micro_hazelcast

Встановлюємо усі необхідні dependency:

```
pip install -r requirements.txt
```

Запускаємо мережу hazelcast із трьома нодами(в окремих терміналах):

```
docker network create hazelcast-network
docker run    -it    --network hazelcast-network    --rm   -e HZ_CLUSTERNAME=my-cluster    -p 5701:5701 hazelcast/hazelcast:5.0.

docker run    --name my-second-member --network hazelcast-network    -e HZ_CLUSTERNAME=my-cluster    -p 5702:5701 hazelcast/hazelca

docker run    --name my-third-member --network hazelcast-network    -e HZ_CLUSTERNAME=my-cluster    -p 5703:5701 hazelcast/hazelca
```

Запускаємо три екземпляри logging-service, facade-service та messages-service:

```
python facade_app.py [all the ports that are being used for logging services]
python logging_app.py [ip address of the cluster member to which you wish to connect] [port to use]
python messages_app.py
```

Запускаємо усі сервіси та записуємо 10 повідомлень:

```
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N1: Take Off Your Mask Now"
Message N1: Take Off Your Mask Now%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N2: 이제는 해제 Now"
Message N2: 이제는 해제 Now%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N3: It's Time To Dance Now Hey"
Message N3: It's Time To Dance Now Hey%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N4: Been Touring Domes Now"
Message N4: Been Touring Domes Now%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N5: Haven't U Heard Now"
Message N5: Haven't U Heard Now%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N6: Stadium Tours Now Hey"
Message N6: Stadium Tours Now Hey%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N7: 다 뚜까패 Now"
Message N7: 다 뚜까패 Now%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N8: 부정을 부정 필승 Yes I Can Now Hey"
Message N8: 부정을 부정 필승 Yes I Can Now Hey%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N9: Boy Band Making Bands"
Message N9: Boy Band Making Bands%
❭ curl -X POST http://127.0.0.1:8888/facade -d "Message N10: 12년째 17 Got My Back Now Hey"
Message N10: 12년째 17 Got My Back Now Hey%
```

Вміст консолей logging service:

```
❯ cd logging-service
❯ python logging_app.py 172.19.0.2:5701 8000
 * Serving Flask app 'logging_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 129-714-927
Message N3: It's Time To Dance Now Hey
127.0.0.1 - - [31/May/2023 02:13:06] "POST /logging HTTP/1.1" 200 -
Message N5: Haven't U Heard Now
127.0.0.1 - - [31/May/2023 02:13:48] "POST /logging HTTP/1.1" 200 -
Message N6: Stadium Tours Now Hey
127.0.0.1 - - [31/May/2023 02:14:06] "POST /logging HTTP/1.1" 200 -
Message N7: 다 뚜까 패 Now
127.0.0.1 - - [31/May/2023 02:14:24] "POST /logging HTTP/1.1" 200 -
Message N8: 부정을 부정 필승 Yes I Can Now Hey
127.0.0.1 - - [31/May/2023 02:14:41] "POST /logging HTTP/1.1" 200 -
```

```
❯ cd logging-service
❯ python logging_app.py 172.19.0.3:5701 8001
 * Serving Flask app 'logging_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8001
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 129-714-927
Message N2: 이제는 해제 Now
127.0.0.1 - - [31/May/2023 02:12:51] "POST /logging HTTP/1.1" 200 -
Message N4: Been Touring Domes Now
127.0.0.1 - - [31/May/2023 02:13:28] "POST /logging HTTP/1.1" 200 -
Message N10: 12년째 17 Got My Back Now Hey
127.0.0.1 - - [31/May/2023 02:15:11] "POST /logging HTTP/1.1" 200 -
```

```
❯ cd logging-service
❯ python logging_app.py 172.19.0.4:5701 8002
 * Serving Flask app 'logging_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8002
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 129-714-927
Message N1: Take Off Your Mask Now
127.0.0.1 - - [31/May/2023 02:12:29] "POST /logging HTTP/1.1" 200 -
Message N9: Boy Band Making Bands
127.0.0.1 - - [31/May/2023 02:14:56] "POST /logging HTTP/1.1" 200 -
```

Відправляємо GET запит:

```
> curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
Message N1: Take Off Your Mask Now
Message N6: Stadium Tours Now Hey
Message N4: Been Touring Domes Now
Message N10: 12년째 17 Got My Back Now Hey
Message N7: 다 뚜까패 Now
Message N8: 부정을 부정 필승 Yes I Can Now Hey
Message N3: It's Time To Dance Now Hey
Message N2: 이제는 해제 Now
Message N5: Haven't U Heard Now
Message N9: Boy Band Making Bands
Messages-service response: not implemented yet
```

Консоль facade-service:

```
> cd facade-service
> python facade_app.py 8000 8001 8002
 * Serving Flask app 'facade_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8888
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 129-714-927
127.0.0.1 - - [31/May/2023 02:12:29] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:12:51] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:13:06] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:13:28] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:13:48] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:14:06] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:14:24] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:14:41] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:14:56] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:15:11] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:18:37] "GET /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 02:18:45] "GET /facade HTTP/1.1" 200 -
```

Відключимо одну ноду і ще раз виконаємо GET-запит:

```
> curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
Message N1: Take Off Your Mask Now
Message N6: Stadium Tours Now Hey
Message N4: Been Touring Domes Now
Message N10: 12년째 17 Got My Back Now Hey
Message N7: 다 뚜까패 Now
Message N8: 부정을 부정 필승 Yes I Can Now Hey
Message N3: It's Time To Dance Now Hey
Message N2: 이제는 해제 Now
Message N5: Haven't U Heard Now
Message N9: Boy Band Making Bands
Messages-service response: not implemented yet
```

Якщо відключити ще одну ноду, то бачимо що повідомлення все ще присутні:

```
> curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
Message N1: Take Off Your Mask Now
Message N6: Stadium Tours Now Hey
Message N4: Been Touring Domes Now
Message N10: 12년째 17 Got My Back Now Hey
Message N7: 다 뚜까패 Now
Message N8: 부정을 부정 필승 Yes I Can Now Hey
Message N3: It's Time To Dance Now Hey
Message N2: 이제는 해제 Now
Message N5: Haven't U Heard Now
Message N9: Boy Band Making Bands
Messages-service response: not implemented yet
```

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