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7 Apps in 7 Minutes

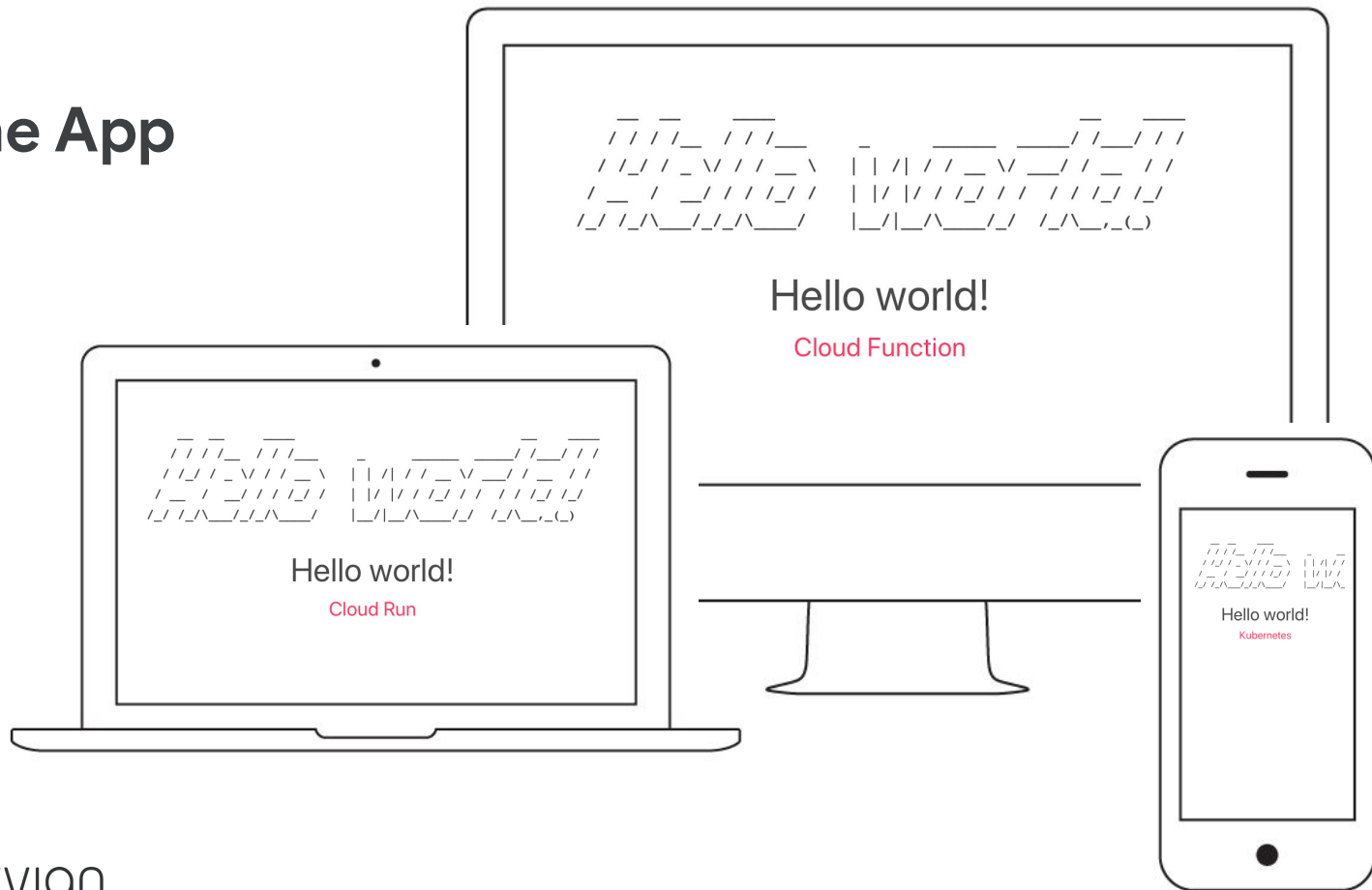# Agenda

1. **Overview** of the **7 Apps**

2. The **What**, **Why** & **How**
   (This bit might take longer than 7 minutes)

3. **Demo** time 🤞🕹️

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The App

Hello world!

Cloud Function

Hello world!

Cloud Run

Hello world!

Kubernetes

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```python
import os

from flask import Flask, render_template, request, Request
from pyfiglet import Figlet

ENVIRONMENT = os.environ.get("ENVIRONMENT", "local")  # where the app is running


app = Flask("7apps")
fmt = Figlet(font="slant")  # render our greeting in a fancy ascii font


def greeting(req: Request):
    name = req.args.get("name", "world")
    greeting = f"Hello {name}!"
    ascii_greeting = fmt.renderText(greeting)
    return render_template(
        "greeting.html", greeting=greeting, ascii=ascii_greeting, env=ENVIRONMENT
    )


@app.route("/", methods=["GET"])
def index():
    return greeting(request)
```

7 GCP Services

Cloud Functions

App Engine
(Standard)

App Engine
(Flexible)

Cloud Run

Cloud Run
(on Kubernetes)

Google Kubernetes Engine

Google Compute Engine

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7 URLs

https://firebase.servian.fun

https://gae-standard.servian.fun

https://gae-flexible.servian.fun

https://run.servian.fun

*https://run-gke.servian.fun

https://gke.servian.fun

*https://gce.servian.fun

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Containers vs. Code

Cloud Functions

App Engine*
(Standard)

App Engine*
(Flexible)

Cloud Run

Cloud Run
(on Kubernetes)

Google Kubernetes Engine

Google Compute Engine

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Public vs. Private

Cloud Functions*

App Engine
(Standard)

App Engine
(Flexible)

Cloud Run*

Cloud Run
(on Kubernetes)

Google Kubernetes Engine

Google Compute Engine

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Managed vs. DIY

Cloud Functions

App Engine
(Standard)

App Engine
(Flexible)

Cloud Run
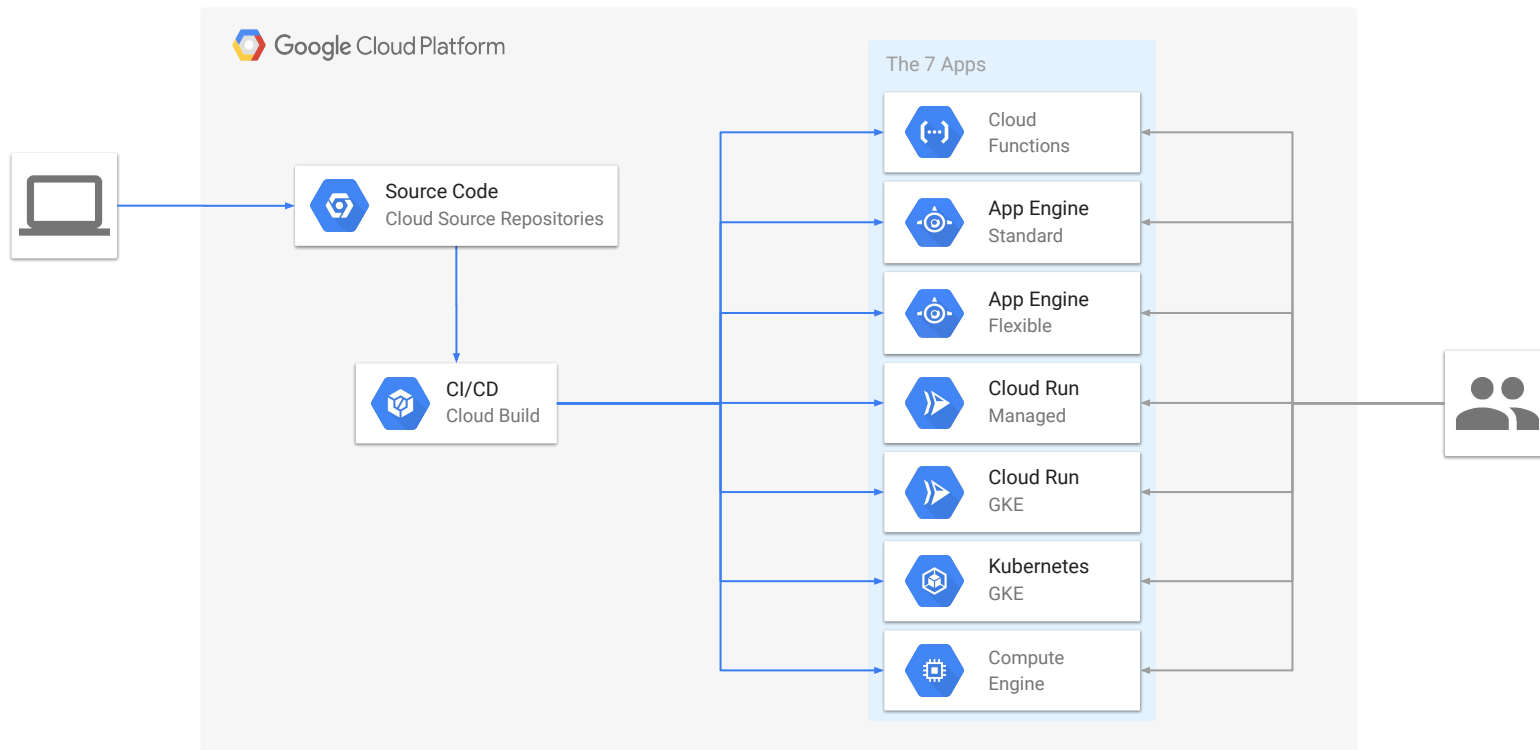
Cloud Run
(on Kubernetes)

Google Kubernetes Engine

Google Compute Engine

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Lines of Code

Legend:
- Other (yellow)
- Deploy config (red)
- Dockerfile (blue)

Chart showing Lines of Code across: Cloud Functions, App Engine (Standard), App Engine (Flexible), Cloud Run, Cloud Run (on GKE), Google Kubernetes Engine, Google Compute Engine. Y-axis from 0 to 200.
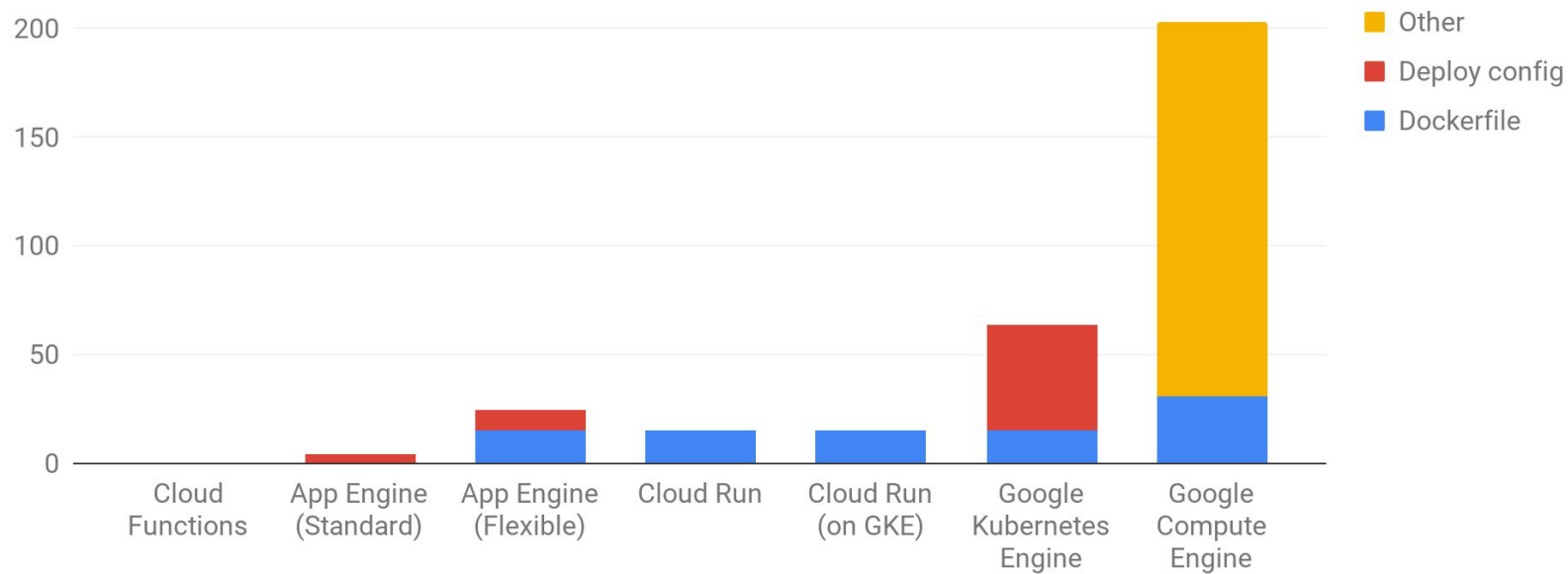
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Demo

Results

Build information

Status	✅ Build successful
Build id	f4af8275-b9d1-4e6b-8adf-697285936240
Image	—
Trigger	Push to master branch (Push to any branch)
Source	GitHub servian/7apps7minutes ↗
Git commit	555ab44de9c36ca0003694a92f9a49d99702814f ↗
Started	5 July 2019 at 11:21:27 UTC+10
Duration	2 min 59 sec

Build steps

expand all

✅ **Build Docker image**   51 sec ⌄
gcr.io/cloud-builders/gcloud — builds submit --config cloudbuild.container.yaml --substitutions=SHORT_SHA=555ab44

✅ **Deploy: Cloud Functions**   55 sec ⌄
gcr.io/cloud-builders/gcloud — -q functions deploy demo-function --trigger-http --runtime=python37 --entry-point=greeting "--set-env-vars=ENVIRONMENT=Cloud Function"

✅ **Deploy: App Engine (Standard)**   1 min 27 sec ⌄
gcr.io/cloud-builders/gcloud — -q app deploy app.standard.yaml --promote --version=0

✅ **Deploy: App Engine (Flexible)**   1 min 53 sec ⌄
gcr.io/cloud-builders/gcloud — -q app deploy app.flex.yaml --promote --image-url=gcr.io/servian-app-demo/demo-app:555ab44 --version=0

✅ **Deploy: Cloud Run**   22 sec ⌄
gcr.io/cloud-builders/gcloud — -q beta run deploy demo-app --platform=managed --allow-unauthenticated --image=gcr.io/servian-app-demo/demo-app:555ab44 --region=us-central1 "--set-env-vars=ENVIRONMENT=Cloud Run"

✅ **Deploy: Cloud Run on GKE**   16 sec ⌄
gcr.io/cloud-builders/gcloud — -q beta run deploy demo-app-gke --image=gcr.io/servian-app-demo/demo-app:555ab44 "--set-env-vars=ENVIRONMENT=Cloud Run (GKE)" --platform=gke --cluster=demo-cluster --cluster-location=australia-southeast1-b

✅ **Deploy: Google Kubernetes Engine (GKE)**   33 sec ⌄
gcr.io/cloud-builders/gcloud — builds submit --config cloudbuild.k8s.yaml --substitutions=SHORT_SHA=555ab44

✅ **Deploy: Google Compute Engine (GCE)**   48 sec ⌄
gcr.io/cloud-builders/gcloud — -q compute instances update-container demo-instance --zone=australia-southeast1-b --container-image=gcr.io/servian-app-demo/demo-app:555ab44 "--container-env=ENVIRONMENT=Google Compute Engine" --container-mount-host-path mount-path=/etc/letsencrypt,host-path=/tmp,mode=rw

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GitHub

https://github.com/servian/7apps7minutes

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