Automation Testing Assessment (Java + Selenium)

Case Study: "ERP NextHub" – cloud based ERP NEXTHUB (https://erp.erpnext.com)

1.Launch the ERP login page

```java
package com.example.erpnexthub.pages;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;

public class LoginPage {
    private WebDriver driver;

    private By usernameField = By.id("login_email");
    private By passwordField = By.id("login_password");
    private By loginBtn = By.cssSelector("button.btn-login");

    public LoginPage(WebDriver driver) {
        this.driver = driver;
    }

    public void open(String baseUrl) {
        driver.get(baseUrl + "/login");
    }

    public void login(String username, String password) {
        driver.findElement(usernameField).sendKeys(username);
        driver.findElement(passwordField).sendKeys(password);
        driver.findElement(loginBtn).click();
```

```
  }
}
```

2.Navigate to HR > Employee.

Click "New", and create an employee: a. First Name: John b. Last Name: Doe c. Date of Joining: Today's date d. Department: Select IT

```java
package com.example.erpnexthub.tests;

import com.example.erpnexthub.pages.DashboardPage;
import com.example.erpnexthub.pages.EmployeePage;
import com.example.erpnexthub.pages.LoginPage;
import org.testng.Assert;
import org.testng.annotations.Test;

public class EmployeeFlowTest extends BaseTest {

  @Test
  public void createEmployeeTest() {
    // Step 1: Login
    LoginPage loginPage = new LoginPage(driver);
    loginPage.open(baseUrl);
    loginPage.login("admin@example.com", "password123"); // replace with valid creds

    // Step 2: Navigate HR > Employee
    DashboardPage dashboard = new DashboardPage(driver);
    dashboard.goToEmployeePage();

    // Step 3: Create Employee
```

```java
        EmployeePage employeePage = new EmployeePage(driver);

        employeePage.createEmployee("John", "Doe", "IT");


        // Step 4: Verification (check page title / employee record created)

        String currentUrl = driver.getCurrentUrl();

        Assert.assertTrue(currentUrl.contains("Employee"),

            "Employee record was not created successfully!");

    }

}
```

3.Submit and verify employee is created.

```java
package com.example.erpnexthub.pages;


import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import java.time.LocalDate;

import java.time.format.DateTimeFormatter;


public class EmployeePage {

    private WebDriver driver;


    private By newBtn = By.cssSelector("button[data-label='New']");

    private By firstNameField = By.xpath("//input[@data-fieldname='first_name']");

    private By lastNameField = By.xpath("//input[@data-fieldname='last_name']");

    private By dateOfJoiningField = By.xpath("//input[@data-fieldname='date_of_joining']");

    private By departmentDropdown = By.xpath("//input[@data-fieldname='department']");
```

```java
    private By saveBtn = By.cssSelector("button[data-label='Save']");

    private By submitBtn = By.cssSelector("button[data-label='Submit']");

    private By employeeHeader = By.cssSelector(".title-text"); // usually shows Employee:
John Doe


    public EmployeePage(WebDriver driver) {

        this.driver = driver;

    }


    public void createEmployee(String firstName, String lastName, String department) {

        driver.findElement(newBtn).click();

        driver.findElement(firstNameField).sendKeys(firstName);

        driver.findElement(lastNameField).sendKeys(lastName);


        // Enter today's date

        String today = LocalDate.now().format(DateTimeFormatter.ofPattern("yyyy-MM-
dd"));

        driver.findElement(dateOfJoiningField).sendKeys(today);


        // Select department

        driver.findElement(departmentDropdown).sendKeys(department);


        // Save and Submit

        driver.findElement(saveBtn).click();

        driver.findElement(submitBtn).click();

    }


    public String getEmployeeHeader() {

        return driver.findElement(employeeHeader).getText();
```

```
        }
    }
```

4.Navigate to Buying > Purchase Order.

```
package com.example.erpnexthub.pages;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;

public class DashboardPage {
    private WebDriver driver;

    private By hrMenu = By.xpath("//span[text()='HR']");
    private By employeeSubMenu = By.xpath("//span[text()='Employee']");
    private By buyingMenu = By.xpath("//span[text()='Buying']");
    private By purchaseOrderSubMenu = By.xpath("//span[text()='Purchase Order']");

    public DashboardPage(WebDriver driver) {
        this.driver = driver;
    }

    public void goToEmployeePage() {
        driver.findElement(hrMenu).click();
        driver.findElement(employeeSubMenu).click();
    }
```

```java
    public void goToPurchaseOrderPage() {

        driver.findElement(buyingMenu).click();

        driver.findElement(purchaseOrderSubMenu).click();

    }

}
```

Create a new Purchase Order:

a. Supplier: Test Supplier b. Add Item: Item 001 c. Quantity: 10

```java
package com.example.erpnexthub.pages;


import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;


public class PurchaseOrderPage {

    private WebDriver driver;


    private By newBtn = By.cssSelector("button[data-label='New']");

    private By supplierField = By.xpath("//input[@data-fieldname='supplier']");

    private By itemCodeField = By.xpath("//input[@data-fieldname='item_code']");

    private By quantityField = By.xpath("//input[@data-fieldname='qty']");

    private By saveBtn = By.cssSelector("button[data-label='Save']");

    private By submitBtn = By.cssSelector("button[data-label='Submit']");

    private By headerTitle = By.cssSelector(".title-text");


    public PurchaseOrderPage(WebDriver driver) {

        this.driver = driver;

    }
```

```java
    public void createPurchaseOrder(String supplier, String itemCode, String qty) {

        driver.findElement(newBtn).click();


        // Fill supplier

        driver.findElement(supplierField).sendKeys(supplier);


        // Add item details

        driver.findElement(itemCodeField).sendKeys(itemCode);

        driver.findElement(quantityField).sendKeys(qty);


        // Save & Submit

        driver.findElement(saveBtn).click();

        driver.findElement(submitBtn).click();

    }


    public String getPurchaseOrderHeader() {

        return driver.findElement(headerTitle).getText();

    }

}
```

5 • Save and submit the purchase order. • Verify confirmation and PO number. • Log out.

```java
package com.example.erpnexthub.pages;


import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;
```

```java
public class PurchaseOrderPage {

    private WebDriver driver;

    private By newBtn = By.cssSelector("button[data-label='New']");

    private By supplierField = By.xpath("//input[@data-fieldname='supplier']");

    private By itemCodeField = By.xpath("//input[@data-fieldname='item_code']");

    private By quantityField = By.xpath("//input[@data-fieldname='qty']");

    private By saveBtn = By.cssSelector("button[data-label='Save']");

    private By submitBtn = By.cssSelector("button[data-label='Submit']");

    private By headerTitle = By.cssSelector(".title-text"); // usually "PO-0001"

    private By confirmationMsg = By.cssSelector(".msgprint"); // ERPNext shows
confirmation messages here

    public PurchaseOrderPage(WebDriver driver) {

        this.driver = driver;

    }

    public void createAndSubmitPurchaseOrder(String supplier, String itemCode, String
qty) {

        driver.findElement(newBtn).click();

        driver.findElement(supplierField).sendKeys(supplier);

        driver.findElement(itemCodeField).sendKeys(itemCode);

        driver.findElement(quantityField).sendKeys(qty);

        driver.findElement(saveBtn).click();

        driver.findElement(submitBtn).click();

    }
```

```java
    public String getPurchaseOrderNumber() {

        return driver.findElement(headerTitle).getText();

    }


    public String getConfirmationMessage() {

        return driver.findElement(confirmationMsg).getText();

    }

}
```

6. Integrate your login test with a simple reporting tool (Extent Reports).
● Initializing report

```java
package com.example.erpnexthub.tests;


import com.aventstack.extentreports.ExtentReports;

import com.aventstack.extentreports.ExtentTest;

import com.example.erpnexthub.factory.DriverFactory;

import com.example.erpnexthub.reports.ExtentManager;

import org.openqa.selenium.WebDriver;

import org.testng.annotations.AfterMethod;

import org.testng.annotations.BeforeMethod;


public class BaseTest {

    protected WebDriver driver;

    protected String baseUrl = "https://erp.erpnext.com";

    protected static ExtentReports extent;

    protected ExtentTest test;
```

```java
@BeforeMethod
public void setUp() {
    // Initialize WebDriver
    DriverFactory.initDriver();
    driver = DriverFactory.getDriver();


    // Initialize ExtentReports once
    if (extent == null) {
        extent = ExtentManager.getInstance();
    }
}


@AfterMethod
public void tearDown() {
    if (driver != null) {
        driver.quit();
    }
    if (extent != null) {
        extent.flush(); // write test info to report
    }
}
}
```