Framework Design
Lecture 2

Create and use TestNG.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE suite SYSTEM "https://testng.org/testng-1.0.dtd">
<suite name="Suite">
 <test thread-count="5" name="Test">
  <classes>
   <class name="testcase.MyFirstTestFW"/>
  </classes>
 </test> <!-- Test -->
</suite> <!-- Suite -->
```

How we remove Hardcoded value of email id and password and perform data driven testing :

```
package base;
import java.io.FileReader;
import java.io.IOException;
import java.util.Properties;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.edge.EdgeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.testng.annotations.AfterMethod;
import org.testng.annotations.AfterTest;
import org.testng.annotations.BeforeMethod;
import org.testng.annotations.BeforeTest;
public class BaseTest {

		public static WebDriver driver;
		public static Properties prop = new Properties();
		public static Properties loc = new Properties();
		public static FileReader fr;
		public static FileReader fr1;

		@BeforeMethod
		public void setUp() throws IOException {

			if(driver==null) {
```

```
                                fr = new
FileReader(System.getProperty("user.dir")+"\\src\\test\\resources\\configfiles\\config.properties");
                                fr1 = new
FileReader(System.getProperty("user.dir")+"\\src\\test\\resources\\configfiles\\locators.properties"
);
                                prop.load(fr);
                                loc.load(fr1);
                        }

                        if(prop.getProperty("browser").equalsIgnoreCase("chrome")) {
                                driver = new ChromeDriver();
                                driver.get(prop.getProperty("testurl"));
                        }

                        else if (prop.getProperty("browser").equalsIgnoreCase("firefox")) {
                                driver = new FirefoxDriver();
                                driver.get(prop.getProperty("testurl"));
                        }

                        else if (prop.getProperty("browser").equalsIgnoreCase("edge")) {
                                driver = new EdgeDriver();
                                driver.get(prop.getProperty("testurl"));
                        }

                }

                @AfterMethod
                public void tearDown() {
                        driver.close();
                }
        }

package testcase;
import org.openqa.selenium.By;
import org.testng.annotations.DataProvider;
import org.testng.annotations.Test;
import base.BaseTest;

public class MyFirstTestFW extends BaseTest{

        @Test(dataProvider = "testdata")

        public static void LoginTest(String username, String password) throws
InterruptedException {

        driver.manage().window().maximize();
        System.out.println("Window Maximized");
        driver.findElement(By.linkText(loc.getProperty("signin_link"))).click();
```

```
		Thread.sleep(2000);
		driver.findElement(By.id(loc.getProperty("email_field"))).sendKeys(username);
		driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
		Thread.sleep(2000);
		driver.findElement(By.xpath(loc.getProperty("pwd_field"))).sendKeys(password);
		driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
		Thread.sleep(2000);
		}

		@DataProvider(name="testdata")
		public Object[][] tData()
		{
			return new Object[][] {
				{"piyush.keshari@gmail.com","Piyush@12081990"},
				{"piyush.keshar08@gmail.com","12081990"},
				{"piyush.ke1208@gmail.com","Piyush@12081990"},
				{"piyush.keshari1208@gmail.com","Piyush@12081990"}
			};

		}
}
```

Read Data from Excel Sheet in Selenium Framework:

To check that utility is working fine

```
package utilities;
import java.io.File;
import java.io.FileInputStream;
import java.io.IOException;
import org.apache.poi.EncryptedDocumentException;
import org.apache.poi.ss.usermodel.DataFormat;
import org.apache.poi.ss.usermodel.DataFormatter;
import org.apache.poi.ss.usermodel.Row;
import org.apache.poi.ss.usermodel.Sheet;
import org.apache.poi.ss.usermodel.Workbook;
import org.apache.poi.ss.usermodel.WorkbookFactory;
import org.testng.annotations.DataProvider;
public class ReadXLSData {

	public static void main(String[] args) throws EncryptedDocumentException, IOException {

		ReadXLSData red = new ReadXLSData();
		red.getData("LoginTest");
```

```
	}

	public String[][] getData(String excelSheetName) throws EncryptedDocumentException,
IOException {

		File f = new
File(System.getProperty("user.dir")+"\\src\\test\\resources\\testdata\\testData.xlsx");
		FileInputStream fis = new FileInputStream(f);
		Workbook wb = WorkbookFactory.create(fis);

		Sheet sheetName = wb.getSheet(excelSheetName);

		int totalRows = sheetName.getLastRowNum();
		System.out.println(totalRows);

		Row rowCells = sheetName.getRow(0);
		int totalCols = rowCells.getLastCellNum();
		System.out.println(totalCols);

		DataFormatter format = new DataFormatter();

		String testData[][] = new String[totalRows][totalCols];

		for(int i=1; i<=totalRows; i++) {
			for(int j=0;j<totalCols;j++) {
				testData[i-1][j] =
format.formatCellValue(sheetName.getRow(i).getCell(j));
				System.out.println(testData[i-1][j]);
			}
		}

		return testData;
	}
}



package utilities;
import java.io.File;
import java.io.FileInputStream;
import java.io.IOException;
import java.lang.reflect.Method;
import org.apache.poi.EncryptedDocumentException;
import org.apache.poi.ss.usermodel.DataFormat;
import org.apache.poi.ss.usermodel.DataFormatter;
import org.apache.poi.ss.usermodel.Row;
import org.apache.poi.ss.usermodel.Sheet;
import org.apache.poi.ss.usermodel.Workbook;
import org.apache.poi.ss.usermodel.WorkbookFactory;
```

```
import org.testng.annotations.DataProvider;
public class ReadXLSData {

	@DataProvider(name="testdata")
	public String[][] getData(Method m) throws EncryptedDocumentException, IOException {
		String excelSheetName = m.getName();

		File f = new
File(System.getProperty("user.dir")+"\\src\\test\\resources\\testdata\\testData.xlsx");
		FileInputStream fis = new FileInputStream(f);
		Workbook wb = WorkbookFactory.create(fis);

		Sheet sheetName = wb.getSheet(excelSheetName);

		int totalRows = sheetName.getLastRowNum();
		System.out.println(totalRows);

		Row rowCells = sheetName.getRow(0);
		int totalCols = rowCells.getLastCellNum();
		System.out.println(totalCols);

		DataFormatter format = new DataFormatter();

		String testData[][] = new String[totalRows][totalCols];

		for(int i=1; i<=totalRows; i++) {
			for(int j=0;j<totalCols;j++) {
				testData[i-1][j] =
format.formatCellValue(sheetName.getRow(i).getCell(j));
				System.out.println(testData[i-1][j]);
			}
		}

		return testData;
	}
}


package testcase;
import org.openqa.selenium.By;
import org.testng.annotations.DataProvider;
import org.testng.annotations.Test;
import base.BaseTest;
import utilities.ReadXLSData;

public class MyFirstTestFW extends BaseTest{

	@Test(dataProviderClass = ReadXLSData.class, dataProvider = "testdata")
```

```
        public static void LoginTest(String username, String password) throws
InterruptedException {

        driver.manage().window().maximize();
        System.out.println("Window Maximized");
        driver.findElement(By.linkText(loc.getProperty("signin_link"))).click();
        Thread.sleep(2000);
        driver.findElement(By.id(loc.getProperty("email_field"))).sendKeys(username);
        driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
        Thread.sleep(2000);
        driver.findElement(By.xpath(loc.getProperty("pwd_field"))).sendKeys(password);
        driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
        Thread.sleep(2000);
        }


        }
```