

Testng Q & A

1. What is Testng?
 - a. It's a java unit testing framework
2. What is the other java unit-testing framework?
 - a. JUnit
3. Why you use testng in your current project?
 - a. Selenium can't generate report but testng can
 - b. Testng annotations are easy to understand like before tes>>test>aftertest
 - c. I can do cross browser and parallel browser testing
 - d. I can run test suite
4. Which one you used in your current project or difference between testng Vs JUnit?
 - a. Both are same functionalities but have some difference

Functionality - JUnit 4 vs TestNG									
	Annotation Support	Exception Test	Ignore Test	Timeout Test	Suite Test	Group Test	Parameterized (primitive value)	Parameterized (object)	Dependency Test
TestNG	✓	✓	✓	✓	✓	✓	✓	✓	✓
JUnit 4	✓	✓	✓	✓	✓	✗	✓	✗	✗

- b.
- c. Annotation Support

The annotation supports implemented in both JUnit 4 and TestNG look similar.

Feature	JUnit 4	TestNG
test annotation	@Test	@Test
run before all tests in this suite have run	No	@BeforeSuite
run after all tests in this suite have run	No	@AfterSuite
run before the test	No	@BeforeTest
run after the test	No	@AfterTest
run before the first test method that belongs to any of these groups is invoked	No	@BeforeGroups
run after the last test method that belongs to any of these groups is invoked	No	@AfterGroups
run before the first test method in the current class is invoked	@BeforeClass	@BeforeClass
run after all the test methods in the current class have been run	@AfterClass	@AfterClass
run before each test method	@Before	@BeforeMethod
run after each test method	@After	@AfterMethod
ignore test	@ignore	@Test(enabled=false)
expected exception	@Test(expected = ArithmeticException.class)	@Test(expectedExceptions = ArithmeticException.class)
timeout	@Test(timeout = 1000)	@Test(timeout = 1000)

5. What is annotation in java?
 - a. Java **Annotation** is a tag that represents the *metadata* i.e. attached with class, interface, methods or fields to indicate some additional information that can use by java compiler and JVM.

Annotations in java used to provide additional information, so it is an alternative option for XML and java marker interfaces.

6. Tell me some building java annotation that you use in your current project
 - a. Built-In Java Annotations used in java code
 - i. @Override
 - ii. @SuppressWarnings
 - iii. @Deprecated
7. Tell me some testing annotation with order

@ BeforeSuite

@ BeforeTest

@ BeforeClass

@ BeforeMethod

@ Test

@ AfterMethod

@ AfterClass

@ AfterTest

@AfterSuite

8. How to pass parameter in testing?

```
@Parameter("browser")
@Test
public void getbrowser(String browser) throws Exception{
    if(browser.equalsIgnoreCase("FireFox")){
        //your setup code
    }
    if(browser.equalsIgnoreCase("Chrome")){
        System.setProperty("webdriver.chrome.driver", "./Driver/chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        //your code
    }
    if(browser.equalsIgnoreCase("IE")){
        //your setup code
    }
}
```

Now create a testng.xml and pass the parameter with value like below

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd">
<suite thread-count="3" name="Suite" parallel="tests">
  <test name="Test">
    <parameter name="browser" value="firefox" />
    <parameter name="browser" value="chrome" />
    <parameter name="browser" value="ie" />
    <classes>
      <class name="com.usa.student.testng.CrossBrowserTest"/>
    </classes>
  </test> <!-- Test -->
</suite> <!-- Suite -->
```

- a. Now your method getbrowser() can read browser value = Firefox/chrome/ie/whatever you put the value
9. How to do cross browser testing in Testng?
 - a. Same as above by using @parameter annotation
10. How to pass test data in testng (how to pass excel or database data in testng method code)?
 - a. @Dataprovide annotation
11. How @DataProvider can handle data or which way it can handle data?
 - a. In two dimensional array [] [] or
 - b. List <iterator>
12. Why you use @factory annotation or factory method in testng?
 - a. We can pass @dataProvider test data(from excel or database) to all my method without passing any argument or paramant at method level
 - b. @factory can handle single dimentioal array []
13. What is testng listener annotation?
 - a. @listener annotation is used to listen my test status like
 - i. Pass
 - ii. Fail
 - iii. Skip
 - iv. When browser start or
 - v. When browser closed
14. How to listen test status with @listener annotation
 - a. I have to create class A and implement ITestListener interface >> use result.getName() → it will give me the method status

```

public class ClassA implements ITestListener {

    public void OnFail(ITestContext Result) {
        System.out.println("The name of the testcase failed : " + Result.getName());
    }
    public void onStart(ITestContext Result) {
        System.out.println("The name of the testcase start : " + Result.getName());
    }
}

```

- b. Then create another class B and extends class A and use @Listener annotation

```

@Listeners(ClassA.class)
public class ClassB {

    @Test
    public void setup() {
        //your code
    }
    @Test
    public void test() {
        //your code
    }
    @Test
    public void teardown() {
        //your code
    }
}

```

15. How to do parallel testing in testng?
 - a. Create a testng.xml and use
 - b. Parameter ="tests" and thread count = any number like 5 and pass your class inside the test
 - c. Now run my test from testng.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd">
<suite name="Suite" parallel="tests">
    <test thread-count="5" name="Test" parallel="tests">

```

```

<classes>
<class name="com.runner.TestNgRunner"/>
<class name="com.testng.CrossBrowserTest"/>
<class name="com.testng.DependsOnAnotherMethods"/>
<class name="com.testng.EnableOrDisableTest"/>
</classes>

</test> <!-- Test -->
</suite> <!-- Suite -->

```

16. How to run multiple class from testng or how to run test suite from testng?
Same as above from `testng.xml` and we can run as many classes as I want
17. What is cross browser and parallel browser testing?
 - a. Cross browser means – run same test code in multiple browser types (like chrome,firefox,ie,safari) and it will run one after another
 - b. Parallel browser means fire all browser at the same time – it may be same browser in multiple number
18. What is the different between testng cross browser and selenium grid cross browser?
 - a. Grid – can check browser with it different version, also we can test platform
 - b. Testng cannot check browser versions or platform
19. Which one to run **parallel in testng – test/method/class?**
 - a. I can run any one in parallel but usually I do run tests in parallel
20. What is thread count in testng?
 - a. Thread count means how many browser will use in parallel testing
 - b. If you want run your test for 5 clients (same code/test like smoke) - thread count ="5"
21. How to handle fail test in testng?
 - a. With testng failtest.xml
 - i. Testng will create failtest.xml inside test output folder
 - ii. 1st find the cause why test was failed
 - iii. If xpath issue then update my xpath
 - iv. If code issue fix my code
 - v. If logic issue then change my code logic
 - vi. Then I run the failtest.xml and fail test will pass now
 - b. If do not know the exact cause, I do debug my code from eclipse debug mode(insect sign above eclipse)
 - c. I can retry again my fail test case from testng listener class
22. How to generate report in testng?
 - a. Testng generate automatically basic report like HTML report -emailable report. Index.html report
 - b. I can also generate advance /custom HTML report like Extends report
23. How to add/print extra step inside testng report?
 - a. `Reporter.log("here browser opened")` → you can see here browser opened inside testng report
24. What is cucumber hook?
 - a. I can use `@Beforeclass` or `@Afterclass` annotation in cucumber runner file and write any setup code for browser/database connection setup or Extends report setup
 - b. I can hook setup code with testng annotation – so its known as hook
25. How to run 10 test case from 1000
 - a. I can use `@Test(enable =false)` in 990 test cases → this test case will not run(only 10 will run)
 - b. Another easy way to run 10 method from testng.xml

To include only a particular `@Test` method to run like the following :

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd">
<suite name="Suite">
  <test name="Test">

```

```

<classes>
  <class name="Full path to the Test class" />
  <methods>
    <include name="testMethodName" /> // pass all 10 methods name one by one
  </methods>
</classes>
</test>
</suite> <!-- Suite -->

```

- c. Another easy way use `@Test (groups = {"runMyTest"})`

Create testng.xml like below

```

<suite parallel="methods" threadCount="10">
  <test name="MyTest">
    <groups>
      <run>
        <include name=" runMyTest " />
      </run>
    </groups>

    <classes>
      <class name="test.TestClass" />
    </classes>
  </test>
</suite>

```

26. TestNG: How can I run same test case multiple times?

`@Test (invocationCount = 100) // this same test will run 100 times`

```

public void getSalary() {

//your code

}

```

27. How to run test case or method from multiple class?

In Class 1

```

@Test(groups={"cls1", "other"})
public void cls1test1(){}
}
@Test(groups={"cls1", "other"}, dependsOnMethods="cls1test1", alwaysrun=true)
public void cls1test2(){
}

```

In class 2

```

@Test(groups={"cls2", "other"}, dependsOnGroups="cls1", alwaysrun=true)
public void cls2test1(){
}
@Test(groups={"cls2", "other"}, dependsOnMethods="cls2test1", dependsOnGroups="cls1",
alwaysrun=true)
public void cls2test2(){
}

```

- a. Now run test group from testng.xml

```

<suite parallel="methods" threadCount="10">
  <test name="MyTest">
    <groups>
      <run>

```

```

<include name=" other " />
</run>
</groups>

<classes>
  <class name="test.TestClass" />
</classes>
</test>
</suite>

```

28. How to run last test as 1st in testng?

- a. Use @Test(priority = 0) → this test will run 1st

29. How to run one test depends on another in testng?

```

@Test
public void setupMethod() {
    System.out.println("This is setupMethod");
    Assert.assertTrue(true, "Setup method will fail");
}
@Test(dependsOnMethods = { "setupMethod" })
public void method2() {
    System.out.println("This is method 2");
}
@Test(dependsOnMethods = { "method2" })
public void method3() {
    System.out.println("This is method 2");
}
}

```

- a. }

30. Why you need dependsOnMethod options in testng?

- a. Testng usually can not maintain test order, so better to use this options to maintain my test order
- b. Also I can make a relation between all test, so if setup fail then all test automatically fail

31. How to use multiple options inside @Test together in testng?

- a. @Test (groups = {"ios"}, priority = 2)