

Imagine the following situation: you are joining a cross-functional team which builds a front-end application using REST APIs. You are a first QA engineer and need to establish a QA process in the team.

1. What would you do in your first few days of work? Where would you start?

Answer: *In first few days I will work on following points:*

1) **What is the API's purpose:** Knowing the purpose of the API will make basic structure of well prepare your test data for input and output. For example, for some APIs, you will verify the responses against the database and for some others, it is better to verify the responses against other APIs.

2) **What is the workflow of the application and where is the API in that flow:**

Generally, APIs of an application are used to manipulate its resources. They are used to read, create, update. Knowing the purpose of the API will set a firm foundation for you to well prepare your test data for input and output. This step also helps you define the verification approach. For example, for some APIs, you will verify the responses against the database; and for some others, it is better to verify the responses against other APIs.

For example, the output of the "Create user" API will be the input of the "Get user" API for verification. The output of the "Get user" API can be used as the input of the "Update user" API, and so on.

Where would you start:

I will first Focus on small functional APIs and work on sanity testing of basic cases via front-end to capture all the bugs and issues found in UI and REST API. and later I will start developing automation test suite as follows:

- a) Create a basic skeleton for testing the REST API's.
- b) After that I will work on Selenium based test suite for automating regression test cases of UI for build verification test.
- c) to ensure that the implementation is working correctly as expected — no bugs!

2. **Which process would you establish around testing new functionality?**

Answer:

Testing of any new functionality are following steps:

- a) New feature should be tested by first manually to test all the area of test cases and verify testcases which can be added to automation test suite.

- b) To ensure that the implementation is working as specified according to the requirements specification so that we don't have more bugs.
- c) Existing regression and unit test cases should work correctly on test environment where the functionality is deployed to avoiding any integration issue impacting existing functionality of application.
- d) Update the test suite (REST API & WEB) for relevant cases to ensure complete sanity of the application.

3. ***Which techniques or best practices in terms of code architecture and test design would you use in your automated tests?***

Answer:

We all use test automation to save time and achieve deliverables faster. All it demands is proper prioritization, planning an automated test plan, and understanding of the tech stack. For instance, giving high priority to repetitive test cases and regression tests can save you a considerable amount of time.

Following best practice should be a part in case of UI test automation:

- a) Page Factory design pattern should be used.
- b) Consider using a BDD framework
- c) Parameterize the domain/environment where test is to be executed to enable easy test execution on multiple environments
- d) Parallel execution of test cases on different browser/OS by ensure each test case is independent of each other.
- e) Make tests simpler instead of adding comments
- f) Ensure all the configurations are in one xml file to provision single source of control for all feature test.
- g) Take screenshots on failed test cases
- h) Log all actions being performed in test execution.
- i) A good test reports that will helps after testcases execution.