Build a Serverless Github Bot in GCP

Franklin Diaz

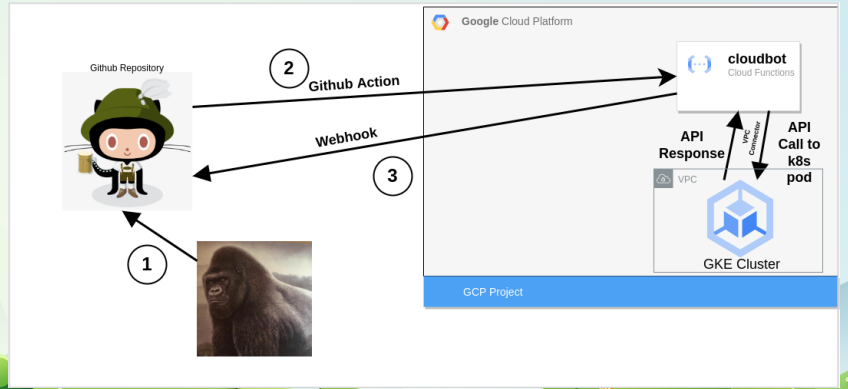
DE:AD:10:C5

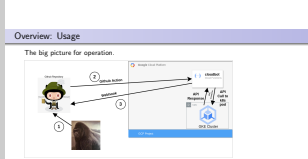
Tuesday January 10, 2023

INTRODUCTION

Overview: Usage

The big picture for operation.





- Notice that a full working version of this project is running on the Github repository for the project.
- In the first step, you push a code change to your github repository.
- In step 2, a GH action triggers a call to the the cloud function in GCP.
- In step 3, the cloud function makes a call to the webhook in Github.

Overview: Deployment

The big picture for deployment.

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Outline

A high level overview of the learning path is as follows:

- Prerequisites
- Github setup.
- Set up a development environment.
- Review the Python source for the bot.
- Configure Terraform and deploy the bot.
- Test it out.
- Explore possibilities for extending the functionality.

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PRE-WORK

Setup: VSCode

VSCode (https://code.visualstudio.com)

- Windows 64 bit User Installer: VSCodeUserSetup-x64-1.73.1.exe
- Mac Universal: VSCode-darwin-universal.zip
- Linux (Debian, Ubuntu): code_1.73.1-1667967334_amd64.deb
- Linux (Red Hat, Fedora, SUSE): code-1.73.1-1667967421.el7.x86_64.rpm

Click this link for details on using dev containers in VSCode

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Setup: git

GIT (https://git-scm.com/downloads)

- Windows 32 Bit: Git-2.38.1-64-bit.exe
- Windows 64 Bit: Git-2.38.1-32-bit.exe
- Mac: git-2.15.0-intel-universal-mavericks.dmg

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Setup: Docker Desktop

Docker Desktop (https://www.docker.com/)

- Windows: Docker Desktop Installer.exe
- MacOS (Intel Chip): Docker.dmg
- MacOS (M1 Chip): Docker.dmg
- Linux instructions can be found: here

Click here to see Docker setup steps from Microsoft

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- this is a test

Setup: Clone and Open the Project Repository

- Time to clone the repository.
- Click this link for the Github repository
- In VSCode, press F1 and enter the command “Dev Containers: Open Folder in Container”
  - You can also choose “Dev Containers: Open Workspace in Container”
  - Here is the Microsoft VSCode dev containers tutorial
- From the top menu select “Terminal – New Terminal”
- Now “cd /workspaces/workshop-codemash-2023/bin” and type “setup-dev-env.sh”

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Google Cloud: Account Setup

- Sign up for a free tier GCP account.
- Navigate to https://cloud.google.com/ and make sure you have a usable project to work in.
- Here is some infomration about creating projects in GCP

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IN CLASS SETUP

Google Cloud: Update Project Name and Login

- Update your project name in the file "/workspaces/workshop-codemash-2023/.envrc"
- Update your project name in the file "/workspaces/workshop-codemash-2023/src/config.ini"
- Type the command "direnv allow ." to reload the ENV variables.
- In the dev container, run the command "gcloud auth login" and follow the directions there.
- Verify you are connected to GCP with the command "gcloud auth list"

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Google Cloud: Create Service User

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Google Cloud: Create Secret in Secrets Mgr

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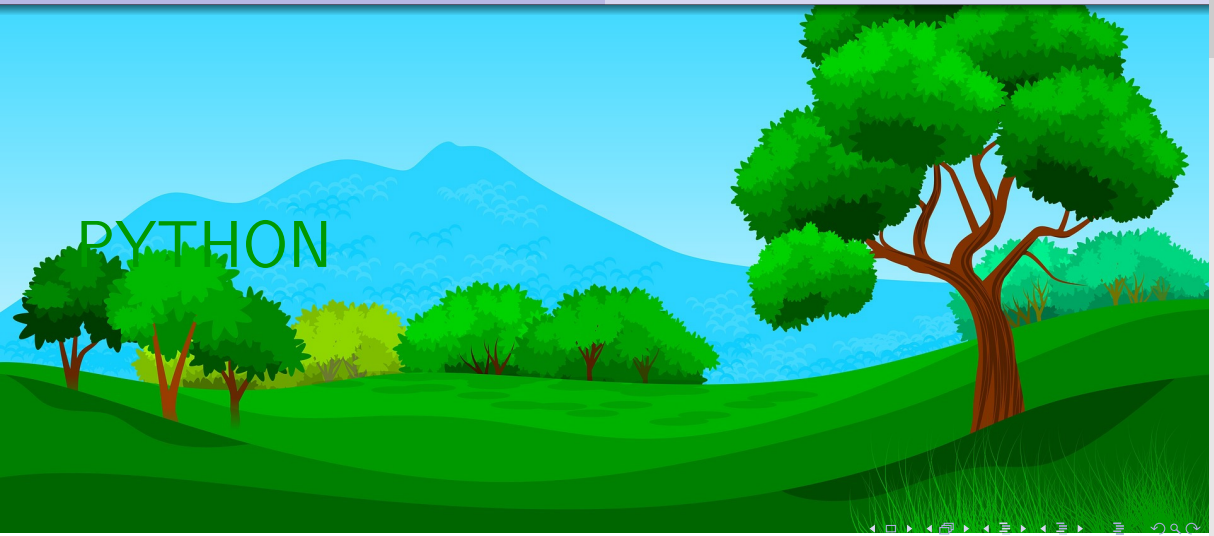

PYTHON

The Python Application

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TERRAFORM

The Terraform Installer

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Deploying with Terraform

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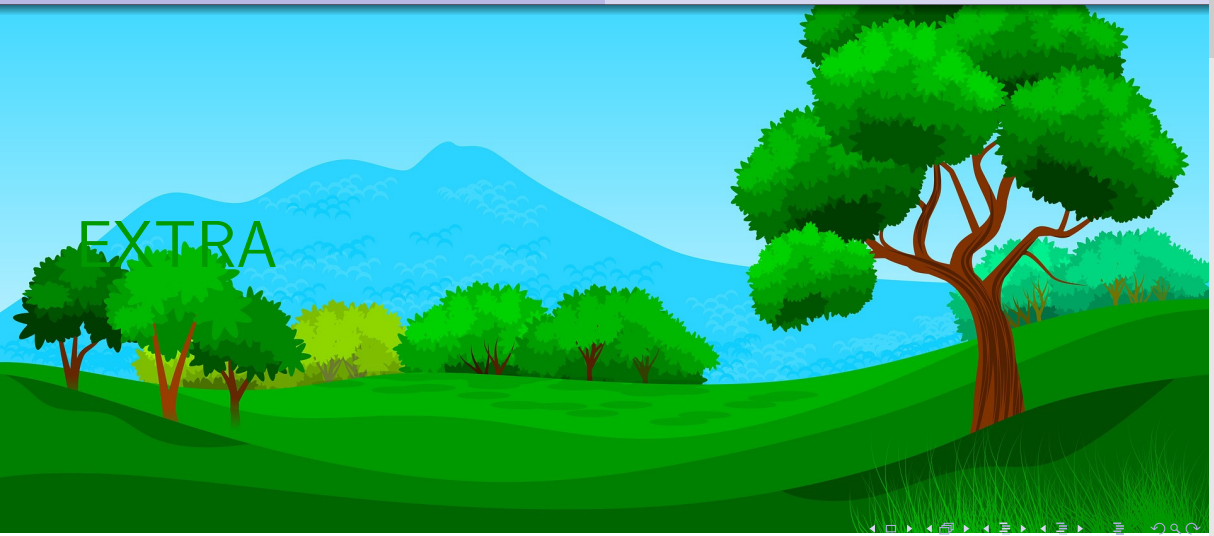

EXTRA

Extra: Dockerfile and docker-compose.yml

Check out the docker container and framework, see how all that works.

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Extra: Connect it to your GKE cluster

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The Cloud Function could monitor the PR for certain strings, using these to trigger actions.

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Resources

Click here for Session Details

Project source files are available:
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Prerequisites are available at this link.

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Contact

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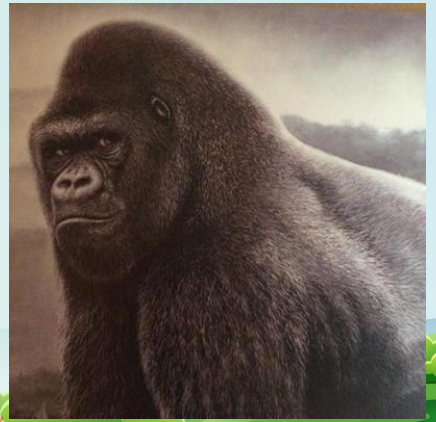

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