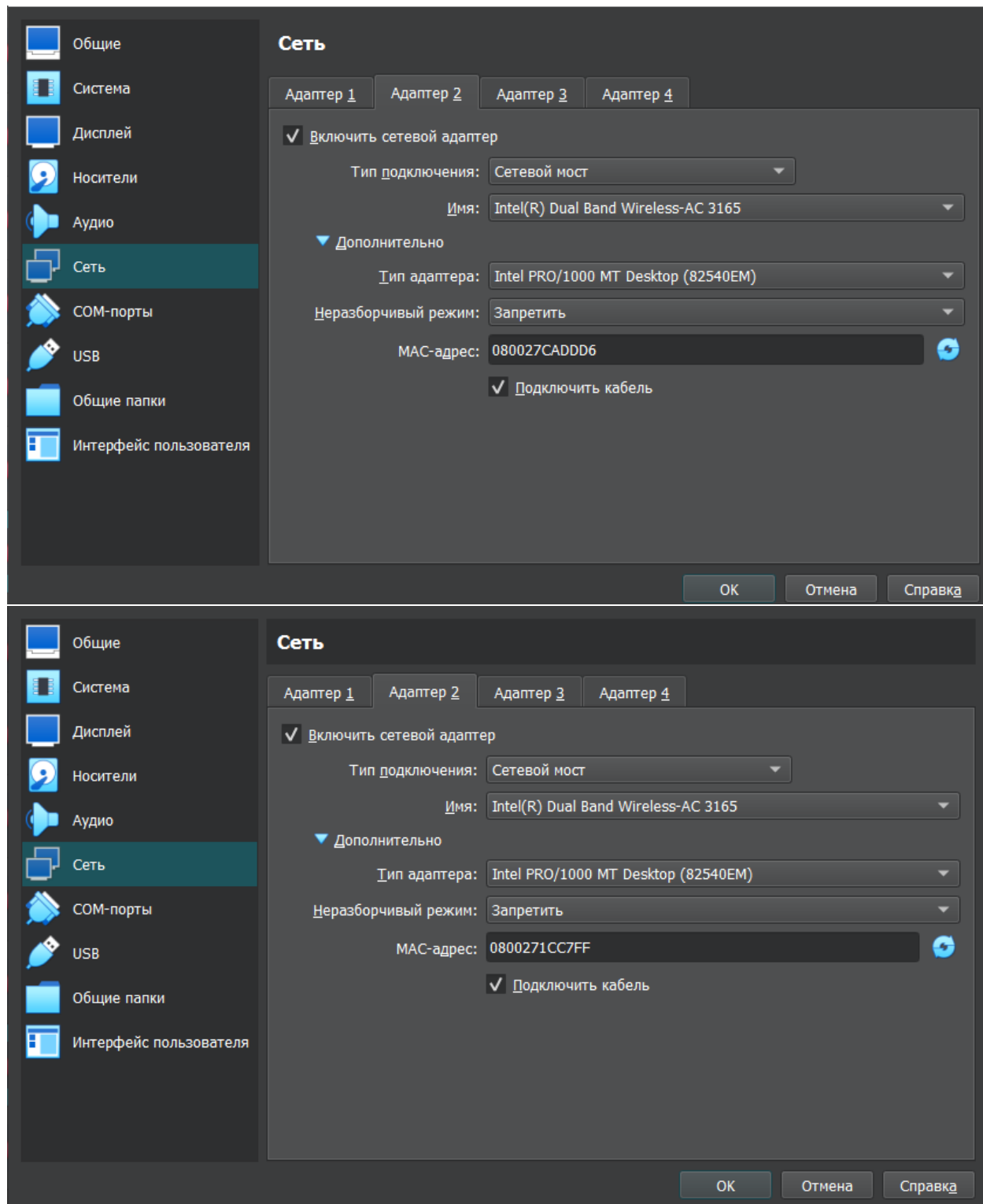


Практика № 1

Выполнил Лялин Илья БМО-02-24

1. Создадим 2 виртуальные машины на базе ОС Debian 12 и обеспечим между ними сетевой обмен с помощью сетевого моста



```

kuzpr3server@KUZDEBIANPR3SERV:~$ su
Password:
root@KUZDEBIANPR3SERV:/home/kuzpr3server# ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:7c:4a:7d brd ff:ff:ff:ff:ff:ff
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:1c:c7:ff brd ff:ff:ff:ff:ff:ff
    inet 192.168.31.138/24 brd 192.168.31.255 scope global dynamic noprefixroute enp0s8
        valid_lft 43126sec preferred_lft 43126sec
    inet6 fe80::a00:27ff:fe1c:c7ff/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
root@KUZDEBIANPR3SERV:/home/kuzpr3server# ping 192.168.31.99
PING 192.168.31.99 (192.168.31.99) 56(84) bytes of data.
64 bytes from 192.168.31.99: icmp_seq=1 ttl=64 time=1.09 ms
64 bytes from 192.168.31.99: icmp_seq=2 ttl=64 time=0.200 ms
64 bytes from 192.168.31.99: icmp_seq=3 ttl=64 time=0.388 ms

```

```

kuzpr3client@KUZDEBIANPR3CLIENT:~$ su
Password:
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:ae:4a:70 brd ff:ff:ff:ff:ff:ff
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:ca:dd:d6 brd ff:ff:ff:ff:ff:ff
    inet 192.168.31.99/24 brd 192.168.31.255 scope global dynamic noprefixroute enp0s8
        valid_lft 43124sec preferred_lft 43124sec
    inet6 fe80::a00:27ff:feca:dd6/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# ping 192.168.31.138
PING 192.168.31.138 (192.168.31.138) 56(84) bytes of data.
64 bytes from 192.168.31.138: icmp_seq=1 ttl=64 time=1.10 ms
64 bytes from 192.168.31.138: icmp_seq=2 ttl=64 time=0.906 ms
64 bytes from 192.168.31.138: icmp_seq=3 ttl=64 time=3.70 ms

```

2. Включим на 1-й (серверной) VM передачу логов по протоколу rsyslog на 2-ю VM (клиент)

2.1 Установим и настроим rsyslog на сервере и клиенте

```

root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo apt update && sudo apt install rsyslog
Hit:1 http://deb.debian.org/debian bookworm InRelease
Hit:2 http://deb.debian.org/debian bookworm-updates InRelease
Hit:3 http://security.debian.org/debian-security bookworm-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libestr0 libfastjson4 liblognorm5
Suggested packages:
  rsyslog-mysql | rsyslog-pgsql rsyslog-mongodb rsyslog-doc rsyslog-openssl
  | rsyslog-gnutls rsyslog-gssapi rsyslog-relp
The following NEW packages will be installed:
  libestr0 libfastjson4 liblognorm5 rsyslog
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 829 kB of archives.
After this operation, 2,280 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://deb.debian.org/debian bookworm/main amd64 libestr0 amd64 0.1.11-1 [9,204 B]
Get:2 http://deb.debian.org/debian bookworm/main amd64 libfastjson4 amd64 1.2304.0-1 [2

```

```

root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# sudo apt update && sudo apt install rsyslog
Hit:1 http://deb.debian.org/debian bookworm InRelease
Hit:2 http://security.debian.org/debian-security bookworm-security InRelease
Hit:3 http://deb.debian.org/debian bookworm-updates InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libestr0 libfastjson4 liblognorm5
Suggested packages:
  rsyslog-mysql | rsyslog-pgsql rsyslog-mongodb rsyslog-doc rsyslog-openssl
  | rsyslog-gnutls rsyslog-gssapi rsyslog-relp
The following NEW packages will be installed:
  libestr0 libfastjson4 liblognorm5 rsyslog
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 829 kB of archives.
After this operation, 2,280 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://deb.debian.org/debian bookworm/main amd64 libestr0 amd64 0.1.11-1 [9,204 B]
Get:2 http://deb.debian.org/debian bookworm/main amd64 libfastjson4 amd64 1.2304.0-1 [2

```

2.2 Проверим работоспособность rsyslog на сервере и клиенте

```

Processing triggers for man-db (2.11.2-1) ...
root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo systemctl start rsyslog
root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo systemctl enable rsyslog
root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo systemctl status rsyslog
* rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; preset: enabled)
   Active: active (running) since Tue 2023-11-21 18:50:59 MSK; 1min 31s ago
   TriggeredBy: * syslog.socket
   Docs: man:rsyslogd(8)
         man:rsyslog.conf(5)
         https://www.rsyslog.com/doc/
   Main PID: 2864 (rsyslogd)
   Tasks: 4 (Limit: 9999)
   Memory: 1.3M
   CPU: 18ms
   CGroup: /system.slice/rsyslog.service
           └─2864 /usr/sbin/rsyslogd -n -2864

Nov 21 18:50:59 KUZDEBIANPR3SERV systemd[1]: Starting rsyslog.service - System Logging.
Nov 21 18:50:59 KUZDEBIANPR3SERV systemd[1]: Started rsyslog.service - System Logging.
Nov 21 18:50:59 KUZDEBIANPR3SERV rsyslogd[2864]: imuxsock: Acquired UNIX socket '/var/run/rsyslogd.sock' from 'kernel'
Nov 21 18:50:59 KUZDEBIANPR3SERV rsyslogd[2864]: [origin software="rsyslogd" swVersion="8.24.0" x86_64-pc-linux-gnu] started with pid 2864
lines 1-18/18 [END]
root@KUZDEBIANPR3SERV:/home/kuzpr3server#

```

```

Processing triggers for man-db (2.11.2-1) ...
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# sudo systemctl start rsyslog
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# sudo systemctl enable rsyslog
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# sudo systemctl status rsyslog
* rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; preset: enabled)
   Active: active (running) since Tue 2023-11-21 18:51:28 MSK; 1min 37s ago
   TriggeredBy: * syslog.socket
   Docs: man:rsyslogd(8)
         man:rsyslog.conf(5)
         https://www.rsyslog.com/doc/
   Main PID: 2872 (rsyslogd)
   Tasks: 4 (Limit: 9999)
   Memory: 1.3M
   CPU: 18ms
   CGroup: /system.slice/rsyslog.service
           └─2872 /usr/sbin/rsyslogd -n -2872

Nov 21 18:51:28 KUZDEBIANPR3CLIENT systemd[1]: Starting rsyslog.service - System Logging.
Nov 21 18:51:28 KUZDEBIANPR3CLIENT rsyslogd[2872]: imuxsock: Acquired UNIX socket '/var/run/rsyslogd.sock' from 'kernel'
Nov 21 18:51:28 KUZDEBIANPR3CLIENT rsyslogd[2872]: [origin software="rsyslogd" swVersion="8.24.0" x86_64-pc-linux-gnu] started with pid 2872
lines 1-18/18 [END]
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client#

```

2.3 Включим UDP и TCP соединения

```
GNU nano 7.2 /etc/rsyslog.conf *
# /usr/share/doc/rsyslog-doc/html/configuration/index.html

#####
### MODULES ###
#####

module(load="imuxsock") # provides support for local system logging
module(load="imklog") # provides kernel logging support
module(load="immark") # provides --MARK-- message capability

# provides UDP syslog reception
module(load="imudp")
input(type="imudp" port="514")

# provides TCP syslog reception
module(load="imtcp")
input(type="imtcp" port="514")

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

2.4 Установим правила на сервере

```
GNU nano 7.2 /etc/rsyslog.conf *
*. *;auth,authpriv.none - /var/log/syslog

#
# Log commonly used facilities to their own log file
#
auth,authpriv.* /var/log/auth.log
cron.* - /var/log/cron.log
kern.* - /var/log/kern.log
mail.* - /var/log/mail.log
user.* - /var/log/user.log

#
# Emergencies are sent to everybody logged in.
#
*.emerg :omusrmsg:*

template(name="RemoteLogs" type="string" string="/var/log/%HOSTNAME%/%PROGRAMNAME%.log"
*. * ?RemoteLogs
& stop

```

```
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

2.5 Установим правила на клиенте

```
GNU nano 7.2 /etc/rsyslog.conf *
#
# Log anything besides private authentication messages to a single log file
#
*. *;auth,authpriv.none                -/var/log/syslog

#
# Log commonly used facilities to their own log file
#
auth,authpriv.*                        /var/log/auth.log
cron.*                                 -/var/log/cron.log
kern.*                                 -/var/log/kern.log
mail.*                                 -/var/log/mail.log
user.*                                 -/var/log/user.log

#
# Emergencies are sent to everybody logged in.
#
*.emerg                                :omusrmsg:*

*. * @@192.168.31.138:514

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste       ^J Justify    ^_ Go To Line
```

2.6 Проверим получения логов на сервере

```
root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo systemctl restart rsyslog
root@KUZDEBIANPR3SERV:/home/kuzpr3server# sudo ss -tulnp | grep "rsyslog"
udp UNCONN 0      0      0.0.0.0:514      0.0.0.0:*      users:(("rsyslogd",pid=3420,fd=6))
udp UNCONN 0      0      [::]:514      [::]:*      users:(("rsyslogd",pid=3420,fd=7))
tcp LISTEN 0      25      0.0.0.0:514      0.0.0.0:*      users:(("rsyslogd",pid=3420,fd=8))
tcp LISTEN 0      25      [::]:514      [::]:*      users:(("rsyslogd",pid=3420,fd=9))
root@KUZDEBIANPR3SERV:/home/kuzpr3server#

TriggeredBy: • syslog.socket
Docs: man:rsyslogd(8)
      man:rsyslog.conf(5)
      https://www.rsyslog.com/doc/
Main PID: 3446 (rsyslogd)
Tasks: 10 (limit: 9454)
Memory: 3.1M
CPU: 22ms
CGroup: /system.slice/rsyslog.service
        └─3446 /usr/sbin/rsyslogd -n -iNONE

Nov 21 17:00:17 KUZDEBIANPR3SERV systemd[1]: Starting rsyslog.service - System Logging>
Nov 21 17:00:17 KUZDEBIANPR3SERV systemd[1]: Started rsyslog.service - System Logging >
Nov 21 17:00:17 KUZDEBIANPR3SERV rsyslogd[3446]: imuxsock: Acquired UNIX socket '/run/>
Nov 21 17:00:17 KUZDEBIANPR3SERV rsyslogd[3446]: [origin software="rsyslogd" swVersion>
lines 1-18/18 (END)
root@KUZDEBIANPR3SERV:/home/kuzpr3server# ls /var/log
alternatives.log  cups          journal      README
apt               dpkg.log      kern.log     speech-dispatcher
auth.log          faillog       KUZDEBIANPR3CLIENT  syslog
boot.log          fontconfig.log KUZDEBIANPR3SERV    user.log
btmpt             gdm3          lastlog      vboxpostinstall.log
cron.log          installer     private      wtmp
root@KUZDEBIANPR3SERV:/home/kuzpr3server#
```

3. Установим и настроим получение логов на сервер с использованием Loki

3.1 Установим и отредактируем docker compose файл на сервере

```
root@KUZDEBIANPR3SERV:/home/kuzpr3server# mkdir /loki
root@KUZDEBIANPR3SERV:/home/kuzpr3server# cd /loki
root@KUZDEBIANPR3SERV:/loki# wget https://raw.githubusercontent.com/grafana/loki/v2.9.1
/production/docker-compose.yaml -O docker-compose.yaml
--2023-11-21 17:04:21-- https://raw.githubusercontent.com/grafana/loki/v2.9.1/producti
on/docker-compose.yaml
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185
.199.110.133, 185.199.109.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:44
3... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1073 (1.0K) [text/plain]
Saving to: 'docker-compose.yaml'

docker-compose.yaml  100%[=====>]  1.05K  --.-KB/s    in 0s

2023-11-21 17:04:21 (55.3 MB/s) - 'docker-compose.yaml' saved [1073/1073]

root@KUZDEBIANPR3SERV:/loki# ls -l
total 4
-rw-r--r-- 1 root root 1073 Nov 21 17:04 docker-compose.yaml
root@KUZDEBIANPR3SERV:/loki#
```

```
version: "3"

networks:
  loki:

services:
  loki:
    image: grafana/loki:2.9.0
    ports:
      - "3100:3100"
    command: -config.file=/etc/loki/local-config.yaml
    networks:
      - loki

  grafana:
    environment:
      - GF_PATHS_PROVISIONING=/etc/grafana/provisioning
      - GF_AUTH_ANONYMOUS_ENABLED=true
      - GF_AUTH_ANONYMOUS_ORG_ROLE=Admin
    entrypoint:
```

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location
^X Exit	^R Read File	^N Replace	^U Paste	^J Justify	^_ Go To Line

3.2 Запустим Loki

```
[+] Running 18/18
✓ grafana 10 layers [██████████] 0B/0B Pulled 45.1s
✓ 96526aa774ef Pull complete 3.8s
✓ 932a65841cb5 Pull complete 4.0s
✓ a486d8a79b5f Pull complete 4.4s
✓ 9f17a73c904a Pull complete 5.0s
✓ c1ade82e0f62 Pull complete 4.6s
✓ 882619e0a642 Pull complete 5.1s
✓ 2f0808654570 Pull complete 17.6s
✓ df5835f957f7 Pull complete 15.6s
✓ b94284e881a5 Pull complete 6.0s
✓ 3e944d3294a3 Pull complete 7.6s
✓ loki 6 layers [██████████] 0B/0B Pulled 12.2s
✓ 31e352740f53 Pull complete 1.8s
✓ 8b1f00c5e787 Pull complete 1.3s
✓ a91d5e9859cb Pull complete 3.5s
✓ 970cece5abde Pull complete 2.2s
✓ 4afc9154faa4 Pull complete 2.5s
✓ 0da8239be4a8 Pull complete 2.9s
[+] Running 3/3
✓ Network loki_loki Created 0.3s
✓ Container loki-grafana-1 Started 1.3s
✓ Container loki-loki-1 Started 1.3s
root@KUZDEBIANPR3SERV:/loki#
```

3.3 Отредактируем promtail-config на клиенте

```
GNU nano 7.2 promtail-config.yaml *
```

```
server:
  http_listen_port: 9080
  grpc_listen_port: 0

positions:
  filename: /tmp/positions.yaml

clients:
  - url: http://192.168.31.138:3100/loki/api/v1/push

scrape_configs:
  - job_name: system
    static_configs:
      - targets:
          - localhost
        labels:
          lob: varlogs
          __path__: /var/log/*log
```

```
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

3.4 Отредактируем docker compose файл для promtail

```
GNU nano 7.2 docker-compose.yaml *
version: "3"

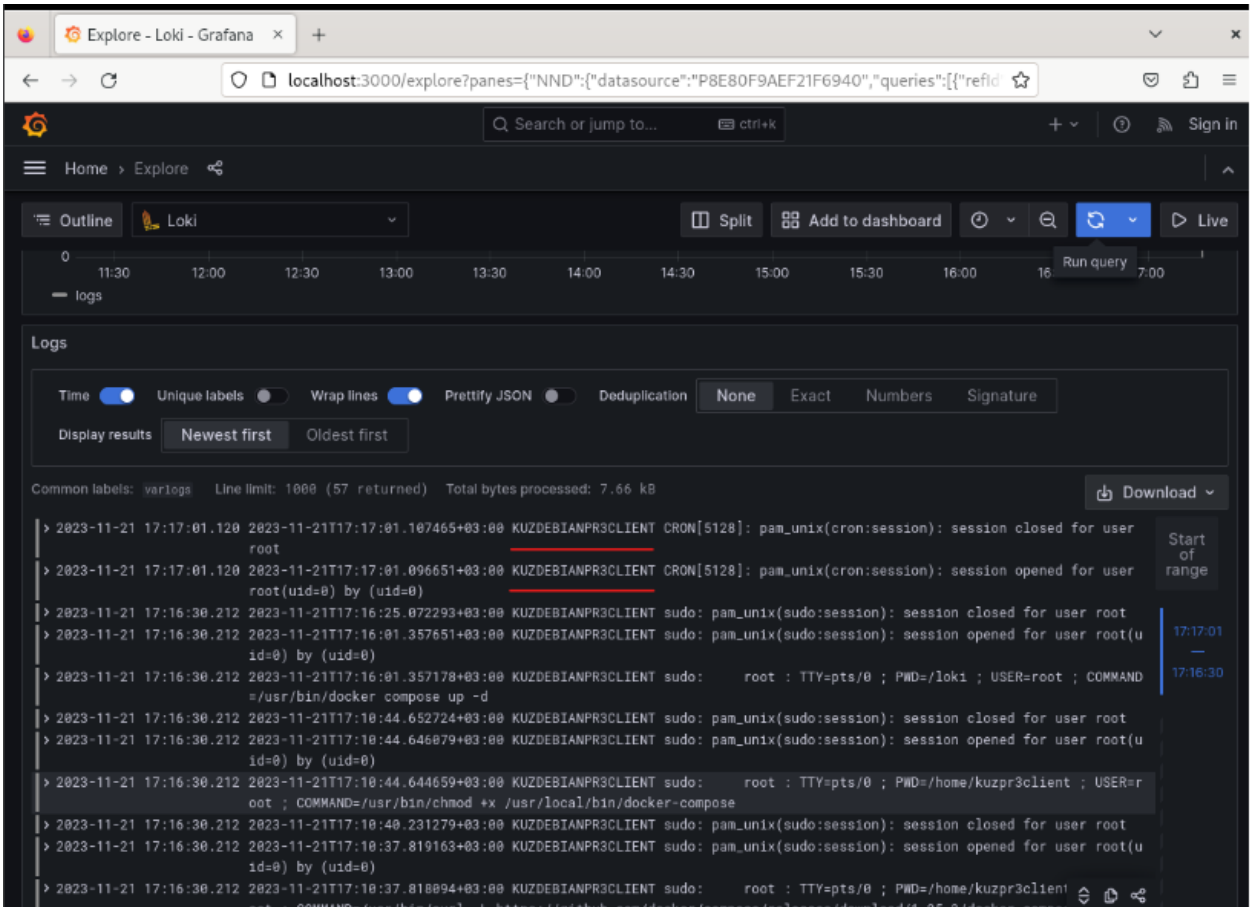
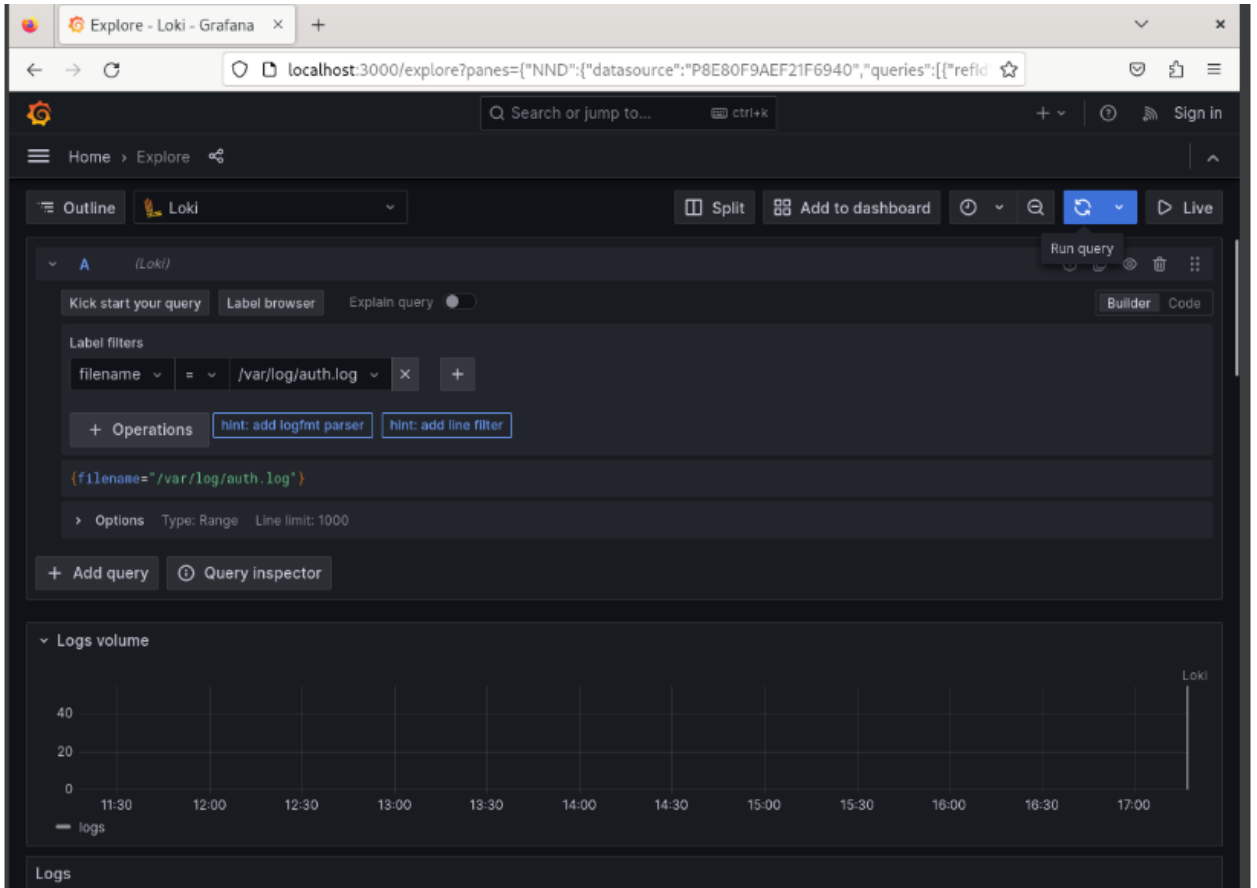
services:
  promtail:
    image: grafana/promtail:2.9.0
    volumes:
      - /var/log:/var/log
      - ./promtail-config.yaml:/etc/promtail/config.yaml
    command: -config.file=/etc/promtail/config.yaml

^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^_ Go To Line
```

3.5 Запустим promtail на клиенте

```
0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0
100 16.4M 100 16.4M 0 0 7073k 0 0:00:02 0:00:02 --:--:-- 8135k
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# sudo chmod +x /usr/local/bin/docker-compose
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# docker-compose --version
docker-compose version 1.25.3, build d4d1b42b
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# cd /loki
bash: cd: /loki: No such file or directory
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# mkdir /loki
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# cd /loki
root@KUZDEBIANPR3CLIENT:/loki# nano promtail-config.yaml
root@KUZDEBIANPR3CLIENT:/loki# nano docker-compose.yaml
root@KUZDEBIANPR3CLIENT:/loki# sudo docker compose up -d
[+] Running 7/7
✓ promtail 6 layers [#####] 0B/0B Pulled 21.8s
✓ 7d97e254a046 Pull complete 7.4s
✓ 39932bcaa1cc Pull complete 0.7s
✓ 4059d897dde4 Pull complete 3.4s
✓ 325d59b59788 Pull complete 2.3s
✓ 9e9c5b842176 Pull complete 9.8s
✓ 01befd6b403e Pull complete 4.3s
[+] Running 2/2
✓ Network loki_default Created 0.2s
✓ Container loki-promtail-1 Started 0.9s
root@KUZDEBIANPR3CLIENT:/loki#
```


3.6 Просмотрим логи клиента в Grafana



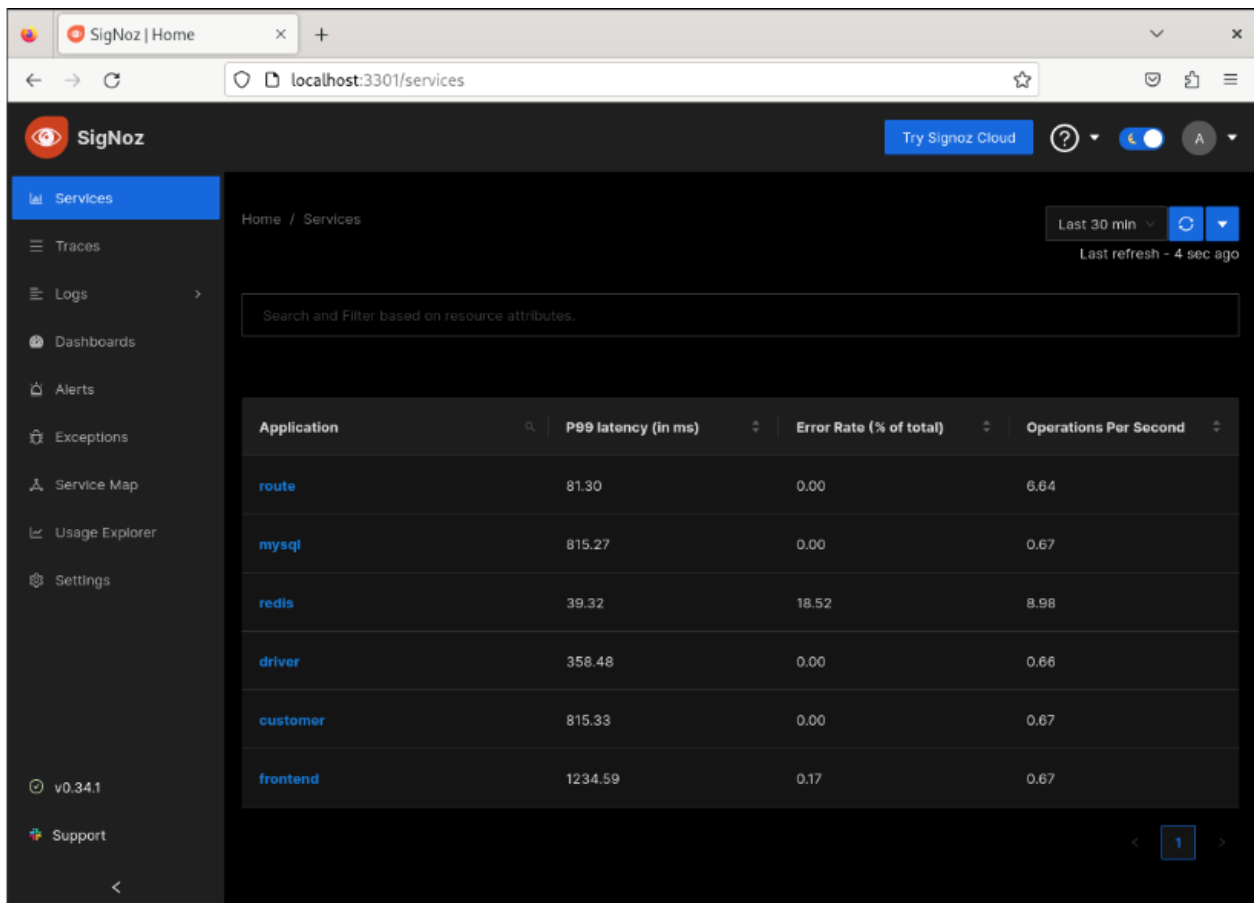
4. Установим и настроим получение логов на сервере с использованием Signoz

Установка Signoz по инструкции с сайта: <https://signoz.io/docs/install/docker/#install-signoz-using-docker-compose>

4.1 Запустим Signoz

```
root@KUZDEBIANPR3SERV:/signoz# mkdir /deploy
root@KUZDEBIANPR3SERV:/signoz# cd /deploy
root@KUZDEBIANPR3SERV:/deploy# mkdir /signoz/deploy
root@KUZDEBIANPR3SERV:/deploy# cd /signoz/deploy
root@KUZDEBIANPR3SERV:/signoz/deploy# git clone -b main https://github.com/SigNoz/signoz.git && cd signoz/deploy/
Cloning into 'signoz'...
remote: Enumerating objects: 40610, done.
remote: Counting objects: 100% (3664/3664), done.
remote: Compressing objects: 100% (1790/1790), done.
remote: Total 40610 (delta 2084), reused 3218 (delta 1762), pack-reused 36946
Receiving objects: 100% (40610/40610), 53.84 MiB | 3.75 MiB/s, done.
Resolving deltas: 100% (25503/25503), done.
root@KUZDEBIANPR3SERV:/signoz/deploy/signoz/deploy# cd docker
root@KUZDEBIANPR3SERV:/signoz/deploy/signoz/deploy/docker# cd clickhouse-setup
root@KUZDEBIANPR3SERV:/signoz/deploy/signoz/deploy/docker/clickhouse-setup# sudo docker compose up -d
[+] Running 16/27
  * alertmanager 7 layers [#####] 0B/0B Pulling 16.2s
  * otel-collector-metrics 4 layers [###] 9.946MB/46.44MB Pulling 16.2s
  * query-service 4 layers [ ] 0B/0B Pulling 16.2s
  * load-hotrod 7 layers [ ] 0B/0B Pulling 16.2s
  * logspout 3 layers [###] 0B/0B Pulling 16.2s
  * otel-collector Pulling 16.2s
  * hotrod 1 layers [ ] 0B/0B Pulling 16.2s
  * frontend 12 layers [###] 0B/0B Pulling 16.2s
  * otel-collector-migrator 3 layers [ ] 0B/0B Pulling 16.2s
  * zookeeper-1 1 layers [ ] 4.302MB/273.6MB Pulling 16.2s
  * clickhouse 7 layers [##] 0B/0B Pulling 16.2s
```

```
[+] Running 12/12
  ✓ Network clickhouse-setup_default Created 0.5s
  ✓ Container load-hotrod Started 2.5s
  ✓ Container signoz-zookeeper-1 Started 2.4s
  ✓ Container hotrod Started 2.4s
  ✓ Container signoz-clickhouse Healthy 0.3s
  ✓ Container otel-migrator Exited 0.2s
  ✓ Container signoz-query-service Healthy 0.3s
  ✓ Container signoz-otel-collector-metrics Started 0.3s
  ✓ Container signoz-alertmanager Started 0.4s
  ✓ Container signoz-otel-collector Started 0.3s
  ✓ Container signoz-logspout Started 0.4s
  ✓ Container signoz-frontend Started 0.3s
root@KUZDEBIANPR3SERV:/signoz/deploy/signoz/deploy/docker/clickhouse-setup#
```



4.2 Отредактируем конфигурации на клиенте для отправки данных в SigNoz

Установка приложения sample-nodejs-app согласно инструкции с сайта: <https://github.com/SigNoz/sample-nodejs-app/>

```
GNU nano 7.2 docker-compose.yml *
version: "2.4"
services:
  web:
    image: signoz/sample-nodejs-app:latest
    ports:
      - "5555:5555"
    extra_hosts:
      - signoz:host-gateway
    environment:
      - OTEL_EXPORTER_OTLP_ENDPOINT=http://192.168.31.138:4318/v1/traces # Replace with your SigNoz endpoint
      - OTEL_RESOURCE_ATTRIBUTES=service.name=sample-nodejs

Save modified buffer?
Y Yes
N No ^C Cancel
```

4.3 Запустим клиентское приложение sample-nodejs-app

```
root@KUZDEBIANPR3CLIENT:/loki# cd /home/kuzpr3client
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# mkdir /sample-nodejs
bash: mkdir: command not found
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# mkdir /sample-nodejs
root@KUZDEBIANPR3CLIENT:/home/kuzpr3client# cd /sample-nodejs
root@KUZDEBIANPR3CLIENT:/sample-nodejs# nano docker-compose.yaml
root@KUZDEBIANPR3CLIENT:/sample-nodejs# sudo docker compose up -d
[+] Running 10/10
 ✓ web 9 layers [██████████] 0B/0B Pulled 33.3s
 ✓ f56be85fc22e Pull complete 2.1s
 ✓ 931b0e865bc2 Pull complete 12.5s
 ✓ 60542df8b663 Pull complete 1.6s
 ✓ 062e26bc2446 Pull complete 2.3s
 ✓ aebrace558f25 Pull complete 2.7s
 ✓ 4f4fb700ef54 Pull complete 2.9s
 ✓ 02b799cff739 Pull complete 3.5s
 ✓ d4f1f08cb98d Pull complete 10.8s
 ✓ 91fc9829d156 Pull complete 5.6s
[+] Running 2/2
 ✓ Network sample-nodejs_default Created 0.2s
 ✓ Container sample-nodejs-web-1 Started 1.1s
root@KUZDEBIANPR3CLIENT:/sample-nodejs#
```

4.4 Проверим получение логов в Signoz

