

README.md

Lab 4: Microservices with MessageQueue

Setup

- Host and ports configs are in the [json file](#)
- Install [requirements.txt](#)

Running

In the root project directory run each service:

- `python -m facade.main`
- `python -m log.main <port>`, where `<port>` is one of preconfigured.
- `python -m messages.main <port>`, where `<port>` is one of preconfigured.

Send requests via `curl`:

- e.g. send GET request to the Facade:
`curl http://127.0.0.1:8000/`
- e.g. send POST request to the Facade:
`curl -d '{"msg":"facade"}' -H "Content-Type: application/json" -X POST http://127.0.0.1:8000/`
- simple [bash script](#) to make 10 POST requests to Facade

Results

1. Send 10 POST requests to Facade:

- Send using simple [bash script](#)

```
/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 * P micro_mq !4 ?7 ./post_10.bash
"message#1""message#2""message#3""message#4""message#5""message#6""message#7""message#8""message#9""message#10"
```

- Facade output:

```
/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 * P micro_mq !3 ?7 python -m facade.main
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
INFO: Started reloader process [27734] using WatchFiles
^[[INFO: Started server process [27740]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:59540 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:59544 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:59546 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:59548 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51418 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51434 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51444 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51456 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51468 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:51478 - "POST / HTTP/1.1" 200 OK
```

- Each Logging's outputs:

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_mq !3 ?7 ➤ python -m log.main 8001
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8001 (Press CTRL+C to quit)
INFO: Started reloader process [27771] using WatchFiles
INFO: Started server process [27777]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#9
INFO: 127.0.0.1:48658 - "POST / HTTP/1.1" 200 OK

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_mq !3 ?7 ➤ python -m log.main 8002
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8002 (Press CTRL+C to quit)
INFO: Started reloader process [27784] using WatchFiles
INFO: Started server process [27789]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#2
INFO: 127.0.0.1:50156 - "POST / HTTP/1.1" 200 OK
Received message: message#3
INFO: 127.0.0.1:50168 - "POST / HTTP/1.1" 200 OK
Received message: message#6
INFO: 127.0.0.1:40444 - "POST / HTTP/1.1" 200 OK

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_mq !3 ?7 ➤ python -m log.main 8003
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8003 (Press CTRL+C to quit)
INFO: Started reloader process [27798] using WatchFiles
INFO: Started server process [27802]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#1
INFO: 127.0.0.1:49194 - "POST / HTTP/1.1" 200 OK
Received message: message#4
INFO: 127.0.0.1:46706 - "POST / HTTP/1.1" 200 OK
Received message: message#5
INFO: 127.0.0.1:46718 - "POST / HTTP/1.1" 200 OK
Received message: message#7
INFO: 127.0.0.1:46730 - "POST / HTTP/1.1" 200 OK
Received message: message#8
INFO: 127.0.0.1:46732 - "POST / HTTP/1.1" 200 OK
Received message: message#10
INFO: 127.0.0.1:46742 - "POST / HTTP/1.1" 200 OK

```

- Each Message's outputs:

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_mq !3 ?7 ➤ python -m messages.main 8004
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8004 (Press CTRL+C to quit)
INFO: Started reloader process [27814] using WatchFiles
INFO: Started server process [27819]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#2
Received message: message#4
Received message: message#6
Received message: message#7
Received message: message#9

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_mq !3 ?7 ➤ python -m messages.main 8005
INFO: Will watch for changes in these directories: ['/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1']
INFO: Uvicorn running on http://127.0.0.1:8005 (Press CTRL+C to quit)
INFO: Started reloader process [27829] using WatchFiles
INFO: Started server process [27851]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#1
Received message: message#3
Received message: message#5
Received message: message#8
Received message: message#10

```

2. Send GET to Facade 5 times:

```

[~] /mnt/nvme0n1p5/SRINUX/ucv_courses/3_year/2_semester/sa/Lab_1 > # P micro_mq IS 77 curl http://127.0.0.1:8080/
"Response from logging: 'message5;message3;message9;message#1;message#2;message#4;message#7;message#10;message#6;message#8' with status 200\nResponse from messages: 'message#1,message#3,message#5,message#8,message#10' with status 200\n"
[~] /mnt/nvme0n1p5/SRINUX/ucv_courses/3_year/2_semester/sa/Lab_1 > # P micro_mq IS 77 curl http://127.0.0.1:8080/
"Response from logging: 'message5;message3;message9;message#1;message#2;message#4;message#7;message#10;message#6;message#8' with status 200\nResponse from messages: 'message#1,message#3,message#5,message#8,message#10' with status 200\n"
[~] /mnt/nvme0n1p5/SRINUX/ucv_courses/3_year/2_semester/sa/Lab_1 > # P micro_mq IS 77 curl http://127.0.0.1:8080/
"Response from logging: 'message5;message3;message9;message#1;message#2;message#4;message#7;message#10;message#6;message#8' with status 200\nResponse from messages: 'message#2,message#4,message#6,message#7,message#9' with status 200\n"
[~] /mnt/nvme0n1p5/SRINUX/ucv_courses/3_year/2_semester/sa/Lab_1 > # P micro_mq IS 77 curl http://127.0.0.1:8080/
"Response from logging: 'message5;message3;message9;message#1;message#2;message#4;message#7;message#10;message#6;message#8' with status 200\nResponse from messages: 'message#2,message#4,message#6,message#7,message#9' with status 200\n"
[~] /mnt/nvme0n1p5/SRINUX/ucv_courses/3_year/2_semester/sa/Lab_1 > # P micro_mq IS 77 curl http://127.0.0.1:8080/
"Response from logging: 'message5;message3;message9;message#1;message#2;message#4;message#7;message#10;message#6;message#8' with status 200\nResponse from messages: 'message#1,message#3,message#5,message#8,message#10' with status 200\n"
```

As we can see, the output is different, as the Message's instances have separate values and on GET we select a random instance.