allows a user to compile and execute programs and modify their environment variables

Winzip or equivalent  
A Java enabled web browser

Additionally it must be possible for the course materials including lab exercises to be transferred onto the systems from an ISO 9660 CD-ROM

If no suitable equipment is available then TFJ can arrange for the hire of equipment for the duration of the course.