

Unit Test Cases Documentation

FN Team: 1 (Student Details)

Sriya Vinaya Koppada

Abhinsha P V

Rajat Nambiar

Test Layers

1. Controller Layer Tests

- Purpose: Validate REST API endpoints, request/response handling, and HTTP status codes.
- Key Test Cases:
 - Successful API responses (200 OK, 201 Created)
 - Error handling (400 Bad Request, 404 Not Found, 403 Forbidden)
 - Request validation (invalid inputs, missing fields)
 - Authentication/Authorization checks (secured endpoints)
 - MockMVC-based tests for endpoint behavior

2. Service Layer Tests

- Purpose: Verify business logic, data processing, and external dependency interactions (mocked).
- Key Test Cases:
 - Business logic correctness (e.g., calculations, transformations)
 - Database interactions (CRUD operations using @MockBean)
 - Edge cases (empty inputs, null checks, exceptions)
 - Third-party service calls (mocked responses)

3. Config Layer Tests

- Purpose: Ensure security and application configurations are applied correctly.
- Key Test Cases:
 - TestSecurityConfig: Security disablement in test profile

Testing Tools Used

- JUnit 5 (Test framework)
- Mockito (Mocking dependencies)
- Spring Boot Test (@WebMvcTest, @DataJpaTest)