



MARCH 5, 2023

DevOps Classroomnotes 05/Mar/2023

Static Code Analysis

- Static Code Analysis focuses on
 - Coding Standards
 - Best Practices
 - Security Checks
 - Code Coverage
- To perform Static Code Analysis we will be using Sonar Qube.
- Sonar Qube can be installed on any linux/windows instance [Refer Here](#)
- [Refer Here](#) to install sonar qube on ubuntu 22.04
- For this class purposes i would be using [Refer Here](#)
- We have a Jenkins master with 4 executors and node with 4 executors.
- Jenkins master has JDK 17 and Maven where as node 1 has JDK8, JDK11 and maven
- We have two free style projects of java (build,test, package)

The screenshot shows the Jenkins dashboard with the 'FreeStyle' view selected. The table lists two projects: 'gameoflife-fs' and 'spring-pet-clinic-fs'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	☁	gameoflife-fs	1 min 37 sec #3	2 min 46 sec #2	12 sec
⋯	☀	spring-pet-clinic-fs	N/A	N/A	N/A

- We have two declarative projects of java (build,test, package)

The screenshot shows the Jenkins dashboard with the 'Declarative' view selected. The table lists two projects: 'gameoflife-declarative' and 'springpetclinic-declarative'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	☀	gameoflife-declarative	10 min #1	N/A	35 sec
✓	☁	springpetclinic-declarative	6 min 40 sec #2	7 min 16 sec #1	34 sec

- To integrate sonar qube with jenkins [Refer Here](#) for previous blog article and [\[Refer Here\]](#) ([https://docs.sonarqube.org/latest/analyzing-source-code/scanners/jenkins-extension-sonarqube/#:::text=Configure%20your%20SonarQube%20server\(s,as%20a%20Secret%20Text%20cr](https://docs.sonarqube.org/latest/analyzing-source-code/scanners/jenkins-extension-sonarqube/#:::text=Configure%20your%20SonarQube%20server(s,as%20a%20Secret%20Text%20cr) for official docs of sonar qube

- Install SonarQube Scanner Extension

The screenshot shows the Jenkins 'Manage Jenkins' > 'Plugin Manager' page. In the left sidebar, 'Available plugins' is selected. In the main area, the search bar contains 'SonarQube Scanner'. The search results show the 'SonarQube Scanner' plugin (version 2.15) with a description: 'This plugin allows an easy integration of SonarQube, the open source platform for Continuous Inspection of code quality.' Below the plugin details, the 'Install without restart' button is highlighted with a green circle.

- Now login into sonar cloud/sonar qube and generate token from Account => Security => Generate a new token

The screenshot shows the SonarCloud user profile for 'shaikkhajaibrahim'. The 'Security' tab is selected. Under the 'Tokens' section, there is a description: 'If you want to enforce security by not providing credentials of a real SonarCloud user to run your code scan or to invoke web services, you can provide a User Token as a replacement of the user login. This will increase the security of your installation by not letting your analysis user's password going through your network.' Below this, the 'Generate Tokens' section has a text input field labeled 'Enter Token Name' and a 'Generate' button.

- Now Add SonarQube Server to Jenkins

The screenshot shows the Jenkins 'Dashboard' > 'Manage Jenkins' > 'Configure System' page. Under the 'SonarQube servers' section, there is a checkbox for 'Environment variables' which is currently unchecked. Below this, the 'SonarQube installations' section has a list of installations and an 'Add SonarQube' button, which is highlighted with a green circle. Below the 'Add SonarQube' button, a form is shown for adding a new installation. The form fields are: 'Name' (SONAR_CLOUD), 'Server URL' (https://sonarcloud.io), and 'Server authentication token' (Token of Sonar Cloud). There are 'Add', 'Advanced...', 'Save', and 'Apply' buttons at the bottom of the form.

- [Refer Here](#) for the declarative pipeline to perform sonar analysis for spring petclinic
- [Refer Here](#) for sonar qube with jenkins and [Refer Here](#) for azure devops

- Once we scan our application with sonar qube we get the report which is accesible from jenkins

Dashboard > Declarative > springpetclinic-declarative >

Configure
Delete Pipeline
Full Stage View
SonarQube
Rename
Pipeline Syntax
Git Polling Log

Last Successful Artifacts
spring-petclinic-3.0.0-SNAPSHOT.jar
52.38 MB
view

Test Result
Passed
Skip

Stage View

Build History trend

Filter builds... /

Build	Time	Status
#7	Mar 5, 2023, 4:22 AM	Success
#6	Mar 5, 2023, 4:18 AM	Success
#5	Mar 5, 2023, 4:13 AM	Failed

Average stage times:
(Average full run time: ~1min 34s)

Stage	Time
Declarative: Checkout SCM	522ms
vcs	475ms
package	27s

Success
Logs

SonarQube Quality Gate

petclinic **Passed**
server-side processing: **Success**

Latest Test Result (no failures)

Permalinks

- Last build (#6), 3 min 7 sec ago
- Last stable build (#6), 3 min 7 sec ago
- Last successful build (#6), 3 min 7 sec ago
- Last failed build (#5), 8 min 34 sec ago
- Last unsuccessful build (#5), 8 min 34 sec ago
- Last completed build (#6), 3 min 7 sec ago

- To make code secure organizations add more rules than what exist by default [Refer Here](#)

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