Java Spring Bootcamp

Cohort 01: April 2022 — September 2022

General Information

Start date:	April 26, 2022
Course duration:	4–5 months
Sessions:	Online, every workday, 6–8 hours starting at 11:00
Language:	Georgian
Price:	Free
Top graduates:	1-year job offer from Omedia with a salary of 3,000 GEL minimum. Offer refusal results in an education fee of 4,000 GEL.

Prerequisites

Here are the eligibility criteria for Omedia Bootcamp's Java Spring Bootcamp course. All applicants should:

- ✔ Be 16 years of age or older.
- ✔ Have the time and the motivation to boost your skills and experience.
- ✔ Have access to an internet-connected desktop or a laptop computer.

✔ Have basic English language skills (ability to read and understand the technical documentation and articles in English).

✔ Have experience with the basics of computer programming.

✔ Understand and have experience with basic Java. More specifically:

   ✔ Declarations (variables, classes, functions, methods) & Access controls

   ✔ Assignments & Operators

   ✔ Flow controls (if-constuctions, switch, loops)

   ✔ Understanding of OOP

Full Course Syllabus

01. Tooling & Environment

Before you start learning a framework, writing code or working on a complex application, it is crucial to become comfortable with all the tools and environments around the technology you are going to use. This module will introduce students with basics of Linux and shell, with coding environments and tooling related to Java programming language.

— Linux & shell
— Git
— IDEs
— Building a Java development environment
— Gradle/Maven
— Jira, BitBucket, Confluence
— Bamboo

02. Java programming language

Although basic knowledge of Java programming is the prerequisite of this bootcamp, it is important to truly understand the foundations and advanced topics of Java. This module prepares students for learning the Sring framework.

— Java Fundamentals
— Creational design patterns
— Structural design patterns
— Behavioural design patterns
— Reflection
— Concurrency (Thread, Thread pool)

04. Databases

Working with data is the integral part of backend development. In almost all the cases, you will have to deal with at least one type of data storage. Hence, its crucial to understand different types of databases and how they work with them.

— Relational Databases
   — Oracle
   — Postgres
   — DML, DDL, TCL
— Non-relational databases
   — Mongo
   — Elastic
— CRUD
— JDBC

05. Spring Framework

This module is the core part of the course. Students will learn the structure of Spring, its core parts and will be able to use them in various small- and medium-sized projects.

- Structuring Code
- Spring Beans and Dependency Injection
- Introduce Spring Boot
- spring-boot-starter-parent
- spring-boot-starter
- spring-boot-starter-web
- spring-boot-starter-security
- spring-boot-starter-messaging
  - Kafka
  - RabbitMQ
- OAuth2

06. Advanced topics & Spring Cloud

In this module, students will be challenged with advanced topics, like a working with various databases with spring boot starter modules, spring cloud, spring gateway etc.

- Working with SQL database
  - spring-boot-starter-jdbc
  - spring-boot-starter-data-jpa
- Working with NOSQL database
  - spring-boot-starter-data-Elasticsearch
  - spring-boot-starter-data-mongodb
- spring-boot-starter-test
  - Mongo
  - Elastic
- spring-boot-starter-actuator
- spring-cloud-config-server
- spring-cloud-starter-config
- spring-cloud-starter-gateway

07. System Design Basics

We believe that knowing a single framework or a programming language is never enough. Being able to understand a broader range of topics around the technology and the ability to always see the big picture, is what makes one a successful engineer. That is why students will learn the fascinating world of systems design in our last module.

- Basics of networking
- Domain name system
- Logging systems
- Performance and scalability
- Latency and throughput
- Caching
- CDNs, load balancers and reverse proxies
- Consistency and availability patterns
- Containers, Docker, Kubernetes

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