Task 5 - Мікросервиси з використанням Service Discovery та Config Server на базі Consul

Вимоги до протоколу

У протоколі має міститись:

- посилання на GitHub з проектом
  https://github.com/DruzDanil/distributed-systems-design-2024/tree/micro_consul

- скріншоти з POST/GET-запитами та відповіді на них

- вміст консолі кожного з мікросевісу якщо туди виводиться якась корисна інформація

```
PS C:\Users\Люциус\Desktop\DSD> ./consul.exe agent –dev
==> Starting Consul agent...
              Version: '1.18.1'
           Build Date: '2024-03-26 21:59:08 +0000 UTC'
              Node ID: 'fca94459-b0ff-334e-eb0a-6a6f2ed58f58'
            Node name: 'DESKTOP-NTHIGB2'
           Datacenter: 'dc1' (Segment: '<all>')
               Server: true (Bootstrap: false)
          Client Addr: [127.0.0.1] (HTTP: 8500, HTTPS: -1, gRPC: 8502, gRPC-TLS: 8503, DNS: 8600)
         Cluster Addr: 127.0.0.1 (LAN: 8301, WAN: 8302)
    Gossip Encryption: false
     Auto-Encrypt-TLS: false
          ACL Enabled: false
    Reporting Enabled: false
   ACL Default Policy: allow
            HTTPS TLS: Verify Incoming: false, Verify Outgoing: false, Min Version: TLSv1_2
             gRPC TLS: Verify Incoming: false, Min Version: TLSv1_2
     Internal RPC TLS: Verify Incoming: false, Verify Outgoing: false (Verify Hostname: false), Min Version: TLSv1_2

==> Log data will now stream in as it occurs:

2024-05-14T18:05:40.989+0300 [DEBUG] agent.hcp: initialized HCP metrics sink
2024-05-14T18:05:41.001+0300 [DEBUG] agent.grpc.balancer: switching server: target=consul://dc1.fca94459-b0ff-334e-eb0a-
6a6f2ed58f58/server.dc1 from=<none> to=<none>
2024-05-14T18:05:41.201+0300 [INFO]  agent.server.raft: initial configuration: index=1 servers="[{Suffrage:Voter ID:fca9
```

Services 4 total

✅ consul
1 instance

✅ facade-service
1 instance

✅ logging-service
3 instances

✅ message-service
2 instances

Logging-services

```
It in a production deployment. Use a production WS       Running on http://127.0.0.1:5003       WSdI Server instead.
GI server instead.                                       Press CTRL+C to quit                    * Running on http://127.0.0.1:5004
 * Running on http://127.0.0.1:5002                      Receive message: msg4                   Press CTRL+C to quit
Press CTRL+C to quit                                     127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H   Receive message: msg5
Receive message: msg1                                    TTP/1.1" 200 -                          127.0.0.1 - - [14/May/2024 18:10:19] "POST /data
127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H       Receive message: msg6                   HTTP/1.1" 200 -
TTP/1.1" 200 -                                           127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H   Receive message: msg7
Receive message: msg2                                    TTP/1.1" 200 -                          127.0.0.1 - - [14/May/2024 18:10:19] "POST /data
127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H       Receive message: msg9                   HTTP/1.1" 200 -
TTP/1.1" 200 -                                           127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H   Hash msg: ['msg5', 'msg2', 'msg3', 'msg6', 'msg9'
Receive message: msg3                                    TTP/1.1" 200 -                          , 'msg8', 'msg7', 'msg10', 'msg4', 'msg1']
127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H       Receive message: msg10                  127.0.0.1 - - [14/May/2024 18:10:19] "GET /data H
TTP/1.1" 200 -                                           127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H   TTP/1.1" 200 -
Receive message: msg8                                    TTP/1.1" 200 -
127.0.0.1 - - [14/May/2024 18:10:19] "POST /data H       Hash msg: ['msg5', 'msg2', 'msg3', 'msg6', 'msg9',
TTP/1.1" 200 -                                            'msg8', 'msg7', 'msg10', 'msg4', 'msg1']
                                                         127.0.0.1 - - [14/May/2024 18:10:19] "GET /data HT
                                                         TP/1.1" 200 -
```

Message-services

```
ction deployment. use a production WSGI server instead. * Runni        uction deployment. use a production WSGI server instead.
ng on http://127.0.0.1:5005                                             * Running on http://127.0.0.1:5006
Press CTRL+C to quit                                                   Press CTRL+C to quit
1. Get message: msg1                                                   1. Get message: msg2
2. Get message: msg3                                                   2. Get message: msg4
3. Get message: msg5                                                   3. Get message: msg6
4. Get message: msg7                                                   4. Get message: msg8
5. Get message: msg9                                                   5. Get message: msg10
Messages list: ['msg1', 'msg3', 'msg5', 'msg7', 'msg9']
127.0.0.1 - - [14/May/2024 18:10:19] "GET /data HTTP/1.1" 200 -

Messages list: ['msg1', 'msg3', 'msg5', 'msg7', 'msg9']
127.0.0.1 - - [14/May/2024 18:10:19] "GET /data HTTP/1.1" 200 -
```

Facade-service

```
○ PS C:\Users\Люциус\Desktop\DSD\distributed-systems-design-2024\Lab5> python facadeserv.py 5000
  Arg: 5000
Search (Ctrl+Shift+F)
    * Serving Flask app 'facadeserv'
  * Debug mode: off
  WARNING: This is a development server. Do not use it in a production deployment. Use a productio
  * Running on http://127.0.0.1:5000
  Press CTRL+C to quit
  value: msg1
  UID: 13e34da4-94bc-47a7-aa43-e9d27f1fff05
  Data: {'13e34da4-94bc-47a7-aa43-e9d27f1fff05': 'msg1'}
  Response Message: msg1
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg2
  UID: c62e59e3-f53d-4bee-af00-0b6d7cc08456
  Data: {'c62e59e3-f53d-4bee-af00-0b6d7cc08456': 'msg2'}
  Response Message: msg2
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg3
  UID: c54292f3-dc21-4e32-ad46-e91663ac0271
  Data: {'c54292f3-dc21-4e32-ad46-e91663ac0271': 'msg3'}
  Response Message: msg3
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg4
  UID: 1fa9b0a3-f4a7-43c6-a1bf-4e09b7e244e7
  Data: {'1fa9b0a3-f4a7-43c6-a1bf-4e09b7e244e7': 'msg4'}
  Response Message: msg4
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg5
  UID: 440cf1d0-58cb-4e3c-90d3-aa06f000ae4c
  Data: {'440cf1d0-58cb-4e3c-90d3-aa06f000ae4c': 'msg5'}
  Response Message: msg5
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg6
  UID: 85dd85e3-9d00-4f09-982c-71cfc0776cf0
  Data: {'85dd85e3-9d00-4f09-982c-71cfc0776cf0': 'msg6'}
  Response Message: msg6
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg7
  UID: 2d349f27-c916-42fe-ae42-cd31f77c8ee2
  Data: {'2d349f27-c916-42fe-ae42-cd31f77c8ee2': 'msg7'}
  Response Message: msg7
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg8
  UID: b96c71e4-518f-4d25-afc9-835e34d155e8
  Data: {'b96c71e4-518f-4d25-afc9-835e34d155e8': 'msg8'}
  Response Message: msg8
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
```

```
  value: msg9
  UID: e068a74a-4e3d-4085-8597-b66a41ca6d11
  Data: {'e068a74a-4e3d-4085-8597-b66a41ca6d11': 'msg9'}
  Response Message: msg9
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  value: msg10
  UID: 0afa8f66-aeef-4181-a41d-24557e417b06
  Data: {'0afa8f66-aeef-4181-a41d-24557e417b06': 'msg10'}
  Response Message: msg10
  127.0.0.1 - - [14/May/2024 18:10:19] "POST /data HTTP/1.1" 200 -
  127.0.0.1 - - [14/May/2024 18:10:19] "GET /data HTTP/1.1" 200 -
  127.0.0.1 - - [14/May/2024 18:10:19] "GET /data HTTP/1.1" 200 -
```