

Selenium Class 37 - TestNG Testing Framework for Selenium Part-2

2) Write first TestNG program

Write TestNG program/Test Case

a) Manual Test case

Test Case name: Verify page Title (Google)

Test Steps:

- i) Launch the Browser
- ii) Navigate to Google Home page (<https://www.google.com/>)

Expected Result:

"Google"

Verification Point:

Capture the Page Title and compare with expected

Test Data/Input:

NA

TestNG Test Case:

- i) main method is not used in TestNG programs
- ii) TestNG programs contain methods only that contain Annotations
- iii) If we don't write @Test Annotation then the method won't be executed

```
public class VerifyTitle {
    WebDriver driver;

    @Test
    public void verifyTitle(){
        System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");
        driver = new ChromeDriver();
        driver.manage().window().maximize();
        driver.get("https://www.google.com/");
        String pageTitle = driver.getTitle();

        /*if (pageTitle.equals("Google2")){
            System.out.println("Google Application was Launched - Passed");
        }
        else {
            System.out.println("Google Application was Not Launched - Failed");
        }*/
        Assert.assertEquals("Google", pageTitle);
    }

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

```
}  
}
```

3) Create multiple Test cases and Run

Example:

Test Cases:

- i) launchBrowser()
- ii) verifyGoogleTitle()
- iii) closeBrowser()

General Test Execution Flow:

TestNG executes Test cases in Alphabetical order

- i) closeBrowser()
- ii) launchBrowser()
- iii) verifyGoogleTitle()

TestNG testing program as per Alphabetical order

```
public class Sample1 {  
    WebDriver driver;  
    @Test  
    public void launchBrowser(){  
        System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");  
        driver = new ChromeDriver();  
        driver.manage().window().maximize();  
    }  
}
```

```
@Test
public void verifyGoogleTitle(){
driver.get("https://www.google.com/");
Assert.assertEquals("Google", driver.getTitle());
}
```

```
@Test
public void closeBrowser(){
driver.close();
}
```

```
}
```

Usnig "priority" attribute we can prioritize Test cases then we can control the test execution process

```
public class Sample1 {
WebDriver driver;
@Test (priority=1)
public void launchBrowser(){
System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");
driver = new ChromeDriver();
driver.manage().window().maximize();
}
@Test (priority=2)
public void verifyGoogleTitle(){
driver.get("https://www.google.com/");
Assert.assertEquals("Google", driver.getTitle());
}
```

```
}
```

```
@Test (priority=3)  
public void closeBrowser(){  
    driver.close();  
}  
}
```

Example 2:

Test Cases:

- i) launchBrowser()
- ii) verifyGoogleTitle()
- iii) verifyYahooTitle()
- iv) verifyGcritTitle()
- v) closeBrowser()

General Test execution Flow:

- i)closeBrowser()
- ii) launchBrowser()
- iii) verifyGcritTitle()
- iv) verifyGoogleTitle()
- v) verifyYahooTitle()

Create a TestNG program with priority:

```
public class Sample2 {  
    WebDriver driver;  
    @Test (priority=1)  
    public void launchBrowser(){  
        System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");  
        driver = new ChromeDriver();  
        driver.manage().window().maximize();  
    }  
    @Test (priority=2)  
    public void verifyGoogleTitle(){  
        driver.get("https://www.google.com/");  
        Assert.assertEquals("Google", driver.getTitle());  
    }  
    @Test (priority=3)  
    public void verifyYahooTitle(){  
        driver.get("https://in.yahoo.com/");  
        Assert.assertEquals("Yahoo", driver.getTitle());  
    }  
    @Test (priority=4)  
    public void verifyGcritTitle(){  
        driver.get("http://www.gcrit.com/build3/admin/");  
        Assert.assertEquals("GCR Shop", driver.getTitle());  
    }  
    @Test (priority=5)  
    public void closeBrowser(){
```

```
driver.close();  
}  
  
}
```

TestNG program with some failed test cases

```
public class Sample2 {  
    WebDriver driver;  
    @Test (priority=1)  
    public void launchBrowser(){  
        System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");  
        driver = new ChromeDriver();  
        driver.manage().window().maximize();  
    }  
    @Test (priority=2)  
    public void verifyGoogleTitle(){  
        driver.get("https://www.google.com/");  
        Assert.assertEquals("Google", driver.getTitle());  
    }  
    @Test (priority=3)  
    public void verifyYahooTitle(){  
        driver.get("https://in.yahoo.com/");  
        Assert.assertEquals("xyz", driver.getTitle());  
    }  
    @Test (priority=4)  
    public void verifyGcritTitle(){
```

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```
driver.get("http://www.gcrit.com/build3/admin/");
Assert.assertEquals("GCR Shop", driver.getTitle());
}
@Test (priority=5)
public void closeBrowser(){
driver.close();
}
}
```

```
WebDriver driver;
@Test (priority=1)
public void launchBrowser(){
System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");
driver = new ChromeDriver();
driver.manage().window().maximize();
}
@Test (priority=2)
public void verifyGoogleTitle(){
driver.get("https://www.google.com/");
Assert.assertEquals("Google", driver.getTitle());
}
@Test (priority=3)
public void verifyYahooTitle(){
driver.get("https://in.yahoo.com/");
Assert.assertEquals("xyz", driver.getTitle());
}
@Test (dependsOnMethods = "verifyYahooTitle")
```



```
public void verifyGcritTitle(){
driver.get("http://www.gcrit.com/build3/admin/");
Assert.assertEquals("GCR Shop", driver.getTitle());
}
@Test (priority=5)
public void closeBrowser(){
driver.close();
}
}
```

Conclusion:

Use "priority" attribute if there is no functionality dependency between test cases,

Use "dependsOnMethods" attribute if there is functionality dependency between test cases,

4) TestNG Annotations

@Test - The annotated method is a Test Case

@BeforeMethod - The annotated method will be run before each Test case/method in the current class is invoked

@AfterMethod -The annotated method will be run after each Test case in the current class have been run

@BeforeClass - The annotated method will be run the first Test Method in the current class is invoked

@AfterClass - The annotated method will be run after all the Test methods in the current class have been run

Example:

Test Cases:

launchBrowser()

i) verifyGoogleTitle()

ii) verifyYahooTitle()

iii) verifyGcritTitle()

closeBrowser()

Test Execution Flow 1:

launchBrowser()

i) verifyGoogleTitle()

closeBrowser()

launchBrowser()

ii) verifyYahooTitle()

closeBrowser()

launchBrowser()

iii) verifyGcritTitle()

closeBrowser()

For this Test execution flow use @BeforeMethod and @AfterMethod Annotations

Test Execution Flow 2:

```
launchBrowser()  
i) verifyGoogleTitle()  
ii) verifyYahooTitle()  
iii) verifyGcritTitle()  
closeBrowser()
```

For this Test execution flow use @BeforeClass and @AfterClass Annotations

TestNG program using @BeforeMethod and @AfterMethod Annotations

```
public class Sample2 {  
    WebDriver driver;  
    @BeforeMethod  
    public void launchBrowser(){  
        System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");  
        driver = new ChromeDriver();  
        driver.manage().window().maximize();  
    }  
    @Test (priority=1)  
    public void verifyGoogleTitle(){  
        driver.get("https://www.google.com/");  
        Assert.assertEquals("Google", driver.getTitle());  
    }  
    @Test (priority=2)
```

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```
public void verifyYahooTitle(){
driver.get("https://in.yahoo.com/");
Assert.assertEquals("Yahoo", driver.getTitle());
}
@Test (priority=3)
public void verifyGcritTitle(){
driver.get("http://www.gcrit.com/build3/admin/");
Assert.assertEquals("GCR Shop", driver.getTitle());
}
@AfterMethod
public void closeBrowser(){
driver.close();
}
}
```

TestNG program using @BeforeClass and @AfterClass Annotations

```
public class Sample2 {
WebDriver driver;
@BeforeClass
public void launchBrowser(){
System.setProperty("webdriver.chrome.driver", "E:/chromedriver.exe");
driver = new ChromeDriver();
driver.manage().window().maximize();
}
@Test (priority=1)
```

```
public void verifyGoogleTitle(){
driver.get("https://www.google.com/");
Assert.assertEquals("Google", driver.getTitle());
}
@Test (priority=2)
public void verifyYahooTitle(){
driver.get("https://in.yahoo.com/");
Assert.assertEquals("Yahoo", driver.getTitle());
}
@Test (priority=3)
public void verifyGcritTitle(){
driver.get("http://www.gcrit.com/build3/admin/");
Assert.assertEquals("GCR Shop", driver.getTitle());
}
@AfterClass
public void closeBrowser(){
driver.close();
}
}
}
.....
```