

README.md

Lab 5: Microservices with Consul

GitHub: https://github.com/alorthius/microservices/tree/micro_consul

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. Initialize consul via `consul agent -dev` and put hz map and queue names to consul using [init_consul.sh](#):

```
/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 *P micro_consul !4 ?8 > ./init_consul.sh
Success! Data written to: map-name
Success! Data written to: queue-name
```

Consul info on <http://localhost:8500/>:

< All Nodes

alina-milaptoppro15

Health Checks Service Instances Lock Sessions Metadata

Search

Search Across

Health Status

Messages8005

No service checks 127.0.0.1:8005

Messages8004

No service checks 127.0.0.1:8004

Logging8003

No service checks 127.0.0.1:8003

Logging8002

No service checks 127.0.0.1:8002

Logging8001

No service checks 127.0.0.1:8001

Facade8000

No service checks 127.0.0.1:8000

consul

No service checks 127.0.0.1:8300

2. Send 10 POST requests to Facade using simple [bash script](#):

```
/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 $ P micro_consul !4 ?8 ./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_consul !4 ?8 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 [50798] using WatchFiles
INFO: Started server process [50802]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:52224 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52238 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52242 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52250 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52258 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52262 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52266 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52268 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52282 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:52298 - "POST / HTTP/1.1" 200 OK
```

- Each Logging's outputs:

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_consul i4 ?8 ➤ 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 [50587] using WatchFiles
INFO: Started server process [50593]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#1
INFO: 127.0.0.1:43732 - "POST / HTTP/1.1" 200 OK
Received message: message#3
INFO: 127.0.0.1:43736 - "POST / HTTP/1.1" 200 OK

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_consul i4 ?8 ➤ 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 [50606] using WatchFiles
INFO: Started server process [50610]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#4
INFO: 127.0.0.1:51990 - "POST / HTTP/1.1" 200 OK
Received message: message#8
INFO: 127.0.0.1:52006 - "POST / HTTP/1.1" 200 OK
Received message: message#10
INFO: 127.0.0.1:52010 - "POST / HTTP/1.1" 200 OK

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_consul i4 ?8 ➤ 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 [50636] using WatchFiles
INFO: Started server process [50640]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#2
INFO: 127.0.0.1:33514 - "POST / HTTP/1.1" 200 OK
Received message: message#5
INFO: 127.0.0.1:33530 - "POST / HTTP/1.1" 200 OK
Received message: message#6
INFO: 127.0.0.1:33542 - "POST / HTTP/1.1" 200 OK
Received message: message#7
INFO: 127.0.0.1:33548 - "POST / HTTP/1.1" 200 OK
Received message: message#9
INFO: 127.0.0.1:33556 - "POST / HTTP/1.1" 200 OK

```

- Each Message's outputs:

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_consul i4 ?8 ➤ 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 [50701] using WatchFiles
INFO: Started server process [50705]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#1
Received message: message#4
Received message: message#5
Received message: message#7
Received message: message#10

```

```

➤ /mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1 ➤ P micro_consul i4 ?8 ➤ 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 [50761] using WatchFiles
INFO: Started server process [50785]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#2
Received message: message#3
Received message: message#6
Received message: message#8
Received message: message#9

```

2. Send GET to Facade 5 times:

```
mt@mt:/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/Tab_1 > P micro_consul 14 78 curl http://127.0.0.1:8000/
"Response from logging: message3;message1;message5;message4;message6;message7;message8 message2;message10;message9" with status 200\n
mt@mt:/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/Tab_1 > P micro_consul 15 78 curl http://127.0.0.1:8000/
"Response from logging: message3;message1;message5;message4;message6;message7;message8 message2;message10;message9" with status 200\n
mt@mt:/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/Tab_1 > P micro_consul 15 78 curl http://127.0.0.1:8000/
"Response from logging: message3;message1;message5;message4;message6;message7;message8 message2;message10;message9" with status 200\n
mt@mt:/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/Tab_1 > P micro_consul 15 78 curl http://127.0.0.1:8000/
"Response from logging: message3;message1;message5;message4;message6;message7;message8 message2;message10;message9" with status 200\n
mt@mt:/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/Tab_1 > P micro_consul 15 78 curl http://127.0.0.1:8000/
"Response from logging: message3;message1;message5;message4;message6;message7;message8 message2;message10;message9" 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.