QST Lab

July 2021

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Document Control

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Earlier versions	

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1. Purpose of Document

This document is created to build a holistic Lab for QST which will allow QAs to learn various tools, techniques, technologies & framework in the field of Testing. In the process they will be able to upskill & cross skill themselves. The requirement for moving from one stack to another depends on various factors – self learning or project requirement.

2. Intended Audience

Below are some of the skills that the engineers will be able to upgrade to when they perform the lab exercises

- Automation Testing
  - **Web UI** - Using Selenium WebDriver, Protractor, Katalon, Cypress, etc.
  - **API Testing -** Using RESTassured, core libs related to Java/C# or any other programming languages
  - **Database Testing** – Ability to query the database within the framework
  - **Test Data Management** using excel, csv, app's database or external services like GenRocket, Faker, etc.
  - **BDD Implementation** – Frameworks like Cucumber, JBehave, etc.
  - **Mobile Testing** – to be implemented later
  - **CI/CD Integration** – Integrate the above solutions to run using tools like Jenkins, Azure Devops, etc.
- Manual Testing
  - Write Testcases based on the defined guidelines

3. Predesigned Learning Paths

Based on our analysis, we have categorized various areas that the engineer can pick from. However, depending on the requirements, the lab exercises can be customized.
From the selected category the engineer can customize his path based on discussion with Mentor & depending on the requirement, skills learnt, etc.

- WebUI
  - Tools/frameworks like Selenium, Cypress, Protractor, etc. can be used here
  - Select the language of choice – Java, C# or the one supported by the selected framework
- Test Frameworks
  - Leverage frameworks like TestNG or BDD based frameworks like Cucumber, JBehave or use plain old Junit to manage the test scripts
- Test Data Management
  - Build database connections & query the application database & get the required data
  - Use excel or csv files to store test data & access them in the scripts
  - External data sources can be used as well like Faker, GenRocket to name a few
- API
  - Understand how the APIs work for the AUT
  - Leverage the APIs in your existing UI scripts
  - OR test the APIs based on the test cases defined

As the various items from the above areas are worked upon, the engineer can also start to think on other important points like:

- Integration of Reports like Allure, Extent or any other available reports
- Execution of tests using Jenkins or any other CI/CD platform
- For Java specific projects, convert the existing project in Maven

- Execution of tests on Cloud platforms like SauceLabs, BrowserStack, Perfecto, etc.

Note: All the above items are first to be discussed & agreed upon with the mentor & then to be progressed.

4. Overview of the application

RMM is a web-based application with its easy-to-use, do-it-yourself interface for regulatory, contractual and operational rules, enabled the client to configure, audit and operationalize standard and custom rules centrally and drive BI / analytics success.

5. App Workflows & Regression Suite Overview

- For the purpose of this lab, we have identified few modules & around 60 tests are created.
- Here are the links to various documents:
  - App understanding document – Click Here
  - App overview recording – Click Here
  - Regression Suite – Click Here

6. Prerequisites to get started

#	Prerequisite	Details	How to get it done
1	Trainings related to the skills	All trainings related to the skills. E.g.: CTZens who want to complete the lab for Java & Selenium need to undergo trainings related to these skills	Register for the training program from UniverCT
2	Installations of required software	Depending on the lab activity picked up, here are the list of software that one may need.	Raise IT Ticket
3	Access to App	The following accesses will be required in order for you to proceed with the labs – • Access to the site (app under test) • Access to database (if required) • User credentials	• Get approval from Hitangi Savla • Raise an IT ticket attaching the approval
4	Access to Automation scenarios & video recordings	Spend 2-3 hrs. on the prerecorded sessions.	Mail to Hitangi Savla to get access
5	Assignment of a reviewer/mentor	To ensure that that the guidelines are adhered & provide timely feedback	Drop mail to Hitangi Savla for mentor
6	Access to CT git	A dedicated branch where code will be pushed & pull requests will be reviewed & merged http://10.30.5.71/users/sign_in	Drop mail to Hitangi

7. Guidelines & timelines to be followed

Here is the link to the document that has all the detailed guidelines that are to be adhered – Click Here

8. Review process

- Once the mentor is assigned & all the prerequisites are taken care. The expectation is that the exercises will be done in adherence to the guidelines lied down.
- There may be certain exceptions where a certain guideline may not be applicable. Those points will be up for discussion between the mentor & the mentee
- There will be periodic review of the exercises, should not wait for the last day for code review
- The review process should be in adherence to the already established Git processes like creating pull requests, where reviewer will provide comments & next steps to finalize the code will be done accordingly
- Code Check-in review guidelines – Click Here