1.2 Group Test Cases and Parallel Test Execution



This section will guide you to:

* Work with groups attribute of @Test
* Perform cross-browser execution (parallel execution)

**Development Environment**

* Eclipse IDE for Enterprise Java Developers v2019-03 (4.11.0)
* JRE: OpenJDK Runtime Environment 11.0.2
* TestNG
* Selenium WebDriver Jar

This guide has eight sub-sections, namely:

1.2.1 Creating a simple Java project  
1.2.2 Downloading Selenium WebDriver jar, chromdriver.exe, and forefoxdriver.exe

1.2.3 Adding the Web Driver dependency in the project  
1.2.4 Installing TestNG

1.2.5 Adding TestNG libraries to the Class Path  
1.2.6 Creating a Java class named ParallelTest.java  
1.2.7 Running the project

1.2.8 Pushing the code to your GitHub repositories

**Step 1.2.1:** Creating a simple Java project

* Open Eclipse.
* Go to the **File** menu and select **New->Java Project.**
* Enter the project name as **Parallel Tests**. Click on **Next.**
* This will create the project files in the Project Explorer.

**Step 1.2.2:** Downloading Selenium WebDriver jar, chromdriver.exe, and firefoxdriver.exe

* Selenium WebDriver is already installed in your Practice lab. Refer QA to QE lab guide for Phase 2 for more information.
* Go to <https://selenium.dev/thirdparty/>
* To download chromedriver.exe, click on Google ChromeDriver and select the appropriate version as per your Chrome version.
* To download firefoxdriver.exe, click on Microsoft GeckoDriver

**Step 1.2.3:** Adding the Web Driver dependency in the project

* In the Project Explorer, right-click on **Parallel Tests.**
* Select **Properties**. Select **Java Build Path** from the list. Go to **Libraries**.
* Click on **Add External JARs** and browse the location where you have downloaded the JAR files.
* Select JARs from the **root** folder and the **libs** folder.
* Click on **Apply and Close.**
* Copy the **chromedriver.exe** and **geckodriver.exe**, and paste it your project creating a resource folder.

**Step 1.2.4:** Installing TestNG

* TestNG is already installed in your Practice labs. To learn about its directory details you can refer to the lab guide for Phase 2.

**Step 1.2.5:** Adding TestNG libraries to the Class Path

* In the Project Explorer, right-click on **Parallel Tests.**
* Select **Properties**. Select **Java Build Path** from the list. Go to **Libraries.**
* Click on **Add Library.** Select **TestNG**. Click on **Next**. Now, click on **Finish.**
* Click on **Apply and Close.**

**Step 1.2.6:** Creating a Java class named ParallelTest.java

* In the Project Explorer, expand **Parallel Tests->Java Resources.**
* Right-click on **src** and select **New->Class.**
* In **Class Name,** enter **ParallelTests** and click on **Finish.** In **Package Name,** enter **com.parallel** and click on **Finish.**
* Enter the following code:

**package** com.parallel;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.chrome.ChromeDriver;

**import** org.openqa.selenium.firefox.FirefoxDriver;

**import** org.testng.annotations.Test;

**public** **class** ParallelTests {

WebDriver driver;

@Test(groups="Chrome")

**public** **void** LaunchChrome() {

System.*setProperty*("webdriver.chrome.driver", "./Resources/chromedriver.exe");

driver = **new** ChromeDriver();

driver.get("https://www.facebook.com");

**try** {

Thread.*sleep*(2000);

} **catch** (Exception e) {

e.printStackTrace();

}

}

@Test(groups="Chrome", dependsOnMethods="LaunchChrome")

**public** **void** TryFacebook1() {

System.***out***.println(Thread.*currentThread*().getId());

driver.findElement(By.*id*("email")).sendKeys("ravi10thstudent@gmail.com");

driver.findElement(By.*id*("pass")).sendKeys("12345");

driver.findElement(By.*id*("loginbutton")).click();

}

@Test(groups="Firefox")

**public** **void** LaunchFirefox() {

System.*setProperty*("webdriver.gecko.driver", "./Resources/geckodriver.exe");

driver = **new** FirefoxDriver();

driver.get("https://www.facebook.com");

**try** {

Thread.*sleep*(4000);

} **catch** (Exception e) {

e.printStackTrace();

}

}

@Test(groups="Firefox", dependsOnMethods="LaunchFirefox")

**public** **void** TryFacebook2() {

System.***out***.println(Thread.*currentThread*().getId());

driver.findElement(By.*id*("email")).sendKeys("ravi10thstudent@gmail.com");

driver.findElement(By.*id*("pass")).sendKeys("ravi28394");

driver.findElement(By.*id*("loginbutton")).click();

System.***out***.println(Thread.*currentThread*().getId());

}

}

**Step 1.2.7** Running the project

* Right-click on **ParallelTests** class. Click on **TestNG->Convert to TestNG.**
* Click on **Finish.** It will create a **TestNG.xml** file. Open that file.
* Right click on the screen. Select **Run As ->TestNG Suite.**

**Step 1.2.8:** Pushing the code to your GitHub repositories

Open your command prompt and navigate to the folder where you have created your files

cd <folder path>

Initialize your repository using the following command:

git init

Add all the files to your git repository using the following command:

git add . 

Commit the changes using the following command:

git commit . -m “Changes have been committed.”

Push the files to the folder you initially created using the following command:

git push -u origin master