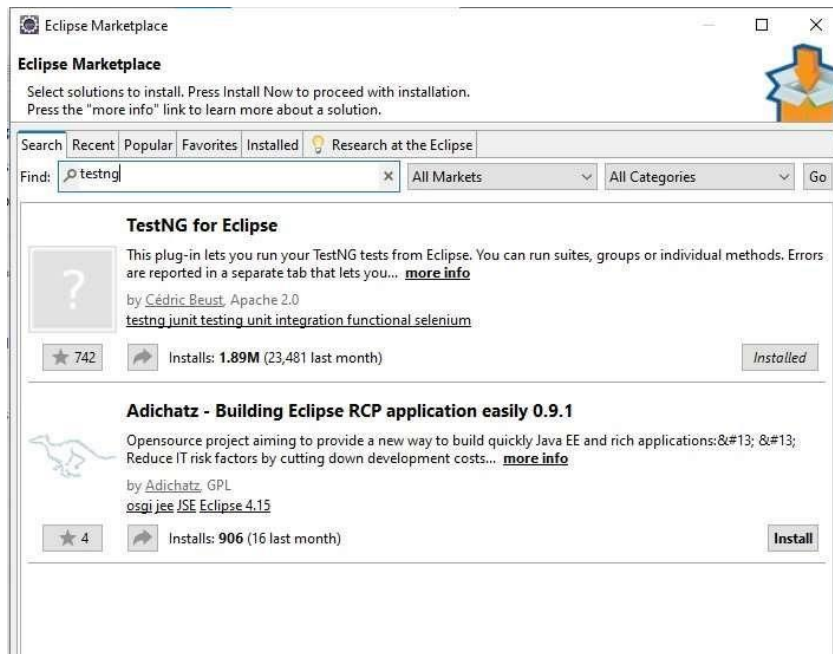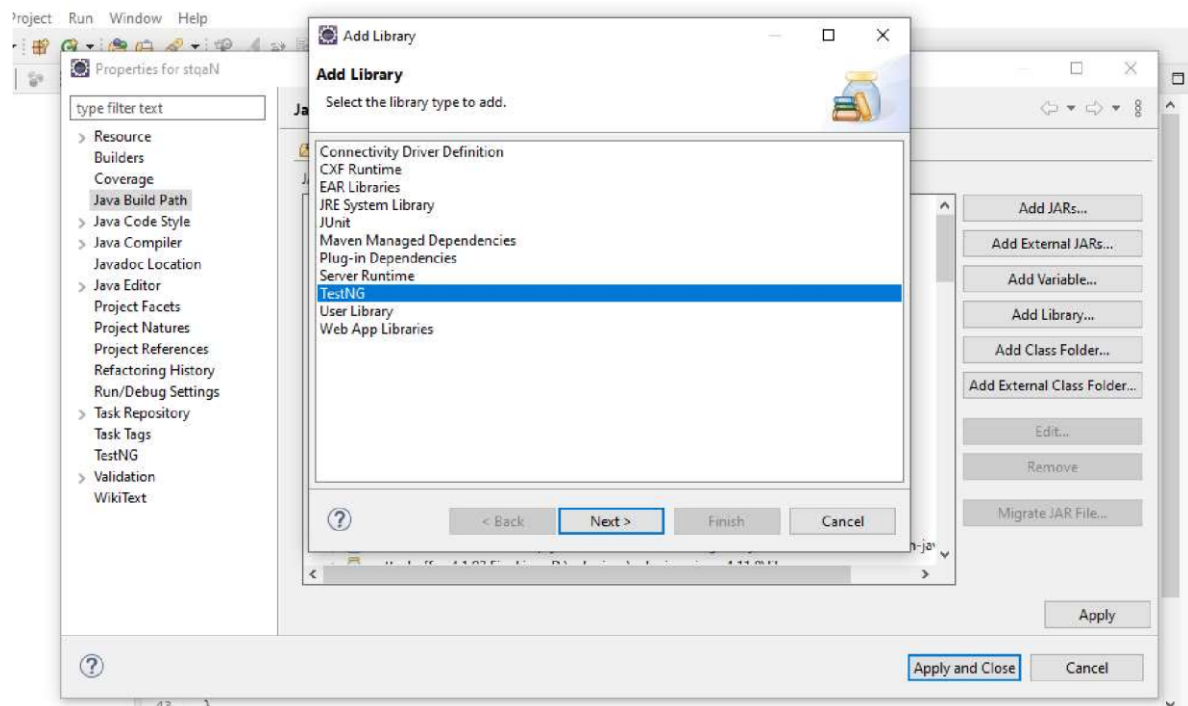# 3 TestNg & Data Driven Framework

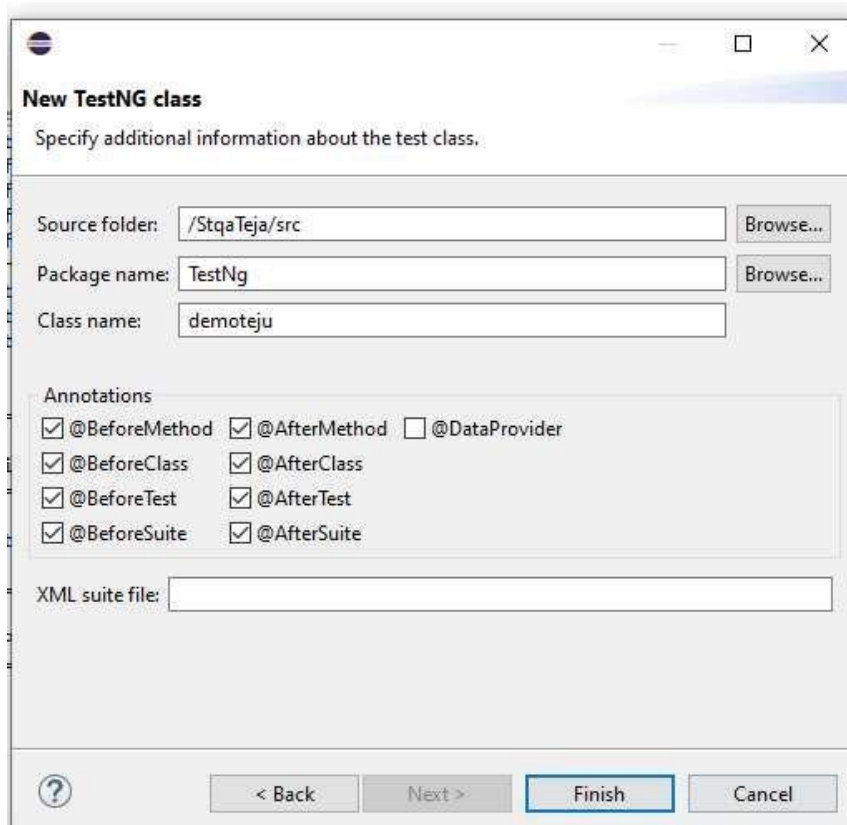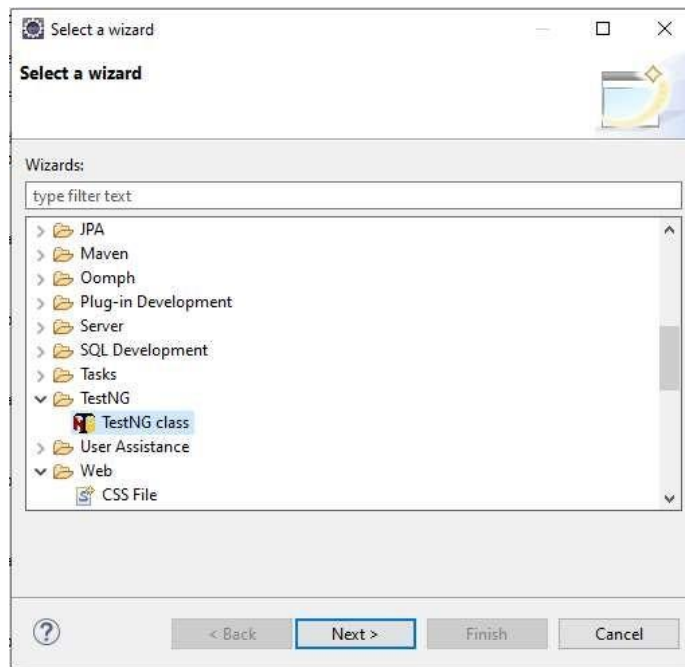## Aim:- Installation of TestNg , running testNg and TestNg annotations

Step1: Install TestNg from eclipse marketplace

Step 2: Add TestNg library in project

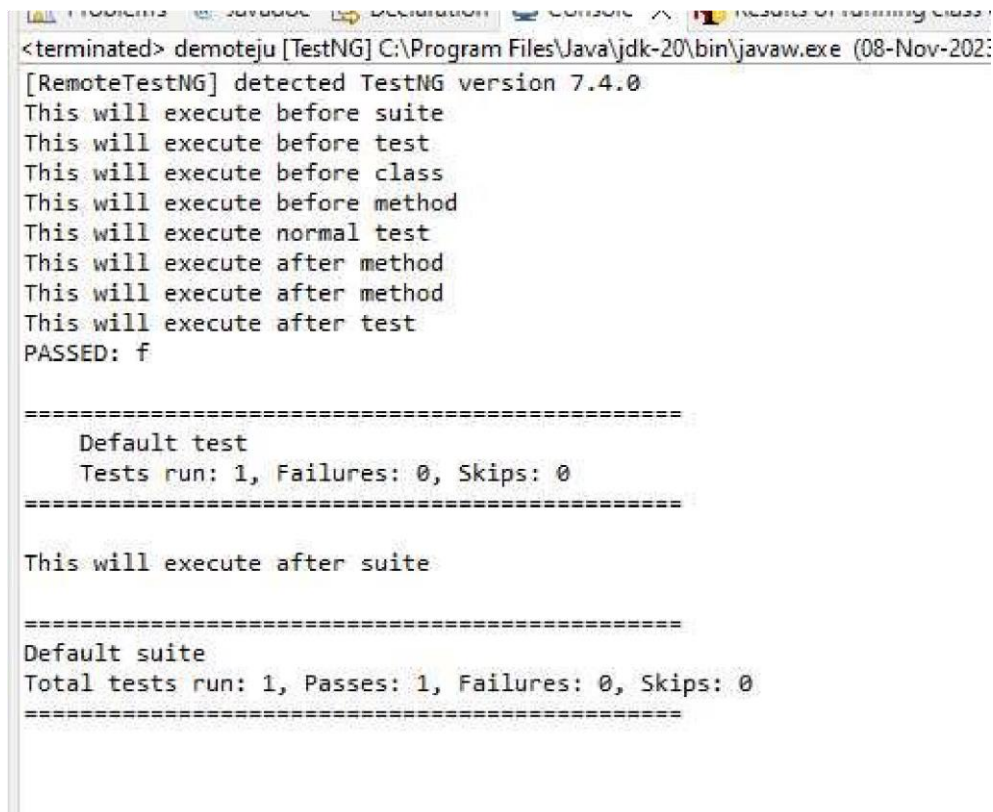Step 3: Create TestNg class in src with new package TestNg

package TestNg;
import org.testng.annotations.Test;
import org.testng.annotations.BeforeMethod;

```java
import org.testng.annotations.AfterMethod;
import org.testng.annotations.BeforeClass;
import org.testng.annotations.AfterClass;
import org.testng.annotations.BeforeTest;
import org.testng.annotations.AfterTest;
import org.testng.annotations.BeforeSuite;
import org.testng.annotations.AfterSuite;
public class demoteju {
   @Test
   public void f() {
      System.out.println("This will execute normal
test");
   }
   @BeforeMethod
   public void beforeMethod() {
      System.out.println("This will execute before
method");
   }
   @AfterMethod
   public void afterMethod() {
      System.out.println("This will execute after
method");
   }
   @BeforeClass
   public void beforeClass() {
      System.out.println("This will execute before
class");
   }
   @AfterClass
   public void afterClass() {
      System.out.println("This will execute after
class");
   }
   @BeforeTest
   public void beforeTest() {
      System.out.println("This will execute before
test");
   }
   @AfterTest
   public void afterTest() {
```

```
      System.out.println("This will execute after
test");
   }
   @BeforeSuite
   public void beforeSuite() {
      System.out.println("This will execute before
suite");
   }
   @AfterSuite
   public void afterSuite() {
      System.out.println("This will execute after
suite");
   }
}
```

OUTPUT:


```
<terminated> demoteju [TestNG] C:\Program Files\Java\jdk-20\bin\javaw.exe  (08-Nov-2023
[RemoteTestNG] detected TestNG version 7.4.0
This will execute before suite
This will execute before test
This will execute before class
This will execute before method
This will execute normal test
This will execute after method
This will execute after method
This will execute after test
PASSED: f

===============================================
    Default test
    Tests run: 1, Failures: 0, Skips: 0
===============================================

This will execute after suite

===============================================
Default suite
Total tests run: 1, Passes: 1, Failures: 0, Skips: 0
===============================================
```

Test	# Passed	# Skipped	# Retried	# Failed	Time (ms)	Included Groups	Excluded Groups
Default suite							
Default test	1	0	0	0	24		

Class	Method	Start	Time (ms)
Default suite			
Default test — passed			
TestNg.demoteju	f	1699432372083	4

Default test

TestNg.demoteju#f

back to summary

Aim: Demonstrate annotations using TestNG

package testng;

import org.testng.annotations.Test;

import org.testng.annotations.BeforeMethod;

import org.testng.annotations.AfterMethod;

import org.testng.annotations.BeforeClass;

import org.testng.annotations.AfterClass;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.AfterTest;

import org.testng.annotations.BeforeSuite;

import org.testng.annotations.AfterSuite;

public class DemoPriority {
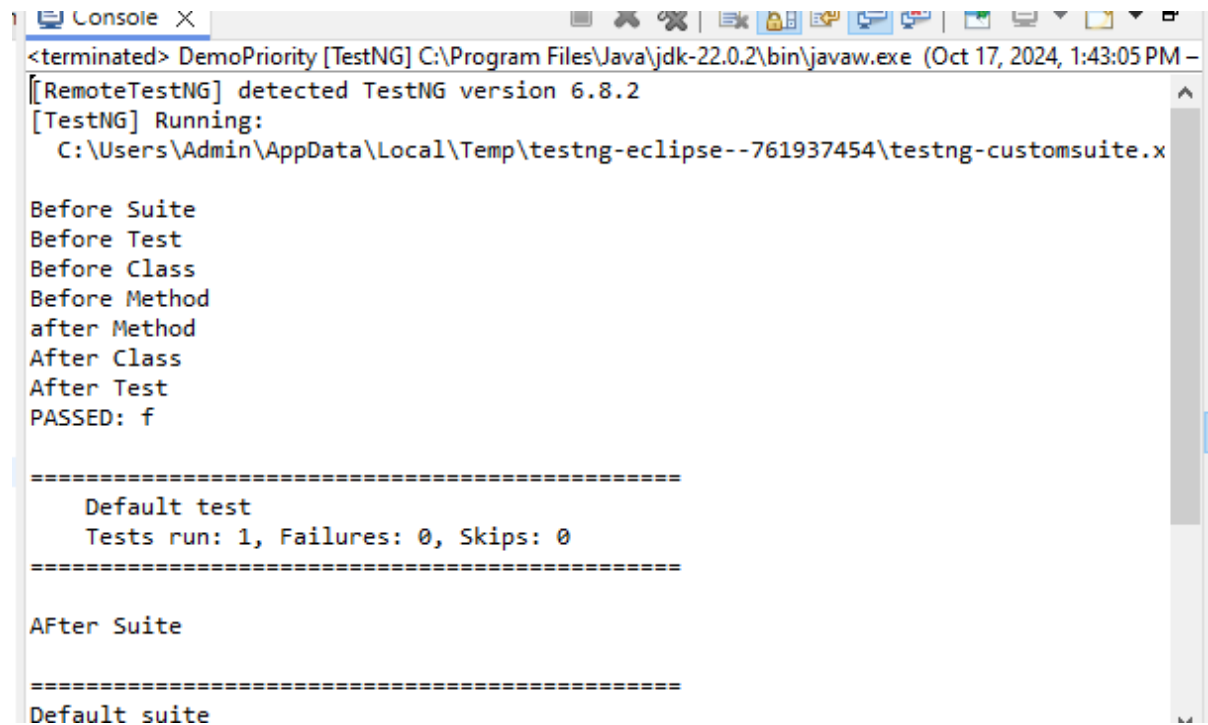
  @Test ()

  public void f() {

  }

  @AfterMethod

```java
public void afterMethod() {

    System.out.println("after Method");

}
@BeforeMethod
public void beforeMethod() {

    System.out.println("Before Method");

}
@BeforeClass
public void beforeClass() {

    System.out.println("Before Class");

}  @AfterClass
public void afterClass() {

    System.out.println("After Class");

}
@BeforeTest
public void beforeTest() {

    System.out.println("Before Test");

}
@AfterTest
public void afterTest() {

    System.out.println("After Test");

}
@BeforeSuite
public void beforeSuite() {

    System.out.println("Before Suite");

}
@AfterSuite
```

```
public void afterSuite() {

        System.out.println("After Suite");

}
```

Output :

Aim : Demonstrate Assertion TestNg Framework

```
package testng;

import org.openqa.*;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.Assert;

import org.testng.annotations.Test;

public class AssertFa {

        @Test
```

```java
        public void Bvimit() {

System.setProperty("webdriver.chrome.driver","D:\\Selenium\\chromedriver-
win64 (5)\\chromedriver-win64\\chromedriver.exe");

        WebDriver wd = new ChromeDriver();

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

        String expectedTitle = "Facebook";

        String actualTitle = wd.getTitle();

      Assert.assertEquals(actualTitle, expectedTitle);

        System.out.println("Title of webpage=====>"+actualTitle);

        }

}
```

Q.

```java
package testng;

import org.testng.annotations.Test;

import java.util.concurrent.TimeUnit;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.annotations.DataProvider;

public class DataOhm {

        @Test(dataProvider="dp")

        public void f(String u, String p) {

System.setProperty("webdriver.chrome.driver","D:\\Selenium\\chromedriver-
win64 (5)\\chromedriver-win64\\chromedriver.exe");

                WebDriver wd= new ChromeDriver();

                wd.get("https://demo.guru99.com/test/newtours/");

                wd.manage().timeouts().implicitlyWait(20,TimeUnit.SECONDS);
```

```
        wd.findElement(By.name("userName")).sendKeys(u);

        wd.findElement(By.name("password")).sendKeys(p);

        wd.findElement(By.name("submit")).click();

        try {

                Thread.sleep(3000);

        wd.findElement(By.partialLinkText("SIGN-OFF")).click();

        System.out.println("Login Pass");

        wd.findElement(By.linkText("Logout"));

        System.out.println("Pass");

        }catch(Exception e) {

        System.out.print("Fail");  }

        }

}
```

Output :

```
   at org.testng.TestNG.runSuitesLocally(TestNG.java:1149)
   at org.testng.TestNG.run(TestNG.java:1057)
   at org.testng.remote.AbstractRemoteTestNG.run(AbstractRemoteTestNG.java:1
   at org.testng.remote.RemoteTestNG.initAndRun(RemoteTestNG.java:293)
   at org.testng.remote.RemoteTestNG.main(RemoteTestNG.java:91)


===============================================
   Default test
   Tests run: 1, Failures: 0, Skips: 1
===============================================



===============================================
Default suite
Total tests run: 1, Failures: 1, Skips: 0
===============================================

TestNG] Time taken by org.testng.reporters.EmailableReporter2@1c7696c6: 17 ms
TestNG] Time taken by org.testng.reporters.XMLReporter@2794eab6: 7 ms
```

<u>Aim:</u> Demonstrate data driven Framework

```java
package testng;
import org.apache.poi.xssf.usermodel.XSSFWorkbook;
import org.apache.poi.xssf.usermodel.XSSFSheet;
import org.apache.poi.xssf.usermodel.XSSFRow;
import org.apache.poi.xssf.usermodel.XSSFCell;
import java.io.FileInputStream;
public class ReadDDF {
  public static void main(String[] args) {
    try {
      FileInputStream fis = new
FileInputStream("C:\\Users\\Admin\\Documents\\Data1.xlsx");
      XSSFWorkbook workbook = new XSSFWorkbook(fis);
      XSSFSheet sheet = workbook.getSheet("Sheet1");
      for (int i = 0; i <= sheet.getLastRowNum(); i++) {
        XSSFRow row = sheet.getRow(i);
        if (row != null) { // Check if the row is not null
          XSSFCell usernameCell = row.getCell(0);
          XSSFCell passwordCell = row.getCell(1);
          // Get cell values safely
          String username = (usernameCell != null) ?
usernameCell.getStringCellValue() : "N/A";
          String password = (passwordCell != null) ?
passwordCell.getStringCellValue() : "N/A";
          System.out.println(username + " " + password);
        }
      }
      fis.close();
      workbook.close();
    } catch (Exception e) {
      e.printStackTrace(); // Print any exceptions that occur
    }
  }
}
```

Output:

```
Console X
<terminated> Demonew [Java Application] C:\Program Files\Java\jdk-22.0.2\bin\javaw.exe  (Oct 18, 2024, 10:44:56 AM – 10:44:57 AM) [pid: 9220]
amar @1234
```

	A	B	C
1	pqr	xyz123	
2	admin	admin123	
3			
4			
5			
6			
7			

Aim : Data driver to guru 99 website

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;

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

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

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

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

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

public class wdata {

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

      // Initialize WebDriver

```java
WebDriver wd = new ChromeDriver();
// Open the URL
wd.get("https://demo.guru99.com/test/newtours/");
Thread.sleep(3000);
// Read data from Excel file
FileInputStream fis = new FileInputStream("D:\\Selenium\\data2.xlsx");
XSSFWorkbook wk = new XSSFWorkbook(fis);
XSSFSheet sh = wk.getSheet("Sheet1");
// Iterate through rows
for (int i = 0; i <= sh.getLastRowNum(); i++) {
    XSSFRow rw = sh.getRow(i);
    XSSFCell un = rw.getCell(0);
    XSSFCell pw = rw.getCell(1);
    XSSFCell res = rw.createCell(2);
    // Perform actions on the website
    wd.findElement(By.name("userName")).sendKeys(un.toString());
    wd.findElement(By.name("password")).sendKeys(pw.toString());
    wd.findElement(By.name("submit")).click();
    // Print login details
    System.out.println(un + " " + pw);
}
// Close workbook and file input stream
wk.close();
fis.close();
    }
}
```