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| **Capstone Project** | **Student Name: Vijina P** |
| **Human Resource Management Domain Project** | |

**Project Structure**

**OrangeHRMTest/**

**├── data/**

**│ └── TestData.xlsx**

**├── reports/**

**│ └── ExtentReport.html**

**├── screenshots/**

**├── src/**

**│ └── test/**

**│ └── java/**

**│ └── com/orangehrm/**

**│ ├── BaseTest.java**

**│ ├── ExcelReader.java**

**│ ├── LoginTest.java**

**│ └── ExtentManager.java**

**pom.xml**

**Excel Sheet which stores 5 input data combinations**

| Username | Password |

|----------|-----------|

| Admin | admin123 |

| admin | admin123 |

| Admin | wrongpass |

| test | test123 |

| | |

**Maven Dependencies File (pom.xml)**

<project>

<modelVersion>4.0.0</modelVersion>

<groupId>com.orangehrm</groupId>

<artifactId>OrangeHRMTest</artifactId>

<version>1.0</version>

<dependencies>

<dependency>

<groupId>org.seleniumhq.selenium</groupId>

<artifactId>selenium-java</artifactId>

<version>4.15.0</version>

</dependency>

<dependency>

<groupId>org.apache.poi</groupId>

<artifactId>poi-ooxml</artifactId>

<version>5.2.3</version>

</dependency>

<dependency>

<groupId>com.aventstack</groupId>

<artifactId>extentreports</artifactId>

<version>5.0.9</version>

</dependency>

<dependency>

<groupId>org.testng</groupId>

<artifactId>testng</artifactId>

<version>7.8.0</version>

<scope>test</scope>

</dependency>

</dependencies>

</project>

**ExcelReader.java**

package com.orangehrm;

import org.apache.poi.ss.usermodel.\*;

import org.apache.poi.xssf.usermodel.XSSFWorkbook;

import java.io.FileInputStream;

import java.util.ArrayList;

import java.util.Iterator;

import java.util.List;

public class ExcelReader {

public static List<String[]> getData(String filePath) {

List<String[]> data = new ArrayList<>();

try (FileInputStream fis = new FileInputStream(filePath);

Workbook workbook = new XSSFWorkbook(fis)) {

Sheet sheet = workbook.getSheetAt(0);

Iterator<Row> rows = sheet.iterator();

rows.next(); // Skip header

while (rows.hasNext()) {

Row row = rows.next();

String username = row.getCell(0) != null ? row.getCell(0).toString() : "";

String password = row.getCell(1) != null ? row.getCell(1).toString() : "";

data.add(new String[]{username, password});

}

} catch (Exception e) {

e.printStackTrace();

}

return data;

}

}

**BaseTest.java**

package com.orangehrm;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import java.time.Duration;

public class BaseTest {

protected WebDriver driver;

public void setup() {

driver = new ChromeDriver();

driver.manage().timeouts().implicitlyWait(Duration.ofSeconds(10));

driver.manage().window().maximize();

}

public void tearDown() {

if (driver != null) {

driver.quit();

}

}

}

**ExtentManager.java**

package com.orangehrm;

import com.aventstack.extentreports.\*;

import com.aventstack.extentreports.reporter.ExtentSparkReporter;

public class ExtentManager {

private static final ExtentReports extent = new ExtentReports();

static {

ExtentSparkReporter spark = new ExtentSparkReporter("reports/ExtentReport.html");

extent.attachReporter(spark);

}

public static ExtentReports getReporter() {

return extent;

}

}

**LoginTest.java**

package com.orangehrm;

import com.aventstack.extentreports.\*;

import org.openqa.selenium.\*;

import org.openqa.selenium.io.FileHandler;

import org.testng.annotations.\*;

import java.io.File;

import java.text.SimpleDateFormat;

import java.util.Date;

import java.util.List;

public class LoginTest extends BaseTest {

ExtentReports extent = ExtentManager.getReporter();

@DataProvider

public Object[][] loginData() {

List<String[]> data = ExcelReader.getData("data/TestData.xlsx");

Object[][] result = new Object[data.size()][2];

for (int i = 0; i < data.size(); i++) {

result[i] = data.get(i);

}

return result;

}

@Test(dataProvider = "loginData")

public void testLogin(String username, String password) {

ExtentTest test = extent.createTest("Login Test - " + username);

setup();

try {

driver.get("https://opensource-demo.orangehrmlive.com/");

test.info("Navigated to OrangeHRM");

driver.findElement(By.name("username")).sendKeys(username);

driver.findElement(By.name("password")).sendKeys(password);

driver.findElement(By.cssSelector("button[type='submit']")).click();

Thread.sleep(3000); // For UI response

takeScreenshot(username + "\_" + getTimestamp());

if (username.equals("Admin") && password.equals("admin123")) {

boolean dashboardExists = driver.findElements(By.xpath("//h6[text()='Dashboard']")).size() > 0;

assert dashboardExists : "Login failed for valid user";

test.pass("Valid credentials passed");

driver.findElement(By.xpath("//p[@class='oxd-userdropdown-name']")).click();

driver.findElement(By.linkText("Logout")).click();

test.info("Logged out successfully");

} else {

boolean errorVisible = driver.findElements(By.className("oxd-alert-content-text")).size() > 0;

assert errorVisible : "Login should fail for invalid credentials";

test.pass("Invalid credentials rejected as expected");

}

} catch (Exception e) {

test.fail("Test failed due to exception: " + e.getMessage());

} finally {

tearDown();

}

}

@AfterSuite

public void generateReport() {

extent.flush();

}

public void takeScreenshot(String name) {

try {

File src = ((TakesScreenshot) driver).getScreenshotAs(OutputType.FILE);

String path = "screenshots/" + name + ".png";

FileHandler.copy(src, new File(path));

} catch (Exception e) {

e.printStackTrace();

}

}

public String getTimestamp() {

return new SimpleDateFormat("yyyyMMddHHmmss").format(new Date());

}

}