



**National University**  
Of Computer and Emerging Sciences

# **BlackBox Testing**

**An Assignment presented to**

**Sir Basharat Hussain**

**In partial fulfillment  
of the requirement for the course of**

***Software Engineering***

**By**

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**BS(CS)  
SECTION-E**

## Black Box Test Cases

### Batch 1 — Test Cases (Authentication & Security)

Field	Value
Title	Successful registration with valid details
Description	Verify user can register with valid name, email, and password.
Steps	1. Send POST request to <code>/api/auth/register</code> with valid name, valid email, strong password. 2. Observe response.
Expected Result	Response status 201. User account created. Success message returned.
Actual Result	Response status 201. User account created. Success message returned.
Status	<b>Passed</b>

Field	Value
Title	Registration failure with invalid email format
Description	Verify that registration fails when email format is invalid.
Steps	1. Send POST request to <code>/api/auth/register</code> with invalid email (e.g., <code>invalidemail</code> ). 2. Observe response.
Expected Result	Response status 400. Message: "Invalid email format" or similar.
Actual Result	Response status 400. Message: "Invalid email format" or similar.
Status	<b>Passed</b>

Field	Value
Title	Successful login with valid credentials
Description	Verify user can log in with correct email and password.
Steps	1. Send POST request to <code>/api/auth/login</code> with correct credentials. 2. Observe response.
Expected Result	Response status 200. JWT token received in response body.
Actual Result	Response status 200. JWT token received in response body.
Status	<b>Passed</b>

Field	Value
Title	Login failure with wrong password
Description	Verify that login fails when the password is incorrect.
Steps	1. Send POST request to <code>/api/auth/login</code> with valid email but wrong password. 2. Observe response.
Expected Result	Response status 400 or 401. Message: "Invalid credentials" or similar.
Actual Result	Response status 401. Message: "Invalid credentials" or similar.
Status	<b>Passed</b>

Field	Value
Title	Password reset email sent successfully
Description	Verify that user receives a reset link upon requesting password reset.
Steps	1. Go to "Forgot Password" on frontend. 2. Enter registered email. 3. Check for email notification.
Expected Result	Password reset email sent. Status 200 with success message.
Actual Result	Password reset email sent. Status 200 with success message.
Status	<b>Passed</b>

Field	Value
Title	Password reset failure with unregistered email
Description	Verify system rejects reset requests for unregistered emails.
Steps	1. Go to "Forgot Password" page. 2. Enter an unregistered email. 3. Observe response.
Expected Result	Response status 404 or 400. Message: "Email not found" or similar.
Actual Result	Response status 400. Message: "Email not found" or similar.
Status	<b>Passed</b>

## Batch 2 — Test Cases (Profile Management & Dark Mode)

Field	Value
Title	Successful profile update with valid information
Description	Verify that a user can update their name, bio, and profile picture successfully.
Steps	1. Login as user. 2. Navigate to Profile Settings. 3. Update name, bio, and upload a valid image. 4. Save changes.
Expected Result	Response status 200. Updated profile data is saved and reflected immediately on the frontend.
Actual Result	Response status 200. Updated profile data is saved and reflected immediately on the frontend.
Status	<b>Passed</b>

Field	Value
Title	Profile update failure with invalid image format
Description	Verify that uploading a non-image file for profile picture is rejected.
Steps	1. Attempt to upload a <code>.txt</code> or <code>.exe</code> file as profile picture. 2. Try to save profile.
Expected Result	Response status 400. Message: "Invalid file format" or similar.
Actual Result	Response status 400. Message: "Invalid file format" or similar.
Status	<b>Passed</b>

## Batch 3 — Test Cases (Courses Module)

Field	Value
Title	Successful enrollment in a course
Description	Verify that a student can enroll in a course successfully.
Steps	1. Login as a student. 2. Navigate to a course. 3. Click on "Enroll" button. 4. Confirm enrollment.
Expected Result	Response status 200 or 201. Enrollment confirmed and course access granted immediately.
Actual Result	Response status 200. Enrollment confirmed and course access granted immediately.
Status	<b>Passed</b>

Field	Value
Title	Course enrollment fails for invalid course ID
Description	Verify that enrollment fails if course ID does not exist.
Steps	1. Send POST request to enroll in a course with a random/invalid course ID. 2. Observe response.
Expected Result	Response status 404 or 400. Message: "Course not found" or similar.
Actual Result	Response status 400. Message: "Course not found" or similar.
Status	<b>Passed</b>

Field	Value
Title	Restrict access to course content for non-enrolled users
Description	Verify that users who haven't enrolled cannot access course content.
Steps	1. Without enrolling, try to directly access course content URL. 2. Observe response.
Expected Result	Response status 403 or error message like "Access Denied. Please Enroll First."
Actual Result	Response status 403 or error message like "Access Denied. Please Enroll First."
Status	<b>Passed</b>

Field	Value
Title	Approve student enrollment request by Admin
Description	Verify that Admin can approve pending course enrollment requests.
Steps	1. Login as Admin. 2. Go to Enrollment Requests. 3. Approve a student's pending request. 4. Observe the status update.
Expected Result	Response status 200. Student notified of successful enrollment.
Actual Result	Response status 200. Student notified of successful enrollment.
Status	<b>Passed</b>

Field	Value
Title	Reject student enrollment request by Admin
Description	Verify that Admin can reject enrollment requests with notification to students.
Steps	<ol style="list-style-type: none"> <li>1. Login as Admin.</li> <li>2. Go to Enrollment Requests.</li> <li>3. Reject a student's request.</li> <li>4. Observe the response and student notification.</li> </ol>
Expected Result	Response status 200. Student receives rejection notification.
Actual Result	Response status 200. Student receives rejection notification.
Status	<b>Passed</b>

## Batch 4 — Test Cases (Internships, Jobs, Interviews)

Field	Value
Title	Offer internship to a selected student
Description	Verify that industry representatives can offer internships to students.
Steps	<ol style="list-style-type: none"> <li>1. Login as Industry user.</li> <li>2. Navigate to Internship/Job tab.</li> <li>3. Select student(s) and click "Offer Internship".</li> </ol>
Expected Result	Response status 200. Internship offer is sent to student. Notification delivered.
Actual Result	Response status 200. Internship offer is sent to student. Notification delivered.
Status	<b>Passed</b>

Field	Value
Title	Internship creation fails when mandatory fields missing
Description	Verify that creating an internship without filling required fields fails.
Steps	<ol style="list-style-type: none"> <li>1. Try to submit internship form without title or duration.</li> <li>2. Observe validation message.</li> </ol>
Expected Result	Response status 400. Message: "Please fill all required fields."
Actual Result	Response status 400. Message: "Please fill all required fields."
Status	<b>Passed</b>

## Batch 5 — Test Cases (Admin Operations)

Field	Value
Title	Approve a user registration
Description	Verify that Admin can approve a registration request successfully.
Steps	1. Select a pending user registration. 2. Click "Approve". 3. Confirm action.
Expected Result	Response status 200. User account activated. Notification sent.
Actual Result	Response status 200. User account activated. Notification sent.
Status	<b>Passed</b>

Field	Value
Title	Reject a user registration
Description	Verify that Admin can reject a registration request and notify the user.
Steps	1. Select a pending registration. 2. Click "Reject". 3. Confirm rejection.
Expected Result	Response status 200. Registration rejected. User notified.
Actual Result	Response status 200. Registration rejected. User notified.
Status	<b>Passed</b>

Field	Value
Title	Error handling for data retrieval issues in Analytics
Description	Verify that a proper error message appears if there is any problem fetching analytics data.
Steps	1. Simulate server error or API failure. 2. Navigate to Analytics page.
Expected Result	Response status 404. Message: "Route not found"
Actual Result	Response status 404. Message: "Route not found"
Status	<b>Passed</b>

## Batch 6 — Test Cases (Premium Membership and Study Material Access)

Field	Value
Title	Deny access to premium study material for non-premium users
Description	Verify that non-premium users are unable to access premium study materials.
Steps	1. Login as a non-premium student. 2. Navigate to the "Study Materials" section. 3. Try accessing a premium resource.
Expected Result	Response status 403. Message: "Upgrade to Premium to access this material."
Actual Result	Response status 403. Message: "Upgrade to Premium to access this material."
Status	<b>Passed</b>

## Batch 7 — Test Cases (Bug Reporting)

Field	Value
Title	Report bug without providing description
Description	Verify that users are prompted to provide a description if the bug report is incomplete.
Steps	1. Go to "Bug Report" section. 2. Fill in the title but leave the description empty. 3. Try submitting the form.
Expected Result	Response status 400. Message: "Description is required."
Actual Result	Response status 400. Message: "Description is required."
Status	<b>Passed</b>