

Д3-01: Prometheus, exporters

Установка/настройка БД

```
apt install mariadb-server
apt install mariadb-client
mysql_secure_installation
```

```
mysql -u root -p
CREATE DATABASE joomlabd;
CREATE USER 'joomlabduser'@'localhost' IDENTIFIED BY 'pas';
GRANT ALL ON joomlabd.* TO 'joomlabduser'@'localhost' WITH GRANT OPTION;
```

Пользователь для exporter

```
CREATE USER 'exporter'@'localhost' IDENTIFIED BY 'pas' WITH MAX_USER_CONNECTIONS 3;
GRANT PROCESS, REPLICATION CLIENT, SELECT ON *.* TO 'exporter'@'localhost';
FLUSH PRIVILEGES;
EXIT;
```

Установка PHP, PHP-FPM

```
apt install php
apt install php-fpm php-mysql
apt install php8.2-zip php8.2-intl php8.2-xml php8.2-curl php8.2-mbstring php8.2-gd
```

Установка Joomla

```
unzip -d /var/www/joomla /tmp/Joomla_5.0.2-Stable-Full_Package.zip
chown -R www-data:www-data /var/www/joomla/
```

Установка NGINX, настройка для Joomla

```
apt update
apt install nginx
```

Конфиг:

/etc/nginx/sites-available/joomla.conf

```
server {
    listen 81;
    listen [::]:81;
    root /var/www/joomla;
    index index.php index.html index.htm;
    server_name example.com www.example.com;

    client_max_body_size 100M;
    autoindex off;

    location / {
        try_files $uri $uri/ /index.php?$args;
    }


    # deny running scripts inside writable directories
    location ~* /(images|cache|media|logs|tmp)/.*.(php|pl|py|jsp|asp|sh|cgi)$ {
        return 403;
        error_page 403 /403_error.html;
    }

    location ~ .php$ {
        include snippets/fastcgi-php.conf;
        fastcgi_pass unix:/run/php/php8.0-fpm.sock;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        include fastcgi_params;
    }
}
```

```
ln -s /etc/nginx/sites-available/joomla.conf /etc/nginx/sites-enabled/
```

systemctl restart nginx.service

localhost:81/administrator/index.php





otus


Joomla Administrator Login


Need Support?

You can find help here:

 Joomla! Support Forum

 Joomla! Documentation


 Joomla! News




Username

Password

.....



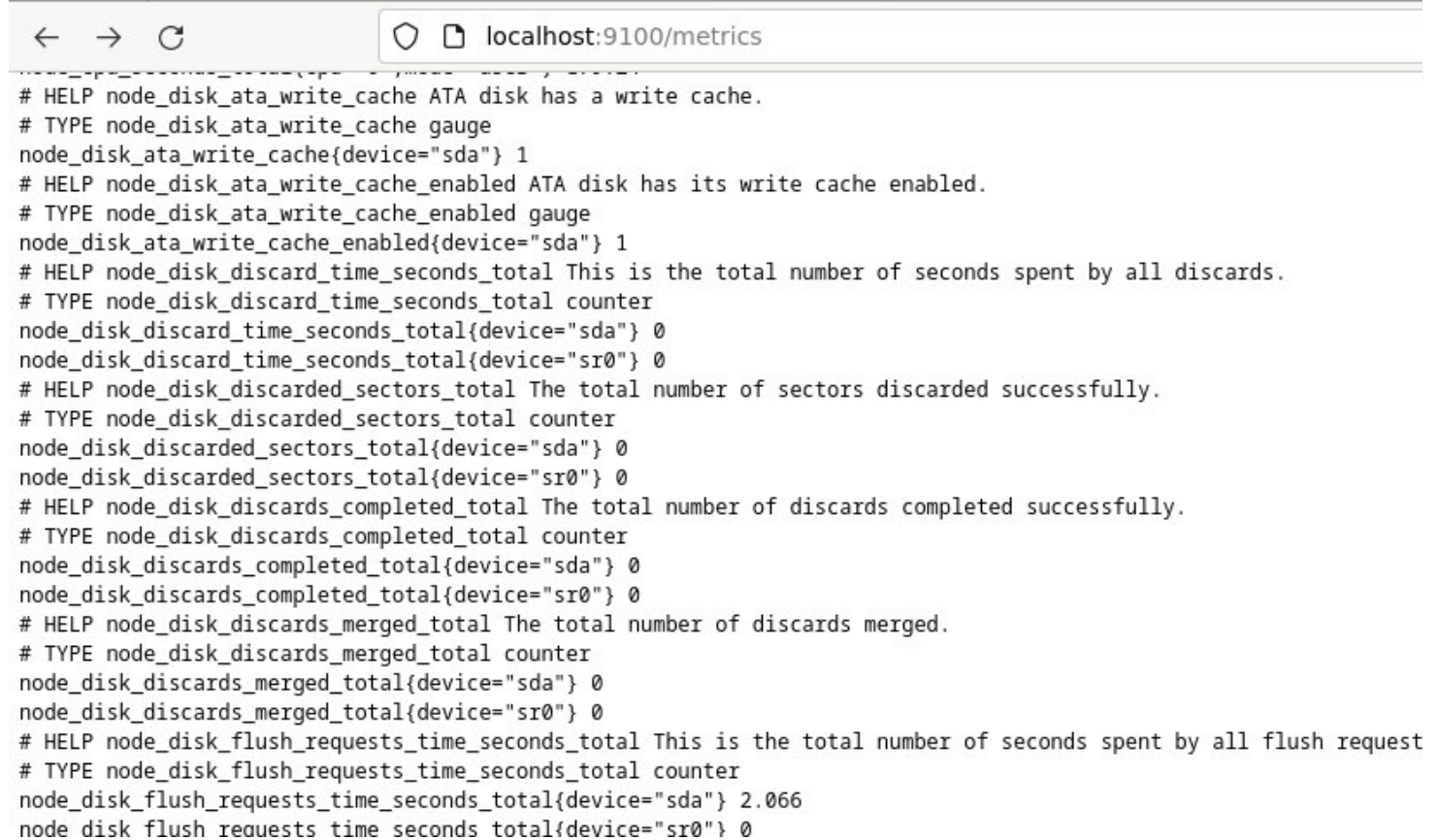
Log in

 [Forgot your login details?](#)

Установка/настройка exporters

```
apt-get install prometheus-node-exporter
```

<http://localhost:9100/metrics>



```
# HELP node_disk_ata_write_cache ATA disk has a write cache.
# TYPE node_disk_ata_write_cache gauge
node_disk_ata_write_cache{device="sda"} 1
# HELP node_disk_ata_write_cache_enabled ATA disk has its write cache enabled.
# TYPE node_disk_ata_write_cache_enabled gauge
node_disk_ata_write_cache_enabled{device="sda"} 1
# HELP node_disk_discard_time_seconds_total This is the total number of seconds spent by all discards.
# TYPE node_disk_discard_time_seconds_total counter
node_disk_discard_time_seconds_total{device="sda"} 0
node_disk_discard_time_seconds_total{device="sr0"} 0
# HELP node_disk_discarded_sectors_total The total number of sectors discarded successfully.
# TYPE node_disk_discarded_sectors_total counter
node_disk_discarded_sectors_total{device="sda"} 0
node_disk_discarded_sectors_total{device="sr0"} 0
# HELP node_disk_discards_completed_total The total number of discards completed successfully.
# TYPE node_disk_discards_completed_total counter
node_disk_discards_completed_total{device="sda"} 0
node_disk_discards_completed_total{device="sr0"} 0
# HELP node_disk_discards_merged_total The total number of discards merged.
# TYPE node_disk_discards_merged_total counter
node_disk_discards_merged_total{device="sda"} 0
node_disk_discards_merged_total{device="sr0"} 0
# HELP node_disk_flush_requests_time_seconds_total This is the total number of seconds spent by all flush request
# TYPE node_disk_flush_requests_time_seconds_total counter
node_disk_flush_requests_time_seconds_total{device="sda"} 2.066
node disk flush requests time seconds total{device="sr0"} 0
```

MySQL exporter

<https://www.devopsschool.com/blog/install-and-configure-prometheus-mysql-exporter/>

```
apt-get install prometheus-mysqld-exporter
```

```
/etc/.mysqld_exporter.cnf
```

```
[client]
```

```
user=exporter
```

```
password=pas
```

```
chown root:prometheus /etc/.mysqld_exporter.cnf
```

Добавляем параметр для конфига при запуске сервиса `/lib/systemd/system/prometheus-mysqld-exporter.service`

```
--config.my-cnf /etc/.mysqld_exporter.cnf
```

```
systemctl daemon-reload
```

```
systemctl enable prometheus-mysqld-exporter
```

```
systemctl start prometheus-mysqld-exporter
```



localhost:9104/metrics

```
mysql_global_status_commands_total{command="show_create_func"} 0
mysql_global_status_commands_total{command="show_create_package"} 0
mysql_global_status_commands_total{command="show_create_package_body"} 0
mysql_global_status_commands_total{command="show_create_proc"} 0
mysql_global_status_commands_total{command="show_create_table"} 0
mysql_global_status_commands_total{command="show_create_trigger"} 0
mysql_global_status_commands_total{command="show_create_user"} 0
mysql_global_status_commands_total{command="show_databases"} 0
mysql_global_status_commands_total{command="show_engine_logs"} 0
mysql_global_status_commands_total{command="show_engine_mutex"} 0
mysql_global_status_commands_total{command="show_engine_status"} 0
mysql_global_status_commands_total{command="show_errors"} 0
mysql_global_status_commands_total{command="show_events"} 0
mysql_global_status_commands_total{command="show_explain"} 0
mysql_global_status_commands_total{command="show_fields"} 308
mysql_global_status_commands_total{command="show_function_status"} 0
mysql_global_status_commands_total{command="show_generic"} 0
mysql_global_status_commands_total{command="show_grants"} 0
mysql_global_status_commands_total{command="show_keys"} 0
```

Blackbox exporter

<https://kirelos.com/how-to-monitor-website-performance-with-blackbox-exporter-and-grafana/>

Скачиваем, делаем конфиг для сервиса

```
wget https://github.com/prometheus/blackbox_exporter/releases/download/v0.24.0/blackbox_exporter-0.24.0.linux-amd64.tar.gz
```

```
tar -xzf blackbox_exporter-0.24.0.linux-amd64.tar.gz
```

```
[Unit]
Description=Blackbox Exporter Service
Wants=network-online.target
After=network-online.target

[Service]
Type=simple
User=root
Group=root
ExecStart=/etc/blackbox_exporter/blackbox_exporter --config.file=/etc/blackbox_exporter/blackbox.yml

[Install]
WantedBy=multi-user.target
```

```
systemctl daemon-reload
systemctl enable prometheus-blackbox-exporter
systemctl start prometheus-blackbox-exporter
```



Blackbox Exporter

[Probe prometheus.io for http_2xx](#)

[Debug_probe prometheus.io for http_2xx](#)

[Metrics](#)

[Configuration](#)

Recent Probes

Module	Target	Result	Debug
http_2xx	localhost:81	Success	Logs

Один порт для метрик и аутентификация

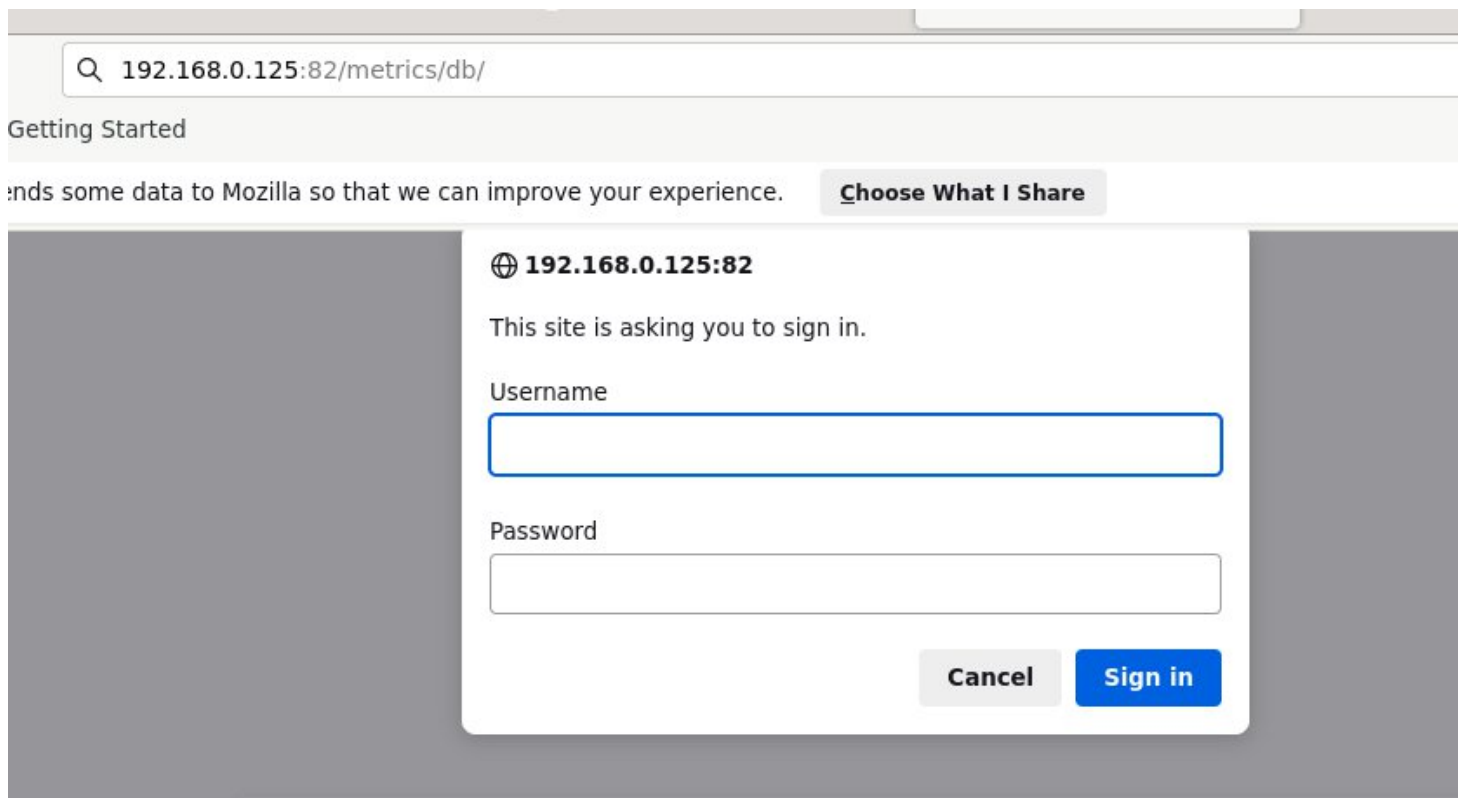
Для использования одного порта добавил в NGIX настройки для перенаправления запросов

```
location /metrics/db/ {  
    proxy_pass http://localhost:9104/metrics;  
}  
location /metrics/node/ {  
    proxy_pass http://localhost:9100/metrics;  
}  
location /metrics/blackbox/ {  
    proxy_pass http://localhost:9115/;  
}
```

И добавил базовую аутентификацию

```
htpasswd -c /etc/nginx/conf.d/.htpasswd prom
```

```
server{  
    ...  
    auth_basic "Restricted Access!";  
    auth_basic_user_file /etc/nginx/conf.d/.htpasswd;  
    ...  
}
```



Настройка Prometheus

<https://computingforgeeks.com/how-to-install-prometheus-and-node-exporter-on-debian/>

```
groupadd --system prometheus
useradd -s /sbin/nologin --system -g prometheus prometheus
```

```
mkdir /var/lib/prometheus
for i in rules rules.d files_sd; do sudo mkdir -p /etc/prometheus/${i}; done
```

```
mkdir -p /tmp/prometheus && cd /tmp/prometheus
curl -s https://api.github.com/repos/prometheus/prometheus/releases/latest | grep browser_download_url | grep linux-amd64 | cut -d '"' -f 4 | wget -qi -
```

```
tar xvf prometheus*.tar.gz
cd prometheus*/
```

```
mv prometheus promtool /usr/local/bin/
mv prometheus.yml /etc/prometheus/prometheus.yml
mv consoles/ console_libraries/ /etc/prometheus/
cd ~/
rm -rf /tmp/prometheus
```

Конфиг для сервиса

```
tee /etc/systemd/system/prometheus.service<<EOF
[Unit]
Description=Prometheus
Documentation=https://prometheus.io/docs/introduction/overview/
Wants=network-online.target
After=network-online.target

[Service]
Type=simple
User=prometheus
Group=prometheus
ExecReload=/bin/kill -HUP $MAINPID
ExecStart=/usr/local/bin/prometheus \
```

```
--config.file=/etc/prometheus/prometheus.yml \  
--storage.tsdb.path=/var/lib/prometheus \  
--web.console.templates=/etc/prometheus/consoles \  
--web.console.libraries=/etc/prometheus/console_libraries \  
--web.listen-address=0.0.0.0:9090 \  
--web.external-url=
```

```
SyslogIdentifier=prometheus  
Restart=always
```

```
[Install]  
WantedBy=multi-user.target  
EOF
```

```
for i in rules rules.d files_sd; do sudo chown -R prometheus:prometheus /etc/prometheus/${i}; done  
for i in rules rules.d files_sd; do sudo chmod -R 775 /etc/prometheus/${i}; done  
chown -R prometheus:prometheus /var/lib/prometheus/  
Reload systemd daemon and start the service.  
sudo systemctl daemon-reload  
sudo systemctl start prometheus  
sudo systemctl enable prometheus
```

Targets

All scrape pools ▾

AllUnhealthyCollapse All

Filter by endpoint or labels

blackbox (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://192.168.0.125:82/metrics/blackbox/probe module="http_2xx" target="http://192.168.0.125:81"	UP	instance="http://192.168.0.125:81" job="blackbox" ▾	29.247s ago	36.844ms	

blackbox_exporter (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://192.168.0.125:82/metrics/blackbox/metrics	UP	instance="192.168.0.125:82" job="blackbox_exporter" ▾	35.894s ago	2.958ms	

db (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://192.168.0.125:82/metrics/db/	UP	instance="192.168.0.125:82" job="db" ▾	28.470s ago	33.636ms	

node (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://192.168.0.125:82/metrics/node/	UP	instance="192.168.0.125:82" job="node" ▾	35.766s ago	118.172ms	

prometheus (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus" ▾	23.630s ago	5.137ms	

Конфиг

```
global:  
  scrape_interval: 15s  
  scrape_timeout: 10s  
  scrape_protocols:  
    - OpenMetricsText1.0.0  
    - OpenMetricsText0.0.1  
    - PrometheusText0.0.4  
  evaluation_interval: 15s  
alerting:
```



```
alertmanagers:
- follow_redirects: true
  enable_http2: true
  scheme: http
  timeout: 10s
  api_version: v2
  static_configs:
    - targets: []
scrape_configs:
- job_name: prometheus
  honor_timestamps: true
  track_timestamps_staleness: false
  scrape_interval: 15s
  scrape_timeout: 10s
  scrape_protocols:
    - OpenMetricsText1.0.0
    - OpenMetricsText0.0.1
    - PrometheusText0.0.4
  metrics_path: /metrics
  scheme: http
  enable_compression: true
  follow_redirects: true
  enable_http2: true
  static_configs:
    - targets:
        - localhost:9090
- job_name: db
  honor_timestamps: true
  track_timestamps_staleness: false
  scrape_interval: 15s
  scrape_timeout: 10s
  scrape_protocols:
    - OpenMetricsText1.0.0
    - OpenMetricsText0.0.1
    - PrometheusText0.0.4
  metrics_path: /metrics/db/
  scheme: http
  enable_compression: true
  basic_auth:
    username: prom
    password: <secret>
  follow_redirects: true
  enable_http2: true
  static_configs:
    - targets:
        - 192.168.0.125:82
- job_name: node
  honor_timestamps: true
  track_timestamps_staleness: false
  scrape_interval: 15s
  scrape_timeout: 10s
  scrape_protocols:
    - OpenMetricsText1.0.0
    - OpenMetricsText0.0.1
    - PrometheusText0.0.4
  metrics_path: /metrics/node/
  scheme: http
  enable_compression: true
  basic_auth:
    username: prom
    password: <secret>
  follow_redirects: true
  enable_http2: true
  static_configs:
    - targets:
        - 192.168.0.125:82
- job_name: blackbox
  honor_timestamps: true
```



```
track_timestamps_staleness: false
params:
  module:
    - http_2xx
scrape_interval: 15s
scrape_timeout: 10s
scrape_protocols:
- OpenMetricsText1.0.0
- OpenMetricsText0.0.1
- PrometheusText0.0.4
metrics_path: /metrics/blackbox/probe
scheme: http
enable_compression: true
basic_auth:
  username: prom
  password: <secret>
follow_redirects: true
enable_http2: true
relabel_configs:
- source_labels: [__address__]
  separator: ;
  regex: (.*)
  target_label: __param_target
  replacement: $1
  action: replace
- source_labels: [__param_target]
  separator: ;
  regex: (.*)
  target_label: instance
  replacement: $1
  action: replace
- separator: ;
  regex: (.*)
  target_label: __address__
  replacement: 192.168.0.125:82
  action: replace
static_configs:
- targets:
  - http://192.168.0.125:81
- job_name: blackbox_exporter
  honor_timestamps: true
  track_timestamps_staleness: false
  scrape_interval: 15s
  scrape_timeout: 10s
  scrape_protocols:
  - OpenMetricsText1.0.0
  - OpenMetricsText0.0.1
  - PrometheusText0.0.4
  metrics_path: /metrics/blackbox/metrics
  scheme: http
  enable_compression: true
  basic_auth:
    username: prom
    password: <secret>
  follow_redirects: true
  enable_http2: true
  static_configs:
  - targets:
    - 192.168.0.125:82
```