

QA Intern Assignment - User Authentication & Authorization (JWT)

Manual Test Case - User Registration

Test Case ID:TC_REG_01

Title: Verify successful user registration with valid details (valid name, email, password, confirm password).

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1.	Navigate to Registration page	TD_01 (Name: Ashwini K B, Email: kbashwini450@gmail.com, Password: ashukb@1234>, Confirm Password: ashukb@1234>)	UI: Registration form should be displayed with all required fields.
2.	Enter valid Name, Email, Password, Confirm Password		UI: All Fields should be accepted (no validation errors)
3.	Click Register button		UI: Success message should be displayed, user redirected to Login page API/Postman: 201 Created should be returned, JWT token should be generated in response.

Priority: High.

Test Case ID:TC_REG_02

Title: Verify successful user registration with valid details (Name, Email, Password, Confirm Password)

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_02 (anu200@gmail.com)** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1.	Navigate to Registration page	TD_02 (Name: ASHWINI.K.B, Email: anu200@gmail.com, Password: kabsce##\$6734, Confirm Password: kabsce##\$6734)	UI: Registration form should be displayed with all required fields.
2.	Enter valid Name, Email, Password, Confirm Password		UI: All Fields should be accepted (no validation errors)
3.	Click Register button		UI: Success message should be displayed, user redirected to Login page

		API/Postman: 201 Created should be returned, JWT token should be generated in response
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Priority: High.

Test Case ID:TC_REG_03

Title: Verify user registration with uppercase email and minimum length name.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_03 (ANU200@GMAIL.COM)** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_03 (Name: deepu, Email: ANU200@GMAIL.COM, Password: abc123456789, Confirm Password: abc123456789)	UI: Registration form should be displayed with all fields empty and ready for input.
2	Enter valid Name, valid Email in Uppercase, valid Password, Confirm Password		UI: All Fields should be accepting input (no validation errors). Name is exactly 5 characters , meets minimum length. Email should be accepted without validation error
3	Click Register button		UI: Success message should be displayed, user redirected to Login page. API/Postman: 201 Created should be returned; email should be processed according to requirement (converted to lowercase); JWT token should be generated.

Priority: High.

Test Case ID:TC_REG_04

Title: Verify user registration with numeric-only name that meets minimum length requirement.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_04** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_04 (Name: 12345, Email:)	UI: Registration form should be displayed with all required fields.

2	Enter numeric-only Name, valid Email, valid Password and Confirm Password	surajkali23@gmail.com, Password: ABCdef123456, Confirm Password: ABCdef123456)	UI: Name field should be accepted numeric input since only length validation (5–24) is defined. No validation error shown.
3	Click on Register button		UI: Registration successful message should be displayed; user should be redirected to Login page. API: 201 Created and success message should be returned.

Priority: Medium.

Test Case ID:TC_REG_05

Title: Verify user registration fails when using an already registered (duplicate) email.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Email **anu200@gmail.com** already exists in the system.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_05 (Name: ashu@123, Email: anu200@gmail.com, Password: Ashwini@1234, Confirm Password: Ashwini@1234)	UI: Registration form should be displayed with all required fields.
2	Enter valid Name, Existing Email, valid Password and Confirm Password		UI: All fields should be accept input
3	Click on Register button		UI: Error message should be displayed (e.g., “Email already registered”). User stays on Registration page. API: 409 Conflict should be (Duplicate email) returned

Priority: High.

Test Case ID:TC_REG_06

Title: Verify user registration fails when password contains only letters and no numeric characters.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_06** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
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1	Navigate to Registration page	TD_06 (Name: ,,,,,,,..... """, Email: kavyathanu34589007545353wqrرت@gmail.com, Password: OnlyLetters, Confirm Password: OnlyLetters)	UI: Registration form should be displayed with all required fields.
2	Enter Name, valid Email, Password containing only letters, and Confirm Password		UI: Password validation error should be shown indicating password must contain letters and numbers
3	Click on Register button		UI: Registration should be blocked. API: 400 Bad Request should be returned

Priority: High.

Test Case ID:TC_REG_07

Title: Verify user registration fails when email format contains multiple “@” symbols.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_07** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_07 (Name: Anita Singh, Email: user@@gmail.com, Password: StrongPassword12, Confirm Password: StrongPassword12)	UI: Registration form should be displayed with all required fields.
2	Enter valid Name, invalid Email format, valid Password and Confirm Password		UI: Email validation error should be displayed
3	Click on Register button		UI: Registration should be blocked. API: 400 Bad Request should be returned

Priority: High.

Test Case ID:TC_REG_08

Title: Verify user registration fails when Confirm Password does not match Password.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_08** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_08 (Name: SanaKB, Email:	UI: Registration form should be displayed with all required fields.

2	Enter valid Name, Email, Password, and mismatched Confirm Password	user@gmail.com, Password: testpassword12, Confirm Password: StrongPassword12)	UI: Confirm Password validation error should be displayed
3	Click on Register button		UI: Registration should be blocked. API: 400 Bad Request should be returned

Priority: High.

Test Case ID:TC_REG_09

Title: Verify user registration fails when password contains only numeric characters.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_09** is not previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_09 (Name: samirak, Email: ashumk345@gmail.com,	UI: Registration form should be displayed with all required fields.
2	Enter Name, valid Email, numeric-only Password, and Confirm Password	Password: 98765432109, Confirm Password: 98765432109)	UI: Password validation error should be displayed indicating password must contain letters and numbers
3	Click on Register button		UI: Registration should be blocked. API: should return 400 Bad Request

Priority: High.

Test Case ID:TC_REG_010

Title: Verify user registration fails when name length is below the minimum required characters.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_10** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_10 (Name: 12, Email:	UI: Registration form should be displayed with all required fields.
2	Enter Name with less than 5 characters and valid Email, Password, Confirm Password	kiran450@gmail.com, Password: pass12word345, Confirm Password: pass12word345)	UI: Name validation error should be displayed indicating minimum length requirement.
3	Click on Register button		UI: Registration should be blocked.

		API: should return 400 Bad Request
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Priority: High.

Test Case ID:TC_REG_011

Title: Verify user registration behaviour when name is provided in numeric/scientific notation format.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_11** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_11 (Name: 1.23457E+24, Email: sanamk@gmail.com, Password: Pass@1234567, Confirm Password: Pass@1234567)	UI: Registration form should be displayed with all required fields.
2	Enter Name in numeric/scientific notation format and valid Email, Password, Confirm Password.		UI: Name field input should be accepted as length rule is satisfied.
3	Click on Register button		UI: Registration should be successful or rejected based on backend validation rules. API should return 201 Created or 400 Bad Request accordingly

Priority: Medium.

Test Case ID:TC_REG_012

Title: Verify user registration with name containing mixed case letters, numbers, spaces and special characters.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_12** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_10 (Name: AsHu1,ASHU12<:')]@#\$%&*, Email: deepu34@gmail.com ,	UI: Registration form should be displayed with all required fields.
2	Enter Name with mixed characters and valid Email, Password and Confirm Password	Password: TestPassword, Confirm Password: TestPassword)	UI: Name field should accept input since no character restriction is specified

3	Click on Register button		UI: Registration should be successful. API should return 201 Created
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Priority: Medium

Test Case ID:TC_REG_013

Title: Verify user registration fails with invalid email format.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_13** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_13 (Name: 12345, Email: anjanak47@.com, Password: abc123456789, Confirm Password: abc123456789)	UI: Registration form should be displayed with all required fields.
2	Enter Name, invalid Email format, valid Password and Confirm Password		UI: Email validation error should be displayed
3	Click on Register button		UI: Registration should be blocked. API should return 400 Bad Request

Priority: High.

Test Case ID:TC_REG_014

Title: Verify user registration fails when password length is below the minimum required.

Preconditions:

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_14** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page.	TD_14 (Name: ashuk, Email: barsha@gmail.com, Password: loginPass12, Confirm Password: loginPass12)	UI: Registration form should be displayed with all required fields.
2	Enter Name, valid Email, Password with less than 12 characters, and Confirm Password.		UI: Password validation error should be displayed indicating minimum 12 characters are required.
3	Click on Register button.		UI: Registration should be blocked. API should return 400 Bad Request.

Priority: High.

Test Case ID:TC_REG_015**Title:** Verify user registration with very long but valid email address.**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Test data **TD_15** should not be previously registered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Registration page	TD_15 (Name: barsha, Email: very long email, Password: userName123, Confirm Password: userName123)	UI: Registration form should be displayed with all required fields
2	Enter Name, very long valid Email, Password and Confirm Password		UI: Email field should accept input if format is valid
3	Click on Register button		UI: Registration should be successful. API should return 201 Created

Priority: Medium**Manual Test Case – User Login****Test Case ID:TC_REG_016****Title:** Verify login with valid email and password**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- User from Test data **TD_01** is already registered successfully
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		UI: Login page should be displayed with all required fields.
2	Enter invalid Email	TD_01.Email (kbashwini450@gmail.com)	UI: Email field should accept input
3	Enter valid Password	TD_01. Password (ashukb@12345)	UI: Password field should accept input
4	Click Login button		UI: User should be redirected to Dashboard, API should return JWT token.

Priority: High

Test Case ID:TC_REG_017**Title:** Verify login with valid email and invalid password.**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- User from Test data **TD_01** is already registered successfully
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		UI: Login page should be displayed with all required fields.
2	Enter invalid Email	TD_01.Email (kbashwini450@gmail.com)	UI: Email field should accept input
3	Enter valid Password	WrongPass123	UI: Password field should accept input
4	Click Login button		UI: error message should be displayed Wrong password, API should return 401 Unauthorized .

Priority: High**Test Case ID:TC_REG_018****Title:** Verify login with unregistered email**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- User from Test data **TD_10** unregistered.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		UI: Login page should be displayed with all required fields.
2	Enter invalid Email	TD_0.Email (kiran450@gmail.com)	UI: Email field should accept input
3	Enter valid Password	TD_01. Password (pass12word345)	UI: Password field should accept input
4	Click Login button		UI: error message should be displayed invalid Email or password, API should return 401 Unauthorized

Priority: High

Test Case ID:TC_REG_019**Title:** Verify UI validation when Email and Password fields are left empty during login.**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		UI: Login page should be displayed with Email and Password fields
2	Leave Email and Password empty.		UI: Validation error messages should be displayed for required fields
3	Click Login button		UI: Login action should be blocked; API: Login request should not be triggered

Priority: High**Test Case ID:TC_REG_020****Title:** Verify login is blocked when Email field contains invalid special characters**Preconditions:**

- Web application is up and accessible.
- User is not logged in.
- Home page is open.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		UI: Login page should be displayed with Email and Password fields
2	Leave Email and Password empty.	Email: anu@##@gmail.com	UI: Email validation error message should be displayed.
3	Click Login button		UI: Login action should be blocked; API: Login request should not be triggered

Priority: Medium.**Manual Test Case - Dashboard (Protected Page)****Test Case ID:TC_REG_021****Title:** Verify dashboard access for logged-in user with valid JWT**Preconditions:**

- Web application is up and accessible.
- User is successfully logged in using valid credentials
- Valid JWT token is generated and stored
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Login with valid email and password	TD_01.Email (kbashwini450@gmail.com) TD_01.Password (ashukb@1234>*) ¹	API: Should return JWT token; UI: User should be successfully logged in
2	Navigate to Dashboard		UI: Dashboard should be displayed as the user is authenticated with a valid JWT
3	Verify logged-in user details		UI: Logged-in user email and route name should be displayed

Priority: High.

Test Case ID:TC_REG_022

Title: Verify user is redirected to Login page when accessing Dashboard without logging in.

Preconditions:

- Web application is up and accessible.
- User is not registered or not logged in
- No JWT token is present in browser storage
- Backend API and database are running

Steps	Action	Test Data	Expected Result
1	Open Home page		UI: Home page should be displayed
2	Attempt to access Dashboard URL directly	URL: /dashboard	Backend: Should validate JWT token
3	Observe system behaviour		API: Should return 401 Unauthorized; UI: User should be redirected to Login page

Priority: High.

Test Case ID:TC_REG_023

Title: Verify dashboard displays logged-in user email and route name.

Preconditions:

- Web application is up and accessible.
- User is successfully logged in using valid credentials
- Valid JWT token is generated and stored
- Valid JWT token exists.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Dashboard		UI: Dashboard should be displayed
2	Verify displayed user details		UI: Logged-in user email and route name should be displayed correctly

Priority: High.

Test Case ID:TC_REG_024

Title: Verify JWT token is invalid after logout.

Preconditions:

- Web application is up and accessible.
- User is successfully logged in using valid credentials
- Valid JWT token is generated and stored
- Valid JWT token exists.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Login with valid email and password	TD_01.Email (kbashwini450@gmail.com) TD_01.Password (ashukb@1234>*)	API: Should return JWT token; UI: User should be successfully logged in
2	Navigate to Dashboard		UI: Dashboard should be displayed as the user is authenticated with a valid JWT
3	Verify logged-in user details		UI: Logged-in user email and route name should be displayed
4	Logout from application		UI: User should be redirected to Login page
5	UI: User should be redirected to Login page		UI: User should be redirected to Login page

Priority: High.

Manual Test Case - Rate Limiting.

Test Case ID:TC_REG_025

Title: Verify rate limiting after multiple invalid login attempts.

Preconditions:

- Web application is up and accessible.
- Home page is open.
- User is not logged in.
- Same IP address is used.
- Backend API and database are running.

Steps	Action	Test Data	Expected Result
1	Navigate to Login page		Login page should be displayed
2	Enter invalid Email	Email: notregistered@gmail.com	Email field should accept input
3	Enter invalid Password	Password: WrongPass123	Password field should accept input
4	Click Login button		Error message should be displayed: “Invalid credentials”
5	Repeat steps 2–4 ten times	Same invalid credentials	API should return 401 Unauthorized
6	Click Login button for the 11th attempt	Same invalid credentials	API should return 429 Too Many Requests and UI should show rate-limit message

Priority: High.