

## Compte rendu SonarQube

SonarQube est un logiciel libre développé par la société Sonarsource permettant de mesurer la qualité du code source. SonarQube supporte plus de 25 langages comme le C, C++, C#, PHP, JavaScript ou Java.

### Installation de sonarQube

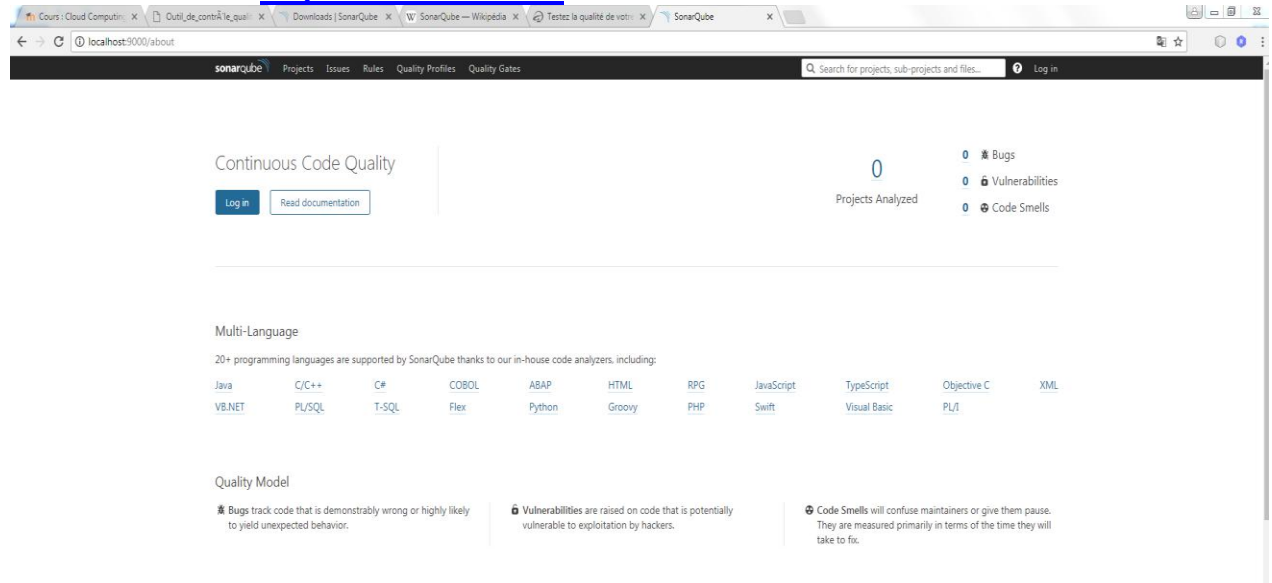
1- Après avoir dézipper le fichier sonarqube-6.7.zip et lancer la commande :

C:\sonarqube-6.7\bin\windows-x86-32>StartSonar.bat



```
C:\sonarqube-6.7\bin\windows-x86-32>StartSonar.bat
wrapper --> Wrapper Started as Console
wrapper Launching a JUM...
jvm 1 Wrapper (Version 3.2.3) http://wrapper.tanukisoftware.org
jvm 1 Copyright 1999-2006 Tanuki Software, Inc. All Rights Reserved.
jvm 1
jvm 1 WARNING - Unable to load the Wrapper's native library 'wrapper.dll'.
jvm 1 The file is located on the path at the following location b
ut
jvm 1 could not be loaded:
jvm 1 C:\sonarqube-6.7\bin\windows-x86-32\lib\wrapper.dll
jvm 1 Please verify that the file is readable by the current user
and that the file has not been corrupted in any way.
jvm 1 One common cause of this problem is running a 32-bit versio
n
jvm 1 of the Wrapper with a 64-bit version of Java, or vica versa
jvm 1 This is a 64-bit JUM.
jvm 1 Reported cause:
jvm 1 C:\sonarqube-6.7\bin\windows-x86-32\lib\wrapper.dll: Can'
t load IA 32-bit .dll on a AMD 64-bit platform
jvm 1 System signals will not be handled correctly.
jvm 1
jvm 1 2017.12.05 14:39:57 INFO app[lo.s.a.AppFileSystem] Cleaning or crea
ting temp directory C:\sonarqube-6.7\temp
jvm 1 2017.12.05 14:39:57 INFO app[lo.s.a.es.EsSettings] Elasticsearch li
stening on /127.0.0.1:9001
jvm 1 2017.12.05 14:39:57 INFO app[lo.s.a.p.ProcessLauncherImpl] Launch p
rocess[key='es', ipcIndex=1, logFilenamePrefix=es] from [C:\sonarqube-6.7\elas
ticsearch]: C:\Program Files\Java\jre1.8.0_131\bin\java -XX:+UseConcMarkSweepGC
-XX:CMSInitiatingOccupancyFraction=75 -XX:+UseCMSInitiatingOccupancyOnly -XX:+Al
waysPreTouch -server -Xss1m -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djna
.nosys=true -Djdk.io.permissionsUseCanonicalPath=true -Dio.netty.noUnsafe=true -
Dio.netty.noKeySetOptimization=true -Dio.netty.recycler.maxCapacityPerThread=0 -
Dlog4j.shutdownHookEnabled=false -Dlog4j2.disable.jmx=true -Dlog4j.skipJansi=tru
e -Xms512m -Xmx512m -XX:+HeapDumpOnOutOfMemoryError -Delasticsearch -Des.path.ho
me=C:\sonarqube-6.7\elasticsearch -cp lib/* org.elasticsearch.bootstrap.Elastic
search -Epath.conf=C:\sonarqube-6.7\temp\conf\es
jvm 1 2017.12.05 14:39:57 INFO app[lo.s.a.SchedulerImpl] Waiting for Elas
ticsearch to be up and running
jvm 1 2017.12.05 14:39:57 INFO app[lo.e.p.PluginsService] no modules load
ed
jvm 1 2017.12.05 14:39:57 INFO app[lo.e.p.PluginsService] loaded plugin [
org.elasticsearch.transport.Netty4Plugin]
jvm 1 2017.12.05 14:40:06 INFO app[lo.s.a.SchedulerImpl] Process[es] is u
p
jvm 1 2017.12.05 14:40:06 INFO app[lo.s.a.p.ProcessLauncherImpl] Launch p
rocess[key='web', ipcIndex=2, logFilenamePrefix=web] from [C:\sonarqube-6.7]: C:
\Program Files\Java\jre1.8.0_131\bin\java -Djava.awt.headless=true -Dfile.enco
ding=UTF-8 -Djava.io.tmpdir=C:\sonarqube-6.7\temp -Xmx512m -Xms128m -XX:+HeapDum
pOnOutOfMemoryError -cp ./lib/common/*;./lib/server/*;C:\sonarqube-6.7\lib\jdbc\
h2\h2-1.3.176.jar org.sonar.server.app.WebServer C:\sonarqube-6.7\temp\sq-proces
s2530491939627253091properties
jvm 1 2017.12.05 14:40:59 INFO app[lo.s.a.SchedulerImpl] Process[web] is
up
jvm 1 2017.12.05 14:40:59 INFO app[lo.s.a.p.ProcessLauncherImpl] Launch p
rocess[key='ce', ipcIndex=3, logFilenamePrefix=ce] from [C:\sonarqube-6.7]: C:
\Program Files\Java\jre1.8.0_131\bin\java -Djava.awt.headless=true -Dfile.enco
ding=UTF-8 -Djava.io.tmpdir=C:\sonarqube-6.7\temp -Xmx512m -Xms128m -XX:+HeapDum
pOnOutOfMemoryError -cp ./lib/common/*;./lib/server/*;./lib/ce/*;C:\sonarqube-6.7\
lib\jdbc\h2\h2-1.3.176.jar org.sonar.ce.app.CeServer C:\sonarqube-6.7\temp\sq-pr
ocess1801615892106800303properties
jvm 1 2017.12.05 14:41:11 INFO app[lo.s.a.SchedulerImpl] Process[ce] is u
p
jvm 1 2017.12.05 14:41:11 INFO app[lo.s.a.SchedulerImpl] SonarQube is up
```

## La connexion au <http://localhost:9000>:



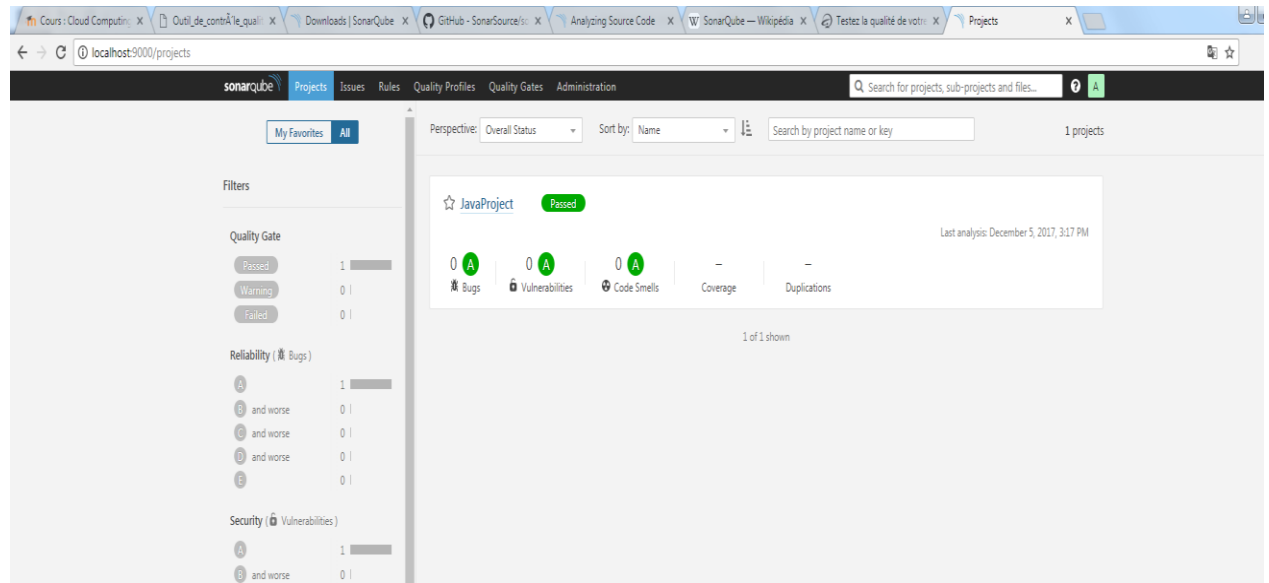
### 1- Execution

du

sanner

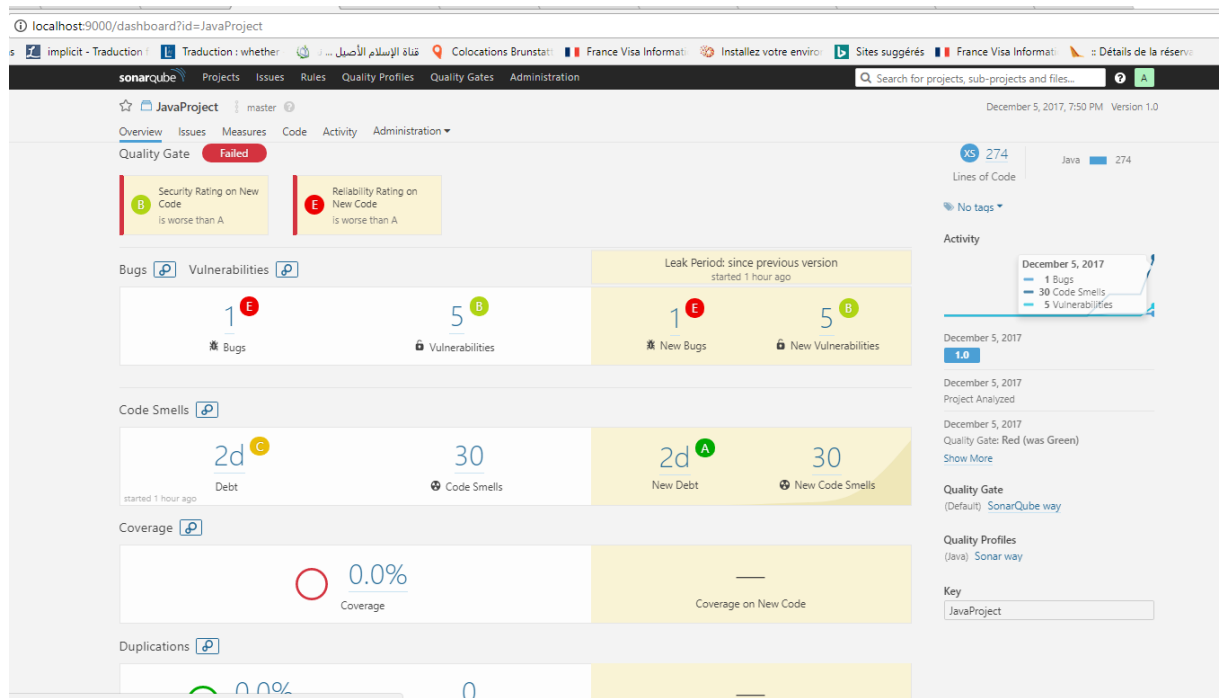
```
C:\Windows\system32\cmd.exe
INFO: User cache: C:\Users\el1701639\.sonar\cache
INFO: Load plugins index
INFO: Load plugins index <done> ! time=65ms
INFO: SonarQube server 6.7.0
INFO: Default locale: "fr_FR", source code encoding: "windows-1252" <analysis is platform dependent>
INFO: Process project properties
INFO: Load project repositories
INFO: Load project repositories <done> ! time=0ms
INFO: Load quality profiles
INFO: Load quality profiles <done> ! time=31ms
INFO: Load active rules
INFO: Load active rules <done> ! time=610ms
INFO: Load metrics repository
INFO: Load metrics repository <done> ! time=16ms
WARN: SCM provider autodetection failed. No SCM provider claims to support this project. Please use sonar.scm.provider to define SCM of your project.
INFO: Project key: JavaProject
INFO: ----- Scan JavaProject
INFO: Load server rules
INFO: Load server rules <done> ! time=93ms
INFO: Base dir: C:\sonar-scanner-3.0.3.778-windows\bin
INFO: Working dir: C:\sonar-scanner-3.0.3.778-windows\bin\scannerwork
INFO: Source paths: C:\sonar-scanning-examples-master\sonarqube-scanner-maven\app-java\src\main\java\example
INFO: Source encoding: windows-1252, default locale: fr_FR
INFO: Index files
WARN: File 'C:\sonar-scanning-examples-master\sonarqube-scanner-maven\app-java\src\main\java\example\HelloWorld.java' is ignored. It is not located in module basedir 'C:\sonar-scanner-3.0.3.778-windows\bin'.
INFO: 0 files indexed
INFO: Sensor SonarJavaXmlFileSensor [java]
INFO: Sensor SonarJavaXmlFileSensor [java] <done> ! time=0ms
INFO: Sensor Analyzer for "php.ini" files [php]
INFO: Sensor Analyzer for "php.ini" files [php] <done> ! time=0ms
INFO: Sensor Zero Coverage Sensor
INFO: Sensor Zero Coverage Sensor <done> ! time=0ms
INFO: Sensor CPD Block Indexer
INFO: Sensor CPD Block Indexer <done> ! time=0ms
INFO: No SCM system was detected. You can use the 'sonar.scm.provider' property to explicitly specify it.
INFO: Calculating CPD for 0 files
INFO: CPD calculation finished
INFO: Analysis report generated in 47ms, dir size=22 KB
INFO: Analysis reports compressed in 0ms, zip size=5 KB
INFO: Analysis report uploaded in 483ms
INFO: ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard/index/JavaProject
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=A0WanBLiCu0yX6eQX388U
INFO: Task total time: 2.698 s
INFO: -----
INFO: EXECUTION SUCCESS
INFO: -----
INFO: Total time: 3.854s
INFO: Final Memory: 50M/399M
INFO: -----
C:\sonar-scanner-3.0.3.778-windows\bin>
```

## 2- Résultat de l'analyse de l'exemple fourni après exécution du scanner :



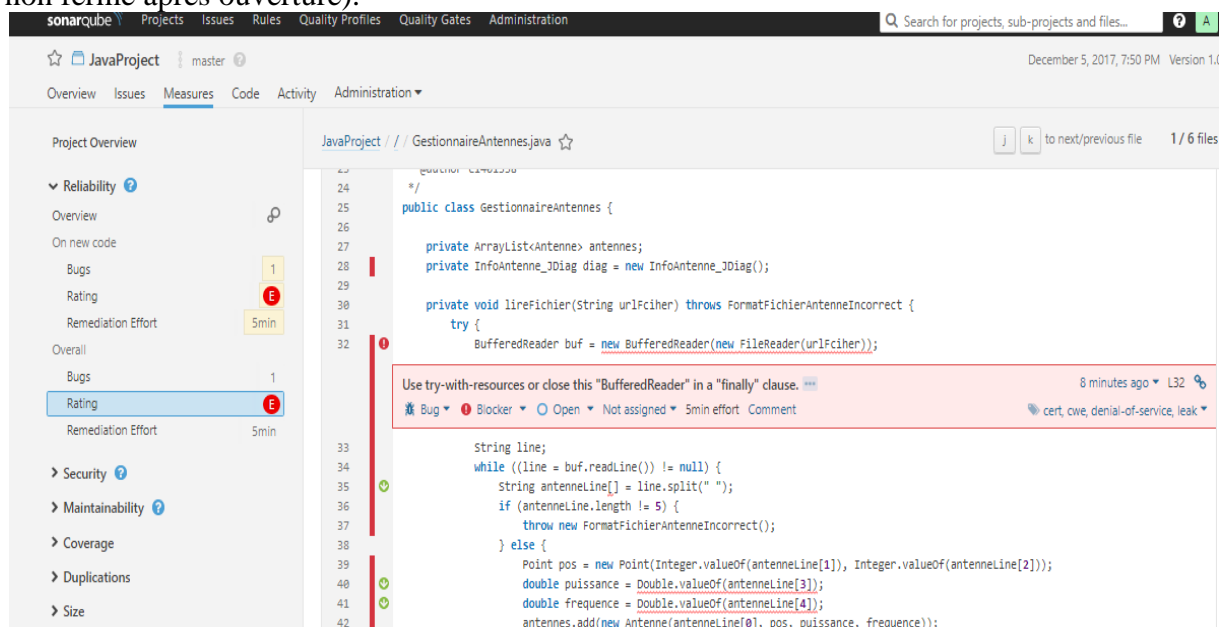
## 3- Utilisation de sonarQube pour analyser notre projet de réseaux mobile que nous développons en Java.

```
Invite de commandes
C:\sonar-scanner\bin>sonar-scanner.bat
INFO: Scanner configuration file: C:\sonar-scanner\bin\..\conf\sonar-scanner.properties
INFO: Project root configuration file: NONE
INFO: SonarQube Scanner 3.0.3.778
INFO: Java 1.8.0_121 Oracle Corporation (64-bit)
INFO: Windows 10 10.0 amd64
INFO: User cache: C:\Users\boumb\.sonar\cache
INFO: Publish mode
INFO: Load global settings
INFO: Load global settings (done) | time=85ms
INFO: Server id: AWAnphex6NpB8a5An4Dy
INFO: User cache: C:\Users\boumb\.sonar\cache
INFO: Load plugins index
INFO: Load plugins index (done) | time=85ms
INFO: SonarQube server 6.7.0
INFO: Default locale: "fr_FR", source code encoding: "windows-1252" (analysis is platform dependent)
INFO: Process project properties
INFO: Load project repositories
INFO: Load project repositories (done) | time=156ms
INFO: Load quality profiles
INFO: Load quality profiles (done) | time=37ms
INFO: Load active rules
INFO: Load active rules (done) | time=764ms
INFO: Load metrics repository
INFO: Load metrics repository (done) | time=37ms
WARN: SCM provider autodetection failed. No SCM provider claims to support this project. Please use sonar.scm.provider to define SCM of your project.
INFO: Project key: JavaProject
INFO: ----- Scan JavaProject
INFO: Load server rules
INFO: Load server rules (done) | time=216ms
INFO: Base dir: C:\sonar-scanning-examples-master\ResauxMobileApp\src\resauxmobileapp
INFO: Working dir: C:\sonar-scanning-examples-master\ResauxMobileApp\src\resauxmobileapp\scannerwork
INFO: Source paths: .
INFO: Source encoding: windows-1252, default locale: fr_FR
INFO: Index files
INFO: 6 files indexed
INFO: Quality profile for java: Sonar way
INFO: Sensor JavaSquidSensor [java]
INFO: Configured Java source version (sonar.java.source): none
INFO: JavaClasspath initialization
WARN: Bytecode of dependencies was not provided for analysis of source files, you might end up with less precise results
. Bytecode can be provided using sonar.java.libraries property
INFO: JavaClasspath initialization (done) | time=99ms
INFO: JavaTestClasspath initialization
INFO: JavaTestClasspath initialization (done) | time=2ms
```



4- Sonar-scanner a analysé les 6 fichiers que contient le projet avec le résultat suivant :

- Un bug trouvé dans le fichier GestionnaireAntennes.java ligne 32 (BufferedReader non fermé après ouverture).



- Cinq cas de vulnérabilités

The screenshot shows the SonarQube interface with filters set to 'Vulnerability' (5 issues) and 'Minor' severity (5 issues). The main panel displays 5 issues related to static final constants:

- AntenneJava**:
  - Make couleur a static final constant or non-public and provide accessors if needed. (Vulnerability, Minor, Open, 10min effort, 12 minutes ago, L24, cwe)
  - Make distanceCouverture a static final constant or non-public and provide accessors if needed. (Vulnerability, Minor, Open, 10min effort, 12 minutes ago, L26, cwe)
- GrilleMailleJava**:
  - Make this "public static TAILLE" field final. (Vulnerability, Minor, Open, 20min effort, 12 minutes ago, L23, cert, cwe)
  - Make TAILLE a static final constant or non-public and provide accessors if needed. (Vulnerability, Minor, Open, 10min effort, 12 minutes ago, L23, cwe)
  - Make antennes a static final constant or non-public and provide accessors if needed. (Vulnerability, Minor, Open, 10min effort, 12 minutes ago, L24, cwe)

5 of 5 shown

- 30 cas de non respect des règles de développement

The screenshot shows the SonarQube interface with filters set to 'Code Smell' (30 issues) and 'Minor' severity (18 issues). The main panel displays 5 issues related to code quality and development rules:

- AntenneInfoJava**:
  - This class has 6 parents which is greater than 5 authorized. (Code Smell, Major, Open, 4h30min effort, 16 minutes ago, L15, design)
- AntenneJava**:
  - This class has 6 parents which is greater than 5 authorized. (Code Smell, Major, Open, 4h30min effort, 16 minutes ago, L17, design)
  - Reorder the modifiers to comply with the Java Language Specification. (Code Smell, Minor, Open, 2min effort, 16 minutes ago, L19, convention)
  - Rename this field "nb\_instance" to match the regular expression '^a-zA-Z0-9]\*\$'. (Code Smell, Minor, Open, 2min effort, 16 minutes ago, L25, convention)
  - Add a default case to this switch. (Code Smell, Critical, Open, 5min effort, 16 minutes ago, L79, cert, cwe, misra)