



Deploying Zabbix components with Docker and Docker Compose

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ZABBIX DEPLOYMENT

Want to test **new Zabbix features** before production server upgrade?

Tired of making and configuring **VM**?

Need a **lightweight** solution?

Want to spin up/down systems **fast**?

Want to do it without any **significant time commitment**?

ZABBIX CONTAINERS IN DOCKERHUB

Multiple official Zabbix components available:
<https://hub.docker.com/u/zabbix>

- ▶ Zabbix Server (with MySQL/PostgreSQL database)
- ▶ Zabbix Proxy (with MySQL/SQLite3 database)
- ▶ Zabbix Frontend (Apache/Nginx with MySQL/PostgreSQL DB)
- ▶ Zabbix Agent (TLS encryption)
- ▶ Zabbix Agent2 (TLS encryption)
- ▶ Zabbix Java Gateway
- ▶ Zabbix SNMP traps
- ▶ Zabbix Web Service

The screenshot shows the Docker Hub profile for Zabbix SIA, a Verified Publisher. The profile lists four repositories:

- zabbix/zabbix-build-mysql**: 500K+ downloads, 6 stars, 7,146 pulls last week. Description: Zabbix build base (MySQL). Categories: MONITORING & OBSERVABILITY, DEVELOPER TOOLS.
- zabbix/zabbix-build-pgsql**: 100K+ downloads, 0 stars, 3,843 pulls last week. Description: Zabbix build base (PostgreSQL). Categories: MONITORING & OBSERVABILITY, DEVELOPER TOOLS.
- zabbix/zabbix-build-sqlite3**: 100K+ downloads, 2 stars, 1,646 pulls last week. Description: Zabbix build base (SQLite3). Categories: MONITORING & OBSERVABILITY, DEVELOPER TOOLS.
- zabbix/zabbix-agent2**: 5M+ downloads, 42 stars, 121,806 pulls last week. Description: Zabbix agent 2 with TLS encryption support. Category: MONITORING & OBSERVABILITY.

DOCKER CONTAINER IMAGES

New official Zabbix docker images are based on (*may vary):

- ▶ Alpine Linux v3.21
- ▶ Ubuntu 24.04 (noble)
- ▶ CentOS Stream 9
- ▶ Oracle Linux 9 image
- ▶ *Windows 10 LTSC 2019
- ▶ *Windows 11 LTSC 2022 images

Images are updated when new releases are published
Latest tag image is based on Alpine Linux

DOCKER CONTAINER TAGS

Tags are used to specify:

- ▶ Which OS container image will be based on
- ▶ Which Zabbix version will be used

```
Zabbix proxy 5.0 (tags: alpine-5.0-latest, ubuntu-5.0-latest, ol-5.0-latest)
Zabbix proxy 5.0.* (tags: alpine-5.0.*, ubuntu-5.0.*, ol-5.0.*)
Zabbix proxy 6.0 (tags: alpine-6.0-latest, ubuntu-6.0-latest, ol-6.0-latest)
Zabbix proxy 6.0.* (tags: alpine-6.0.*, ubuntu-6.0.*, ol-6.0.*)
Zabbix proxy 7.0 (tags: alpine-7.0-latest, ubuntu-7.0-latest, ol-7.0-latest)
Zabbix proxy 7.0.* (tags: alpine-7.0.*, ubuntu-7.0.*, ol-7.0.*)
Zabbix proxy 7.2 (tags: alpine-7.2-latest, ubuntu-7.2-latest, ol-7.2-latest, alpine-latest,
ubuntu-latest, ol-latest, latest)
Zabbix proxy 7.2.* (tags: alpine-7.2.*, ubuntu-7.2.*, ol-7.2.*)
Zabbix proxy 7.4 (tags: alpine-trunk, ubuntu-trunk, ol-trunk)
```

SYSTEM PLATFORMS

Wide range of different platforms supported

TAG

[7.2-alpine-latest](#)

Last pushed 12 days by [dotneft](#)

```
docker pull zabbix/zabbix-proxy-sqlite3:7.2-alpine-latest
```

Copy

Digest	OS/ARCH	Compressed size ⓘ
3c334f526d9f	linux/amd64	21.33 MB
473911abc7ae	linux/arm64	21.94 MB
f17b58a12bce	linux/ppc64le	22.17 MB
633caa5969ec	linux/riscv64	20.87 MB
33dd2e6ace37	linux/s390x	21.68 MB

ZABBIX CONTAINERS IN DOCKERHUB

Helpful guide how to start with Zabbix container deployment:

► <https://www.zabbix.com/documentation/current/en/manual/installation/containers>

Every container also has a short introduction and example in Dockerhub

How to use this image

Start `zabbix-proxy-sqlite3`

Start a Zabbix proxy container as follows:

```
docker run --name some-zabbix-proxy-sqlite3 -e ZBX_HOSTNAME=some-hostname -e ZBX_SERVER_HOST=some-zabbix-server --init -d zabbix/zabbix-proxy-sqlite3:tag
```

Where `some-zabbix-proxy-sqlite3` is the name you want to assign to your container, `some-hostname` is the hostname, it is Hostname parameter in Zabbix proxy configuration file, `some-zabbix-server` is IP or DNS name of Zabbix server and `tag` is the tag specifying the version you want. See the list above for relevant tags, or look at the [full list of tags](#).

Note

Zabbix server has possibility to execute `fping` utility to perform ICMP checks. When containers are running in rootless mode or with specific restrictions environment, you may face errors related to fping: `fping: Operation not permitted` or lost all packets to all resources in this case add `--cap-add=net\_raw` to `docker run` or `podman run` commands. Additionally fping executing in non-root environments can require sysctl modification: `net.ipv4.ping\_group\_range=0 1995` where 1995 is `zabbix` GID.

Connects from Zabbix server (Passive proxy)

This image exposes the standard Zabbix proxy port (10051) and can operate as Passive proxy in case `ZBX_PROXYMODE = 1`. Start Zabbix server container like this in order to link it to the Zabbix proxy container:

```
$ docker run --name some-zabbix-server --link some-zabbix-proxy-sqlite3:zabbix-proxy-sqlite3 --init -d zabbix/zabbix-server:latest
```

ZABBIX CONTAINERS IN DOCKERHUB

- ▶ The container configuration is done using environment variables
- ▶ Some environmental variables may be specific for each container
- ▶ For more information, check out the documentation

Environment Variables

When you start the `zabbix-proxy-sqlite3` image, you can adjust the configuration of the Zabbix proxy by passing one or more environment variables on the `docker run` command line.

ZBX_PROXYMODE

The variable allows to switch Zabbix proxy mode. By default, value is `0` - active proxy. Allowed values are `0` - active proxy and `1` - passive proxy.

ZBX_HOSTNAME

This variable is unique, case sensitive hostname. By default, value is `zabbix-proxy-sqlite3` of the container. It is `Hostname` parameter in `zabbix_proxy.conf`.

ZBX_SERVER_HOST

This variable is IP or DNS name of Zabbix server or Zabbix proxy. By default, value is `zabbix-server`. It is `Server` parameter in `zabbix_proxy.conf`. It is allowed to specify Zabbix server or Zabbix proxy port number using `ZBX_SERVER_PORT` variable. It makes sense in case of non-default port for active checks.

ZBX_SERVER_PORT

This variable is port Zabbix server listening on. By default, value is `10051`.

Other variables

Additionally the image allows to specify many other environment variables listed below:

```
ZBX_ENABLEREMOTECOMMANDS=0 # Available since 3.4.0
ZBX_LOGREOTECOMMANDS=0 # Available since 3.4.0
ZBX_SOURCEIP=
ZBX_HOSTNAMEITEM=system.hostname
ZBX_PROXYLOCALBUFFER=0
ZBX_PROXYOFFLINEBUFFER=1
ZBX_PROXYHEARTBEATFREQUENCY=60 # Deprecated since 6.4.0
ZBX_CONFIGFREQUENCY=3600 # Deprecated since 6.4.0
ZBX_PROXYCONFIGFREQUENCY=10 # Available since 6.4.0
ZBX_DATASENDERFREQUENCY=1
ZBX_STARTPOLLERS=5
ZBX_STARTPREPROCESSORS=3 # Available since 4.2.0
ZBX_STARTIPMIPOLLERS=0
ZBX_STARTPOLLERSUNREACHABLE=1
ZBX_STARTTRAPPERS=5
ZBX_STARTPINGERS=1
ZBX_STARTDISCOVERERS=1
ZBX_STARTHISTORYPOLLERS=1 # Available since 5.4.0 till 6.0.0
ZBX_STARTHTTPPOLLERS=1
```

USEFUL DOCKER COMMANDS

For container management:

- ▶ **docker container run**
- ▶ **docker container start**
- ▶ **docker container stop**
- ▶ **docker container rm**
- ▶ **docker container ls**
- ▶ **docker container inspect**
- ▶ **docker container restart**
- ▶ **docker container logs**

Create and run a new container from an image

Start one or more stopped containers

Stop one or more running containers

Remove one or more containers

List containers

Display detailed information on one or more containers

Restart one or more containers

Fetch the logs of a container

USEFUL DOCKER COMMANDS

For image management:

- ▶ **docker image pull** Download an image from a registry
- ▶ **docker image push** Upload an image to a registry
- ▶ **docker image ls** List images
- ▶ **docker image rm** Remove one or more images
- ▶ **docker image inspect** Display detailed information on one or more images

USEFUL DOCKER COMMANDS

Docker Compose commands:

- ▶ **docker compose up** Create and start containers
- ▶ **docker compose down** Stop and remove containers, networks
- ▶ **docker compose ps** List containers
- ▶ **docker compose logs** View output from containers
- ▶ **docker compose start** Start services
- ▶ **docker compose stop** Stop services
- ▶ **docker compose config** Parse, resolve and render compose file

USEFUL DOCKER COMMANDS

Other commands:

- ▶ **docker login** Authenticate to a registry
- ▶ **docker logout** Log out from a registry
- ▶ **docker search** Search Docker Hub for images
- ▶ **docker ps -a** Show both running and stopped containers
- ▶ **docker cp** Copy files/folders between a container and the local filesystem

ADDITIONAL HELP

Whenever something does not work as intended or fails :

- ▶ Check container logs! This will help you to narrow down the cause of the issue:
 - Issue with container, environment variables, connectivity, etc./

Show last 10 log lines (must pass line number as positive number)

```
# docker logs --tail 10 container
```

Show logs since timestamp or relative time (--since 1h)/(--until)

```
# docker logs --since 2025-02-19T06:00:00.000000000Z container
```

Show log in real-time

```
# docker logs -f container
```

In rare cases, restarting the container service resolves issues

ADDITIONAL HELP

Reading the log files when encountering an issue will help to narrow the cause:

- ▶ Forgot to mount /etc/hosts file to container

```
2025/02/25 14:39:41.017956 [103] sending of heartbeat message for [zabbix-agent-02] started to fail
2025/02/25 14:39:41.018008 [101] cannot connect to [zabbix.proxy.ha1:10051]: dial tcp :0->172.20.240.31:10051: connect: connection refused
2025/02/25 14:39:41.018012 [101] active check configuration update from host [zabbix-agent-02] started to fail
2025/02/25 14:39:41.029176 [101] cannot connect to [zabbix.proxy.ha1:10051]: dial tcp :0->172.20.240.31:10051: connect: connection refused
2025/02/25 14:39:41.033866 [101] sending of heartbeat message for [zabbix-agent-02] started to fail
2025/02/25 14:39:41.043087 [102] cannot connect to [zabbix.proxy.ha2:10051]: dial tcp :0->172.20.240.32:10051: connect: connection refused
2025/02/25 14:39:41.043124 [102] active check configuration update from host [zabbix-agent-02] started to fail
2025/02/25 14:39:41.094563 [102] cannot connect to [zabbix.proxy.ha2:10051]: dial tcp :0->172.20.240.32:10051: connect: connection refused
2025/02/25 14:39:41.095816 [102] sending of heartbeat message for [zabbix-agent-02] started to fail
```

- ▶ Agent is monitored by Zabbix-proxy group, but connections allowed only from Zabbix-server

```
2025/02/25 15:18:49.675645 failed to accept an incoming connection: connection from "172.20.240.33" rejected, allowed hosts: "zabbix.server.ha1,zabbix.server.ha2,zabbix.server.ha3"
2025/02/25 15:19:01.038352 [102] sequential redirect responses detected
2025/02/25 15:19:01.038380 [102] sending of heartbeat message for [Not working with proxies] started to fail
2025/02/25 15:19:04.673456 failed to accept an incoming connection: connection from "172.20.240.33" rejected, allowed hosts: "zabbix.server.ha1,zabbix.server.ha2,zabbix.server.ha3"
2025/02/25 15:20:04.676299 failed to accept an incoming connection: connection from "172.20.240.33" rejected, allowed hosts: "zabbix.server.ha1,zabbix.server.ha2,zabbix.server.ha3"
^Ccontext canceled
[root@zabbix ~]# cat /etc/hosts |grep "server\|proxy"
172.20.240.21 zabbix.server.ha1
172.20.240.22 zabbix.server.ha2
172.20.240.23 zabbix.server.ha3
172.20.240.24 zabbix.server.ha4
172.20.240.31 zabbix.proxy.ha1
172.20.240.32 zabbix.proxy.ha2
172.20.240.33 zabbix.proxy.ha3
```

ADDITIONAL HELP

- ▶ You can also open a shell inside a running container

```
# docker exec -ti container /bin/bash
```

- ▶ File or directory on the host can be mounted to a container with bind mounts
- ▶ To create a bind mount, you can use either the --mount or --volume flag:

```
# docker run --mount type=bind,src=<host-path>,dst=<container-path>
```

```
# docker run --volume <host-path>:<container-path>
```

- ▶ The difference between both binds is that the --mount flag is more explicit, supports all the available options.

```
docker run ...
```

```
...
```

```
-v /var/lib/zabbix/db_data:/var/lib/zabbix/db_data \
```

DOCKER NETWORKS

Can use:

- ▶ The default bridge network, set automatically by Docker
- ▶ Custom, user-defined networks

Containers in a user-defined net can communicate with each other using:

- ▶ container IP addresses
- ▶ container names

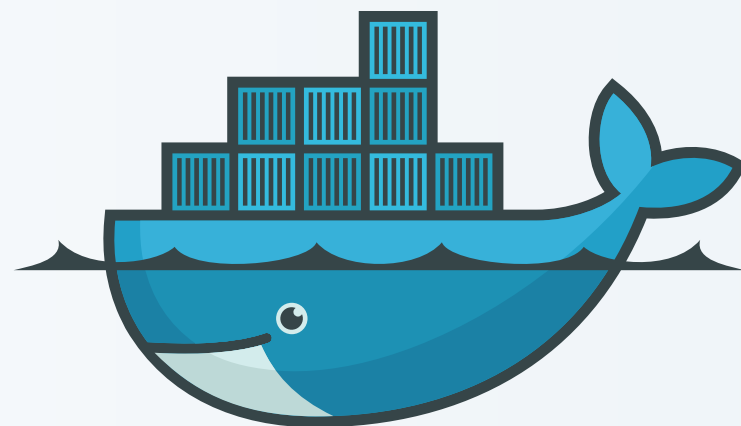
Create a network dedicated to the Zabbix component containers

```
# docker network create --subnet 172.20.0.0/16 --ip-range 172.20.240.0/20 zabbix-net
```

CONTAINERISED POSSIBILITIES

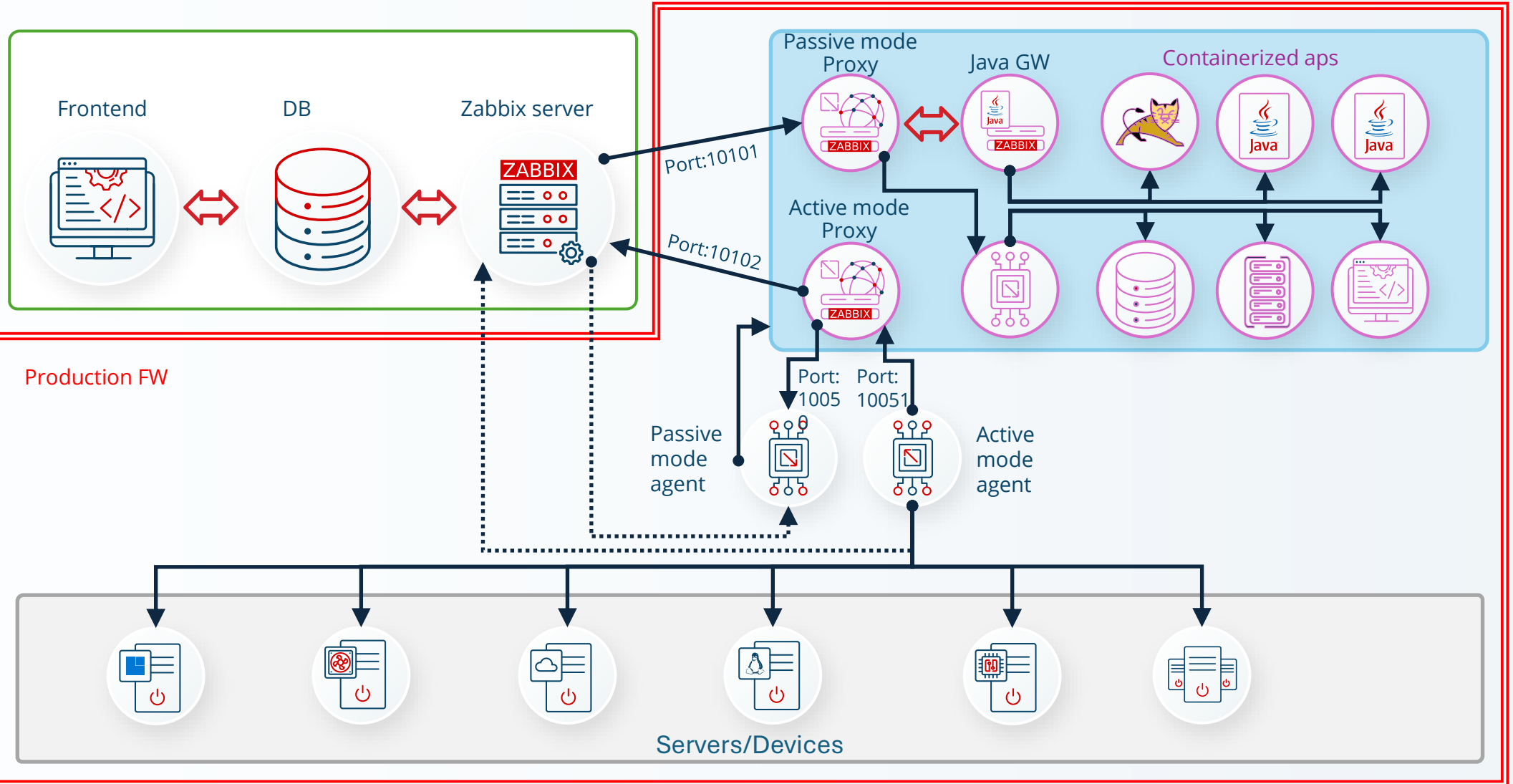
Prospects:

- ▶ Create redundant Zabbix services:
 - HA Zabbix-server nodes
 - Multiple proxies
 - Multiple agents
- ▶ Scheduled reports
- ▶ Multiple pairs of Proxy and Java gateways
- ▶ Container monitoring
- ▶ Rapidly create Zabbix testing environment:
 - Try out new features



docker

CONTAINERISED POSSIBILITIES



DOCKER RUN

- Specify container parameters using Docker run:
 - Can set any **environment variable** in the container by using one or more -e flags
 - **Mount directories**
 - **Expose ports**

```
docker run --name zabbix-proxy-active-01 \  
-e ZBX_HOSTNAME="Zabbix-proxy-active-01" \  
-e ZBX_SERVER_HOST=46.101.140.98 \  
-e ZBX_PROXYMODE="0" \  
-e ZBX_JAVAGATEWAY_ENABLE=true \  
-e ZBX_JAVAGATEWAY=zabbix-java-gateway-proxy \  
-e ZBX_JAVAGATEWAYPORT=10052 \  
-e ZBX_STARTJAVAPOLLERS=5 \  
--network=zabbix-net \  
-e ZBX_LISTENPORT=10101 \  
-p 10101:10101 \  
-p 10050:10050 \  
-p 10051:10051 \  
-v /var/lib/zabbix/db_data:/var/lib/zabbix/db_data \  
--restart unless-stopped \  
--init -d zabbix/zabbix-proxy-sqlite3:alpine-7.2.4
```

```
docker run --name zabbix-java-gateway-proxy \  
--network=zabbix-net \  
--restart unless-stopped \  
-d zabbix/zabbix-java-gateway:alpine-7.2.4
```

DOCKER COMPOSE

docker_compose_v3_proxy.yaml

```
services:
  zabbix-proxy-active-01:
    image: "${PROXY_SQLITE3_IMAGE}:${ALPINE_IMAGE_TAG}"
    environment:
      ZBX_HOSTNAME: Zabbix-proxy-active-01
      ZBX_SERVER_HOST: ${ZBX_SERVER_HOST}
      ZBX_PROXYMODE: 0
      ZBX_LISTENPORT: 10101
      ZBX_JAVAGATEWAY_ENABLE: true
      ZBX_JAVAGATEWAY: zabbix-java-gateway-proxy
      ZBX_JAVAGATEWAYPORT: 10052
      ZBX_STARTJAVAPOLLERS: 5
    volumes:
      - /var/lib/zabbix/db_data:/var/lib/zabbix/db_data:rw
    networks:
      - backend
    ports:
      - 10101:10101
      - 10050:10050
      - 10051:10051
    restart: unless-stopped
```

docker_compose_v3_proxy.yaml (contd)

```
  zabbix-java-gateway-proxy:
    image: "${JAVA_GW_IMAGE}:${ALPINE_IMAGE_TAG}"
    networks:
      - backend
    restart: unless-stopped

networks:
  backend:
    name: zabbix-net
    external: true
```

.env

```
PROXY_SQLITE3_IMAGE=zabbix/zabbix-proxy-sqlite3
JAVA_GW_IMAGE = zabbix/zabbix-java-gateway
ALPINE_IMAGE_TAG=alpine-7.2.4
ZBX_SERVER_HOST=46.101.140.98
```

DOCKER COMPOSE

Create using:

- ▶ Docker compose (-d = detach)

```
# docker compose -f ./docker_compose_v3_proxy.yaml up -d
```

```
[root@student-01 compose]# docker compose -f ./docker_compose_v3_proxy.yaml up -d
[+] Running 2/2
 ✓ Container compose-zabbix-java-gateway-proxy-1 Started
 ✓ Container compose-zabbix-proxy-active-01-1 Started
[root@student-01 compose]# docker compose ls
NAME                STATUS              CONFIG FILES
compose             running(2)          /root/compose/docker_compose_v3_proxy.yaml
[root@student-01 compose]#
```

- ▶ Make use of ready-made compose files from github for quick evaluation:
 - <https://github.com/zabbix/zabbix-docker.git>

DEPLOYING REDUNDANT SERVERS

Add configuration parameters to zabbix-server container:

- ZBX_HANODENAME
- ZBX_NODEADDRESS

```
docker run --name zabbix-server-mysql-ha1 -t \  
    -e DB_SERVER_HOST="mysql-server" \  
    -e MYSQL_DATABASE="zabbix" \  
    -e MYSQL_USER="zabbix" \  
    -e MYSQL_PASSWORD="zabbix_pwd" \  
    -e MYSQL_ROOT_PASSWORD="root_pwd" \  
    -e ZBX_HANODENAME="zabbix-server-HA1" \  
    -e ZBX_NODEADDRESS="zabbix-server-mysql-ha1" \  
    --network=zabbix-net \  
    -p 10151:10051 \  
    --restart unless-stopped \  
    -d zabbix/zabbix-server-mysql:alpine-7.2.4
```

DEPLOYING REDUNDANT SERVERS

Remove configuration parameters from frontend container:

- ZBX_SERVER_HOST
- ZBX_SERVER_PORT

```
docker run --name zabbix-web-nginx-mysql -t \  
    -e DB_SERVER_HOST="mysql-server" \  
    -e MYSQL_DATABASE="zabbix" \  
    -e MYSQL_USER="zabbix" \  
    -e MYSQL_PASSWORD="zabbix_pwd" \  
    -e MYSQL_ROOT_PASSWORD="root_pwd" \  
    --network=zabbix-net \  
    -p 80:8080 \  
    --restart unless-stopped \  
    -d zabbix/zabbix-web-nginx-mysql:alpine-7.2.4
```

DEPLOYING REDUNDANT SERVERS

Start multiple zabbix-servers at once in containers:

- ▶ Only one will be active at all times, others on standby
- ▶ You can execute commands on containers:
 - `docker exec -it my_container sh -c "zabbix_server -R ha_status"`

```
[root@zabbix ~]# docker exec -it zabbix-server-mysql-ha1 sh -c "zabbix_server -R ha_status"
Failover delay: 60 seconds
Cluster status:
```

#	ID	Name	Address	Status	Last Access
1.	cm7kfbfa3000115mi994iu69z	zabbix-server-HA2	172.20.240.22:10051	standby	0s
2.	cm7kfcv3500010wpt75oi8d8u	zabbix-server-HA3	172.20.240.23:10051	standby	5s
3.	cm7kfcw4d00010ulj8vztavoy	zabbix-server-HA1	172.20.240.21:10051	active	2s

```
[root@zabbix ~]#
```

- Or use shell inside a container

```
[root@zabbix ~]# docker exec -ti zabbix-server-mysql-ha1 /bin/bash
f77345ddcbab:~$ zabbix_server -R ha_status
Failover delay: 60 seconds
Cluster status:
```

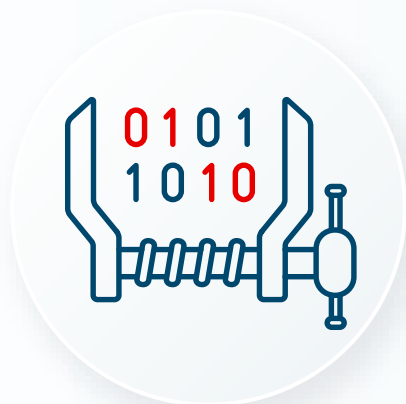
#	ID	Name	Address	Status	Last Access
1.	cm7kfbfa3000115mi994iu69z	zabbix-server-HA2	172.20.240.22:10051	standby	1s
2.	cm7kfcv3500010wpt75oi8d8u	zabbix-server-HA3	172.20.240.23:10051	standby	2s
3.	cm7kfcw4d00010ulj8vztavoy	zabbix-server-HA1	172.20.240.21:10051	active	2s

```
f77345ddcbab:~$
```

DEPLOYING ADDITIONAL PROXIES

Start multiple proxies at once:

- ▶ Offload the Zabbix server load to proxies
- ▶ Place proxies nearby target hosts and send data centrally
- ▶ Place proxies behind the FW and open only one port instead of multiple
- ▶ Fault tolerance of connectivity, stores data locally
- ▶ Data compression



DEPLOYING PROXIES FOR HA SERVER

For Active mode proxies:

- ▶ ZBX_PROXYMODE=0
- ▶ List of semicolon delimited IP addresses, or DNS names of Zabbix server:
 - ZBX_SERVER_HOST="zabbix-server-mysql-ha1;zabbix-server-mysql-ha2;zabbix-server-mysql-ha3"

For passive mode proxies:

- ▶ ZBX_PROXYMODE=1
- ▶ List of comma delimited IP addresses, or DNS names of Zabbix server:
 - ZBX_SERVER_HOST="zabbix-server-mysql-ha1,zabbix-server-mysql-ha2,zabbix-server-mysql-ha3"

☐ Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
☐ zabbix-proxy-HA1	Passive	None	Online	7.2.3	2s	0	0	
☐ zabbix-proxy-HA2	Passive	None	Online	7.2.3	2s	0	0	
☐ zabbix-proxy-HA3	Active	None	Online	7.2.3	1s	0	0	
☐ zabbix-proxy-HA4	Active	None	Online	7.2.3	2s	0	0	
☐ zabbix-proxy-HA5	Active	None	Online	7.2.3	2s	0	0	

```
[root@zabbix zabbix]# docker ps --all
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
6405a8a526ab	zabbix/zabbix-proxy-sqlite3:latest	"/usr/bin/docker-ent..."	About a minute ago	Up About a minute	10051/tcp, 0.0.0.0:10103->10103/tcp, :::10103->10103/tcp	zabbix-proxy-ha5
e62be59b7410	zabbix/zabbix-proxy-sqlite3:latest	"/usr/bin/docker-ent..."	2 minutes ago	Up About a minute	10051/tcp, 0.0.0.0:10102->10102/tcp, :::10102->10102/tcp	zabbix-proxy-ha4
2493c44fb88b	zabbix/zabbix-proxy-sqlite3:latest	"/usr/bin/docker-ent..."	2 minutes ago	Up 2 minutes	10051/tcp, 0.0.0.0:10101->10101/tcp, :::10101->10101/tcp	zabbix-proxy-ha3
05aecc2bbf21	zabbix/zabbix-proxy-sqlite3:latest	"/usr/bin/docker-ent..."	2 minutes ago	Up 2 minutes	10051/tcp, 0.0.0.0:10092->10092/tcp, :::10092->10092/tcp	zabbix-proxy-ha2
0d0781843b97	zabbix/zabbix-proxy-sqlite3:latest	"/usr/bin/docker-ent..."	2 minutes ago	Up 2 minutes	10051/tcp, 0.0.0.0:10091->10091/tcp, :::10091->10091/tcp	zabbix-proxy-ha1

PROXY UPGRADE: SQLITE3

- ▶ If proxy on startup detects that the existing database file version is older than required, it will delete the database file automatically and create a new one
- ▶ History data stored in the SQLite database file will also be lost

```
7:20250130:034232.423 Starting Zabbix Proxy (passive) [zabbix-proxy-HA6]. Zabbix 7.2.3 (
revision ff99a1b).
7:20250130:034232.423 **** Enabled features ****
7:20250130:034232.423 SNMP monitoring: YES
7:20250130:034232.423 IPMI monitoring: YES
7:20250130:034232.423 Web monitoring: YES
7:20250130:034232.423 VMware monitoring: YES
7:20250130:034232.423 ODBC: YES
7:20250130:034232.423 SSH support: YES
7:20250130:034232.423 IPv6 support: YES
7:20250130:034232.423 TLS support: YES
7:20250130:034232.423 *****
7:20250130:034232.423 using configuration file: /etc/zabbix/zabbix_proxy.conf
7:20250130:034232.455 The proxy does not match Zabbix database. Current database version
(mandatory/optional): 06000000/06000000. Required mandatory version: 07020000.
7:20250130:034232.456 Zabbix does not support SQLite3 database upgrade.
7:20250130:034232.457 removing database file: "/var/lib/zabbix/db_data/zabbix-proxy-HA6.
sqlite"
7:20250130:034232.467 cannot open database file "/var/lib/zabbix/db_data/zabbix-proxy-HA
6.sqlite": [2] No such file or directory
7:20250130:034232.467 creating database ...
7:20250130:034233.460 current database version (mandatory/optional): 07020000/07020000
7:20250130:034233.471 required mandatory version: 07020000
7:20250130:034233.518 proxy #0 started [main process]
14:20250130:034233.526 proxy #1 started [configuration syncer #1]
15:20250130:034233.572 proxy #2 started [trapper #1]
16:20250130:034233.573 proxy #3 started [trapper #2]
17:20250130:034233.578 proxy #4 started [trapper #3]
19:20250130:034233.602 proxy #6 started [trapper #5]
18:20250130:034233.608 proxy #5 started [trapper #4]
```

PROXY UPGRADE: MYSQL

For MYSQL DB schema upgrade, enable **log_bin_trust_function_creators**:

► **mysql -uroot -ppassword -e "set global log_bin_trust_function_creators = 1;"**

```
6:20250130:054202.860 Starting Zabbix Proxy (passive) [zabbix-proxy-HA7]. Zabbix 7.2.3 (revision ff99a1b).
6:20250130:054202.860 **** Enabled features ****
6:20250130:054202.860 SNMP monitoring: YES
6:20250130:054202.860 IPMI monitoring: YES
6:20250130:054202.860 Web monitoring: YES
6:20250130:054202.860 VMware monitoring: YES
6:20250130:054202.860 ODBC: YES
6:20250130:054202.860 SSH support: YES
6:20250130:054202.860 IPv6 support: YES
6:20250130:054202.860 TLS support: YES
6:20250130:054202.860 *****
6:20250130:054202.860 using configuration file: /etc/zabbix/zabbix_proxy.conf
6:20250130:054203.044 current database version (mandatory/optional): 06000000/06000054
6:20250130:054203.044 required mandatory version: 07020000
6:20250130:054203.044 mandatory patches were found
6:20250130:054203.065 cannot retrieve database time
6:20250130:054203.113 starting automatic database upgrade
6:20250130:054203.397 completed 0% of database upgrade
6:20250130:054208.398 completed 1% of database upgrade
6:20250130:054217.020 completed 2% of database upgrade
6:20250130:054222.551 completed 3% of database upgrade
6:20250130:054227.779 completed 4% of database upgrade
6:20250130:054231.216 completed 5% of database upgrade
6:20250130:054233.712 completed 6% of database upgrade
6:20250130:054241.146 completed 7% of database upgrade
6:20250130:054242.669 [Z3005] query failed: [1419] You do not have the SUPER privilege and binary logging
is enabled (you *might* want to use the less safe log_bin_trust_function_creators variable) [create trigger hos
ts_insert after insert on hosts
for each row
insert into changelog (object,objectid,operation,clock)
values (1,new.hostid,1,unix_timestamp())]
6:20250130:054242.670 database upgrade failed on patch 06010049, exiting in 10 seconds
[root@zabbix ~]#
```

```
7:20250130:055120.448 Starting Zabbix Proxy (passive) [zabbix-proxy-HA7]. Zabbix 7.2.3 (revision ff99a1b).
7:20250130:055120.448 **** Enabled features ****
7:20250130:055120.448 SNMP monitoring: YES
7:20250130:055120.448 IPMI monitoring: YES
7:20250130:055120.448 Web monitoring: YES
7:20250130:055120.448 VMware monitoring: YES
7:20250130:055120.448 ODBC: YES
7:20250130:055120.448 SSH support: YES
7:20250130:055120.448 IPv6 support: YES
7:20250130:055120.449 TLS support: YES
7:20250130:055120.449 *****
7:20250130:055120.449 using configuration file: /etc/zabbix/zabbix_proxy.conf
7:20250130:055120.614 current database version (mandatory/optional): 06010048/06010048
7:20250130:055120.615 required mandatory version: 07020000
7:20250130:055120.615 mandatory patches were found
7:20250130:055120.775 cannot retrieve database time
7:20250130:055120.780 starting automatic database upgrade
7:20250130:055121.209 completed 0% of database upgrade
7:20250130:055122.674 completed 1% of database upgrade
7:20250130:055125.306 completed 2% of database upgrade
7:20250130:055128.079 completed 3% of database upgrade
7:20250130:055130.718 completed 4% of database upgrade
7:20250130:055142.660 completed 5% of database upgrade
7:20250130:055153.732 completed 6% of database upgrade
7:20250130:055200.181 completed 7% of database upgrade
7:20250130:055208.481 completed 8% of database upgrade
```

```
7:20250130:055925.213 completed 98% of database upgrade
7:20250130:055925.980 completed 99% of database upgrade
7:20250130:055926.659 completed 100% of database upgrade
7:20250130:055926.664 database upgrade fully completed
7:20250130:055926.742 proxy #0 started [main process]
32:20250130:055926.777 proxy #1 started [configuration syncer #1]
33:20250130:055927.722 proxy #2 started [trapper #1]
```

DEPLOYING ADDITIONAL PROXIES

Configure proxy groups at once:

- ▶ Make proxy groups to perform load balancing between the proxies:
 - Based on a number of hosts, not NVPS!
 - Rebalancing will be performed after the grace period (10x the Failover period)
- ▶ Rebalancing will be performed after either:
 - Difference of hosts is above or below the group's average count by 10
 - Difference of hosts is above or below the group's average by a factor of 2
- ▶ * Do not forget to specify the proxy address in active/passive Zabbix agent configuration for hosts monitored through proxy
- ▶ Configure the Proxy group in frontend

PROXY GROUPS

► Create Proxy group in the Frontend

New proxy group

* Name

Proxy-HA-PROD

* Failover period

1m

* Minimum number of proxies

3

Description

HA Production proxy group

Add

Cancel

► Add proxies to proxy group, specify proxy address and port for active agents

Proxy

Proxy

Encryption

Timeouts

* Proxy name

zabbix-proxy-active-05

Proxy group

Proxy-HA-PROD

Select

* Address for active agents

Address

zabbix-proxy-active-05

Port

11990

Proxy mode

Active

Passive

Proxy address

Description

Update

Refresh configuration

Clone

Delete

Cancel

PROXY GROUPS

Change host config: to be monitored by the Proxy group and select the group

Interfaces

Type

IP address

DNS name

Connect to

Port

Default

Agent

10.0.2.15

IP

DNS

10050

☒ Remove

[Add](#)

Description

Monitored by

Server

Proxy

Proxy group

Proxy-HA-PROD

Select

Enabled

☒

Assigned proxy

[zabbix-proxy-active-02](#)

You can also see each proxy group's hosts and VPS in the proxy menu

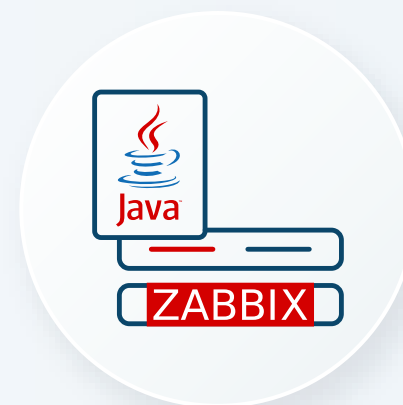
☐ Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
☐ Proxy-HA-PROD: zabbix-proxy-active-01	Active	None	Online	7.2.4	5s	75	1.01	1 Linux dev
☐ Proxy-HA-PROD: zabbix-proxy-active-02	Active	None	Online	7.2.4	4s	123	1.79	1 MySQL server
☐ Proxy-HA-PROD: zabbix-proxy-active-03	Active	None	Online	7.2.4	5s	241	3.83	1 Zabbix server
☐ Proxy-HA-PROD: zabbix-proxy-active-04	Active	None	Online	7.2.4	5s	43	0.57	1 Ubuntu dev
☐ Proxy-HA-PROD: zabbix-proxy-active-05	Active	None	Online	7.2.4	5s	35	0.58	1 Tomcat by proxy
☐ zabbix-proxy-passive-01	Passive	None	Online	7.2.4	5s	653	10.88	2 Docker containers, zabbix proxy passive 01 health

NEED MORE JAVA GATEWAYS?

Limited to one JAVA Gateway per Zabbix server!

Required settings for configuring the zabbix-server container:

- ▶ ZBX_JAVAGATEWAY_ENABLE=true
- ▶ ZBX_JAVAGATEWAY=zabbix-java-gateway-server
- ▶ ZBX_JAVAGATEWAYPORT=10052
- ▶ ZBX_STARTJAVAPOLLERS=5

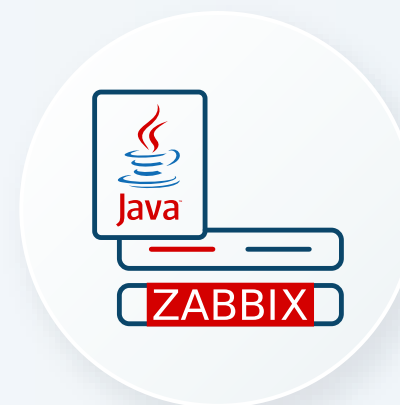


NEED MORE JAVA GATEWAYS?

Also limited one JAVA Gateway per Zabbix proxy!

Required settings for configuring the zabbix-proxy container:

- ▶ ZBX_JAVAGATEWAY_ENABLE=true
- ▶ ZBX_JAVAGATEWAY=zabbix-java-gateway-proxy
- ▶ ZBX_JAVAGATEWAYPORT=10052
- ▶ ZBX_STARTJAVAPOLLERS=5



Can make unlimited number of proxies, each with separate Java GW

LAUNCH MULTIPLE FRONTENDS

Fulfilling sudden zabbix-user increase on frontend

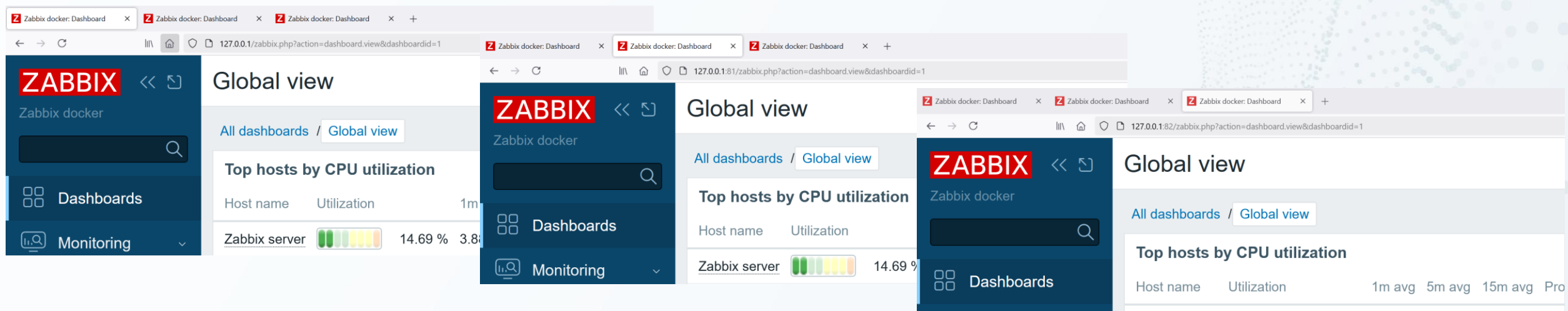
```
docker run --name zabbix-web-nginx-mysql1 -t \
-e DB_SERVER_HOST="mysql-server" \
-e MYSQL_DATABASE="zabbix" \
-e MYSQL_USER="zabbix" \
-e MYSQL_PASSWORD="zabbix_pwd" \
-e MYSQL_ROOT_PASSWORD="root_pwd" \
--network=zabbix-net \
-p 8080:8080 \
--restart unless-stopped \
-d zabbix/zabbix-web-nginx-mysql:alpine-7.2.4

docker run --name zabbix-web-nginx-mysql2 -t \
-e DB_SERVER_HOST="mysql-server" \
-e MYSQL_DATABASE="zabbix" \
-e MYSQL_USER="zabbix" \
-e MYSQL_PASSWORD="zabbix_pwd" \
-e MYSQL_ROOT_PASSWORD="root_pwd" \
--network=zabbix-net \
-p 81:8080 \
--restart unless-stopped \
-d zabbix/zabbix-web-nginx-mysql:alpine-7.2.4

docker run --name zabbix-web-nginx-mysql3 -t \
-e DB_SERVER_HOST="mysql-server" \
-e MYSQL_DATABASE="zabbix" \
-e MYSQL_USER="zabbix" \
-e MYSQL_PASSWORD="zabbix_pwd" \
-e MYSQL_ROOT_PASSWORD="root_pwd" \
--network=zabbix-net \
-p 82:8080 \
--restart unless-stopped \
-d zabbix/zabbix-web-nginx-mysql:alpine-7.2.4
```

LAUCH MULTIPLE FRONTENDS

Fullfilling sudden zabbix-user increase on frontend



[root@zabbix ~]# docker ps --all						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
4a0da4e64245	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	16 seconds ago	Up 14 seconds (healthy)	8443/tcp, 0.0.0.0:80->8080/tcp, [::]:80->8080/tcp	zabbix-web-nginx-mysql1

[root@zabbix ~]# docker ps --all						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
01f235654266	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	11 seconds ago	Up 9 seconds (healthy)	8443/tcp, 0.0.0.0:81->8080/tcp, [::]:81->8080/tcp	zabbix-web-nginx-mysql2
4a0da4e64245	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	6 minutes ago	Up 5 minutes (healthy)	8443/tcp, 0.0.0.0:80->8080/tcp, [::]:80->8080/tcp	zabbix-web-nginx-mysql1

[root@zabbix ~]# docker ps --all						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
29c825273cb3	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	25 seconds ago	Up 23 seconds (healthy)	8443/tcp, 0.0.0.0:82->8080/tcp, [::]:82->8080/tcp	zabbix-web-nginx-mysql3
01f235654266	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	2 minutes ago	Up 2 minutes (healthy)	8443/tcp, 0.0.0.0:81->8080/tcp, [::]:81->8080/tcp	zabbix-web-nginx-mysql2
4a0da4e64245	zabbix/zabbix-web-nginx-mysql:alpine-7.2.4	"docker-entrypoint.sh"	7 minutes ago	Up 7 minutes (healthy)	8443/tcp, 0.0.0.0:80->8080/tcp, [::]:80->8080/tcp	zabbix-web-nginx-mysql1

BROWSER MONITORING

- ▶ Start the web driver in docker (Selenium server/ChromeDriver)

```
docker run --name selenium -t\  
  --network=zabbix-net \  
  --restart unless-stopped \  
  --ip 172.20.240.70 \  
  -p 4444:4444 \  
  -p 7900:7900 \  
  --shm-size="1g" \  
  -d selenium/standalone-chrome:latest
```



BROWSER MONITORING

- ▶ Start the web driver in docker (Selenium server/ChromeDriver)
- ▶ Specify webdriver url and pollers in zabbix-server container:
 - ZBX_WEBDRIVERURL
 - ZBX_STARTBROWSERPOLLERS

```
docker run --name zabbix-server-mysql -t \  
    ...  
    -e ZBX_WEBDRIVERURL=zabbix.webdriver:4444 \  
    -e ZBX_STARTBROWSERPOLLERS=2 \  
    ...
```

The screenshot displays the Zabbix web interface. On the left, the 'Host' configuration page is open, showing fields for 'Host name' (Website by Browser monitoring), 'Visible name' (Website by Browser monitoring), 'Templates' (Website by Browser), and 'Host groups' (Websites (new)). The 'Interfaces' section indicates 'No interfaces are defined.' On the right, the 'Item history' table is visible, showing a single entry for 'Website by Browser monitoring: Website zabbix.com Screenshot' with a corresponding screenshot thumbnail. The background of the interface shows a Zabbix 7.2 dashboard with various monitoring charts and the Zabbix logo.

SNMP TRAPS

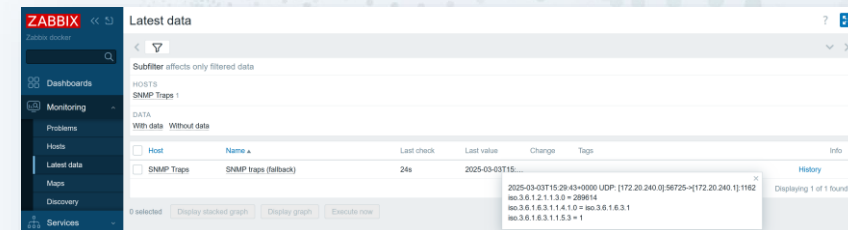
Required configuration parameter in zabbix-server container:

- ▶ ZBX_ENABLE_SNMP_TRAPS=true
- ▶ shared volume **/var/lib/zabbix/snmptraps**

Requires zabbix-snmptraps container with mounted directory:

- ▶ shared volume **/var/lib/zabbix/snmptraps**

```
docker run --name zabbix-snmptraps -t \  
  -v /var/lib/zabbix/snmptraps:/var/lib/zabbix/snmptraps:rw \  
  --network=zabbix-net \  
  -p 162:1162/udp \  
  --restart unless-stopped \  
  -d zabbix/zabbix-snmptraps:alpine-7.2-latest
```



EASY TO MAKE SCHEDULED REPORTS

Start the Zabbix-web-service with the Google Chrome with specified config parameters:

- ▶ ZBX_ALLOWEDIP = 0.0.0.0/0
- ▶ ZBX_LISTENPORT=10053

Specify additional parameters in the Zabbix-server config:

- ▶ ZBX_STARTREPORTWRITERS=5
- ▶ ZBX_WEBSERVICEURL=<http://zabbix-web-service:10053/report>



EASY TO MAKE SCHEDULED REPORTS

Do not forget to enable and configure:

► The media type

☐	Name ▲	Type	Status	Used in actions
☐	Admin mail	Email	Enabled	4 Report not supported items, Report not supported low level discovery rules, Report problems to Zabbix administrators, Report unknown triggers

► User media for sending scheduled reports!

UserMedia 1Permissions

Media

Type	Send to	When active	Use if severity	Status	Actions
Admin mail	admin-20@example.com	1-7,00:00-24:00	N I W A H D	Enabled	Edit Remove

Add

Update

Delete

Cancel

► Frontend URL in Administration/General/Other section

Frontend URL

http://zabbix-web-nginx-mysql:8080

Test media type "Admin mail"

✓

Media type test successful.

* Send to

admin-20@example.com

Subject

Test subject

* Message

This is the test message from Zabbix

Test

Cancel

Compose

Mail

Contacts

Inbox

Search...

zabbix@example.com

2025-03-04 03:17

• Test subject

Test subject

From zabbix@example.com on 2025-03-04 03:17

Details Headers Plain text

This is the test message from Zabbix



EASY TO MAKE SCHEDULED REPORTS

ZABBIX

Scheduled reports

* Owner

Admin (Zabbix Administrator) X

* Name

Admin report

* Dashboard

Admin dashboard X

Period

Previous day Previous week Previous month Previous year

Cycle

Daily Weekly Monthly Yearly

Start time

09 : 00

Start date

YYYY-MM-DD

End date

YYYY-MM-DD

Subject

Scheduled admin report

Message

Report generated by zabbix

* Subscriptions

Recipient

Generate report by

Status

Action

Admin (Zabbix Administr...

Admin (Zabbix Admini...

Include

Remove

Add user

Add user group

Description

Enabled

☒

Update

Clone

Test

Delete

Cancel

Compose

Mail

Contacts

Inbox

Search...

zabbix@example.com Today 16:14

Scheduled admin report

zabbix@example.com 2025-03-04 03:17

Test subject

Reply Reply all Forward Delete Mark More

Scheduled admin report

From zabbix@example.com on 2025-03-25 16:14

Details Headers Plain text

Admin_report_2025-03-25_14-13.pdf (~127 KB)

Report generated by zabbix

Test report generating

Report generating test successful.

Report was successfully sent to: admin-20@example.com.

Ok

Admin dashboard

Host availability

	Available	Not available	Mixed	Unknown	Total
Total Hosts	6	0	0	1	7
Agent (active)	0	0	-	0	0
Agent (passive)	6	0	0	0	6
SNMP	0	0	0	1	1
JMX	0	0	0	0	0
IPMI	0	0	0	0	0

Problems by severity

Host group	Disaster	High	Average	Warning	Information	Not classified
Linux servers		2				
SNMP/Servers						
Zabbix servers		1		2		

Problems

Time	Recovery time	Status	Info	Host	Problem • Severity	Duration	Update	Actions
04:00:43 PM		PROBLEM		Mysq production3	MySQL: Service is down	13m 21s	Update	
16:00								
03:59:42 PM		PROBLEM		Mysq production2	MySQL: Service is down	14m 22s	Update	
Today								
2025-02-26 06:08:04 AM		PROBLEM		Zabbix server	Zabbix server: Proxy group [East Coast]: Availability below 75%	27d 10h 6m	Update	
2025-02-26 06:08:04 AM		PROBLEM		Zabbix server	Zabbix server: Proxy group [East Coast]: Status "offline"	27d 10h 6m	Update	
2025-02-26 03:07:16 AM		PROBLEM		Zabbix server	Zabbix server: Proxy [zabbix proxy HAS]: Zabbix proxy last seen more than 600 seconds ago	27d 13h 6m	Update	

DOCKER CONTAINER MONITORING

- ▶ Install zabbix-agent2 on the docker host system
 - In zabbix-agent2 config, add server address or range in Option: Server
 - Specify ListenPort or use default: 10050

```
Server=127.0.0.1,172.20.240.0/24  
ListenPort=10050
```

- ▶ Add user zabbix to group docker

```
# usermod -aG docker zabbix
```

- ▶ Start zabbix-agent2

DOCKER CONTAINER MONITORING

- ▶ Create Host on the frontend:
 - Add to host group
 - Link template: Docker by Zabbix agent 2

Host

Host

IPMI

Tags

Macros

Inventory

Encryption

Value mapping

* Host name

Zabbix Docker containers

Visible name

Zabbix Docker containers

Templates

Name

Docker by Zabbix agent 2

Actions

[Unlink](#) [Unlink and clear](#)

type here to search

Select

* Host groups

Linux servers X

type here to search

Select

Interfaces

Type	IP address	DNS name	Connect to	Port	Default
Agent	10.0.2.15		IPDNS	10050	Remove

[Add](#)

Description

Monitored by

Server

Proxy

Proxy group

Enabled

☒

Update

Clone

Delete

Cancel

DOCKER CONTAINER MONITORING

- ▶ Let Zabbix notify you if something is not working!

Subfilter affects only filtered data

HOSTS
Zabbix Docker containers 322

TAGS
component 322 container 240 image 38

TAG VALUES
component: application 7 containers 5 cpu 53 health 1 images 9 memory 35 network 49 os 5 raw 16 storage 25 system 121
container: /mysql-server 40 /zabbix-proxy-active-01 40 /zabbix-server-mysql-ha1 40 /zabbix-server-mysql-ha2 40 /zabbix-server-mysql-ha3 40 /zabbix-web-nginx-mysql 40
image: bitnami/tomcat:latest 2 hello-world:latest 2 mysql:8.0-oracle 2 selenium/standalone-chrome:latest 2 zabbix/zabbix-agent2:latest 2 zabbix/zabbix-agent:latest 2 zabbix/zabbix-java-gateway:alpine-7.2-latest 2
zabbix/zabbix-proxy-mysql:6.0.38-alpine 2 zabbix/zabbix-proxy-mysql:latest 2 zabbix/zabbix-proxy-sqlite3:alpine-6.0.0 2 zabbix/zabbix-proxy-sqlite3:alpine-7.2.4 2 zabbix/zabbix-proxy-sqlite3:latest 2
zabbix/zabbix-server-mysql:alpine-7.2-latest 2 zabbix/zabbix-server-mysql:alpine-7.2.4 2 zabbix/zabbix-server-mysql:alpine-latest 2 zabbix/zabbix-snmptools:7.2-alpine-latest 2 zabbix/zabbix-web-nginx-mysql:alpine-7.2-latest 2
zabbix/zabbix-web-nginx-mysql:alpine-7.2.4 2 zabbix/zabbix-web-service:alpine-7.2-latest 2

DATA
With data Without data

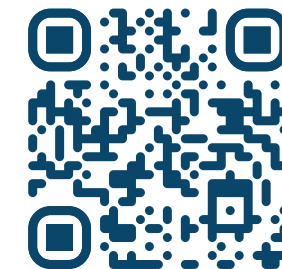
☐ Host	Name ▲	Last check	Last value	Change	Tags	Info
☐ Zabbix Docker containers	Architecture	41m 56s	x86_64		component: os	History
☐ Zabbix Docker containers	Cgroup driver	41m 56s	systemd		component: os	History
☐ Zabbix Docker containers	Container /mysql-server: CPU kernelmode usage per sec...	14s	174.33ms	-49.15ms	component: cpu container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: CPU percent usage	14s	37.7744 %	-46.6491 %	component: cpu container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: CPU total usage per second	14s	246.56ms	-65.72ms	component: cpu container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: CPU usermode usage per second	14s	72.23ms	-16.58ms	component: cpu container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: Created	38m 26s	2025-03-18 01:46:...		component: system container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: Current PIDs count	14s	76		component: system container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: Dead	26s	False (0)		component: system container: /mysql-ser...	Graph
☐ Zabbix Docker containers	Container /mysql-server: Error	38m 26s			component: system container: /mysql-ser...	History



Thank you for attention !

JANIS EIDAKS

Zabbix trainer - Course content creator



Find out more

Monitor the latest
Zabbix news,
**technical
topics and
how-tos**

ZABBIX BLOG

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ZABBIX BLOG

Make your
interaction with
Zabbix API faster:
**Async
zabbix_utils.**



Make your interaction with Zabbix API faster: Async zabbix_utils.

April 30, 2024 0



By Aleksandr Iantsen

In this article, we will explore the capabilities of the new asynchronous modules of the **zabbix_utils** library. Thanks to asynchronous execution, users can expect improved efficiency, reduced latency, and increased flexibility in interacting with Zabbix components, ultimately enabling them to create efficient and reliable monitoring solutions that meet their specific requirements.



ZABBIX BLOG

Zabbix at the
**European
Space Agency.**



CASE STUDY

Case Study: Zabbix at the European Space Agency

May 8, 2024 0



By Arturs Lontons

The [European Space Agency](#) (ESA) is a 22-member intergovernmental body devoted to space exploration. Headquartered in Paris and with a global staff of around 2,200, the ESA was founded in 1975. Its annual budget was €7.08 billion in 2023.

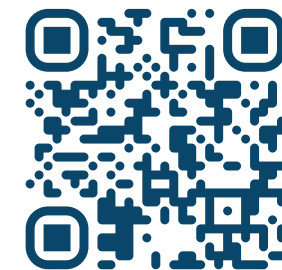


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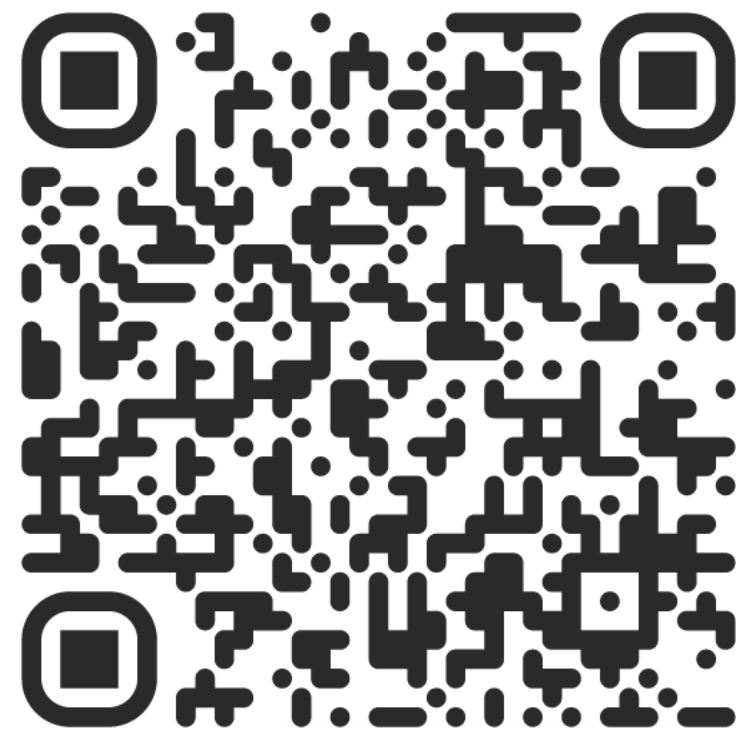


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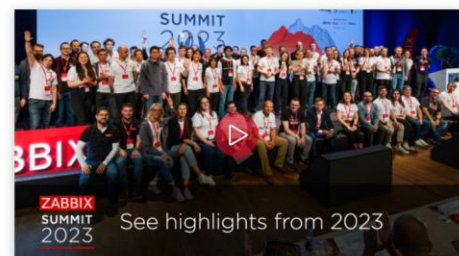
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