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Assignment

Assignment 22/08

Learn about sonarqube, Set up a Jenkins pipeline to check code quality using SonarQube also share the screenshot of report and view the pipeline visually using Blue Ocean plugin

Step 1: Steps to Install SonarQube on Ubuntu.

**System Requirements**

* **OS**: Ubuntu 20.04/22.04/24.04 (64-bit)
* **RAM**: Minimum 2 GB (4 GB recommended)
* **CPU**: 2 cores+
* **Java**: SonarQube requires Java 17 or 21 (LTS versions).
* **Database**: PostgreSQL (recommended, but can use MySQL with tweaks).

1.2. Update System

**sudo apt update && sudo apt upgrade –y**

1.3 Install Required Packages

**sudo apt install wget unzip git –y**

1.4   Install Java (OpenJDK 17)

**sudo apt install openjdk-17-jdk -y**

**java –version**

1.5 Install & Setup PostgreSQL

**sudo apt install postgresql postgresql-contrib -y**

Switch to postgres user:

**sudo -i -u postgres**

Create database and user for SonarQube:

**psql**

**CREATE DATABASE sonarqube;**

**CREATE USER sonar WITH ENCRYPTED PASSWORD 'sonar@123';**

**GRANT ALL PRIVILEGES ON DATABASE sonarqube TO sonar;**

**\q**

**exit**

**Run the  below connamnd to install sonarqube**

**cd /opt**

**sudo wget**[**https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-10.4.1.88267.zip**](https://binaries.sonarsource.com/Distribution/sonarqube/sonarqube-10.4.1.88267.zip)

**sudo unzip sonarqube-10.4.1.88267.zip**

**sudo mv sonarqube-10.4.1.88267 sonarqube**

Create SonarQube User

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

**sudo chown -R sonarqube:sonarqube /opt/sonarqube**

Configure database:

**sudo nano /opt/sonarqube/conf/sonar.properties**

**sonar.jdbc.username=sonar**

**sonar.jdbc.password=sonar@123**

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

Create Systemd Service

**sudo nano /etc/systemd/system/sonarqube.service**

Add this

[Unit]

Description=SonarQube service

After=syslog.target network.target

[Service]

Type=forking

User=sonarqube

Group=sonarqube

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

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

Restart=always

LimitNOFILE=65536

LimitNPROC=4096

[Install]

WantedBy=multi-user.target

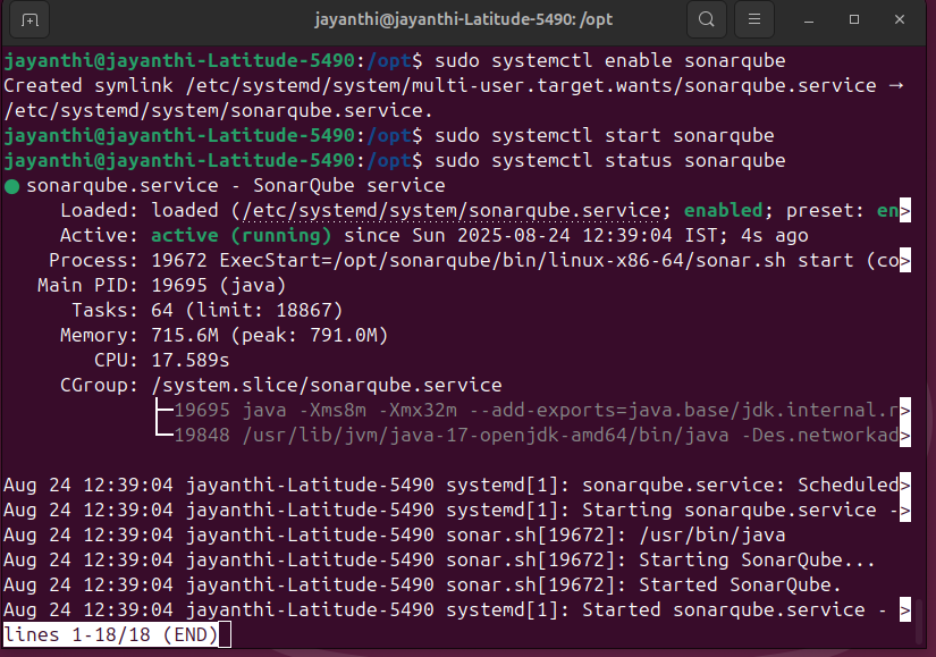
**Start service:**

**sudo systemctl daemon-reload**

**sudo systemctl enable sonarqube**

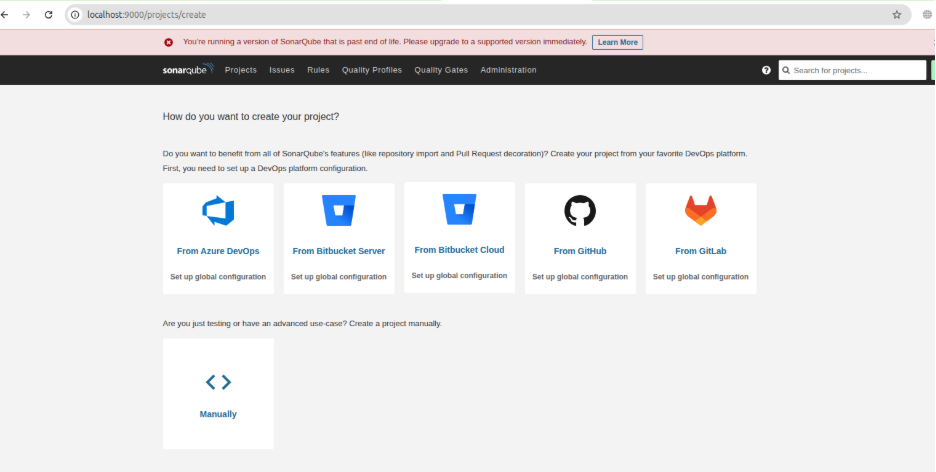
**sudo systemctl start sonarqube**

**sudo systemctl status sonarqube**



Access SonarQube Web UI

<http://localhost:9000/>



**Step 1: Install Jenkins**

**sudo apt update**

**sudo apt install openjdk-17-jdk -y**

**wget -q -O -**[**https://pkg.jenkins.io/debian/jenkins.io.key**](https://pkg.jenkins.io/debian/jenkins.io.key)**| sudo apt-key add -**

**sudo sh -c 'echo deb**[**http://pkg.jenkins.io/debian**](http://pkg.jenkins.io/debian)**binary/ > /etc/apt/sources.list.d/jenkins.list'**

**sudo apt update**

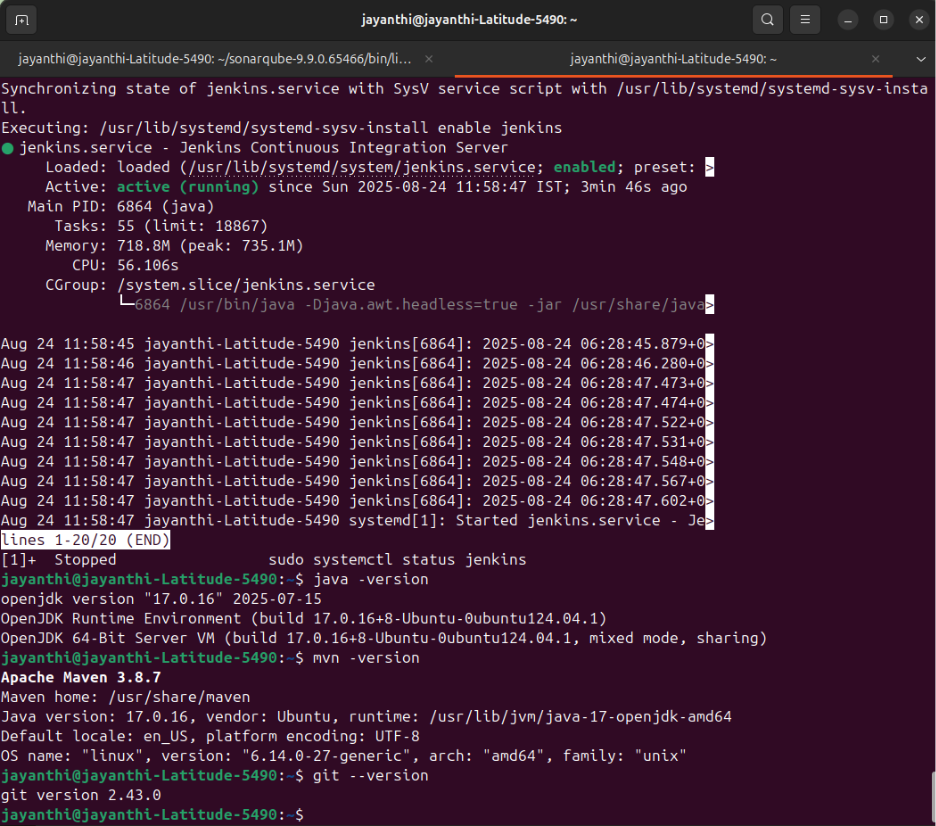
**sudo apt install jenkins –y**

Start and enable Jenkins:

**sudo systemctl enable jenkins**

**sudo systemctl start jenkins**

**sudo systemctl status jenkins**

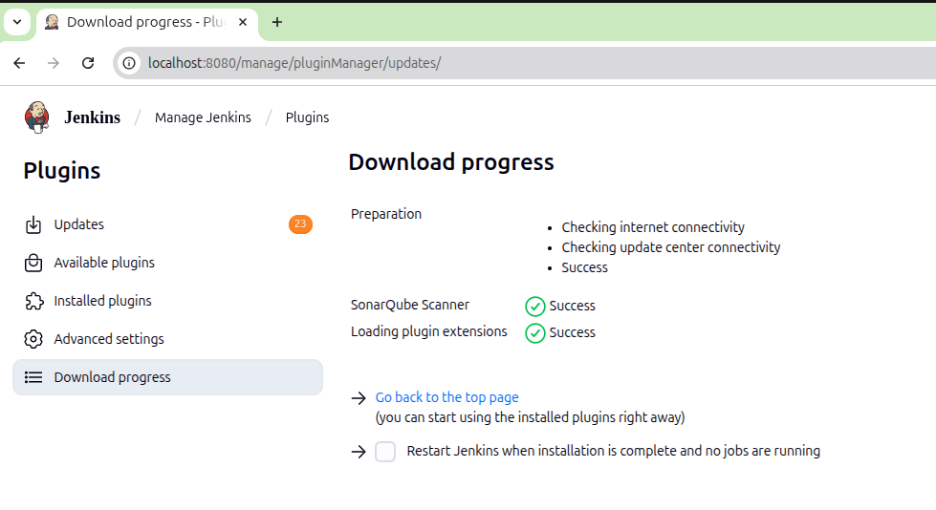


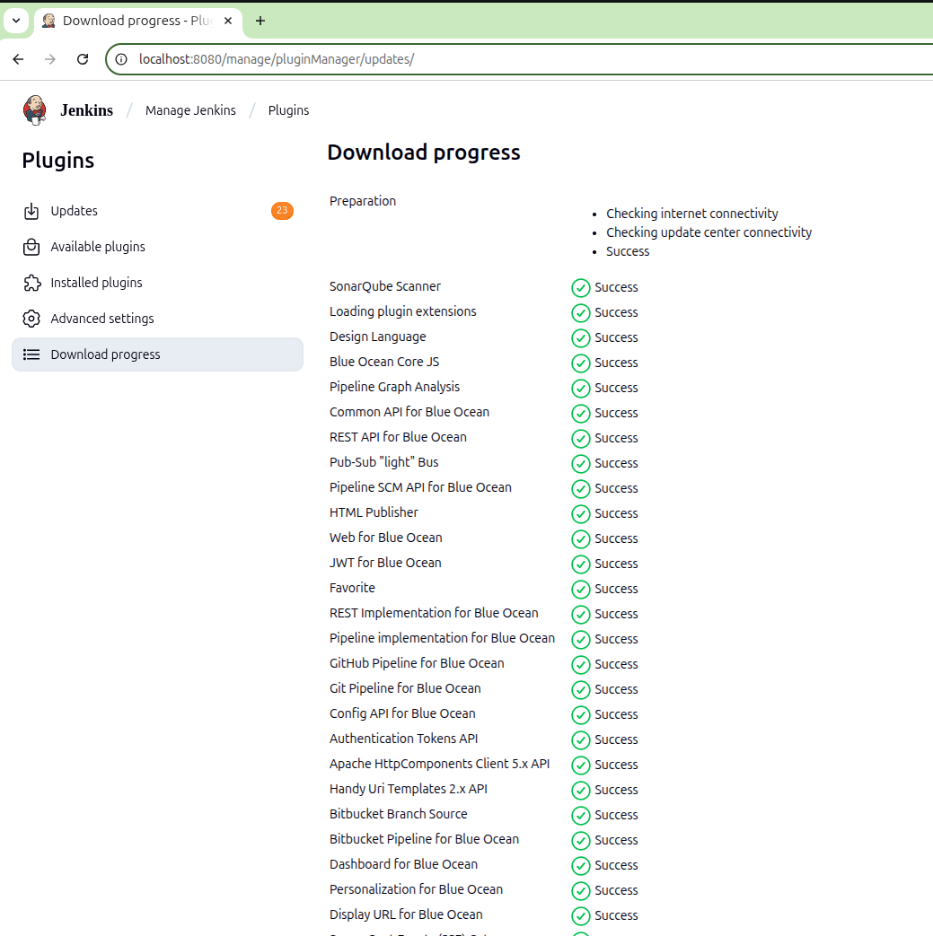
**Step 2: Install Required Plugins**

Login to Jenkins → Manage Jenkins → Plugins → Available plugins → search & install:

* **SonarQube Scanner for Jenkins**
* **Pipeline**
* **Blue Ocean**

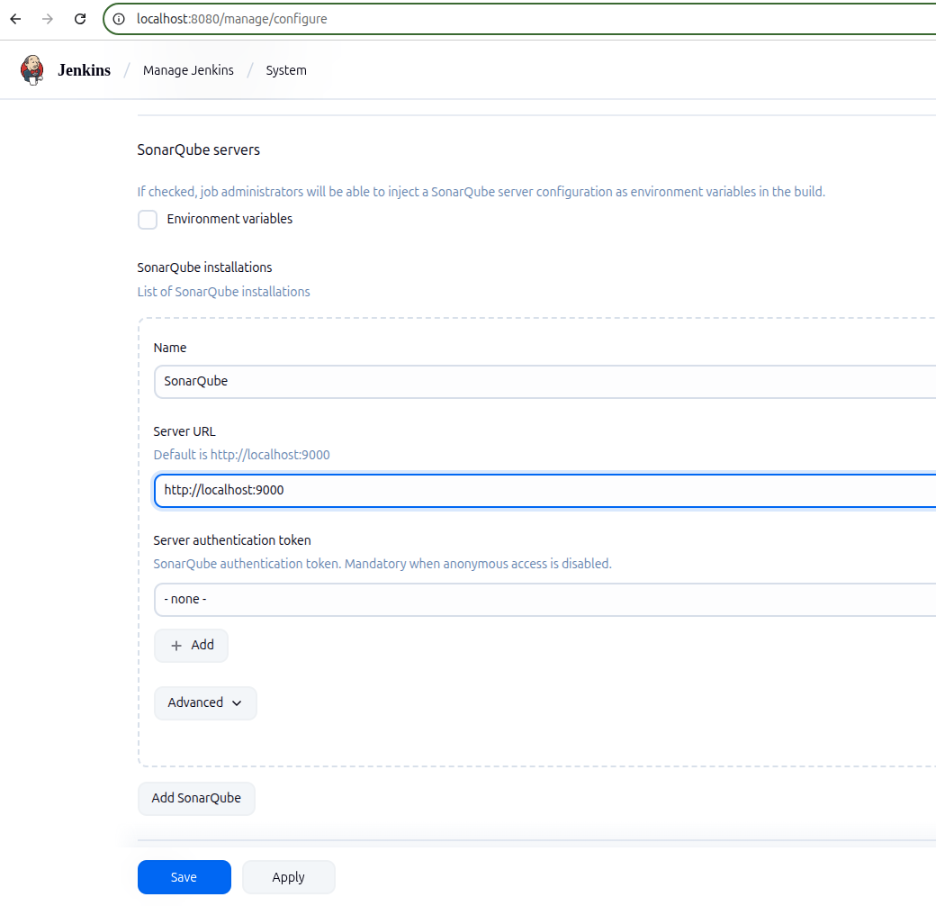
Restart Jenkins after installation.





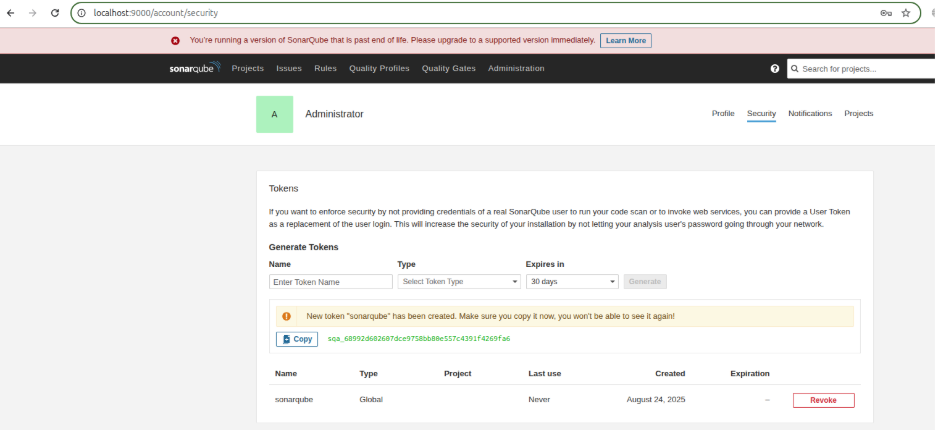
**Configure SonarQube in Jenkins**

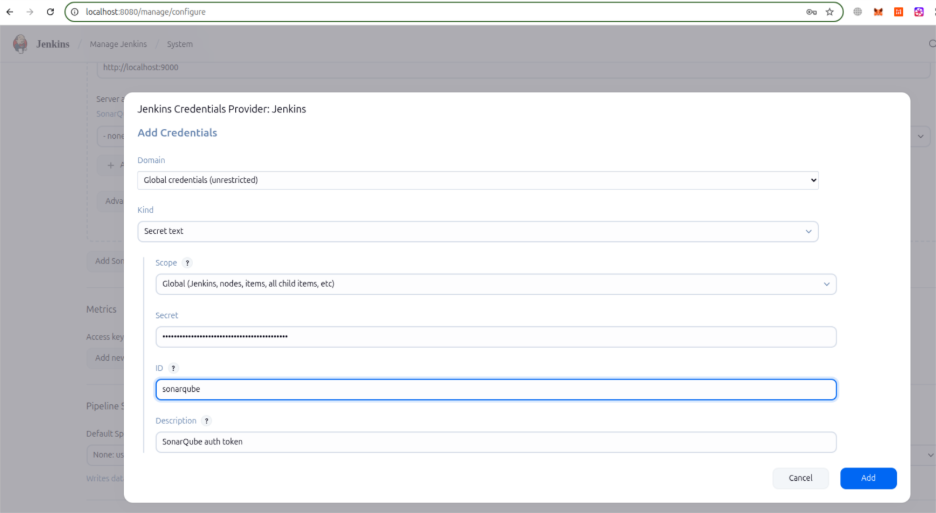
1. **Add SonarQube Server**
2. Go to Manage Jenkins → System.
3. Scroll to **SonarQube servers → Add SonarQube**.
4. Fill in:
5. Name: SonarQube
6. Server URL: [http://localhost:9000](http://localhost:9000/)



Authentication Token:

In SonarQube UI → **My Account → Security → Tokens → Generate new token** (copy and paste here).





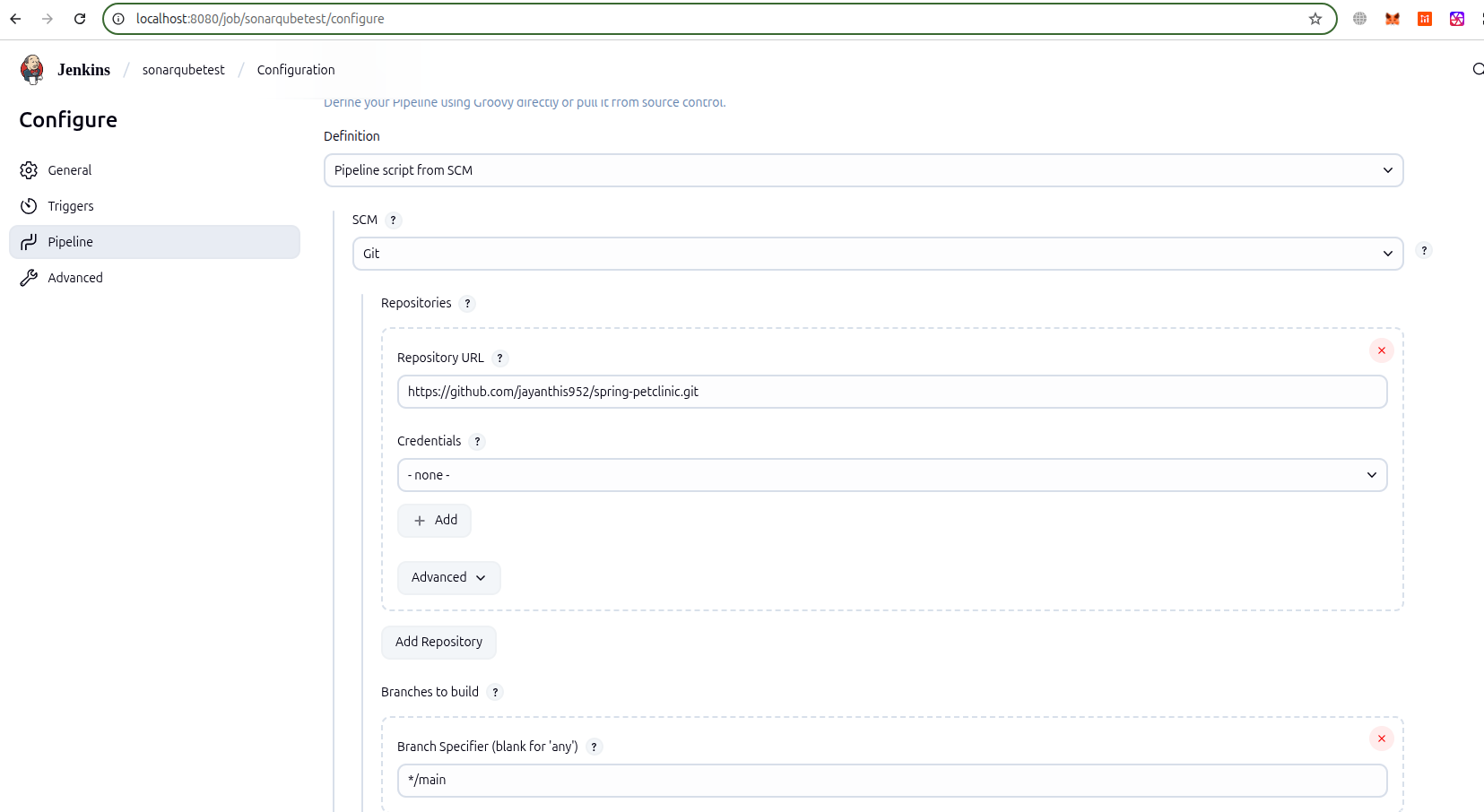
**Jenkins Pipeline Configuration**

1. In Jenkins UI, go to **Dashboard → New Item → Pipeline**.
2. Name sonarcube-project → select **Pipeline** → OK.
3. Under **Pipeline** section, choose:
4. **Definition**: *Pipeline script from SCM*
5. **SCM**: Git
6. **Repository URL**:

Copy :

https://github.com/jayanthis952/javaparser-maven-sample.git

Branch: master



Then click on Build now and we can see the output in sonarqube and the screenshot of report and view the pipeline visually using Blue Ocean plugin are as follows

