

Justin Cole

HW 2

Tasks

1. Figlet Screenshot. I input hi and it prints it back out in ASCII art

```
kellen@kellen-ThinkPad-X1-Carbon-Gen-8:~$ echo "hi" | faas-cli invoke figlet
  _ _ _ _ _
 | h | i |
 | _ | _ |
 | h | i |
 | _ | _ |
 | h | i |
 | _ | _ |
```

2. Screenshot of code in slack-request/handler.py

```
import json

def handle(req):
    data = {
        "text": "Serverless Message",
        "attachments": [{
            "title": "The Awesome world of Cloud Computing! COEN 241",
            "fields": [{
                "title": "Amazing Level",
                "value": "100",
                "short": True
            }],
            "author_name": "Justin Cole",
            "author_icon": "",
            "image_url": "https://www.justincole.app/statics/mypic.png"
        },
        {
            "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"
                }
            ]
        }
    ]
    return json.dumps(data)
```

3. Screenshot of code in slack-interactive/handler.py


```
import json
import urllib


def handle(req):
    #urlstring = urllib.unquote(req).decode('utf8').strip('payload=')
    #response = json.loads(urlstring)
    data = {
        "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/Jcole33",
                "author_icon": "https://www.justincole.app/statics/mypic.png",
                "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",
                "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
            }
        ]
    }
    return json.dumps(data)
```

4. Screenshot of output from running: sudo journalctl -u faasd --lines 40

```
-- Logs begin at Fri 2022-04-22 15:48:25 PDT, end at Sat 2022-05-07 12:58:24 PDT. --
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 - gateway
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 - queue-worker
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Starting: basic-auth-plugin
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Created container: basic-auth-plugin
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 basic-auth-plugin has IP: 10.62.0.2
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Task: basic-auth-plugin Container: basic-auth-plugin
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Starting: nats
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Creating local directory: /var/lib/faasd/nats
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Running nats with user: "65534"
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Created container: nats
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 nats has IP: 10.62.0.3
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Task: nats Container: nats
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Starting: prometheus
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Creating local directory: /var/lib/faasd/prometheus
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Running prometheus with user: "65534"
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Created container: prometheus
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 prometheus has IP: 10.62.0.4
May 05 19:13:42 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:42 Task: prometheus Container: prometheus
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Starting: gateway
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Created container: gateway
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 gateway has IP: 10.62.0.5
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Task: gateway Container: gateway
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: Starting: queue-worker
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Created container: queue-worker
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 queue-worker has IP: 10.62.0.6
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Task: queue-worker Container: queue-worker
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Supervisor init done in: 16 seconds
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Looking up IP for: "prometheus"
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Resolver rebuilding map
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 Looking up IP for: "gateway"
May 05 19:13:43 kellen-ThinkPad-X1-Carbon-Gen-8 faasd[31566]: 2022/05/05 19:13:43 faasd: waiting for SIGTERM or SIGINT
lines 1-32
```

5. OpenFaas Gateway after creating the two functions

**OPENFAAS**

 Deploy New Function

Search for Function

slack-interactive

slack-request

figlet

slack-interactive

Status

Ready

Replicas

1

Invocation count

21

Image

docker.io/jcole33/slack-interactive:latest

URL

http://localhost:8080/function/slack-interactive

Function process

python index.py

Invoke function

INVOKE

☒ Text ☐ JSON ☐ Download

Request body

Response status

200

Round-trip (s)

0.096

Response body

```
{
  "attachments": [
    {
      "footer": "Slack Apps built on OpenFaas",
      "author_link": "https://github.com/Jcole33",
      "color": "#36a64f",
      "text": "Head over to COEN 241",
      "title": "COEN 241",
      "ts": 123456789,
      "author_name": "",
      "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/"
    }
  ]
}
```

6. Invoking slack-interactive from the OpenFaas Gateway

slack-interactive

Status

Ready

Replicas

1

Invocation count

22

Image

docker.io/jcole33/slack-interactive:latest

URL

http://localhost:8080/function/slack-interactive

Function process

python index.py

Invoke function

INVOKE

☒ Text ☐ JSON ☐ Download

Request body

Response status

200

Round-trip (s)

0.11

Response body

```
{
  "attachents": [
    {
      "footer": "Slack Apps built on OpenFaas",
      "author_link": "https://github.com/Jcole33",
      "color": "#36a64f",
      "text": "Head over to COEN 241",
      "title": "COEN 241",
      "ts": 123456789,
      "author_name": "",
      "title link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/"
    }
  ]
}
```

Invoking slack-request from the OpenFaas Gateway

slack-request

Status	Replicas	Invocation count
Ready	1	10
Image		URL
docker.io/jcoile33/slack-request:latest		http://localhost:8080/function/slack-request
Function process		
python index.py		

Invoke function

INVOKE

☒ Text ☐ JSON ☐ Download

Request body

Response status	Round-trip (s)
200	0.069

Response body

```
{
  "text": "Serverless Message",
  "attachments": [
    {
      "fields": [
        {
          "short": true,
          "value": "100",
          "title": "Amazing Level"
        }
      ],
      "value": "100",
      "title": "Amazing Level"
    }
  ],
  "callback_id": "response123",
  "fallback": "Would you recommend COEN 241 to your friends?"
}
```

Questions

- What is the command to invoke the slack-request function
 - Curl: curl <http://127.0.0.1:8080/function/slack-request>
 - CLI: faas-cli invoke slack-request

2. Slack Request Output

```
{
  "text": "Serverless Message",
  "attachments": [
    {
      "fields": [
        {
          "short": true,
          "value": "100",
          "title": "Amazing Level"
        }
      ],
      "value": "100",
      "title": "Amazing Level"
    }
  ],
  "callback_id": "response123",
  "fallback": "Would you recommend COEN 241 to your friends?"
}
```

- What is the command to invoke the slack-interactive function
 - Curl: curl <http://127.0.0.1:8080/function/slack-interactive>
 - CLI: faas-cli invoke slack-interactive

4. Slack Interactive Output

```
{
  "attachments": [
    {
      "text": "Head over to COEN 241",
      "title": "COEN 241",
      "ts": 123456789,
      "author": "Justin Cole",
      "author_link": "https://www.scu.edu/engineering/academic-programs/departments-of-computer-engineering/graduate/course-descriptions/",
      "image_url": "https://www.scu.edu/media/offices/unc/scu-brand-guidelines/visual-identity-toolkit/logos-seals/mission-dont3.png",
      "response_type": "ephemeral",
      "replace_original": true,
      "footer": "Ahh yeah! Great choice, COEN 241 is absolutely amazing!",
      "fallback": "Required plain-text summary of the attachment.",
      "thumb_url": "https://www.scu.edu/engineering/academic-programs/departments-of-computer-engineering/graduate/course-descriptions/"
    }
  ],
  "callback_id": "response123",
  "fallback": "Would you recommend COEN 241 to your friends?"
}
```

- Feed different inputs into the stdin either through a piped echo statement or through just typing it in after. If I wanted to pass multiple different arguments then I could feed JSON data into the function with different properties to represent each argument. JSON would also allow me to support arguments of different types as I could include a standard property on the incoming JSON that specified what the incoming data type was.
- If I wanted to support more complex inputs via requests with a JSON body then I could have it parse the incoming JSON and see what arguments it has or use a "type" property to determine what kind of data the function should expect the JSON object to have.

Extra Credit

Slack-Request Link:

<https://a98b-2600-1010-b05d-472f-8d-fe9-9348-c284.ngrok.io/function/slack-request>

Slack-Interactive Link:

<https://a98b-2600-1010-b05d-472f-8d-fe9-9348-c284.ngrok.io/function/slack-interactive>

Screenshots:

Invoking of /coen241 command



Screenshot of response after answering the prompt from the first message

