SonarQube - Training

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sonarqube - Agenda

- ✓ Introduction
- ✓ Pre Requisites
- ✓ Architecture
- ✓ Installation
- ✓ Executing
- ✓ Rules
- ✓ Quality Profiles
- ✓ Quality Gates
- ✓ Users Creation

sonarqube - Introduction

Type	Continuous Code Quality
Vendor	Sonar
Is Open Source?	Yes for some languages
Version	7.x
Operating system	Cross Platform
Is executable software?	No, download as zip, extract and use it.
Reference Websites	1)

sonarQube - Introduction

- SonarQube (previously called Sonar) is an open source software quality management tool.
- It will continuously analyze and measures quality of the source code.
- I will generate the report if any issues in html format/PDF format.
- It is a web based tool supports multiple languages (Java, C#, JS …)
- It will support multi OS platform (Windows. MAC, Linux…).
- It will support multiple databases (MySQL, Oracle, Microsoft SQL Server, PostgreSQL ..)
- Supports multiple browsers (IE, Microsoft Edge, FF, Chrome, Safari)
- It will identifies the below category of issues.

  Duplicated code
  Coding standards
  Unit tests
  Complex code
  Comments
  Potential Bugs
  Architecture & Design

sonarqube - Introduction cont…

- ➤ Initially it is developed only for Java projects.
- ➤ Today it is supporting over twenty languages.

Commercial: ABAP, Cfamily(C, C++, and Objective-C), COBOL, PL/SQL, Visual Basic, Natural, VB.Net, RPG, Swift ..

Open source: Java, Java Script, C#, Web(HTML, JSP, JSF, ..) XML, Python, Groovy, PHP, Puppet, Lua, Groovy, FxCop, Flex, Erlang …

sonarQube - Pre Requisites

❖ The only prerequisite for running SonarQube v6.2 is to have Java (Oracle JRE 8 onwards or OpenJDK 8 onwards) installed on your machine.

➢ Java 8 onwards
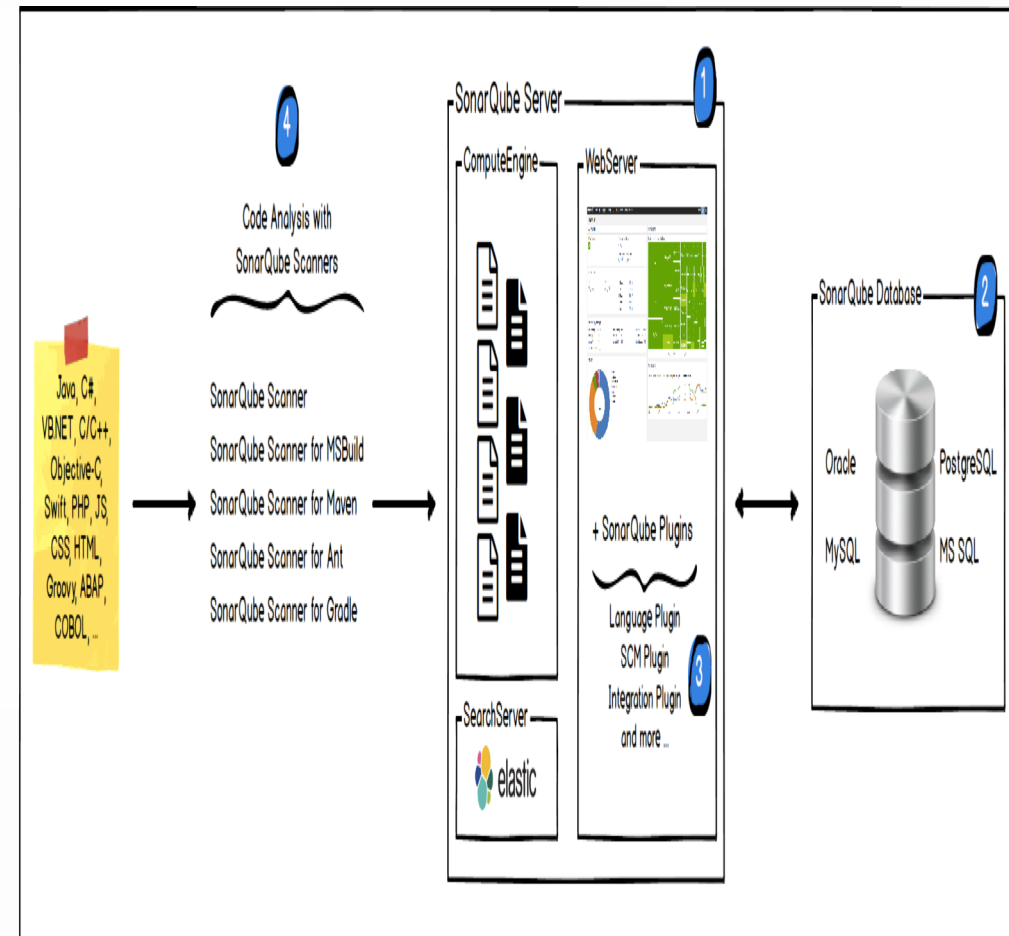➢ MySQL DB 5.6 onwards - Optional
➢ Oracle 11g onwards - Optional

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sonarQube - Architecture

The SonarQube Platform is made of 4 components:

One **SonarQube Server** starting 3 main processes:

1) a **Web Server**
   a **Search Server**
   a **Compute Engine Server**

2) **SonarQube Database**

3) Multiple **SonarQube Plugins**

4) One or more **SonarQube Scanners**

Step 0: Down load the SonarQube and Sonar Scanner software.
SonarQube: https://www.sonarqube.org/downloads/
Sonar Scanner: https://docs.sonarqube.org/display/SCAN/Analyzing+with+SonarQube+Scanner

Step 1: Set the class path for Sonar Scanner
#vim ~/.bash_profile
export SONAR_SCANNER_HOME=/opt/sonar-scanner-2.8
export PATH=${PATH}:${SONAR_SCANNER_HOME}/bin

After setting check with below command weather class path set or not?
#sonar-scanner –v
Enter the following command in a terminal to print all the environment variables:
#printenv -- > In Lilux/MAC and #echo %PATH% ---> For Windows

To dispaly the specific variable value.
#echo $SONAR_SCANNER_HOME -- > In Lilux/MAC and #echo % SONAR_SCANNER_HOME % ---> For Windows

sonarqube - Installation Cont..

Step 2: Optional
Update the DB Name and credentials in sonar.properties in /opt/sonarqube-6.2/conf/ directory

```
#vim /opt/sonarqube-6.2/conf/sonar.properties
# User credentials.
# Permissions to create tables, indices and triggers must be granted to JDBC user.
# The schema must be created first.
sonar.jdbc.username=sonar
sonar.jdbc.password=sonar

#----- MySQL 5.6 or greater
# Only InnoDB storage engine is supported (not myISAM).
# Only the bundled driver is supported. It can not be changed.
sonar.jdbc.url=jdbc:mysql://localhost:3306/sonar?useUnicode=true&characterEncoding=utf8&rewriteBatchedStatements=true&useCo
s=maxPerformance
```

Step 3:
Update the sonar-scanner.properties /opt/sonar-scanner-2.8/conf/ directory
```
#vim /opt/sonar-scanner-2.8/conf/sonar-scanner.properties
sonar.host.url=http://localhost:9000
```

sonarqube - Installation Cont..

Step 4: Run the SonnarQube as follows

MAC
====
cd /Users/BhaskarReddy/BhaskarReddyL/Softwares/SonarQube/sonarqube-6.0/bin/macosx-universal-64
#sh sonar.sh start   ---> To start the Sonarqube server
#sh sonar.sh status ---> To check the status of the Sonarqube server
#sh sonar.sh restart ---> To restart the Sonarqube server
#sh sonar.sh stop   ---> To stop the Sonarqube server

Windows
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StartSonar.bat

sonarqube - Installation Cont..

Step 5: Create the file name as sonar-project.properties in target project where you need to run the reports and paste the below entries.

Create a configuration file in the root directory of the project: sonar-project.properties

```
# Root project information
sonar.projectKey=COREJAVA
sonar.projectName=Core Java Practices
sonar.projectVersion=1.0

# Some properties that will be inherited by the modules
sonar.sources=src

# List of the module identifiers
#sonar.modules=module1,module2
```

sonarqube - Installation Cont..

Step 6:
Go to the project path

cd /Users/BhaskarReddy/BhaskarReddyL/Education/Trainings/JavaProjectsWorkspace

>sonar-scanner

To see in Dash board with all issues use below URL.
http://localhost:9000/

Questions ?

Thank you
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