

## RANDOM REGEX :-

⇒ It is used to define the range of alphabets and numbers.

Syntax :- Ex :-

{RANDOMREGEX["[A-D]"]}

⇒ You can use Capital letters or small letters.

{RANDOMREGEX["[1-4]"]}

⇒ At a time we can use small letters & caps & numbers.

{RANDOMREGEX["[A-P][a-c][1-s]"]}

Ans ⇒ Ba1

## CALC :-

⇒ It is also one of the dynamic operation.

⇒ It is used to some basic operations like Addition, Subtraction, etc.

Syntax :- {CALC[{B[Price1]} + {B[Price2]}]}

## MATH :-

⇒ It is used to find min & max of the numbers.

Syntax :- {MATH[Min(3,2)]}

Value - 2.

Note :- It is to find for "two numbers only".

⇒ If we give three numbers the test case fails

⇒ Same expression will find by CALC.

{CALC[Max(3,2,4,5)]}

⇒ Value - 5.

## POWER Argument :-

⇒ It is not done by CALC. It will give negative number.

⇒ Power Argument is done by MATH.

Ex :- {MATH[POW(3,3)]}

⇒  $3 \times 3 \times 3$

⇒ Value - 27.

⇒ Square root :-

Ex:- {MATH[Sqrt(4,8)]}  
{MATH[Sqrt(16)]}

⇒ Square root is done by both CALC & MATH.

Round :-

⇒ Round figure.

Syntax:- {CALC[Round(2.77777,2)]}

Value. ⇒ 2.78.

Syntax:- {CALC[Round(2.77777,3)]}

Value ⇒ 2.778.

Syntax:- {CALC[Round(2.99999,3)]}

Value ⇒ 3

⇒ It will increase the one number and it will stop.

⇒ length of the string :-

It will done by CALC

Not done by MATH.

Syntax:- {CALC[Len("tricentie")]}

Value 9

⇒ It will also find the Buffer length.

Syntax:-

{CALC[Len("{{B[username]}}")]}



Buffer Name.

⇒ By using this Syntax.

We can find the length of the string and the Buffer of the String.

## FRAMEWORKS IN TOSCA:-

⇒ Frame work is the set of instructions designed by the experts and which will be followed by all the TOSCA Automation Engineers.

There are 3 Frameworks in TOSCA.

- Modular Frame work
  - Data Driven Frame work
  - Hybrid Frame work.
- — —

### 1. Modular Frame work ← V. Imp.

1. In <sup>Test</sup> ~~some~~ cases some common steps is there.

### Common Steps :- Reusable Steps : Reusable Test Step

- ⇒ Open URL
- ⇒ Tbox Wait
- ⇒ Close Browser
- ⇒ Click on Login link
- ⇒ Enter the User credentials
- ⇒ Click on Logout link.
- ⇒ Click on Shopping Cart

Blocks : RTB's

We update any value in any Test Case it will reflect all the test case reference including RTB's

## Modular Frame work:-

1. We need to Identify the Reusable Test Step blocks.
2. We need to create the library
3. We need to create the RTB's in Library.

### Procedure

First we need to create one  Folder  
⇒ Right click on that folder to create  Library

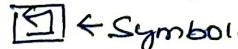
#### Note :-

We can create only one Folder in

#### Note :-

In a Folder only one library is created.  
It will not allow to create multiple library.

⇒ Again Right click on library to create RTB



← Symbol.

### Three ways we can send data in RTB:-

1. Copy and Paste from the previous Test Case
2. Module drag and drop.
3. Search and add step.

#### Note:-



We can search both Standard Modules & User defined Modules

## Sample Test Case RTB

### Modular Framework

#### Library

- ▶  click on login link
- ▶  click on Logout link
- ▶  close Browser.
- ▶  Enter the User credentials.
- ▶  Open URL
- ▶  Tbox Wait.

After that Create One Test Case.

### TC1 - Verify URL

Again drag & drop RTB to the Test Case. It Will Create Reference.

#### TC1 - Verify URL

- ▶  Open URL Reference.
- ▶  Tbox Wait Reference
- ▶  Tbox Close Browser

Again Right Click on the Project Folder to Create New Test Case.

### TC2 - Verify User Login

From RTB Drag and drop into the test cases.

#### Open URL Reference

#### Tbox Wait Reference

#### Click on Login Reference

#### Enter the User credentials reference

#### Click on Logout Reference

#### Tbox Wait Reference

#### Close Browser Reference

## Note :-

In Some Cases. There is no Registering. We can drag and drop from the module.

## Ex :-

### TC3 - Verify User Reference

#### Open URL Reference

#### Tbox Wait Reference

Register link ← This one is not Create RTB.

Simply drag and drop from Module Section.

## Combination of RTB and Normal Step

In Some Cases we are using Tbox Wait for 1000 & 2000 Sec.

At that time

## 1<sup>st</sup> Procedure :-

⇒ Right Click on the test step and then Click on Resolve reference.

⇒ It will treated as normal Step.

## 2<sup>nd</sup> Procedure :-

⇒ With out Click on Resolve reference

We can Create Business Parameters. We can pass different Values.

## TBox Window Operations (Std. module) :-

⇒ It is used for Maximize or minimize for window operations.

### ② TBox Window Operations.

caption	Demo*	Input
---------	-------	-------

WindowIndex

Operation	Maximize.	Input.
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Operation

### For Browser Closing:-

put the Operation Value as "close" It will close the entire Browser.

Where as Std ~~or~~ module close Browser  
Particular.  
⇒ It will close Only tab.  
⇒ It will not allows to entire Browser.

## BROWSER OPERATIONS :-

⇒ Forward and backward Purpose we are using "Execute Java Script" Standard Module

### ③ Execute Java Script.

Title	Demo*
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JavaScript	window.history.go(+2)
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(Plus) + for forward

(Minus) - for backward.

When we are using this module the precondition is type of browser should be defined in "test configuration parameter"

⇒ We didn't define type of browser in TCP it can't work.

## TEST MANDATES :- V.Imp.

Def:- Test mandates are used to avoid the overwrite of other test results.

⇒ In general, In the execution click on the generate, It will generate only the latest log reports.

⇒ We want to generate the old report also.

### Procedure :-

⇒ Right click on the Execution ijk folder.

⇒ Click on Test Mandate.

⇒ One Folder will be created.

⇒ Main execution ijk drag and drop into the test mandate.

⇒ From this we can generate the old report also.

⇒ A log timing should be display in the main execution ijk folder and the Test mandate Folder.

<sup>Ques</sup>  
Q. How to handle two browser tabs having the same title name?

⇒ Go to the particular Attribute.

⇒ Right click on Properties pane and then click on "Create Configuration Param".

⇒ And then Rename as "ConstraintIndex = 2".

⇒ And then Click on Save.

### Same Titles

Constraint Index = 2.

"Here, we are filtering the tabs."

### Note:-

⇒ Don't give the constraint index to the existing module, it will effect the old tc.

⇒ Scan the property as new give the property as constraint index.

## Manual Test Case Creation in TOSCA :-

and how to execute :-

- ⇒ open the new Folder.
- ⇒ copy and Paste their login test case.
- ⇒ And Create a One test case.
- ⇒ Right click on the test case and create Manual Test Step (Hand Symbol) click on it.
- ⇒ And <sup>Right</sup> Click on the Test Step to create the Attribute 'to Create Manual Test Step Value' (XY Symbol)
- ⇒ A Attribute will be added.
- ⇒ This is the procedure to add Manual test Steps.
  
- ⇒ Click on Run in Scratch Book.
- ⇒ It will open Manual execution wizard.
- ⇒ Click on Set Passed. or fail.  
In case fail Add comments.
- ⇒ Here we can take screenshot and add attachments.
  
- ⇒ Move test case to the execution list. and click on Run it will execute one by one
- ⇒ Run as Manual as test case all test steps will displayed.

How to Convert Manual test steps into the Automation?

- ⇒ Go to existing module. Drag and drop into the test <sup>Step</sup>. But Attribute names should be correct.
- ⇒ Now extra module Attribute should be deleted. (or) disable.
- ⇒ This is the procedure to convert Manual test steps into the Automation.
- ⇒ Now we can run the test case.

⇒ It is a very good feature in TOSCA.

⇒ List of Automation tools not having this feature

## RECORDING :-

- ⇒ By Using this option Recording tosca will create test case.
- ⇒ Modules and test case will be generated.

## Multi User Environment

### Environment (or) WorkSpace (or)

#### Repository :-

- ⇒ Single User Work Space
- ⇒ Multi    ||    ||    ||

#### Procedure :- (For Single User).

- ⇒ Click on New.
- ⇒ Select type of Repository (Single User WorkSpace)

⇒ Use WorkSpace template

(Enable)

⇒ Click on OK.

#### (For Multi User Work Space)

- ⇒ Select type of Repository (Database) (Server)
  - ⇒ Ex:- Click on MS SQL Server
  - ⇒ Click on ?
  - ⇒ In the Connection string text box "Give Server, Database, UserID, Password details." Click on Test connection
  - ⇒ Give the name for WorkSpace
  - ⇒ Click on OK.
  - ⇒ A Connection String will be created

After that Tosca asks

⇒ User ID & Password.

#### Reason

TOSCA <sup>tool</sup> is in "Server" that's why User ID & Password ask.

Check out → From Server to Out.

In multi user work space.  
In particular  
For module selection in TAC A. (In particular)  
First we need to select the particular  
Module  
Click on check out.  
Now it is allow to scan the lesson in  
TAC A.

→ Check out  
→ Click on a user  
→ Click on  
→ Click on  
→ Click on  
→ It will do the single modification.  
→ Now it is allow to scan the lesson in  
TAC A.  
TAC class are in server we are  
unable to do the single modification.  
It will not allow to do any thing  
Click on test case and then click on  
check out.  
The test case will be enabled.  
After the complete of modification.  
Select the test case and click on  
"Check in all"  
green colour bar will be displayed.

→ Other team mate any modification done.  
Update all :- (Refrash)  
Check Out tree :- Total tree will be enabled.  
→ green colour bar will be displayed.

While can run test case from scratch.  
→ We need to check out to run the test  
case in execution section.

→ We will get the latest update from  
click on update all.

Team mate.

Q. When will we do the Automation testing?

A. At the time of Regression testing we will do the Automation.

⇒ Functional testing is done by Manual testers.

\*\* ⇒ In some cases adding <sup>new</sup> features is to application. Testing these features is called functional testing.

\*\* ⇒ By adding these new features, already existing features is affected or not. this is called Regression testing.

⇒ Regression testing is done by Automation testers.

~~ Sprint → Duration. ⇒ Mostly 2 weeks.

NOW We are using Agile methodology.

### Requirement Section:-

⇒ It is used to track (or) measure the test case progress and execution purpose. progress.

#### How to create?

- Create one Folder. (Project Name)
- Right click on that Folder to create Sub Folder (Sprint #1)
- Right click on Sub Folder to create Requirement Set (Automobile Insurance)
- Right click on Requirement Set to create Requirement. (Automobile)

Q. How to check progress in requirement section?

Right.  
→ Click on Requirement Set.  
→ Click on outdated values

\*\*  
→ Before that Execution list Test Case link to Requirement.

### Title

Confirmation msg is displaying correctly

### Steps:-

1. Open the Vehicle Insurance URL
2. Click on Automobile Insurance
3. Enter all the mandatory fields and click on Send Quote.
4. Observe the Confirmation msg.

### Expected Result:-

Sent Email Successfully

### Actual Result:-

Sent E-mail Successfully.

### Raise defect in issue section:-

- Click on the project folder
- Click on New defect.
- Rename with title.
- Give the ID.
- State as NEW
- Severity is given by Automation tester
- Priority is 11 Developrs
- Type as Defect
- Put the Description as Expected and Actual Result.
- Click on the Save.

### Desktop & Web applications:-

⇒ By installing the application with out using the Browser is called Desktop application.

### Web applications:-

⇒ With the help of URL with By using the Browser is called Web applications.

Ex:- TOICA is a Desktop application  
Demo Webshop is a Web " "

ZOOM is a Desktop & Web application.

### a. How to launch Desktop application by using TOICA?

⇒ First go to start.

⇒ Click on all Apps.

⇒ Then Drag Application to the Desktop  
Note:-

(First Move Application to the desktop)

⇒ By Using Standard Module "TOCA Start program"  
We can launch Desktop application

⇒ Right click on Application → go to General. → Copy the application path & Name of the application.

⇒ We need to verify the values.

- Exists
- Enabled
- Visible.

There is no InnerText for Web application  
Ex:- Only write the spelling.

Three

Verify.

Seven

Verify.

NO Generate GUI → Not treating as a control

Std module

⇒ By Using "TBox Window Operations" by to close the DESKTOP Application.

### Exploratory Testing

⇒ If the requirement is in preparing proper stage.

⇒ Testing an application with out any requirements.

Def :-

⇒ Exploratory testing is a process performing the testing by exploring the application when there are no client requirements.

⇒ Exploratory testing is performed by "Domain Experts".

⇒ Exploratory testing is a process of creating the testcases, executing the testcases and validating the results all at the same time without any client requirements.

Q. When will do the Automation?

A. Application is in stable condition.

## CLASS :-

- ⇒ class is a reusable Attribute.
- ⇒ If the Attribute is required in Multiple test sheets, then we will be creating the class.

## procedure :-

- ⇒ Right Click on test sheet
- ⇒ click on class  icon.

NOTE :- If we any update the Value in the class, It will applicable for all the test sheets.

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## PDF COMPARE :-

- ⇒ By using Std Module PDF 1:1 compare We can compare the two PDF files.
- ⇒ Tosca shows that where is the problem and it will not define the what is the problem.

Path :- TBox Engines → pdf → 1:1 compare

## Tosca

1:1 compare	file
Reference PDF	filepath\Name.pdf
Reference PDF Password	
Target PDF	filepath\Name.pdf
Target PDF Password	
Accuracy	100%
Excluded	

## Note :-

- ⇒ Put the Accuracy as 100%
- ⇒ If we are having 3 Pages. But the first Page is same. Put the Excluded page as 1

## Value

File Name Path\Name.pdf

pdf means extension mandatory.

## Tbox Send Keys :-

→ It is a Standard Module.

Path :- TBox Automation tools



Basic Window Operations



Tbox send keys.

② Tbox send keys.

Caption

Demo\*

Keys

Rajesh.Tosca@gmail.com

Note:-

→ Keys are nothing but Value.

→ Send Values are nothing but send keys.

Ex :-

In Demowebshop Page. If we are clicking on login link, the cursor is blinking on Email Text box.

⇒ With out scanning the Text box we can input the value by using Tbox send keys.

## Tbox Send Key Dynamic Expression

Email. {SENDKEYS[Rajesh.Tosca@gmail.com]}

⇒ Here we are entering forcefully.

Note :-

We are scanning Text fields and making unique  
But Tosca not entering the value.

In this case we are giving send keys  
It will enter the value forcefully.

## EXPLICIT NAME :-

⇒ In Case we are rename the testCase Attribute. It will not allow ~~to do~~

to rename

⇒ Right click on TestCase Attribute

⇒ Jump to Module Attribute.

⇒ Right click on Attribute

⇒ Add property to select

⇒ Click on "Configuration Parameter"

⇒ Write ExplicitName : True

⇒ There should be no space

⇒ Always first letter should be caps for every word.

## Duplicate Modules & Merge Modules

- ⇒ Select any one of the module.
- ⇒ Go to Modules in the menu bar
- ⇒ Find Duplicate modules.
- ⇒ Main module to target module.  
    ↳  
    ⇒ Select the Duplicate module  
    ⇒ and then merge.

## SELECT ACTION MODE :-

- ⇒ It is one of action mode
- ⇒ It is default action mode like input.
- ⇒ Mainly we are using tables.

- ⇒ Enter URL to scan
- ⇒ Give the URL ([www.dneonit.com/calculator.aspx](http://www.dneonit.com/calculator.aspx))
- ⇒ Click on OK.
- ⇒ Change the some values
- ⇒ Select the Request
- ⇒ Click on Run
- ⇒ We will get Response.

200 OK ⇒ Success Status.

500 ⇒ Internal Server Error  
    ↑  
    (Bad Request)

## API Testing

- ⇒ Integrating the two servers with the help of API.

Ex:- Make My trip ⇒ Indigo  
IRCTC    ⇒ Paytm.

## Procedure

- ⇒ Go to API testing in menu bar
- ⇒ API Scan
- ⇒ It will load API Scanner
- ⇒ Click on URL.

## Interview Questions

① How to get the length of the string?

A. The syntax for the length of the string is

⇒ `calc[len("{{" "String Name" "}}")]`

⇒ `{calc[len("{{" "{{xB[Buttername]}}")}]}`

② Different types of Errors in TOSCA?

⇒ Verification Failure :- If any verification point fails, it means if expected value and actual value does not match then verification is failed.

⇒ User Abort :- Abort of the test execution by the user.

⇒ Dialog Failure :- During the execution if at all we notice any unexpected error popups and if that stops the execution then we will call it as Dialog Failure

③ What are the TOSCA Automation best practices?

A. ⇒ Use common naming convention throughout the project

⇒ Main proper folder structure

⇒ Use libraries reusable script for the set of steps need to be executed in multiple test cases.

⇒ Check the existing buffers while creating any new buffers, just to ensure buffers are not override.

④ What are the challenges you faced in TOSCA Automation?

A. ⇒ TOSCA doesn't support to run the script in different browser resolutions  
(For Ex:- if you do zoom in and zoom out)

⇒ Tricentis support team response time is more if there is any dependency occurs.

⑤ TOSCA Version ⇒ 13.3

⑥ Check Out is used to check out particular test case.

⇒ Check out tree is used to checkout complete tree

⇒ Update All is used to see other updates.

- ⑦ What is Instantiation & Re-instantiation?
- ⇒ During instantiation Tosca captures the values from the Testsheet (or) Excel sheet and creates the template instances for each combinational data.
  - ⇒ Where as Re-instantiation is used to capture the updated values from Test sheet (or) Excel sheet.

- ⑧ What is straightThrough?

⇒ It is basically one of the characters for an instance, we must give the characters as straight through only if the format and both are valid.

### Generate Instances

#### ① Generate Instance - All Combinations

⇒ It will create all the possible combinations.

#### ② Generate Instance - Orthogonal.

⇒ It will not use duplicate data, it will use each instance only once while generating the combinations.

#### ③ Generate Instance - Pairwise.

⇒ It will first take one pair and then generate the instances.

#### ④ Generate Instance - Linear Expansion

⇒ In order to create the instances in Linear Expansion, every instance should be having at least one straight through

### Class 1

- ⇒ Tosca installation
- ⇒ Tosca license activation
- ⇒ Tosca workspace creation.
- ⇒ Default APPS & Default Browser
- ⇒ Tosca - Browser Extension
- ⇒ User Reg test case in Demo webshop

### Class 2

- ⇒ Registered user testcase
- ⇒ Control group.

### Class 3

- ⇒ Control identifications.
- ⇒ Model level properties
- ⇒ Attribute " "

### Class 4

- Identification by properties
- "                  " Index.

### Class 5

- Identification by anchor.
- Identification by image.

### Class 6

- ⇒ TCP.

### Class 7

- ⇒ Browser testing (or) multi browser testing.

### Class 8

- ⇒ Rescan

### Class 9

- ⇒ Action mode verify

### Class 10

- ⇒ Tab or take screen shot.

### Class 11

- ⇒ DokuSnapper.

## Class 12

- => Tbon wait
- => Synchronization time out
- => Synchronization time out during wait on.

## Class 13

- => Recovery scenarios.

## Class 14

- => Recovery scenarios & clean up scenarios
- => Regular expression

### Business Parameters:-

Defn:- Business Parameter is the only option which allows us to Pass the different values to the different Reusable test step block references.

- ⇒ Go to Main RTB.
- ⇒ Right click on RTB to Create Business Parameter Container [P]
- ⇒ Again Right click on Business Parameter Container to Create the Parameter [■]
- ⇒ Again Parameter Rename & Remove the hot code value.
- ⇒ And Drag and drop the Parameter into the Test Step Value.

Ex Test case:-

- Tbox Wait.
- [P] Business Parameters.
- Wait

STBx Wait.  
 Duration {PL[Wait]}



- ⇒ It will reflect same into the all test case.
- ⇒ We can enter the value in different test cases like 10000 & 8000 sec

Note :- With out using the Business Parameters we can't Pass the different Values.

\*+ 9-11 Steps to create the Business Parameter:-

1. Right click on Reusable test step block and click on Business Parameter Container.
2. Right click on Container and create Parameter.
3. Rename the Parameter.
4. Remove the hard code value.
5. Drag and drop the Parameter to the test step value.
6. Now it will allow us to Pass different values to the references.

## ② Data Driven Framework [DDF] (or)

Data Driven Testing [DDT]  
(or)

Test Case Design (TCD)

Def:-

→ Performing testing on the same functionality with different sets of data is known as Data Driven Framework.

→ There are 2 ways to implement the Data Driven Framework

→ DDF through Test Sheet (Internal DDF)

→ DDF through Excel Sheet (External DDF)

### 1. DDF through Test Sheet:-

① Need to create the Test Sheet in Test Case Design section.

② Need to create the required Attributes.

→ UserName

→ Password

→ Expected Results.

### 3. Need to create the required Instances (Values)

Username

Rajesh.Tosca@gmail.com

Rajesh.Tosca

Rajesh@gmail.com

Password

Tosca@123

Tosca123

Tosca

Expected Result

Rajesh.Tosca@gmail.com

Please enter a valid email address.

Login was unsuccessful. Please correct the error and try again.

4. Need to define the Character for Instances

→ By default it is in valid.

Character Option is in Properties Panel

We have three characters.

1. Valid

2. Invalid

3. Straight-through.

1. Valid :- If field format is matching.

Working condition is secondary.

Ex:- abc123rbc@gmail.com

2. Invalid :- If field format is not Matching.

Ex :- abc123

3. Straightthrough :- If field format is matching as well as if the value is in Working State.

Ex :- kareemTosca@gmail.com

Invalid

Invalid.

Straightthrough

In the expected Results.

For Positive Scenarios Give character as "Straightthrough"

For Negative Scenarios Give character as "Invalid"

5) Need to create the Combinations.

⇒ Right click on the test sheet

⇒ Click on Generate Instances.

We have four options.

1. ALL Combinations

2. Pair wise.

3. Linear Expansion

4. Orthogonal.

\* Linear Expansion :- Linear Expansion creates the combination by keeping atleast one straight through in each combination.

\* Orthogonal :- Orthogonal creates the combination with out any duplicate values.

Mostly We use Orthogonal

Note:-

"If Orthogonal also not suit. We will create the combinations Manually"

⇒ Right click on the test case to create Instances.

⇒ By selecting the dropdown we can select the Values.

-

After that Create one folder.

⇒ COPY and Paste the test case.

We didn't link Test Sheet to the test case, as we don't have properties like "Schema Name" and "Schema Path".

⇒ 6) Convert the test case into the template.

⇒ Right click on test case and click on Convert to Template

   Icon.

NOW We can see the properties like "Schema Name" and "Schema Path".

7) Link the TestSheet to the template.

8) Link the Attributes to the template. 

UserName  
\$[XLUSERNAME]

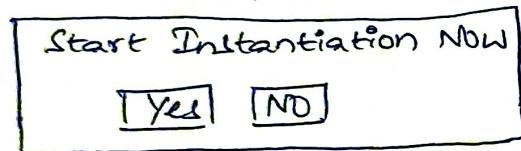
Note :- We can't run the template.

### ⑨ Create the Template Instances.

⇒ Right click on the template and then click on ellipsis. to create Template Instance.

⇒ TOSCA will create combined set of TC. i.e. Test Cases.

⇒ After that TOSCA ask like



Click on 'Yes'

Instantiation :- It is a process of creating the test cases for all the combination.

### ⑩ Now we can run the Template Instance Folder.

It will execute the all test cases.

Note :- If we update any changes in Test Sheet or Template level.

We need to click on Template Instance folder and then click on "Reinstantiate Instance"

⇒ It will applicable to all the TestCases.

If we want to Run into the Execution list.

⇒ Move Template Instance Folder into the Execution list.

⇒ It will Run all the testcases.

Note :- Not to move the Template

This is the process we have to follow to implement the data driven Framework through Test Sheet.

## ② DDF through Excel Sheet (External DDF) :-

- ⇒ Go to File Manager
- ⇒ Click on "C" drive
- ⇒ Click on Tosca Projects
- ⇒ Click on Tosca Commander
- ⇒ Click on Templates
- ⇒ Click on BO
- ⇒ Click on Example.

We have to keep data in "Example" sheet.

- ⇒ Copy the "Example Sheet"
- ⇒ And kept in "D" drive Folder.
- ⇒ And Paste in that Folder.

1. Object/Attribute	Verify Logged In User	Verify Username Error Msg	Verify Password Error Msg
2. User Name	Rajesh.Tosca@gmail.com	Rajesh.Tosca	Rajesh@gmail.com
3. Password	Tosca.123	Tosca.123	Tosca
4. Expected Result.	Rajesh.Tosca@gmail.com	Please enter a valid email address.	Login was unsuccessful. Please try again.

- ⇒ And click on Save.
- ⇒ Now Create One New Folder and copy and Paste Test Case into the folder.
- ⇒ Now Right Click on the test case to Convert to template.
- ⇒ Now Click on the Schema Path. click on ...(dotk) and Select the file and click on Open.
- And click on OK.
- Now it display the Schema Path and Schema Name.

- ⇒ Now we can link the Attributes.
- ⇒ Remove hardcode value.
- ⇒ We can type manually {XL[Username]}
- {XL[Password]}
- {XL[Expected Result]}
- ⇒ Now Convert into the Template, and click on Yes.
- ⇒ Now Run in Scratch Book in the template Instance Folder.

## CARDINALITY:-

- ⇒ Cardinality is a Module attribute Property and which allows us to add multiple attributes to the test step.
- Cardinality Default Property = "0-1"
- We need to change it to "0-N"
- A one more attribute is added to the step. if we don't want that one ⇒ Go to Module attribute type default value as "0-1"

## Ex:-

1. Verify the innerText of Register link and click on it.
2. Verify the InnerText of Register link
3. Click on Register link.

## TIMERS:-

- ⇒ Timers are used to measure or track the test case execution time.

Start Timer }  
STOP TIMER } Standard module.

## Sample test case for timer :-

- ① User Login.
- ② TBox Start timer.
- ③ OPEN URL
- ④ TBox Wait
- ⑤ Click on Login Link
- ⑥ TBox Wait.
- ⑦ Close Browser
- ⑧ TBox Stop Timer.

- ⇒ In TBox Start timer give the ID. [Name]
- ⇒ TBox Stop timer give the same ID.
- ⇒ Give Maximum Duration.
- ⇒ By Default Verify action mode comes