

INTEGRACIÓN CONTINUA

Experto en Aseguramiento de la Calidad Software

Práctica

Abraham Santana Cebrián
abraham.santana.cebrrian@alumnos.upm.es

Aclaración sobre la disposición de esta memoria

Esta memoria se ha configurado en horizontal para aprovechar así la mayor superficie de hoja a la hora de insertar capturas de pantalla, ya que la mayor parte de esta consiste en mostrar las configuraciones, resultados, etc., obtenidos en la máquina virtual o en el host que se haya desarrollado la práctica.

Tabla de contenido

Aclaración sobre la disposición de esta memoria	1
Tabla de contenido	2
Tabla de Ilustraciones	4
Objetivo.....	6
Proyecto Software	6
Pipeline de Integración Continua.....	6
Puesta a punto de la Forja (codeurjc-forge).....	7
1. Generate a SSH RSA Key for a developer user.....	20
2. Upload the key to Gerrit Server. Login as user <i>dev1</i> , go to <i>settings</i> and paste <i>developer.key.pub</i> ' content.	21
3. Clone repo	22
4. Configure repo.....	22
5. Create review job in Jenkins (correspondiente al Job de Commit).....	23
6. Push the code to the repo.....	26
7. Create Jenkins merge job (correspondiente al Job de Merge)	30
8. Approve changes in Gerrit.	35
Segundo Commit realizado en el Proyecto Software	39
9. The final step, you can find the generated artifact by browsing to localhost:8585	44
SonarQube.....	45
Puesta a punto del servidor SonarQube en el ecosistema de la Forja	45
Job de Merge.....	47
Build 36: Jenkins	47
SonarQube resultados	48
Build 37: Jenkins	54
Imagen Docker de Tic-Tac-Toe	55
SonarQube resultados	56

Artefacto publicado	62
Anexo 1: salida por consola del 2º Commit.....	65

Tabla de Ilustraciones

Ilustración 1. Clave pública de Developer incluida en la BBDD de Gerrit	21
Ilustración 2. Configuración del Job Review (1)	23
Ilustración 3. Configuración del Job Review (2)	24
Ilustración 4, Configuración del Job Review (3)	25
Ilustración 5. Confirmación de nuevo Commit en Gerrit por parte de Developer	27
Ilustración 6. Confirmación de Jenkins sobre el nuevo Commit realizado a la rama de desarrollo	28
Ilustración 7. Confirmación del Job de Jenkins en Gerrit.....	29
Ilustración 8. Configuración del Job Merge (1).....	30
Ilustración 9. Configuración del Job Merge (2).....	31
Ilustración 10. Configuración del Job Merge (3).....	32
Ilustración 11. Configuración del Job Merge (4).....	33
Ilustración 12. Configuración del Job Merge (5).....	34
Ilustración 13. Aprobación de Admin al nuevo Commit de Developer en Gerrit (1)	35
Ilustración 14. Aprobación de Admin al nuevo Commit de Developer en Gerrit (2)	36
Ilustración 15. Aprobación de Admin al nuevo Commit de Developer en Gerrit (3)	37
Ilustración 16. Ejecución exitosa del Job de Merge en Jenkins.....	38
Ilustración 17. Segundo Commit de Devoloper realizado correctamente y mergeado (1).....	39
Ilustración 18. Segundo Commit de Devoloper realizado correctamente y mergeado (2).....	40
Ilustración 19. Aprobación de Admin al segundo Commit de Developer en Gerrit (1)	41
Ilustración 20. Segundo Commit de Devoloper realizado correctamente y mergeado (1).....	42
Ilustración 21. Segundo Commit de Devoloper realizado correctamente y mergeado (2).....	43
Ilustración 22. Publicación y acceso del artefacto.	44
Ilustración 23. Servidor SonarQube integrado en el ecosistema para su uso por la Forja.....	45
Ilustración 24. Creación del Token para su uso por Jenkins.....	46
Ilustración 25. Build 36 de Job de Merge	47

Ilustración 26. Proyecto Software Tic-Tac-Toe en SonarQube.....	48
Ilustración 27. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (1).....	49
Ilustración 28. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (2).....	50
Ilustración 29. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (3).....	51
Ilustración 30. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (4).....	52
Ilustración 31. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (5).....	53
Ilustración 32. Build 37 de Job de Merge (1)	54
Ilustración 33. Build 37 de Job de Merge (2)	55
Ilustración 34. Proyecto Software Tic-Tac-Toe en SonarQube.....	56
Ilustración 35. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (1)	57
Ilustración 36. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (2)	58
Ilustración 37. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (3)	59
Ilustración 38. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (4)	60
Ilustración 39. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (5)	61
Ilustración 40. Artefacto publicado del Proyecto Software Tic-Tac-Toe (1)	62
Ilustración 41. Artefacto publicado del Proyecto Software Tic-Tac-Toe (2)	63
Ilustración 42. Artefacto publicado del Proyecto Software Tic-Tac-Toe (3)	64

Objetivo

El objetivo de la práctica es que el alumno configure un pipeline de integración continua de un proyecto software poniendo en práctica los conceptos vistos en módulo de Integración Continua del Curso de Experto en Aseguramiento de la Calidad Software.

Proyecto Software

El pipeline de integración continua se utilizará para la gestión del ciclo de vida de un proyecto software existente. El software que deberá usarse es el juego de las Tres en Raya para el que se han implementado diferentes tipos de tests en la Práctica 2 del Módulo de Pruebas de Software.

A aquellos alumnos que no han realizado la práctica del módulo anterior, se les proporcionará una versión del software con los tests ya implementados.

Pipeline de Integración Continua

El pipeline de Integración Continua deberá tener las siguientes características:

- Se utilizará la forja de desarrollo de codeurjc1 que incluye la mayoría de los servicios necesarios para configurar el pipeline. El único servicio necesario que no está disponible en la forja es el servidor SonarQube, que habrá que ejecutar por separado (preferiblemente dockerizado).
- El proyecto software se alojará en un repositorio del servidor Gerrit incluido en la forja.
- Se crearán los siguientes Jobs en Jenkins:
 - **Job de Commit:** Se creará un job de Jenkins, que será ejecutado cada vez que se suba un parche a Gerrit. El job ejecutará únicamente los tests unitarios del proyecto software y se utilizará para verificar el parche.
 - **Job de Merge:** Se creará un job de Jenkins que será ejecutado cada vez que se haga merge de un parche en master. El job realizará las siguientes operaciones:
 - Ejecutará los tests unitarios y de sistema.
 - Al ejecutar los tests de sistema implementados usando browsers se deberá grabar el contenido de dichos browsers y esa grabación se archivará en la ejecución del Job. Es posible que esto requiera modificar el código de los tests para usar TestContainers o algún servicio de SeleniumGrid como Zalenium o Selenoid.
 - Analizará la calidad del código con SonarQube, publicando los resultados del análisis en este servicio.
 - Para facilitar la trazabilidad, se incluirá información del commit en el proyecto Spring que se hará disponible usando una API REST.
 - Se generará un artefacto Maven de desarrollo y se publicará en el repositorio Archiva (SNAPSHOTS).
 - Se generará una imagen Docker. Se incluirá como label el identificador del commit para facilitar la trazabilidad.
 - Se publicará la imagen en DockerHub con el tag dev.

Puesta a punto de la Forja (codeurjc-forge)¹

Tal y como se indica en el guion de la práctica, se ha utilizado la Forja proporcionada por CodeURJC en repositorio de GitHub. En este caso, la Forja ha evolucionado con el paso del tiempo, por ello, se ha utilizado la rama de desarrollo referente al uso de [Gerrit](https://github.com/codeurjc/codeurjc-forge/tree/gerrit) (<https://github.com/codeurjc/codeurjc-forge/tree/gerrit>), herramienta que se ha impartido en la edición del Máster que he cursado.

En dicha rama, se ha creado un fichero README una breve explicación del funcionamiento de la Forja, así como un breve tutorial de puesta a punto de esta, para poder utilizarla como un entorno de CI real dockerizado. Este breve tutorial se ha utilizado para la puesta en marcha de esta como objetivo inicial de esta práctica.

A continuación, se muestra la salida por consola de la máquina virtual donde se ha puesto a punto la Forja:

```
abraham@abraham-VirtualBox:~$ ls -l
total 44
drwxr-xr-x 2 abraham 4096 abr 20 20:36 Desktop
drwxr-xr-x 2 abraham 4096 abr 20 20:36 Documents
drwxr-xr-x 2 abraham abraham 4096 abr 20 20:36 Downloads
-rw-r--r-- 1 abraham abraham 8980 abr 20 20:32 examples.desktop
drwxr-xr-x 2 abraham abraham 4096 abr 20 20:36 Music
drwxr-xr-x 2 abraham abraham 4096 abr 20 20:36 Pictures
drwxr-xr-x 2 abraham abraham 4096 abr 20 20:36 Public
drwxr-xr-x 2 abraham abraham 4096 abr 20 20:36 Templates
drwxr-xr-x 2 abraham 4096 abr 20 20:36 Videos
abraham@abraham-VirtualBox:~$ mkdir practicaCI
abraham@abraham-VirtualBox:~$ cd practicaCI/
abraham@abraham-VirtualBox:~/practicaCI$ git clone https://github.com/codeurjc/codeurjc-forge.git
Cloning into 'codeurjc-forge'...
remote: Enumerating objects: 102, done.
remote: Counting objects: 100% (102/102), done.
remote: Compressing objects: 100% (58/58), done.
remote: Total 394 (delta 49), reused 89 (delta 38), pack-reused 292
Receiving objects: 100% (394/394), 99.29 KiB | 0 bytes/s, done.
Resolving deltas: 100% (193/193), done.
Checking connectivity... done.
abraham@abraham-VirtualBox:~/practicaCI$ git fetch
fatal: Not a git repository (or any of the parent directories): .git
abraham@abraham-VirtualBox:~/practicaCI$ cd codeurjc-forge/
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git fetch
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git pull
Already up-to-date.
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git branch -a
* master
remotes/origin/HEAD -> origin/master
remotes/origin/add-license-1
remotes/origin/gerrit
remotes/origin/master
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git checkout gerrit
Branch gerrit set up to track remote branch gerrit from origin.
Switched to a new branch 'gerrit'
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git fetch
```

¹ <https://github.com/codeurjc/codeurjc-forge>

```

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git pull
Already up-to-date.
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ ls -l
ls: command not found
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ ls -l
total 88
-rw-rw-r-- 1 abraham abraham 1519 abr 20 21:15 base.ldif.template
-rwxrwxr-x 1 abraham abraham 991 abr 20 21:15 buildAndPush.sh
drwxrwxr-x 3 abraham abraham 4096 abr 20 21:14 code-example
-rw-rw-r- 1 abraham abraham 2332 abr 20 21:15 config.rc
-rwxrwxr-x 1 abraham abraham 602 abr 20 21:15 createApache.sh
-rwxrwxr-x 1 abraham abraham 1072 abr 20 21:15 createArchiva.sh
-rwxrwxr-x 1 abraham 2096 abr 20 21:15 createGerrit.sh
-rwxrwxr-x 1 abraham abraham 956 abr 20 21:15 createJenkins.sh
-rwxrwxr-x 1 abraham abraham 342 abr 20 21:15 createLDAPSSP.sh
-rwxrwxr-x 1 abraham abraham 2270 abr 20 21:15 createOpenLDAP.sh
-rwxrwxr-x 1 abraham abraham 502 abr 20 21:15 createphpLDAPAdmin.sh
drwxrwxr-x 6 abraham abraham 4096 abr 20 21:15 Docker
drwxrwxr-x 2 abraham abraham 4096 abr 20 21:14 httpd
-rw-rw-r-- 1 abraham abraham 11357 abr 20 21:14 LICENSE
-rw-rw-r-- 1 abraham abraham 5274 abr 20 21:15 README.md
-rwxrwxr-x 1 abraham abraham 285 abr 20 21:15 remove.sh
-rwxrwxr-x 1 abraham abraham 160 abr 20 21:15 resume.sh
-rwxrwxr-x 1 abraham abraham 1546 abr 20 21:15 start.sh
-rwxrwxr-x 1 abraham abraham 159 abr 20 21:15 stop.sh
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ sudo apt install retext
[sudo] password for abraham:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  docutils-common libqt5clucene5 libqt5designer5 libqt5help5 python3-docutils
  python3-enchant python3-markdown python3-markups python3-pygments
  python3-pyqt5 python3-pyqt5.qtwebkit python3-roman python3-sip
  python3-textile python3-yaml
Suggested packages:
  texlive-latex-recommended texlive-latex-base texlive-lang-french
  fonts-linuxlibertine | ttf-linux-libertine docutils-doc python-markdown-doc
  libjs-mathjax ttf-bitstream-vera python3-pyqt5-dbg
The following NEW packages will be installed:
  docutils-common libqt5clucene5 libqt5designer5 libqt5help5 python3-docutils
  python3-enchant python3-markdown python3-markups python3-pygments
  python3-pyqt5 python3-pyqt5.qtwebkit python3-roman python3-sip
  python3-textile python3-yaml retext
0 upgraded, 16 newly installed, 0 to remove and 62 not upgraded.
Need to get 6.781 kB of archives.
After this operation, 29,4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 docutils-common all 0.12+dfsg-1 [141 kB]
Get:2 http://es.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 libqt5clucene5 amd64 5.5.1-3ubuntu0.1 [264 kB]
Get:3 http://es.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 libqt5designer5 amd64 5.5.1-3ubuntu0.1 [2,719 kB]
Get:4 http://es.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 libqt5help5 amd64 5.5.1-3ubuntu0.1 [183 kB]
Get:5 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 python3-roman all 2.0.0-2 [8.140 kB]
Get:6 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 python3-docutils all 0.12+dfsg-1 [346 kB]
Get:7 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-enchant all 1.6.6-2 [41,9 kB]
```

```
Get:8 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-markdown all 2.6.6-1 [52,4 kB]
Get:9 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-markups all 1.0.1-1 [9,498 B]
Get:10 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 python3-pygments all 2.1+dfsg-1 [520 kB]
Get:11 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-sip amd64 4.17+dfsg-1build1 [70,5 kB]
Get:12 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-pyqt5 amd64 5.5.1+dfsg-3ubuntu4 [2.118 kB]
Get:13 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-pyqt5.qtwebkit amd64 5.5.1+dfsg-3ubuntu4 [94,6 kB]
Get:14 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 python3-textile all 1:2.2.2-1 [32,9 kB]
Get:15 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 python3-yaml amd64 3.11-3build1 [95,6 kB]
Get:16 http://es.archive.ubuntu.com/ubuntu xenial/universe amd64 retext all 5.3.1-1 [83,8 kB]
Fetched 6.781 kB in 1s (4.289 kB/s)
Selecting previously unselected package docutils-common.
(Reading database ... 178207 files and directories currently installed.)
Preparing to unpack .../docutils-common_0.12+dfsg-1_all.deb ...
Unpacking docutils-common (0.12+dfsg-1) ...
Selecting previously unselected package libqt5clucene5:amd64.
Preparing to unpack .../libqt5clucene5_5.5.1-3ubuntu0.1_amd64.deb ...
Unpacking libqt5clucene5:amd64 (5.5.1-3ubuntu0.1) ...
Selecting previously unselected package libqt5designer5:amd64.
Preparing to unpack .../libqt5designer5_5.5.1-3ubuntu0.1_amd64.deb ...
Unpacking libqt5designer5:amd64 (5.5.1-3ubuntu0.1) ...
Selecting previously unselected package libqt5help5:amd64.
Preparing to unpack .../libqt5help5_5.5.1-3ubuntu0.1_amd64.deb ...
Unpacking libqt5help5:amd64 (5.5.1-3ubuntu0.1) ...
Selecting previously unselected package python3-roman.
Preparing to unpack .../python3-roman_2.0.0-2_all.deb ...
Unpacking python3-roman (2.0.0-2) ...
Selecting previously unselected package python3-docutils.
Preparing to unpack .../python3-docutils_0.12+dfsg-1_all.deb ...
Unpacking python3-docutils (0.12+dfsg-1) ...
Selecting previously unselected package python3-enchant.
Preparing to unpack .../python3-enchant_1.6.6-2_all.deb ...
Unpacking python3-enchant (1.6.6-2) ...
Selecting previously unselected package python3-markdown.
Preparing to unpack .../python3-markdown_2.6.6-1_all.deb ...
Unpacking python3-markdown (2.6.6-1) ...
Selecting previously unselected package python3-markups.
Preparing to unpack .../python3-markups_1.0.1-1_all.deb ...
Unpacking python3-markups (1.0.1-1) ...
Selecting previously unselected package python3-pygments.
Preparing to unpack .../python3-pygments_2.1+dfsg-1_all.deb ...
Unpacking python3-pygments (2.1+dfsg-1) ...
Selecting previously unselected package python3-sip.
Preparing to unpack .../python3-sip_4.17+dfsg-1build1_amd64.deb ...
Unpacking python3-sip (4.17+dfsg-1build1) ...
Selecting previously unselected package python3-pyqt5.
Preparing to unpack .../python3-pyqt5_5.5.1+dfsg-3ubuntu4_amd64.deb ...
Unpacking python3-pyqt5 (5.5.1+dfsg-3ubuntu4) ...
Selecting previously unselected package python3-pyqt5.qtwebkit.
Preparing to unpack .../python3-pyqt5.qtwebkit_5.5.1+dfsg-3ubuntu4_amd64.deb ...
Unpacking python3-pyqt5.qtwebkit (5.5.1+dfsg-3ubuntu4) ...
Selecting previously unselected package python3-textile.
Preparing to unpack .../python3-textile_1%3a2.2.2-1_all.deb ...
Unpacking python3-textile (1:2.2.2-1) ...
Selecting previously unselected package python3-yaml.
Preparing to unpack .../python3-yaml_3.11-3build1_amd64.deb ...
```

```

Unpacking python3-yaml (3.11-3build1) ...
Selecting previously unselected package retext.
Preparing to unpack .../retext_5.3.1-1_all.deb ...
Unpacking retext (5.3.1-1) ...
Processing triggers for man-db (2.7.5-1) ...
Processing triggers for shared-mime-info (1.5-2ubuntu0.2) ...
Processing triggers for sgml-base (1.26+nmu4ubuntu1) ...
Processing triggers for libc-bin (2.23-0ubuntu11) ...
Processing triggers for gnome-menus (3.13.3-6ubuntu3.1) ...
Processing triggers for desktop-file-utils (0.22-1ubuntu5.2) ...
Processing triggers for bamfdaemon (0.5.3~bzr0+16.04.20180209-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.59ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.15-0ubuntu1.1) ...
Setting up docutils-common (0.12+dfsg-1) ...
Setting up libqt5clucene5:amd64 (5.5.1-3ubuntu0.1) ...
Setting up libqt5designer5:amd64 (5.5.1-3ubuntu0.1) ...
Setting up libqt5help5:amd64 (5.5.1-3ubuntu0.1) ...
Setting up python3-roman (2.0.0-2) ...
Setting up python3-enchant (1.6.6-2) ...
Setting up python3-markdown (2.6.6-1) ...
Setting up python3-markups (1.0.1-1) ...
Setting up python3-pygments (2.1+dfsg-1) ...
Setting up python3-sip (4.17+dfsg-1build1) ...
Setting up python3-pyqt5 (5.5.1+dfsg-3ubuntu4) ...
Setting up python3-pyqt5.qtwebkit (5.5.1+dfsg-3ubuntu4) ...
Setting up python3-textile (1:2.2.2-1) ...
Setting up python3-yaml (3.11-3build1) ...
Processing triggers for sgml-base (1.26+nmu4ubuntu1) ...
Setting up python3-docutils (0.12+dfsg-1) ...
update-alternatives: using /usr/share/docutils/scripts/python3/rst-buildhtml to provide /usr/bin/rst-buildhtml (rst-buildhtml) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2html to provide /usr/bin/rst2html (rst2html) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2latex to provide /usr/bin/rst2latex (rst2latex) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2man to provide /usr/bin/rst2man (rst2man) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2odt to provide /usr/bin/rst2odt (rst2odt) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2odt_prepstyles to provide /usr/bin/rst2odt_prepstyles (rst2odt_prepstyles) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2pseudoxml to provide /usr/bin/rst2pseudoxml (rst2pseudoxml) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2s5 to provide /usr/bin/rst2s5 (rst2s5) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2xetex to provide /usr/bin/rst2xetex (rst2xetex) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rst2xml to provide /usr/bin/rst2xml (rst2xml) in auto mode
update-alternatives: using /usr/share/docutils/scripts/python3/rstpep2html to provide /usr/bin/rstpep2html (rstpep2html) in auto mode
Setting up retext (5.3.1-1) ...
Processing triggers for libc-bin (2.23-0ubuntu11) ...
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ sudo ./start.sh
caca63bba50c7259acbc2a2b1227b1cbe73dc220020f2f8537e36fb6e0c92719
+ set -e
+. config.rc
++ FORGE_PREFIX=codeurjc-forge
++ APACHE_NAME=apache
++ GERRIT_NAME=gerrit
++ PG_GERRIT_NAME=pg-gerrit
++ LDAP_NAME=openldap
++ PHPLDAPADMIN_NAME=phpldapadmin
++ JENKINS_NAME=jenkins
++ ARCHIVA_NAME=archiva

```

```

++ OPENLDAP_SSP_NAME=openldap-ssp
++ APACHE_VOLUME=apache-volume
++ ARCHIVA_VOLUME=archiva-volume
++ GERRIT_VOLUME=gerrit-volume
++ JENKINS_VOLUME=jenkins-volume
++ PG_GERRIT_VOLUME=pg-gerrit-volume
++ CI_NETWORK=ci-network
++ GERRIT_ADMIN_EMAIL=admin@example.com
++ GERRIT_ADMIN_PWD=s3cr3t0
++ GERRIT_ADMIN_UID=admin
++ DEVELOPER1_EMAIL=dev1@example.com
++ DEVELOPER1_PASSWORD=d3v3l0p3r
++ DEVELOPER1_USERNAME=dev1
++ DEVELOPER2_EMAIL=dev2@example.com
++ DEVELOPER2_PASSWORD=d3v3l0p3r
++ DEVELOPER2_USERNAME=dev2
++ GERRIT_IMAGE_NAME=codeurjc/forge-gerrit:20180423142446
++ JENKINS_IMAGE_NAME=codeurjc/forge-jenkins:20180423142446
++ LDAP_IMAGE_NAME=openfrontier/openldap
++ POSTGRES_IMAGE_NAME=postgres
++ HTTP_IMAGE_NAME=httpd
++ ARCHIVA_IMAGE_NAME=xetusoss/archiva
++ OPENLDAP_SSP_IMAGE_NAME=codeurjc/forge-php-ssp
++ GERRIT_PORT=8080
++ JENKINS_PORT=8181
++ LDAPSSP_PORT=8282
++ PHPLDAPADMIN_PORT=8383
++ ARCHIVA_PORT=8484
++ HTTPD_PORT=8585
++ INITIAL_PROJECT_DESCRIPTION='Super project'
++ INITIAL_PROJECT_NAME=awesome-project
++ LDAP_ACCOUNTBASE=dc=example,dc=com
++ SLAPD_DOMAIN=example.com
++ SLAPD_PASSWORD=secret
++ TIMEZONE=Europe/Madrid
++ HTTPD_LISTENURL='http://*:8080'
++ JENKINS_OPTS[--prefix=/jenkins
+++/ dirname ./createOpenLDAP.sh
++ cd .
++ pwd
+ DIR=/home/abraham/practicaCI/codeurjc-forge
+ BASE_LDIF=base.ldif
+ SLAPD_TMP_DN=.example.com
+ '[' -n .example.com ']'
+ SLAPD_DN=,dc=com
+ SLAPD_TMP_DN=.example
+ '[' -n .example ']'
+ SLAPD_DN=,dc=example,dc=com
+ SLAPD_TMP_DN=
+ '[' -n " "]'
+ SLAPD_DN=dc=example,dc=com
+ docker volume create --name codeurjc-forge-openldap-etc-volume
codeurjc-forge-openldap-etc-volume
+ docker volume create --name codeurjc-forge-openldap-repo-volume
codeurjc-forge-openldap-repo-volume

```

```

+ sed -e 's/{SLAPD_DN}/dc=example,dc=com/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif.template
+ sed -i 's/{ADMIN_UID}/admin/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ sed -i 's/{ADMIN_EMAIL}/admin@example.com/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ sed -i 's/{DEVELOPER1_USERNAME}/dev1/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ sed -i 's/{DEVELOPER1_EMAIL}/dev1@example.com/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ sed -i 's/{DEVELOPER2_USERNAME}/dev2/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ sed -i 's/{DEVELOPER2_EMAIL}/dev2@example.com/g' /home/abraham/practicaCI/codeurjc-forge/base.ldif
+ docker run --name codeurjc-forge-openldap --net ci-network -p 389:389 --volume codeurjc-forge-openldap-etc-volume:/etc/ldap --volume codeurjc-forge-openldap-repo-volume:/var/lib/ldap -e SLAPD_PASSWORD=secret -e SLAPD_DOMAIN=example.com -v /home/abraham/practicaCI/codeurjc-forge/base.ldif:/base.ldif:ro -d openfrontier/openldap
Unable to find image 'openfrontier/openldap:latest' locally
latest: Pulling from openfrontier/openldap
3e731ddb7fc9: Pull complete
52ac03a1b832: Pull complete
abb8eb9ba45b: Pull complete
0d11e376315e: Pull complete
239b45032412: Pull complete
a6ce30237a3a: Pull complete
Digest: sha256:bdf5e9cc4744adc8abf98578df082fd5c666a84457efb636a469747f99734ae4
Status: Downloaded newer image for openfrontier/openldap:latest
9b0e7ca2a073e3724ca6ffaed98b3178cd3adb7809c5dc2a2c4d3101aa9d6eee
++ docker logs codeurjc-forge-openldap
++ tail -n 4
++ grep 'slapd starting'
+ '[' -z '' ']'
+ echo 'Waiting openldap ready.'
Waiting openldap ready.
+ sleep 1
++ tail -n 4
++ grep 'slapd starting'
++ docker logs codeurjc-forge-openldap
+ '[' -z '5ccb70b2 slapd starting' ']'
+ docker exec codeurjc-forge-openldap ldapadd -f /base.ldif -x -D cn=admin,dc=example,dc=com -w secret
adding new entry "ou=gerrit,dc=example,dc=com"

adding new entry "ou=accounts,dc=example,dc=com"

adding new entry "cn=group,ou=accounts,dc=example,dc=com"

adding new entry "uid=admin,ou=accounts,dc=example,dc=com"

adding new entry "uid=dev1,ou=accounts,dc=example,dc=com"

adding new entry "uid=dev2,ou=accounts,dc=example,dc=com"

+ docker exec codeurjc-forge-openldap ldappasswd -x -D cn=admin,dc=example,dc=com -w secret -s s3cr3t0 uid=admin,ou=accounts,dc=example,dc=com
+ docker exec codeurjc-forge-openldap ldappasswd -x -D cn=admin,dc=example,dc=com -w secret -s d3v3l0p3r uid=dev1,ou=accounts,dc=example,dc=com
+ docker exec codeurjc-forge-openldap ldappasswd -x -D cn=admin,dc=example,dc=com -w secret -s d3v3l0p3r uid=dev2,ou=accounts,dc=example,dc=com
+ set -e
+. config.rc
++ FORGE_PREFIX=codeurjc-forge
++ APACHE_NAME=apache
++ GERRIT_NAME=gerrit
++ PG_GERRIT_NAME=pg-gerrit
++ LDAP_NAME=openldap
++ PHPLDAPADMIN_NAME=phpldapadmin

```

```

++ JENKINS_NAME=jenkins
++ ARCHIVA_NAME=archiva
++ OPENLDAP_SSP_NAME=openldap-ssp
++ APACHE_VOLUME=apache-volume
++ ARCHIVA_VOLUME=archiva-volume
++ GERRIT_VOLUME=gerrit-volume
++ JENKINS_VOLUME=jenkins-volume
++ PG_GERRIT_VOLUME=pg-gerrit-volume
++ CI_NETWORK=ci-network
++ GERRIT_ADMIN_EMAIL=admin@example.com
++ GERRIT_ADMIN_PWD=s3cr3t0
++ GERRIT_ADMIN_UID=admin
++ DEVELOPER1_EMAIL=dev1@example.com
++ DEVELOPER1_PASSWORD=d3v3l0p3r
++ DEVELOPER1_USERNAME=dev1
++ DEVELOPER2_EMAIL=dev2@example.com
++ DEVELOPER2_PASSWORD=d3v3l0p3r
++ DEVELOPER2_USERNAME=dev2
++ GERRIT_IMAGE_NAME=codeurjc/forge-gerrit:20180423142446
++ JENKINS_IMAGE_NAME=codeurjc/forge-jenkins:20180423142446
++ LDAP_IMAGE_NAME=openfrontier/openldap
++ POSTGRES_IMAGE_NAME=postgres
++ HTTP_IMAGE_NAME=httpd
++ ARCHIVA_IMAGE_NAME=xetusoss/archiva
++ OPENLDAP_SSP_IMAGE_NAME=codeurjc/forge-php-ssp
++ GERRIT_PORT=8080
++ JENKINS_PORT=8181
++ LDAPSSP_PORT=8282
++ PHPLDAPADMIN_PORT=8383
++ ARCHIVA_PORT=8484
++ HTTPD_PORT=8585
++ INITIAL_PROJECT_DESCRIPTION='Super project'
++ INITIAL_PROJECT_NAME=awesome-project
++ LDAP_ACCOUNTBASE=dc=example,dc=com
++ SLAPD_DOMAIN=example.com
++ SLAPD_PASSWORD=secret
++ TIMEZONE=Europe/Madrid
++ HTTPD_LISTENURL='http://*:8080'
++ JENKINS_OPTS=--prefix=/jenkins
+ docker volume create --name codeurjc-forge-pg-gerrit-volume
codeurjc-forge-pg-gerrit-volume
+ docker run -name codeurjc-forge-pg-gerrit --net ci-network --volume codeurjc-forge-pg-gerrit-volume:/var/lib/postgresql/data -p 5432:5432 -e POSTGRES_USER=gerrit2 -e POSTGRES_PASSWORD=gerrit -e POSTGRES_DB=reviewdb --restart=unless-stopped -d postgres
Unable to find image 'postgres:latest' locally
latest: Pulling from library/postgres
27833a3ba0a5: Pull complete
ed00742830a6: Pull complete
dc611c2aceba: Pull complete
a61becab5279: Pull complete
8dcff41e7aea: Pull complete
820bf1bbf0d7: Pull complete
050804429905: Pull complete
782c81275334: Pull complete
bfb4aaa36ad6: Pull complete
9101c497b579: Pull complete

```

```

746ef6cad24f: Pull complete
0b3454d86d65: Pull complete
446fd78a7de2: Pull complete
b22ef7f366b5: Pull complete
Digest: sha256:e002abfaf7b0f1015b7510f66b709e2bacbecc7762c428634c27a3c5e58ffbae
Status: Downloaded newer image for postgres:latest
27b0ae7c6096613a02e230495f89dfe8e706fddd286936cf39fce5b898a392
+ nc -z localhost 5432
+ docker volume create --name codeurjc-forge-gerrit-volume
codeurjc-forge-gerrit-volume
+ docker run --name codeurjc-forge-gerrit --net ci-network -p 29418:29418 -p 8080:8080 --volume codeurjc-forge-gerrit-volume:/var/gerrit/review_site -e WEBURL=http://10.0.2.15:8080 -e
'HTTPD_LISTENURL=http://*:8080' -e DATABASE_TYPE=postgresql -e DB_PORT_5432_TCP_ADDR=codeurjc-forge-pg-gerrit -e DB_PORT_5432_TCP_PORT=5432 -e DB_ENV_POSTGRES_DB=reviewdb -e
DB_ENV_POSTGRES_USER=gerrit2 -e DB_ENV_POSTGRES_PASSWORD=gerrit -e AUTH_TYPE=LDAP -e LDAP_SERVER=codeurjc-forge-openldap -e LDAP_ACCOUNTBASE=dc=example,dc=com -e SMTP_SERVER= -e SMTP_USER= -
e SMTP_PASS= -e USER_EMAIL= -e JENKINS_EMAIL=jenkins@domain.local -e 'GERRIT_INIT_ARGS="--install-plugin=download-commands --install-plugin=replication' -e INITIAL_ADMIN_USER=admin -e
INITIAL_ADMIN_PASSWORD=s3cr3t0 -e INITIAL_ADMIN_EMAIL=admin@example.com -e JENKINS_HOST=codeurjc-forge-jenkins -e DEVELOPER1_EMAIL=dev1@example.com -e DEVELOPER1_USERNAME=dev1 -e
DEVELOPER1_PASSWORD=d3v3l0p3r -e DEVELOPER2_EMAIL=dev2@example.com -e DEVELOPER2_USERNAME=dev2 -e DEVELOPER2_PASSWORD=d3v3l0p3r -e INITIAL_PROJECT_NAME=awesome-project -e
'INITIAL_PROJECT_DESCRIPTION=Super project' -e GITWEB_TYPE=gitalies -d codeurjc/forge-gerrit:20180423142446
Unable to find image 'codeurjc/forge-gerrit:20180423142446' locally
20180423142446: Pulling from codeurjc/forge-gerrit
ff3a5c916c92: Pulling fs layer
5de5f69f42d7: Pull complete
fa7536dd895a: Pull complete
4a0803ca5dd3: Pull complete
8d7cbf61121a: Pull complete
902cc90ae5ac: Pull complete
8bee930b1333: Pull complete
47e625efb433: Pull complete
bd3f259f1308: Pull complete
2261d788f7e7: Pull complete
93fee7ee6710: Pull complete
1129227791d8: Pull complete
458373f19648: Pull complete
715887268065: Pull complete
1fd8ea1c9637: Pull complete
fa746c2aa7b8: Pull complete
2c5861381acf: Pull complete
e5444424541e: Pull complete
1d7400403708: Pull complete
1c15c381a429: Pull complete
c5b1a69a20cf: Pull complete
a04fdb93a171: Pull complete
2b338c6f0c04: Pull complete
6a9ab77b0d4b: Pull complete
Digest: sha256:d86c348cc4ff67d63e2ee1bf7be9369613c04c5813c48fe886292cce5072724a
Status: Downloaded newer image for codeurjc/forge-gerrit:20180423142446
92b5eb183275167eef0c8b4488de60bfa27caa185ab92af525158a4868594f62
Waiting for Gerrit
Waiting for Gerrit
Waiting for Gerrit
+ set -e
+. config.rc
++ FORGE_PREFIX=codeurjc-forge
++ APACHE_NAME=apache
++ GERRIT_NAME=gerrit
++ PG_GERRIT_NAME=pg-gerrit

```

```

++ LDAP_NAME=openldap
++ PHPLDAPADMIN_NAME=phpldapadmin
++ JENKINS_NAME=jenkins
++ ARCHIVA_NAME=archiva
++ OPENLDAP_SSP_NAME=openldap-ssp
++ APACHE_VOLUME=apache-volume
++ ARCHIVA_VOLUME=archiva-volume
++ GERRIT_VOLUME=gerrit-volume
++ JENKINS_VOLUME=jenkins-volume
++ PG_GERRIT_VOLUME=pg-gerrit-volume
++ CI_NETWORK=ci-network
++ GERRIT_ADMIN_EMAIL=admin@example.com
++ GERRIT_ADMIN_PWD=s3cr3t0
++ GERRIT_ADMIN_UID=admin
++ DEVELOPER1_EMAIL=dev1@example.com
++ DEVELOPER1_PASSWORD=d3v3l0p3r
++ DEVELOPER1_USERNAME=dev1
++ DEVELOPER2_EMAIL=dev2@example.com
++ DEVELOPER2_PASSWORD=d3v3l0p3r
++ DEVELOPER2_USERNAME=dev2
++ GERRIT_IMAGE_NAME=codeurjc/forge-gerrit:20180423142446
++ JENKINS_IMAGE_NAME=codeurjc/forge-jenkins:20180423142446
++ LDAP_IMAGE_NAME=openfrontier/openldap
++ POSTGRES_IMAGE_NAME=postgres
++ HTTP_IMAGE_NAME=httpd
++ ARCHIVA_IMAGE_NAME=xetusoss/archiva
++ OPENLDAP_SSP_IMAGE_NAME=codeurjc/forge-php-ssp
++ GERRIT_PORT=8080
++ JENKINS_PORT=8181
++ LDAPSSP_PORT=8282
++ PHPLDAPADMIN_PORT=8383
++ ARCHIVA_PORT=8484
++ HTTPD_PORT=8585
++ INITIAL_PROJECT_DESCRIPTION='Super project'
++ INITIAL_PROJECT_NAME=awesome-project
++ LDAP_ACCOUNTBASE=dc=example,dc=com
++ SLAPD_DOMAIN=example.com
++ SLAPD_PASSWORD=secret
++ TIMEZONE=Europe/Madrid
++ HTTPD_LISTENURL='http://*:8080'
++ JENKINS_OPTS[--prefix=/jenkins
+ docker volume create --name codeurjc-forge-jenkins-volume
codeurjc-forge-jenkins-volume
+ docker run --name codeurjc-forge-jenkins --net ci-network -p 50000:50000 -p 8181:8080 --volume codeurjc-forge-jenkins-volume:/var/jenkins_home --volume /var/run/docker.sock:/var/run/docker.sock --volume codeurjc-forge-apache-volume:/usr/share/apache -e 'JAVA_OPTS=-Duser.timezone=Europe/Madrid -Djenkins.install.runSetupWizard=false' -e LDAP_SERVER=codeurjc-forge-openldap -e LDAP_ROOTDN=dc=example,dc=com -e LDAP_INHIBIT_INFER_ROOTDN=false -e LDAP_DISABLE_MAIL_ADDRESS_RESOLVER=false -e GERRIT_HOST_NAME=codeurjc-forge-gerrit -e GERRIT_FRONT_END_URL=http://10.0.2.15:8080 -e GERRIT_INITIAL_ADMIN_USER=admin -e GERRIT_INITIAL_ADMIN_PASSWORD=s3cr3t0 --detach codeurjc/forge-jenkins:20180423142446 --prefix=/jenkins
Unable to find image 'codeurjc/forge-jenkins:20180423142446' locally
20180423142446: Pulling from codeurjc/forge-jenkins
c73ab1c6897b: Pulling fs layer
1ab373b3deae: Pulling fs layer
b542772b4177: Pulling fs layer
57c8de432dbe: Pulling fs layer
da44f64ae999: Pulling fs layer
0bbc7b377a91: Pulling fs layer

```

```
1b6c70b3786f: Pulling fs layer
d9bbcf733166: Pulling fs layer
b1d3e8de8ec6: Pulling fs layer
340cd692075b: Pull complete
cbdea032801: Pull complete
398819b00c6c: Pull complete
7d4d905c2060: Pull complete
41d78c0cb1b2: Pull complete
edb369c8c5d7: Pull complete
31aab384e3f: Pull complete
0984904c0e15: Pull complete
50ddcd1d0618b: Pull complete
a18e3c45bf91: Pull complete
213b0c5bb530: Pull complete
b3a122ff7868: Pull complete
b970c9afc934: Pull complete
c471c7e5d591: Pull complete
ba51672bb090: Pull complete
aca579471d8d: Pull complete
33bae9548782: Pull complete
e703c1911d0a: Pull complete
89ee17e4def6: Pull complete
5d22884893d0: Pull complete
5eeb5d614e2d: Pull complete
581ba11d66fa: Pull complete
a91ca9449dd3: Pull complete
Digest: sha256:dc50d898008d11a27687717f9d6e0e9f4c199dc4747cb5aeab6d33df739aecc3
Status: Downloaded newer image for codeurjc/forge-jenkins:20180423142446
d27dc240c1809a7fe967aea1f16b988708beaa93bc8a60249bb2c3fd0813cc
Waiting for Jenkins
Waiting for Jenkins
Waiting for Jenkins
+ set -e
+. config.rc
++ FORGE_PREFIX=codeurjc-forge
++ APACHE_NAME=apache
++ GERRIT_NAME=gerrit
++ PG_GERRIT_NAME=pg-gerrit
++ LDAP_NAME=openldap
++ PHPLDAPADMIN_NAME=phpldapadmin
++ JENKINS_NAME=jenkins
++ ARCHIVA_NAME=archiva
++ OPENLDAP_SSP_NAME=openldap-ssp
++ APACHE_VOLUME=apache-volume
++ ARCHIVA_VOLUME=archiva-volume
++ GERRIT_VOLUME=gerrit-volume
++ JENKINS_VOLUME=jenkins-volume
++ PG_GERRIT_VOLUME=pg-gerrit-volume
++ CI_NETWORK=ci-network
++ GERRIT_ADMIN_EMAIL=admin@example.com
++ GERRIT_ADMIN_PWD=s3cr3t0
++ GERRIT_ADMIN_UID=admin
++ DEVELOPER1_EMAIL=dev1@example.com
++ DEVELOPER1_PASSWORD=d3v3l0p3r
++ DEVELOPER1_USERNAME=dev1
```

```

++ DEVELOPER2_EMAIL=dev2@example.com
++ DEVELOPER2_PASSWORD=d3v3l0p3r
++ DEVELOPER2_USERNAME=dev2
++ GERRIT_IMAGE_NAME=codeurjc/forge-gerrit:20180423142446
++ JENKINS_IMAGE_NAME=codeurjc/forge-jenkins:20180423142446
++ LDAP_IMAGE_NAME=openfrontier/openldap
++ POSTGRES_IMAGE_NAME=postgres
++ HTTP_IMAGE_NAME=httpd
++ ARCHIVA_IMAGE_NAME=xetusoss/archiva
++ OPENLDAP_SSP_IMAGE_NAME=codeurjc/forge-php-ssp
++ GERRIT_PORT=8080
++ JENKINS_PORT=8181
++ LDAPSSP_PORT=8282
++ PHPLDAPADMIN_PORT=8383
++ ARCHIVA_PORT=8484
++ HTTPD_PORT=8585
++ INITIAL_PROJECT_DESCRIPTION='Super project'
++ INITIAL_PROJECT_NAME=awesome-project
++ LDAP_ACCOUNTBASE=dc=example,dc=com
++ SLAPD_DOMAIN=example.com
++ SLAPD_PASSWORD=secret
++ TIMEZONE=Europe/Madrid
++ HTTPD_LISTENURL='http://*:8080'
++ JENKINS_OPTS=--prefix=/jenkins
+ sed -e s/LDAP_SERVER/codeurjc-forge-openldap:389/g httpd/vhost.conf.templ
+ sed -i s/LDAP_ROOT_DN/dc=example,dc=com/g httpd/vhost.conf
+ docker volume create --name codeurjc-forge-apache-volume
codeurjc-forge-apache-volume
+ docker run --name codeurjc-forge-apache --detach --net ci-network -p 8585:80 -v /home/abraham/practicaCI/codeurjc-forge/httpd/httpd.conf:/usr/local/apache2/conf/httpd.conf -v /home/abraham/practicaCI/codeurjc-forge/httpd/vhost.conf:/usr/local/apache2/conf/vhost.conf -v codeurjc-forge-apache-volume:/usr/local/apache2/www httpd
Unable to find image 'httpd:latest' locally
latest: Pulling from library/httpd
27833a3ba0a5: Already exists
7df2f4a2bf95: Pull complete
bbda6f884d14: Pull complete
4d3dcf503f89: Pull complete
b2f11da8a23e: Pull complete
Digest: sha256:b4096b744d92d1825a36b3ace61ef4caa2ba57d0307b985cace4621139c285f7
Status: Downloaded newer image for httpd:latest
42f7c5d210a5e2666006189e87a28c33083dd994f10d3a3000cde74537496aa4
+ set -e
+. config.rc
++ FORGE_PREFIX=codeurjc-forge
++ APACHE_NAME=apache
++ GERRIT_NAME=gerrit
++ PG_GERRIT_NAME=pg-gerrit
++ LDAP_NAME=openldap
++ PHPLDAPADMIN_NAME=phpldapadmin
++ JENKINS_NAME=jenkins
++ ARCHIVA_NAME=archiva
++ OPENLDAP_SSP_NAME=openldap-ssp
++ APACHE_VOLUME=apache-volume
++ ARCHIVA_VOLUME=archiva-volume
++ GERRIT_VOLUME=gerrit-volume
++ JENKINS_VOLUME=jenkins-volume

```

```

++ PG_GERRIT_VOLUME=pg-gerrit-volume
++ CI_NETWORK=ci-network
++ GERRIT_ADMIN_EMAIL=admin@example.com
++ GERRIT_ADMIN_PWD=s3cr3t0
++ GERRIT_ADMIN_UID=admin
++ DEVELOPER1_EMAIL=dev1@example.com
++ DEVELOPER1_PASSWORD=d3v3l0p3r
++ DEVELOPER1_USERNAME=dev1
++ DEVELOPER2_EMAIL=dev2@example.com
++ DEVELOPER2_PASSWORD=d3v3l0p3r
++ DEVELOPER2_USERNAME=dev2
++ GERRIT_IMAGE_NAME=codeurjc/forge-gerrit:20180423142446
++ JENKINS_IMAGE_NAME=codeurjc/forge-jenkins:20180423142446
++ LDAP_IMAGE_NAME=openfrontier/openldap
++ POSTGRES_IMAGE_NAME=postgres
++ HTTP_IMAGE_NAME=httpd
++ ARCHIVA_IMAGE_NAME=xetusoss/archiva
++ OPENLDAP_SSP_IMAGE_NAME=codeurjc/forge-php-ssp
++ GERRIT_PORT=8080
++ JENKINS_PORT=8181
++ LDAPSSP_PORT=8282
++ PHPLDAPADMIN_PORT=8383
++ ARCHIVA_PORT=8484
++ HTTPD_PORT=8585
++ INITIAL_PROJECT_DESCRIPTION='Super project'
++ INITIAL_PROJECT_NAME=awesome-project
++ LDAP_ACCOUNTBASE=dc=example,dc=com
++ SLAPD_DOMAIN=example.com
++ SLAPD_PASSWORD=secret
++ TIMEZONE=Europe/Madrid
++ HTTPD_LISTENURL='http://*:8080'
++ JENKINS_OPTS--prefix=/jenkins
+ docker volume create --name codeurjc-forge-archiva-volume
codeurjc-forge-archiva-volume
+ docker run --name codeurjc-forge-archiva --net ci-network --volume codeurjc-forge-archiva-volume:/archiva-data --publish 8484:8080 --detach xetusoss/archiva
Unable to find image 'xetusoss/archiva:latest' locally
latest: Pulling from xetusoss/archiva
e79bb959ec00: Pull complete
d4b7902036fe: Pull complete
1b2a72d4e030: Pull complete
d54db43011fd: Pull complete
1a97c78dad71: Pull complete
6dcbb79eeda4: Pull complete
bd56246cf4fd: Pull complete
88cea60f56c5: Pull complete
15deb11e5c15: Pull complete
08d90c98acf5: Pull complete
8bf6033f9a4e: Pull complete
2bc716dfe56a: Pull complete
729cf40920ff: Pull complete
Digest: sha256:d291ca6412c507cacc4aef59352238271ae9e5d905b113d16d968502fa8f136
Status: Downloaded newer image for xetusoss/archiva:latest
4b80de7240f2da6c5023d0c4d3d8eeebf07f8da132b1b4509aadea0b6a62850
+ curl --location --output /dev/null --silent --write-out '%{http_code}\n' http://localhost:8484/
+ echo 'Waiting for Archiva'

```

```

Waiting for Archiva
+ sleep 1
+ curl --location --output /dev/null --silent --write-out '%{http_code}\n' http://localhost:8484/
+ grep 200
+ echo 'Waiting for Archiva'
Waiting for Archiva
+ sleep 1
+ curl --location --output /dev/null --silent --write-out '%{http_code}\n' http://localhost:8484/
+ grep 200
++ generate_post_data
++ cat
+ curl http://localhost:8484/restServices/redbackServices/userService/createAdminUser -H 'Origin: http://localhost:8484' -H 'Content-Type: application/json' -H 'Referer: http://localhost:8484/' -H 'Connection: keep-alive' --
data '{
    "username":"admin",
    "password":"s3cr3t0",
    "confirmPassword":"s3cr3t0",
    "fullName":"URJC CI Forge",
    "email":"admin@example.com",
    "assignedRoles":[],
    "modified":true,
    "rememberme":false,
    "logged":false
}' --compressed
trueUnable to find image 'osixia/phpldapadmin:0.7.1' locally
0.7.1: Pulling from osixia/phpldapadmin
afeb2bfd31c0: Pull complete
a3d3c5dab1e4: Pull complete
918b0d782d3a: Pull complete
75da0c7eae3a: Pull complete
4339b9002d45: Pull complete
cff1838ed856: Pull complete
987155a2bc0b: Pull complete
325d85698781: Pull complete
e196b746c3ec: Pull complete
Digest: sha256:1ab629698ae0abff6e00d23feb978d5345abf656205cb5da3795daedec8cad9e
Status: Downloaded newer image for osixia/phpldapadmin:0.7.1
797a2be07d9ee51da063c432772fbfa171675e5c9da42657d064ffdc6eb245f5
Unable to find image 'codeurjc/forge-php-ssp:latest' locally
latest: Pulling from codeurjc/forge-php-ssp
5e6ec7f28fb7: Pull complete
cf165947b5b7: Pull complete
7bd37682846d: Pull complete
99daf8e838e1: Pull complete
ae320713efba: Pull complete
ebcb99c48d8c: Pull complete
9867e71b4ab6: Pull complete
936eb418164a: Pull complete
bc298e7adaf7: Pull complete
ccd61b587bcd: Pull complete
b2d4b347f67c: Pull complete
56e9dde34152: Pull complete
9ad99b17eb78: Pull complete
6e0cf165f742: Pull complete
56983f728db7: Pull complete
89b7a9e32d00: Pull complete

```

```
1b00e6c331ef: Pull complete
e80aff3997df: Pull complete
Digest: sha256:411a76a06a947f8c2a21094325aebfdca4dacd24921f9c6bd6a4f107edddd6e3
Status: Downloaded newer image for codeurjc/forge-php-ssp:latest
1f5a4f75b258c4a88fe5a3da37bde912bcb054747a5852ea24c866b2b140f184
#####
### Done ##
#####
- URLs:
```

```
Gerrit      -> http://10.0.2.15:8080
Jenkins     -> http://10.0.2.15:8181/jenkins
Archiva     -> http://10.0.2.15:8484
phpLDAPadmin -> http://10.0.2.15:8383/phpLDAPadmin
Self Service Password -> http://10.0.2.15:8282/ssp
Apache Service -> http://10.0.2.15:8585
```

A continuación, se muestran los pasos realizados según el tutorial de la rama de desarrollo [Gerrit](https://github.com/codeurjc/codeurjc-forge/tree/gerrit) (<https://github.com/codeurjc/codeurjc-forge/tree/gerrit>):

1. Generate a SSH RSA Key for a developer user

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ ssh-keygen -t g -f developer.key -q -P ""
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ ssh-add developer.key
Identity added: developer.key (developer.key)
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ cat developer.key.pub
ssh-rsa
AAAAB3NzaC1yc2EAAAQABAAQDghJtBz+KUyHRwXXlu6umgVofPaaENY0uSSF1Fo25QOKfAhSjdGrZ/nzl36nE1BHePU/L9ebjxTWcKK/wq15zmBnl4EaNEj2H1M/tbogx3MV+GYw65+NoR6Zxp2ziWI9KgbnM+WrNF/y
YDWZ47g189uSsrU/tPBgpy8rFnxEc/49F235CurYgilcLzdFeB0Gb7jy7D95KA3AA4tzZnOdZlam1/UcliiXEfvTCsXjmbDhF8BEpej8db0rATLqQmFha7fTqehmw5dI+lwnKK63k0n2n4JPF4Z2dMPSnNQG7Qkk2JzsPEc+LWBi9DN9
MFMXlPobE7zBi5IcTbByd0fl abraham@abraham-VirtualBox
```

2. Upload the key to Gerrit Server. Login as user *dev1*, go to *settings* and paste *developer.key.pub*' content.

The screenshot shows the Gerrit Code Review web interface. The URL in the address bar is `10.0.2.15:8080/#/settings/ssh-keys`. The page title is "Settings | 10.0 Code Review - Mozilla Firefox". On the left, there is a sidebar with various links: Profile, Preferences, Diff Preferences, Edit Preferences, Watched Projects, Contact Information, SSH Public Keys (which is currently selected), Identities, and Groups. The main content area is titled "Settings" and contains a table with columns: Status, Algorithm, Key, and Comment. One row is visible in the table, showing an ssh-rsa key with fingerprint `AAAAB3NzaC1yc2EAAAQABAAQ...IcTbByd0fL` and comment `abraham@abraham-VirtualBox`. Below the table are five sections labeled "Server Host Key", each containing a "Fingerprint" and an "Entry for ~/.ssh/known_hosts" field. The first section's fingerprint is `f6:6d:1c:5f:9d:da:71:b0:30:cb:9b:36:f4:47:ec:c3` and its entry is `[10.0.2.15]:29418 ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTY...yb5Ia9JN=`. The other four sections show similar entries for different host keys. At the bottom right of the main content area, there is a "Powered by Gerrit Code Review (2.14.7) | New UI | Press '?' to view keyboard shortcuts" message.

Ilustración 1. Clave pública de Developer incluida en la BBDD de Gerrit

3. Clone repo

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ git clone ssh://dev1@10.0.2.15:29418/awesome-project
Cloning into 'awesome-project'...
The authenticity of host '[10.0.2.15]:29418 ([10.0.2.15]:29418)' cannot be established.
ECDSA key fingerprint is SHA256:oSL4pGroUgq0bY43nz+uWQRa2vUfGQQXJ1epDKUyHVo.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '[10.0.2.15]:29418' (ECDSA) to the list of known hosts.
Checking connectivity... done.
warning: remote HEAD refers to nonexistent ref, unable to checkout.
```

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ cd awesome-project/
```

4. Configure repo

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git config user.email "dev1@example.com" # This email must be the same as your _developer_ user account!!
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git config user.name "gerrit developer 1"
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ gitdir=$(git rev-parse --git-dir); scp -p -P 29418 dev1@localhost:hooks/commit-msg ${gitdir}/hooks/
The authenticity of host '[localhost]:29418 ([127.0.0.1]:29418)' cannot be established.
ECDSA key fingerprint is SHA256:oSL4pGroUgq0bY43nz+uWQRa2vUfGQQXJ1epDKUyHVo.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '[localhost]:29418' (ECDSA) to the list of known hosts.
commit-msg          100% 4780  4.7KB/s  00:00
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ chmod +x .git/hooks/commit-msg
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$
```

5. Create review job in Jenkins (correspondiente al Job de Commit)

Configuración correspondiente al Job de Commit del usuario Developer con rol de Desarrollador en el Proyecto de Desarrollo Software:

The screenshot shows the Jenkins configuration interface for a pipeline named 'Gerrit-review'. The left sidebar contains various Jenkins management icons. The main panel has tabs for 'General', 'Build Triggers', 'Gerrit Trigger', 'Advanced Project Options', and 'Pipeline'. The 'General' tab is selected, showing the pipeline name 'Gerrit-review' and a description field containing '[Plain text] Preview'. Below these are several configuration options with checkboxes: 'Discard old builds', 'Do not allow concurrent builds', 'Do not allow the pipeline to resume if the master restarts.', 'Pipeline speed/durability override', 'This project is parameterized', and 'Throttle builds'. Under the 'Build Triggers' section, 'Gerrit event' is checked. In the 'Gerrit Trigger' section, 'Choose a Server' is set to 'Gerrit'. At the bottom, there are 'Save' and 'Apply' buttons, and a status message 'Patchset Created'.

Ilustración 2. Configuración del Job Review (1)

The screenshot shows the Jenkins interface for configuring a job named "Project awesome-project". The "Build Triggers" tab is selected. Under "Build Triggers", three options are listed: "Build after other projects are built" (unchecked), "Build periodically" (unchecked), and "Gerrit event" (checked). Below this, the "Gerrit Trigger" section is expanded, showing a "Choose a Server" dropdown set to "Gerrit" and an "Advanced..." button. The "Trigger on" section contains a "Patchset Created" configuration with three checkboxes: "Exclude Drafts" (unchecked), "Exclude Trivial Rebase" (unchecked), and "Exclude No Code Change" (unchecked). There is also an "Add" button to add more triggers. The "Dynamic Trigger Configuration" section is collapsed. At the bottom, there are "Save" and "Apply" buttons.

Ilustración 3. Configuración del Job Review (2)

Gerrit-review Config [Jenkins] - Mozilla Firefox

Get Docker CE for Ubuntu | Project awesome-project | Gerrit-review Config [Jen... | +

10.0.2.15:8181/jenkins/job/Gerrit-review/configure

Jenkins > Gerrit-review >

General Build Triggers Gerrit Trigger Advanced Project Options Pipeline

Trigger builds remotely (e.g., from scripts)

Advanced Project Options

Pipeline

Definition Pipeline script

Script

```
1 > node {
2 >   stage ('Checkout') {
3 >     checkout changelog: false, poll: false, scm: [$class: 'GitSCM', branches: [[name: '$GERRIT_REFSPEC']]], doGenerateSubmoduleConfigurations: false, extensions: [], submodules: []
4 >   }
5 >   stage ('Build') {
6 >     docker.image('maven').inside('-v $HOME/.m2:/root/.m2') {
7 >       sh 'mvn -DskipTests=true install compile package'
8 >     }
9 >   }
10 }
```

Use Groovy Sandbox

[Pipeline Syntax](#)

[Save](#) [Apply](#)

Page generated: Apr 20, 2019 10:07:19 PM CEST [REST API](#) Jenkins ver. 2.107.2

The screenshot shows the Jenkins interface for configuring a job named 'Gerrit-review'. It's a Pipeline job. The pipeline script defines a node block with two stages: 'Checkout' and 'Build'. The 'Checkout' stage uses a GitSCM plugin with a specific refspec. The 'Build' stage runs a Maven build inside a Docker container, skipping tests and installing the package. There are 'Save' and 'Apply' buttons at the bottom.

Ilustración 4, Configuración del Job Review (3)

6. Push the code to the repo

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ cd ..  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ cp code-example/* awesome-project/ && cd awesome-project/  
cp: omitting directory 'code-example/src'  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge$ cp -r code-example/* awesome-project/ && cd awesome-project/  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git add .  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git commit -a -m "first commit"  
[master (root-commit) 110dd14] first commit  
 3 files changed, 176 insertions(+)  
 create mode 100755 pom.xml  
 create mode 100755 src/main/java/es/codeurjc/test/complex/Complex.java  
 create mode 100755 src/test/java/es/codeurjc/test/complex/ComplexTest.java  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git push origin HEAD:refs/for/master  
Counting objects: 18, done.  
Delta compression using up to 4 threads.  
Compressing objects: 100% (6/6), done.  
Writing objects: 100% (18/18), 2.20 KiB | 0 bytes/s, done.  
Total 18 (delta 0), reused 0 (delta 0)  
remote: Processing changes: new: 1, refs: 1, done  
remote:  
remote: New Changes:  
remote: http://10.0.2.15:8080/1 first commit  
remote:  
To ssh://dev1@10.0.2.15:29418/awesome-project  
 * [new branch]  HEAD -> refs/for/master  
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$
```

The screenshot shows a Mozilla Firefox browser window with the address bar set to 10.0.2.15:8080/#/c/1/. The main content area displays a Gerrit code review interface for a new commit (Change I40a12a00: first commit) in the 'awesome-project' repository.

Commit Details:

- Author: gerrit developer 1 <dev1@example.com>
- Committer: gerrit developer 1 <dev1@example.com>
- Commit: 110dd14521b74a9f0eab31e9ff266a54d603ef2e
- Parents(s): Change-id: I40a12a000ced0d697485f6bc2413f576110caf4
- Change-ID: I40a12a000ced0d697485f6bc2413f576110caf4

Review Labels:

- Code-Review +1 gerrit developer 1
- Verified +1 gerrit developer 1

Comments Size:

File Path	Comments
Commit Message	24
A pom.xml	116
A src/main/java/es/codeurjc/test/complex/Complex.java	36
A src/test/java/es/codeurjc/test/complex/ComplexTest.java	+176, -0

History:

- gerrit developer 1 Uploaded patch set 1. 7:29 PM
- Jenkins Server Patch Set 1: "Build Started nulljob/Gerrit-review/1" 7:29 PM
- gerrit developer 1 Patch Set 1: Verified+1 Code-Review+1 7:30 PM

Powered by [Gerrit Code Review \(2.14.7\)](#) | [New UI](#) | Press '?' to view keyboard shortcuts

Update from Jenkins Server [Show](#) [Ignore](#)

Ilustración 5. Confirmación de nuevo Commit en Gerrit por parte de Developer

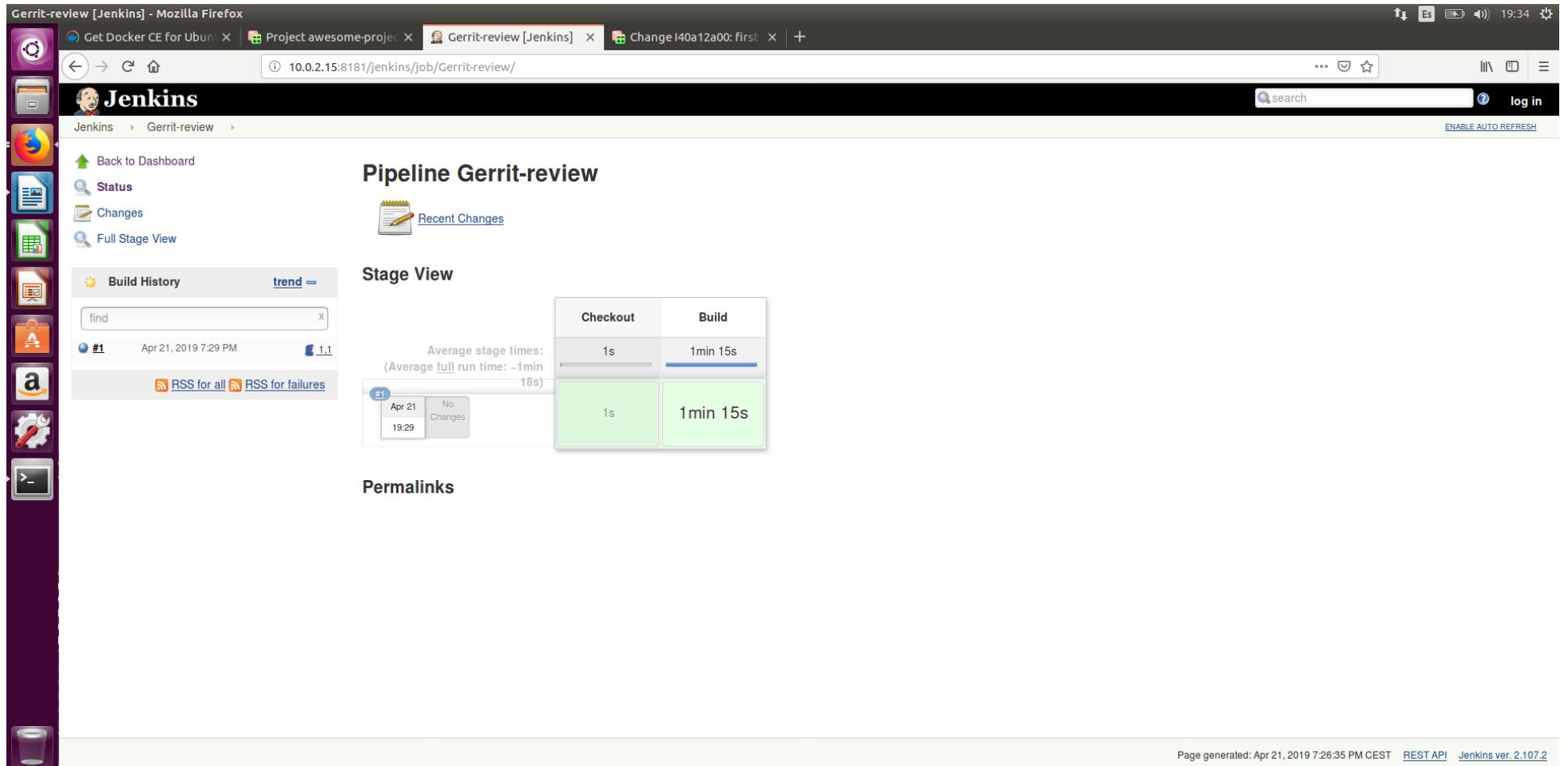


Ilustración 6. Confirmación de Jenkins sobre el nuevo Commit realizado a la rama de desarrollo

The screenshot shows a Mozilla Firefox browser window with several tabs open. The active tab is 'Change I40a12a00: first commit | 10.0 Code Review - Mozilla Firefox'. The URL is 10.0.2.15:8080/#/c/1. The page displays a code review for a patch set. The top navigation bar includes 'All', 'My', 'Projects', 'People', and 'Documentation' tabs, along with a search bar and filter options for 'Changes', 'Search', and 'gerrit developer 1'. The main content area shows the details of 'Change 1 - Needs Code-Review Label'. It lists the author (gerrit developer 1), committer (gerrit developer 1), and commit message (first commit). The commit ID is I40a12a000ced0d697485f6bce2413f576110caf4. The project is awesome-project, branch is master, topic is 'Merge if Necessary', and it was updated 4 minutes ago. A 'Code-Review +1 gerrit developer 1' comment is present. The 'Files' section shows a tree view of modified files: pom.xml, src/main/java/es/codeurjc/test/complex/Complex.java, and src/test/java/es/codeurjc/test/complex/ComplexTest.java. The 'Comments Size' chart indicates 24 comments on pom.xml, 116 on Complex.java, 36 on ComplexTest.java, and a total of +176, -0 across all files. The 'History' section shows the following log entries:

Author	Message	Time
gerrit developer 1	Uploaded patch set 1.	7:29 PM
Jenkins Server	Patch Set 1: "Build Started nulljob/Gerrit-review/1/ "	7:29 PM
gerrit developer 1	Patch Set 1: Verified+1 Code-Review+1	7:30 PM
Jenkins Server	Patch Set 1: Verified+1 "Build Successful awesome-project"	7:31 PM

At the bottom right, there is a note: 'Powered by Gerrit Code Review (2.14.7) | New UI | Press '?' to view keyboard shortcuts'.

Ilustración 7. Confirmación del Job de Jenkins en Gerrit

7. Create Jenkins merge job (correspondiente al Job de Merge)

Se crea el Job de Merge a partir de la configuración requerida para su ejecución y finalidad:

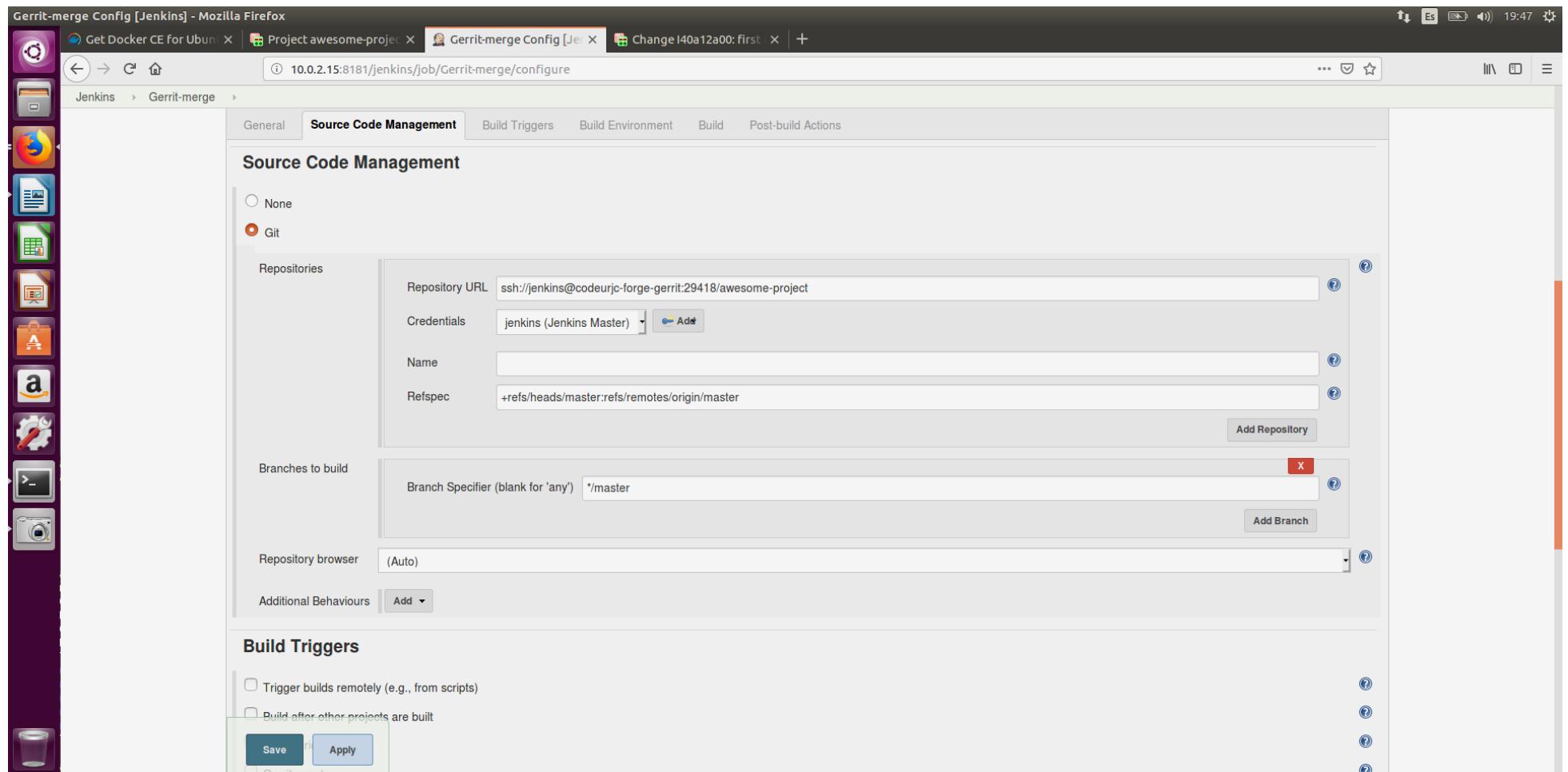


Ilustración 8. Configuración del Job Merge (1)

Gerrit-merge Config [Jenkins] - Mozilla Firefox

Gerrit-merge | Installing and C... | Creating a Se... | docker | Doc... | Documentation | publish arte... | Three Ways | How to put... | how to know... | How to get I... | GitHub - cod... | +

10.0.2.15:8181/jenkins/job/Gerrit-merge/configure

Jenkins > Gerrit-merge >

General Source Code Management Build Triggers Gerrit Trigger Build Environment Build Post-build Actions

Build Triggers

- Trigger builds remotely (e.g., from scripts)
- Build after other projects are built
- Build periodically
- Gerrit event

Gerrit Trigger

Choose a Server: Gerrit

Silent Mode:

Trigger on:

- Change Merged

Add

Dynamic Trigger Configuration:

Gerrit Project

Type	Pattern	Branches
Plain	awesome-project	Type Path Pattern Add Branch

Save Apply

The screenshot shows the Jenkins interface for configuring a job named 'Gerrit-merge'. The 'Build Triggers' tab is selected. Under 'Build Triggers', there are four options: 'Trigger builds remotely (e.g., from scripts)', 'Build after other projects are built', 'Build periodically', and 'Gerrit event', with 'Gerrit event' checked. Below this is the 'Gerrit Trigger' section. It includes a dropdown for 'Choose a Server' set to 'Gerrit', a 'Silent Mode' checkbox, and a 'Trigger on' section containing a 'Change Merged' item with a delete button. A 'Dynamic Trigger Configuration' checkbox is also present. At the bottom, there is a 'Gerrit Project' configuration table and two buttons: 'Save' and 'Apply'.

Ilustración 9. Configuración del Job Merge (2)

The screenshot shows the Jenkins configuration interface for a 'Gerrit-merge Config' job. The left sidebar contains various Jenkins management icons. The main window has tabs for General, Source Code Management, Build Triggers, Gerrit Trigger, Build Environment, Build (selected), and Post-build Actions. Under the Build tab, there is a 'Execute shell' step with the following command:

```
TARGET_FOLDER=/usr/share/apache  
PROJECT_NAME=$(echo $GIT_URL | cut -d"/" -f4)  
docker run --rm --volumes-from codeurjc-forge-jenkins -w ${WORKSPACE} maven mvn -DskipTests=true install compile package  
mkdir -p $TARGET_FOLDER/$PROJECT_NAME  
cp ./target/*.jar $TARGET_FOLDER/$PROJECT_NAME
```

Below the command, there is a link to 'See the list of available environment variables' and an 'Advanced...' button. An 'Add build step' dropdown is also present. Under the Post-build Actions tab, there is an 'Add post-build action' dropdown. At the bottom, there are 'Save' and 'Apply' buttons. The browser address bar shows the URL: 10.0.2.15:8181/jenkins/job/Gerrit-merge/configure.

Ilustración 10. Configuración del Job Merge (3)

Gerrit-merge Config [Jenkins] - Mozilla Firefox

Gerrit-merge | Installing and C | Creating a S | docker | Doc | Documentation | publish artef | Three Ways t | How to put y | how to know | How to get I | GitHub - code | +

10.0.2.15:8181/jenkins/job/Gerrit-merge/configure

Jenkins > Gerrit-merge >

General Source Code Management Build Triggers Gerrit Trigger Build Environment Build Post-build Actions

Build Triggers

- Trigger builds remotely (e.g., from scripts)
- Build after other projects are built
- Build periodically
- Gerrit event

Gerrit Trigger

Choose a Server: Gerrit Advanced...

Silent Mode:

Trigger on: Change Merged X

Add ▾

Dynamic Trigger Configuration:

Gerrit Project

Type	Pattern	Branches
Plain	awesome-project	Type Path Pattern Add Branch

Save Apply

The screenshot shows the Jenkins interface for configuring a job named 'Gerrit-merge'. The 'Build Triggers' tab is active, displaying options like 'Trigger builds remotely' and 'Gerrit event' (which is checked). The 'Gerrit Trigger' section is expanded, showing 'Change Merged' as the trigger event. Below it, a 'Dynamic Trigger Configuration' table is set up for a 'Gerrit Project' named 'awesome-project', with a single row for the 'Plain' type. The Jenkins sidebar on the left contains various icons for managing other projects and configurations.

Ilustración 11. Configuración del Job Merge (4)

Configuración necesaria para la implementación de SonarQube en Jenkins para el análisis estático de código en el Proyecto Software:

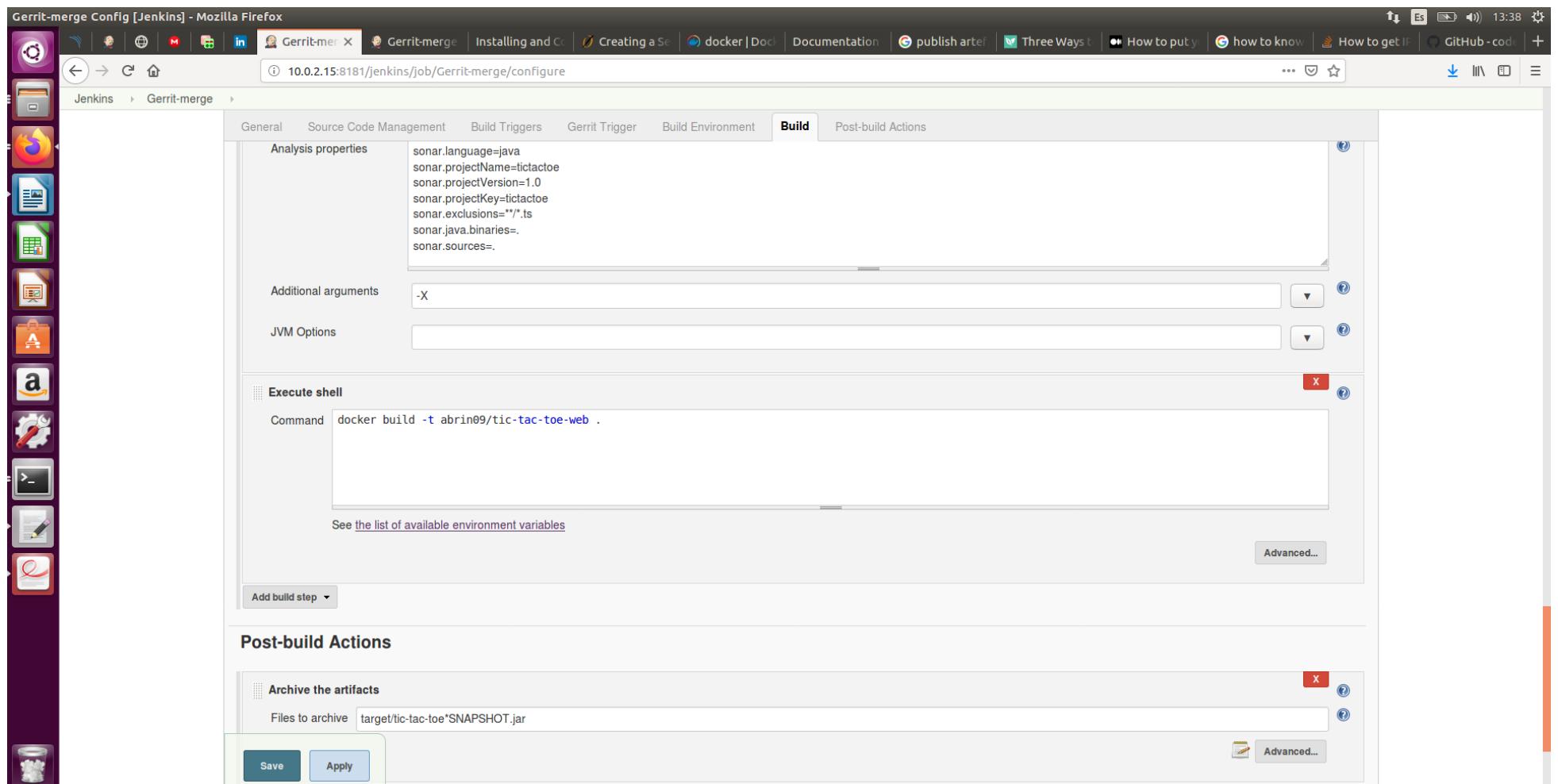


Ilustración 12. Configuración del Job Merge (5)

8. Approve changes in Gerrit.

Aprobación del Commit por parte del usuario Admin en Gerrit para la realización del Merge de este en la rama principal del Proyecto Software:

The screenshot shows the Gerrit Code Review interface for a project named "awesome-project". A new commit has been uploaded by "gerrit developer 1" (email: <dev1@example.com>) with a Change-ID of I40a12a00ced0d697485f6bce2413f576110caf4. The commit message is "first commit". The patch set contains one file, pom.xml, which has been modified (A). The code review status is "Code-Review +1" from "gerrit developer 1" and "Verified +1" from "Jenkins Server". The history shows the upload of the patch set and its verification by Jenkins. The interface includes a sidebar with various project icons and a top navigation bar with tabs like All, My Projects, People, Plugins, Documentation, and a search bar.

Ilustración 13. Aprobación de Admin al nuevo Commit de Developer en Gerrit (1)

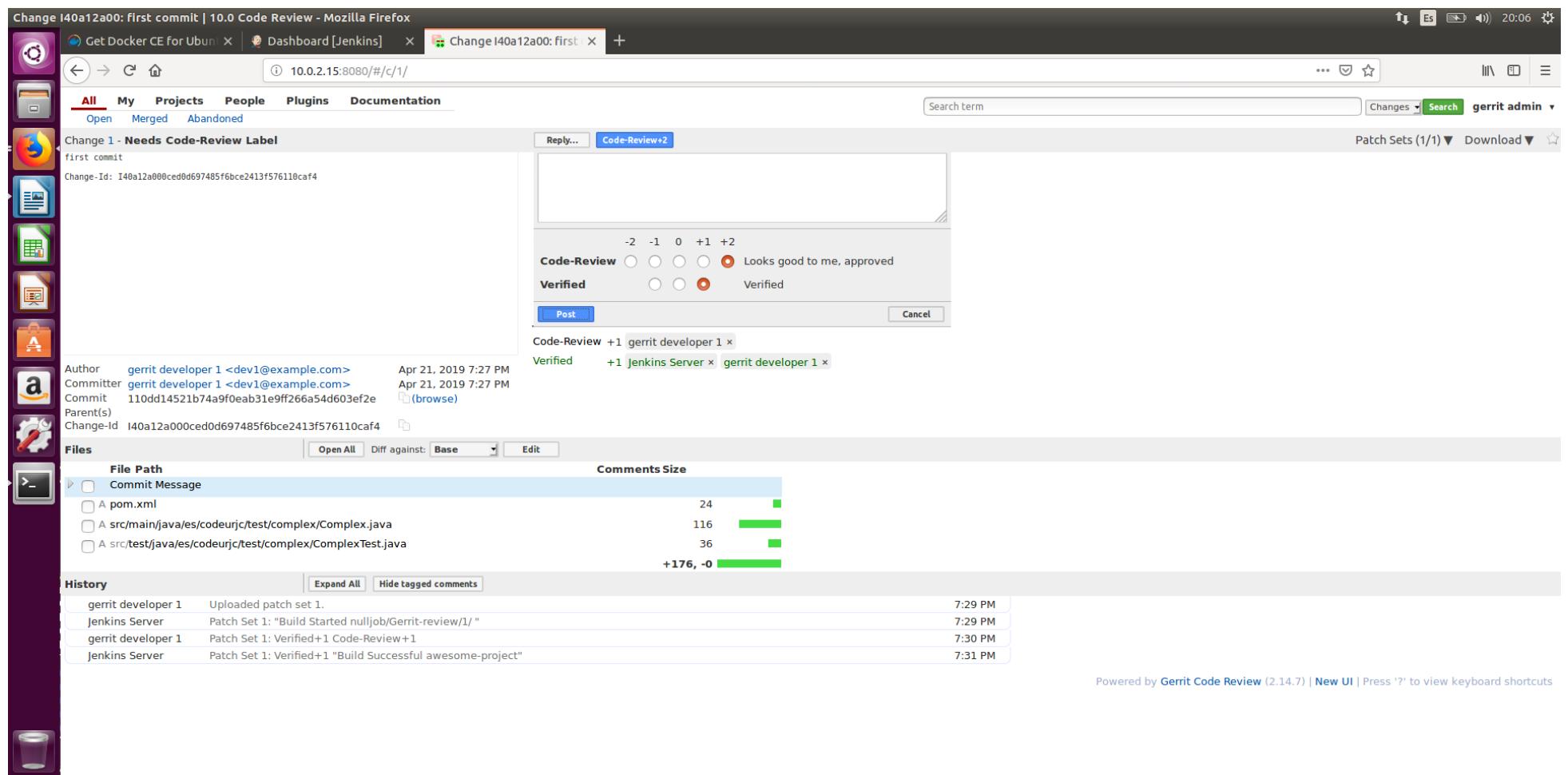


Ilustración 14. Aprobación de Admin al nuevo Commit de Developer en Gerrit (2)

The screenshot shows a Mozilla Firefox browser window with the address bar at `10.0.2.15:8080/#/c/1`. The main content is a Gerrit code review page for a merged commit. The commit details are as follows:

- Change 1 - Merged**
- first commit**
- Change-Id:** I40a12a000ced0d697485f6bc2413f576110caf4
- Owner:** gerrit developer 1
- Assignee:** Jenkins Server, gerrit admin, gerrit developer 1
- Reviewers:** Jenkins Server, gerrit admin, gerrit developer 1
- Project:** awesome-project
- Branch:** master
- Topic:**
- Updated:** 1 second ago

Below the commit details, there is a "Code-Review +2 gerrit admin" section with a "+1 gerrit developer 1" review. The "Verified" status is also +1 Jenkins Server, gerrit admin, gerrit developer 1.

The "Files" section shows a list of files with their commit message and a "Comments Size" chart. The chart indicates the number of comments for each file:

File Path	Comments Size
A pom.xml	24
A src/main/java/es/codeurjc/test/complex/Complex.java	116
A src/test/java/es/codeurjc/test/complex/ComplexTest.java	36
	+176, -0

The "History" section shows the following activity:

- gerrit developer 1 Uploaded patch set 1. 7:29 PM
- Jenkins Server Patch Set 1: "Build Started nulljob/Gerrit-review/1/ " 7:29 PM
- gerrit developer 1 Patch Set 1: Verified+1 Code-Review+1 7:30 PM
- Jenkins Server Patch Set 1: Verified+1 "Build Successful awesome-project" 7:31 PM
- gerrit admin Patch Set 1: Verified+1 Code-Review+2 8:06 PM
- gerrit admin Change has been successfully merged by gerrit admin 8:06 PM

At the bottom right, it says "Powered by Gerrit Code Review (2.14.7) | New UI | Press '?' to view keyboard shortcuts".

Ilustración 15. Aprobación de Admin al nuevo Commit de Developer en Gerrit (3)

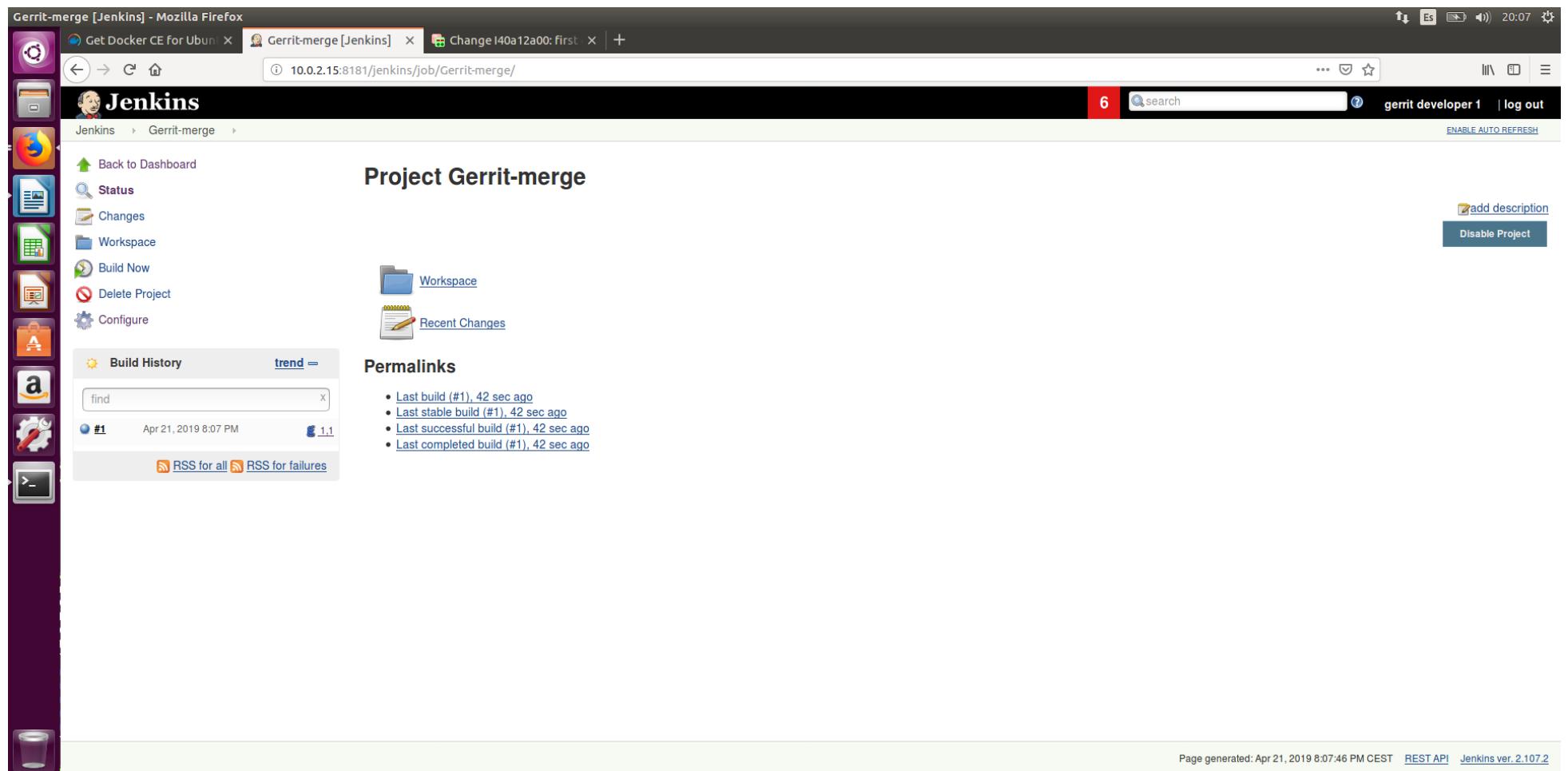


Ilustración 16. Ejecución exitosa del Job de Merge en Jenkins

Segundo Commit realizado en el Proyecto Software

The screenshot shows a Mozilla Firefox browser window displaying a Gerrit Code Review page for a merged commit. The URL is 10.0.2.15:8080/#/c/2/. The page title is "Change I01aae4d1: second commit waiting the forge to work | 10.0 Code Review - Mozilla Firefox". The commit is labeled "Change 2 - Merged" and has a status of "second commit waiting the forge to work". Key details include:

- Owner:** gerrit developer 1
- Assignee:** Jenkins Server, gerrit admin, gerrit developer 1
- Reviewers:** Jenkins Server, gerrit admin, gerrit developer 1
- Project:** awesome-project
- Branch:** master
- Topic:** master
- Updated:** 14 minutes ago

Below the commit details, there are "Cherry Pick" and "Revert" buttons. A "Code-Review +2 gerrit admin" message is present, along with "+1 gerrit developer 1" and "+1 Jenkins Server, gerrit admin, gerrit developer 1" under "Verified".

The "Files" section lists the modified files with their respective comment counts and sizes:

File Path	Comments	Size
Commit Message		
A .gitignore	24	+48.3 KiB
A .mvn/wrapper/maven-wrapper.jar	1	
A .mvn/wrapper/maven-wrapper.properties	49	
pom.xml	67	
A src/main/java/es/codeurjc/ais/tictactoe/Board.java	53	
A src/main/java/es/codeurjc/ais/tictactoe/Connection.java	28	
A src/main/java/es/codeurjc/ais/tictactoe/Player.java	169	
A src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java	129	
A src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java	40	
A src/main/java/es/codeurjc/ais/tictactoe/WebApp.java	116	+25.5 KiB
D src/main/java/es/codeurjc/test/complex/Complex.java	5	+8.7 KiB
A src/main/resources/static/css/Lato.woff2		
A src/main/resources/static/css/Quicksand.woff2		
A src/main/resources/static/css/bootstrap.min.css		

Ilustración 17. Segundo Commit de Developer realizado correctamente y mergeado (1)

The screenshot shows the Jenkins interface for the 'Pipeline Gerrit-review' job. The top navigation bar includes tabs for 'Get Docker CE for', 'Dashboard [Jenki...', 'Gerrit-review [Jen...', 'Change I01aae4d...', 'Gerrit-merge #2 C...', 'Gerrit-review [Jen...', 'Change I01aae4d...', 'Change I40a12a0...', 'Index of /awesome-p...', 'MEGA', and a '+' button. The main title is 'Pipeline Gerrit-review'. A sidebar on the left contains links for 'Back to Dashboard', 'Status', 'Changes', 'Build Now', 'Delete Pipeline', 'Configure', 'Full Stage View', and 'Pipeline Syntax'. The central area features a 'Recent Changes' section with a note about average stage times (935ms Checkout, 55s Build) and two build history entries: '#2 May 08, 2019 12:40 AM' (2.1, No Changes, 537ms Checkout, 34s Build) and '#1 Apr 21, 2019 7:29 PM' (1.1, No Changes, 1s Checkout, 1min 15s Build). Below this is a 'Stage View' chart showing the same data. A 'Permalinks' section lists recent builds. The bottom right corner shows the page was generated on May 8, 2019, at 12:57:47 AM CEST, with links to 'REST API' and 'Jenkins ver. 2.107.2'.

Recent Changes

Average stage times:
(Average full run time: ~57s)

	Checkout	Build
#2 May 08 00:40	935ms	55s
#1 Apr 21 19:29	537ms	34s
	1s	1min 15s

Permalinks

- [Last build \(#2\), 17 min ago](#)
- [Last stable build \(#2\), 17 min ago](#)
- [Last successful build \(#2\), 17 min ago](#)
- [Last completed build \(#2\), 17 min ago](#)

Page generated: May 8, 2019 12:57:47 AM CEST [REST API](#) Jenkins ver. 2.107.2

Ilustración 18. Segundo Commit de Developer realizado correctamente y mergeado (2)

Change I01aae4d1: second commit waiting the forge to work | 10.0 Code Review - Mozilla Firefox

Get Docker CE for X Dashboard [Jen X Gerrit-review [Jen X Change I01aae4d X Gerrit-merge #2 C X Gerrit-review [Jen X Change I01aae4d X Change I40a12a00 X Index of /awesome-p X MEGA X +

10.0.2.15:8080/#/c/2/ 00:59

All My Projects People Plugins Documentation

Changes Drafts Draft Comments Edits Watched Changes Starred Changes Groups

Reply...

Owner gerrit developer 1

Assignee

Reviewers Jenkins Server gerrit admin gerrit developer 1

Project awesome-project

Branch master

Topic

Updated 16 minutes ago

Cherry Pick Revert

Code-Review +2 gerrit admin
+1 gerrit developer 1

Verified +1 Jenkins Server gerrit admin gerrit developer 1

Author gerrit developer 1 <dev1@example.com> May 8, 2019 12:40 AM

Committer gerrit developer 1 <dev1@example.com> May 8, 2019 12:40 AM

Commit 3ba8f377c4d3989586b9b4920eb9968387f143e (browse)

Parent(s) 110dd14521b74a9f0eaab31e9ff266a54d603ef2e (browse)

Change-ID I01aae4d16bbe8f4b361eb0cc9d8bec9c1ee85903 (browse)

Files Open All Diff against: Base

File Path	Comments Size
Commit Message	24 +48.3 KiB
.gitignore	1
.mvn/wrapper/maven-wrapper.jar	49
.mvn/wrapper/maven-wrapper.properties	67
pom.xml	53
A src/main/java/es/codeurjc/ais/tictactoe/Board.java	28
A src/main/java/es/codeurjc/ais/tictactoe/Connection.java	169
A src/main/java/es/codeurjc/ais/tictactoe/Player.java	129
A src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java	40
A src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java	116
A src/main/java/es/codeurjc/ais/tictactoe/WebApp.java	+25.5 KiB
D src/main/java/es/codeurjc/test/complex/Complex.java	+8.7 KiB
A src/main/resources/static/css/Lato.woff	5
A src/main/resources/static/css/Quicksand.woff2	
A src/main/resources/static/css/bootstrap.min.css	

Ilustración 19. Aprobación de Admin al segundo Commit de Developer en Gerrit (1)

Gerrit-merge [Jenkins] - Mozilla Firefox
Get Docker CE for | Dashboard [Jen... | Gerrit-review [Jen... | Change I01aae4d | Gerrit-merge [Jen... | Gerrit-review [Jen... | Change I01aae4d | Change I40a12a00 | Index of /awesome-p... | MEGA | +
10.0.2.15:8181/jenkins/job/Gerrit-merge/
Jenkins | gerrit developer 1 | log out
ENABLE AUTO REFRESH
Project Gerrit-merge
Back to Dashboard | Status | Changes | Workspace | Build Now | Delete Project | Configure
Workspace
Recent Changes
Build History trend →
find
#2 May 8, 2019 12:42 AM 2.1
#1 April 21, 2019 8:07 PM 1.1
RSS for all RSS for failures
Permalinks
Last build (#2), 17 min ago
Last stable build (#2), 17 min ago
Last successful build (#2), 17 min ago
Last completed build (#2), 17 min ago
Page generated: May 8, 2019 12:59:44 AM CEST REST API Jenkins ver. 2.107.2

Ilustración 20. Segundo Commit de Developer realizado correctamente y mergeado (1)

The screenshot shows the Jenkins dashboard interface. On the left is a sidebar with various icons and links: New Item, People, Build History, Project Relationship, Check File Fingerprint, Manage Jenkins, Query and Trigger Gerrit Patches, My Views, Credentials, and New View. The main content area displays a table of build status. The table has columns: S (Status), W (Workstation), Name (sorted), Last Success, Last Failure, and Last Duration. There are two entries:

S	W	Name	Last Success	Last Failure	Last Duration
Blue circle	Sun icon	Gerrit-merge	15 min - #2	N/A	39 sec
Blue circle	Sun icon	Gerrit-review	17 min - #2	N/A	35 sec

Below the table, it says "Icon: S M L". At the bottom right of the dashboard, there are links for "Legend", "RSS for all", "RSS for failures", and "RSS for just latest builds". The footer of the page includes "Page generated: May 8, 2019 12:57:37 AM CEST", "REST API", and "Jenkins ver. 2.107.2".

Ilustración 21. Segundo Commit de Developer realizado correctamente y mergeado (2)

Ver Anexo 1 para la salida por consola del segundo commit.

9. The final step, you can find the generated artifact by browsing to localhost:8585

Comprobación de la publicación del artefacto del programa en Archiva. Accesible para su descarga y ejecución:

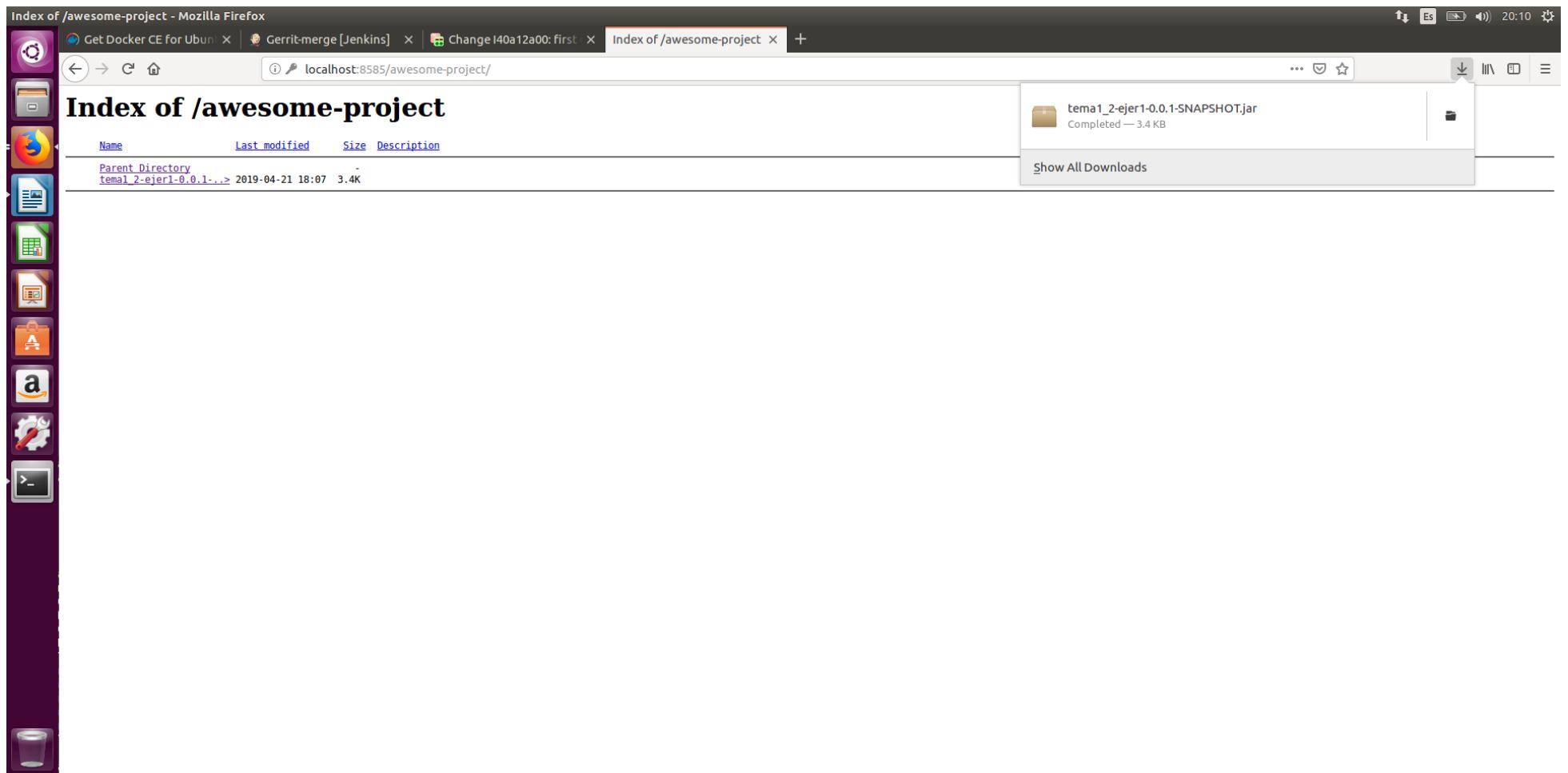


Ilustración 22. Publicación y acceso del artefacto.

SonarQube

El uso de SonarQube, tal y como indica la práctica, ha sido mediante la implementación del servicio a través de la imagen oficial del repositorio DockerHub, en su versión 6.7 LTS compatible con la Forja. En este caso, se ha creado un Token de acceso para Jenkins, a través del cual se conecta con SonarQube para transmitirle los resultados de cada Build del Job de Merge en su etapa de Análisis Estático del Código del Proyecto Software. A continuación, se puede observar tanto la configuración como los resultados obtenidos en las últimas ejecuciones de los Jobs.

Puesta a punto del servidor SonarQube en el ecosistema de la Forja

Se ha ejecutado SonarQube haciendo uso de Docker mediante el siguiente comando: `sudo docker run --name sonarqube -p 9000:9000 --network=ci-network sonarqube:lts`

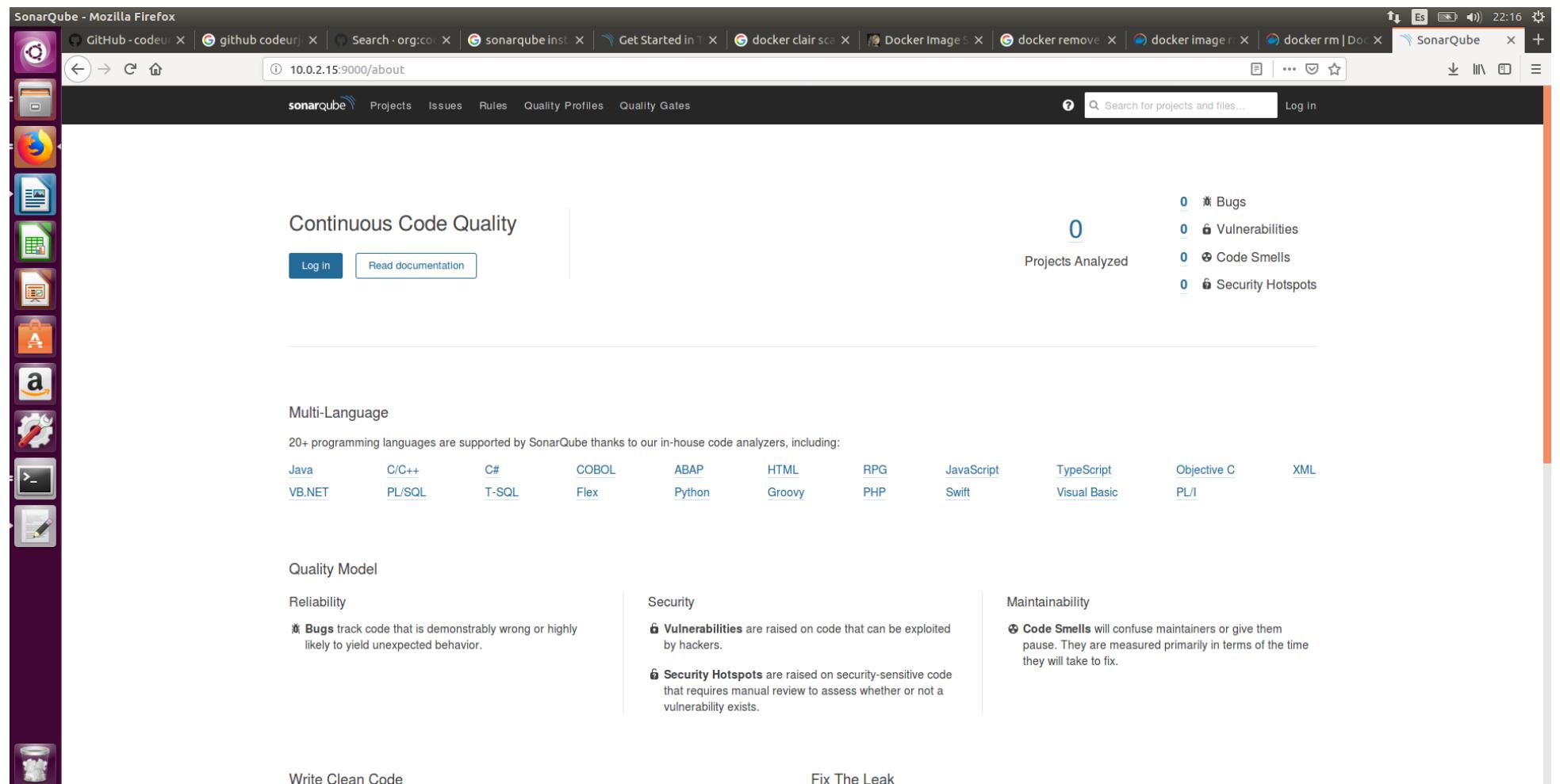


Ilustración 23. Servidor SonarQube integrado en el ecosistema para su uso por la Forja.

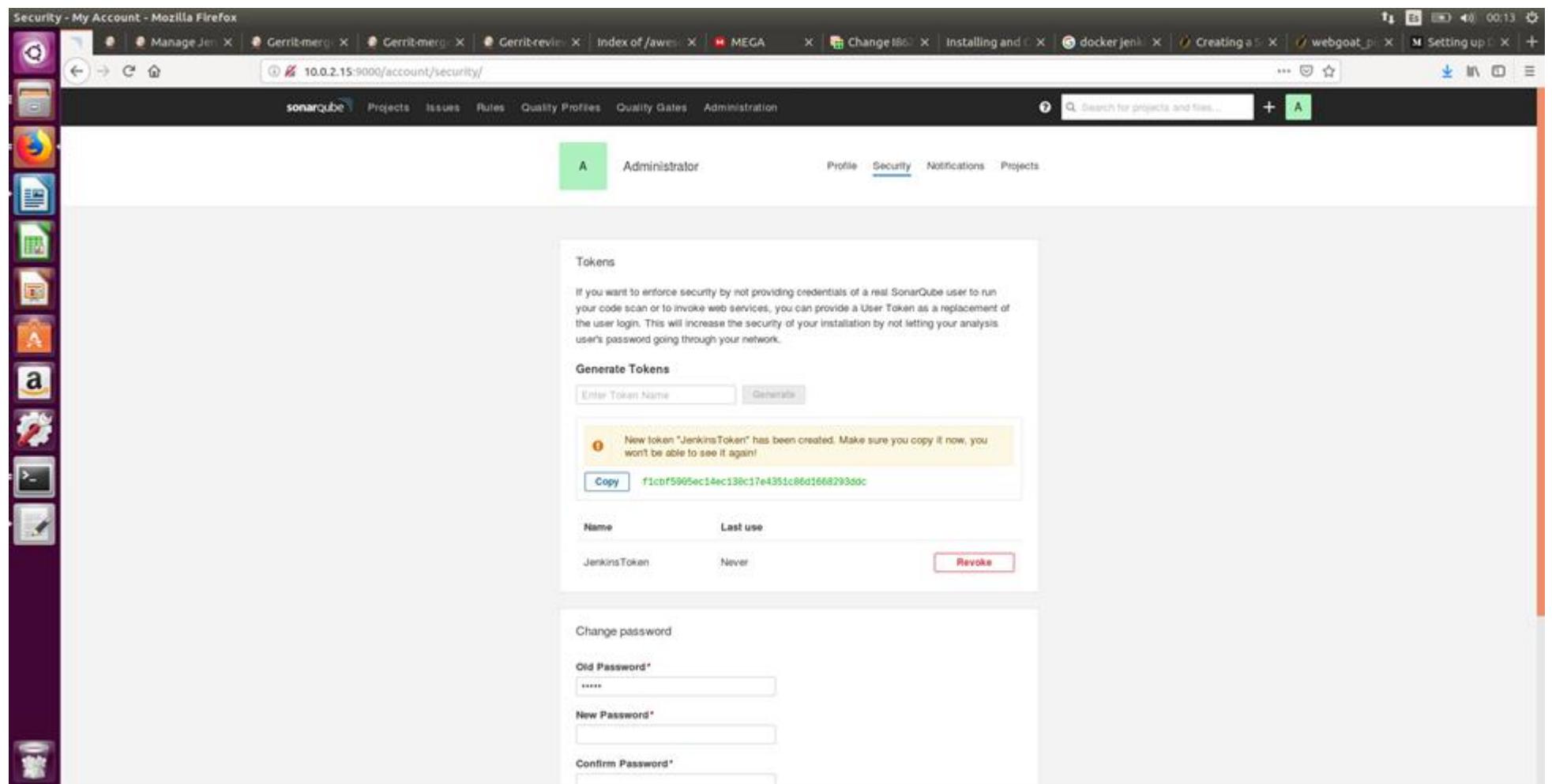


Ilustración 24. Creación del Token para su uso por Jenkins.

Job de Merge

En este apartado se aportan las capturas acerca de la buena ejecución del Job según lo requerido en el guion de la práctica:

Build 36: Jenkins

The screenshot shows the Jenkins Project Gerrit-merge dashboard. On the left, there's a sidebar with various project icons and a main navigation bar with links like 'Status', 'Changes', 'Workspace', 'Build Now', 'Delete Project', 'Configure', and 'SonarQube'. The main content area is titled 'Project Gerrit-merge' and displays the following information:

- SonarQube:** Shows a SonarQube icon and a link to 'SonarQube'.
- Workspace:** Shows a folder icon and a link to 'Workspace'.
- Last Successful Artifacts:** Shows a file icon and a link to 'tic-tac-toe-0.0.1-SNAPSHOT.jar' (75.48 KB), with a 'view' button.
- Recent Changes:** Shows a document icon and a link to 'Recent Changes'.
- SonarQube Quality Gate:** Shows a SonarQube icon and a link to 'Analyzed by SonarQube'.
- Performance:** A bulleted list of recent builds:
 - Last build (#35), 50 sec ago
 - Last stable build (#35), 50 sec ago
 - Last successful build (#35), 50 sec ago
 - Last failed build (#34), 3 min 35 sec ago
 - Last unsuccessful build (#34), 3 min 35 sec ago
 - Last completed build (#35), 50 sec ago

On the far left, there's a vertical toolbar with icons for different Jenkins features like Pipeline, Docker, and Artifacts. At the bottom of the page, the URL '10.0.2.15:9000/dashboard/index/tictactoe' is visible.

Ilustración 25. Build 36 de Job de Merge

SonarQube resultados

Estos son los resultados obtenidos en el análisis estático de código realizado por SonarQube durante el Job de Merge en la Build 36:

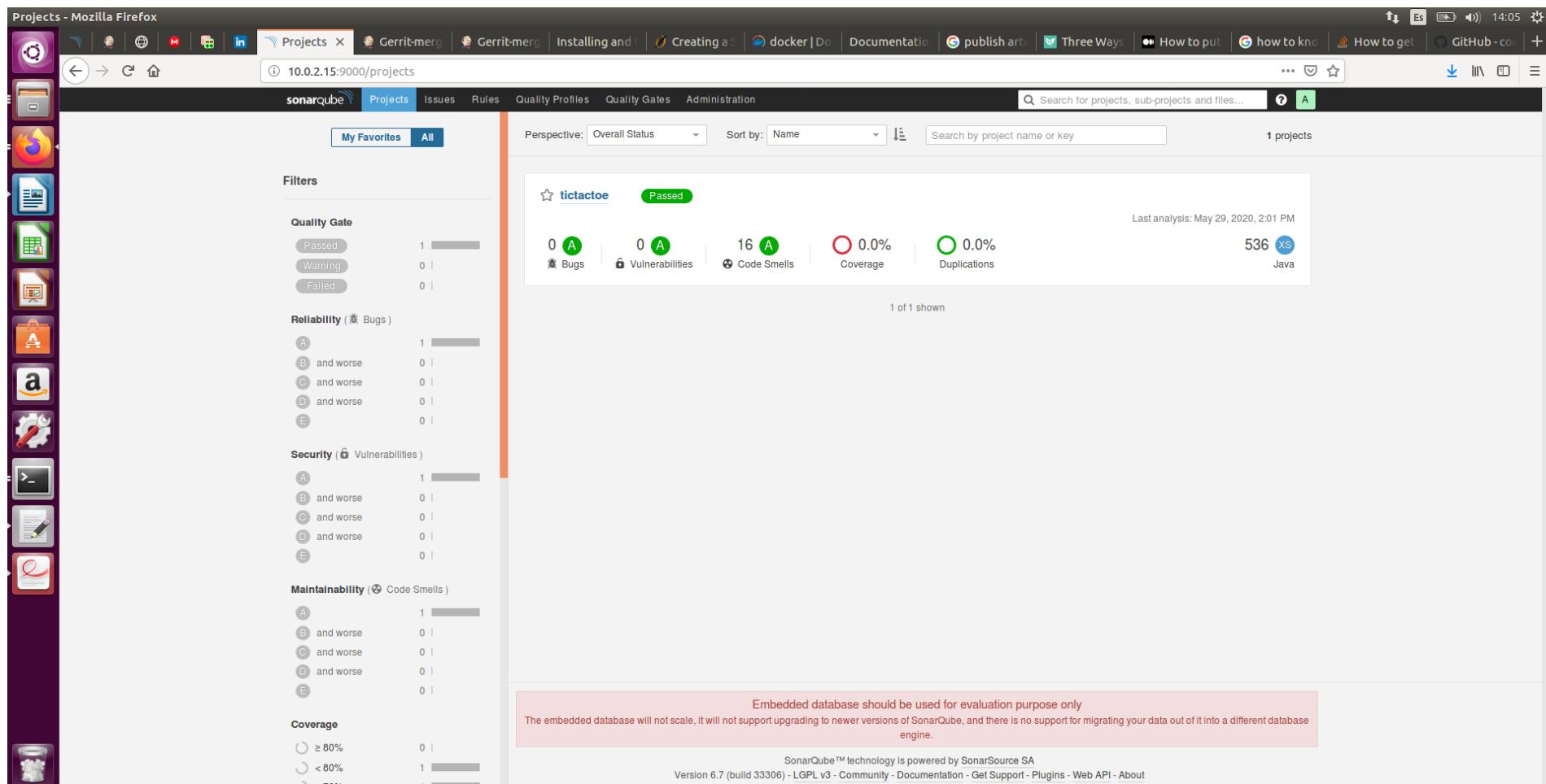


Ilustración 26. Proyecto Software Tic-Tac-Toe en SonarQube

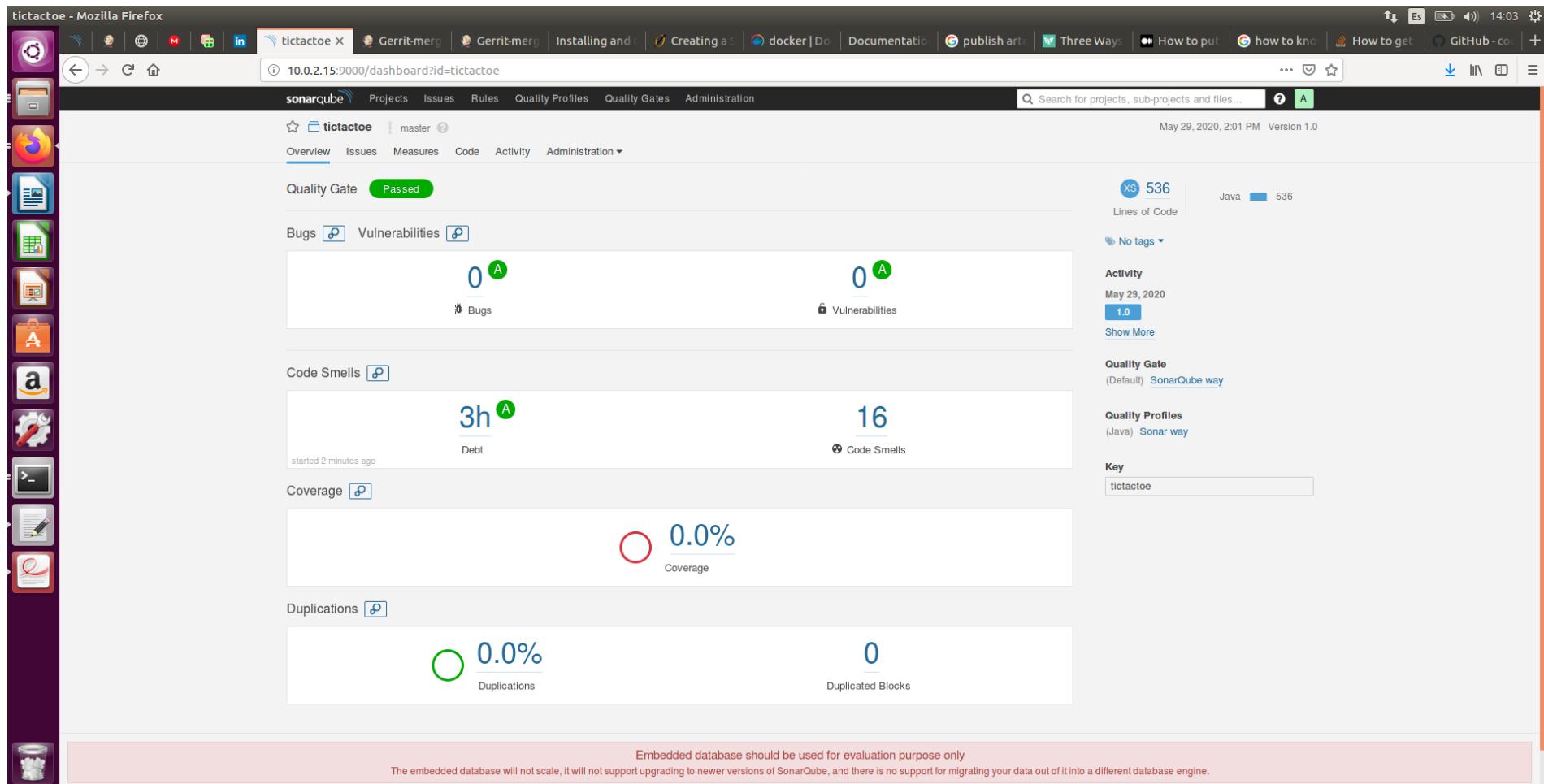


Ilustración 27. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (1)

The screenshot shows the SonarQube interface for the 'tictactoe' project. The left sidebar contains various application icons. The main header bar includes tabs for Issues, Gerrit-merge, Installing and, Creating a, docker, Documentation, publish arte, Three Ways, How to put, how to kno, How to get, GitHub-co, and a search bar. The top navigation bar has links for sonarcube, Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and a search field. The current page is 'Issues' under the 'tictactoe' project, master branch. The date is May 29, 2020, 2:01 PM, Version 1.0.

Filters:

- Display Mode:** Issues (selected), Effort
- Type:** Bug (0), Vulnerability (0), Code Smell (16)
- Severity:** Blocker (0), Critical (1), Info (0), Major (9)
- Resolution:** (empty)
- Status:** (empty)
- Creation Date:** (empty)
- Rule:** (empty)
- Tag:** (empty)
- Module:** (empty)
- Directory:** (empty)
- File:** (empty)
- Assignee:** (empty)
- Author:** (empty)
- Language:** (empty)

Bulk Change: To select issues (up/down arrows), to navigate (left/right arrows), 1 / 16 issues

Issues List:

- src/.../java/es/codeurjcais/tictactoe/Board.java**
 - Return an empty array instead of null. (last year L54) (Code Smell, Major, Open, Not assigned, 30min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L34) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L38) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L39) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
- src/.../java/es/codeurjcais/tictactoe/Connection.java**
 - Make "data" transient or serializable. (last year L35) (Code Smell, Critical, Open, Not assigned, 30min effort, Comment)
 - Merge this if statement with the enclosing one. (last year L130) (Code Smell, Major, Open, Not assigned, 5min effort, Comment)
- src/.../java/es/codeurjcais/tictactoe/TicTacToeGame.java**
 - Replace this use of System.out or System.err by a logger. (last year L60) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L84) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L126) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
 - Replace this use of System.out or System.err by a logger. (last year L127) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)
- src/.../java/es/codeurjcais/tictactoe/TicTacToeHandler.java**
 - Replace this use of System.out or System.err by a logger. (last year L127) (Code Smell, Major, Open, Not assigned, 10min effort, Comment)

Ilustración 28. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (2)

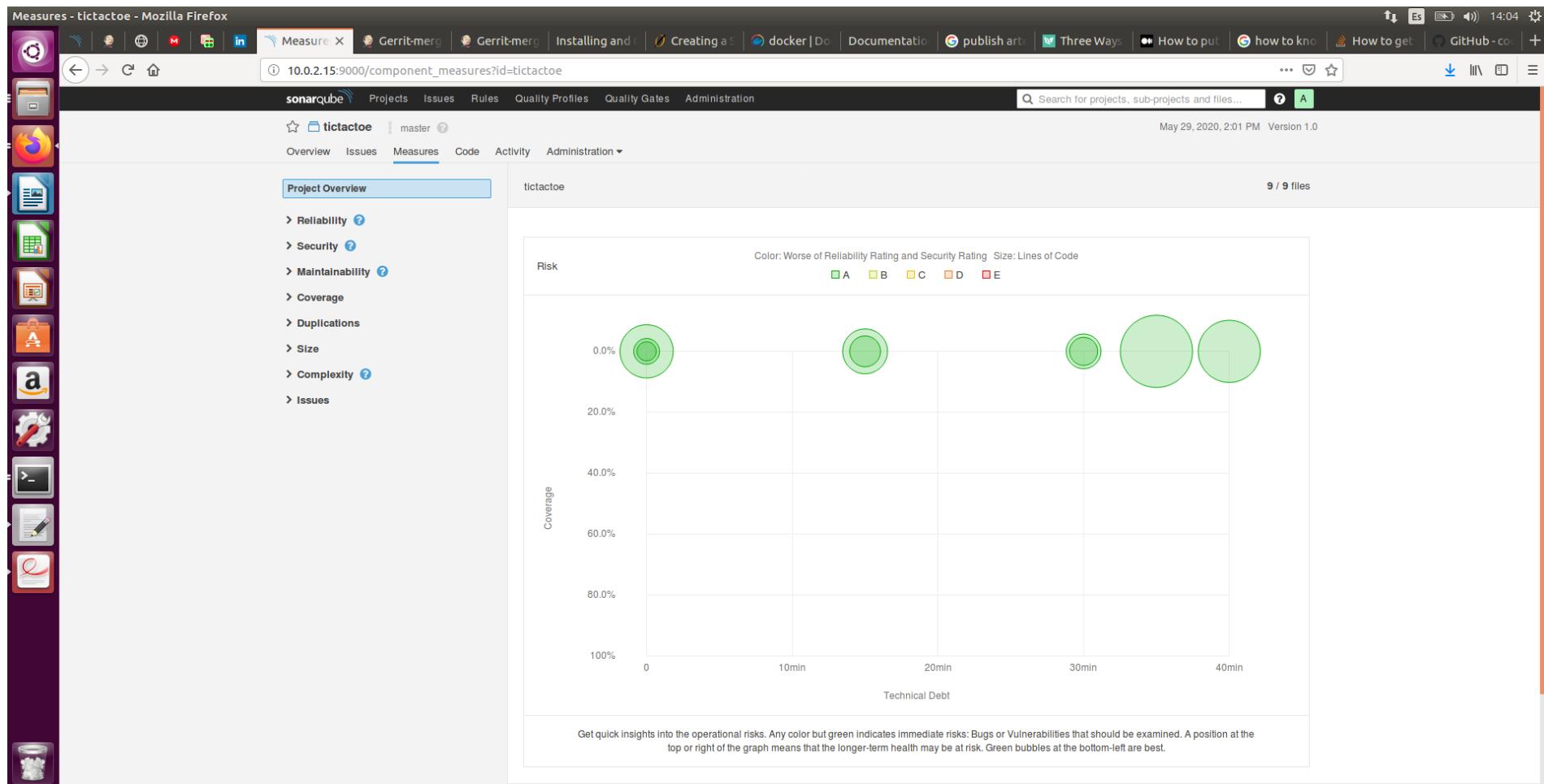


Ilustración 29. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (3)

The screenshot shows a Mozilla Firefox browser window with the title "Code - tictactoe - Mozilla Firefox". The address bar displays the URL "10.0.2.15:9000/code?id=tictactoe". The main content area is a SonarQube interface for the "tictactoe" project. The top navigation bar includes links for sonarqube, Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and a search bar. Below the navigation is a breadcrumb trail showing the project name and branch ("master"). The page header indicates the date as May 29, 2020, at 2:01 PM and the version as 1.0. The main content area is titled "Code" and shows metrics for two source code directories:

	Lines of Code	Bugs	Vulnerabilities	Code Smells	Coverage	Duplications
src/main/java/es/codeurjc/ais/tictactoe	348	0	0	10	0.0%	0.0%
src/test/java/es/codeurjc/ais/tictactoe	188	0	0	6	0.0%	0.0%

A note at the bottom states: "Embedded database should be used for evaluation purpose only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine." The footer of the SonarQube interface includes the text "SonarQube™ technology is powered by SonarSource SA Version 6.7 (build 33306) - LGPL v3 - Community - Documentation - Get Support - Plugins - Web API - About".

Ilustración 30. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (4)

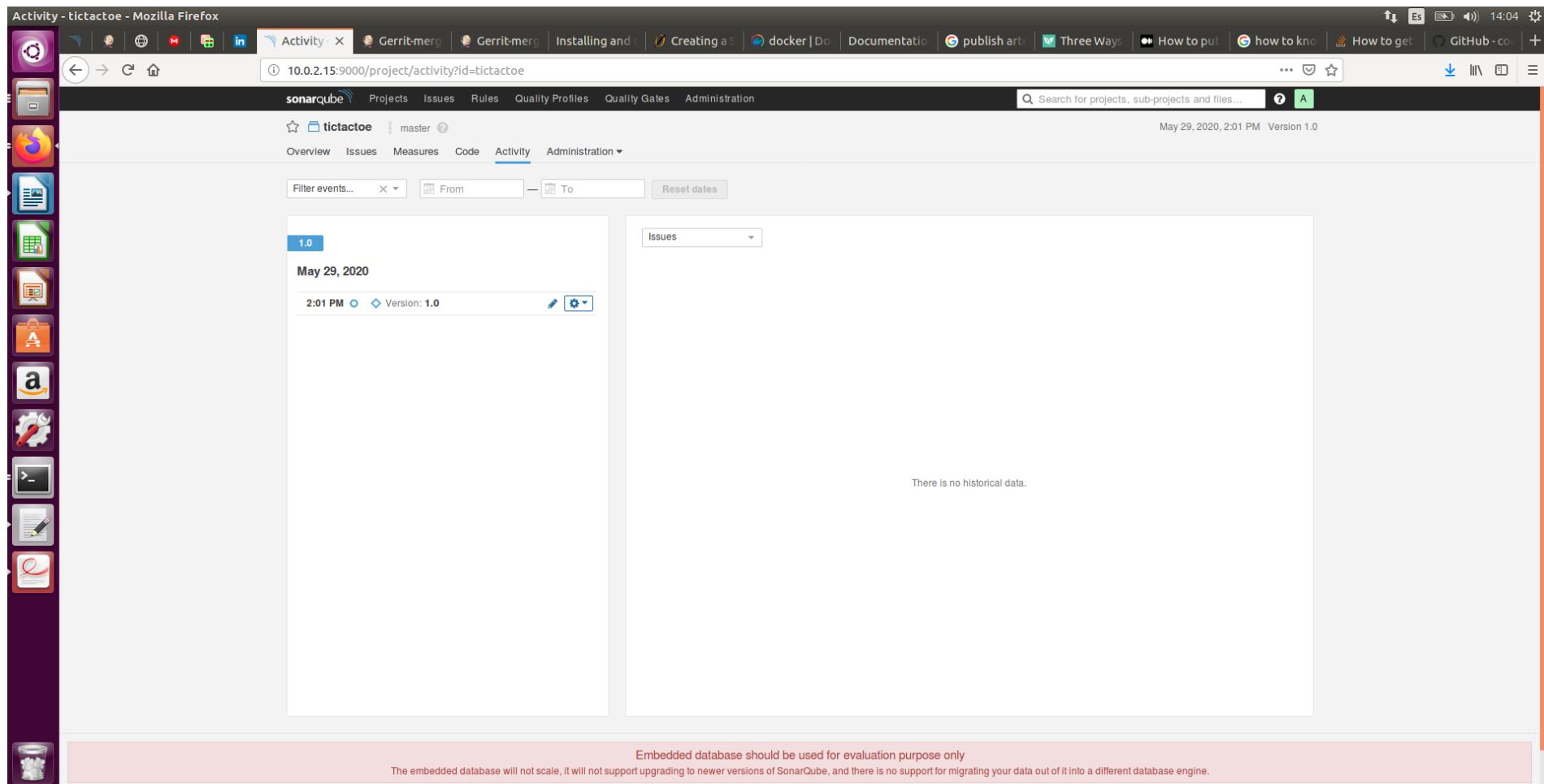


Ilustración 31. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (5)

Build 37: Jenkins

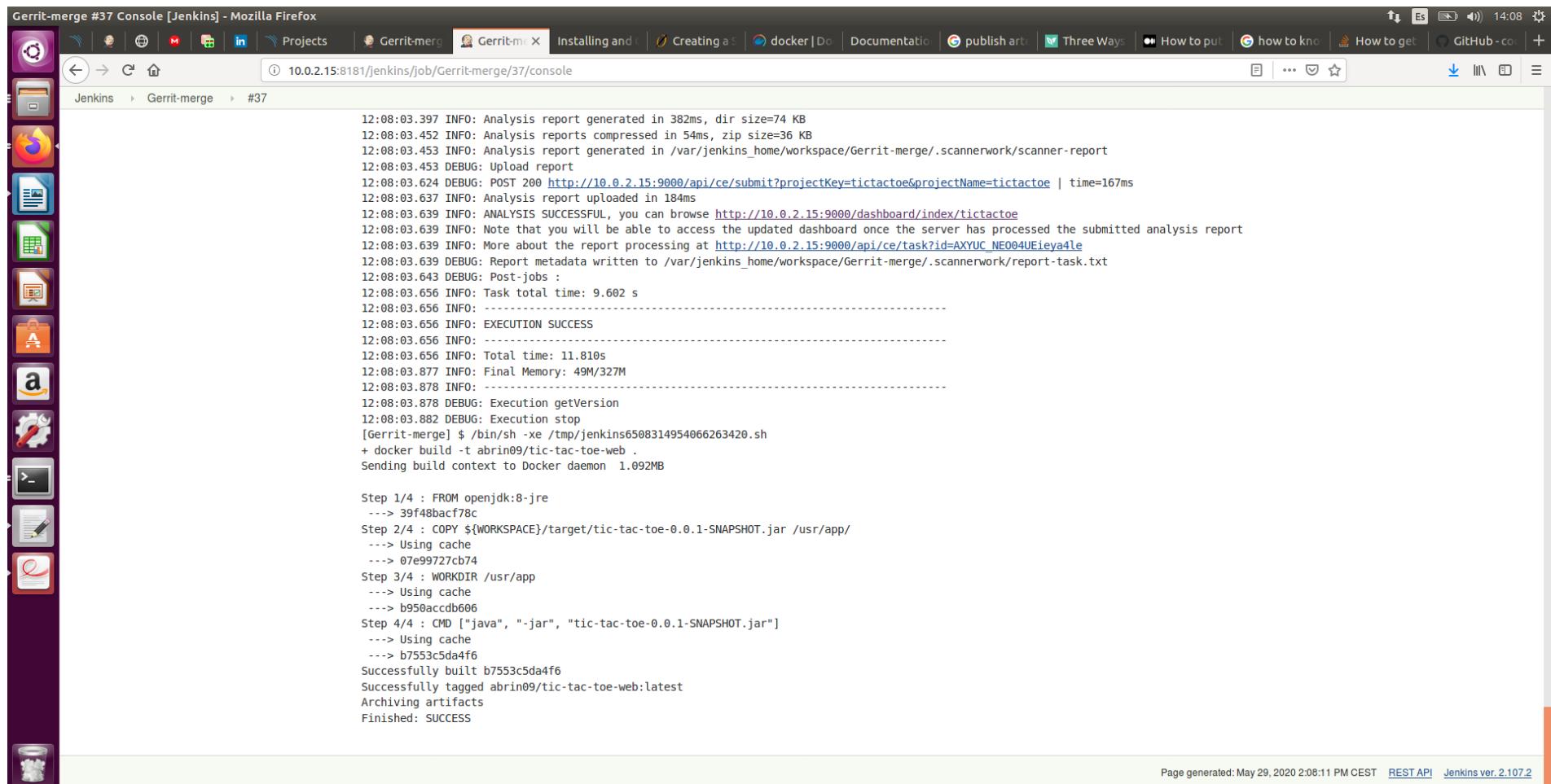
The screenshot shows the Jenkins interface for the 'Gerrit-merge' project. The left sidebar contains various Jenkins management icons. The main content area displays the 'Project Gerrit-merge' build history. It includes sections for SonarQube (with a SonarQube icon), Workspace (with a folder icon), and Last Successful Artifacts (listing 'tic-tac-toe-0.0.1-SNAPSHOT.jar' at 75.48 KB). Below these are links for Recent Changes, SonarQube Quality Gate (tictactoe OK), and Permalinks. The Build History table lists builds from #37 down to #25, showing their status (green for success, red for failure), timestamp, and SonarQube score. The table has a 'trend' column and a search bar.

#	Status	Timestamp	Score
#37	Success	May 29, 2020 2:07 PM	35.1
#36	Success	May 29, 2020 2:01 PM	34.1
#35	Success	May 29, 2020 1:59 PM	33.1
#34	Failure	May 29, 2020 1:56 PM	32.1
#33	Failure	May 29, 2020 1:54 PM	31.1
#32	Success	May 29, 2020 1:47 PM	30.1
#31	Success	May 29, 2020 3:55 PM	29.1
#30	Success	May 29, 2020 3:51 PM	28.1
#29	Failure	May 29, 2020 3:48 PM	27.1
#28	Failure	May 29, 2020 3:43 PM	26.1
#27	Success	May 29, 2020 3:39 PM	25.1
#26	Success	May 29, 2020 3:36 PM	24.1
#25	Success	May 29, 2020 3:33 PM	23.1

Ilustración 32. Build 37 de Job de Merge (1)

Imagen Docker de Tic-Tac-Toe

En la siguiente captura se puede ver como se ha creado correctamente la imagen Docker del Proyecto Software Tic-Tac-Toe haciendo uso del fichero Dockerfile



The screenshot shows a Mozilla Firefox browser window with the title "Gerrit-merge #37 Console [Jenkins] - Mozilla Firefox". The address bar displays the URL "10.0.2.15:8181/jenkins/job/Gerrit-merge/37/console". The main content area of the browser shows the Jenkins build log for job "Gerrit-merge" build #37. The log output is as follows:

```
12:08:03.397 INFO: Analysis report generated in 382ms, dir size=74 KB
12:08:03.452 INFO: Analysis reports compressed in 54ms, zip size=36 KB
12:08:03.453 INFO: Analysis report generated in /var/jenkins_home/workspace/Gerrit-merge/.scannerwork/scanner-report
12:08:03.453 DEBUG: Upload report
12:08:03.624 DEBUG: POST 200 http://10.0.2.15:9000/api/ce/submit?projectKey=tictactoe& projectName=tictactoe | time=167ms
12:08:03.637 INFO: Analysis report uploaded in 184ms
12:08:03.639 INFO: ANALYSIS SUCCESSFUL, you can browse http://10.0.2.15:9000/dashboard/index/tictactoe
12:08:03.639 INFO: Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
12:08:03.639 INFO: More about the report processing at http://10.0.2.15:9000/api/ce/task?id=AXYUC\_NE04UfIeyva4le
12:08:03.639 DEBUG: Report metadata written to /var/jenkins_home/workspace/Gerrit-merge/.scannerwork/report-task.txt
12:08:03.643 DEBUG: Post-jobs :
12:08:03.656 INFO: Task total time: 9.602 s
12:08:03.656 INFO: -----
12:08:03.656 INFO: EXECUTION SUCCESS
12:08:03.656 INFO: -----
12:08:03.656 INFO: Total time: 11.810s
12:08:03.877 INFO: Final Memory: 49M/327M
12:08:03.878 INFO: -----
12:08:03.878 DEBUG: Execution getVersion
12:08:03.882 DEBUG: Execution stop
[Gerrit-merge] $ /bin/sh -xe /tmp/jenkins6508314954066263420.sh
+ docker build -t abrin09/tic-tac-toe-web .
Sending build context to Docker daemon 1.092MB

Step 1/4 : FROM openjdk:8-jre
--> 39f48bacf78c
Step 2/4 : COPY ${WORKSPACE}/target/tic-tac-toe-0.0.1-SNAPSHOT.jar /usr/app/
--> Using cache
--> 07e99727cb74
Step 3/4 : WORKDIR /usr/app
--> Using cache
--> b959acccb606
Step 4/4 : CMD ["java", "-jar", "tic-tac-toe-0.0.1-SNAPSHOT.jar"]
--> Using cache
--> b7553c5da4f6
Successfully built b7553c5da4f6
Successfully tagged abrin09/tic-tac-toe-web:latest
Archiving artifacts
Finished: SUCCESS
```

At the bottom right of the browser window, there is a footer bar with the text "Page generated: May 29, 2020 2:08:11 PM CEST REST API Jenkins ver. 2.107.2".

Ilustración 33. Build 37 de Job de Merge (2)

SonarQube resultados

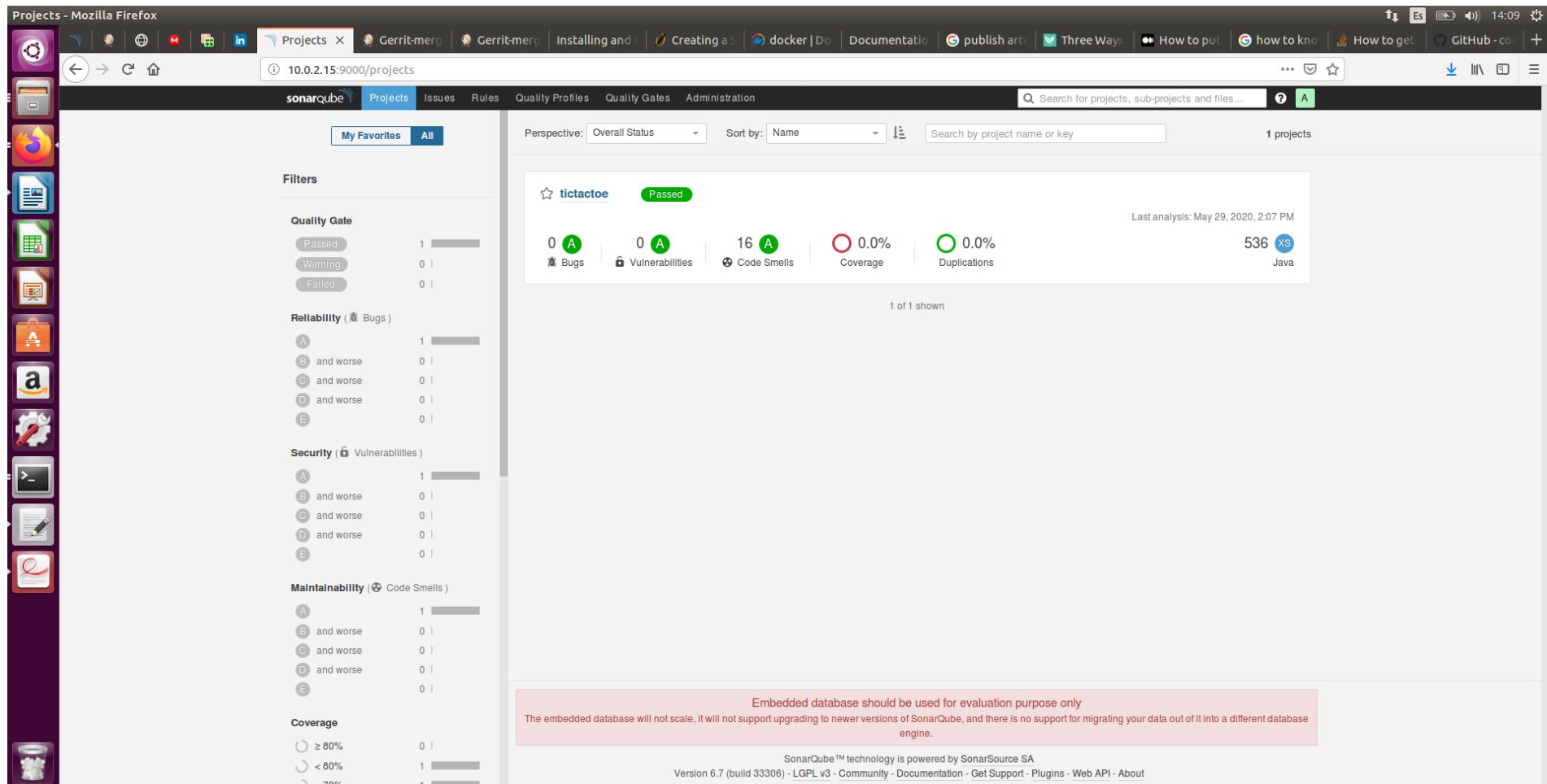


Ilustración 34. Proyecto Software Tic-Tac-Toe en SonarQube

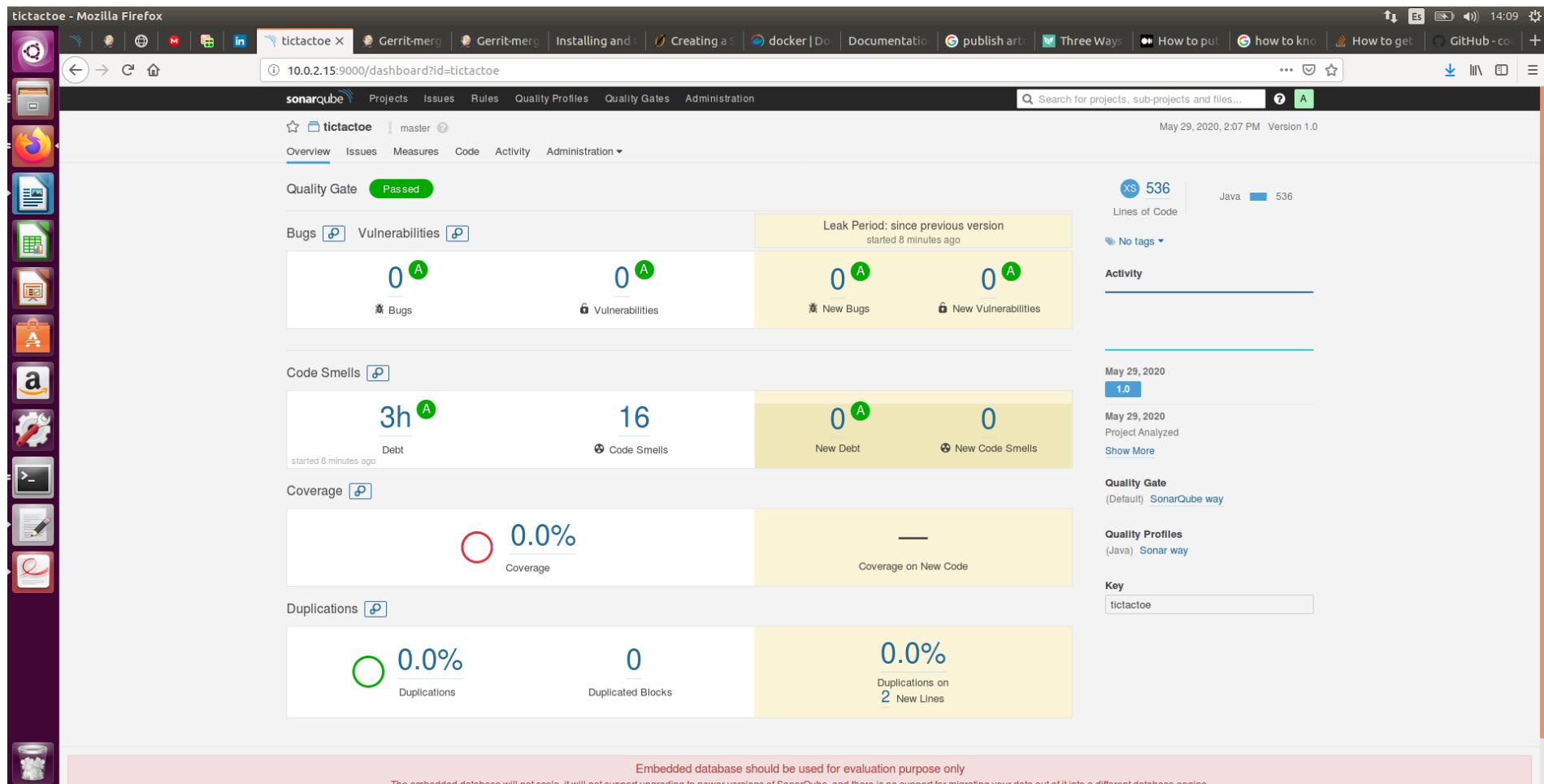


Ilustración 35. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (1)

The screenshot shows the SonarQube interface for the 'tictactoe' project. The left sidebar contains various application icons. The main header bar includes tabs for Issues, Gerrit-merge, Installing and, Creating a, docker, Documentation, publish arte, Three Ways, How to put, how to kno, How to get, GitHub-co, and a search bar. The top navigation bar has links for sonarcube, Projects, Issues, Rules, Quality Profiles, Quality Gates, Administration, and a search field. The current page is 'Issues' under the 'tictactoe' project's master branch. The date is May 29, 2020, at 2:07 PM, and the version is 1.0. The left sidebar features a 'Filters' section with 'Display Mode' set to 'Issues' and a 'Bulk Change' button. It lists filters for Type (Bug: 0, Vulnerability: 0, Code Smell: 16), Severity (Blocker: 0, Critical: 1, Info: 0, Major: 9), Resolution, Status, Creation Date, Rule, Tag, Module, Directory, File, Assignee, Author, and Language. The main content area displays a list of issues found in the codebase, categorized by file:

- src...java/es/codeurjcais/tictactoe/Board.java**
 - Return an empty array instead of null. (last year - L54) Code Smell, Major, Open, Not assigned, 30min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L34) Code Smell, Major, Open, Not assigned, 10min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L38) Code Smell, Major, Open, Not assigned, 10min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L39) Code Smell, Major, Open, Not assigned, 10min effort, Comment
- src...java/es/codeurjcais/tictactoe/Connection.java**
 - Replace this use of System.out or System.err by a logger. (last year - L34) Code Smell, Major, Open, Not assigned, 10min effort, Comment
- src...java/es/codeurjcais/tictactoe/TicTacToeGame.java**
 - Make "data" transient or serializable. (last year - L35) Code Smell, Critical, Open, Not assigned, 30min effort, Comment
 - Merge this if statement with the enclosing one. (last year - L130) Code Smell, Major, Open, Not assigned, 5min effort, Comment
- src...java/es/codeurjcais/tictactoe/TicTacToeHandler.java**
 - Replace this use of System.out or System.err by a logger. (last year - L60) Code Smell, Major, Open, Not assigned, 10min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L84) Code Smell, Major, Open, Not assigned, 10min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L126) Code Smell, Major, Open, Not assigned, 10min effort, Comment
 - Replace this use of System.out or System.err by a logger. (last year - L127) Code Smell, Major, Open, Not assigned, 10min effort, Comment

Ilustración 36. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (2)

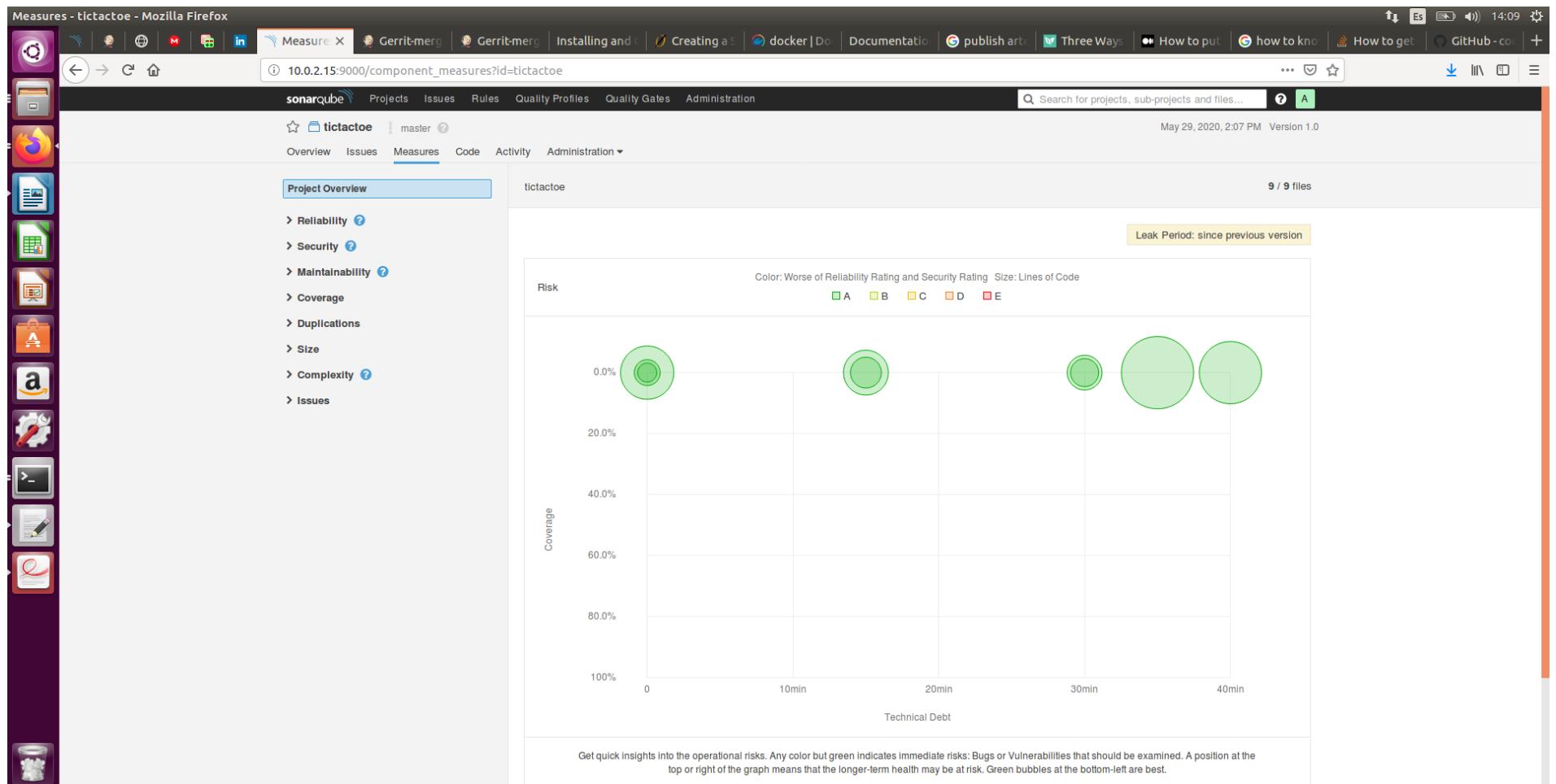


Ilustración 37. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (3)

The screenshot shows a Mozilla Firefox browser window with a SonarQube analysis report for the 'tic tac toe' project. The URL in the address bar is `10.0.2.15:9000/code?id=tictactoe`. The page title is 'Code - tictactoe - Mozilla Firefox'. The SonarQube header includes links for Projects, Issues, Rules, Quality Profiles, Quality Gates, and Administration. A search bar at the top right contains the placeholder 'Search for projects, sub-projects and files...'. The main content area displays the 'Code' tab's results for the 'tic tac toe' project. It shows two code modules: 'src/main/java/es/codeurjc/ais/tictactoe' and 'src/test/java/es/codeurjc/ais/tictactoe'. The table provides the following data:

	Lines of Code	Bugs	Vulnerabilities	Code Smells	Coverage	Duplications
src/main/java/es/codeurjc/ais/tictactoe	348	0	0	10	0.0%	0.0%
src/test/java/es/codeurjc/ais/tictactoe	188	0	0	6	0.0%	0.0%

Below the table, it says '2 of 2 shown'. At the bottom of the page, there is a red warning box with the text: 'Embedded database should be used for evaluation purpose only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.' The footer of the page includes the text: 'SonarQube™ technology is powered by SonarSource SA Version 6.7 (build 33306) - LGPL v3 - Community - Documentation - Get Support - Plugins - Web API - About'.

Ilustración 38. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (4)

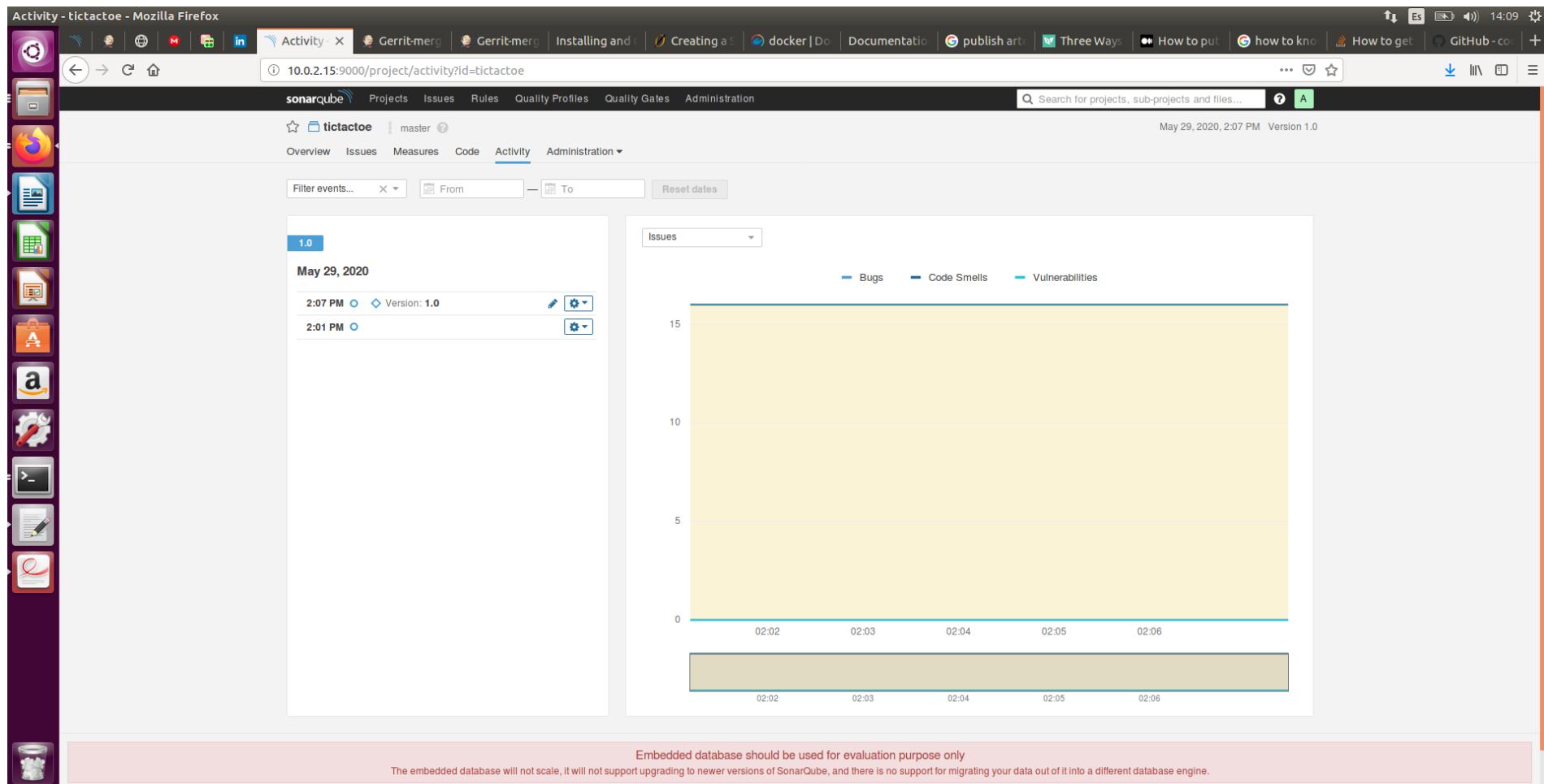


Ilustración 39. Resultados del Análisis Estático de Código del Proyecto Software Tic-Tac-Toe (5)

Artefacto publicado

Artefacto publicado de la aplicación disponible y accesible para su descarga y ejecución:

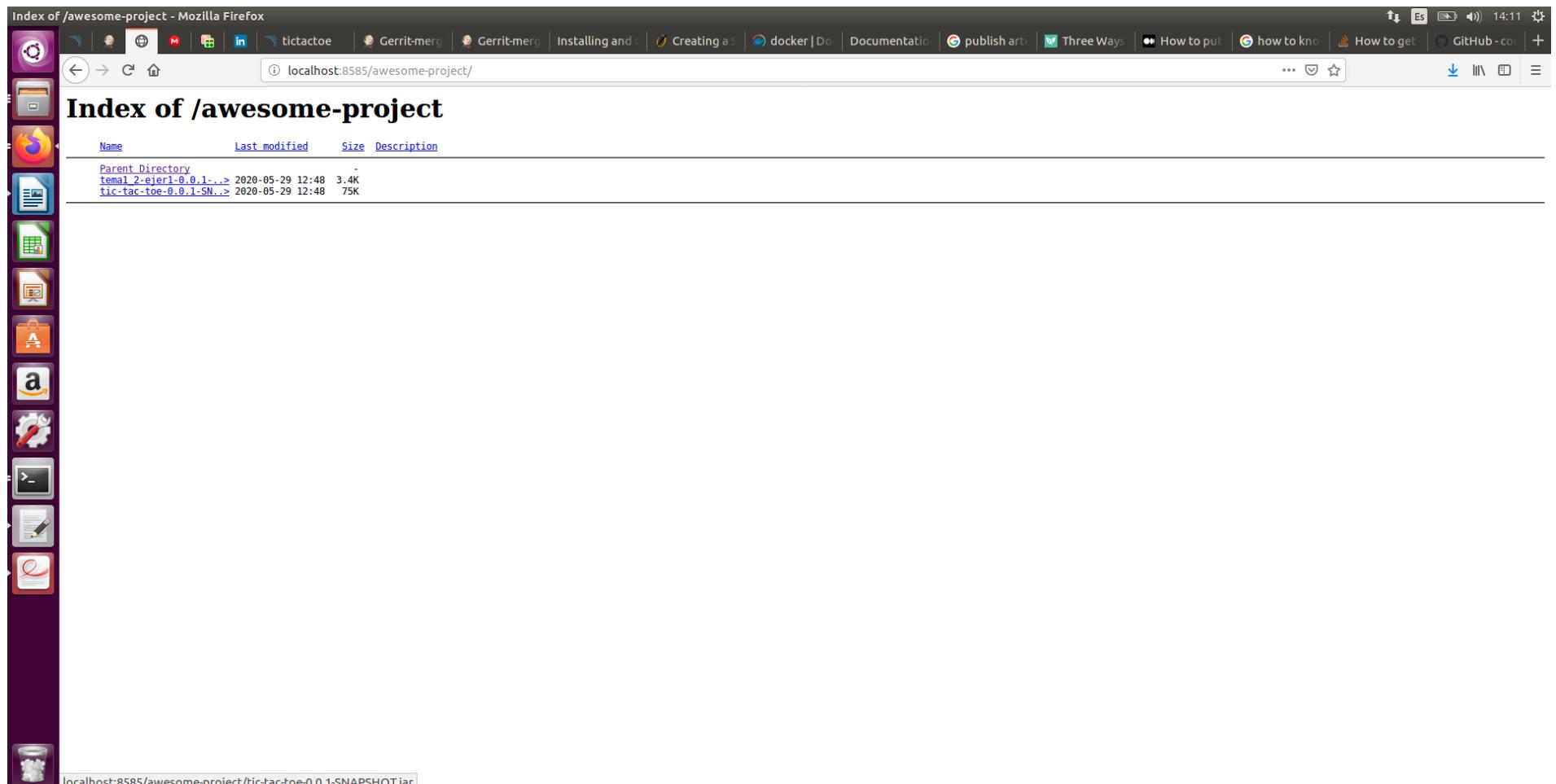


Ilustración 40. Artefacto publicado del Proyecto Software Tic-Tac-Toe (1)

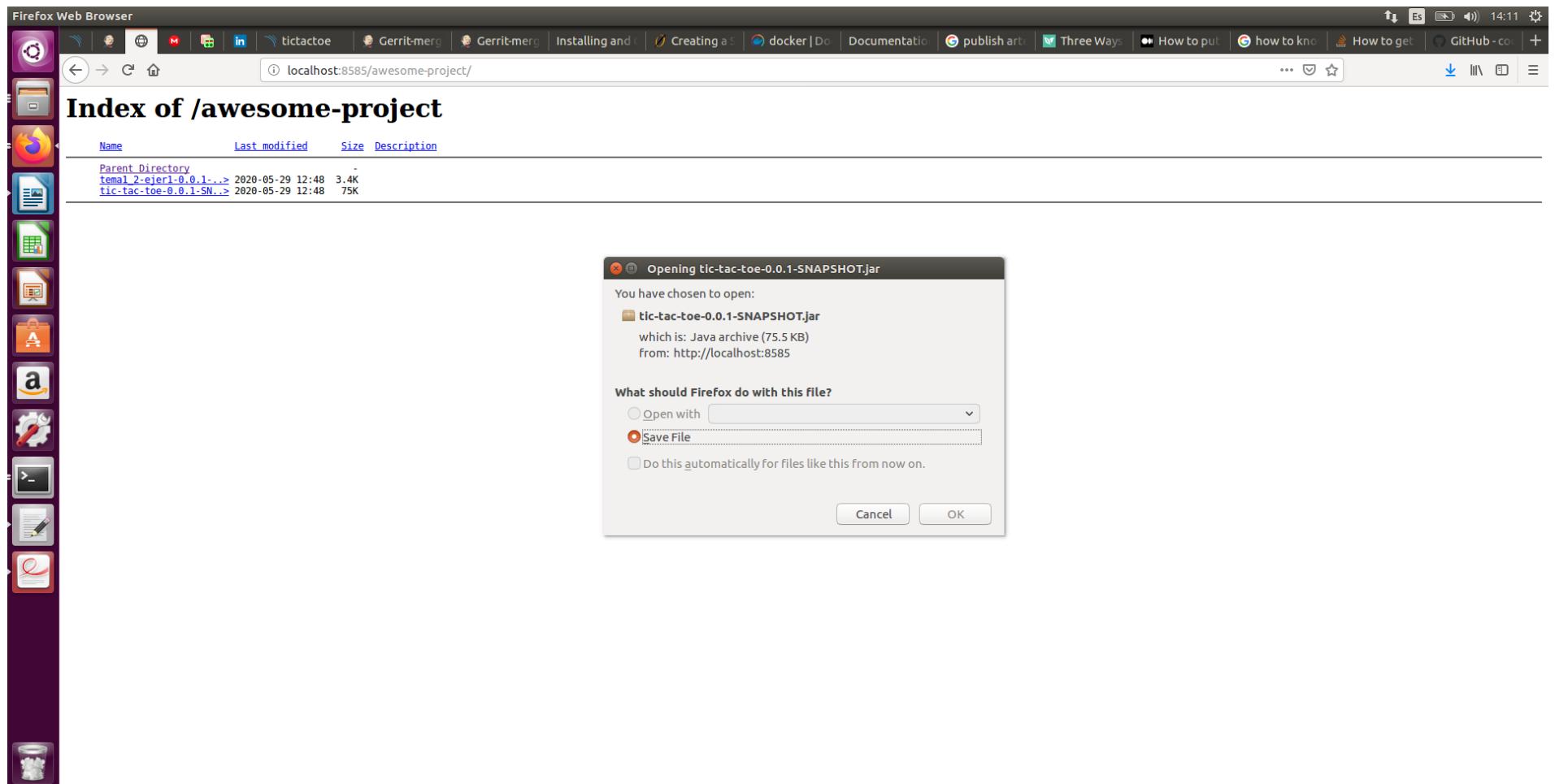


Ilustración 41. Artefacto publicado del Proyecto Software Tic-Tac-Toe (2)

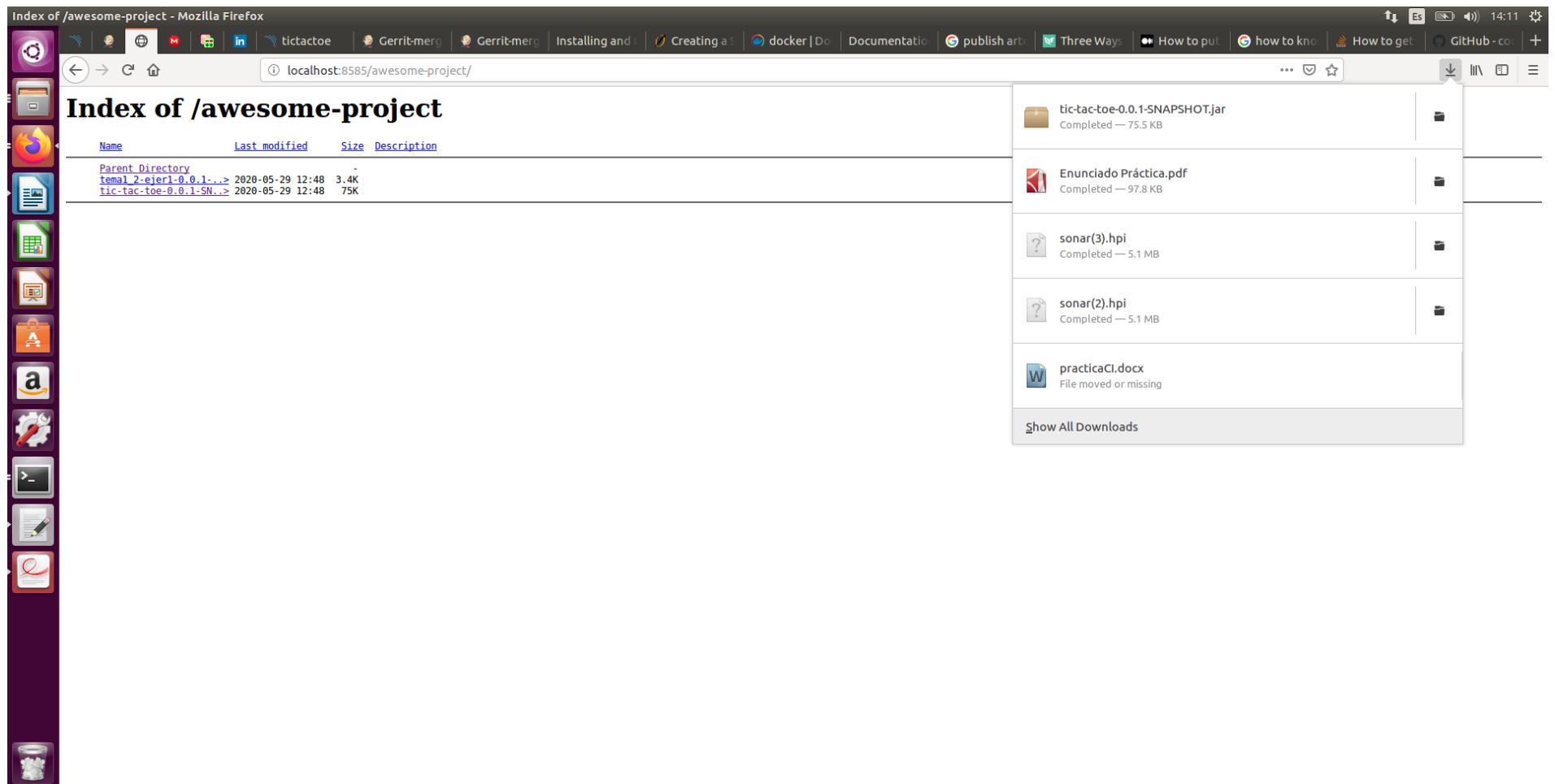


Ilustración 42. Artefacto publicado del Proyecto Software Tic-Tac-Toe (3)

Anexo 1: salida por consola del 2º Commit

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ ls
pom.xml src

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm src
fatal: not removing 'src' recursively without -r

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm src
fatal: not removing 'src' recursively without -r

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ 
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ 
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm
pom.xml src/
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm src/
fatal: not removing 'src/' recursively without -r
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm -r src/
rm 'src/main/java/es/codeurjc/test/complex/Complex.java'
rm 'src/test/java/es/codeurjc/test/complex/ComplexTest.java'
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm pom.xml
rm 'pom.xml'

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git status
On branch master
Changes to be committed:
(use "git reset HEAD <file>..." to unstage)
  deleted:  pom.xml
  deleted:  src/main/java/es/codeurjc/test/complex/Complex.java
  deleted:  src/test/java/es/codeurjc/test/complex/ComplexTest.java

Untracked files:
(use "git add <file>..." to include in what will be committed)
  code-example/
  pom.xml
  tic-tac-toe-solucion/

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git add .
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git status
On branch master
```

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

```
new file: code-example/pom.xml
renamed: src/main/java/es/codeurjc/test/complex/Complex.java -> code-example/src/main/java/es/codeurjc/test/complex/Complex.java
renamed: src/test/java/es/codeurjc/test/complex/ComplexTest.java -> code-example/src/test/java/es/codeurjc/test/complex/ComplexTest.java
modified: pom.xml
new file: tic-tac-toe-solucion/pom.xml
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Board.java
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Connection.java
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Player.java
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
new file: tic-tac-toe-solucion/src/main/resources/static/css/Lato.woff2
new file: tic-tac-toe-solucion/src/main/resources/static/css/Quicksand.woff2
new file: tic-tac-toe-solucion/src/main/resources/static/css/bootstrap.min.css
new file: tic-tac-toe-solucion/src/main/resources/static/css/style.css
new file: tic-tac-toe-solucion/src/main/resources/static/index.html
new file: tic-tac-toe-solucion/src/main/resources/static/js/Board.js
new file: tic-tac-toe-solucion/src/main/resources/static/js/app.js
new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
new file: tic-tac-toe-solucion/target/classes/META-INF/MANIFEST.MF
new file: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.properties
new file: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.xml
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Board.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Connection.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Player.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$Cell.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$CellMarkedValue.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$Event.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$EventType.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$WinnerResult.class
```

```
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$WinnerValue.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ClientToServerAction.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ClientToServerMsg.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$Data.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ServerToClientMsg.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/WebApp.class
new file: tic-tac-toe-solucion/target/classes/static/css/Lato.woff2
new file: tic-tac-toe-solucion/target/classes/static/css/Quicksand.woff2
new file: tic-tac-toe-solucion/target/classes/static/css/bootstrap.min.css
new file: tic-tac-toe-solucion/target/classes/static/css/style.css
new file: tic-tac-toe-solucion/target/classes/static/index.html
new file: tic-tac-toe-solucion/target/classes/static/js/Board.js
new file: tic-tac-toe-solucion/target/classes/static/js/app.js
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/BoardTest.class
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeGameTest.class
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.class
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git rm -r *
error: the following files have changes staged in the index:
code-example/pom.xml
code-example/src/main/java/es/codeurjc/test/complex/Complex.java
code-example/src/test/java/es/codeurjc/test/complex/ComplexTest.java
pom.xml
tic-tac-toe-solucion/pom.xml
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Board.java
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Connection.java
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Player.java
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
tic-tac-toe-solucion/src/main/resources/static/css/Lato.woff2
tic-tac-toe-solucion/src/main/resources/static/css/Quicksand.woff2
tic-tac-toe-solucion/src/main/resources/static/css/bootstrap.min.css
```

tic-tac-toe-solucion/src/main/resources/static/css/style.css
tic-tac-toe-solucion/src/main/resources/static/index.html
tic-tac-toe-solucion/src/main/resources/static/js/Board.js
tic-tac-toe-solucion/src/main/resources/static/js/app.js
tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
tic-tac-toe-solucion/target/classes/META-INF/MANIFEST.MF
tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.properties
tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.xml
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Board.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Connection.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Player.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$Cell.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$CellMarkedValue.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$Event.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$EventType.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$WinnerResult.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$WinnerValue.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ClientToServerAction.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ClientToServerMsg.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$Data.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ServerToClientMsg.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler.class
tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/WebApp.class
tic-tac-toe-solucion/target/classes/static/css/Lato.woff2
tic-tac-toe-solucion/target/classes/static/css/Quicksand.woff2
tic-tac-toe-solucion/target/classes/static/css/bootstrap.min.css
tic-tac-toe-solucion/target/classes/static/css/style.css
tic-tac-toe-solucion/target/classes/static/index.html
tic-tac-toe-solucion/target/classes/static/js/Board.js
tic-tac-toe-solucion/target/classes/static/js/app.js
tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/BoardTest.class

```
tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeGameTest.class
tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.class
(use --cached to keep the file, or -f to force removal)
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ cp -r /home/abraham/Downloads/awesome-project/* .
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ cp -r /home/abraham/Downloads/awesome-project/tic-tac-toe-solucion/* .
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ rm -r *
rm: remove write-protected regular file 'awesome-project/.git/objects/f3/a98dfe90f35ece19f180c03e434a0d6497eb62'? yes
rm: remove write-protected regular file 'awesome-project/.git/objects/d9/ed5d2f58f5c7b0ca4f4ef5c4de909273afcd9a'? ^[[A^[[2~
rm: cannot remove 'awesome-project/.git/objects/d9': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/ec/8dcfc7022c8991ded78c99f5798bf7aff72ce0'?
rm: cannot remove 'awesome-project/.git/objects/ec': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/92/852c308fb9c84e94ba103adff1aa63d441901a'?
rm: cannot remove 'awesome-project/.git/objects/92': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/7c/670afa12050ec7b1d231228caeb7e9b6b22f89'?
rm: cannot remove 'awesome-project/.git/objects/7c': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/6b/274d3b9764d39ff5d7db985e6fcade4d97bc7f'?
rm: cannot remove 'awesome-project/.git/objects/6b': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/ed/aeb5effef6fd38187f26f2d91987b54cedab02'?
rm: cannot remove 'awesome-project/.git/objects/ed': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/43/27f46a99ef09c6f3278f6255683e74698c14d1'?
rm: cannot remove 'awesome-project/.git/objects/43': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/db/4700de69e532984ee597731e090fe75da16135'?
rm: cannot remove 'awesome-project/.git/objects/db': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/d8/582952f642590111e01388219a4bfae6da52e9'?
rm: remove write-protected regular file 'awesome-project/.git/objects/d8/53dce36b66b7dde46dd827f99b80ac9e789e1b'?
rm: cannot remove 'awesome-project/.git/objects/d8': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/c0/aea4f0223282861a0e1c8350bd2c8740af7755'?
rm: cannot remove 'awesome-project/.git/objects/c0': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/60/fdae16a657d166d0ad30667bb012f3eef7837a'?
rm: cannot remove 'awesome-project/.git/objects/60': Directory not empty
```

```
rm: remove write-protected regular file 'awesome-project/.git/objects/de/21df8322d72f1f3f0044e62aca99ebc4eb62b5'?
rm: cannot remove 'awesome-project/.git/objects/de': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/c9/3a8c05b36196c14e589236ee3db30a6aad6bad'?
rm: remove write-protected regular file 'awesome-project/.git/objects/c9/54cec91ccbebf5c0931a5af5ddd3083979305e'?
rm: remove write-protected regular file 'awesome-project/.git/objects/c9/4b2d09a406cf487d8a838f6d570d8364625218'?
rm: cannot remove 'awesome-project/.git/objects/c9': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/aa/91ddd2d047c1db8024cbfd45e4268008e5002e'?
rm: cannot remove 'awesome-project/.git/objects/aa': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/19/d38c8d40e9825bcd326e328ad4a76cce8337b'?
rm: cannot remove 'awesome-project/.git/objects/19': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/99/3aed71eebb704cd9273ed37ba81cf1022f345'?
rm: cannot remove 'awesome-project/.git/objects/99': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/1d/88f988366dbb1b847f06acbf1cf08e1682a55d'?
rm: remove write-protected regular file 'awesome-project/.git/objects/1d/3cd027343c2c04fc0f688afd005cb155557ae'?
rm: cannot remove 'awesome-project/.git/objects/1d': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/69/2081797620b245add65a3e3c8e825529925891'?
rm: cannot remove 'awesome-project/.git/objects/69': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/f5/4fabec5da7cdc1c3613b939120d944a5943c8'?
rm: cannot remove 'awesome-project/.git/objects/f5': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/75/7171c860c5617e7e6746d8e1121feb4fb524e9'?
rm: cannot remove 'awesome-project/.git/objects/75': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b8/44530894c1f9f1838d07f5b7b14705ad5ea502'?
rm: remove write-protected regular file 'awesome-project/.git/objects/b8/ccdd7bf88d02312901a9ae6b792a0338d4adb6'?
rm: cannot remove 'awesome-project/.git/objects/b8': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/2a/f7cefb0a3f1e7df2fc27b8421f0e16b460e680'?
rm: cannot remove 'awesome-project/.git/objects/2a': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/94/ff3f3daa942c4d48b1f08bda2c597ee8a1019b'?
rm: cannot remove 'awesome-project/.git/objects/94': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/7e/021430ad389c1ebc45a51f53f11192bd9c81c8'?
rm: remove write-protected regular file 'awesome-project/.git/objects/7e/65147a6e7b62d88dedcf5c43d19e7ea3c90bc'?
rm: remove write-protected regular file 'awesome-project/.git/objects/7e/6587f0e6fc4ac58535f4373e2e6cfb57472b6'?
rm: cannot remove 'awesome-project/.git/objects/7e': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/67/50e26e4c78815bc60944b26ca92a69e652f098'?
rm: cannot remove 'awesome-project/.git/objects/67': Directory not empty
```

```
rm: remove write-protected regular file 'awesome-project/.git/objects/55/0ff754a2bb2d99ae8677125e02a01abf446a1e'?
rm: cannot remove 'awesome-project/.git/objects/55': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/c5/7dd90aaeefd6cce9277a618c6fb8ef32317c8e'?
rm: cannot remove 'awesome-project/.git/objects/c5': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/95/05d439f53e048ae46c9e36d346b51895d69095'?
rm: cannot remove 'awesome-project/.git/objects/95': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/f8/4933f6abe2a461f537c86007c0aadd66fa70e2'?
rm: remove write-protected regular file 'awesome-project/.git/objects/f8/97a7f1cb2389f85fe6381425d29f0a9866fb65'?
rm: cannot remove 'awesome-project/.git/objects/f8': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b7/ce4df054d7cda24b49870c5f26670825be5acd'?
rm: cannot remove 'awesome-project/.git/objects/b7': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/6f/f753310f3fb4a01192ac6beba33b599b59661d'?
rm: cannot remove 'awesome-project/.git/objects/6f': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b1/2c6ace86349e840275accfe92e38630b275e05'?
rm: remove write-protected regular file 'awesome-project/.git/objects/b1/476a07656f35ff8504ab530245c8885c635b84'?
rm: cannot remove 'awesome-project/.git/objects/b1': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/fb/16e1d3d6ccc321d2e3a70a0ad52912630b6503'?
rm: remove write-protected regular file 'awesome-project/.git/objects/fb/7b667cd6119bd33b0818b96952e9463f654a79'?
rm: cannot remove 'awesome-project/.git/objects/fb': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/88/049d63eda25e4cf50f9dc256d2ce938a2d5af'?
rm: cannot remove 'awesome-project/.git/objects/88': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/2d/10f5bf6049647715ea6f4bd84ac2b3e5c3922d'?
rm: cannot remove 'awesome-project/.git/objects/2d': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/ff/1db92df5f23b3b883a7678c7c603739e4bf211'?
rm: cannot remove 'awesome-project/.git/objects/ff': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/8f/f573be92440daa8a1928d22711b1988bfb1343'?
rm: cannot remove 'awesome-project/.git/objects/8f': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/1e/79799e8a874269cf32ac798a8c1584dbc42f3f'?
rm: cannot remove 'awesome-project/.git/objects/1e': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/1a/58d82a013b327e73a67a5d87790bdc5255e5a4'?
rm: cannot remove 'awesome-project/.git/objects/1a': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/8b/975d968a5a58694ecbf0786b37c141810f14ec'?
rm: cannot remove 'awesome-project/.git/objects/8b': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b2/460485965ab249263c87fa261cd014680fe538'?
```

```
rm: cannot remove 'awesome-project/.git/objects/b2': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/76/a38fd6487ba19ced47048e8b27b399b05bcd22'?
rm: remove write-protected regular file 'awesome-project/.git/objects/76/26f68367d3ebc877ab284380a70d7063bfd693'?
rm: cannot remove 'awesome-project/.git/objects/76': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/57/2e6d6eff3f5fdcf5c87b3dacc36ff7c61eafa3'?
rm: cannot remove 'awesome-project/.git/objects/57': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/d6/12e6a07f58ea8d92b14e5d307e8507c1898122'?
rm: remove write-protected regular file 'awesome-project/.git/objects/d6/42d2b322e9cc279ee9c690fbe6c9b6358c5553'?
rm: cannot remove 'awesome-project/.git/objects/d6': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/18/21eb499d0d64dc36961ac9fdb9818819feb17'?
rm: cannot remove 'awesome-project/.git/objects/18': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/80/6e5dc1adcb9f207adf436de2e591db37907baa'?
rm: remove write-protected regular file 'awesome-project/.git/objects/80/6f0921e20920f0e46381f79d9d37b6bcced25'?
rm: cannot remove 'awesome-project/.git/objects/80': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/4c/41379d8085f621b10c4a45d2d5fe44a39b86fb'?
rm: cannot remove 'awesome-project/.git/objects/4c': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/81/118c04ddc79bded8235eba11098df15e214cc6'?
rm: cannot remove 'awesome-project/.git/objects/81': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/97/e67a21feec0f2cc27390f03124bb050da45bd6'?
rm: cannot remove 'awesome-project/.git/objects/97': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/96/fdf8fa0f219470c8cef3e32cf33dc7dc27b3fe'?
rm: cannot remove 'awesome-project/.git/objects/96': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/f0/40d06e7e77aa09a58bc874b83f39b4e8185791'?
rm: cannot remove 'awesome-project/.git/objects/f0': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/6a/32d5782b9d745f81436493ed734ebef5da695e'?
rm: cannot remove 'awesome-project/.git/objects/6a': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/0c/7bb1fb3dfa95bfb10eacd104bc4e7a93ff6b72'?
rm: cannot remove 'awesome-project/.git/objects/0c': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/ab/dea9ac032d4655898933f93050f48bf9581d14'?
rm: cannot remove 'awesome-project/.git/objects/ab': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/dc/319c90f521435aa778c901829bf7c76251039a'?
rm: remove write-protected regular file 'awesome-project/.git/objects/dc/2e0eb33bb5180c587a6624bb4e8847546deb54'?
rm: cannot remove 'awesome-project/.git/objects/dc': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b3/c6d12e1534185ae26b576eb38d9ffce540950'?
```

```
rm: cannot remove 'awesome-project/.git/objects/b3': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/91/d9663963da92be08e9ce6fa0b62acd993b7741'?
rm: cannot remove 'awesome-project/.git/objects/91': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/31/8873a068df7ae83df7821f88ee52da2bfaa244'?
rm: cannot remove 'awesome-project/.git/objects/31': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/a2/062adbb671defa4363b4533f498816949e271e'?
rm: cannot remove 'awesome-project/.git/objects/a2': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/74/e1580fe022d6df9758caed3d16666eacfa4440'?
rm: cannot remove 'awesome-project/.git/objects/74': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/e4/ee13abcbe56d08eecccd329cf89cc597b1eb5a4'?
rm: remove write-protected regular file 'awesome-project/.git/objects/e4/a5a0b9aedef696bd8ad2fc01b9f0ab9ee3b7650'?
rm: cannot remove 'awesome-project/.git/objects/e4': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/3f/35f29f5ce96c825fafaf72b2ebc579d94324a'?
rm: cannot remove 'awesome-project/.git/objects/3f': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/3e/3aa4ca4698c58028158c32e89651a2f8b6293a'?
rm: cannot remove 'awesome-project/.git/objects/3e': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/15/888164e1763f82e0d5ff9e595fdb25151ee5b6'?
rm: remove write-protected regular file 'awesome-project/.git/objects/15/1eca985f03a65a70f88619b49f9c804b34ba97'?
rm: cannot remove 'awesome-project/.git/objects/15': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/39/c1c75969cf50fc20851c2841de0427fde06af4'?
rm: cannot remove 'awesome-project/.git/objects/39': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/eb/37541787357415437c44b1dc1fecb43604cd20'?
rm: cannot remove 'awesome-project/.git/objects/eb': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/23/ce7079b5cb1d89c02606d9a4d5AAF9be4207af'?
rm: cannot remove 'awesome-project/.git/objects/23': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/e8/21fa159a0de30d403611927082a0d9852fe0d6'?
rm: cannot remove 'awesome-project/.git/objects/e8': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/5f/d4d5023f1463b5ba3970e33c460c1eb26d748d'?
rm: cannot remove 'awesome-project/.git/objects/5f': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/32/cf38ab1cd218ee09b51d3923cba9d41445d2a5'?
rm: cannot remove 'awesome-project/.git/objects/32': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/51/c39e3505b77fd16cb1a949343aae9ad72e8587'?
rm: cannot remove 'awesome-project/.git/objects/51': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/ef/0e5bb61d6e2fa61f68726bb39522b04d78dc4f'?
```

```
rm: remove write-protected regular file 'awesome-project/.git/objects/ef/7b221d72fba732e3611028c2225d99b01bd157'?
rm: cannot remove 'awesome-project/.git/objects/ef': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/8d/1747419992fb9b2049462016d92526ce9fa6bb'?
rm: cannot remove 'awesome-project/.git/objects/8d': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/4a/05d4e0e38a39c78e4fe598f92fd8437d98aeb3'?
rm: cannot remove 'awesome-project/.git/objects/4a': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/4e/6504751f282981925880127af06c29071010dc'?
rm: cannot remove 'awesome-project/.git/objects/4e': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/28/b2b634f0735509345b879941801923214b2f18'?
rm: remove write-protected regular file 'awesome-project/.git/objects/28/0453634eb1b35d5cc8e121e323f3f77b038fcfd'?
rm: remove write-protected regular file 'awesome-project/.git/objects/28/f154dec4aaff15b67944b3dc71e3b706793090'?
rm: cannot remove 'awesome-project/.git/objects/28': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/bf/8b60130fddeb9a5bf9ebc49ecdd6f699b0b271'?
rm: cannot remove 'awesome-project/.git/objects/bf': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/a5/6717ad8af788a5ba731ade88358244d4d3cef8'?
rm: cannot remove 'awesome-project/.git/objects/a5': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/8e/6b32eca9190100c189f5e20ac475b7d47ba241'?
rm: cannot remove 'awesome-project/.git/objects/8e': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/c7/42aedb135568a00b75c9e2074bfaa13c8de968'?
rm: cannot remove 'awesome-project/.git/objects/c7': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/54/69216e1f9b633bd1df2037fd02395513def3c2'?
rm: cannot remove 'awesome-project/.git/objects/54': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/9d/4204238d3c0fa4e95cb5d2d711df9a49c9bf20'?
rm: cannot remove 'awesome-project/.git/objects/9d': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/f2/6fde3c9481c5c11a1dd241161870aa62577853'?
rm: remove write-protected regular file 'awesome-project/.git/objects/f2/649fa55fa09cdbee7f16aca25aa83ca7015f83'?
rm: cannot remove 'awesome-project/.git/objects/f2': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/cd/93a98dbbe38f10e8ae6164af2af21cda39d273'?
rm: cannot remove 'awesome-project/.git/objects/cd': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/06/3236da9d1847f570a7a8a64eea539d08695738'?
rm: remove write-protected regular file 'awesome-project/.git/objects/06/d407f27251d4ba6f0d9df553f46ac0aa0aeadf'?
rm: cannot remove 'awesome-project/.git/objects/06': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/b0/3aa830027fde35b5a1ff42dfd06cf220e59109'?
rm: cannot remove 'awesome-project/.git/objects/b0': Directory not empty
```

```
rm: remove write-protected regular file 'awesome-project/.git/objects/4f/627d0b3930c3dfbadfddd74538bd02baf98119'?
rm: cannot remove 'awesome-project/.git/objects/4f': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/f4/ef42db143c04044a93f55b898a7990cc783f6f'?
rm: cannot remove 'awesome-project/.git/objects/f4': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/71/c8b218b5426c34972271ab3c36a7e9517d2281'?
rm: remove write-protected regular file 'awesome-project/.git/objects/71/b32273a4e5aedcdb186514c95c1a5d3d712d8e'?
rm: cannot remove 'awesome-project/.git/objects/71': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/a4/0512762e0d55cfb5272474dbc3204b026352c4'?
rm: cannot remove 'awesome-project/.git/objects/a4': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/e7/08857cc2dd9e7902da630a0ee64eb30f63d4e8'?
rm: cannot remove 'awesome-project/.git/objects/e7': Directory not empty
rm: remove write-protected regular file 'awesome-project/.git/objects/dd/d74cd93d5a4d09bae84adf8f50f454d5f26323'?
rm: cannot remove 'awesome-project/.git/objects/dd': Directory not empty
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ 
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ ls -l
total 12
-rw-r--r-- 1 abraham abraham 1828 abr 3 2018 pom.xml
drwxrwxr-x 4 abraham abraham 4096 may 28 2018 src
drwxrwxr-x 4 abraham abraham 4096 abr 3 2018 target
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ ls -a
. . .classpath .git .gitignore .mvn pom.xml .project .settings .springBeans src target
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ ls -ls
total 12
4 -rw-r--r-- 1 abraham abraham 1828 abr 3 2018 pom.xml
4 drwxrwxr-x 4 abraham abraham 4096 may 28 2018 src
4 drwxrwxr-x 4 abraham 4096 abr 3 2018 target
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ ls -la
total 48
drwxrwxr-x 7 abraham abraham 4096 may 8 00:38 .
drwxrwxr-x 7 abraham abraham 4096 abr 20 21:56 ..
-rw-rw-r-- 1 abraham abraham 1195 abr 2 2018 .classpath
drwxrwxr-x 8 abraham abraham 4096 abr 21 20:38 .git
-rw-r--r-- 1 abraham 249 mar 26 2017 .gitignore
drwxrwxr-x 3 abraham abraham 4096 abr 3 2018 .mvn
```

```
-rw-r--r-- 1 abraham abraham 1828 abr 3 2018 pom.xml
-rw-rw-r-- 1 abraham abraham 942 mar 26 2017 .project
drwxrwxr-x 2 abraham abraham 4096 may 28 2018 .settings
-rw-rw-r-- 1 abraham abraham 459 abr 2 2018 .springBeans
drwxrwxr-x 4 abraham abraham 4096 may 28 2018 src
drwxrwxr-x 4 abraham abraham 4096 abr 3 2018 target
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new file: code-example/pom.xml
    renamed: src/main/java/es/codeurjc/test/complex/Complex.java -> code-example/src/main/java/es/codeurjc/test/complex/Complex.java
    renamed: src/test/java/es/codeurjc/test/complex/ComplexTest.java -> code-example/src/test/java/es/codeurjc/test/complex/ComplexTest.java
    modified: pom.xml
    new file: tic-tac-toe-solucion/pom.xml
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Board.java
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Connection.java
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Player.java
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
    new file: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
    new file: tic-tac-toe-solucion/src/main/resources/static/css/Lato.woff2
    new file: tic-tac-toe-solucion/src/main/resources/static/css/Quicksand.woff2
    new file: tic-tac-toe-solucion/src/main/resources/static/css/bootstrap.min.css
    new file: tic-tac-toe-solucion/src/main/resources/static/css/style.css
    new file: tic-tac-toe-solucion/src/main/resources/static/index.html
    new file: tic-tac-toe-solucion/src/main/resources/static/js/Board.js
    new file: tic-tac-toe-solucion/src/main/resources/static/js/app.js
    new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
    new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
    new file: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
    new file: tic-tac-toe-solucion/target/classes/META-INF/MANIFEST.MF
    new file: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.properties
    new file: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.xml
```

```
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Board.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Connection.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Player.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$Cell.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$CellMarkedValue.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$Event.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$EventType.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$WinnerResult.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame$WinnerValue.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ClientToServerAction.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ClientToServerMsg.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$Data.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler$ServerToClientMsg.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler.class
new file: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/WebApp.class
new file: tic-tac-toe-solucion/target/classes/static/css/Lato.woff2
new file: tic-tac-toe-solucion/target/classes/static/css/Quicksand.woff2
new file: tic-tac-toe-solucion/target/classes/static/css/bootstrap.min.css
new file: tic-tac-toe-solucion/target/classes/static/css/style.css
new file: tic-tac-toe-solucion/target/classes/static/index.html
new file: tic-tac-toe-solucion/target/classes/static/js/Board.js
new file: tic-tac-toe-solucion/target/classes/static/js/app.js
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/BoardTest.class
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeGameTest.class
new file: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.class
```

Changes not staged for commit:

(use "git add/rm <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

```
deleted: code-example/pom.xml
deleted: code-example/src/main/java/es/codeurjc/test/complex/Complex.java
deleted: code-example/src/test/java/es/codeurjc/test/complex/ComplexTest.java
modified: pom.xml
deleted: tic-tac-toe-solucion/pom.xml
```

deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Board.java
deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Connection.java
deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/Player.java
deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
deleted: tic-tac-toe-solucion/src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
deleted: tic-tac-toe-solucion/src/main/resources/static/css/Lato.woff2
deleted: tic-tac-toe-solucion/src/main/resources/static/css/Quicksand.woff2
deleted: tic-tac-toe-solucion/src/main/resources/static/css/bootstrap.min.css
deleted: tic-tac-toe-solucion/src/main/resources/static/css/style.css
deleted: tic-tac-toe-solucion/src/main/resources/static/index.html
deleted: tic-tac-toe-solucion/src/main/resources/static/js/Board.js
deleted: tic-tac-toe-solucion/src/main/resources/static/js/app.js
deleted: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
deleted: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
deleted: tic-tac-toe-solucion/src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
deleted: tic-tac-toe-solucion/target/classes/META-INF/MANIFEST.MF
deleted: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.properties
deleted: tic-tac-toe-solucion/target/classes/META-INF/maven/es.codeurjc.ais/tic-tac-toe/pom.xml
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Board.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Connection.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/Player.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$Cell.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$CellMarkedValue.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$Event.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$EventType.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$WinnerResult.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame\$WinnerValue.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeGame.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ClientToServerAction.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ClientToServerMsg.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$Data.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler\$ServerToClientMsg.class
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/TicTacToeHandler.class

```
deleted: tic-tac-toe-solucion/target/classes/es/codeurjc/ais/tictactoe/WebApp.class
deleted: tic-tac-toe-solucion/target/classes/static/css/Lato.woff2
deleted: tic-tac-toe-solucion/target/classes/static/css/Quicksand.woff2
deleted: tic-tac-toe-solucion/target/classes/static/css/bootstrap.min.css
deleted: tic-tac-toe-solucion/target/classes/static/css/style.css
deleted: tic-tac-toe-solucion/target/classes/static/index.html
deleted: tic-tac-toe-solucion/target/classes/static/js/Board.js
deleted: tic-tac-toe-solucion/target/classes/static/js/app.js
deleted: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/BoardTest.class
deleted: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeGameTest.class
deleted: tic-tac-toe-solucion/target/test-classes/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.class
```

Untracked files:

(use "git add <file>..." to include in what will be committed)

```
.gitignore
.mvn/
src/
```

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git add .
```

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ gis stat
```

No command 'gis' found, did you mean:

Command 'gid' from package 'id-utils' (universe)

Command 'gist' from package 'yorick' (universe)

Command 'gjs' from package 'gjs' (universe)

Command 'gdis' from package 'gdis' (universe)

Command 'gip' from package 'gip' (universe)

Command 'gss' from package 'libgss-dev' (universe)

Command 'gij' from package 'gcj-jre-headless' (universe)

Command 'gsi' from package 'gambc' (universe)

Command 'fis' from package 'redboot-tools' (universe)

Command 'qgis' from package 'qgis-provider-grass' (universe)

Command 'qgis' from package 'qgis' (universe)

Command 'git' from package 'git' (main)

Command 'gs' from package 'ghostscript' (main)

gis: command not found

```
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git status
```

On branch master

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

new file: .gitignore
new file: .mvn/wrapper/maven-wrapper.jar
new file: .mvn/wrapper/maven-wrapper.properties
modified: pom.xml
new file: src/main/java/es/codeurjc/ais/tictactoe/Board.java
new file: src/main/java/es/codeurjc/ais/tictactoe/Connection.java
new file: src/main/java/es/codeurjc/ais/tictactoe/Player.java
new file: src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
new file: src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
new file: src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
deleted: src/main/java/es/codeurjc/test/complex/Complex.java
new file: src/main/resources/static/css/Lato.woff2
new file: src/main/resources/static/css/Quicksand.woff2
new file: src/main/resources/static/css/bootstrap.min.css
new file: src/main/resources/static/css/style.css
new file: src/main/resources/static/index.html
new file: src/main/resources/static/js/Board.js
new file: src/main/resources/static/js/app.js
new file: src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
new file: src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
new file: src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
deleted: src/test/java/es/codeurjc/test/complex/ComplexTest.java

abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project\$ git commit -a -m "second commit waiting the forge to work"

[master 3ba8f37] second commit waiting the forge to work

22 files changed, 1327 insertions(+), 157 deletions(-)

create mode 100644 .gitignore

create mode 100644 .mvn/wrapper/maven-wrapper.jar

create mode 100644 .mvn/wrapper/maven-wrapper.properties

mode change 100755 => 100644 pom.xml

create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/Board.java

create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/Connection.java

```
create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/Player.java
create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/TicTacToeGame.java
create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/TicTacToeHandler.java
create mode 100644 src/main/java/es/codeurjc/ais/tictactoe/WebApp.java
delete mode 100755 src/main/java/es/codeurjc/test/complex/Complex.java
create mode 100644 src/main/resources/static/css/Lato.woff2
create mode 100644 src/main/resources/static/css/Quicksand.woff2
create mode 100644 src/main/resources/static/css/bootstrap.min.css
create mode 100644 src/main/resources/static/css/style.css
create mode 100644 src/main/resources/static/index.html
create mode 100644 src/main/resources/static/js/Board.js
create mode 100644 src/main/resources/static/js/app.js
create mode 100644 src/test/java/es/codeurjc/ais/tictactoe/BoardTest.java
create mode 100644 src/test/java/es/codeurjc/ais/tictactoe/TicTacToeGameTest.java
create mode 100644 src/test/java/es/codeurjc/ais/tictactoe/TicTacToeSystemTest.java
delete mode 100755 src/test/java/es/codeurjc/test/complex/ComplexTest.java
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$ git push origin HEAD:refs/for/master
Counting objects: 41, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (30/30), done.
Writing objects: 100% (41/41), 106.53 KiB | 0 bytes/s, done.
Total 41 (delta 0), reused 0 (delta 0)
remote: Processing changes: new: 1, refs: 1, done
remote:
remote: New Changes:
remote: http://10.0.2.15:8080/2 second commit waiting the forge to work
remote:
To ssh://dev1@10.0.2.15:29418/awesome-project
 * [new branch]  HEAD -> refs/for/master
abraham@abraham-VirtualBox:~/practicaCI/codeurjc-forge/awesome-project$
```