Homework 2 Report

Answers to Step 6 Questions

1. Command used to invoke the slack request function is "faas-cli" and "curl"
   a. Via "curl": **"curl http:/127.0.0.1:<routing-port-number-8080-by-default>/function/slack-request"**
   b. Via "faas-cli": **"faas-cli invoke slack-request"**
2. The output of the slack-request function is a JSON object which is returned on invoking the function. Screenshots are provided on page 6.
3. The command to invoke slack-interactive function is using "faas-cli" or "curl" as given below
   a. Via "curl": **"curl http:/127.0.0.1:<routing-port-number-8080-by-default>/function/slack-interactive"**
   b. Via "faas-cli": **"faas-cli invoke slack-interactive"**
4. The output of the slack-interactive function is a JSON object, returned upon invoking the function with a JSON object input. Screenshots are provided on page 5.
5. Passing arguments to the function could be done either
   a. Via STDIN: **"curl http:/127.0.0.1:8080/function/<function> -d <data string>"**
   b. Via echo: **"echo <JSON string> | faas-cli invoke <function>"**
6. The way to change the slack-interactive function to respond to various inputs is by taking in the request string and decoding it into a JSON object. The final key-value pairs could be added to the JSON object and returned back in the response body.
   Another way of doing this is by taking in **kwargs (list of arguments, similar to command-line arguments) in the python handle function (specific to python).

Answers to Step 7 Tasks:

- Screenshot of invoking the Figlet function

- Screenshot of running journalctl of faasd (40 lines)

```
hw2 [Running] - Oracle VM VirtualBox

File   Machine   View   Input   Devices   Help

-- Logs begin at Wed 2021-11-03 13:18:52 UTC, end at Sat 2021-11-13 02:11:56 UTC. --
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 Start-up order:
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 - basic-auth-plugin
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 - nats
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 - prometheus
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 - gateway
Nov 12 21:25:35 kri faasd[783]: 2021/11/12 21:25:35 - queue-worker
Nov 12 21:25:35 kri faasd[783]: Starting: basic-auth-plugin
Nov 12 21:25:36 kri faasd[783]: 2021/11/12 21:25:36 Created container: basic-auth-plugin
Nov 13 02:04:03 kri faasd[783]: 2021/11/13 02:04:03 basic-auth-plugin has IP: 10.62.0.2
Nov 13 02:04:03 kri faasd[783]: 2021/11/13 02:04:03 Task: basic-auth-plugin          Container: basic>
Nov 13 02:04:03 kri faasd[783]: Starting: nats
Nov 13 02:04:03 kri faasd[783]: 2021/11/13 02:04:03 Created container: nats
Nov 13 02:04:04 kri faasd[783]: 2021/11/13 02:04:04 nats has IP: 10.62.0.3
Nov 13 02:04:04 kri faasd[783]: 2021/11/13 02:04:04 Task: nats          Container: nats
Nov 13 02:04:04 kri faasd[783]: Starting: prometheus
Nov 13 02:04:05 kri faasd[783]: 2021/11/13 02:04:05 Created container: prometheus
Nov 13 02:04:06 kri faasd[783]: 2021/11/13 02:04:06 prometheus has IP: 10.62.0.4
Nov 13 02:04:06 kri faasd[783]: 2021/11/13 02:04:06 Task: prometheus          Container: prometheus
Nov 13 02:04:07 kri faasd[783]: Starting: gateway
Nov 13 02:04:07 kri faasd[783]: 2021/11/13 02:04:07 Created container: gateway
Nov 13 02:04:08 kri faasd[783]: 2021/11/13 02:04:08 gateway has IP: 10.62.0.5
Nov 13 02:04:08 kri faasd[783]: 2021/11/13 02:04:08 Task: gateway          Container: gateway
Nov 13 02:04:09 kri faasd[783]: Starting: queue-worker
Nov 13 02:04:09 kri faasd[783]: 2021/11/13 02:04:09 Created container: queue-worker
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 queue-worker has IP: 10.62.0.6
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Task: queue-worker          Container: queue-work>
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Supervisor init done in: 15.33013637s
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Looking up IP for: "prometheus"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver rebuilding map
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "localhost"="127.0.0.1"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "faasd-provider"="10.62.0.1"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "basic-auth-plugin"="10.62.0.2"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "nats"="10.62.0.3"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "prometheus"="10.62.0.4"
Nov 13 02:04:10 kri faasd[783]: 2021/11/13 02:04:10 Resolver: "gateway"="10.62.0.5"
lines 1-36/41 86%
```
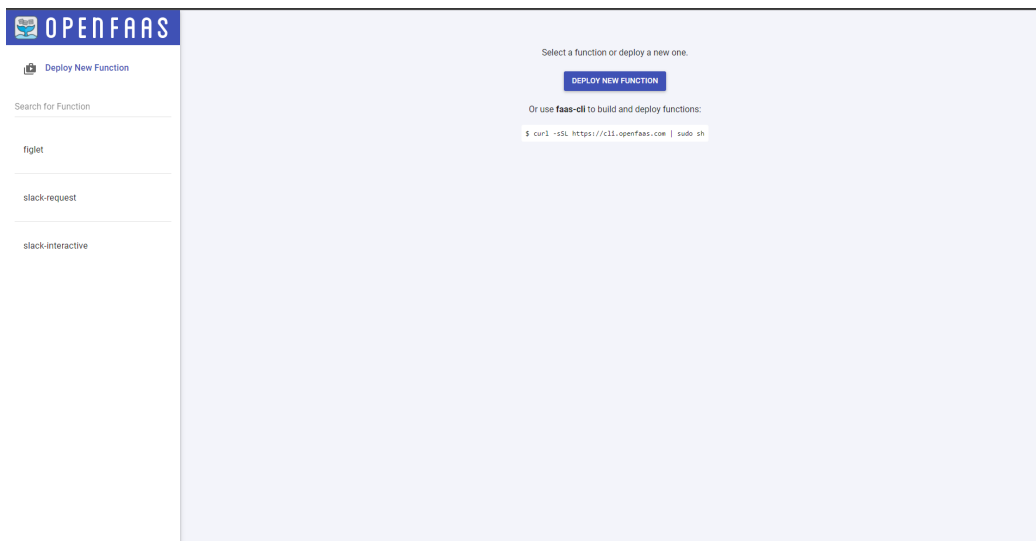
- Screenshot of OpenFaas Gateway after deploying the functions

- Screenshot of invoking slack-request and slack-interactive functions
  - Slack-interactive

```
root@kri:~/final# echo " {\"Name\": \"King\"}" | faas-cli invoke slack-interactive
{"attachments": [{"replace_original": true, "response_type": "ephemeral", "fallback": "Required plai
n-text summary of the attachment.", "color": "#36a64f", "pretext": "Ahh yeah! Great choice, COEN 241
 is absolutely amazing!", "author_name": "", "author_link": "https://github.com/KrithikNaralasetty",
 "author_icon": "https://image.shutterstock.com/image-photo/three-best-friends-near-coastline-600w-1
017156991.jpg", "title": "COEN 241", "title_link": "https://www.scu.edu/engineering/academic-program
s/department-of-computer-engineering/graduate/course-descriptions/", "text": "Head over to COEN 241"
, "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photo
graphy/visual-identity-toolkit/logos-amp-seals/Mission-Dont3.png", "thumb_url": "https://www.scu.edu
/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/", "f
ooter": "Slack Apps built on OpenFaas", "footer_icon": "https://a.slack-edge.com/45901/marketing/img
/_rebrand/meta/slack_hash_256.png", "ts": 123456789}]}
root@kri:~/final# _
```

Right Ctrl

slack-interactive

Status		Invocation count	
Ready	Replicas	4	

Image
docker.io/knaralasetty/slack-interactive:latest

URL
http://127.0.0.1:3080/function/slack-interactive

Function process
python3 index.py

Invoke function

INVOKE

○ Text ● JSON ○ Download
Request body
{"Name": "King"}

Response status	Round-trip (s)
200	0.412

Response body
```
{
  "attachments": [
    {
      "replace_original": true,
      "response_type": "ephemeral",
      "fallback": "Required plain-text summary of the attachment.",
      "color": "#36a64f",
      "pretext": "Ahh yeah! Great choice, COEN 241 is absolutely amazing!",
      "author_name": "",
      "author_link": "https://github.com/KrithikNaralasetty",
      "author_icon": "https://image.shutterstock.com/image-photo/three-best-friends-near-coastline-600w-1017156991.jpg",
      "title": "COEN 241",
      "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/",
      "text": "Head over to COEN 241",
```

Response body
```
{
  "attachments": [
    {
      "replace_original": true,
      "response_type": "ephemeral",
      "fallback": "Required plain-text summary of the attachment.",
      "color": "#36a64f",
      "pretext": "Ahh yeah! Great choice, COEN 241 is absolutely amazing!",
      "author_name": "",
      "author_link": "https://github.com/KrithikNaralasetty",
      "author_icon": "https://image.shutterstock.com/image-photo/three-best-friends-near-coastline-600w-1017156991.jpg",
      "title": "COEN 241",
      "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/",
      "text": "Head over to COEN 241",
      "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photography/visual-identity-toolkit/logos-amp-seals/Mission-Dont3.png",
      "thumb_url": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/",
      "footer": "Slack Apps built on OpenFaas",
      "footer_icon": "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png",
      "ts": 123456789
    }
  ]
}
```

○ Slack-request

```
root@kri:~/final# echo " {\"Name\": \"King\"}" | faas-cli invoke slack-request
{"text": "Serverless Message", "attachments": [{"title": "The Awesome world of Cloud Computing! COEN
 241", "fields": [{"title": "Amazing Level", "value": "100", "short": true}], "author_name": "https:
//github.com/KrithikNaralasetty", "author_icon": "", "image_url": "https://image.shutterstock.com/im
age-photo/three-best-friends-near-coastline-600w-1017156991.jpg"}, {"title": "About COEN 241", "text
": "COEN 241 is the most awesome class ever!."}, {"fallback": "Would you recommend COEN 241 to your
friends?", "title": "Would you recommend COEN 241 to your friends?", "callback_id": "response123", "
color": "#3AA3E3", "attachment_type": "default", "actions": [{"name": "recommend", "text": "Of Cours
e!", "type": "button", "value": "recommend"}, {"name": "definitely", "text": "Most Definitely!", "ty
pe": "button", "value": "definitely"}]}]}
root@kri:~/final# _
```

slack-request   🗑

Status	Replicas	Invocation count
Ready	1	6

Image	URL
docker.io/knaralasetty/slack-request:latest	http://127.0.0.1:3080/function/slack-request

Function process
python3 index.py

Invoke function

[INVOKE]

○ Text   ◉ JSON   ○ Download

Request body
{"Name": "King"}

Response status	Round-trip (s)
200	0.376

Response body

```
{
  "text": "Serverless Message",
  "attachments": [
    {
      "title": "The Awesome world of Cloud Computing! COEN 241",
      "fields": [
```

```
{
  "text": "Serverless Message",
  "attachments": [
    {
      "title": "The Awesome world of Cloud Computing! COEN 241",
      "fields": [
        {
          "title": "Amazing Level",
          "value": "100",
          "short": true
        }
      ],
      "author_name": "https://github.com/KrithikNaralasetty",
      "author_icon": "",
      "image_url": "https://image.shutterstock.com/image-photo/three-best-friends-near-coastline-600w-1017156991.jpg"
    },
    {
      "title": "About COEN 241",
      "text": "COEN 241 is the most awesome class ever!."
    },
    {
      "fallback": "Would you recommend COEN 241 to your friends?",
      "title": "Would you recommend COEN 241 to your friends?",
      "callback_id": "response123",
      "color": "#3AA3E3",
      "attachment_type": "default",
      "actions": [
        {
          "name": "recommend",
          "text": "Of Course!",
          "type": "button",
          "value": "recommend"
        },
        {
          "name": "definitely",
          "text": "Most Definitely!",
          "type": "button",
          "value": "definitely"
```