

# PROJECT – USING DOCKER-COMPOSE TO CREATE SONARQUBE

Install SonarQube using Docker | Install SonarQube using Docker on Ubuntu 18.0.4 | Install SonarQube using Docker-Compose

## How to setup SonarQube using Docker compose?

SonarQube is static code analysis tool. It is open source and Java based tool. It can be installed quickly using Docker Compose with less manual steps.

## What is Docker Compose?

Compose is a tool for defining and running multi-container Docker applications. With Compose, you use a YAML file to configure your application's services. Then, with a single command, you create and start all the services from your configuration.

The purpose of **docker-compose** is to function as **docker** cli but to issue multiple commands much more quickly. To make use of **docker-compose**, you **need** to encode the commands you were running before into a **docker-compose.yml** file

## Pre-requisites:

- Ubuntu EC2 up and running with at least t2.small
- Port 9000 is opened in security firewall rule
- Make sure maximum number of

```
vm.max_map_count=262144
fs.file-max=65536
"/etc/sysctl.conf" 79L, 2725C
```

Login to instance where you will be installing SonarQube, perform below command:

```
sudo vi /etc/sysctl.conf
```

Add the following lines to the bottom of that file:

```
vm.max_map_count=262144
fs.file-max=65536
```

## To make sure changes are getting into effect:

```
sudo sysctl -p
```

## Perform System update

```
sudo apt-get update
```

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## Install Docker

```
sudo apt-get install docker.io -y
```

## Install Docker-Compose

```
sudo apt-get install docker-compose -y
```

## Add current user to docker group

```
sudo usermod -aG docker $USER
```

## Create docker-compose.yml

this yml has all configuration for installing both SonarQube and Postgresql:  
touch docker-compose.yml

```
nano docker-compose.yml
```

```
ctrl + X
```

```
y
```

```
sudo vi docker-compose.yml
```

```
wq!
```

(Copy the below code highlighted in yellow color)

```
version: "3"
```

```
services:
```

```
  sonarqube:
```

```
    image: sonarqube:lts-community
```

```
    container_name: sonarqube
```

```
    restart: unless-stopped
```

```
    environment:
```

```
      - SONARQUBE_JDBC_USERNAME=sonar
```

```
      - SONARQUBE_JDBC_PASSWORD=password123
```

```
      - SONARQUBE_JDBC_URL=jdbc:postgresql://db:5432/sonarqube
```

```
    ports:
```

```
      - "9000:9000"
```

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```
- "9092:9092"
volumes:
  - sonarqube_conf:/opt/sonarqube/conf
  - sonarqube_data:/opt/sonarqube/data
  - sonarqube_extensions:/opt/sonarqube/extensions
  - sonarqube_bundled-plugins:/opt/sonarqube/lib/bundled-plugins
```

```
db:
  image: postgres:12
  container_name: db
  restart: unless-stopped
  environment:
    - POSTGRES_USER=sonar
    - POSTGRES_PASSWORD=password123
    - POSTGRES_DB=sonarqube
  volumes:
    - sonarqube_db:/var/lib/postgresql10
    - postgresql_data:/var/lib/postgresql10/data
```

```
volumes:
  postgresql_data:
  sonarqube_bundled-plugins:
  sonarqube_conf:
  sonarqube_data:
  sonarqube_db:
  sonarqube_extensions:
```

Save the file by entering: wq! **If USING VI EDITOR**

Save the file by entering: wq! **If USING NANO EDITOR - MOST RECOMMENDED**

**Now execute the compose file using Docker compose command:**

```
sudo docker-compose up -d
```

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```
ubuntu@ip-172-31-20-94:~$ sudo docker-compose up -d
Starting sonarqube ...
Starting sonarqube
Starting db ...
Starting sonarqube ... done
ubuntu@ip-172-31-20-94:~$
```

### Make sure SonarQube is up and running

`sudo docker-compose logs --follow`

```
sonarqube | 2022.02.03 16:23:40 INFO ce[][o.s.s.e.EsClientProvider] Connected to local Elasticsearch: [http://localhost:9001]
sonarqube | 2022.02.03 16:23:41 INFO ce[][o.sonar.db.Database] Create JDBC data source for jdbc:postgresql://db:5432/sonarqube
sonarqube | 2022.02.03 16:23:44 INFO ce[][o.s.s.p.ServerFileSystemImpl] SonarQube home: /opt/sonarqube
sonarqube | 2022.02.03 16:23:44 INFO ce[][o.s.c.c.CePluginRepository] Load plugins
sonarqube | 2022.02.03 16:23:47 INFO ce[][o.s.c.c.ComputeEngineContainerImpl] Running Community edition
sonarqube | 2022.02.03 16:23:47 INFO ce[][o.s.ce.app.CeServer] Compute Engine is operational
sonarqube | 2022.02.03 16:23:47 INFO app[][o.s.a.SchedulerImpl] Process[ce] is up ✓
sonarqube | 2022.02.03 16:23:47 INFO app[][o.s.a.SchedulerImpl] SonarQube is up ✓
```

Once you see the message, that's it. SonarQube is been installed successfully.

press control C and enter – will take you out of the docker-compose logs

Access SonarQube on the browser

Go to your AWS instance

Go to connect

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**Connect to instance** [Info](#)  
Connect to your instance i-06ae1a7c5fb467b71 using any of these options



EC2 Instance Connect


Session Manager

**SSH client**

EC2 Serial Console

Instance ID  
 **i-06ae1a7c5fb467b71**

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is apollo.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.  
 `chmod 400 apollo.pem`
4. Connect to your instance using its Public DNS:  
 `ec2-3-145-25-41.us-east-2.compute.amazonaws.com`

Example:  
 `ssh -i "apollo.pem" ubuntu@ec2-3-145-25-41.us-east-2.compute.amazonaws.com`

## Select Public DNS

Go to the browser and paster the public DNS

ec2-3-145-25-41.us-east-2.compute.amazonaws.com

Add: 9000 – port for SonarQube

ec2-3-145-25-41.us-east-2.compute.amazonaws.com:9000

The console for SonarQube should appear

▲ Not secure | ec2-3-145-25-41.us-east-2.compute.amazonaws.com:9000/sessions/new?return\_to=%2F

RivPage | RivPage | Welcome! - Americ... | JW1575004JWONL-... | N4325 KNOWLEDG... | New Tab | Gmail | YouTube | Maps | Eva

### Log In to SonarQube

Log in

Cancel

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Username: admin

Password: admin

Reconfigure the new password

## Update your password

This account should not use the default password.

Enter a new password

All fields marked with \* are required

Old Password \*

.....

New Password \*

....

Confirm Password \*

....|

Update

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Access the SonarQube Console and play with different stuffs

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