

# Assignment 2 Report

## Question 6:

- What is the command to invoke the slack-request function ?
  - Curl:  
curl http://localhost:8080/function/slack-request
  - Faas-cli  
“faas-cli invoke slack-request”
- What is the output you see when you invoke the slack-request function?
- UI:

The screenshot shows the OpenFaaS UI interface. On the left, there's a sidebar with function names: figlet, slack-interactive, and slack-request (which is highlighted). The main area displays the 'slack-request' function details:

slack-request		
Status	Replicas	Invocation count
Ready	1	8
Image	docker.io/apadmakshi/slack-request:latest	
Function process	python index.py	

Below this, there's an 'Invoke function' section with an 'INVOKE' button. Underneath it, there are options for 'Text', 'JSON' (which is selected), and 'Download'. The 'Request body' field contains the JSON payload: {"Hello": "World"}.

At the bottom, the response is shown:

Response status	Round-trip (s)
200	0.098

The 'Response body' field displays the JSON response received from the function.

```

        "value": "100",
        "title": "Amazing Level"
    }
],
"author_icon": "",
"image_url": "https://avatars.githubusercontent.com/u/12345678901234567890",
"author_name": "Padmakshi Ashok Kumar",
"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"
},
{
    "text": "Most Definitely!",
    "type": "button",
    "name": "definitely",
    "value": "definitely"
},
],
"callback_id": "response123",
"fallback": "Would you recommend COEN 241 to your friends?",
"attachment_type": "default"
}
]
}

```

- CLI:

```
[paddy@paddy:~/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_icon": "", "image_url": "https://avatars.githubusercontent.com/u/1000000000000000?size=400", "author_name": "Padmakshi Ashok Kumar", "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"}, {"text": "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"}]}
paddy@paddy:~/functions$
```

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

- Via curl  
curl http://localhost:8080/function/slack-interactive
- Via faas-cli  
“faas-cli invoke slack-request”

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

UI:

The screenshot shows the OpenFaaS UI interface. On the left, there's a sidebar with icons for Deploy New Function, Search for Function, figlet, slack-interactive (which is selected and highlighted in grey), and slack-request. The main area has two tabs: slack-interactive (active) and Invoke function.

**slack-interactive Tab Details:**

Status	Replicas	Invocation count
Ready	1	16
Image	docker.io/apadmakshi/slack-interactive:latest	
Function process	http://localhost:8080/function/slack-interactive	

**Invoke function Tab Details:**

(INVOKE button)

Request body (JSON selected):

```
{"Hello": "COEN"}
```

Response status: 200

Round-trip (s): 0.11

Response body:

```
{
  "attachments": [
    {
      "text": "Head over to COEN 241",
      "color": "#36a64f",
      "author_link": "https://github.com/APadmakshi/COEN-241---Fall-2022",
      "author_name": "Padmakshi Ashok Kumar",
      "image_url": "https://avatars.githubusercontent.com/u/1000000000000000?size=400",
      "title": "The Awesome world of Cloud Computing! COEN 241"
    }
  ]
}
```

Response status	Round-trip (s)
200	0.11
Response body	
{ "attachments": [ { "footer": "Slack Apps built on OpenFaas", "author_link": "https://github.com/APadmakshi/COEN-241---Fall-2022", "color": "#36a64f", "text": "Head over to COEN 241", "title": "COEN 241", "ts": 123456789, "author_name": "Padmakshi Ashok Kumar", "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-amp-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/apadmakshi" } ] }	

- CLI:

```
[paddy@paddy:~/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/APadmakshi/COEN-241---Fall-2022", "color": "#36a64f", "text": "Head over to COEN 241", "title": "COEN 241", "ts": 123456789, "author_name": "Padmakshi Ashok Kumar", "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-amp-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/apadmakshi"}]}
paddy@paddy:~/functions$ ]
```

- How would you pass different arguments to the functions?

We can do it using stdin or through echo.

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

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

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

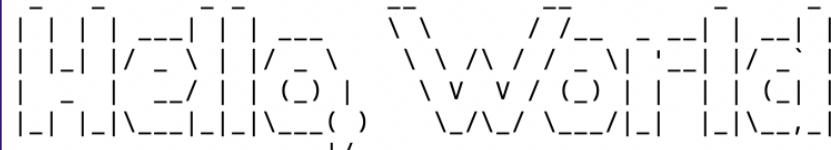
To read different inputs, we will be required to get the request string and add it to the proper JSON format. We can use the json.loads() to transform the input to valid JSON string and add it to the dictionary element in handler.py. The values are stored in response and we can return the stored response in json.dumps().

## Question 7:

- A screenshot of invoking the figlet function

Invoked using CLI:

```
[paddy@paddy:~$ echo "Hello, World" | faas-cli invoke figlet
```



Invoked using UI:

The screenshot shows the OpenFaaS UI interface. On the left, there's a sidebar with a search bar and a button to 'Deploy New Function'. The main area is titled 'figlet'. It shows the function status as 'Ready' with 1 replica and 3 invocations. The image used is 'ghcr.io/openfaas/figlet:latest' and the URL is 'http://localhost:8080/function/figlet'. The function process is listed as 'figlet'. Below this, under 'Invoke function', a user has entered 'Hello, World' as the request body in a 'Text' format. The response shows a 200 status with a round-trip time of 0.019 seconds. The response body is the same stylized 'Hello, World' message as shown in the CLI screenshot.

- A screenshot of running the following command: sudo journalctl -u faasd --lines 40

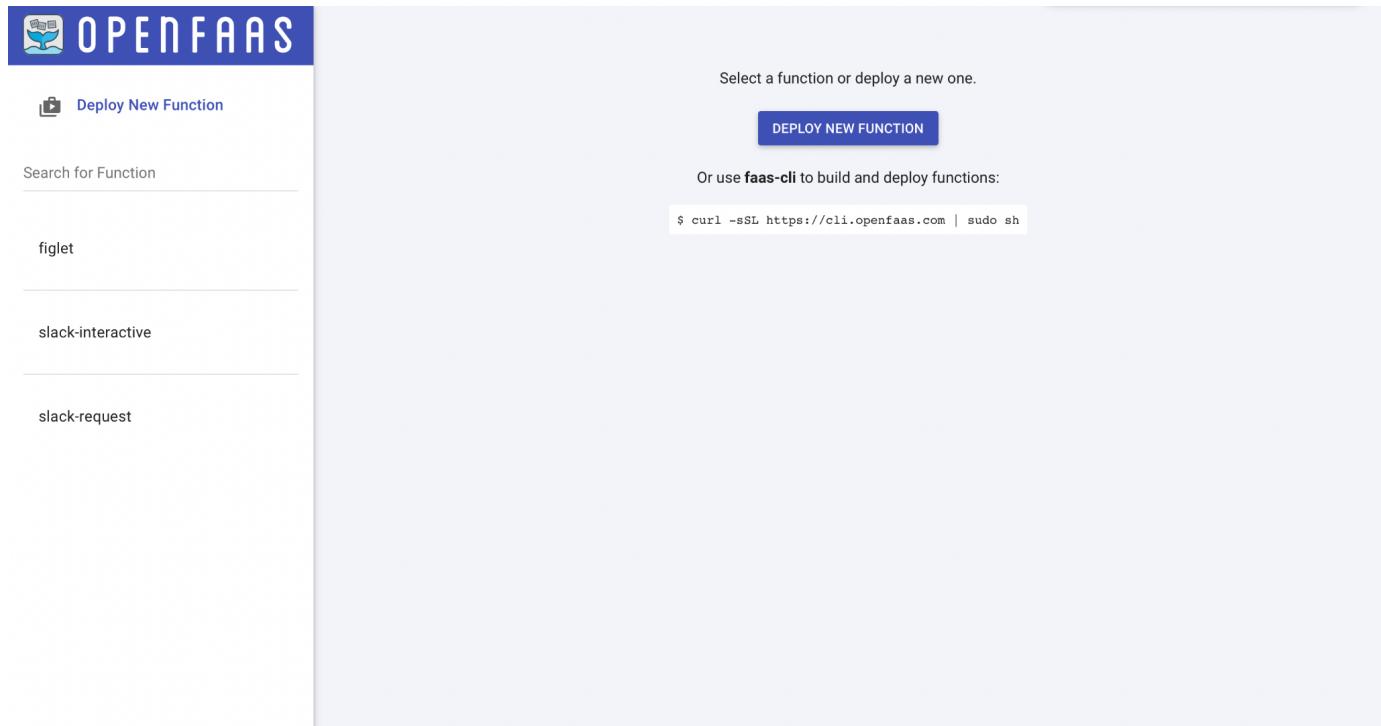
```

[paddy@paddy:~$ sudo journalctl -u faasd --lines 40
-- Logs begin at Mon 2022-10-17 04:27:50 UTC, end at Tue 2022-11-01 18:22:38 UT>
Oct 31 19:23:05 paddy faasd[634]: 2022/10/31 19:23:05 - prometheus
Oct 31 19:23:05 paddy faasd[634]: 2022/10/31 19:23:05 - gateway
Oct 31 19:23:05 paddy faasd[634]: Starting: nats
Oct 31 19:23:05 paddy faasd[634]: Creating local directory: /var/lib/faasd/nats
Oct 31 19:23:05 paddy faasd[634]: 2022/10/31 19:23:05 Running nats with user: "">>
Oct 31 19:23:05 paddy faasd[634]: 2022/10/31 19:23:05 Created container: nats
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 nats has IP: 10.62.0.2
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Task: nats      Contain>
Oct 31 19:23:06 paddy faasd[634]: Starting: queue-worker
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Created container: queue->
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 queue-worker has IP: 10.6>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Task: queue-worker      >
Oct 31 19:23:06 paddy faasd[634]: Starting: basic-auth-plugin
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Created container: basic->
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 basic-auth-plugin has IP:>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Task: basic-auth-plugin  >
Oct 31 19:23:06 paddy faasd[634]: Starting: prometheus
Oct 31 19:23:06 paddy faasd[634]: Creating local directory: /var/lib/faasd/prom>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Running prometheus with u>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Created container: promet>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 prometheus has IP: 10.62.>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Task: prometheus      C>
Oct 31 19:23:06 paddy faasd[634]: Starting: gateway
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Created container: gateway
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 gateway has IP: 10.62.0.6
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Task: gateway      Cont>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Supervisor init done in: >
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Looking up IP for: "gatew>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver rebuilding map
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "localhost"="12>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "faasd-provider">
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "nats"="10.62.0>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "queue-worker"=>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "basic-auth-plu>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "prometheus"="1>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Resolver: "gateway"="10.6>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Looking up IP for: "prome>
Oct 31 19:23:06 paddy faasd[634]: 2022/10/31 19:23:06 Proxy from: 127.0.0.1:909>

```

**lines 17-39**

- A screenshot of your OpenFaaS gateway AFTER deploying figlet, slack-handler and slack-interactive functions



- A screenshot of invoking slack-request and slack-interactive functions
  - Slack-interactive
    - UI:

**OPENFAAS**

**Deploy New Function**

Search for Function

slack-interactive

Status	Replicas	Invocation count
Ready	1	16
Image	URL	
docker.io/apadmakshi/slack-interactive:latest	http://localhost:8080/function/slack-interactive	
Function process	python index.py	

figlet

slack-interactive

slack-request

**Invoke function**

**INVOKE**

Text  JSON  Download

Request body

```
{"Hello": "COEN"}
```

Response status	Round-trip (s)
200	0.11

Response body

```
{
  "attachments": [
    {
      "footer": "Slack Apps built on OpenFaas",
      "author_link": "https://github.com/APadmakshi/COEN-241---Fall-2022",
      "color": "#36a64f",
      "text": "Head over to COEN 241",
    }
  ]
}
```

Response status	Round-trip (s)
200	0.11

Response body

```
{
  "attachments": [
    {
      "footer": "Slack Apps built on OpenFaas",
      "author_link": "https://github.com/APadmakshi/COEN-241---Fall-2022",
      "color": "#36a64f",
      "text": "Head over to COEN 241",
      "title": "COEN 241",
      "ts": 123456789,
      "author_name": "Padmakshi Ashok Kumar",
      "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-and-photography/visual-identity-toolkit/logos-and-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/apadmakshi"
    }
  ]
}
```

## ■ CLI:

```
[paddy@paddy:~/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/A
Padmakshi/COEN-241---Fall-2022", "color": "#36a64f", "text": "Head over to COEN 241", "title": "
COEN 241", "ts": 123456789, "author_name": "Padmakshi Ashok Kumar", "title_link": "https://www.s
cu.edu/engineering/academic-programs/department-of-computer-engineering/graduate/course-descript
ions/", "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", "response_type": "T
esting interactive", "replace_original": true, "footer_icon": "https://a.slack-edge.com/45901/m
arketing/img/_rebrand/meta/slack_hash_256.png", "pretext": "Ahh yeah! Great choice, COEN 241 is a
bsolutely amazing!", "fallback": "Required interactive testing - summary of the attachment", "th
umb_url": "https://www.scu.edu/engineering/academic-programs/department-of-computer-engineering/
graduate/course-descriptions/", "author_icon": "https://avatars.githubusercontent.com/apadmakshi
"}]}
paddy@paddy:~/functions$ ]
```

- Slack-request

- UI:

The screenshot shows the OpenFaaS UI interface. On the left, there's a sidebar with a search bar and a list of functions: figlet, slack-interactive, and slack-request (which is currently selected and highlighted in grey). The main area displays the 'slack-request' function details:

slack-request			
Status	Ready	Replicas	1
Image	docker.io/apadmakshi/slack-request:latest		
Function process	python index.py		
URL	<a href="http://localhost:8080/function/slack-request">http://localhost:8080/function/slack-request</a>		

Below this, there's an 'Invoke function' section with an 'INVOKED' button. Underneath it, there are options for 'Text', 'JSON' (which is selected), and 'Download'. The request body is set to `{"Hello": "World"}`.

At the bottom, the response status is shown as 200 with a round-trip time of 0.098 seconds. The response body is a JSON object containing a message and an attachment:

```

Response status
200 Round-trip (s)
0.098
Response body
{
  "text": "Serverless Message",
  "attachments": [
    {
      "fields": [
        {
          "short": true,
        }
      ]
    }
  ]
}
  
```

```

        "value": "100",
        "title": "Amazing Level"
    }
],
"author_icon": "",
"image_url": "https://avatars.githubusercontent.com/u/1234567890",
"author_name": "Padmakshi Ashok Kumar",
"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"
},
{
    "text": "Most Definitely!",
    "type": "button",
    "name": "definitely",
    "value": "definitely"
},
],
"callback_id": "response123",
"fallback": "Would you recommend COEN 241 to your friends?",
"attachment_type": "default"
}
]
}

```

■ CLI:

```
[paddy@paddy:~/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_icon": "", "image_url": "https://avatars.githubusercontent.com/u/100?u=admakshi&v=4", "author_name": "Padmakshi Ashok Kumar", "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"}]}
paddy@paddy:~/functions$ ]
```