

Full Stack Java Extended v4.1.2

	MON	TUE	WED	THU	FRI	ENVIRONMENT
Week 1 UNIX & Java Fundamentals	First Day Orientation Computer fundamentals- Types of Memory Operating system fundamentals Introduction to UNIX Unix Commands Environment Variables	 File Permissions Command-Line Text Editors Package Managers 	Introduction to Git Resolving Pull Requests Github Issues AWS Introduction AWS EC2 AMI Security Groups SSH Into EC2 Instance	Introduction to Java JDK, JRE, JVM First Java Program: HelloWorld Methods and Parameters Variable Scopes	Control Flow Statements Arrays, Var-args, for-each loops Packages and Imports Constructors	
Week 2 Introduction to Java/Unit Testing	Java Fundamentals & Unix assessment Individual Interviews Quality control audit Class vs Object Access Modifiers Non-access modifiers	Intro to TDD and Unit Testing Read from console (Scanner) JUnit Annotations Assert Methods	 Pillars of OOP Casting String API Object class Abstract Classes Interfaces 	Custom Exceptions Checked vs Unchecked Exceptions Exception Handling or Declarations Exception Hierarchy Try-with-resources Multi-catch blocks	Collection API Wrapper Classes Lists ArrayList and LinkedList Sets Queues Maps HashSet and TreeSet Coding assessment	• Eclipse • JUnit 5
Week 3 Java	Java - Fundamentals assessment Project 0 Individual Interviews Quality control audit Generics Iterator interface Iterable Interface Comparable Interface Comparator interface Annotations	Project 0 Stack and Heap Garbage Collection StringBuilder, StringBuffer Thread Class Multithreading Runnable Interface States of a Thread	Project 0 Functional Interfaces Lambdas Project object model (POM) Introduction to Maven	Project 0 Maven Lifecycles Maven Repositories Project Coordinates	Project 0 File I/O: FileInputStream/FileR eader/FileWriter Serialization Overview of Logging Coding assessment	

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	Project 0	Project 0	Project 0	Project 0	Project 0	PostgreSQL
Week 4 SQL/JDBC	Project 0 Java assessment Individual interviews Quality control audit Interview & PO checkin Week 2 Day 1 Hackerrank Activity AWS RDS Overview Data types Defining Schema	Project 0 DDL - Data Definition Language DML - Data Manipulation Language DQL - Data Query Language DCL - Data Control Language Constraints Referential Integrity Multiplicity	Project 0 Setting up the Database Driver Interfaces of JDBC Connection Interface Simple & Prepared Statements Properties file Design Pattern: Data Access Object (DAO)	Project 0 TCL - Transaction Control Language Atomicity Consistency Isolation Durability Read phenomena Inner / Outer Joins Left / right Joins Equi & Theta Joins Self-join	Project 0 Coding assessment Set Operations What is an index, advantages of indexes Creating an index What is a view, advantages of views Creating/modifying views Types of indexes Introduction to mocking with Mockito (optional)	PostgreSQL DBeaver

	MON	TUE	WED	THU	FRI	ENVIRONMENT
	Project 0	Project 0	Project 0	Project 1	Project 1	
Week 5 HTML/CSS/JS/Javalin						ENVIRONMENT

	MON	TUE	WED	THU	FRI	ENVIRONMENT
Week 6 DevOps/Hibernate	Project 1 Front-end assessment Individual interviews Quality control audit AWS Regions and Availability Zones EC2 Autoscaling Git flow & Branching strategiesb	Project 1 Installing Docker Containers vs VMs Containerization Managing Containers Docker Architecture Docker Daemon Docker Containers Docker Containers Docker File Docker best practices Dockerfile keywords Building an image Creating a container Docker Compose Docker Command Cheatsheet	Project 1 DevOps Overview DevOps and Agile Continuous integration Continuous deployment Continuous delivery Jenkins Jenkins job/project Jenkins build Maven Review SonarCloud & SonarLint	Project 1 Object-relational mapping Hibernate and JPA Hibernate architecture Interfaces of hibernate hibernate.cfg.xml file Annotations for model classes Object states HQL	Project 1 Native SQL Criteria API XML Overview Coding assessment	ENVIKONMENI
Week 7 Angular	Project 1 DevOps & Hibernate assessment Group interviews Quality control audit Node as a JS runtime; npm as a package manager Package.json file TypeScript Intro Single Page Application (SPA)	Project 1 Variable data types Classes and Access Modifiers Decorators Interfaces Webpack Angular CLI AngularJS vs Angular 4+ History of Angular Component lifecycle methods @Component decorator Structural directives	Project 1	Project 1 HttpClient Setting up routing Route guards RxJS - Observables RxJS - Subjects Pub/Sub design pattern Event Emitters	Project 1 Testing in Angular with Jasmine & Karma mocking with Jasmine (optional) Angular Review Introduction to SDLC Agile vs Waterfall Agile/Scrum Concepts Story pointing Scrum Ceremonies	

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Week 8 Spring Core/MVC/Boot	Project 2 Angular & SDLC assessment Group interviews Quality control audit Intro to Spring Spring IOC Container & Dependency Injection XML vs Annotation-based configuration Bean lifecycle Injecting primitives (XML) Scopes of a bean Annotations	Project 2 MVC Architecture and Annotations Form Input with Spring @Controller - MVC Annotations @RequestMapping - MVC Annotations Path Variables and Request Params	Project 2 Overview of AOP and cross-cutting concerns Advice Pointcut and Join Points Aspect-J Stereotypes	Project 2 Spring Boot Spring Boot Actuator Spring Boot DevTools Spring Environments Lombok Validation Spring MVC Test Framework - Mocking (optional)	Using Angular to make RESTful calls to a Spring controller Using RestTemplate to consume web services	
Week 9 Spring Data/Cloud & Microservices Architecture	Project 2 Spring assessment Interview- group or sprint retrospective Quality control audit Spring Data Spring Data Annotations Transactional Transaction Propagation Strategies History of web services History of web services- SOAP vs REST Service oriented architecture (SOA)	Project 2 REST concepts- resources, constraints REST- content negotiation Richardson Maturity Model Idempotent and safe operations What are microservices Advantages / disadvantages of a microservice architecture (MSA) MSA vs Monolith applications	Project 2 Characteristics of a MSA Consul - Discovery Service Spring Cloud Gateway Load balancing	Project 2 Circuit breaker design pattern Config Server Messaging Queues	Project 2 • Containerization & orchestration	
Week 10 Project 3	Project 3 Quality control audit	Project 3	Project 3	Project 3	Project 3	
Week 11 Project 3/Panel interviews	Project 3 Quality control audit- cumulative	Project 3	Project 3	Project 3	Project 3	
Week 12 Project 3 showcase	Project 3	Project 3	Project 3	Project 3		

PROJECT	TECHNOLOGIES
Project 0	Java, JDBC, SQL
Project 2	Angular 4, Hibernate, Maven, Git, Associate DevOps pipeline, AWS, Spring Boot, Spring Data
Project 3	Spring Boot, Spring Data, Web Services, Trainer DevOps pipeline, AWS, Angular 4, Microservices
Project 1	HTML, Maven, Git, JavaScript, Hibernate, EC2, S3, Javalin



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