Tel·Ran
IT Educational Center

Menachem Plaut, 10
Science Park, Rehovot
76706, Israel

972-8-9479977
972-54-56-99-350
go@tel-ran.com
https://tel-ran.com

JAVA TECHNOLOGIES JT COURSE STRUCTURE **2024**

PROGRAMMING LANGUAGE FUNDAMENTALS **80 hours**

Basics · Hardware and Software Architecture · Computer and Networking Basics · Software Infrastructure and Applications · Numbering Systems Notation · Open Sources and Open Standards · Development Platforms Integrated Development Environment · IDE Eclipse Basics · Compiler and Builder · Programming Language Basics · Data Types · Operators · Statements · Functions · Symbol Presentation and Coding · Array · Basic Programming Patterns · C Practicing · Sequential and Binary Search · Sorting · Reversing · Merging · Object Oriented Programming · OOP Principles (Encapsulation, Inheritance) · Polymorphism · Classes and Objects · Java Basics · OOP Implementation in Java · Java Practicing

WEB PROGRAMMING **120 hours**

WEB Clients Overview HTML · HTML Elements · HTML 5 · CSS Styles · CSS Flex-box · CSS Animation · Bootstrap · JavaScript Basics · DOM Interactions · JS Language · JS functions · JS OOP Principles · EcmaScript 2015+ · JS Promises · AJAX · JS Frameworks · jQuery · NPM · Webpack · Babel · ReactJS: Props, Components, States, Forms, Events, Routers · Redux · Adaptive Web Applications for Mobile

CORE JAVA **200 hours**

Integrated Development Environments · Types and Variables · Statements and Operators · Object Oriented Programming · Java Virtual Machine · Junit Test-Driven Development Primitives and Classes · Immutable vs Mutable classes Algorithms and Data Structures Model-View-Controller (MVC) Paradigm · UML · Exceptions and exceptions handling · Collections Maps · IO Streams · Stream API · File System · Socket · Console · Multithreading · Race Conditions, Synchronization and DeadLocks

JAVA TECHNOLOGIES **104 hours**

Spring Framework Overview · Spring Boot Applications · SOA (Service Oriented Architecture) · Rest Controller (WEB services) · Spring Data MongoDB Repositories · Spring Data JPA · Repositories (Hibernate) · Spring Security (Authentication, Authorization, Accounting) · High Level Architecture · Scalable · Architecture · MicroServices · BigData Overview & Kafka · Database and SQL Basics · Relational Databases · Tables · Logical Structure · Keys · Indexes · SQL Development Platform · MongoDB · MongoDB in Cloud · CRUD Operations: Create, Read, Update, and Delete Data · Mongo Aggregation

TOTAL THEORETICAL HOURS **304 hours**

REAL PROJECT DEVELOPMENT (backend application) **150 hours**

Full development process with application design and coding using the most popular version control system and deploying on cloud.

TOTAL HOURS **454 hours***

* — Tel-Ran educational center can make changes and adjustments to this program due to the relevance of the studied technologies without losing the total number of study hours without notifying students.
** — doesn't include FREE webinars that are held regularly on topics covered in class and on homework analysis