Semester	Topics
1	Core Java Fundamentals: Introduction to programming concepts, Java syntax, data types, control flow, Object-Oriented Programming (OOP) principles, Basic data structures (Arrays, Strings).
2	Advanced Java & Databases: Exception handling, collections framework, file I/O, Introduction to relational databases (SQL), JDBC.
3	Web Fundamentals & Servlets: HTML, CSS, JavaScript basics, Introduction to web servers (e.g., Apache Tomcat), Java Servlets and JSP.
4	Backend Frameworks (Spring): Introduction to the Spring Framework, Spring Boot, Building RESTful APIs with Spring MVC.
5	Data Persistence & Security: Spring Data JPA and Hibernate, Spring Security, API security best practices.
6	Frontend Frameworks: Deep dive into a modern JavaScript framework (Angular or React), Building Single-Page Applications (SPAs), Connecting the frontend to the backend.
7	Microservices & Deployment: Introduction to microservices architecture, Building and managing microservices with Spring Cloud, Introduction to containerization with Docker.
8	DevOps & Cloud Basics: CI/CD pipelines (Jenkins), Basic container orchestration with Kubernetes, Deploying Java applications to a cloud platform (AWS or Azure).