

Lab SonarQube Installation & Configuration



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Lab Guide: Installing and Configuring SonarQube on Linux

System Requirements:

Ensure your server meets the following minimum requirements:

- Server with a minimum of 2GB RAM and 1 vCPU capacity
- PostgreSQL version 15 or greater
- OpenJDK 21
- All SonarQube processes should run as a non-root sonar user

Step 1: Prepare the Server

Update the system packages and install necessary utilities:

```
1 sudo yum update -y
2 sudo yum install java-21-openjdk -y
3 sudo yum install wget unzip -y
```

Check system parameters:

```
1 sysctl vm.max_map_count
2 sysctl fs.file-max
3 ulimit -n
4 ulimit -u
```

Step 2: Install and Setup PostgreSQL 15

Install PostgreSQL 15:

```
1 sudo dnf module install postgresql:15/server -y
```

Initialize the PostgreSQL database:

```
1 sudo postgresql-setup --initdb
```

Start and enable PostgreSQL:

```
1 sudo systemctl enable postgresql.service
2 sudo systemctl start postgresql.service
```

Change the default password for the PostgreSQL user:

```
1 sudo passwd postgres
```

Create a new database and user for SonarQube:

```
1 sudo su - postgres
2 createuser sonar
3 psql
4 ALTER USER sonar WITH ENCRYPTED password 'sonar';
5 CREATE DATABASE sonarqube OWNER sonar;
6 GRANT ALL PRIVILEGES ON DATABASE sonarqube to sonar;
7 \q
8 exit
```

Step 3: Download and Install SonarQube

Download the latest SonarQube binary files:

```
1 cd /opt
2 sudo wget https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-10.5.0.89998.zip
3 or
4 sudo wget https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-9.9.4.87374.zip
```

Unzip the downloaded file:

```
1 sudo unzip sonarqube-10.5.0.89998.zip
2 sudo mv sonarqube-10.5.0.89998 sonarqube
```

Step 4: Configure SonarQube

Create a group and set ownership:

```
1 sudo useradd sonar
2 sudo chown -R sonar:sonar /opt/sonarqube
```

Edit the SonarQube configuration file:

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

Set the PostgreSQL database username and password:

```
1 sonar.jdbc.username=sonar
2 sonar.jdbc.password=sonar
3
4 #optional
5 #sonar.jdbc.url=jdbc:postgresql://localhost/sonarqube
6 #sonar.path.data=/var/sonarqube/data
7 #sonar.path.temp=/var/sonarqube/temp
```

Step 5: Configure Systemd Service

Create a systemd service file:

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

Add the following content:

```
1 [Unit]
2 Description=SonarQube service
3 After=syslog.target network.target
4
5 [Service]
```

```
6 Type=forking
7 ExecStart=/opt/sonarqube/bin/linux-x86-64/sonar.sh start
8 ExecStop=/opt/sonarqube/bin/linux-x86-64/sonar.sh stop
9 User=sonar
10 Group=sonar
11 Restart=always
12
13 [Install]
14 WantedBy=multi-user.target
```

Reload systemd and start SonarQube service:

```
1 sudo systemctl daemon-reload
2 sudo systemctl enable --now sonar
```

Check service status:

```
1 sudo systemctl status sonar
```

Step 6: Access SonarQube

Access SonarQube via the browser using the server IP followed by port 9000:

```
1 http://server_IP:9000
```

Login with the default administrator credentials:

- Username: admin
- Password: admin

You've now successfully installed and configured SonarQube on your Linux server.

