

# TECHNOLOGY



## Automation Testing

## TestNG Listeners





# A Day in the Life of an Automation Test Engineer

John has become familiar with many features of TestNG after testing multiple projects. Now, his task is to generate reports based on the behavior of the script.

His next step is to learn about listeners that are used to check events from a script, modify their behavior based on log files and customize TestNG reports accordingly.

To achieve the above, he must learn about listeners and their types and uses in this lesson.



# Learning Objectives

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

- 👁 Define listeners
- 👁 Comprehend types of listeners
- 👁 Discuss the advantages of listeners



# TECHNOLOGY

## Listeners

# Listeners

Listeners are TestNG annotations that listen to the events in a script and modify TestNG behavior. They are used to generate log files and customize TestNG reports.



A listener is an interface that is used by the Selenium Web Driver script.

# Listeners

TestNG listeners can be implemented at two levels:

Class Level

Suite Level



## Types of Listeners



# Types of Listeners

The TestNG's behavior can be controlled using several types of listeners.

01

IAnnotationTransformer

02

IExecutionListener

04

IInvokedListener

05

IMethodInterceptor

03

IHookableListener

# Types of Listeners

Some of the TestNG listeners are:

06 IReporter

07 ISuiteListener

09 IConfigurationListener

08 ITestListener

10 IConfigurableListener

# IAnnotationTransformer

IAnnotationTransformer is used to override annotation content. It has only one method named transform(), which accepts four parameters:

01

ITestAnnotation annotation

02

Class testClass

03

Constructor testConstructor

04

Method testMethod



# IExecutionListener

IExecutionListener is used to start or stop the server during code execution.  
There are two methods available for execution:

01

onExecutionStart

02

onExecutionFinish





# InvokedMethodListener

The `InvokedMethodListener` is invoked before and after methods in TestNG, and they are useful for setting up configuration or other cleanup activities.

01

`beforeInvocation()`

02

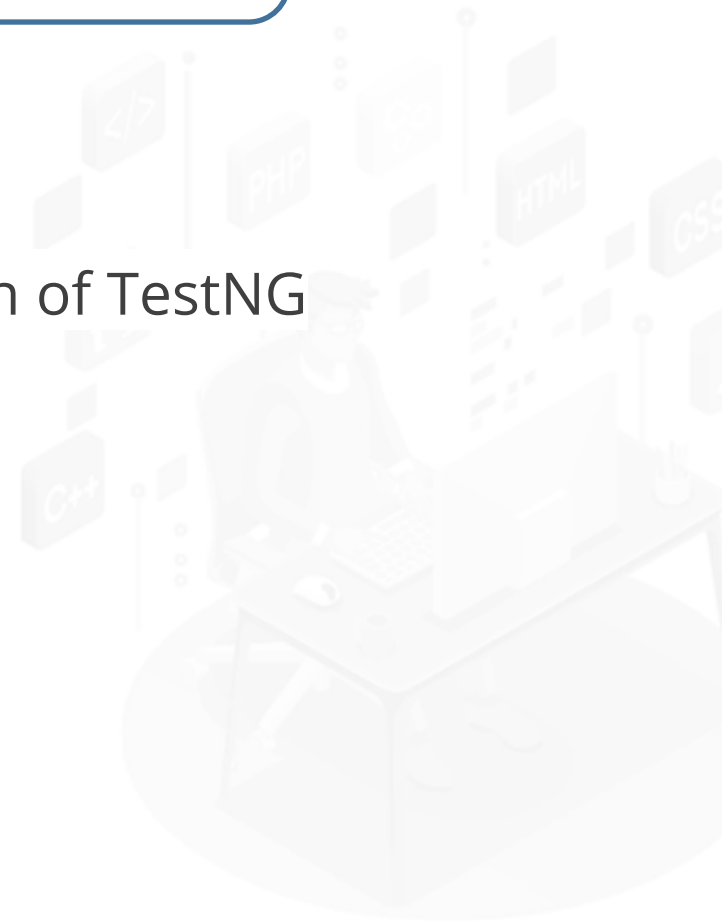
`afterInvocation()`



# IMethodInterceptor

The IMethodInterceptor interface only has one method, intercept, which returns a modified list of test methods. The main tasks are as follows:

- 01 This method returns the list of IMethodInstances after the execution of TestNG
- 02 It sorts the list of test methods.



# IHookableListener

The IHookableListener is used to perform tasks before running a method, such as authenticating JAAS or setting permissions for the test methods.

01

run() method

The IHookableListener interface use run() method instead of the @Test method during execution.

# IReporterListener

IReporterListener generates custom reports based on the conditions that the user specifies in TestNG. It consists of three parameters:

01

XMLSuite

02

suites

03

outputDirectory





# ISuiteListener

ISuiteListener operates during the execution of the suite. It listens and runs before the start and end of the execution. It consists of two methods:

01

onStart()

02

onFinish()



# ITestListener

ITestListener is an interface that is implemented in a class, and that class overrides the methods defined by ITestListener. It consists of the following methods:

01

onStart()

02

onTestSuccess()

03

onTestFailure()

04

onTestSkipped()

05

onTestFailedButWithinSuccess  
Percentage()

06

onFinish()

# IConfigurationListener()

IConfigurationListener is used in Selenium WebDriver to record events only if the configuration method is passed, failed, or skipped. It consists of the following methods:

01

onConfigurationSuccess

02

onConfigurationFailure

03

onConfigurationSkip



# IConfigurableListener()

IConfigurable skips the invocation of test methods and provides a run method that is invoked instead of each configuration method found.

CallBack()

IConfigureCallBack's callBack() method invokes the configuration method.





## Benefits of Listeners

# Benefits of Listeners

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01

Listeners can modify the default behavior of the TestNG tool.

02

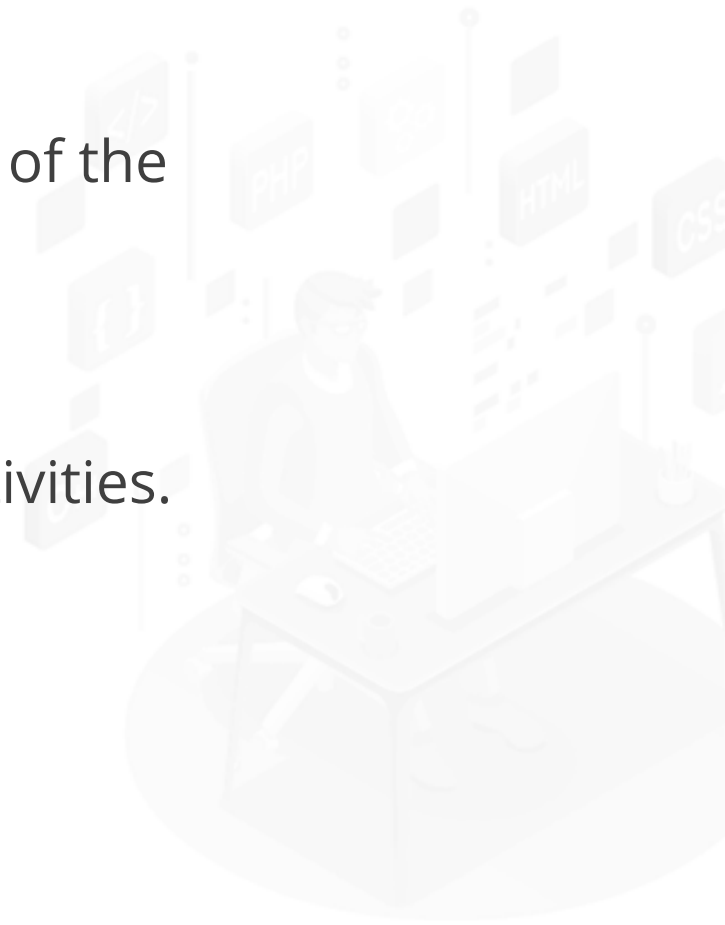
They can be implemented throughout the test suite irrespective of the number of classes.

03

They are useful for setting up configuration or other cleanup activities.

04

They automate the setup of prerequisites prior to testing.



## Key Takeaways

- Listeners generate logs and customize TestNG reports.
- They come in several types and can be used per user testing requirements.
- A listener is an interface that is used by the Selenium web driver script.
- They automate the set-up process, configuration, and clean-up tasks.

