AUTO - mấy năm

It about 5 years . Usually I will focus on automation but if needed, I switch to manual testing to support my team member. So I did both manual testing and automation testing on previous projects.

KATALON - mấy năm

About 4 years

KATALON – Kind of test

Mostly I use katalon for webUI, sometime for api and mobile because I usually use appium for mobile

KATALON - Keyword

There are many types of wait in katalon but some I use often are wait for element present, wait for element visible, wait for element clickable... And I use wait to wait for the element as expectation before proceed to the next step.

KATALON – 3 method scripting

There are 3 ways to create test scripts in katalon: Record & Play, Manual mode, and Scripting mode.

I think Record and manual mode is suitable for people with little technical knowledge to create scripts easily

Script mode is suitable for people who can code to handle complex logic in test cases, example: DDT, Database

ESTIMATE - Criteria

To estimate for automation, I think follow some criteria such as:

The First is Complexity of requirement because bigger user story takes more effort to automate

The second is Challenge of technical because sometimes I need to try out solution before giving estimation so need more effort for doing research

The Third is Availibity of reusable components library, keyword, function. So it will take less effort for me to do the next Test script

The final criteria is Human resources & skill of each member in the project

POC- Approach to start auto/ handle auto 1 member

To start automation

First, I need to study the application and evaluate if the application can be automated based on my own technical experience

Then I will pick about 10 common TCs to automate the POC and demo with the team to prove my solution work

Next, I will define scope by picking a set of important test cases to automate and Estimate how long to automate that set of test cases

Finally I will start scripting, setup CI/CD, integration with azure devops

During test script creation, I need to execute, maintain and optimize

PLAN

Study application and do POC

Select tool and technical for creating test script

Select system/ device to run CI/CD

Pick set of test case to be automated

Define estimation and time timeline base on scope of automation, human resource, number of TC we need to automate

Risk and mitigation

LEADING -Role

I used to lead some project with around 4 members. My main task are setup my team, make testing plan and estimation. I build basic code project for team member following, assign task to team member, mornitor working progress and review output of member such as test script, test result, report and support in problem solving for member. Also, I need to define risk and mitigation. Besides, I need to give technical advice to members and training for new member

INTEGRATION - Katalon vs ADO

First I go to project settings in Katalon and enable integration with azure devops feature. I fill the organization url and personal access token get from ado to Katalon in order to connect project with ADO.

After that, all test plans on ado will be fetched to the katalon project. I will select the test plan which I want to mark automation test results in and click apply.

Next step I go to integration tab in katalon test script and fill test case ID from ADO to this script. After setting up the above, if I run the script in test suite or test suite collection, outcome is marked to test plan in ADO

Map multiple TC

Put all test ID from ADO to Scenario tag

Then, In the integration tab of Test case in katalon, I fill all ID to the input separated by commas

CI/CD

Yes, I have experience in setting up CI CD for automation.

CI is continuous integration and CD is continuous delivery

To setup, First I need to have an automation code repository in azure devops. I create the pipeline by config the yaml file containing the name of the branch that I want to trigger. Then, when code changes on this branch, the pipeline will be built, and output is an artifact containing the source code ready to run.

Next step, I will create a release link to the pipeline I just created. In the release I need to add the main tasks as Execute Katalon Studio, Pushlish test result task. In execute katalon task, I will configure katalon version and command line with information like testsuite or suite collection path, apikey, browser or something

Finally, I can run the release by clicking the button create manually or set schedule to run automatically

But if I want to mark test result to the test case in azure devops, I need to integration between katalon and ado before. Could I tell about this one?

BDD

To create a script according to the BDD model

First, I write gherkin feature file using Given, When, Then keyword

Given for pre-condition, When for action and Then for expected result of test case

Next, I write step definition to convert gherkin step to groovy code. In this step, I create and store the test objects in the Object repository folder. Then write actions to interact or verify test objects

Finally, I create the test cases and use the run feature file with tag command to run the scenarios in the feature file

DDT

DDT is Data driven testing means running a scenario with multiple dataset

First, I need to prepare an excel file to save the data for test case

Second, I create a test data in the data file folder in katalon and import the excel file I just created

Third, I create a test case with the variable names corresponding to the column names in the excel file. Then I go to the data binding tab of the test case and add the test data to it. I map the test case variable with the columns in the test data and implement test script.

After that when running test case, it will run each scenario with each data row in test data

I have a tip that if I set the variable name of the test case to the same as the column name in the excel file, when I click Map all button in katalon. Then the variable and column will be automatically mapped together instead of having to map each column by hand

POM

Page Object Model, also known as POM, is a design pattern in Selenium that creates an object repository for storing all web elements. It is useful in reducing code duplication and improves test case maintenance.   
   
In Page Object Model, consider each web page of an application as a class file. Each class file will contain only corresponding web page elements. Using these elements, testers can perform operations on the website under test.

Global Variable

To store global variables in katalon, I create profile. Because a web site normally be built on many environments such as dev, stagging, production. So I will create create a profile for each environment and add variables in them. This variable will allow me to use it anywhere in the project.

Also I have another way to create runtime global variable using MetaClass. The runtime variable is only created when I run test script

All TC can be auto?

No. Due to some constraints such as: Technical Time/ effort. For example, if there are technical limitations, it is not possible to automate or not enough effort to automate

Pick TC to automate

Test cases that should be automated are primary functions, highly repetitive and test cases required multiple dataset or combination. Example: login function, homepage…

And we should not automate unstable feature, not critical function, and test case with technical limitation. Example: test case related to email, otp message

WEB CHANGE -> do with script

Check requirement to make sure if the changes are valid.   
   
1. If changes are not valid, which are bugs, revert back to developer for fixing, no need to change automated test script.   
   
2. If the changes are valid, will update automated test script:   
- Identify on the changes whether it comes from UI or the logic. If the change is on UI, we only need to update our xpaths.   
- If the changes is on logic, we need to check which testscript/functions are affected by those changes. After that we have to update our testscript/functions to reflect the changes.

BUG AUTO

I find the bug when run automation test script.

I will execute manually this test case one time first to check it is a real bug or not.

If the test case passed by manually, so it is not a bug, I have to fix my test script.

If the test case is also failed by manually, I will confirm with my team to make sure it is a real bug. And then log it to the system.

ISSUE

Website change: Identify on the changes whether it comes from UI or the logic. If the change is on UI, we only need to update our xpaths. If the changes is on logic, we need to check which testscript/functions are affected by those changes. After that we have to update our testscript/functions to reflect the changes.

Script failed many time: I need to check the log run to see where the script failed, is it a bug or not. If the script is failed by my code, I need to wait for elements in the website to make the script more stable or look for other solutions.

AUTO - Run

Daily for sprint, weekly for all TC

Login 1 time

- Move login step to the set up test suite/ before test suite (Listener)

- Not close browser after complete test script

- By starting each test script, navigate to the specified page in the test case (no need login)

DB & UI

1: Manually connect DB to make sure the computer can connect DB and to know if it's MySQL, PostgreSQL   
2. Initial Connection object to connect to DB -> Define var to store information for DB: host, port, username, pw...   
3. Write query then execute query by using createStatement() and executeQuery() function (can store the result into a List/Map/String,...)   
4: Get data from UI and store it into List/Map/String,... make sure it's the same format as step 3   
5: Compare data UI and DB using assert

API

Create Web service Object: method, url, header, body

Request Object: call to Object

Response Object: WS.request(Object)

Json Supler to parse response to String