

# Lab3

Запускаю через docker compose всі сервіси

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ilya@legolas: ~/UCU/Grade3/Sem2/SoftwareArchitecture/lab3 x ilya@legolas: ~/UCU/Grade3/Sem2/SoftwareArchitecture/lab3 x ilya@legolas: ~/UCU/Grade3/Sem2/SoftwareArchitecture/lab3 x
lab3-logging-service-3-1 Member [172.28.0.2]:5701 - 30214f6c-5b55-434a-a6bf-63b7b1aa181b
lab3-logging-service-3-1 Member [172.28.0.3]:5701 - 6384e533-47e8-4aa3-88b4-2a0f84857e6d this
lab3-logging-service-3-1 Member [172.28.0.4]:5701 - 4979fd67-d447-4bed-a512-3d6686460f7f
lab3-logging-service-3-1 ]
lab3-logging-service-3-1 2023-04-05T07:34:13.559Z INFO 1 --- [cached.thread-3] c.h.i.server.tcp.TcpServerConnector : [172.28.0.3]:5701 [dev] [5.2.2] Connecting
lab3-logging-service-3-1 to /172.28.0.4:5701, timeout: 10000, bind-any: true
lab3-logging-service-2-1 2023-04-05T07:34:13.560Z INFO 1 --- [ration.thread-0] c.h.internal.cluster.ClusterService : [172.28.0.4]:5701 [dev] [5.2.2]
lab3-logging-service-2-1 Members {size:3, ver:3} [
lab3-logging-service-2-1 Member [172.28.0.2]:5701 - 30214f6c-5b55-434a-a6bf-63b7b1aa181b
lab3-logging-service-2-1 Member [172.28.0.3]:5701 - 6384e533-47e8-4aa3-88b4-2a0f84857e6d
lab3-logging-service-2-1 Member [172.28.0.4]:5701 - 4979fd67-d447-4bed-a512-3d6686460f7f this
lab3-logging-service-2-1 ]
lab3-logging-service-2-1 2023-04-05T07:34:13.567Z INFO 1 --- [.IO.thread-in-1] c.h.i.server.tcp.TcpServerConnection : [172.28.0.4]:5701 [dev] [5.2.2] Initialize
lab3-logging-service-2-1 d new cluster connection between /172.28.0.4:5701 and /172.28.0.3:36501
lab3-logging-service-3-1 2023-04-05T07:34:13.568Z INFO 1 --- [.IO.thread-in-1] c.h.i.server.tcp.TcpServerConnection : [172.28.0.3]:5701 [dev] [5.2.2] Initialize
lab3-logging-service-3-1 d new cluster connection between /172.28.0.3:36501 and /172.28.0.4:5701
lab3-logging-service-2-1 2023-04-05T07:34:13.573Z INFO 1 --- [cached.thread-4] c.h.i.server.tcp.TcpServerConnector : [172.28.0.4]:5701 [dev] [5.2.2] Connecting
lab3-logging-service-3-1 to /172.28.0.3:5701, timeout: 10000, bind-any: true
lab3-logging-service-3-1 2023-04-05T07:34:13.576Z INFO 1 --- [.IO.thread-in-2] c.h.i.server.tcp.TcpServerConnection : [172.28.0.3]:5701 [dev] [5.2.2] Initialize
lab3-logging-service-2-1 d new cluster connection between /172.28.0.3:5701 and /172.28.0.4:32899
lab3-logging-service-2-1 2023-04-05T07:34:13.578Z INFO 1 --- [.IO.thread-in-2] c.h.i.server.tcp.TcpServerConnection : [172.28.0.4]:5701 [dev] [5.2.2] Initialize
lab3-logging-service-2-1 d new cluster connection between /172.28.0.4:32899 and /172.28.0.3:5701
lab3-logging-service-2-1 2023-04-05T07:34:14.596Z INFO 1 --- [ main] com.hazelcast.core.LifecycleService : [172.28.0.4]:5701 [dev] [5.2.2] [172.28.0.4]:5701 is STARTED
lab3-logging-service-3-1 2023-04-05T07:34:14.598Z INFO 1 --- [ main] com.hazelcast.core.LifecycleService : [172.28.0.3]:5701 [dev] [5.2.2] [172.28.0.3]:5701 is STARTED
lab3-logging-service-1-1 2023-04-05T07:34:14.686Z INFO 1 --- [ration.thread-0] c.h.i.p.impl.PartitionStateManager : [172.28.0.2]:5701 [dev] [5.2.2] Initializ
lab3-logging-service-3-1 ng cluster partition table arrangement...
lab3-logging-service-3-1 2023-04-05T07:34:15.392Z INFO 1 --- [ main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8082 (http) wit
lab3-logging-service-2-1 h context path ''
lab3-logging-service-2-1 2023-04-05T07:34:15.404Z INFO 1 --- [ main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8081 (http) wit
lab3-logging-service-2-1 h context path ''
lab3-logging-service-3-1 2023-04-05T07:34:15.407Z INFO 1 --- [ main] com.example.Logging.LoggingApplication : Started LoggingApplication in 20.636 secon
lab3-logging-service-2-1 ds (process running for 22.494)
lab3-logging-service-2-1 2023-04-05T07:34:15.427Z INFO 1 --- [ main] com.example.Logging.LoggingApplication : Started LoggingApplication in 20.344 secon
lab3-logging-service-2-1 ds (process running for 22.279)
lab3-logging-service-3-1 2023-04-05T07:34:42.739Z INFO 1 --- [nio-8082-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dis
lab3-logging-service-3-1 patcherServlet'
lab3-logging-service-3-1 2023-04-05T07:34:42.740Z INFO 1 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
lab3-logging-service-3-1 2023-04-05T07:34:42.741Z INFO 1 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
lab3-logging-service-3-1 Message [id=e55c9125-b669-4ba0-89b8-1ebae4bfe8c, txt=msg1]
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:34:43] "POST / HTTP/1.1" 200 -
lab3-facade-service-1 <Response [200]>
```

Через Postman пересилаю 10 повідомлень на фасад, порт 5000

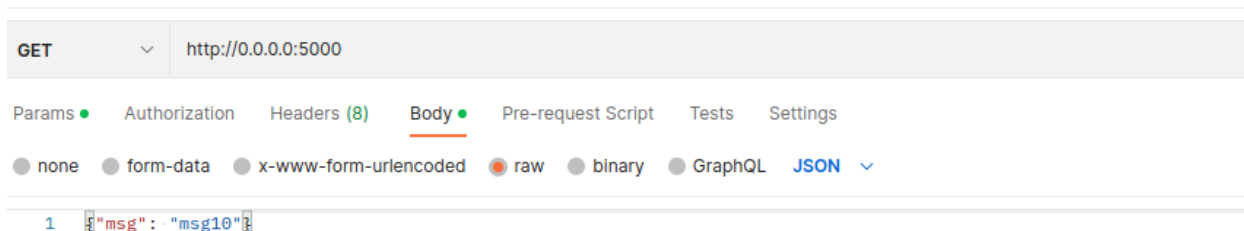
```

lab3-logging-service-3-1 2023-04-05T07:34:42.740Z INFO 1 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
lab3-logging-service-3-1 2023-04-05T07:34:42.741Z INFO 1 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
lab3-logging-service-3-1 Message [id=e55c9125-b669-4be0-89b8-1ebae4bfeb8c, txt=msg1]
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:34:43] "POST / HTTP/1.1" 200 -
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "e55c9125-b669-4be0-89b8-1ebae4bfeb8c", "txt": "msg1"}
lab3-logging-service-1-1 2023-04-05T07:34:49.386Z INFO 1 --- [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dis
lab3-logging-service-1-1 2023-04-05T07:34:49.387Z INFO 1 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
lab3-logging-service-1-1 2023-04-05T07:34:49.388Z INFO 1 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
lab3-logging-service-1-1 Message [id=dc388df2-2605-4ed2-b1ca-e4fad74da9e3, txt=msg2]
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:34:49] "POST / HTTP/1.1" 200 -
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "dc388df2-2605-4ed2-b1ca-e4fad74da9e3", "txt": "msg2"}
lab3-logging-service-3-1 Message [id=c4e8cad3-737c-4c8a-b4fb-8d7fd673ec1c, txt=msg3]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "c4e8cad3-737c-4c8a-b4fb-8d7fd673ec1c", "txt": "msg3"}
lab3-logging-service-1-1 172.28.0.1 - - [05/Apr/2023 07:34:52] "POST / HTTP/1.1" 200 -
lab3-logging-service-1-1 Message [id=6b280629-218c-4c95-90eb-46156a56beb8, txt=msg4]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "6b280629-218c-4c95-90eb-46156a56beb8", "txt": "msg4"}
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:34:56] "POST / HTTP/1.1" 200 -
lab3-logging-service-1-1 Message [id=d23fe248-53d6-418b-8903-42348176ef97, txt=msg5]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "d23fe248-53d6-418b-8903-42348176ef97", "txt": "msg5"}
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:35:08] "POST / HTTP/1.1" 200 -
lab3-logging-service-2-1 2023-04-05T07:35:39.550Z INFO 1 --- [nio-8081-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dis
lab3-logging-service-2-1 2023-04-05T07:35:39.551Z INFO 1 --- [nio-8081-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
lab3-logging-service-2-1 2023-04-05T07:35:39.552Z INFO 1 --- [nio-8081-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
lab3-logging-service-2-1 Message [id=46790e4c-3d04-4e3b-89fe-f31264803d5a, txt=msg6]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "46790e4c-3d04-4e3b-89fe-f31264803d5a", "txt": "msg6"}
lab3-logging-service-2-1 172.28.0.1 - - [05/Apr/2023 07:35:39] "POST / HTTP/1.1" 200 -
lab3-logging-service-2-1 Message [id=a2321c94-14db-46a1-8414-f9effab1d330, txt=msg7]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "a2321c94-14db-46a1-8414-f9effab1d330", "txt": "msg7"}
lab3-logging-service-3-1 172.28.0.1 - - [05/Apr/2023 07:35:43] "POST / HTTP/1.1" 200 -
lab3-logging-service-3-1 Message [id=51df30c7-23df-4052-8574-3f4ee5794182, txt=msg8]
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:35:48] "POST / HTTP/1.1" 200 -
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "51df30c7-23df-4052-8574-3f4ee5794182", "txt": "msg8"}
lab3-logging-service-2-1 Message [id=8b99e11f-ea84-4b38-a7aa-3474b4184bad, txt=msg9]
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:35:51] "POST / HTTP/1.1" 200 -
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "8b99e11f-ea84-4b38-a7aa-3474b4184bad", "txt": "msg9"}
lab3-logging-service-2-1 Message [id=c28c1a0b-913f-4b00-93e9-f2ae082e72ae, txt=msg10]
lab3-facade-service-1 <Response [200]>
lab3-facade-service-1 FACADE-LOGS: Message sent: {"id": "c28c1a0b-913f-4b00-93e9-f2ae082e72ae", "txt": "msg10"}
lab3-facade-service-1 172.28.0.1 - - [05/Apr/2023 07:35:55] "POST / HTTP/1.1" 200 -

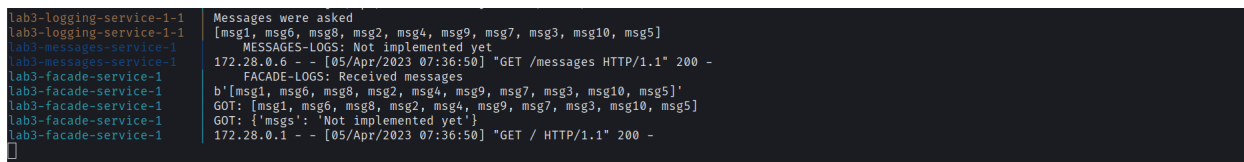
```

Бачимо, що після надсилання повідомлення, якийсь логінг сервіс логує інформацію про зміст повідомлення до консолі. Так ми підраховуємо, що 3 повідомлення прийшлося на першу копію ЛС, 4 на другу і решта на третю, тобто вони розфасувались приблизно рівномірно.

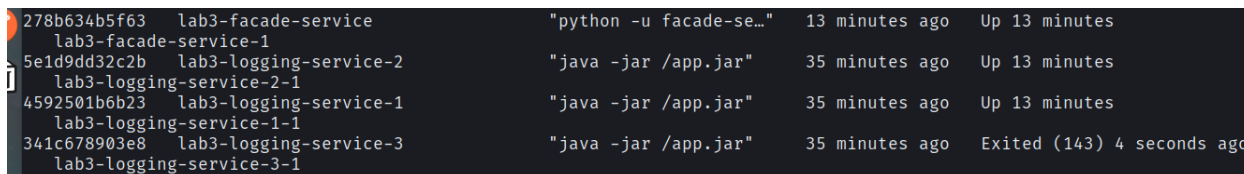
Далі ми робимо запит GET і отримуємо всі повідомлення.



По логам дізнаємось, що повідомлення були запитані у першого ЛС, який повернув їх усі, бо це один спільний hazelcast.



Тепер відламуємо один з нодів, нехай третій, ЛС і пробуємо отримати повідомлення.



Робимо GET запит.

```
1 {
2   "msgs": "[[msg2, msg4, msg1, msg6, msg8, msg7, msg10, msg9, msg5, msg3]] | Not implemented yet"
3 }
```

```
lab3-logging-service-1-1 | Messages were asked
lab3-logging-service-1-1 | [msg2, msg4, msg1, msg6, msg8, msg7, msg10, msg9, msg5, msg3]
lab3-messages-service-1 | MESSAGES-LOGS: Not implemented yet
lab3-messages-service-1 | 172.28.0.6 - - [05/Apr/2023 07:47:36] "GET /messages HTTP/1.1" 200 -
lab3-facade-service-1 | FACADE-LOGS: Received messages
lab3-facade-service-1 | b'[msg2, msg4, msg1, msg6, msg8, msg7, msg10, msg9, msg5, msg3]'
lab3-facade-service-1 | GOT: [msg2, msg4, msg1, msg6, msg8, msg7, msg10, msg9, msg5, msg3]
lab3-facade-service-1 | GOT: {'msgs': 'Not implemented yet'}
lab3-facade-service-1 | 172.28.0.1 - - [05/Apr/2023 07:47:36] "GET / HTTP/1.1" 200 -
|
```

Всі ті самі месейджі, бо розподілена мапа перекочувала даними на інші ноди.  
Спробуємо натрапити рандомно на 3 ноду ЛС, який був закритий, щоб побачити повідомлення про помилку.

```
1 {
2   "message": "Internal Server Error"
3 }
```

```
requests.exceptions.ConnectionError: HTTPConnectionPool(host='logging-service-3', port=8082):
```

Не вдалося під'єднатись, що не дивно.  
Отже, все працює, як треба.