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## Oracle Certified Java Associate [1Z0-803] (5 days)

### Course overview

This course is aimed at Java developers who are preparing for the Oracle Certified Associate, Java SE 7 Programmer I [1Z0-803] examination. The course includes detailed coverage of all the topics in the exam, and includes comprehensive examples and exercises to assist your preparation for the exam as well as your general Java career.

### What you'll learn

- Declaring variables and using Java operators
- Using loops and decision-making constructs
- Working with strings
- Defining and using arrays
- Working with methods
- Defining classes and creating objects
- Implementing inheritance relationships
- Dealing with exceptions

### Prerequisites

- At least 6 months experience in any language

### Course details

- **Java Basics:** Define the scope of variables; Define the structure of a Java class; Create executable Java applications with a main method; Import other Java packages to make them accessible in your code
- **Working With Java Data Types:** Declare and initialize variables; Differentiate between object reference variables and primitive variables; Read or write to object fields; Explain an Object's Lifecycle (creation, "dereference" and garbage collection); Call methods on objects; Manipulate data using the StringBuilder class and its methods; Creating and manipulating Strings
- **Using Operators and Decision Constructs:** Use Java operators; Use parenthesis to override operator precedence; Test equality between Strings and other objects using == and equals (); Create if and if/else constructs; Use a switch statement
- **Creating and Using Arrays:** Declare, instantiate, initialize and use a one-dimensional array; Declare, instantiate, initialize and use multi-dimensional array; Declare and use an ArrayList
- **Using Loop Constructs:** Create and use while loops; Create and use for loops including the enhanced for loop; Create and use do/while loops; Compare loop constructs; Use break and continue

- **Working with Methods and Encapsulation:** Create methods with arguments and return values; Apply the static keyword to methods and fields; Create an overloaded method; Differentiate between default and user defined constructors; Create and overload constructors; Apply access modifiers; Apply encapsulation principles to a class; Determine the effect upon object references and primitive values when they are passed into methods that change the values
- **Working with Inheritance:** Implement inheritance; Develop code that demonstrates the use of polymorphism; Differentiate between the type of a reference and the type of an object; Determine when casting is necessary; Use super and this to access objects and constructors; Use abstract classes and interfaces
- **Handling Exceptions:** Differentiate among checked exceptions, RuntimeExceptions and Errors; Create a try-catch block and determine how exceptions alter normal program flow; Describe what Exceptions are used for in Java; Invoke a method that throws an exception; Recognize common exception classes and categories