

Course overview:

Java Language Programming Advanced

(D056eng)



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company**

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Overview and objectives

This 5-day course builds on the concepts taught in the introductory course and provides instruction on advanced topics in Java programming. The course includes concepts and practical experience in developing JavaBeans, Graphical User Interfaces using Swing components, network applications, remote method invocation, security, native methods and server-side programming with servlets and Java Server Pages (JSP).

At the conclusion of this course, students will have an understanding of Java's security features, and will be able to develop re-usable components using JavaBean technology, Java application programs and applets using network interfaces, remote objects and native methods and will be able to develop web applications with servlets and JSP.

Who should attend?

The target audience for this course is e-Commerce Web Developers. Students should have attended 'Java Language Programming Introduction' or have equivalent knowledge and/or experience.

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Course contents

JAVA LANGUAGE REVIEW

- Review of Java language concepts • Java Application Program Interface.

JAVABEANS

- The JavaBean concept, properties • Introspection, Bean Development Kit (BDK) • Event handling, serialization • The BeanInfo interface.

GUI DEVELOPMENT WITH SWING COMPONENTS

- Swing and AWT, Swing features • Pluggable look and feel, internal frames • The Swing class hierarchy • Actions, bounded range components • SplitPanels, trees, tables • Text components.

THREADS

- Threads and processes, making a thread run • The Thread class and Runnable interface • Synchronization and resource sharing • The life cycle of a thread • Thread scheduling and priority.

NETWORK APPLICATIONS

- Network protocols • Network addresses and ports • Sockets, multithreaded servers • Datagram communications.

JAVA SECURITY

- Security issues, decompilers • Public key encryption • Digital signatures and certificates • Security utilities, Java security manager.

REMOTE METHOD INVOCATION

- Multi-tier architecture models • Creating distributed applications • RMI servers and clients.

SERVLETS

- Overview of Servlets, HTTP and HTML Java Servlet Development Kit (JSDK) • Input from HTML forms • Server-Side includes, servlet life cycle • Saving client information – URL rewriting • Cookies, session objects • Servlet chaining, Java Server Pages.

JAVA NATIVE INTERFACE

- Using native methods • The Java Native Interface (JNI) • Mapping between Java and native types • The JNI function table • Accessing Java from native applications.

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