

Lab3

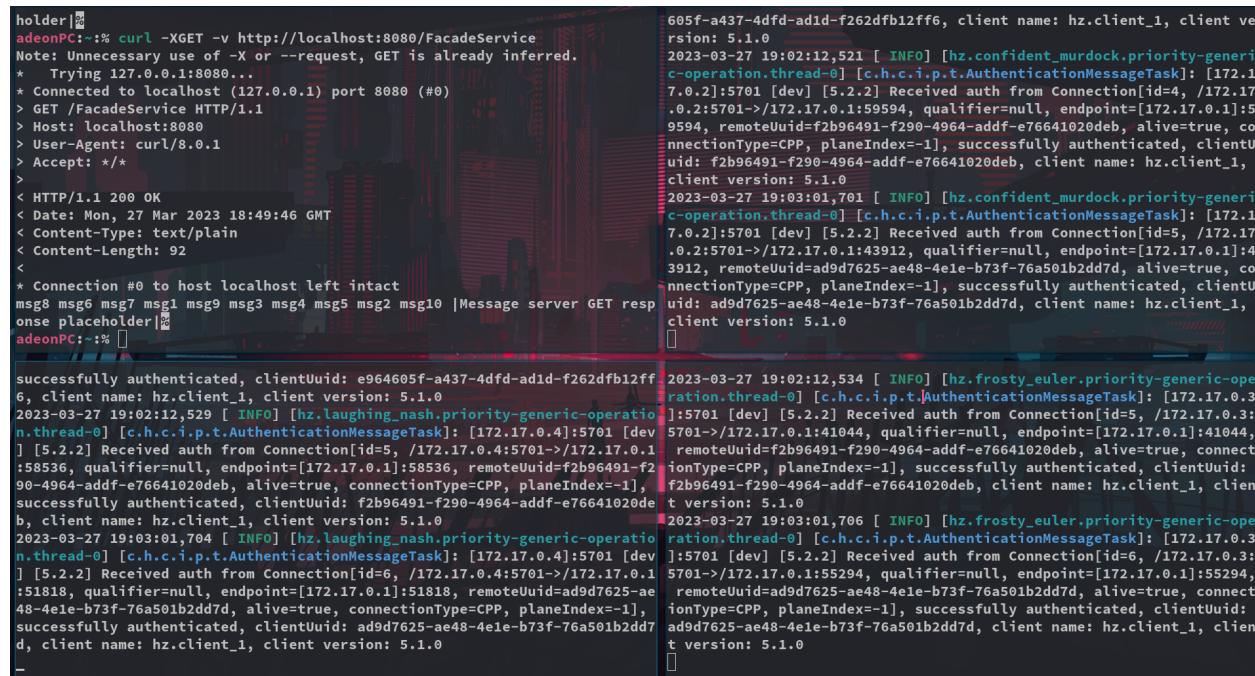
Виконав *Остап Труш*

Github

https://github.com/Adeon18/MicroServices/tree/micro_hazelcast

1. Запускаю Facade(8080), Message(8081), Logging1(8082), Logging2(8083), Logging3(8084) та 3 докер контейнера з хейзелкаст нодами.

Ноди:



```
holder| adeonPC:~:~ curl -XGET -v http://localhost:8080/FacadeService
Note: Unnecessary use of -X or --request, GET is already inferred.
*   Trying 127.0.0.1:8080...
* Connected to localhost (127.0.0.1) port 8080 (#0)
> GET /FacadeService HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/8.0.1
> Accept: */*
<
< HTTP/1.1 200 OK
< Date: Mon, 27 Mar 2023 18:49:46 GMT
< Content-Type: text/plain
< Content-Length: 92
<
* Connection #0 to host localhost left intact
msg8 msg6 msg7 msg1 msg9 msg3 msg4 msg5 msg2 msg10 |Message server GET response placeholder| adeonPC:~:~
```

```
605f-a437-4dfd-ad1d-f262dfb12ff6, client name: hz.client_1, client version: 5.1.0
2023-03-27 19:02:12,521 [ INFO] [hz.confident_murdock.priority-generic-operation.thread-0] [c.h.c.i.p.t.AuthenticationMessageTask]: [172.17.0.2]:5701 [dev] [5.2.2] Received auth from Connection[id=4, /172.17.0.2:5701->/172.17.0.1:59594, remoteUuid=f2b96491-f290-4964-addf-e76641020deb, alive=true, connectionType=CPP, planeIndex=-1], successfully authenticated, clientUuid: f2b96491-f290-4964-addf-e76641020deb, client name: hz.client_1, client version: 5.1.0
2023-03-27 19:03:01,701 [ INFO] [hz.confident_murdock.priority-generic-operation.thread-0] [c.h.c.i.p.t.AuthenticationMessageTask]: [172.17.0.2]:5701 [dev] [5.2.2] Received auth from Connection[id=5, /172.17.0.2:5701->/172.17.0.1:43912, remoteUuid=add9d7625-ae48-4e1e-b73f-76a501b2dd7d, alive=true, connectionType=CPP, planeIndex=-1], successfully authenticated, clientUuid: add9d7625-ae48-4e1e-b73f-76a501b2dd7d, client name: hz.client_1, client version: 5.1.0
2023-03-27 19:02:12,534 [ INFO] [hz.frosty_euler.priority-generic-operation.thread-0] [c.h.c.i.p.t.AuthenticationMessageTask]: [172.17.0.3]:5701 [dev] [5.2.2] Received auth from Connection[id=5, /172.17.0.3:5701->/172.17.0.1:41044, remoteUuid=f2b96491-f290-4964-addf-e76641020deb, alive=true, connectionType=CPP, planeIndex=-1], successfully authenticated, clientUuid: f2b96491-f290-4964-addf-e76641020deb, client name: hz.client_1, client version: 5.1.0
2023-03-27 19:03:01,704 [ INFO] [hz.laughing_nash.priority-generic-operation.thread-0] [c.h.c.i.p.t.AuthenticationMessageTask]: [172.17.0.4]:5701 [dev] [5.2.2] Received auth from Connection[id=6, /172.17.0.4:5701->/172.17.0.1:51818, remoteUuid=add9d7625-ae48-4e1e-b73f-76a501b2dd7d, alive=true, connectionType=CPP, planeIndex=-1], successfully authenticated, clientUuid: add9d7625-ae48-4e1e-b73f-76a501b2dd7d, client name: hz.client_1, client version: 5.1.0
```

Logging services

```

adeonPC:LoggingService% ./LoggingService 8082 <micro_hazelcast>
27/03/2023 22:03:01.696 INFO: [140435170895552] hz.client_1[dev] [5.1.0] (Fri Dec 30 14:45:20 2022 +0300:6a22d8569) LifecycleService::LifecycleEvent Client (ad9d7625-ae48-4e1eb73f-76a501b2dd7d) is STARTING
27/03/2023 22:03:01.696 INFO: [140435170895552] hz.client_1[dev] [5.1.0] (Fri Dec 30 14:45:20 2022 +0300:6a22d8569) LifecycleService::LifecycleEvent STARTING
27/03/2023 22:03:01.696 INFO: [140435170895552] hz.client_1[dev] [5.1.0] LifecycleService::LifecycleEvent STARTED
27/03/2023 22:03:01.700 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Trying to connect to Address[127.0.0.1:5701].
27/03/2023 22:03:01.702 INFO: [140435170895552] hz.client_1[dev] [5.1.0] LifecycleService::LifecycleEvent CLIENT_CONNECTED
27/03/2023 22:03:01.702 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.2:5701]:f071e282-8eea-a48d-ab46-e518d4568a32, server version: 5.2.2, local address: Address[127.0.0.1:60424]. Connection[alive=1, connection id=1, remote endpoint=Address[172.17.0.2:5701], last_read_time=2023-03-27 22:03:01.702, last_write_time=2023-03-27 22:03:01.700, closedTime=never, connected server version=5.2.2]
27/03/2023 22:03:01.703 INFO: [140434927900464] hz.client_1[dev] [5.1.0]

Members [3] {
    Member[172.17.0.4]:5701 - d09e9607-8d41-488f-a497-5b002624a3ec
    Member[172.17.0.3]:5701 - 3e4a5975-0ff3-4c7c-9843-483a1dd1d65e
    Member[172.17.0.2]:5701 - f071e282-8eea-a48d-ab46-e518d4568a32
}

27/03/2023 22:03:01.703 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Trying to connect to Address[127.0.0.1:5701].
27/03/2023 22:03:01.705 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.4:5701]:d09e9607-8d41-488f-a497-5b002624a3ec, server version: 5.2.2, local address: Address[172.17.0.1:51818]. Connection[alive=1, connection id=2, remote endpoint=Address[172.17.0.4:5701], last_read_time=2023-03-27 22:03:01.705, last_write_time=2023-03-27 22:03:01.703, closedTime=never, connected server version=5.2.2]
27/03/2023 22:03:01.705 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.3:5701].
27/03/2023 22:03:01.705 INFO: [140435170895552] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.3:5701]:3e4a5975-0ff3-4c7c-9843-483a1dd1d65e, server version: 5.2.2, local address: Address[172.17.0.1:51818]. Connection[alive=1, connection id=3, remote endpoint=Address[172.17.0.3:5701], last_read_time=2023-03-27 22:03:01.706, last_write_time=2023-03-27 22:03:01.705, closedTime=never, connected server version=5.2.2]
[2023-03-27 22:03:01.709] [info] Service at /LoggingService started

27/03/2023 22:02:18.418 INFO: [140437025117888] hz.client_1[dev] [5.1.0]
Members [3] {
    Member[172.17.0.4]:5701 - d09e9607-8d41-488f-a497-5b002624a3ec
    Member[172.17.0.3]:5701 - 3e4a5975-0ff3-4c7c-9843-483a1dd1d65e
    Member[172.17.0.2]:5701 - f071e282-8eea-a48d-ab46-e518d4568a32
}

27/03/2023 22:02:18.418 INFO: [140437262718656] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.4:5701].
27/03/2023 22:02:18.430 INFO: [140437262718656] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.4:5701]:d09e9607-8d41-488f-a497-5b002624a3ec, server version: 5.2.2, local address: Address[172.17.0.1:58534]. Connection[alive=1, connection id=2, remote endpoint=Address[172.17.0.4:5701], last_read_time=2023-03-27 22:02:18.430, last_write_time=2023-03-27 22:02:18.419, closedTime=never, connected server version=5.2.2]
27/03/2023 22:02:18.430 INFO: [140437262718656] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.3:5701].
27/03/2023 22:02:18.430 INFO: [140437262718656] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.3:5701]:3e4a5975-0ff3-4c7c-9843-483a1dd1d65e, server version: 5.2.2, local address: Address[172.17.0.1:41038]. Connection[alive=1, connection id=3, remote endpoint=Address[172.17.0.3:5701], last_read_time=2023-03-27 22:02:18.442, last_write_time=2023-03-27 22:02:18.430, closedTime=never, connected server version=5.2.2]
[2023-03-27 22:02:18.459] [info] Service at /LoggingService started

}
[2023-03-27 22:02:12.525] [info] Service at /LoggingService started

27/03/2023 22:02:12.525 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.4:5701].
27/03/2023 22:02:12.530 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.4:5701]:d09e9607-8d41-488f-a497-5b002624a3ec, server version: 5.2.2, local address: Address[172.17.0.1:58536]. Connection[alive=1, connection id=2, remote endpoint=Address[172.17.0.4:5701], last_read_time=2023-03-27 22:02:12.526, closedTime=never, connected server version=5.2.2]
27/03/2023 22:02:12.530 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.3:5701].
27/03/2023 22:02:12.534 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.3:5701]:3e4a5975-0ff3-4c7c-9843-483a1dd1d65e, server version: 5.2.2, local address: Address[172.17.0.1:41044]. Connection[alive=1, connection id=3, remote endpoint=Address[172.17.0.3:5701], last_read_time=2023-03-27 22:02:12.531, last_write_time=2023-03-27 22:02:12.531, closedTime=never, connected server version=5.2.2]
[2023-03-27 22:02:12.538] [info] Service at /LoggingService started

```

2. Записую 10 повідомлень по черзі

Як виглядали POST запити(так 10 раз)

```

adeonPC:~:% curl -XPOST -v http://localhost:8080/FacadeService -d "msg9"
Note: Unnecessary use of -X or --request, POST is already inferred.
* Trying 127.0.0.1:8080...
* Connected to localhost (127.0.0.1) port 8080 (#0)
> POST /FacadeService HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/8.0.1
> Accept: */*
> Content-Length: 4
> Content-Type: application/x-www-form-urlencoded
>
< HTTP/1.1 200 OK
< Date: Mon, 27 Mar 2023 19:04:37 GMT
< Content-Type: text/plain
< Content-Length: 14
<
* Connection #0 to host localhost left intact
Message Logged%

```

Перший логін отримав 3, другий 6, а третій лише один

```
[2023-03-27 22:03:01.709] [info] Service at /LoggingService started
[2023-03-27 22:04:27.132] [info] Controller: Received POST from: 127.0.0.1:23267
[2023-03-27 22:04:27.141] [info] Repository: Message logged: [145c2e3f-2636-4d07-af3e-87
6bf7b71c89, msg3]
[2023-03-27 22:04:35.430] [info] Controller: Received POST from: 127.0.0.1:25827
[2023-03-27 22:04:35.432] [info] Repository: Message logged: [fbb5dfa-2085-48d3-bca3-73
6336ef725a, msg8]
[2023-03-27 22:04:37.011] [info] Controller: Received POST from: 127.0.0.1:9350
[2023-03-27 22:04:37.015] [info] Repository: Message logged: [1fae0535-c1b7-4017-bc12-01
64f28c932c, msg9]
```

```
[2023-03-27 22:02:10.459] [info] Service at /LoggingService started
[2023-03-27 22:04:23.064] [info] Controller: Received POST from: 127.0.0.1:24704
[2023-03-27 22:04:23.154] [info] Repository: Message logged: [89bfce0f-b1e0-446c-b694-9a8f
37954227, msg1]
[2023-03-27 22:04:25.342] [info] Controller: Received POST from: 127.0.0.1:28800
[2023-03-27 22:04:25.398] [info] Repository: Message logged: [2035593f-c918-469f-a9c5-175f
5b1b2f3b, msg2]
[2023-03-27 22:04:28.910] [info] Controller: Received POST from: 127.0.0.1:47266
[2023-03-27 22:04:28.916] [info] Repository: Message logged: [c9c159db-93a4-45bb-8199-6285
1dc1f4e8, msg4]
[2023-03-27 22:04:32.059] [info] Controller: Received POST from: 127.0.0.1:48290
[2023-03-27 22:04:32.060] [info] Repository: Message logged: [8535f07a-4667-413f-b3f8-464c
f4f381b7, msg6]
[2023-03-27 22:04:33.840] [info] Controller: Received POST from: 127.0.0.1:51874
[2023-03-27 22:04:33.841] [info] Repository: Message logged: [845e56dd-5835-417e-85ee-ecdf
6a28fb02, msg7]
[2023-03-27 22:04:38.824] [info] Controller: Received POST from: 127.0.0.1:29873
[2023-03-27 22:04:38.826] [info] Repository: Message logged: [b8cbf3e8-c305-4a4c-83ac-8a8a
94828ebf, msg10]
```

```
connected server version=5.2.2}
[2023-03-27 22:02:12.538] [info] Service at /LoggingService started
[2023-03-27 22:04:30.637] [info] Controller: Received POST from: 127.0.0.1:59015
[2023-03-27 22:04:30.638] [info] Repository: Message logged: [e637a986-f030-459c-
89a5-e9719669e2a2, msg5]
```

В GET запиті отримуємо всі 10 повідомлень, та різні GET запити обробляються різними нодами.

```
http://localhost:8080/FacadeService

HTTP/1.1 200 OK
Date: Mon, 27 Mar 2023 19:06:11 GMT
Content-Type: text/plain
Content-Length: 92

msg10 msg8 msg5 msg4 msg7 msg1 msg3 msg9 msg6 msg2 |Message server GET response placeholder|

Response code: 200 (OK); Time: 111ms (111 ms); Content length: 92 bytes (92 B)
```

```

[2023-03-27 22:06:11.954] [info] Controller: Received GET from: 127.0.0.1:19628
[2023-03-27 22:06:11.958] [info] Controller: GET response: msg10 msg8 msg5 msg4 msg7 msg1
msg3 msg9 msg6 msg2
[]

server version: 5.2.2, local address: Address[172.17.0.1:58536]. Connection{alive=1, connection id=2, remote endpoint=Address[172.17.0.4:5701], last_read_time=2023-03-27 22:02:12.530, last_write_time=2023-03-27 22:02:12.526, closedTime=never, connected server version=5.2.2}
27/03/2023 22:02:12.530 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Trying to connect to Address[172.17.0.3:5701].
27/03/2023 22:02:12.534 INFO: [139681748551360] hz.client_1[dev] [5.1.0] Authenticated with server Address[172.17.0.3:5701]:3e4a5975-0ff3-4c7c-9843-483a1dd1d65e, server version: 5.2.2, local address: Address[172.17.0.1:41044]. Connection{alive=1, connection id=3, remote endpoint=Address[172.17.0.3:5701], last_read_time=2023-03-27 22:02:12.534, last_write_time=2023-03-27 22:02:12.531, closedTime=never, connected server version=5.2.2}
[2023-03-27 22:02:12.538] [info] Service at /LoggingService started
[2023-03-27 22:04:30.637] [info] Controller: Received POST from: 127.0.0.1:59015
[2023-03-27 22:04:30.638] [info] Repository: Message logged: [e637a986-f030-459c-89a5-e9719669e2a2, msg5]
[2023-03-27 22:06:00.922] [info] Controller: Received GET from: 127.0.0.1:25274
[2023-03-27 22:06:00.954] [info] Controller: GET response: msg10 msg8 msg5 msg4 msg7 msg1 msg3 msg9 msg6 msg2

```

Розподіл даних наступний:

Member ^	^ Entries	^ Gets	^ Puts	^ Removals	^ Sets	^ Entry Memory	^ Events	^ Hits
172.17.0.2:5701	4	0	4	0	0	657.00 B	0	0
172.17.0.3:5701	4	0	4	0	0	656.00 B	0	0
172.17.0.4:5701	2	0	2	0	0	328.00 B	0	0
TOTAL	10	0	10	0	0	1.60 kB	0	0

1 – 3 of 3 Rows 10 ▾

3. Вбиваю одну ноду + LoggingService

GET запит повертає все те саме

```

http://localhost:8080/FacadeService

HTTP/1.1 200 OK
Date: Mon, 27 Mar 2023 19:12:08 GMT
Content-Type: text/plain
Content-Length: 92

msg7 msg1 msg3 msg8 msg9 msg4 msg10 msg6 msg5 msg2 |Message server GET response placeholder|

Response code: 200 (OK); Time: 12ms (12 ms); Content length: 92 bytes (92 B)

```

Ось як виглядає новий розподіл:

Member ^	Entries	Gets	Puts	Removals	Sets	Entry Memory	Events	Hits
172.17.0.3:5701	6	0	4	0	0	984.00 B	0	0
172.17.0.4:5701	4	0	2	0	0	657.00 B	0	0
TOTAL	10	0	6	0	0	1.60 kB	0	0

1 – 2 of 2 Rows 10 ▾

4. Вбиваю ще одну ноду + LoggingService

GET запит далі повертає все те саме

```
http://localhost:8080/FacadeService

HTTP/1.1 200 OK
Date: Mon, 27 Mar 2023 19:14:38 GMT
Content-Type: text/plain
Content-Length: 92

msg10 msg7 msg1 msg6 msg3 msg8 msg9 msg5 msg4 msg2 |Message server GET response placeholder|
```

Response code: 200 (OK); Time: 7ms (7 ms); Content length: 92 bytes (92 B)

Новий розподіл(очевидно який:)):

Member ^	Entries	Gets	Puts	Removals	Sets	Entry Memory	Events	Hits
172.17.0.4:5701	10	0	2	0	0	1.60 kB	0	0
TOTAL	10	0	2	0	0	1.60 kB	0	0