

Undergraduate Final Year Project Report

Automation testing framework implementation in real project

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Computer science

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Link of evidence:

<https://drive.google.com/drive/folders/1qgecFGmFvcmyYSu8FBPKBINXUcS8NB2o?usp=sharing>

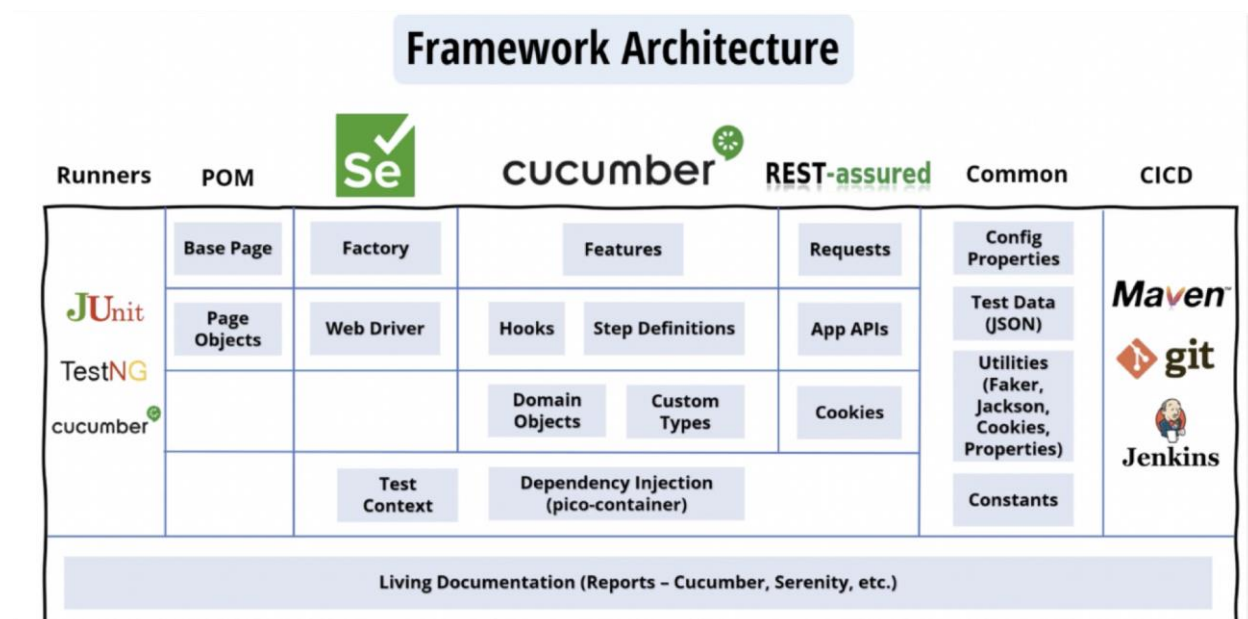
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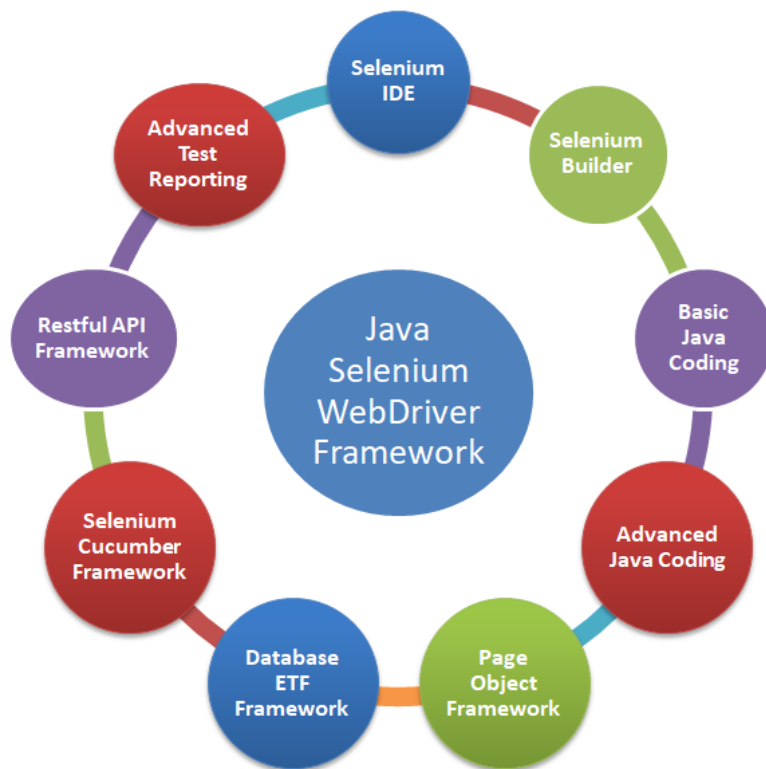
1 Introduction

For introduction, I was provide you half of the objective I have to learning in writing test cases of the site/projects to transfer it into the test script in the TestNG in selenium and Cucumber or Cypress later. They are basically the same in cases and structure but hardly to build in syntax so I have to work in team and it took a long time to practice.

2 Framework Pros and Cons

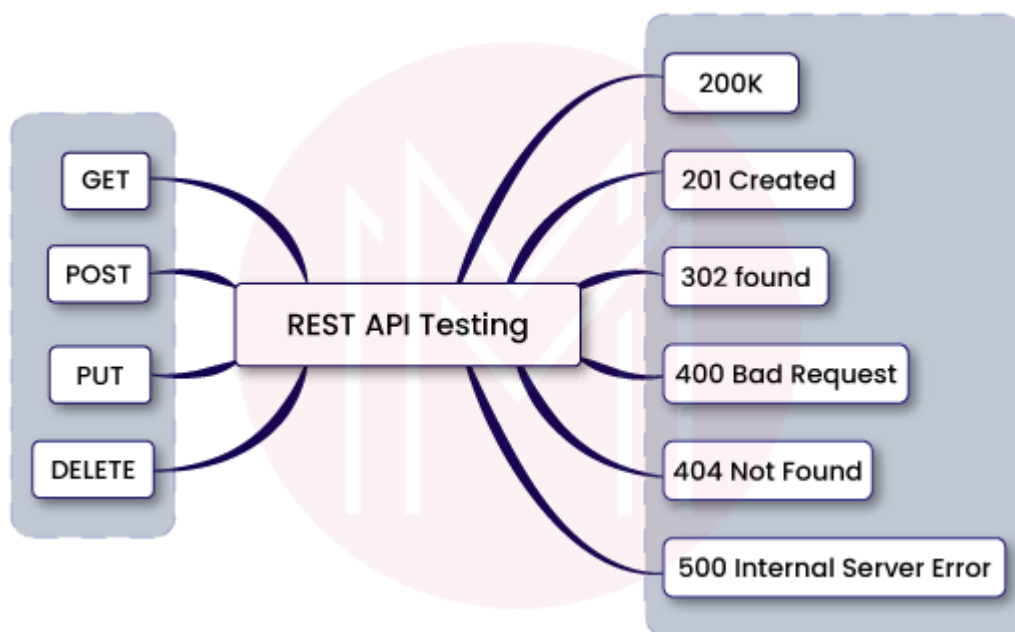


Selenium IDE java

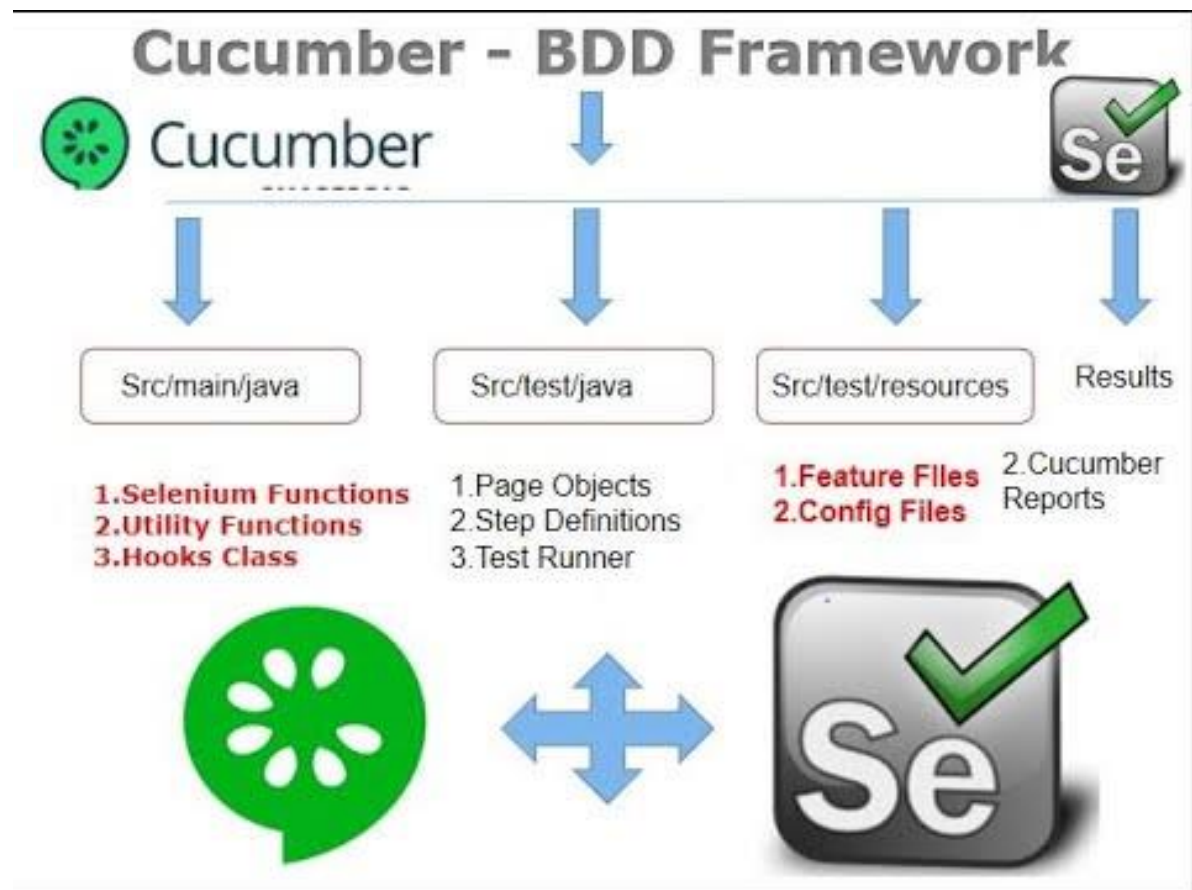


Selenium Java
WebDriver Framework
Crash Course is your
Selenium Test
Automation Framework
Designing Reference
Book.

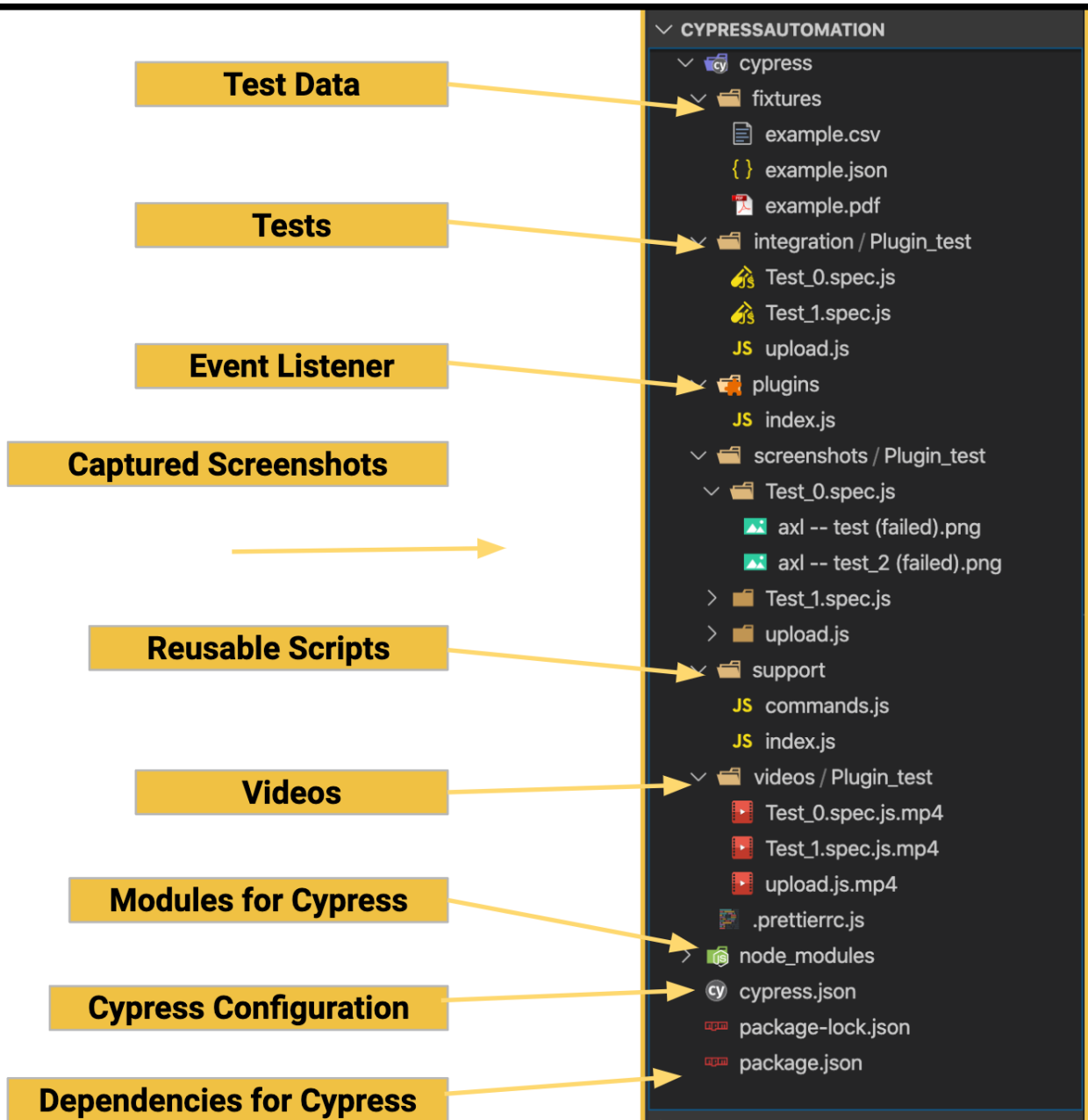
API Testing With Rest Assured – TestNG



Selenium With Webdriver - TestNG, Cucumber



Cypress framework



3 Objectives

SPRINT 5	Selenium Java with TestNG Trainees can use Selenium WebDriver to implement test scripts for functional testing. 2 week
	<ol style="list-style-type: none">1. Create Maven project2. Add dependencies library to project3. Create project structure?4. Create System Configuration5. Create page objects classes6. Create test classes
SPRINT 6	Page Object Model 2 week
	<ol style="list-style-type: none">1. What is POM?2. Why to use POM?3. How to implement POM?4. POM Structure
SPRINT 7	API Testing with Rest Assured Trainees understand overview of API testing and how to do API test 2 week
	<ol style="list-style-type: none">1. Create Gest project2. Create project structure?3. Create System Configuration4. Create page objects classes5. Create test classes
SPRINT 8	Selenium with Cucumber Trainees know BDD and how to apply it into UI Testing 2 week
	<ol style="list-style-type: none">1. Create Cucumber project2. Create project structure?3. Create System Configuration4. Create page objects classes5. Create test classes
SPRINT 9	Cypress Trainees understand Cypress and apply it into UI functional testing 2 week
	<ol style="list-style-type: none">1. Cypress Overview2. Cypress Basic3. Cypress Advance4. Cypress With Cucumber5. Create project structure?6. Create System Configuration7. Create page objects classes8. Create test classes

Trainees later understand in learning Page Object Model (POM). Trainees can use Selenium IDE to record, playback and implement test scripts for UI automated testing. Trainees (Manual Tester) can use Cypress Framework to implement test script for smoke and regression test. Understand and be able to do API testing and

UI Testing using Selenium with BDD framework to test a web application in Java language.

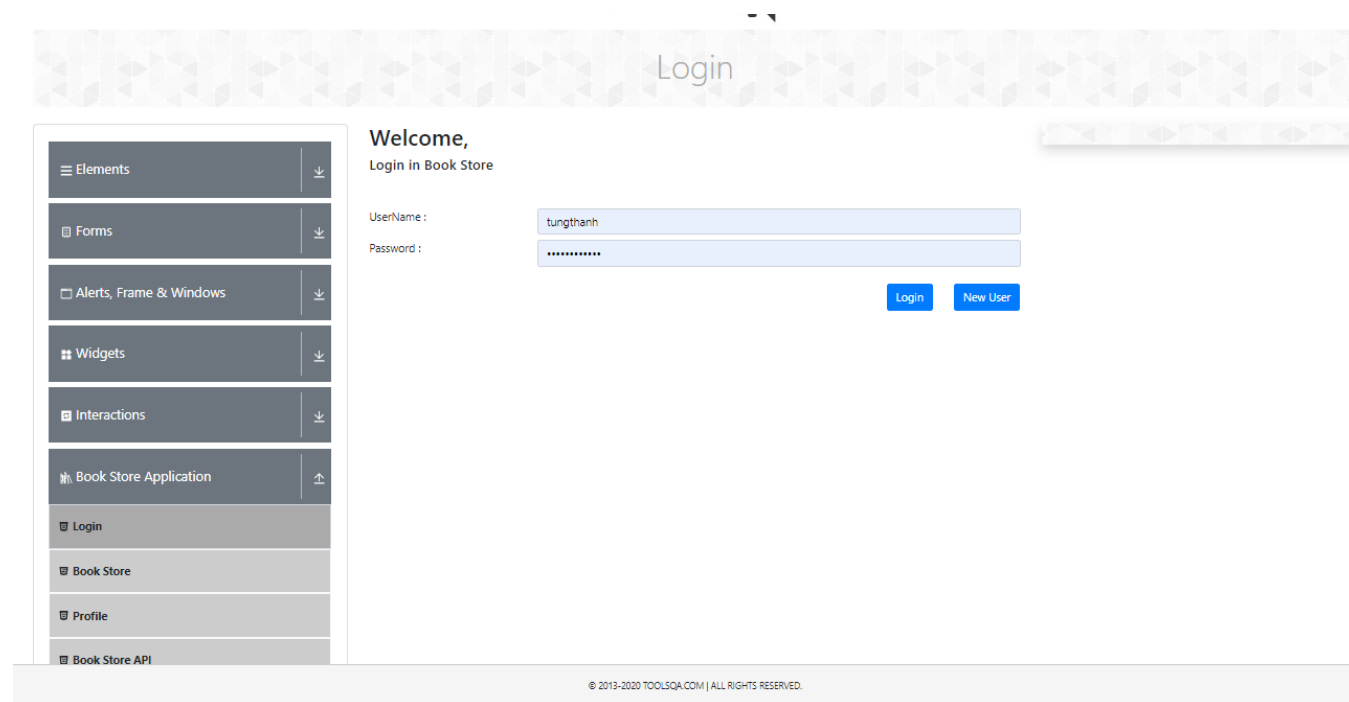
4 Product 1 Test script of DemoQA.com with Selenium maven project

The project will include test script

Link of Code

https://drive.google.com/file/d/1zTEjb4KSdGcnUYtm7d6jhFdCiRoVwRcP/view?usp=share_link

4.1 Project Site



Login test cases

Elements

Forms

Alerts, Frame & Windows

Widgets

Interactions

Book Store Application

Login









Book Store

Profile

Book Store API

Type to search

Login

Image	Title	Author	Publisher
	Git Pocket Guide	Richard E. Silverman	O'Reilly Media
	Learning JavaScript Design Patterns	Addy Osmani	O'Reilly Media
	Designing Evolvable Web APIs with ASP.NET	Glenn Block et al.	O'Reilly Media
	Speaking JavaScript	Axel Rauschmayer	O'Reilly Media
	You Don't Know JS	Kyle Simpson	O'Reilly Media
	Programming JavaScript Applications	Eric Elliott	O'Reilly Media
	Eloquent JavaScript, Second Edition	Marjin Haverbeke	No Starch Press
	Understanding ECMAScript 6	Nicholas C. Zakas	No Starch Press

Search book test cases

Elements

Forms

Alerts, Frame & Windows

Widgets

Interactions

Book Store Application

Login

Book Store


Profile

Book Store API

Book Store

git

Login

Image	Title	Author	Publisher
	Git Pocket Guide	Richard E. Silverman	O'Reilly Media

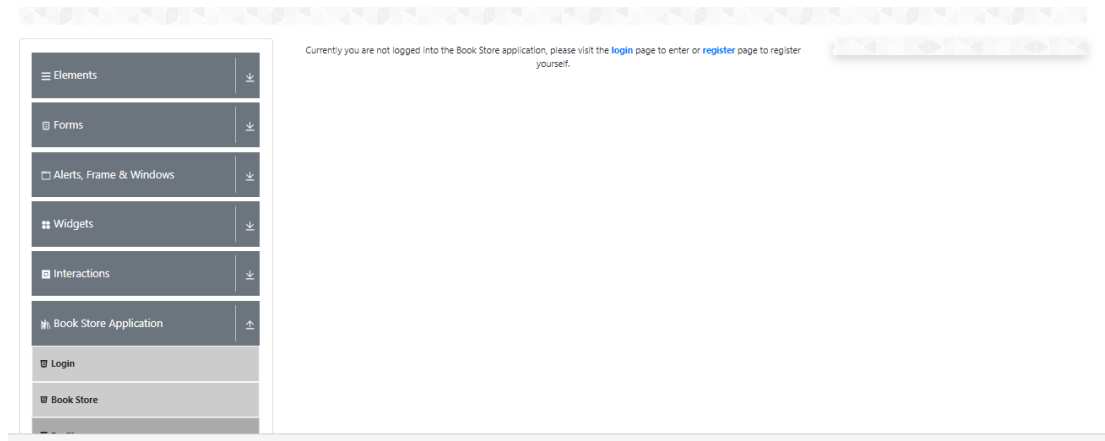
Previous

Page 1 of 1

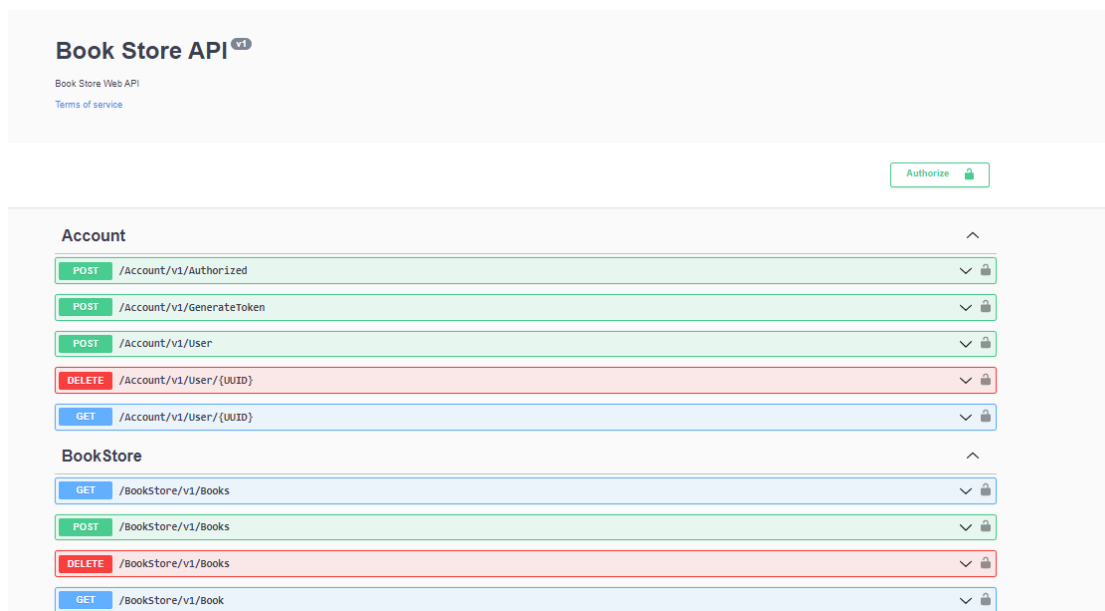
10 rows

Next

Search book test cases



Profile book test cases



API bookstore test cases

Elements

Forms

Alerts, Frame & Windows

Widgets

Interactions

Book Store Application

Login

Book Store

Profile

Book Store API

Books

Type to search

User Name : tungthanh

Log out

Image	Title	Author	Publisher	Action
	Speaking JavaScript	Axel Rauschmayer	O'Reilly Media	
	Git Pocket Guide	Richard E. Silverman	O'Reilly Media	
	You Don't Know JS	Kyle Simpson	O'Reilly Media	
	Eloquent JavaScript, Second Edition	Marijn Haverbeke	No Starch Press	
	Programming JavaScript Application	Eric Elliott	O'Reilly Media	

Previous

Page 1 of 1

5 rows

Next

Go To Book Store

Delete Account

Delete All Books

Profile book test cases

Student Registration Form

Name

First Name

Last Name

Email

name@example.com

Gender

☐ Male
 ☐ Female
 ☐ Other

Mobile(10 Digits)

Mobile Number

Date of Birth

10 May 2023

Subjects

Hobbies

☐ Sports
 ☐ Reading
 ☐ Music

Picture

Select picture

Choose File

No file chosen

Current Address

Current Address

State and City

Select State

Select City

Submit

Student Register form book test cases

Select Value

Select Option | ▾

Select One

Select Title | ▾

Old Style Select Menu

Red ▾

Multiselect drop down

Select... | ▾

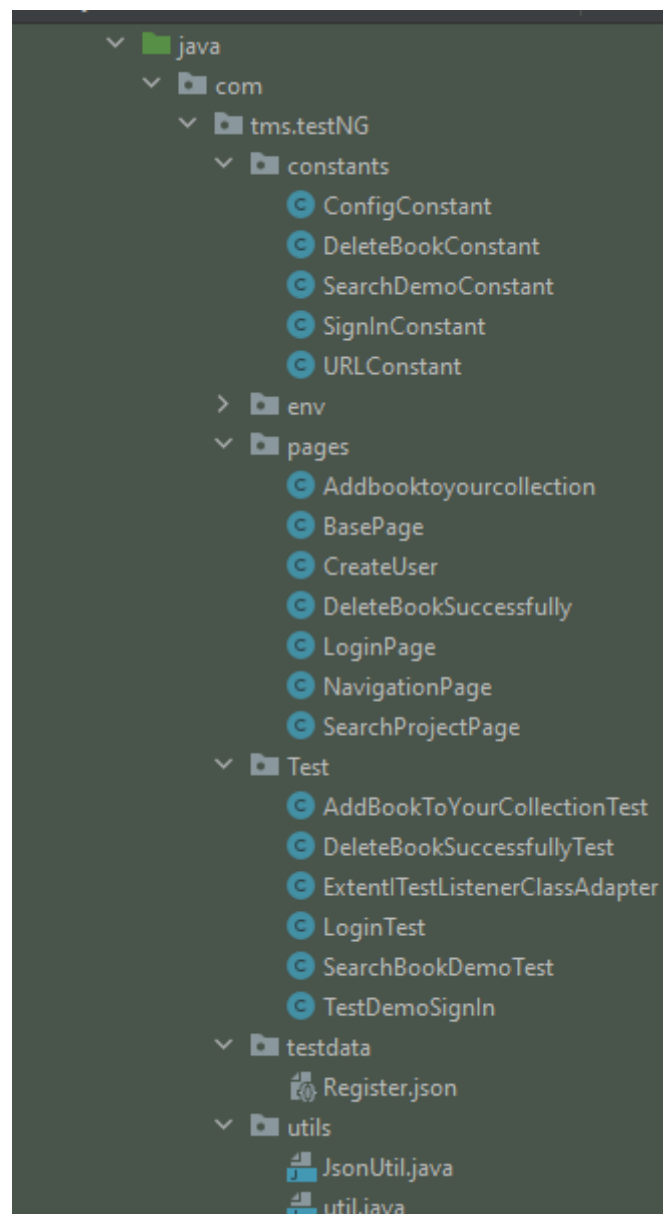
Standard multi select

Volvo
Saab
Opel
Audi

▾

Locator field test cases

4.2 Structure



```

<dependency>
  <groupId>org.seleniumhq.selenium</groupId>
  <artifactId>selenium-java</artifactId>
  <version>4.0.0-beta-1</version>
</dependency>
<dependency>
  <groupId>org.apache.maven</groupId>
  <artifactId>maven-project</artifactId>
  <version>3.0-alpha-2</version>
</dependency>
<dependency>
  <groupId>org.testng</groupId>
  <artifactId>testng</artifactId>
  <version>7.6.0</version>
</dependency>
<dependency>
  <groupId>org.hamcrest</groupId>
  <artifactId>hamcrest</artifactId>
  <version>2.2</version>
</dependency>
<dependency>
  <groupId>io.github.bonigarcia</groupId>
  <artifactId>webdrivermanager</artifactId>
  <version>5.2.0</version>
</dependency>
<dependency>
  <groupId>com.google.code.gson</groupId>
  <artifactId>gson</artifactId>
  <version>2.9.0</version>
</dependency>
<dependency>
  <groupId>log4j</groupId>
  <artifactId>log4j</artifactId>
  <version>1.2.17</version>
</dependency>
</dependencies>

```

4.3 Pros and Cons

Using java base and Maven so is easy to sync and integrate

5 Product 2 Test script of DemoQA.com with Selenium Cucumber project

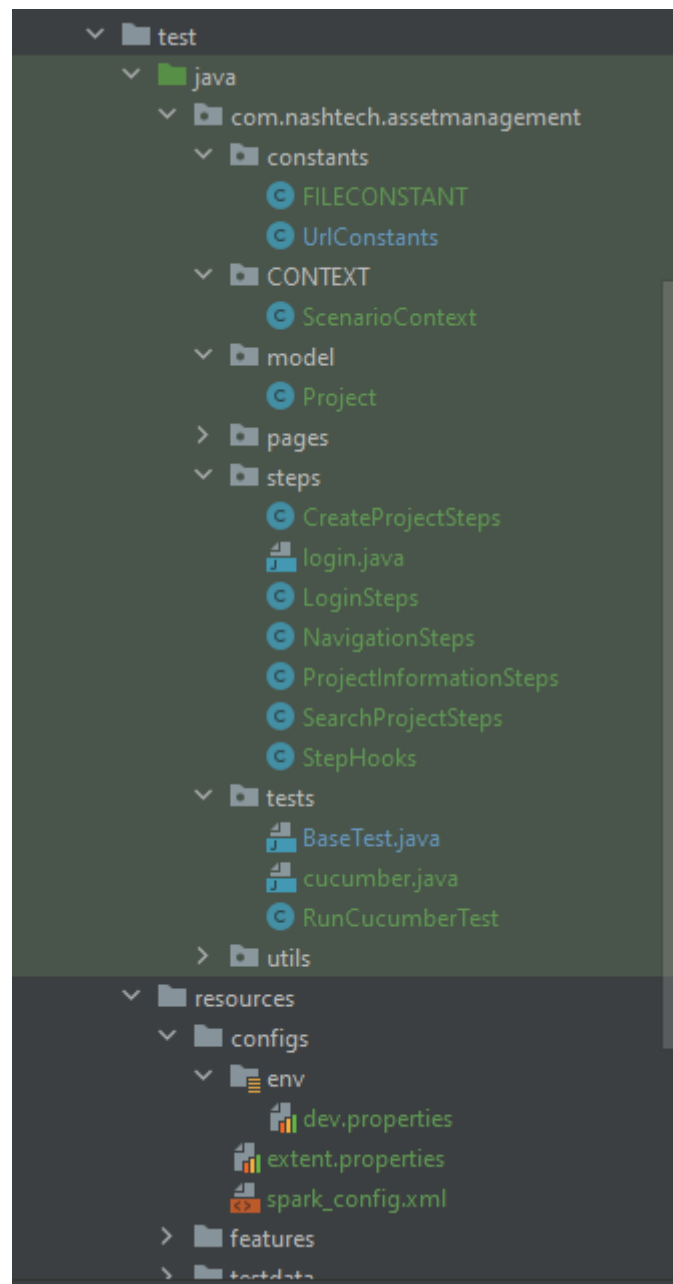
Link of Code

<https://drive.google.com/file/d/1uVrqs5hiBqeHaKpa4SeOfpKZBTcnV3zp/view?usp=s>
[hare link](#)

Link video

https://drive.google.com/file/d/1qRuW5Uh6lhKrjNMMbfoNxauEM-Dsak_D/view?usp=share_link

5.1 Structure



```

<dependencies>
  <dependency>
    <groupId>org.projectlombok</groupId>
    <artifactId>lombok</artifactId>
    <version>${lombok.version}</version>
  </dependency>
  <dependency>
    <groupId>org.hamcrest</groupId>
    <artifactId>hamcrest</artifactId>
    <version>${hamcrest.version}</version>
  </dependency>
  <dependency>
    <groupId>org.testng</groupId>
    <artifactId>testng</artifactId>
    <version>${testng.version}</version>
  </dependency>
  <dependency>
    <groupId>org.seleniumhq.selenium</groupId>
    <artifactId>selenium-java</artifactId>
    <version>${selenium.version}</version>
  </dependency>
  <dependency>
    <groupId>io.github.bonigarcia</groupId>
    <artifactId>webdrivermanager</artifactId>
    <version>${webdrivermanager.version}</version>
  </dependency>
  <dependency>

```

```

    <groupId>org.apache.logging.log4j</groupId>
    <artifactId>log4j-api</artifactId>
    <version>${log4j-api.version}</version>
  </dependency>

  <dependency>
    <groupId>org.slf4j</groupId>
    <artifactId>slf4j-simple</artifactId>
    <version>${slf4j.version}</version>
  </dependency>

</dependencies>

```

5.2 Pros and Cons

Using java base and Maven so is easy to sync and integrate to build

Build and integration every time set up take a lot of time and configure constant and information.

6 Product 3 Test script of Unsplash with Cypress project

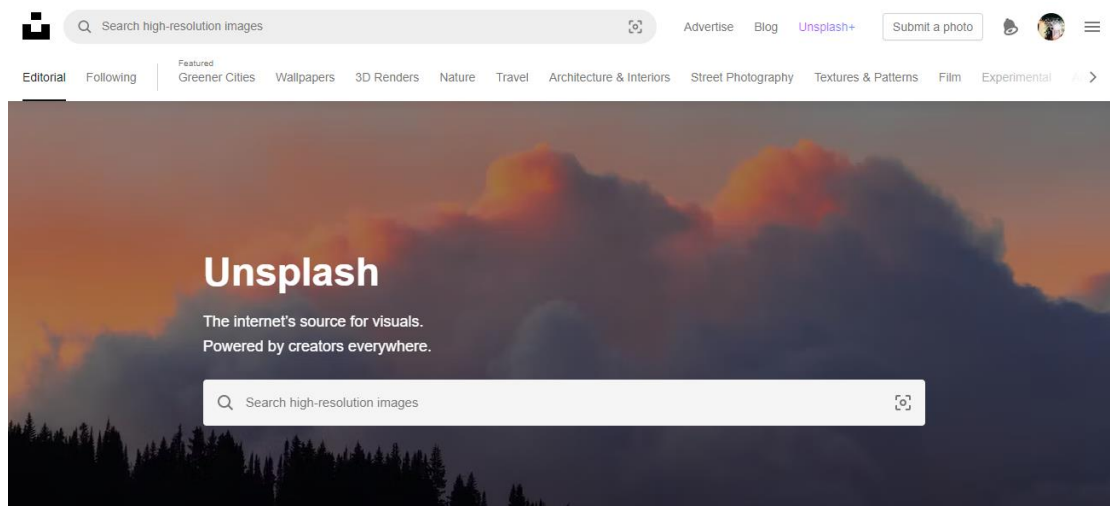
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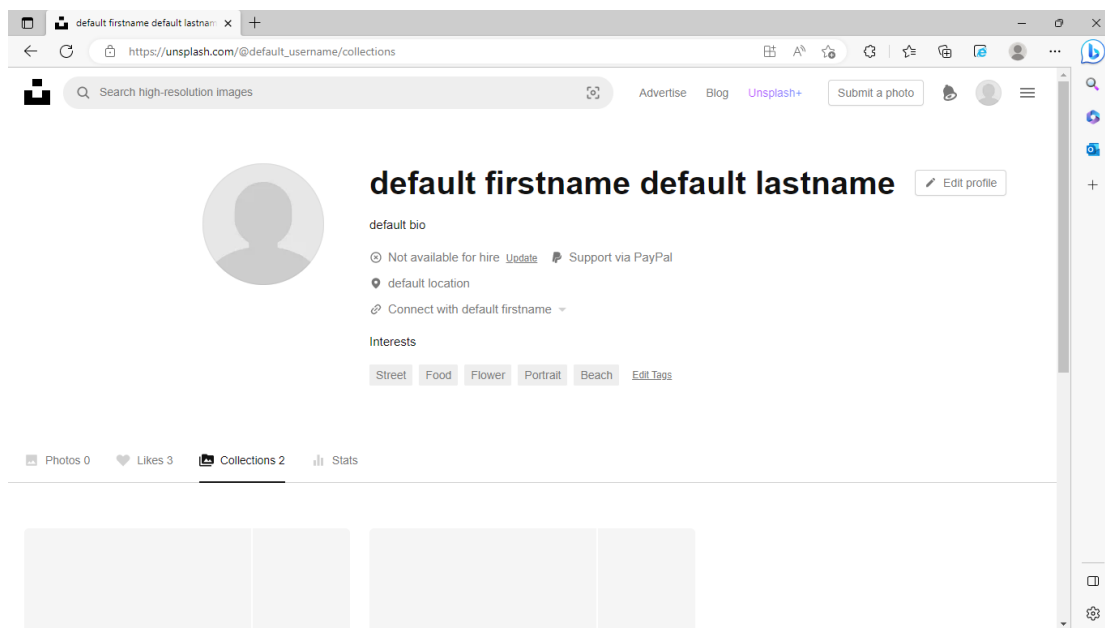
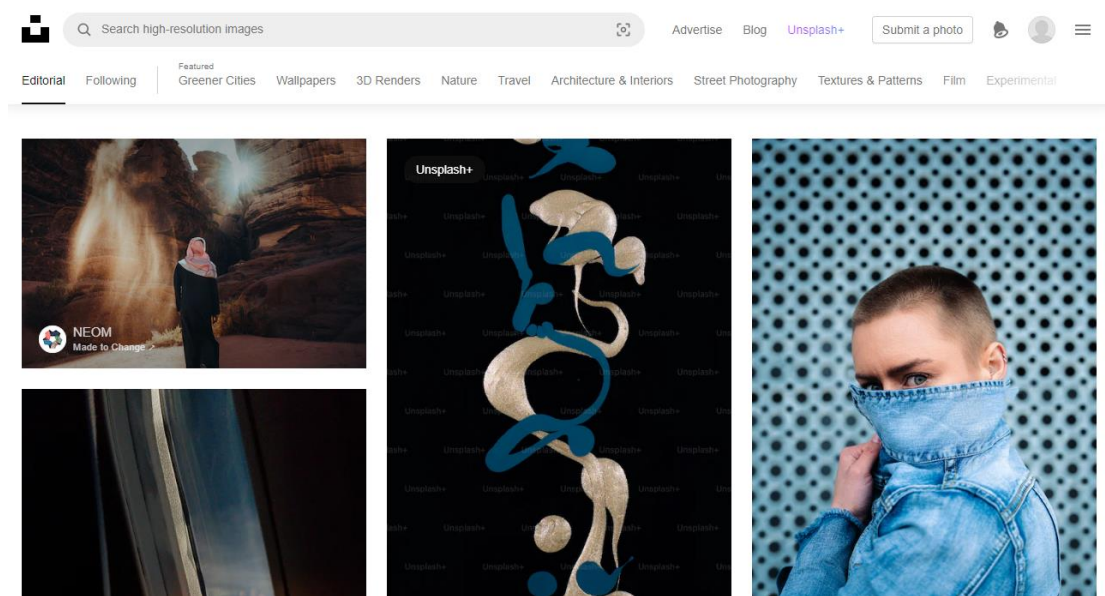
Link Video

https://drive.google.com/file/d/1txTPg-lrD7sNDyB8kA_U_LCLf-cojee3/view?usp=share_link

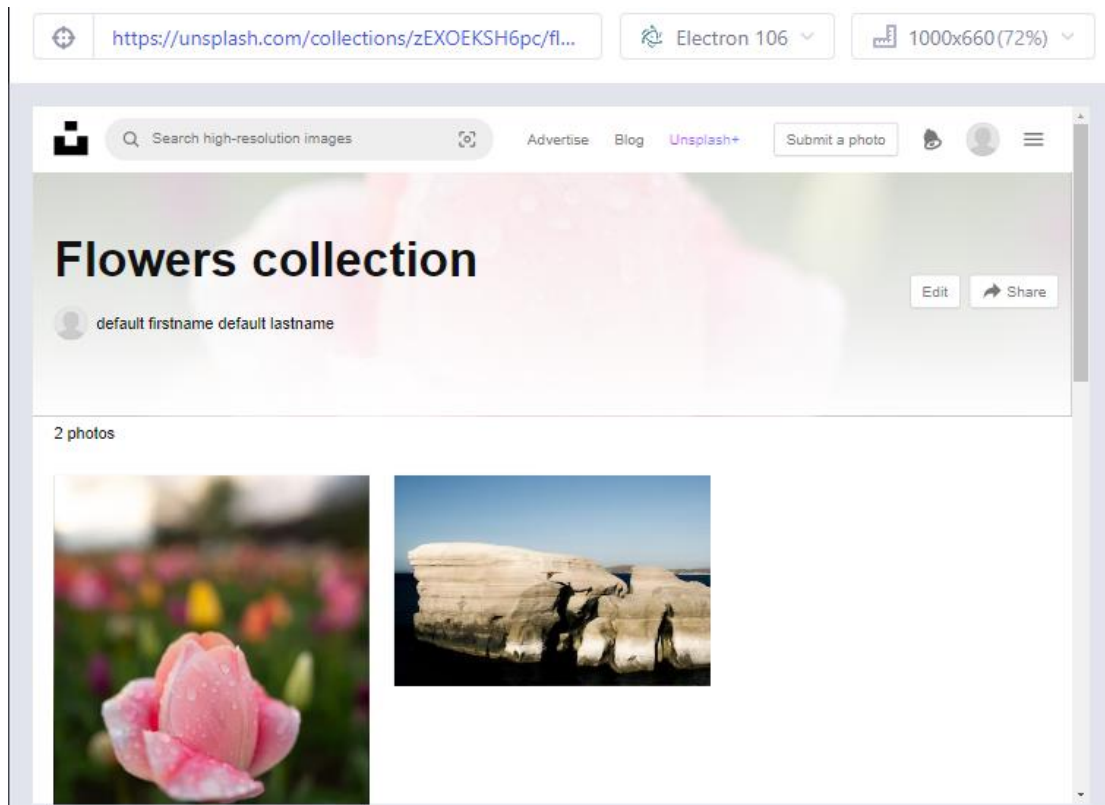
6.1 Project Site



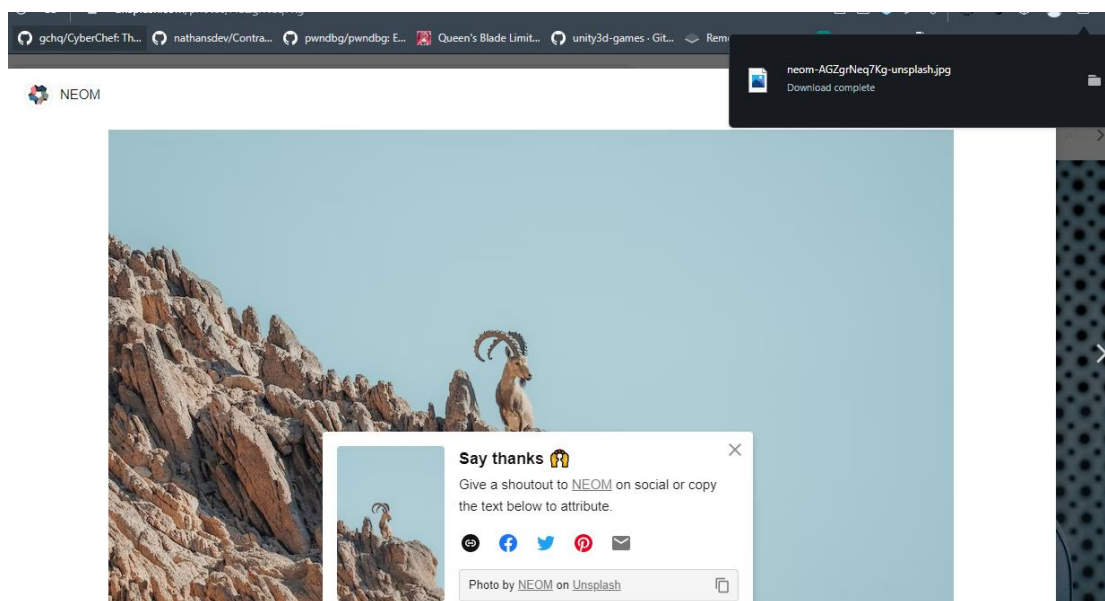
Search field test cases



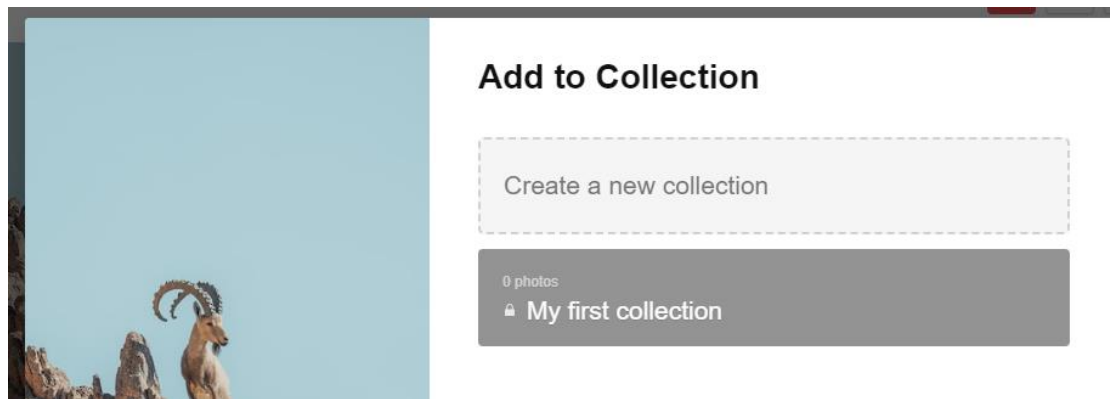
Login test cases



Login Profile test cases

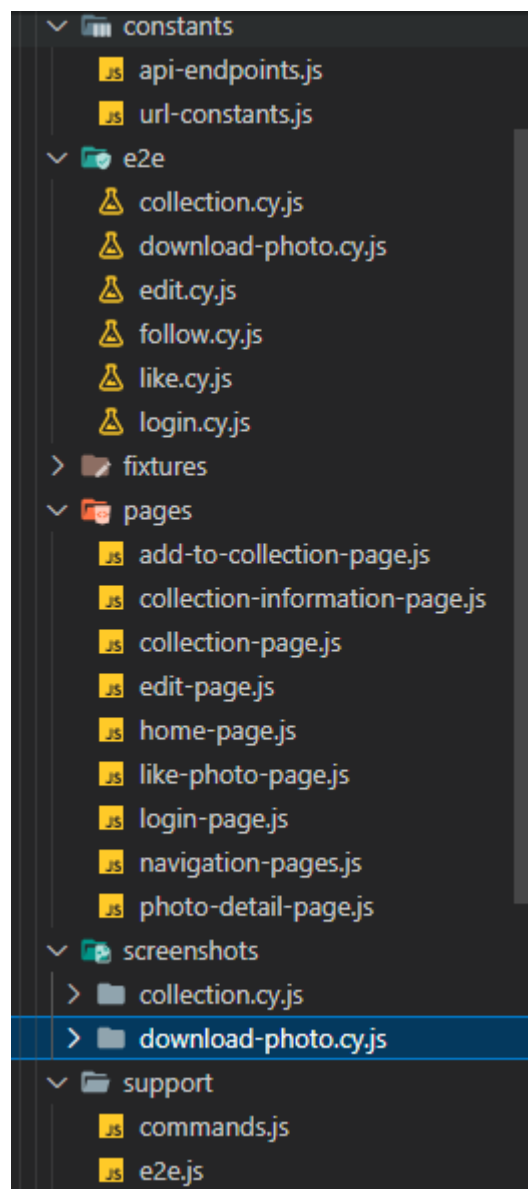


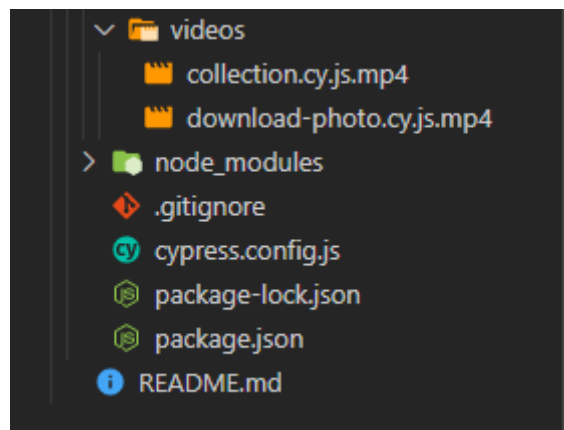
Download test cases



Add to Collection Cases

6.2 Structure





6.3 Pros and Cons

Cypress set up and run implementation fast, code short and structure are very clear.

The screenshot and video recording later also help a lot in fixing bug.

Update and wait reload page is different than java

Evaluation

First time on learning java and syntax so it take so long to fix wrong syntax and take the right locator on button and search field

Conclusion

Yes, the 80/20 law applies to developing, but you have to interpret it differently:

The first 80% of the code is done in 20% of the time.

The remaining 80% of the time is not enough to do the remaining 20% of the code.

Reference

Gitlab.com
https://dev.azure.com/
drive.gg.com
Unslpash.com

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