How to install and Configure Jenkins on Linux7

Step:1 Download Jenkins

Jenkins package is not available in the default RHEL repositories. So we need to add jenkins repository using the beneath commands.

```
[root@cicdapi opt]# wget -O /etc/yum.repos.d/jenkins.repo https: //pkg.jenkins.io/

redhat- stable/jenkins.repo

[root@cicdapi opt]# rpm --import http://pkg.jenkins.io/redhat-stable/jenkins.io

.key
```

Step:2 Install Jenkins and Java

Run the below yum command to install Jenkins and java.

```
[root@cicdapi opt]# yum install jenkins java-1.8.0-openjdk -y
```

Step:3 Start and Enable Jenkins Service

Run the following systemctl commands to start and enable the jenkins service

```
[root@cicdapi opt]# systemctl start jenkins

[root@cicdapi opt]# systemctl enable jenkins
```

Step:4 Open the ports (80 and 8080) in OS firewall.

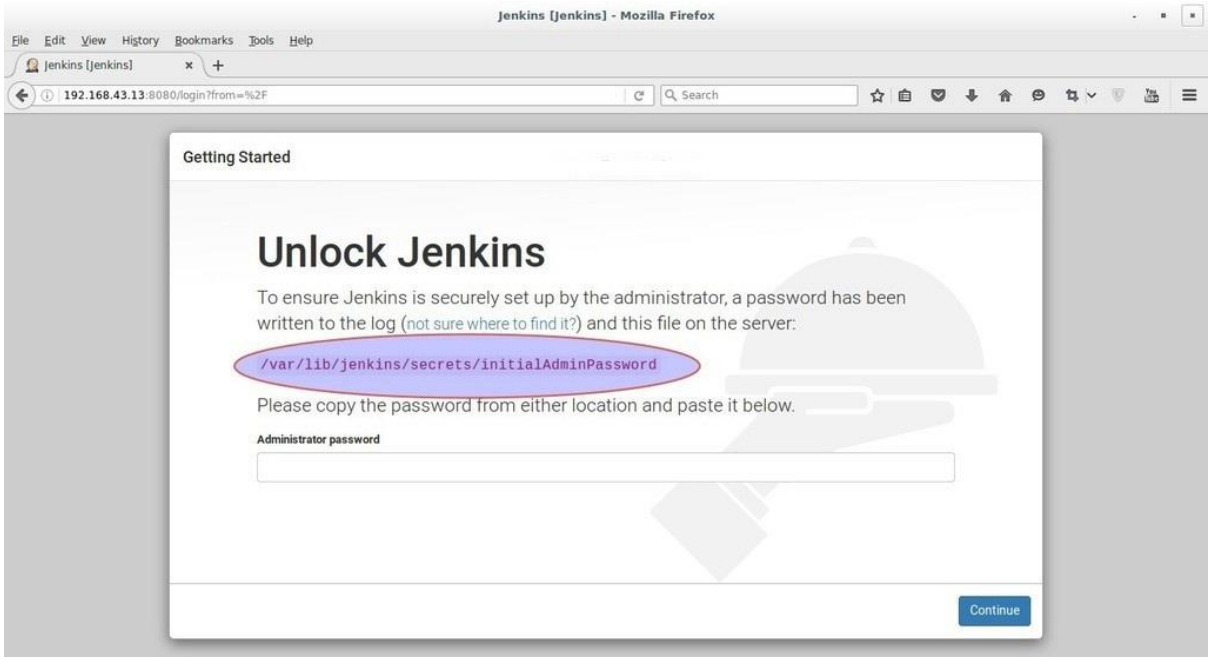
In case firewall is enabled on your Linux server then run the following commands to open jenkins related ports like 80 and 8080.

```
[root@cicdapi opt]# firewall-cmd --zone=public --add-port=8080/tcp --permanent

success

[root@cicdapi opt]# firewall-cmd --zone=public --add-service=http --permanent

success
```

```
[root@cicdapi opt]# firewall-cmd --reload

success
```

Step:5 Access the Jenkins Web portal

Access the URL : http://<Ip-Address-of-your-Server>:8080

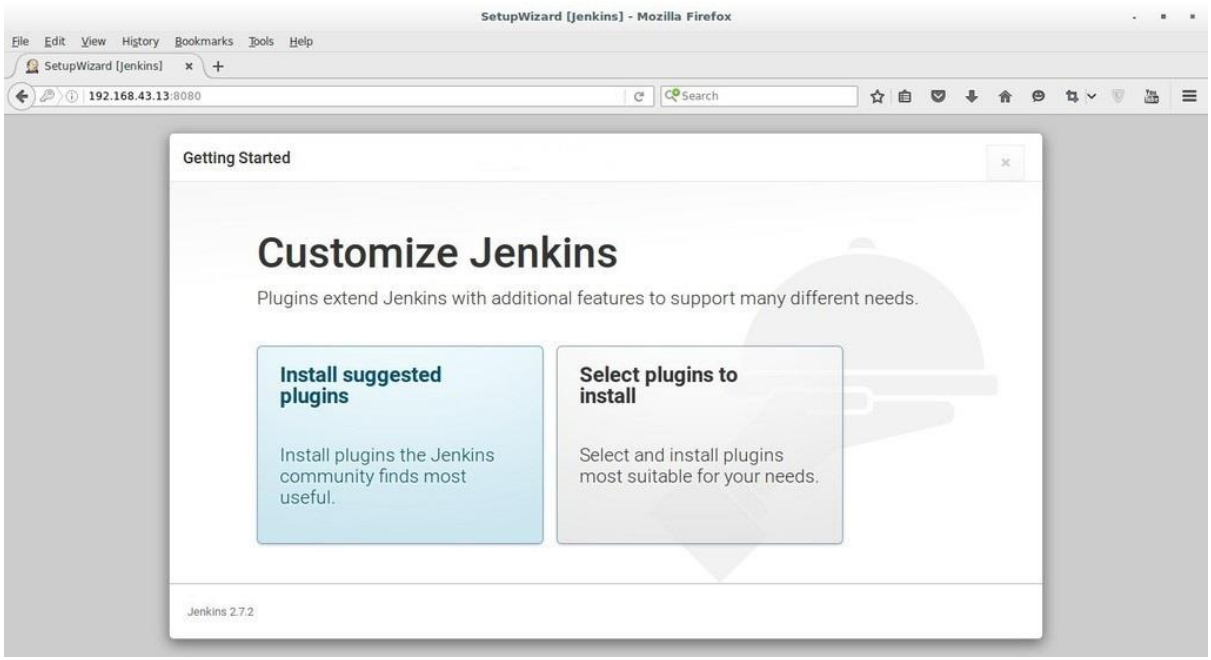


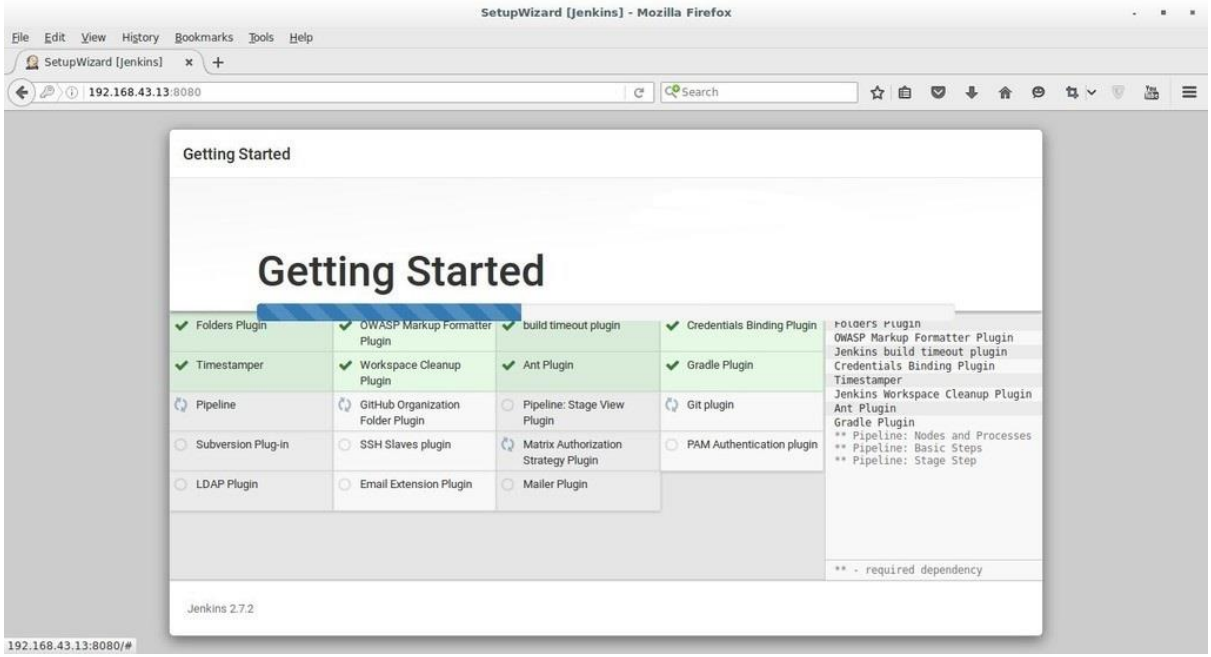
Admin password is created and stored in the log file "**/var/log/jenkins/jenkins.log**". Run the below command to get the password.

```
[root@cicdapi opt]# grep -A 5 password /var/log/jenkins/jenkins.log
```

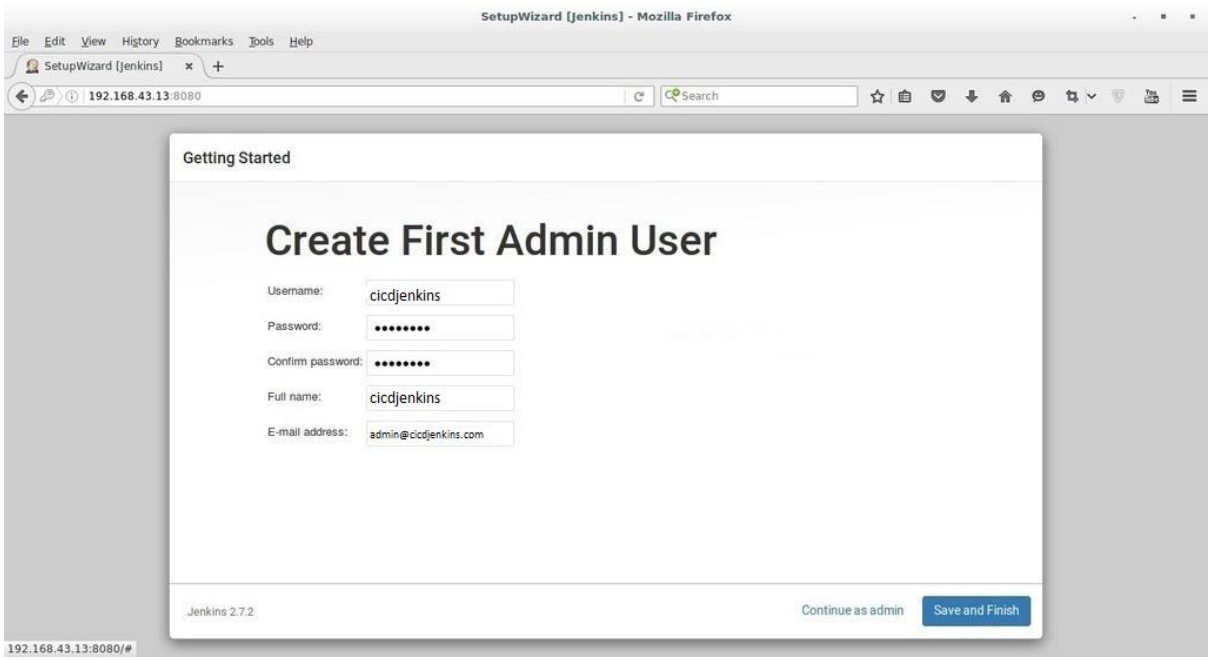
Copy the password and paste it in above windows and click on Continue..

In the next windows Select the option : **Install suggested plugins**

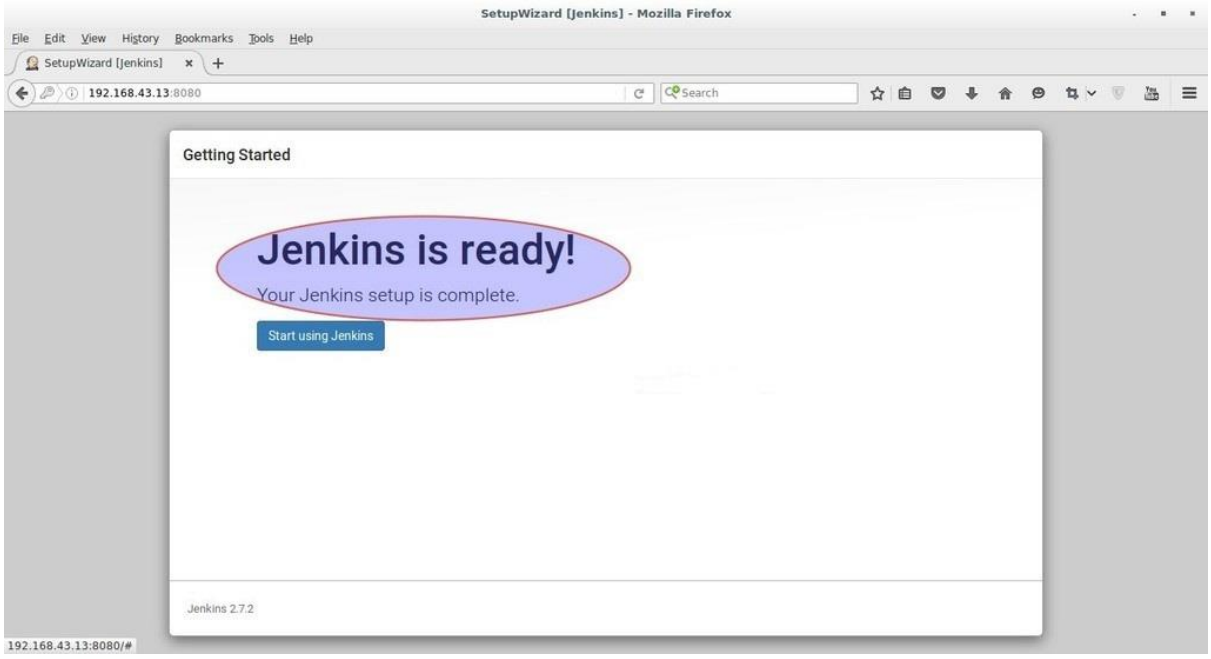




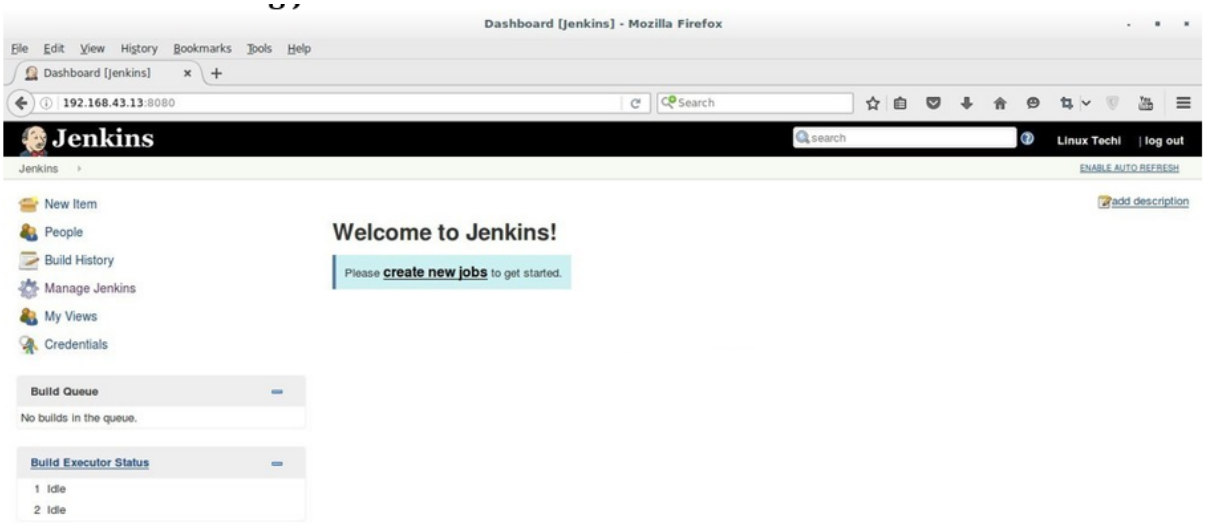
As we can see required plugin installation is in progress for Jenkins. Once it is done with plugin installation. It will ask to create Admin User



Click on Save and Finish

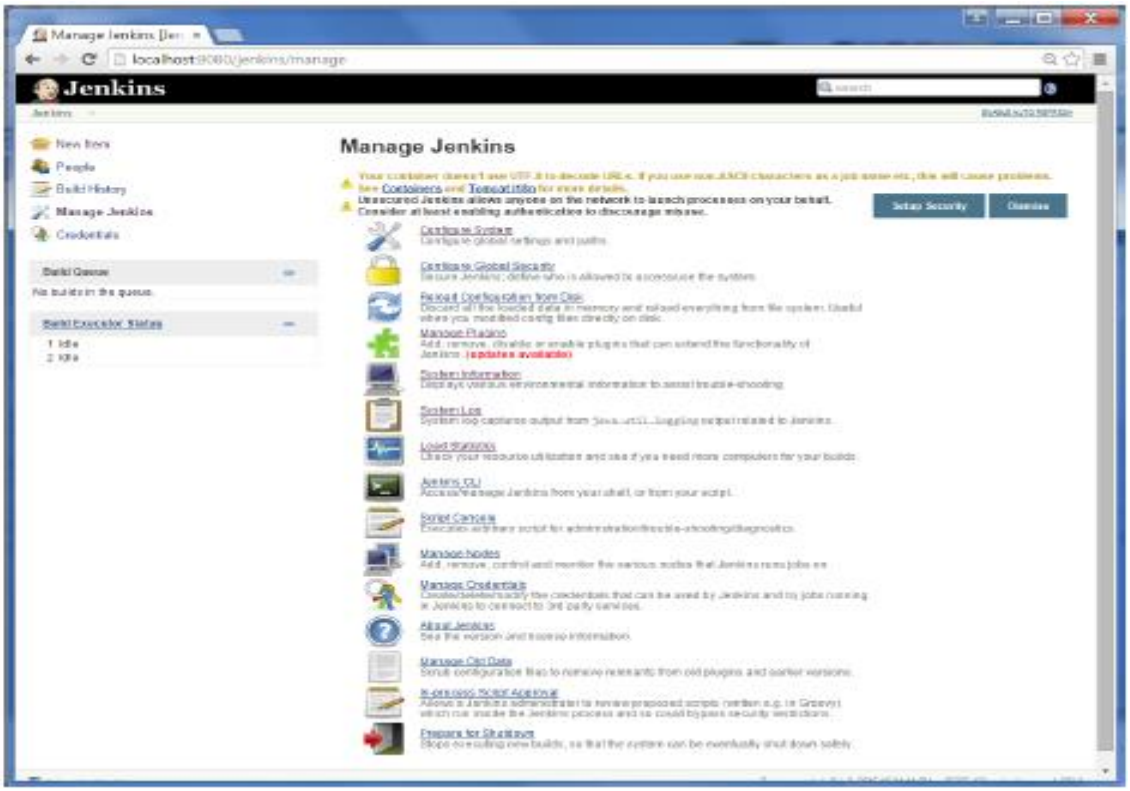


click on "**Start using Jenkins**"



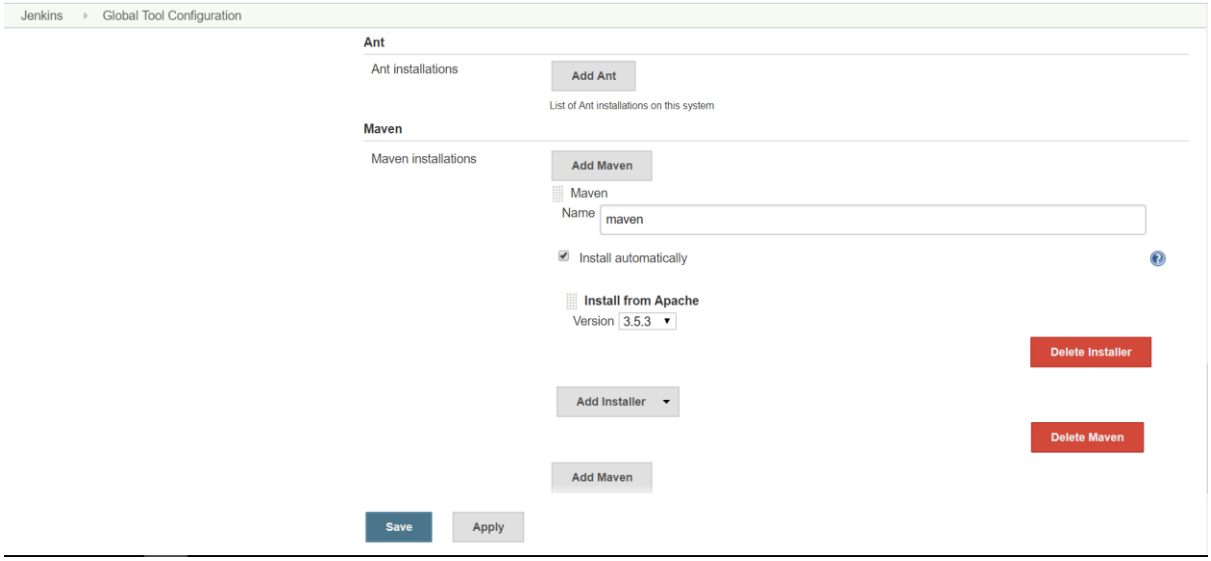
How to install and Configure Maven in Jenkins Server

1. Go to Jenkins Home page, On right side Click on Manage Jenkins



2. Click on Global Tool Configuration

In the Global Tool Configuration screen, scroll down till you see the Maven section and then click on the ‘Add Maven’ button.



Enter the name of Maven to identify, Click on Install Automatically check-box and Select type of version according to the project specification.

Then Click on Save button

3. To see the Maven Installation In Linux

```
[root@cicdapi opt]# cd /var/lib/jenkins/tools/Hudson.tasks.Maven_MavenInstallation/

Maven/
```

How to install and Configure Git in Linux

```
[root@cicdapi opt]# yum install git -y
```

To Configure Git Repository below command has to Run:

```
[root@cicdapi opt]# git clone https://repo/directory/git/repositoryname
```

How to install and Configure SonarQube on Linux7

Step:1 Download Sonarqube

Download the latest sonarqube installation file to /opt folder. You can get the latest download link from here. http://www.sonarqube.org/downloads/

Step:2 Install Sonarqube

```
[root@cicdapi opt]# wget https://sonarsource.bintray.com/Distribution/sonarqube/son

arqube-6.7.6.zip
```

Unzip package install & unzip the sonarqube

```
[root@cicdapi opt]# yum install unzip -y

[root@cicdapi opt]# unzip sonarqube-6.7.6.zip
```

Step:3 Start Sonarqube Service

Giving Permissions To User

```
[cicdapiadmin@cicd opt]$ sudo chown -R cicdapiadmin:cicdapiadmin sonarqube-6.7.6
```

Navigate to the start script directory

```
[cicdapiadmin@cicd opt]$ cd /opt/sonarqube-6.7.6/bin/linux-x86-64
```

Start the sonarqube service

```
[cicdapiadmin@cicd opt]$ sudo ./sonar.sh start
```

To check the status of sonarqube running

```
[cicdapiadmin@cicd opt]$ sudo ./sonar.sh status
```

Step:4 Setting up Sonarqube As A Service

1. Create a file /etc/init.d/sonar and copy the following content on to the file.

```
#!/bin/sh
#
# rc file for SonarQube
#
# chkconfig: 345 96 10
# description: SonarQube system (www.sonarsource.org)
#
### BEGIN INIT INFO
# Provides: sonar
# Required-Start: $network
# Required-Stop: $network
# Default-Start: 3 4 5
# Default-Stop: 0 1 2 6
# Short-Description: SonarQube system (www.sonarsource.org)
# Description: SonarQube system (www.sonarsource.org)
### END INIT INFO

/usr/bin/sonar $*
```

2. Now, create a symbolic link for /usr/bin/sonar with out sonarqube start scripts in the source file directory. i.e /opt/sonarqube/bin/linux-x86-64

```
[cicdapiadmin@cicd opt]$ sudo ln -s /opt/sonarqube/bin/linux-x86-64/sonar.sh /usr/

bin/sonar
```

3. Change the file permissions and add sonar to the boot.

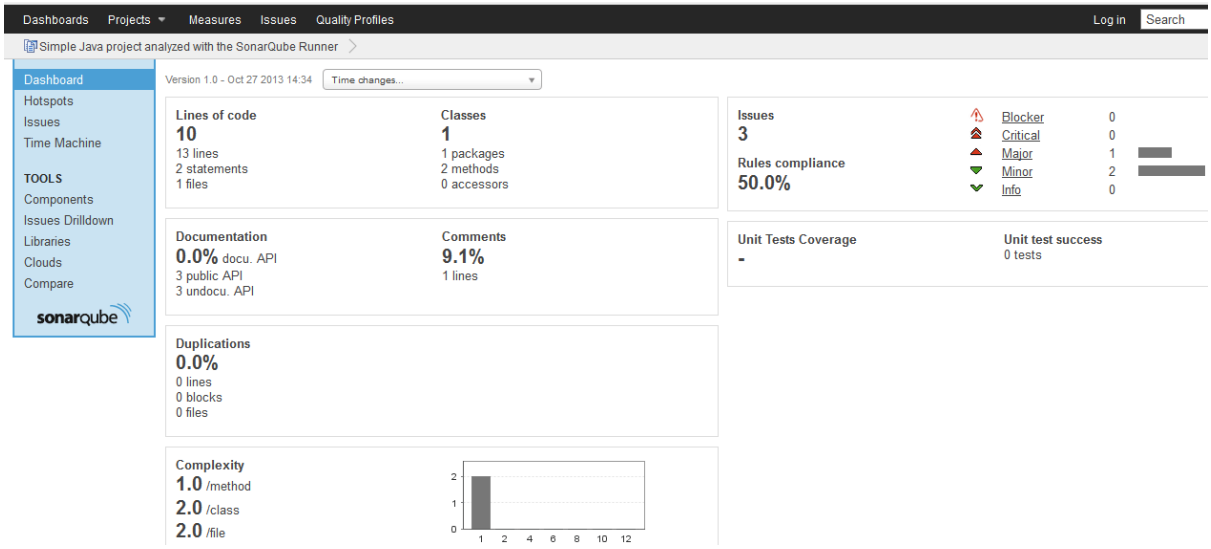
```
[cicdapiadmin@cicd opt]$ sudo chmod 755 /etc/init.d/sonar

[cicdapiadmin@cicd opt]$ sudo chkconfig -add sonar
```

4. Once you are done with all the above configurations, you can manage sonar using the following commands.

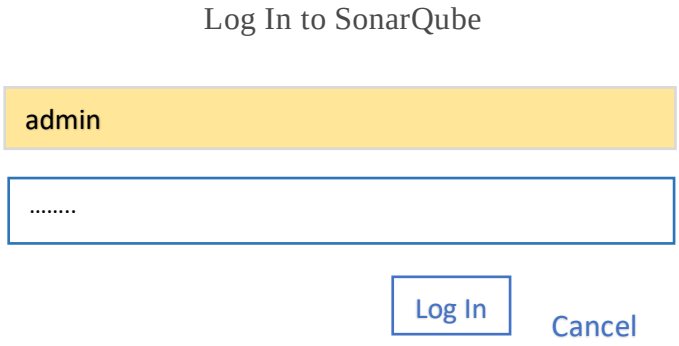
```
[cicdapiadmin@cicd opt]$ sudo service sonar start

[cicdapiadmin@cicd opt]$ sudo service sonar status

[cicdapiadmin@cicd opt]$ sudo service sonar stop

[cicdapiadmin@cicd opt]$ sudo service sonar restart
```

5. Now go to browser, <ipadress>:9000

Sonarqube page will open

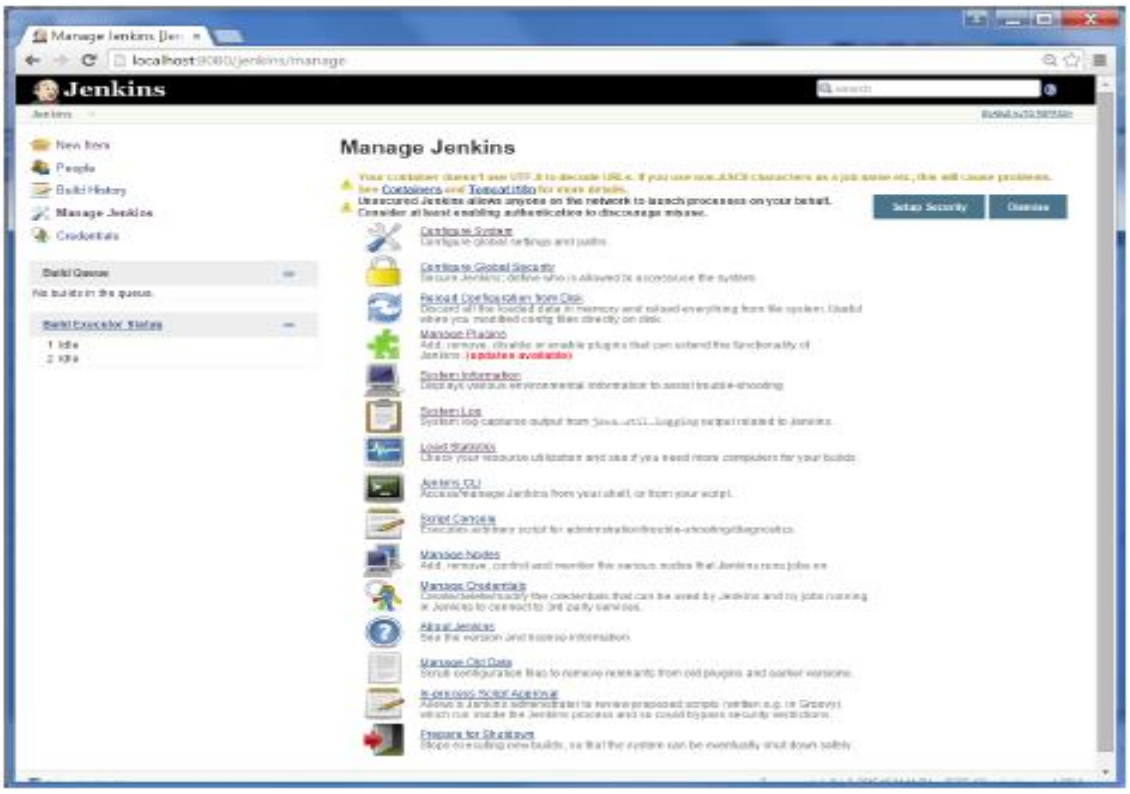


6. Click on signin button and login with default username and password



Step:5 Cofiguring Sonarqube in Jenkins

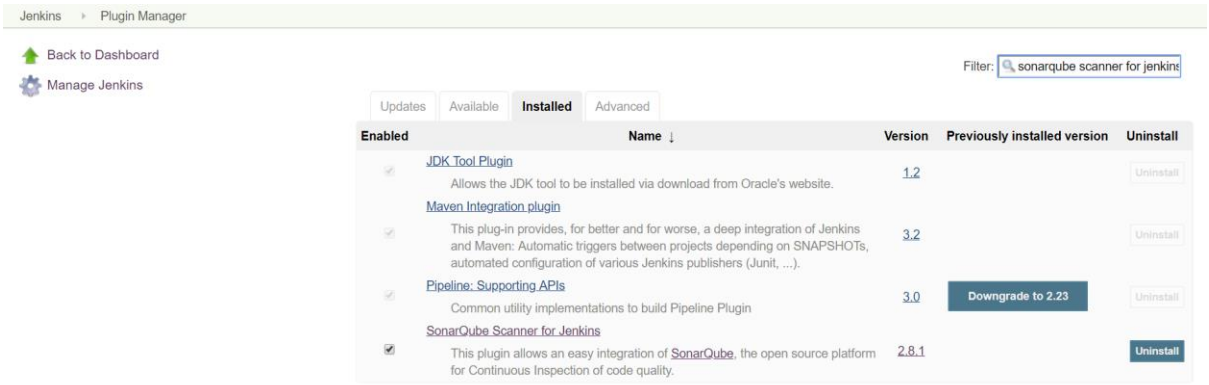
1. Go to Jenkins Home page, On right side Click on Manage Jenkins



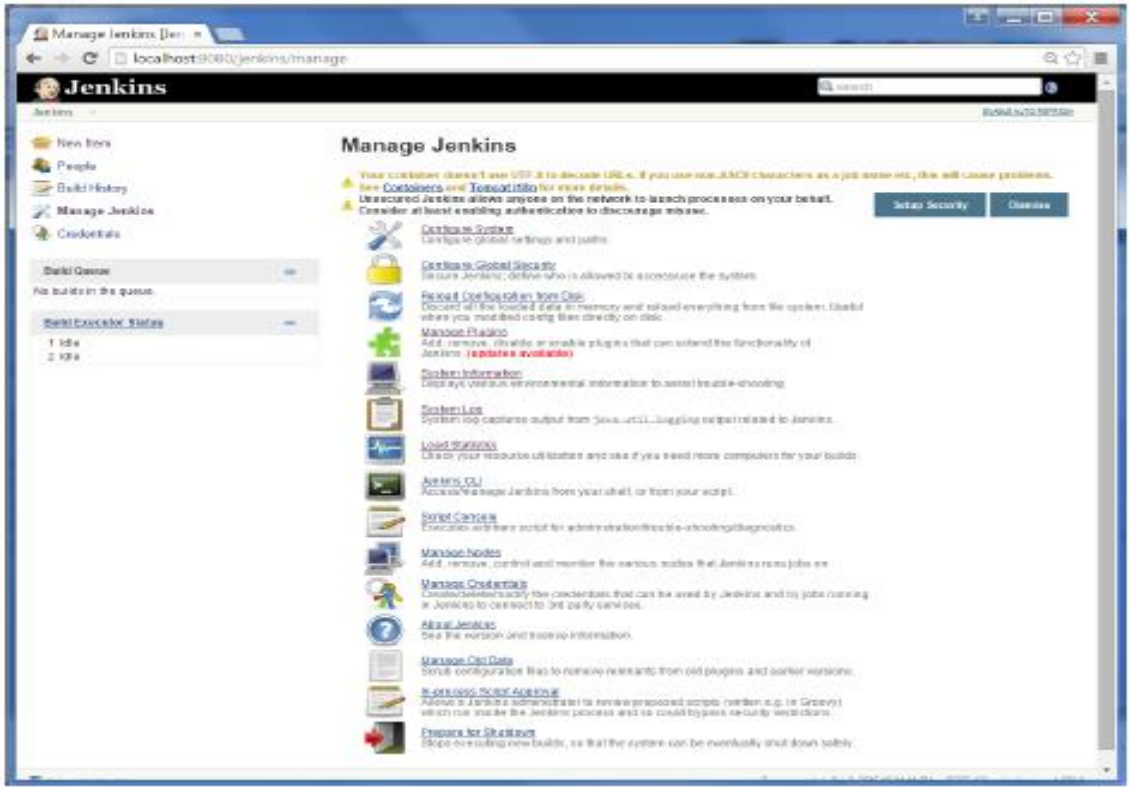
2. Now Click on Manage Plugins,

In the Plugin Manager screen, Click on Available Plugins and search for Sonarqube Scanner Plugin.

Now Click Install without restart check-box

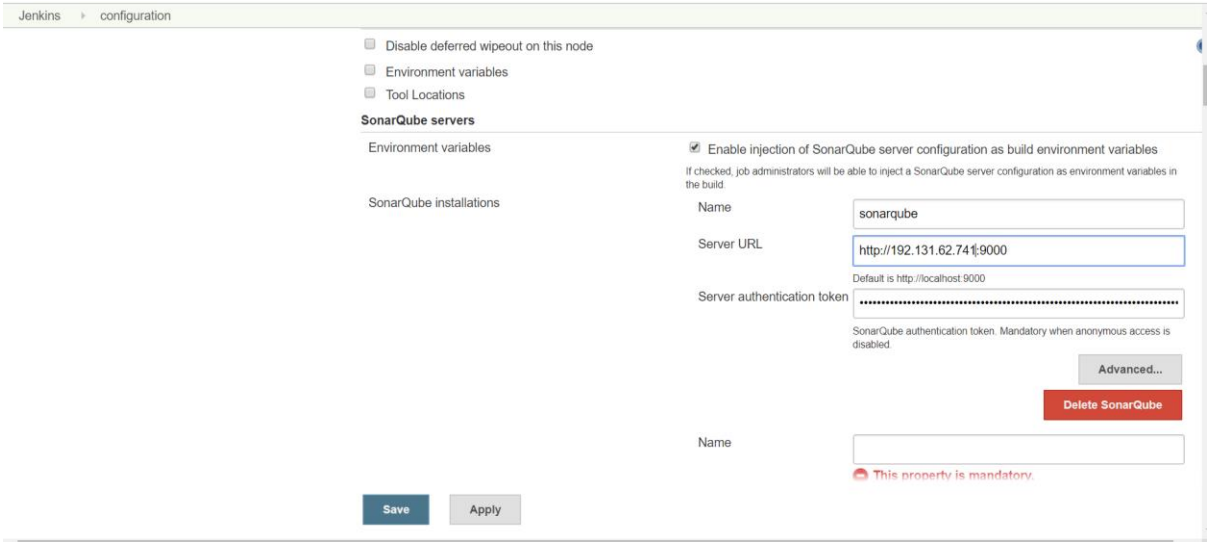


3. Go to Jenkins Home Page, Click on Manage Jenkins



4. Now Click on Cofigure system,

In the Configuration screen, scroll down till you see the SonarQube servers section and then click on the ‘Add SnonarQube’ button.



Click on Environment variables Check-box, Provide the details name, Server url and Security token of the Sonarqube, Then Click on Save button.

Now SonarQube was Configured with Jenkins Successfully.

How to install and Configure Nexus on Linux7

Step:1 Download Nexus

Download the latest Nexus installation file to /opt folder. You can get the latest download link from here. https://help.sonatype.com/repomanager3/download

Step:2 Install Nexus

```
[root@cicdapi opt]# wget https://download.sonatype.com/nexus/3/latest-unix.tar.gz
```

Untar the downloaded file

```
[root@cicdapi opt]# tar -xvf latest-unix.tar.gz
```

Rename the untared file to nexus

```
[root@cicdapi opt]# mv nexus-3.14.0-04 nexus
```

Step:3 Start Nexus Service

Giving Permissions To User

```
[cicdapiadmin@cicd opt]$sudo chown -R cicdapiadmin:cicdapiadmin nexus sonatype-work
```

Navigate to the start script directory

```
[cicdapiadmin@cicd opt]$ cd nexus/bin
```

Start the nexus service

```
[cicdapiadmin@cicd opt]$ sudo ./nexus start

[cicdapiadmin@cicd opt]$ sudo ./nexus status
```

Step:4 Setting up Nexus As A Service

1. Then create a `nexus` user with sufficient access rights to run the service.
   Change `NEXUS_HOME` to the absolute folder location in your `.bashrc` file, then save.

```
NEXUS_HOME="/opt/nexus"
```

2. In `bin/nexus.rc` assign the user between the quotes in the line below:

```
Run_as_user="nexus"
```

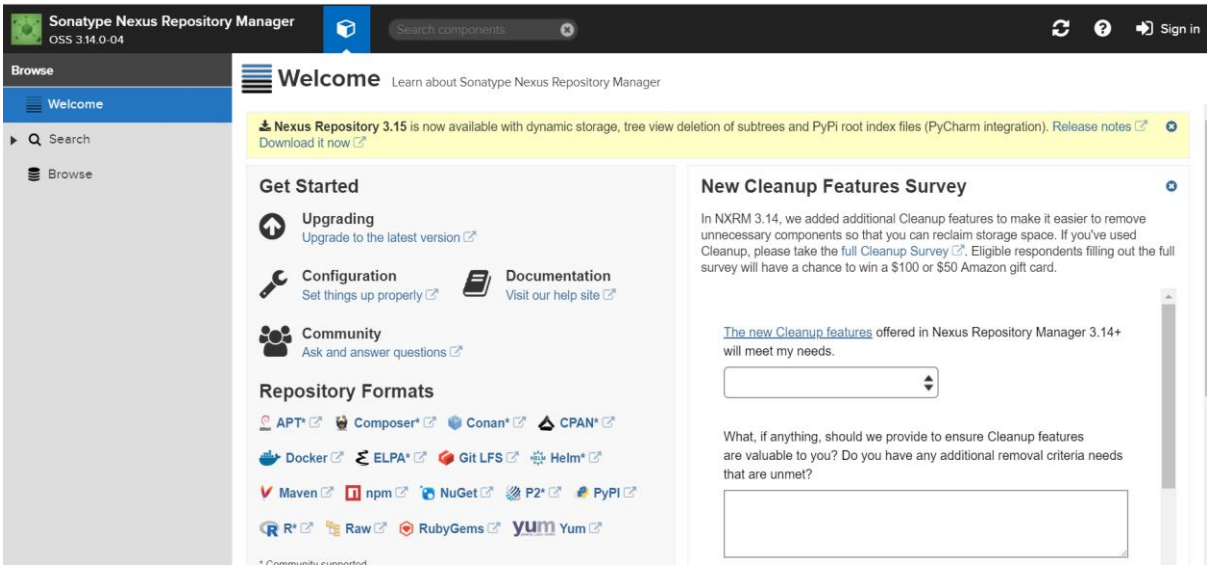
3. Now, create a symbolic link for /etc/init.d/nexus with out nexus start scripts in the source file directory. i.e NEXUS_HOME/bin/nexus

```
[cicdapiadmin@cicd opt]$ sudo ln -s $NEXUS_HOME/bin/nexus /etc/init.d/nexus
```

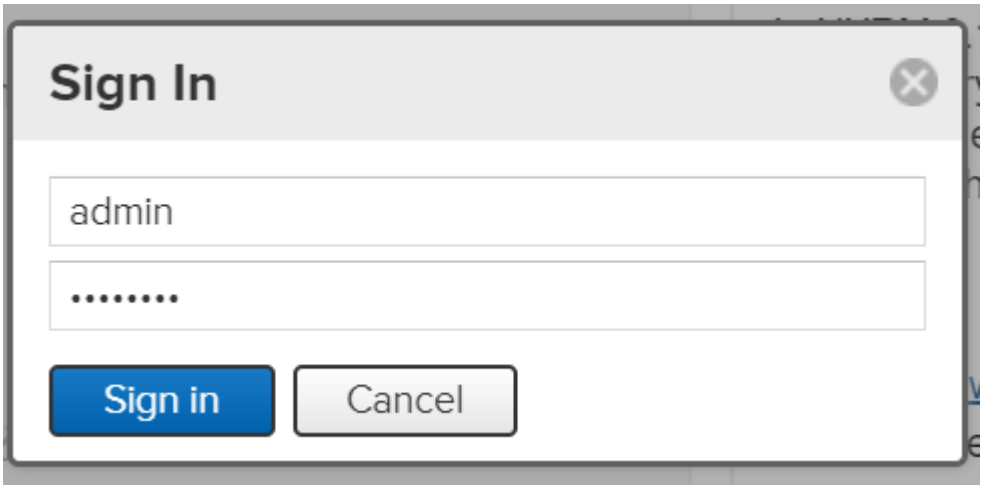
4. chkconfig, a tool that targets the initscripts in init.d to run the nexus service. Run these commands to activate the service:

```
[cicdapiadmin@cicd opt]$ cd /etc/init.d

[cicdapiadmin@cicd opt]$ sudo chkconfig --add nexus

[cicdapiadmin@cicd opt]$ sudo chkconfig --levels 345 nexus on

[cicdapiadmin@cicd opt]$ sudo service start
```

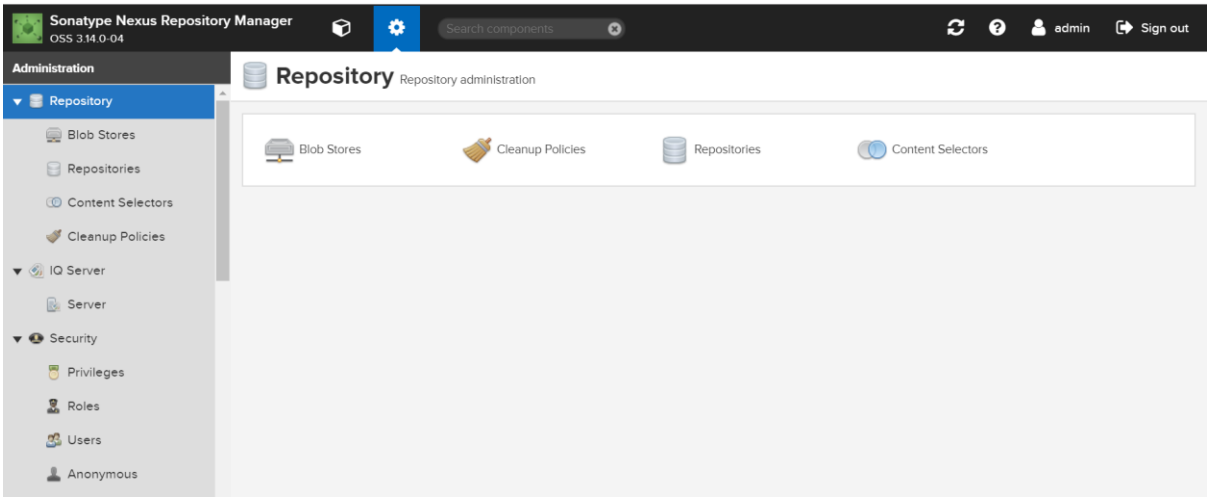
5. Go to browser <ipadress>:8081



6. Click on Signin button with default username and password



7. Nexus starts and page Will appear



Step:5 Configuring Nexus With Maven

1. Edit Settings.Xml in Maven Configuration file

```
[cicdapiadmin@cicd opt]$ sudo vi /var/lib/Jenkins/tools/Hudson.tasks.Maven_

MavenInstallation/maven/conf/settings.xml
```

2. Here Update Username, Password and Server details of Nexus in Servers path as mentioned below:

```
<server>

      <id>nexus</id>

      <username>username</username>

      <password>password</password>

 </server>
```

Now Nexus was configured with Maven Successfully