

Program Structure

Week	MODULES AND TOPICS	DELIVERY MODE	Module consumption duration per Learner (Hours)
SECTION I - FOUNDATIONS OF JAVA			
Foundations of Java Programming			
1	Content Management using Git 1. Creating Git Repos 2. Uploading and Managing the information on git 3. Fork and Repo Management 4. Software Setup Core Java Foundation 1. Language Understanding 2. Importance of Java Java Language Foundation 1. Statements 2. Arrays 3. Strings Classes, Objects & Methods OOPS Properties - Abstraction, Encapsulation, Polymorphism, Inheritance Constructors Interfaces	Video Content	8
	Mentored Learning Session Array of User objects will be created and all the CRUD operations on the Array will be performed	Live	
	Assessments Sprint 1:- Contact Manager will be created by the Learners where they can implement all the concepts discussed	Online	
Foundations of Java Programming			
2	Generics Annotations Exception Handling Collections Framework File IO Concurrency Streams API, Date & Time API	Video Content	8

	Mentored Learning Session On the same Users application exceptions will be added. Arrays will be replaced by collections. Logges will be stored into the files Threading will be implemented to manage different users.	Live	
	Assessments Sprint 2: - The Contact Manager will be extended with features like exception handling, Collections, File Handling and Threading.	Online	
	Databases - MySQL		
3	SQL DDL, DML and DQL Normalization Joins SubQuery Query optimization using Indexes JDBC	Video Content	4
	Mentored Learning Session: - The users application will be extended and now the users information will be stored into the database. As well as all the CRUD will be performed on the users	Live	
	Assessments Sprint 3:- The Contract Manager Application will be using SQL and NoSql databases		
	Hibernate		
4	Introduction to ORM using Hibernate Working with Hibernate using SQL and No SQL	Video Content	4
	Mentored Learning Session:- The users application will be updated and Hibernate will be added in the application	Live	
	Assessments Sprint 4:- The Hibernate will be added on Contract Manager application	Online	
Module End Assessment			
	SECTION II - FRONTEND PROGRAMMING		
	HTML and CSS		
5	HTML 5 and Css 3 1. Semantic elements 2. advance Unites like em and vh vw 3. new elements added like Round Corners 4. working with flex box Advance Features of HTML 5 and CSS 3 1. Paper based Layout	Video Content	4

	2. Hero unit 3. Responsiveness using Bootstrap		
	Mentored Learning Session:- The Profile page and home page of a static web application will be created. The application will be responsive and will use HTML 5 and CSS 3 new features like paper-based layout and em	Live	
	Assessments Sprint 1:- The Git Manager Welcome page will be created	Online	
	JavaScript		
	JavaScript Basics Modern JavaScript (ES6)	Video Content	4
6	Mentored Learning Session:- The Profile Manager application will be extended using Client JavaScript	Live	
	Assessments Sprint 2:- The Git Manager will be extended with features like Response on the button click and display the different information	Online	
	JavaScript		
	JSON and Restful APIs (Async & Await) JavaScript - Fetch AP DOM Manipulation	Video Content	4
7	Mentored Learning Session:- The Profile Manager application now will get the live data from the json file and work with the json server	Live	
	Assessments Sprint 3:- The Git Manager Application will now work on the live data collected from github itself	Online	
	TypeScript Fundamentals & Angular Fundamentals/ React		
	Introduction to TypeScript Understanding Need of SPA Understanding Angular/React as a framework Component Life cycle and basic building blocks of SPA Framework	Video Content	4
8	Mentored Learning Session:- The Profile Manager application will now be converted into an Angular application	Live	
	Assessments Sprint 4:- The Git Manager Application will now be converted into an Angular Application	Online	
	Angular / React		

9	Inter Component Interaction SPA Forms and Form Validation	Video Content	4
	Mentored Learning Session:- Login and Registration form will be created into the Profile Manager application and Client side validation will be done on the forms	Live	
	Assessments Sprint 4:- New users can be added into the Git Manager using Login, Logout and registration features	Online	
	Angular / React		
10	Consuming REST Resources using JSON Data Routers in SPA Securing the SPA using Token based Authentication	Video Content	4
	Mentored Learning Session:- Different Users now can manage there todos as well in the application using Json Files and Json Server	Live	
	Assessments Sprint 5:- Git Manager will work on the apis to show the live data from the github. A user can see its different repos and work on it	Online	
	Module End Assessment		
	SECTION III - PROGRAMMING WITH WEB FRAMEWORKS(BACKEND DEVELOPER)		
	Web Dev Frameworks		
11	Working with Maven Understanding and Creating web services using Traditional Approach Spring Fundamentals and Spring Core	Video Content	4
	Mentored Learning Session:- Backend of profile Manager will be created .	Live	
	Assessments Sprint 6:- Backend of git Managed will be created where the application will get the different resources from backend.	Online	
	Web Dev Frameworks		
12	Spring Boot Application Spring Boot APO	Video Content	4
	Mentored Learning Session:- different apis will be created in Profile Manager application to get the information from the user	Live	

	Assessments Sprint 7:- User CRUD will be performed on GIT Manager using Spring Boot Apis and Collections	Online	
	Web Dev Frameworks		
13	Consuming REST API / Rest Services Interaction Spring Boot MVC	Video Content	4
	Mentored Learning Session:- UI and Backend will be integrated together to create the end to end application	Live	
	Assessments Sprint 8:- UI and Backend of Git Manager will be compiled together	Online	
	Web Dev Frameworks		
14	Spring Boot ORM/JPA Spring Security (JWT ?)	Video Content	4
	Mentored Learning Session:- CURD operations on User Profile and Todos will be done as well as JWT Security will be added in the application	Live	
	Assessments Sprint 9:- CRUD on Users and Git Repos will be done using security in Git Manager application	Online	
	Microservices		
15	Microservices and CQRS Documentation using Swagger	Video Content	4
	Mentored Learning Session:- User Profile code will be refactored in the form of Microservices and swagger document will be created	Live	
	Assessments Sprint 10:- features like chat server will be added in Git Manager application with swagger documentation	Online	
Module End Assessment			
	DevOps		
16	Containerization using Docker, CI using Gitlab	Video Content	4

	Mentored Learning Session:- Application will be dockersied and used CI Cd with Git	Live	
	Assessments Spring 11:- The Git Manager will be dockeised and deployed	Online	
	Cloud foundation		
17	Introduction to Cloud- Azure	Video Content	8
	Mentored Learning Session:- Understanding Cloud -Azure	Live	
	Assessments Spring 12:- The Git Manager will be uploaded on cloud	Online	
	Cloud Deployment		
18	Working with JIRA and Workflow	Video Content	8
	Mentored Learning Session:- Live session with JIRA	Live	
	Assessments Spring 13:- Working with JIRA	Online	
Module End Assessment			
	Capstone Project		
19-20	This can be a group project, where a team works on an application(Agile way) from scratch and submit by the end of the last week	Online	20