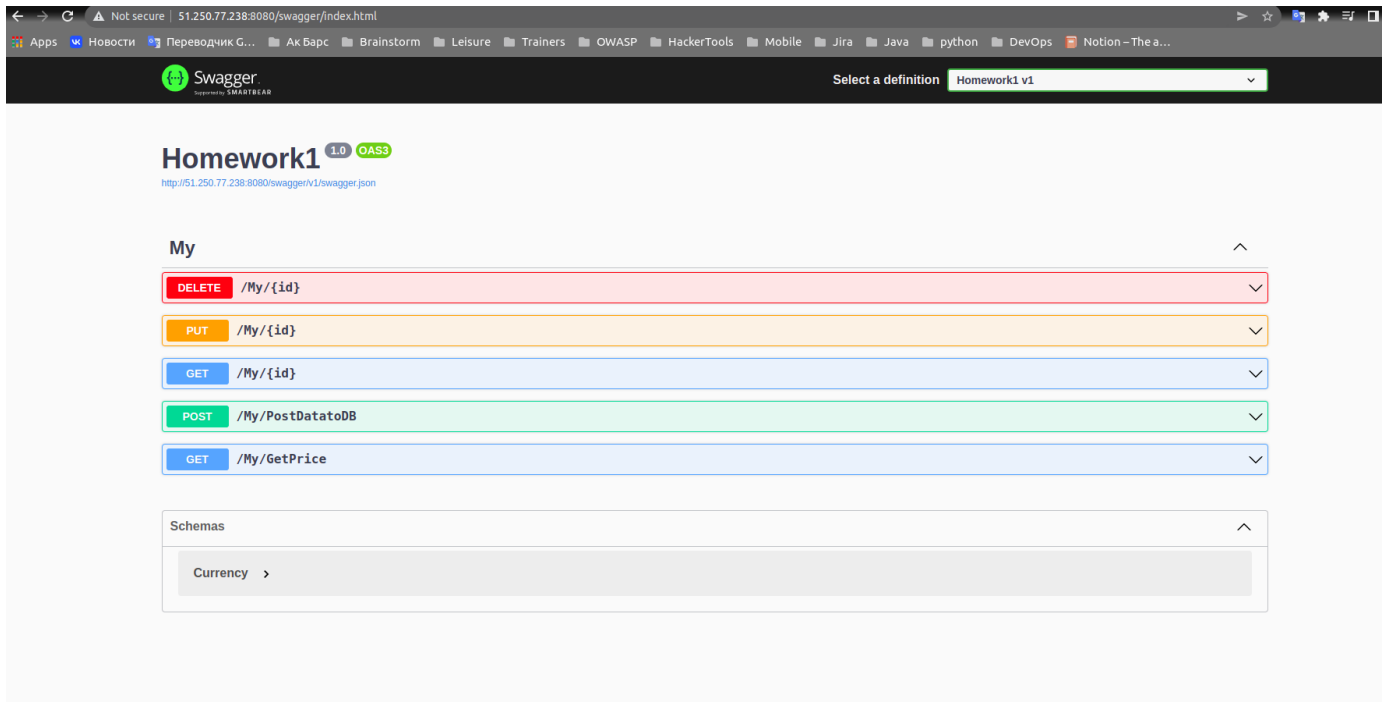


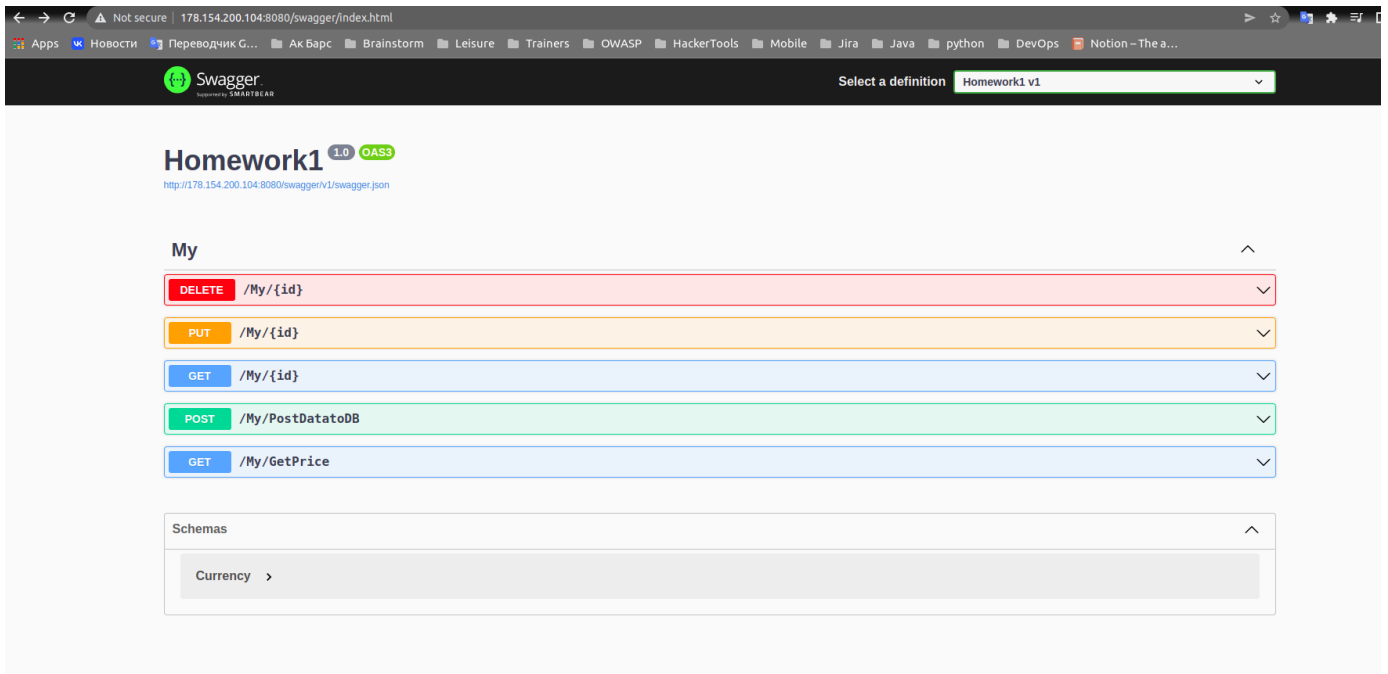
4.11 Централизованная обработка логов Loki, ELK

Для начала, на двух тачках я поднял свое приложение, все через докер композ, для этого у меня есть ветка с пайплайном (<https://gitlab.com/xokage/exchangeservice/-/tree/loki>):

1.



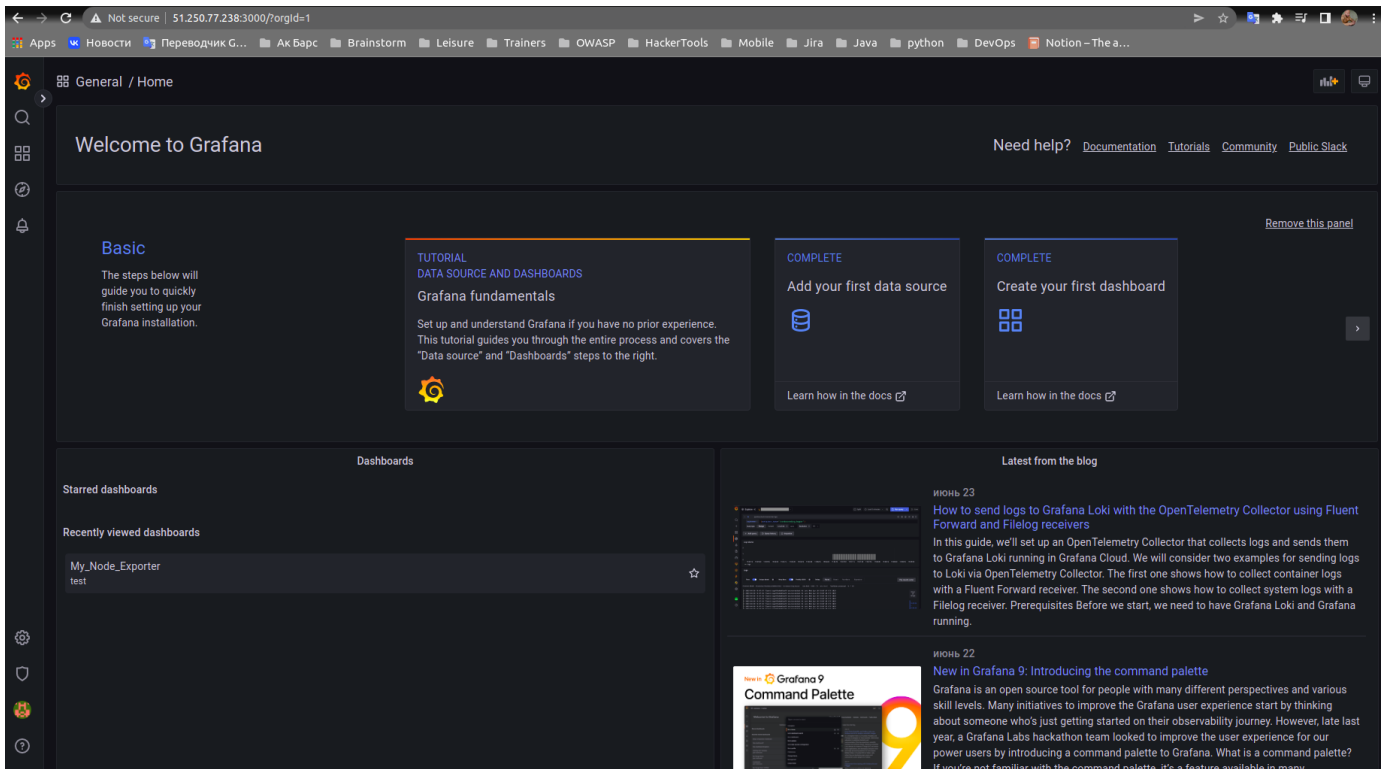
2.



Запросы логируются внутри контейнера:

```
info: Microsoft.Hosting.Lifetime[14]
  Now listening on: http://[::]:80
info: Microsoft.Hosting.Lifetime[0]
  Application started. Press Ctrl+C to shut down.
info: Microsoft.Hosting.Lifetime[0]
  Hosting environment: Development
info: Microsoft.Hosting.Lifetime[0]
  Content root path: /app/
info: Homework1.Controllers.MyController[0]
  Controller called method GetPrice
info: Microsoft.EntityFrameworkCore.Infrastructure[10403]
  Entity Framework Core 6.0.3 initialized 'CurrencyDbContext' using provider
  'Microsoft.EntityFrameworkCore.SqlServer:6.0.3' with options: None
info: Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (1ms) [Parameters=[@p0='?' (Size = 4000), @p1='?' (Size
  = 4000), @p2='?' (DbType = Double), @p3='?' (DbType = Int32)], CommandType='Tex
  t', CommandTimeout='30']
  SET NOCOUNT ON;
  INSERT INTO [Currency] ([CurrencyCode], [Date], [Price], [Value])
  VALUES (@p0, @p1, @p2, @p3);
  SELECT [Id]
  FROM [Currency]
  WHERE @@ROWCOUNT = 1 AND [Id] = scope_identity();
xokage@ubuntu:~$
```

Далее с прошлого дз у меня развернута графана на тачке
<http://51.250.77.238:3000> (<http://51.250.77.238:3000>)



Ставлю на тачку с графаной Loki через контейнер:

```
wget https://raw.githubusercontent.com/grafana/loki/v2.5.0/cmd/loki/loki-local-docker run --name loki -d -v $(pwd):/mnt/config -p 3100:3100 grafana/loki:2.5.0
```



```

# HELP cortex_consul_request_duration_seconds Time spent on consul requests.
# TYPE cortex_consul_request_duration_seconds histogram
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.005"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.01"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.025"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.05"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.1"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.25"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="0.5"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="1"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="2.5"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="5"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="10"} 761
cortex_consul_request_duration_seconds_bucket{kv_name="ingester-ring",operation="CAS loop",status_code="200",le="+Inf"} 761
cortex_consul_request_duration_seconds_sum{kv_name="ingester-ring",operation="CAS loop",status_code="200"} 0.05923822700000006
cortex_consul_request_duration_seconds_count{kv_name="ingester-ring",operation="CAS loop",status_code="200"} 761
# HELP cortex_distributor_ingester_clients The current number of ingester clients.
# TYPE cortex_distributor_ingester_clients gauge
cortex_distributor_ingester_clients 2
# HELP cortex_dns_failures_total The number of DNS lookup failures
# TYPE cortex_dns_failures_total counter
cortex_dns_failures_total{name="memberlist"} 0
# HELP cortex_dns_lookups_total The number of DNS lookups resolutions attempts
# TYPE cortex_dns_lookups_total counter
cortex_dns_lookups_total{name="memberlist"} 0
# HELP cortex_frontend_query_range_duration_seconds Total time spent in seconds doing query range requests.
# TYPE cortex_frontend_query_range_duration_seconds histogram
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.005"} 8
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.01"} 30
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.025"} 111
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.05"} 257
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.1"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.25"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="0.5"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="1"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="2.5"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="5"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="10"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="retry",status_code="200",le="+Inf"} 303
cortex_frontend_query_range_duration_seconds_sum{method="retry",status_code="200"} 9.624177391999998
cortex_frontend_query_range_duration_seconds_count{method="retry",status_code="200"} 303
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.005"} 0
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.01"} 6
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.025"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.05"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.1"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.25"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="0.5"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="1"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="2.5"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="5"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="10"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="sharding",status_code="200",le="+Inf"} 7
cortex_frontend_query_range_duration_seconds_sum{method="sharding",status_code="200"} 0.05979985799999999
cortex_frontend_query_range_duration_seconds_count{method="sharding",status_code="200"} 7
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.005"} 0
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.01"} 0
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.025"} 1
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.05"} 13
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.1"} 18
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.25"} 18
cortex_frontend_query_range_duration_seconds_bucket{method="shardingware",status_code="200",le="0.5"} 18

```

Все работает

Далее нужно поставить промтейл:

```
wget https://raw.githubusercontent.com/grafana/loki/v2.5.0/clients/cmd/promtail
```

```
docker run --name promtail --rm -d -v $(pwd):/mnt/config -v /var/log:/var/log -
```

Для того чтобы собирались логи с контейнеров, меняем конфиг промтейла:

```
ubuntu@ubuntu2:~/loki/loprom$ cat promtail-config.yaml
server:
  http_listen_port: 9080
  grpc_listen_port: 0

positions:
  filename: /tmp/positions.yaml

clients:
  - url: http://loki:3100/loki/api/v1/push

scrape_configs:
- job_name: system
  static_configs:
  - targets:
    - localhost
    labels:
      job: varlogs
      __path__: /var/log/*log
- job_name: containers
  static_configs:
  - targets:
    - localhost
    labels:
      job: containerlogs
      __path__: /var/lib/docker/containers/*/*log

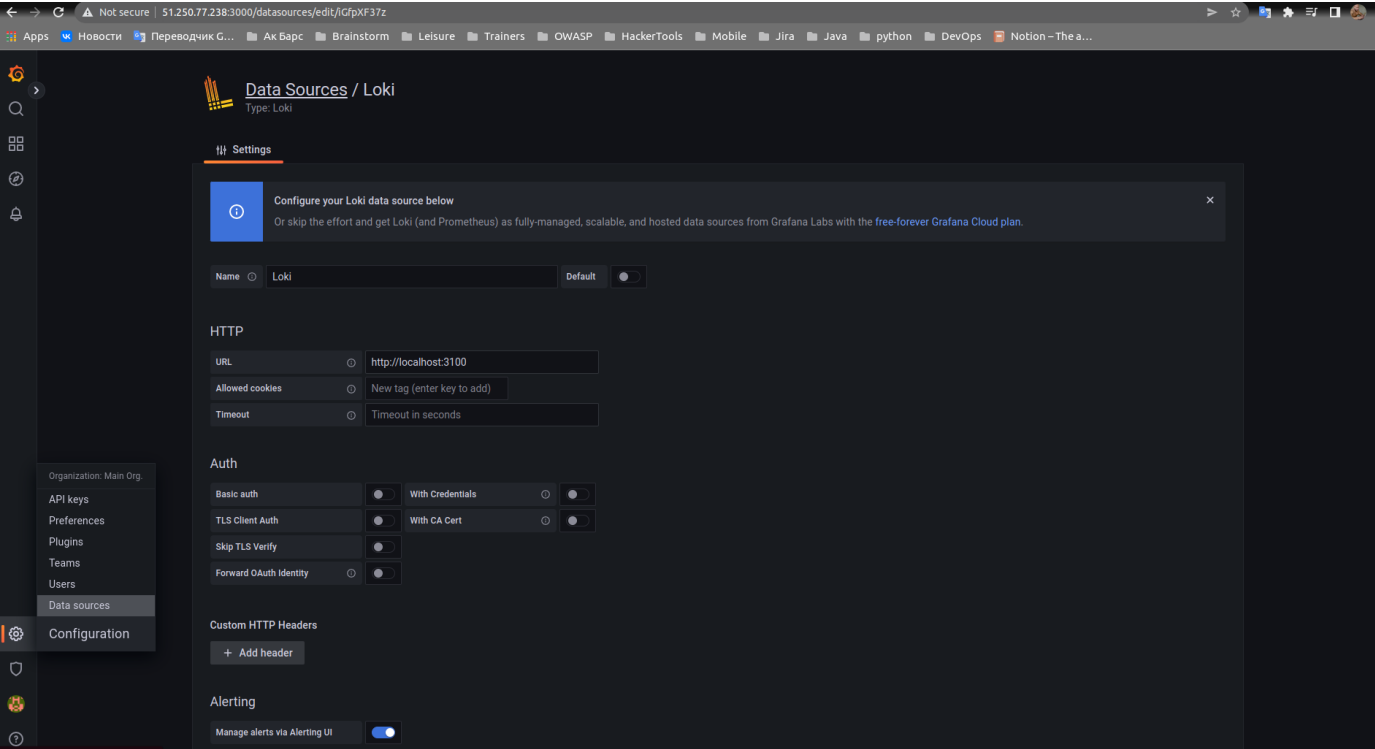
# --log-opt tag="{{.ImageName}}|{{.Name}}|{{.ImageFullID}}|{{.FullID}}"
pipeline_stages:
- json:
  expressions:
    stream: stream
    attrs: attrs
    tag: attrs.tag
- regex:
  expression: (?P<image_name>(?:[^\s]*[^\s])).(?P<container_name>(?:[^\s]*[^\s])).(?P<image_id>(?:[^\s]*[^\s])).(?P<container_id>(?:[^\s]*[^\s]))
  source: "tag"
- labels:
  tag:
  stream:
  image_name:
  container_name:
  image_id:
  container_id:
```

Здесь используется алиас loki, поскольку запуск локи и промтейла на одной тачке. На другой машине качаем конфиг промтейла, меняем его и запускаем в докере:

```
wget https://raw.githubusercontent.com/grafana/loki/v2.5.0/clients/cmd/promtail
```

```
docker run --name promtail --rm -d -v $(pwd):/mnt/config -v /var/log:/var/log -
```

В графине настраиваем data source from Loki:



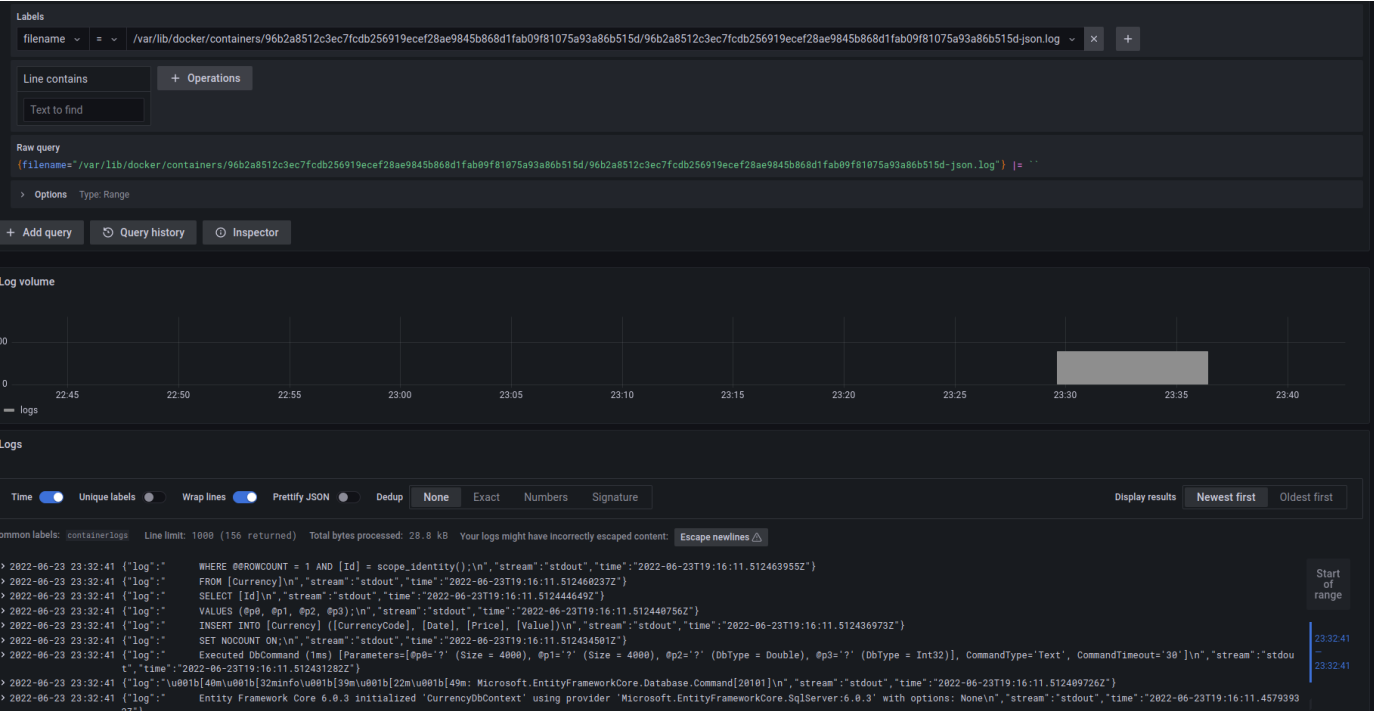
Далее можно искать логи:

Первая тачка

```
xokage@ubuntu:~/loki/loki$ sudo docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
9e8fcf8fa895   grafana/prontail:2.5.0              "/usr/bin/prontail -..." 8 minutes ago  Up 8 minutes  0.0.0.0:8080->80/tcp, :::8080->80/tcp
96b2a8512c3e   homework1                           "dotnet Homework1.dll"    8 hours ago   Up 8 hours   0.0.0.0:1433->1433/tcp, :::1433->1433/tcp
bc3295d57b38   mcr.microsoft.com/mssql/server:2019-latest "/opt/mssql/bin/per..." 8 hours ago   Up 8 hours

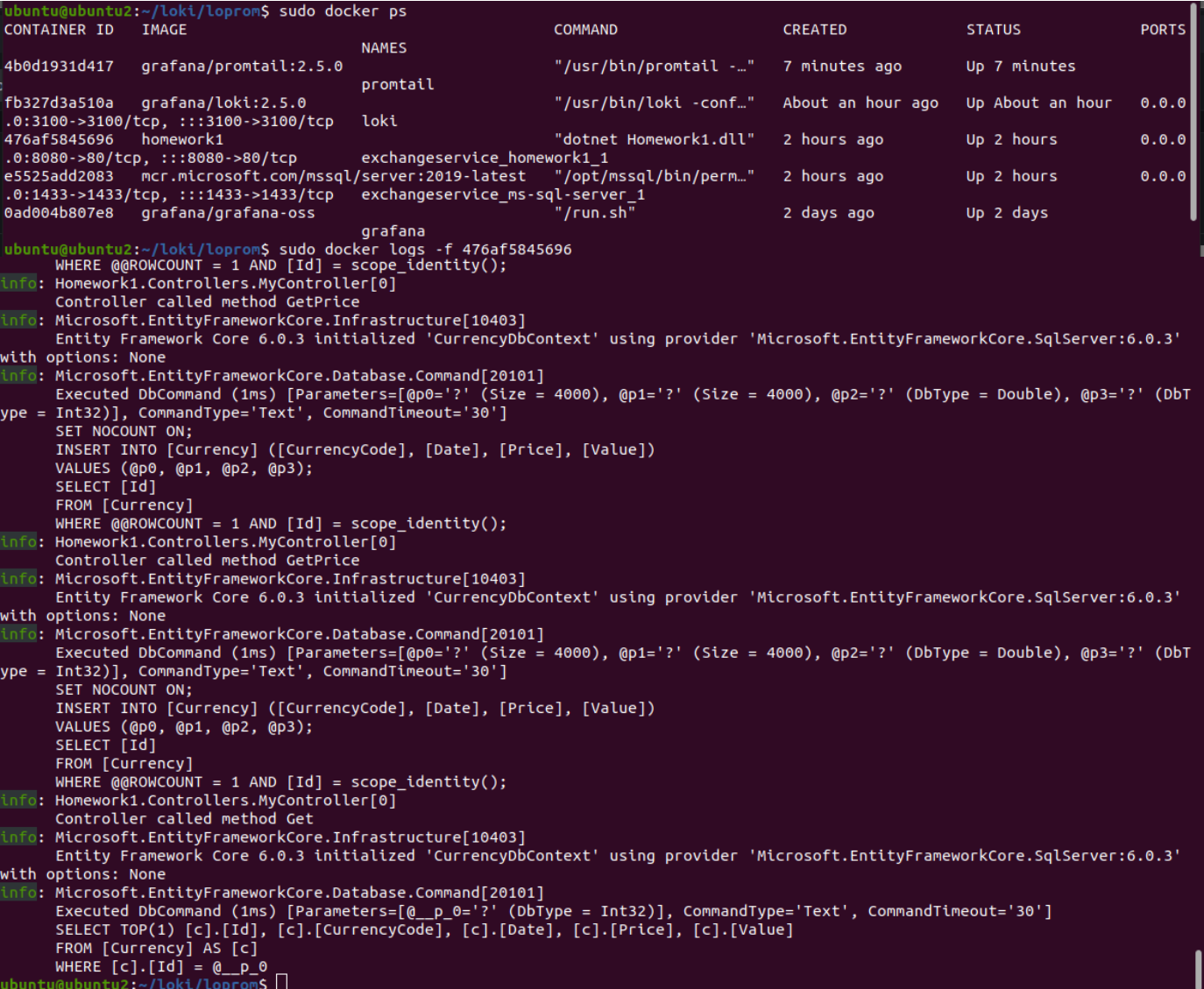
xokage@ubuntu:~/loki/loki$ sudo docker logs 96b2a8512c3e
WHERE @@ROWCOUNT = 1 AND [Id] = scope_identity();
[info]: Microsoft.Hosting.Lifetime[14]
Now listening on: http://[::]:80
[info]: Microsoft.Hosting.Lifetime[0]
Application started. Press Ctrl+C to shut down.
[info]: Microsoft.Hosting.Lifetime[0]
Hosting environment: Development
[info]: Microsoft.Hosting.Lifetime[0]
Content root path: /app/
[info]: Homework1.Controllers.MyController[0]
Controller called method GetPrice
[info]: Microsoft.EntityFrameworkCore.Infrastructure[10403]
Entity Framework Core 6.0.3 initialized 'CurrencyDbContext' using provider 'Microsoft.EntityFrameworkCore.SqlServer:6.0.3' with options: None
[info]: Microsoft.EntityFrameworkCore.Database.Command[20101]
Executed DbCommand (1ms) [Parameters=[@p0='?' (Size = 4000), @p1='?' (Size = 4000), @p2='?' (DbType = Double), @p3='?' (DbType = Int32)], CommandType='Text', CommandTimeout='30']
SET NOCOUNT ON;
INSERT INTO [Currency] ([CurrencyCode], [Date], [Price], [Value])
VALUES (@p0, @p1, @p2, @p3);
SELECT [Id]
FROM [Currency]
WHERE @@ROWCOUNT = 1 AND [Id] = scope_identity();
xokage@ubuntu:~/loki/loki$
```

Последние логи выглядят так, в графине:



Выбрал в лейбле filename тот самый контейнер, вижу те же логи, что последние через docker logs

Аналогичная история со второй тачкой:



Последние логи выглядят так, в графана:

Query patterns

Raw query

Give feedback

Labels

Line contains

Text to find

Raw query

Options

filename

/var/lib/docker/containers/476af584569619b4f13d787dbe8f70fe11375b9e13e0bf5699b8133178022771/476af584569619b4f13d787dbe8f70fe11375b9e13e0bf5699b8133178022771-json.log

+

Operations

(filename="/var/lib/docker/containers/476af584569619b4f13d787dbe8f70fe11375b9e13e0bf5699b8133178022771/476af584569619b4f13d787dbe8f70fe11375b9e13e0bf5699b8133178022771-json.log") | = ""

Type: Range

+

Query history

Inspector

Log volume

50

logs

22:55

23:00

23:05

23:10

23:15

23:20

23:25

23:30

23:35

23:40

23:45

23:50

Time

Unique labels

Wrap lines

Prettify JSON

Dedup

None

Exact

Numbers

Signature

Display results

Newest first

Oldest first

Common labels: container:logs stdout

Line limit: 1000 (201 returned)

Total bytes processed: 27.4 kB

Your logs might have incorrectly escaped content: Escape newlines

> 2022-06-23 23:51:31 {"log": " WHERE [c].[Id] = @_p_0\n", "stream": "stdout", "time": "2022-06-23T20:51:31.948460852Z"}\n

> 2022-06-23 23:51:31 {"log": " FROM [currency] AS [c]\n", "stream": "stdout", "time": "2022-06-23T20:51:31.948455603Z"}\n

> 2022-06-23 23:51:31 {"log": " SELECT TOP(1) [c].[Id], [c].[CurrencyCode], [c].[Date], [c].[Price], [c].[Value]\n", "stream": "stdout", "time": "2022-06-23T20:51:31.948441637Z"}\n

> 2022-06-23 23:51:31 {"log": " Executed DbCommand (1ms) [Parameters=[@_p_0= '? (DbType = Int32)]', CommandType= 'Text', CommandTimeout= '30']\n", "stream": "stdout", "time": "2022-06-23T20:51:31.948283952Z"}\n

> 2022-06-23 23:51:31 {"log": "\u001b[48m\u001b[32minfo\u001b[39m\u001b[22m\u001b[49m: Microsoft.EntityFrameworkCore.Database.Command[20191]\n", "stream": "stdout", "time": "2022-06-23T20:51:31.948262616Z"}\n

> 2022-06-23 23:51:31 {"log": " Entity Framework Core 6.0.3 initialized 'CurrencyDbContext' using provider 'Microsoft.EntityFrameworkCore.SqlServer:6.0.3' with options: None\n", "stream": "stdout", "time": "2022-06-23T20:51:31.8854826Z"}\n

> 2022-06-23 23:51:31 {"log": "\u001b[48m\u001b[32minfo\u001b[39m\u001b[22m\u001b[49m: Microsoft.EntityFrameworkCore.Infrastructure[404031]\n", "stream": "stdout", "time": "2022-06-23T20:51:31.885461977Z"}\n

Start of range

23:51:31

23:26:07

Выбрал в лейбле filename тот самый контейнер, вижу те же логи, что последние через docker logs

file:///home/xokage/Downloads/4.11 Централизованная обработка логов Loki, ELK.html

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