# How to Download & Install Jenkins on Windows

#### **Details**

Jenkins may be installed on either Windows or Unix platforms, but we will focus on Windows installation only.

#### **Prerequisites:**

Before you proceed to install Jenkins in your windows system, there are some prerequisites for Jenkins to install Jenkins in your computer.

## **Hardware requirements:**

- You need minimum 256 MB of RAM in your computer or laptop to install Jenkins
- You need at least 1 GB of space in your hard drive for Jenkins.

## **Software Requirements:**

 Since Jenkins runs on Java, you need either Java Development Kit (JDK) or Java Runtime Environment (JRE).

### **Release Types**

Jenkins releases two types of versions based on the organization needs.

- Long-term support release
- Weekly release

#### Long term support release (LTS):

Long-term support releases are available every 12 weeks. They are stable and are widely tested. This release is intended for end users.

#### Weekly release:

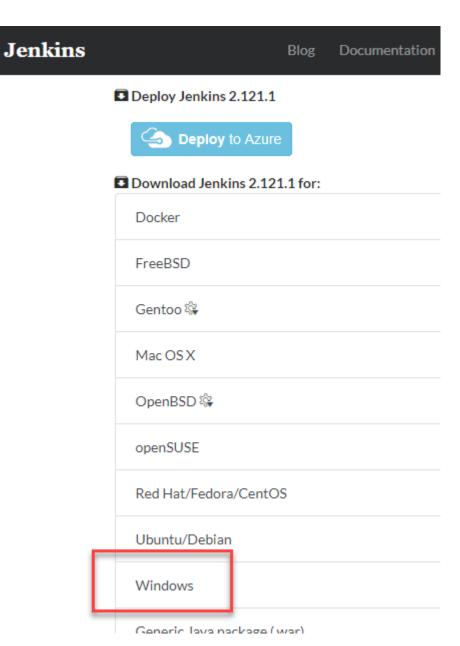
Weekly releases are made available every week by fixing bugs in its earlier version. These releases are intended towards plugin developers.

We will use the LTS release though the process remains the same for Weekly release.

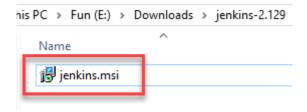
## **How to Download Jenkins?**

Following steps should be followed so that to install Jenkins successfully:

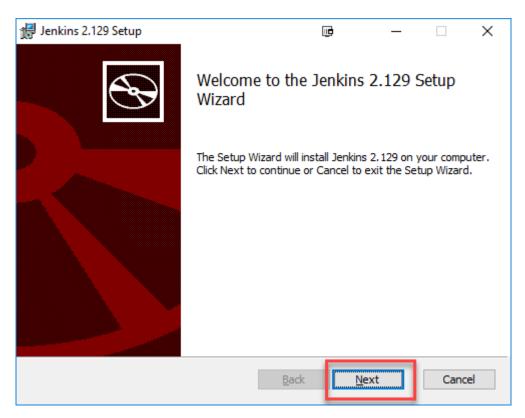
**Step 1)** Got to https://jenkins.io/download/ and select the platform. In our case Windows



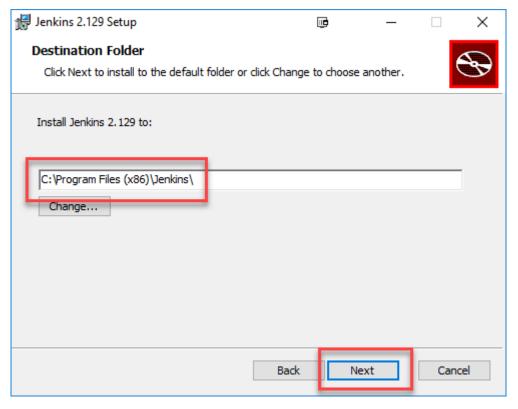
**Step 2)** Go to download location from local computer and unzip the downloaded package. Double-click on unzipped **jenkins.msi** 



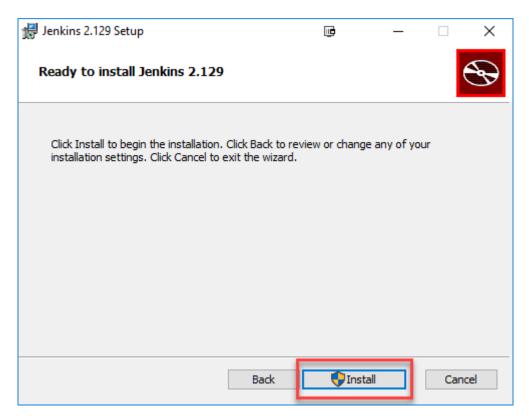
Step 3) In the setup screen, click Next.



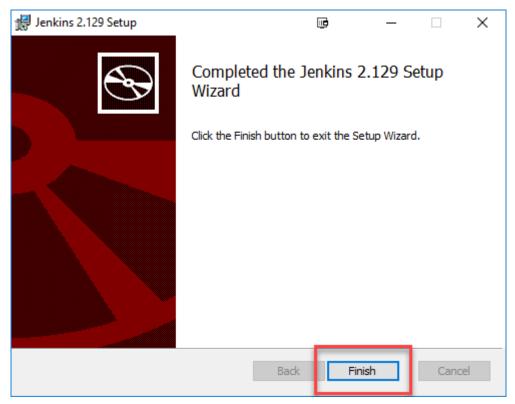
**Step 4)** Choose the location where you want to have the Jenkins instance installed (default location is C:\Program Files (x86)\Jenkins), then click on **Next** button.



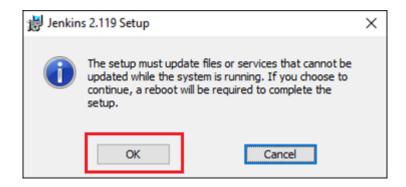
Step 5)Click on the Install button.



Step 6) Once install is complete, click Finish.



**Step 7)** During the installation process an info panel may pop-up to inform the user that for a complete setup, the system should be rebooted at the end of the current installation. Click on OK button when the Info panel is popping-up:



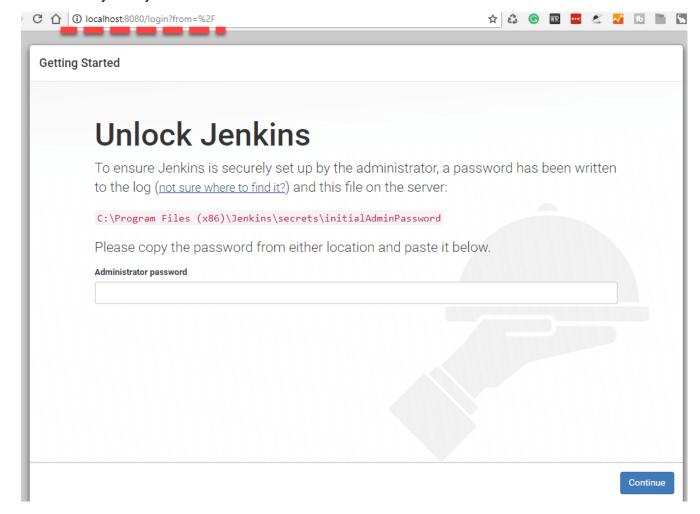
## **How to Unblock Jenkins?**

After completing the Jenkins installation phase, you should proceed further and start its configuration. Next steps will guide you how you can unblock Jenkins application:

**Step 1)** After completing the Jenkins installation process, a browser tab will pop-up asking for the initial Administrator password. To access Jenkins, you need to go to browse the following path in your web browser.

http://localhost:8080

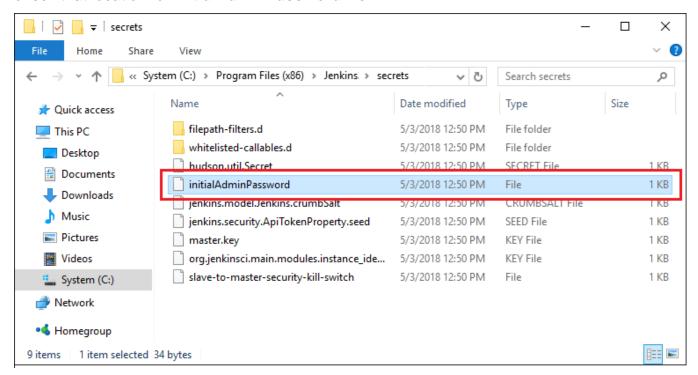
If you can access the above URL, then it confirms that Jenkins is successfully installed in your system.



**Step 2)** The initial Administrator password should be found under the Jenkins installation path (set at Step 4 in Jenkins Installation).

For default installation location to C:\Program Files (x86)\Jenkins, a file called **initialAdminPassword** can be found under C:\Program Files (x86)\Jenkins\secrets.

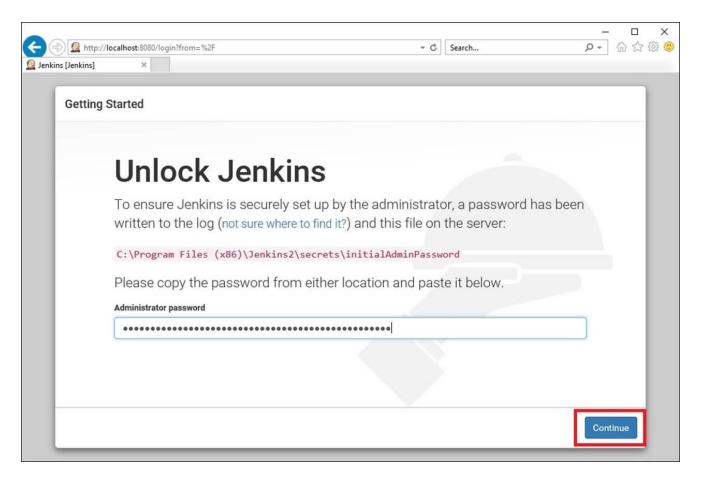
However, If a custom path for Jenkins installation was selected, then you should check that location for **initialAdminPassword** file.



**Step 3)** Open the highlighted file and copy the content of the **initialAdminPassword** file.



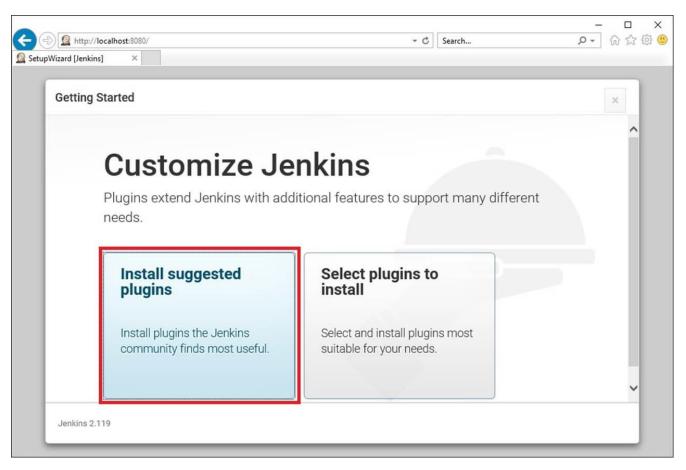
**Step 4)** Paste the password it into browser's pop-up tab (http://localhost:8080/login?form=%2F) and click on Continue button.



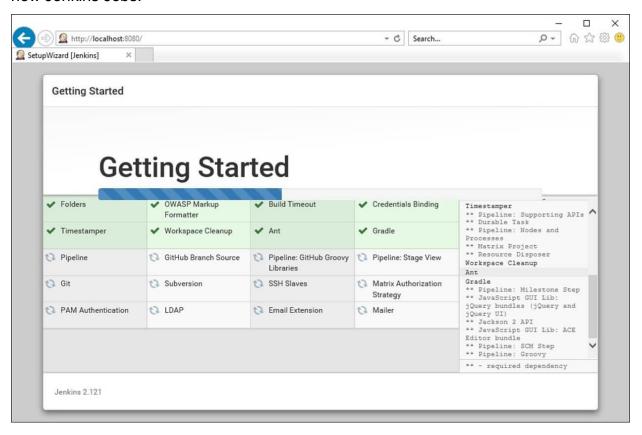
## **Customize Jenkins**

You can also customize your Jenkins environment by below-given steps:

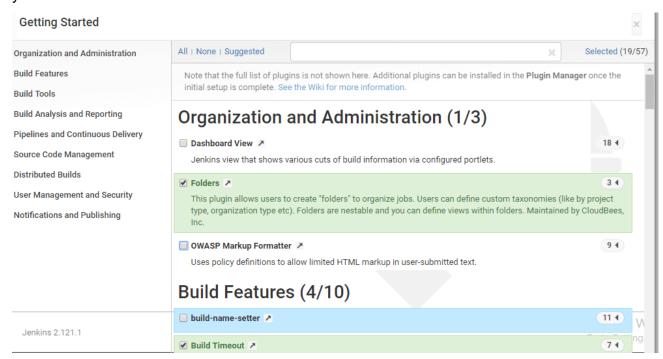
**Step 1)** Click on the "Install suggested plugins button" so Jenkins will retrieve and install the essential plugins



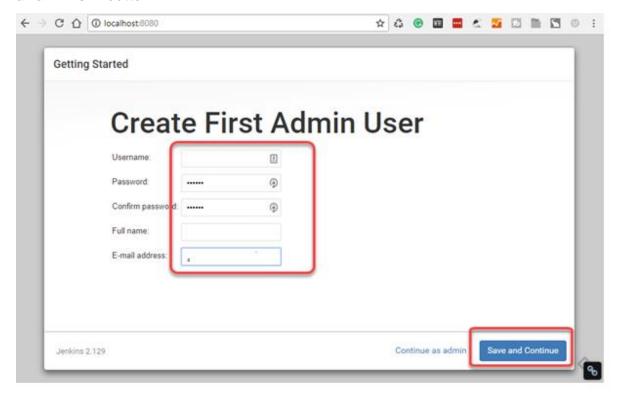
Jenkins will start to download and install all the necessary plugins needed to create new Jenkins Jobs.



**Note**: You can choose the Option "Select Plugins to Install" and select the plugins you want to install

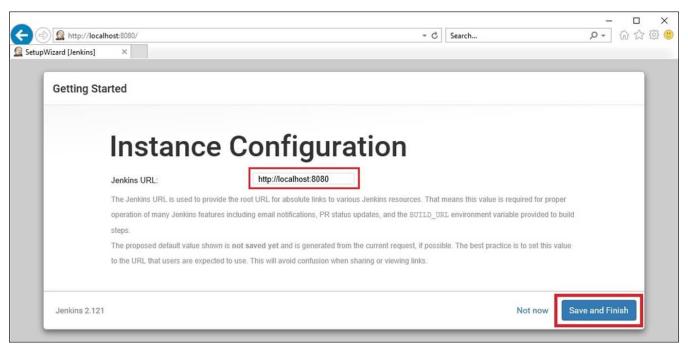


**Step 2)** After all suggested plugins were installed, the "Create First Admin User" panel will show up. Fill all the fields with desired account details and hit the "Save and Finish" button.

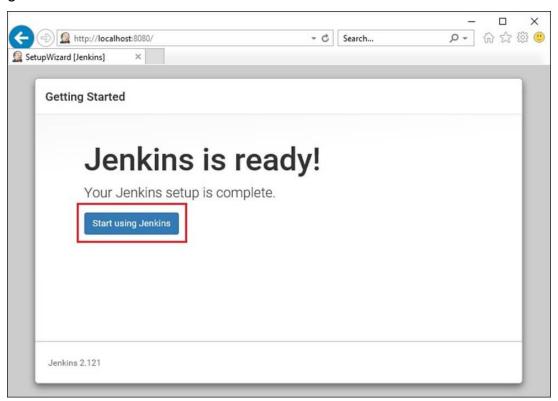


**Step 3)** Once you have filled the above data, finally it will ask for URL information where you can configure the default instance path for Jenkins. Leave it as it is to avoid any confusions later. However, if another application is already using 8080

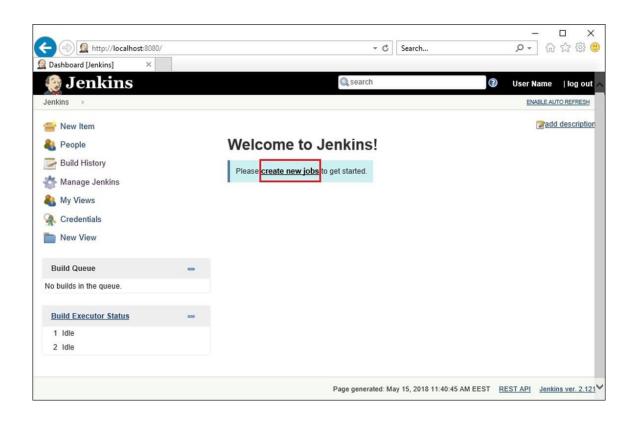
port, you can use another port for Jenkins and finally save the settings, and you are done with installation of Jenkins. Hit the "Save and Continue" button:



Congratulations! We have successfully installed a new Jenkins Server. Hit the "Start using Jenkins" button.



Below you can find the Jenkins instance up and run, ready to create first Jenkins jobs:



Step 4) Click on the New Item link to create a CI job.

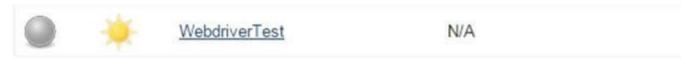


**Step 5)** Select the Maven project radio button as shown in the following screenshot:

Ite	m name	WebdriverTest
0	Freesty	e project
/		This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and something other than software build.
	Maven	project )
/		Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.
0	Externa	l Job
		This type of job allows you to record the execution of a process run outside Jenkins, even on a remote machine. Th Jenkins as a dashboard of your existing automation system. See the documentation for more details.
	Multi-co	onfiguration project
	9	Suitable for projects that need a large number of different configurations, such as testing on multiple environments,
0	Copy ex	tisting Item
		Copy from
	OK	

Using the Build a **Maven Project** option, Jenkins supports building and testing Maven projects.

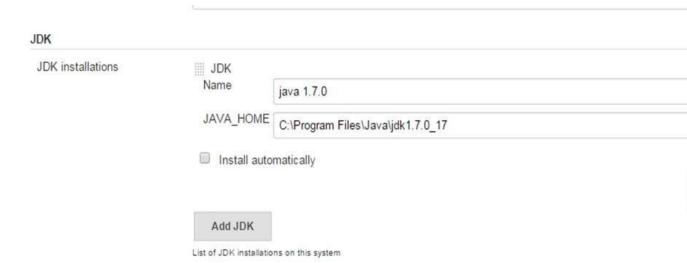
**Step 6)** Click on OK button. A new job with name "WebdriverTest" is created in Jenkins Dashboard.



**Step 6)** Go to **Manage Jenkins** => **Configure System** as shown in the following screenshot.



Click on JDK installations and configure JDK as in the following screenshot:



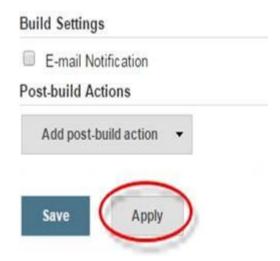
Do the same for maven installation also you can give local M2\_HOME path or install maven using install automatically option.

**Step 7)** Go to the **Build** section of new job.

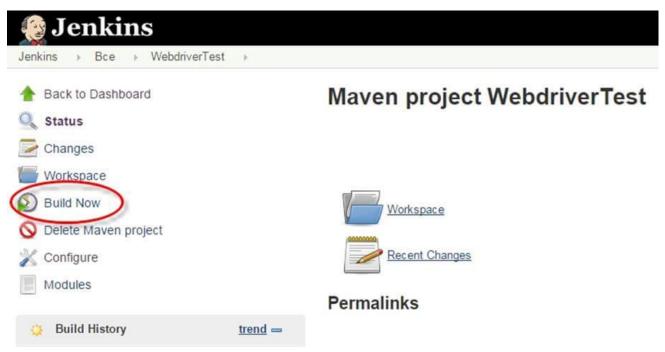
- In the Root POM textbox, enter full path to pom.xml
- In Goals and options section, enter "clean test"

Build	Build section		
Root POM	C:\Users\Dell\workspace\WebdriverTest\pom.xml		0
Goals and options	clean test		
		Advanced	

Step 9) Click on Apply button.



**Step 10)** On the WebdriverTest project page, click on the **Build Now** link.

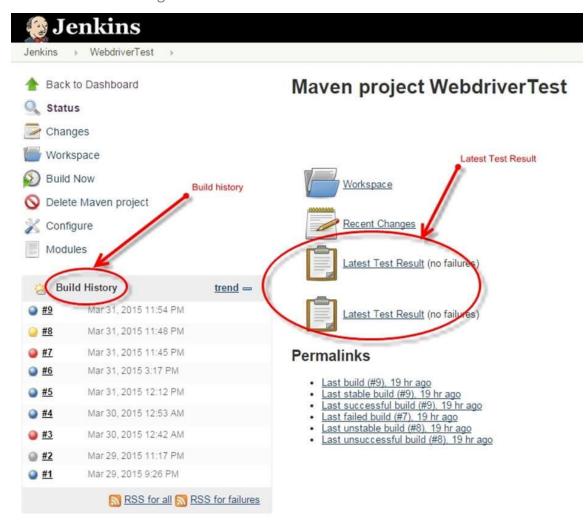


Maven will build the project. It will then have TestNG execute the test cases.

**Step 11)** Once the build process is completed, in Jenkins Dashboard click on the **WebdriverTest** project



**Step 12)** The WebdriverTest project page displays the build history and links to the results as shown in the following screenshot:



**Step 13)** Click on the "Latest Test Result" link to view the test results as shown in the following screenshot:

## **Test Result**

0 failures (-1)	
	6 tests (±0
Module	Fail (diff) Total (diff)
ToolsQA:DemoMavenProject	0 -1 6

**Step 14**). Select specific build, and you will see the current status by clicking on "**console output**".

```
Running TestSuite
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 2.748 sec
Results:

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[JENKINS] Recording test results
log4j:WARN No appenders could be found for logger (org.apache.commons.beanutils.converters.BooleanConverter).
log4j:WARN Please initialize the log4j system properly.
[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger

[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger - BUILD SUCCESS
[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger - Total time: 01:26 min
[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger - Finished at: 2015-03-29721:28:51+03:00
[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger - Finished at: 2015-03-29721:28:51+03:00
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[pool-1-thread-1 for channel] INFO org.apache.maven.cli.event.ExecutionEventLogger - Finished at: 2015-03-29721:28:51+03:00
[pool-1-thread-1 for channel] INFO org.ap
```

## Scheduling Jenkins for automatic execution.

Scheduling builds (Selenium Tests) is one of the important features of Jenkins where it automatically triggers the build, based on defined criteria. Jenkins provides multiple ways to trigger the build process under the Build Trigger configuration.

#### For example:

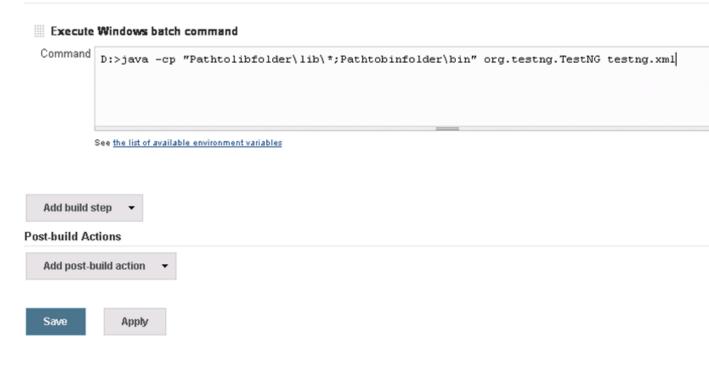
Enter 0 23 \* \* \* in the Schedule textbox as shown in the following screenshot. This will trigger the build process every day at 11 p.m.



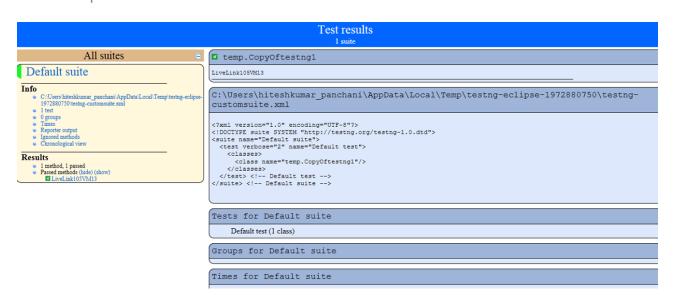
## **Using Jenkings without Maven**

To run pure TestNg script in Jenkins, enter the following in build

D:>java -cp "Pathtolibfolder\lib\\*;Pathtobinfolder\bin" org.testng.TestNG testng.xml



- Click on Save button.
- Note: The actual path of lib and bin folder need to add in above command.
- After saving the command, Jenkins will build project in predefined time, and this command will be run using TestNG.
- Result will be stored in custom report HTML file that can be sent via email with a Jenkin configuration
- Output of the code will be



## **Benefits of using Jenkins**

1. Early issue finding – Bug can be detected in early phase of the software development

- 2. Automatic integration no separate effort required to integrate all changes
- 3. Installer a deployable system available at any point of development
- 4. Records part build records maintained
- 5. Support and Plugins: One of the reasons for Jenkin's popularity is the availability of large community support. Also, lots of ready-made plugins are available which help you expand its functionality.