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Propuesta de solución Caso Práctico 1 – Apartado B

Asignatura	Datos del alumno	Fecha
Experto Universitario en DevOps & Cloud	Apellidos: Leon Granda	
	Nombre: Giovanna Victoria	

URL de repositorio solución de GitHub: https://github.com/GiovannaLeon/helloworld.git

Reto 1 – Creación pipeline CI

En este reto se solicitan 4 entregables:

▶ URL al repositorio creado por el alumno, a partir del código fuente base de este CP1, que albergue tanto el código fuente como el Jenkinsfile. (jenkinsfile:

https://github.com/GiovannaLeon/helloworld/blob/master/CP2.1.1/cp2.1.1.txt

```
pipeline {
     agent any
      environment {
           \label{local-post} PYTHON\_PATH = "C:\Users\\\amaro\\AppData\\Local\\Programs\\Python\\Python313\\python.exe" \\
            stages {
            stage('Get Code') {
                 steps {
                       git 'https://github.com/GiovannaLeon/helloworld.git'
                        bat "dir
                        echo WORKSPACE
           // Etapa de Pruebas Unitarias
            stage('Unit') {
                 steps {
                        catchError(buildResult: 'UNSTABLE', stageResult: 'FAILURE') {
                                    SET PYTHONPATH=%WORKSPACE%
                                    %PYTHON_PATH_SCRIPTS%\\coverage.exe run --branch --source=app --omit=app\\__init__.py,app\\api.py -m pytest -
-junitxml=result-unit.xml test\\unit
                             sleep(5) // Asegúrate de que los resultados estén listos
                             junit 'result-unit.xml' // Reporte de las pruebas unitarias
           // Etapa de Cobertura de Pruebas (Reutilizando los resultados de Unit)
           stage('Coverage') {
                 steps {
                       bat
                          %PYTHON_PATH_SCRIPTS%\\coverage.exe xml
                        catchError(buildResult: 'UNSTABLE', stageResult: 'FAILURE') {
                             cobertura \quad cobertura Report File: \quad "**/coverage.xml", \quad conditional Coverage Targets: \quad "100,80,90", \quad line Coverage Targets: \quad "100,80", \quad line Coverage Targets: \quad line C
'100,85,95'
           // Etapa de Análisis Estático (Flake8)
            stage('Static') {
                             %PYTHON_PATH_SCRIPTS%\\flake8.exe --exit-zero --format=pylint --exit-zero app >flake8.out
                       // Umbrales para Flake8
```

```
recordIssues tools: [flake8(name: 'Flake8', pattern: '**/flake8.out')],
                                      qualityGates: [
                                           [threshold: 8, type: 'TOTAL', unstable: true], // 8 o más hallazgos -> Unstable
                                           [threshold: 10, type: 'TOTAL', unstable: false, healthy: false] // 10 o más hallazgos -> Unhealthy
               }
          // Etapa de Análisis de Seguridad (Bandit)
          stage('Security') {
               steps {
                    bat
                          [{test_id}] {msg}"
                     catchError(buildResult: 'SUCCESS', stageResult: 'UNSTABLE') {
                         // Usamos el patrón relativo para buscar 'bandit.out' y aplicar los Quality Gates recordIssues tools: [pyLint(name: 'Bandit', pattern: '**/bandit.out')],
                                          qualityGates: [
                                               [threshold: 2, type: 'TOTAL', unstable: true], // 2 o más hallazgos -> Unstable
                                               [threshold: 4, type: 'TOTAL', unstable: false, healthy: false] // 4 o más hallazgos -> Unhealthy
               }
         // Etapa de Pruebas de Rendimiento (JMeter)
          stage('Performance') {
               steps {
                     bat "
                         SET FLASK_APP=app\\api.py
                          start /B %PYTHON_PATH% -m flask run --host=0.0.0.0 --port=5000
                          rem Espera 10 segundos para asegurarse de que Flask esté listo antes de correr las pruebas
                          \label{linear} $$ C:\Users\arro\Downloads\arro\C:\Berro. 6.3\bin\jmeter - n - t test\jmeter\flask.jmx - f - model for the content of the co
l flask.jtl
                     script {
                          // Después de la ejecución de las pruebas de rendimiento y la cobertura, procesamos el reporte
                          catchError(buildResult: 'SUCCESS', stageResult: 'UNSTABLE') {
                              // Ejecutar el reporte de rendimiento
                              perfReport sourceDataFiles: '**/flask.jtl'
```

Log de la ejecución del pipeline.

Lanzada por el usuario Giovanna leon

```
[Pipeline] Start of Pipeline
[Pipeline] node
Running on agent2
in C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1
[Pipeline]\,\{
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Get Code)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
Fetching changes from the remote Git repository
Checking out Revision 68937f3074832c2836450d95064bb33a92eba723 (refs/remotes/origin/master)
> git.exe\ rev-parse\ -- resolve-git-dir\ C: \ ProgramData\ Uenkins\ . ienkins\ workspace\ agents\ agent2\ workspace\ Unir\ CP2.1.1\ , git\ \#\ timeout=10
> git.exe config remote.origin.url https://github.com/GiovannaLeon/helloworld.git # timeout=10
```

```
> git.exe --version # timeout=10
 > git --version # 'git version 2.47.1.windows.1'
 > git.exe fetch -- tags -- force -- progress -- https://github.com/GiovannaLeon/helloworld.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
 > git.exe config core.sparsecheckout # timeout=10
Commit message: "Add files via upload"
 > git.exe checkout -f 68937f3074832c2836450d95064bb33a92eba723 # timeout=10
 > git.exe branch -a -v --no-abbrev # timeout=10
 > git.exe branch -D master # timeout=10
 > git.exe checkout -b master 68937f3074832c2836450d95064bb33a92eba723 # timeout=10
 > git.exe rev-list --no-walk 68937f3074832c2836450d95064bb33a92eba723 # timeout=10
[Pipeline] bat
\label{lem:condition} C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1>dir
 El volumen de la unidad C es Windows
 El n£mero de serie del volumen es: 6475-04AA
 27/01/2025 14:07 <DIR>
24/01/2025 01:01 <DIR>
                                                   53.248 .coverage
27/01/2025 14:07
24/01/2025 00:40
                                                        40 .gitignore
24/01/2025 00:40 <DIR>
                                                                  .pytest_cache
24/01/2025 00:40 <DIR>
                                                                  app
                                                      426 bandit.out
27/01/2025 14:07
27/01/2025 14:07
                                                     2.261 coverage.xml
27/01/2025 14:00 <DIR>
                                                                CP2.1.1
                                                       500 flake8.out
27/01/2025 14:07
                                                    20.035 flask.jtl
27/01/2025 14:07
                                                                  jenkinsFile 1
24/01/2025 00:40 <DIR>
24/01/2025 00:40 <DIR>
                                                                  jenkinsFile_2
                                                                  JenkinsFile_3
24/01/2025 00:40 <DIR>
24/01/2025 00:40 <DIR>
                                                                  jenkinsfile 4
27/01/2025 14:07
                                                    10.493 jmeter.log
24/01/2025 00:40
                                                       175 pytest.ini
24/01/2025 00:40
                                                       418 README.md
27/01/2025 14:07
                                                     1.401 result-unit.xml
24/01/2025 00:40 <DIR>
                                                                  test
                 10 archivos
                                                88.997 bytes
               10 dirs 565.804.642.304 bytes libres
[Pipeline] echo
C: \Program Data \Jenkins \Jenkins \work space \agents \agent2 \work space \Unir \CP2.1.1
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Unit)
[Pipeline] catchError
[Pipeline] {
[Pipeline] bat
C:\ProgramData\Jenkins\,ienkins\workspace\agents\agent2\workspace\Unir\CP2.1.1>SET
\label{lem:pythonpath=c:programData} \label{lem:pythonpath=c:programData} \label{lem:pythonpath=c:programData} In kins \label{lem:pythonpath=c:programData
n313 \cripts \coverage.exe\ run\ --branch\ --source=app\ --omit=app\begin{tabular}{ll} init\begin{tabular}{ll} .py, app\api.py\ -m\ pytest\ --junitxml=result-unit.xml\ test\unit\begin{tabular}{ll} test\unit\begin{tabular}{ll} .py\ -m\ pytest\ --junitxml=result-unit.xml\ test\unit\begin{tabular}{ll} .py\ --junitxml=result\ test\un
                   platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
rootdir: C: \Program Data \Jenkins \Lienkins \workspace \agents \agent2 \workspace \Unir \CP2.1.1
configfile: pytest.ini
collected 10 items
                                                                                                         [80%]
test\unit\calc test.py ......
test\unit\util_test.py ..
                                                                                                      [100%]
- generated xml file: C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1\result-unit.xml
                            [Pipeline] sleep
Sleeping for 5 Seg
[Pipeline] junit
Grabando resultados de tests
[Checks API] No suitable checks publisher found.
```

Fetching upstream changes from https://github.com/GiovannaLeon/helloworld.git

```
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Coverage)
[Pipeline] bat
n313\Scripts\coverage.exe xml
Wrote XML report to coverage.xml
[Pipeline] catchError
[Pipeline] {
[Pipeline] cobertura
[Cobertura] Publishing Cobertura coverage report...
[Cobertura] Publishing Cobertura coverage results...
[Cobertura] Cobertura coverage report found.
[Cobertura] Code coverage enforcement failed for the following metrics:
[Cobertura] Condicionales's stability is 83.33 and set mininum stability is 90.0.
[Pipeline] }
ERROR: [Cobertura] Failing build due to unstability.
Setting overall build result to UNSTABLE
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Static)
[Pipeline] bat
C: \programData\project \project \pro
n313\Scripts\flake8.exe --exit-zero --format=pylint --exit-zero app 1>flake8.out
[Pipeline] recordIssues
WARNING: Unknown\ parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy for class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings\ type\ 'io.jenkins.plugins.analysis.core.util. 
[Flake8] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1' that match the pattern
'**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake 8] \ Successfully parsed file \ C:\ Program Data \ Uenkins \ . jenkins \ work space \ agent \ agent \ work space \ Unir \ CP2.1.1 \ flake 8. out \ agent \ ag
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent2' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Flake8] Resolving file names for all issues in workspace 'C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake 8] \ Copying \ affected \ files \ to \ Jenkins' \ build \ folder' \ C: \ Program Data \ Jenkins \ Jenkins \ Jenkins \ CP2.1.1 \ builds \ 74 \ files-with-issues' \ folder \ Program \ Progr
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agent2\workspace\Unir\CP2.1.1' that match the pattern
'**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake8] Successfully parsed file C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1\flake8.out
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent2' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Flake 8] \ Resolving file \ names for \ all \ issues \ in \ work space \ 'C:\ Program Data \ lenkins \ jenkins \ work space \ lenk \
```

[Flake8] -> resolved paths in source directory (2 found, 0 not found)

```
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake8] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\, jenkins\jobs\Unir\jobs\CP2.1.1\builds\74\files-with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Reference build recorder is not configured
[Flake8] No valid reference build found
[Flake8] All reported issues will be considered outstanding
[Flake8] Evaluating quality gates
[Flake8] -> Some quality gates have been missed: overall result is UNSTABLE
[Flake8] -> Details for each quality gate:
[Flake8] - [Total (any severity)]: «Inestable» - (Actual value: 9, Quality gate: 8,00)
[Flake8] - [Total (any severity)]: «Correcto» - (Actual value: 9, Quality gate: 10,00)
[Flake8] Health report is disabled - skipping
[Flake8] Created analysis result for 9 issues (found 0 new issues, fixed 0 issues)
[Flake8] Attaching ResultAction with ID 'flake8' to build 'Unir/CP2.1.1 #74'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Security)
[Pipeline] bat
C: \programData\projection (AppData\projection) and the projection of the projecti
n313\Scripts\bandit.exe --exit-zero -r . -f custom -o bandit.out --msg-template "{abspath}:{line}: [{test_id}] {msg}
                                             profile include tests: None
[main]
                      INFO
                      INFO
                                             profile exclude tests: None
[main]
                      INFO
[main]
                                             cli include tests: None
[main]
                      INFO
                                             cli exclude tests: None
[main]
                      INFO
                                             running on Python 3.13.0
[custom]
                     INFO
                                             Result written to file: bandit.out
[Pipeline] catchError
[Pipeline] {
[Pipeline] recordIssues
WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
[Bandit] Searching for all files in 'C:\ProgramData\enkins\.jenkins\workspace\agent2\workspace\Unir\CP2.1.1' that match the pattern
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Successfully parsed file C:\ProgramData\Jenkins\, ienkins\workspace\agents\, agent2\workspace\Unir\CP2.1.1\) bandit.out
[Bandit] -> found 2 issues (skipped 0 duplicates)
[Bandit] Successfully processed file 'bandit.out'
[Bandit] Post processing issues on 'agent2' with source code encoding 'windows-1252'
[Bandit] Creating SCM blamer to obtain author and commit information for affected files
[Bandit] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Bandit] \ Resolving file \ names for all \ issues in \ workspace \ 'C:\ ProgramData \ Jenkins \ jenkins \ workspace \ agents \ agent2 \ workspace \ Jenkins \ workspace \ agent2 \ workspace \ Jenkins \ Jenkins \ workspace \ Jenkins \ Jenkin
[Bandit] -> resolved paths in source directory (1 found, 0 not found)
[Bandit] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Bandit] -> resolved module names for 2 issues
[Bandit] Resolving package names (or namespaces) by parsing the affected files
[Bandit] -> resolved package names of 1 affected files
[Bandit] No filter has been set, publishing all 2 issues
[Bandit] Creating fingerprints for all affected code blocks to track issues over different builds
[Bandit] -> created fingerprints for 2 issues (skipped 0 issues)
[Bandit] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\jenkins\jobs\Unir\jobs\CP2.1.1\builds\74\files-with-issues'
[Bandit] -> 1 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Bandit] Skipping cleaning of source code files in old builds
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1' that match the pattern
 **/bandit.out
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Successfully parsed file C:\ProgramData\Jenkins\, ienkins\workspace\agents\, agent2\workspace\Unir\CP2.1.1\) bandit.out
[Bandit] -> found 2 issues (skipped 0 duplicates)
[Bandit] Successfully processed file 'bandit.out'
[Bandit] Post processing issues on 'agent2' with source code encoding 'windows-1252'
[Bandit] Creating SCM blamer to obtain author and commit information for affected files
```

```
[Bandit] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Bandit] Resolving file names for all issues in workspace 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1'
[Bandit] -> resolved paths in source directory (1 found, 0 not found)
[Bandit] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Bandit] -> resolved module names for 2 issues
[Bandit] Resolving package names (or namespaces) by parsing the affected files
[Bandit] -> resolved package names of 1 affected files
[Bandit] No filter has been set, publishing all 2 issues
[Bandit] Creating fingerprints for all affected code blocks to track issues over different builds
[Bandit] -> created fingerprints for 2 issues (skipped 0 issues)
[Bandit] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\jenkins\jobs\Unir\jobs\CP2.1.1\builds\74\files-with-issues'
[Bandit] -> 1 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Bandit] Skipping cleaning of source code files in old builds
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Reference build recorder is not configured
[Bandit] No valid reference build found
[Bandit] All reported issues will be considered outstanding
[Bandit] Evaluating quality gates
[Bandit] -> Some quality gates have been missed: overall result is UNSTABLE
[Bandit] -> Details for each quality gate:
[Bandit] - [Total (any severity)]: «Inestable» - (Actual value: 2, Quality gate: 2,00)
[Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 2, Quality gate: 4,00)
[Bandit] Health report is disabled - skipping
[Bandit] Created analysis result for 2 issues (found 0 new issues, fixed 0 issues)
[Bandit] Attaching ResultAction with ID 'pylint' to build 'Unir/CP2.1.1 #74'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Performance)
[Pipeline] bat
C:\ProgramData\Jenkins\.ienkins\workspace\agent2\workspace\Unir\CP2.1.1>SET\ FLASK\_APP=app\api.py
\label{lem:c:programData} \label{lem:c:programData} In kins \label{lem:c:program} In kins \label{lem:c:program} In kins \label{lem:c:programData} In kins \label{lem:c:programData} In kins \label{lem:c:program
                                                                                                                                                                                                                                                               /B
 C:\Users\amaro\AppData\Local\Programs\Python\Python313\python.exe-m flask run--host=0.0.0.0--port=5000 and the control of t
C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent2\workspace\Unir\CP2.1.1>rem Espera 10 segundos para asegurarse de que Flask
esté listo antes de correr las pruebas
5.6.3\apache-jmeter-5.6.3\bin\jmeter-n-t\ test\jmeter\flask.jmx-f-l\ flask.jtl
   Serving Flask app 'app\api.py'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
  * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://192.168.1.48:5000
Press CTRL+C to quit
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN Status Console Listener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
Creating summariser < summary>
Created the tree successfully using test\jmeter\flask.jmx
Starting standalone test @ 2025 Jan 27 14:15:24 CET (1737983724123)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 - 127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
```

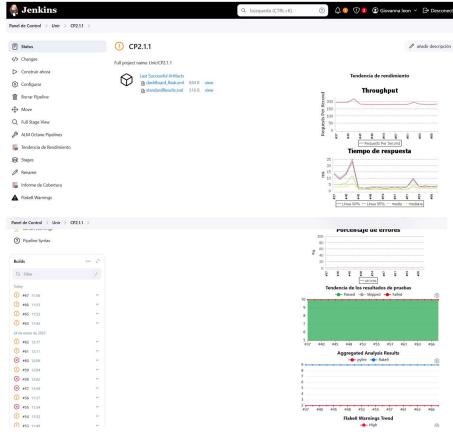
```
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/substract/25/19 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
127.0.0.1 - - [27/Jan/2025 14:15:24] "GET /calc/add/4/9 HTTP/1.1" 200 -
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Finished: UNSTABLE>

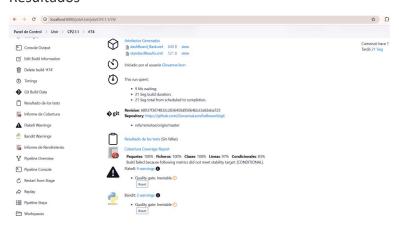
```
summary = 160 in 00:00:01 = 159.4/s Avg: 6 Min: 2 Max: 49 Err: 0 (0.00%)
 Tidying up ... @ 2025 Jan 27 14:15:25 CET (1737983725256)
   ... end of run
 [Pipeline] script
 [Pipeline] {
 [Pipeline] catchError
[Pipeline] {
 [Pipeline] perfReport
 Creating parser with percentiles:'0,50,90,95,100,' filterRegex:null
 Performance: Recording JMeterCsv reports '**/flask.jtl'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             files
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                                                                                                                         JMeterCsv
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 Performance: JMeterCsv
                                                                                                                              parsing local reports
 reports \verb|\| JMeterCSV \verb|\| flask.jtl]'
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 with filterRegex 'null'.
 Performance: No threshold configured for making the test unstable
 Performance: No threshold configured for making the test failure
 Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
 [Pipeline] // catchError
 [Pipeline] }
 [Pipeline] // script
 [Pipeline] }
 [Pipeline] // stage
 [Pipeline] }
 [Pipeline] // withEnv
 [Pipeline] }
[Pipeline] // node
 [Pipeline] End of Pipeline
```

Captura de pantalla de Jenkins donde se vea el resultado de la ejecución del pipeline.

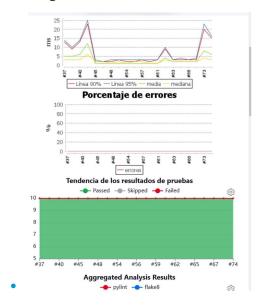


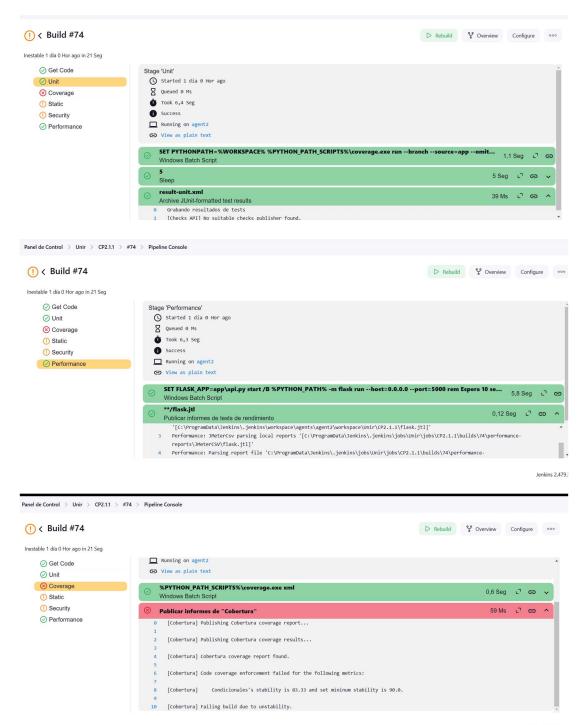


Resultados



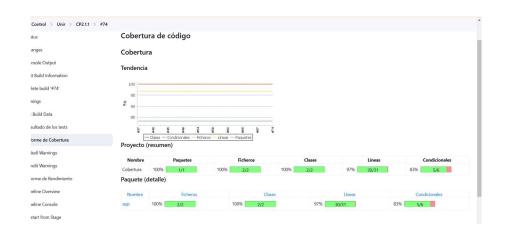
- ▶ Captura de pantalla de Jenkins donde se vea el resultado de los plugins:
 - Plugin Junit: evolución de los resultados de las pruebas unitarias.





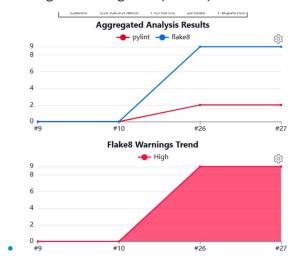
lankins 2 479 3

• Plugin Cobertura: evolución de la cobertura por líneas, ramas, etc.



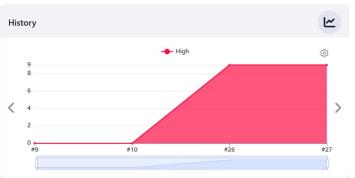


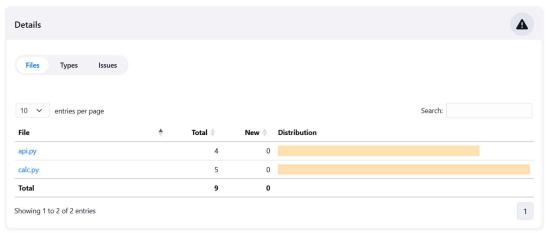


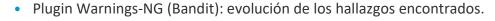


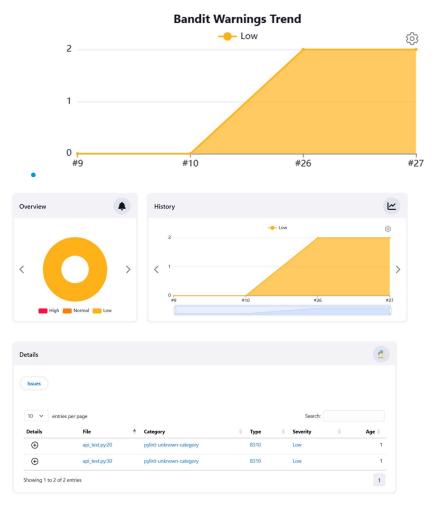
Flake8 Warnings





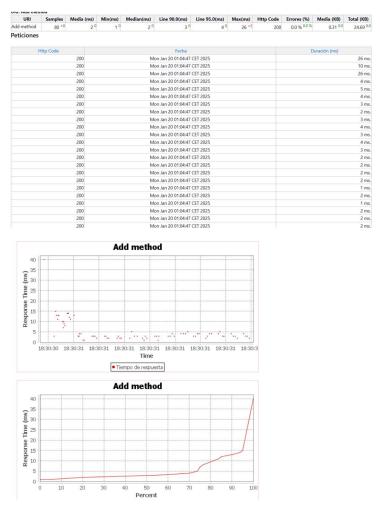






- Plugin Performance: gráfica de tiempos de respuesta "Response Times (ms)" de ambos microservicios, y comentario sobre qué conclusiones se pueden extraer al observar esa gráfica.
 - Obtener el valor (aproximado) de línea 90 para el microservicio de suma e indicar en qué gráfica se puede obtener este dato, y qué significa este dato.





Significa: Que en la línea 90 suele tardar menos de 3 ms.

Explicación del funcionamiento del pipeline.

Este es un ejemplo de un Jenkins Pipeline utilizando la DSL Declarativa, que define un conjunto de etapas para automatizar el proceso de integración continua de un proyecto. Te explico cada parte clave del pipeline:

1. Agente

agent any

El agent any indica que este pipeline puede ejecutarse en cualquier agente disponible, es decir, en cualquier máquina o nodo de Jenkins que esté disponible para ejecutar el pipeline.

2. Environment

En esta sección se definen variables de entorno que se usarán durante la ejecución del pipeline. En este caso, se define la ubicación del ejecutable de Python y de los scripts adicionales que se necesitan.

3. Stages (Etapas)

Las etapas definen las diferentes fases del proceso de construcción, prueba y análisis del código. Cada etapa tiene su propio conjunto de pasos. A continuación te explico las etapas que tiene este pipeline:

a. Get Code (Obtener Código)

```
stage('Get Code') {
  steps {
    git 'https://github.com/GiovannaLeon/helloworld.git'
    bat "dir"
    echo WORKSPACE
  }
}
```

Esta etapa se encarga de clonar el repositorio de GitHub en el espacio de trabajo de Jenkins y luego ejecuta algunos comandos (dir y echo WORKSPACE) para verificar el contenido del directorio y mostrar la ruta del espacio de trabajo.

b. Unit (Pruebas Unitarias)

En esta etapa se ejecutan pruebas unitarias usando pytest. Primero, se ejecuta el comando para medir la cobertura de las pruebas con coverage y luego se generan los resultados en formato XML (result-unit.xml), que se procesan con el comando junit para generar un informe de resultados de las pruebas unitarias.

c. Coverage (Cobertura de Pruebas)

Aquí se genera un informe de cobertura en formato XML utilizando coverage.exe, y luego se usa el plugin cobertura de Jenkins para mostrar un análisis de cobertura en base a los umbrales definidos (porcentaje de cobertura en líneas y condiciones).

d. Static (Análisis Estático con Flake8)

En esta etapa se realiza un análisis estático del código utilizando flake8, una herramienta de estilo de código Python. Luego se procesan los resultados (flake8.out) y se definen Quality Gates para que el build sea marcado como inestable si el número de problemas detectados excede los umbrales establecidos.

e. Security (Análisis de Seguridad con Bandit)

Esta etapa realiza un análisis de seguridad del código usando Bandit, que detecta vulnerabilidades en el código Python. Al igual que en la etapa anterior, los resultados se procesan y se aplican los Quality Gates para evaluar si el número de vulnerabilidades encontradas es aceptable.

f. Performance (Pruebas de Rendimiento con JMeter)

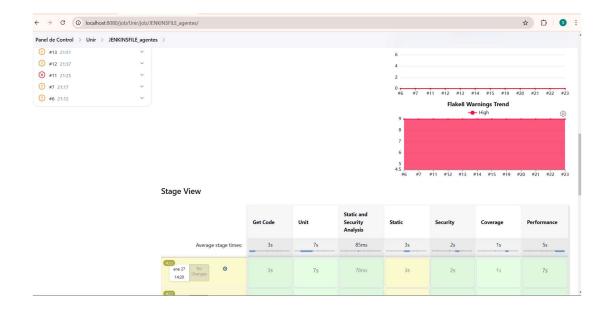
Finalmente, en esta etapa se realizan pruebas de rendimiento utilizando JMeter para probar un servidor Flask en ejecución. Los resultados de las pruebas de rendimiento se almacenan en un archivo .jtl, que luego se procesa y se genera un informe de rendimiento.

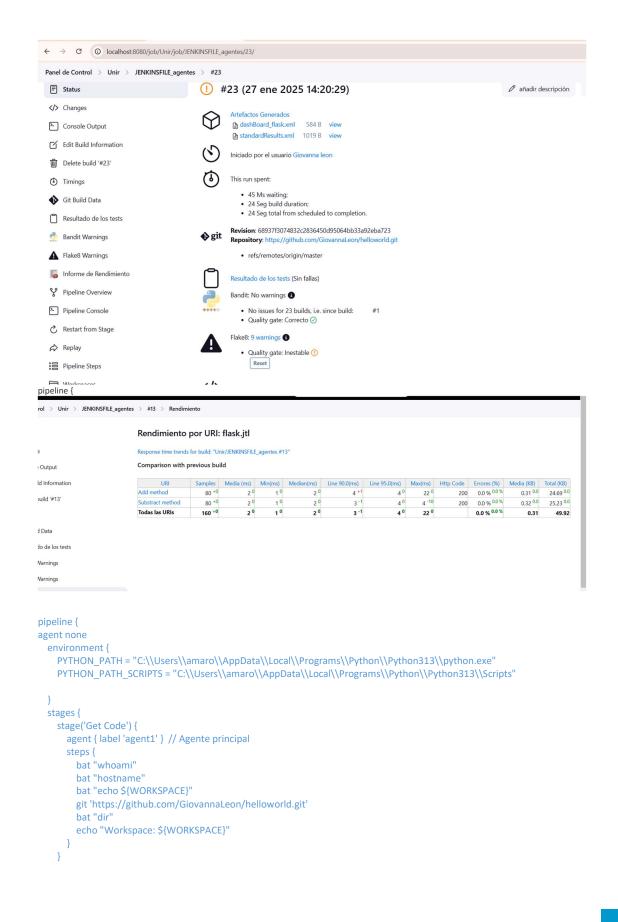
Reto 2 – Distribución en agentes

En este reto se solicitan 3 entregables:

URL al repositorio creado por el alumno, a partir del código fuente base de este
 CP1, que albergue tanto el código fuente como el nuevo Jenkinsfile.

https://github.com/GiovannaLeon/helloworld/blob/master/CP2.1.1/JENKINSFILE_agentes.txt





```
stage('Unit') {
                   agent { label 'agent1' } // Agente principal
                   steps {
                         bat "whoami"
                         bat "hostname"
                         bat "echo ${WORKSPACE}"
                        catchError(buildResult: 'UNSTABLE', stageResult: 'FAILURE') {
                                     SET PYTHONPATH=%WORKSPACE%
                                      \label{lem:coverage} $$\operatorname{PYTHON\_PATH\_SCRIPTS\%}\subset \operatorname{run --branch --source=app --omit=app}\subseteq \operatorname{init\_.py,app} \operatorname{lem:coverage.exe} $$\operatorname{PYTHON\_PATH\_SCRIPTS\%}\subset \operatorname{lem:coverage.exe} $$\operatorname{PYTHON\_PATH\_SCRIPTS\%}\subset \operatorname{lem:coverage.exe} $$\operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe} $$\operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe} $$\operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe} = \operatorname{lem:coverage.exe}
pytest --junitxml=result-unit.xml test\\unit
                               sleep(5)
                               junit 'result*.xml' // Reporte de las pruebas unitarias
           }
           stage('Static and Security Analysis') {
                  parallel {
                        stage('Static') {
                               agent { label 'agent1' } // Agente principal
                               steps {
                                     bat "whoami"
                                     bat "hostname"
                                     bat "echo ${WORKSPACE}"
                                     bat "
                                          %PYTHON_PATH_SCRIPTS%\\flake8.exe --exit-zero --format=pylint --exit-zero app >flake8.out
                                      // Umbrales para Flake8
                                     recordIssues tools: [flake8(name: 'Flake8', pattern: '**/flake8.out')],
                                                            qualityGates: [
                                                                 [threshold: 8, type: 'TOTAL', unstable: true], // 8 o más hallazgos -> Unstable
                                                                  [threshold: 10, type: 'TOTAL', unstable: false, healthy: false] // 10 o más hallazgos -> Unhealthy
                             }
                         stage('Security') {
                               agent { label 'agent2' } // Agente dedicado a seguridad
                               steps {
                                     bat "whoami"
                                      bat "hostname"
                                     bat "echo ${WORKSPACE}"
                                          \label{lem:path_scripts} $$\operatorname{PYTHON\_PATH\_SCRIPTS\%}\subset -r. -f \ custom -o \ bandit.out --msg-template $$ $$\{line\}: $$\operatorname{PYTHON\_PATH\_SCRIPTS\%}$$
[{test_id}] {msg}"
                                      catchError(buildResult: 'SUCCESS', stageResult: 'UNSTABLE') {
                                           // Usamos el patrón relativo para buscar 'bandit.out' y aplicar los Quality Gates
                                            recordIssues tools: [pyLint(name: 'Bandit', pattern: '**/bandit.out')],
                                                                qualityGates: [
                                                                       [threshold: 2, type: 'TOTAL', unstable: true], // 2 o más hallazgos -> Unstable
                                                                       [threshold: 4, type: 'TOTAL', unstable: false, healthy: false] // 4 o más hallazgos -> Unhealthy
                             }
                       }
```

```
stage('Coverage') {
      agent { label 'agent1' } // Agente principal
      steps {
       bat "whoami"
       bat "hostname"
       bat "echo ${WORKSPACE}"
       bat '"
         %PYTHON_PATH_SCRIPTS%\\coverage.exe xml
       catch Error (build Result: \ 'UNSTABLE', \ stage Result: \ 'FAILURE') \ \{
         cobertura coberturaReportFile: '**/coverage.xml', conditionalCoverageTargets: '100,80,90', lineCoverageTargets:
'100,85,95'
 stage('Performance') {
     agent { label 'agent3' } // Agente dedicado a pruebas de rendimiento
      steps {
       bat "whoami"
       bat "hostname"
       bat "echo ${WORKSPACE}"
       bat "
        SET FLASK_APP=app\\api.py
         start /B %PYTHON_PATH% -m flask run --host=0.0.0.0 --port=5000
         timeout /t 10 /nobreak
         rem Espera 10 segundos para asegurarse de que Flask esté listo antes de correr las pruebas
         -t
test\\jmeter\\flask.jmx -f -l flask.jtl
       script {
         // Después de la ejecución de las pruebas de rendimiento y la cobertura, procesamos el reporte
        // catchError(buildResult: 'SUCCESS', stageResult: 'UNSTABLE') {
           // Ejecutar el reporte de rendimiento
           perfReport sourceDataFiles: '**/flask.jtl'
```

► Log de la ejecución del pipeline (debe visualizarse un "whoami" y "hostname" para identificar el agente empleado en cada etapa).

Panel de Control > nodos > agent1 > C	onfigure
Estado	Nombre ?
Borrar agente	agent1
© Configurar	
Historia de ejecuciones	Descripción ?
✓ Cargar estadísticas	
Consola interactiva	
Log	Plain text Visualizar
Información del sistema	Plain text Visualizar
★ Desconectar	Number of executors ?
	3
Estado del ejecutor de construcciones 0/1 V	Directorio raiz remoto ?
	C:\ProgramData\Venkins_jenkins\workspace\agents\agent1
	Etiquetas ?
	Guardar
Lanzada por el usuario Giova	nna leon
Pipeline] Start of Pipeline	
Pipeline] withEnv	
Pipeline] {	
[Pipeline] stage [Pipeline] { (Get Code)	
[Pipeline] node	
Running on agent1	
in C:\ProgramData\Jenkins\.	enkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes

 $C: \program Data \properties \properties$

amaro\amaro
[Pipeline] bat

[Pipeline] {
[Pipeline] bat

 $C: \program Data \properties \propertie$

[Pipeline] bat

C:\ProgramData\Jenkins\,jenkins\workspace\agents\agents\workspace\Unir\JENKINSFILE_agentes

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

Fetching changes from the remote Git repository

Checking out Revision 68937f3074832c2836450d95064bb33a92eba723 (refs/remotes/origin/master)

> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes\.git # timeout=10

> git.exe config remote.origin.url https://github.com/GiovannaLeon/helloworld.git # timeout=10

 $Fetching\ upstream\ changes\ from\ https://github.com/GiovannaLeon/helloworld.git$

- > git.exe --version # timeout=10
- > git --version # 'git version 2.47.1.windows.1'
- $> git.exe\ fetch\ --tags\ --force\ --progress\ --\ https://github.com/GiovannaLeon/helloworld.git\ +refs/heads/*:refs/remotes/origin/*\ \#\ timeout=10$
- > git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
- > git.exe config core.sparsecheckout # timeout=10

Commit message: "Add files via upload"

- > git.exe checkout -f 68937f3074832c2836450d95064bb33a92eba723 # timeout=10
- > git.exe branch -a -v --no-abbrev # timeout=10
- > git.exe branch -D master # timeout=10
- > git.exe checkout -b master 68937f3074832c2836450d95064bb33a92eba723 # timeout=10
- > git.exe rev-list --no-walk 68937f3074832c2836450d95064bb33a92eba723 # timeout=10

[Pipeline] bat

El volumen de la unidad C es Windows

El n£mero de serie del volumen es: 6475-04AA

```
27/01/2025 14:18 <DIR>
23/01/2025 16:51 <DIR>
27/01/2025 14:18
                                 53.248 .coverage
20/01/2025 01:38
                                    40 .gitignore
20/01/2025 01:38 <DIR>
                                            .pytest_cache
20/01/2025 01:38 <DIR>
                                            app
27/01/2025 14:19
                                  2.273 coverage.xml
27/01/2025 14:18 <DIR>
                                          CP2.1.1
                                   500 flake8.out
27/01/2025 14:19
20/01/2025 01:38 <DIR>
                                           jenkinsFile_1
20/01/2025 01:38 <DIR>
                                            jenkinsFile_2
20/01/2025 01:38 <DIR>
                                           JenkinsFile_3
20/01/2025 01:38 <DIR>
                                           jenkinsfile_4
20/01/2025 01:38
                                    175 pytest.ini
20/01/2025 01:38
                                    418 README.md
27/01/2025 14:18
                                   1.401 result-unit.xml
20/01/2025 01:38 <DIR>
                                          test
                               58.055 bytes
           7 archivos
          10 dirs 565.796.388.864 bytes libres
[Pipeline] echo
Workspace: C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Unit)
[Pipeline] node
Running on agent1
[Pipeline] {
[Pipeline] bat
amaro\amaro
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] catchError
[Pipeline] {
[Pipeline] bat
PYTHONPATH=C:\ProgramData\Jenkins\,\jenkins\,\workspace\agents\,\workspace\Unir\,\JENKINSFILE\_agentes\,\ agents\,\ agents\,\
Python\Python313\Scripts\coverage.exe run --branch --source=app --omit=app\_init__.py,app\api.py -m pytest --junitxml=result-unit.xml
test\unit
                   ------ test session starts ------
platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
rootdir: C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
configfile: pytest.ini
collected 10 items
test\unit\calc_test.py ......
                                                                     [80%]
                                                                   [100%]
test\unit\util_test.py ..
- generated xml file: C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes\result-unit.xml -
                               ======== 10 passed in 0.13s ===========
[Pipeline] sleep
Sleeping for 5 Seg
[Pipeline] junit
Grabando resultados de tests
[Checks API] No suitable checks publisher found.
[Pipeline] }
```

 $\label{thm:line} Directorio de C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes$

```
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Static and Security Analysis)
[Pipeline] parallel
[Pipeline] { (Branch: Static)
[Pipeline] { (Branch: Security)
[Pipeline] stage
[Pipeline] { (Static)
[Pipeline] stage
[Pipeline] { (Security)
[Pipeline] node
  [Pipeline] node
Running on agent2
  [Pipeline] {
[Pipeline] {
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE agentes>whoami
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[Pipeline] bat
amaro\amaro
[Pipeline] bat
C:\programData\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$\project{$
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Amaro
[Pipeline] bat
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[Pipeline] bat
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[Pipeline] bat
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Python \ensuremath{\mbox{\sc --exit-zero --format=pylint --exit-zero app 1 -- flake 8.out} \label{thm:python313} Is a simple of the python \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out}} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out}} \ensuremath{\mbox{\sc --exit-zero -- flake 8.o
C: \programData\penkins\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\prokspace\
Python \ "abspath": \{line\}: [\{test\_id\}] \ \{msg\}" \ "abspath": \{line\}: \{lin
[main]
                                                                  INFO
                                                                                                                                     profile include tests: None
[main]
                                                                  INFO
                                                                                                                                     profile exclude tests: None
 [main]
                                                                  INFO
                                                                                                                                     cli include tests: None
 [main]
                                                                  INFO
                                                                                                                                     cli exclude tests: None
 [main]
                                                                  INFO
                                                                                                                                     running on Python 3.13.0
  [custom]
                                                                INFO
                                                                                                                                     Result written to file: bandit.out
[Pipeline] catchError
[Pipeline] {
[Pipeline] recordIssues
  WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
[Bandit] Searching for all files in 'C:\ProgramData\Jenkins\,jenkins\workspace\agent2\workspace\Unir\JENKINSFILE_agentes' that match
the pattern '**/bandit.out'
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Skipping file 'bandit.out' because it's empty
[Bandit] Skipping post processing
[Bandit] No filter has been set, publishing all 0 issues
```

```
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Searching for all files in 'C:\ProgramData\lenkins\jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes' that match
the pattern '**/bandit.out'
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Skipping file 'bandit.out' because it's empty
[Bandit] Skipping post processing
[Bandit] No filter has been set, publishing all 0 issues
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Reference build recorder is not configured
[Bandit] No valid reference build found
[Bandit] All reported issues will be considered outstanding
[Bandit] Evaluating quality gates
[Bandit] -> All quality gates have been passed
[Bandit] -> Details for each quality gate:
[Bandit] \quad \hbox{-} \ [Total \ (any \ severity)] : \ll Correcto \gg \hbox{-} \ (Actual \ value: 0, \ Quality \ gate: 2,00)
[Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 0, Quality gate: 4,00)
[Bandit] Health report is disabled - skipping
[Bandit] Created analysis result for 0 issues (found 0 new issues, fixed 0 issues)
[Bandit] Attaching ResultAction with ID 'pylint' to build 'Unir/JENKINSFILE_agentes #23'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] recordIssues
WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
[Flake 8] Searching for all files in 'C: \programData\end{subarray} Lenkins\end{subarray} is a gent 1 \work space \noindent{subarray} Lenkins\end{subarray} is a gent 2 \work space \noindent{subarray} in a gent 2 \work 
the pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake8] \ Successfully parsed file C:\ProgramData\Jenkins\.ienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\flake8. out the programData\Jenkins\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lines\Lin
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
                                                            Resolving
                                                                                                                                                                                                                                                                                                                                                                                                                             workspace
'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake 8] \ Copying \ affected \ files \ to \ Jenkins' \ build \ folder \ 'C:\ Program Data \ Jenkins \ 
with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake 8] Searching for all files in 'C: \programData\end{subarray} Lenkins\end{subarray} is a gent 1 \work space \noindent{subarray} Lenkins\end{subarray} is a gent 2 \work space \noindent{subarray} in a gent 2 \work 
the pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake 8] \ Successfully parsed file C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\flake 8. out the program of the program of
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
                                                             Resolving
                                                                                                                                                                                                                                                                                                                                                                                                                             workspace
                                                                                                                            file
                                                                                                                                                                           names
                                                                                                                                                                                                                                    for
 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
```

```
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake8] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\23\files-
with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Reference build recorder is not configured
[Flake8] No valid reference build found
[Flake8] All reported issues will be considered outstanding
[Flake8] Evaluating quality gates
[Flake8] -> Some quality gates have been missed: overall result is UNSTABLE
[Flake8] -> Details for each quality gate:
[Flake8] - [Total (any severity)]: «Inestable» - (Actual value: 9, Quality gate: 8,00)
[Flake8] - [Total (any severity)]: «Correcto» - (Actual value: 9, Quality gate: 10,00)
[Flake8] Health report is disabled - skipping
[Flake8] Created analysis result for 9 issues (found 0 new issues, fixed 0 issues)
[Flake8] Attaching ResultAction with ID 'flake8' to build 'Unir/JENKINSFILE_agentes #23'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // parallel
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Coverage)
[Pipeline] node
Running on agent1
[Pipeline] {
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes>whoami
amaro\amaro
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
C:\ProgramData\Jenkins\jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] bat
C:\ProgramData\Jenkins\,ienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE agentes>C:\Users\amaro\AppData\Local\Programs\
Python\Python313\Scripts\coverage.exe xml
Wrote XML report to coverage.xml
[Pipeline] catchError
[Pipeline] {
[Pipeline] cobertura
[Cobertura] Skipping Cobertura coverage report as build was not SUCCESS or better ...
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Performance)
[Pipeline] node
Running on agent3
in C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes
[Pipeline] {
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agent3\workspace\Unir\JENKINSFILE agentes>whoami
amaro\amaro
[Pipeline] bat
```

[Pipeline] // stage [Pipeline] } [Pipeline] // withEnv

```
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE agentes>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agents\Jenkins\FILE\_agentes\SET\FLASK\_APP=app\api.py
C:\ProgramData\Jenkins\.jenkins\workspace\agent3\workspace\Unir\JENKINSFILE agentes>start
                                                                                                                                                                                    /B
C:\Users\amaro\AppData\Local\Programs\Python\Python313\python.exe -m flask run --host=0.0.0.0 --port=5000
C:\ProgramData\Jenkins\.ienkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE\_agentes>timeout\ /t\ 10\ /nobreak
ERROR: No es compatible la redirecci¢n de entradas, saliendo inmediatamente
     del proceso.
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes>rem Espera 10 segundos para asegurarse de
que Flask esté listo antes de correr las pruebas
jmeter-5.6.3\apache-jmeter-5.6.3\bin\jmeter-n-t\ test\jmeter\flask.jmx-f-l\ flask.jtl
Usage: python -m flask run [OPTIONS]
Try 'python -m flask run --help' for help.
Error: Could not import 'api'.
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
Creating summariser < summary>
Created the tree successfully using test\jmeter\flask.jmx
Starting standalone test @ 2025 Jan 27 14:20:50 CET (1737984050881)
Waiting \ for \ possible \ Shutdown/StopTestNow/HeapDump/ThreadDump \ message \ on \ port \ 4445
summary = 200 in 00:00:01 = 226.8/s Avg: 0 Min: 0 Max: 15 Err: 200 (100.00%)
Tidying up ... @ 2025 Jan 27 14:20:51 CET (1737984051915)
 .. end of run
[Pipeline] script
[Pipeline] {
[Pipeline] perfReport
Creating parser with percentiles:'0,50,90,95,100,' filterRegex:null
Performance: Recording JMeterCsv reports '**/flask.jtl'
                                    JMeterCsv
                                                                                                                                                                                  files
                                                                    copying
                                                                                                  reports
                                                                                                                                                     master,
'[C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes\flask.jtl,
Performance: JMeterCsv parsing local reports '[C:\ProgramData\Jenkins\,jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\23\performance-
reports\JMeterCSV\flask.jtl,
                                                             C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE agentes\builds\23\performance-
reports\JMeterCSV\flask.jtl]'
                     Parsing
                                                 file
                                                            'C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\23\performance-
Performance:
                                    report
reports\JMeterCSV\flask.jtl' with filterRegex 'null'.
Performance: Recording JMeterCsv reports '**/flask.jtl'
                                   JMeterCsv
                                                                                                                                                                                  files
Performance:
                                                                    copying
                                                                                                  reports
                                                                                                                                                     master.
"[C:\Pr] agenta \workspace \agents \agenta \workspace \unir\JENKINSFILE\_ agentes \flask.jtl, \end{tabular}
Performance: JMeterCsv\ parsing\ local\ reports\ '[C:\ProgramData\Jenkins\], jenkins\] obs\Unir\] obs\Unir\Jobs\JENKINSFILE\_agentes\] builds\23\performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-performance-perf
reports\JMeterCSV\flask.jtl,
                                                             reports\JMeterCSV\flask.jtl]'
Performance: No threshold configured for making the test unstable
Performance: No threshold configured for making the test failure
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // node
[Pipeline] }
```

[Pipeline] End of Pipeline

- Etapas en paralelo: En el stage "Static and Security Analysis", hay dos etapas ("Static" y "Security") que se ejecutan en paralelo. Esto significa que Jenkins intentará ejecutar ambas etapas de manera simultánea, lo que se ve beneficiado por los 3 ejecutores de los agentes correspondientes (en este caso, "agent1" para la etapa de Static y "agent2" para la etapa de Security).
 - Como tienes 3 ejecutores en cada agente, si tienes varias tareas en un mismo agente, se ejecutarán al mismo tiempo, siempre y cuando no haya otras restricciones (por ejemplo, otras tareas en espera de los ejecutores disponibles).
- Uso de recursos en paralelo: Al tener 3 ejecutores en cada agente, si tienes varias etapas en un mismo agente (como ocurre con "agent1"), Jenkins podrá ejecutar varias de esas tareas en paralelo, sin tener que esperar que se liberen otros ejecutores. Esto aumenta la eficiencia y disminuye el tiempo total de ejecución del pipeline.

Impacto del uso de 3 ejecutores:

- Eficiencia: Tener múltiples ejecutores permite que Jenkins ejecute varios trabajos a la vez, reduciendo el tiempo total de ejecución del pipeline, especialmente si tienes muchas etapas que requieren un agente.
- Posible sobrecarga: Si el número de ejecutores por agente es mayor que la cantidad de trabajos que el agente puede manejar efectivamente, podrías estar desperdiciando recursos. Sin embargo, tener múltiples ejecutores es útil si tus tareas pueden aprovechar la concurrencia y si tu agente tiene suficientes recursos de hardware (CPU, memoria, etc.) para soportar múltiples ejecuciones al mismo tiempo.

Resumen:

Con **3 ejecutores por agente**, Jenkins puede ejecutar simultáneamente hasta 3 trabajos diferentes en el mismo agente. Esto permite un mejor uso de los recursos y acelera la ejecución de tareas concurrentes. En tu pipeline, cuando se ejecutan tareas paralelas o en la misma máquina, estas podrán ejecutarse simultáneamente si están en diferentes ejecutores. Esto mejora la eficiencia general del pipeline y reduce los tiempos de espera.

20/01/2025 01:38 <DIR>

20/01/2025 01:38 20/01/2025 01:38 jenkinsfile_4 175 pytest.ini

418 README.md

► Log y explicación sobre lo que ocurre cuando el número de executors se reduce a 1, teniendo 4-5-6 etapas ejecutándose simultáneamente en 2-3 agentes.

```
Lanzada por el usuario Giovanna leon
[Pipeline] Start of Pipeline
[Pipeline] stage
[Pipeline] { (Get Code)
[Pipeline] node
Running on <u>agent1</u> in C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] {
[Pipeline] bat
amaro\amaro
[Pipeline] bat
\label{lem:c:programDataJenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes>hostname} Is a part of the program of t
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
Fetching changes from the remote Git repository
> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes\.git #
timeout=10
> git.exe\ config\ remote.origin.url\ \underline{https://github.com/GiovannaLeon/helloworld.git}\ \#\ timeout = 10
 Fetching \ upstream \ changes \ from \ \underline{https://github.com/GiovannaLeon/helloworld.git} \\
> git.exe --version # timeout=10
> git --version # 'git version 2.47.1.windows.1'
> git. exe\ fetch\ --tags\ --force\ --progress\ --\ \underline{https://github.com/GiovannaLeon/helloworld.git}\ +refs/heads/*:refs/remotes/origin/*\ \#\ timeout=10
Checking out Revision eb8d8309fcd89b880e7bc330d180dfeceaf53b9a (refs/remotes/origin/master)
Commit message: "Add files via upload"
> git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f eb8d8309fcd89b880e7bc330d180dfeceaf53b9a # timeout=10
> git.exe branch -a -v --no-abbrev # timeout=10
> git.exe branch -D master # timeout=10
> git.exe checkout -b master eb8d8309fcd89b880e7bc330d180dfeceaf53b9a # timeout=10
> git.exe rev-list --no-walk eb8d8309fcd89b880e7bc330d180dfeceaf53b9a # timeout=10
El volumen de la unidad C es Windows
El n£mero de serie del volumen es: 6475-04AA
Directorio de C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes
20/01/2025 23:04 <DIR>
20/01/2025 01:38 <DIR>
20/01/2025 23:04
                                     53.248 .coverage
20/01/2025 01:38
                                       40 .gitignore
20/01/2025 01:38 <DIR>
                                               .pytest cache
20/01/2025 01:38 <DIR>
                                               app
                                      2.273 coverage.xml
20/01/2025 23:04
20/01/2025 23:04
                                       500 flake8.out
20/01/2025 01:38 <DIR>
                                               ienkinsFile 1
20/01/2025 01:38 <DIR>
                                               jenkinsFile_2
20/01/2025 01:38 <DIR>
                                               JenkinsFile 3
```

[Pipeline] {

```
20/01/2025 23:04
                                                                                                              1.401 result-unit.xml
 20/01/2025 01:38 <DIR>
                                                                                                                                       test
                                                                                                     58.055 bytes
                                     7 archivos
                                    9 dirs 564.906.209.280 bytes libres
 [Pipeline] echo
 Work space: C: \parts agents agent 1 work space \parts agent 1 work space \parts agent 2 work space \parts agent 3 work 
 [Pipeline] }
[Pipeline] // node
[Pipeline] }
 [Pipeline] // stage
 [Pipeline] stage
 [Pipeline] { (Unit)
 [Pipeline] node
 Running \ on \ \underline{agent1} \ in \ C:\ Program Data \ Jenkins \ \ work space \ \ \underline{agent1} \ work space \ \ Unir \ JENKINSFILE\_agentes
 [Pipeline] {
 [Pipeline] bat
 [Pipeline] bat
 C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes>hostname
 Amaro
 [Pipeline] bat
 C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE agentes>echo
 C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
 C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
 [Pipeline] catchError
[Pipeline] {
 [Pipeline] bat
 \label{pythonpath} \parb a \
 C: \noindent \
 Python \verb|\| Python 313 \verb|\| python. exe-mpytest--junitxml=result-unit.xml| test \verb|\| unit. millimit. for the context of the 
                                                                                                        ======= test session starts ==========
 platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
 rootdir: C: \Program Data \Jenkins \Lienkins \workspace \agents \agent1 \workspace \Unir \JENKINSFILE\_agentes
 configfile: pytest.ini
 collected 10 items
 test\unit\calc_test.py ......
                                                                                                                                                                                                                         [ 80%]
 test\unit\util_test.py ..
                                                                                                                                                                                                                      [100%]
 - generated xml file: C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes\result-unit.xml -
                                                                                                                  ====== 10 passed in 0.10s =======
 [Pipeline] sleep
 Sleeping for 5 Seg
 [Pipeline] junit
 Grabando resultados de tests
 [Checks API] No suitable checks publisher found.
 [Pipeline] }
 [Pipeline] // catchError
 [Pipeline] }
 [Pipeline] // node
 [Pipeline] }
 [Pipeline] // stage
 [Pipeline] stage
 [Pipeline] { (Static and Security Analysis)
 [Pipeline] parallel
 [Pipeline] { (Branch: Static)
 [Pipeline] { (Branch: Security)
 [Pipeline] stage
 [Pipeline] { (Static)
 [Pipeline] stage
 [Pipeline] { (Security)
 [Pipeline] node
 [Pipeline] node
 Running \ on \ \underline{agent2} \ in \ C: \ Program Data \ Uenkins \ in \ C: \ Program Data \ Uenkins \ Uenkins
```

[Checks API] No suitable checks publisher found.

```
[Pipeline] {
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\.ienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE agentes>whoami
amaro\amaro
[Pipeline] bat
amaro\amaro
[Pipeline] bat
C: \program Data \project \p
Amaro
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE agentes>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE agentes
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\-C:\Users\amaro\AppData\Local\Programs\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jen
Python \ensuremath{\mbox{\sc --exit-zero --format=pylint --exit-zero app 1 -- flake 8.out} \label{thm:python313} Is a simple of the python \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format=pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero app 1 -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- format-pylint -- exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out}} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out} \ensuremath{\mbox{\sc --exit-zero -- flake 8.out}} \ensuremath{\mbox{\sc --exit-zero -- flake 8.o
C: \program Data \lenkins \proper a \propera
[main]
                                          INFO
                                                                                     profile include tests: None
[main]
                                          INFO
                                                                                     profile exclude tests: None
[main]
                                          INFO
                                                                                     cli include tests: None
[main]
                                          INFO
                                                                                     cli exclude tests: None
[main]
                                          INFO
                                                                                     running on Python 3.13.0
                                          INFO
                                                                                     Result written to file: bandit.out
[custom]
[Pipeline] catchError
[Pipeline] {
[Pipeline] recordIssues
WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
[Bandit] Searching for all files in 'C:\ProgramData\Jenkins\,jenkins\workspace\agent2\workspace\Unir\JENKINSFILE_agentes' that match
the pattern '**/bandit.out'
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Skipping file 'bandit.out' because it's empty
[Bandit] Skipping post processing
[Bandit] No filter has been set, publishing all 0 issues
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Searching for all files in 'C: \ProgramData\Jenkins\Jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE\_agentes' that match is the program of the program
the pattern '**/bandit.out'
[Bandit] Traversing of symbolic links: enabled
[Bandit] -> found 1 file
[Bandit] Skipping file 'bandit.out' because it's empty
[Bandit] Skipping post processing
[Bandit] No filter has been set, publishing all 0 issues
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Reference build recorder is not configured
[Bandit] No valid reference build found
[Bandit] All reported issues will be considered outstanding
[Bandit] Evaluating quality gates
[Bandit] -> All quality gates have been passed
[Bandit] -> Details for each quality gate:
[Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 0, Quality gate: 2,00)
[Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 0, Quality gate: 4,00)
[Bandit] Health report is disabled - skipping
[Bandit] Created analysis result for 0 issues (found 0 new issues, fixed 0 issues)
[Bandit] Attaching ResultAction with ID 'pylint' to build 'Unir/JENKINSFILE agentes #15'.
```

```
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] recordIssues
WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
[Flake 8] Searching for all files in 'C: \ProgramData \Jenkins \Jenkins \workspace \agents \agent1 \workspace \Unir \JENKINSFILE\_agentes' that match \Jenkins \Agents \Agent
the pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake 8] \ Successfully parsed file C:\ProgramData\Penkins\penkins\workspace\agents\agent1\workspace\Unir\PenkinSFILE\_agentes\flake 8. out the programData\Penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\penkins\
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
                                   Resolving
                                                                                                                                                                                                                                                    workspace
'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake8] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\,jenkins\,jenkins\,jenkInSFILE_agentes\builds\15\files-
with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes' that match
the pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake8] Successfully parsed file C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes\flake8.out
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
                                   Resolving
                                                                         file
                                                                                                     names
                                                                                                                                      for
                                                                                                                                                                 all
                                                                                                                                                                                                                                                    workspace
                                                                                                                                                                                          issues
'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
[Flake8] Copying affected files to Jenkins' build folder 'C:\ProgramData\Jenkins\jenkins\jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\15\files-
with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Reference build recorder is not configured
[Flake8] No valid reference build found
[Flake8] All reported issues will be considered outstanding
[Flake8] Evaluating quality gates
[Flake8] -> Some quality gates have been missed: overall result is UNSTABLE
[Flake8] -> Details for each quality gate:
[Flake8] - [Total (any severity)]: «Inestable» - (Actual value: 9, Quality gate: 8,00)
[Flake8] - [Total (any severity)]: «Correcto» - (Actual value: 9, Quality gate: 10,00)
[Flake8] Health report is disabled - skipping
[Flake8] Created analysis result for 9 issues (found 0 new issues, fixed 0 issues)
[Flake8] Attaching ResultAction with ID 'flake8' to build 'Unir/JENKINSFILE_agentes #15'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // node
```

```
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // parallel
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Coverage)
[Pipeline] node
Running \ on \ \underline{agent1} \ in \ C: \ Program Data \ Jenkins \ igenkins \ workspace \ agent1 \ workspace \ Unir \ JENKINSFILE\_agentes
[Pipeline] {
[Pipeline] bat
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
[Pipeline] bat
C:\ProgramData\Jenkins\,ienkins\workspace\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\ag
Python\Python313\Scripts\coverage.exe run --branch --source=app --omit=app\__init__.py,app\api.py -m pytest test\unit
                                                        =======test session starts ==============
platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
rootdir: C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes
configfile: pytest.ini
collected 10 items
test\unit\calc_test.py ......
                                                                                                                                                                                    [80%]
test\unit\util_test.py ..
                                                                                                                                                                                [100%]
C:\ProgramData\Jenkins\.ienkins\workspace\agent1\workspace\Unir\JENKINSFILE\_agentes\Discrete{C:Users\amaro\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\Local\Programs\AppData\AppData\Local\Programs\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\AppData\A
Python\Python313\Scripts\coverage.exe xml
Wrote XML report to coverage.xml
[Pipeline] catchError
[Pipeline] {
[Pipeline] cobertura
[Cobertura] Skipping Cobertura coverage report as build was not SUCCESS or better ...
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Performance)
[Pipeline] node
Running \ on \ \underline{agent3} \ in \ C: \ Program Data \ Uenkins \ in \ C: \ Program Data \ Uenkins \ Uenkins
[Pipeline] {
[Pipeline] bat
C:\ProgramData\Jenkins\Lieukins\workspace\Jenkins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieukins\Lieuk
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agent3\workspace\Unir\JENKINSFILE_agentes>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agent3\workspace\Unir\JENKINSFILE_agentes
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes
[Pipeline] bat
```

Finished: UNSTABLE

```
C: \programData\project{$ C:\ProgramData\project{$ C:
                                                                                                                                                                                                                              /B
C:\Users\amaro\AppData\Local\Programs\Python\Python313\python.exe -m flask run --host=0.0.0.0 --port=5000
C:\ProgramData\Jenkins\jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes>timeout /t 20 /nobreak // Espera 10
segundos para asegurarse de que Flask esté listo antes de correr las pruebas
ERROR: Sintaxis no y lida. La opción predeterminada no est, permitida m s
de "1" veces.
Escriba "TIMEOUT /?" para su uso.
jmeter-5.6.3 \ apache-jmeter-5.6.3 \ bin\ jmeter-n-t\ test\ jmeter\ flask.jmx-f-l\ flask.jtl
Usage: python -m flask run [OPTIONS]
Try 'python -m flask run --help' for help.
Error: Could not import 'api'.
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
Creating summariser < summary>
Created the tree successfully using test\jmeter\flask.jmx
Starting standalone test @ 2025 Jan 20 23:16:52 CET (1737411412267)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
summary = 160 in 00:00:01 = 161.9/s Avg: 2 Min: 1 Max: 23 Err: 0 (0.00%)
Tidying up ... @ 2025 Jan 20 23:16:53 CET (1737411413322)
 ... end of run
[Pipeline] script
[Pipeline] {
[Pipeline] perfReport
Creating parser with percentiles:'0,50,90,95,100,' filterRegex:null
Performance: Recording JMeterCsv reports '**/flask.jtl'
Performance:
                                            IMeterCsv
                                                                                    copving
                                                                                                                        reports
                                                                                                                                                                                       master
                                                                                                                                                                                                                           files
'[C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes\flask.jtl]'
Performance: JMeterCsv parsing local reports '[C:\ProgramData\Jenkins\,jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\15\performance-
reports\JMeterCSV\flask.jtl]'
                           Parsing
                                            report
                                                            file
                                                                         'C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE_agentes\builds\15\performance-
reports\JMeterCSV\flask.jtl' with filterRegex 'null'.
Performance: No threshold configured for making the test unstable
Performance: No threshold configured for making the test failure
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
[Pipeline] // script
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] End of Pipeline
```

Reducir el número de **executors** a **1** por agente disminuye la capacidad de ejecución simultánea de Jenkins. En un pipeline con múltiples etapas, especialmente cuando tienes muchas etapas que necesitan ejecutarse en paralelo en **varios agentes**, reducir los ejecutores provoca **cuellos de botella** y **tiempos de espera**, lo que aumenta el tiempo total de ejecución. Las etapas se ejecutarán de manera **secuencial en cada agente**, y las tareas tendrán que esperar a que se liberen los ejecutores disponibles, lo que afecta la eficiencia del pipeline. Esto podría ser una limitación si tu infraestructura o pipeline tiene una gran cantidad de tareas concurrentes o si las tareas son pesadas

Explicación de la separación realizada y fundamentación de la misma.

1. Separación de Agentes:

La decisión de separar las etapas en distintos agentes tiene varias motivaciones estratégicas y técnicas:

A. Optimización de recursos:

- agent1 está asignado a las etapas de 'Get Code', 'Unit', 'Static' y 'Coverage'. Este agente
 parece estar optimizado para tareas de desarrollo, como la compilación, las pruebas
 unitarias, el análisis estático y la cobertura de pruebas.
 - Al agrupar estas tareas en un solo agente, se garantiza que el entorno de desarrollo, las dependencias y las herramientas específicas estén preinstaladas y configuradas correctamente en un único lugar, lo que mejora la coherencia de los resultados y la eficiencia del pipeline.
- agent2 está dedicado a la etapa de 'Security' (análisis de seguridad con Bandit). Se utiliza un
 agente diferente para realizar el análisis de seguridad porque, generalmente, este tipo de
 herramientas puede requerir una configuración específica o permisos adicionales (por
 ejemplo, configuraciones de seguridad, entornos de red aislados, etc.).
 - O Utilizar un agente separado para las pruebas de seguridad reduce el riesgo de interferencias con las tareas de desarrollo o de ejecución de código en el mismo entorno, y también permite configurar este agente con políticas de seguridad adicionales sin afectar el flujo principal de integración.
- agent3 está asignado a la etapa de 'Performance' (pruebas de rendimiento con JMeter y
 ejecución de Flask). Este agente está dedicado a tareas de rendimiento, que generalmente
 requieren recursos adicionales y configuraciones específicas, como configuraciones de red o
 servidores.
 - Al usar un agente especializado para pruebas de rendimiento, se evita que estas pruebas interfieran con las etapas de desarrollo y pruebas unitarias que podrían tener un impacto en el rendimiento del servidor.

B. Aislamiento y Especialización:

Separar las tareas en diferentes agentes permite que cada uno esté especializado para un conjunto específico de tareas, lo que facilita la **gestión de dependencias** y evita problemas de **interferencia** entre las distintas fases del pipeline.

 Entornos de ejecución diferenciados: Algunas etapas, como las de seguridad (con Bandit) y de pruebas de rendimiento, pueden requerir un acceso más restringido o una configuración

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- diferente, como privilegios elevados para ejecutar herramientas específicas, o la necesidad de acceso a bases de datos o servidores de prueba.
- Facilidad de mantenimiento: Si se encuentra un error en una de las etapas (por ejemplo, en las pruebas de seguridad), el cambio puede realizarse de manera aislada en el agente correspondiente sin afectar a los demás agentes, lo que facilita la gestión de problemas.

Conclusión Final:

Esta distribución de tareas en Jenkins, utilizando **agentes separados**, no solo mejora la **seguridad** al aislar tareas críticas y sensibles, sino que también optimiza la **eficiencia** y **escalabilidad** del pipeline.

Reto 3 – Mejora de la cobertura

En este reto se solicitan 3 entregables:

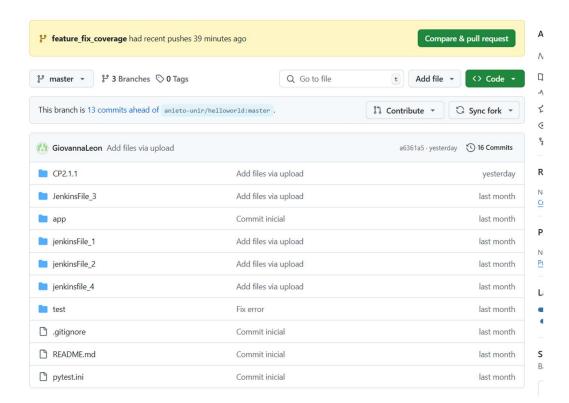
▶ URL al repositorio creado por el alumno, a partir del código fuente base de este CP1, que albergue tanto el código fuente como el nuevo Jenkinsfile.

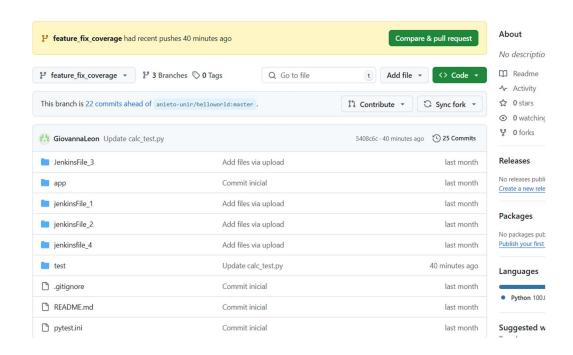
https://github.com/GiovannaLeon/helloworld.git

El repositorio será el mismo, por lo que no es necesario indicar ninguna otra URL.

Hay que tener en cuenta que ahora tendremos una nueva rama en el repositorio "feature_fix_coverage".

https://github.com/GiovannaLeon/helloworld/blob/master/CP2.1.1/JENKINSFILE_agentes_master.txt





▶ Log de ejecución del pipeline, sobre rama master, donde se muestren también los datos de cobertura de código por líneas y ramas (que no será cobertura completa).

```
Lanzada por el usuario Giovanna leon
 [Pipeline] Start of Pipeline
 [Pipeline] withEnv
 [Pipeline] {
 [Pipeline] stage
 [Pipeline] { (Get Code)
 [Pipeline] node
 Running on agent1
   in \ C: \ Program Data \ Jenkins \ work space \ agents \ agent 1 \ work space \ Unir \ JENKINSFILE\_ agentes\_ master
 [Pipeline] {
 [Pipeline] bat
 C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master>whoami
 amaro\amaro
 [Pipeline] bat
 C:\ProgramData\Jenkins\,\jenkins\,\workspace\ agents\ agent1\,\workspace\ \Jenkins\,\line agentes\,\line agen
 Amaro
[Pipeline] bat
 C: \P or all on the properties also were the properties of the pr
 C:\programData\project{\projections} C:\project{\projections} Agent1\project{\projections} workspace\project{\projections} Agent2\project{\projections} workspace\project{\projections} Agent2\project{\projections} workspace\project{\projections} Agent2\project{\projections} Agent2\projections\\ Agent2\project{\projections} Agent2\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\projections} Agent2\project{\pro
 [Pipeline] git
 The recommended git tool is: NONE
 No credentials specified
 Fetching changes from the remote Git repository
                                                                                                                                                                                                                                                                                                                                                                                                                 rev-parse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --resolve-git-dir
 C:\ProgramData\Jenkins\Jenkins\workspace\Unir\JENKINSFILE\_agentes\_master\Ligit\#timeout=10
   > {\it git.exe~config~remote.origin.url~https://github.com/GiovannaLeon/helloworld.git~\#~timeout=10}\\
 Fetching upstream changes from https://github.com/GiovannaLeon/helloworld.git
   > git.exe --version # timeout=10
   > git --version # 'git version 2.47.1.windows.1'
```

```
> git.exe fetch --tags --force --progress -- https://github.com/GiovannaLeon/helloworld.git +refs/heads/*:refs/remotes/origin/* # timeout=10
Checking out Revision a6361a5a1b8b84333ac998b3d5e0995a8e0dbd70 (refs/remotes/origin/master)
Commit message: "Add files via upload"
 > git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
 > git.exe config core.sparsecheckout # timeout=10
 > git.exe checkout -f a6361a5a1b8b84333ac998b3d5e0995a8e0dbd70 # timeout=10
 > git.exe branch -a -v --no-abbrev # timeout=10
 > git.exe branch -D master # timeout=10
 > git.exe checkout -b master a6361a5a1b8b84333ac998b3d5e0995a8e0dbd70 # timeout=10
 > git.exe rev-list --no-walk eb8d8309fcd89b880e7bc330d180dfeceaf53b9a # timeout=10
[Pipeline] bat
C:\ProgramData\Jenkins\.ienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>git\ checkout\ master\Jenkins\Jenkins\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agents\agen
Already on 'master
[Pipeline] bat
El volumen de la unidad C es Windows
 El n£mero de serie del volumen es: 6475-04AA
 25/01/2025 12:06 <DIR>
23/01/2025 16:51 <DIR>
23/01/2025 17:04
                                                 53.248 .coverage
23/01/2025 16:51
                                                     40 .gitignore
23/01/2025 16:51 <DIR> .pytest_cache
23/01/2025 16:51 <DIR>
                                                               app
23/01/2025 17:04
                                                  2.280 coverage.xml
25/01/2025 12:06 <DIR>
                                                               CP2.1.1
                                                  500 flake8 out
23/01/2025 17:04
23/01/2025 16:51 <DIR>
                                                               jenkinsFile 1
                                                               jenkinsFile 2
23/01/2025 16:51 <DIR>
23/01/2025 16:51 <DIR>
                                                               JenkinsFile 3
23/01/2025 16:51 <DIR>
                                                               jenkinsfile 4
23/01/2025 16:51
                                                    175 pytest.ini
23/01/2025 16:51
                                                     418 README.md
23/01/2025 17:04
                                                   1.401 result-unit.xml
23/01/2025 16:51 <DIR>
                                                               test
                7 archivos
                                              58.062 bytes
               10 dirs 560.655.937.536 bytes libres
[Pipeline] echo
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Unit)
[Pipeline] node
Running on agent1
 in C:\P or a month of the properties of the pro
[Pipeline] {
[Pipeline] bat
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>hostname
[Pipeline] bat
C:\ProgramData\Jenkins\.ienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>echo
[Pipeline] catchError
[Pipeline] {
[Pipeline] bat
```

C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master>SET
PYTHONPATH=C:\ProgramData\Jenkins\,jenkins\,jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE agentes master

[Pipeline] bat

```
C: \programData \properties $$ C: \properties
ograms\Python\Python313\Scripts\coverage.exe run --branch --source=app --omit=app\__init__.py,app\api.py -m pytest --junitxml=result-
unit.xml test\unit
 platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
rootdir: C:\ProgramData\Jenkins\Lienkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master
configfile: pytest.ini
collected 10 items
                                                                                                                                           [80%]
test\unit\calc_test.py ......
test\unit\util_test.py ..
                                                                                                                                        [100%]
- generated xml file: C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master\result-unit.xml
[Pipeline] sleep
Sleeping for 5 Seg
[Pipeline] junit
Grabando resultados de tests
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Static and Security Analysis)
[Pipeline] parallel
[Pipeline] { (Branch: Static)
[Pipeline] { (Branch: Security)
[Pipeline] stage
[Pipeline] { (Static)
[Pipeline] stage
[Pipeline] { (Security)
[Pipeline] node
Running on agent1
  in C:\P or a month of the content o
[Pipeline] node
Running on agent2
  in \ C: \ Program Data \ Jenkins \ work space \ agents \ agent 2 \ work space \ Unir \ JENKINSFILE\_ agent es\_ master
[Pipeline] {
[Pipeline] {
[Pipeline] bat
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\JenkinsFILE\_agentes\_master>\who aming the program of the prog
amaro\amaro
[Pipeline] bat
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE\_agentes\_master>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\,\jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>echo
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agent2\workspace\Unir\JENKINSFILE_agentes_master>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_master
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_master
```

[Flake8] -> resolved module names for 9 issues

[Flake8] -> resolved package names of 2 affected files [Flake8] No filter has been set, publishing all 9 issues

[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)

[Flake8] Resolving package names (or namespaces) by parsing the affected files

[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds

 $C: \programData \properties $$ C: \properties$ ograms\Python\Python313\Scripts\flake8.exe --exit-zero --format=pylint --exit-zero app 1>flake8.out $C: \programData \proper a lens \pr$ $ograms \P thon \P thon$ INFO profile include tests: None [main] profile exclude tests: None INFO [main] INFO cli include tests: None [main] INFO [main] cli exclude tests: None [main] INFO running on Python 3.13.0 [custom] INFO Result written to file: bandit.out [Pipeline] catchError [Pipeline] { [Pipeline] recordIssues WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy [Bandit] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_master' that match the pattern '**/bandit.out' [Bandit] Traversing of symbolic links: enabled [Bandit] -> found 1 file [Bandit] Skipping file 'bandit.out' because it's empty [Bandit] Skipping post processing [Bandit] No filter has been set, publishing all 0 issues [Bandit] Repository miner is not configured, skipping repository mining [Bandit] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_master' that match the pattern '**/bandit.out' [Bandit] Traversing of symbolic links: enabled [Bandit] -> found 1 file [Bandit] Skipping file 'bandit.out' because it's empty [Bandit] Skipping post processing [Bandit] No filter has been set, publishing all 0 issues [Bandit] Repository miner is not configured, skipping repository mining [Bandit] Reference build recorder is not configured [Bandit] No valid reference build found [Bandit] All reported issues will be considered outstanding [Bandit] Evaluating quality gates [Bandit] -> All quality gates have been passed [Bandit] -> Details for each quality gate: $[Bandit] \quad \text{-} [Total (any severity)] : \ll Correcto \gg \text{-} (Actual value: 0, Quality gate: 2,00) \\$ [Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 0, Quality gate: 4,00) [Bandit] Health report is disabled - skipping [Bandit] Created analysis result for 0 issues (found 0 new issues, fixed 0 issues) [Bandit] Attaching ResultAction with ID 'pylint' to build 'Unir/JENKINSFILE_agentes_master #9'. [Checks API] No suitable checks publisher found. [Pipeline] } [Pipeline] // catchError [Pipeline] } [Pipeline] // node [Pipeline] } [Pipeline] // stage [Pipeline] } [Pipeline] recordIssues WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy [Flake8] Searching for all files in 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master' that match the pattern '**/flake8.out' [Flake8] Traversing of symbolic links: enabled [Flake8] -> found 1 file [Flake8] Successfully parsed file $\label{lem:c:programData} \label{lem:c:programData} \label{lem:c:pro$ [Flake8] -> found 9 issues (skipped 0 duplicates) [Flake8] Successfully processed file 'flake8.out' [Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252' [Flake8] Creating SCM blamer to obtain author and commit information for affected files [Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git. Resolving file names workspace 'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master' [Flake8] -> resolved paths in source directory (2 found, 0 not found) [Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)

```
[Flake8]
                                                                                    affected
                                                                                                                              files
                                                                                                                                                                                               Jenkins'
                                                                                                                                                                                                                                         build
                                                                                                                                                                                                                                                                             folder
                                          Copying
                                                                                                                                                                 to
'C:\ProgramData\Jenkins\,jenkins\jobs\Unir\jobs\JENKINSFILE_agentes_master\builds\9\files-with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Searching for all files in 'C:\ProgramData\Jenkins\jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes_master'
that match the pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake8]
                                                                                         Successfully
                                                                                                                                                                                                                                                                                   file
                                                                                                                                                                                           parsed
C:\Program Data \Jenkins \Jenkins \work space \agents \Jenkins \
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Flake8]
                                     Resolving
                                                                            file
                                                                                                           names
                                                                                                                                               for
                                                                                                                                                                                                                                                                    workspace
'C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master'
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
                                         Copying
[Flake8]
                                                                                  affected
                                                                                                                              files
                                                                                                                                                                                               Jenkins'
                                                                                                                                                                                                                                         build
                                                                                                                                                                                                                                                                             folder
 'C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE_agentes_master\builds\9\files-with-issues'
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Reference build recorder is not configured
[Flake8] No valid reference build found
[Flake8] All reported issues will be considered outstanding
[Flake8] Evaluating quality gates
[Flake8] -> Some quality gates have been missed: overall result is UNSTABLE
[Flake8] -> Details for each quality gate:
[Flake 8] \quad \text{-} \ [Total \ (any \ severity)]: \\ \ll \\ [Inestable \gg \text{-} \ (Actual \ value: 9, \ Quality \ gate: 8,00)
[Flake8] - [Total (any severity)]: «Correcto» - (Actual value: 9, Quality gate: 10,00)
[Flake8] Health report is disabled - skipping
[Flake8] Created analysis result for 9 issues (found 0 new issues, fixed 0 issues)
[Flake8] Attaching ResultAction with ID 'flake8' to build 'Unir/JENKINSFILE_agentes_master #9'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // parallel
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Coverage)
[Pipeline] node
Running on agent1
 in \ C: \ Program Data \ Unir \ JENKINSFILE\_agentes\_master
[Pipeline] {
[Pipeline] bat
C: \program Data \project \p
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_master>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agent1\workspace\Unir\JENKINSFILE_agentes_master>echo
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_master
[Pipeline] bat
```

```
C: \programData \properties $$ C: \properties
ograms\Python\Python313\Scripts\coverage.exe xml
Wrote XML report to coverage.xml
[Pipeline] catchError
[Pipeline] {
[Pipeline] cobertura
[Cobertura] Skipping Cobertura coverage report as build was not SUCCESS or better ...
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Performance)
[Pipeline] node
Running on agent3
 in \ C: \ Program Data \ Unir \ JENKINSFILE\_agentes\_master
[Pipeline] {
[Pipeline] bat
amaro\amaro
[Pipeline] bat
C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes_master>hostname
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\,jenkins\workspace\agents\agents\workspace\Unir\JENKINSFILE agentes master>echo
[Pipeline] bat
C:\ProgramData\Jenkins\.ienkins\workspace\agents\agents\workspace\Unir\JENKINSFILE\_agentes\_master\/>start
                                                                                                                                                                                                                                                                                                                                                                                                  /B
C:\Users\amaro\AppData\Local\Programs\Python\Python313\python.exe -m flask run --host=0.0.0.0 --port=5000
C: \programData\projection and \projection a
segundos para asegurarse de que Flask esté listo antes de correr las pruebas
ERROR: Sintaxis no v lida. La opci¢n predeterminada no est permitida m s
Escriba "TIMEOUT /?" para su uso.
e-jmeter-5.6.3\apache-jmeter-5.6.3\bin\jmeter -n -t test\jmeter\flask.jmx -f -l flask.jtl
Usage: python -m flask run [OPTIONS]
Try 'python -m flask run --help' for help.
Error: Could not import 'api'.
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
Creating summariser < summary>
Created the tree successfully using test\jmeter\flask.jmx
Starting standalone test @ 2025 Jan 25 12:06:39 CET (1737803199381)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
summary = 200 in 00:00:01 = 225.0/s Avg: 1 Min: 1 Max: 19 Err: 0 (0.00%) Tidying up ... @ 2025 Jan 25 12:06:40 CET (1737803200343)
 ... end of run
[Pipeline] script
[Pipeline] {
[Pipeline] perfReport
Creating parser with percentiles:'0,50,90,95,100,' filterRegex:null
Performance: Recording JMeterCsv reports '**/flask.jtl'
Performance:
                                                                             JMeterCsv
                                                                                                                                                  copying
                                                                                                                                                                                                                                                                                                                                                                                            files
                                                                                                                                                                                                                  reports
                                                                                                                                                                                                                                                                                                                               master,
\label{lem:continuous} $$ '[C:\Pr \cap \Delta_{\rm in}\] = C.\] $$ (C:\Pr \cap \Delta_{\rm in}\] $$ (C:\Pr \cap \Delta_{\rm in}
Performance:
                                                                                                         JMeterCsv
                                                                                                                                                                                                         parsing
                                                                                                                                                                                                                                                                                                  local
                                                                                                                                                                                                                                                                                                                                                                                    reports
```

'[C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE agentes master\builds\9\performance-reports\JMeterCSV\flask.jtl]'

No credentials specified

Fetching changes from the remote Git repository

```
Performance: Parsing report file 'C:\ProgramData\Jenkins\.jenkins\jobs\Unir\jobs\JENKINSFILE_agentes_master\builds\9\performance-reports\JMeterCSV\flask.jtl' with filterRegex 'null'.

Performance: No threshold configured for making the test unstable
Performance: No threshold configured for making the test failure
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
[Pipeline] {
[Pipeline] // script
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] // stage
[Pipeline] |
[Pipeline] End of Pipeline
Finished: UNSTABLE
```

Log de ejecución del pipeline, sobre la nueva rama "feature_fix_coverage", donde se muestren también los datos de cobertura de código por líneas y ramas, ahora ya con un 100% de cobertura.

NO HE ALCANZADO EL RETO, HE TRATADO DE MODIFICAR EL CACL Y EL UTIL Y NO ME FUNCIONA, MAS BIEN DE 80 HA BAJADO A 72% EL CALC. AGREGUE EXECPCIONES EN DIVISION DE 0, Y AL FINAL NO ME FUNCION

 $https://github.com/Giovanna Leon/helloworld/blob/master/CP2.1.1/JENKINSFILE_agentes_feature_fix_coverage.txt$

```
Lanzada por el usuario Giovanna leon
 [Pipeline] Start of Pipeline
 [Pipeline] withEnv
 [Pipeline] {
[Pipeline] stage
 [Pipeline] { (Get Code)
 [Pipeline] node
 Running on agent1
    in C:\programData\project{\projection} In C:\programData\project{\projection} In C:\project{\projection} In C:\project{\project{\projection} In C:\project{\projection} In C:\project
[Pipeline] {
 [Pipeline] bat
 C:\ProgramData\Venkins\\ins\workspace\Ventry\BENKINSFILE\_agentes\_feature\_fix\_coverage>\who aminum of the program of the prog
 [Pipeline] bat
 C:\ProgramData\Jenkins\Jenkins\workspace\agents\agents\Agento\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkin
 [Pipeline] bat
 [Pipeline] git
 The recommended git tool is: NONE
```

 $Checking \ out \ Revision \ 8746259d10bbd15d543bfb1b7340890810e7f6aa \ (refs/remotes/origin/feature_fix_coverage)$

 $C:\ProgramData\Jenkins\Jenkins\workspace\Jents\Jenkins\FILE_agentes_feature_fix_coverage\Jents\Jenkins\Jenki$

rev-parse

--resolve-git-dir

[Pipeline] bat

```
> git.exe config remote.origin.url https://github.com/GiovannaLeon/helloworld.git # timeout=10
Fetching upstream changes from https://github.com/GiovannaLeon/helloworld.git
 > git.exe --version # timeout=10
 > git --version # 'git version 2.47.1.windows.1'
 > git.exe rev-parse "refs/remotes/origin/feature_fix_coverage^{commit}" # timeout=10
 > git.exe config core.sparsecheckout # timeout=10
Commit message: "Update calc_test.py"
 > git.exe checkout -f 8746259d10bbd15d543bfb1b7340890810e7f6aa # timeout=10
 > git.exe branch -a -v --no-abbrev # timeout=10
 > git.exe branch -D feature_fix_coverage # timeout=10
 > git.exe checkout -b feature_fix_coverage 8746259d10bbd15d543bfb1b7340890810e7f6aa # timeout=10
 > git.exe rev-list --no-walk e77791672d9b7bb8b7ffb9c32f22896469b836c6 # timeout=10
El volumen de la unidad C es Windows
 El n£mero de serie del volumen es: 6475-04AA
 \label{thm:linear} Directorio\ de\ C:\ Program Data\ Uenkins\ . jenkins\ workspace\ agents\ agent1\ workspace\ Unir\ UENKINSFILE\_agentes\_feature\_fix\_coverage
27/01/2025 15:19 <DIR>
27/01/2025 15:05 <DIR>
27/01/2025 15:19
                                                                53.248 .coverage
20/01/2025 23:58
                                                                       40 .gitignore
20/01/2025 23:58 <DIR> .pytest_cache
20/01/2025 23:58 <DIR> app
27/01/2025 15:19 2.330 coverage.xml
27/01/2025 15:19 500 flake8.out
20/01/2025 23:58 <DIR> jenkinsFile_1
20/01/2025 23:58 <DIR> jenkinsFile_2
20/01/2025 23:58 <DIR> JenkinsFile_3
20/01/2025 23:58 <DIR> jenkinsfile_4
20/01/2025 23:58 175 pytest.ini
20/01/2025 23:58 418 README.md
27/01/2025 15:19 1.816 result-unit.xml
20/01/2025 23:58 <DIR> test
                       7 archivos 58.527 bytes
                       9 dirs 565.921.247.232 bytes libres
[Pipeline] echo
Work space: C: \Po continuous for the properties of the propertie
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Unit)
[Pipeline] node
Running on agent1
in \ C: \ Program Data \ In \ C: \ Program \ Data \ In \ C: \ Program \ In \ C: \ Program Data \ In \ C: \ Program Data \ In \ C: \ Program Data \ In \ C: \ Program \ In \ Program
[Pipeline] {
[Pipeline] bat
C: \noindent \
amaro\amaro
```

```
C: \noindent \
 Amaro
 [Pipeline] bat
 C: \noindent \
 C: \program Data \project \p
 [Pipeline] catchError
[Pipeline] {
 [Pipeline] bat
 C:\ProgramData\Jenkins\Jenkins\workspace\agents\JenkinsFILE\_agentes\_feature\_fix\_coverage>SET
 \label{thm:pythonpath} \begin{tabular}{ll} PYTHONPATH=C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_feature\_fix\_coverage agents\,line \Line \Line
 C: \programData\projection and \projection a
 junitxml=result-unit.xml test\unit
     platform win32 -- Python 3.13.0, pytest-8.3.4, pluggy-1.5.0
 rootdir: C: \parts \p
 configfile: pytest.ini
 collected 11 items
 test\unit\calc_test.py ......
                                                                                                                                                                                                                                                                                                                                                                                           [72%]
 test\unit\util_test.py ...
                                                                                                                                                                                                                                                                                                                                                                                     [100%]
                                                                                                                                                                                                                                                                                                                                 generated
 C: \noindent \
 [Pipeline] sleep
 Sleeping for 5 Seg
 [Pipeline] junit
 Grabando resultados de tests
 [Checks API] No suitable checks publisher found.
 [Pipeline] }
 [Pipeline] // catchError
 [Pipeline] }
 [Pipeline] // node
 [Pipeline] }
 [Pipeline] // stage
 [Pipeline] stage
 [Pipeline] { (Static and Security Analysis)
 [Pipeline] parallel
 [Pipeline] { (Branch: Static)
 [Pipeline] { (Branch: Security)
 [Pipeline] stage
 [Pipeline] { (Static)
 [Pipeline] stage
 [Pipeline] { (Security)
 [Pipeline] node
 Running on agent1
     in C:\programData\project{\projection} In C:\programData\project{\projection} In C:\project{\projection} In C:\project{\project{\projection} In C:\project{\projection} In C:\project
 [Pipeline] node
     in C:\programData\project{\projection} In C:\programData\project{\projection} In C:\project{\projection} In C:\project{\project{\projection} In C:\project{\projection} In C:\project
 [Pipeline] {
[Pipeline] {
 [Pipeline] bat
```

```
[Pipeline] bat
```

 $C: \program Data \project in \project in$

[Pipeline] bat

 $C: \program Data \project in \project agents agent 2 \project agent support a large that agent agent$

[Pipeline] bat

[Pipeline] bat

 $C: \program Data \label{lemkins-jenkins-workspace-lemkins-jenkins-workspace-lemkins-jenkins-workspace-lemkins-jenkins-workspace-lemkins-jenkins-workspace-lemkins-jenkins-workspace-lemkins-jenkins-jenkins-workspace-lemkins-jenkins-jenkins-workspace-lemkins-jenk$

[Pipeline] bat

 $\label{lem:c:programData} $$ C:\Pr\sigma_{\lambda,\omega}=\sum_{i=1}^{\infty} \frac{1}{i}ENKINSFILE_agentes_feature_fix_coverage> \\ C:\Pr\sigma_{\lambda,\omega}=\sum_{i=1}^{\infty} \frac{1}{i}ENKINSFILE_agentes_feature_fix_coverage \\ C:\Pr\sigma_{\lambda,\omega}=\sum_{i=1}^{\infty} \frac{1}{i}ENKINSFILE_agentes_feature_fix_coverage$

C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage>echo C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage

[Pipeline] bat

[Pipeline] bat

 $\label{lem:c:programDatalenkins,jenkins} workspace agents agent 1 \workspace Unir\ IENKINSFILE_agentes_feature_fix_coverage>C:\ Users\ amaro\ App Data\ Local\ Programs\ Python\ 13\ Scripts\ flake 8. exe-exit-zero-format=pylint-exit-zero\ app\ 1>flake 8. out$

C:\ProgramData\Jenkins\,jenkins\workspace\agents\agent2\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage>C:\Users\amaro\App Data\Local\Programs\Python\Python313\Scripts\bandit.exe --exit-zero -r . -f custom -o bandit.out --msg-template "{abspath}:{line}: [{test_id}] {msg}"

[main] INFO profile include tests: None INFO profile exclude tests: None [main] INFO cli include tests: None [main] [main] INFO cli exclude tests: None [main] INFO running on Python 3.13.0 [custom] INFO Result written to file: bandit.out

[Pipeline] catchError

[Pipeline] {

[Pipeline] recordIssues

 $WARNING: Unknown\ parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy the parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy the parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy the parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy the parameter (s)\ found\ for\ class\ type\ 'io.jenkins.plugins.analysis.core.util. Warnings Quality Gate':\ healthy the parameter (s)\ found\ found$

[Bandit] Traversing of symbolic links: enabled

[Bandit] -> found 1 file

[Bandit] Skipping file 'bandit.out' because it's empty

[Bandit] Skipping post processing

[Bandit] No filter has been set, publishing all 0 issues

[Bandit] Repository miner is not configured, skipping repository mining

 $[Bandit] Searching for all files in $$ \text{`C:\ProgramData\end} in $$ \text{`C:\ProgramData\end} in $$ \text{`C:\ProgramData\end} in $$ \text{`Loverage'} in $$ \text$

[Bandit] Traversing of symbolic links: enabled

[Bandit] -> found 1 file

[Bandit] Skipping file 'bandit.out' because it's empty

```
[Bandit] Skipping post processing
[Bandit] No filter has been set, publishing all 0 issues
[Bandit] Repository miner is not configured, skipping repository mining
[Bandit] Reference build recorder is not configured
[Bandit] No valid reference build found
[Bandit] All reported issues will be considered outstanding
[Bandit] Evaluating quality gates
[Bandit] -> All quality gates have been passed
[Bandit] -> Details for each quality gate:
[Bandit] \quad \text{-} [Total (any severity)] : \ll Correcto \gg \text{-} (Actual value: 0, Quality gate: 2,00)
[Bandit] - [Total (any severity)]: «Correcto» - (Actual value: 0, Quality gate: 4,00)
[Bandit] Health report is disabled - skipping
[Bandit] Created analysis result for 0 issues (found 0 new issues, fixed 0 issues)
[Bandit] \ Attaching \ Result Action \ with \ ID \ 'pylint' \ to \ build \ 'Unir/JENKINSFILE\_agentes\_feature\_fix\_coverage \ \#31'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // catchError
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] recordIssues
WARNING: Unknown parameter(s) found for class type 'io.jenkins.plugins.analysis.core.util.WarningsQualityGate': healthy
                                                                                                     Searching
\label{lem:c:programDatalenkins\encoder} \begin{tabular}{ll} \be
pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
[Flake8]
                                                                                                                                                      Successfully
                                                                                                                                                                                                                                                                                                                         parsed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            file
C:\ProgramData\Jenkins\Jenkins\workspace\Jents\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenkins\Jenki
[Flake8] -> found 9 issues (skipped 0 duplicates)
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   workspace
\label{lem:c:programData} \label{lem:c:pro
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake 8] \ Resolving \ module \ names \ from \ module \ definitions \ (build.xml, pom.xml, or \ Manifest.mf \ files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
                                                                     Copying
                                                                                                                                           affected
                                                                                                                                                                                                                                                                            to
                                                                                                                                                                                                                                                                                                                               Jenkins'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   folder
\label{lem:c:programData} \label{lem:c:programData} In this specifies the lemma of the lemma o
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
                                                                                                     Searching
'C:\ProgramData\Jenkins\jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage' that match
pattern '**/flake8.out'
[Flake8] Traversing of symbolic links: enabled
[Flake8] -> found 1 file
                                                                                                                                                                                                                                                                                                                         parsed
[Flake8]
                                                                                                                                                      Successfully
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            file
C:\ProgramData\Jenkins\Lienkins\workspace\agent1\workspace\Unir\JENKINSFILE\_agentes\_feature\_fix\_coverage\flake8.out
[Flake8] -> found 9 issues (skipped 0 duplicates)
```

```
[Flake8] Successfully processed file 'flake8.out'
[Flake8] Post processing issues on 'agent1' with source code encoding 'windows-1252'
[Flake8] Creating SCM blamer to obtain author and commit information for affected files
[Flake8] -> No blamer installed yet. You need to install the 'git-forensics' plugin to enable blaming for Git.
[Flake8]
                                                                 Resolving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 workspace
\label{lem:c:programData} \label{lem:c:pro
[Flake8] -> resolved paths in source directory (2 found, 0 not found)
[Flake8] Resolving module names from module definitions (build.xml, pom.xml, or Manifest.mf files)
[Flake8] -> resolved module names for 9 issues
[Flake8] Resolving package names (or namespaces) by parsing the affected files
[Flake8] -> resolved package names of 2 affected files
[Flake8] No filter has been set, publishing all 9 issues
[Flake8] Creating fingerprints for all affected code blocks to track issues over different builds
[Flake8] -> created fingerprints for 9 issues (skipped 0 issues)
                                                                                                                                                                                                                         files
                                                                                                                                                                                                                                                                                                                                          Jenkins'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 folder
                                                                                                                                                                                                                                                                                                                                                                                                                  build
\label{lem:c:programData} \label{lem:c:pro
[Flake8] -> 2 copied, 0 not in workspace, 0 not-found, 0 with I/O error
[Flake8] Skipping cleaning of source code files in old builds
[Flake8] Repository miner is not configured, skipping repository mining
[Flake8] Reference build recorder is not configured
[Flake8] No valid reference build found
[Flake8] All reported issues will be considered outstanding
[Flake8] Evaluating quality gates
[Flake8] -> Some quality gates have been missed: overall result is UNSTABLE
[Flake8] -> Details for each quality gate:
[Flake8] - [Total (any severity)]: «Inestable» - (Actual value: 9, Quality gate: 8,00)
[Flake8] - [Total (any severity)]: «Correcto» - (Actual value: 9, Quality gate: 10,00)
[Flake8] Health report is disabled - skipping
[Flake8] Created analysis result for 9 issues (found 0 new issues, fixed 0 issues)
[Flake 8] \ Attaching \ Result Action \ with \ ID \ 'flake 8' \ to \ build \ 'Unir/JENKINSFILE\_agentes\_feature\_fix\_coverage \ \#31'.
[Checks API] No suitable checks publisher found.
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // parallel
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Coverage)
[Pipeline] node
Running on agent1
 in \ C: \ Program Data \ Jenkins \ Lienkins \ work space \ agents \ agent1 \ work space \ Unir \ JENKINS FILE\_agentes\_feature\_fix\_coverage
[Pipeline] {
[Pipeline] bat
C:\ProgramData\Jenkins\Jenkins\workspace\agents\agent1\workspace\Unir\JENKINSFILE\_agentes\_feature\_fix\_coverage>\who aminor of the program o
amaro\amaro
[Pipeline] bat
Amaro
[Pipeline] bat
C:\ProgramData\Jenkins\Lipenkins\workspace\agent1\workspace\Unir\JENKINSFILE\_agentes\_feature\_fix\_coverage>echo
C:\ProgramData\Jenkins\,\jenkins\,\workspace\ agents\ agent1\,\workspace\ \Jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,\jenkins\,
```

Usage: python -m flask run [OPTIONS]
Try 'python -m flask run --help' for help.

Error: Could not import 'api'.

[Pipeline] bat $\label{local_Programs_Python_Python_313} Scripts \\ coverage.exe\ xml$ Wrote XML report to coverage.xml [Pipeline] catchError [Pipeline] { [Pipeline] cobertura [Cobertura] Skipping Cobertura coverage report as build was not SUCCESS or better \dots [Pipeline] } [Pipeline] // catchError [Pipeline] } [Pipeline] // node [Pipeline] } [Pipeline] // stage [Pipeline] stage [Pipeline] { (Performance) [Pipeline] node Running on agent3 $in \ C: \ Program Data \ Jenkins \ Jenkins \ Work space \ Mork space \ Unir \ JENKINSFILE_agentes_feature_fix_coverage$ [Pipeline] { [Pipeline] bat $C:\ProgramData\Jenkins\Jenkins\workspace\Jents\Jenkins\Jenki$ amaro\amaro [Pipeline] bat $C:\ProgramData\Jenkins\Lienkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage>hostname$ Amaro [Pipeline] bat C:\ProgramData\Jenkins\.jenkins\workspace\agents\agent3\workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage [Pipeline] bat FLASK_APP=app\api.py $C:\ProgramData\Jenkins\Lipenkins\workspace\Jentin\Jenkins\FILE_agentes_feature_fix_coverage>start$ /B $C:\P or amData\end{Among the proposed for the proposed f$ 10 /t /nobreak ERROR: No es compatible la redirecci¢n de entradas, saliendo inmediatamente del proceso. $C:\ProgramData\Jenkins\Lipenkins\workspace\agents\agents\agentg\Workspace\Unir\JENKINSFILE_agentes_feature_fix_coverage\gentg\Agentg\$ Espera segundos para asegurarse de que Flask esté listo antes de correr las pruebas $C: \noindent \$ $wn loads \ a pache-jmeter-5.6.3 \ bin\ jmeter-n-t\ test\ jmeter\ flask.jmx-f-l\ flask.jtl$

WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release

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WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
WARN StatusConsoleListener The use of package scanning to locate plugins is deprecated and will be removed in a future release
Creating summariser < summary>
Created the tree successfully using test\jmeter\flask.jmx
Starting standalone test @ 2025 Jan 27 15:22:02 CET (1737987722266)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
summary + 1 in 00:00:00 = 8.9/s Avg: 12 Min: 12 Max: 12 Err: 1 (100.00%) Active: 1 Started: 1 Finished: 0
summary + 199 in 00:00:01 = 262.9/s Avg: 0 Min: 0 Max: 3 Err: 199 (100.00%) Active: 0 Started: 5 Finished: 5
summary = 200 in 00:00:01 = 229.9/s Avg: 0 Min: 0 Max: 12 Err: 200 (100.00%)
Tidying up ... @ 2025 Jan 27 15:22:03 CET (1737987723220)
... end of run
[Pipeline] script
[Pipeline] {
[Pipeline] perfReport
Creating parser with percentiles:'0,50,90,95,100,' filterRegex:null
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reports \verb|\| JMeterCSV \verb|\| flask.jtl]'
Performance: No threshold configured for making the test unstable
Performance: No threshold configured for making the test failure
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
Performance: File flask.jtl reported 0.0% of errors [SUCCESS]. Build status is: UNSTABLE
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // node
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] End of Pipeline
Finished: UNSTABLE
```

- Explicación de cómo se ha hecho la mejora y por qué antes no se alcanzaba el 100% de cobertura.
- 1. Pruebas de la clase TestCalculate (Cálculos):

En los métodos de esta clase se realizan operaciones como la suma, la resta, la multiplicación, la división y la potenciación. Necesitamos asegurarnos de que todos los casos de excepciones y resultados posibles sean cubiertos.

- Añadir más pruebas para cubrir los casos en que el divisor es 0 en la división.
- Agregar excepciones y otros valores no numéricos en cada operación.

2. Pruebas de la clase TestUtil (Utilidades):

Para la función convert_to_number, además de los casos de valores válidos y errores con cadenas, también debemos cubrir valores adicionales que puedan ser convertidos a números, como los booleanos y los números en notación científica.

He tenido problemas a la vez que he agregado para la rama feature_fix_coverage , calc_ y util_, no he alcanzado el 100% en calc, pero si en útil_rest. En el Calc un 72%.