

UNIVERSIDAD NACIONAL DE SAN AGUSTÍN DE AREQUIPA

ESCUELA PROFESIONAL DE CIENCIA DE LA
COMPUTACIÓN
INGENIERA DE SOFTWARE II



Laboratorio 2

Presentado por:

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Docente :

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Laboratorio 1

1. Objetivo

Configurar y ejecutar SonarQube para inspeccionar (buenas prácticas de codificación) el código fuente de un proyecto personal (Proyecto grupal del curso de Ing. De Software I).

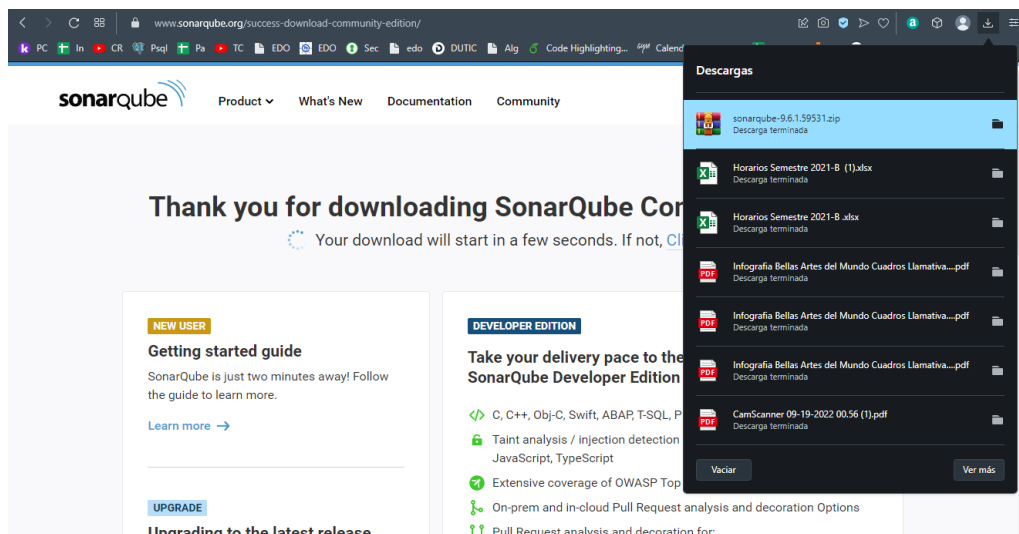
2. Prerrequisitos

- Un proyecto de software (código fuente) personal
- SonarQube (versión LTS): <https://www.sonarqube.org/downloads/>
- SonarScanner: <https://docs.sonarqube.org/7.9/analysis/scan/sonarscanner/>

3. Desarrollo

3.1. Actualización de paquetes

- Descarga la edición comunitaria de SonarQube



- Descomprímelo, digamos en c:/sonarqube

```
C:\>dir
El volumen de la unidad C es Windows-SSD
El número de serie del volumen es: C45F-C5B8

Directorio de C:\

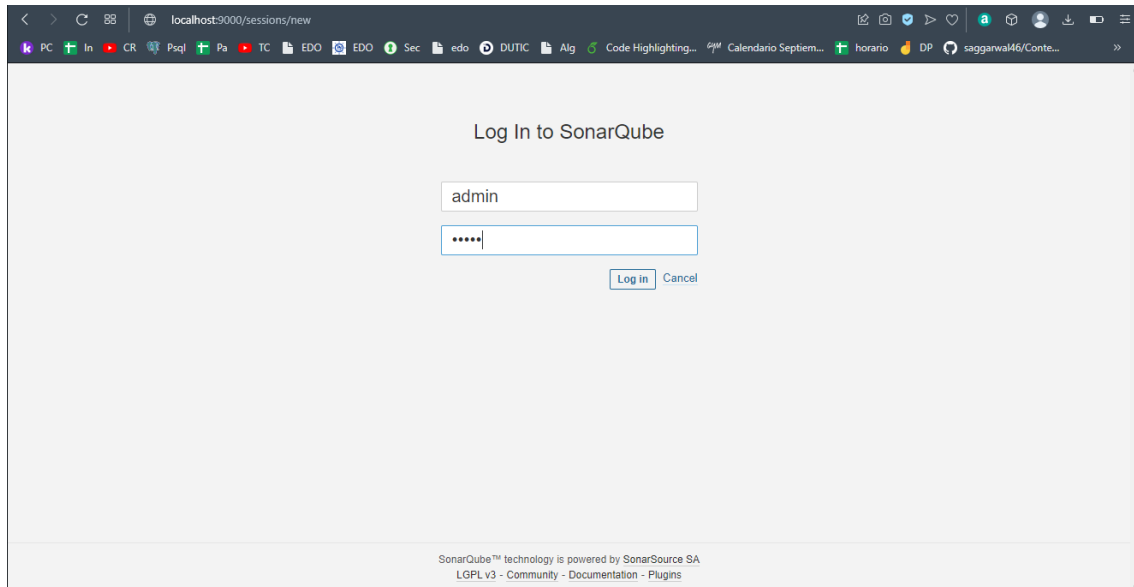
18/12/2021  22:34  <DIR>          BIOS
19/09/2022  17:16  <DIR>          CaminoAlaICPC
22/03/2021  16:43  <DIR>          data
05/06/2021  12:28  <DIR>          Drivers
28/04/2022  16:14  <DIR>          edb
31/08/2022  21:08  <DIR>          jul21-Export-d6b7532a-8188-4483-b038-5610c226d841
21/12/2020  15:02  <DIR>          MinGW
30/08/2021  17:35  <DIR>          NODE.JS
07/08/2021  11:30  <DIR>          nuxt
04/09/2022  18:33  <DIR>          Program Files
19/09/2022  23:59  <DIR>          Program Files (x86)
29/08/2022  08:45  <DIR>          sonarqube-9.6.1.59531
03/06/2022  08:30  <DIR>          Temp
21/07/2020  09:46  <DIR>          tools
27/12/2021  15:21  <DIR>          Users
16/09/2022  02:29  <DIR>          Windows
                0 archivos          0 bytes
                16 dirs  1,848,733,696 bytes libres

C:\>
```

- Inicie el servidor de SonarQube:

```
C:\sonarqube\bin\windows-x86-64>StartSonar.bat
Starting SonarQube...
2022.09.23 13:22:50 INFO app[[o.s.a.AppFileSystem] Cleaning or creating temp directory C:\sonarqube\temp
2022.09.23 13:22:50 INFO app[[o.s.a.es.EsSettings] Elasticsearch listening on [HTTP: 127.0.0.1:9001, TCP: 127.0.0.1:52997]
2022.09.23 13:22:50 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[ELASTICSEARCH] from [C:\sonarqube\elasticsearch]: C:\Program Files (x86)\Java\jdk-11\bin\java -XX:+UseG1GC -Djava.io.tmpdir=C:\sonarqube\temp -XX:ErrorFile=../logs/es_hs_err_pid%p.log -Des.networkaddress.cache.ttl=60 -Des.networkaddress.cache.negative.ttl=10 -XX:+AlwaysPreTouch -Xss1m -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djna.nosys=true -Djna.tmpdir=C:\sonarqube\temp -XX:-OmitStackTraceInFastThrow -Dio.netty.noUnsafe=true -Dio.netty.noKeySetOptimization=true -Dio.netty.recycler.maxCapacityPerThread=0 -Dio.netty.allocator.numDirectArenas=0 -Dlog4j.shutdownHookEnabled=false -Dlog4j2.disable.jmx=true -Dlog4j2.formatMsgNoLookups=true -Djava.locale.providers=COMPAT -Dcom.redhat.fips=false -Xmx512m -Xms128m -XX:MaxDirectMemorySize=256m -XX:+HeapDumpOnOutOfMemoryError -Delasticsearch -Des.path.home=C:\sonarqube\elasticsearch -Des.path.conf=C:\sonarqube\temp\conf\es -cp lib/* org.elasticsearch.bootstrap.Elasticsearch
2022.09.23 13:22:50 INFO app[[o.s.a.SchedulerImpl] Waiting for Elasticsearch to be up and running
2022.09.23 13:23:14 INFO app[[o.s.a.SchedulerImpl] Process[es] is up
2022.09.23 13:23:14 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[WEB_SERVER] from [C:\sonarqube]: C:\Program Files (x86)\Java\jdk-11\bin\java -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djava.io.tmpdir=C:\sonarqube\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 --add-exports=java.base/jdk.internal.ref=ALL-UNNAMED --add-opens=java.base/java.nio=ALL-UNNAMED --add-opens=java.base/sun.nio.ch=ALL-UNNAMED --add-opens=java.management/sun.management=ALL-UNNAMED --add-opens=java.management/com.sun.management.internal=ALL-UNNAMED -Dcom.redhat.fips=false -Xmx512m -Xms128m -XX:+HeapDumpOnOutOfMemoryError -Dhttp.nonProxyHosts=localhost|127.*|[::1] -cp ./lib/sonar-application-9.6.1.59531.jar;C:\sonarqube\lib\jdbc\h2\h2-2.1.212.jar org.sonar.server.app.WebServer C:\sonarqube\temp\sq-process715778479934705695properties
2022.09.23 13:24:49 INFO app[[o.s.a.SchedulerImpl] Process[web] is up
2022.09.23 13:24:49 INFO app[[o.s.a.ProcessLauncherImpl] Launch process[COMPUTE_ENGINE] from [C:\sonarqube]: C:\Program Files (x86)\Java\jdk-11\bin\java -Djava.awt.headless=true -Dfile.encoding=UTF-8 -Djava.io.tmpdir=C:\sonarqube\temp -XX:-OmitStackTraceInFastThrow --add-opens=java.base/java.util=ALL-UNNAMED --add-exports=java.base/jdk.internal.ref=ALL-UNNAMED --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.nio=ALL-UNNAMED --add-opens=java.base/sun.nio.ch=ALL-UNNAMED --add-opens=java.management/sun.management=ALL-UNNAMED --add-opens=java.management/com.sun.management.internal=ALL-UNNAMED -Dcom.redhat.fips=false -Xmx512m -Xms128m -XX:+HeapDumpOnOutOfMemoryError -Dhttp.nonProxyHosts=localhost|127.*|[::1] -cp ./lib/sonar-application-9.6.1.59531.jar;C:\sonarqube\lib\jdbc\h2\h2-2.1.212.jar org.sonar.ce.app.CeServer C:\sonarqube\temp\sq-process4552486497560278083properties
2022.09.23 13:24:50 WARN app[[startup] #####
#####
2022.09.23 13:24:50 WARN app[[startup] Default Administrator credentials are still being used. Make sure to change the password or deactivate the account.
2022.09.23 13:24:50 WARN app[[startup] #####
#####
2022.09.23 13:24:59 INFO app[[o.s.a.SchedulerImpl] Process[ce] is up
2022.09.23 13:24:59 INFO app[[o.s.a.SchedulerImpl] SonarQube is operational
```

- Inicie sesión en `http://localhost:9000` con credenciales de administrador del sistema (admin/admin) y siga el tutorial integrado para analizar su primer proyecto.



3.2. Configurar SonarScanner

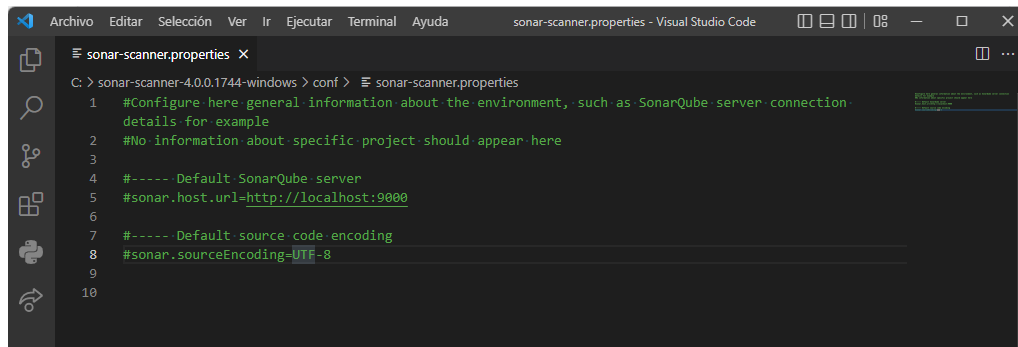
- Expanda el archivo descargado en el directorio de su elección. Nos referiremos a él como *install_directory* en los siguientes pasos:

```
C:\>dir
El volumen de la unidad C es Windows-SSD
El número de serie del volumen es: C45F-C5B8

Directorio de C:\

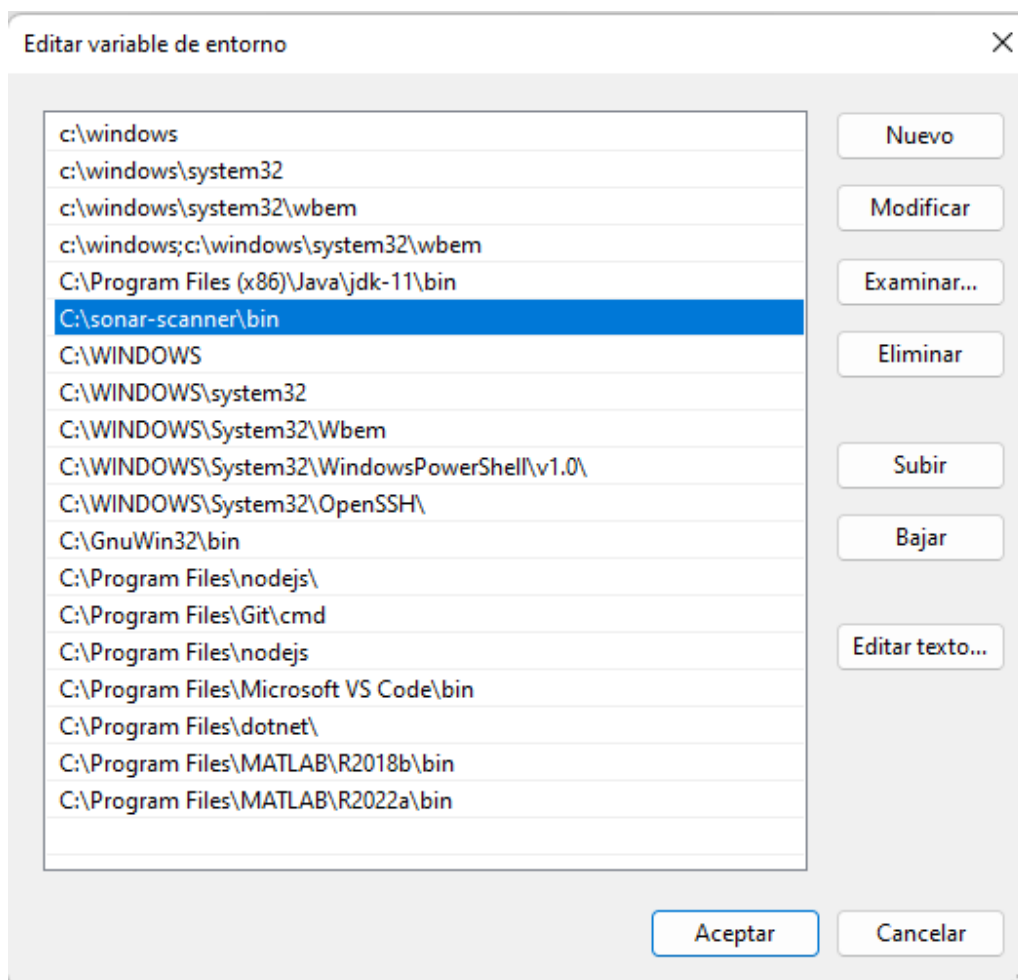
18/12/2021  22:34  <DIR>          BIOS
22/03/2021  16:43  <DIR>          data
05/06/2021  12:28  <DIR>          Drivers
28/04/2022  16:14  <DIR>          edb
21/12/2020  15:02  <DIR>          MinGW
30/08/2021  17:35  <DIR>          NODE.JS
07/08/2021  11:30  <DIR>          nuxt
22/09/2022  21:31  <DIR>          Program Files
22/09/2022  21:13  <DIR>          Program Files (x86)
25/06/2019  14:44  <DIR>          sonar-scanner-4.0.0.1744-windows
22/09/2022  18:46  <DIR>          sonarqube
03/06/2022  08:30  <DIR>          Temp
27/12/2021  15:21  <DIR>          Users
22/09/2022  22:27  <DIR>          Windows
               0 archivos             0 bytes
              14 dirs 12,983,390,208 bytes libres
```

- Actualice la configuración global para que apunte a su servidor SonarQube editando *install_directory/conf/sonar-scanner.properties*:



```
sonar-scanner.properties
C:\> sonar-scanner-4.0.0.1744-windows > conf > sonar-scanner.properties
1 #Configure here general information about the environment, such as SonarQube server connection
2 #No information about specific project should appear here
3
4 #----- Default SonarQube server
5 #sonar.host.url=http://localhost:9000
6
7 #----- Default source code encoding
8 #sonar.sourceEncoding=UTF-8
9
10
```

- Agregue el directorio *install_directory/bin* a su PATH.



- Verifique su instalación abriendo un nuevo shell y ejecutando el comando sonar-scanner -h (sonar-scanner.bat -h en Windows). Debería obtener una salida como esta:

```
C:\>sonar-scanner.bat -h
INFO:
INFO: usage: sonar-scanner [options]
INFO:
INFO: Options:
INFO:  -D,--define <arg>      Define property
INFO:  -h,--help              Display help information
INFO:  -v,--version           Display version information
INFO:  -X,--debug             Produce execution debug output
C:\>
```

3.3. Ejecutar SonarScanner sobre un proyecto de software personal

- Cree un archivo de configuración en el directorio raíz del proyecto: sonar-project.properties

```
sonar-project.properties: Bloc de notas
Archivo  Editar  Ver

#sonar-project.properties
# must be unique in a given SonarQube instance
sonar.projectKey=Asistencia

# --- optional properties ---

# defaults to project key
sonar.projectName=Asistencia
# defaults to 'not provided'
#sonar.projectVersion=1.0

# Path is relative to the sonar-project.properties file. Defaults to .
sonar.sources=.

# Encoding of the source code. Default is default system encoding
#sonar.sourceEncoding=UTF-8

sonar.login=admin

sonar.password=villa7523
```

- Se ejecuta el siguiente comando

```
D:\FinalProjectIS\Application>sonar-scanner -Dsonar.projectKey=Asistencia -Dsonar.sources=D:\FinalProjectIS\Application
INFO: Scanner configuration file: C:\sonar-scanner\bin\..\conf\sonar-scanner.properties
INFO: Project root configuration file: NONE
INFO: SonarQube Scanner 4.0.0.1744
INFO: Java 11.0.3 AdoptOpenJDK (64-bit)
INFO: Windows 10 10.0 amd64
INFO: User cache: C:\Users\LENOVO\.sonar\cache
INFO: SonarQube server 9.6.1.59531
INFO: Default locale: "es_PE", source code encoding: "windows-1252" (analysis is platform dependent)
INFO: Load global settings
INFO: Load global settings (done) | time=290ms
INFO: Server id: 147B411E-AYNrlyG6qA00qTuogRvs
INFO: User cache: C:\Users\LENOVO\.sonar\cache
INFO: Load/download plugins
INFO: Load plugins index
INFO: Load plugins index (done) | time=233ms
INFO: Load/download plugins (done) | time=389ms
INFO: Process project properties
INFO: Process project properties (done) | time=72ms
INFO: Execute project builders
INFO: Execute project builders (done) | time=0ms
INFO: Project key: Asistencia
INFO: Base dir: D:\FinalProjectIS\Application
INFO: Working dir: D:\FinalProjectIS\Application\scannerwork
INFO: Load project settings for component key: 'Asistencia'
INFO: Load quality profiles
INFO: Load quality profiles (done) | time=632ms
INFO: Load active rules
INFO: Load active rules (done) | time=9605ms
INFO: Load analysis cache
INFO: Load analysis cache (404) | time=208ms
INFO: Load project repositories
INFO: Load project repositories (done) | time=243ms
INFO: Indexing files...
INFO: Project configuration:
INFO: 85 files indexed
INFO: 0 files ignored because of scm ignore settings
INFO: Quality profile for css: Sonar way
INFO: Quality profile for js: Sonar way
INFO: Quality profile for json: Sonar way
INFO: ----- Run sensors on module Asistencia
INFO: Load metrics repository
INFO: Load metrics repository (done) | time=266ms
INFO: Sensor JaCoCo XML Report Importer [jacoco]
```

```
C:\Windows\System32\cmd.exe
INFO: Sensor VB.NET Project Type Information [vbnet] (done) | time=0ms
INFO: Sensor VB.NET Analysis Log [vbnet]
INFO: Sensor VB.NET Analysis Log [vbnet] (done) | time=33ms
INFO: Sensor VB.NET Properties [vbnet]
INFO: Sensor VB.NET Properties [vbnet] (done) | time=0ms
INFO: ----- Run sensors on project
INFO: Sensor Analysis Warnings import [csharp]
INFO: Sensor Analysis Warnings import [csharp] (done) | time=0ms
INFO: Sensor Zero Coverage Sensor
INFO: Sensor Zero Coverage Sensor (done) | time=67ms
INFO: SCM Publisher SCM provider for this project is: git
INFO: SCM Publisher 57 source files to be analyzed
INFO: SCM Publisher 57/57 source files have been analyzed (done) | time=3369ms
INFO: CPD Executor 14 files had no CPD blocks
INFO: CPD Executor Calculating CPD for 36 files
INFO: CPD Executor CPD calculation finished (done) | time=48ms
INFO: Analysis report generated in 206ms, dir size=289.9 kB
INFO: Analysis report compressed in 944ms, zip size=137.3 kB
INFO: Analysis report uploaded in 2242ms
INFO: ANALYSIS SUCCESSFUL, you can find the results at: http://localhost:9000/dashboard?id=Asistencia
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=AYNr98gS-OZmgBh1J5B
INFO: Analysis total time: 1:38.486 s
INFO: -----
INFO: EXECUTION SUCCESS
INFO: -----
INFO: Total time: 1:41.866s
INFO: Final Memory: 16M/57M
INFO: -----
D:\FinalProjectIS\Application>
```

3.4. Visualizar resultados de SonarScanner en SonarQube: <http://localhost:9000>

- El proyecto que fue analizado es que se desarrollo en el ingenieria de software II el link del proyecto donde se muestran todas las ramas y los branchs en el siguiente [AQUI](#)

