

Java with Automation Extended V3.1.1

	MON	THE	WED	TUU	EDI	ENIVIDONIMENT
Week 1 Java/Fundamentals	MON Installation: Git Installation: Java 8 Control Flow Statements Introduction to Java JDK, JRE, JVM First Java Program: HelloWorld Naming Conventions	TUE Methods and Parameters Packages and Imports Arrays, Var-args, for-each loops String API	 WED Non-access modifiers Class vs Object Constructors Variable Scopes Garbage Collection 	THU Maven Repositories Project object model (POM) Introduction to HTTP Postman Introduction to Javalin HTTP Handlers	FRI WebDriver Setup Overview of HTML Submitting Forms Selenium Selectors HTML Tags Elements and Attributes Input Elements and Input Types Form Elements and Its Attributes	Intellij
Week 2 Java	Intro to git (add, push, pull, commit, clone) Object class	 Access Modifiers Wrapper Classes Abstract Class Interfaces StringBuilder StringBuffer Overloading Overriding 	 Collection API Lists Sets Queues Maps Generics Java Bean 	Intro to TDD and Unit Testing Positive vs Negative Testing Order tests in JUnit Test case vs Test suite Test for exceptions using JUnit JUnit Overview Junit Annotations Assert Methods	 Checked vs Unchecked Exceptions Multi-catch blocks Try-with-resources Exception Handling or Declarations Custom Exceptions Exception Hierarchy 	JDK 1.8 Maven 3.X IntelliJ

	MON	TUE	WED	THU	FRI	ENVIRONMENT
Week 3 Javalin/SQL	Project 0 Written evaluations Individual interviews Quality Control Audit Introduction to DBMS AWS RDS Postgres	Project 0 DDL - Data Definition Language Defining Schema DML - Data Manipulation Language DCL - Data Control Language DQL - Data Query Language Data types Constraints Referential Integrity	Project 0 TCL - Transaction Control Language Atomicity Consistency Isolation Durability Normalization Table relationships / multiplicity	Project 0 Introduction to JDBC Introduction to Integration testing Design Pattern: Data Access Object (DAO) Interfaces of JDBC Setting up the Database Driver Connection Interface Simple & Prepared Statements Scalar functions Aggregate functions Inner / Outer Joins Left / right Joins Set Operations	Project 0 Exception/Error Mapping Introduction to Webservice REST naming conventions JSON Overview Coding assessment	• AWS - RDS
Week 4 Client side technologies	Project 0 Written Evaluation Interview - group / solo based on performance Quality Control Audit HTML Document Structure & DOM Inline and Block Elements Inline, Internal, and External Stylesheets Overview of CSS CSS Properties	Project 0 Element Selectors Class and Id Selectors Cascading Nature of CSS JavaScript Introduction Data types Variable Scopes	Project 0 Iet and const keywords Type Coercion Arrow functions Functions	Project 0 Selecting elements from the DOM DOM Toversing the DOM Events & Listeners Template literals & arrow notation Hosting Static Sites on S3 Intro to AWS S3 AWS S3 Bucket Configuration	Project 0 Working with JSON in AJAX Fetch API Promises Async/await Coding assessment	

	MON	TUE	WED	THU	FRI	ENVIRONMENT
Week 5 Selenium/ DevOps	Project 0 Written evaluation Group interviews Quality Control Audit	Project 0 Advanced Selenium Concepts XPath/CSS Selectors Automate Existing Application PageFactory Introduction to Page Object Model(POM) E2E Testing	Project 0 Automation with Cucumber and Selenium Gherkin Introduction to BDD Step implementations Feature file	Project 1 SonarCloud & SonarLint DevOps Overview Continuous integration GitHub Actions Defect Reports	Project 1 Continuous deployment Continuous delivery DevOps and Agile Coding assessment	
Week 6 Miscellaneous / Agile	Project 1 Written Evaluation Responsive web design Bootstrap Scrum User Stories	Project 1 Test Lifecycle Features vs Defects Defect Lifecycle Testing Mindset Types of Testing	Project 1 Select and Multiselect Specificity and Resolving Styling Conflicts	Project 1 Overview of Logging Logging Levels Setting Logging Threshold Creational: Singleton Creational: Factory	Project 1 Coding assessment Lambdas Functional Interface Comparable Interface Comparator	
Week 7 Angular	Project 1 Written Evaluation Interviews Quality Control Audit Node as a JS runtime; npm as a package manager Angular CLI Webpack Single Page Application (SPA) History of Angular Package.json file	Project 1 Introduction to TypeScript Access modifiers/variable types Classes & Decorators @Component decorator Component lifecycle methods	Project 1	Project 1 Pipes Custom Pipes	Project 1 Services and Dependency Injection HttpClient RxJS - Observables RxJS - Subjects Setting up routing	• Angular 8

	MON	TUE	WED	THU	FRI	ENVIRONMENT
Week 8 Spring / Web Services	Written Evaluation Project 2 Interview - group or sprint retrospective Quality Control Audit Intro to Spring Spring IOC Container & Dependency Injection @Configuration @Bean @Autowired Scopes of a bean Annotations	Project 2 MVC Architecture and Annotations @Controller - MVC Annotations @RequestMapping - MVC Annotations Path Variables and Request Params Exposing/Consuming REST with Spring MVC	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 Spring Testing Module Spring MVC Test Framework - mocking server responses	Project 2 Using Angular to make RESTful calls to a Spring controller JUnit with Spring Testing Web Service Testing	ENVIRONMENT
Week 9 Automation Testing/AWS	Written evaluation Project 2 Interviews Quality Control Audit Spring Data Spring Data Annotations Transactional Transaction Propagation Strategies	Project 2 Intro to Pyramid Testing	Project 2 Test Lab - preparing the documents Testing Documents - Test Plan, Test Strategy, Test Cases, Test Results Mocking DAO layer with Mockito Jenkins	Project 2 AWS Introduction AWS Regions and Availability Zones AWS EC2 SSH Into EC2 Instance AMI EC2 Autoscaling EBS	Project 2 Security Groups Commands: grep (lite), man, yum Unix basics (basic shell scripting)	
Week 10 Project 3 work	Project 3	Project 3	Project 3	Project 3	Project 3 Portfolios due to QC	
Week 11 Project 3 / Panel Interviews	Project 3 Panel Interviews	Project 3	Project 3	Project 3	Project 3	
Week 12 Project showcase / OCA Prep	Project 3	Project 3	Project 3			

PROJECT	TECHNOLOGIES
Project 0	Java, HTTP, SQL
Project 1	Java, HTML/CSS, JavaScript, SQL, Selenium, Cucumber
Project 3	Angular, Spring, REST, CI, AWS
Project 2	Java, REST, HTML, CSS, Postgres, JavaScript, Angular, Spring



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