Selenium Hybrid Framework

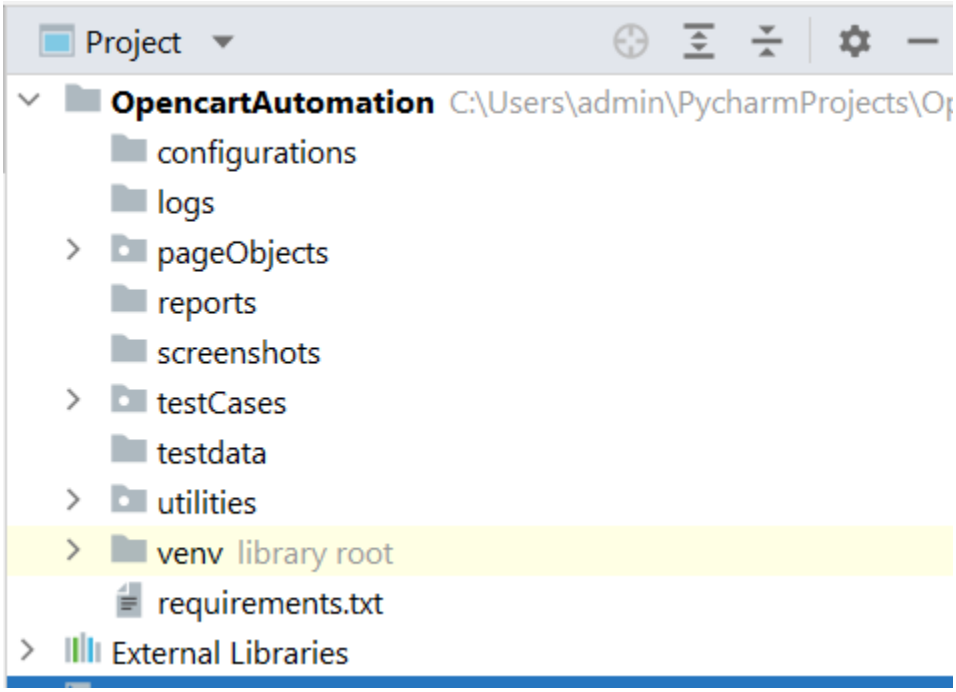
(Python, Selenium, PyTest, Page Object Model, HTML Reports)

Step 1: Create new Project & Install Required Packages/plugins

- **Pytest – Python built-in unit test framework**
- **selenium - selenium libraries**
- **pytest-html – reports**
- **pytest-xdist - parallel testing**
- **openpyxl – xl file**
- **allure-pytest - report**

Create requirements.txt file contains all packages and install it.

Step 2: Create Folder Structure



Step 3: Automating Register account test case

3.1: Create page object classes for HomePage & AccountRegistration page under "pageObjects"

3.2: Create conftest.py under "testCases" with driver manager.

3.3: Create AccountRegistration testcase under "testCases"

3.4 Write a utility file to generate random string for email.

Step 4: capture screenshot on failures

4.1. Update AccountRegistration Test case with capture Screenshot under "testCases"

Step 5: Read common values from ini file.

5.1: Add "*config.ini*" file in "configurations" folder.
5.2: Create "*readProperties.py*" utility file under *utilities* package to read common data.
5.3: Replace hard coded values in AccountRegistration testcase.

Step 6: Adding logs to test case

6.1: Add *customLogger.py* under *utilities* package.
6.2: Add logs to AccountRegistration test case.

Step 7: Run Tests on Desired Browser(Cross Browser Testing)/Parallel

7.1: update *contest.py* with required fixtures which will accept command line argument (browser).

7.2: Pass browser name as argument in command line

```
To Run tests on desired browser
pytest -s -v .\testCases\test_001_AccountRegistration.py
--browser edge

To Run tests parallel
pytest -s -v -n=3
.\testCases\test_001_AccountRegistration.py --browser edge
```

Step 8: Generate pytest HTML Reports

8.1: Update conftest.py with pytest hooks

```
pytest -s -v --html=reports\report.html
--capture=tee-sys .\testCases\test_001_A
ccountRegistration.py --browser chrome
```

Step 9: Automate Login Test case

9.1: Create page object class LoginPage under "pageObjects"

9.2: Create Login test under "testCases"

Step 10: Automating Data Driven Test Case

10.1: Prepare test data in Excel sheet, place the excel file inside the "testData" folder.

10.2: Create "*ExcelUtils.py*" utility class under utilities package.

10.3 : Create MyAccount PageObject class

10.3: Create LoginDataDrivenTest under testCases

10.4: Run the test case

Step 11: Grouping Tests

11.1: Grouping markers(Add markers to every test method)

@pytest.mark.sanity
@pytest.mark.regression

11.2: Add Marker entries in pytest.ini file

pytest.ini

[pytest]
markers =
sanity
regression

11.3: Select groups at run time

-m "sanity"
-m "regression"
-m "sanity and regression"
-m "sanity or regression"

Run Command:

pytest -s -v -m "sanity or regression" ./testCases

Step 12: Run Tests in Command Prompt & run.bat file.

12.1: Create requirements.bat file contains packages

pip install pytest
pip install selenium
pip install pytest-html
pip install pytest-xdist
pip install pytest-ordering
pip install openpyxl
pip install allure-pytest

12.2 : Create run.bat file

```
pytest -s -v -m "sanity".\testCases
```

12.2 Open command prompt as Administrator and then run *run.bat file*

Step 13: Push the Code to Git & GitHub Repository

Git workflow

1) git init --> Create an Empty git repository(Local repository)

2) git config --global user.name "your name"
   git config --global user.email "your email"

3) git status ---> to know the status of the files

4) git add -A   ---->add all the files into staging/indexing area
   git add filename.java   --> add specific file into staging/indexing area
   git add *.java

5) git commit -m "user comment"

Github
---
1) Create new account (Sign up)
2) Login to github ---> create a new empty remote repository
   Remote Repo url:
   https://github.com/learningxchange/OpencartV11.git

3) Create a token

Reference link:
https://docs.github.com/en/github/authenticating-to-github/keeping-your-account-and-data-secure/creating-a-personal-access-token

Create Personal Access Token on Github

From your Github account, go to Settings => Developer Settings => Personal Access Token => Generate New Token (Give your password) => Fillup the form => click Generate token => Copy the generated Token.

4) push your code into Remote repository

git remote add origin https://github.com/learningxchange/OpencartV11.git ---> only once
git push -u origin master

Pull files from remote to local
---
git pull origin master

2nd round
---
add
commit
push
pull
status

Step 14: Run Tests using Jenkins

Step 15: Remote Execution via Selenium Grid

Step 16: Remote Execution via Docker