

## Test Plan for Web UI Automation: User Login and Signup (Student/Teacher)

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### Objective

To ensure that the login and signup functionalities for students and teachers work correctly, validating user credentials, roles, and unique attributes (username and email).

### Scope

- Testing login with valid and invalid credentials.
- Testing signup with valid and invalid details.
- Verifying role-based login (Student/Teacher) determined by backend.
- Ensuring proper error messages are displayed for invalid login/signup attempts.

### Test Cases

#### Test Case 1: Successful Login with Valid Student Credentials

**TC ID:** TC001

**TC Name:** Successful Login with Valid Student Credentials

**Precondition:** A student account exists with valid credentials.

#### Input Data:

- Username: valid\_student\_username
- Password: valid\_student\_password

#### Steps:

1. Navigate to the login page.
2. Enter the valid student username.
3. Enter the corresponding valid password.
4. Click the "Login" button.

**Post Condition:** User is logged in as a student.

**Expected Outcome:** User is successfully logged in and redirected to the student dashboard.

## **Test Case 2: Successful Login with Valid Teacher Credentials**

**TC ID:** TC002

**TC Name:** Successful Login with Valid Teacher Credentials

**Precondition:** A teacher account exists with valid credentials.

### **Input Data:**

- Username: valid\_teacher\_username
- Password: valid\_teacher\_password

### **Steps:**

1. Navigate to the login page.
2. Enter the valid teacher username.
3. Enter the corresponding valid password.
4. Click the "Login" button.

**Post Condition:** User is logged in as a teacher.

**Expected Outcome:** User is successfully logged in and redirected to the teacher dashboard.

## **Test Case 3: Login with Invalid Username**

**TC ID:** TC003

**TC Name:** Login with Invalid Username

**Precondition:** An account with the entered username does not exist.

### **Input Data:**

- Username: invalid\_username
- Password: any\_password

### **Steps:**

1. Navigate to the login page.
2. Enter the invalid username.
3. Enter any password.
4. Click the "Login" button.

**Post Condition:** User is not logged in.

**Expected Outcome:** An error message "Invalid username or password" is displayed.

#### **Test Case 4: Login with Invalid Password**

**TC ID:** TC004

**TC Name:** Login with Invalid Password

**Precondition:** An account with the entered username exists.

**Input Data:**

- Username: valid\_username
- Password: invalid\_password

**Steps:**

1. Navigate to the login page.
2. Enter the valid username.
3. Enter the invalid password.
4. Click the "Login" button.

**Post Condition:** User is not logged in.

**Expected Outcome:** An error message "Invalid username or password" is displayed.

#### **Test Case 5: Login with Empty Username**

**TC ID:** TC005

**TC Name:** Login with Empty Username

**Precondition:** None.

**Input Data:**

- Username: (empty)
- Password: any\_password

**Steps:**

1. Navigate to the login page.
2. Leave the username field empty.
3. Enter any password.
4. Click the "Login" button.

**Post Condition:** User is not logged in.

**Expected Outcome:** An error message "Username is required" is displayed.

### **Test Case 6: Login with Empty Password**

**TC ID:** TC006

**TC Name:** Login with Empty Password

**Precondition:** None.

**Input Data:**

- Username: any\_username
- Password: (empty)

**Steps:**

1. Navigate to the login page.
2. Enter any username.
3. Leave the password field empty.
4. Click the "Login" button.

**Post Condition:** User is not logged in.

**Expected Outcome:** An error message "Password is required" is displayed.

### **Test Case 7: Login with Empty Username and Password**

**TC ID:** TC007

**TC Name:** Login with Empty Username and Password

**Precondition:** None.

**Input Data:**

- Username: (empty)
- Password: (empty)

**Steps:**

1. Navigate to the login page.
2. Leave both username and password fields empty.
3. Click the "Login" button.

**Post Condition:** User is not logged in.

**Expected Outcome:** Error messages "Username is required" and "Password is required" are displayed.

## **Test Case 8: Successful Signup with Unique Username and Email**

**TC ID:** TC008

**TC Name:** Successful Signup with Unique Username and Email

**Precondition:** The username and email do not exist in the system.

**Input Data:**

- First Name: valid\_first\_name
- Last Name: valid\_last\_name
- Username: unique\_username
- Email: unique\_email
- Password: valid\_password
- Confirm Password: valid\_password

**Steps:**

4. Navigate to the signup page.
1. Enter the first name.
2. Enter the last name.
3. Enter the unique username.

4. Enter the unique email.
5. Enter the valid password.
6. Enter the valid confirm password.
7. Click the "Signup" button.

**Post Condition:** User account is created, and user is logged in.

**Expected Outcome:** User is successfully signed up and redirected to the appropriate dashboard (student or teacher).

### Test Case 9: Signup with Existing Username

**TC ID:** TC009

**TC Name:** Signup with Existing Username

**Precondition:** The username already exists in the system.

**Input Data:**

- First Name: valid\_first\_name
- Last Name: valid\_last\_name
- Username: existing\_username
- Email: unique\_email
- Password: valid\_password
- Confirm Password: valid\_password

**Steps:**

1. Navigate to the signup page.
2. Enter the first name.
3. Enter the last name.
4. Enter the existing username.
5. Enter the unique email.
6. Enter the valid password.
7. Click the "Signup" button.
8. Enter the valid confirm password.

**Post Condition:** User account is not created.

**Expected Outcome:** An error message "Username already exists" is displayed.

## **Test Case 10: Signup with Existing Email**

**TC ID:** TC010

**TC Name:** Signup with Existing Email

**Precondition:** The email already exists in the system.

### **Input Data:**

- First Name: valid\_first\_name
- Last Name: valid\_last\_name
- Username: unique\_username
- Email: existing\_email
- Password: valid\_password
- Confirm Password: valid\_password

### **Steps:**

1. Navigate to the signup page.
2. Enter the first name.
3. Enter the last name.
4. Enter the unique username.
5. Enter the existing email.
6. Enter the valid password.
7. Enter the valid confirm password.
8. Click the "Signup" button.

**Post Condition:** User account is not created.

**Expected Outcome:** An error message "Email already exists" is displayed.