5 Days

Java SE7 Fundamentals Training Course

The Java SE 7 Fundamentals training is an elementary class that imparts the fundamental understanding of programming with the deployment of Java programming language. Students with little or no experience in programming can explore the java programming fundamentals. This training will expose students to the significance of object-oriented programming, the keywords and constructs deployed in the Java programming language and the essential steps are taken to create simple Java technology programs.

Completion of this training course will enable candidates in:

- Demonstrating knowledge of Java technology and the Java programming language.
- Performing basic error handling for your Java technology programs.
- Utilizing various Java programming language constructs to create several Java technology applications.
- Implementing intermediate Java programming and object-oriented (OO) concepts in Java technology programs.
- Utilizing decision and looping constructs and methods to dictate program flow.

Course Benefits:

Attaining certification of this course will help individuals to build strong foundations in the Java programming language that will set the baseline for career development with programming languages. This training gives highlights of the Java Platform, Standard Edition 7 (Java SE 7), and also makes use of the Java SE Development Kit 7 (JDK 7) product.

Course Details

Course Outline

1. Introducing the Java Technology

- Relating Java with other languages
- Showing how to download, install, and configure the Java environment on a Windows system.
- Describe the various Java technologies such as Java EE, JavaME, Embedded Java SE
- Describe key features of the technology and the advantages of using Java
- Use an Integrated Development Environment (IDE)

2. Thinking in Objects

- Define the problem domain
- Identify objects and recognizing the criteria for defining objects

3. Introducing the Java Language

- Define classes
- Identify the components of a class
- Create and using a test class
- Compile and executing a test program

4. Working with Primitive Variables

- Declare and initialize field variables
- Describe primitive data types such as integral, floating point, textual, and logical
- Declare variables and assigning values
- Use constants
- Use arithmetic operators to modify values

5. Working with Objects

- Declare and initializing objects
- Storing objects in memory
- Use object references to manipulate data
- Use JSE javadocs to look up the methods of a class
- Work with String and StringBuilder objects

6. Using operators and decision constructs

- Use relational and conditional operators
- Test equality between strings
- Evaluate different conditions in a program and determining the algorithm
- Create if and if/else constructs
- Nesting and chaining conditional statements
- Use a switch statement

7. Creating and Using Arrays

- Declare, instantiate, and initialize a one-dimensional Array
- Declare, instantiate, and initialize a two-dimensional Array
- Use a for loop to process an Array
- Create and initialize an ArrayList
- Use the import statement to work with existing Java APIs
- Access a value in an Array or an ArrayList
- Use the args Array

8. Using Loop Constructs

- Create while loops and nested while loops
- Developing a for loop
- Use ArrayLists with for loops
- Develop a do while loop
- Understand variable scope

9. Working with Methods and Method Overloading

- Create and Invoking a Method
- Pass arguments and returning values
- Create static methods and variables
- Use modifiers
- Overloading a method

10. Using Encapsulation and Constructors

- Create constructors
- Implement encapsulation

11. Introducing Advanced Object Oriented Concepts

- Use inheritance
- Create and implementing a Java interface
- Use types of polymorphism such as overloading, overriding, and dynamic binding
- Working with superclasses and subclasses
- Understand the purpose of Java interfaces
- Adding abstraction to your analysis and design

12. Handling Errors

- Understand the different kinds of errors that can occur and how they are handled in Java
- Understand the different kinds of Exceptions in Java
- Writing code to handle Exceptions
- Use Javadocs to research the Exceptions thrown by the methods of foundation classes

13. The Big Picture

- Create packages and JAR files for deployment using java
- Two and three tier architectures
- Look at some Java applications examples

Who Should Attend

The Java SE 7 Fundamentals Certification Course is ideal for:

- Technical Administrator
- Technical Consultant
- System Administrator
- Web Administrator
- Application Developers
- Project Manager
- Developer
- Team Leader

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