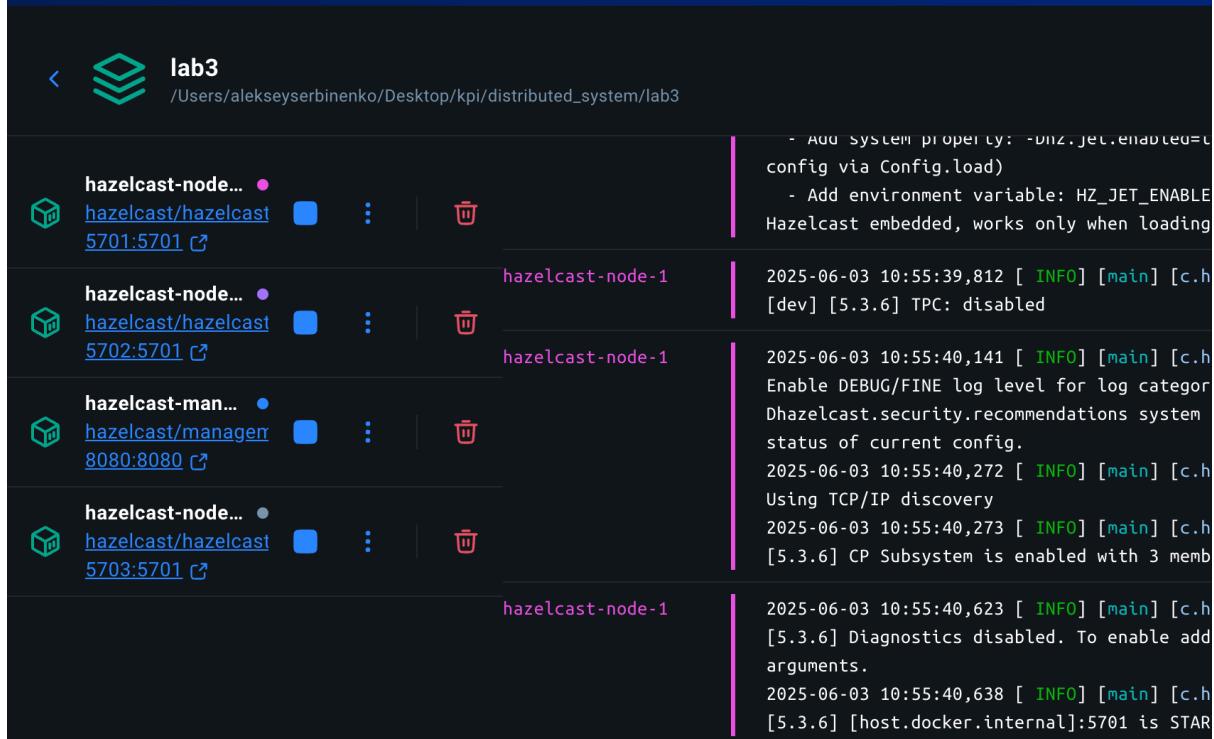


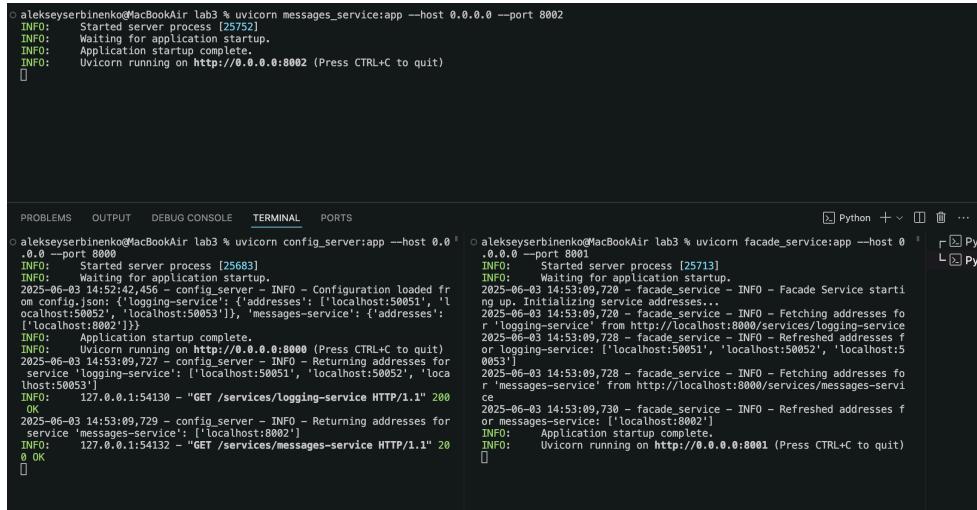
Сербіненко Олексій фб-42мп

Запустимо ноди хейзелкаст



Далі по черзі запустимо конфіг сервіс щоб фасад міг отримувати налаштування

Та запустимо Facade service та Message service



Після цього запустимо 3 екземпляри логінг сервісів на різних портах

Відправлю меседж за допомогою інсомнії

POST ▾ localhost:8001/message

Send ▾ 200 OK 244 ms 108 B Just Now

Params	Body	Auth	Headers	4	Scripts	Docs	Preview	Headers	4	Cookies	Tests	0 / 0	→ Mock	Console	
JSON	1~ { 2~ "msg": "messagel" 3~ }						Preview								
								1~ { 2~ "status": "Message sent to logging service", 3~ "uuid": "2b980bc3-1c55-4029-bb86-46735a849c24", 4~ "msg": "messagel" 5~ }							

Перевірив та побачив що перше повідомлення записано в 2 сервіси

```

, in <format>
raise ValueError('Formatting field not found in record: %s' % e)
ValueError: Formatting field not found in record: 'port'
Call stack:
File "/Users/alekseyserbinenko/Desktop/kpi/lab3/logging_service.py", line 108, in <module>
serve(args.port)
File "/Users/alekseyserbinenko/Desktop/kpi/lab3/logging_service.py", line 67, in serve
hz_client = hazelcast.HazelcastClient(
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/client.py", line 203, in __init__
self._start()
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/client.py", line 245, in _start
logger.info("Client started")
Message: 'Client started'
Arguments: ()
2025-06-03 15:15:38,894 - __main__ - INFO - 50051 - Hazelcast client connected and map 'logging_service_map' obtained. Running on port 50051
2025-06-03 15:15:39,900 - __main__ - INFO - 50051 - Logging Service gRPC сервер запущено на порту 50051
[]

● ● ● lab3 -- Python logging_service.py --port 50053 -- 115x24
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/logging/__init__.py", line 675, in format
Message
    return self._style.format(record)
    ^^^^^^
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/logging/__init__.py", line 466, in format
raise ValueError('Formatting field not found in record: %s' % e)
ValueError: Formatting field not found in record: 'port'
Call stack:
File "/Users/alekseyserbinenko/Desktop/kpi/lab3/logging_service.py", line 108, in <module>
serve(args.port)
File "/Users/alekseyserbinenko/Desktop/kpi/lab3/logging_service.py", line 67, in serve
hz_client = hazelcast.HazelcastClient(
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/client.py", line 203, in __init__
self._start()
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/client.py", line 245, in _start
logger.info("Client started")
Message: 'Client started'
Arguments: ()
2025-06-03 15:15:41,776 - __main__ - INFO - 50053 - Hazelcast client connected and map 'logging_service_map' obtained. Running on port 50053
2025-06-03 15:15:41,781 - __main__ - INFO - 50053 - Logging Service gRPC сервер запущено на порту 50053
[ ]

```

```

○ alekseyserbinenko@MacBookAir lab3 % uvicorn facade_service:app --host 0.0.0.0 --port 8001
INFO:     Started server process [26692]
INFO:     Waiting for application startup.
2025-06-03 15:14:49,609 - facade_service - INFO - Facade Service starting up. Initializing service addresses...
2025-06-03 15:14:49,609 - facade_service - INFO - Fetching addresses for 'logging-service' from http://localhost:8000/services/logging-service
2025-06-03 15:14:49,615 - facade_service - INFO - Refreshed addresses for logging-service: ['localhost:50051', 'localhost:50052', 'localhost:50053']
2025-06-03 15:14:49,615 - facade_service - INFO - Fetching addresses for 'messages-service' from http://localhost:8000/services/messages-service
2025-06-03 15:14:49,617 - facade_service - INFO - Refreshed addresses for messages-service: ['localhost:8002']
INFO:     Application startup complete.
INFO:     Uvicorn running on http://0.0.0.0:8001 (Press CTRL+C to quit)
2025-06-03 15:15:05,920 - facade_service - INFO - POST /message: UUID=794202e4-406e-4b68-92a0-3a1df61344c9, Msg='messagel'. Sending to logging-service
2025-06-03 15:17:05,921 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50051
2025-06-03 15:17:06,934 - facade_service - WARNING - Timeout connecting to logging-service instance at localhost:50051.
2025-06-03 15:17:06,961 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50052
2025-06-03 15:17:07,047 - facade_service - INFO - Successfully connected and called logging-service at localhost:50052
2025-06-03 15:17:07,167 - facade_service - INFO - Message 794202e4-406e-4b68-92a0-3a1df61344c9 successfully processed by logging-service.
INFO:     127.0.0.1:54476 - "POST /message HTTP/1.1" 200 OK
[ ]

```

```

○ alekseyserbinenko@MacBookAir lab3 % uvicorn config_server:app --host 0.0.0.0 --port 8000
INFO:     Started server process [26668]
INFO:     Waiting for application startup.
2025-06-03 15:14:19,366 - config_server - INFO - Configuration loaded from config.json: {'logging-service': {'addresses': ['localhost:50051', 'localhost:50052', 'localhost:50053']}, 'messages-service': {'addresses': ['localhost:8002']}}
INFO:     Application startup complete.
INFO:     Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
2025-06-03 15:14:49,615 - config_server - INFO - Returning addresses for service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO:     127.0.0.1:54449 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:14:49,617 - config_server - INFO - Returning addresses for service 'messages-service': ['localhost:8002']
INFO:     127.0.0.1:54451 - "GET /services/messages-service HTTP/1.1" 200 OK
INFO:     127.0.0.1:54460 - "GET /docs HTTP/1.1" 200 OK
INFO:     127.0.0.1:54460 - "GET /openapi.json HTTP/1.1" 200 OK
[ ]

```

Відправлю більше повідомень

lab3 x POST New Request x +

POST ▾ localhost:8001/message Send 200 OK 1.25 s 108 B Just Now

Params Body Auth Headers (4) Scripts Docs Preview Headers (4) Cookies Tests 0 / 0 → Mock Console

JSON ▾ Preview ▾

```
1 {  
2   "msg": "messagge3"  
3 }
```

```
1 {  
2   "status": "Message sent to logging service"  
3   "uuid": "0b82441a-96b4-44d3-8efd-64ac0c6c54e7",  
4   "msg": "messagge3"  
5 }
```

Search..

Run lab3 x POST New Request x +

POST ▾ localhost:8001/message Send 200 OK 232 ms 109 B Just Now

Params Body Auth Headers (4) Scripts Docs Preview Headers (4) Cookies Tests 0 / 0 → Mock Console

JSON ▾ Preview ▾

```
1 {  
2   "msg": "messagge12"  
3 }
```

```
1 {  
2   "status": "Message sent to logging service",  
3   "uuid": "d357a73a-9a22-487b-a453-e56ecb8c2632",  
4   "msg": "messagge12"  
5 }
```

+ Invite AL aleshkaserb2003@gmail.com

Із скринів вище бачу що сервіси обираються рандомно

Перевірю повідомлення по key

Map Browser

Key: d357a73a-9a22-487b-a453-e56ecb8c2632 Key Type: String

Need to enable per entry stats of the map to see all the values. Please see the documentation.

Value:	messsage12
Memory Cost:	74.00 B
Expiration Time:	N/A
Last Access Time:	N/A
Last Stored Time:	N/A
Time to Live:	Unlimited
Key Owner Member:	host.docker.internal:5702
Class:	java.lang.String
Creation Time:	N/A
Hits:	N/A

Усі повідомлення

GET http://localhost:8001/message Send 200 OK 234 ms 235 B Just Now

Params Body Auth Headers (3) Scripts Docs Preview Headers (4) Cookies Tests 0 / 0 → Mock Console

URL PREVIEW
http://localhost:8001/message

QUERY PARAMETERS Import from URL Bulk Edit

+ Add Delete all Description

#	name	value
1		

Preview

```
1 ↴ {
2 ↴   "logged_messages_from_hazelcast": [
3 ↴     "messsage4",
4 ↴     "messsage9",
5 ↴     "messsage3",
6 ↴     "messsage8",
7 ↴     "messsage12",
8 ↴     "messsage5",
9 ↴     "messsage11",
10 ↴    "messsage7",
11 ↴    "messsage6",
12 ↴    "messsage10",
13 ↴    "messsage2",
14 ↴    "messsage1"
15 ↴  ],
```

```
logging_service.py  facade_service.py  Python  X
2025-06-03 15:29:27,505 - facade_service - INFO - Message 10e9612b-85f6-4d28-ad2b-cfc22898b530 successfully processed by logging-service.
INFO: 127.0.0.1:54559 - "POST /message HTTP/1.1" 200 OK
2025-06-03 15:29:43,122 - facade_service - INFO - POST /message: UUID=f5cc24e7-b2f5-4391-a67c-744ddd946a07, Msg='messsage11'. Sending to logging-
2025-06-03 15:29:43,122 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50052
2025-06-03 15:29:45,128 - facade_service - WARNING - gRPC call to logging-service instance at localhost:50052 failed: StatusCode.DEADLINE_EXCEEDED
2025-06-03 15:29:45,128 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50053
2025-06-03 15:29:45,138 - facade_service - INFO - Successfully connected and called logging-service at localhost:50053
2025-06-03 15:29:45,335 - facade_service - INFO - Message f5cc24e7-b2f5-4391-a67c-744ddd946a07 successfully processed by logging-service.
INFO: 127.0.0.1:54561 - "POST /message HTTP/1.1" 200 OK
2025-06-03 15:30:19,418 - facade_service - INFO - POST /message: UUID=d357a73a-9a22-487b-a453-e56ecb8c2632, Msg='messsage12'. Sending to logging-
2025-06-03 15:30:19,418 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50053
2025-06-03 15:30:19,428 - facade_service - INFO - Successfully connected and called logging-service at localhost:50053
2025-06-03 15:30:19,629 - facade_service - INFO - Message d357a73a-9a22-487b-a453-e56ecb8c2632 successfully processed by logging-service.
INFO: 127.0.0.1:54564 - "POST /message HTTP/1.1" 200 OK
2025-06-03 15:34:41,865 - facade_service - INFO - GET /message: Fetching logs from logging-service and messages-service...
2025-06-03 15:34:41,865 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50052
2025-06-03 15:34:41,900 - facade_service - INFO - Successfully connected and called logging-service at localhost:50052
2025-06-03 15:34:42,073 - facade_service - INFO - Retrieved 12 messages from logging-service.
2025-06-03 15:34:42,074 - facade_service - INFO - Fetching from messages-service: http://localhost:8002/messages
2025-06-03 15:34:42,086 - facade_service - INFO - Response from messages-service: "not implemented yet"
INFO: 127.0.0.1:54571 - "GET /message HTTP/1.1" 200 OK

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Python
ost:50053']
INFO: 127.0.0.1:54507 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:22:59,975 - config_server - INFO - Returning addresses for service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54513 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:23:06,029 - config_server - INFO - Returning addresses for service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54519 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:27:25,460 - config_server - INFO - Returning addresses for service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54534 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:27:25,462 - config_server - INFO - Returning addresses for service 'messages-service': ['localhost:8002']
INFO: 127.0.0.1:54536 - "GET /services/messages-service HTTP/1.1" 200 OK
2025-06-03 15:28:06,651 - config_server - INFO - Returning addresses for service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54539 - "GET /services/logging-service HTTP/1.1" 200 OK
2025-06-03 15:28:06,653 - config_server - INFO - Returning addresses for service 'messages-service': ['localhost:8002']
INFO: 127.0.0.1:54541 - "GET /services/messages-service HTTP/1.1" 200 OK

alekseyserbinenko@MacBookAir lab3 % uvicorn messages_service:app -- 0.0.0.0 --port 8002
INFO: Started server process [26728]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: Uvicorn running on http://0.0.0.0:8002 (Press CTRL+C to quit)
2025-06-03 15:34:42,084 - messages_service - INFO - Запит /messages імано, повертається 'not implemented yet'
INFO: 127.0.0.1:54574 - "GET /messages HTTP/1.1" 200 OK
```

Відключаю 2 ноди

The screenshot shows four Hazelcast services listed in the Docker desktop interface:

- hazelcast-node1**: Status green circle, Service [hazelcast/hazelcast](#), Port 5702:5701, icon with a cube.
- hazelcast-node2**: Status green circle, Service [hazelcast/hazelcast](#), Port 5703:5701, icon with a cube.
- hazelcast-node3**: Status red circle, Service [hazelcast/hazelcast](#), Port 5701:5701, icon with a cube.
- hazelcast-manager**: Status blue circle, Service [hazelcast/manager](#), Port 8080:8080, icon with a cube.

```

handle_members_view_event(version, member_infos)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/listen
er.py", line 299, in handle_members_view_event
    self._cluster_service.handle_members_view_event(member_list_version, member_infos)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/cluste
r.py", line 239, in handle_members_view_event
    self._apply_new_state_and_fire_events(current, snapshot)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/cluste
r.py", line 246, in _apply_new_state_and_fire_events
    dead_members, new_members = self._detect_membership_events(
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/hazelcast/cluste
r.py", line 292, in _detect_membership_events
    logger.info(self._members_string(current_members))
Message: '\n\nMembers [1] {\n\tMember [host.docker.internal]:5701 - 1f5130ea-78f9-4d57-8687-5d1cccd19fbfc
\n}\n'
Arguments: ()

```

```

lab3 — Python logging_service.py --port 50052 — 95x24
st/listener.py, line 148, in handle_client_message
    handler(message)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/listener.py", line 148, in inner
    Client.add_cluster_view_listener_codec.handle(
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/protocol/codec/client_add_cluster_view_listener_codec.py", line 32, in handle
    handle_members_view_event(version, member_infos)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/listener.py", line 299, in handle_members_view_event
    self._cluster_service.handle_members_view_event(member_list_version, member_infos)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/cluster.py", line 239, in handle_members_view_event
    self._apply_new_state_and_fire_events(current, snapshot)
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/cluster.py", line 246, in _apply_new_state_and_fire_events
    dead_members, new_members = self._detect_membership_events(
File "/Library/Frameworks/Python.framework/Versions/3.12/lib/python3.12/site-packages/ha
st/cluster.py", line 292, in _detect_membership_events
    Message: '\n\nMembers [1] {\n\tMember [host.docker.internal]:5701 - 1f5130ea-78f9-4d57-868
6cc19fbfcv}\n'
Arguments: ()

```

```

2025-06-03 15:30:19,710 - facade_service - INFO - Test /message: 0x10 0x57a73a 0x22 0x7b 0x55 e3e6cb8c2632, msg: message12 + sending to logging se
2025-06-03 15:30:19,418 - facade_service - INFO - Attempting gRPC call to logging-service at localhost:50053
2025-06-03 15:30:19,428 - facade_service - INFO - Successfully connected and called logging-service at localhost:50053
2025-06-03 15:30:19,629 - facade_service - INFO - Message d357a73a-9a22-487b-a453-e56ecb8c2632 successfully processed by logging-service.
INFO: 127.0.0.1:54564 - "POST /message HTTP/1.1" 200 OK
2025-06-03 15:34:41,865 - facade_service - INFO - GET /message: Fetching logs from logging-service and messages-service...
2025-06-03 15:34:41,900 - facade_service - INFO - Successfully connected and called logging-service at localhost:50052
2025-06-03 15:34:42,073 - facade_service - INFO - Retrieved 12 messages from logging-service.
2025-06-03 15:34:42,074 - facade_service - INFO - Fetching from messages-service: http://localhost:8002/messages
2025-06-03 15:34:42,086 - facade_service - INFO - Response from messages-service: "not implemented yet"
INFO: 127.0.0.1:54571 - "GET /message HTTP/1.1" 200 OK

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python +

```

ost:50053']
INFO: 127.0.0.1:54507 - "GET /services/logging-service HTTP/1.1" 200
OK
2025-06-03 15:22:59,975 - config_server - INFO - Returning addresses for
service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54513 - "GET /services/logging-service HTTP/1.1" 200
OK
2025-06-03 15:23:06,029 - config_server - INFO - Returning addresses for
service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54519 - "GET /services/logging-service HTTP/1.1" 200
OK
2025-06-03 15:27:25,460 - config_server - INFO - Returning addresses for
service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54534 - "GET /services/logging-service HTTP/1.1" 200
OK
2025-06-03 15:27:25,462 - config_server - INFO - Returning addresses for
service 'messages-service': ['localhost:8002']
INFO: 127.0.0.1:54536 - "GET /services/messages-service HTTP/1.1" 200
OK
2025-06-03 15:28:06,651 - config_server - INFO - Returning addresses for
service 'logging-service': ['localhost:50051', 'localhost:50052', 'localhost:50053']
INFO: 127.0.0.1:54539 - "GET /services/logging-service HTTP/1.1" 200
OK
2025-06-03 15:28:06,653 - config_server - INFO - Returning addresses for
service 'messages-service': ['localhost:8002']
INFO: 127.0.0.1:54541 - "GET /services/messages-service HTTP/1.1" 200
OK

```

Деякі повідомлення втратили

http://localhost:8001/message		Send ▾	200 OK	4.08 s	149 B	Just Now ▾
Body	Auth Headers (3) Scripts Docs		Preview Headers (4)	Cookies Tests 0/0	→ Mock Console	
Body ▾			Preview ▾			
			<pre> 1< { 2 "logged_messages_from_hazelcast": [3 "message7", 4 "message3", 5 "message9", 6 "message2", 7 "message11" 8], 9 "messages_service_output": "\"not implemented yet\"" 10 }</pre>			