Sonarqube

How To Install SonarQube On CentOS Servers

What is SonarQube?

SonarQube is an open source tool for source code quality management, code analysis etc. It is the most widely used tool for code coverage and analysis. We can also integrate it easily with Jenkins. So, in this article, we will install SonarQube on CentOS 7.x.

How To Install SonarQube On CentOS

Important: SonarQube requires at least **2GB of RAM** to run efficiently. Please check the SonarQube official documentation to know the detailed prerequisites.

1.1 Step 1: Update your CentOS system

First, update the system packages by running "yum update" and reboot the server.

```
yum update

shutdown -r now
```

1.2 Step 2: Install the necessary packages

```
yum install wget unzip -y
```

1.3 Step 3: Install Java

Now, install Java and set the environment variables.

```
yum install java-1.8.0-openjdk-devel.x86_64
```

You can check the java version by running the following command:

```
java -version
```

Next, we need to set up the Java environment variables.

```
cp /etc/profile /etc/profile_orig

echo -e "export JAVA_HOME=/usr/lib/jvm/jre-1.8.0-openjdk" >> /etc/profile

echo -e "export JRE_HOME=/usr/lib/jvm/jre" >> /etc/profile

source /etc/profile
```

Now, verify that the Java environment variables are set up properly by running the following command:

```
echo -e "$JAVA_HOME\n$JRE_HOME"
```

1.4 Step 3: Install and configure MySQL Database

```
wget http://repo.mysql.com/mysql-community-release-el7-5.noarch.rpm

rpm -ivh mysql-community-release-el7-5.noarch.rpm

yum install mysql-server -y
```

Start MySQL service

```
systemctl start mysqld
```

Configure MySQL by running mysql_secure_installation.

```
mysql_secure_installation
```

Next, create a MySQL user and Database for SonarQube via MySQL CLI.

```
mysql -u root -p

**CREATE DATABASE sonar CHARACTER SET utf8 COLLATE utf8_general_ci;

CREATE USER 'sonar' IDENTIFIED BY 'sonar';

GRANT ALL ON sonar.* TO 'sonar'@'%' IDENTIFIED BY 'sonar';
GRANT ALL ON sonar.* TO 'sonar'@'localhost' IDENTIFIED BY 'sonar';
FLUSH PRIVILEGES;**
```

```
GRANT ALL ON *.* TO 'sonar'@'%';
```

Replace the "sonarqube_db","sonarqube_user" and "password" mentioned in the above command with your database name, database user and password respectively.

1.5 Step 4: Create a new user for running SonarQube

Create a new user for running SonarQube. This is because you cannot run the newer versions of elasticsearch as the root user.

```
useradd sonarqube
```

1.6 5.Download and install SonarQube

```
wget https://sonarsource.bintray.com/Distribution/sonarqube/sonarqube-6.7.6.zip
```

Extract it using the following command.

```
unzip sonarqube-6.7.6.zip

mv sonarqube-6.7.6 /opt/sonarqube
```

Since we are running SonarQube as a separate user, assign proper ownerships to SonarQube files.

```
chown sonarqube. /opt/sonarqube -R
```

Next, open the SonarQube configuration file "conf/sonar.properties" on your favorite text editor.

```
vi /opt/sonarqube/conf/sonar.properties
```

Enter the database details as shown below.

```
sonar.jdbc.username=sonar

sonar.jdbc.password=sonar

sonar.jdbc.url=jdbc:mysql://localhost:3306/sonarqube_db?useUnicode=true&characterEncoding=utf8&rewriteBatchedStatements=true&useConfigs=maxPerformance
```

Open the SonarQube startup script and specify the sonarqube user details.

```
vi /opt/sonarqube/bin/linux-x86-64/sonar.sh
```

Add the following entry to it.

```
RUN_AS_USER=sonarqube
```

1.7 6. Starting SonarQube and Setting it as a Systemd service

You can now start SonarQube by running the following command.

```
/opt/sonar/bin/linux-x86-64/sonar.sh start
```

If you have done everything correctly, SonarQube will start listening on ports 9000. You can access it using

```
http://your_ip_address:9000
```

For setting SonarQube as a Systemd Service, create a new file "sonar.service" under "/etc/systemd/system/".

```
vi /etc/systemd/system/sonar.service
```

Now, copy the below lines into it.

```
[Unit]

Description=SonarQube

After=syslog.target network.target



[Service]

Type=forking



ExecStart=/opt/sonarqube/bin/linux-x86-64/sonar.sh start

ExecStop=/opt/sonarqube/bin/linux-x86-64/sonar.sh stop



User=sonarqube

Group=sonarqube

Restart=always



[Install]

WantedBy=multi-user.target
```

Now, enable SonarQube service to automatically start at boot time by running the following command.

```
systemctl enable sonar.service
```

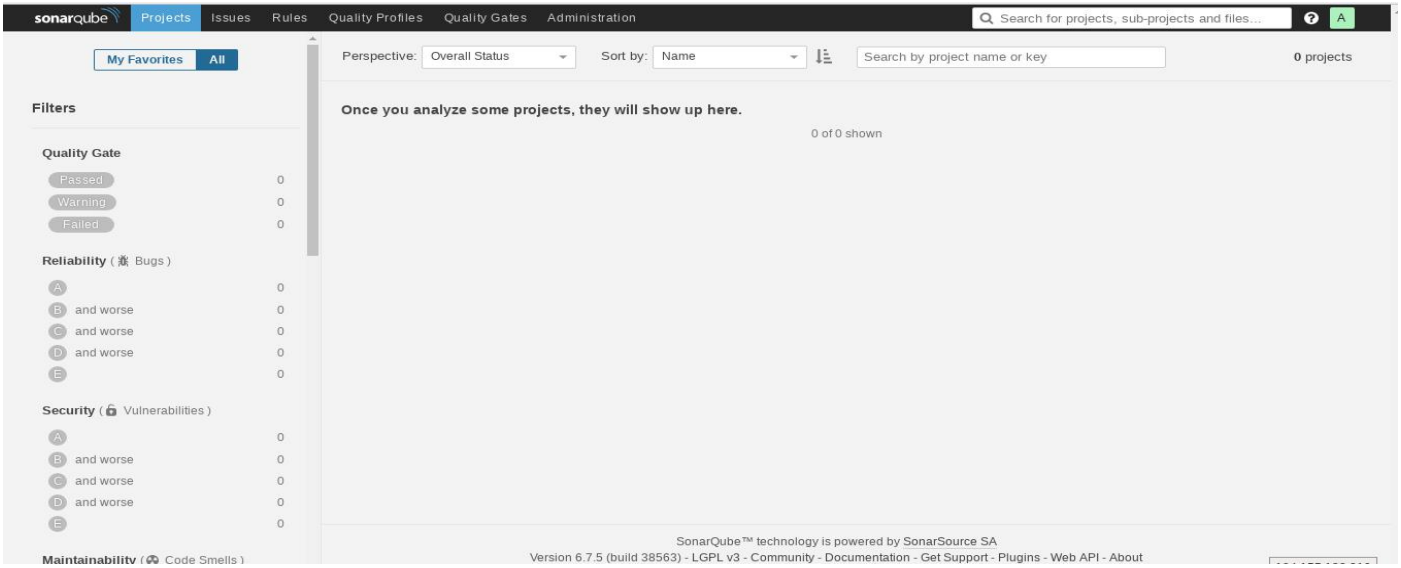
Start SonarQube by running

```
systemctl start sonar.service
```

And stop SonarQube by running

```
systemctl stop sonar.service
```

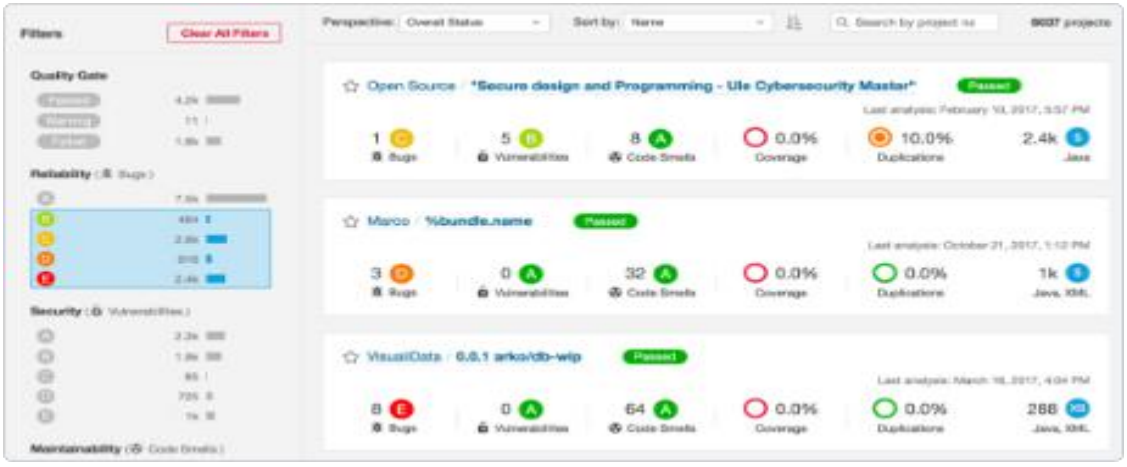
The default username and password of SonarQube is admin and admin.



Now in project directory need to give below command

$ mvn sonar:sonar

Finally we get a sonar dash board like below mentioned image



Issues while configuration time and solutions

Q. Sonarqube scanner report upload error 500

A. The problem often is that SonarQube generates a huge report and then tries to upload it in one shot, causing HTTP 500, because MySQL refuses to accept such a large request body.

The quick fix is to change the server config (my.ini file) or **/etc/my.cnf,** to increase packed size (from default 4MB, to whatever is your report size):

```
[mysqld]
max_allowed_packet = 16M
```

-->you will also need to restart both MySQL and sonar services to apply changes.