

# Installation of Zabbix server for Ubuntu 16.04 and ubuntu 16.10

## Zabbix server :

Zabbix is an Open Source, high-level enterprise software designed to monitor and keep track of networks, servers and applications in real time. Built in a server-client model, Zabbix can collect different type of data than are used to create historical graphics and output performance or load trends of the monitored targets.

The server has the ability to check standard networking services (HTTP, FTP, SMTP, IMAP etc) without the need to install extra software on the monitored hosts.

However, in order to gather data and create statistics about local services or other specific system resources that run on remote instances, such as CPU, disks, internal system process, RAM, etc, you need to install and configure a Zabbix agent.

### 1. Install a LAMP stack :

Zabbix will need web server, a data base and PHP in order to correctly function, setting up a LAMP stack (linux, Apache, MySQL, and PHP) fulfills all of these requirements.

```
sudo apt-get install lamp-server^
```

### 2. Adding Apt Repository

Before installing Zabbix first configure zabbixzone rpm repository in our system using following commands.

Latest version of Zabbix 3.2

- a. wget [http://repo.zabbix.com/zabbix/3.2/ubuntu/pool/main/z/zabbix-release/zabbix-release\\_3.2-1+xenial\\_all.deb](http://repo.zabbix.com/zabbix/3.2/ubuntu/pool/main/z/zabbix-release/zabbix-release_3.2-1+xenial_all.deb)
- b. sudo dpkg -i zabbix-release\_3.2-1+xenial\_all.deb
- c. sudo apt-get update

### 3. Install Zabbix Server

After adding zabbix apt repository in your system use following command to install Zabbix using mysql database.

```
sudo apt-get install zabbix-server-mysql zabbix-frontend-php
```

#### 4. Updating time zone

-timedatectl list-timezones

Update timezone in php configuration file /etc/php/7.0/apache2/php.ini.

Like below

[Date]

; <http://php.net/date.timezone>

date.timezone = 'continent/city'

#### 5. Create Database Schema

Now create a database schema for your zabbix server. First use following commands to create mysql database and user for your zabbix server

```
#mysql -u root -p
```

```
mysql CREATE DATABASE zabbix;
```

```
mysql GRANT ALL on zabbix.* to zabbix@localhost IDENTIFIED BY 'password';
```

```
mysql FLUSH PRIVILEGES;
```

```
mysql quit;
```

Now restart zabbix database schema in newly created database

```
#cd /usr/share/doc/zabbix-server-mysql
```

```
#zcat create.sql.gz | mysql -u root -p zabbix
```

#### 6. Edit Zabbix Configuration File

Now edit zabbix server configuration file /etc/zabbix/zabbix\_server.conf in your favorite text editor and update following entries.

```
DBHost=localhost
```

```
DBName=zabbix
```

```
DBUser=zabbix
```

```
DBPassword=password
```

#### 7. Zabbix creates its own apache configuration file /etc/zabbix/apache.conf.

Use following command to restart Apache service.

```
# systemctl restart apache2
```

```
#sudo service apache2 restart
```

```
#sudo -s
```

```
# apt-get install php7.0-bcmath php7.0-mbstring php7.0-xml*
```

```
# systemctl restart apache2
```

8. - <http://IP-address/zabbix>

You will be presented with a login screen. The default credentials are as follows:

Username = admin

Password = zabbix



## Zabbix Agent :

A native Zabbix agent, developed in C language, may run on various supported platforms, including Linux, UNIX and Windows, and collect data such as CPU, memory, disk and network interface usage from a device.

### **Supported platforms :**

Zabbix agent is supported for:

- Linux
- IBM AIX
- FreeBSD
- NetBSD
- OpenBSD
- HP-UX
- Mac OS X
- Solaris: 9, 10, 11
- Windows: all desktop and server versions since 2000

### **Zabbix network discovery is based on the following information:**

- IP ranges
- Availability of external services (, SSH, WEB, POP3, IMAP, TCP, etc)
- Information received from Zabbix agent (only unencrypted mode is supported)
- Information received from SNMP agent

### Installing zabbix agent in openwrt

- Download the openwrt code
- Goto to openwrt folder (Package is already available as part of openwrt calmer code base)
  - make menuconfig -> adminstartion -> zabbix**
  - save and exit**
- make
- Load the router image

## ZABBIX HOST DISCOVERY AND AUTOREGISTRATION

### 1. Modify `/etc/zabbix/zabbix_agentd.conf` for auto-registering of the zabbix-agent (router config file)

- a. server = <IP-address> of zabbix server
- b. ServerActive=<IP-address> of zabbix server
- c. `/etc/init.d/zabbix_agentd` restart

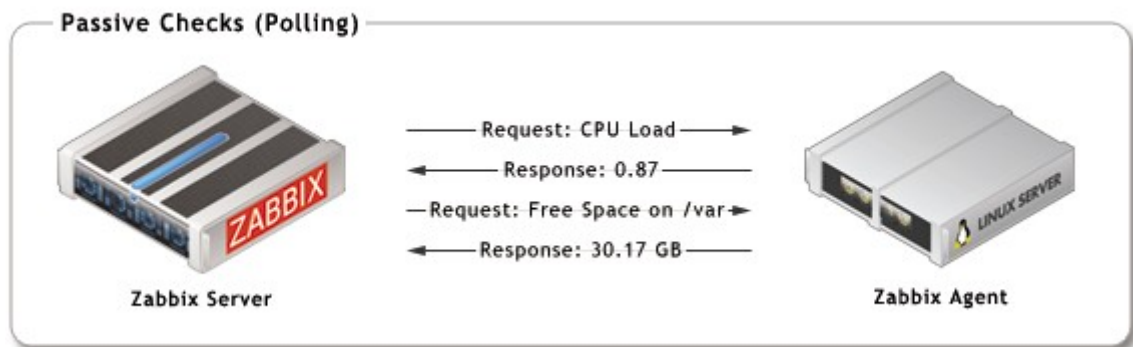
### 2. Active agent auto-registration:

It is possible to allow active Zabbix agent auto-registration, after which the server can start monitoring them. This way new hosts can be added for monitoring without configuring them manually on the server.

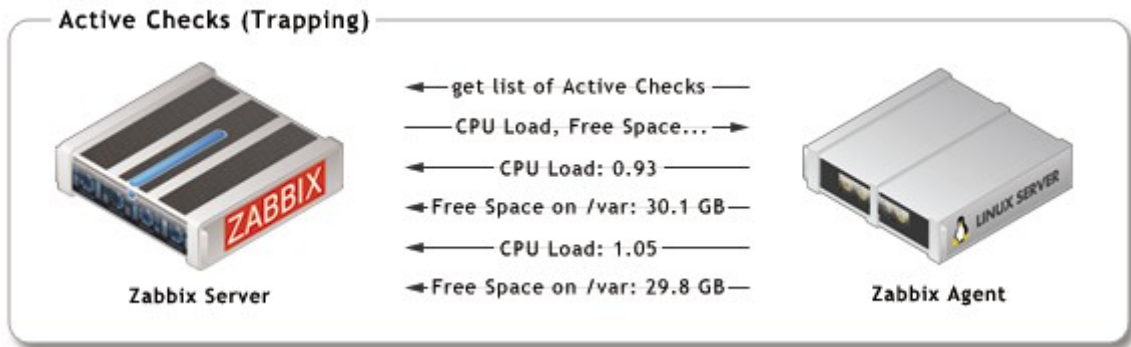
### 3. Polling and trapping support:

Zabbix agents support both passive (polling) and active checks (trapping).

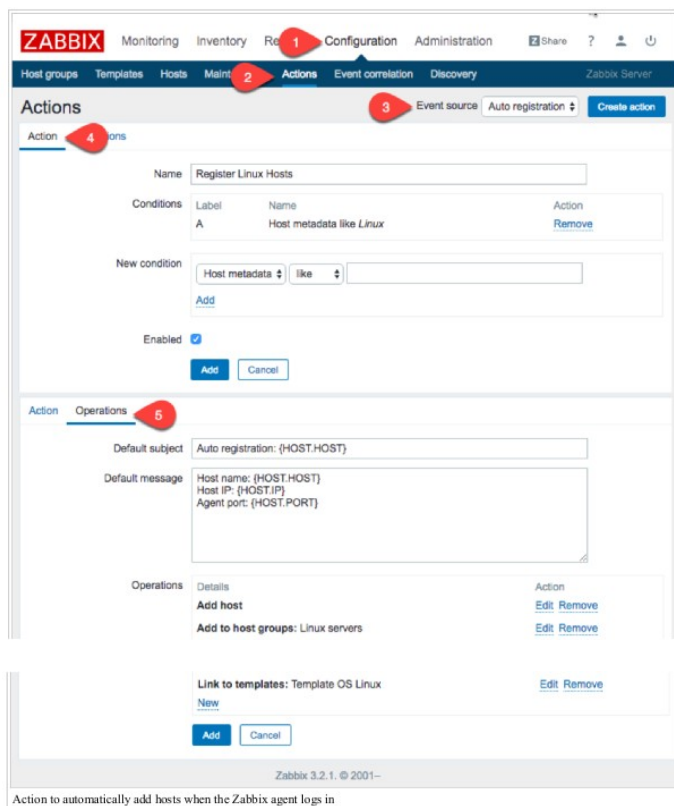
- In a passive check, a Zabbix server (or proxy) requests a value from Zabbix agent, for example, CPU load, the agent processes the request and returns the value to Zabbix server (or proxy).



- In an active check, a Zabbix agent requests from Zabbix server (or proxy) a list of active checks and sends the results in periodically.



Configuration done on Zabbix server for the auto registering of the Zabbix agent :



## How to prepare a Template for Zabbix Agent

When the auto registering of the zabbix agent is done by the server , it gets reflected under the **configuration ->hosts**.

In order to get the specific information as part of zabbix agent we need to link the zabbix agent host to different templates (default or custom) both types.

To link with default templates Open **Configuration->Hosts**. Choose **zabbix agent** and click on it. Goto template and select the new templates add and update.

### Custom Templates

Template app zabbix agent doesnt contain all the information. It has only agent/basic os information. So, to prepare the same we will take an example of getting information related to wireless from openwrt router.

1. Download the template files <https://pastebin.com/uWtWT6C8>.
2. It gets downloaded with .txt extension, convert it into .xml
3. On the zabbix server, goto **Configuration->Templates**, then click import (top right), and import the .xml file.
4. Once the new template is created goto **Configuration->Hosts**. Choose **zabbix agent** , goto **template** and linked the newly added custom template to it.