

## Viva Questions and Answers- STQA Lab

1. What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?

**A:** SDLC deals with development/coding of the software while STLC deals with validation and verification of the software.

2. What is white box testing and list the types of white box testing?

**A:** White box testing technique involves selection of test cases based on an analysis of the internal structure (Code coverage, branches coverage, paths coverage, condition coverage, etc.) of a component or system. It is also known as Code-Based testing or Structural testing. Different types of white box testing are

Statement Coverage

Decision Coverage.

3. What is black box testing? What are the different black box testing techniques?

**A:** Black box testing is the software testing method which is used to test the software without knowing the internal structure of code or program. This testing is usually done to check the functionality of an application. The different black box testing techniques are Equivalence Partitioning, Boundary Value Analysis, Cause effect graphing.

4. What are verification and validation?

**A:** Verification is a process of evaluating software at the development phase. It helps you to decide whether the product of a given application satisfies the specified requirements. Validation is the process of evaluating software at the after the development process and to check whether it meets the customer requirements.

5. What are the different test levels?

1. Unit/component/program/module testing
2. Integration testing
3. System testing
4. Acceptance testing

6. What Test Plans consists of?

**A:** Test design, scope, test strategies, approach are various details that Test plan document consists of.

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1. Test case identifier
2. Scope
3. Features to be tested
4. Features not to be tested
5. Test strategy & Test approach
6. Test deliverables
7. Responsibilities
8. Staffing and training
9. Risk and Contingencies

### 7. What is the difference between UAT (User Acceptance Testing) and System testing?

**A:** System Testing: System testing is finding defects when the system undergoes testing as a whole; it is also known as end-to-end testing. In such type of testing, the application suffers from beginning till the end.

UAT: User Acceptance Testing (UAT) involves running a product through a series of specific tests which determines whether the product will meet the needs of its users.

### 8. What are the valuable steps to resolve issues while testing?

- Record: Log and handle any problems which have happened
- Report: Report the issues to higher level manager
- Control: Define the issue management process

### 9. What is the difference between test scenarios, test cases, and test script?

A: Difference between test scenarios and test cases is that

**Test Scenarios:** A Test Scenario is any functionality that can be tested. It is also called Test Condition or Test Possibility.

**Test Cases:** It is a document that contains the steps that have to be executed; it has been planned earlier.

**Test Script:** It is written in a programming language and it's a short program used to test part of the functionality of the software system. In other words a written set of steps that should be performed manually.

### 10. What are the common mistakes which create issues?

- Matching resources to wrong projects
- Test manager lack of skills
- Not listening to others
- Poor Scheduling
- Underestimating

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- Ignoring the small problems
- Not following the process

11. What is test management review and why it is important?

A: Management review is also referred to Software Quality Assurance or SQA. SQA focuses more on the software process rather than the software work products. It is a set of activities designed to make sure that the project manager follows the standard process. SQA helps test manager to benchmark the project against the set standards.

12. What are the best practices for software quality assurance?

A: The best practices for an effective SQA implementation is

- Continuous Improvement
- Documentation
- Tool Usage
- Metrics
- Responsibility by team members
- Experienced SQA auditors

13. Mention what the difference between a “defect” and a “failure” in software testing is?

A: In simple terms when a defect reaches the end customer, it is called a failure while the defect is identified internally and resolved; then it is referred to as a defect.

14. What is Selenium and what is composed of?

A: Selenium is a suite of tools for automated web testing. It is composed of

- **Selenium IDE (Integrated Development Environment)** : It is a tool for recording and playing back. It is a firefox plugin
- **WebDriver and RC**: It provide the APIs for a variety of languages like Java, .NET, PHP, etc. With most of the browsers Webdriver and RC works.
- **Grid**: With the help of Grid you can distribute tests on multiple machines so that test can be run parallel which helps in cutting down the time required for running in browser test suites.

15. How will you find an element using Selenium?

A: In Selenium every object or control in a web page is referred as elements, there are different ways to find an element in a web page they are

- ID

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- Name
- Tag
- Attribute
- CSS
- Linktext
- PartialLink Text
- Xpath etc.

16. what is the use of X-path?

A: X-Path is used to find the WebElement in web pages. It is also useful in identifying the dynamic elements.

17. What is the difference between verify and assert commands?

A: **Assert:** Assert allows to check whether an element is on the page or not. The test will stop on the step failed, if the asserted element is not available. In other words, the test will terminated at the point where check fails.

**Verify:** Verify command will check whether the element is on the page, if it is not then the test will carry on executing. In verification, all the commands are going to run guaranteed even if any of test fails.

18. What is JUnit Annotations and what are different types of annotations which are useful ?

A: In JAVA a special form of syntactic meta-data can be added to Java source code, this is know as Annotations. Variables, parameters, packages, methods and classes are annotated some of the Junit annotations which can be useful are

- Test
- Before
- After
- Ignore
- BeforeClass
- AfterClass
- RunWith

19. What are the advantages of Selenium?

- It supports C#, PHP, Java, Perl, Python
- It supports different OS like Windows, [Linux](#) and Mac OS
- It has got powerful methods to locate elements (Xpath, DOM , CSS)
- It has highly developer community supported by Google

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20. What are the four parameters you have to pass in Selenium?

A: Four parameters that you have to pass in Selenium are

- Host
- Port Number
- Browser
- URL

21. Explain what is the difference between find elements () and find element () ?

A: find element ():

It finds the first element within the current page using the given “locating mechanism”. It returns a single WebElement

findElements () : Using the given “locating mechanism” find all the elements within the current page. It returns a list of web elements.

22. Explain what is Datadriven framework and Keyword driven?

A: **Datadriven framework:** In this framework, the test data is separated and kept outside the Test Scripts, while Test Case logic resides in Test Scripts. Test data is read from the external files ( Excel Files) and are loaded into the variables inside the Test Script. Variables are used for both for input values and for verification values.

**Keyworddriven framework:** The keyword driven frameworks requires the development of data tables and keywords, independent of the test automation. In a keyword driven test, the functionality of the application under test is documented in a table as well as step by step instructions for each test.

23. Explain how you can switch between frames?

A: To switch between frames webdrivers [ **driver.switchTo().frame()** ] method takes one of the three possible arguments

- A number: It selects the number by its (zero-based) index
- A name or ID: Select a frame by its name or ID
- Previously found WebElement: Using its previously located WebElement select a frame.

24. List out different types of locators?

A: Different types of locators are

- By.id()
- By.name()

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- By.tagName()
- By.className()
- By.linkText()
- By.partialLinkText()
- By.xpath
- By.cssSelector()

**25.**What are the types of reports generated in TestNG by default?

**A:** TestNG generates two types of reports by default after the execution of all the test methods finishes. They are:

- *Emailable Reports*
- *Index Reports*

**26.**Where is the emailable report generated and saved in TestNG?

**A:** Emailable reports generate under the project folder and test-output subfolder. This report is available as "***emailable-report.html***" by default.

**27.** Where is the index report generated and saved in TestNG?

**A:** The index report generates under the project folder and test-output subfolder. Moreover, this report is available as "***index.html***" by default.

**28.** What is parameterization in TestNG?

**A:** In TestNG, parameterization runs a test method multiple times with different values. Another name for this process is data-driven testing in TestNG. We can acquire Parameterization in TestNG in two ways:

- Firstly, we can achieve it through the XML file.
- Secondly, we can achieve it through the dataproviders in TestNG.

**29.** What is the importance of groups in TestNG?

**A:** Groups are the collection of multiple test case methods combined into one single unit. By grouping, we can operate directly onto the group, which will reflect on all the test case methods under it. Moreover, in TestNG, we can also create a group of groups as a bigger unit of test methods.

**30.**What do you understand by asserts in TestNG?

**A:** An asset is a piece of code that helps us verify if the expected result and the actual result are equal or not. In TestNG, we leverage the inbuilt "***Assert***" class and a lot of its method to determine whether the test

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case passed or failed. Additionally, in TestNG, a test case acts as a "*pass*" if none of the assert methods throws an exception during the execution. The syntax for TestNG assert is:

```
Assert.Method(actual, expected, message);
```

31. What are the different types of assert in TestNG?

A: There are two types of assert in TestNG:

- *Soft Asserts*
- *Hard Asserts*

32. Define soft asserts in TestNG and describe how they are different from hard assert.?

A: Soft asserts in TestNG means that the execution of the tests would not stop even though the assertion throws an exception in between the execution. In addition to this, TestNG does not include Soft asserts by default in TestNG, so an extra *org.testng.asserts.SoftAssert* package import is required.

33. What is a **Framework**?

A: A framework defines a set of rules or best practices which we can follow in a systematic way to achieve the desired results.

34. Tell me some popular Test Automation Frameworks?

A: There are different types of test automation frameworks and the most common ones are:

- Modular Testing Framework
- Data Driven Testing Framework
- Keyword Driven Testing Framework
- Hybrid Testing Framework
- Behavior Driven Development Framework

35. What are the advantages of using Test Automation Framework?

1. Saves time and money. Automation testing is faster in execution
2. Reusability of code. Create one time and execute multiple times with less or no maintenance
3. Easy reporting. It generates automatic reports after test execution
4. Easy for compatibility testing. It enables parallel execution in combination of different OS and browser environments
5. Low cost maintenance. It is cheaper compared to manual testing in a long run
6. Automated testing is more reliable
7. Automated testing is more powerful and versatile
8. It is mostly used for regression testing. Supports execution of repeated test cases
9. Minimal manual intervention. Test scripts can be run unattended

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10. Maximum coverage. It helps to increase the test coverage

**36.** What is Automation testing? What are the advantages of Automation Testing?

**A:** Automation testing is the process of testing the software using an automation tool to find the defects. In this process, executing the test scripts and generating the results are performed automatically by automation tools. Some most popular tools to do automation testing are HP QTP/UFT, [Selenium WebDriver](#), etc.,

**37.** Why do you prefer Selenium Automation Tool?

1. Free and open source
2. Have large user base and helping communities
3. [Cross-browser](#) compatibility
4. Platform compatibility
5. Multiple programming languages support

**38.** What is Agile testing and what is the importance of Agile testing?

**A:** Agile testing is software testing, is testing using Agile Methodology. The importance of this testing is that, unlike normal testing process, this testing does not wait for the development team to complete the coding first and then doing testing. The coding and testing both goes simultaneously. It requires continuous customer interaction.

**39.** What is Test case?

**A:** Test case is a specific condition to check against the Application Under Test. It has information of test steps, prerequisites, test environment, and outputs.

**40.** What is Quality Assurance?

**A:** QA stands Quality Assurance. QA is a set of activities designed to ensure that the developed software meets all the specifications or requirements mentioned in the SRS document.

**41.** Explain the types of documents in Software Quality Assurance?

o **A: Requirement Document**

All the functionalities are to be added in the application are documented in terms of Requirements, and the document is known as Requirement document. This Requirement document is made by the collaboration of various people in the project team like developers, testers, Business Analysts, etc.

o **Test Metrics**

Test Metrics is a quantitative measure that determines the quality and effectiveness of the testing process.



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### o Test plan

It defines the strategy which will be applied to test an application, the resources that will be used, the test environment in which testing will be performed, and scheduling of test activities will be done.

### o Test cases

A test case is a set of steps, and conditions used at the time of testing. This activity is performed to verify whether all the functionalities of software are working properly or not. There can be various types of test cases such as logical, functional, error, negative test cases, physical test cases, UI test cases, etc.

### o Traceability matrix

Traceability matrix is a table that traces and maps the user requirements with test cases. The main aim of Requirement Traceability Matrix is to see that all test cases are covered so that no functionality miss during the software testing.

### o Test scenario

A test scenario is a collection set of test cases which helps the testing team to determine the positive and negative aspects of a project.

## 42. What is the difference between Quality Assurance, Quality Control, and Testing?

**A:** Quality Assurance is the process of planning and defining the way of monitoring and implementing the quality(test) processes within a team and organization. This method defines and sets the quality standards of the projects.

Quality Control is the process of finding defects and providing suggestions to improve the quality of the software. The methods used by Quality Control are usually established by quality assurance. It is the primary responsibility of the testing team to implement quality control.

Testing is the process of finding defects/bugs. It validates whether the software built by the development team meets the requirements set by the user and the standards set by the organization.

Here, the main focus is on finding bugs and the testing teams work as a quality gatekeeper.

## 43. What is the difference between the Test Plan and Test Strategy?

**A:** Test Strategy is at a higher level, mostly created by the Project Manager which demonstrates the overall approach of the testing for the entire project, whereas the Test plan depicts how the testing should be performed for a particular application, falling under a project.

## 44. Explain the difference between driver.close() and driver.quit() command in Selenium?

**A:** **driver.close()** command closes the currently active window on which the user is working or the window being currently accessed by the web driver.

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**driver.quit()** command, unlike the **driver.close()** command closes all the windows opened by the program and hence should be used with care.

45. Explain the various navigation commands supported by Selenium?

**A:** Selenium has the support of majorly 4 navigation commands:

1. **navigate().back():** This command is used for taking the user to the last webpage of the browser history.
2. **navigate().forward():** This command is used for taking the user to the next web page of the browser history.
3. **navigate().refresh():** This command is used for reloading the web components of a webpage by refreshing it.
4. **navigate().to():** This command is used for navigating to a particular URL in a new web browser. It takes the URL to be migrated to, as a parameter.

46. How does Selenium handle Windows-based pop-ups?

**A:** Selenium was designed to handle web applications. Windows-based features are not natively supported by Selenium. However, third-party tools like AutoIT, Robot, etc can be integrated with Selenium to handle pop-ups and other Windows-based features.

47. What are the advantages of automation testing?

- o **A:** Automation testing supports both functional and performance test on an application.
- o It supports the execution of repeated test cases.
- o It facilitates parallel execution.
- o It aids in testing a large test matrix.
- o It improves accuracy because there are no chances of human errors.
- o It saves time and money.

48. What is Selenium?

**A:** Selenium is a portable framework for software testing. Selenium tool facilitates with a playback tool for authoring functional tests without the need to learn a test scripting language.

Selenium is one of the most widely used open source Web UI (User Interface) automation testing suite. **Jason Huggins** developed Selenium in 2004 as an internal tool at **Thought Works**. Selenium supports automation across different browsers, platforms, and programming languages.

49. What is Selenium IDE?

**A:** Selenium IDE is implemented as Firefox extension which provides record and playback functionality on test scripts. It allows testers to export recorded scripts in many languages like HTML, Java, Ruby, RSpec, Python, C#, JUnit and TestNG.

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50. What do you mean by the assertion in Selenium?

The assertion is used as a verification point. It verifies that the state of the application conforms to what is expected. The types of assertion are "assert", "verify" and "waitFor".

END....!!!

### Links

Reference links

<https://www.guru99.com/top-100-selenium-interview-questions-answers.html>

<https://www.guru99.com/software-testing-interview-questions.html>

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