

FULL STACK



Automation Testing

FULL STACK

TestNG Annotations and Configuration



A Day in the Life of an Automation Test Engineer

In the previous lesson, John had learned and understood the various features of TestNG and how to set up TestNG.

Now, he must know various annotations in TestNG and the TestNG configuration files to control the execution of the next method in the test script and configure the parameters and initial settings for some computer programs.

To accomplish everything listed above, he will learn about the annotations and configuration file in TestNG.



Learning Objectives

By the end of this lesson, you will be able to:

- 👁 List out the different annotations in TestNG
- 👁 Comprehend TestNG configuration file
- 👁 Describe @Configuration annotations



Various Annotations in TestNG

TestNG Annotation

Annotation in TestNG is a piece of code that is inserted into a program or business logic to control the flow of test method execution.



List of TestNG Annotations

@BeforeSuite

The @BeforeSuite annotated method is called before all the test cases defined in the folder are executed.

@AfterSuite

The @AfterSuite annotated method is called after all the test methods in the folder are executed.

List of TestNG Annotations

@BeforeTest

The method marked with the @BeforeTest annotation will be executed first before any test in that folder.

@AfterTest

The test method under the @AfterTest annotated method is executed after the execution of all the test methods of the available classes.

List of TestNG Annotations

@BeforeClass

The @BeforeClass annotated method runs before the execution of test methods in the current class.

@AfterClass

The @AfterClass annotated method is called after all of the current class's test methods have been called.

List of TestNG Annotations

@BeforeMethod

The annotated method @BeforeMethod will be called before each test method, where the test method is nothing more than a test case.

@AfterMethod

The @AfterMethod annotated method will be called after each test method is completed.

List of TestNG Annotations

@BeforeGroups

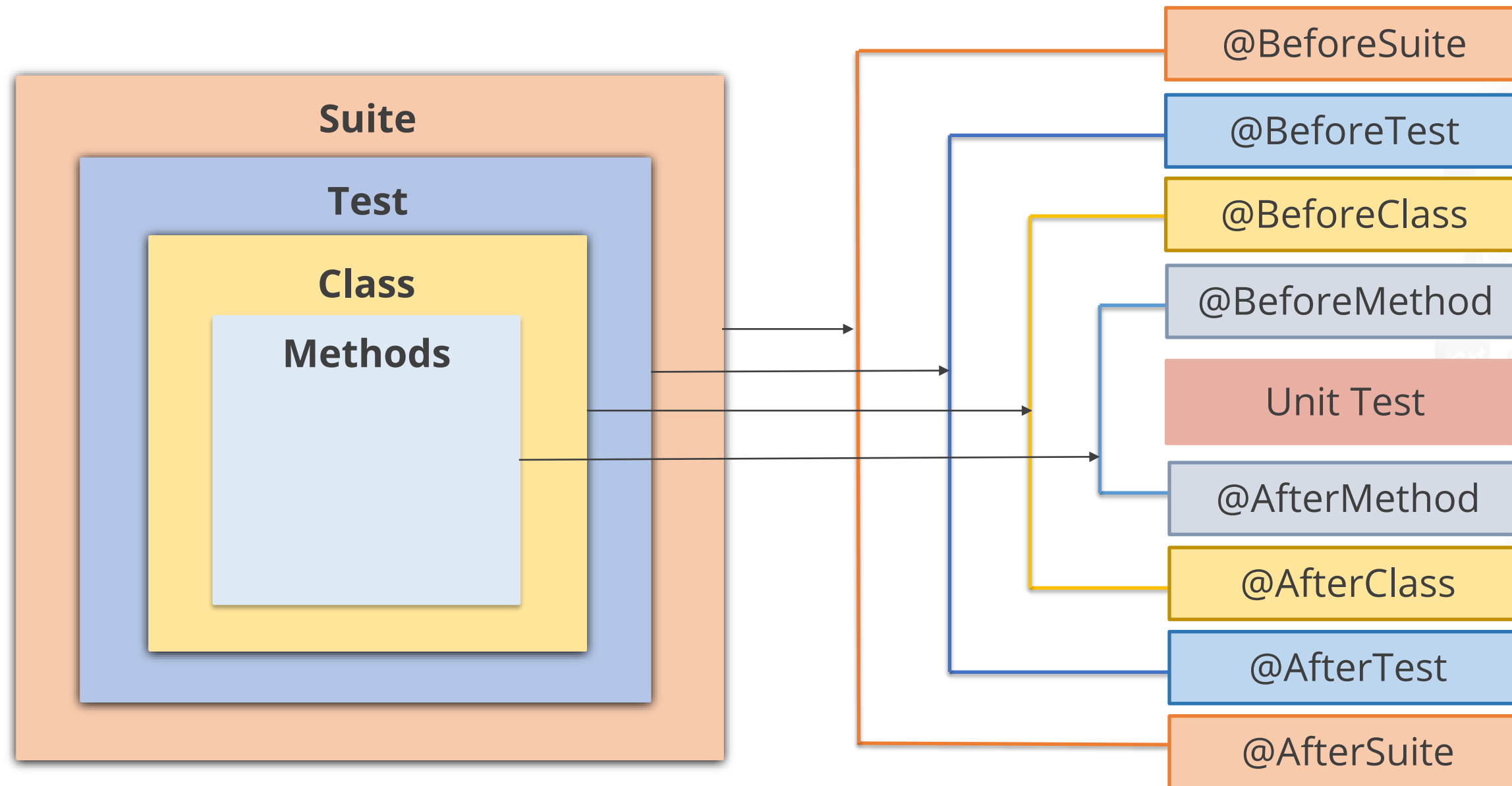
The @BeforeGroups annotated method will run only once before the execution of all the test methods of a specified group.

@AfterGroups

The @AfterGroups annotated method will run only once after the execution of all the test methods of a specified group.

Annotation Hierarchy in TestNG

The following is the order of precedence:



FULL STACK

TestNG Configuration File

TestNG Configuration File

The TestNG.xml configuration file helps in the organization of user tests.



It allows testers to define test suites and tests, as well as create and manage multiple test classes.

Advantages of TestNG.xml



Allows one test method to be dependent on another test method



Helps in data-driven testing using @DataProvider annotation



Contains various types of assertions that help in validating expected and actual results



Includes listeners who assist in the creation of logs



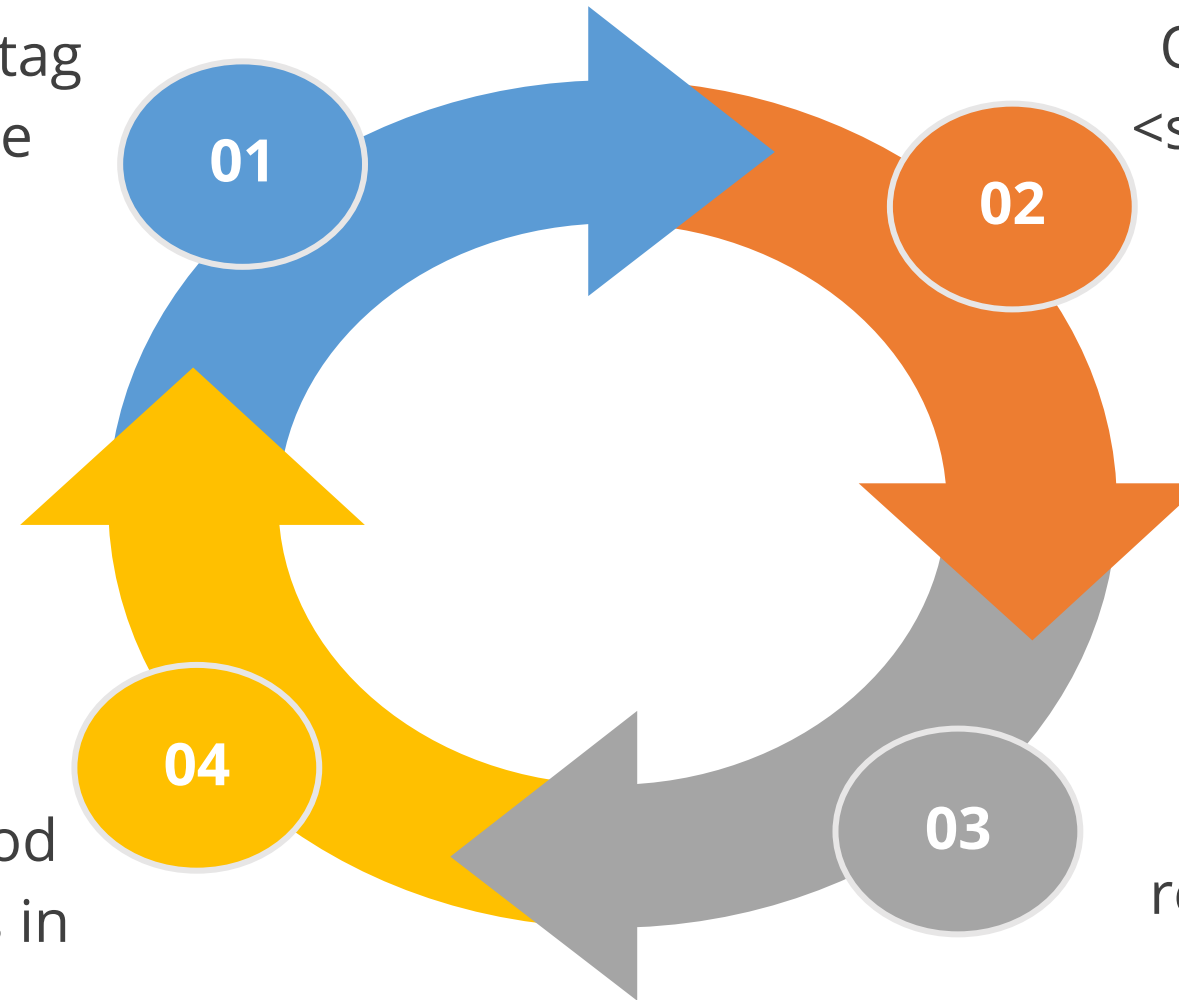
Concepts Used in TestNG.xml

Test is represented by `<test>` tag and can contain one or more TestNG classes.

One XML file is defined by the `<suite>` tag and can contain one or more tests.

The `<class>` tag is used to represent it, and it can contain one or more test methods.

A test method is a Java method annotated by `@Test` methods in the source file.



Steps to Create TestNG.Xml File



Right-click on the project folder, go to New and select the file



Add the file name as testng.xml and click on the Finish button



Add the XML code in your testng.xml file and name the test as per the requirements



Right-click on the TestNG xml file and select Run
As > TestNG Suite

Annotation Attributes

Some important annotation attributes are:

Attributes	Explanation
description	Used to provide a description to the test method
timeOut	Used to specify the tests timeout value (in milliseconds)
priority	Used to prioritize the various test methods
enabled	Used to specify whether the given test method should be run with the suite or class
groups	Used to specify which group does the test method belong to

Annotation Attributes

Some important annotation attributes are:

Attributes	Explanation
dependsOnMethods	Used to specify the methods on which the test method depends
dependsOnGroups	Used to specify the groups on which the test method depends
dataProvider	Used to specify the name of the data provider for the test
alwaysRun	Used to set the test method as true even if the dependent methods fail

FULL STACK

@Configuration Annotations

@Configuration Annotations

The @Configuration annotation denotes that a class declares one or more @Bean methods, which the spring container can use to generate bean definitions and service requests for those beans at runtime.



This annotation is a part of the spring core framework.

Key Takeaways

- TestNG annotations are used to control the next method to be executed in the test script.
- Testng.xml file defines the runtime definition of a test suit.
- The framework recognizes and runs all the tests in a suite, and a test report is generated.
- The @Configuration annotation indicates that an object is a source of bean definitions at the class level.

