Java

Learn the Basics

- Basic Syntax
- Lifecycle of a Program
- Data Types
- Variables and Scopes
- Type Casting

- Strings and Methods
- Math Operations
- Arrays
- Conditionals
- Loops
- Basics of OOP

Object Oriented Programming

Basics of OOP
- Classes and Objects
- Attributes and Methods
- Access Specifiers
- Static Keyword
- Final Keyword
- Nested Classes
- Packages

More about OOP
- Object Lifecycle
- Inheritance
- Abstraction
- Method Chaining
- Encapsulation
- Interfaces
- Enums
- Record
- Method Overloading / Overriding
- Initializer Block
- Static vs Dynamic Binding
- Pass by Value / Pass by Reference

- Exception Handling
- Lambda Expressions
- Annotations
- Modules
- Optionals

- Cryptography
- Date and Time
- Networking
- Regular Expressions

- volatile keyword
- Java Memory Model
- Virtual Threads
- Threads

Collections
- Array vs ArrayList
- Set
- Map
- Queue
- Dequeue
- Stack
- Iterator
- Generic Collections

- Dependency Injection

- I/O Operations
- File Operations

- Concurrency

Functional Programming
- High Order Functions
- Functional Interfaces
- Functional Composition
- Stream API

- Maven
- Gradle
- Bazel

Build Tools

Spring Boot is recommended
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- Spring (Spring Boot)
- Quarkus
- Javalin
- Play Framework

Web Frameworks

- JDBC
- EBean
- Hibernate
- Spring Data JPA

Database Access

Unit Testing
- JUnit
- TestNG

Integration Testing
- REST Assured
- JMeter

- Cucumber-JVM
- Behavior Testing
- Mocking > Mockito

Testing

Logging Frameworks
- Logback
- Log4j2
- SLF4J
- TinyLog