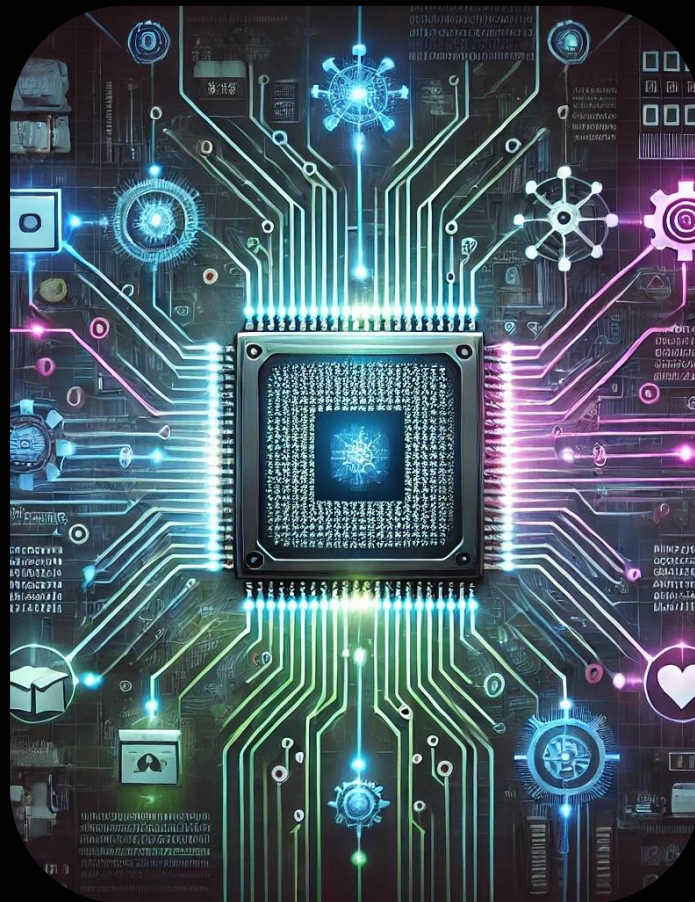


CI/CD Descomplicado Deploy de Aplicações Python no GCP

Luciano Camargo Cruz
lcruzx@gmail.com



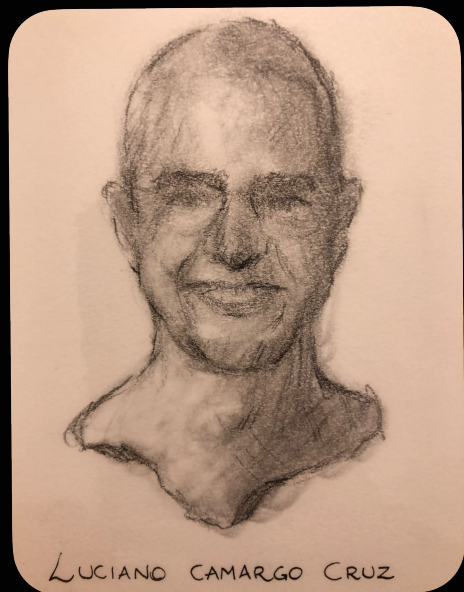
Conteúdo:

- CI (Continuous Integration)
- CD (Continuous Delivery)
- Google Cloud Platform (GCP)
- Github Actions
- Python
- E muito + ...

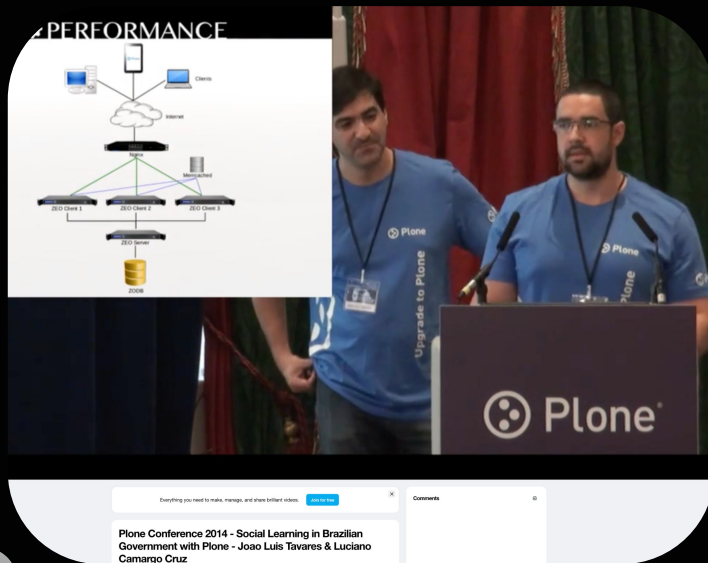


https://github.com/lccruz/CI_CD_Descomplicado





LUCIANO CAMARGO CRUZ



Use Case

services > django-app > product > views.py > ...

```
1 from django.http import JsonResponse
2 from product.models import Product
3 from product.services import get_service_data
4
5
6 def product_list(request):
7     """Product List."""
8     products = Product.objects.all().values()
9
10    data = {
11        'products': list(products),
12        'external': get_service_data()
13    }
14
15    return JsonResponse(data, safe=False)
16
```



services > flask-app > src > api > api.py > ...

```
1 from flask import Blueprint
2
3 api_bp = Blueprint('api', __name__)
4
5
6 @api_bp.route('/', methods=["GET"])
7 def home() -> dict:
8     """Home."""
9     return {
10         "data": "Welcome to API Home Page!"
11     }
12
13
14 @api_bp.route('/about', methods=["GET"])
15 def about() -> str:
16     """About."""
17     return "This is the About Page."
18
```

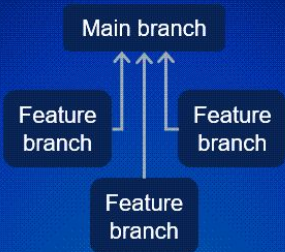


CONTINUOUS INTEGRATION (CI)

SOURCE

Code repository

Feature branches are committed to the main branch of a code repository.



CONTINUOUS DELIVERY OR CONTINUOUS DEPLOYMENT (CD)

BUILD

Development environment

Resources are provisioned in a development environment.

TEST

Development environment

Multiple tests are performed, such as unit, integration, acceptance, and performance tests.

STAGING

Preproduction environment

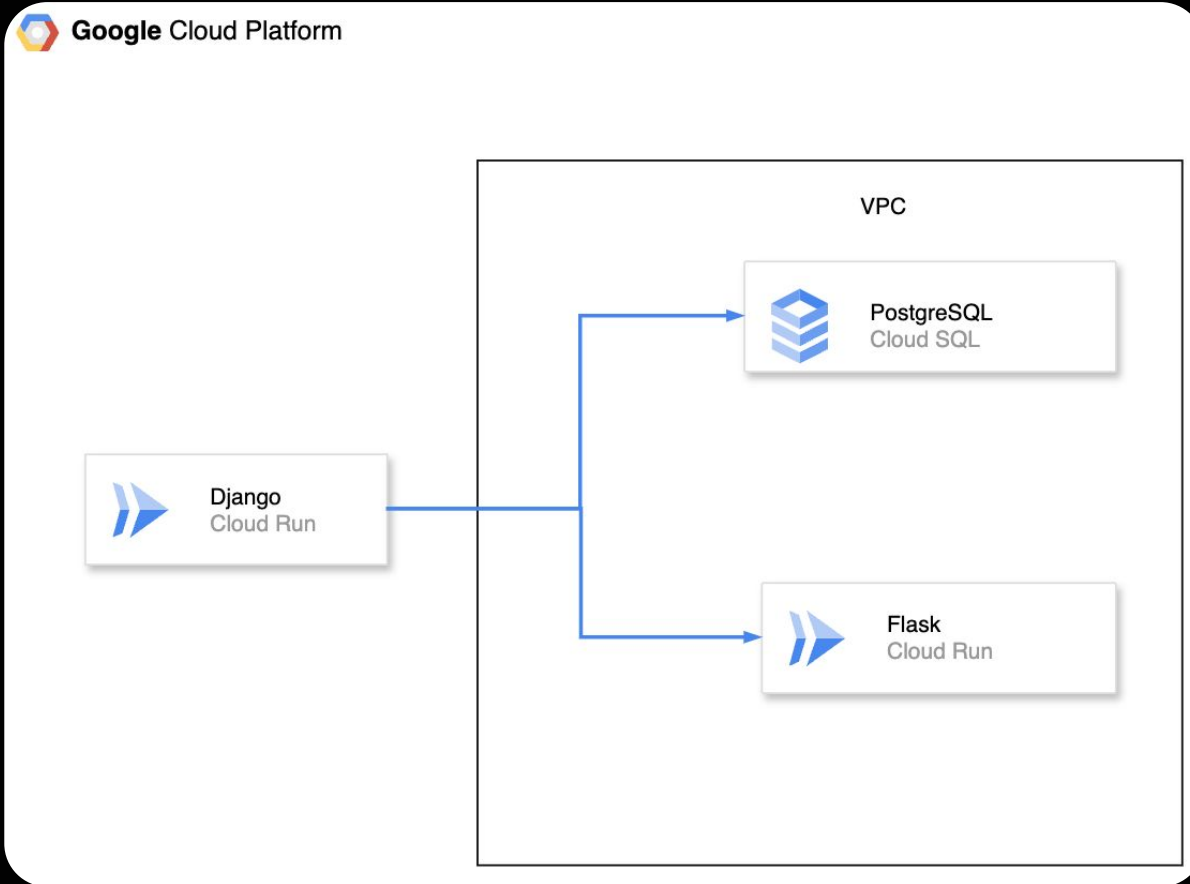
Resources are provisioned in a pre-production environment, and final unit and integration tests are performed.

PRODUCTION

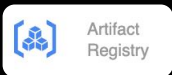
Production environment

The code is released to the production environment.

Use Case

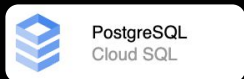


Google Cloud - Services



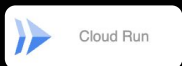
Fornece um único local para armazenar e gerenciar pacotes e imagens de contêiner do Docker.

<https://cloud.google.com/artifact-registry/docs/overview>



É um serviço de banco de dados totalmente gerenciado (MySQL, o PostgreSQL ou o SQL Server).

<https://cloud.google.com/sql/docs>



É uma plataforma de computação gerenciada que permite gerar contêineres diretamente na infraestrutura escalável.

<https://cloud.google.com/run/docs/overview/what-is-cloud-run>



VPC (Virtual Private Cloud) é uma versão virtual de uma rede física que é implementada dentro da rede de produção.

<https://cloud.google.com/vpc/docs/vpc>

GitHub Actions



GitHub Actions is a continuous integration and continuous delivery (CI/CD) platform that allows you to automate your build, test, and deployment pipeline.

GitHub Free Minutes (per month): 2,000

<https://docs.github.com/en/actions/about-github-actions/understanding-github-actions>

<https://docs.github.com/en/billing/managing-billing-for-your-products/managing-billing-for-github-actions/about-billing-for-github-actions>

lccruz / CI_CD_Descomplicado

<> Code Issues Pull requests **Actions** Projects Wiki Security Insights Settings

← Pull Request QA

✓ **Deploy staging #12**

Summary

Jobs

- ✓ Check changes
- ✓ Django QA
- Flask QA

Run details

- Usage
- Workflow file

Triggered via	Status	Total duration	Artifacts
lccruz pushed → 2dc4c6c master	Success	1m 8s	—

pull-request-qa.yml
on: push

```
graph LR; A[✓ Check changes 4s] --> B[✓ Django QA 46s]; B --> C[○ Flask QA 0s]
```

← Pull Request QA

✓ **Deploy django #16**

Summary

Jobs

- ✓ Check changes
- ✓ **Django QA**
- Flask QA

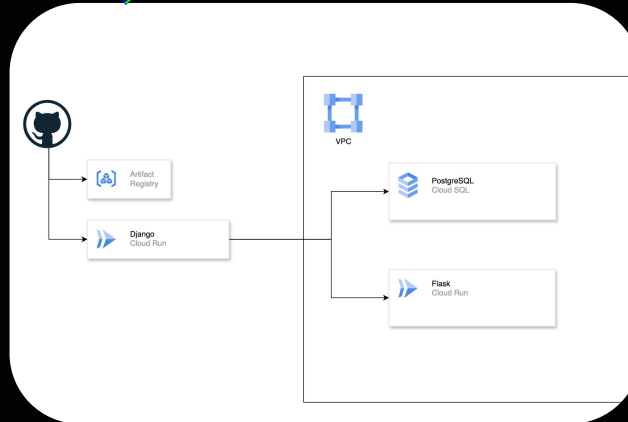
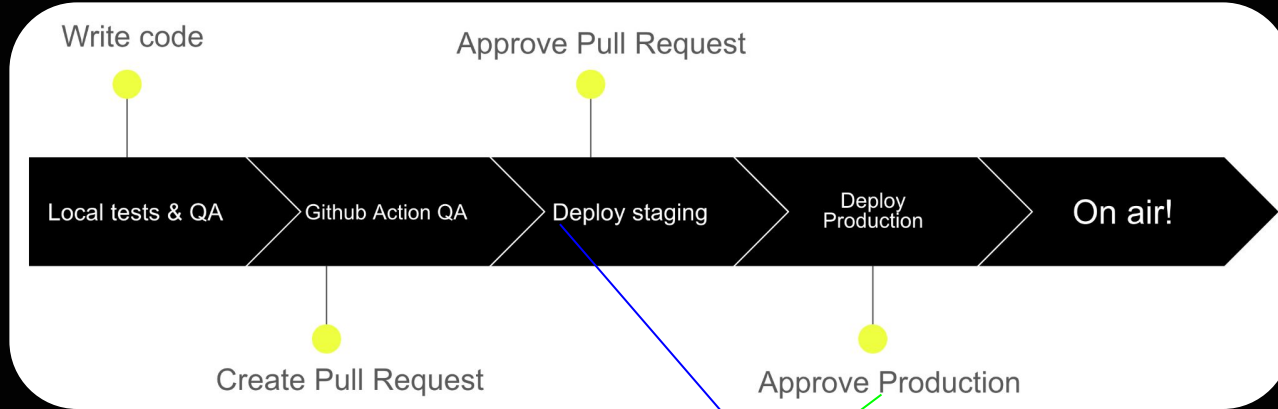
Run details

- Usage
- Workflow file

Django QA
succeeded 1 minute ago in 49s

- > Set up job
- > Initialize containers
- > Check out source repository
- > Set up Python environment
- > Cache pip
- > Install Dependencies
- > Run Flake8
- > Run tests
- > Post Cache pip
- > Post Set up Python environment
- > Post Check out source repository
- > Stop containers
- > Complete job

Resumo





Thanks ...



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