TESTNG - PLUG WITH ANT

In this chapter, we will demonstrate how to run TestNG using ANT. Let's follow the steps given below:

Step 1: Download Apache Ant

Download the latest version of Apache Ant

OS	Archive Name
Windows	apache-ant-1.8.4-bin.zip
Linux	apache-ant-1.8.4-bin.tar.gz
Mac	apache-ant-1.8.4-bin.tar.gz

Step 2: Set Ant Environment

Set the **ANT_HOME** environment variable to point to the base directory location, where ANT libraries are stored on your machine. Let's assume we've stored the Ant libraries in the folder apache-ant-1.8.4 folder.

OS	Output
Windows	Set the environment variable ANT_HOME to C:\Program Files\Apache Software Foundation\apache-ant-1.8.4
Linux	Export ANT_HOME=/usr/local/apache-ant-1.8.4
Mac	Export ANT_HOME=/Library/apache-ant-1.8.4

Append Ant compiler location to System Path as follows:

OS	Description
Windows	Append the string %ANT_HOME\bin at the end of the system variable, Path.
Linux	Export PATH=$PATH:$ANT_HOME/bin/
Mac	Not required.

Step 3: Download TestNG Archive

Download [the required jar files from://www.testng.org.](the required jar files)

OS	Archive name
Windows	testng-6.8.jar
Linux	testng-6.8.jar
Mac	testng-6.8.jar

Step 4: Create Project Structure

- Create a folder **TestNGWithAnt** in **C:\>TestNG_WORKSPACE**.

- Create a folder **src** in **C:\>TestNG_WORKSPACE>TestNGWithAnt**.

- Create a folder **test** in **C:\>TestNG_WORKSPACE>TestNGWithAnt**.

- Create a folder **lib** in **C:\>TestNG_WORKSPACE>TestNGWithAnt**.

- Create MessageUtil class in **C:\>TestNG_WORKSPACE>TestNGWithAnt>src** folder.

```java
/*
* This class prints the given message on console.
*/

public class MessageUtil {

   private String message;

   //Constructor
   //@param message to be printed
   public MessageUtil(String message){
      this.message = message;
   }

   // prints the message
   public void printMessage(){
      System.out.println(message);
      return message;
   }

   // add "Hi!" to the message
   public String salutationMessage(){
      message = "Hi!" + message;
      System.out.println(message);
      return message;
   }
}
```

- Create TestMessageUtil class in **C:\>TestNG_WORKSPACE>TestNGWithAnt>src** folder.

```java
import org.testng.Assert;
import org.testng.annotations.Test;


public class TestMessageUtil {
   String message = "Manisha";
   MessageUtil messageUtil = new MessageUtil(message);

   @Test
   public void testPrintMessage() {
      System.out.println("Inside testPrintMessage()");
      Assert.assertEquals(message,messageUtil.printMessage());
   }

   @Test
   public void testSalutationMessage() {
      System.out.println("Inside testSalutationMessage()");
      message = "Hi!" + "Manisha";
      Assert.assertEquals(message,messageUtil.salutationMessage());
   }
}
```

- Copy testng-6.8.jar in **C:\>TestNG_WORKSPACE>TestNGWithAnt>lib** folder.

Create ANT build.xml

First, we need to define the TestNG Ant task as follows:

```xml
<taskdef name="testng" classname="org.testng.TestNGAntTask">
    <classpath>
        <pathelement location="lib/testng-6.8.jar"/>
    </classpath>
</taskdef>
```

Then, we'll be using **\<testng\>** task in Ant to execute our TestNG test cases.

The build.xml file is as follows:

```xml
<project name="TestNGTest" default="test" basedir=".">

    <!-- Define <testng> task -->

    <taskdef name="testng" classname="org.testng.TestNGAntTask">
        <classpath>
            <pathelement location="lib/testng-6.8.jar"/>
        </classpath>
    </taskdef>

    <property name="testdir" location="test" />
    <property name="srcdir" location="src" />
    <property name="libdir" location="lib" />
    <property name="full-compile" value="true" />

    <path />
    <path >

    <fileset dir="${libdir}">
        <include name="**/*.jar" />
    </fileset>

    <pathelement location="${testdir}" />
    <pathelement location="${srcdir}" />

    <path ref />
    </path>

    <target name="clean" >
        <delete verbose="${full-compile}">
            <fileset dir="${testdir}" includes="**/*.class" />
        </delete>
    </target>

    <target name="compile" depends="clean">
        <javac srcdir="${srcdir}" destdir="${testdir}" verbose="${full-compile}">
            <classpath ref/>
        </javac>
    </target>

    <target name="test" depends="compile">
        <testng outputdir="${testdir}" classpathref="classpath.test">
            <xmlfileset dir="${srcdir}" includes="testng.xml"/>
        </testng>
    </target>

</project>
```

Run the following Ant command.

```
C:\TestNG_WORKSPACE\TestNGWithAnt>ant
```

Verify the output.

```
test:
    [testng] [TestNG] Running:
    [testng]   C:\TestNG_WORKSPACE\TestNGWithAnt\src\testng.xml
    [testng]
    [testng] Inside testPrintMessage()
    [testng] Manisha
    [testng] Inside testSalutationMessage()
    [testng] Hi!Manisha
    [testng]
    [testng] ===============================================
    [testng] Plug ANT test Suite
    [testng] Total tests run: 2, Failures: 0, Skips: 0
    [testng] ===============================================
    [testng]

BUILD SUCCESSFUL
Total time: 1 second
```