Hello Application

Overview:

Hello Application is test service, which allows users to perform GET operation and response with the JSON format value, for identifying which instances processed the request, you can validate the header information “Origin-Instance”

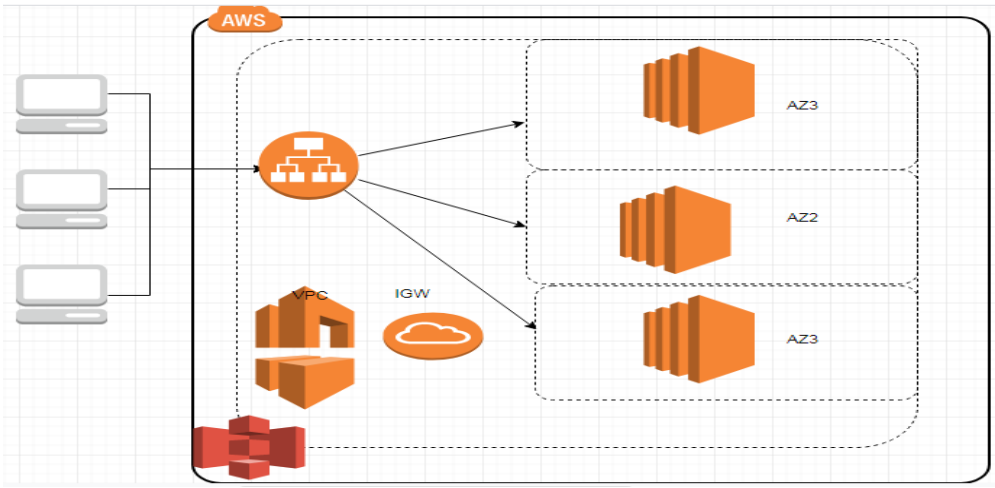
Load-balance URL:*http://hello-lb-606423950.us-east-2.elb.amazonaws.com:8080/*
Repository: *https://github.com/sksindian/hello-service/tree/hello-dev*

Design:

Components:

- AWS Cluster in region US-EAST-2 and its 3 AZ
- Application Load-balancer
- 1 VPC for US-EAST-2 region
- 3 Subnet across each Availability zone.
- 3 EC2 instances in each Availability zone
- S3 Bucket for uploading and downloading the code for running the instances
- Python3 with Flask is running as system service
- Terraform codes in GITHUB

Diagram:



Build Strategy:

- terraform created with workspace and it will allow to configure the DEV and PROD environment
- S3 created for keeping the files, and during the terraform build it will update the AWS credential and push the userdata to copy the script from s3 to local server
- So if you edited the files it will automatically re-upload the files in to S3
- the FrontEnd code written in python with Flask and we are updating the URL Header with instance ID, and return the json format
- In GIT Hub created the dev branch and once testing completed we can merge with master

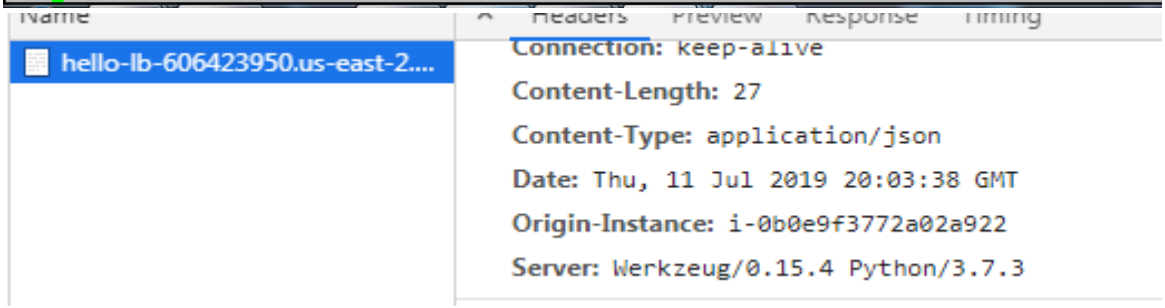
code

- Here is the evidence for header information changing in the every query and python requests is providing the input as json
- terraform apply output also uploaded into the github

```
[root@ip-172-31-15-94 ~]# curl -i http://hello-lb-606423950.us-east-2.elb.amazonaws.com:8080/
HTTP/1.1 200 OK
Date: Thu, 11 Jul 2019 20:20:22 GMT
Content-Type: application/json
Content-Length: 27
Connection: keep-alive
Origin-Instance: i-0f8cb6ef528d99eda
Server: Werkzeug/0.15.4 Python/3.7.3

{"response":"hello-world"}
[root@ip-172-31-15-94 ~]# curl -i http://hello-lb-606423950.us-east-2.elb.amazonaws.com:8080/
HTTP/1.1 200 OK
Date: Thu, 11 Jul 2019 20:20:32 GMT
Content-Type: application/json
Content-Length: 27
Connection: keep-alive
Origin-Instance: i-0c873ff660bb34382
Server: Werkzeug/0.15.4 Python/3.7.3

{"response":"hello-world"}
[root@ip-172-31-15-94 ~]# curl -X GET http://hello-lb-606423950.us-east-2.elb.amazonaws.com:8080/
{"response":"hello-world"}
[root@ip-172-31-15-94 ~]# python
Python 2.7.16 (default, Jun 19 2019, 17:20:54)
[GCC 7.3.1 20180303 (Red Hat 7.3.1-5)] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>> import requests
>>> abc = requests.get("http://hello-lb-606423950.us-east-2.elb.amazonaws.com:8080/")
>>> abc.json()
{u'response': u'hello-world'}
>>>
```



AWS Console Output:

Instances are Running in different availability zone

Name	Instance ID	Instance Type	Availability Zone	Instance State
hello_dev_2	i-0c873ff660bb34382	t2.micro	us-east-2c	running
hello_dev_1	i-0f8cb6ef528d99eda	t2.micro	us-east-2b	running
hello_dev_0	i-0b0e9f3772a02a922	t2.micro	us-east-2a	running

Target group with all active state