

COEN 241 HW2

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1. Tasks(80)

Here is the list of tasks to do. All of the code and images are already updated via GitHub.

(1) Provide a screenshot of invoking the figlet function (10 pts)

```
root@ubuntu:/home/yangzhang/functions# faas-cli store deploy figlet
Function figlet already exists, attempting rolling-update.

Deployed. 200 OK.
URL: http://127.0.0.1:8080/function/figlet

root@ubuntu:/home/yangzhang/functions# faas-cli store inspect figlet
Info for: Figlet

Name          figlet
Description    Generate ASCII logos with the figlet CLI
Image          ghcr.io/openfaas/figlet:latest
Process        figlet
Repo URL       https://github.com/openfaas/store-functions

root@ubuntu:/home/yangzhang/functions# echo "Hello, FaaS, world" | faas-cli invoke figlet
Hello, FaaS, world

root@ubuntu:/home/yangzhang/functions#
```

(2) Complete slack-request/handler.py (20 pt)

```
import json
def handle(req):
    """handle a request to the function
    Args:
        req (str): request body
    """
    data = {
        "text": "Serverless Message",
        "attachments": [{
            "title": "====> COEN 241 <====",
            "fields": [{
                "title": "Difficulty",
                "value": "Medium",
                "short": True
            }],
            "author_name": "Yangzhang Zhou",
            "image_url": "https://avatars.githubusercontent.com/u/118139042?s=400&v=4"
        }],
        {
            "title": "COEN 241 INFO",
            "text": "COEN 241 is about cloud computing."
        },
        {
            "fallback": "Would you recommend COEN 241 to your friends?",
            "title": "Would you recommend COEN 241 to your friends?",
            "callback_id": "response123",
            "color": "#FF0000",
            "attachment_type": "default",
            "actions": [
                {
                    "name": "recommend",
                    "text": "Of Course!",
                    "type": "button",
                    "value": "recommend"
                },
                {
                    "name": "definitely",
                    "text": "Most Definitely!",
                    "type": "button",
                    "value": "definitely"
                }
            ]
        }
    ]
}
```

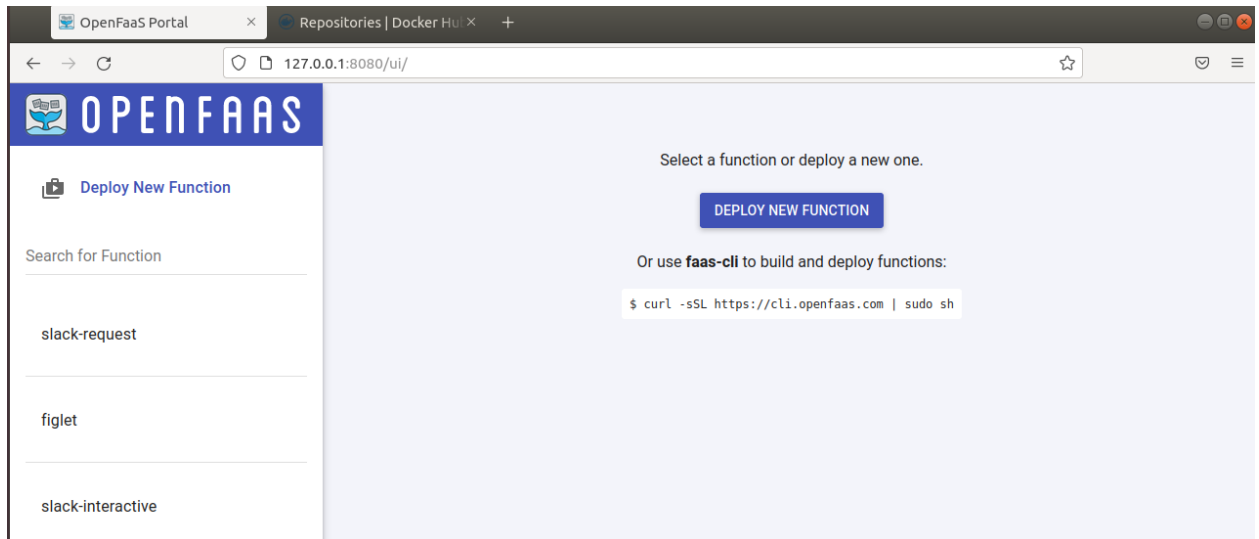
(3) Complete slack-interactive/handler.py (20 pt)

```
import json
import urllib
def handle(req):
    """handle a request to the function
    Args:
        req (str): request body
    """
    data = {
        "attachments": [
            {
                "replace_original": True,
                "response_type": "ephemeral",
                "fallback": "Required plain-text summary of the attachment.",
                "color": "#FF0000",
                "pretext": "Cool! COEN 241 will be fun for you!",
                "author_name": "Yangzhang Zhou",
                "author_link": "https://github.com/LeonZYZReal/COEN_241_HW",
                "author_icon": "https://avatars.githubusercontent.com/u/118139042?s=400&v=4",
                "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/unc/scu-brand-guidelines/visual-identity-and-photography/visual-identity-toolkit/logos-and-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
            }
        ]
    }
    return json.dumps(data)
```

(4) Provide a screenshot of running the following command (10 pts)

```
root@ubuntu:/home/yangzhang/functions# journalctl -u faasd --lines 40
-- Logs begin at Mon 2023-02-13 18:58:58 PST, end at Thu 2023-02-16 21:56:14 PST. --
Feb 16 10:33:29 ubuntu faasd[1494]: 2023/02/16 10:33:29 - gateway
Feb 16 10:33:29 ubuntu faasd[1494]: 2023/02/16 10:33:29 - queue-worker
Feb 16 10:33:29 ubuntu faasd[1494]: Starting: basic-auth-plugin
Feb 16 10:33:30 ubuntu faasd[1494]: 2023/02/16 10:33:30 Created container: basic-auth-plugin
Feb 16 10:33:41 ubuntu faasd[1494]: 2023/02/16 10:33:41 basic-auth-plugin has IP: 10.62.0.2
Feb 16 10:33:41 ubuntu faasd[1494]: 2023/02/16 10:33:41 Task: basic-auth-plugin Container: basic-auth-plugin
Feb 16 10:33:42 ubuntu faasd[1494]: Starting: nats
Feb 16 10:33:42 ubuntu faasd[1494]: Creating local directory: /var/lib/faasd/nats
Feb 16 10:33:42 ubuntu faasd[1494]: 2023/02/16 10:33:42 Running nats with user: "65534"
Feb 16 10:33:42 ubuntu faasd[1494]: 2023/02/16 10:33:42 Created container: nats
Feb 16 10:33:42 ubuntu faasd[1494]: 2023/02/16 10:33:42 nats has IP: 10.62.0.3
Feb 16 10:33:42 ubuntu faasd[1494]: 2023/02/16 10:33:42 Task: nats Container: nats
Feb 16 10:33:42 ubuntu faasd[1494]: Starting: prometheus
Feb 16 10:33:42 ubuntu faasd[1494]: Creating local directory: /var/lib/faasd/prometheus
Feb 16 10:33:42 ubuntu faasd[1494]: 2023/02/16 10:33:42 Running prometheus with user: "65534"
Feb 16 10:33:44 ubuntu faasd[1494]: 2023/02/16 10:33:44 Created container: prometheus
Feb 16 10:33:44 ubuntu faasd[1494]: 2023/02/16 10:33:44 prometheus has IP: 10.62.0.4
Feb 16 10:33:44 ubuntu faasd[1494]: 2023/02/16 10:33:44 Task: prometheus Container: prometheus
Feb 16 10:33:44 ubuntu faasd[1494]: Starting: gateway
Feb 16 10:33:45 ubuntu faasd[1494]: 2023/02/16 10:33:45 Created container: gateway
Feb 16 10:33:46 ubuntu faasd[1494]: 2023/02/16 10:33:46 gateway has IP: 10.62.0.5
Feb 16 10:33:46 ubuntu faasd[1494]: 2023/02/16 10:33:46 Task: gateway Container: gateway
Feb 16 10:33:46 ubuntu faasd[1494]: Starting: queue-worker
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Created container: queue-worker
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 queue-worker has IP: 10.62.0.6
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Task: queue-worker Container: queue-worker
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Supervisor init done in: 19 seconds
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver rebuilding map
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "localhost"="127.0.0.1"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "faasd-provider"="10.62.0.1"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "basic-auth-plugin"="10.62.0.2"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "nats"="10.62.0.3"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "prometheus"="10.62.0.4"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "gateway"="10.62.0.5"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Resolver: "queue-worker"="10.62.0.6"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Looking up IP for: "prometheus"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Proxy from: 127.0.0.1:9090, to: prometheus:9090 (10.62.0.4)
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Looking up IP for: "gateway"
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 Proxy from: 0.0.0.0:8080, to: gateway:8080 (10.62.0.5)
Feb 16 10:33:47 ubuntu faasd[1494]: 2023/02/16 10:33:47 faasd: waiting for SIGTERM or SIGINT
root@ubuntu:/home/yangzhang/functions#
```

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



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

```
root@ubuntu:/home/yangzhang/functions# echo "Hello World" | faas-cli invoke slack-interactive
{"attachments": [{"footer": "Slack Apps built on OpenFaaS", "author_link": "https://github.com/LeonZYReal/COEN_241_HW", "color": "#FF0000", "text": "Head over to COEN 241", "title": "COEN 241", "ts": 123456789, "author_name": "Yangzhang Zhou", "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/", "image_url": "https://www.scu.edu/media/offices/unc/scu-brand-guidelines/visual-identity-and-photography/visual-identity-toolkit/logos-and-seals/Mission-Dont3.png", "response_type": "ephemeral", "replace_original": true, "footer_icon": "https://a.slack-edge.com/45901/marketing/img/rebrand/meta/slack_hash_256.png", "pretext": "Cool! COEN 241 will be fun for you!", "fallback": "Required plain-text summary of the attachment.", "thumb_url": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/", "author_icon": "https://avatars.githubusercontent.com/u/11813904?size=40&v=4"}]}
root@ubuntu:/home/yangzhang/functions# echo "Hello World" | faas-cli invoke slack-request
{"text": "Serverless Message", "attachments": [{"fields": [{"short": true, "value": "Medium", "title": "Difficulty"}], "image_url": "https://avatars.githubusercontent.com/u/11813904?size=40&v=4", "author_name": "Yangzhang Zhou", "title": "====> COEN 241 <====", "text": "COEN 241 is about cloud computing.", "title": "COEN 241 INFO"}, {"title": "Would you recommend COEN 241 to your friends?", "color": "#FF0000", "actions": [{"text": "Of Course!", "type": "button", "name": "recommend", "value": "recommend"}, {"text": "Most Definitely!", "type": "button", "name": "definitely", "value": "definitely"}], "callback_id": "response123", "fallback": "Would you recommend COEN 241 to your friends?", "attachment_type": "default"}]}
root@ubuntu:/home/yangzhang/functions#
```