

# Развертывание системы мониторинга zabbix

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Для начала работ вам понадобится:

- *docker*
- *docker-compose*

Подробная установка всех необходимых компонентов рассмотрена в предыдущих уроках

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## Часть 1. Развертывание zabbix

Создадим файл `docker-compose.yml`:

`$ nano docker-compose.yml`

A screenshot of a terminal window. The title bar shows a window icon, a plus sign, and the text 'filipp@filipp-notebook: ~'. The terminal content shows 'GNU nano 6.2' on the left and 'docker-compose.yml' on the right. The main area of the terminal is a solid dark purple color, representing redacted content.

Добавим в файл следующее содержимое и сохраним изменения:

```
version: '3.5'
services:

  zabbix-server:
    image: zabbix/zabbix-server-pgsql:alpine-latest
    ports:
      - "10051:10051"
```

```

    volumes:
      - /etc/localtime:/etc/localtime:ro
      - /etc/timezone:/etc/timezone:ro
      -
/usr/lib/zabbix/alertscripts:/usr/lib/zabbix/alertscripts:ro
      -
/usr/lib/zabbix/externalscripts:/usr/lib/zabbix/externalscripts:ro
      - /var/lib/zabbix/export:/var/lib/zabbix/export:rw
      -
/var/lib/zabbix/modules:/var/lib/zabbix/modules:ro
      - /var/lib/zabbix/enc:/var/lib/zabbix/enc:ro
      -
/var/lib/zabbix/ssh_keys:/var/lib/zabbix/ssh_keys:ro
      - /var/lib/zabbix/mibs:/var/lib/zabbix/mibs:ro
      -
/var/lib/zabbix/snmptraps:/var/lib/zabbix/snmptraps:ro
    restart: always
    depends_on:
      - postgres-server
    environment:
      - POSTGRES_USER=zabbix
      - POSTGRES_PASSWORD=zabbix
      - POSTGRES_DB=zabbix
      - ZBX_HISTORYSTORAGETYPES=log,text
      - ZBX_DEBUGLEVEL=1
      - ZBX_HOUSEKEEPINGFREQUENCY=1
      - ZBX_MAXHOUSEKEEPERDELETE=5000

zabbix-web:
  image: zabbix/zabbix-web-nginx-pgsql:alpine-latest
  ports:
    - "80:8080"
    - "443:8443"
  volumes:
    - /etc/localtime:/etc/localtime:ro
    - /etc/timezone:/etc/timezone:ro
    - /etc/ssl/nginx:/etc/ssl/nginx:ro
    -
/usr/share/zabbix/modules/:/usr/share/zabbix/modules/:ro
  healthcheck:
    test: ["CMD", "curl", "-f",
"http://localhost:8080/"]
    interval: 10s

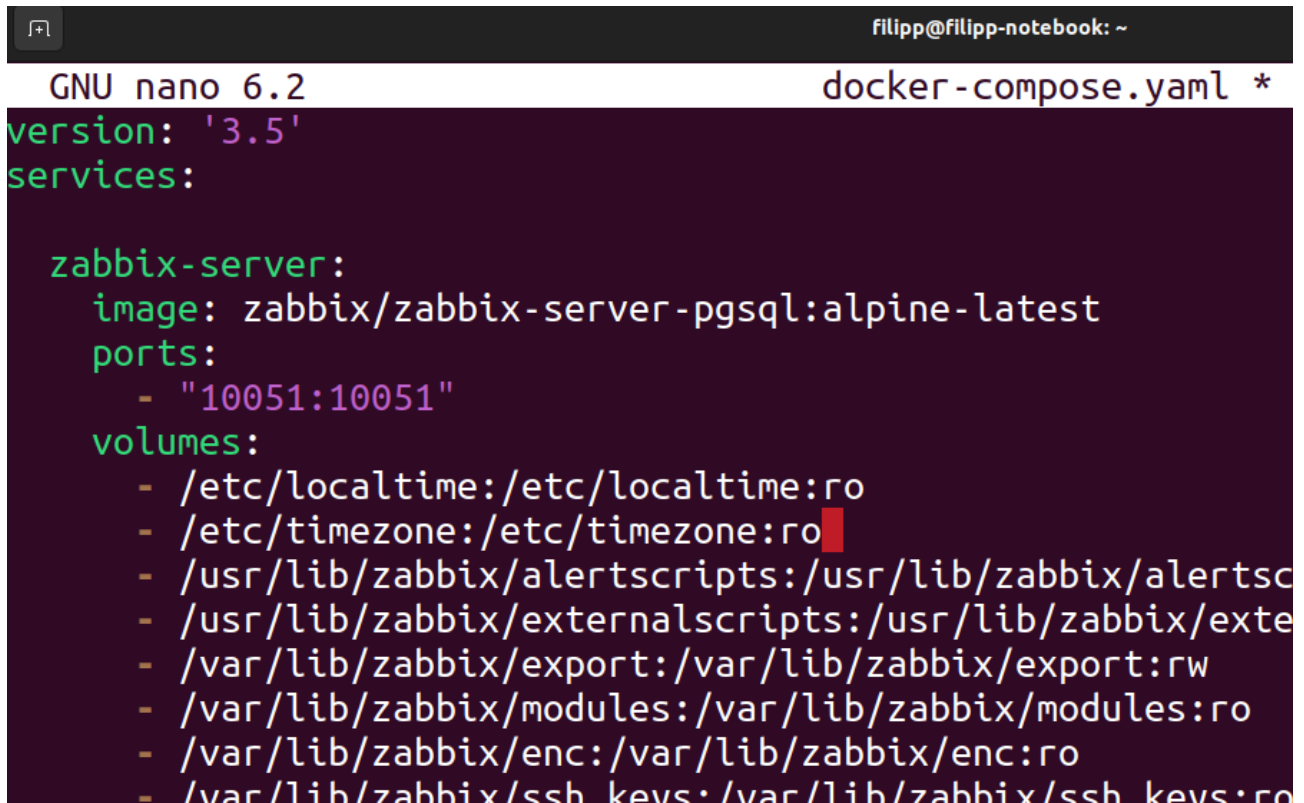
```

```
    timeout: 5s
    retries: 3
    start_period: 30s
  sysctls:
    - net.core.somaxconn=65535
  restart: always
  depends_on:
    - zabbix-server
    - postgres-server
  environment:
    - POSTGRES_USER=zabbix
    - POSTGRES_PASSWORD=zabbix
    - POSTGRES_DB=zabbix
    - ZBX_SERVER_HOST=zabbix-server
    - ZBX_POSTMAXSIZE=64M
    - PHP_TZ=Europe/Moscow
    - ZBX_MAXEXECUTIONTIME=500
```

```
zabbix-agent:
  image: zabbix/zabbix-agent:alpine-latest
  ports:
    - "10050:10050"
  volumes:
    - /etc/localtime:/etc/localtime:ro
    - /etc/timezone:/etc/timezone:ro
    - /proc:/proc
    - /sys:/sys
    - /dev:/dev
    - /var/run/docker.sock:/var/run/docker.sock
  privileged: true
  pid: "host"
  restart: always
  depends_on:
    - zabbix-server
  environment:
    - ZBX_SERVER_HOST=zabbix-server
```

```
postgres-server:
  image: postgres:latest
  restart: always
  volumes:
    - /var/lib/postgresql/data:/var/lib/postgresql/data
  environment:
    - POSTGRES_PASSWORD=zabbix
    - POSTGRES_USER=zabbix
```

```
- POSTGRES_DB=zabbix
healthcheck:
  test: ["CMD-SHELL", "pg_isready"]
  interval: 10s
  timeout: 5s
  retries: 5
```



```
filipp@filipp-notebook: ~
GNU nano 6.2 docker-compose.yml *
version: '3.5'
services:

  zabbix-server:
    image: zabbix/zabbix-server-pgsql:alpine-latest
    ports:
      - "10051:10051"
    volumes:
      - /etc/localtime:/etc/localtime:ro
      - /etc/timezone:/etc/timezone:ro
      - /usr/lib/zabbix/alertscripts:/usr/lib/zabbix/alertscripts:ro
      - /usr/lib/zabbix/externalscripts:/usr/lib/zabbix/externalscripts:ro
      - /var/lib/zabbix/export:/var/lib/zabbix/export:rw
      - /var/lib/zabbix/modules:/var/lib/zabbix/modules:ro
      - /var/lib/zabbix/enc:/var/lib/zabbix/enc:ro
      - /var/lib/zabbix/ssh_keys:/var/lib/zabbix/ssh_keys:ro
```

Запустим zabbix с помощью docker-compose:

```
$ docker-compose up
```

```

filipp@filipp-notebook:~$ docker-compose up
Creating network "filipp_default" with the default driver
Creating filipp_postgres-server_1 ... done
Creating filipp_zabbix-server_1    ... done
Creating filipp_zabbix-agent_1     ... done
Creating filipp_zabbix-web_1       ... done
Attaching to filipp_postgres-server_1, filipp_zabbix-server_1, filipp_zabbix-agent_1, filipp_zabbix-web_1
postgres-server_1 | The files belonging to this database system will be owned by user "postgres".
postgres-server_1 | This user must also own the server process.
postgres-server_1 |
zabbix-agent_1    | [WARN tini (302997)] Tini is not running as a child subreaper.
zabbix-agent_1    | Zombie processes will not be re-parented to this parent and won't work.
zabbix-agent_1    | To fix the problem, use the -s option or set TINI_SUBREAPER to register Tini as a child subreaper, or run Tini as a daemon.
zabbix-agent_1    | ** Preparing Zabbix agent
postgres-server_1 | The database cluster will be initialized with locale "en_US.UTF-8".
postgres-server_1 | The default database encoding has accordingly been set to "UTF-8".
postgres-server_1 | The default text search configuration will be set to "english".
postgres-server_1 |

```

Дождемся развертывания всех необходимых компонентов zabbix:

- zabbix-server
- zabbix-agent
- zabbix-web
- postgres-server

```

- "curl/7.88.1" "-"
zabbix-agent_1    | 303208:20230323:152029.319 no active checks on server [zabbix-server:0051]: host [c0f958f314f7] not found
zabbix-agent_1    | 303208:20230323:152034.321 no active checks on server [zabbix-server:0051]: host [c0f958f314f7] not found
postgres-server_1 | 2023-03-23 12:20:34.559 UTC [237] FATAL:  role "root" does not exist
zabbix-web_1      | 127.0.0.1 - - [23/Mar/2023:15:20:35 +0300] "GET / HTTP/1.1" 200 3890
- "curl/7.88.1" "-"

```

Перейдем в другое окно терминала и убедимся, что все контейнеры запущены успешно:

```
$ docker ps
```

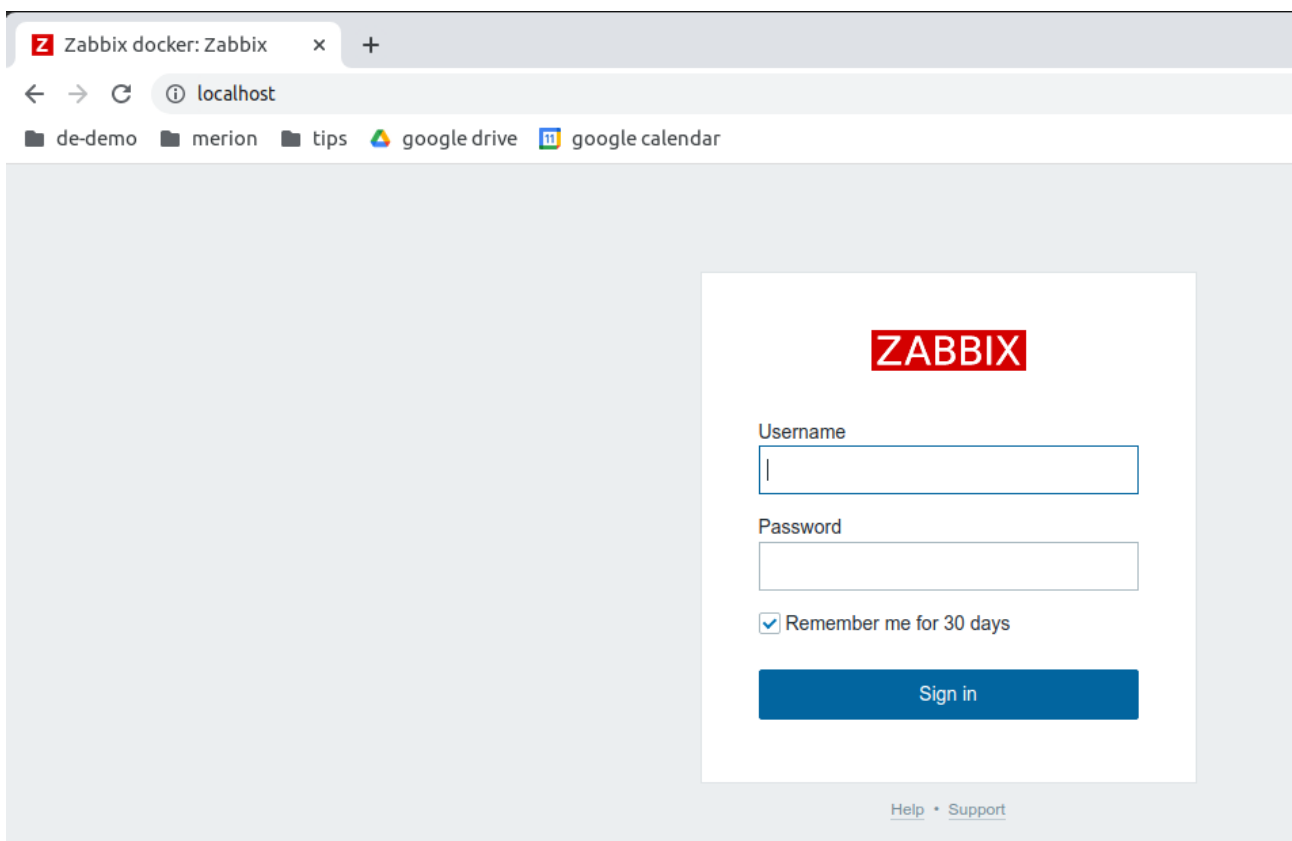
```

filipp@filipp-notebook:~$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
c4b42d8fe28d   zabbix/zabbix-web-nginx-pgsql:alpine-latest "docker-entrypoint.sh"   About a minute ago Up About a minute (healthy) 0.0.0.0:80
/tcp, :::80->8080/tcp, 0.0.0.0:443->8443/tcp, :::443->8443/tcp
c0f958f314f7   zabbix/zabbix-agent:alpine-latest   "/sbin/tini -- /usr/"   About a minute ago Up About a minute          0.0.0.0:100
050/tcp, :::10050->10050/tcp
894d48ba5628   zabbix/zabbix-server-pgsql:alpine-latest "/sbin/tini -- /usr/"   About a minute ago Up About a minute          0.0.0.0:100
051/tcp, :::10051->10051/tcp
bfae9abcf6df   postgres:latest                     "docker-entrypoint.s..." About a minute ago Up About a minute (healthy) 5432/tcp

```

Веб-интерфейс использует для работы 80 порт на локальном хосте, перейдем в браузер и откроем веб-интерфейс:

browser: `http://localhost/`



Выполним вход, используя учетные данные Admin:zabbix (Admin с заглавной буквы)

Авторизация прошла успешно

Zabbix docker: Dashboard x +

localhost/zabbix.php?action=dashboard.view

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**ZABBIX** << Zabbix docker

Search

**Dashboards**

- Monitoring
- Services
- Inventory
- Reports
- Data collection
- Alerts
- Users
- Administration

**Global view**

All dashboards / Global view

**Top hosts by CPU utilization**

Utilization 1m avg 5m avg 15m avg Processes

No data found.

**0.83** ↓  
Zabbix server  
Values per sec...

**System information**

Parameter	Value
Zabbix server is running	Yes
Number of hosts (enabled/disabled)	1
Number of templates	270
Number of items (enabled/disabled/not supported)	101
Number of triggers (enabled/disabled [problem/ok])	57

**Host availability**

0 Available	1 Not available	0 Unknown	1 Total
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**Problems by severity**

0 Disaster	0 High	1 Average	0 Warning	0 Information	0 Not classified
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**Current problems**

Time	Info	Host	Problem • Severity	Duration	Update	Actions	Tags
15:22:26		Zabbix server	Zabbix agent is not available (for 3m)	1m 41s	Update		class: os component: system scope: availability ...

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## Часть 2. Настройка zabbix-agent

Находясь в веб-интерфейсе zabbix, переходим в раздел "Monitoring -> Hosts":

Zabbix docker: Hosts

localhost/zabbix.php?name=&ip=&dns=&port=&status=-1&evaltype=0&tags%5B0%5D%5Btag%5D=&tags%5B0%5D%5Boperator%5D=0...

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### ZABBIX

Zabbix docker

Dashboards

Monitoring

- Problems
- Hosts
- Latest data
- Maps
- Discovery

Services

Inventory

Reports

Data collection

## Hosts

Name

Host groups type here to search Select

IP

DNS

Port

Status Any Enabled Disabled

Tags And/Or Or tag Contains Add

Show hosts in maintenance ☒ Show suppressed problems ☐

Severity ☐ Not classified ☐ Warning ☐ High ☐ Information ☐ Average ☐ Disaster

Save as Apply Reset

Name	Interface	Availability	Tags	Status	Latest data	Problems
Zabbix server	127.0.0.1:10050	ZBX	class: os class: software target: linux ...	Enabled	Latest data 101	1

Наблюдаем проблемы подключения к zabbix-agent для сбора метрик. Нажимаем на единственный хост под названием "Zabbix-server" и в разделе "Configuration" выбираем "Host":

Save as Apply Reset

Name	Interface	Availability	Tags	Status
Zabbix server	127.0.0.1:10050	ZBX	class: os class: software target: linux ...	Enabled

- VIEW
- Dashboards
- Problems
- Latest data
- Graphs
- Web
- Inventory
- CONFIGURATION
- Host
- Items
- Triggers
- Graphs
- Discovery
- Web
- SCRIPTS
- Detect operating system
- Ping
- Traceroute

Zabbix 6.4.0 © 2001-2023 Zabbix SIA



Удаляем запись об IP-address zabbix-agent, указываем в DNS-имени значение "zabbix-agent" (по названию сервиса агента в файле docker-compose.yaml) и изменяем переключатель "Connect to" на значение "DNS". Остальные настройки оставляем без изменений. Сохраняем внесенные изменения нажатием кнопки "Update":

The screenshot shows the Zabbix Host configuration window. The 'Host' tab is selected. The 'Host name' field contains 'Zabbix server'. The 'Visible name' field also contains 'Zabbix server'. Under 'Host groups', 'Zabbix servers' is selected. In the 'Interfaces' section, the 'Agent' interface is listed with an empty 'IP address' field and 'zabbix-agent' in the 'DNS name' field. The 'Connect to' dropdown is set to 'DNS', and the 'Port' is '10050'. The 'Default' radio button is selected. At the bottom right, there are buttons for 'Update', 'Clone', 'Full clone', 'Delete', and 'Cancel'.

Хост успешно обновлен, ожидаем некоторое время до следующей попытки синхронизации

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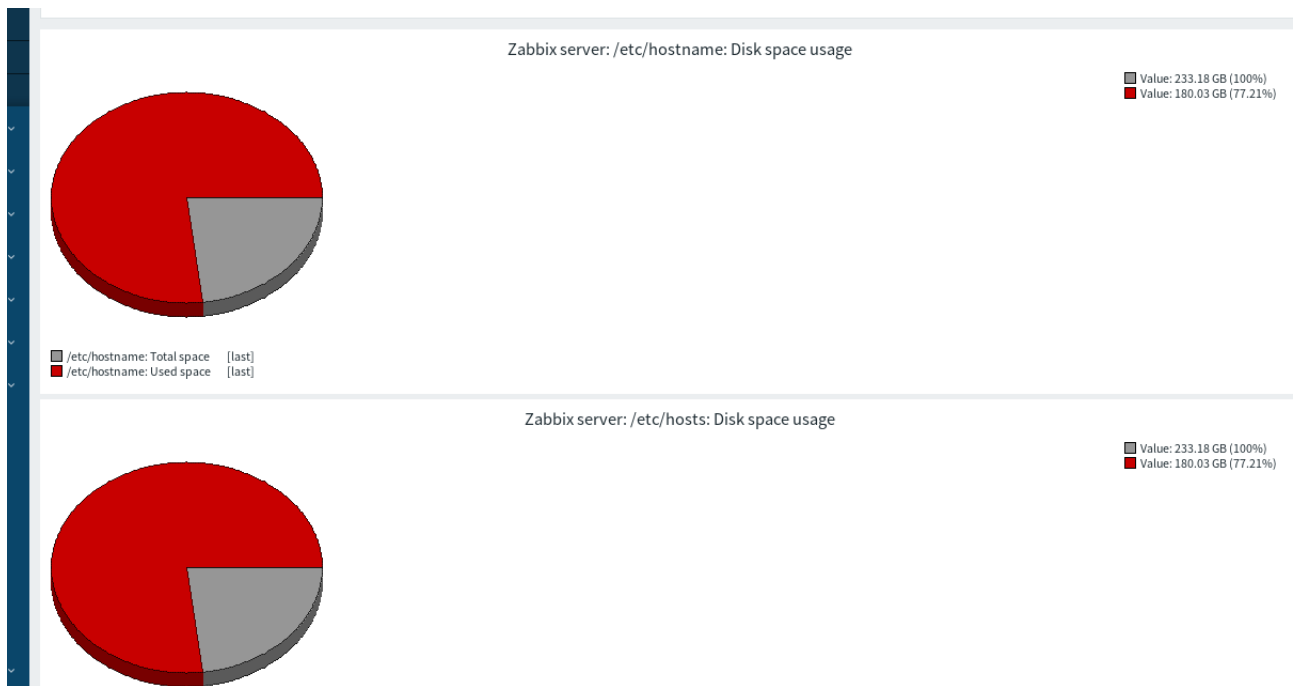
### Часть 3. Визуализация метрик

По прошествии некоторого времени, при повторной попытке синхронизации наблюдаем успешное соединение с zabbix-agent

Name ▲	Interface	Availability	Tags	Status	Latest data	Problems	Graphs	Dashboards	Web
Zabbix server	zabbix-agent:10050	ZBX	class: os class: software target: linux ...	Enabled	Latest data 131	Problems	Graphs 24	Dashboards 4	Web

Displaying 1 of 1 found

Переходим в раздел "Graphs", и наблюдаем визуализацию собранных метрик в виде даиграмм:



И визуализацию собранных метрик в виде графиков:



zabbix успешно настроен, сконфигурирован, производится сбор метрик и их визуализация

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Для завершения работы в окне терминала с запущенным docker-compose проектом выполните нажатие клавиш CTRL+C и команду "docker-compose down":

```
^CGracefully stopping... (press Ctrl+C again to force)
Stopping filipp_zabbix-agent_1    ... done
Stopping filipp_zabbix-web_1      ... done
Stopping filipp_zabbix-server_1   ... done
Stopping filipp_postgres-server_1 ... done
filipp@filipp-notebook:~$ docker-compose down
Removing filipp_zabbix-agent_1    ... done
Removing filipp_zabbix-web_1      ... done
Removing filipp_zabbix-server_1   ... done
Removing filipp_postgres-server_1 ... done
Removing network filipp_default
```

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