Test Strategy

Since no documentation is available, to test <https://www.saucedemo.com>, it’s necessary use Exploratory testing approach, hence the QA Engineer tests the software during utilizing. The QA Engineer gets know the behavior of software in based of how the software responses to the QA’s action, and with career experiences.

Exploratory Testing is often thought as Black-box testing, indeed the QA doesn’t matter how the software is coded, the QA uses the software as a black-box and with input the QA got the result and in based of result they assert the Software behavior.

To Test <https://www.saucedemo.com>, the QA has to use the browser, best choice is select Google Chrome since it is the most browser used in the world.

So with browser, the QA can use the web application and test it.

Knowling other information as API (Application programming interface) available, the QA Engineer could be using other tools like PostMan or Apache JMeter.

Of course, for the first time, the QA engineer runs Functional Testing without Regression Testing, because let’s say the Web Application is new so Regression Test Scenarios is not already available. While for the next version of web application, the regression test scenarios should be got and available for the future test plan.

For one e-commerce it’s crucial doing Performance Testing, since it should be having a lot of users logged contemporary, hence ones coding is done, Functional & Regression testing are done, ones QA Engineer knows that the web application works as it should, it’s needed to execute Load Testing to measure how the application performs under high traffic loads, Stress Testing to determining maximum capacity. Some tools useful to find performance weakness are JMeter, LoadRunner or Gatling. (For example, one standard rule of web application domain is that the server should reply in 7 seconds to user’s request, and this rule should be checked during performance testing)

While, during development phase, before the end of coding phase, the Developers should do White-Box testing (Unit-Test), using conditional approach to cover the most part of codebase.

For the Static Testing, an use of SonarQube should be useful, to determine the test coverage (with Unit-test) and other coding weakness as Bugs, code smells, the quality of coding.

If the web application is accessible with Mobile device, the QA Engineer would have to do Mobile Testing phase.

About automation, since it’s not possible to automate anything we want, QA Engineer should identify only “automatable” test scenarios, the test scenarios time consuming for the QAs, the repetitive test scenarios that cannot change in the future or almost , typically the regression test scenarios could be automated .

In this case, to automate test scenarios we are using Selenium Framework, with Java Programming Language and IntelliJ as IDE. Furthermore, we have to use Cucumber Framework which use BDD ( Behavior Driven Development) as way of working and its traditional language parser called Gherkin Syntax.   
First of all we are creating Feature files, which contain Test scenarios written with simple key words as: Scenario, When, Then, And, But, Given, Background

After written that, we are creating Step Files in which there are the coding step written in Java related to Test Scenarios.

The design pattern used is Singleton Design Pattern, since this is a simple e-commerce prove, otherwise it could be using Page Object Model design pattern, to make the overall more maintainable.

These test scenarios automated have to be configurated in CI/CD pipeline, in order to run them upon new changes from development are done, thus QA Engineer knows immediately if these new changes has been creating regression.

The same process (about CI/CD pipeline) should be done for Unit Test.