



## Professional Education Programs

### Course **Java EE for Developers and Architects**

**Overview** This seminar series provides an in-depth coverage of JAVA EE topics, aiming at fulfilling the needs of all professionals engaged in the management, design, implementation and deployment of Java EE applications and products. Java2 Enterprise Edition is gradually becoming a primary technology choice for modern multi-tier Enterprise Information Systems. JAVA EE exploits beneficial properties of the Java language and introduces a whole range of new components, technologies, tools and techniques allowing software engineers, developers and architects to build information systems that meet the stringent requirements of the modern enterprise. This seminar is specially designed to provide a comprehensive overview of the JAVA EE technology, offering a short tour on the key technologies / APIs that comprise the JAVA EE architecture. This course will provide insights on JAVA EE programming constructs and associated practices with a particular focus on Enterprise Java Beans. It includes the contents of the course 'Enterprise Java Beans' and 'Java EE and Enterprise Java Beans Patterns' of the AIT course catalogue.

**Objectives** Participants will gain insight on the major building blocks of JAVA EE, as well as on what can be achieved with this technology. By the end of the course they will be familiar with most technological blocks of JAVA EE, and their purpose. As a result, they will have a sound background enabling them to design, develop and deploy JAVA EE applications, as well as to delve deeply into specific technological blocks (e.g., EJB (2.1 and 3.0), Servlets, XML Web Services). Practical hands-on training will be provided with a view to illustrating the structure of the JAVA EE applications (hardware / software configuration, JAR, WAR, EAR files), as well as on essential building blocks (e.g., JSPs, EJBs).

**Who should attend**

- Software Engineers, Junior and Senior Java developers aiming at getting starting with JAVA EE
- Software Engineers in charge of the deployment of JAVA EE projects
- IT architects aiming at designing, building JAVA EE applications
- IT Technical Managers with no previous JAVA EE experience aiming at undertaking JAVA EE projects

**Prerequisites**

- Java programming (optional)
- XML (optional)
- Java EE Overview

**Duration** 3 days (18 hours)  
December 02-04, 2009  
9:30- 15:30

**Instructor** Dr. J. Soldatos

**Course outline**

Session 1: Introduction to JAVA EE

- Multi-tier Applications
- JAVA EE Software Engineering
- JAVA EE Packaging & Deployment Paradigm





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- JAVA EE APIs
- JAVA EE Projects
- Overview of Http Servlets
- Overview of Java Server Pages
- Overview of Java Database Connectivity (JDBC)
- RMI & RMI IIOP
- Introduction to Enterprise Java Beans
- EJB & Middleware Services
- Implicit Middleware
- Component based Programming
- EJB2.1 & EJB 3.0

### Session 2: Java EE Overview and Web Tier (5 hours)

- Java EE Architecture Concept
- Java EE Packaging and Deployment Paradigm
- Overview Java EE APIs
- Java Servlets
- Java Server Pages
- Servlets and JSP Filters
- Web Applications Events Framework
- Tag Libraries
- Java Standard Tag Library
- The MVC Pattern (Request Dispatcher, Struts)

### Session 3: Enterprise Java Beans (Basic Concepts) (5 hours)

- Introduction to EJB & EJB Component Model.
- EJBs as distributed objects.
- EJB interfaces (Home, Remote, Local,...).
- Session Beans (role, lifecycle, implementation, deployment).
- Introduction to Entity Beans concepts (object persistence.
- Entity Beans with Container Managed Persistence (CMP)(role, lifecycle, implementation, deployment) (EJB 2.1 / EJB 3.0).
- Programming with Entities (EJB 3.0).
- The Session Facade Pattern

### Session 4: Advanced JAVA EE/EJB Concepts and Web Services (5 hours)

- CMP / BMP Relationships.
- EJB-QL.
- Entity Beans and O/R Mapping Frameworks (DAO pattern)
- Calling Beans from other beans / Bean hierarchies.
- Environment properties.
- EJB Transactions (ACID properties, transaction models, declarative / programmatic transactions, ejb isolation, ejb transactional attributes).
- EJB Best Practices / Performance Issues.
- Basic EJB Patterns.
- Overview of JAVA EE Web Services
- Laboratory Exercises on EJBs, Web Services.





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**Tuition Fee** 1–4 Participants: 950,00€  
Group: 855,00€  
All prices per participant  
Cancellation Policy

**Program Registration** <http://hermes.ait.gr/registrations/multiple.php?prog=38>

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