

The second round QA Engineer interview evaluates your skills through a take-home project. The solution should be preferably implemented using a Node language.

The requirements for the take-home assignment consist of two mandatory and one optional sub-task. Those are;

1) Write an automated test for an e-commerce site, picking one of your favourite websites. You need to implement the following tests:

- Login
- Searching products by three criteria
- Adding products to the cart
- Checkout process without actually paying for
- Add an HTML report of test results

2) Write an automated test for a REST API service

- Choose an API of your liking. Here are some sources: <https://github.com/public-apis/public-apis>, <https://swapi.dev/>, <https://any-api.com/>
- Create a project that integrates with this API
- Write 2 test cases (it can be happy paths; you don't need to find bugs)

For the two tasks above;

- Please prepare a document with the test flows and test cases. The documents must be clear both to the developer and to someone who is not familiar with the technology.
- Clear instructions on how to run the project and see the tests pass.
- Clean code. It is important for Shell Recharge that other people can jump in any project with minimal effort.
- (BONUS) Find a bug either on the website or API.
- (BONUS) Run tests in a continuous integration tool and optionally in the cloud.

3) OPTIONAL - Pick a random web application and create a load test with a tool of your choice but using an HTTP/S protocol.

Load test needs to simulate 1000 users who will visit the homepage in a period of 15s. Measure web application response time before and during the test run.

- Explain the test in detail
- Did the load test have an impact on web application response time?
- What is the optimal application response time for modern-day web applications?
- Analyse a few HTTP/S responses

Bear in mind that you are expected to present a finished project during the 2nd technical interview. Please share your work in a private repository prior to the interview.