AMAZON (only for engg)

Project Based Experience Learning Program

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Amazon is an American multinational technology company focusing on e-commerce, cloud computing, online advertising, digital streaming, and artificial intelligence web site for searching a product and order as per end user wish list. It has been often referred to as "one of the most influential economic and cultural forces in the world, and is often regarded as one of the world's most valuable brands. It is considered one of the Big Five American technology companies, alongside Alphabet (parent_company_of Google), Apple, Meta (formerly Facebook, Inc.) and Microsoft. Amazon also distributes a variety of downloadable and streaming content through its Amazon Prime Video, Amazon Music, Twitch, and Audible units.

Website : https://www.amazon.com

Project flow:

- User interact with the UI to enter into system
- Enter your login credentials then Login inputs are analyzed and verified as per the baseline document
- Once the Login credentials are validated, the user will enter the amazon home page and the end user can select an item from the category and input a search item and click on the magnifier button.

To accomplish this, we have to complete all the activities listed below:

1. Define problem/ Problem understanding

i. Specify the business problem
ii. Business impact

2. Test case Preparation

i. Analyze requirements
ii. Create the Scenario's and Collect the input data
iii. Preparation of Test cases
iv. Test data preparation (in the form of Validation Table) as per baseline document

3. Script /Test case Execution under test suite and test suite collection level
4. Handling and Validating buttons
5. Test listeners
6. Build delivery
    - Integrating katalon to git and jenkins
7. Cross-browser testing using TestCloud
8. Generating and Analyzing report and Sending report through email

Prior Knowledge:

You must have prior knowledge of following topics to complete this project.

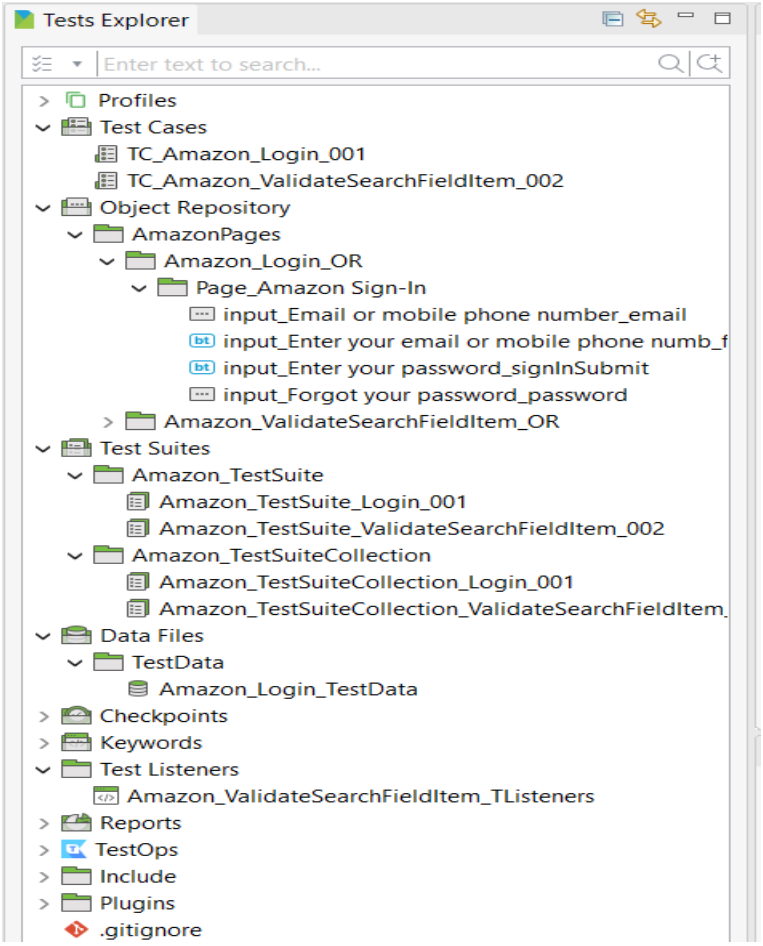
- Software testing concepts
    - STLC

- Manual Testing
- Automation Testing

- Software Automation process and tools
    - Automation testing process
    - Classification of automation testing tools
    - Difference between Manual and Automation testing
    - Advantages and need of automation testing tools

Project Structure:

Create the Project folder which contains files as shown below:



Milestone : Define Problem/ Problem Understanding

Activity 1.1 : Specify Business Problem

Providing flexible and prominent services to end users to search an item to make an order as per their wish list.

Activity 1.2: Business Requirements

An Amazon project can have a variety of business requirements, depending on the specific goals and objectives of the project. Some potential requirements may include:

- Accurate and up-to-date information about products: The project should use the most recent and reliable data about product as per end user interest/wishlist, in order to ensure that the information is accurate and relevant to end user needs.
- Flexibility: The Amazon system should be flexible and able to adapt to end users' needs.
- Compliance: The project should comply with all relevant laws and regulations.
- User-friendly interface: The Amazon system should be easy to use and understand for ordering different items and store their wish list for later orders.

Activity 1.3: Literature Survey

A literature survey for an Amazon project would involve researching and reviewing existing studies, articles, and other publications on the topic of drug classification. The survey would aim to gather information on current scheduling/appointment systems, their strengths and weaknesses, and any gaps in knowledge that the project could address. The literature survey would also look at the methods and techniques used in previous drug classification projects, and any relevant data or findings that could inform the design and implementation of the current project.

Activity1.4: Social Or Business Impact

Social Impact :- Improved end user Interface: By providing accurate and up-to-date information on the latest product as per end user search history. Amazon project can help end user to make more informed decisions about selecting the products, leading to improved end user interface.

Business Impact: By providing information about availability of latest products in different ways, an Amazon project can assist end user by new notifications as per end user search history.

Milestone 2 : Test Case Preparation

Activity 2.1 : Understanding Requirements

So, this section allows you to understand requirements to prepare test data for the below website.

Link : https://www.amazon.com/

Activity 2.1.1: Prepare Test Scenarios

After Understanding the requirements, prepare Test scenario's as per the functionalities.

Ex: (Student need to prepare Scenario's as per the below example)

Testcase ID	Test scenario
TC_001	Validate the amazon application to search an item
TC_002	Validate the amazon application for registering as a new user
TC_003	Validating the amazon application for the footer links
TC_004	Validating the amazon application for the list of countries in the footer page
TC_005	Validating the amazon application for total no. of hyper links present on the page
TC_006	Validate the logo present on the Home page

Activity 2.1.2: Test case Development

After completing the Test scenario's , create test cases as per the template below

Test Case ID	Category	Complexity	Feature Description	Prerequisite	Test Description	Input Data	Expected Result	Automated	Actual Result	Status (Pass/ Fail)	Remarks
TC_CURA_Login_001	Functional	High	Validate the FACEBOOK application Login	Browser should be launched	1. Open the Url	https://www.facebook.com/	The user should be landed on the home page	Yes			
					2. Enter the Username	Ref : Table -1	The user should land on home page				
					3. Enter the password						
					4. Click the button						

Activity 2.1.3: Validation Table

During the preparation of the test case, some functionalities populated with more inputs.

Suppose example Login, for login baseline documents have the specifications for username and password will be like

Ex:

Username Specifications:

1. Minimum 4 characters and Maximum 15 characters
2. Start with alphabet
3. Should not start with special characters
4. First letter is alphabet followed by special characters
5. Username consists of at least one capital letter

Password Specifications:

1. Minimum 6 character and maximum 20 characters
2. Start with alphabet
3. Should not start with special characters
4. First letter is alphabet followed by special characters
5. password consists of at least one capital letter
6. Password consists of at least of special character

Table 1:		
TC ID	Input Data	Expected values
TC_001	Books, Da vinci code	Books category should be selected and Items related to Da vinci code should be displayed
	Electronics, Mobile phones	Electronics category should be selected and Items related to Mobile phones should be displayed
	Home appliances, Washing Machines	Home appliances category should be selected and Items related to Washing machine should be displayed
	Furniture, Wooden Tables	Furniture category should be selected and Items related to Wooden Tables should be displayed

Activity 2.2 : Convert Test Steps To Script

After developing the testcases , these test cases will be converted to test script with the help of recording modes. In Katalon we have three options to generate script

1. Record and play back mode
2. Manual mode
3. Script mode

- You follow either of the modes to generate a script for the entire scenario'.

Note: Recommended to use three different modes for different scenario's.

TC_Amazon_Login_001:

WebUI.openBrowser('')

WebUI.navigateToUrl('https://www.amazon.com/')

WebUI.click(findTestObject('Object Repository/FaceBookPages/FaceBook_Login_OR/Page_Amazon.com. Spend less. Smile more/span_Sign in'))

```
WebUI.setText(findTestObject('Object Repository/FaceBookPages/FaceBook_Login_OR/Page_Amazon Sign-In/input_Email or mobile phone number_email'),  '9912667488')


WebUI.click(findTestObject('Object Repository/FaceBookPages/FaceBook_Login_OR/Page_Amazon Sign-In/input_Enter your email or mobile phone numb_fc7402'))


WebUI.setEncryptedText(findTestObject('Object Repository/FaceBookPages/FaceBook_Login_OR/Page_Amazon Sign-In/input_Forgot your password_password'),  '61KXoQNe1I2yVQJKbAvjIA==')


WebUI.click(findTestObject('Object Repository/FaceBookPages/FaceBook_Login_OR/Page_Amazon Sign-In/input_Enter your password_signInSubmit'))


WebUI.closeBrowser()
```

Milestone 3 : Script/Test Case Execution

Activity 3.1 : Data-Driven Testing

Steps:

1. Create/ take a test case (TC_Amazon_Login_001)
2. Create Data files(csv or xls) and add test data (TestData_Amazon_Login.xls)
3. Define variables and refer in test case
4. Add your data files to katalon studio
    1. Create folder under data file : folder name:TestData???? under folder create test data ???? browse test data you created on desktop
5. Add test case to Test suites (refer Activity 3.1)
6. Perform data binding with test data from excel

a. Click on show data binding

b. Once you click on show data binding, you get test data dialog box

c. Under test data???? click on add????so it will add test data file imported data file

d. Once it is added, perform variable binding

7. Save and run test cases

Activity 3.1.1: Adding test cases to test suite and test suite collection level

In this section, we are adding test cases to test suite and test suite collection level to perform execution scenario's for parallel and cross-browser testing.

This section has the following tasks:

- Add TC_Amazon_Login_001 to test suite level
- Perform Data binding
- Execute/Run and observer expected value with actual value

Test suite:

- Test suite is a collection of test cases

- Logical collection of test cases
- Test cases are grouped into categories

Test suite collection:

- It is a collection of test suits

- Why is it required
  - To group test suites logically
  - To run test suites in sequence or in parallel
  - To run test suites on multiple browser/environment

Milestone 4 : Handling And Validating Buttons

Activity 4.1 : Handling And Validating Input Buttons

You can input/give some text value by using the setText() method

- WebUI.setText() : is of three categories
- WebUI.setEncryptedText()
- If password is not encrypted,To encrpt the password
  Goto help???? encrypt text????give raw text????
- WebUI.setMaskedText(findTestObject, null) ???? used when you have given date format as dd/mm/yy in serchtextfiled…than that format is displayed on searchfiled

This section has the following tasks:

- For TC_Amazon_Login_001, validate the Username Input field
- Validate the login successful or not

Activity 4.2 : Handling And Validating Dropdown Buttons

The following options are available in katalon studio to select a combo box.

1. Select option by index
2. Select option by value
3. Select option by Label

This section has the following tasks:

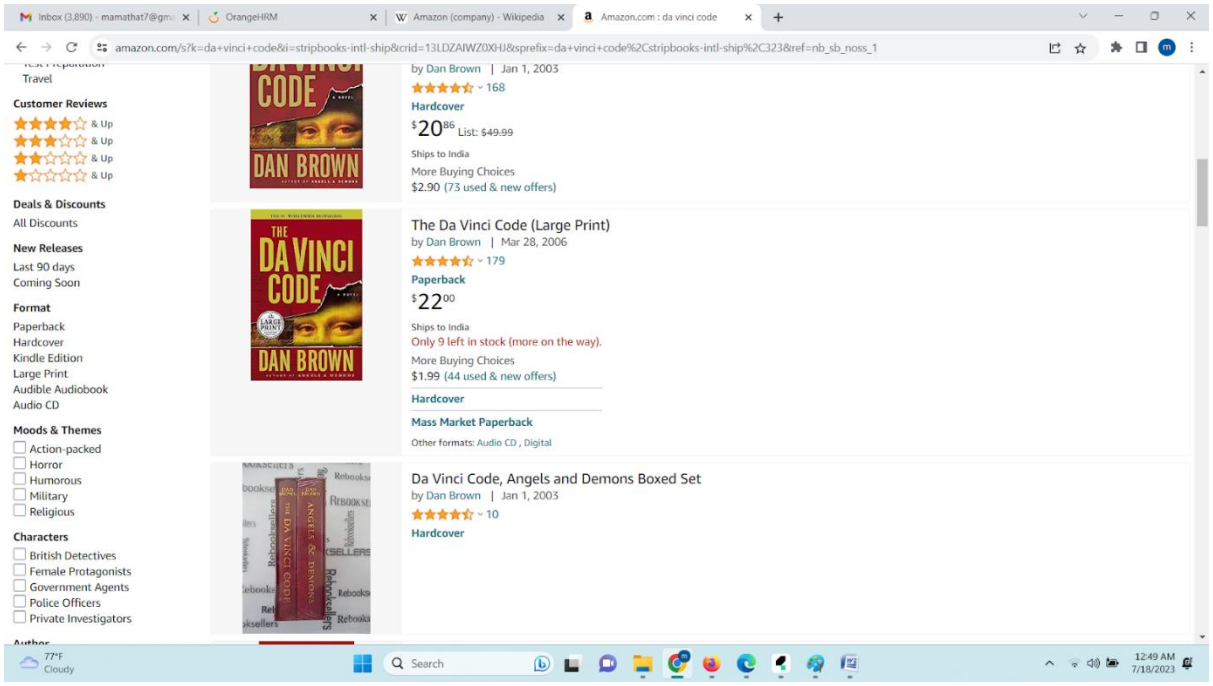
- Generate Script for Make appointment : TC_Amazon_ValidateSearchFieldItem _002
- Validate "Category" dropdown button and verify if "Books" item available in the option or not

Activity 4.2.1: Handling and validating checkbox buttons

1. Check()
2. Uncheck()

- Katalon provides 4 methods to work on checkbox to check whether the checkbox is checked or noted

This section has the following tasks:



- Verify whether "Horror" checkbox option is disabled before you click on the checkbox
- perform click operation on the checkbox, and verify whether the test object is checked of or not
- If the Object is checked then uncheck the object, with unCheck() method

Code:

```
WebUI.openBrowser('')


WebUI.navigateToUrl('')


WebUI.click(findTestObject(''))


unchecked = WebUI.verifyElementNotChecked(findTestObject(''),0)
if (unchecked == true) {
    System.out.println('element not checkeck')


    WebUI.check(findTestObject(''))


    System.out.println('element checkeck')
}
WebUI.delay(3)
WebUI.verifyElementChecked(findTestObject(''), 0)
```

Milestone 5 : Test Listeners

Activity 5.1 : Setup And TearDown

This section has the following tasks :

- Add test case TC_Amazon_Login_001 to test suite level
- Add test case TC_Amazon_ValidateSearchFieldItem_002 to test suite level
- Under Test suite level, goto script mode
- Add InvokeBrowser script under @setUp
- Add CloseBrowser script under @tearDown
- Run and observe the result

Activity 5.2 : Creating Test Listeners For Registration Validation

This section has the following tasks

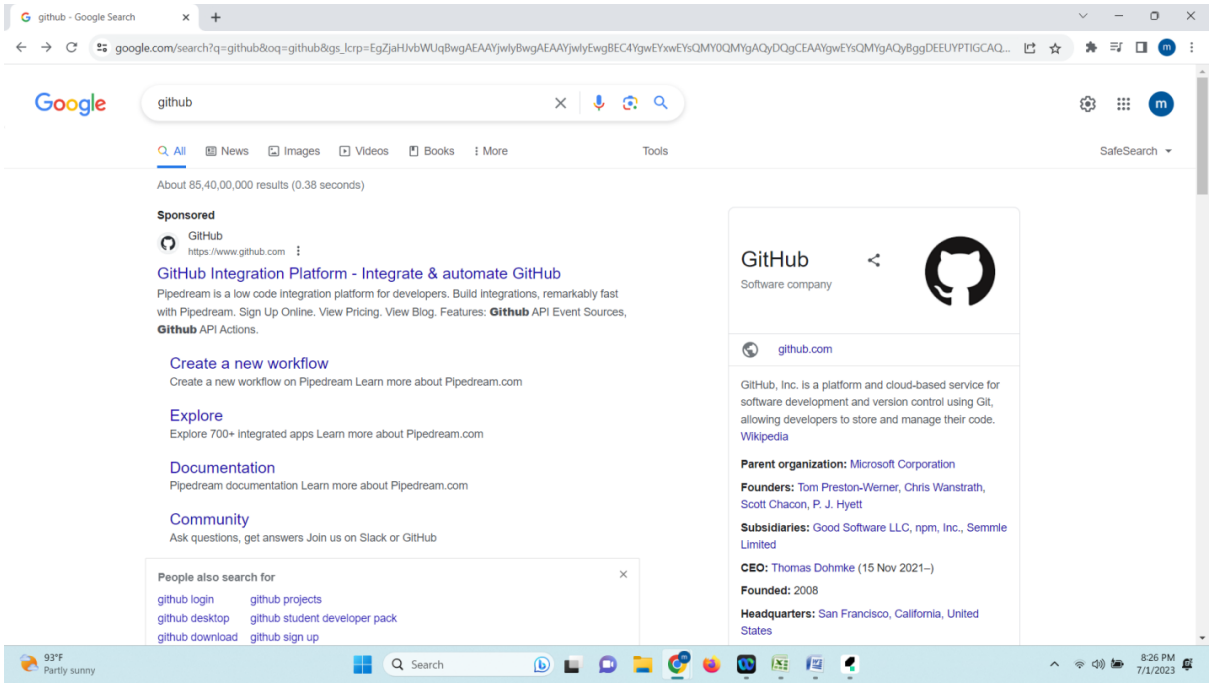
- Create testlister in Testlistener folder : Amazon_ ValidateSearchFieldItem _TListener
- In TestListener class, under @BeforeTest --> perform InvokeBrowser actions and under @AfterTest --> add CloseBrowser code
- Run the Test at test case level, test suite and test suite collection level

Milestone 6 : Integration Of Katalon+Git+Jenkins

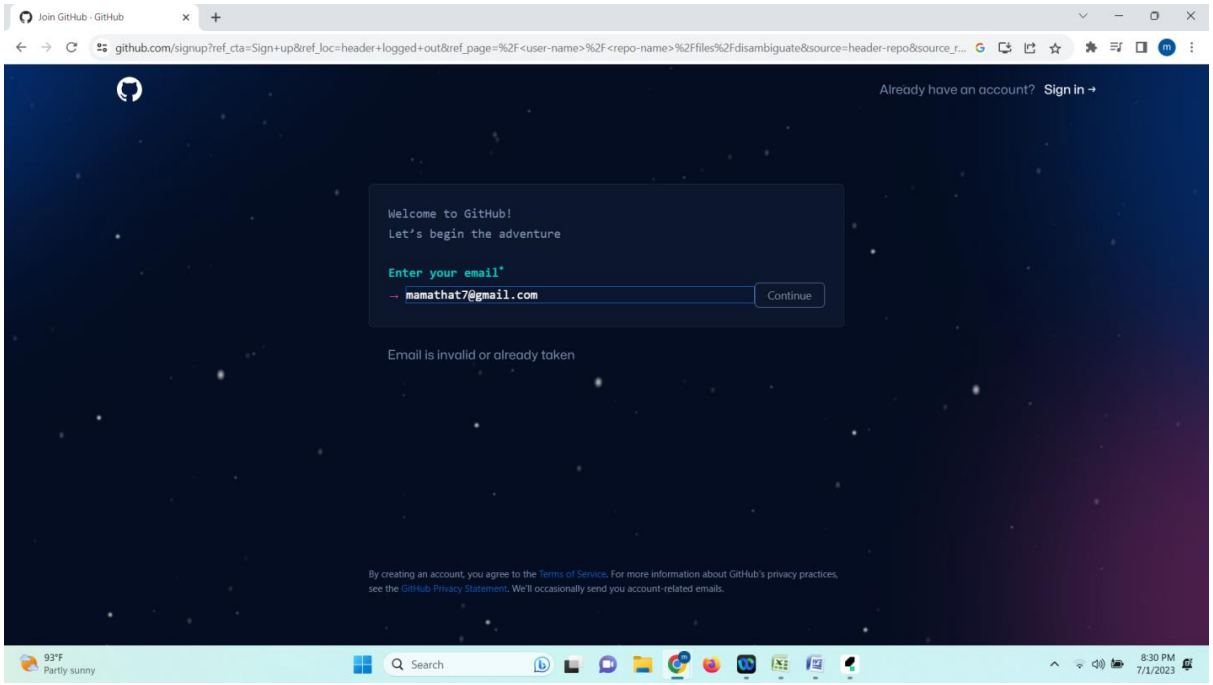
Activity 6.1 : Integration Of Katalon Studio With Git And Github

This section has the following tasks :

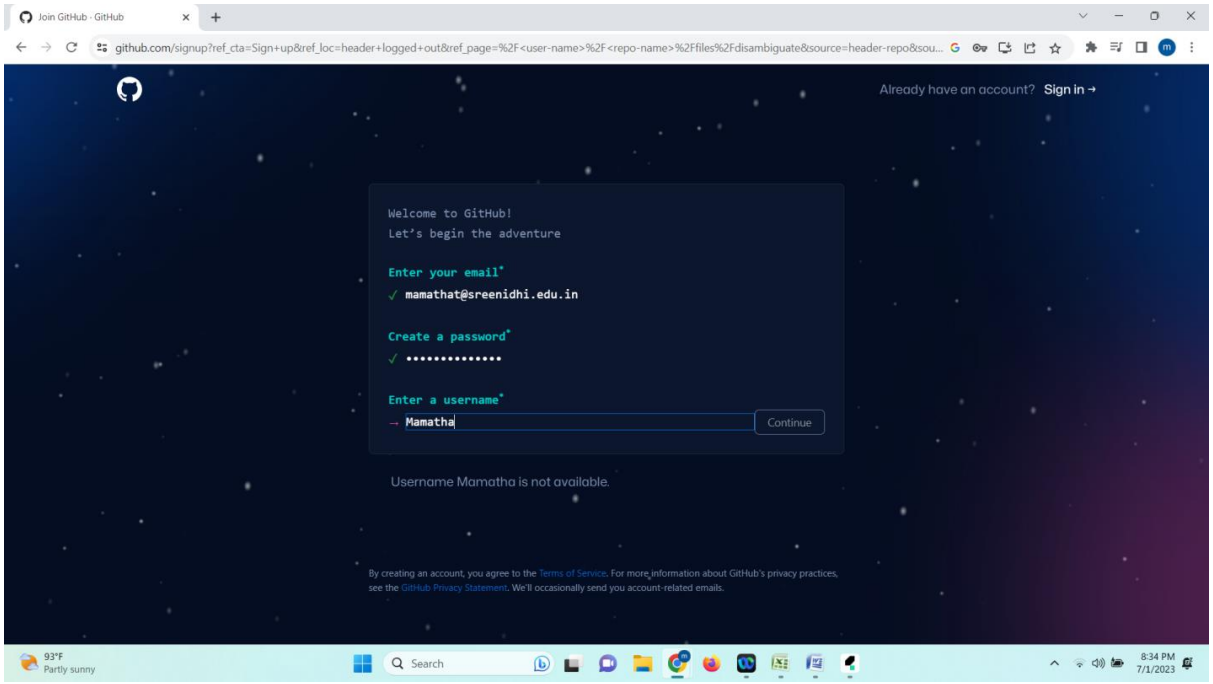
- Go to google, and type github as below and click on the link



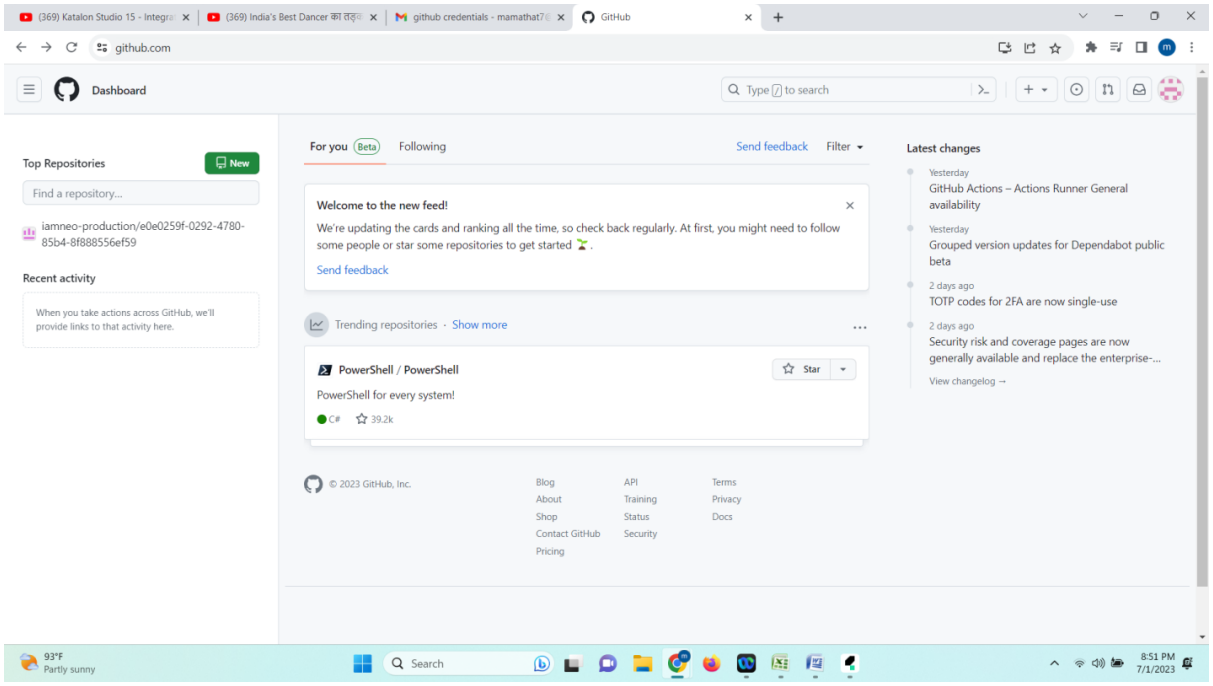
- When you click on link, your heading towards the official site
- Click on sign In, if you have account otherwise click on create new accout or sign up
- New account ???? signup



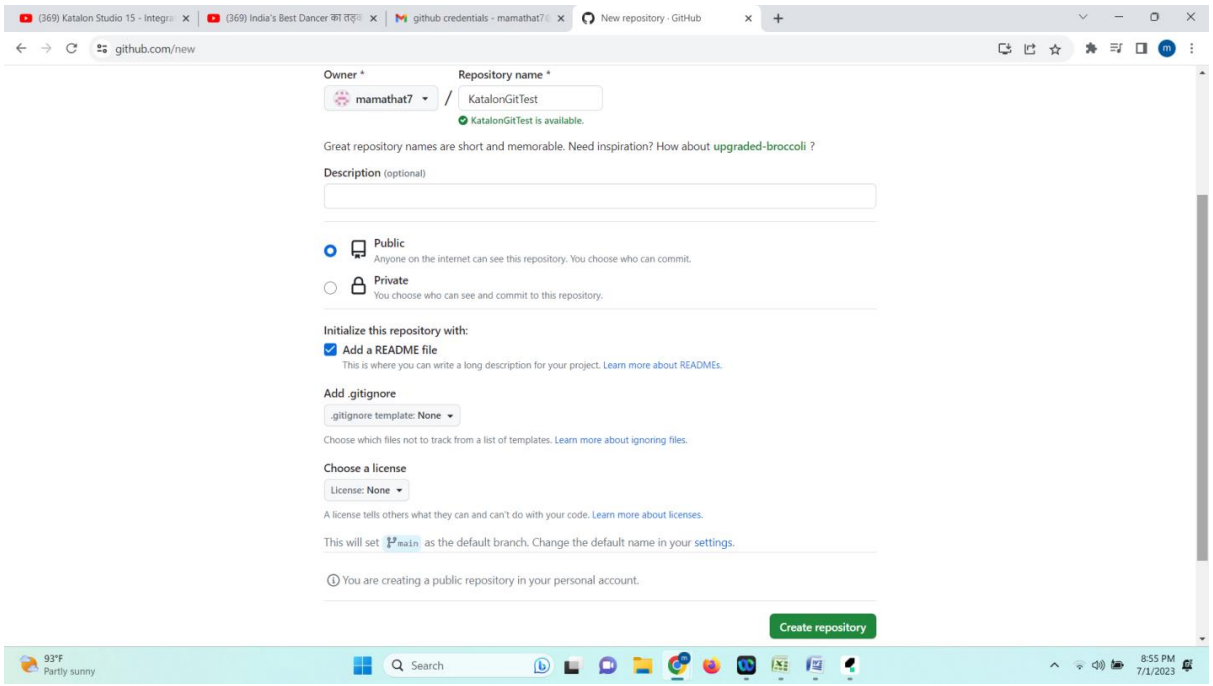
- Give your mail-ID and click on continue
- Give your new password and click on continue
- Enter username



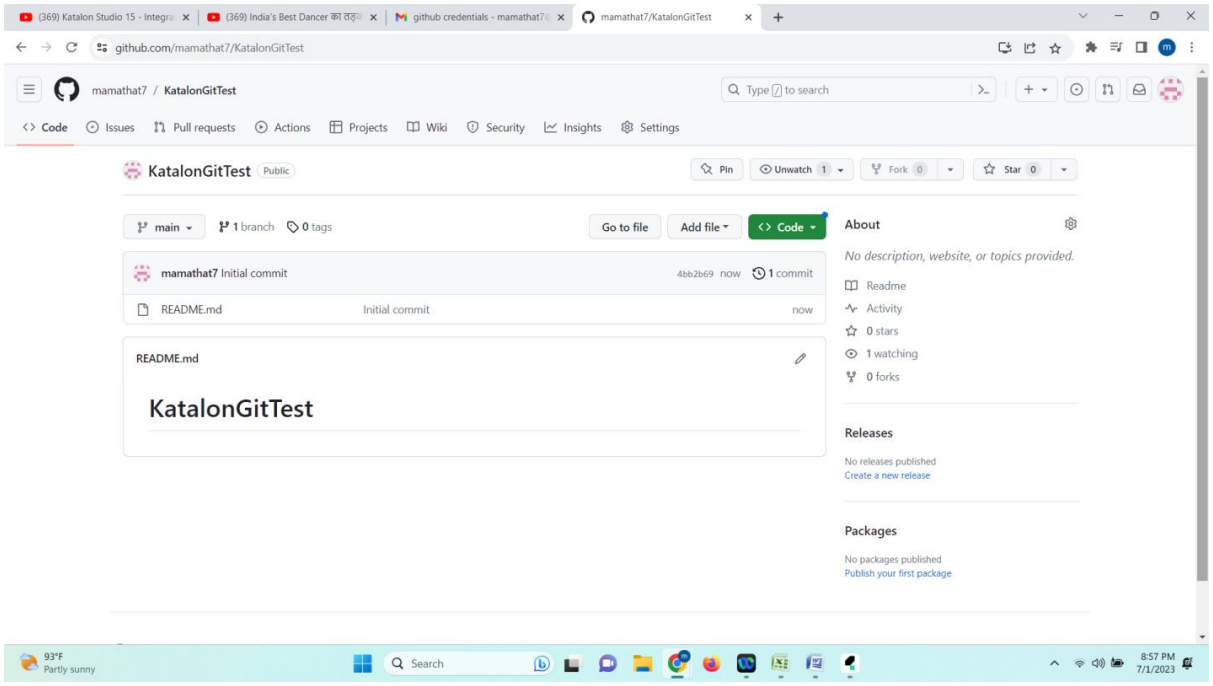
- Creating a new repository on github: Click on (+) icon on top right corner



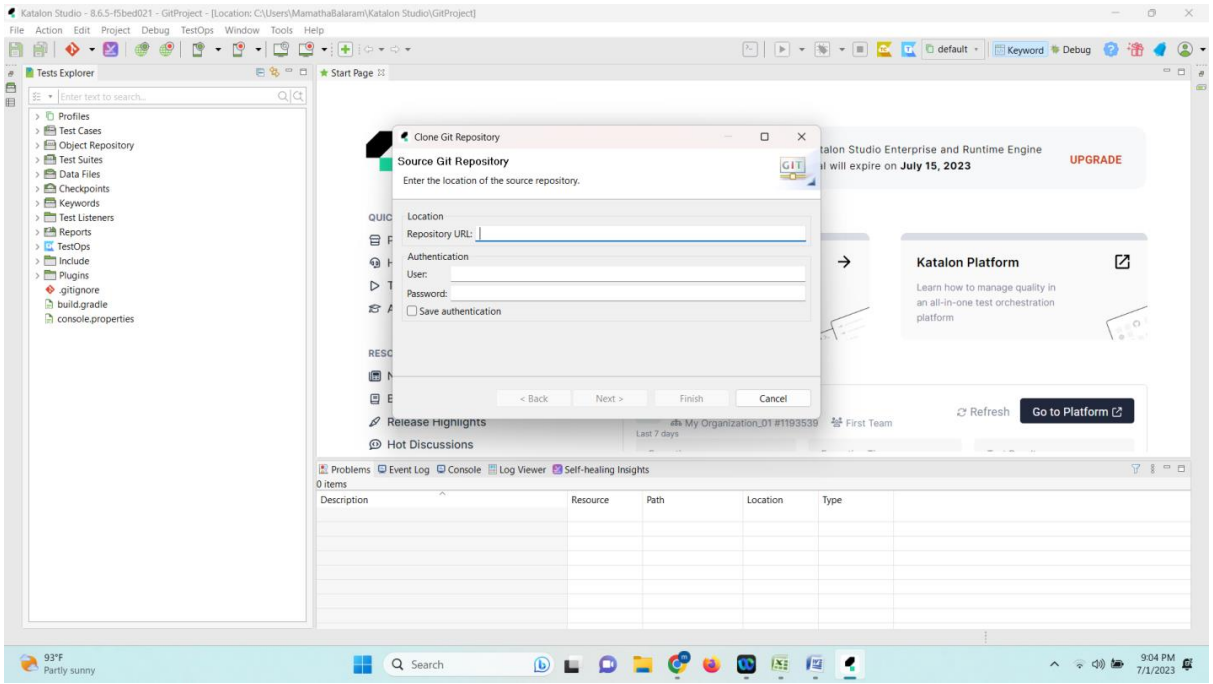
- Give Repository name: KatalonGitTest_Integration
- Click on add a README File , Initialize this repository



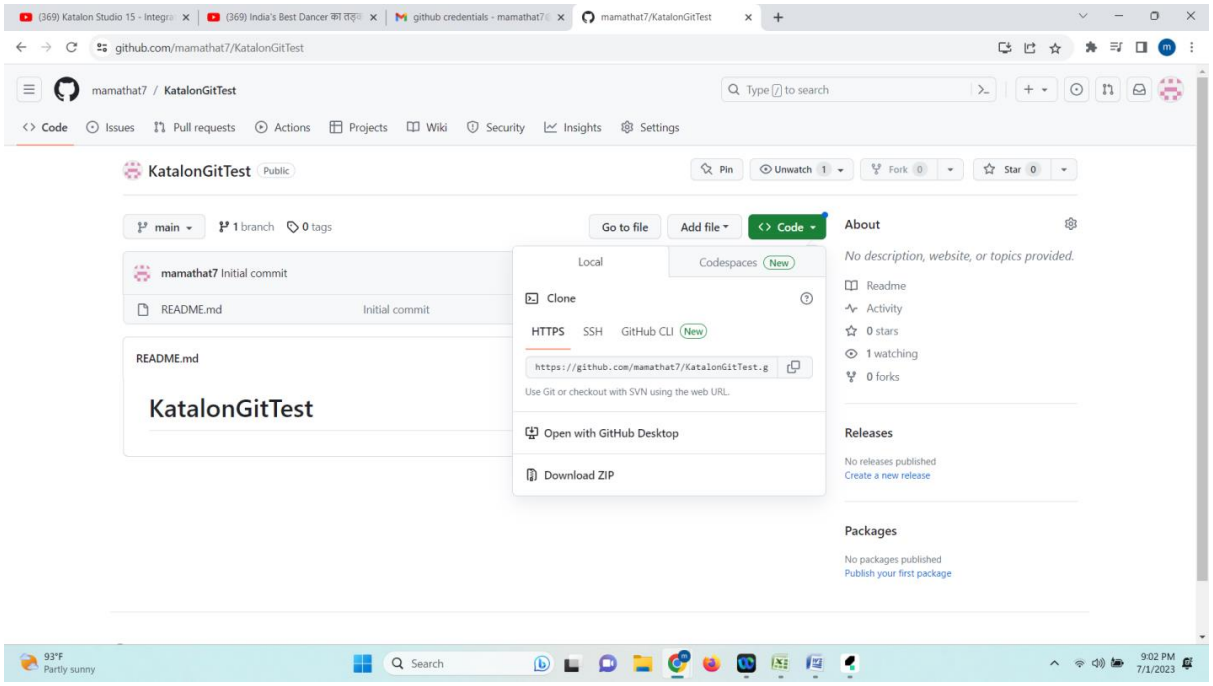
- Click on create repository



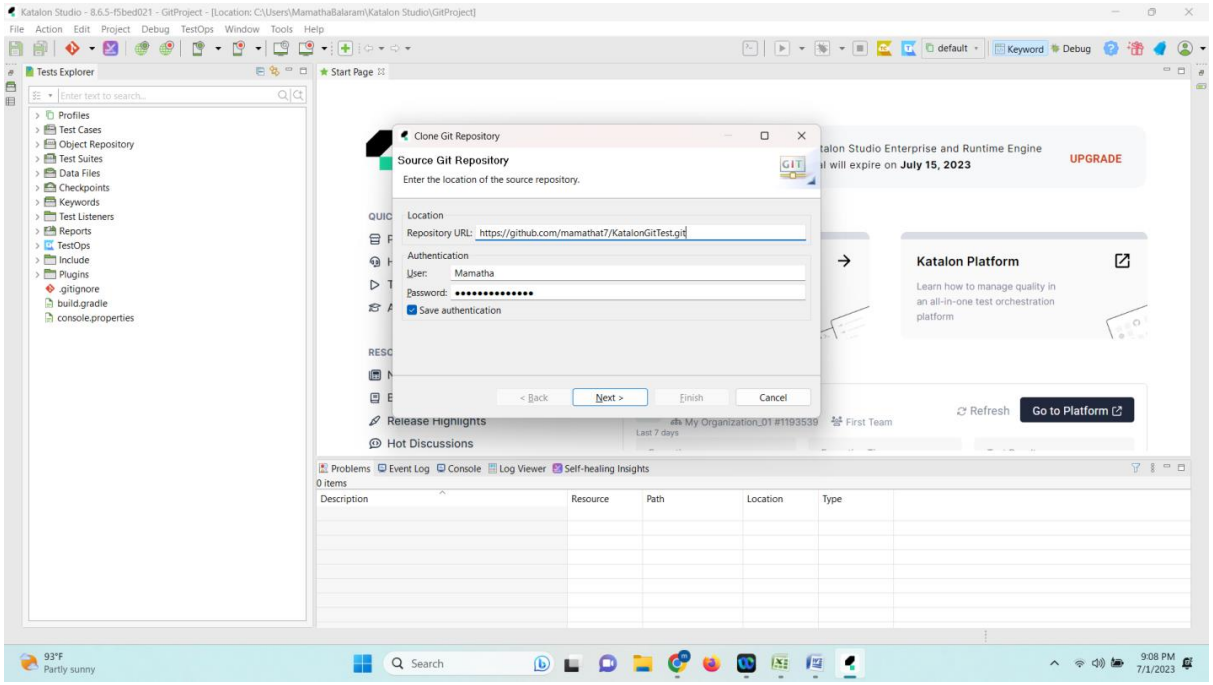
- In katalon studio create a new project ???? click on git icon????select clone project????window appears as below



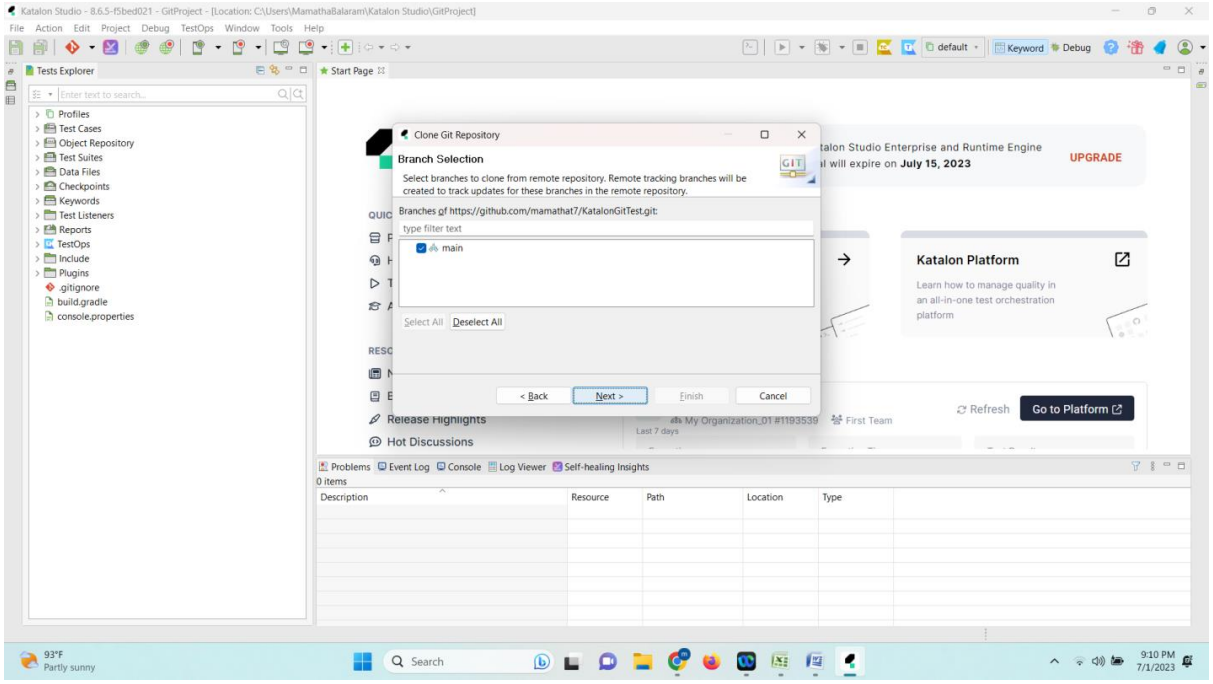
- Goto github, and click on code and copy the URL and paste in above



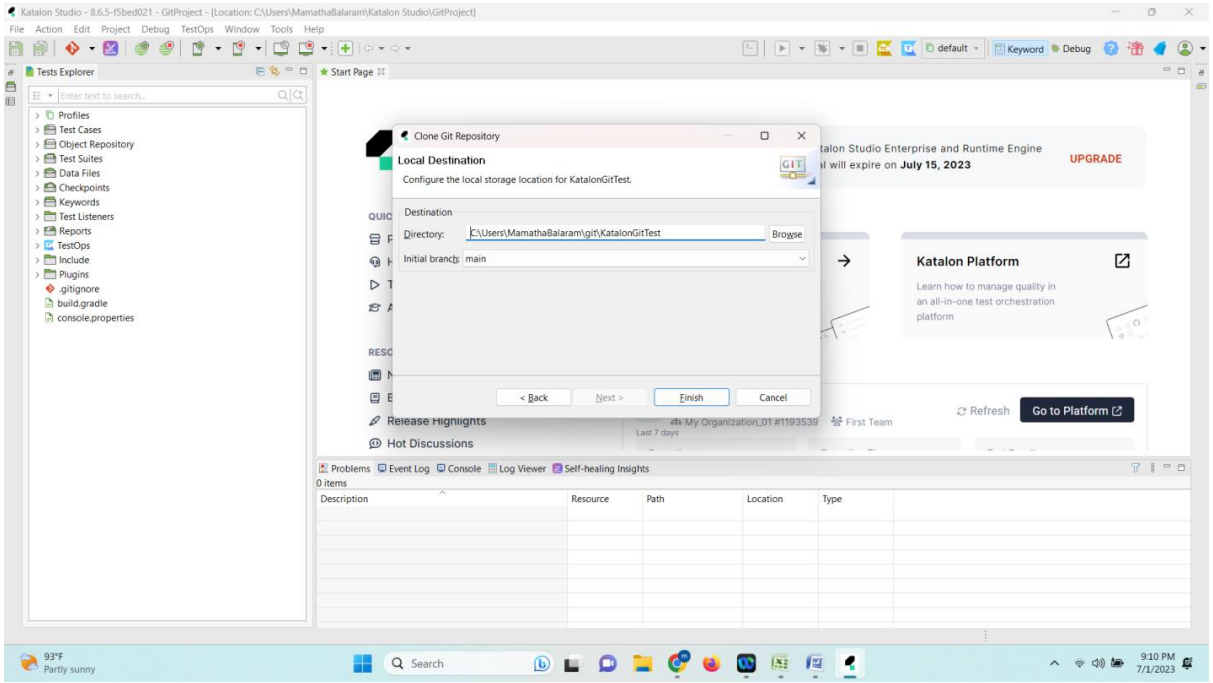
- Give url and user name and password as below



- Next



- Finish



- If you see, your title of katalon location is changed to git location
- Now goto github???? you can see you have only one readme file is there so goto katalon studio ????select git????click on commit

Activity 6.2 : Git Integration

--> version control system
--> source code management

This section has the following tasks :

1. Enable git in your katalon studio
2. if not enable
   window-->katalon studio preferences-->katalon--> git-->enable git
3. github.com --->signup -->newuser
4. github.com-->signin
5. create a repository
   1. click on (+)
6. In katalon create a new project
7. Clone the project (git????clone project)
8. git commit
9. Goto github repository and refresh the page to see the project added

Activity 6.3 : Integration With Jenkins

Activity 6.3.1 : Installation:

1) download jenkins.war file from jenkins.io official site
2) Keep jenkins.war file in specified folder (preferrably C:)
3)run java -jar jenkins.war under jenkins.war location
4) copy the password store in notepad (password generated during installation)
5) Open browser --> in address bar give-->http://localhost:8080
6) username :admin
7) pwd: 63d5b178406e49e387522b4af94a541a

Activity 6.3.2 :Integration of Jenkins with katalon:

1) Jenkins should be downloaded--> extract to specified folder (C:)
2) Jenkins installation and setup
3) Download and activate katalon runtime engine (KRE)
--> used for scheduling test
--> integrating with CI/CD
-->Execute your tests with distributed server
4) katalon studio integration with jenkin
4.1) create a sample test case --> add in test suit --> add in test suite collection
5) Execute command line generated for test suite/ test suite collection from katalon studio in Jenkins
6) At test suite level, click on BuildCMD icon to generate command , copy the command and close dialog box
7) In command line, goto the location of our KRE
8) paste the generated command at KRE location
9) Run the test

Activity 6.4 : Integration With Katalon Git, Github And Jenkins

1. Open Jenkins/start Jenkins
2. Click on manage Jenkins ????plugins????installed ????git plugin (check whether git plugin available or not)

3. Manage Jenkins????tool ????git???? path to git execution: c:\programfiles\git\
4. Click on apply and save button
5. Create a project in jenkins (refer activity 3)
6. In General Description select : Git hub Project
7. Goto source code management , select git option
    1. Add URL (from github clone and download)
    2. Add credentials
    3. Specify branch : main/master
8. Goto Build Trigger
    8.1 schedule your execution under pollSCM
9. Goto Build
    9.1 Under Build select : Execute under window command line
10. Goto katalon studio ???? test suite level???? click on BuildCMD???? generate command????copy and close
11. Open a note pad, copy the command to notepad and other corresponding commands as below:

command :"c:\Users\MamathaBalaram\git\SamplegitIntegration\SamplegitIntegration"
git pull "https://github.com/mamathat7/demosample.git "
cd "C:\katalonRuntimeEngine\Katalon_Studio_Engine_Windows_64-8.6.5 "
katalonc -noSplash -runMode=console -projectPath="C:\Users\MamathaBalaram\Katalon Studio\KatalonAutomationTesting\KatalonAutomationTesting.prj" -retry=0 -testSuitePath="Test Suites/Jenkin_testsuite_sample" -browserType="Chrome" -executionProfile="default" -apiKey="0d717ad6-0eab-4dbb-b878-969cf75a8c10" --config -proxy.auth.option=NO_PROXY -proxy.system.option=NO_PROXY -proxy.system.applyToDesiredCapabilities=true
cd "c:\Users\MamathaBalaram\git\SamplegitIntegration\SamplegitIntegration"
git status
git add *.*
git commit -m "change for test on jenkins"
git push -u "https://github.com/mamathat7/demosample.git" main
echo Sucess

12. Run
13. Observe report generated under Report folder

Testing : Cross-Browser Testing Using TestCloud

This task used when your organization not having enough resources to perform manually, katalon test_cloud automate test scripts across the most popular browsers in different environments.

This section has the following tasks:

- Take TC_CURA_MakeApointment_002
- Integrate katalon studio with testcloud
  projects-->settings--> katalon test cloud
  (or)
  Simply click on Tool bar icon
- select testcase at Testsuite level

- Run -->testcloud

Report : Report Generation And Sending Report To Developers

The final step of the katalon step process is to generate report and analyze the report for
 Quality of the product by discussing with different stakeholders in the project under testing for next actions and eventually whether or not ready for the market release.

Activity 1: Send report through email

- Goto project????settings????email????fill all required fields????apply and save????close

 Activity 2: Test Email Notification
Goto test suite????Open execution information????mail recipients????add emails????ok