Course Outline
Java Bootcamp Training

Java evolution

- What is Java?
- The Java Platform
- Obtaining Java
- Editions and Versions of Java
- Java History
- The JDK
- Your First Java Program
- Revisiting the JVM
- API documentation

Object Oriented concepts and implementation in Java

- Object-Oriented Programming
- Objects vs. Primitives
- Creating (Instantiating) Objects
- Stack and Heap
- Using Objects
- Initializing Data
- Creating Object Types
- Building Constructors
- Default Constructor
- Initialization Block

Static

- Class vs. Object
- Static Variables
- Static Method
- Static Initialization Block
- "this" Keyword
- Scope

- Garbage Collection (GC)
- Java Memory Leaks

Packaging

- Packages
- Class path
- Java Archive (JAR)

Conventions & Primitives

- Coding standards
- Valid Identifiers
- Comments
- Primitive Data Types
- Primitive Literals
- Primitive Conversion
- Big Numbers

Java conditions and loops

- Enums
- Conditionals
- Operators
- Loops
- Break, Continue, and Labels

Strings

- String Objects
- String Operations and Operators
- Immutable Strings
- Passing by Value

Encapsulation & Data Hiding

- Encapsulation & Data Hiding
- Accessors/Mutators or Getters/Setters

- Access Modifiers
- Encapsulation/Data Hiding Resources

Inheritance

- Chaining Constructors
- Overloading Methods
- Overriding Methods and Revisiting the Super Reference
- The Three Faces of Final

Polymorphism

- Polymorphism
- Benefits of Polymorphism
- Object Type Casting
- The Object Class

Abstract Classes and Interfaces

- Abstract Classes
- Interfaces
- Revisiting Overriding Methods: Covariant Returns

Exception Handling

- Throwable
- Catching Exceptions
- Finally block
- The Exception Object
- Runtime vs. Checked Exceptions
- Creating Exceptions

Arrays

- Arrays
- For-Each
- Polymorphism Revisited
- Multi-Dimensional Arrays

- Sorting and Searching Arrays
- Common Array Mistakes

Collections

- When arrays are not enough
- Collections
- The Collection Interface
- Iterator
- Lists
- Sets
- Maps
- HashMap

JDBC

- Why JDBC?
- Driver Manager
- Connections
- Statements
- Inserting Rows
- Updating Rows
- Deleting Rows
- Other Modifying Statements
- Result Set
- Mapping Between SQL & Java Data Types
- PreparedStatement
- SQLException

Web programming

- Introduction to server-side programming
- Introduction to HTTP.
- Creating basic HTML pages
- Building a "hello world" Servlet and JSP

Git & GitHub

- Introduction to GIT
- Basic commands in GIT
- Working with repositories on GitHub (Branches, Merge, Conflicts)
- Advanced commands (Pull Request, Fork, Rebase, Stach, Clean, Cherry-pick, etc.)

Java-Spring

- Introduction to Spring boot
- Spring Data
- API Building an API
- Spring Security
- Deployment of an application

Java 8

- Streams
- Lambdas
- Optionals

Requerido:

- Unit test
- Mockito

Deseable:

- Manejo de códigos HTML
- Creación y manejo de servicios Rest
- Diseño y manejo APIs
- Desarrollo de APIs web
- Lombok
- Manejo de errores de APIs
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