Zabbix

- Setting up a Zabbix Proxy

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Zabbix is a great monitoring tool with tons of capabilities. One such capability is the use of proxies. These allow you to monitor other networks in addition to the network that your Zabbix server resides on. For example, if you run Zabbix on a VPS or dedicated server, proxies would allow you to monitor devices on your home or work network.

Installing the Zabbix proxy

Downloading the repository

First, download the Zabbix repository specific to your distribution. I'm using Ubuntu Server 20.04 (Focal) so this is the command:

```
wget https://repo.zabbix.com/zabbix/5.0/ubuntu/pool/main/z/zabbix-release/zabbix-release_5.0-1+focal_all.deb
```

Then install using dpkg:

```
sudo dpkg -i zabbix-release_5.0-1+focal_all.deb
```

Update apt package info

```
sudo apt update
```

Install zabbix-proxy & mariadb

```
sudo apt install zabbix-proxy-mysql mariadb-common mariadb-server mariadb-client
```

Start & enable mariadb

```
sudo systemctl start mariadb && sudo systemctl enable mariadb
```

MySQL setup

Securing the installation & setting a new root DB password

```
sudo mysql_secure_installation
Enter current password for root (enter for none): <Press the Enter key>
```

```
Set root password? [Y/n]: Y
New password: <Enter a new root DB password>
Re-enter new password: <Repeat the new root DB password>
Remove anonymous users? [Y/n]: Y
Disallow root login remotely? [Y/n]: Y
Remove test database and access to it? [Y/n]:  Y
Reload privilege tables now? [Y/n]:  Y
```

Login to MySQL and create a new database & account for the Zabbix proxy

```
sudo mysql -uroot -p'root DB pass'
mysql> create database zabbix_proxy character set utf8 collate utf8_bin;
mysql> grant all privileges on zabbix_proxy.* to zabbix@localhost identified by 'zabbix DB
pass';
mysql> quit;
```

Import the Zabbix database schema

```
zcat /usr/share/doc/zabbix-proxy-mysql*/schema.sql.gz |  mysql -uzabbix -p'zabbix DB pass'
zabbix_proxy
```

(Optional) Generating a Pre-Shared Key

A Zabbix proxy can communicate with the Zabbix server without using encryption, but this isn't recommended. Instead, it is best to generate a PSK and use that for encrypted communications. This will be generated on the Zabbix proxy.

Generating the PSK

Once installed, we will generate a new Pre-Shared Key (PSK). If you plan on setting up multiple proxies, it is best to generate a new PSK for each proxy.

```
openssl rand -hex 32 > zabbix002.psk
```

Moving the PSK

Move the zabbix PSK to /etc/zabbix:

```
sudo mv zabbix002.psk /etc/zabbix/
```

Make Zabbix the owner of the PSK:

```
sudo chown zabbix:zabbix /etc/zabbix/zabbix002.psk
```

Set the correct permissions for the PSK:

```
sudo chmod 644 /etc/zabbix/zabbix002.psk
```

Zabbix proxy configuration

First, open the Zabbix proxy config file with your preferred text editor (in this example nano)

```
sudo nano /etc/zabbix/zabbix_proxy.conf
```

These are the sections that we need to change:

```
### Option: Server
#       If ProxyMode is set to active mode:
#               IP address or DNS name of Zabbix server to get configuration data from and
send data >
Server="ZABBIX-SERVER-IP"
### Option: Hostname
#       Unique, case sensitive Proxy name. Make sure the Proxy name is known to the server!
#       Value is acquired from HostnameItem if undefined.
Hostname=Zabbix proxy 002
### Option: DBPassword
#       Database password. Ignored for SQLite.
#       Comment this line if no password is used.
DBPassword=zabbix DB pass
```

> The Zabbix proxy needs to connect to TCP port 10051 of the Zabbix server specified above. If the Zabbix server lies within a different network, you will need to create a port forwarding rule.

It is also recommended to set the **ConfigFrequency** parameter to 100. This will lower the amount of time that it takes the proxy to receive the configuration from the Zabbix server:

```
### Option: ConfigFrequency
#       How often proxy retrieves configuration data from Zabbix Server in seconds.
#       For a proxy in the passive mode this parameter will be ignored.
#
# Mandatory: no
```

```
# Range: 1-3600*24*7
# Default:
ConfigFrequency=100
```

> If you're using a PSK, you will also need to modify these sections so that they are as follows:

```
### Option: TLSConnect
#       How the proxy should connect to Zabbix server. Used for an active proxy, ignored on a
passive>
TLSConnect=psk
### Option: TLSAccept
#       What incoming connections to accept from Zabbix server. Used for a passive proxy,
ignored on >
TLSAccept=psk
### Option: TLSPSKIdentity
#       Unique, case sensitive string used to identify the pre-shared key.
TLSPSKIdentity=zabbix002
### Option: TLSPSKFile
#       Full pathname of a file containing the pre-shared key.
TLSPSKFile=/etc/zabbix/zabbix002.psk
```

Starting and enabling the Zabbix proxy service

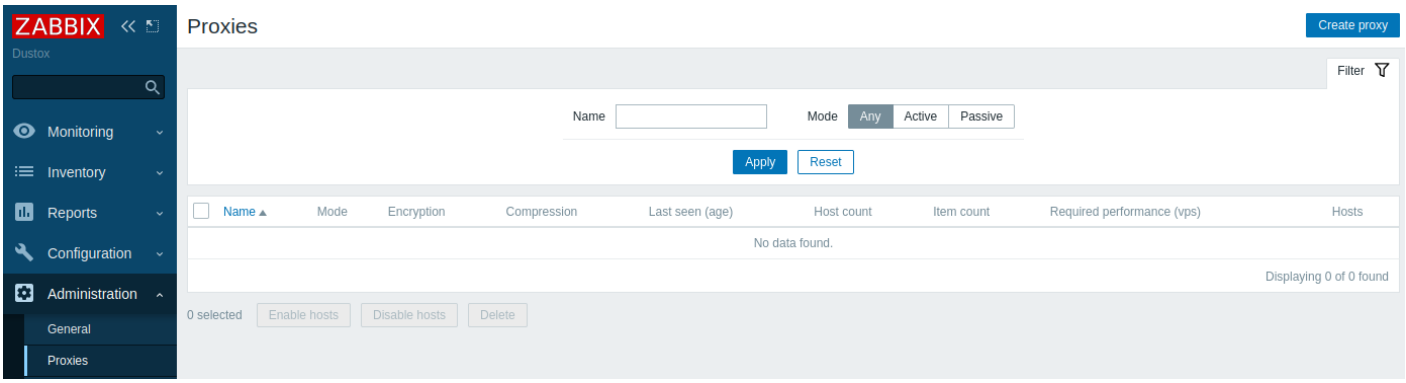
Now that the configuration file has been modified and the PSK has been moved to the desired location, we can finally start and enable the Zabbix-proxy service using these commands:

```
sudo systemctl restart zabbix-proxy && sudo systemctl enable zabbix-proxy
```

Registering the Proxy in the Zabbix web interface

The Zabbix proxy service is now running, and will be trying to connect to the Zabbix server. We need to register it in Zabbix's web interface to allow them to communicate.

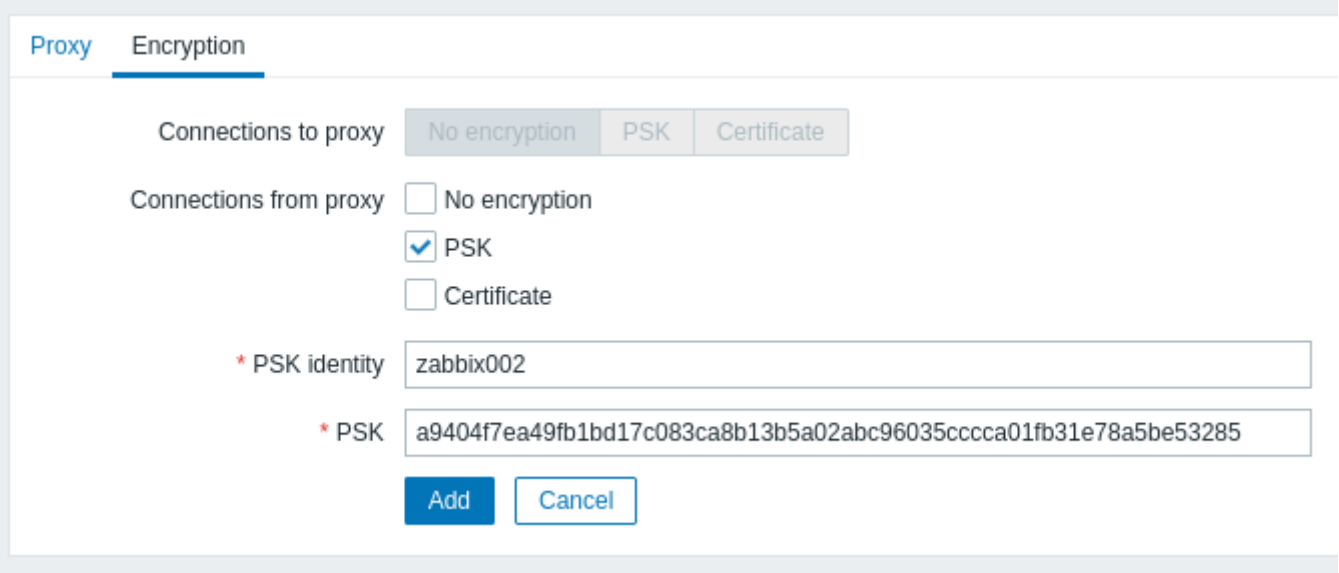
First, log into the interface and go to Administration > Proxies then click on the **Create proxy** button (in the top right):



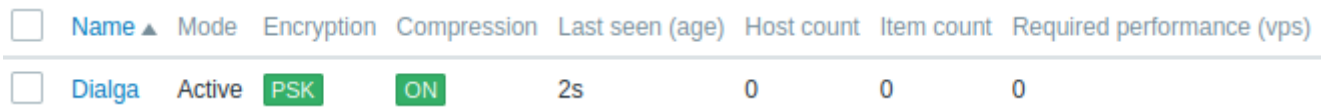
Give the proxy a name, then click on the Encryption tab. Before configuring this section, go back to the Zabbix proxy and use cat to open the PSK:

```
cat /etc/zabbix/zabbix002.psk
a9404f7ea49fb1bd17c083ca8b13b5a02abc96035cccca01fb31e78a5be53285
```

Copy this and paste it into the PSK section on the Zabbix interface. The PSK identity should be the same as in the zabbix_proxy.conf. Tick the box next to PSK and **untick** the "no encryption" box. Click add once finished.



As can be seen below, our Proxy is now active!

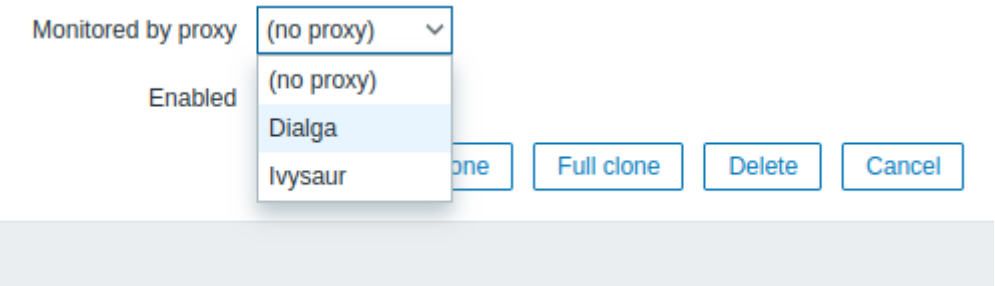


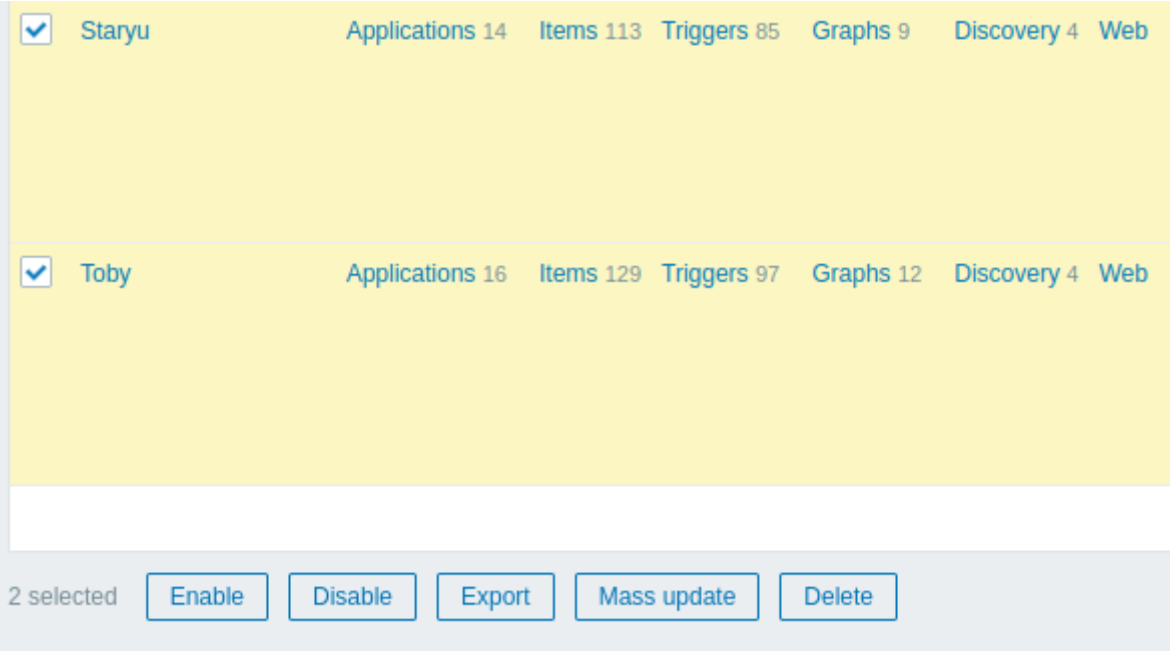
Monitoring hosts with the new proxy

So we've added a proxy, but how do we actually get Zabbix to use it?

For individual hosts

Go to Configuration > Hosts then click on a host that you'd like to monitor with the Proxy. At the bottom of the page, you'll see a "Monitored by" section. Change this from "no proxy" to the new proxy that has just been added:



For multiple hosts

As with for single hosts, go to Configuration > Hosts then tick the box next to the hosts that you'd like to change. At the bottom of the page, there is a mass update button. Click that and you can select the new proxy from there.