

# Framework Design

## Lecture 1

### Selenium Framework: Create Project Structure and Understand Basics

Project Structure	Dependencies
Base	Selenium WebDriver
Utilities	TestNG
TestCase	ReportNG
ConfigFiles	Logs-log4j
TestData	Apache POI APIs
Logs	WebDriver Manager
Reports	

#### //Selenium Test Without Framework

```
package testcase;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import io.github.bonigarcia.wdm.WebDriverManager;
public class MyFirstTest {
    public static void main(String[] args) throws InterruptedException {
        WebDriverManager.chromedriver().setup();
        WebDriver driver = new ChromeDriver();
        driver.get("https://www.zoho.com/");
        driver.manage().window().maximize();
        driver.findElement(By.linkText("Sign In")).click();
        Thread.sleep(2000);
        driver.findElement(By.id("login_id")).sendKeys("piyush.keshari1208@gmail.com");
        Thread.sleep(2000);
        driver.findElement(By.xpath("//button[@id='nextbtn']")).click();
        Thread.sleep(2000);
        driver.findElement(By.xpath("//input[@id='password']")).sendKeys("Piyush@12081990");
```

```

        Thread.sleep(2000);
        driver.findElement(By.xpath("//button[@id='nextbtn']")).click();
    }
}

```

## Selenium Test with Framework:

### Config.properties

browser=chrome  
testurl=https://www.zoho.com/

How we can read config.properties file

### ReadpropertyFiles.java

```

package utilities;
import java.io.FileReader;
import java.io.IOException;
import java.util.Properties;
public class ReadpropertyFiles {
    public static void main(String[] args) throws IOException {
        FileReader fr = new
FileReader("C:\\\\Users\\\\piyush.keshari_bitsi\\\\Desktop\\\\Meaven\\\\TestAutomationFrameWork\\\\src\\\\test\\\\reso
urces\\\\configfiles\\\\config.properties");
        Properties p = new Properties();
        p.load(fr);
        System.out.println(p.getProperty("browser"));
        System.out.println(p.getProperty("testurl"));
    }
}

```

How we have to remove the hardcoded value of browser details and url details

```

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.AfterTest;
import org.testng.annotations.BeforeTest;
public class BaseTest {

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

    @BeforeTest
    public void setUp() throws IOException {

        if(driver==null) {

            FileReader fr = new
FileReader("C:\\\\Users\\\\piyush.keshari_bitsi\\\\Desktop\\\\Meaven\\\\TestAutomationFrameWork\\\\src\\\\test\\\\reso
ures\\\\configfiles\\\\config.proprties");
            prop.load(fr);
        }

        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"));
        }

    }

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

```

We Create MyFirstTestFW class that extends BaseTest class

```

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

```

```

public class MyFirstTestFW extends BaseTest{

    @Test

    public static void LoginTest() throws InterruptedException {

        driver.manage().window().maximize();
        System.out.println("Window Maximized");
        driver.findElement(By.linkText("Sign In")).click();
        Thread.sleep(2000);
        driver.findElement(By.id("login_id")).sendKeys("piyush.keshari1208@gmail.com");
        driver.findElement(By.xpath("//button[@id='nextbtn']")).click();
        Thread.sleep(2000);
        driver.findElement(By.xpath("//input[@id='password']")).sendKeys("Piyush@12081990");
        driver.findElement(By.xpath("//button[@id='nextbtn']")).click();
        Thread.sleep(2000);
    }
}

```

## How we have to remove the Hardcoded filepath

```

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.AfterTest;
import org.testng.annotations.BeforeTest;
public class BaseTest {

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

    @BeforeTest
    public void setUp() throws IOException {

        if(driver==null) {
            // System.out.println("The Path is:"+System.getProperty("user.dir"));
            FileReader fr = new
            FileReader(System.getProperty("user.dir")+"\src\test\resources\configfiles\config.properties");
            prop.load(fr);
        }

        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"));
    }

}

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

```

## How we remove Hardcoded Locators:

### locators.properties

```

signin_link = Sign In
email_field = login_id
next_button = //button[@id='nextbtn']
pwd_field = //input[@id='password']

```

### BaseTest.java

```

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.AfterTest;
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;

    @BeforeTest
    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"));
        }

    }

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

```

MyFirstTestFW.java

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

public class MyFirstTestFW extends BaseTest{

    @Test

    public static void LoginTest() 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("piyush.keshari1208@gmail.com");
        driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
        Thread.sleep(2000);

        driver.findElement(By.xpath(loc.getProperty("pwd_field"))).sendKeys("Piyush@12081990");
        driver.findElement(By.xpath(loc.getProperty("next_button"))).click();
        Thread.sleep(2000);
    }
}
```