

## Programmierkurs: **Java/Web/Mobile** (Full Stack Software-Entwicklung)

Klassifikation der Berufe: 43412 Software-Entwickler/in

Inhalt: Java Core, Spring, Datenbanken, Web, Mobile

Einreisebestimmungen: Grundlegendes Englisch, PC oder Laptop zu Hause, grundlegende Logikprüfung, Grundkenntnisse über Algorithmen (Array-Sortierung, Array-Suche)

Gesamtdauer: 6 Monate

Lektionen: 639 Stunden

### **JAVA WEB MOBILE (FULL STACK DEVELOPMENT) MODULE** **639 hours\***

#### **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

#### **DATABASES FUNDAMENTALS** **24 hours**

Database and SQL Basics · Relational Databases · Tables · Logical Structure · Keys · Indexes · SQL Development Platform · Table Creation · Create Table Statement · Data Types · Table Update · Insert Statement · Update Statement · Combination of Select and Update Statements · Selection from Table · Simple Select Statement · Using WHERE clause · Selection Conditions · Ordering · Grouping vs Ordering · Aggregate Functions · Tables Joining · Examples of Complex Select Statements · MongoDB · MongoDB in Cloud · CRUD Operations: Create, Read, Update, and Delete Data · Mongo Aggregation

#### **JAVA TECHNOLOGIES** **80 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

#### **MOBILE DEVELOPMENT** **55 hours**

Multiplatform Mobile App Development with React Native · React Native UI Elements and Redux · React Native Alerts, Animations, Gestures, and Persist Redux Store · Accessing Native Capabilities of Devices: The Expo SDK

#### **PROJECT DEVELOPMENT (PRACTICE)** **160 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