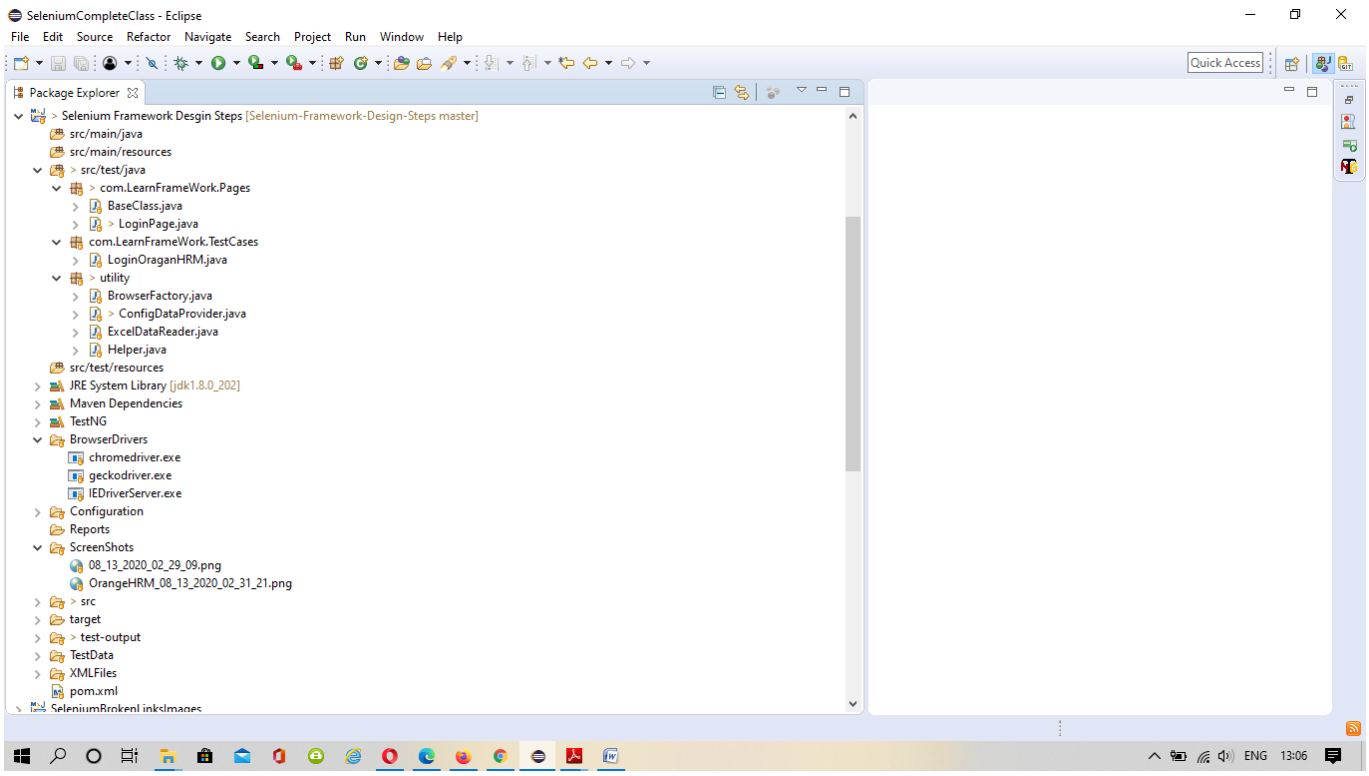
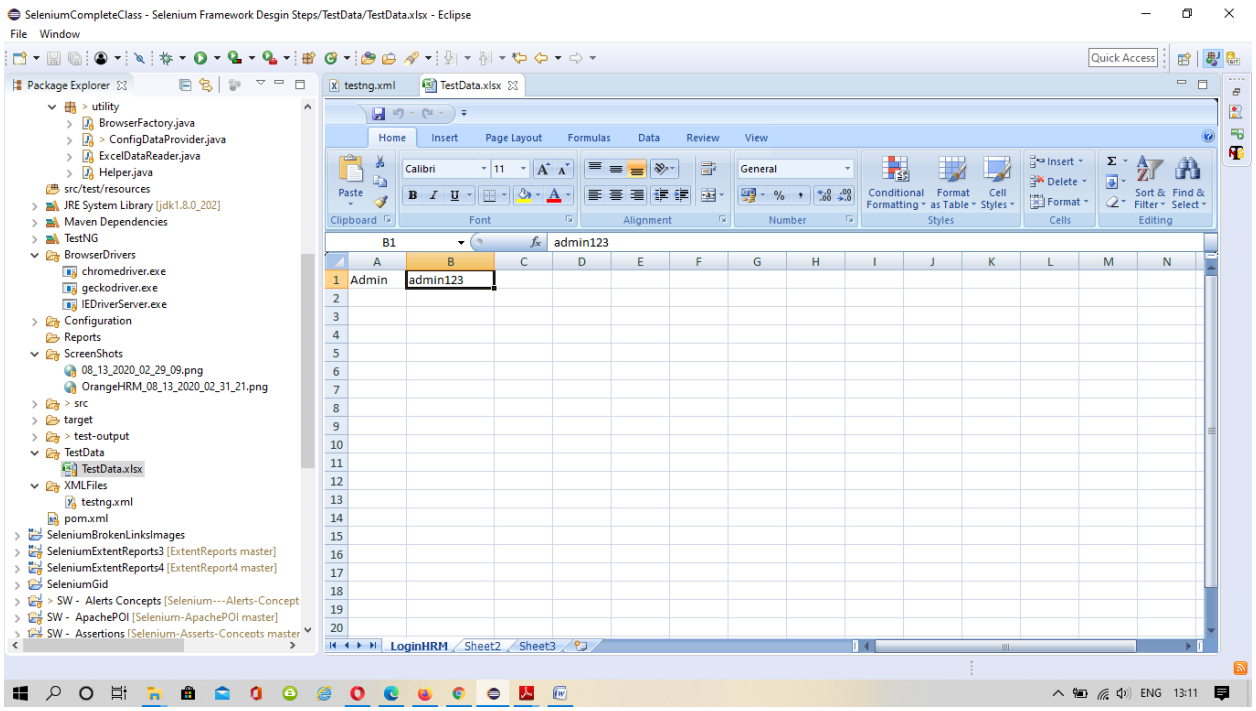
Data Driven and Keyword Driven Framework Design Steps

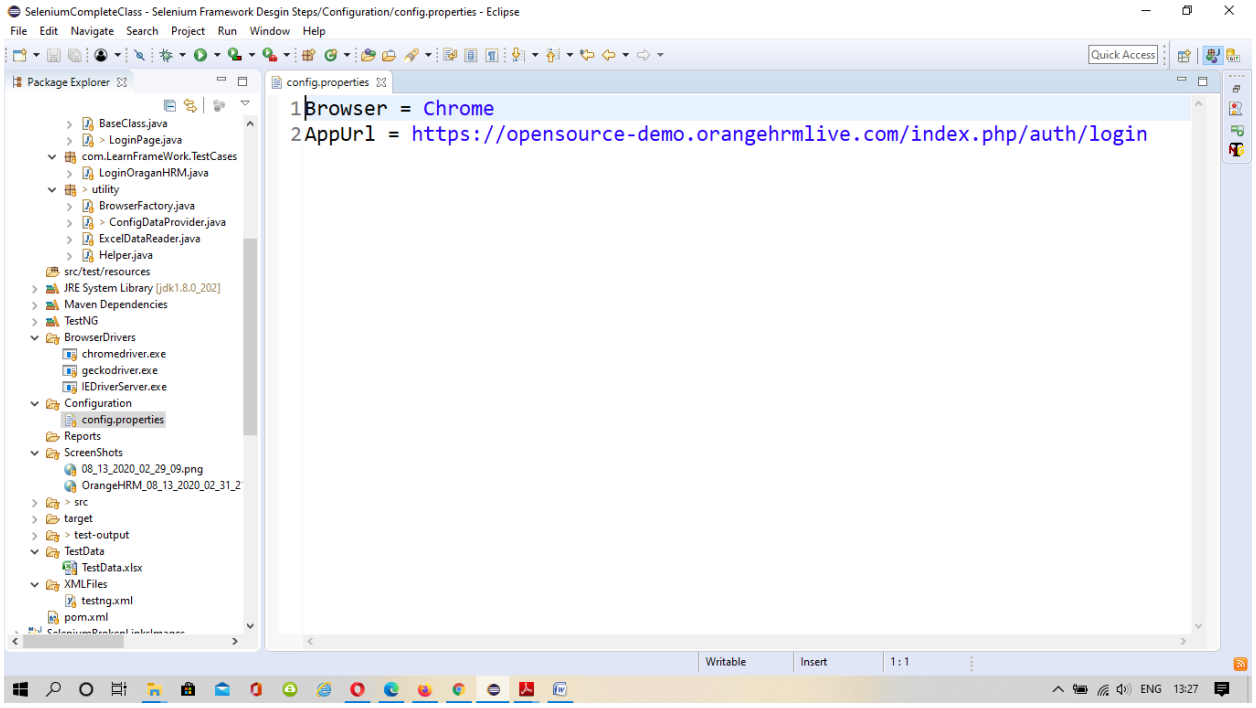


Steps 1:

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
         http://maven.apache.org/xsd/maven-4.0.0.xsd">
       <modelVersion>4.0.0</modelVersion>
       <groupId>SeleniumFramework</groupId>
       <artifactId>SeleniumFramework</artifactId>
       <version>0.0.1-SNAPSHOT</version>

       <dependencies>

              <dependency>
                     <groupId>org.seleniumhq.selenium</groupId>
                     <artifactId>selenium-java</artifactId>
                     <version>3.141.59</version>
              </dependency>

              <dependency>
                     <groupId>org.testng</groupId>
                     <artifactId>testng</artifactId>
                     <version>6.14.3</version>
                     <scope>test</scope>
              </dependency>

              <dependency>
                     <groupId>com.aventstack</groupId>
                     <artifactId>extentreports</artifactId>
                     <version>4.0.9</version>
              </dependency>


              <dependency>
                     <groupId>org.apache.poi</groupId>
                     <artifactId>poi</artifactId>
                     <version>3.17</version>
              </dependency>


              <dependency>
                     <groupId>org.apache.poi</groupId>
                     <artifactId>poi-ooxml</artifactId>
                     <version>3.17</version>
              </dependency>

<dependency>
    <groupId>commons-io</groupId>
    <artifactId>commons-io</artifactId>
    <version>2.6</version>
</dependency>

       </dependencies>

</project>
```

Step 2:


SeleniumCompleteClass - Selenium Framework Desgin Steps/TestData/TestData.xlsx - Eclipse
File Window
Package Explorer
testng.xml
TestData.xlsx
Home Insert Page Layout Formulas Data Review View
B1 admin123
A1 Admin
B1 admin123
LoginHRM Sheet2 Sheet3
ENG 13:11


SeleniumCompleteClass - Selenium Framework Desgin Steps/Configuration/config.properties - Eclipse
File Edit Navigate Search Project Run Window Help
Package Explorer
config.properties
1 Browser = Chrome
2 AppUrl = https://opensource-demo.orangehrmlive.com/index.php/auth/login
Writable Insert 1 : 1
ENG 13:27

Step 3: com.LearnFrameWork.Pages

```
package com.LearnFrameWork.Pages;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.How;

public class LoginPage {
	WebDriver driver;

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

	@FindBy(how = How.ID, using = "txtUsername")
	WebElement Username;

	@FindBy(how = How.NAME, using = "txtPassword")
	WebElement Password;

	@FindBy(how = How.XPATH, using = "//input[contains(@id,'btnLogin')]")
	WebElement BtnLogin;

	public void LoginHRM(String Uname, String Psd) {
		Username.sendKeys(Uname);
		Password.sendKeys(Psd);
		BtnLogin.click();
	}
}
```

com.LearnFrameWork.Pages

```
package com.LearnFrameWork.Pages;

import org.openqa.selenium.WebDriver;
import org.testng.ITestResult;
import org.testng.annotations.AfterClass;
import org.testng.annotations.AfterMethod;
import org.testng.annotations.BeforeClass;
import org.testng.annotations.BeforeSuite;
import utility.BrowserFactory;
import utility.ConfigDataProvider;
import utility.ExcelDataReader;
import utility.Helper;

public class BaseClass {

	public WebDriver driver;
	public ExcelDataReader excel;
	public ConfigDataProvider config;

	@BeforeSuite
	public void SetUp() {
		excel = new ExcelDataReader();
		config = new ConfigDataProvider();
	}

	@BeforeClass
	public void BrowserTest() {
		driver = BrowserFactory.BrowserOptions(driver, config.getBrowser(), config.getAppURL());
	}

	@AfterClass
	public void tearDown() {
		BrowserFactory.quitBrowser(driver);
```

```
	}

	@AfterMethod
	public void tearDownMethod(ITestResult result) {
		if (result.getStatus() == ITestResult.FAILURE) {
			Helper.capturedScreenShot(driver);
		}
	}
}
```

Steps 4: Create utility Package

```
package utility;

import java.util.concurrent.TimeUnit;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.ie.InternetExplorerDriver;
import org.testng.annotations.Test;

public class BrowserFactory {

	WebDriver driver;

	@Test
public static WebDriver BrowserOptions(WebDriver driver, String browserName, String AppUrl) {
		if (browserName.equalsIgnoreCase("Chrome")) {
System.setProperty("webdriver.chrome.driver", "./BrowserDrivers/chromedriver.exe");
			driver = new ChromeDriver();
		} else if (browserName.equalsIgnoreCase("Firefox")) {
System.setProperty("webdriver.gecko.driver", "./BrowserDrivers/geckodriver.exe");
			driver = new FirefoxDriver();
		} else if (browserName.equalsIgnoreCase("IE")) {
System.setProperty("webdriver.ie.driver", "./BrowserDrivers/IEDriverServer.exe");
			driver = new InternetExplorerDriver();
		} else {
			System.out.println("Browser Does Not Support...");
		}

		driver.manage().timeouts().pageLoadTimeout(20, TimeUnit.SECONDS);
		driver.manage().window().maximize();
		driver.get(AppUrl);
		driver.manage().timeouts().implicitlyWait(20, TimeUnit.SECONDS);

		return driver;
	}

public static void quitBrowser(WebDriver driver) {
		driver.quit();
	}
}
```

Steps 5:

```
package utility;

import java.io.File;
import java.text.DateFormat;
import java.text.SimpleDateFormat;
import java.util.Date;

import org.apache.commons.io.FileUtils;
import org.openqa.selenium.OutputType;
import org.openqa.selenium.TakesScreenshot;
import org.openqa.selenium.WebDriver;

public class Helper {

	public static void capturedScreenShot(WebDriver driver) {

		try {
			TakesScreenshot ts = (TakesScreenshot) driver;
			File source = ts.getScreenshotAs(OutputType.FILE);
			FileUtils.copyFile(source, new File("./ScreenShots/OrangeHRM_"+
getCurrentDateTime()+ ".png"));
			System.out.println("Captured ScreenShot - On Failure");

		} catch (Exception e) {
	System.out.println("Exception While Taking ScreenShot" + e.getMessage());
		}
	}

	public static String getCurrentDateTime() {
		DateFormat customFormat = new SimpleDateFormat("MM_dd_yyyy_HH_mm_ss");
		Date currentdate = new Date();
		return customFormat.format(currentdate);
	}
}
```

Step 6:

```
import java.io.File;
import java.io.FileInputStream;

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

public class ExcelDataReader {

	XSSFWorkbook wb;

	public ExcelDataReader() {
		File src = new File("./TestData/TestData.xlsx");
		try {
			FileInputStream fis = new FileInputStream(src);
			wb = new XSSFWorkbook(fis);
		} catch (Exception e) {
			System.out.println("Unable to load Xls file " + e.getMessage());
		}
	}

	public String getStringData(int sheetIndex, int row, int column) {
		return wb.getSheetAt(sheetIndex).getRow(row).getCell(column).getStringCellValue();

	}
	public String getStringData(String sheetName, int row, int column) {
		return wb.getSheet(sheetName).getRow(row).getCell(column).getStringCellValue();
	}
```

```
	public double getNumericData(String sheetName, int row, int column) {
		return wb.getSheet(sheetName).getRow(row).getCell(column).getNumericCellValue();
	}
}
```

Step 7:

```
package utility;

import java.io.File;
import java.io.FileInputStream;
import java.util.Properties;

public class ConfigDataProvider {

	Properties pro;

	public ConfigDataProvider() {
		File src = new File("./Configuration/config.properties");
		try {
			FileInputStream fis = new FileInputStream(src);

			pro = new Properties();
			pro.load(fis);
		} catch (Exception e) {
			System.out.println("Unable to lod excel file " + e.getMessage());
		}
	}

	public String getBrowser() {
		return pro.getProperty("Browser");
	}

	public String getAppURL() {
		return pro.getProperty("AppUrl");
   }
}
```

Steps 8: com.LearnFrameWork.TestCases

```
package com.LearnFrameWork.TestCases;

import org.openqa.selenium.support.PageFactory;
import org.testng.annotations.Test;

import com.LearnFrameWork.Pages.BaseClass;
import com.LearnFrameWork.Pages.LoginPage;

import utility.ExcelDataReader;

public class LoginOraganHRM extends BaseClass {

	@Test
	public void loginApp() throws Exception {

		ExcelDataReader excel = new ExcelDataReader();
		excel.getStringData("LoginHRM", 0, 0);

		LoginPage loginHRM = PageFactory.initElements(driver, LoginPage.class);
		loginHRM.LoginHRM(excel.getStringData("LoginHRM", 0, 0), excel.getStringData("LoginHRM",
0, 1));
		Thread.sleep(10000);
	}
}
```