micro_consul

Git: https://github.com/hannusia/software_architecture_labs/tree/micro_consul

Встановлюємо усі необхідні dependency:

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

Під’єднуємо consul агент, використовуючи докер:

```
sudo docker run  -p 8500:8500 -p 8600:8600/udp --name=consul consul:v0.6.4 agent -server -bootstrap -ui -client=0.0.0.0
```

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/hazelcas
```

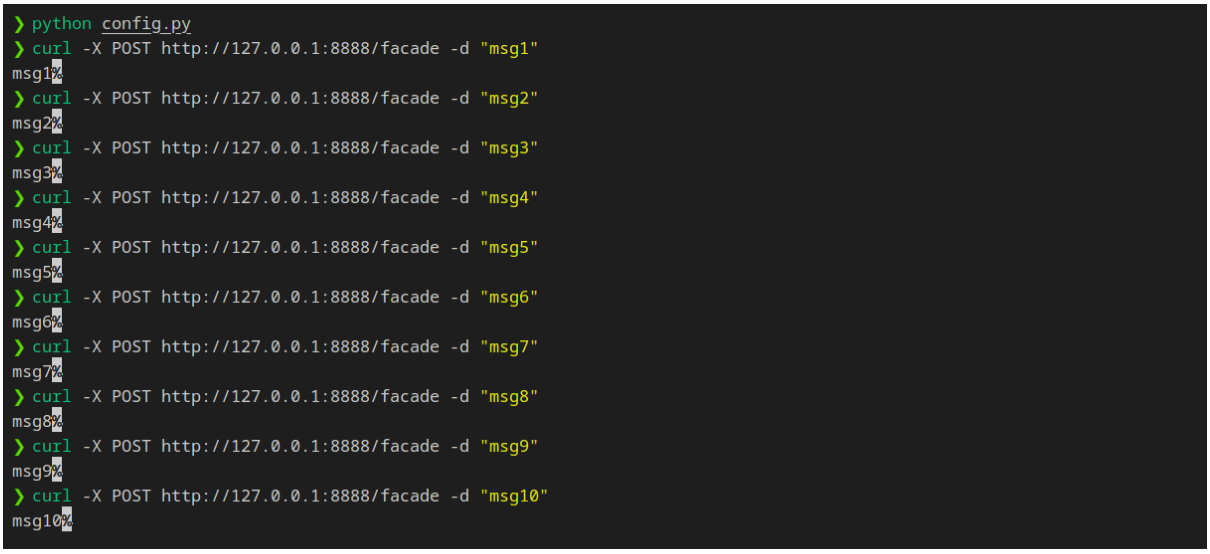
Оновлюємо параметри у конфіг файлі:

```
python config.py
```

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

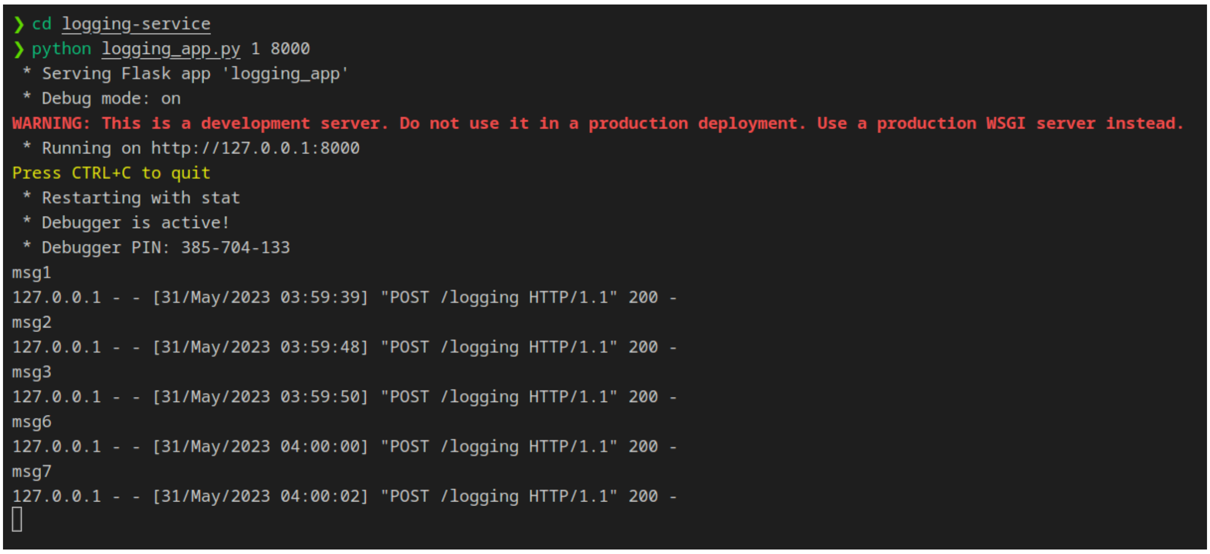
```
python facade_app.py [all the ports that are being used for logging services]
python logging_app.py [ip address of the cluster member to which you wish to connect] [port to use]
python messages_app.py [ip address of the cluster member to which you wish to connect] [port to use]
```

Запускаємо усі сервіси та записуємо 10 повідомлень:

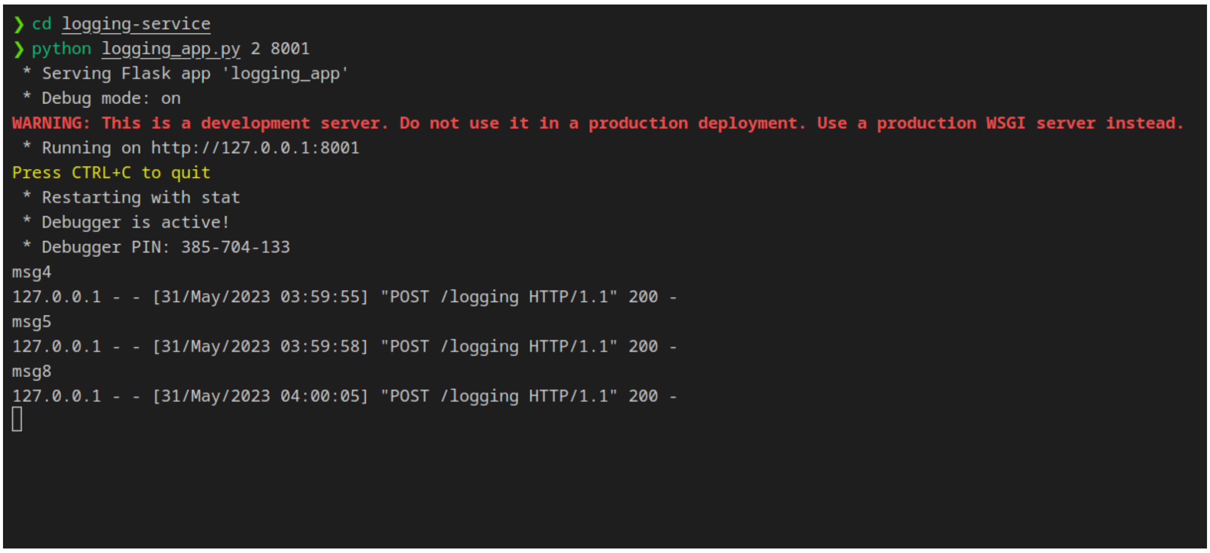


```
❯ python config.py
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg1"
msg1%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg2"
msg2%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg3"
msg3%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg4"
msg4%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg5"
msg5%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg6"
msg6%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg7"
msg7%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg8"
msg8%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg9"
msg9%
❯ curl -X POST http://127.0.0.1:8888/facade -d "msg10"
msg10%
```

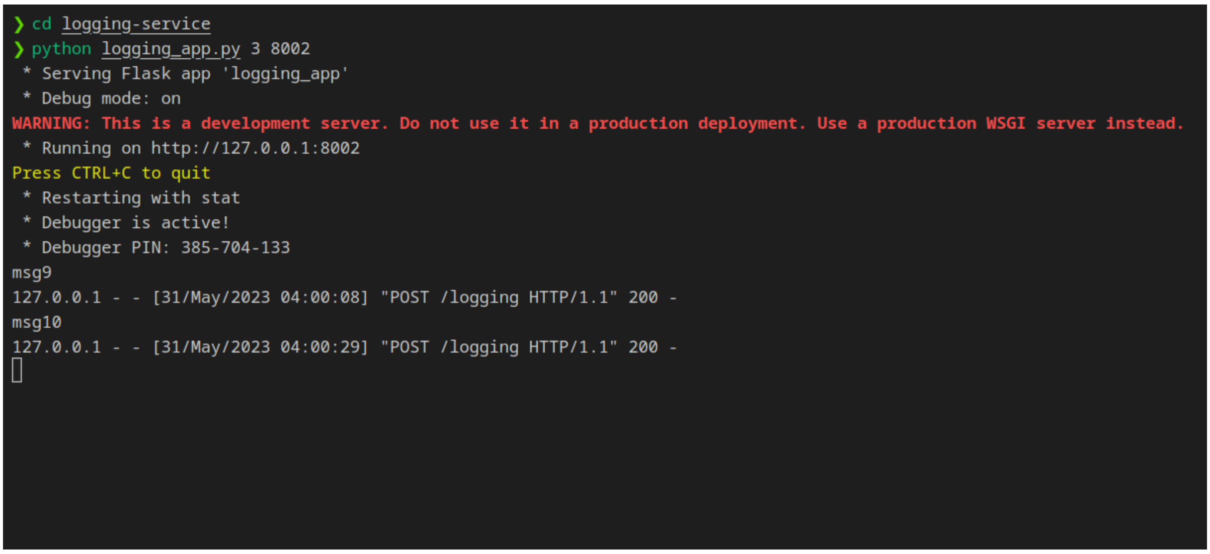
Вміст консолей logging service:



```
❯ cd logging-service
❯ python logging_app.py 1 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: 385-704-133
msg1
127.0.0.1 - - [31/May/2023 03:59:39] "POST /logging HTTP/1.1" 200 -
msg2
127.0.0.1 - - [31/May/2023 03:59:48] "POST /logging HTTP/1.1" 200 -
msg3
127.0.0.1 - - [31/May/2023 03:59:50] "POST /logging HTTP/1.1" 200 -
msg6
127.0.0.1 - - [31/May/2023 04:00:00] "POST /logging HTTP/1.1" 200 -
msg7
127.0.0.1 - - [31/May/2023 04:00:02] "POST /logging HTTP/1.1" 200 -
```

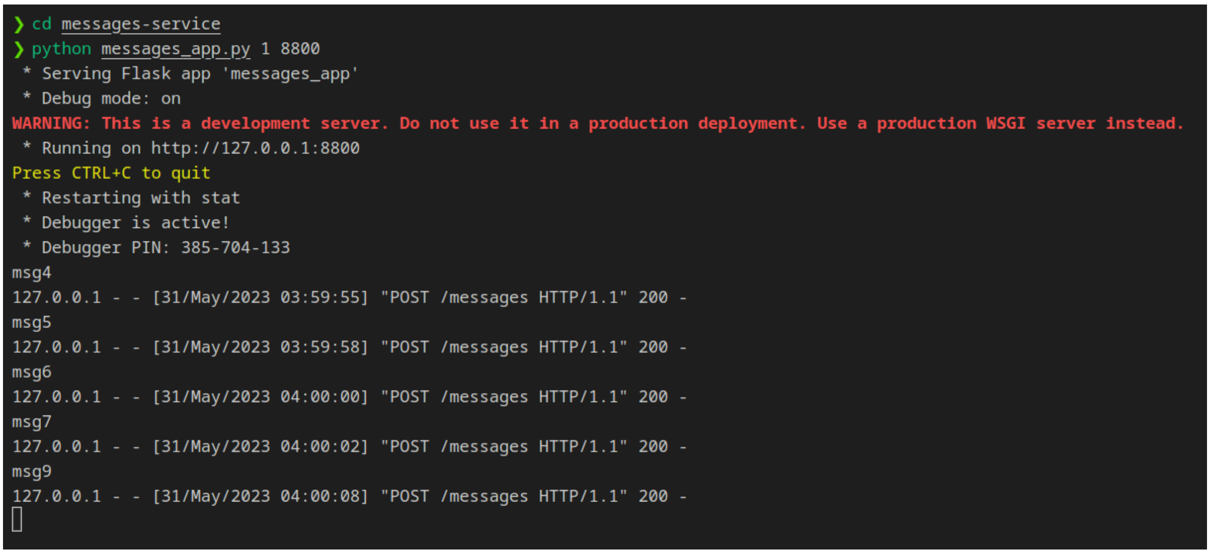


```
❯ cd logging-service
❯ python logging_app.py 2 8001
 * Serving Flask app 'logging_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8001
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg4
127.0.0.1 - - [31/May/2023 03:59:55] "POST /logging HTTP/1.1" 200 -
msg5
127.0.0.1 - - [31/May/2023 03:59:58] "POST /logging HTTP/1.1" 200 -
msg8
127.0.0.1 - - [31/May/2023 04:00:05] "POST /logging HTTP/1.1" 200 -
```

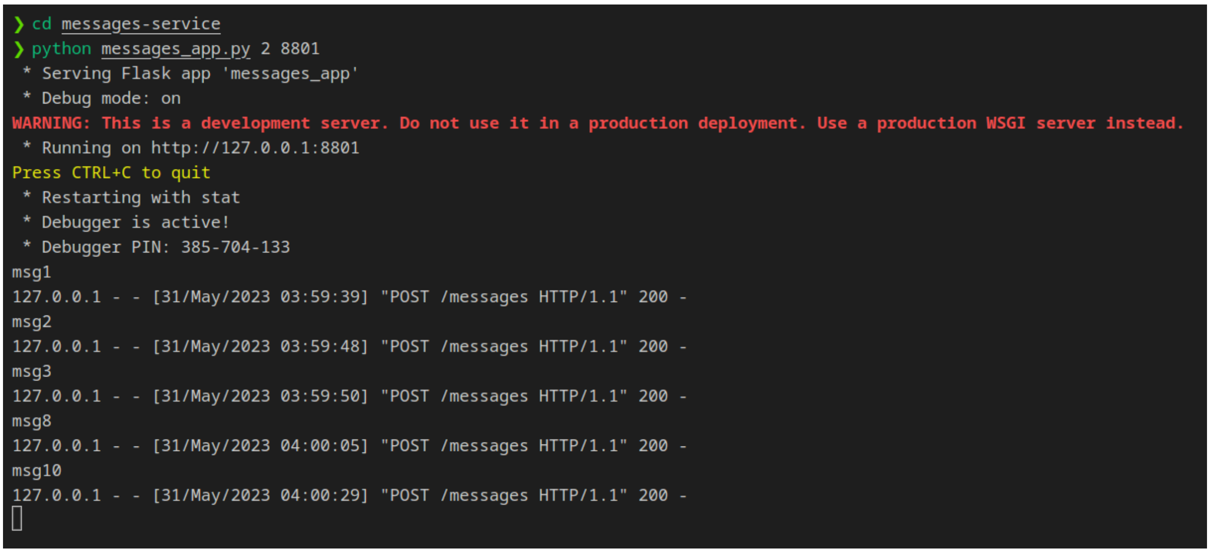


```
❯ cd logging-service
❯ python logging_app.py 3 8002
 * Serving Flask app 'logging_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8002
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg9
127.0.0.1 - - [31/May/2023 04:00:08] "POST /logging HTTP/1.1" 200 -
msg10
127.0.0.1 - - [31/May/2023 04:00:29] "POST /logging HTTP/1.1" 200 -
```

Вміст консолей messages service:

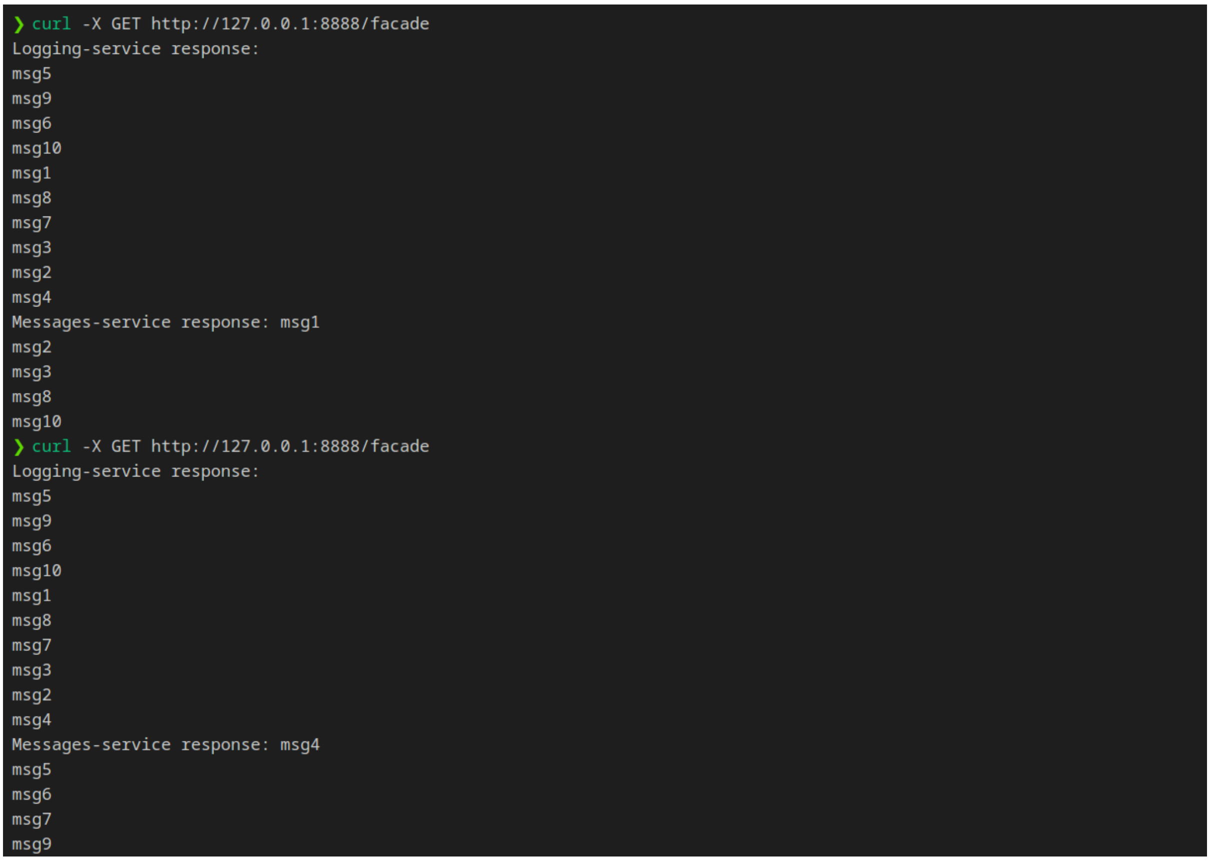


```
❯ cd messages-service
❯ python messages_app.py 1 8800
 * Serving Flask app 'messages_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8800
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg4
127.0.0.1 - - [31/May/2023 03:59:55] "POST /messages HTTP/1.1" 200 -
msg5
127.0.0.1 - - [31/May/2023 03:59:58] "POST /messages HTTP/1.1" 200 -
msg6
127.0.0.1 - - [31/May/2023 04:00:00] "POST /messages HTTP/1.1" 200 -
msg7
127.0.0.1 - - [31/May/2023 04:00:02] "POST /messages HTTP/1.1" 200 -
msg9
127.0.0.1 - - [31/May/2023 04:00:08] "POST /messages HTTP/1.1" 200 -
```

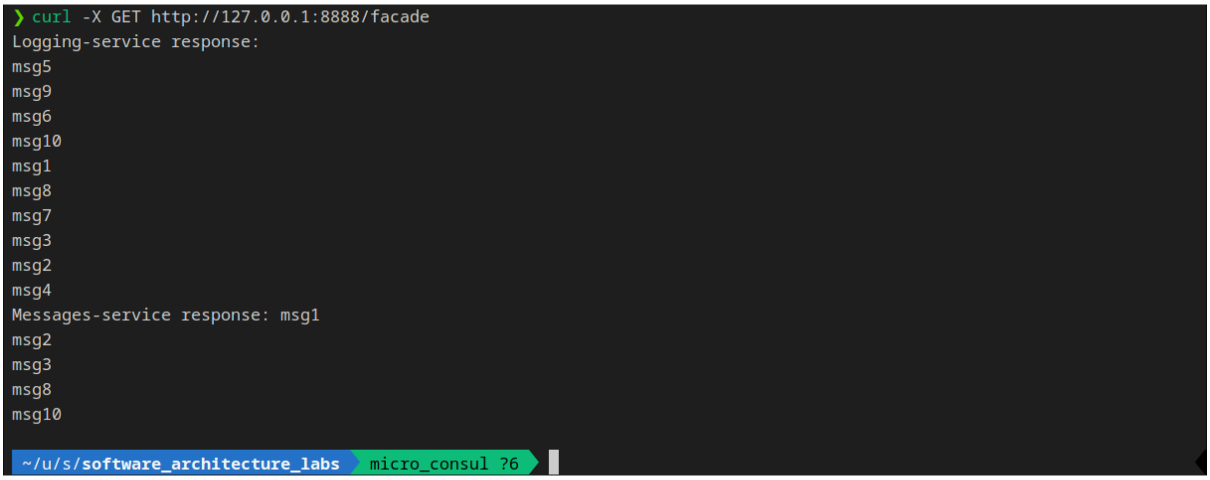


```
❯ cd messages-service
❯ python messages_app.py 2 8801
 * Serving Flask app 'messages_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8801
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg1
127.0.0.1 - - [31/May/2023 03:59:39] "POST /messages HTTP/1.1" 200 -
msg2
127.0.0.1 - - [31/May/2023 03:59:48] "POST /messages HTTP/1.1" 200 -
msg3
127.0.0.1 - - [31/May/2023 03:59:50] "POST /messages HTTP/1.1" 200 -
msg8
127.0.0.1 - - [31/May/2023 04:00:05] "POST /messages HTTP/1.1" 200 -
msg10
127.0.0.1 - - [31/May/2023 04:00:29] "POST /messages HTTP/1.1" 200 -
```

Відправляємо GET запити:

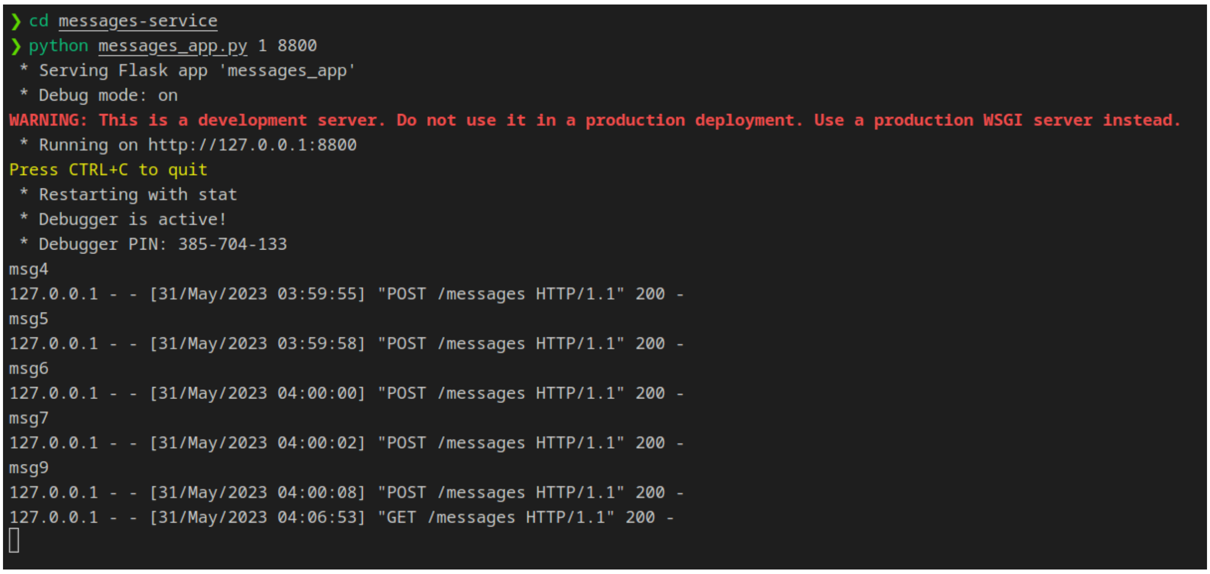


```
❯ curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
msg5
msg9
msg6
msg10
msg1
msg8
msg7
msg3
msg2
msg4
Messages-service response: msg1
msg2
msg3
msg8
msg10
❯ curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
msg5
msg9
msg6
msg10
msg1
msg8
msg7
msg3
msg2
msg4
Messages-service response: msg4
msg5
msg6
msg7
msg9
```



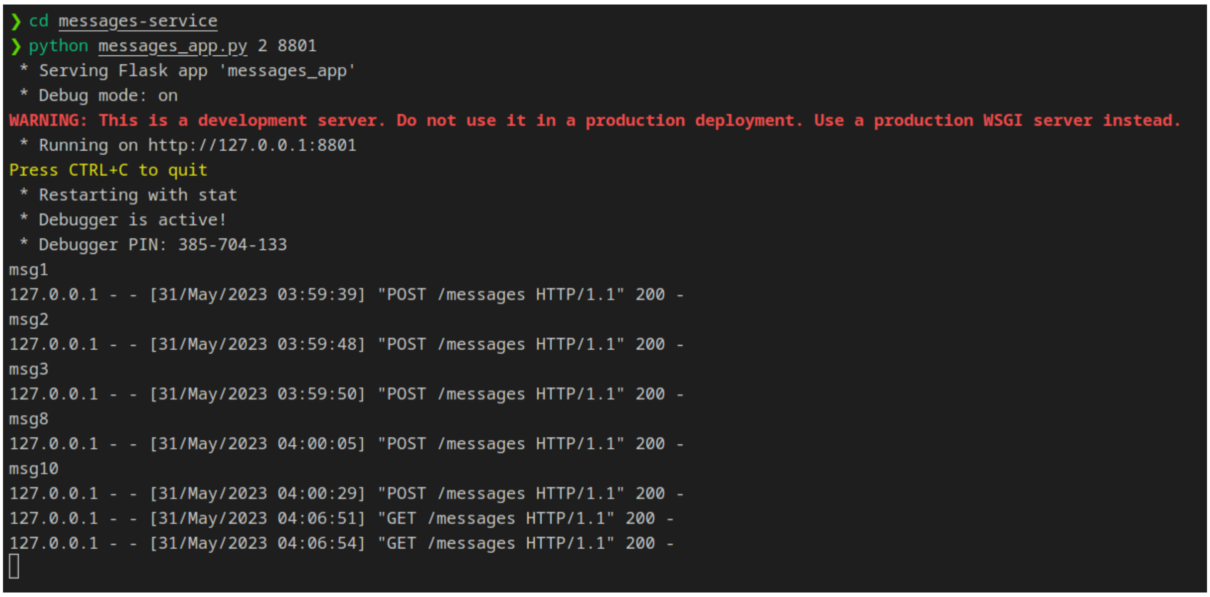
```
❯ curl -X GET http://127.0.0.1:8888/facade
Logging-service response:
msg5
msg9
msg6
msg10
msg1
msg8
msg7
msg3
msg2
msg4
Messages-service response: msg1
msg2
msg3
msg8
msg10

 ~/u/s/software_architecture_labs  micro_consul ?6 
```

Консоль messages-service 1:



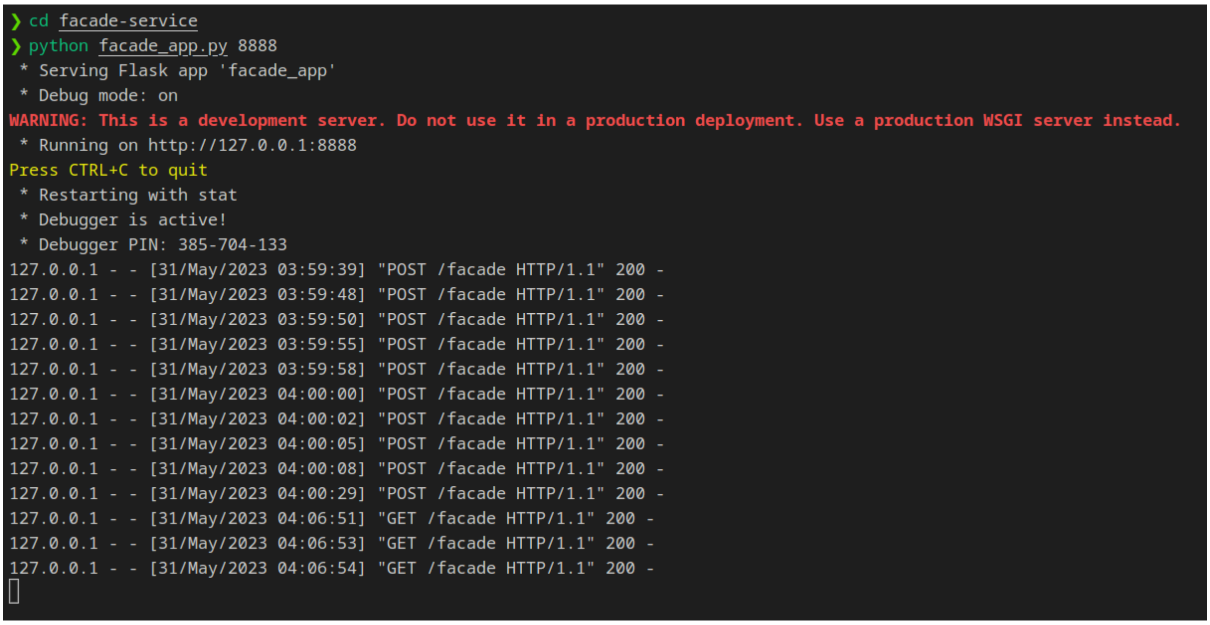
```
❯ cd messages-service
❯ python messages_app.py 1 8800
 * Serving Flask app 'messages_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:8800
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg4
127.0.0.1 - - [31/May/2023 03:59:55] "POST /messages HTTP/1.1" 200 -
msg5
127.0.0.1 - - [31/May/2023 03:59:58] "POST /messages HTTP/1.1" 200 -
msg6
127.0.0.1 - - [31/May/2023 04:00:00] "POST /messages HTTP/1.1" 200 -
msg7
127.0.0.1 - - [31/May/2023 04:00:02] "POST /messages HTTP/1.1" 200 -
msg9
127.0.0.1 - - [31/May/2023 04:00:08] "POST /messages HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:53] "GET /messages HTTP/1.1" 200 -
```

Консоль messages-service 2:



```
❯ cd messages-service
❯ python messages_app.py 2 8801
 * Serving Flask app 'messages_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://127.0.0.1:8801
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 385-704-133
msg1
127.0.0.1 - - [31/May/2023 03:59:39] "POST /messages HTTP/1.1" 200 -
msg2
127.0.0.1 - - [31/May/2023 03:59:48] "POST /messages HTTP/1.1" 200 -
msg3
127.0.0.1 - - [31/May/2023 03:59:50] "POST /messages HTTP/1.1" 200 -
msg8
127.0.0.1 - - [31/May/2023 04:00:05] "POST /messages HTTP/1.1" 200 -
msg10
127.0.0.1 - - [31/May/2023 04:00:29] "POST /messages HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:51] "GET /messages HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:54] "GET /messages HTTP/1.1" 200 -
```

Консоль facade-service:



```
❯ cd facade-service
❯ python facade_app.py 8888
 * 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: 385-704-133
127.0.0.1 - - [31/May/2023 03:59:39] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 03:59:48] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 03:59:50] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 03:59:55] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 03:59:58] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:00:00] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:00:02] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:00:05] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:00:08] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:00:29] "POST /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:51] "GET /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:53] "GET /facade HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2023 04:06:54] "GET /facade HTTP/1.1" 200 -
```