**I would like to explain about configuration in eclipse by creating a project:**

Assume that we would like to write down a selenium program:

1. We need to download and add various kinds of selenium related jar files to our project then only we can write our selenium code.
2. In order work on cucumber even we need to add couple of jar files related to cucumber.

**Steps to configure cucumber :**

1. Open the eclipse editor
2. Cross check whether cucumber plugin which is naturals was already installed or not, if not please install it
3. Create a new maven project
   1. Why maven project is for selenium sometimes we created a basic java project right?
   2. Whenever we are creating a maven project it will comes with a default structure and moreover whenever we are working on cucumber it will looks for similar folder structure , hence we are creating a new maven project only. With earlier versions of eclipse editor we need to install the maven plugin where as with the latest version u no need to install maven plugin to ur editor
   3. File >> New >> other >> Maven >> select Maven Project >> leave the default values >> give names and click on finish button
   4. A new maven project will be added to ur editor
   5. Now we need to add bunch of jar files we need 2 jar files
      1. Cucumber java jar file
      2. Cucumber junit jar file
      3. Update junit jar file in the maven project
   6. Navigate to mvnrepository.com and search for above names

Folder structure which we need to follow inside the maven project:

* We need to create 3 packages within the project
* 1st package is for feature files
* 2nd package is for step definitions
* 3rd package is for test runner class

Example:

Why we have chosen this cucumber?? BDD??

We need to define everything in a simply understanding format for BA’s product owner and manual tester .. just by looking into that they should understand what exactly that scenario is going to perform …

**Gherkin: BDD : Behaviour driven development**

It is a language to describe software behaviour. Language To define TC.

In real time process: Got a requirement from BA for which we need to write test cases. Might be with diff ways of understanding between BA and tester.

**For example:**

BA: Perform search and purchase products : to select the submenu from main menu and then purchase a product

QA: searched from home page and purchased products, logged bugs

People r getting confused with these statements with general English, hence they thought to use a language which has specific syntax where anyone can understand without any issues.

**Keywords Used in Cucumber :**

1. Scenario
2. Feature
3. Feature file
4. Scenario outline
5. Step Definition

**Scenarios:**

In Cucumber Testcases are considered as Scenarios.

Scenarios contain Steps : **Given, When, Then, and And**

Given : Preconditions

When: user action , if we have multiple user actions we can use AND followed by when

Then: verification of the end result

When u r automating using BDD , then we need to convert the normal test case into this format

Let us convert our above 1st example into this format

BA: Perform search and purchase products : to select the submenu from main menu and then purchase a product

Scenario : Verify product search functionality from sub menu

Given : open amzon.com

When : select the main category and sub category

**And** : purchase the product

Then: verify the payment gate way

Given: pre conditions, when: user action, then: verification point

And: to add additional verification points

**Manual Test case:** Verify gmail login functionality with valid set of credentials

Sno 1:

Scenario : Verify gmail login with valid credentials

Given : pre condition: open the gmail login page

When: user action: enter uname, pswd, click on login button

Then : verify logout button

And: verify the title of the page

BDD : majority of the cases we will have the manual test cases in a normal format, we will convert then into scenarios like above example

Sno 2:

Scenario : Test case name

Scenario: verify gmail login with invalid username and valid password

Given : pre : open the gmail application login page

When : user action : enter invalid uname, valid pswd, click on login button

Then: verify login page and error message

Sno 3:

Scenario : verify gmail login with valid uname and invalid password

Given : pre : open the gmail application login page

When : user action : enter valid uname, invalid pswd, click on login button

Then: verify login page and error message

Sno4:

Scenario : verify gmail login with empty credentials

Given: open the gmail login page

When: just click on login button

Then: verify login page and error message

Scenario : Ordering a product in amazon.com

Given: pre condition: open app amazon.com

When: user search for a product

And : add it to cart and click on purchase button

And: verify payment page and proceed with payment

Then : verify Order confirmation page

In the real time sometimes there are multiple pre-conditions, user actions, and expected outcomes

* And: we can concatenate few more results
* But: Some kind of –ve validations which is not displaying

**Keywords Used in Cucumber :**

1. Scenario
2. Feature
3. Feature file
4. Scenario outline
5. Step Definition

**How come these scenarios will execute ?**

We need to establish relation between them so that our script will execute.

Simple example : call from a mobile

Lets write some examples with basic java commands

Feature : high level business Requirement

Feature : Verify login functionality

Scenario : 1

Scenario : 2

Scenario : 3

Scenario : 4

We will create a file within the project where we will give an extension as .feature in that file we will write down all our scenarios(TC’s) which are given, when, and then

Depending on the project need we will create n no of feature files within a single project where a single feature file contains multiple scenarios…

qweukFeature : Gmail login verification functionality

Create a file with an extension as .feature

Feature File acts as a Test Suite which consists of all Scenarios.

Scenario : Ordering a product in amazon.com

Given: pre condition: open app amazon.com: Step

When: user search for a product: Step

And : add it to cart and click on purchase button: Step

And: verify payment page and proceed with payment: Step

Then : verify Order confirmation page: Step

Within a feature file we are creating scenarios in which we are following gherkin syntax and writing a simple plain English format, how come those English words will perform operations??

**How come these scenarios will execute ?**

We need to create a stepDefinitions : for each and every step defined in the feature file we need to write corresponding logic which will perform the required operations on the browser using selenium tool

So we are going to create feature files in a seprate folder and we are going to create step definitions in another package, then how come they will coorelate ???

Example : In my mobile I am using Airtel (1st sim) and Vodafone(2nd sim) 2 networks , when I clicked call from the 1st sim, automatically it will try to establish the connection from the airtel as it was already configured in the backend…

The sameway using Gherkins there are relation established between feature file and stepDefinition… …

We created a maven project in eclipse , for which we added all the jar files and even the folder structure also….

1. Creation of feature file in eclipse editor
2. Creation of scenarios in eclipse editor
3. Creation of stepDefinitions in eclipse editor
4. Creation of testrunner in eclipse editor

Feature : we are going to create our feature files which internally contains scenarios inside that..

Name.feature extension we need to create

Should contains below things:

Feature: high level business requirement name

Scenario : which scenario we are going to test

Given : pre conditions

When: what are all the user actions

Then : verifications

The warning message in the feature file is representing that you have created step but it is stating that there is no step definition for that it means it doesn’t find any backend logic for that step…

BDD: for every step whatever we have created we need to write down logics for each and every step which we are calling them as a step definition…

How to generate step Deinfitions: 2 ways:

1. just by running test runner class eclipse will generate step definitions
2. chrome browser plugin

**TestRunner :** we need to create a new package and new class.

So to this class we need to specify feature file and step definition information.

When we run this class it will go to feature file from then it will move to step definition and further execution flow happens.

1st option is cucumber options : which takes 2 inputs

1. feature file location
2. Glue : specify stepdefinition file location, no need to specify package location only thing is fature and step should be in same root which is morethan enough as we already specified.

We have created a feature file and we don’t know how to create a step definition file and its syntaxes , so I just created a test runner class in which I specified the feature file for which I haven’t written step definition and I executed that test runner class… in the console it will display a message stating that there were no logics found for ur feature steps , use below code snipped to generate the logic. So it means it is giving us a syntax to write down the step definition logics.

When ever the step definition was implemented for any step in the feature file then if we press control from the keyboard and if we mousehouver on that step it will display as a link and when we click on that link it will navigate to the step definition

There is a plugin in chrome browser for cucumber to generate step definitions syntaxes for any feature file

**How to generate step definitions:**

* By executing test runner
* Tedy gherkin plguin from chrome browser
* Writing by our own

Let us add test runner class once again now, what it will happens means whatever the logics we have definied in the step definition it will execute them for now we created a logic as syso statements hence it will print those statements as an output

**In eclipse editor:**

* Feature file
* Step definition
* Using test runner we executed that feature file

We will see how to write selenium logics inside that…

**A selenium program inside the step definitions**

Scenario: login to salesforce application

Steps:

1. Checkout whether this maven project is configured with selenium java drivers r not
2. Download and place the browser exe files within the project under drivers folder
3. We have bunch of videos related to selenium webdriver , kindly look into them once…
4. Create a feature file for this logintoSF scenario

Now we need to write selenium command, where we need to write inside given , when and then only… as we have already configured selenium directly we can use that…

**How to convert reusable steps:**

If we created a scenario already and if 2nd scenario needs any steps instead of rewriting them just use the steps whatever we have created from the 1st scenario.. so that the logic(when the execution comes to that scenario then it will point to the 1st created step definition only) will point to above step definition only

**Multiple sets of data:**

1. Data table: single set of data:
   1. And the data should be passed below the step itself, we cant pass the data outside the step at all
2. Parameterization: multiple sets of data
   1. Scenario outline
   2. <variable name > , <username>
   3. Examples and data with |
   4. We need to pass the data with in the feature only using that | symbol at the bottom of the feature file
   5. When we are planning to pass multiple sets of data then we need to define it as a scenario outline not just scenario..
   6. Immediately some error messages are displaying in the feature file… so there we need to pass the required data

To identify and create reusable steps right??? Which we studied in the last lecture…

If that’s the case, in the last example we created a step for opening an application and now also we created another step for opening an application… which is duplicate why cant we create a single step for all those files?? Ofcourse we have to.. then lets mode the 1st step of access SF application just by passing data table concept only or like the yesterday lecture pass the URL within the step

**How to execute specific test scenarios:**

Tag=”@tagname1,tagname2”

I would like to run only few sets of scenarios only out of defined 20 scenarios…

Smoke Test on an application: will be run to check the complete deployment status…

We will have few sets of scenarios which will verify smoke testing..

Using manual testing team will split smoke test and regression test..

We have 20scenarios are there for the entire app and manual testers identified 5 as smoke scenarios

Out of 20.. how come ..

To specify this concept we are using tag’s concept in cucumber…

We will specify or split down scenarios into either smoke or regression or any other type . we need to define @name to the scenario and even in the testrunner we need to specify the desired name which we need to execute

In the current example out of 3scenarios for 2 scenarios we deifned as smoketest and let me run my test runner

With this tags the main advantage is we no need to write again another test suite for smoke test cases, what we are all the scenarios we generate we can split from them with this tag annoataion and moreover whatever the group we want we can execute with those groups..

**How we are defining pre conditions and post conditions:**

* 1. Background: within the feature file
  2. Before & after methods hooks
  3. @before(“tagnme”) : hooks:
  4. I have created test scenarios for both mobile automation , web automation selenium.. but the preconditions for both is diff right??

dryRyn=true;