

CICD EXPERIMENT – 4

Static code analysis using Sonarqube

1. Visit sonarqube.org/download and download sonarqube

sonarqube Product What's New Documentation Community

The starting point for adopting code quality in your CI/CD

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All the following features:

- ✓ Static code analysis for 15 languages
Java, JavaScript, C#, TypeScript, Kotlin, Ruby, Go, Scala, Flex, Python, PHP, HTML, CSS, XML and VB.NET
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 - GitHub
 - Azure DevOps
 - Bitbucket
 - GitLab

2. Extract the zipped folder which is downloaded. In the extracted folder, go to bin, then to Windows-x86-64(if using windows as OS) and copy the path of the folder

Name	Date modified	Type	Size
lib	19-08-2020 19:41	File folder	
InstallNTService	19-08-2020 19:41	Windows Batch File	2 KB
StartNTService	19-08-2020 19:41	Windows Batch File	2 KB
StartSonar	19-08-2020 19:41	Windows Batch File	2 KB
StopNTService	19-08-2020 19:41	Windows Batch File	2 KB
UninstallNTService	19-08-2020 19:41	Windows Batch File	2 KB
wrapper	19-08-2020 19:41	Application	216 KB

3. Open command prompt and move to the copied location. Type the command “StartSonar.bat” to start sonarqube

```

SonarQube
Microsoft Windows [Version 10.0.19041.508]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Users\HP\Downloads\sonarqube-8.4.1.35646\sonarqube-8.4.1.35646\bin\windows-x86-64

C:\Users\HP\Downloads\sonarqube-8.4.1.35646\sonarqube-8.4.1.35646\bin\windows-x86-64>StartSonar.bat
wrapper --> Wrapper Started as Console
wrapper Launching a JVM...
jvm 1 Wrapper (Version 3.2.3) http://wrapper.tanukisoftware.org
jvm 1 Copyright 1999-2006 Tanuki Software, Inc. All Rights Reserved.
jvm 1 2020.10.05 19:46:26 INFO app[[o.s.a.AppFileSystem] Cleaning or creating temp directory C:\Users\HP\Downloa
s\sonarqube-8.4.1.35646\sonarqube-8.4.1.35646\temp
jvm 1 2020.10.05 19:46:26 INFO app[[o.s.a.es.EsSettings] Elasticsearch listening on /127.0.0.1:9001
jvm 1 2020.10.05 19:46:26 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[[key='es', ipcIndex=1, logFilename=
refix=es]] from [C:\Users\HP\Downloads\sonarqube-8.4.1.35646\sonarqube-8.4.1.35646\elasticsearch]: C:\Program Files\Java\
jdk-11.0.8\bin\java -XX:+UseConcMarkSweepGC -XX:CMSInitiatingOccupancyFraction=75 -XX:+UseCMSInitiatingOccupancyOnly -f
es.networkaddress.cache.ttl=60 -Des.networkaddress.cache.negative.ttl=10 -XX:+AlwaysPreTouch -Xss1m -Djava.awt.headless-
true -Dfile.encoding=UTF-8 -Djna.nosys=true -XX:-OmitStackTraceInFastThrow -Dio.netty.noUnsafe=true -Dio.netty.noKeySetO
ptimization=true -Dio.netty.recycler.maxCapacityPerThread=0 -Dlog4j.shutdownHookEnabled=false -Dlog4j2.disable.jmx=true
-Djava.io.tmpdir=C:\Users\HP\Downloads\sonarqube-8.4.1.35646\sonarqube-8.4.1.35646\temp -XX:ErrorFile=../logs/es_hs_err_
pid%p.log -Xmx512m -Xms512m -XX:+HeapDumpOnOutOfMemoryError -Delasticsearch -Des.path.home=C:\Users\HP\Downloads\sonarq
be-8.4.1.35646\sonarqube-8.4.1.35646\elasticsearch -Des.path.conf=C:\Users\HP\Downloads\sonarqube-8.4.1.35646\sonarqube-
8.4.1.35646\temp\conf\es -cp lib/* org.elasticsearch.bootstrap.Elasticsearch
jvm 1 Java HotSpot(TM) 64-Bit Server VM warning: Option UseConcMarkSweepGC was deprecated in version 9.0 and will b
likely be removed in a future release.
jvm 1 2020.10.05 19:46:26 INFO app[[o.s.a.SchedulerImpl] Waiting for Elasticsearch to be up and running
jvm 1 2020.10.05 19:46:29 INFO app[[o.e.p.PluginsService] no modules loaded
jvm 1 2020.10.05 19:46:29 INFO app[[o.e.p.PluginsService] loaded plugin [org.elasticsearch.transport.Netty4Plugin

```

- Now open “localhost:9000” in a web browser and enter the credentials

Log In to SonarQube

Log in
Cancel

- Change the directory to the Maven project whose code quality is to be accessed and run the command “mvn clean install sonar:sonar -Dsonar.host.url=http://localhost:9000 -Dsonar.analysis.mode=publish” in cmd
- Some dependencies would be downloaded and a build successful message would appear

```

[INFO] 2 source files to be analyzed
[INFO] Load project repositories
[INFO] Load project repositories (done) | time=64ms
[INFO] Sensor JavaXmlSensor [java] (done) | time=207ms
[INFO] 2/2 source files have been analyzed
[INFO] Sensor HTML [web]
[INFO] Sensor HTML [web] (done) | time=51ms
[INFO] Sensor XML Sensor [xml]
[INFO] 2 source files to be analyzed
[INFO] Sensor XML Sensor [xml] (done) | time=94ms
[INFO] 2/2 source files have been analyzed
[INFO] ----- Run sensors on project
[INFO] Sensor Zero Coverage Sensor
[INFO] Sensor Zero Coverage Sensor (done) | time=0ms
[INFO] SCM Publisher No SCM system was detected. You can use the 'sonar.scm.provider' property to explicitly specify it.
[INFO] CPD Executor 1 file had no CPD blocks
[INFO] CPD Executor Calculating CPD for 0 files
[INFO] CPD Executor CPD calculation finished (done) | time=0ms
[INFO] Analysis report generated in 64ms, dir size=83 KB
[INFO] Analysis report compressed in 16ms, zip size=13 KB
[INFO] Analysis report uploaded in 48ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=WebMaven%3AWebMaven
[INFO] Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AXTunSsmzTENMeB007LL
[INFO] Analysis total time: 8.019 s
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 11.148 s
[INFO] Finished at: 2020-10-03T18:48:31+05:30
[INFO] -----

```

7. At <http://localhost:9000/projects>, you will find your maven project and vulnerabilities will be accessed

