

DS561-HW9

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Github Link:

<https://github.com/tigeryi1998/ds561-tigeryi/tree/main/hw9>

git clone git@github.com:tigeryi1998/ds561-tigeryi.git

HTTP Server some ENV variables

```
PROJECT_ID = "feisty-gasket-398719"
PROJECT_NUM = "946005535036"
TOPIC_ID = "my-topic"
SUBSCRIPTION_NAME = "my-topic-sub"
BANNED_COUNTRIES = ["North Korea", "Iran", "Cuba", "Myanmar", "Iraq", "Libya",
"Sudan", "Zimbabwe", "Syria"]
HTTP_METHODS = ['GET', 'HEAD', 'POST', 'PUT', 'DELETE', 'CONNECT', 'OPTIONS', 'TRACE',
'PATCH']
```

Also modified the http-client.py to have HTML methods other than "GET"

```
...
parser.add_argument("-m", "--method", help="HTML method", type=str, default="GET")
...
make_request(args.domain, args.port, country, ip, filename, args.ssl, ssl_context,
args.follow, args.verbose, args.method)
```

Dockerfile

```
# For more information, please refer to https://aka.ms/vscode-docker-python
FROM python:3.8-slim-buster

# Keeps Python from generating .pyc files in the container
ENV PYTHONDONTWRITEBYTECODE=1

# Turns off buffering for easier container logging
```

```

ENV PYTHONUNBUFFERED=1

# Install pip requirements
COPY requirements.txt .
RUN python3 -m pip3 install -r requirements.txt

WORKDIR /app
COPY . /app

# Creates a non-root user with an explicit UID and adds permission to access the /app
folder
# For more info, please refer to
https://aka.ms/vscode-docker-python-configure-containers
RUN adduser -u 5678 --disabled-password --gecos "" appuser && chown -R appuser /app
USER appuser

# During debugging, this entry point will be overridden. For more information, please
refer to https://aka.ms/vscode-docker-python-debug
CMD ["python3", "http-server+sql.py"]

```

Build Image

```

gcloud artifacts repositories create quickstart-docker-repo --repository-format=docker
--location=us-east1 --description="Docker repository"

```

```

gcloud artifacts repositories list

```

```

gcloud config get-value project

```

```

feisty-gasket-398719

```

```

gcloud builds submit --region=us-east1 --tag
us-east1-docker.pkg.dev/feisty-gasket-398719/quickstart-docker-repo/quickstart-image:tag1

```

```

gcloud artifacts files list --location=us-east1 --repository=quickstart-docker-repo

```

Deploy Image

```
gcloud container clusters create-auto hello-cluster --location=us-east1
```

```
gcloud container clusters get-credentials hello-cluster --location=us-east1
```

```
kubectl create deployment html-server --image=quickstart-image
```

```
kubectl expose deployment html-server --type LoadBalancer --port 80 --target-port 8080
```

```
kubectl get pods
```

Only In case to delete the deployment

```
kubectl delete service html-server
```

```
gcloud container clusters delete hello-cluster --location us-east1
```

GKE Workload

```
gcloud container clusters update hello-cluster --region=us-east1  
--workload-pool=feisty-gasket-398719.svc.id.goog
```

```
kubectl create namespace gke-namespcae
```

```
kubectl create serviceaccount gke-service-account --namespace gke-namespcae
```

```
kubectl annotate serviceaccount gke-service-account  
web-server-hw4@feisty-gasket-398719.iam.gserviceaccount.com
```

Binding the GCP Service Account and GKE Service Account

```
gcloud iam service-accounts add-iam-policy-binding
web-server-hw4@feisty-gasket-398719.iam.gserviceaccount.com \
  --role roles/iam.workloadIdentityUser \
  --member
"serviceAccount:feisty-gasket-398719.svc.id.goog[gke-namespace/gke-service-account]"
```

Get the YMAL file

```
kubectl get deployment html-server --namespace=gke-namespace -o yaml > html-server.yaml
```

```
kubectl get deployment html-server -o yaml > myconfig.yaml
```

Edit the yaml file and add
serviceAccountName: gke-service-account
under the spec: containers: section (same indentation as containers)

```
kubectl apply -f myconfig.yaml
```

Start the HTTP Web Server

```
python3 http-server+sql.py
```

Start the Client App to make request

```
python3 http-client.py -d localhost -b 'none' -w files -i 11000 -n 1 -p 8080 -r 0 -f
```

404 File Not Found

Web Server Response Header: 404

```
127.0.0.1 - - [29/Nov/2023 10:46:30] "GET /files/14928.html HTTP/1.1" 404 -
```

Cloud Logging: 404

2023-11-29 10:46:30.060 404 File Not Find

Copy

Similar entries

Expand nested fields

Hide log summary

{

insertId: "11657brg1k2fvph"

logName: "projects/feisty-gasket-398719/logs/log_hw9"

receiveTimestamp: "2023-11-29T15:46:30.060442443Z"

resource: {2}

textPayload: "404 File Not Find"

timestamp: "2023-11-29T15:46:30.060442443Z"

}

501 Method not Implemented

```
curl -X POST -G "http://localhost:8080/files/1.html" -i
```

HTTP/1.0 501 Not Implemented

Server: BaseHTTP/0.6 Python/3.8.8

Date: Wed, 29 Nov 2023 15:57:17 GMT

Server method unavailable

Web server response header: 501

```
127.0.0.1 - - [29/Nov/2023 11:15:56] "POST /files/1.html HTTP/1.1" 501 -
```

Cloud Logging: 501

2023-11-29 10:57:17.854 501 Method Not Implemented

Copy

Similar entries

Expand nested fields

Hide log summary

{

insertId: "198rcyrfu9tn3e"

logName: "projects/feisty-gasket-398719/logs/log_hw9"

receiveTimestamp: "2023-11-29T15:57:17.854028808Z"

resource: {2}

textPayload: "501 Method Not Implemented"

timestamp: "2023-11-29T15:57:17.854028808Z"

}

Curl Command

Curl 404

```
(base) crc-dot1x-nat-10-239-111-114:hw9 tigeryi$ curl -X GET -G "http://localhost:8080/files/100000.html" -i
HTTP/1.0 404 Not Found
Server: BaseHTTP/0.6 Python/3.8.8
Date: Wed, 29 Nov 2023 15:52:56 GMT
Content-type: text/html

<html><head><title>https://pythonbasics.org</title></head><p>Request: /files/100000.html</p><body><p>File not found.</p></body></html>(base) crc-dot1x-nat-10-239-111-114:hw9 tigeryi$
```

```
curl -X GET -G "http://localhost:8080/files/100000.html" -i
```

HTTP/1.0 404 Not Found

Server: BaseHTTP/0.6 Python/3.8.8

Date: Wed, 29 Nov 2023 15:52:56 GMT

Content-type: text/html

```
<html><head><title>https://pythonbasics.org</title></head><p>Request:
/files/100000.html</p><body><p>File not found.</p></body></html>
```

Curl 501

```
(base) crc-dot1x-nat-10-239-111-114:hw9 tigeryi$ curl -X POST -G "http://localhost:8080/files/1.html" -i
HTTP/1.0 501 Not Implemented
Server: BaseHTTP/0.6 Python/3.8.8
Date: Wed, 29 Nov 2023 15:57:17 GMT

Server method unavailable(base) crc-dot1x-nat-10-239-111-114:hw9 tigeryi$
```

```
curl -X POST -G "http://localhost:8080/files/1.html" -i
```

HTTP/1.0 501 Not Implemented

Server: BaseHTTP/0.6 Python/3.8.8

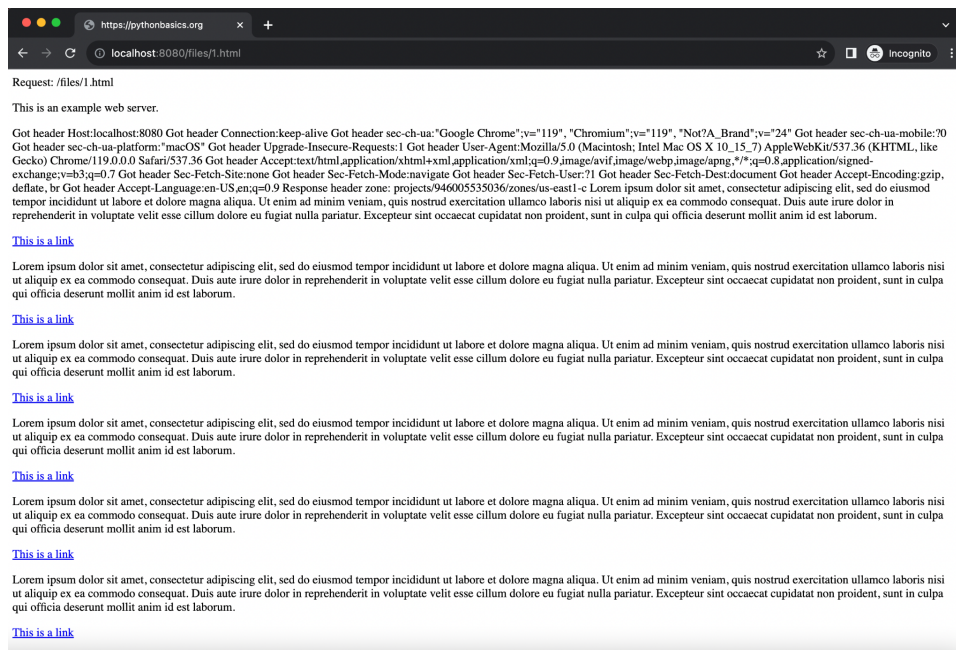
Date: Wed, 29 Nov 2023 15:57:17 GMT

Server method unavailable

Browser

Google Chrome Incognito mode

200: 1.html file exist



404: 20000.html file does not exist



Banned Countries

To start the Pub Sub streaming to listen to the banned messages

```
python3 forbidden-requests.py
```

Web Server Response Header: Banned Country

```
Banned country North Korea
127.0.0.1 - - [29/Nov/2023 10:38:24] "GET /files/3182.html HTTP/1.1" 200 -
```

PubSub

subscriber receives message: request from banned country North Korea

```
(base) crc-dot1x-nat-10-239-111-114:hw9 tigeryi$ python forbidden-requests.py
Listening for banned countries...
Received message: Banned country North Korea
```