**SonarQube local Setup on Ubuntu linux**

**Step 1: Update the System**

1. **Update the package list:**

sudo apt update

Updates the package list from the Ubuntu repositories to ensure the latest information about available software.

1. **Upgrade installed packages:**

sudo apt upgrade -y

Upgrades all installed packages to their latest versions. The -y flag automatically accepts prompts.

**Step 2: Install Java**

1. **Install OpenJDK 17:**

sudo apt install openjdk-17-jdk -y

Installs the OpenJDK 17 development kit, which is compatible with SonarQube.

1. **Verify the installation:**

java -version

Confirms the installed Java version.

**Step 3: Install PostgreSQL**

**1. Install Dependencies**

sudo apt install curl ca-certificates -y

sudo install -d /usr/share/postgresql-common/pgdg

sudo curl -o /usr/share/postgresql-common/pgdg/apt.postgresql.org.asc --fail https://www.postgresql.org/media/keys/ACCC4CF8.asc

**2. Add PostgreSQL Repository**

sudo sh -c 'echo "deb [signed-by=/usr/share/postgresql-common/pgdg/apt.postgresql.org.asc] https://apt.postgresql.org/pub/repos/apt $(lsb\_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'

sudo apt update

**3. Install PostgreSQL 15**

sudo apt install postgresql-15 -y

**4. Configure PostgreSQL**

1. **Switch to the postgres user:**

sudo -i -u postgres

1. **Create a user and database for SonarQube:**

createuser sonar

createdb sonar -O sonar

1. **Set a password for the sonar user:**

psql

ALTER USER sonar WITH ENCRYPTED PASSWORD 'your\_password';

\q

1. **Exit the postgres user:**

exit

**Step 4: Install SonarQube**

**1. Download SonarQube**

wget https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-10.5.1.90531.zip

**2. Extract and Move SonarQube**

unzip sonarqube-10.5.1.90531.zip

sudo mv sonarqube-10.5.1.90531 /opt/sonarqube

**3. Create a SonarQube User**

sudo adduser --system --no-create-home --group --disabled-login sonarqube

sudo chown -R sonarqube:sonarqube /opt/sonarqube

**4. Configure SonarQube**

1. **Edit the configuration file:**

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

1. **Set the database properties:**

sonar.jdbc.username=sonar

sonar.jdbc.password=your\_password

sonar.jdbc.url=jdbc:postgresql://localhost/sonar

**Step 5: Create a Systemd Service File**

**1. Create the Service File**

sudo vi /etc/systemd/system/sonarqube.service

**Add the following content:**

[Unit]

Description=SonarQube service

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

LimitNOFILE=65536

LimitNPROC=4096

[Install]

WantedBy=multi-user.target

**2. Start and Enable the Service**

sudo systemctl daemon-reload

sudo systemctl start sonarqube

sudo systemctl enable sonarqube

**Step 6: Configure System Limits**

**1. Increase File Descriptors and Processes Limits**

1. **Edit the limits configuration file:**

sudo vi /etc/security/limits.conf

1. **Add the following lines:**

sonarqube - nofile 65536

sonarqube - nproc 4096

**2. Set Virtual Memory Limits**

1. **Set the vm.max\_map\_count:**

sudo sysctl -w vm.max\_map\_count=262144

1. **Make the change permanent:**

sudo vi /etc/sysctl.conf

1. **Add the following line:**

vm.max\_map\_count=262144

1. **Apply the changes:**

sudo sysctl -p

**Final Steps: Verify SonarQube Installation**

1. Open your browser and navigate to:

http://<your-server-ip>:9000

1. Log in with the default credentials:
   * Username: admin
   * Password: admin
2. Change the default password upon first login.