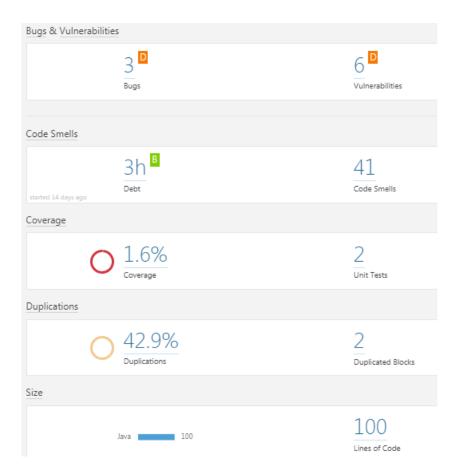




- > It is a code review tool.
- Using for code quality checks.
- It analyzes your source code and displays the results on sonar dashboard.
- ➤ It provide reports on duplicated code, coding standards, unit tests, code coverage, complex code, potential bugs, comments and design and architecture.
- > Stores the results into a relational database. By default embedded with H2 database.

Sonar dashboard looks like below.





Code Quality Checks

- Code Analysis
- Code Coverage
- Quality Gates

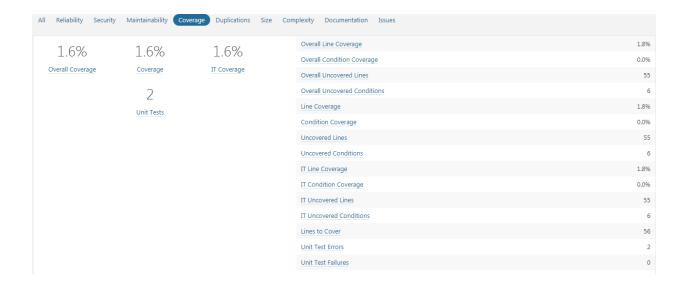
Code Analysis:

In part of code analysis below things are captured.

- Coding standards
- Duplication of code
- > Size of the code i.e Lines of Code
- > number of lines of code (NLOC),
- number of lines per class
- Dead code
- Complex Expressions
- Potential bugs
- > performance problems

Code coverage:

- Code coverage is an indication of how much of your application code is actually executed during your tests
- ➤ It can be a useful tool in particular for finding areas of code that have not been tested by your test suites.
- It can also give some indication as to how well a team is applying good testing practices.





Quality Profile:

What are rules to apply during analysis.

Quality gateway:

> Add measurements/threshold for your project.

eg: Code coverage should be more than 80%. If not, fail the build If have more 5 critical bugs in your code then fail the job.

Benefits:

- Less bugs, and is easier to understand and easier to maintain.
- > The code will be more readable for new developers on the team.

Configuration:

Required Software's.

- Jdk-1.8 and maven 3.3 and later.
- > Database. H2, MySQL, Oracle.
- Sonar host details as to provide in setting.xml (OR) pom.xml (OR) maven targets.

In setting.xml, Add sonar host profile under profiles sections.



In pom.xml also can provide host details.

properties>

<!-- SONAR SERVER ON A REMOTE HOST -->
<sonar.host.url>http://ipaddr:9000</sonar.host.url>

In Maven Targets

mvn sonar: sonar -Dsonar.host.url=http://localhost:9000/

Commands:

// To do Code analysis

mvn sonar: sonar

mvn sonar: sonar -Dsonar.login=**** -Dsonar.password=****

//To do code coverage

mvn clean org.jacoco:jacoco-maven-plugin:prepare-agent install sonar: sonar

Download Link:

https://www.sonarqube.org/downloads/

Download: SonarQube 6.0

Default Sonar URL:

http://localhost:9000 // To Access SonarQube Web Console

Cred: admin/admin // Default Credentials

Installation:

Easy way is Using Docker image

- 1 yum update -y
- 2 yum install docker
- 3 docker info
- 4 service docker start
- 5 chkconfig docker on
- 7 docker --version
- 8 docker run -d --name sonarqube -p 9000:9000 sonarqube



In Linux

- 1. yum install wget -y
- 2. wget http://repo.mysql.com/mysql-community-release-el7-5.noarch.rpm
- 3. rpm -ivh mysql-community-release-el7-5.noarch.rpm
- 4. yum update -y
- 5. yum install mysql-server
- 6. service mysqld start
- 7. mysql -u root -p // bash not found
- 8. SHOW GLOBAL VARIABLES LIKE 'storage_engine'
- 9. CREATE USER 'sonarqube'@'localhost' IDENTIFIED BY 'password';
- 10. CREATE DATABASE sonarqube;
- 11. GRANT ALL PRIVILEGES ON sonarqube.* TO 'sonarqube'@'localhost';
- 12. Open /etc/my.cnf file and under [mysqld] section add the query cache parameter.

query_cache_size = 15M

- 13. cd /opt
- 14. wget https://sonarsource.bintray.com/Distribution/sonarqube/sonarqube-6.0.zip
- 15. yum install unzip -y
- 16. yum install java-1.8.0-openjdk -y
- 17. unzip sonarqube-6.0.zip
- 18. mv sonarqube-6.0 sonarqube
- 19. Open /opt/sonarqube/conf/sonar.properties, uncomment and edit the parameters as shown below. Change the password accordingly.

sonar.jdbc.username=sonarqube

sonar.jdbc.password=password

sonar.jdbc.url=jdbc:mysql://localhost:3306/sonarqube?useUnicode=true&characterEncoding=utf8&rewriteBatchedStatements=true&useConfigs=maxPerformance

20. By default, sonar will run on 9000. If you want on port 80 or any other port, change the following parameters for accessing the web console on that specific port

sonar.web.host=0.0.0.0 sonar.web.port=80

21. If you want to access sonarqube some path like http://url:/sonar, change the following parameter.

sonar.web.context=/sonar

- 22. cd /opt/sonarqube/bin/linux-x86-64
- 23. ./sonar.sh start



In Windows

Step 1:

Download SonarQube 6.0

https://www.sonarqube.org/downloads/

Feb. 17, 2017

Long Term Supported version, requires Java 8 to run, wraps together and Security, and always more Developer-Oriented Features.

 \star LTS stands for Long Term Support. Blocker and Critical issues will be fixed or bac LATEST version.

<u>Documentation</u> – <u>Screenshots</u> – <u>Release notes</u> – <u>More details</u>



SonarQube 6.2 - Dec 14, 2016

New Projects page, enhanced Issues pages, new landing page for non rating support in Quality Gates

Download (md5) - Documentation - Screenshots - Release notes

SonarQube 6.1 - Oct 13, 2016

Redesign of the Settings domain with new UI and dedicated Web Serv SonarQube

Download (md5) - Documentation - Screenshots - Release notes

SonarQube 6.0 - Aug 4, 2016

Tracking of file move/renaming, better management of quality profiles onboarding for new projects, CSRF fix for Java WS-based pages, Elast

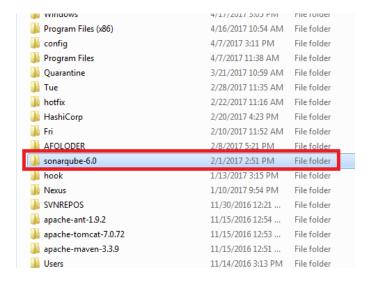
Download (md5) - Documentation - Screenshots - Release notes



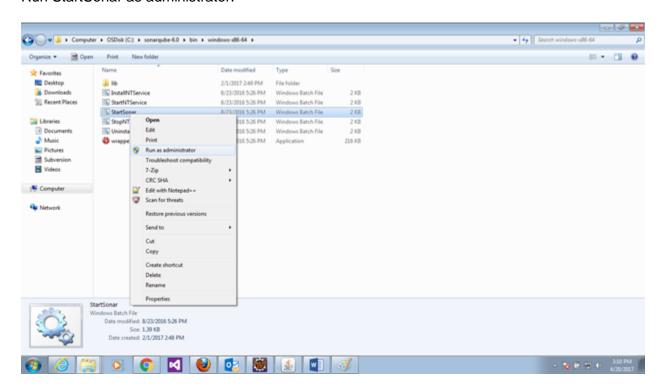


Step 2:

Place in c drive



Run StartSonar as administrator.



Step 3: access the url

http://localhost:9000/admin/admin

