COEN 241 HW2
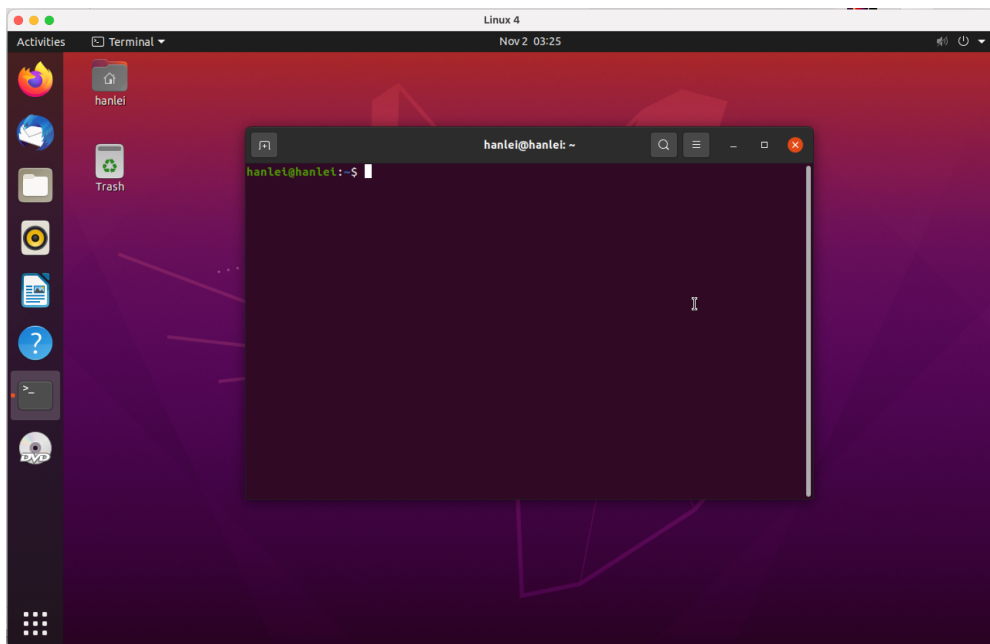
Han Lei

My host machine is Apple M1 Silicon, I set up the Linux virtual machine with VirtualBox, UTM and Ubuntu.
The Linux desktop:

Questions:

- Provide a screenshot of invoking the figlet function (10 pts)
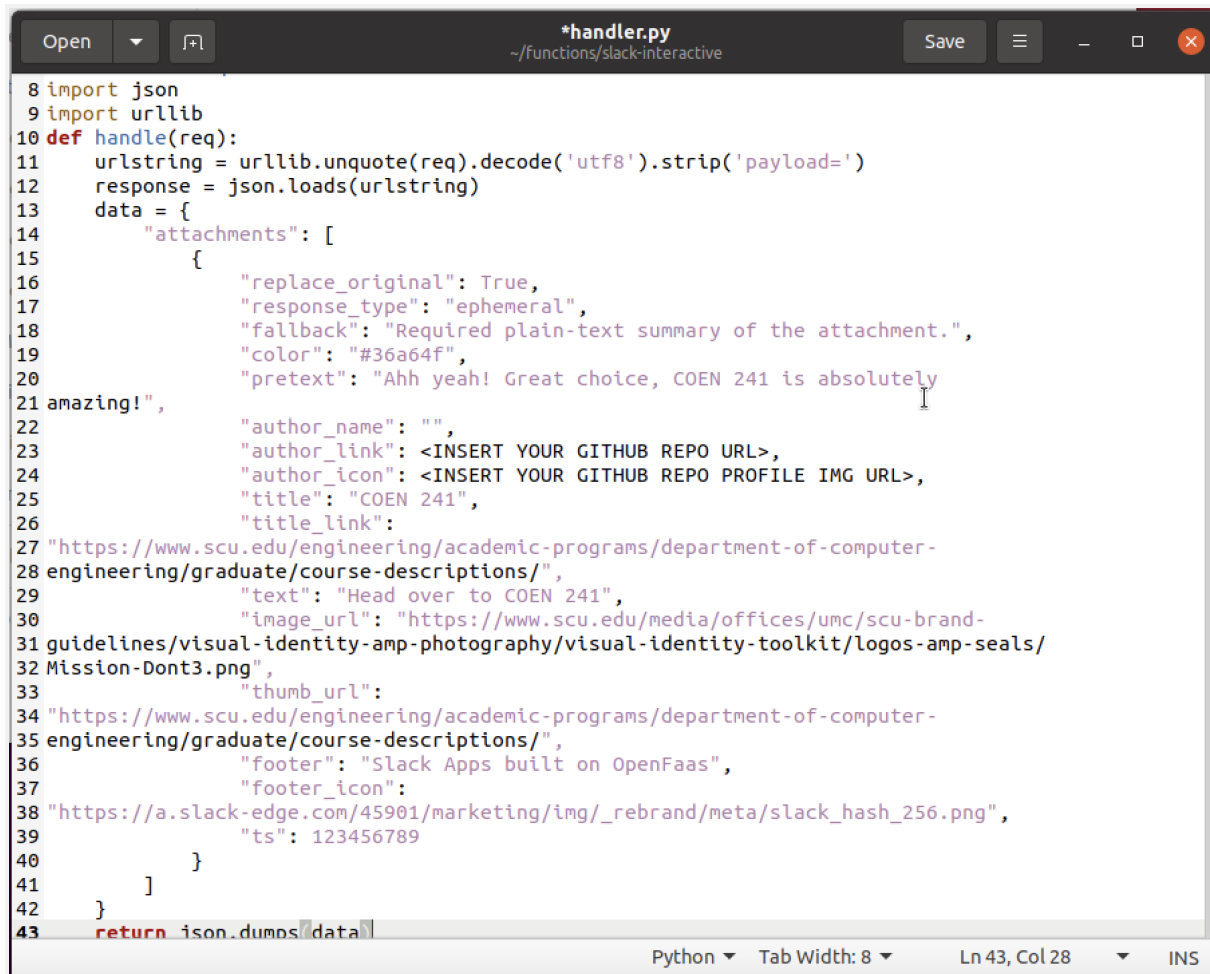
- Complete slack-request/handler.py (20 pt)

- Complete slack-interactive/handler.py (20 pt)

```python
 8 import json
 9 import urllib
10 def handle(req):
11     urlstring = urllib.unquote(req).decode('utf8').strip('payload=')
12     response = json.loads(urlstring)
13     data = {
14         "attachments": [
15             {
16                 "replace_original": True,
17                 "response_type": "ephemeral",
18                 "fallback": "Required plain-text summary of the attachment.",
19                 "color": "#36a64f",
20                 "pretext": "Ahh yeah! Great choice, COEN 241 is absolutely
21 amazing!",
22                 "author_name": "",
23                 "author_link": <INSERT YOUR GITHUB REPO URL>,
24                 "author_icon": <INSERT YOUR GITHUB REPO PROFILE IMG URL>,
25                 "title": "COEN 241",
26                 "title_link":
27 "https://www.scu.edu/engineering/academic-programs/department-of-computer-
28 engineering/graduate/course-descriptions/",
29                 "text": "Head over to COEN 241",
30                 "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-
31 guidelines/visual-identity-amp-photography/visual-identity-toolkit/logos-amp-seals/
32 Mission-Dont3.png",
33                 "thumb_url":
34 "https://www.scu.edu/engineering/academic-programs/department-of-computer-
35 engineering/graduate/course-descriptions/",
36                 "footer": "Slack Apps built on OpenFaas",
37                 "footer_icon":
38 "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png",
39                 "ts": 123456789
40             }
41         ]
42     }
43     return json.dumps(data)
```
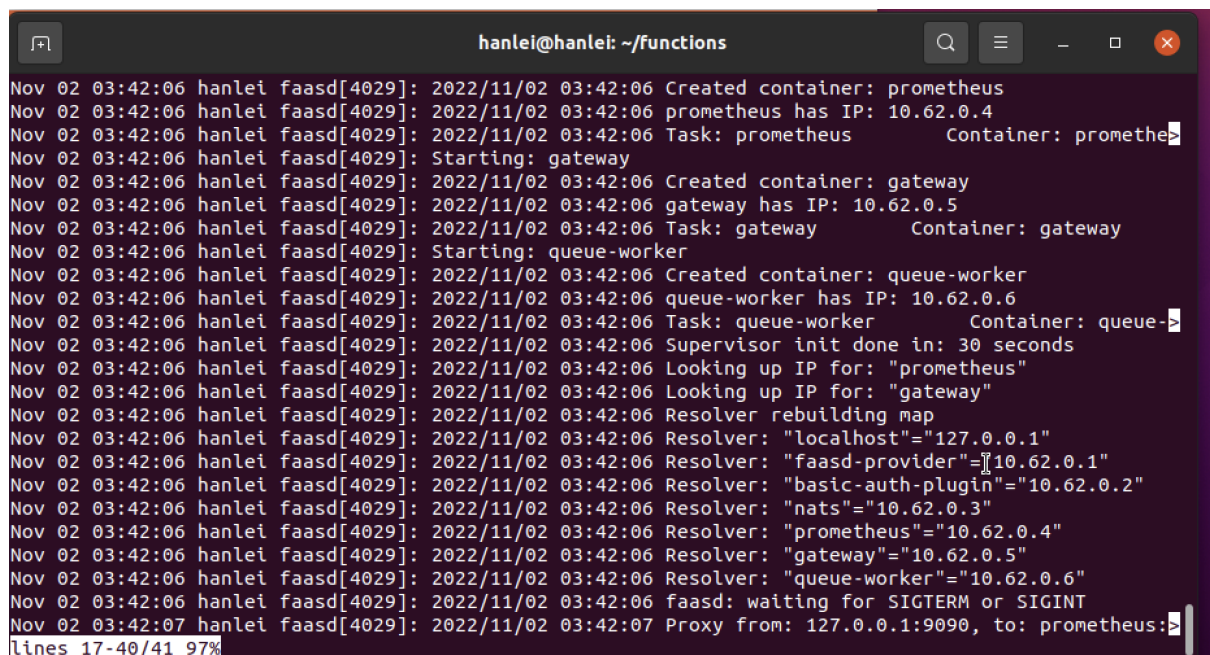
Python ▾   Tab Width: 8 ▾   Ln 43, Col 28   ▾   INS

●Provide a screenshot of running the following command (10 pts)
`sudo journalctl -u faasd --lines 40`


```
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Created container: prometheus
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 prometheus has IP: 10.62.0.4
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Task: prometheus       Container: promethe>
Nov 02 03:42:06 hanlei faasd[4029]: Starting: gateway
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Created container: gateway
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 gateway has IP: 10.62.0.5
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Task: gateway       Container: gateway
Nov 02 03:42:06 hanlei faasd[4029]: Starting: queue-worker
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Created container: queue-worker
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 queue-worker has IP: 10.62.0.6
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Task: queue-worker       Container: queue->
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Supervisor init done in: 30 seconds
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Looking up IP for: "prometheus"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Looking up IP for: "gateway"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver rebuilding map
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "localhost"="127.0.0.1"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "faasd-provider"="10.62.0.1"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "basic-auth-plugin"="10.62.0.2"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "nats"="10.62.0.3"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "prometheus"="10.62.0.4"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "gateway"="10.62.0.5"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 Resolver: "queue-worker"="10.62.0.6"
Nov 02 03:42:06 hanlei faasd[4029]: 2022/11/02 03:42:06 faasd: waiting for SIGTERM or SIGINT
Nov 02 03:42:07 hanlei faasd[4029]: 2022/11/02 03:42:07 Proxy from: 127.0.0.1:9090, to: prometheus:>
lines 17-40/41 97%
```

●Provide a screenshot of your OpenFaaS gateway AFTER deploying figlet, slack-handler and slack-interactive functions (10 pts)

All the deployed functions:

```
hanlei@hanlei:~/functions$ faas-cli list
Function                                Invocations       Replicas
figlet                                  2                 1
```

Deploy the figlet:

```
hanlei@hanlei:~/functions$ faas-cli store  list

FUNCTION             DESCRIPTION
NodeInfo             Get info about the machine that you'r...
alpine               An Alpine Linux shell, set the "fproc...
env                  Print the environment variables prese...
sleep                Simulate a 2s duration or pass an X-S...
shasum               Generate a shasum for the given input
Figlet               Generate ASCII logos with the figlet CLI
curl                 Use curl for network diagnostics, pas...
SentimentAnalysis    Python function provides a rating on ...
hey                  HTTP load generator, ApacheBench (ab)...
nslookup             Query the nameserver for the IP addre...
ASCII Cows           Generate a random ASCII cow
```

●Provide a screenshot of invoking slack-request and slack-interactive functions (10 pts)

Deploy the slack-request:

```
hanlei@hanlei:~/functions$ sudo DOCKER_BUILDKIT=1 faas-cli up -f ./slack-request.yml --no-cache --bu
ild-arg platform=linux/arm64/v8
Error with YAML file
Yaml: line 8: mapping values are not allowed in this context
```

An error occurs, I tried to fix it but failed.

Deploy the slack-interactive:

```
Deploying: slack-interactive.

unauthorized access, run "faas-cli login" to setup authentication for this server

Function 'slack-interactive' failed to deploy with status code: 401
```

An error occurs, I tried to fix it but failed.

Step 8: Questions (20 pts)

After performing the tasks in step 5 answer the following questions.

1.What is the command to invoke the slack-request function (4 pts)?
a.Via Curl
$ curl 127.0.0.1:8080/function/slack-request
$ curl localhost:8080/function/slack-request

b.Via faas-cli
$echo "" | faas-cli invoke slack-request

2.What is the output you see when you invoke the slack-request function? (2 pts)

```
hanlei@hanlei:~/functions$ echo "" | faas-cli invoke slack-request
Server returned unexpected status code: 404 - error finding function slack-request.openfaas-fn: serv
er returned non-200 status code (404) for function, slack-request, body:
```

because the deployment of slack-request fails, an error comes up.

3.What is the command to invoke the slack-interactive function? (4 pts)
a.Via curl
$ curl 127.0.0.1:8080/function/slack-interactive -d '{"Hi": "HanLei"}'

b.Via faas-cli
$ echo '{"Hi": "HanLei"}' | faas-cli invoke slack-interactive

4.What is the output you see when you invoke the slack-interactive function? (2 pts)

```
hanlei@hanlei:~/functions$ curl localhost:8080/function/slack-interactive -d '{"Hi": "HanLei"}'
error finding function slack-interactive.openfaas-fn: server returned non-200 status code (404) for
```

5.How would you pass different arguments to the functions? (4 pts)
By using -d to pass argument to curl

6.How would you change the slack-interactive function to react to different inputs? (4 pts)
For different inputs, the handle() function should parse the object 'req' and return different outputs based on what's in the object 'req'.