

Lab 3: Microservices using Hazelcast Distributed Map

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Setup

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

Running

In the root project directory run each service:

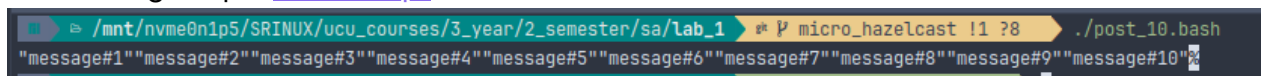
- `python -m facade.main`
- `python -m log.main <port>`, where `port` is one of preconfigured.
- `python -m messages.main`

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 # micro_hazelcast !1 ?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_hazelcast !1 ?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 [37224] using WatchFiles
INFO: Started server process [37226]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:49078 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49086 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49094 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49110 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49118 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49124 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49128 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49144 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49152 - "POST / HTTP/1.1" 200 OK
INFO: 127.0.0.1:49162 - "POST / HTTP/1.1" 200 OK

```

- Each Logging's outputs:

```

/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1  P micro_hazelcast !1 ?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 [37239] using WatchFiles
INFO: Started server process [37247]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#7
INFO: 127.0.0.1:38524 - "POST / HTTP/1.1" 200 OK
Received message: message#10
INFO: 127.0.0.1:38528 - "POST / HTTP/1.1" 200 OK

```

```

/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1  P micro_hazelcast !1 ?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 [37262] using WatchFiles
INFO: Started server process [37270]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#6
INFO: 127.0.0.1:43782 - "POST / HTTP/1.1" 200 OK
Received message: message#9
INFO: 127.0.0.1:43788 - "POST / HTTP/1.1" 200 OK

```

```

/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1  P micro_hazelcast !1 ?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 [37280] using WatchFiles
INFO: Started server process [37287]
INFO: Waiting for application startup.
INFO: Application startup complete.
Received message: message#1
INFO: 127.0.0.1:37096 - "POST / HTTP/1.1" 200 OK
Received message: message#2
INFO: 127.0.0.1:37102 - "POST / HTTP/1.1" 200 OK
Received message: message#3
INFO: 127.0.0.1:37112 - "POST / HTTP/1.1" 200 OK
Received message: message#4
INFO: 127.0.0.1:37118 - "POST / HTTP/1.1" 200 OK
Received message: message#5
INFO: 127.0.0.1:37132 - "POST / HTTP/1.1" 200 OK
Received message: message#8
INFO: 127.0.0.1:37144 - "POST / HTTP/1.1" 200 OK

```

2. Send GET to Facade:

```

/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1  P micro_hazelcast ?7 curl http://127.0.0.1:8000/
"Response from logging: 'message#5;message#6;message#10;message#4;message#9;message#2;message#1;message#8;message#7;message#3' with status 200\nResponse from messages: 'Not implemented yet' with status 200\n"

```

3. Kill two Logging services (on ports 8002 and 8003) and send GET to Facade:

```

/mnt/nvme0n1p5/SRINUX/ucu_courses/3_year/2_semester/sa/lab_1  P micro_hazelcast !1 ?7 curl http://127.0.0.1:8000/
"Response from logging: 'message#7;message#2;message#1;message#5;message#6;message#3;message#4;message#9;message#8' with status 200\nResponse from messages: 'Not implemented yet' with status 200\n"

```

Facade output:

```
http://127.0.0.1:8003 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:59364 - "GET / HTTP/1.1" 200 OK
```

4. Sent again 10 POST requests to Facade:

Facade output:

```
INFO: 127.0.0.1:36468 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:36470 - "POST / HTTP/1.1" 200 OK  
INFO: 127.0.0.1:36486 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8003 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
http://127.0.0.1:8003 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:36498 - "POST / HTTP/1.1" 200 OK  
INFO: 127.0.0.1:36506 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8003 not available. Retrying...  
http://127.0.0.1:8003 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
http://127.0.0.1:8003 not available. Retrying...  
INFO: 127.0.0.1:36518 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8002 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:36530 - "POST / HTTP/1.1" 200 OK  
INFO: 127.0.0.1:36536 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:36540 - "POST / HTTP/1.1" 200 OK  
http://127.0.0.1:8002 not available. Retrying...  
http://127.0.0.1:8002 not available. Retrying...  
INFO: 127.0.0.1:36544 - "POST / HTTP/1.1" 200 OK
```