**SonarQube Enterprise 7.9.3 Installation with PostgreSQL**

**What is SonarQube?**

SonarQube is a platform developed by SonarSource for continuous inspection of code quality to perform automatic reviews with static analysis of code to detect bugs, code smells, and security vulnerabilities on 20+ programming languages.

**What is PostgreSQL?**

Postgres is a free and open-source relational database management system emphasizing extensibility and SQL compliance.

**SonarQube official Documentation link:**

<https://www.google.com/url?q=https://docs.sonarqube.org/latest/requirements/requirements/&sa=D&source=hangouts&ust=1590123119985000&usg=AFQjCNExGDFQQlwL0fUeBO92R3Pxl3szWQ>

**If you're running on Linux, you must ensure that:**

* vm.max\_map\_count is greater or equals to 262144
* fs.file-max is greater or equals to 65536
* the user running SonarQube can open at least 65536 file descriptors
* the user running SonarQube can open at least 4096 threads

**You can see the values with the following commands:**

* sysctl vm.max\_map\_count
* sysctl fs.file-max
* ulimit -n
* ulimit -u

**You can set them dynamically for the current session by running the following commands as root:**

* sysctl -w vm.max\_map\_count=262144
* sysctl -w fs.file-max=65536
* ulimit -n 65536
* ulimit -u 4096

**Step 1:**

* Download java 9.3 or greater
* Download wget
* Download Unzip
* “sudo yum install wget java unzip -y”

**Step 2:**

* Make a directory to download SonarQube binaries (“/apps/softwares”)
* wget <https://binaries.sonarsource.com/CommercialDistribution/sonarqube-enterprise/sonarqubjave-enterprise-7.9.3.zip>
* Unzip sonarqube-enterprise-7.9.3.zip
* cd sonarqube-7.9.3

**step 3:**

* vi conf/sonar.properties and uncomment/change ports accordingly
* sonar.embeddedDatabase.port=9092
* sonar.web.context=/SonarQube
* sonar.web.port=9000
* vi conf/wrapper.conf and uncomment/change the parth to java home directory (NB. Java 9.3 and above)
* wrapper.java.command=/path/to/my/jdk/bin/java

**step 4:**

* when using /comment/change the URL and name of the sonar database user and password accordingly in conf/sonar.properties (NB user and password will be created in the database)

# DATABASE

* sonar.jdbc.username=sonar
* sonar.jdbc.password=sonar
* sonar.jdbc.url=jdbc:postgresql://localhost/sonar

**step 5:**

* Installing PostgreSQL packages in RHEL Linux
* Install the repository RPM:
  + yum install https://download.postgresql.org/pub/repos/yum/reporpms/EL-7-x86\_64/pgdg-redhat-repo-latest.noarch.rpm
* Install the client packages:
  + yum install postgresql12
* install the server packages:
  + yum install postgresql12-server
* Optionally initialize the database and enable automatic start:

/usr/pgsql-12/bin/postgresql-12-setup initdb  
systemctl enable postgresql-12

**Step 6:**

* Configure postresql with the following:

sudo vi /var/lib/pgsql/data/pg\_hba.conf and make the following changes

* Make sure, that you changed METHOD to **md5**

# TYPE DATABASE USER ADDRESS METHOD

# "local" is for Unix domain socket connections only

local all all peer

# IPv4 local connections:

host all all 127.0.0.1/32 **md5**

# IPv6 local connections:

host all all ::1/128 **md5**

# Allow replication connections from localhost, by a user with the

# replication privilege.

#local replication postgres peer

#host replication postgres 127.0.0.1/32 ident

#host replication postgres ::1/128 ident

#host replication sonar 127.0.0.1/32 ident

**Step 7:**

* we need to create a ‘user’ and base for SonarQube instance. Just FYI: During PostgreSQL installatin user ‘**postgres’** was created. Remember we referenced this user and password in step 4. So, let’s create a password for it and do the following:

# passwd **$password**

# su - postgres

# createuser **$username**

# psql

# ALTER USER sonar WITH ENCRYPTED password 'sonar';

CREATE DATABASE sonar WITH ENCODING 'UTF8' OWNER sonar TEMPLATE=template0;

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**Step 8:**

* We must start postgres daemon:

systemctl start postgresql-12

**step 9 final:**

* Start the sonar server in the sonar unzipped directory with the following
* ./bin/linux-x86-64/sonar.sh start

**NB. Sonarqube URL = a**

**usrsAnd make sure all the listed ports are opened**