

https://github.com/alizahreddine/jenkins_project.git

The Jenkins pipeline is made up of six automated stages.

During the Setup stage, Jenkins builds a virtual environment and installs all necessary Python dependencies, including flake8, pytest, coverage, and bandit.

The Lint stage follows, scanning the main source file (app.py) for style and syntax issues based on PEP 8 guidelines using flake8.

In the Test stage, pytest runs the unit tests found in tests/test_app.py to confirm that the greet() function works as expected.

The Coverage stage employs coverage.py to determine how much of the codebase is tested and generates detailed reports (coverage.xml and coverage.txt).

Next, the Security Scan stage uses Bandit to check the code for security vulnerabilities and summarizes the results in bandit.json.

Finally, the Deploy stage executes the application, outputs dist/output.txt, and compresses the necessary project files into app_bundle.zip, completing the CI/CD pipeline.

app bundle:

The screenshot shows the Jenkins Pipeline interface for the 'Python-CI-CD' job. At the top, there is a green circular icon with a white checkmark, indicating the build status. The job name 'Python-CI-CD' is displayed in large, bold, white font. Below the job name, there is a section titled 'Last Successful Artifacts' with a white cube icon. It lists several artifacts with their sizes and 'view' links:

Artifact	Size	Action
bandit-report.json	461.55 KiB	view
coverage.txt	285 B	view
coverage.xml	1.55 KiB	view
package.zip	362 B	view
run-output.txt	35 B	view
pytest-results.xml	329 B	view

Below the artifact section, there is a heading 'Permalinks' followed by a bulleted list of build links:

- Last build (#6), 3 min 1 sec ago
- Last stable build (#6), 3 min 1 sec ago
- Last successful build (#6), 3 min 1 sec ago
- Last failed build (#5), 8 min 31 sec ago
- Last unsuccessful build (#5), 8 min 31 sec ago
- Last completed build (#6), 3 min 1 sec ago

coverage:

Name	Stmts	Miss	Cover	Missing

app.py	4	1	75%	6
tests\test_app.py	10	1	90%	12

TOTAL	14	2	86%	

output.txt:

