



Lab Experiment – 4

Static code analysis using SonarQube

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COURSE – B. Tech CSE- DevOps Batch 1

SUBJECT – Continuous Integration and Deployment

SEMESTER – 5th semester

Submitted To:

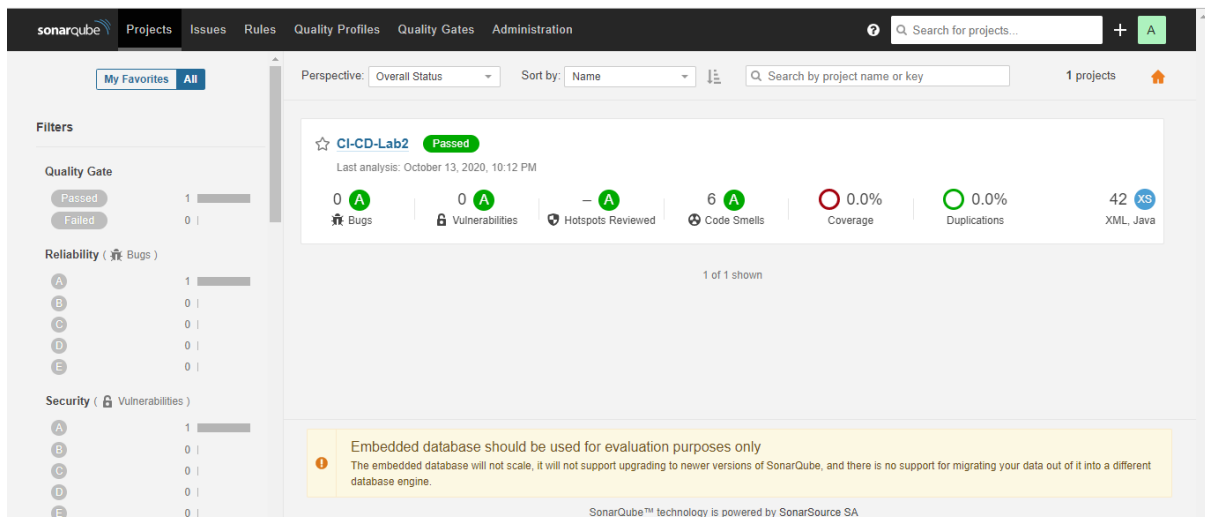
Dr. Hitesh Kumar Sir

Experiment for demonstrating Static code analysis using SonarQube

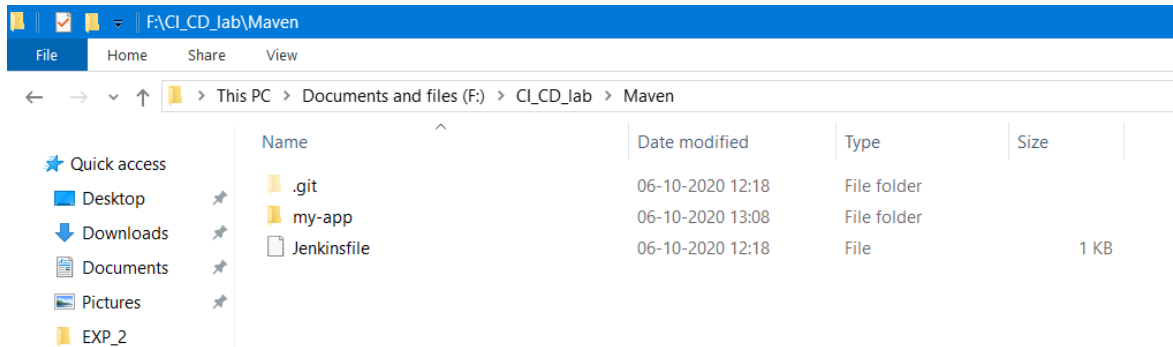
- Open your command prompt and start SonarQube service using the StartSonar.bat command.

```
-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.noKeySetOptimization=true -Dio.netty.recycler.maxCapacityPerThread=0 -Dlog4j.shutdownHookEnabled=false -Dlog4j2.disable.jmx=true -Djava.io.tmpdir=D:\sonarqube\sonarqube-8.4.1.35646\temp -XX:ErrorFile=../logs/es_hs_err_pid%p.log -Xmx512m -Xms512m -XX:+HeapDumpOnOutOfMemoryError -Delasticsearch -Des.path.home=D:\sonarqube\sonarqube-8.4.1.35646\elasticsearch -Des.path.conf=D:\sonarqube\sonarqube-8.4.1.35646\temp\conf\es -cp lib/* org.elasticsearch.bootstrap.Elasticsearch
jvm 1 | 2020.10.03 17:55:04 INFO app[[o.s.a.SchedulerImpl] Waiting for Elasticsearch to be up and running
jvm 1 | Java HotSpot(TM) 64-Bit Server VM warning: Option UseConcMarkSweepGC was deprecated in version 9.0 and will likely be removed in a future release.
jvm 1 | 2020.10.03 17:55:04 INFO app[[o.e.p.PluginsService] no modules loaded
jvm 1 | 2020.10.03 17:55:04 INFO app[[o.e.p.PluginsService] loaded plugin [org.elasticsearch.transport.Netty4Plugin]
jvm 1 | 2020.10.03 17:55:23 INFO app[[o.s.a.SchedulerImpl] Process[es] is up
jvm 1 | 2020.10.03 17:55:23 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[[key='web', ipcIndex=2, logFilenamePrefix=web]] from [D:\sonarqube\sonarqube-8.4.1.35646]: C:\Program Files\java\jdk-11.0.8\bin\java -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djava.io.tmpdir=D:\sonarqube\sonarqube-8.4.1.35646\temp -XX:-OmitStackTraceInFastThrow --add-opens=java.base/java.util=ALL-UNNAMED --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED -Xmx512m -Xms128m -XX:+HeapDumpOnOutOfMemoryError -Dhttp.nonProxyHosts=localhost|127.*|[::1] -cp ./lib/common/*;D:\sonarqube\sonarqube-8.4.1.35646\lib\jdbc\h2\h2-1.4.199.jar org.sonar.server.app.WebServer D:\sonarqube\sonarqube-8.4.1.35646\temp\sq-process11754991577414164214properties
jvm 1 | 2020.10.03 17:55:42 INFO app[[o.s.a.SchedulerImpl] Process[web] is up
jvm 1 | 2020.10.03 17:55:42 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[[key='ce', ipcIndex=3, logFilenamePrefix=ce]] from [D:\sonarqube\sonarqube-8.4.1.35646]: C:\Program Files\java\jdk-11.0.8\bin\java -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djava.io.tmpdir=D:\sonarqube\sonarqube-8.4.1.35646\temp -XX:-OmitStackTraceInFastThrow --add-opens=java.base/java.util=ALL-UNNAMED -Xmx512m -Xms128m -XX:+HeapDumpOnOutOfMemoryError -Dhttp.nonProxyHosts=localhost|127.*|[::1] -cp ./lib/common/*;D:\sonarqube\sonarqube-8.4.1.35646\lib\jdbc\h2\h2-1.4.199.jar org.sonar.ce.app.CeServer D:\sonarqube\sonarqube-8.4.1.35646\temp\sq-process6454735226569984234properties
jvm 1 | 2020.10.03 17:55:47 INFO app[[o.s.a.SchedulerImpl] Process[ce] is up
jvm 1 | 2020.10.03 17:55:47 INFO app[[o.s.a.SchedulerImpl] SonarQube is up
```

- The SonarQube Dashboard can be open through any browser at localhost:9000.



- Make a Maven Project on your local system or fetch it from GitHub.



- Go to the location and run the below command to upload the code on SonarQube and execute the static code analysis on it.

mvn clean install sonar:sonar -Dsonar.host.url=http://localhost:9000 -Dsonar.analysis.mode=publish

```
D:\college\CI-CD\git\Exp2\my-app>mvn clean install sonar:sonar -Dsonar.host.url=http://localhost:9000 -Dsonar.analysis.mode=publish
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.mycompany.app:my-app >-----
[INFO] Building my-app 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:3.1.0:clean (default-clean) @ my-app ---
[INFO] Deleting D:\college\CI-CD\git\Exp2\my-app\target
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\college\CI-CD\git\Exp2\my-app\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ my-app ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\college\CI-CD\git\Exp2\my-app\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\college\CI-CD\git\Exp2\my-app\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ my-app ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\college\CI-CD\git\Exp2\my-app\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ my-app ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.mycompany.app.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.042 s - in com.mycompany.app.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ my-app ---
[INFO] Building jar: D:\college\CI-CD\git\Exp2\my-app\target\my-app-1.0-SNAPSHOT.jar
[INFO]
```

- After the successful build, the output will be something like this.

```

[INFO] Sensor Zero Coverage Sensor (done) | time=72ms
[INFO] 1/1 source files have been analyzed
[INFO] ----- Run sensors on project
[INFO] Sensor Zero Coverage Sensor
[INFO] Sensor Java CPD Block Indexer
[INFO] Sensor Java CPD Block Indexer (done) | time=88ms
[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 392ms, dir size=85 KB
[INFO] Analysis report compressed in 76ms, zip size=13 KB
[INFO] Analysis report uploaded in 238ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=CI-CD%3ACI-CD-Lab2
[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=AXUi2KKXtBx1UIG2qjz
[INFO] Analysis total time: 1:15.093 s
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:40 min
[INFO] Finished at: 2020-10-13T22:13:44+05:30
[INFO] -----

```

- Go to the SonarQube dashboard again you can see your project there and it has been analysed.

