Automation Capstone - Medicare

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Introduction

- This is the project report for the Project 2: **Testing a Healthcare Website** for "Automation Test Engineer Capstone" course of Simplilearn.
- Project submitted by : Krishnaveni Rajan
- Email Id: krishnaveni07.rajan@gmail.com
- Submission Date: 26-November-2021
- Language/Tools Used : Java, TestNg, Selenium Web driver, JDBC connectors, PostMan, Eclipse
- Automation Framework – Page Object Module
- CI/CD : GitHub, Jenkins, Maven

Problem Statement

This project requires end-to-end development of a comprehensive QA and test environment for a healthcare website. This QA and test environment should be inclusive of the following testing layers:

1. Browser-based end user testing using Selenium WebDriver
2. Unit testing for back-end elements of the website using TestNG
3. API testing with Postman on AWS cloud
4. Automating the whole testing process by a Jenkins job

The end-deliverables will be executable scripts and modules, which can be run on demand to test the web app

Requirements Detail

1. Write an automation script using page object design to store the web elements of the home page
2. Create Selenium scripts to test all the pages on the website
3. Perform unit testing for all back-end classes and methods using TestNG
4. Create Postman scripts to test the API endpoints mentioned
5. Create and build Jenkins job for all the automation testing phases performed in the previous steps

Project Sprint

- Iterations – 5
    1. Postman for API testing
    2. Site Maps implementation using TestNg

3. End user shopping using TestNg
4. Admin actions using TestNg
5. Documentation & Final testing

- No. of days in Each iterations – Iterations 1-4 = 4 days & Iteration 5 – 2 days
- Sprint Team Size - 1

Testing Scenarios, Cases & Flow

1. API Testing

- Environment variable set created for IP, Port in the name 'Medicare'
- Access the APIs using Postman under collections
- Cases covered
  - Home page
  - Membership signup page
  - Login page
  - All Products list page
  - Product category – 1, 2 and 3
  - Contact page
  - Logout
- Exceptions handled using try, catch and throws
- Test conditions used
  - Response code expected vs actual received validation
  - Title of the Page that was part of Response vs expected title.

2. User based validations & Backend

- Project Creation in Eclipse with Java, Maven which includes the dependency of TestNg, Selenium Web driver, MySQL connector
- Page Object Modelling used to collect the Web elements and have methods to perform the actions and assert conditions.
- 'pom.xml' and 'testng.xml' used for Project building and testing

1. Site Map Test Suite

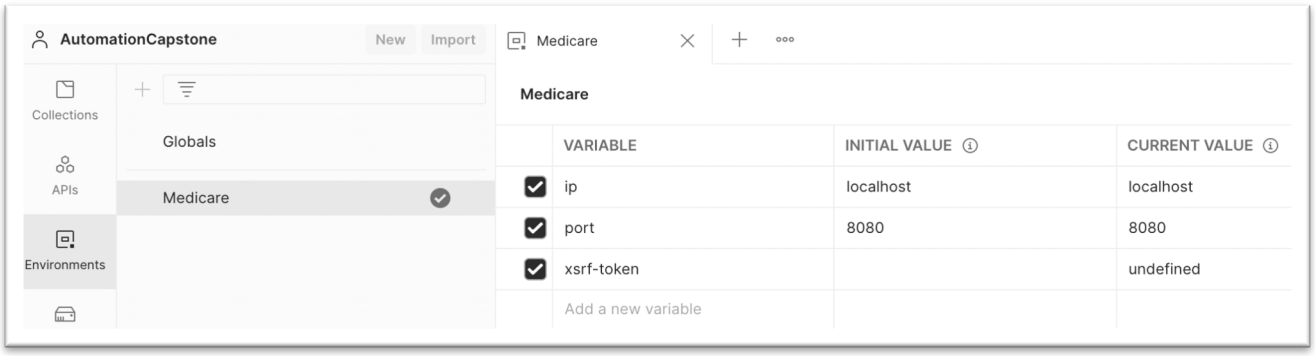
- Test annotations used for validating the Pages of Medicare without user Login.
- Use case pages covered
  - Home page
  - Contact page
  - About page
  - View Product page

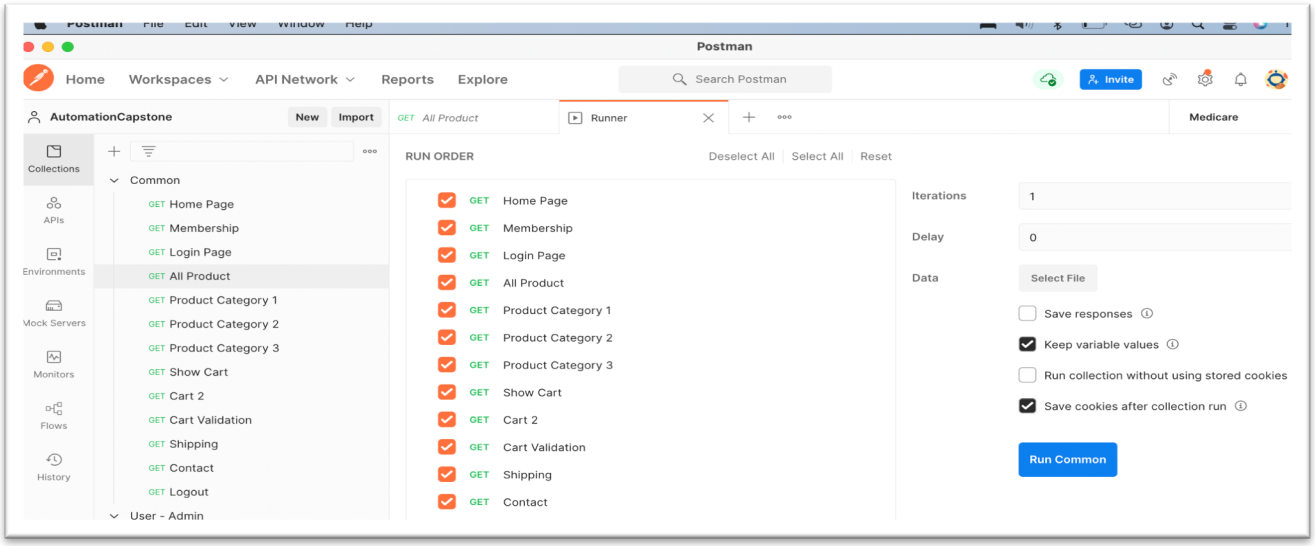
    - View Antipyretics Product page
    - View Analgesics Product page
    - View Antibiotics Product page
    - Sign up – Personal page
    - Login page
- Web elements collected using Xpath, Id and Link

2. Shopping Test Suite
    - Test annotations used for validating the purchase of user defined medicines by logging in as End user
    - Use cases covered
        - Login with invalid username
        - Login with invalid password
        - Login with valid username and password
        - View Product page
        - Add 2 user defined medicine to cart from product list
        - Validate the medicines in the cart
        - Select default shipping address
        - Make Payment
        - Confirm Order was placed successfully
        - Log out
    - Web elements collected using Xpath, Id and Link with various Hard Asserts, Soft Assert, Iterators, Loops.
3. Admin Action Test Suite
    - Test annotations used for validating the addition and edit of values defined by Admin user
    - Use cases covered
        - Login with valid username and password
        - View Manage Product page
        - Add medicine
        - Edit Medicine quantity
        - Confirm updated Medicine Quantity with query data pulled from MySQL database
        - Log out
    - Web elements collected using Xpath, Id and Link with various Hard Asserts, Soft Assert, Iterators, Loops.

Project Structures & Snapshot

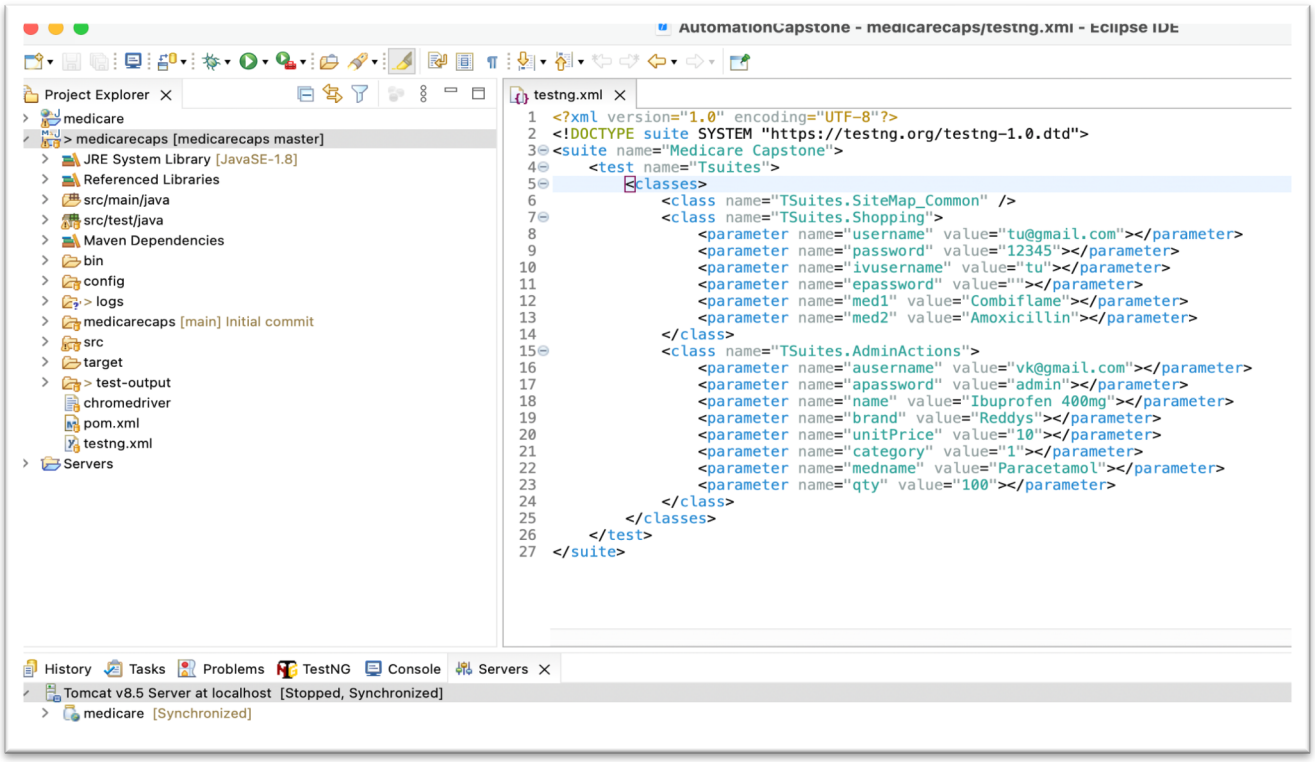
PostMan



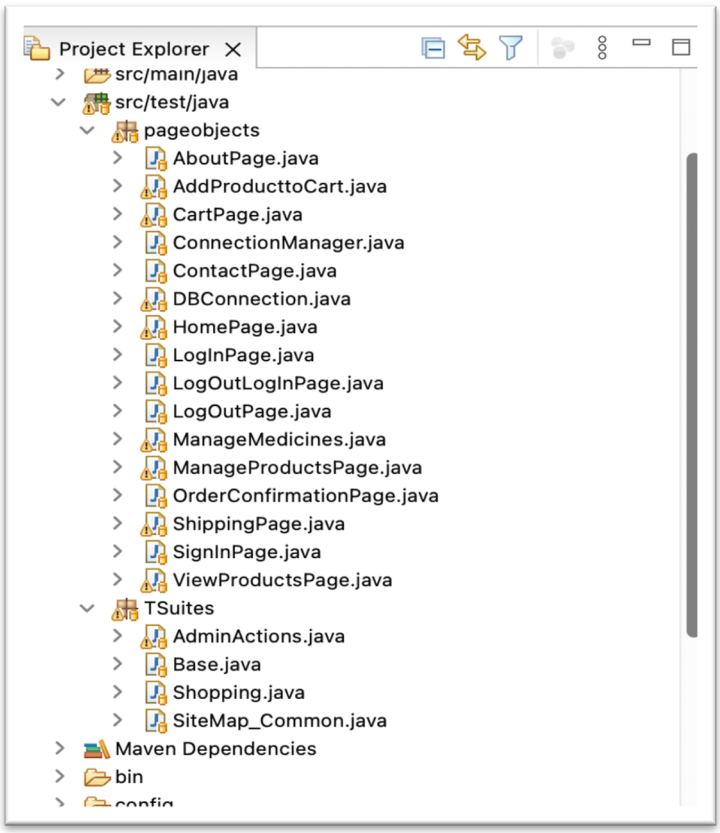


Eclipse

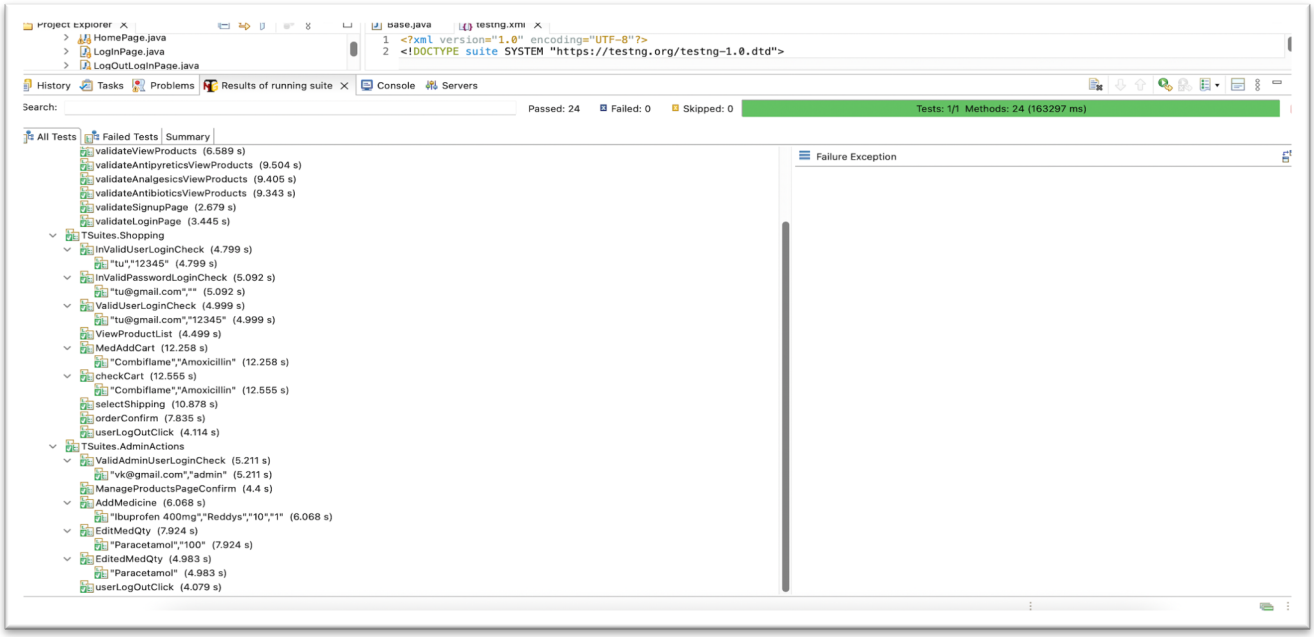
Project Structure & TestNg XML file



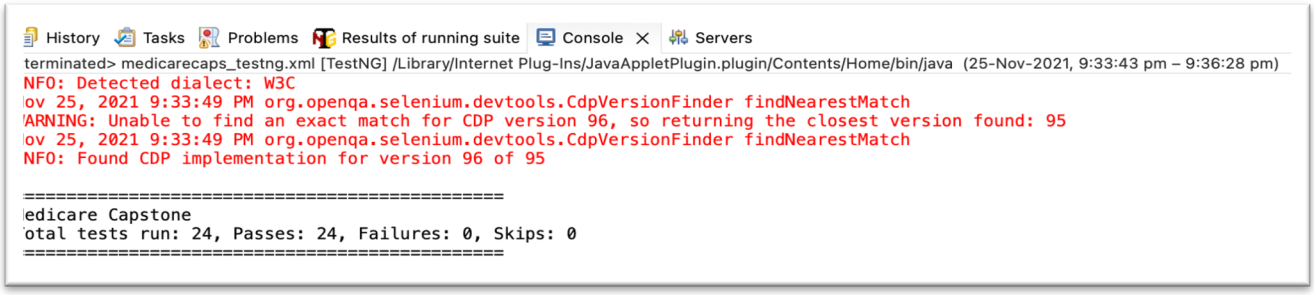
Page Objects & Test Suite Class Files



TestNg Execution Result



Result details in Console

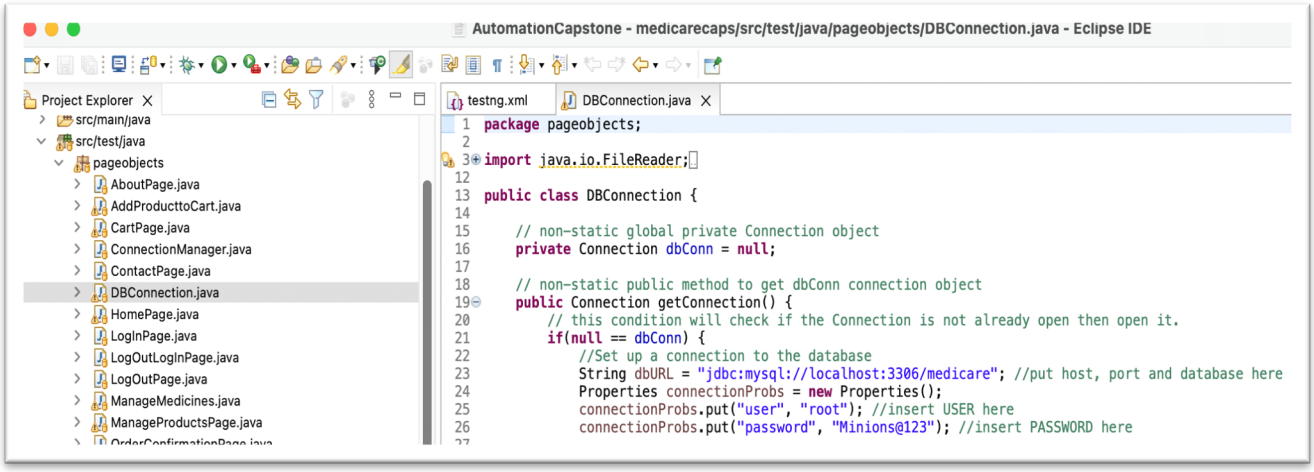


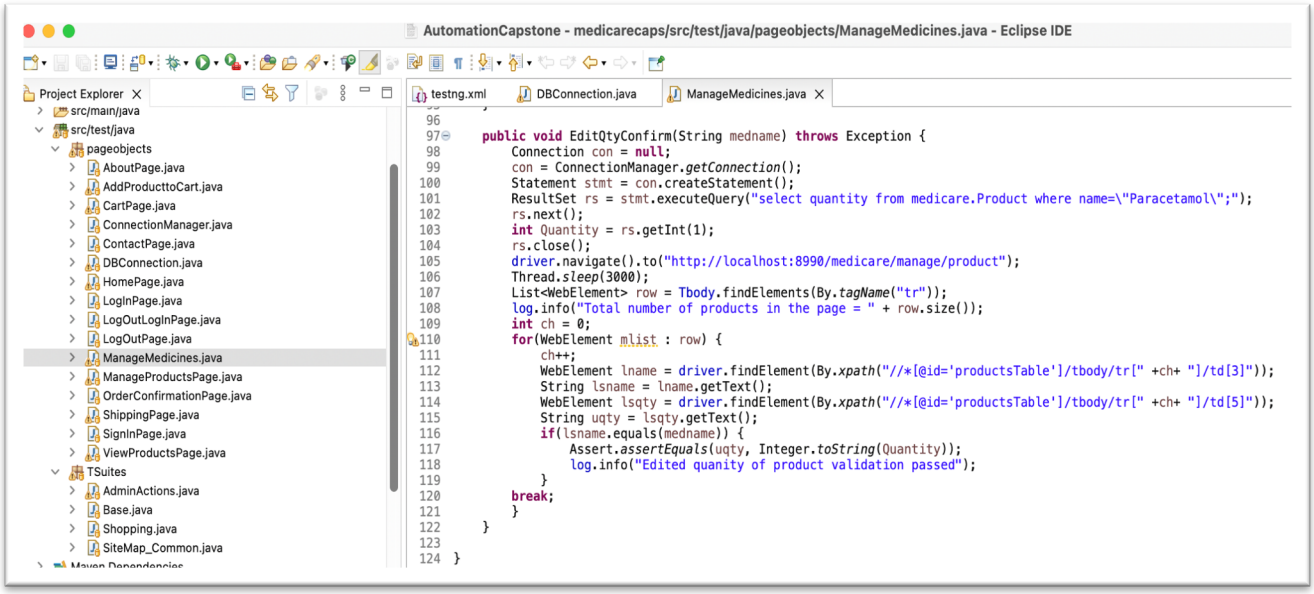
Log File

~/CodeBase/AutomationCapstone/medicarecaps/logs — view testrunlog.txt

```
[25-Nov-2021 09:33:45]::[INFO]:: Setup for testing initated.
[25-Nov-2021 09:33:56]::[INFO]:: Medicare WebSite Lanuched
[25-Nov-2021 09:33:58]::[INFO]:: About page validation passed
[25-Nov-2021 09:34:01]::[INFO]:: Home Page Passed
[25-Nov-2021 09:34:05]::[INFO]:: Contact Us page test passed
[25-Nov-2021 09:34:10]::[INFO]:: View Product Page validation Passed
[25-Nov-2021 09:34:19]::[INFO]:: Antipyretics validation Passed
[25-Nov-2021 09:34:29]::[INFO]:: Analgesics validation Passed
[25-Nov-2021 09:34:38]::[INFO]:: Antibiotics Page validation Passed
[25-Nov-2021 09:34:43]::[INFO]:: Sign Up - Personal page validation passed
[25-Nov-2021 09:34:46]::[INFO]:: Login page validation passed
[25-Nov-2021 09:34:52]::[WARN]:: Error Message on the Login Page ---> Please enter a valid email address!
[25-Nov-2021 09:34:52]::[INFO]:: Invalid user message validation passed
[25-Nov-2021 09:34:57]::[WARN]:: Error Message on the Login Page ---> Please enter your password!
[25-Nov-2021 09:34:57]::[INFO]:: Login with proper username and password validation passed
[25-Nov-2021 09:35:02]::[INFO]:: Login Successful for tu@gmail.com
[25-Nov-2021 09:35:06]::[INFO]:: Total number of products in the page = 5
[25-Nov-2021 09:35:06]::[INFO]:: Products listed in the current page are :
[25-Nov-2021 09:35:06]::[INFO]:: Paracetamol
[25-Nov-2021 09:35:07]::[INFO]:: Combiflame
[25-Nov-2021 09:35:07]::[INFO]:: Diclofenac
[25-Nov-2021 09:35:07]::[INFO]:: Aceclofenac
[25-Nov-2021 09:35:07]::[INFO]:: Amoxicillin
[25-Nov-2021 09:35:07]::[INFO]:: All Products list page validation Passed
[25-Nov-2021 09:35:11]::[INFO]:: Product not matched
[25-Nov-2021 09:35:11]::[INFO]:: Product Added : Combiflame
[25-Nov-2021 09:35:15]::[INFO]:: Product not matched
[25-Nov-2021 09:35:15]::[INFO]:: Product not matched
[25-Nov-2021 09:35:15]::[INFO]:: Product Added : Amoxicillin
[25-Nov-2021 09:35:19]::[INFO]:: Current URLhttp://localhost:8990/medicare/cart/show?result=added
[25-Nov-2021 09:35:19]::[INFO]:: Add product to cart validation passed
[25-Nov-2021 09:35:24]::[INFO]:: 2
[25-Nov-2021 09:35:26]::[INFO]:: Medicines Combiflame and Amoxicillinsuccessfully added in the cart
[25-Nov-2021 09:35:26]::[INFO]:: Products in the cart validation passed.
[25-Nov-2021 09:35:28]::[INFO]:: Checkout is enabled to proceed.
[25-Nov-2021 09:35:35]::[INFO]:: [[ChromeDriver: chrome on MAC (44921d62e876c38904e98a8fe1aff005)] -> link text: Select]
[25-Nov-2021 09:35:35]::[INFO]:: Shipping adress selection validation passed
[25-Nov-2021 09:35:37]::[INFO]:: Payment validation passed
[25-Nov-2021 09:35:46]::[INFO]:: Your Order is Confirmed!!
 Expected: Your Order is Confirmed!!
[25-Nov-2021 09:35:46]::[INFO]:: Order Confirmation Page validation passed
[25-Nov-2021 09:35:49]::[INFO]:: Continue Shopping Buttoon validation passed
[25-Nov-2021 09:35:54]::[INFO]:: Logout button validation passed
[25-Nov-2021 09:35:54]::[ERROR]:: org.openqa.selenium.ElementNotInteractableException: element not interactable
```

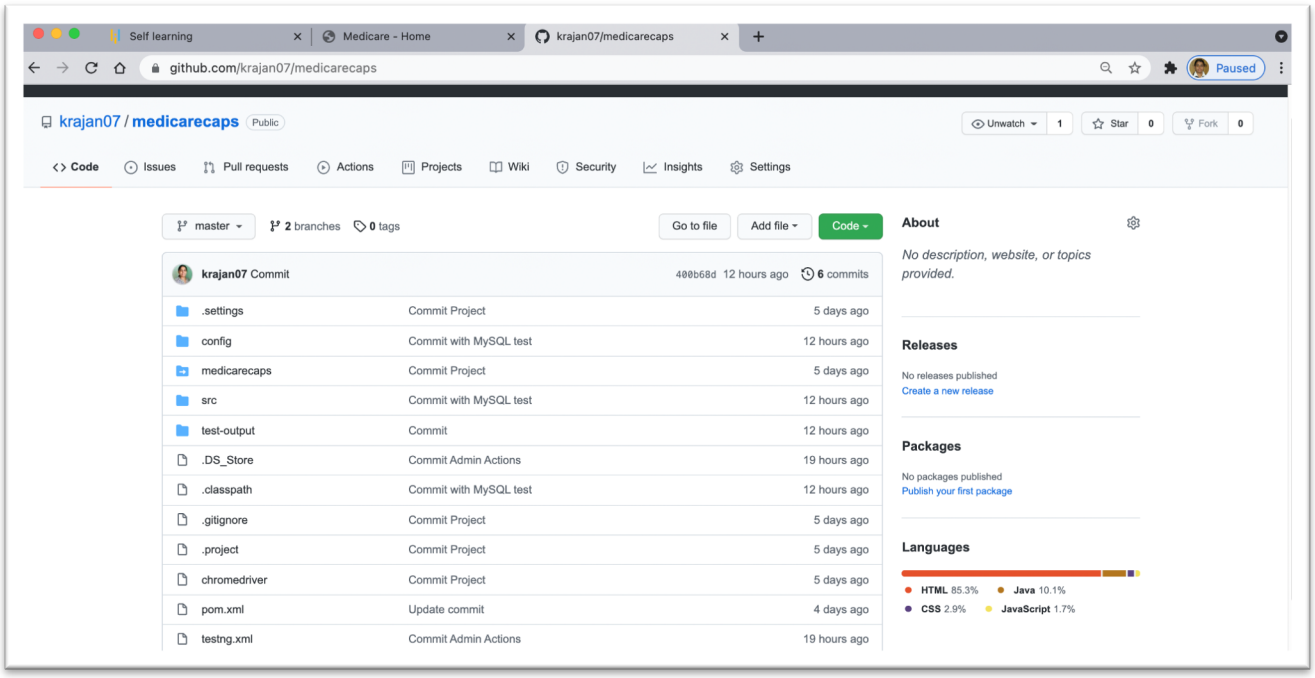
MySQL Connection & Usage



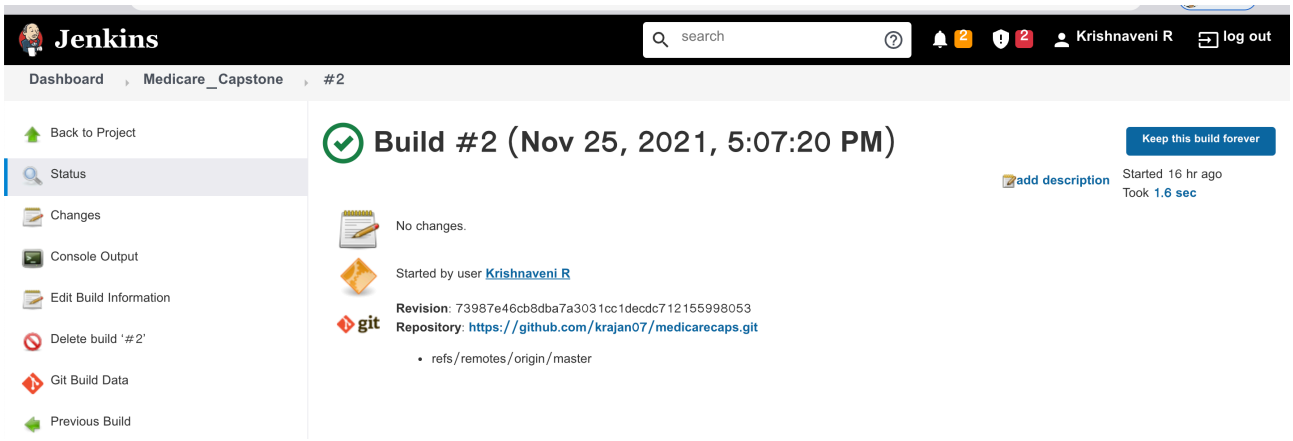


Maven Test

GitHub



Jenkins Job



Conclusion

Automating testing for any product that needs to be tested repeatedly is very vital. Usage of Java language with Selenium web driver for testing the Web based product is good with Page object model. It is easily maintainable and reusable. Making use of TestNg enables creating suites as per required Test Plan using different options file Enabled, Groups. Integration of the code with GitHub enables having the base code available anywhere and maintain different branches. Medicare application automation has enabled me to implement different learning I had achieved in different phases of this Automation Test Engineer Master course. This also have helped me to debug, search for solutions, fix the issues and lot more that will be required for an ideal real time product automation.