

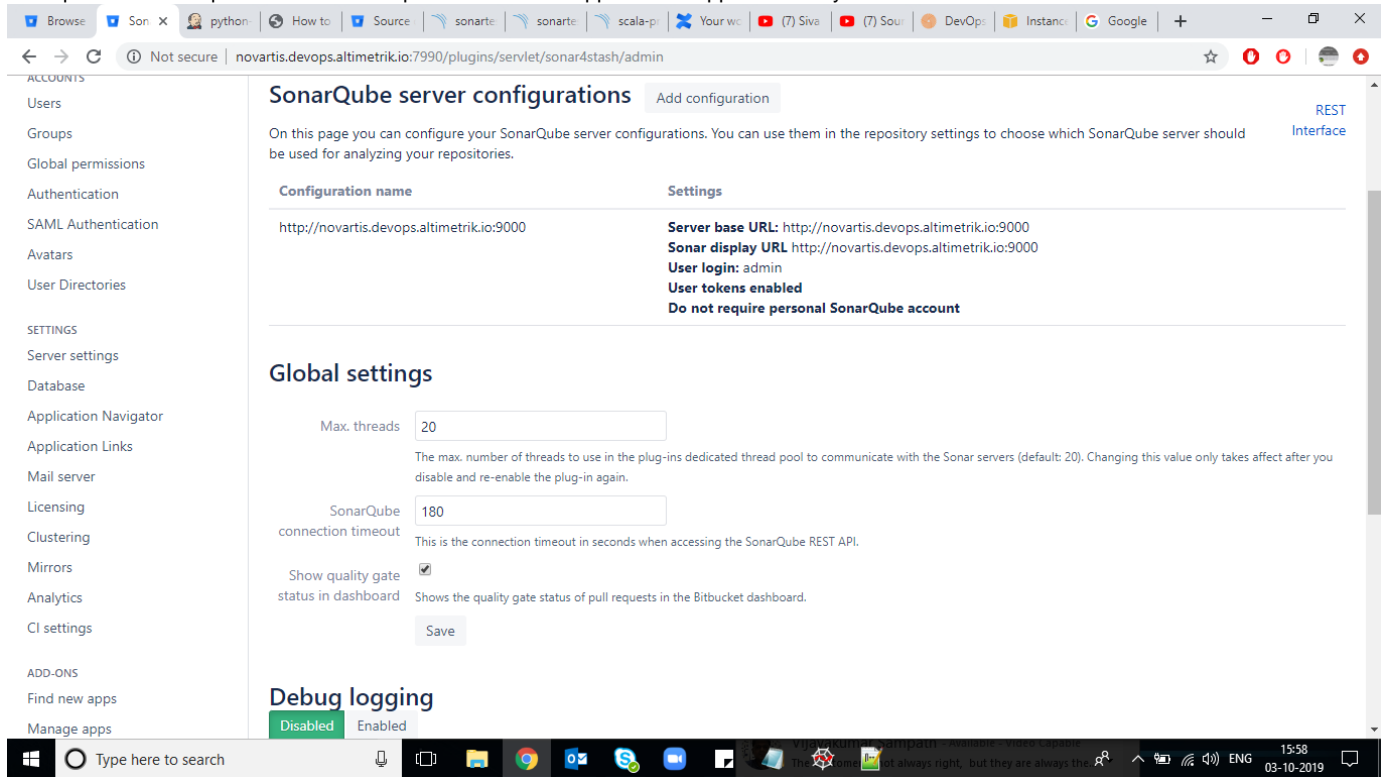
# How to Bitbucket + Sonarqube integration:-

## Prerequisite:

1. Jenkins scala job
2. Bit-bucket repository.
3. sonarqube installation server

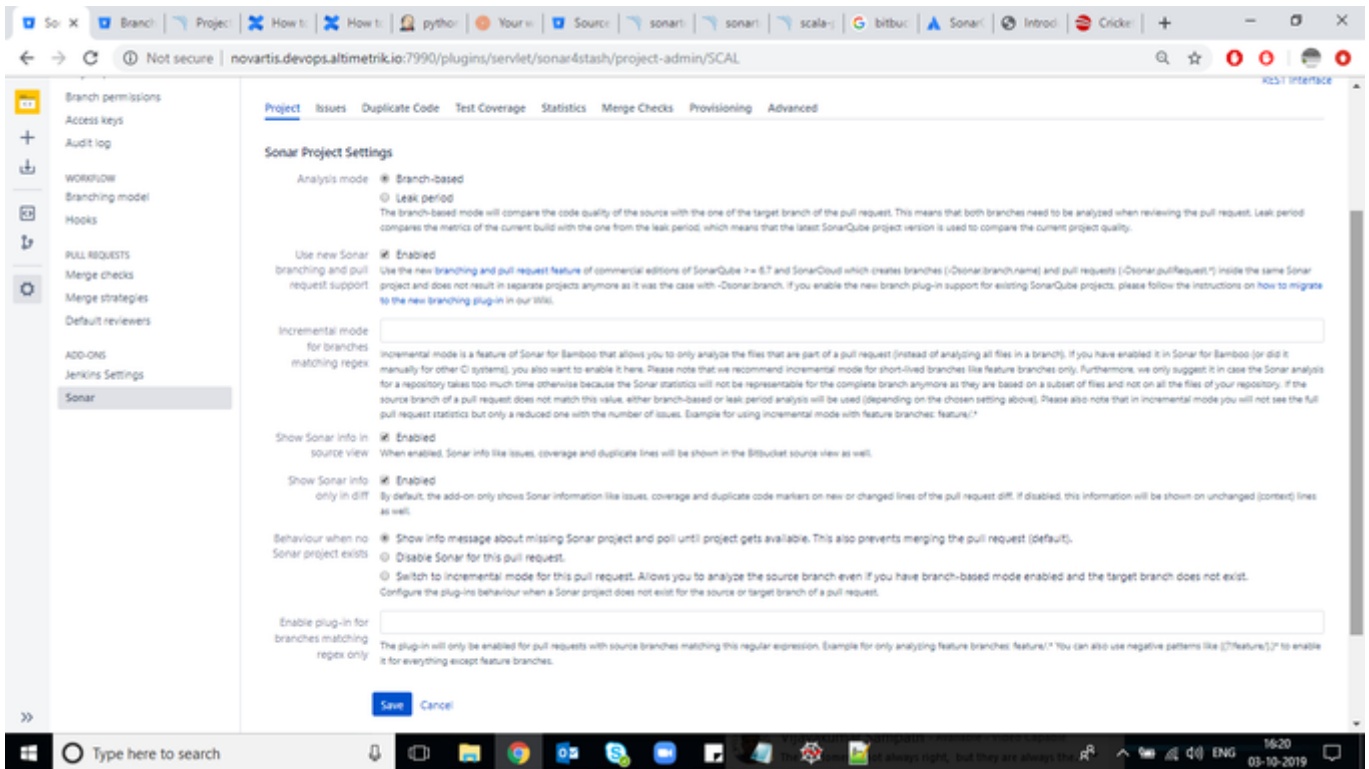
## Bitbucket configurations for sonarqube:-

1.setup a Bitbucket repo and install sonarqube for Bitbucket app in find a app. after that you can able to see like below.

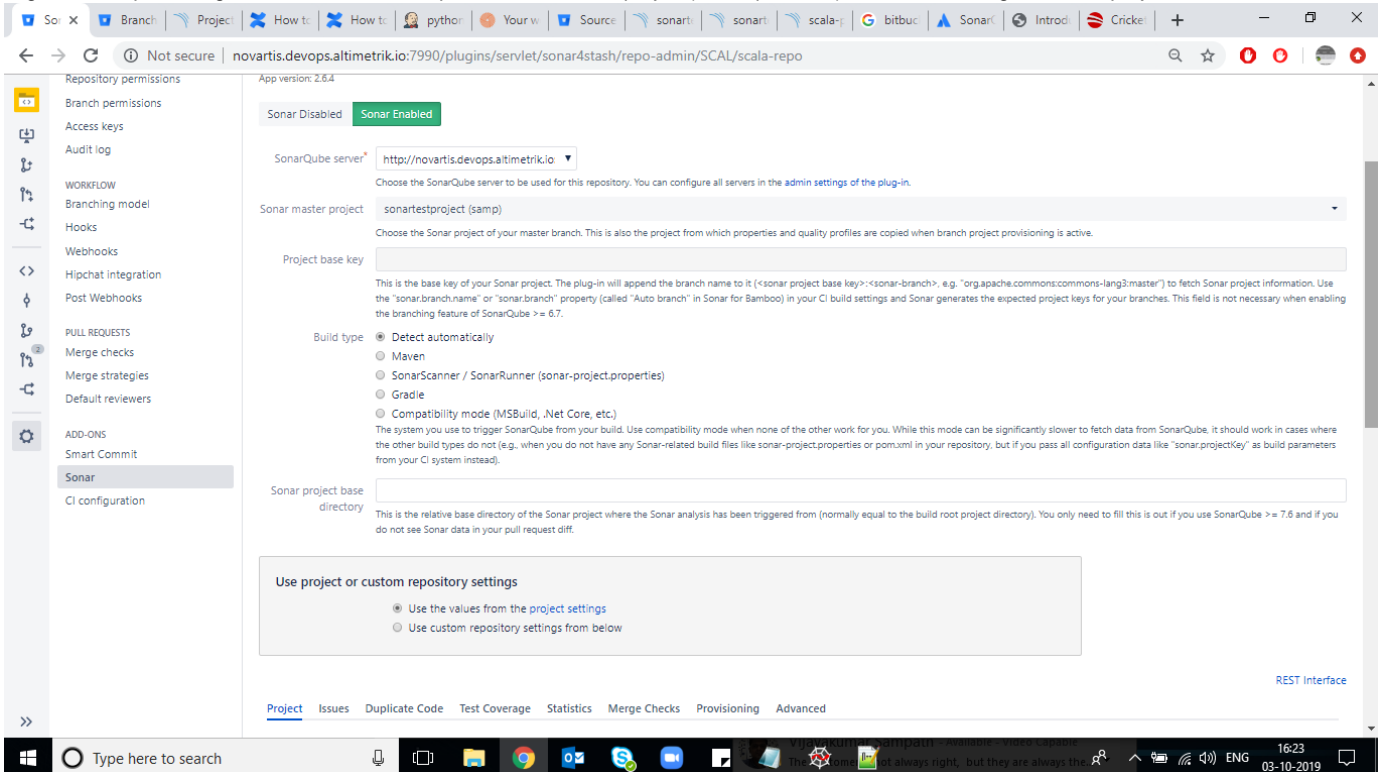


The screenshot displays the SonarQube server configurations page. The left sidebar contains navigation links for ACCOUNTS (Users, Groups, Global permissions, Authentication, SAML Authentication, Avatars, User Directories) and SETTINGS (Server settings, Database, Application Navigator, Application Links, Mail server, Licensing, Clustering, Mirrors, Analytics, CI settings). The main content area is titled 'SonarQube server configurations' and includes an 'Add configuration' button. Below the title, there is a table with two columns: 'Configuration name' and 'Settings'. The configuration name is 'http://novartis.devops.altimetrik.io:9000'. The settings listed are: 'Server base URL: http://novartis.devops.altimetrik.io:9000', 'Sonar display URL http://novartis.devops.altimetrik.io:9000', 'User login: admin', 'User tokens enabled', and 'Do not require personal SonarQube account'. Below the table, there is a 'Global settings' section with two input fields: 'Max. threads' set to 20 and 'SonarQube connection timeout' set to 180. Below these fields, there is a checkbox for 'Show quality gate status in dashboard' which is checked. A 'Save' button is located below the checkbox. At the bottom, there is a 'Debug logging' section with a toggle switch set to 'Disabled'.

2.go to project setting and click the sonar app and make the changes as below and rest of them while keep as default.



3. go to the repo setting and enable the sonarqube and select the project(sonarqube test) and leave settings from the project inheritance.



4. now go to the source code and observe the dashboards, you can find the branch status of last build of sonarqube and also observe the branch status of sonarqube.

Bitbucket Projects Repositories

Search for code, commits or repositories...

master **HAS PASSED**

Reliability **A** 0 bugs +0

Security **A** 0 vulnerabilities +0

Maintainability **A** 0 code smells +0

Coverage **0%** +0%

Duplications **0%** +0%

Size **XS** 9 LOCs +0

Last analysis: 1 min ago

scala-testing-for-CD / scala-repo

### Source

master scala-repo /

Source Description Last Modified

.idea		
project		
src		
target		
build.sbt	build.sbt edited online with Bitbucket	3 days ago
Hello\$.class	added files	3 days ago
Hello.class	added files	3 days ago
HelloWorld.txt	added files	3 days ago

Bitbucket Projects Repositories

Search for code, commits or repositories...

scala-testing-for-CD / scala-repo

### Branches

master Filter branches

Learn more

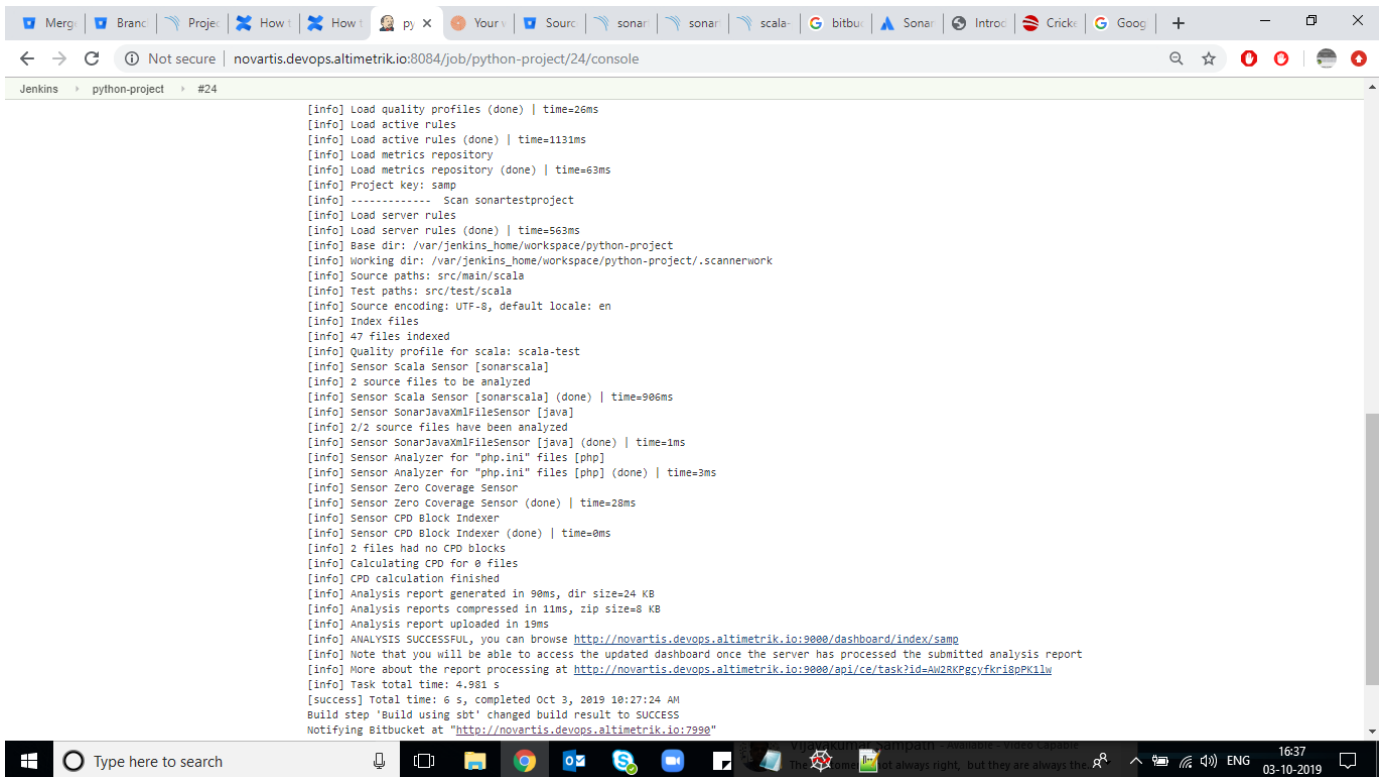
Branch	Last tag	Behind/Ahead	Updated	Pull requests	Issues	Builds	Sonar	Actions
feature/NDT-7-scala-repo		2 / 2	2 days ago	<b>OPEN</b>	NDT-7	<b>UNKNOWN</b>		...
development		1	2 days ago			<b>UNKNOWN</b>		...
master <b>DEFAULT BRANCH</b>			3 days ago	<b>OPEN</b>		<b>SUCCESS</b>		...
feature/trigger-a-build		Up to date	3 days ago			<b>UNKNOWN</b>		...
feature/NDT-2-test-story		Up to date	3 days ago		NDT-2	<b>UNKNOWN</b>		...

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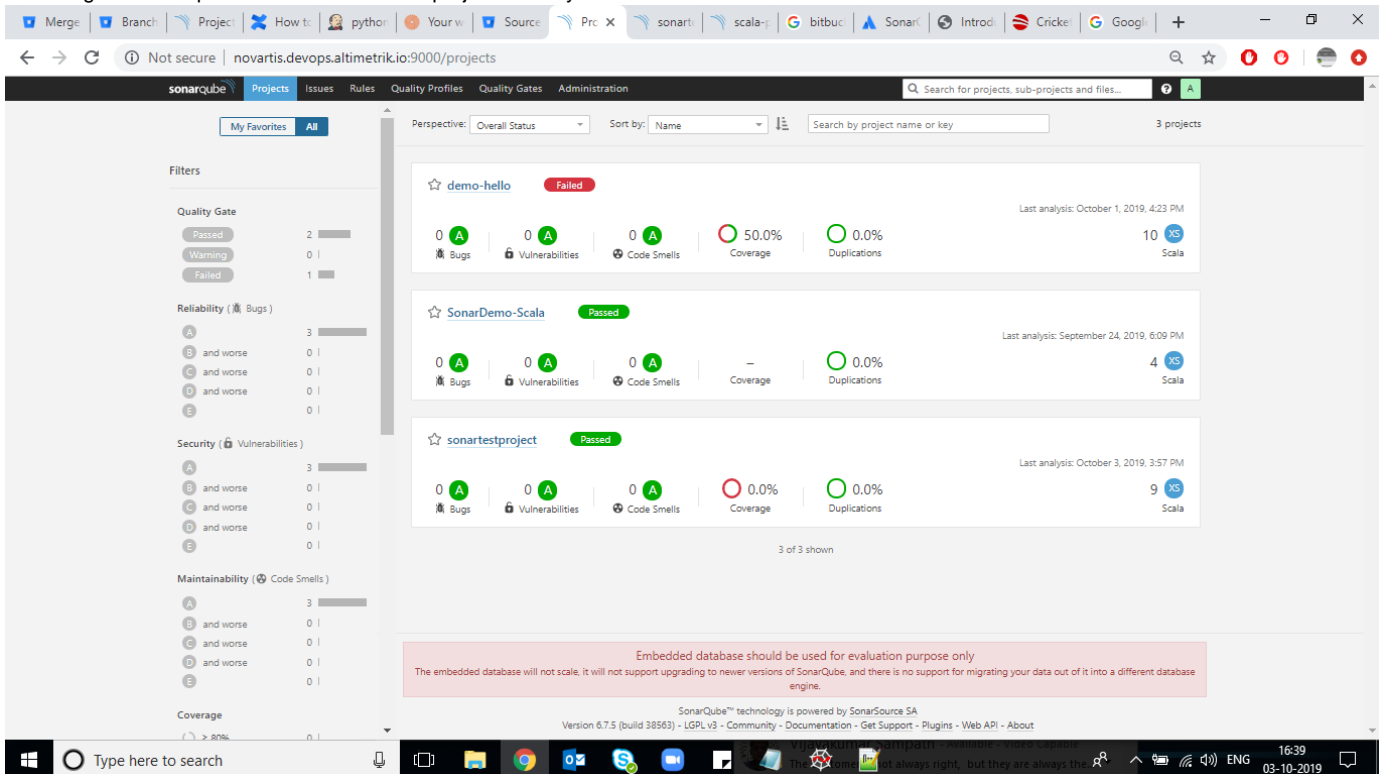
Generated by 946e91f6-31b5-436c-88f7-ed0a54638740. Cluster contains one node.

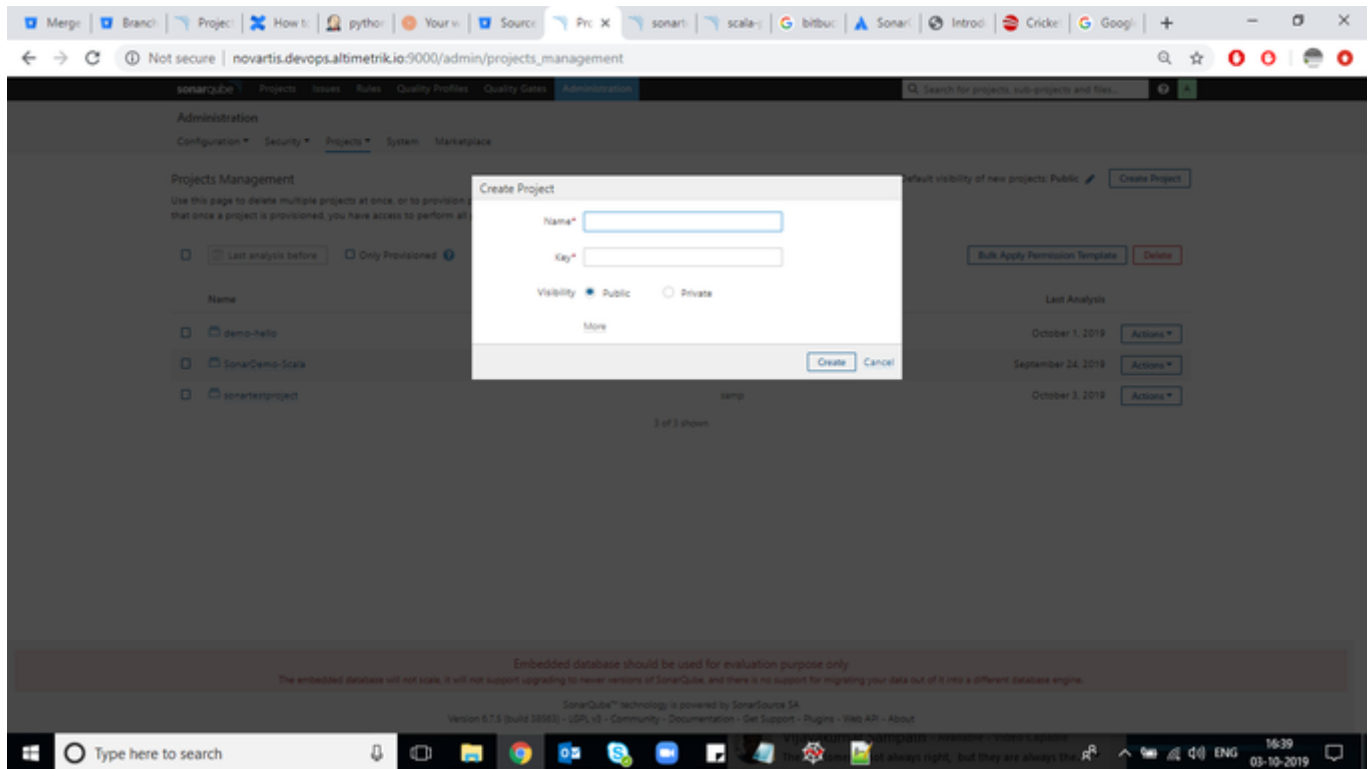




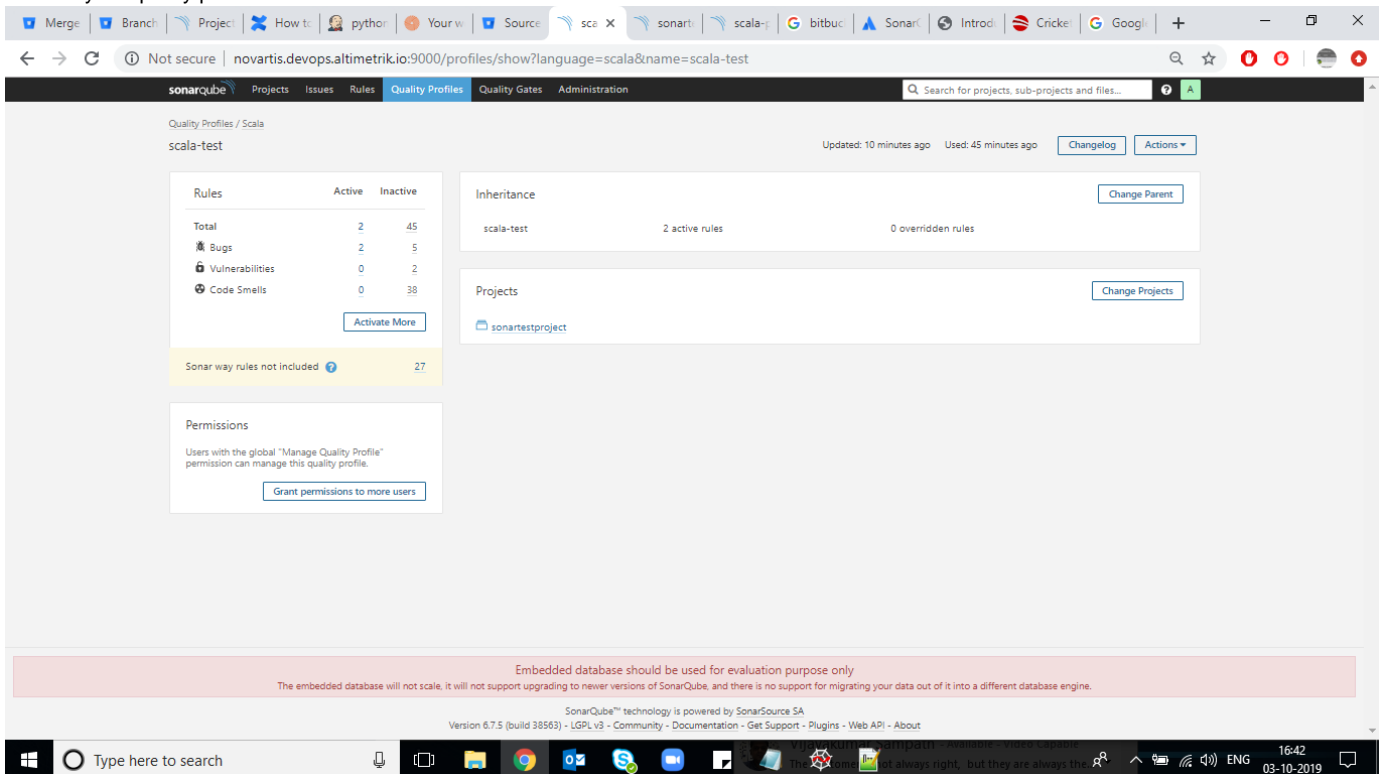
## sonarqube configurations:

1. go to sonarqube server and create a project and key value as below.





2. create quality profile and click the project type, you can able to see the profile in corresponding language and click it, you can able to see the rules on your quality profile.



The screenshot shows the SonarQube 'Quality Profiles' page. A 'New Profile' dialog is open, allowing the creation of a new profile. The dialog has fields for 'Name' and 'Language'. The 'Language' dropdown is open, showing options: C#, Flex, Java, JavaScript, PHP, Python, Scala, TypeScript, and XML. The background shows a list of existing profiles for various languages like C#, Flex, Java, JavaScript, and PHP, each with columns for Projects, Rules, Updated, and Used.

3. create quality gates for this scala project and assign it to your corresponding project, create quality parameter and assign the value as below.

The screenshot shows the SonarQube 'Quality Gates' page. A new quality gate named 'scala-project' is being configured. The 'Conditions' section shows two conditions: 'Condition Coverage' and 'Line Coverage', both set to 'is greater than' with thresholds of 70 and 50 respectively. The 'Projects' section shows the gate is assigned to the 'sonartestproject'.

Metric	Over Leak Period	Operator	Warning	Error
Condition Coverage	<input checked="" type="checkbox"/>	is greater than	70	
Line Coverage	<input checked="" type="checkbox"/>	is greater than	50	

The image displays two screenshots of the SonarQube web interface, specifically the 'Quality Gates' configuration page for a project named 'scala-project'.

**Top Screenshot:** The 'Add Condition' dropdown menu is open, showing a list of metrics that can be added to the quality gate. The metrics listed include Cognitive Complexity, Cyclomatic Complexity, Coverage, Condition Coverage, Condition Coverage on New..., Conditions to Cover, Conditions to Cover on New..., Coverage, Coverage on New Code, and Line Coverage.

**Bottom Screenshot:** The 'Conditions' table is visible, showing the configured quality gates. The table has columns for Metric, Over Leak Period, Operator, Warning, and Error. The configured conditions are:

Metric	Over Leak Period	Operator	Warning	Error
Condition Coverage	<input checked="" type="checkbox"/>	is greater than	70	
Line Coverage	<input checked="" type="checkbox"/>	is greater than	50	

Below the table, there is an 'Add Condition' dropdown menu. The 'Projects' section is also visible, showing a list of projects with checkboxes:

Project	Selected
SonarDemo-Scala	<input type="checkbox"/>
demo-hello	<input type="checkbox"/>
sonartestproject	<input checked="" type="checkbox"/>

4. now trigger a build in jenkins and observe the changes in repository and sonarqube.

if the build has not passed the quality gates it shows like WARNING and passed it shows -PASSED.



Bitbucket Projects Repositories

scala-testing-for-CI/CD / scala-repo

## Branches

master ... Filter branches

Branch

- feature/NDT-7-scala-repo
- development
- master DEFAULT BRANCH
- feature/trigger-a-build
- feature/NDT-2-test-story

### Sonar quality gate status

Sonar project: sonartestproject

Overall status: **WARNING**

- WARN** Duplicated lines: 0 < 10
- WARN** Major issues: 0 < 20
- WARN** Code Smells: 0 < 20

Close

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15:54 03-10-2019

Bitbucket Projects Repositories

scala-testing-for-CI/CD / scala-repo

## Branches

master ... Filter branches

Branch

- feature/NDT-7-scala-repo
- development
- master DEFAULT BRANCH
- feature/trigger-a-build
- feature/NDT-2-test-story

### Sonar quality gate status

Sonar project: sonartestproject

Overall status: **SUCCESS**

**All good!**

No quality gates with errors or warnings found

Close

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15:59 03-10-2019

Bitbucket Projects Repositories

Search for code, commits or repositories...

master **HAS PASSED**

Reliability **A** 0 bugs +0

Security **A** 0 vulnerabilities +0

Maintainability **A** 0 code smells +0

Coverage **0%** +0%

Duplications **0%** +0%

Last analysis: 1 hour ago

Size **XS** 9 LOC +0

scala-testing-for-CI/CD / scala-repo

Source

master scala-repo /

Source Description Last Modified

- .idea
- project
- src
- target
- build.sbt build.sbt edited online with Bitbucket 3 days ago
- Hello\$.class added files 3 days ago
- Hello.class added files 3 days ago
- HelloWorld.txt added files 3 days ago
- README.md.txt added files 3 days ago
- README.md.txt

Initial commit

now go to project check the dashboard i.e quality gate and quality profile in right side.

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration

Search for projects, sub-projects and files...

sonarqubeproject master

Overview Issues Measures Code Activity Administration

Quality Gate **Passed**

Bugs Vulnerabilities

Leak Period: since previous version started 3 days ago

Bugs Vulnerabilities New Bugs New Vulnerabilities

Code Smells

Debt Code Smells New Debt New Code Smells

Coverage

Duplications

Activity

October 3, 2019

not provided

Quality Gate: Green (was Orange)

October 3, 2019

Project Analyzed

October 3, 2019

Quality Gate: Orange (was Red)

Quality Profile: Stop using 'Sonar way' (Scala)

Quality Profile: Use 'scala-test' (Scala)

Show More

Quality Gate

scala-project

Quality Profiles

(Scale) scala-test

http://novartis.devops.altimetrik.io:7990

http://novartis.devops.altimetrik.io:8080

http://novartis.devops.altimetrik.io:8084/

Key

scala

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

Search for projects, sub-projects and files...

sonartestproject master October 3, 2019, 3:57 PM Version not provided

Overview Issues Measures Code Activity Administration

Project Overview

- Reliability
- Security
- Maintainability
- Coverage
- Duplications
- Size
- Complexity
- Issues

Cyclomatic Complexity 1

src/main/scala/CubeCalculator.scala 1

src/main/scala/com/helloworld/HelloWorld.scala 0

2 of 2 shown

Leak Period: since previous version

Embedded database should be used for evaluation purpose only

The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.

SonarQube™ technology is powered by SonarSource SA

Version 6.7.5 (build 38563) - LGPL v3 - Community - Documentation - Get Support - Plugins - Web API - About

Type here to search

sonarqube

Projects Issues Rules Quality Profiles Quality Gates Administration

Search for projects, sub-projects and files...

sonartestproject master October 3, 2019, 3:57 PM Version not provided

Overview Issues Measures Code Activity Administration

Filter events... X From To Reset dates

not provided

October 3, 2019

- 3:57 PM Quality Gate: Green (was Orange) Version: not provided
- 3:56 PM
- 3:49 PM Quality Gate: Orange (was Red) Quality Profile: Stop using 'Sonar way' (Scala) Quality Profile: Use 'scala-test' (Scala)

October 1, 2019

- 9:01 AM Quality Gate: Red (was Green)

September 30, 2019

- 5:39 PM

Coverage

Lines to Cover Covered Lines

2

0

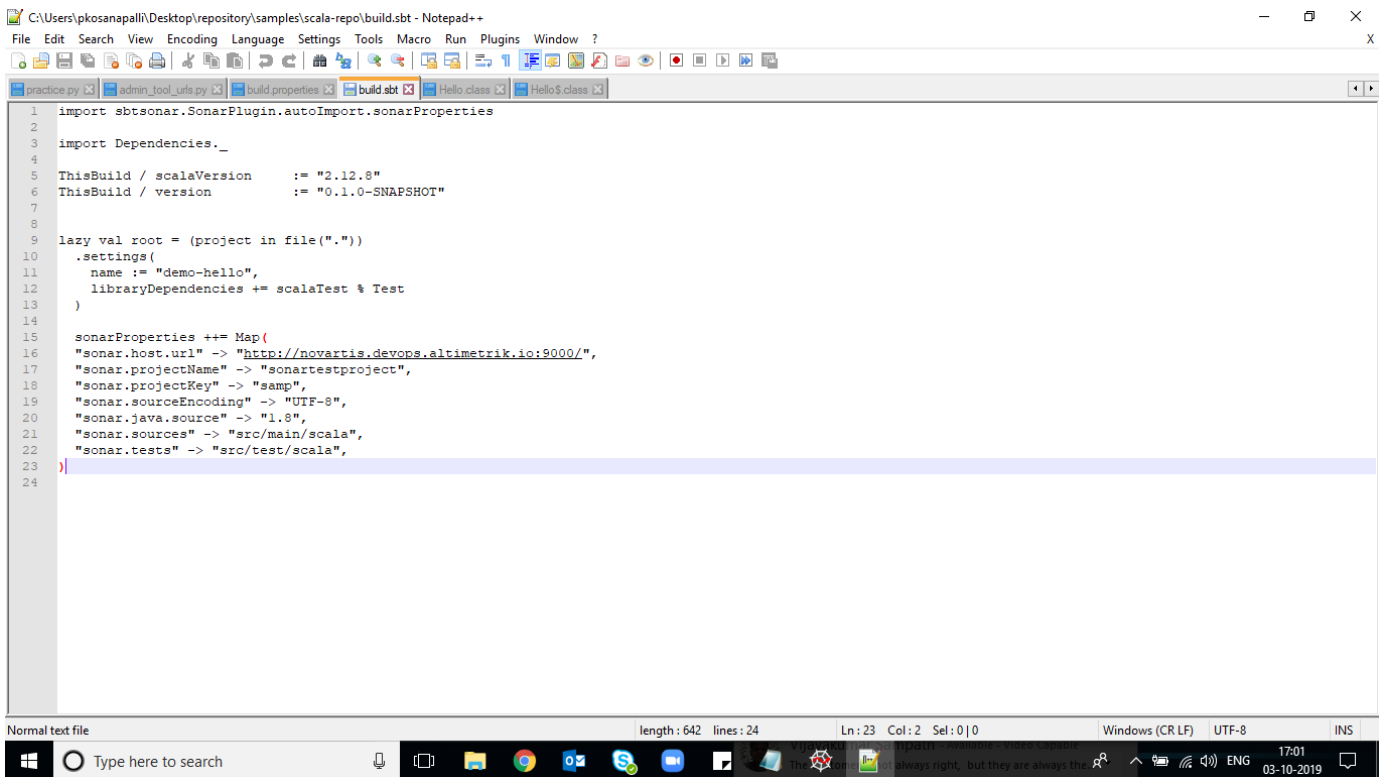
October 12 PM Wed 02 12 PM Thu 03

October 12 PM Wed 02 12 PM Thu 03

Embedded database should be used for evaluation purpose only

5.now the build is passed, now you can merge the build to master.

6. you need to made a change in build tool like below.



```
1 import sbtsonar.SonarPlugin.autoImport.sonarProperties
2
3 import Dependencies._
4
5 ThisBuild / scalaVersion      := "2.12.8"
6 ThisBuild / version           := "0.1.0-SNAPSHOT"
7
8
9 lazy val root = (project in file("."))
10 .settings(
11   name := "demo-hello",
12   libraryDependencies += scalaTest % Test
13 )
14
15 sonarProperties ++= Map(
16   "sonar.host.url" -> "http://novartis.devops.altimetrik.io:9000/",
17   "sonar.projectName" -> "sonartestproject",
18   "sonar.projectKey" -> "samp",
19   "sonar.sourceEncoding" -> "UTF-8",
20   "sonar.java.source" -> "1.8",
21   "sonar.sources" -> "src/main/scala",
22   "sonar.tests" -> "src/test/scala",
23 )
24
```

Normal text file      length: 642   lines: 24      Ln: 23   Col: 2   Sel: 0 | 0      Windows (CR LF)   UTF-8   INS

you need to mention the sonarproject in build tool as above.

thats done all !!!