

Spring Boot Software Testing

1. Introduction to Spring Boot Testing
 - Overview of Spring Boot Testing.
 - Understanding different types of testing (Unit, Integration, End-to-End).
 - Introduction to JUnit and Mockito.
 - Setting up a new Spring Boot project.
 - Writing basic unit tests for service layer components using JUnit and Mockito.
 - Running tests and interpreting results.
2. Integration Testing with Spring Boot
 - Understanding integration testing in Spring Boot.
 - Setting up integration tests using Spring Boot testing annotations.
 - Writing integration tests for repository layer components.
 - Integration testing for service layer components.
 - Testing RESTful APIs with MockMvc.
 - Running and debugging integration tests.
3. Testing Web Layer with Spring Boot
 - Introduction to testing web controllers in Spring Boot.
 - Writing tests for RESTful controllers using MockMvc.
 - Handling form submissions and testing form controllers.
 - Testing error handling in controllers.
 - Running and debugging web layer tests.
4. Advanced Testing Techniques
 - Introduction to TestNG and its advantages over JUnit.
 - Writing parameterized tests.
 - Exploring test profiles for different environments.
 - Introduction to Testcontainers for testing with real databases.
 - Writing tests with Testcontainers to ensure database interaction.
5. End-to-End Testing and Recap
 - Overview of end-to-end testing with Spring Boot.
 - Setting up Selenium for end-to-end testing.
 - Writing and executing end-to-end tests for a Spring Boot application.
 - Recap of all testing techniques covered throughout the week.
 - Best practices and tips for effective testing in Spring Boot.