Complexity in Deployments: Django on GCP

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Let's talk about ponies.

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Django

Easy to run locally

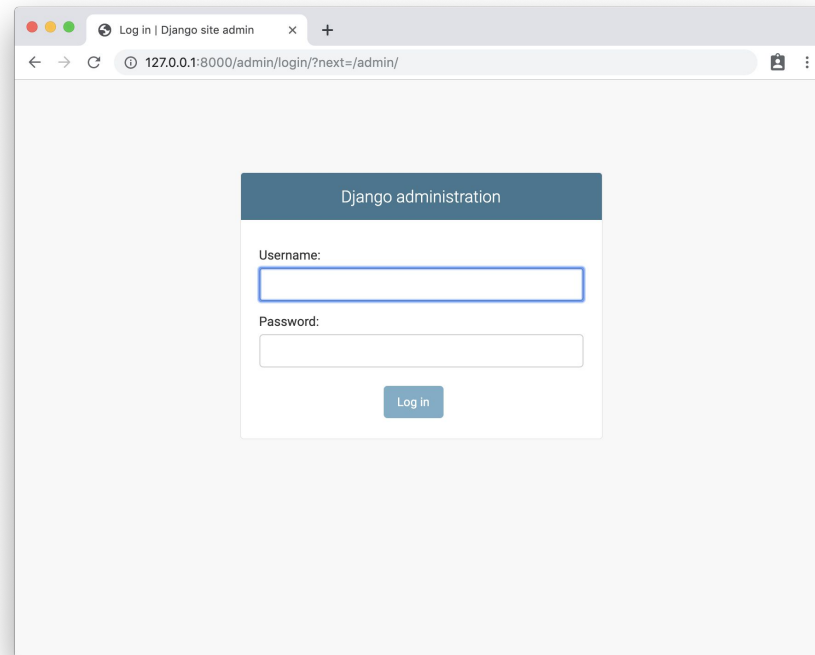The install worked successfully! Congratulations!

You are seeing this page because DEBUG=True is in your settings file and you have not configured any URLs.

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Django in your local development environment

- `runserver` local web server
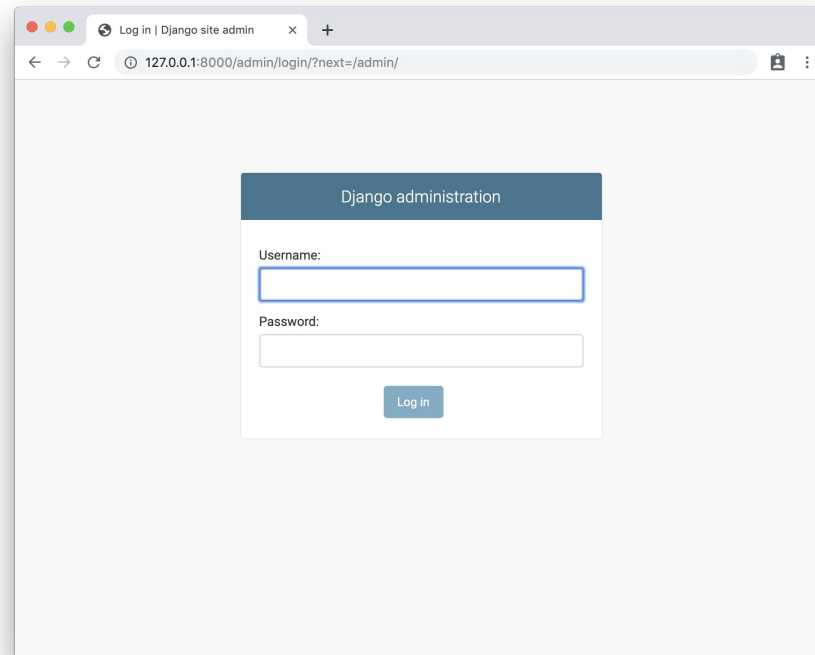
- SQLite local database

- `runserver` local static server

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Django

Powerful admin

Therefore...

Stateful by default

Django

In production...

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Django in your production environment

- ~~runserver local web server~~

- ~~SQLite local database~~

- ~~runserver local static server~~

None of these are recommended for production

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State makes serverless complex.

Not
complicated.
Just complex.

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Google Cloud Deployment options

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Deploying Django on GCP

- Directly on Compute Engine
 - Not recommended

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Deploying Django on GCP - Existing Tutorials

- ## App Engine Standard

  - ### cloud.google.com/python/django/appengine

- ## App Engine Flex

  - ### cloud.google.com/python/django/flexible-environment

- ## Kubernetes Engine

  - ### cloud.google.com/python/django/kubernetes-engine

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Deploying Django on GCP - Helpers

- GoogleCloudPlatform/django-cloud-deploy

  - Experimental

  - App Engine, or Kubernetes Engine

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But wadabout serverless?
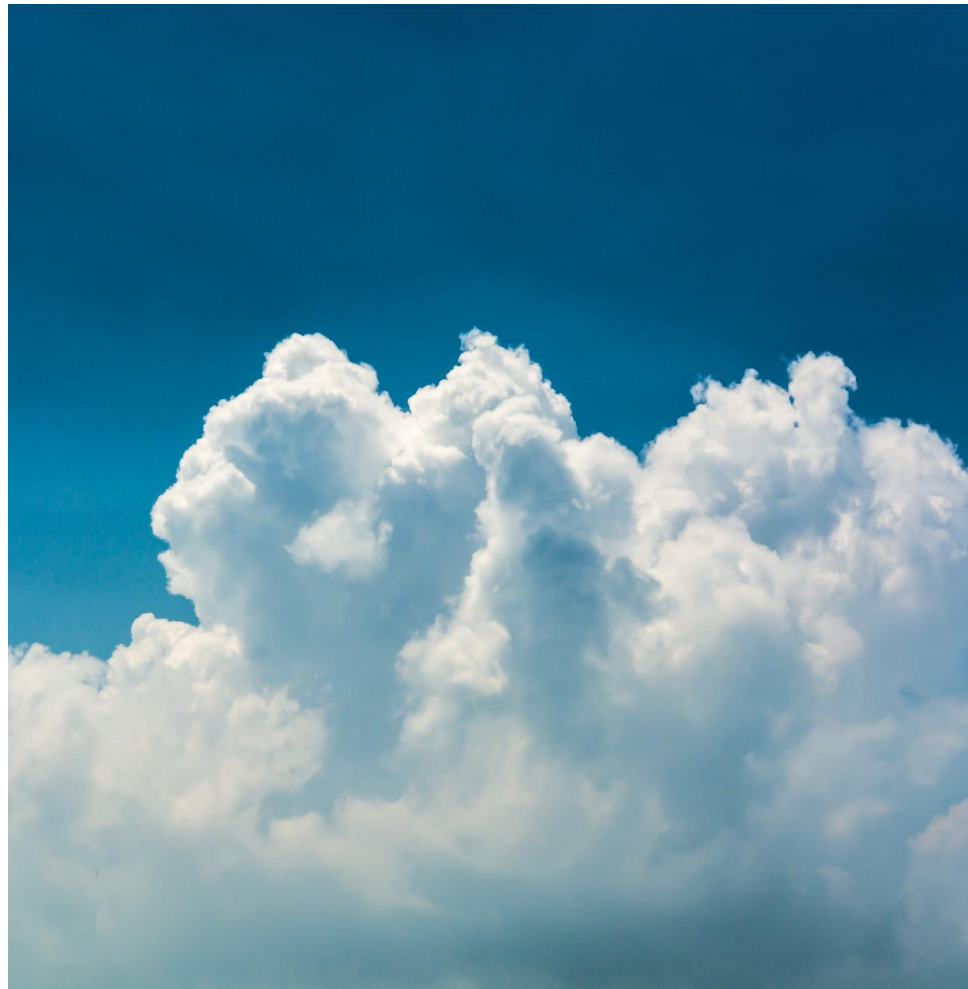
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Deploying Django on GCP - Containers!

- Cloud Run

  - Public Beta April 2019

  - Managed containers

cloud.google.com/run/

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Containers can connect to stateful components

Deploying Django on Cloud Run - Considerations
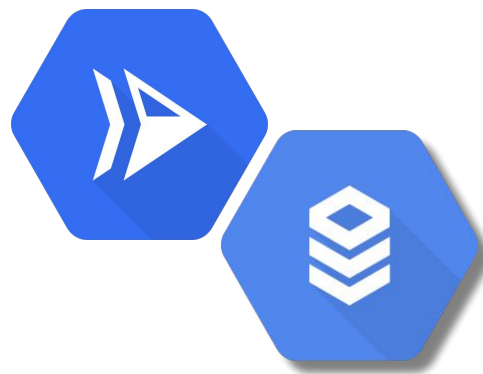
- Web Server

- Database

- Static Assets

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Deploying Django on Cloud Run - Considerations

- Web Server - Cloud Run container

- Database

- Static Assets
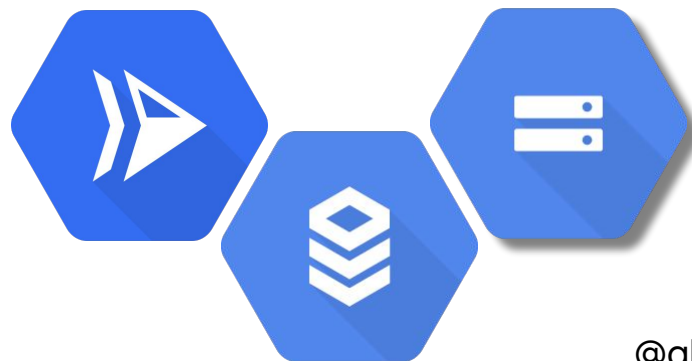
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Deploying Django on Cloud Run - Considerations

- Web Server - Cloud Run Container

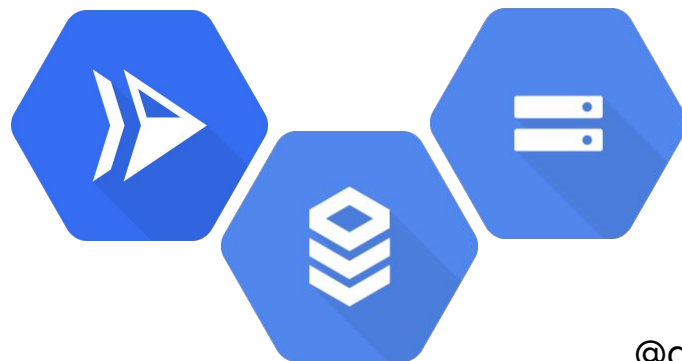- Database - Cloud SQL w/ django-environ

- Static Assets

Deploying Django on Cloud Run - Considerations

- Web Server - Cloud Run Container

- Database - Cloud SQL w/ django-environ

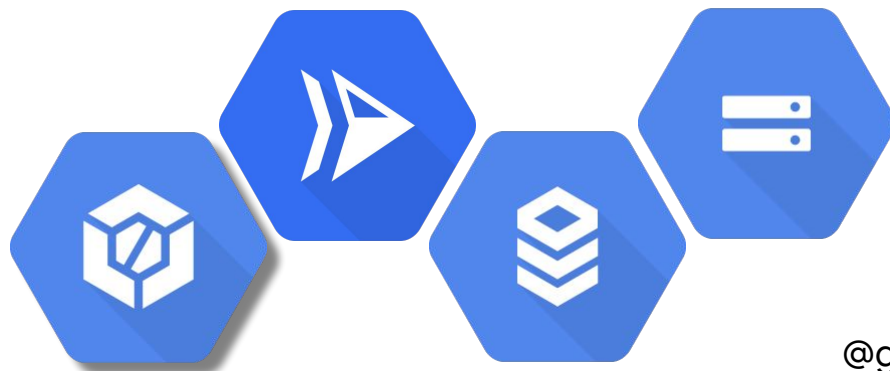- Static Assets - Cloud Storage w/ django-storages[google]

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Deploying Django on Cloud Run - But also

- Continuous Integration

- Secrets Management

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Deploying Django on Cloud Run - But also

- Continuous Integration - Cloud Build w/triggers

- Secrets Management

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Deploying Django on Cloud Run - But also

- Continuous Integration - Cloud Build w/triggers

- Secrets Management - Berglas (via KMS)

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Demo

github.com/GoogleCloudPlatform/django-demo-app-unicodex

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Deploying Django on Cloud Run - Packages

- django-environ

- django-storages[google]

- gunicorn

- psycopg2-binary

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Neigh!

(that's horse for "Thanks!")

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