**JENKINS KHAJANA**

Jenkins is a continous integration tool that is used to automate the task.

Lets say, if you are working in industry :

FOr 7 hrs: 9

& you come to office next day once you exit the office place.

So we will ask jenkins to do all this work for us .Jenkins will create a job at 2.00 am in morning or based on schedule time.

2.At the time of designing framework in industry , we will definately have a jenkins job in industry.

Lets say, if we have a regression job,smoke & if will click on trigger or build,it will do everything

3.On a high level,if business wants to see then they will not open eclipse or run a command like that to trigger the job. we can use jenkins

$.Go to jenkins by using link

Hit on Build now

or TestNG reports .

4.Jenkins run own its own server and we need to set java & maven version  to it.Based upon the version you set, jenkins run all your testcases.

5.For ex:testng version -6

jenkins version-5

That my give bad results in our jenkins job .so to trigger it & maintain consistency,

Jenkins will have its own dependency.

6.Some times, jenkins job will easilty run in  jenkins server but might not run in your local system cuz of some outdated version of selenium

In this case,script might fail .

7.FOr business perspective , they will see the results in the jenkins& if developer too wants to know the job , then he need not to login to his machine. he will simply go to jenkins server by using the same link and will trigger the testcases(No need of clone & do all those stuff).

8.It will help us to maintain the project across different geographical location

9.This is the benefit of using jenkins in our project

**INSTALL & CONFIGURE JENKINS JOB**

Install and configure Jenkins

1.In general , at your work place , you will have one server and devops people will do that work for you.

2.But we dont have any server to host so here you will see url like localhost

in real time, you will see with company.com

3.go to given link and downloads jenkins war[Generic java package.war ]

https://www.jenkins.io/download/

As said , we are using jenkins as windows service. we are not hosting on server

4.Once it is downloaded , then place it inside any folder

i have placed it inside the work folder in c driver

5.Then run below command to execute jenkins jar file

java -jar jenkins.war -httpPort=9090

**java -jar jenkins.war --httpPort=8085**

if port is already used or running on some other instance. then change port number

Othewise , you will get an error saying 8080 is already bind to another process like that

6.In real time you need not to do install all such thing .Thats a task of devops people .They will do this work for you people

7.First time , we will not see any job there

8. Goto jenkins =>Manage jenkins=>Gobal tool configuration

give the path of java in  JDK installation

C:\Program Files\Java\jdk-13.0.2

Give the path of maven in same fashion

C:\Program Files\apache-maven-3.6.3-bin\apache-maven-3.6.3

Now jenkins page is like system variable for our windows

9.Like in windows, we used to run our all things in windows by setting system variables.

Jenkins is also like that but job will run on jenkins server

10.This are the 2 confuguration that required to setup a jenkins job

**Configure jobs and trigger it**

Push Our Mavenjava project into jenkins.

SO there are 2 option .you can pick up source code from github or local system

1.

1.goto configure=>advanced =>

take the project from your local directory and place it inside jenkins directory in c drive in .jenkins folder

2.  click on Use custom work space  
Directory

${JENKINS\_HOME}/Mavenjava

Display Name

3. Build=>invoke your project with maven(invoke top level maven target)

Maven version:apache-maven-3.6.3

Goals  mvn test -PRegression

or

test -PRegression

p=profiling

Note:we can ignore mvn command .jenkins will do it automatically

4.click on save this job

3.Basically developer used to push their code with jar and deploy to jenkins,

4.our main goal is to trigger maven job

Lets say if you are client and if you dont know maven ,regression or anything .then you will click on  Build Now

Maven job will trigger automatically

**Click on build now=>Open console=>Build success.**

**For first time , it might take time .it will download all dependency.**

**WHat was the issue?project is not update**

**and change the path in maven job configuration**

**I given directly**

**understood**

**one more question**

Started by user [Lavish Jain](http://localhost:8085/user/admin)

Running as SYSTEM

Building in workspace C:\Users\DELL\Downloads\Mavenjava

[Mavenjava] $ cmd.exe /C '""C:\Program Files\apache-maven-3.6.3-bin\apache-maven-3.6.3\bin\mvn.cmd"' test && exit %%ERRORLEVEL%%"

[INFO] Scanning for projects...

[INFO]

[INFO] ----------------------< qaclickacademy:Mavenjava >----------------------

[INFO] Building Mavenjava 1.0-SNAPSHOT

[INFO] --------------------------------[ jar ]---------------------------------

[INFO]

[INFO] **--- maven-resources-plugin:2.6:resources (default-resources) @ Mavenjava ---**

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory C:\Users\DELL\Downloads\Mavenjava\src\main\resources

[INFO]

[INFO] **--- maven-compiler-plugin:3.1:compile (default-compile) @ Mavenjava ---**

[INFO] Nothing to compile - all classes are up to date

[INFO]

[INFO] **--- maven-resources-plugin:2.6:testResources (default-testResources) @ Mavenjava ---**

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory C:\Users\DELL\Downloads\Mavenjava\src\test\resources

[INFO]

[INFO] **--- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Mavenjava ---**

[INFO] Nothing to compile - all classes are up to date

[INFO]

[INFO] **--- maven-surefire-plugin:2.12.4:test (default-test) @ Mavenjava ---**

[INFO] Surefire report directory: C:\Users\DELL\Downloads\Mavenjava\target\surefire-reports

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T E S T S

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Running TestSuite

Configuring TestNG with: org.apache.maven.surefire.testng.conf.TestNG652Configurator@66d33a

IOSApps

NativeAPpAndroid

deleteTwitter

postJira

BrowserAUtomation

elementsUi

Tests run: 6, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.723 sec

Results :

Tests run: 6, Failures: 0, Errors: 0, Skipped: 0

[INFO] ------------------------------------------------------------------------

[INFO] BUILD SUCCESS

[INFO] ------------------------------------------------------------------------

[INFO] Total time: 9.648 s

[INFO] Finished at: 2020-12-03T10:05:14+05:30

[INFO] ------------------------------------------------------------------------

Finished: SUCCESS

**How to publish Testng reports or result into jenkins  job?**

1.goto eclipse

project=>target=>surefire plugin=>testng-result.xml

2.Testng came up with one  plugin that can be integrated with jenkins.

testng requires testng-result .xml file which is inside target to generate that report in jenkins

3.We need input so that it can prepare reports by reading this testng file

4.To install that plugin

goto Manage jenkins=>Manage Plugins

5.Go back to top page

6.Select testng result plugin from postbuild action in configure  Mavenproject .

we will get one .xml file

7.click on save(report will be generated)

8.Next thing that we need to do is scehdule jenkins

configure=>Build perodically=>Give the jenkins schedule job

0 8 \* \* \*

9.click on Build Now =>You will get Testng results

How to Schedule job in Jenkins by Build periodically?

Jenkins used a [cron expression](https://en.wikipedia.org/wiki/Cron" \l "CRON_expression), and the different fields are:

1. MINUTES Minutes in one hour (0-59)
2. HOURS Hours in one day (0-23)
3. DAYMONTH Day in a month (1-31)
4. MONTH Month in a year (1-12)
5. DAYWEEK Day of the week (0-7) where 0 and 7 are sunday

Lets say if I want to schedule my Jenkins job at morning 7 am everyday before I come to office

Then

We use \* that is regular expression for all days

* \* 7 \* \* \*

**Ex:**

1. Start build daily at 08:30 in the morning, Monday - Friday: **30 08 \* \* 1-5**
2. Weekday daily build twice a day, at lunchtime 12:00 and midnight 00:00, Sunday to Thursday: **00 0,12 \* \* 0-4**
3. Start build daily in the late afternoon between 4:00 p.m. - 4:59 p.m. or 16:00 -16:59 depending on the projects hash: **H 16 \* \* 1-5**
4. Start build at midnight: @midnight or start build at midnight, every Saturday: **59 23 \* \* 6**
5. Every first of every month between 2:00 a.m. - 02:30 a.m.: **H(0,30) 02 01 \* \***

What is extent report?

Understand basic configuration of extent reports with standalone test

**How to publish Extent report using Testng ?**

package lavishAcademy.ExtentReports;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.Test;

import com.aventstack.extentreports.ExtentReports;

import com.aventstack.extentreports.ExtentTest;

import com.aventstack.extentreports.reporter.ExtentSparkReporter;

import io.github.bonigarcia.wdm.WebDriverManager;

public class ExtentReportDemo {

ExtentReports extent;

@BeforeTest

public void config() {

// ExtentReports ,ExtentSparkReporter

String path = System.getProperty("user.dir") + "\\reports\\index.html";

ExtentSparkReporter reporter = new ExtentSparkReporter(path);

reporter.config().setReportName("Web Automation Results");

reporter.config().setDocumentTitle("Test Results");

extent = new ExtentReports();

extent.attachReporter(reporter);

extent.setSystemInfo("Tester", "Lavish Jain");

}

@Test

public void initialDemo() {

ExtentTest test= extent.createTest("Initial Demo");

//System.setProperty("webdriver.chrome.driver", "C://work/chromedriver.exe");

WebDriverManager.chromedriver().setup();

WebDriver driver = new ChromeDriver();

driver.get("https://rahulshettyacademy.com");

System.out.println(driver.getTitle());

driver.close();

test.fail("Result do not match");

extent.flush();

}

}

**How to create A maven Project in eclipse?**

To create a maven project , Follow this steps

1.File=>project=>Maven project=>quick archytype=>Group id(package name)=>artifact id(project name)

2.To work on extent report we need 3 jar.

extent report

testng

selenium

3.we can get it from maven repository and add dependency to our project