

Temario Academia Java 8 APX

Semana 1

Lunes

- Java class structure
- Package declarations and imports
- Creating objects

Martes

- Primitive types vs. reference types
- Variable declaration, initialization, and scope
- Garbage collection

Miércoles

- Java operators (arithmetic, unary, assignment, relational, logical)

Jueves

- Control flow statements (if-then, if-then-else, switch)
- Iteration statements (while, do-while, for)

Viernes

- Advanced flow control (break, continue, labels)
- String manipulation

Semana 2

Lunes

- StringBuilder and StringBuffer
- Java arrays and ArrayList

Martes

- Wrapper classes and autoboxing
- Working with dates and times

Miércoles

- Method design and overloading
- Access modifiers
- Static methods and fields

Jueves

- Passing data among methods
- Constructors
- Encapsulation and immutability

Viernes

- Inheritance
- Abstract classes
- Interfaces

Semana 3

Lunes

- Polymorphism
- Casting objects
- Exception types

Martes

- Try-catch-finally blocks
- Throwing and handling exceptions

- Creating nested classes (inner classes, **anonymous classes**, static nested classes)

Miércoles

- Coding equals(), hashCode(), and toString()

- Working with Enums

- Using instanceof

Jueves

- Designing interfaces and functional interfaces

- Understanding design principles (JavaBeans, is-a and has-a relationships)

Viernes

- Working with design patterns (**Singleton**, Immutable Objects, Builder, Factory)
- **Dependency Injection**

Semana 4

Lunes

- Advanced use of collections
- **Working with generics (classes, interfaces, methods)**

Martes

- Using Lists, Sets, Maps, and Queues
- Comparing collection types
- Comparator vs. Comparable

Miércoles

- Advanced use of lambdas
- Working with built-in functional interfaces
- Using Optional

Jueves

- Working with Streams (creating, terminal operations, intermediate operations)
- Working with primitive streams
- Advanced stream pipeline concepts

Viernes

- Using multi-catch and try-with-resources
- Creating custom exceptions
- Working with assertions
- Introducing threads and concurrency
- Creating and managing threads
- Using ExecutorService

Semana 5

Lunes

- JUnit
- Mockito

Martes

- Spring Core

Miércoles

- Spring MVC

Jueves

- Spring Rest

Viernes

- Spring Data JPA

Semana 6

Lunes

- Spring Batch
- Git (Command Line and GUI Tool)

Martes

- Maven
- Relational Database

Miércoles

- MongoDB
- Understanding HTTP/HTTPS protocols

Jueves

- HTTP verbs (POST, PUT, GET, DELETE, PATCH)
- Response codes

Viernes

- REST vs SOAP: differences and advantages
- Creating RESTful services with Java