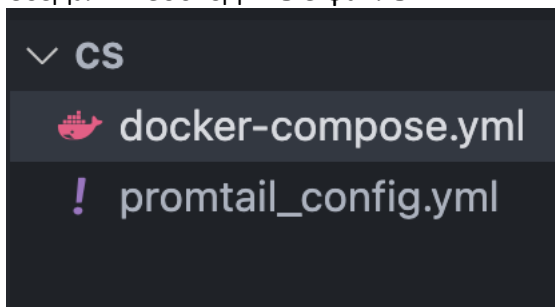


Выполнили: Скирляк Ярослав, Григорьев Алексей, Гафаров Данил

Часть 1:

1. Создали необходимые файлы



2. Подняли контейнер

	cs	Running (7/7)	7.49%	13 minutes ago			
	grafana	grafana/grafana:11.2.0	Running	0.08%	3000:3000	13 minutes ago	
	loki	grafana/loki:2.9.0	Running	0.84%	3100:3100	13 minutes ago	
	nextcloud	nextcloud:29.0.6	Running	0.01%	8080:80	13 minutes ago	
	postgres-zabbix	postgres:15	Running	5.36%		13 minutes ago	
	promtail	grafana/promtail:2.9.0	Running	0.28%		13 minutes ago	
	zabbix-back	zabbix/zabbix-server-pgsql/ubuntu	Running	0.74%	10051:10051	13 minutes ago	
	zabbix-front	zabbix/zabbix-web-nginx-pgsql/ubi	Running	0.18%	8082:8080	13 minutes ago	

Showing 11 items

3. Инициализируем Nextcloud. Для этого заходим на веб интерфейс через внешний порт, указанный в compose файле, создаем учетку и проверяем, что логи “пошли” в нужный нам файл /var/www/html/data/nextcloud.log

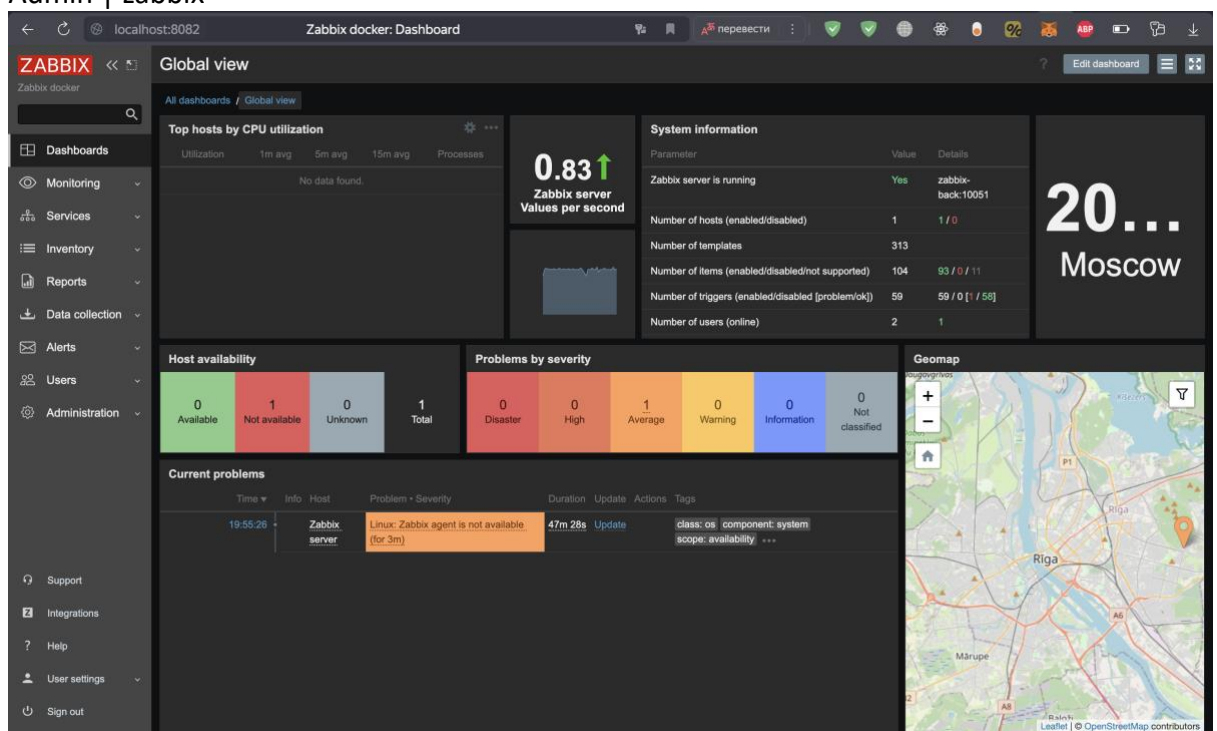
```
root@0801adb70ac8:/var/www/html# ls
3rdparty  apps  config  cron.php  dist  lib  nextcloud-init-sync.lock  ocs  package.json  resources  themes
AUTHORS  composer.json  console.php  data  index.php  occ  package-lock.json  public.php  robots.txt  version.php
root@0801adb70ac8:/var/www/html# cd data
root@0801adb70ac8:/var/www/html/data# ls
appdata_0c908x5offly  appdata_ockddu4furti  index.html  nextcloud.log  owncloud.db  skirlyak2004@mail.ru  skirlyak2004yaros@mail.ru
root@0801adb70ac8:/var/www/html/data# cat nextcloud.log
{"reqId":"C8Tf2x6oYt1t18JQVz07","level":2,"time":"2024-10-18T17:05:23+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"GET","url":"/","message":"Host localh
ost was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrowse
r/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"C8Tf2x6oYt1t18JQVz07","level":2,"time":"2024-10-18T17:05:23+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"GET","url":"/","message":"Host localh
ost was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrowse
r/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"C8Tf2x6oYt1t18JQVz07","level":3,"time":"2024-10-18T17:05:24+00:00","remoteAddr":"192.168.65.1","user":"","app":"PHP","method":"GET","url":"/","message":"fopen(/var/www/html/confi
g/config.php): Failed to open stream: No such file or directory at /var/www/html/lib/private/Config.php#221","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (
KHTML, like Gecko) Chrome/126.0.0.0 YaBrowser/24.7.0.0 Safari/537.36","version":"","data":{"app":"PHP"}}
{"reqId":"G0S4eq0KxqWRtnOt6XX","level":2,"time":"2024-10-18T17:06:42+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"POST","url":"/","message":"Host local
host was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrows
er/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"G0S4eq0KxqWRtnOt6XX","level":2,"time":"2024-10-18T17:06:42+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"POST","url":"/","message":"Host local
host was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrows
er/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"LexBwLDY094i1rDqacB3N","level":2,"time":"2024-10-18T17:21:00+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"GET","url":"/","message":"Host localh
ost was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrowse
r/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"LexBwLDY094i1rDqacB3N","level":2,"time":"2024-10-18T17:21:00+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"GET","url":"/","message":"Host localh
ost was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrowse
r/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"LexBwLDY094i1rDqacB3N","level":3,"time":"2024-10-18T17:21:00+00:00","remoteAddr":"192.168.65.1","user":"","app":"PHP","method":"GET","url":"/","message":"fopen(/var/www/html/confi
g/config.php): Failed to open stream: No such file or directory at /var/www/html/lib/private/Config.php#221","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (
KHTML, like Gecko) Chrome/126.0.0.0 YaBrowser/24.7.0.0 Safari/537.36","version":"","data":{"app":"PHP"}}
{"reqId":"WmsHBuYfQHEA87uq5j5y","level":2,"time":"2024-10-18T17:21:04+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"POST","url":"/","message":"Host local
host was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrows
er/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"WmsHBuYfQHEA87uq5j5y","level":2,"time":"2024-10-18T17:21:04+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"POST","url":"/","message":"Host local
host was not connected to because it violates local access rules","userAgent":"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 YaBrows
er/24.7.0.0 Safari/537.36","version":"","data":{}}
{"reqId":"Mzd2TzkmZKjZbWnpaw6","level":2,"time":"2024-10-18T17:21:12+00:00","remoteAddr":"192.168.65.1","user":"","app":"no app in context","method":"POST","url":"/","message":"Host local
```

4. После инициализации Nextcloud проверяем в логах promtail, что он “подцепил” нужный нам log-файл: должны быть строчки, содержащие msg=Seeked /opt/nc\_data/nextcloud.log

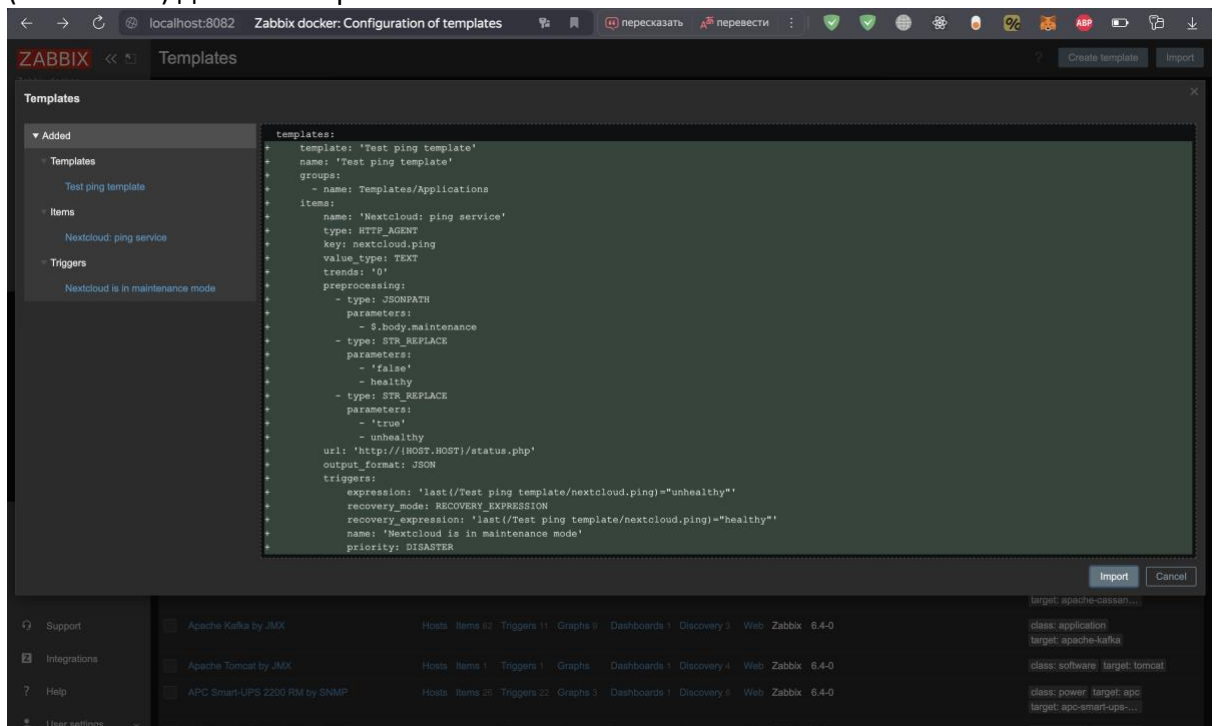
```
Last login: Thu Oct 10 20:13:37 on ttys005
yaroslav@MacBook-Air-Yaroslav ~ % docker logs 9bd01a291c5a5211bcd8fb722a8a2af5de7c5037df6a6437ada633ac67d240d1
level=info ts=2024-10-10T17:20:15.372452416Z caller=promtail.go:133 msg="Reloading configuration file" md5sum=2c8ba9ad5647669e9f64bdad5fed7eae
level=info ts=2024-10-10T17:20:15.375810458Z caller=server.go:322 http=[::]:9080 grpc=[::]:33429 msg="server listening on addresses"
level=info ts=2024-10-10T17:20:15.378600875Z caller=main.go:174 msg="Starting Promtail" version="(version=2.9.0, branch=HEAD, revision=2feb64f69)"
level=warn ts=2024-10-10T17:20:15.378776458Z caller=promtail.go:263 msg="enable watchConfig"
level=info ts=2024-10-10T17:20:20.378507627Z caller=filetargetmanager.go:361 msg="Adding target" key="/opt/nc_data/*.log:{job=\"nextcloud_logs\"}"
level=info ts=2024-10-10T17:20:20.379154335Z caller=filetargetmanager.go:313 msg="watching new directory" directory=/opt/nc_data
ts=2024-10-10T17:20:20.379411835Z caller=log.go:168 level=info msg="Seeked /opt/nc_data/nextcloud.log - &{Offset:0 Whence:0}"
level=info ts=2024-10-10T17:20:20.379997377Z caller=tailer.go:145 component=tailer msg="tail routine: started" path=/opt/nc_data/nextcloud.log
level=info ts=2024-10-10T17:21:00.793895299Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/htaccess.txt op=CREATE
level=info ts=2024-10-10T17:21:04.002803925Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/owncloud.db-wal op=CREATE
level=info ts=2024-10-10T17:21:04.041639592Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/owncloud.db-shm op=CREATE
level=info ts=2024-10-10T17:21:12.054361012Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/htaccess.txt op=CREATE
level=info ts=2024-10-10T17:21:12.060072887Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/owncloud.db-wal op=CREATE
level=info ts=2024-10-10T17:21:12.060232679Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/owncloud.db-shm op=CREATE
level=info ts=2024-10-10T17:21:37.380447927Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/htaccess.txt op=CREATE
level=info ts=2024-10-10T17:21:37.385299094Z caller=filetargetmanager.go:181 msg="received file watcher event" name=/opt/nc_data/owncloud.db-wal op=CREATE
```

## Часть 2

1. Теперь настраиваем Zabbix. Подключаемся к веб-интерфейсу (<http://localhost:8082> или свой выбранный порт из композ файла) , креды Admin | zabbix



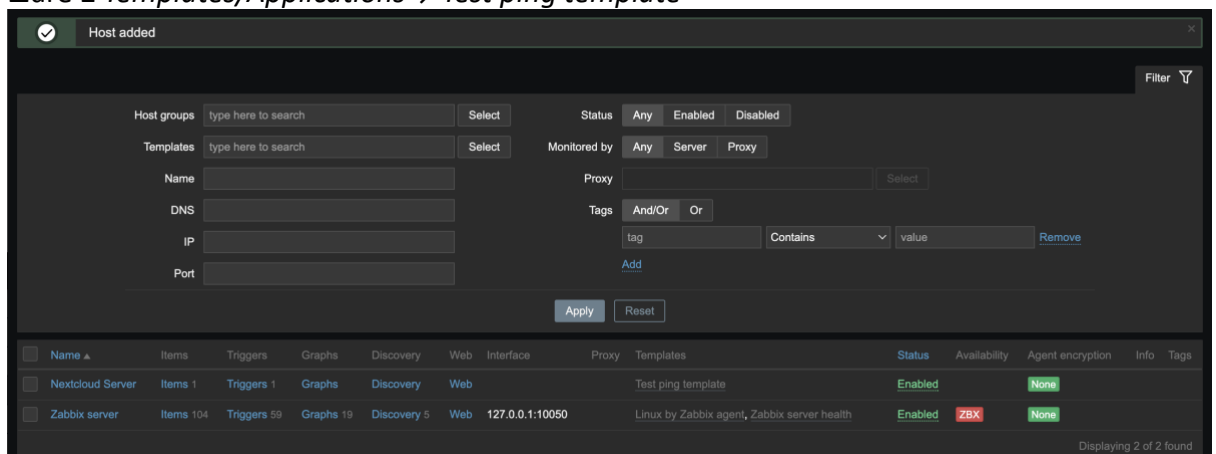
2. В разделе *Data collection* → *Templates* делаем *Import* кастомного шаблона (темплейта) для мониторинга nextcloud.



3. Чтобы Zabbix и Nextcloud могли общаться по своим коротким именам внутри докерской сети, в некстклауде необходимо “разрешить” это имя. Для этого нужно зайти на контейнер некстклауда под юзером www-data и выполнить команду `php occ config:system:set trusted_domains 1 --value="nextcloud"`

```
yaroslav@MacBook-Air-Yaroslav ~ % docker exec -u www-data -it nextcloud bash
www-data@0801adb70ac0:~/html$ php occ config:system:set trusted_domains 1 --value="nextcloud"
System config value trusted_domains => 1 set to string nextcloud
www-data@0801adb70ac0:~/html$
```

4. В разделе *Data collection* → *Hosts* делаем (*Create host*). Указываем адрес (имя) контейнера nextcloud, видимое имя - любое, хост группа - *Applications* (но в целом можно любую другую). Чтобы не просто добавить хост, а начать его мониторинг, необходимо подключить к нему нужный шаблон мониторинга. Поэтому в поле *Templates* нужно выбрать добавленный на шаге 2 *Templates/Applications* → *Test ping template*



5. Переходим в раздел *Monitoring* → *Latest data*. Через какое-то время там должны появиться первые данные, в нашем случае значение *healthy*

Host	Item	Value	Units	Severity	Component	Link
Zabbix server	Linux: Number of processes				component: system	Graph
Zabbix server	Linux: Number of running processes				component: system	Graph
Zabbix server	Linux: Operating system				component: os	History
Zabbix server	Linux: Operating system architecture				component: os	History
Zabbix server	Linux: System boot time				component: system	Graph
Zabbix server	Linux: System description				component: system	History
Zabbix server	Linux: System local time				component: system	Graph
Zabbix server	Linux: System name				component: system	History
Zabbix server	Linux: System uptime				component: system	Graph
Zabbix server	Linux: Total memory				component: memory	Graph
Zabbix server	Linux: Total swap space				component: memory component: storage	Graph
Zabbix server	Linux: Version of Zabbix agent running				component: application	History
Zabbix server	Linux: Zabbix agent availability	51s		not available (0)	component: system	Graph
Zabbix server	Linux: Zabbix agent ping				component: system	Graph
Nextcloud Server	Nextcloud: ping service	46s		healthy		History
Zabbix server	Zabbix server: Configuration cache, % used	24s	21.8445 %	+0.009942 %	component: system	Graph
Zabbix server	Zabbix server: Connector queue				component: system	Graph
Zabbix server	Zabbix server: History index cache, % used	22s	0.4183 %		component: system	Graph
Zabbix server	Zabbix server: History write cache, % used	23s	0 %		component: system	Graph
Zabbix server	Zabbix server: LLD queue	43s	0		component: system	Graph
Zabbix server	Zabbix server: Number of processed character valu...	23s	0		component: system	Graph

### Часть 3

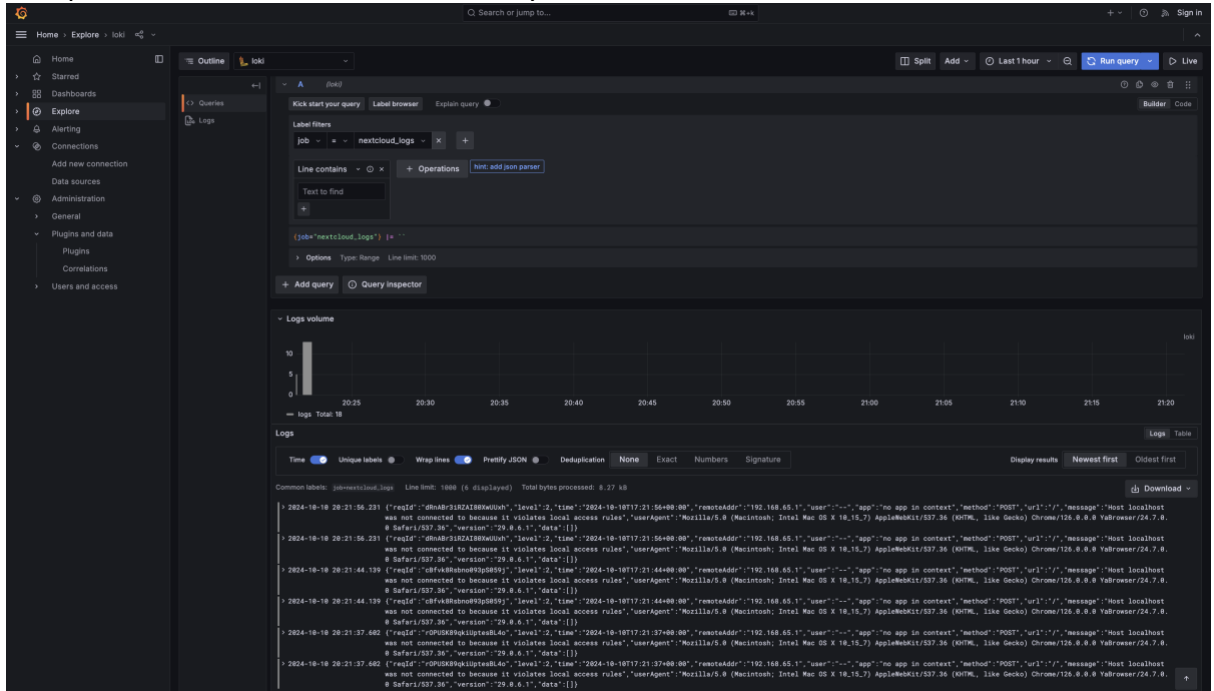
1. В терминале выполнить команду `docker exec -it grafana bash -c "grafana cli plugins install alexanderzobnln-zabbix-app"`, а затем `docker restart grafana`

```
Last login: Thu Oct 10 20:28:05 on ttys005
[yaroslav@MacBook-Air-Yaroslav ~ % docker exec -it grafana bash -c "grafana cli p
lugins install alexanderzobnln-zabbix-app"
✓ Downloaded and extracted alexanderzobnln-zabbix-app v4.5.5 zip successfully to
/var/lib/grafana/plugins/alexanderzobnln-zabbix-app

Please restart Grafana after installing or removing plugins. Refer to Grafana do
cumentation for instructions if necessary.

[yaroslav@MacBook-Air-Yaroslav ~ % docker restart grafana
grafana
yaroslav@MacBook-Air-Yaroslav ~ %
```

2. Настроив Loki мы нажимаем Run Query и видим наши логи



### 3. Аналогично с Zabbix

Outline

alexanderzobnin-zabbix

Split

Add

Last 1 hour

Run query

Queries

Table

Query type

Text

Group

Applications

Host

Nextcloud Server

Application

Item

Nextcloud: ping service

Text filter

Use capture groups

Options

+ Add query

Query inspector

Table - Nextcloud: ping service

Time	Nextcloud: ping service
2024-10-10 20:50:31	healthy
2024-10-10 20:51:31	healthy
2024-10-10 20:52:31	healthy
2024-10-10 20:53:31	healthy
2024-10-10 20:54:31	healthy
2024-10-10 20:55:31	healthy
2024-10-10 21:04:44	healthy
2024-10-10 21:05:31	healthy
2024-10-10 21:11:59	healthy
2024-10-10 21:12:31	healthy
2024-10-10 21:13:31	healthy
2024-10-10 21:14:31	healthy
2024-10-10 21:15:31	healthy
2024-10-10 21:16:31	healthy



#### 4. Добавили даш борды на nextcloud и логи



Ответы на вопросы:

##### 1. Чем SLO отличается от SLA?

SLO – это желаемое значение, которое описывает уровень доступности услуги;  
SLA – это соглашение, которое описывает уровень качества предоставления услуги.

##### 2. Чем отличается инкрементальный бэкап от дифференциального?

Инкрементальный бэкап сохраняет только изменения, произошедшие с момента последнего любого резервного копирования, а дифференциальный с последнего полного.

3. В чем разница между мониторингом и observability?

Мониторинг – это процесс наблюдения за системой с помощью заранее настроенных метрик, логов и прочего, а observability – это способность системы предоставлять информацию о своем состоянии