Epic

Login & User Management

User Story

As a registered user, I should be able to log in to the banking application using User ID, Password, and OTP so that I can view my account information.

Assumptions

User is already registered

OTP is sent to registered mobile number

Login notification email is sent to registered email ID

Successful login redirects to Dashboard/Home page

Test Cases

1. Positive / Happy Path Test Cases

1. Verify user can log in with valid User ID, valid Password, and valid OTP
2. Verify OTP is sent to the registered mobile number
3. Verify login notification email is sent to the registered email ID
4. Verify user is redirected to Dashboard/Home page after successful login
5. Verify dashboard displays correct account information
6. Verify OTP is accepted only once (cannot reuse same OTP)
7. Verify login works across supported browsers/devices

2. User ID Validation Test Cases

Login with blank User ID

Login with invalid User ID

Login with unregistered User ID

Login with User ID having leading/trailing spaces

Verify system trims spaces from User ID (if applicable)

Verify error message for invalid User ID is clear and user-friendly

3. Password Validation Test Cases

Login with blank password

Login with incorrect password

Login with password having case sensitivity issues

Login with password having special characters

Verify masked password field (password not visible)

Verify error message for incorrect password

Verify password copy-paste behavior (allowed or restricted)

4. OTP Validation Test Cases

Verify OTP is generated after valid User ID & Password

Login with blank OTP

Login with incorrect OTP

Login with expired OTP

Login with old OTP

Verify OTP length validation (less/more digits)

Verify OTP numeric/alphanumeric validation

Verify OTP expiry time (e.g., valid for 2–5 minutes)

Verify "Resend OTP" functionality

Verify multiple OTP requests invalidate previous OTPs

Verify OTP delivery delay handling

5. Error Handling & Messages

Verify error message for invalid credentials

Verify error message for invalid OTP

Verify system does not reveal whether User ID or Password is incorrect

Verify error messages are displayed in correct UI location

Verify error messages disappear after correction

6. Security Test Cases

Verify login fails after multiple incorrect password attempts

Verify account is locked after N failed attempts

Verify CAPTCHA appears after repeated failures (if applicable)

Verify OTP is not logged or exposed in UI or logs

Verify session is created only after successful login

Verify logout invalidates session

Verify browser back button does not allow access after logout

Verify SQL injection attempts in User ID/Password fields

Verify XSS attacks are not possible via input fields

7. Email Notification Test Cases

Verify login email is sent after successful login

Verify email contains correct login date, time, and IP/location

Verify email is not sent for failed login attempts

Verify email subject and content are correct

Verify email delivery when mail server is slow/unavailable

8. UI / Usability Test Cases

Verify User ID, Password, OTP fields are clearly labeled

Verify mandatory field indicators (*)

Verify login button enabled only after required fields entered

Verify tab order between fields

Verify accessibility (screen reader, keyboard navigation)

Verify error messages are readable and understandable

9. Performance & Reliability Test Cases

Verify login response time under normal load

Verify login behavior under peak load

Verify OTP generation under high traffic

Verify system behavior when OTP service is down

Verify graceful error handling during server downtime

10. Compatibility Test Cases

Verify login on different browsers (Chrome, Firefox, Edge, Safari)

Verify login on different devices (mobile, tablet, desktop)

Verify login on different OS versions

11. Session & Navigation Test Cases

Verify user session timeout after inactivity

Verify user redirected to login page after session timeout

Verify direct URL access to dashboard without login is blocked

Verify multiple logins from different devices (allowed/restricted)

12. Boundary & Edge Cases

Verify maximum/minimum length for User ID

Verify maximum/minimum length for Password

Verify maximum/minimum OTP length

Verify login during network interruption

Verify behavior when user changes mobile number/email

Epic: Login & User Management

User Story: Login using User ID, Password, and OTP

1. **TC-LOGIN-001**

Test Case ID: TC-LOGIN-001

Title: Successful login with valid credentials and OTP

Summary:

Verify that a registered user can successfully log in using valid User ID, Password, and OTP.

Precondition:

User is registered in the banking application

User ID, Password, Mobile Number, and Email ID are active

Steps to Test:

Launch the banking application

Navigate to Login page

Enter valid User ID

Enter valid Password

Click Login / Continue

Enter valid OTP received on registered mobile

Click Submit

Test Data:

User ID: user123

Password: P@ssword123

OTP: 123456

Postcondition:

User session is created

User is logged into the system

Expected Result:

Login is successful

Notification email is sent to registered email ID

User is redirected to Dashboard/Home page

Actual Result:

To be filled during execution

Test Status:

Not Executed

2. TC-LOGIN-002

Test Case ID: TC-LOGIN-002

Title: Login attempt with invalid User ID

Summary:

Verify that login fails when an invalid User ID is entered.

Precondition:

User is on Login page

Steps to Test:

Launch the application

Enter invalid User ID

Enter valid Password

Click Login

Test Data:

User ID: invalidUser

Password: P@ssword123

Postcondition:

User remains on Login page

Expected Result:

Login fails

Appropriate error message is displayed

Actual Result:

To be filled during execution

Test Status:

Not Executed

3. TC-LOGIN-003

Test Case ID: TC-LOGIN-003

Title: Login attempt with incorrect password

Summary:

Verify system behavior when incorrect password is entered.

Precondition:

Valid User ID exists

Steps to Test:

Enter valid User ID

Enter incorrect Password

Click Login

Test Data:

User ID: user123

Password: WrongPass

Postcondition:

User remains on Login page

Expected Result:

Login fails

Error message displayed without revealing sensitive details

Actual Result:

To be filled during execution

Test Status:

Not Executed

4. TC-LOGIN-004

Test Case ID: TC-LOGIN-004

Title: Login attempt with blank User ID and Password

Summary:

Verify validation messages for blank login fields.

Precondition:

User is on Login page

Steps to Test:

Leave User ID blank

Leave Password blank

Click Login

Test Data:

User ID: Blank

Password: Blank

Postcondition:

User remains on Login page

Expected Result:

Mandatory field validation messages displayed

Actual Result:

To be filled during execution

Test Status:

Not Executed

5. TC-LOGIN-005

Test Case ID: TC-LOGIN-005

Title: OTP generation after valid User ID and Password

Summary:

Verify OTP is generated and sent after entering valid credentials.

Precondition:

Valid User ID and Password

Steps to Test:

Enter valid User ID

Enter valid Password

Click Login

Test Data:

User ID: user123

Password: P@ssword123

Postcondition:

OTP is generated

Expected Result:

OTP is sent to registered mobile number

OTP entry screen is displayed

Actual Result:

To be filled during execution

Test Status:

Not Executed

6. **TC-LOGIN-006**

Test Case ID: TC-LOGIN-006

Title: Login with invalid OTP

Summary:

Verify login fails when incorrect OTP is entered.

Precondition:

OTP screen is displayed

Valid OTP has been generated

Steps to Test:

Enter invalid OTP

Click Submit

Test Data:

OTP: 999999

Postcondition:

User remains on OTP screen

Expected Result:

Login fails

Error message displayed for invalid OTP

Actual Result:

To be filled during execution

Test Status:

Not Executed

7. TC-LOGIN-007

Test Case ID: TC-LOGIN-007

Title: Login attempt with expired OTP

Summary:

Verify system behavior when expired OTP is used.

Precondition:

OTP validity time has expired

Steps to Test:

Wait until OTP expires

Enter expired OTP

Click Submit

Test Data:

OTP: 123456

Postcondition:

User remains on OTP screen

Expected Result:

Login fails

Message displayed: OTP expired

Actual Result:

To be filled during execution

Test Status:

Not Executed

8. TC-LOGIN-008

Test Case ID: TC-LOGIN-008

Title: Resend OTP functionality

Summary:

Verify user can request a new OTP.

Precondition:

OTP screen is displayed

Steps to Test:

Click "Resend OTP"

Check registered mobile

Test Data:

N/A

Postcondition:

New OTP is generated

Expected Result:

New OTP sent to mobile

Old OTP becomes invalid

Actual Result:

To be filled during execution

Test Status:

Not Executed

9. TC-LOGIN-009

Test Case ID: TC-LOGIN-009

Title: Login notification email verification

Summary:

Verify login notification email is sent after successful login.

Precondition:

Successful login

Steps to Test:

Log in successfully

Check registered email inbox

Test Data:

Email ID: user@email.com

Postcondition:

Email delivered

Expected Result:

Login notification email received with correct details

Actual Result:

To be filled during execution

Test Status:

Not Executed

10. TC-LOGIN-010

Test Case ID: TC-LOGIN-010

Title: Unauthorized access to dashboard without login

Summary:

Verify dashboard cannot be accessed without authentication.

Precondition:

User is not logged in

Steps to Test:

Directly enter dashboard URL in browser

Test Data:

N/A

Postcondition:

User redirected to Login page

Expected Result:

Access denied

Login page displayed

Actual Result:

To be filled during execution

Test Status:

Not Executed

Automation candidates: TC-LOGIN-001, 002, 003, 006, 010

OTP GENERATION & VALIDATION

TC-LOGIN-011

Title: OTP generation

Summary: Verify OTP is generated after valid credentials

Expected Result: OTP sent to registered mobile

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-012

Title: Blank OTP

Summary: Verify OTP mandatory validation

Expected Result: Error for blank OTP

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-013

Title: Invalid OTP

Summary: Verify invalid OTP handling

Test Data: 999999

Expected Result: Login fails

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-014

Title: Expired OTP

Summary: Verify expired OTP is rejected

Expected Result: OTP expired message

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-015

Title: OTP reuse

Summary: Verify OTP cannot be reused

Expected Result: OTP rejected

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-016

Title: OTP length validation

Summary: Verify OTP length validation

Test Data: 12345 / 1234567

Expected Result: Error message

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-017

Title: Resend OTP

Summary: Verify resend OTP functionality

Expected Result: New OTP generated, old invalid

Actual Result: TBD

Test Status: Not Executed

EMAIL NOTIFICATION

TC-LOGIN-018

Title: Login notification email sent

Summary: Verify email sent after successful login

Expected Result: Email received

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-019

Title: Email content validation

Summary: Verify login details in email

Expected Result: Correct date, time, IP

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-020

Title: Email not sent on failed login

Summary: Verify no email on failed login

Expected Result: No email received

Actual Result: TBD

Test Status: Not Executed

SECURITY TEST CASES

TC-LOGIN-021

Title: Multiple failed login attempts

Summary: Verify account lock after N failures

Expected Result: Account locked

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-022

Title: SQL injection in User ID

Summary: Prevent SQL injection

Test Data: ' OR 1=1 --

Expected Result: Login blocked

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-023

Title: XSS in input fields

Summary: Prevent script execution

Expected Result: Script not executed

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-024

Title: OTP not visible in logs/UI

Summary: Verify OTP confidentiality

Expected Result: OTP hidden

Actual Result: TBD

Test Status: Not Executed

SESSION MANAGEMENT

TC-LOGIN-025

Title: Session creation after login

Summary: Verify session created only on success

Expected Result: Session active

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-026

Title: Logout functionality

Summary: Verify logout invalidates session

Expected Result: Redirect to login

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-027

Title: Browser back after logout

Summary: Verify secured pages not accessible

Expected Result: Access denied

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-028

Title: Session timeout

Summary: Verify auto logout after inactivity

Expected Result: Session expired

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-029

Title: Direct dashboard access without login

Summary: Verify unauthorized access blocked

Expected Result: Redirect to login

Actual Result: TBD

Test Status: Not Executed

UI & USABILITY

TC-LOGIN-030

Title: Mandatory field indicators

Summary: Verify * displayed

Expected Result: Fields marked mandatory

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-031

Title: Login button enable/disable

Summary: Verify button enabled only after input

Expected Result: Correct behavior

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-032

Title: Error message placement

Summary: Verify error message location

Expected Result: Message near field

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-033

Title: Keyboard navigation

Summary: Verify tab order

Expected Result: Correct navigation

Actual Result: TBD

Test Status: Not Executed

PERFORMANCE & RELIABILITY

TC-LOGIN-034

Title: Login response time

Summary: Verify login within SLA

Expected Result: Response < defined SLA

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-035

Title: OTP delivery delay

Summary: Verify delayed OTP handling

Expected Result: Informative message

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-036

Title: OTP service downtime

Summary: Verify graceful failure

Expected Result: Proper error message

Actual Result: TBD

Test Status: Not Executed

COMPATIBILITY

TC-LOGIN-037

Title: Cross-browser login

Summary: Verify login on all supported browsers

Expected Result: Works correctly

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-038

Title: Mobile device login

Summary: Verify login on mobile

Expected Result: Successful login

Actual Result: TBD

Test Status: Not Executed

EDGE & BOUNDARY CASES

TC-LOGIN-039

Title: Max length User ID

Summary: Verify max length validation

Expected Result: Proper validation

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-040

Title: Min length password

Summary: Verify min length enforcement

Expected Result: Error message

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-041

Title: Network interruption during login

Summary: Verify system behavior

Expected Result: Graceful error

Actual Result: TBD

Test Status: Not Executed

TC-LOGIN-042

Title: Multiple device login

Summary: Verify concurrent login rules

Expected Result: As per business rules

Actual Result: TBD

Test Status: Not Executed