

HW2 Report

1. What is the command to invoke the slack-request function?

A) Curl:

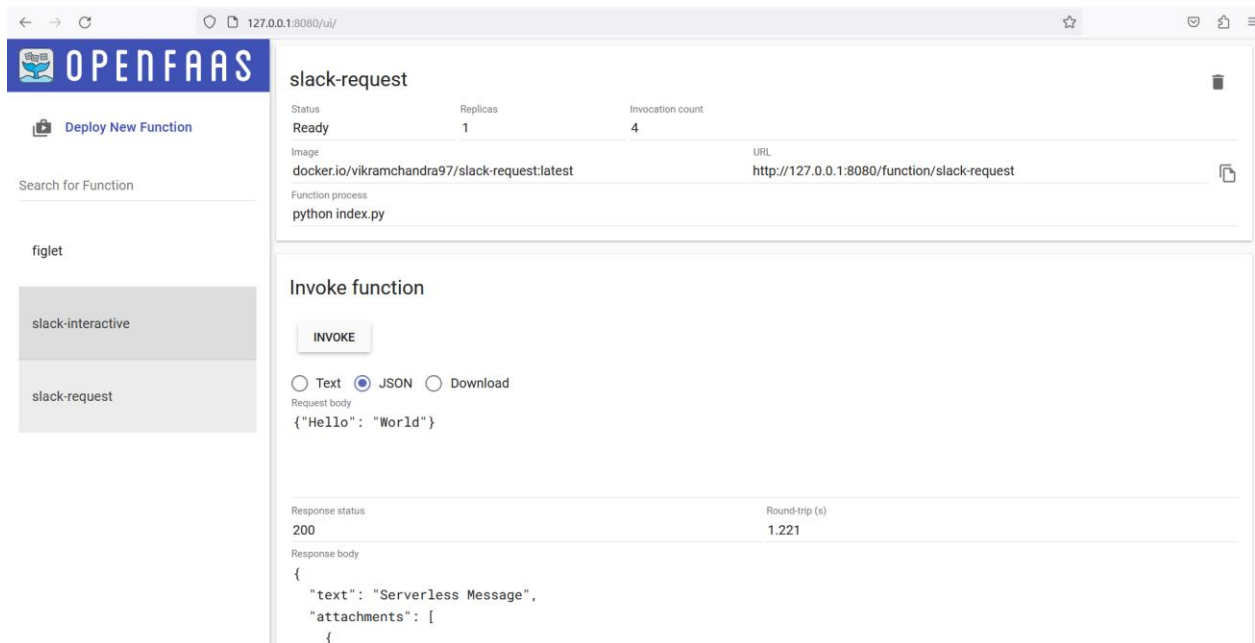
```
curl http://127.0.0.1:8080/function/slack-request
```

B) Faas-cli:

```
"faas-cli invoke slack-request"
```

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

A) UI



The screenshot shows the OpenFaaS web interface in a browser. The left sidebar contains the 'OPENFAAS' logo, a 'Deploy New Function' button, a search bar, and a list of functions: 'figlet', 'slack-interactive', and 'slack-request'. The main panel displays details for the 'slack-request' function, including its status ('Ready'), number of replicas (1), invocation count (4), image (docker.io/vikramchandra97/slack-request:latest), URL (http://127.0.0.1:8080/function/slack-request), and function process (python index.py). Below this, the 'Invoke function' section shows an 'INVOKE' button, radio buttons for 'Text', 'JSON' (selected), and 'Download', a request body of {'Hello': 'World'}, and the resulting response status (200), round trip time (1.221s), and response body: {'text': 'Serverless Message', 'attachments': []}.

Status	Replicas	Invocation count
Ready	1	4

Image: docker.io/vikramchandra97/slack-request:latest
URL: http://127.0.0.1:8080/function/slack-request
Function process: python index.py

Invoke function

☐ Text ☒ JSON ☐ Download

Request body
{ "Hello": "World" }

Response status	Round trip (s)
200	1.221

Response body
{
 "text": "Serverless Message",
 "attachments": [
 {

Response status	Round-trip (s)
200	1.221
Response body	
<pre> { "text": "Serverless Message", "attachments": [{ "fields": [{ "short": true, "value": "100", "title": "Amazing Level" }], "author_icon": " ", "image_url": "https://avatars.githubusercontent.com/SreevikramChandrasekhar", "author_name": "Sreevikram Chandrasekhar", "title": "The Awesome world of Cloud Computing! COEN 241" }, { "text": "COEN 241 is the most awesome class ever!.", "description": "Testing the slack-request", "title": "About COEN 241" }, { "title": "Would you recommend COEN 241 to your friends?", "color": "#3AA3E3", "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" }] } </pre>	

B) CLI

```

vik@vikram:~/functions$ faas-cli invoke slack-request
Reading from STDIN - hit (Control + D) to stop.
{"Hello": "World"}
{"text": "Serverless Message", "attachments": [{"fields": [{"short": true, "value": "100", "title": "Amazing Level"}], "author_i
con": " ", "image_url": "https://avatars.githubusercontent.com/SreevikramChandrasekhar", "author_name": "Sreevikram Chandrasekha
r", "title": "The Awesome world of Cloud Computing! COEN 241"}, {"text": "COEN 241 is the most awesome class ever!.", "descripti
on": "Testing the slack-request", "title": "About COEN 241"}, {"title": "Would you recommend COEN 241 to your friends?", "color"
: "#3AA3E3", "actions": [{"text": "Of Course!", "type": "button", "name": "recommend", "value": "recommend"}, {"text": "Most Def
initely!", "type": "button", "name": "definitely", "value": "definitely"}], "callback_id": "response123", "fallback": "Would you
recommend COEN 241 to your friends?", "attachment_type": "default"}]}
vik@vikram:~/functions$

```

3. What is the command to invoke the slack-interactive function?

A) Curl:

`curl http://127.0.0.1:8080/function/slack-interactive`

B) Faas-cli:

`"faas-cli invoke slack-request"`

4. What is the output you see when you invoke the slack-interactive function?

A) UI

The screenshot shows the OpenFaas web interface in a browser. The left sidebar contains the OpenFaas logo, a 'Deploy New Function' button, a search bar, and a list of functions: 'figlet', 'slack-interactive', and 'slack-request'. The 'slack-interactive' function is selected and highlighted.

The main panel displays details for the 'slack-interactive' function:

- Status: Ready
- Replicas: 1
- Invocation count: 10
- Image: docker.io/vikramchandra97/slack-interactive:latest
- URL: http://127.0.0.1:8080/function/slack-interactive
- Function process: python index.py

Below the details is the 'Invoke function' section. It has an 'INVOKE' button and radio buttons for 'Text', 'JSON' (selected), and 'Download'. The 'Request body' is shown as `{"Hello": "COEN"}`.

The 'Response' section shows a status of 200 and a round-trip time of 2.432s. The 'Response body' is a JSON object:

```
{
  "attachments": [
    {
      "footer": "Slack Apps built on OpenFaas",
      "author_link": "https://github.com/SreevikramChandrasekhar/COEN-241--Winter-2023",
      "color": "#36a64f",
      "text": "Head over to COEN 241",
      "title": "COEN 241",
      "ts": 123456789,
      "author_name": "Sreevikram Chandrasekhar",
      "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/",
      "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photography/visual-identity-toolkit/logos-ap-seals/Mission-Dont3.png",
      "response_type": "Testing interactive",
      "replace_original": true,
      "footer_icon": "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png",
      "pretext": "Ahh yeah! Great Choice, COEN 241 is absolutely amazing!",
      "fallback": "Required interactive testing - summary of the attachment",
      "thumb_url": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/"
    }
  ]
}
```

B) CLI

```
vik@vikram:~/functions$ faas-cli invoke slack-interactive
Reading from STDIN - hit (Control + D) to stop.
{"Hello": "Testing"}
{"attachments": [{"footer": "Slack Apps built on OpenFaas", "author_link": "https://github.com/SreevikramChandrasekhar/COEN-241-Winter-2023", "color": "#36a64f", "text": "Head over to COEN 241", "title": "COEN 241", "ts": 123456789, "author_name": "Sreevikram Chandrasekhar", "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descriptions/", "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photography/visual-identity-toolkit/logos-ap-seals/Mission-Dont3.png", "response_type": "Testing interactive", "replace_original": true, "footer_icon": "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png", "pretext": "Ahh yeah! Great Choice, COEN 241 is absolutely amazing!", "fallback": "Required interactive testing - 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/SreevikramChandrasekhar"}]}
vik@vikram:~/functions$
```

5. How would you pass different arguments to the functions?

We can do it using stdin or through echo.

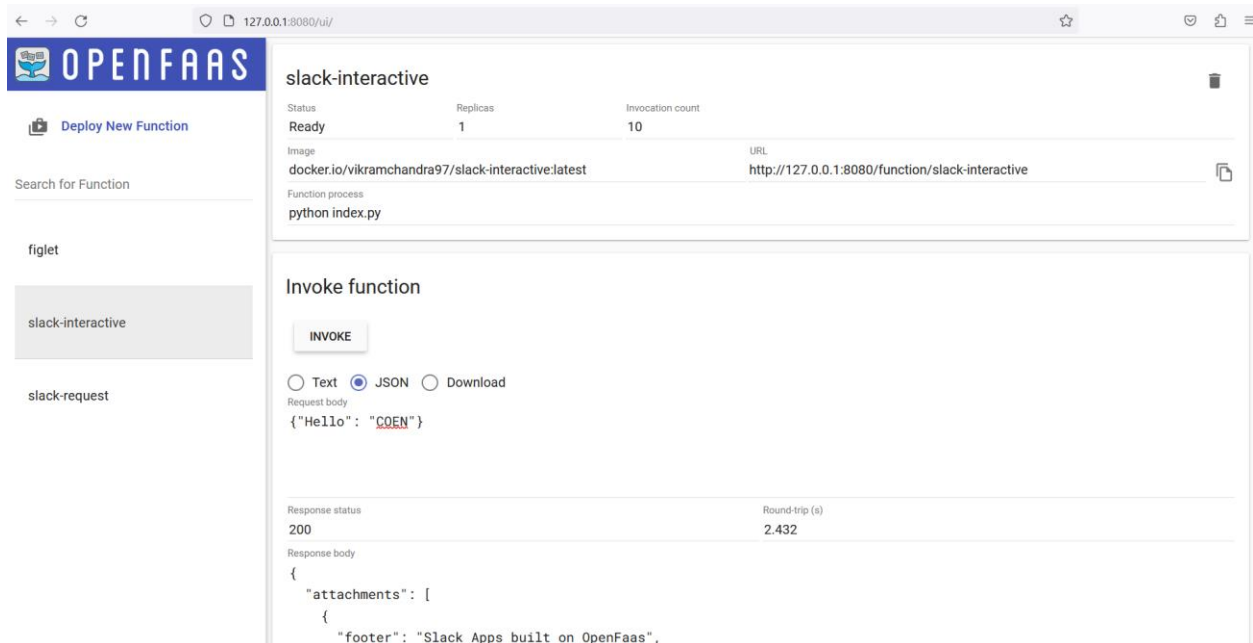
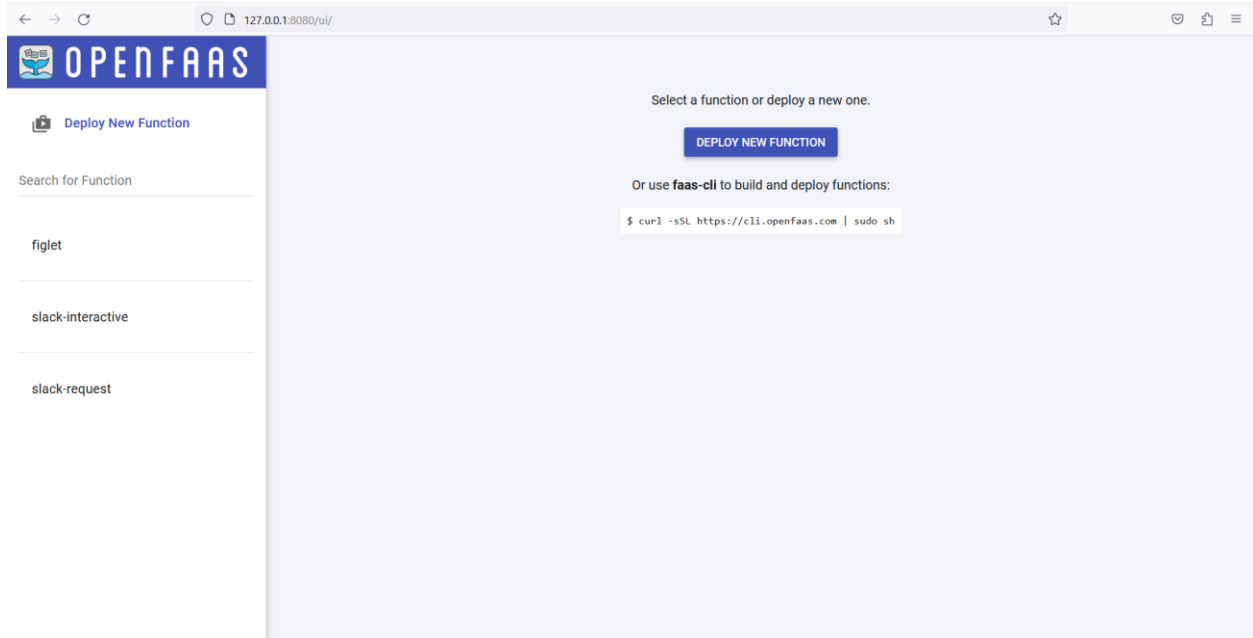
Via STDIN: `curl http://127.0.0.1:8080/function/<function> -d <data string>`

Via echo: `"echo <JSON String> | faas-cli invoke <function>"`

6. How would you change the slack-interactive function to react to different inputs?

To read different inputs, we need to get the request string in the proper JSON format. We can use the `json.load()` to transform the input to valid JSON string and add it to the dictionary element in `handler.py` file. The values are stored in `response`, which can be returned to in stored response via `json.dumps()`.


```
vik@vikram:~$ sudo journalctl -u faasd --lines 40
[sudo] password for vik:
-- Logs begin at Mon 2023-02-13 22:31:50 UTC, end at Wed 2023-02-15 20:55:02 UTC. --
Feb 15 20:23:10 vikram faasd[854]: 2023/02/15 20:23:10 - gateway
Feb 15 20:23:10 vikram faasd[854]: 2023/02/15 20:23:10 - queue-worker
Feb 15 20:23:10 vikram faasd[854]: Starting: basic-auth-plugin
Feb 15 20:23:14 vikram faasd[854]: 2023/02/15 20:23:14 Created container: basic-auth-plugin
Feb 15 20:23:36 vikram faasd[854]: 2023/02/15 20:23:36 basic-auth-plugin has IP: 10.62.0.2
Feb 15 20:23:36 vikram faasd[854]: 2023/02/15 20:23:36 Task: basic-auth-plugin Container: basic-auth-plugin
Feb 15 20:23:37 vikram faasd[854]: Starting: nats
Feb 15 20:23:37 vikram faasd[854]: Creating local directory: /var/lib/faasd/nats
Feb 15 20:23:37 vikram faasd[854]: 2023/02/15 20:23:37 Running nats with user: "65534"
Feb 15 20:23:40 vikram faasd[854]: 2023/02/15 20:23:40 Created container: nats
Feb 15 20:23:47 vikram faasd[854]: 2023/02/15 20:23:47 nats has IP: 10.62.0.3
Feb 15 20:23:47 vikram faasd[854]: 2023/02/15 20:23:47 Task: nats Container: nats
Feb 15 20:23:47 vikram faasd[854]: Starting: prometheus
Feb 15 20:23:47 vikram faasd[854]: Creating local directory: /var/lib/faasd/prometheus
Feb 15 20:23:47 vikram faasd[854]: 2023/02/15 20:23:47 Running prometheus with user: "65534"
Feb 15 20:23:49 vikram faasd[854]: 2023/02/15 20:23:49 Created container: prometheus
Feb 15 20:23:55 vikram faasd[854]: 2023/02/15 20:23:55 prometheus has IP: 10.62.0.4
Feb 15 20:23:55 vikram faasd[854]: 2023/02/15 20:23:55 Task: prometheus Container: prometheus
Feb 15 20:23:55 vikram faasd[854]: Starting: gateway
Feb 15 20:24:00 vikram faasd[854]: 2023/02/15 20:24:00 Created container: gateway
Feb 15 20:24:07 vikram faasd[854]: 2023/02/15 20:24:07 gateway has IP: 10.62.0.5
Feb 15 20:24:07 vikram faasd[854]: 2023/02/15 20:24:07 Task: gateway Container: gateway
Feb 15 20:24:07 vikram faasd[854]: Starting: queue-worker
Feb 15 20:24:08 vikram faasd[854]: 2023/02/15 20:24:08 Created container: queue-worker
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 queue-worker has IP: 10.62.0.6
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Task: queue-worker Container: queue-worker
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Supervisor init done in: About a minute
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Looking up IP for: "gateway"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver rebuilding map
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "localhost"="127.0.0.1"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "faasd-provider"="10.62.0.1"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "basic-auth-plugin"="10.62.0.2"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "nats"="10.62.0.3"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "prometheus"="10.62.0.4"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "gateway"="10.62.0.5"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Resolver: "queue-worker"="10.62.0.6"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Looking up IP for: "prometheus"
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Proxy from: 127.0.0.1:9090, to: prometheus:9090 (10.62.0.4)
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 faasd: waiting for SIGTERM or SIGINT
Feb 15 20:24:13 vikram faasd[854]: 2023/02/15 20:24:13 Proxy from: 0.0.0.0:8080, to: gateway:8080 (10.62.0.5)
vik@vikram:~$
```



```

    "footer": "Slack Apps built on OpenFaas",
    "author_link": "https://github.com/SreevikramChandrasekhar/COEN-241--Winter-2023",
    "color": "#36a64f",
    "text": "Head over to COEN 241",
    "title": "COEN 241",
    "ts": 123456789,
    "author_name": "Sreevikram Chandrasekhar",
    "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduate
/course-descriptions/",
    "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photography/visual-
identity-toolkit/logos-ap-seals/Mission-Dont3.png",
    "response_type": "Testing interactive",
    "replace_original": true,
    "footer_icon": "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png",
    "pretext": "Ahh yeah! Great Choice, COEN 241 is absolutely amazing!",
    "fallback": "Required interactive testing - 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/SreevikramChandrasekhar"
  }
}
}

```

```

vik@vikram:~/functions$ faas-cli invoke slack-interactive
Reading from STDIN - hit (Control + D) to stop.
{"Hello": "Testing"}
{"attachments": [{"footer": "Slack Apps built on OpenFaas", "author_link": "https://github.com/SreevikramChandrasekhar/COEN-241-
Winter-2023", "color": "#36a64f", "text": "Head over to COEN 241", "title": "COEN 241", "ts": 123456789, "author_name": "Sreevi
kram Chandrasekhar", "title_link": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/graduat
e/course-descriptions/", "image_url": "https://www.scu.edu/media/offices/umc/scu-brand-guidelines/visual-identity-amp-photograph
y/visual-identity-toolkit/logos-ap-seals/Mission-Dont3.png", "response_type": "Testing interactive", "replace_original": true, "
footer_icon": "https://a.slack-edge.com/45901/marketing/img/_rebrand/meta/slack_hash_256.png", "pretext": "Ahh yeah! Great Choic
e, COEN 241 is absolutely amazing!", "fallback": "Required interactive testing - 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/SreevikramChandrasekhar"}]}
vik@vikram:~/functions$

```



```

    "title": "Would you recommend COEN 241 to your friends?",
    "color": "#3AA3E3",
    "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"
  }
}

```

```
vik@vikram:~/functions$ faas-cli invoke slack-request
```

```
Reading from STDIN - hit (Control + D) to stop.
```

```
{"Hello": "World"}
```

```

{"text": "Serverless Message", "attachments": [{"fields": [{"short": true, "value": "100", "title": "Amazing Level"}], "author_i
con": " ", "image_url": "https://avatars.githubusercontent.com/SreevikramChandrasekhar", "author_name": "Sreevikram Chandrasekha
r", "title": "The Awesome world of Cloud Computing! COEN 241"}, {"text": "COEN 241 is the most awesome class ever!", "descripti
on": "Testing the slack-request", "title": "About COEN 241"}, {"title": "Would you recommend COEN 241 to your friends?", "color"
: "#3AA3E3", "actions": [{"text": "Of Course!", "type": "button", "name": "recommend", "value": "recommend"}, {"text": "Most Def
initely!", "type": "button", "name": "definitely", "value": "definitely"}], "callback_id": "response123", "fallback": "Would you
recommend COEN 241 to your friends?", "attachment_type": "default"}]}

```

```
vik@vikram:~/functions$
```