Integrating SonarQube with Jenkins

Step 1: Download sonarqube from the official website and save it on your system.

(https://www.sonarsource.com/open-source-editions/sonarqube-community-edition/)

Step 2: Extract the folder, and move into the folder, sonarqube-10.3.0.82913\bin\windows-x86-64, then open the terminal and type StartSonar.bat and press enter.

Step 3: Goto localhost:9000, and login with admin username and password also admin. The page will prompt you to change the password now. Please change it and keep it handy.

Step 4: Now we must create an access token. For that follow the below steps,

i. Go to the dashboard of sonarqube and click on create project. Give the project a name of your choice. Click on submit
ii. The 2nd screen will ask you to how to analyse your repository, click on locally.
iii. It will now prompt you to generate a token, give the token any name and click on generate. Now copy the token and keep it safe, as this is the token which jenkins will use to access sonarqube.

Step 4: Install the sonarqube scanner plugin in Jenkins. And restart it.

Step 5: Now add the token to Jenkins credentials. Click on manage jenkins and follow the below steps,

i. Click on manage jenkins and click on Manage Credentials under security.
ii. Click on jenkins and then goto global credentials and then click on add credentials.
iii. Now as we only have the token, we are going to select secret text and add all the specific details including the key and the ID.

Step 6: Now we need to configure the system, follow the below steps,

i. Click on manage jenkins and go to configure system.
ii. Scroll down and select the environment variables checkbox.
iii. Under SonarQube installation, click on add sonarqube and give it a name. Since we are running on localhost:9000, we will use the same value for server field. Under server authentication token, we will use the same token which has been added by us in the previous step. Click on Save.
iv. Now click on Global Tool Configuration, and here we will scroll down and find the sonarqube scanner. Under this setting we will select add sonarqube scanner. Now provide it with a name and then click on save.

Step 7: Now make a project in Jenkins by choosing a freestyle project. Provide a description.

Step 8: Click on source code management and pass the repository details, including the branch details.

Step 9: Go down to build environment and select prepare sonarqube scanner environment.

Step 10: Now add a build step, by choosing to invoke top-level maven targets. Select the maven version and under goals enter the commands given by sonarqube while you were creating a project. It will look something like this,

spotless:apply clean verify sonar:sonar -Dsonar.projectKey=Jenkins_Integration -Dsonar.projectName='Jenkins_Integration' -Dsonar.host.url=http://localhost:9000 -Dsonar.token=sqp_5d6abafd4b7915cacbba5ff43a08bc26c1d4c66b

Step 11: Add the following dependencies in every pom.xml file which you have in your repository,

```
<build>
  <plugins>
    <plugin>
      <groupId>org.sonarsource.scanner.maven</groupId>
      <artifactId>sonar-maven-plugin</artifactId>
      <version>3.9.0.2155</version>
    </plugin>
    <plugin>
      <groupId>com.diffplug.spotless</groupId>
      <artifactId>spotless-maven-plugin</artifactId>
      <version>2.42.0</version>
    </plugin>
  </plugins>
</build>
```

Step 11: Click on build now and check the console output. The analysis can be seen on the sonarqube website. On the localhost.