

开始学习如何使用 Zabbix，从最基础的安装做起。CentOS 上默认的 Zabbix 是默认 Apache 的，且版本较低，我比较追求新版本，明明白白安装软件的感觉，遂自行编译更加合适。

准备工作

- yum 安装的 mysql (mariadb-server), 这个不多说。
- 编译安装的 php7.0.10 和 nginx1.10

Q: 如何编译安装 **php7** 呢？

A: 难点在于编译选项和依赖关系，整理步骤如下：

1. 下载[源码包](#)到 /usr/local/src 目录下, 解压后进入安装目录。(sha256sum: 348476ff7ba8d95a1e28e1059430c10470c5f8110f6d9133d30153dda4cdf56a)
2. 使用 yum 安装 epel-release
3. 编译安装我写了一个脚本如下 (php-fpm):

```
#!/bin/bash
#
# created by Bekcpear
# 2016-08-21 CST(China Standard Time)
#
# This script is created to configuring and install php-7.0.10 from source code.
# When installation finished, the php installed will meet the requirments of the Laravel framework 5.2.
# It's my first shell script, being served for my Blog with nginx.

# update 160822 add support function for Zabbix 3.0.4

# !Make sure you have installed mariadb-server

# If you installed mariadb/mysql server from source code, please uncomment the line below and modify to correct path to mysql/
mariadb. This is wrong. Ignore it.
# CUS_MYSQLPATH = /usr/local/mysql
```

```
CONF="--prefix=/usr/local/php/ \  
--enable-fpm \  
--with-config-file-path=/usr/local/php/etc \  
--with-fpm-user=php-fpm \  
--with-fpm-group=php-fpm \  
--with-mysql-sock=/var/run/mysql.sock \  
--with-mysqli \  
--with-libxml-dir \  
--with-gd \  
--with-jpeg-dir \  
--with-png-dir \  
--with-freetype-dir \  
--with-iconv-dir \  
--with-zlib-dir \  
--with-mcrypt \  
--with-curl \  
--with-pear \  
--with-gettext \  
--enable-bcmath \  
--enable-sockets \  
--enable-soap \  
--enable-gd-native-ttf \  
--enable-ftp \  
--enable-exif \  
--enable-tokenizer \  
--with-pdo-mysql \  
--enable-mbstring \  
--with-openssl"  
CONF_0=" --with-pdo-mysql"  
CONF_1=" --with-pdo-mysql="$CUS_MYSQLPATH  
# last 4 parameters are needed by Laravel  
  
if [ -z $CUS_MYSQLPATH ]; then  
    CONF=$CONF$CONF_0;  
else  
    CONF=$CONF$CONF_1;
```

fi

```
# Please install epel-release first.
```

```
PREBUILD="\
gcc \
libxml2 \
libxml2-devel \
openssl \
openssl-devel \
bzip2 \
bzip2-devel \
libjpeg \
libjpeg-devel \
libpng \
libpng-devel \
gettext \
gettext-devel \
freetype \
freetype-devel \
libmcrypt \
libmcrypt-devel \
libcurl \
libcurl-devel"
```

```
yum install -y $PREBUILD;
```

```
if [ $? -eq 0 ];then
    ./configure $CONF && make && make install
fi
```

Q: 如何配置 **php** 并使之适合 **zabbix3.0.4** ?

A: 配置项目其实很少，如下：

1. 复制启动文件 `/usr/local/src/php-7.0.10/sapi/fpm/php-fpm.service` 到 `/lib/systemd/system/php-fpm.service`，并修改里面的路径到程序主目录
2. 新建用户 `php-fpm` 和组 `php-fpm`
3. 两个示例文件 `/usr/local/php/etc/php-fpm.conf.example` 和 `/usr/local/php/etc/php-fpm.d/www.conf.example`，去掉 `example` 字样
4. 一些基本的修改不赘述了，应 `zabbix` 要求，需要在 `/usr/local/php/etc/php-fpm.d/www.conf` 结尾加入如下内容，之后就可以运行了：

```
php_value[max_execution_time] = 300
php_value[post_max_size] = 16M
php_value[date.timezone] = "Asia/Shanghai"
```

Q: 如何编译安装 **nginx1.10stable** ?

A: 这个相对来说就很简单了，如下：

1. 下载[源码包](#)并解压。关于校验，官网有[pgp 文件](#)，公钥用[这个](#)。
2. 进入源码目录下编译，可能需要解决写依赖关系：

```
CUS_CONF="\
--prefix=/usr/local/nginx/ \
--with-http_realip_module \
--with-http_sub_module \
--with-http_gzip_static_module \
--with-http_stub_status_module \
--with-http_ssl_module \
--with-pcre"

./configure $CUS_CONF && make && make install
```

Q: 如何配置启动 **nginx** ?

A: 依旧是 `nginx` 配置文件 + `systemd` 启动服务文件。

1. 启动服务文件可以从[nginx.com](#)上复制：
2. 配置文件在 `/usr/local/nginx/conf/nginx.conf`，安装需求修改，比如针对 `Zabbix` 的一段内容，之后就可以启动 `nginx` 了：

```
server {
    listen 8080;

    access_log /usr/local/nginx/logs/1.access.log main;
    error_log /usr/local/nginx/logs/1.error.log;
    root /home/html/1;

    location / {
        index index.php index.html;
    }

    #error_page 404 /404.html;

    # redirect server error pages to the static page /50x.html
    #
    error_page 500 502 503 504 /50x.html;
    location = /50x.html {
        root /usr/local/nginx/html;
    }

    # pass the PHP scripts to FastCGI server listening on 127.0.0.1:9000
    #
    location ~ \.php$ {
        fastcgi_pass 127.0.0.1:9000;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        include fastcgi_params;
    }
}
```

准备工作结束了，如何编译安装 **Zabbix** 呢？

其实可以参考[官方网站](#)的内容，也很简单。

整理了一下如下：

1. 下载[源码包](#)，解压并进入。这个我没有找到校验文件...

2. 创建用户，一般就创建一个组为 **zabbix** 的 **zabbix** 用户即可，注意的是，当 **Zabbix** 的 **server** 和 **agent** 同时运行在一台主机上时，推荐是将 **server** 的运行用户独立于 **agent** 的运行用户的，不然 **agent** 可以访问 **server** 的配置文件，甚至数据库。

3. 创建数据库，这个在源码包里面有现成的脚本，一般这样子使用（针对我的 **Mysql** 数据库）：

```
shell> mysql -uroot -p<password>
mysql> create database zabbix character set utf8 collate utf8_bin;
mysql> grant all privileges on zabbix.* to zabbix@localhost identified by '<password>';
mysql> quit;
shell> cd database/mysql
shell> mysql -uzabbix -p<password> zabbix < schema.sql
# 如果仅仅是运行一个agent代理的话，下面的数据库文件不需要导入
shell> mysql -uzabbix -p<password> zabbix < images.sql
shell> mysql -uzabbix -p<password> zabbix < data.sql
```

4. 配置编译安装。配置选项 **--prefix=/usr/local/zabbix --enable-server --enable-agent --with-mysql --enable-ipv6 --with-net-snmp --with-libcurl --with-libxml2**，这将安装上 **server** 和 **agent** 两个功能

5. 编辑 **Zabbix** 目录 **etc** 目录下的配置文件，因为我是在一台机器上同时运行服务器和代理的，所以两个配置文件都需要配置。这边贴出来的删除了大量没有配置的选项及其注释，但是对于已经配置的选项的注释并没有删除。

```
##/usr/local/zabbix/etc/zabbix_agentd.conf
# This is a configuration file for Zabbix agent daemon (Unix)
# To get more information about Zabbix, visit http://www.zabbix.com
```

```
##### GENERAL PARAMETERS #####
```

```
### Option: PidFile
#   Name of PID file.
#
# Mandatory: no
# Default:
```

```
PidFile=/tmp/zabbix_agentd.pid
```

```
### Option: LogFile
```

```
# Log file name for LogType 'file' parameter.
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
# LogFile=
```

```
LogFile=/var/log/zabbix/zabbix_agentd.log
```

```
### Option: LogFileSize
```

```
# Maximum size of log file in MB.
```

```
# 0 - disable automatic log rotation.
```

```
#
```

```
# Mandatory: no
```

```
# Range: 0-1024
```

```
# Default:
```

```
LogFileSize=5
```

```
### Option: Server
```

```
# List of comma delimited IP addresses (or hostnames) of Zabbix servers.
```

```
# Incoming connections will be accepted only from the hosts listed here.
```

```
# If IPv6 support is enabled then '127.0.0.1', '::127.0.0.1', '::ffff:127.0.0.1' are treated equally.
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
# Server=
```

```
Server=127.0.0.1
```

```
### Option: ListenPort
```

```
# Agent will listen on this port for connections from the server.
```

```
#
```

```
# Mandatory: no
```

```
# Range: 1024-32767
```

Default:

ListenPort=10050

Option: ListenIP

List of comma delimited IP addresses that the agent should listen on.

First IP address is sent to Zabbix server if connecting to it to retrieve list of active checks.

#

Mandatory: no

Default:

ListenIP=127.0.0.1

Option: ServerActive

List of comma delimited IP:port (or hostname:port) pairs of Zabbix servers for active checks.

If port is not specified, default port is used.

IPv6 addresses must be enclosed in square brackets if port for that host is specified.

If port is not specified, square brackets for IPv6 addresses are optional.

If this parameter is not specified, active checks are disabled.

Example: ServerActive=127.0.0.1:20051,zabbix.domain,[::1]:30051,::1,[12fc::1]

#

Mandatory: no

Default:

ServerActive=

ServerActive=127.0.0.1:10051

Option: Hostname

Unique, case sensitive hostname.

Required for active checks and must match hostname as configured on the server.

Value is acquired from HostnameItem if undefined.

#

Mandatory: no

Default:

Hostname=

Hostname=your hostname

Option: AllowRoot

```
# Allow the agent to run as 'root'. If disabled and the agent is started by 'root', the agent
# will try to switch to the user specified by the User configuration option instead.
# Has no effect if started under a regular user.
# 0 - do not allow
# 1 - allow
#
# Mandatory: no
# Default:
# AllowRoot=0
```

Option: User

```
# Drop privileges to a specific, existing user on the system.
# Only has effect if run as 'root' and AllowRoot is disabled.
#
# Mandatory: no
# Default:
User=zabbix-agent
```

```
##/usr/local/zabbix/etc/zabbix_server.conf
```

```
# This is a configuration file for Zabbix server daemon
# To get more information about Zabbix, visit http://www.zabbix.com
```

GENERAL PARAMETERS

Option: ListenPort

```
# Listen port for trapper.
#
# Mandatory: no
# Range: 1024-32767
# Default:
ListenPort=10051
```

Option: LogFile

```
# Log file name for LogType 'file' parameter.
#
```

```
# Mandatory: no
# Default:
# LogFile=
```

```
LogFile=/var/log/zabbix/zabbix_server.log
```

```
### Option: LogFileSize
```

```
# Maximum size of log file in MB.
# 0 - disable automatic log rotation.
#
```

```
# Mandatory: no
# Range: 0-1024
# Default:
LogFileSize=5
```

```
### Option: PidFile
```

```
# Name of PID file.
#
```

```
# Mandatory: no
# Default:
PidFile=/tmp/zabbix_server.pid
```

```
### Option: DBName
```

```
# Database name.
# For SQLite3 path to database file must be provided. DBUser and DBPassword are ignored.
#
```

```
# Mandatory: yes
# Default:
# DBName=
```

```
DBName=zabbix
```

```
### Option: DBUser
```

```
# Database user. Ignored for SQLite.
#
```

```
# Mandatory: no
```

```
# Default:
```

```
# DBUser=
```

```
DBUser=zabbix
```

```
### Option: DBPassword
```

```
# Database password. Ignored for SQLite.
```

```
# Comment this line if no password is used.
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
DBPassword=passwd
```

```
### Option: DBSocket
```

```
# Path to MySQL socket.
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
DBSocket=/var/lib/mysql/mysql.sock
```

```
### Option: DBPort
```

```
# Database port when not using local socket. Ignored for SQLite.
```

```
#
```

```
# Mandatory: no
```

```
# Range: 1024-65535
```

```
# Default (for MySQL):
```

```
DBPort=3306
```

```
##### ADVANCED PARAMETERS #####
```

```
### Option: ListenIP
```

```
# List of comma delimited IP addresses that the trapper should listen on.
```

```
# Trapper will listen on all network interfaces if this parameter is missing.
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
# ListenIP=0.0.0.0
```

```
ListenIP=127.0.0.1
```

```
### Option: Timeout
```

```
# Specifies how long we wait for agent, SNMP device or external check (in seconds).
```

```
#
```

```
# Mandatory: no
```

```
# Range: 1-30
```

```
# Default:
```

```
# Timeout=3
```

```
Timeout=4
```

```
### Option: LogSlowQueries
```

```
# How long a database query may take before being logged (in milliseconds).
```

```
# Only works if DebugLevel set to 3, 4 or 5.
```

```
# 0 - don't log slow queries.
```

```
#
```

```
# Mandatory: no
```

```
# Range: 1-3600000
```

```
# Default:
```

```
# LogSlowQueries=0
```

```
LogSlowQueries=3000
```

```
### Option: AllowRoot
```

```
# Allow the server to run as 'root'. If disabled and the server is started by 'root', the server
```

```
# will try to switch to the user specified by the User configuration option instead.
```

```
# Has no effect if started under a regular user.
```

```
# 0 - do not allow
```

```
# 1 - allow
```

```
#
```

```
# Mandatory: no
```

```
# Default:
```

```
# AllowRoot=0
```

```
### Option: User
#   Drop privileges to a specific, existing user on the system.
#   Only has effect if run as 'root' and AllowRoot is disabled.
#
# Mandatory: no
# Default:
User=zabbix
```

6. 启动 **zabbix server** 和 **zabbix agentd**

```
# zabbix_server
# zabbix_agentd
```

7. 接下来就是安装 **Zabbix** 的 **Web** 接口了

这个非常简单，把源码目录下的 frontends/php 这个目录整个拷贝到 nginx 配置的根目录下，然后网页访问后，根据提示配置即可。注意防火墙权限，注意复制过去后，将目录权限开放给 PHP 的用户，我这里是 php-fpm 这个用户。不然可能无法配置成功。

配置安装时候遇到的几个问题。

- ``configure: error: MySQL library not found"，这个是因为没有安装 mariadb-devel 导致的。
- ``configure: error: Invalid NET-SNMP directory - unable to find net-snmp-config"，这个是因为没有安装 net-snmp net-snmp-devel 导致的。
- 配置到数据库的时候，出现 ``Error connecting to database: No such file or directory"，最后发现是因为 mysqli 下使用 localhost 作为地址连接 mysql 数据库的问题，真奇怪，改成 127.0.0.1 就好了...

以上。