

Lab 04: Messaging Queue

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Code (branch): *micro_mq*

Starting the Hazelcast cluster

```
Members {size:1, ver:1} [  
  Member [127.0.0.1]:5701 - 0c83f38a-afbd-4f22-afd0-62f03e9279d6 this  
]
```

Task 1: POST

First, we send out the 10 POST requests (with 10 messages)

- Facade service:

```
* Running on http://127.0.0.1:8080/ (Press CTRL+C to quit)  
127.0.0.1 - - [19/May/2022 10:41:10] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:41:16] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:08] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:10] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:13] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:15] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:17] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:19] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:21] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:23] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:24] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:27] "POST /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:44:33] "GET /facade_service HTTP/1.1" 200 -  
127.0.0.1 - - [19/May/2022 10:45:12] "GET /facade_service HTTP/1.1" 200 -
```

- Logging services:

- o 1st

```
2022-05-19 10:43:51 INFO * Running on http://127.0.0.1:8083/ (Press CTRL+C to quit)  
2022-05-19 10:44:08 INFO {'message': 'message_1', 'message_uuid': 'c364810f-116d-488b-8833-7abd86746839'}  
2022-05-19 10:44:08 INFO 127.0.0.1 - - [19/May/2022 10:44:08] "POST /logging_service HTTP/1.1" 200 -  
2022-05-19 10:44:15 INFO {'message': 'message_4', 'message_uuid': '1dde85c7-8c52-414e-abd4-90cc636975a9'}  
2022-05-19 10:44:15 INFO 127.0.0.1 - - [19/May/2022 10:44:15] "POST /logging_service HTTP/1.1" 200 -  
2022-05-19 10:44:17 INFO {'message': 'message_5', 'message_uuid': 'e8fef448-b99c-490e-906a-f7c06da5588e'}  
2022-05-19 10:44:17 INFO 127.0.0.1 - - [19/May/2022 10:44:17] "POST /logging_service HTTP/1.1" 200 -  
2022-05-19 10:44:21 INFO {'message': 'message_7', 'message_uuid': 'bd65b279-9cf9-43ae-91d5-d53b6ecc170e'}  
2022-05-19 10:44:21 INFO 127.0.0.1 - - [19/May/2022 10:44:21] "POST /logging_service HTTP/1.1" 200 -  
2022-05-19 10:44:23 INFO {'message': 'message_8', 'message_uuid': 'b6a95ba5-f455-440f-b433-1cc0d4d3f10d'}  
2022-05-19 10:44:23 INFO 127.0.0.1 - - [19/May/2022 10:44:23] "POST /logging_service HTTP/1.1" 200 -  
2022-05-19 10:44:33 INFO 127.0.0.1 - - [19/May/2022 10:44:33] "GET /logging_service HTTP/1.1" 200 -
```

- 2nd

```
2022-05-19 10:43:55 INFO      * Running on http://127.0.0.1:8084/ (Press CTRL+C to quit)
2022-05-19 10:44:10 INFO      {'message': 'message_2', 'message_uuid': 'b2489528-6d8f-4429-b9f8-d2bf7e0b953d'}
2022-05-19 10:44:10 INFO      127.0.0.1 - - [19/May/2022 10:44:10] "POST /logging_service HTTP/1.1" 200 -
2022-05-19 10:45:12 INFO      127.0.0.1 - - [19/May/2022 10:45:12] "GET /logging_service HTTP/1.1" 200 -
```

- 3rd

```
2022-05-19 10:43:58 INFO      * Running on http://127.0.0.1:8085/ (Press CTRL+C to quit)
2022-05-19 10:44:13 INFO      {'message': 'message_3', 'message_uuid': '5fe98c1e-a308-4d04-a8aa-2d9aa055fd83'}
2022-05-19 10:44:13 INFO      127.0.0.1 - - [19/May/2022 10:44:13] "POST /logging_service HTTP/1.1" 200 -
2022-05-19 10:44:19 INFO      {'message': 'message_6', 'message_uuid': '3294e185-9662-41a3-923f-d33ec8661430'}
2022-05-19 10:44:19 INFO      127.0.0.1 - - [19/May/2022 10:44:19] "POST /logging_service HTTP/1.1" 200 -
2022-05-19 10:44:24 INFO      {'message': 'message_9', 'message_uuid': 'c0c67402-e017-4cd6-8ed7-a6f0ea5855ba'}
2022-05-19 10:44:24 INFO      127.0.0.1 - - [19/May/2022 10:44:24] "POST /logging_service HTTP/1.1" 200 -
2022-05-19 10:44:27 INFO      {'message': 'message_10', 'message_uuid': 'c3f345c9-c828-4ef5-a745-a9b4ab00a8b4'}
2022-05-19 10:44:27 INFO      127.0.0.1 - - [19/May/2022 10:44:27] "POST /logging_service HTTP/1.1" 200 -
```

- Message service: (HZ Message Queue)

- 1st

```
2022-05-19 10:38:47 INFO      * Running on http://127.0.0.1:8081/ (Press CTRL+C to quit)
2022-05-19 10:44:10 INFO      {'message': 'message_2', 'message_uuid': 'b2489528-6d8f-4429-b9f8-d2bf7e0b953d'}
2022-05-19 10:44:10 INFO      127.0.0.1 - - [19/May/2022 10:44:10] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:15 INFO      {'message': 'message_4', 'message_uuid': '1dde85c7-8c52-414e-abd4-90cc636975a9'}
2022-05-19 10:44:15 INFO      127.0.0.1 - - [19/May/2022 10:44:15] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:19 INFO      {'message': 'message_6', 'message_uuid': '3294e185-9662-41a3-923f-d33ec8661430'}
2022-05-19 10:44:19 INFO      127.0.0.1 - - [19/May/2022 10:44:19] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:21 INFO      {'message': 'message_7', 'message_uuid': 'bd65b279-9cf9-43ae-91d5-d53b6ecc170e'}
2022-05-19 10:44:21 INFO      127.0.0.1 - - [19/May/2022 10:44:21] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:23 INFO      {'message': 'message_8', 'message_uuid': 'b6a95ba5-f455-440f-b433-1cc0d4d3f10d'}
2022-05-19 10:44:23 INFO      127.0.0.1 - - [19/May/2022 10:44:23] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:27 INFO      {'message': 'message_10', 'message_uuid': 'c3f345c9-c828-4ef5-a745-a9b4ab00a8b4'}
2022-05-19 10:44:27 INFO      127.0.0.1 - - [19/May/2022 10:44:27] "POST /message_service HTTP/1.1" 200 -
```

- 2nd

```
2022-05-19 10:38:56 INFO      * Running on http://127.0.0.1:8082/ (Press CTRL+C to quit)
2022-05-19 10:41:10 INFO      {'message': 'message_1', 'message_uuid': '6641ffef-2637-4c76-b31e-5270d2ef8ace'}
2022-05-19 10:41:10 INFO      127.0.0.1 - - [19/May/2022 10:41:10] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:41:16 INFO      {'message': 'message_2', 'message_uuid': 'abc383c4-15e3-4f36-b699-62b85cb15649'}
2022-05-19 10:41:16 INFO      127.0.0.1 - - [19/May/2022 10:41:16] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:08 INFO      {'message': 'message_1', 'message_uuid': 'c364810f-116d-488b-8833-7abd86746839'}
2022-05-19 10:44:08 INFO      127.0.0.1 - - [19/May/2022 10:44:08] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:13 INFO      {'message': 'message_3', 'message_uuid': '5fe98c1e-a308-4d04-a8aa-2d9aa055fd83'}
2022-05-19 10:44:13 INFO      127.0.0.1 - - [19/May/2022 10:44:13] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:17 INFO      {'message': 'message_5', 'message_uuid': 'e8fef448-b99c-490e-906a-f7c06da5588e'}
2022-05-19 10:44:17 INFO      127.0.0.1 - - [19/May/2022 10:44:17] "POST /message_service HTTP/1.1" 200 -
2022-05-19 10:44:24 INFO      {'message': 'message_9', 'message_uuid': 'c0c67402-e017-4cd6-8ed7-a6f0ea5855ba'}
2022-05-19 10:44:24 INFO      127.0.0.1 - - [19/May/2022 10:44:24] "POST /message_service HTTP/1.1" 200 -
```

We can see that all the messages have been distributed randomly between the logging and messaging services

Task 2: GET

Now, we can do the GET request to see the result of the POST request

```
http://localhost:8080/facade_service

HTTP/1.0 200 OK
Content-Type: text/html; charset=utf-8
Content-Length: 395
Server: Werkzeug/2.0.3 Python/3.9.12
Date: Thu, 19 May 2022 07:52:09 GMT

['message_8', 'message_9', 'message_1', 'message_3', 'message_3', 'message_10', 'message_7', 'message_6', 'message_7', 'message_4',
Response file saved.
> 2022-05-19T105209.200.html
```