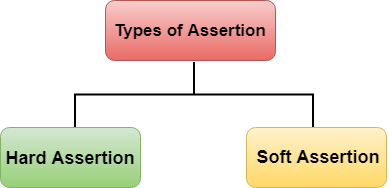
Assertions

Assertion determines the state of the application whether it is the same what we are expecting or not. If the assertion fails, then the test case is failed and stops the execution.

**There are two types of Assertion:**

* Hard Assertion
* Soft Assertion



## **Hard Assertion**

Hard Assertion is an Assertion that throws the **AssertException** when the test case is failed. In the case of Hard Assertion, you can handle the error by using a catch block like a java exception. Suppose we have two test cases in a suite. The first test case in a suite has an assertion that fails, and if we want to run the second case in a suit, then we need to handle the assertion error. A Hard Assertion contains the following methods:

* AssertEquals
* AssertNotEquals
* AssertTrue
* AssertFalse
* AssertNull
* AssertNotNull

Once the assert statement fails, the current test is skipped and the test suite continues with the next @Test.

Here are a few examples where Hard Asserts in Selenium WebDriver Java can be extremely helpful:

* The customer is on the login page of the website and the login verification fails as the customer credentials are not correct. Here, a hard assertion can be thrown since the subsequent tests would be based on the condition that ‘customer login is successful’.
* Hard assert should be thrown if the current page URL does not match with the expected URL.

## **SoftAssertion**

Till now, we have learnt about the Hard Assertion in Web Driver using Testng framework. In hard assertion, if an assertion fails then it aborts the test case otherwise it continues the execution. Sometimes we want to execute the whole script even if the assertion fails. This is not possible in Hard Assertion. To overcome this problem, we need to use a soft assertion in testng.

In scenarios where you want the test execution to continue even after the failure of a test step, you should make use of Soft Assert in Selenium WebDriver. Unlike hard asserts; soft asserts do not throw any exception on the failure of the assert and continue to the next step even after encountering an assert.

Soft assert collects all the asserts encountered when running the @Test methods. The assertAll() method is called to throw all the exceptions caught during the process of Selenium test automation execution.

Soft Asserts are not included by default in the TestNG framework. You have to include the package org.testng.asserts.Softassert when soft assert has to be used in the tests.

Soft Assert in Selenium WebDriver should be used in scenarios where the failure of certain conditions (or test steps) does not hamper the execution of other test steps in that method.

**Assert Equals**

The assertEquals method compares the actual object (or result) with the expected object (or result). The objects to be compared could be string, integer, byte, character, etc.

**Assert Not Equals**

The assertNotEquals method also compares the actual object (or result) with the expected object (or result). assertNotEquals is the opposite of assertEquals assertion.

**Assert True**

Assertion verifies the boolean value returned by a condition. If the boolean value is true, then assertion passes the test case, and if the boolean value is false, then assertion aborts the test case by an exception.

**Assert False**

Assertion verifies the boolean value returned by a condition. If the boolean value is false, then assertion passes the test case, and if the boolean value is true, then assertion aborts the test case by an exception.

**Assert Not Null**

The assertNotNull method is used for checking if a particular object is NULL or not. This method throws an assert if the object has some value (i.e. it is not NULL). In case of an assert, the current test method is aborted with an exception.

**Assert Null**

AssertNull() is a method that verifies whether the object is null or not. If an object is null, then assertion passes the test case, and the test case is marked as "passed", and if an object is not null, then assertion aborts the test case and the test case is marked as "failed".