

Monitorización con Zabbix

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En esta memoria se va a explicar cómo he instalado Zabbix, y cómo lo uso para monitorizar Ubuntu Server 16.04, usándolo como server de Zabbix, y CentOS 7, a través de SSH.

Ubuntu Server

El estado actual de la máquina tiene LAMP y OpenSSH instalado.

Primero vamos a añadir el repositorio desde el cual se descargará Zabbix.

```
# wget http://repo.zabbix.com/zabbix/3.4/debian/pool/main/z/zabbix-release/zabbix-release_3.4-1+stretch_all.deb

# dpkg -i zabbix-release_3.4-1+stretch_all.deb

# apt-get update
```

Ahora vamos a instalar Zabbix Server y Zabbix Frontend. Instalaremos zabbix-server-mysql porque la base de datos es mysql.

```
# apt-get install zabbix-server-mysql

# apt-get install zabbix-frontend-php
```

Vamos a crear una base de datos, ya que Zabbix Server la va a necesitar. Para esto, entramos en mysql, creamos la base de datos “zabbix” y le damos todos los privilegios necesarios.

```
# mysql -uroot -ppracticas,ISE

mysql> create database zabbix character set utf8 collate utf8_bin;

mysql> grant all privileges on zabbix.* to zabbix@localhost identified by
'practicas,ISE';

mysql> quit;
```

Ahora, hay que importar un esquema inicial.

```
# zcat /usr/share/doc/zabbix-server-mysql/create.sql.gz | mysql -uzabbix
-p zabbix
```

Vamos a configurar Zabbix Server.

```
# vi /etc/zabbix/zabbix_server.conf
```

En este archivo, debemos dejar así las siguientes líneas:

```
DBHost=localhost

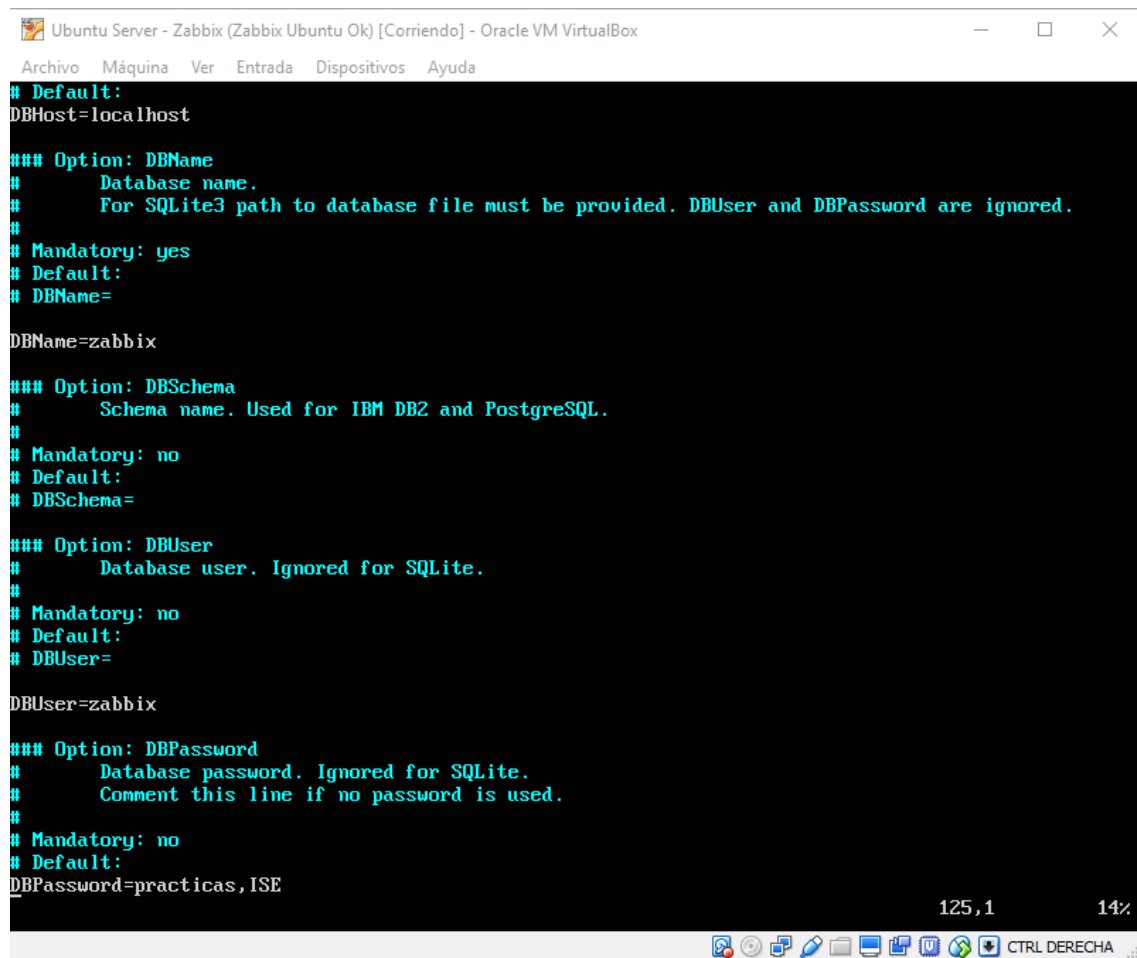
DBName=zabbix

DBUser=zabbix

DBPassword=practicas,ISE
```

Algunas estarán comentadas, hay que descomentarlas.

Quedaría así:



The screenshot shows a terminal window titled "Ubuntu Server - Zabbix (Zabbix Ubuntu Ok) [Corriendo] - Oracle VM VirtualBox". The terminal displays the configuration options for Zabbix, including DBHost, DBName, DBSchema, DBUser, and DBPassword. The configuration is as follows:

```
# Default:
DBHost=localhost

### 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: DBSchema
# Schema name. Used for IBM DB2 and PostgreSQL.
#
# Mandatory: no
# Default:
# DBSchema=

### 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=practicass, ISE
```

The terminal window also shows a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". The status bar at the bottom indicates "125,1" and "14%", and a "CTRL DERECHA" button is visible.

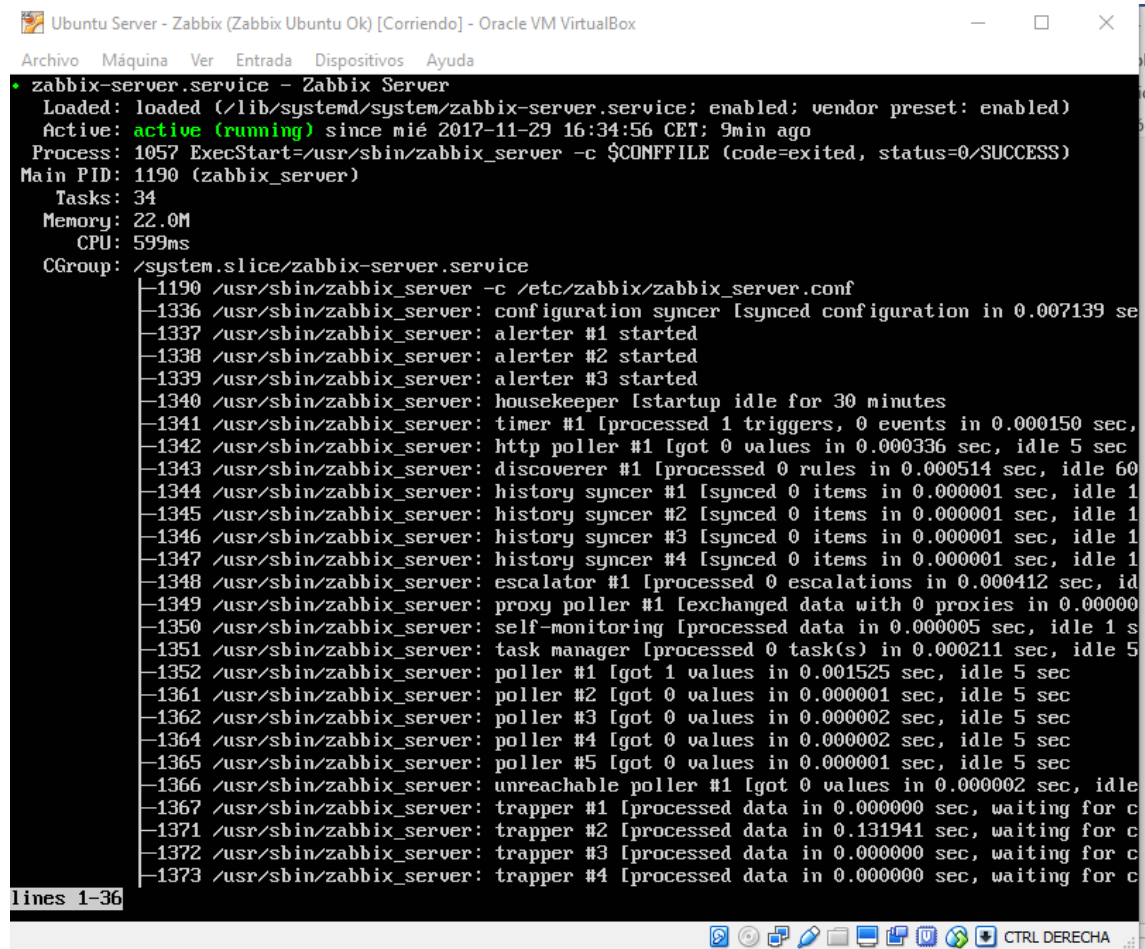
Vamos a iniciar Zabbix Server:

```
# service zabbix-server start

# update-rc.d zabbix-server enable
```

Podemos ver el estado de zabbix-server con el siguiente comando.

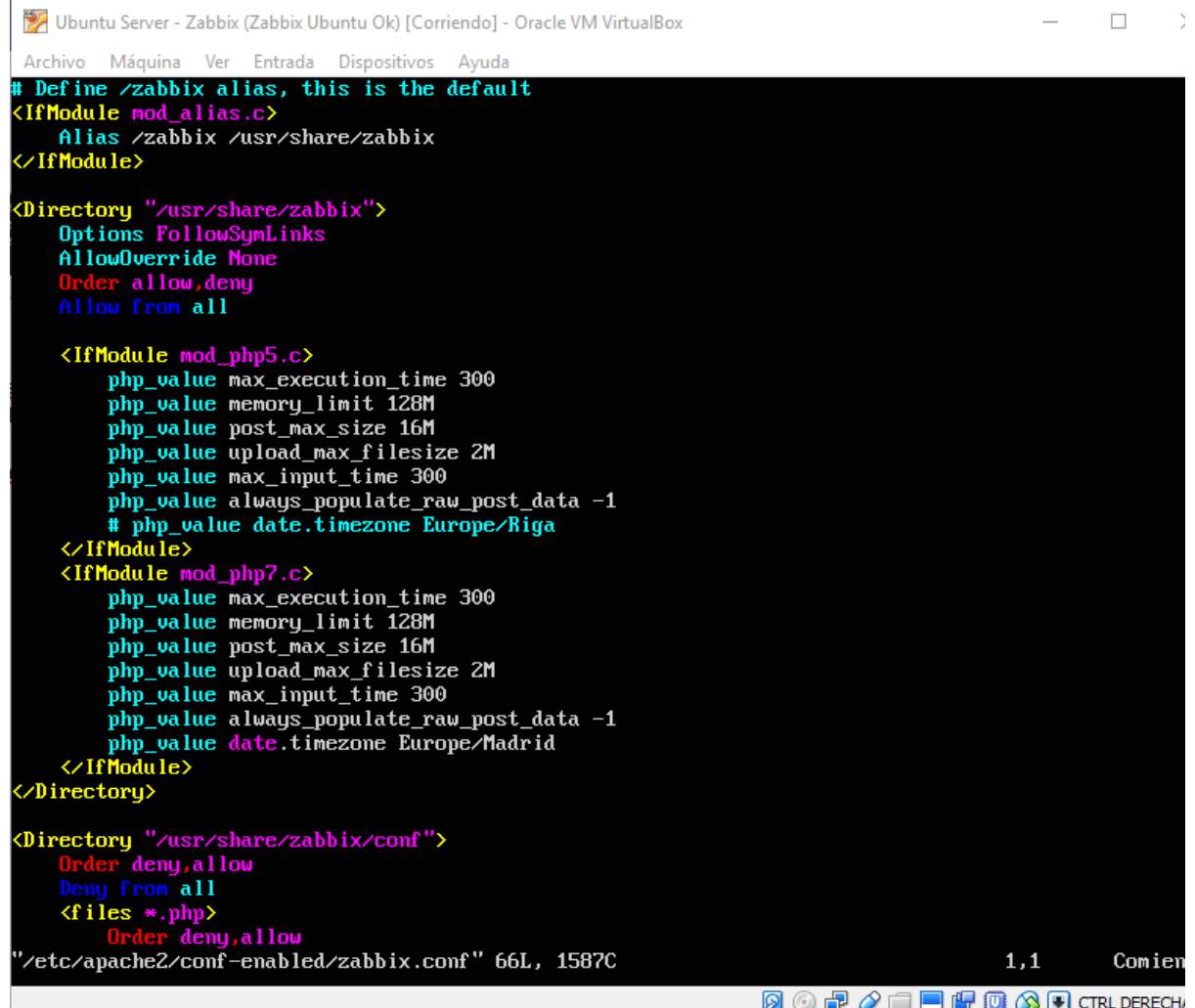
```
# systemctl status zabbix-server.service
```



```
Ubuntu Server - Zabbix (Zabbix Ubuntu Ok) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
• zabbix-server.service - Zabbix Server
   Loaded: loaded (/lib/systemd/system/zabbix-server.service; enabled; vendor preset: enabled)
   Active: active (running) since mié 2017-11-29 16:34:56 CET; 9min ago
   Process: 1057 ExecStart=/usr/sbin/zabbix_server -c $CONFFILE (code=exited, status=0/SUCCESS)
   Main PID: 1190 (zabbix_server)
   Tasks: 34
   Memory: 22.0M
   CPU: 599ms
   CGroup: /system.slice/zabbix-server.service
           └─1190 /usr/sbin/zabbix_server -c /etc/zabbix/zabbix_server.conf
             └─1336 /usr/sbin/zabbix_server: configuration syncer [synced configuration in 0.007139 se
               └─1337 /usr/sbin/zabbix_server: alerter #1 started
                 └─1338 /usr/sbin/zabbix_server: alerter #2 started
                   └─1339 /usr/sbin/zabbix_server: alerter #3 started
                     └─1340 /usr/sbin/zabbix_server: housekeeper [startup idle for 30 minutes
                       └─1341 /usr/sbin/zabbix_server: timer #1 [processed 1 triggers, 0 events in 0.000150 sec,
                         └─1342 /usr/sbin/zabbix_server: http poller #1 [got 0 values in 0.000336 sec, idle 5 sec
                           └─1343 /usr/sbin/zabbix_server: discoverer #1 [processed 0 rules in 0.000514 sec, idle 60
                             └─1344 /usr/sbin/zabbix_server: history syncer #1 [synced 0 items in 0.000001 sec, idle 1
                               └─1345 /usr/sbin/zabbix_server: history syncer #2 [synced 0 items in 0.000001 sec, idle 1
                                 └─1346 /usr/sbin/zabbix_server: history syncer #3 [synced 0 items in 0.000001 sec, idle 1
                                   └─1347 /usr/sbin/zabbix_server: history syncer #4 [synced 0 items in 0.000001 sec, idle 1
                                     └─1348 /usr/sbin/zabbix_server: escalator #1 [processed 0 escalations in 0.000412 sec, id
                                       └─1349 /usr/sbin/zabbix_server: proxy poller #1 [exchanged data with 0 proxies in 0.00000
                                         └─1350 /usr/sbin/zabbix_server: self-monitoring [processed data in 0.000005 sec, idle 1 s
                                           └─1351 /usr/sbin/zabbix_server: task manager [processed 0 task(s) in 0.000211 sec, idle 5
                                             └─1352 /usr/sbin/zabbix_server: poller #1 [got 1 values in 0.001525 sec, idle 5 sec
                                               └─1361 /usr/sbin/zabbix_server: poller #2 [got 0 values in 0.000001 sec, idle 5 sec
                                                 └─1362 /usr/sbin/zabbix_server: poller #3 [got 0 values in 0.000002 sec, idle 5 sec
                                                   └─1364 /usr/sbin/zabbix_server: poller #4 [got 0 values in 0.000002 sec, idle 5 sec
                                                     └─1365 /usr/sbin/zabbix_server: poller #5 [got 0 values in 0.000001 sec, idle 5 sec
                                                       └─1366 /usr/sbin/zabbix_server: unreachable poller #1 [got 0 values in 0.000002 sec, idle
                                                         └─1367 /usr/sbin/zabbix_server: trapper #1 [processed data in 0.000000 sec, waiting for c
                                                           └─1371 /usr/sbin/zabbix_server: trapper #2 [processed data in 0.131941 sec, waiting for c
                                                            └─1372 /usr/sbin/zabbix_server: trapper #3 [processed data in 0.000000 sec, waiting for c
                                                             └─1373 /usr/sbin/zabbix_server: trapper #4 [processed data in 0.000000 sec, waiting for c
lines 1-36
CTRL DERECHA
```

Vamos a configurar Zabbix-Frontend. Simplemente tenemos que descomentar la línea del timezone y poner Europe/Madrid. Como usamos PHP 7, se modifica ese módulo.

```
# vi /etc/apache2/conf-enabled/zabbix.conf
```



```
Ubuntu Server - Zabbix (Zabbix Ubuntu Ok) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
# Define /zabbix alias, this is the default
<IfModule mod_alias.c>
    Alias /zabbix /usr/share/zabbix
</IfModule>


<Directory "/usr/share/zabbix">
    Options FollowSymLinks
    AllowOverride None
    Order allow,deny
    Allow from all

    <IfModule mod_php5.c>
        php_value max_execution_time 300
        php_value memory_limit 128M
        php_value post_max_size 16M
        php_value upload_max_filesize 2M
        php_value max_input_time 300
        php_value always_populate_raw_post_data -1
        # php_value date.timezone Europe/Riga
    </IfModule>
    <IfModule mod_php7.c>
        php_value max_execution_time 300
        php_value memory_limit 128M
        php_value post_max_size 16M
        php_value upload_max_filesize 2M
        php_value max_input_time 300
        php_value always_populate_raw_post_data -1
        php_value date.timezone Europe/Madrid
    </IfModule>
</Directory>


<Directory "/usr/share/zabbix/conf">
    Order deny,allow
    Deny from all
    <files *.php>
        Order deny,allow
</Directory>

"/etc/apache2/conf-enabled/zabbix.conf" 66L, 1587C 1,1 Comien
```

```
192.168.57.102/zabbix
```



Check of pre-requisites



Check of pre-requisites

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

	CURRENT VALUE	REQUIRED
PHP version	5.4.20	5.4.0 OK
PHP option memory_limit	128M	128M OK
PHP option post_max_size	32M	16M OK
PHP option upload_max_filesize	16M	2M OK
PHP option max_execution_time	600	300 OK
PHP option max_input_time	600	300 OK
PHP time zone	Europe/Riga	OK
PHP databases support	MySQL	OK
PHP bcmath	on	OK

[Back](#)
[Next step](#)

ZABBIX

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Zabbix server details

Please enter the host name or host IP address and port number of the Zabbix server, as well as the name of the installation (optional).

Host

localhost

Port

10051

Name

Back

Next step

A screenshot of the Zabbix installation progress screen. The top left features the ZABBIX logo in a red box. Below it is a vertical blue progress bar. To the right of the bar is a list of installation steps: 'Welcome', 'Check of pre-requisites', 'Configure DB connection', 'Zabbix server details', 'Pre-installation summary', and 'Install'. The 'Install' step is highlighted in blue. The main area of the screen displays a large green message: 'Congratulations! You have successfully installed Zabbix frontend.' Below this message, it states: 'Configuration file "/usr/share/zabbix/conf/zabbix.conf.php" created.' At the bottom right, there are two buttons: 'Back' (light blue) and 'Finish' (dark blue).

Una vez configurado, entraremos en la interfaz, con Admin como username y zabbix como pass.

ZABBIX

Username

Password

☒ Remember me for 30 days

Sign in

or [sign in as guest](#)

Una vez dentro, podemos ver que todo está correcto.

ZABBIX

MonitoringInventoryReportsConfigurationAdministration

DashboardProblemsOverviewWebLatest dataTriggersGraphsScreensMapsDiscoveryServices

zabbix

Dashboard

Edit dashboard

All dashboards / Dashboard

Favourite graphs

No graphs added.

Updated: 17:10:27

Favourite screens

No screens added.

Updated: 17:10:27

Favourite maps

No maps added.

Updated: 17:10:27

Host status

Host groupWithout problemsWith problemsTotal

Zabbix servers11

Updated: 17:10:28

Problems

Time	Recovery time	Status	Info	Host	Problem • Severity	Duration	Ack	Actions
16:58:33	17:08:33			Zabbix server	Zabbix server has just been restarted	10m	No	
16:38:33	16:48:33			Zabbix server	Zabbix server has just been restarted	10m	No	

System status

Host groupDisasterHighAverageWarningInformationNot classified

Zabbix servers

Updated: 17:10:28

Por último, vamos a instalar el Agente.

```
# apt-get install zabbix-agent
```

```
# service zabbix-agent start
```

Con el siguiente comando podemos ver si funciona correctamente.

```
# systemctl status zabbix-agent.service
```

```
Ubuntu Server - Zabbix (Zabbix Ubuntu Ok) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
root@ubuntu:~# systemctl status zabbix-agent.service
• zabbix-agent.service - Zabbix Agent
   Loaded: loaded (/lib/systemd/system/zabbix-agent.service; enabled; vendor preset: enabled)
   Active: active (running) since mié 2017-11-29 16:54:09 CET; 20min ago
   Process: 1072 ExecStart=/usr/sbin/zabbix_agentd -c $CONFFILE (code=exited, status=0/SUCCESS)
   Main PID: 1127 (zabbix_agentd)
   Tasks: 6
   Memory: 7.0M
   CPU: 453ms
   CGroup: /system.slice/zabbix-agent.service
           └─1127 /usr/sbin/zabbix_agentd -c /etc/zabbix/zabbix_agentd.conf
             └─1159 /usr/sbin/zabbix_agentd: collector [idle 1 sec]
               └─1160 /usr/sbin/zabbix_agentd: listener #1 [waiting for connection]
                 └─1161 /usr/sbin/zabbix_agentd: listener #2 [waiting for connection]
                   └─1162 /usr/sbin/zabbix_agentd: listener #3 [waiting for connection]
                     └─1163 /usr/sbin/zabbix_agentd: active checks #1 [idle 1 sec]

nov 29 16:54:08 ubuntu systemd[1]: Starting Zabbix Agent...
nov 29 16:54:09 ubuntu systemd[1]: Started Zabbix Agent.
root@ubuntu:~# _
```

Ya está todo listo y funcionando correctamente:



CentOs

En CentOs sólo vamos a instalar el agente.

Primero, vamos a añadir el repositorio:

```
# rpm -ivh http://repo.zabbix.com/zabbix/3.4/rhel/7/x86_64/zabbix-release-3.4-2.el7.noarch.rpm
```

Vamos a instalarlo:

```
# yum install zabbix-agent
```

Hay que configurarlo. Para ello editamos el siguiente archivo:

```
# vi /etc/zabbix/zabbix_agentd.conf
```

Mi configuración es la siguiente:

```
SourceIP=192.168.57.102

Server=192.168.57.102

ServerActive=192.168.57.102

Hostname=zabbix_centos
```

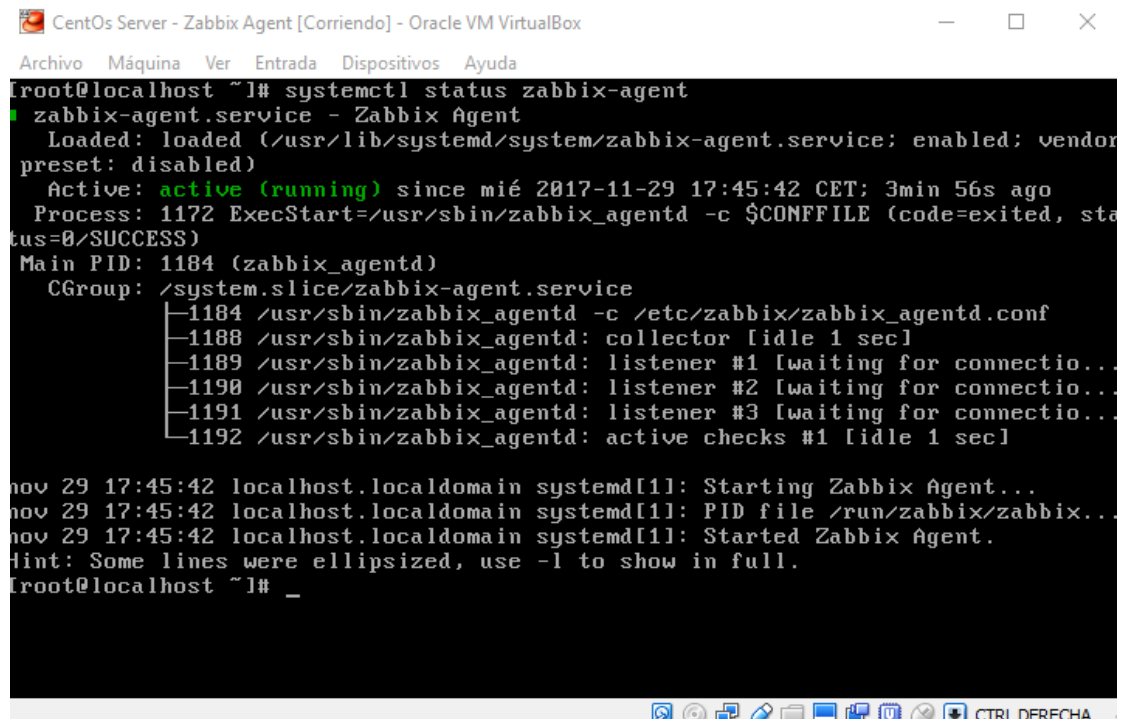
También hay que añadirlo como excepción a SELinux:

```
# setsebool -P httpd_can_network_connect on

# setsebool -P zabbix_can_network on

# service httpd restart
```

Vemos que el agente se inicia sin errores aparentes:



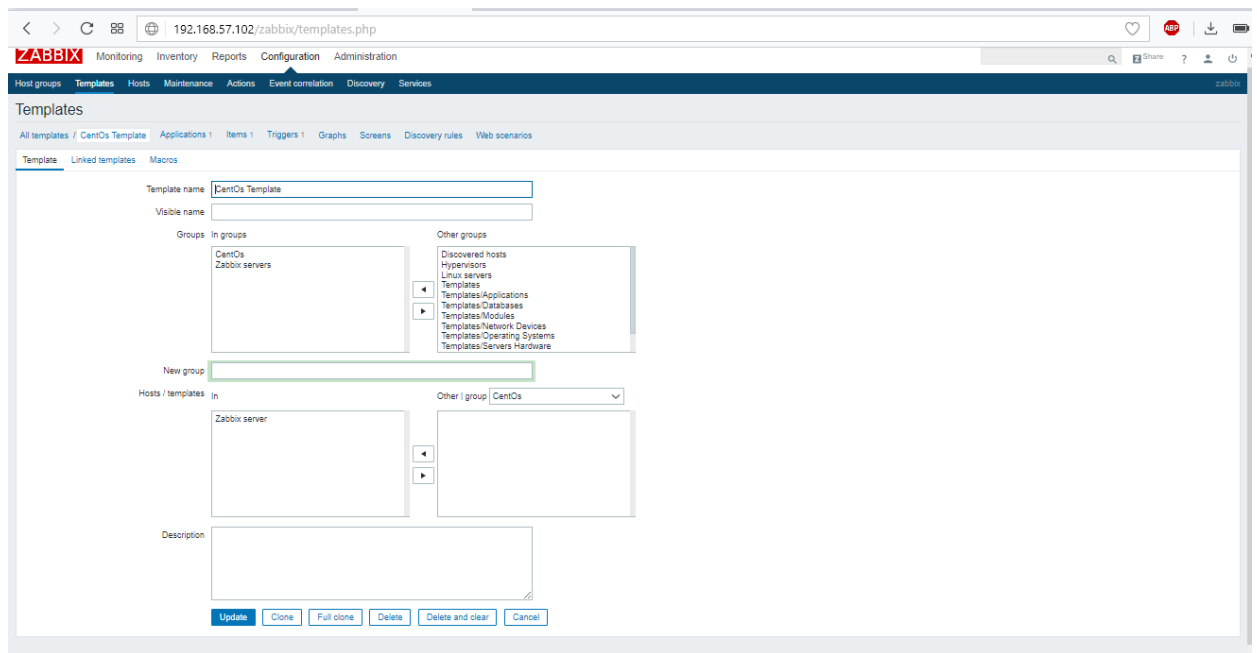
The screenshot shows a terminal window titled "CentOs Server - Zabbix Agent [Corriendo] - Oracle VM VirtualBox". The terminal output is as follows:

```
root@localhost ~]# systemctl status zabbix-agent
zabbix-agent.service - Zabbix Agent
  Loaded: loaded (/usr/lib/systemd/system/zabbix-agent.service; enabled; vendor preset: disabled)
  Active: active (running) since mié 2017-11-29 17:45:42 CET; 3min 56s ago
  Process: 1172 ExecStart=/usr/sbin/zabbix_agentd -c $CONFFILE (code=exited, status=0/SUCCESS)
  Main PID: 1184 (zabbix_agentd)
  CGroup: /system.slice/zabbix-agent.service
          └─1184 /usr/sbin/zabbix_agentd -c /etc/zabbix/zabbix_agentd.conf
            └─1188 /usr/sbin/zabbix_agentd: collector [idle 1 sec]
              └─1189 /usr/sbin/zabbix_agentd: listener #1 [waiting for connection]
                └─1190 /usr/sbin/zabbix_agentd: listener #2 [waiting for connection]
                  └─1191 /usr/sbin/zabbix_agentd: listener #3 [waiting for connection]
                    └─1192 /usr/sbin/zabbix_agentd: active checks #1 [idle 1 sec]

nov 29 17:45:42 localhost.localdomain systemd[1]: Starting Zabbix Agent...
nov 29 17:45:42 localhost.localdomain systemd[1]: PID file /run/zabbix/zabbix...
nov 29 17:45:42 localhost.localdomain systemd[1]: Started Zabbix Agent.
Hint: Some lines were ellipsized, use -l to show in full.
root@localhost ~]# _
```

Sólo queda crear Templates/Items desde la interfaz de zabbix para monitorizar CentOS vía SSH.

Primero clonamos la plantilla "Template App SSH Service". La llamaremos "CentOs SSH Template".



Por último, vamos a modificar el ítem de esta plantilla.

En Key, ponemos el nombre de servicio (no opcional, debe ser único). Después ponemos la IP de CentOS (opcional), el puerto por el cual se comunicará por SSH (por defecto 22) y por último, el encoding (opcional).

En método de autenticación, podemos usar Keys o User y pass. Yo he usado esta última forma.

En "Executed script" escribimos el script para monitorizar CentOS. Como prueba, hemos escrito "ls -la /".

...	Template OS Linux: Number of logged in users	system.users.num	1m	1w	365d	Zabbix agent	OS, Security	Enabled
...	Template OS Linux: Number of processes	Triggers: proc.num[]	1m	1w	365d	Zabbix agent	Processes	Enabled
...	Template OS Linux: Number of running processes	Triggers: proc.num[,run]	1m	1w	365d	Zabbix agent	Processes	Enabled
...	Network interface discovery: Outgoing network traffic on enp0s8	net.if.out[enp0s8]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled
...	Network interface discovery: Outgoing network traffic on enp0s3	net.if.out[enp0s3]	1m	1w	365d	Zabbix agent	Network interfaces	Enabled
...	Template OS Linux: Processor load (1 min average per core)	Triggers: system.cpu.load[percpu,avg1]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled
...	Template OS Linux: Processor load (5 min average per core)	system.cpu.load[percpu,avg5]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled
...	Template OS Linux: Processor load (15 min average per core)	system.cpu.load[percpu,avg15]	1m	1w	365d	Zabbix agent	CPU, Performance	Enabled
...	CentOS Template: SSH service is running	Triggers: net.tcp.service[zabbix_centos,192.168.57.103,22022,ufss]	1m	1w	365d	SSH agent	SSH service	Not Enabled
...	Template OS Linux: System information	Triggers: system.uname	1h	1w		Zabbix agent	General, OS	Invalid first parameter.
...	Template OS Linux: System uptime	Triggers: system.uptime	10m	1w	365d	Zabbix agent	General, OS	Enabled
...	Mounted filesystem discovery: Total disk space on /	vfs.fs.size[/,total]	1h	1w	365d	Zabbix agent	Filesystems	Enabled
...	Template OS Linux: Total memory	vm.memory.size[total]	1h	1w	365d	Zabbix agent	Memory	Enabled
...	Template OS Linux: Total swap space	system.swap.size[,total]	1h	1w	365d	Zabbix agent	Memory	Enabled
...	Mounted filesystem discovery: Used disk space on /	vfs.fs.size[/,used]	1m	1w	365d	Zabbix agent	Filesystems	Enabled

En resumen, hemos instalado Zabbix Server y lo hemos configurado. Además, hemos logrado monitorizar Ubuntu Server desde la interfaz web. Sin embargo, no se ha logrado monitorizar CentOS a través de SSH (aunque el agente funciona), por los errores antes comentados.