Steps for Setup:

- **Module-1: Setup and Launch Eclipse IDE**

1) First, download the latest **Eclipse IDE (Java Version)**.

2) Download the latest **selenium-server-standalone.jar** file from *https://www.selenium.dev/downloads/*.

3) Open **Eclipse IDE** → Create a **Java Project** → Right-click Project → **Properties** → **Java Build Path** → **Libraries** → **Add External JARs** → select selenium-server-standalone.jar → **Apply and Close**.

- **Module-2: Create Selenium Project and Launch Website**

1) Create a **Java Class file** (e.g., LoginSystemTest.java) inside your project.

2) Write Java Selenium WebDriver code to launch **Simple Login System** in Chrome browser.

3) Right-click the Java program → **Run As** → **Java Application**.

4) After execution, Chrome browser opens automatically and navigates to Sign-Up page.

5) You will see the message: *"Chrome is being controlled by automated test software"*.

6) This confirms that Sign-Up page has opened successfully using Selenium WebDriver and Java code.

Code(Java):

```java
package LoginSystemTest;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;


public class LoginSTest {

    public static void main(String[] args) throws InterruptedException {
        try {
            // ===== Variables for Demo Credentials =====
            String baseURL = "https://IrfanPatelIG.github.io/Simple-Auth-System/";
            String demoName = "Irfan Patel";
            String demoEmail = "irfanpatel@email.com";
            String demoPassword = "irfanUser@233";


            // ===== Setup =====
            WebDriver driver = new ChromeDriver();
//          driver.manage().window().maximize();
            driver.manage().timeouts().implicitlyWait(java.time.Duration.ofSeconds(5));


            // ===== TC01: Launch Web Application =====
            driver.get(baseURL);
            System.out.println("TC01 - Browser launched and redirected to: " + baseURL + " ✓");


            if (driver.getTitle().equalsIgnoreCase("Log in") &&
driver.findElement(By.id("loginEmail")).isDisplayed()) {

                System.out.println("Login page opened successfully ✓");
            } else {
```

```java
        System.out.println("Login page not loaded ✗");
}


// ===== TC02: Navigate to Sign-Up Page =====
WebElement signupLink = driver.findElement(By.id("signupAnchor"));
signupLink.click();
Thread.sleep(200);

if (driver.getTitle().equalsIgnoreCase("Sign up")) {
    System.out.println("TC02 - Navigated to Sign-Up page ✓");
} else {
    System.out.println("TC02 - Failed to open Sign-Up page ✗");
}


// ===== TC03: Empty Field Validation =====
WebElement signupButton = driver.findElement(By.id("signupBtn"));
signupButton.click();
Thread.sleep(200);
try {
    WebElement alertBtn = driver.findElement(By.cssSelector(".swal-button"));
    alertBtn.click();
} catch (Exception e) {
    System.out.println("No alert displayed for empty fields ✗");
}
System.out.println("TC03 - Empty field validation tested ✓");


// ===== TC04: Invalid Email Validation =====
driver.findElement(By.id("signupName")).sendKeys("Not Name");
driver.findElement(By.id("signupEmail")).sendKeys("invalidemail");
driver.findElement(By.id("signupPassword")).sendKeys(demoPassword);
signupButton.click();
Thread.sleep(200);
```

```java
    try {
        WebElement alertBtn = driver.findElement(By.cssSelector(".swal-button"));
        alertBtn.click();
    } catch (Exception e) {
        System.out.println("No alert displayed for invalid email ✘");
    }
    System.out.println("TC04 - Invalid email validation tested ✓");


    // ===== TC05: Successful Sign-Up =====
    driver.findElement(By.id("signupName")).clear();
    driver.findElement(By.id("signupEmail")).clear();
    driver.findElement(By.id("signupPassword")).clear();
    driver.findElement(By.id("signupName")).sendKeys(demoName);
    driver.findElement(By.id("signupEmail")).sendKeys(demoEmail);
    driver.findElement(By.id("signupPassword")).sendKeys(demoPassword);
    signupButton.click();
    Thread.sleep(200);
    try {
        WebElement alertBtn = driver.findElement(By.cssSelector(".swal-button"));
        alertBtn.click();
    } catch (Exception e) {
        System.out.println("No confirmation alert shown for Successful Sign-Up ✘");
    }

//      WebElement loginLink = driver.findElement(By.id("loginAnchor"));
//      loginLink.click();
//      Thread.sleep(200);
    System.out.println("TC05 - Successful Sign-Up completed ✓ (Redirected to Login page)");


    // ===== TC06: Invalid Credentials Sign-In =====
    WebElement loginEmail = driver.findElement(By.id("loginEmail"));
    WebElement loginPassword = driver.findElement(By.id("loginPassword"));
```

```java
WebElement loginButton = driver.findElement(By.id("loginBtn"));

Thread.sleep(200);

loginEmail.sendKeys("noemailname99@invalid.com");

loginPassword.sendKeys("3$ry4Fg");

loginButton.click();

Thread.sleep(200);

try {

    WebElement alertBtn = driver.findElement(By.cssSelector(".swal-button"));

    alertBtn.click();

    System.out.println("TC06 - Invalid credentials tested (alert shown) �🗸");

} catch (Exception e) {

    System.out.println("No alert for invalid login ✗");

}


// ===== TC07: Successful Sign-In =====

loginEmail.clear();

loginPassword.clear();

loginEmail.sendKeys(demoEmail);

loginPassword.sendKeys(demoPassword);

loginButton.click();

Thread.sleep(200);

try {

    WebElement alertBtn = driver.findElement(By.cssSelector(".swal-button"));

    alertBtn.click();

} catch (Exception e) {

    // Ignore if no alert appears

}

System.out.println("TC07 - Successful Sign-In ✓");


// ===== TC08: Logout Functionality =====

WebElement logoutButton = driver.findElement(By.id("logOutBtn"));

logoutButton.click();
```

```java
            Thread.sleep(200);

            System.out.println("TC08 - Logout functionality tested ✓");


            // ===== TC09: Re-Login after Logout =====
            driver.navigate().to(baseURL);
            loginEmail = driver.findElement(By.id("loginEmail"));
            loginPassword = driver.findElement(By.id("loginPassword"));
            loginEmail.sendKeys(demoEmail);
            loginPassword.sendKeys(demoPassword);
            loginButton = driver.findElement(By.id("loginBtn"));
            loginButton.click();
            Thread.sleep(200);
            System.out.println("TC09 - Re-Login after Logout successful ✓");


            // ===== TC10: Logout after Re-Login =====
            logoutButton = driver.findElement(By.id("logOutBtn"));
            logoutButton.click();
            Thread.sleep(200);
            if (driver.getTitle().equalsIgnoreCase("Log in")) {

                System.out.println("TC10 - Logout after Re-Login successful ✓");

            } else {

                System.out.println("TC10 - Logout after Re-Login failed ✖");

            }


            // ===== Finish =====
            driver.quit();
            System.out.println("\n✔ All Test Cases Executed Successfully!");


        } catch (Exception e) {

            System.out.println("\n✖ Test Execution Failed!");

            e.printStackTrace();

        }
```

```
    }
}
```