29-FEB-2020

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AUTOMATION FRAMEWORKS

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-- Framework is a structure with set of assumptions,concepts and tools to automate software testing

Advantages:

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-- provides consistency in Testing (6 different testers using different structure)

-- Increase the reusability of the scripts

-- low maintainance (less time to change modification)

In general Automation artitect will design automation framework based on behaviour of application and Tool.

Following are the Frameworks which can use in Selenium

1. Modular Framework

2. Page Object Model (POM) Framework

3. Data Driven Framework

4. TestNG Framework

5. Keyword Driven/ Hybrid Framework

6. Cucumber Framework (For Agile Projects)

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1. MODULAR FRAMEWORK

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1. Modular Framework:

Modular framework is the approach where all the test cases are first analyzed to find out the reusable flows. Then while scripting, all these reusable flows are created as functions and stored in external files and called in the test scripts wherever required

Advantages:

-Test scripts can be created in relatively less time as the reusable functions need to be created only once

-Effort required to create test cases is also lesser due to code reuse

-if there are any changes in the reusable functions, the changes need to be done in only a single place. Hence script maintenance is easier

Disadvantages of Modular Framework:

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-since data is still hard coded in the script, the same test case can’t be run for multiple data values without changing data after each run

-additional time is spent in analyzing the test cases to identify with reusable flows

-good programming knowledge is required to create and maintain function libraries

Designing the Modular Framework from scratch:

Project HRMS\_ModularFrameWork

Package com.hrms.LIB

Global.java

Maintains all the variables related your project

Eg:

WebDriver driver,

Application baseUrl,

Username.

Pwd

Etc…

General.java Maintains all the reusable functions related to your project.

Eg:

openBrowser()

closeBrowser()

login()

logout()

addEmp()

delEmp()

etc…

Package com.hrms.objects

ObjectsInfo.java Maintains all the objects information related to your projects

Eg:

txt\_UserName=”txtUserName”

btn\_Login=”Submit”

link\_logout=”Logout”

etc…

Package com.hrms.testscripts All the actual test cases need to written in this package only

TC\_HRMS\_001 Call the required methods/functions from “General.java” class

TC\_HRMS\_002

TC\_HRMS\_003

Step 1: create new Java project “MadhukarQAIT\_Modular\_Framework” then Configure WD jars and provide browser server files in “Drivers” folder

Step 2: Create “com.hrms.LIB” package and create class “Global.java”

Maintain all the variables and data related to your project

Note:

Package is a group of classes. If we create one package in Eclipse it will be considered as one folder in your eclipse workspace

Each class in a package considered as one file (.java)

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package com.hrms.LIB;

import org.openqa.selenium.WebDriver;

public class Global {

//Variables info

public WebDriver driver;

public String baseUrl="https://opensource-demo.orangehrmlive.com/";

public String uid="Admin";

public String pwd="admin123";

}

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Step 3: Create “com.hrm.objects” package and create class “ObjectsInfo.java”

Maintain all the objects information related to your projects

package com.hrms.objects;

import com.hrms.LIB.Global;

public class ObjectsInfo extends Global{

//Objects

public String txt\_username="txtUsername";

public String txt\_password="txtPassword";

public String btn\_login="Submit";

public String link\_Welcome\_Admin="Welcome Admin";

public String link\_logout="Logout";

}

Step 4:create “General.java” Class in “com.hrms.LIB” package

Create following methods:

1. setup(): to initialize browser

2. teardown(): to close application

3. adminLogin(): to Admin login

4. adminLogout(): to admin logout

5. addEmp(): to add employee

6. deleteEmp(): to delete employee

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package com.hrms.LIB;

import java.util.concurrent.TimeUnit;

import org.openqa.selenium.By;

import org.openqa.selenium.chrome.ChromeDriver;

import com.hrms.objects.ObjectsInfo;

public class General extends ObjectsInfo{

public void setUp() {

System.setProperty("webdriver.chrome.driver", "./Drivers//chromedriver.exe");

driver=new ChromeDriver();

driver.get(baseUrl);

driver.manage().window().maximize();

driver.manage().timeouts().implicitlyWait(30, TimeUnit.SECONDS);

System.out.println("Application opened");

}

public void tearDown() {

driver.quit();

System.out.println("Application and Browser are closed");

}

public void adminLogin() throws InterruptedException {

driver.findElement(By.name(txt\_username)).sendKeys(uid);

driver.findElement(By.name(pwd)).sendKeys(pwd);

driver.findElement(By.name(btn\_login)).click();

Thread.sleep(5000);

}

public void adminLogout() throws InterruptedException {

driver.findElement(By.linkText(link\_Welcome\_Admin)).click();

Thread.sleep(3000);

driver.findElement(By.linkText(link\_logout)).click();

System.out.println("Admin logout");

}

public void addEmp() {

System.out.println("Added new Employee");

}

public void delEmp() {

System.out.println("Deleted employee");

}

}

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Step 5: create package “com.hrms.TestSCript” and call the require test script from “General” class

package com.hrms.TestScripts;

import com.hrms.LIB.General;

public class TC\_HRMS\_001 {

public static void main(String[] args) throws InterruptedException {

//create object for "General" class

General gl= new General();

//test case steps

gl.setUp();

gl.adminLogin();

gl.addEmp();

gl.delEmp();

gl.adminLogout();

gl.tearDown();

}

}

===================================================================END OF CLASS==================================================================================