

PRÁCTICA 3 LECCIÓN 2

Memoria



17 DE ABRIL DE 2020

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1. Instalación de Zabbix server

La instalación del server la procederemos a realizar en Ubuntu.

Para empezar con la instalación de zabbix nos iremos a su documentación oficial y seguiremos los pasos descritos en la siguiente URL:

- https://www.zabbix.com/documentation/3.4/manual/installation/install_from_packages/debian_ubuntu

Concretamente seguiremos la versión 16.04 (Xenial Xerus) LTS, para ello previamente tendremos que tener instalado los servicios de php, mysql y apache2.

Tras esto, activamos e iniciamos el servicio:

```
$> sudo systemctl enable zabbix-server
```

```
$> sudo systemctl start zabbix-server
```

Una vez hecho esto configuraremos nuestro zabbix:

- <http://192.168.56.169/zabbix/setup.php>

en mi caso y seguiremos la documentación oficial:

- https://www.zabbix.com/documentation/3.4/manual/installation/install#installing_frontend

En nuestro server también instalaremos el agent para poder monitorizarlo también

```
$> sudo apt install zabbix-agent
```

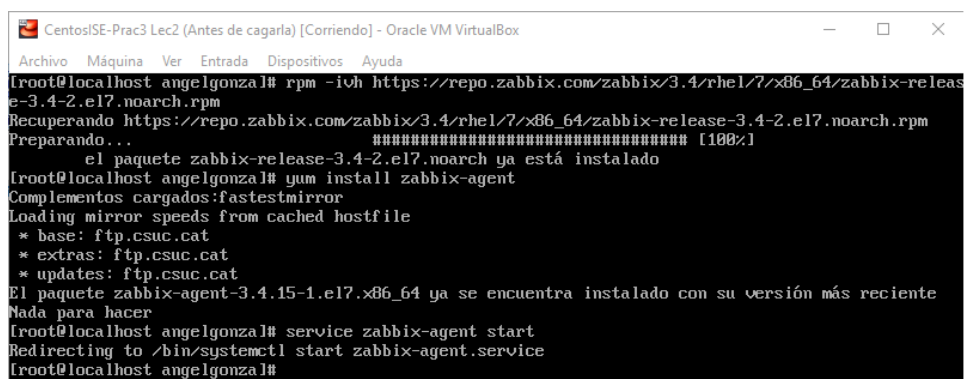
```
$> sudo systemctl enable zabbix-agent
```

```
$> sudo systemctl start zabbix-agent
```

2. Instalación del agent en CentOS

Pasamos a instalar el agent en la máquina CentOS, para ello nos basaremos en la documentación oficial, pero solo nos tendremos que descargar el agent que es lo único que necesitaremos para que se monitorice, en este caso no es necesario que tengo servicios instalados para su correcto funcionamiento.

- https://www.zabbix.com/documentation/3.4/manual/installation/install_from_packages/rhel_centos (RHEL 7)



```
CentOS7SE-Prac3 Lec2 (Antes de cagarla) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
[root@localhost angelgonzal# rpm -ivh https://repo.zabbix.com/zabbix/3.4/rhel/7/x86_64/zabbix-release-3.4-2.el7.noarch.rpm
Recuperando https://repo.zabbix.com/zabbix/3.4/rhel/7/x86_64/zabbix-release-3.4-2.el7.noarch.rpm
Preparando... ##### [100%]
el paquete zabbix-release-3.4-2.el7.noarch ya está instalado
[root@localhost angelgonzal# yum install zabbix-agent
Complementos cargados:fastestmirror
Loading mirror speeds from cached hostfile
* base: ftp.csuc.cat
* extras: ftp.csuc.cat
* updates: ftp.csuc.cat
El paquete zabbix-agent-3.4.15-1.el7.x86_64 ya se encuentra instalado con su versión más reciente
Nada para hacer
[root@localhost angelgonzal# service zabbix-agent start
Redirecting to /bin/systemctl start zabbix-agent.service
[root@localhost angelgonzal#
```

E iniciamos el agent.

También tendremos que añadir la IP del servidor de zabbix(ubuntu) al archivo de configuración:

```
$> nano -w /etc/zabbix/zabbix_agentd.conf
```

```
GNU nano 2.3.1          Fichero: /etc/zabbix/zabbix_agentd.conf
#      Enable logging of executed shell commands as warnings.
#      0 - disabled
#      1 - enabled
#
# Mandatory: no
# Default:
# LogRemoteCommands=0

##### Passive checks related

### Option: Server
#      List of comma delimited IP addresses, optionally in CIDR notation, or hostnames.
#      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'
#      '0.0.0.0/0' can be used to allow any IPv4 address.
#      Example: Server=127.0.0.1,192.168.1.0/24,::1,2001:db8::/32,zabbix.domain
#
# Mandatory: yes, if StartAgents is not explicitly set to 0
# Default:
# Server=192.168.56.169

Server=192.168.56.169_

GNU nano 2.3.1          Fichero: /etc/zabbix/zabbix_agentd.conf
#      Enable logging of executed shell commands as warnings.
#      0 - disabled
#      1 - enabled
#
# Mandatory: no
# Default:
# LogRemoteCommands=0

##### Passive checks related

### Option: Server
#      List of comma delimited IP addresses, optionally in CIDR notation, or hostnames.
#      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'
#      '0.0.0.0/0' can be used to allow any IPv4 address.
#      Example: Server=127.0.0.1,192.168.1.0/24,::1,2001:db8::/32,zabbix.domain
#
# Mandatory: yes, if StartAgents is not explicitly set to 0
# Default:
# Server=192.168.56.169

Server=192.168.56.169_
```

Debemos abrir el puerto que escucha el agente, el cual es el 10050, todo esto tanto en Ubuntu como en CentOS

Ubuntu \$> sudo ufw allow 10050/tcp

CentOS \$> firewall-cmd --zone=public --add-port=10050/tcp --permanent (con esto lo hacemos permanente el puerto)

CentOS \$> firewall-cmd --reload

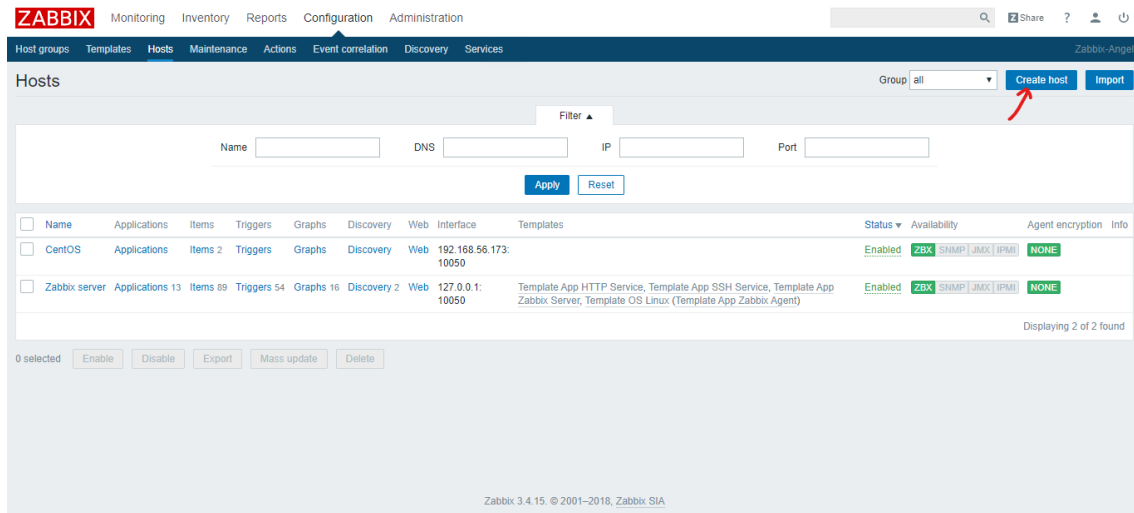
Podemos ver que el puerto con la orden \$> firewall-cmd --list-all

Por último reiniciamos los servicios:

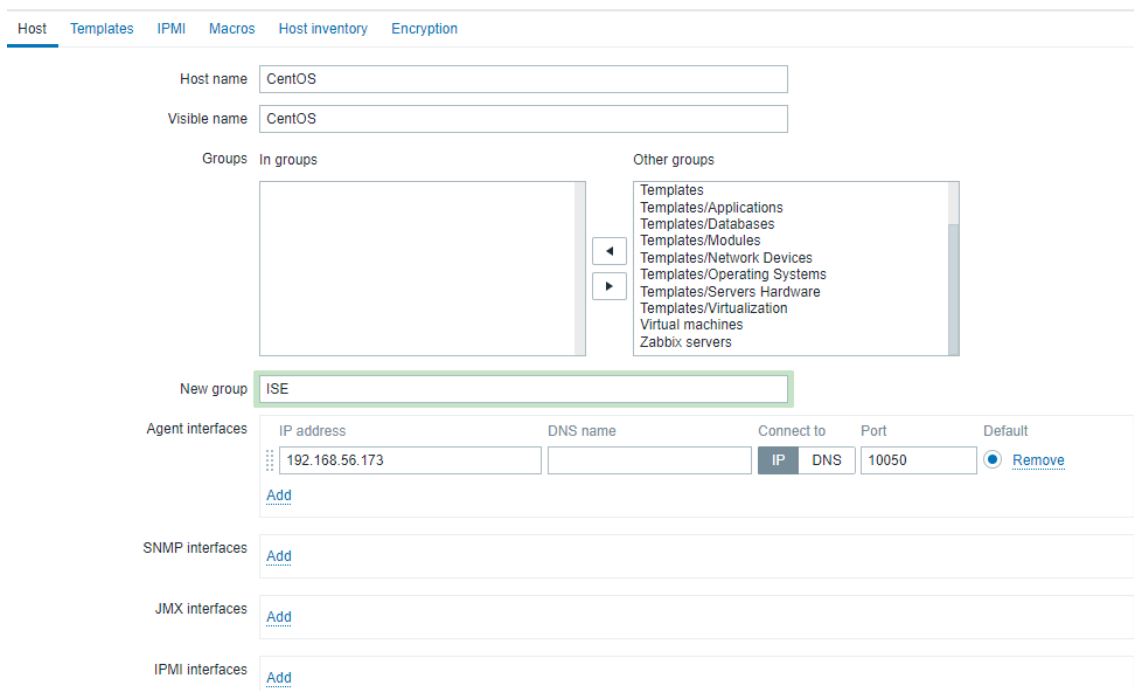
\$> systemctl restart zabbix-agent

3. Añadir CentOS al frontend

Añadimos un nuevo host al frontend:



The screenshot shows the Zabbix web interface. At the top, there's a navigation bar with tabs: Monitoring, Inventory, Reports, Configuration, and Administration. Below this, there's a sub-navigation bar with tabs: Host groups, Templates, Hosts, Maintenance, Actions, Event correlation, Discovery, and Services. The 'Hosts' tab is selected. On the right side of the sub-navigation bar, there's a 'Group' dropdown menu set to 'all', and two buttons: 'Create host' (highlighted with a red arrow) and 'Import'. Below the navigation bar, there's a form to create a new host with fields for Name, DNS, IP, and Port. Below the form, there's a table listing existing hosts. The table has columns: Name, Applications, Items, Triggers, Graphs, Discovery, Web, Interface, Templates, Status, Availability, Agent encryption, and Info. The table shows two hosts: 'CentOS' and 'Zabbix server'. At the bottom of the table, there's a status bar indicating '0 selected' and buttons for 'Enable', 'Disable', 'Export', 'Mass update', and 'Delete'.



The screenshot shows the Zabbix web interface for configuring a new host. The 'Host' tab is selected. The 'Host name' field is set to 'CentOS'. The 'Visible name' field is also set to 'CentOS'. Below these fields, there's a section for 'Groups' with a list of 'In groups' and 'Other groups'. The 'New group' field is set to 'ISE'. Below the 'Groups' section, there's a section for 'Agent interfaces' with a table showing the IP address '192.168.56.173', the DNS name, the connection type 'IP', the port '10050', and a 'Default' checkbox. There are also sections for 'SNMP interfaces', 'JMX interfaces', and 'IPMI interfaces', each with an 'Add' button.

Y ya estaría todo correcto.

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates **Hosts** Maintenance Actions Event correlation Discovery Services Zabbix-Angel

Hosts

Group: all [Create host](#) [Import](#)

Filter ▲

Name DNS IP Port

[Apply](#) [Reset](#)

<input type="checkbox"/>	Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status ▼	Availability	Agent encryption	Info
<input type="checkbox"/>	CentOS	Applications	Items 2	Triggers	Graphs	Discovery	Web	192.168.56.173:10050		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	Zabbix server	Applications 11	Items 87	Triggers 52	Graphs 16	Discovery 2	Web	127.0.0.1:10050	Template App Zabbix Server, Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX SNMP JMX IPMI	NONE	

Displaying 2 of 2 found

0 selected [Enable](#) [Disable](#) [Export](#) [Mass update](#) [Delete](#)

Zabbix 3.4.15. © 2001–2018, Zabbix SIA

Pasamos a realizar un prueba para comprobar que detecta fallos:

```
CentosISE-Prac3 Lec2 (Todo sigue bien) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
[root@localhost angelgonza]# systemctl stop zabbix-agent
[root@localhost angelgonza]# _
```

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates **Hosts** Maintenance Actions Event correlation Discovery Services Zabbix-Angel

Hosts

Group: all [Create host](#) [Import](#)

Filter ▲

Name DNS IP Port

[Apply](#) [Reset](#)

<input type="checkbox"/>	Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Templates	Status ▼	Availability	Agent encryption	Info
<input type="checkbox"/>	CentOS	Applications	Items 2	Triggers	Graphs	Discovery	Web	192.168.56.173:10050		Enabled	ZBX SNMP JMX IPMI	NONE	
<input type="checkbox"/>	Zabbix server	Applications 11	Items 87	Triggers 52	Graphs 16	Discovery 2	Web	127.0.0.1:10050	Template App Zabbix Server, Template OS Linux (Template App Zabbix Agent)	Enabled	ZBX SNMP JMX IPMI	NONE	

Displaying 2 of 2 found

0 selected [Enable](#) [Disable](#) [Export](#) [Mass update](#) [Delete](#)

Zabbix 3.4.15. © 2001–2018, Zabbix SIA

Y vemos que ya no esta conectado el agente al servidor

Dashboard

Edit dashboard

All dashboards / Dashboard

Favourite graphs

No graphs added.

Updated: 13:17:27

Favourite screens

No screens added.

Updated: 13:17:27

Favourite maps

No maps added.

Updated: 13:17:27

Host status

Host group	Without problems	With problems	Total
ISE	1		1
Zabbix servers	1		1

Updated: 13:17:27

Problems

Time

Recovery time

Status

Info

Host

Problem • Severity

Duration

Ack

Actions

No data found.

Updated: 13:17:27

System status

Host group	Disaster	High	Average	Warning	Information	Not classified
ISE						
Zabbix servers						

Updated: 13:17:27

0 of 0 problems are shown

Updated: 13:17:27

Web monitoring

Host group

Ok

Failed

Unknown

No data found.

Updated: 13:17:27

Discovery status

Discovery rule

Up

Down

No data found.

Updated: 13:17:27

Status of Zabbix

Parameter	Value	Details
Zabbix server is running	Yes	localhost:10051
Number of hosts (enabled/disabled/templates)	77	2 / 0 / 75
Number of items (enabled/disabled/not supported)	91	85 / 0 / 6
Number of triggers (enabled/disabled [problem/ok])	54	54 / 0 [0 / 54]
Number of users (online)	2	1
Required server performance, new values per second	1.28	

Updated: 13:17:27

4. Monitorización de SSH y HTTP

Para la monitorización de servicio de SSH y HTTP, empezaremos añadiendo ítem al agente para que nos lo monitorice el correcto funcionamiento del mismo.

ZABBIX

MonitoringInventoryReportsConfigurationAdministration

Share ?

Host groupsTemplatesHostsMaintenanceActionsEvent correlationDiscoveryServices

Zabbix-Angel

Items

Create item

All hosts / CentOSEnabledZBXSNMPJMXIPMIApplicationsItems 2TriggersGraphsDiscovery rulesWeb scenarios

Filter

Host group

type here to search

Select

Host

CentOS

Select

Application

Select

Name

Key

Type

all

Update interval

Type of information

all

History

Trends

State

all

Status

all

Triggers

all

Template

all

Apply

Reset

Subfilter affects only filtered data

	Wizard	Name	Triggers	Key	Interval	History	Trends	Type	Applications	Status	Info
<input type="checkbox"/>	***	HTTP		net.tcp.service[http]	30s	90d	365d	Zabbix agent		Enabled	
<input type="checkbox"/>	***	SSH		net.tcp.service[ssh]	30s	90d	365d	Zabbix agent		Enabled	

Displaying 2 of 2 found

0 selected

Enable

Disable

Clear history

Copy

Mass update

Delete

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates **Hosts** Maintenance Actions Event correlation Discovery Services

Items

All hosts / CentOS Enabled **ZBX** SNMP JMX IPMI Applications **Items 2** Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

Name

Type

Key

Host interface

Type of information

Units

Update interval

Custom intervals

Type	Interval	Period	Action
<input checked="" type="checkbox"/> Flexible	<input checked="" type="checkbox"/> Scheduling	<input type="text" value="50s"/>	<input type="text" value="1-7,00:00-24:00"/> <input type="button" value="Remove"/>

[Add](#)

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates **Hosts** Maintenance Actions Event correlation Discovery Services

Items

All hosts / CentOS Enabled **ZBX** SNMP JMX IPMI Applications **Items 2** Triggers Graphs Discovery rules Web scenarios

Item Preprocessing

Name

Type

Key

Host interface

Type of information

Units

Update interval

Custom intervals

Type	Interval	Period	Action
<input checked="" type="checkbox"/> Flexible	<input checked="" type="checkbox"/> Scheduling	<input type="text" value="50s"/>	<input type="text" value="1-7,00:00-24:00"/> <input type="button" value="Remove"/>

[Add](#)

Una vez hecho esto, pasamos a realizar unas pruebas para comprobar el correcto funcionamiento de la monitorización de servicios.

Paramos los servicios:

```
CentosISE-Prac3 Lec2 (Todo sigue bien) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

[root@localhost angelgonzal# systemctl stop sshd
[root@localhost angelgonzal# systemctl stop httpd
[root@localhost angelgonzal# systemctl status sshd
■ sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: inactive (dead) since mar 2020-04-21 11:52:31 CEST; 31s ago
     Docs: man:sshd(8)
           man:ssh_config(5)
   Process: 1174 ExecStart=/usr/sbin/sshd -D $OPTIONS (code=exited, status=0/SUCCESS)
  Main PID: 1174 (code=exited, status=0/SUCCESS)

abr 21 11:44:18 localhost.localdomain systemd[1]: Starting OpenSSH server daemon...
abr 21 11:44:19 localhost.localdomain sshd[1174]: Server listening on 0.0.0.0 port 22.
abr 21 11:44:19 localhost.localdomain sshd[1174]: Server listening on :: port 22.
abr 21 11:44:19 localhost.localdomain systemd[1]: Started OpenSSH server daemon.
abr 21 11:52:31 localhost.localdomain systemd[1]: Stopping OpenSSH server daemon...
abr 21 11:52:31 localhost.localdomain systemd[1]: Stopped OpenSSH server daemon.
[root@localhost angelgonzal# systemctl status httpd
■ httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: inactive (dead) since mar 2020-04-21 11:52:36 CEST; 30s ago
     Docs: man:httpd(8)
           man:apachectl(8)
   Process: 1631 ExecStop=/bin/kill -WINCH ${MAINPID} (code=exited, status=0/SUCCESS)
   Process: 1164 ExecStart=/usr/sbin/httpd $OPTIONS -DFOREGROUND (code=exited, status=0/SUCCESS)
  Main PID: 1164 (code=exited, status=0/SUCCESS)
    Status: "Total requests: 0; Current requests/sec: 0; Current traffic: 0 B/sec"

abr 21 11:44:18 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
abr 21 11:44:25 localhost.localdomain httpd[1164]: AH00558: httpd: Could not reliably
abr 21 11:44:26 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
abr 21 11:52:35 localhost.localdomain systemd[1]: Stopping The Apache HTTP Server...
abr 21 11:52:36 localhost.localdomain systemd[1]: Stopped The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
[root@localhost angelgonzal#
```

Y vemos como varían los ítemos del host CentOS:

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web **Latest data** Triggers Graphs Screens Maps Discovery Services

Latest data

Filter ▲

Host groups: Select

Hosts: **CentOS** Select

Application: Select

Show items without data: ☒

Show details: ☐

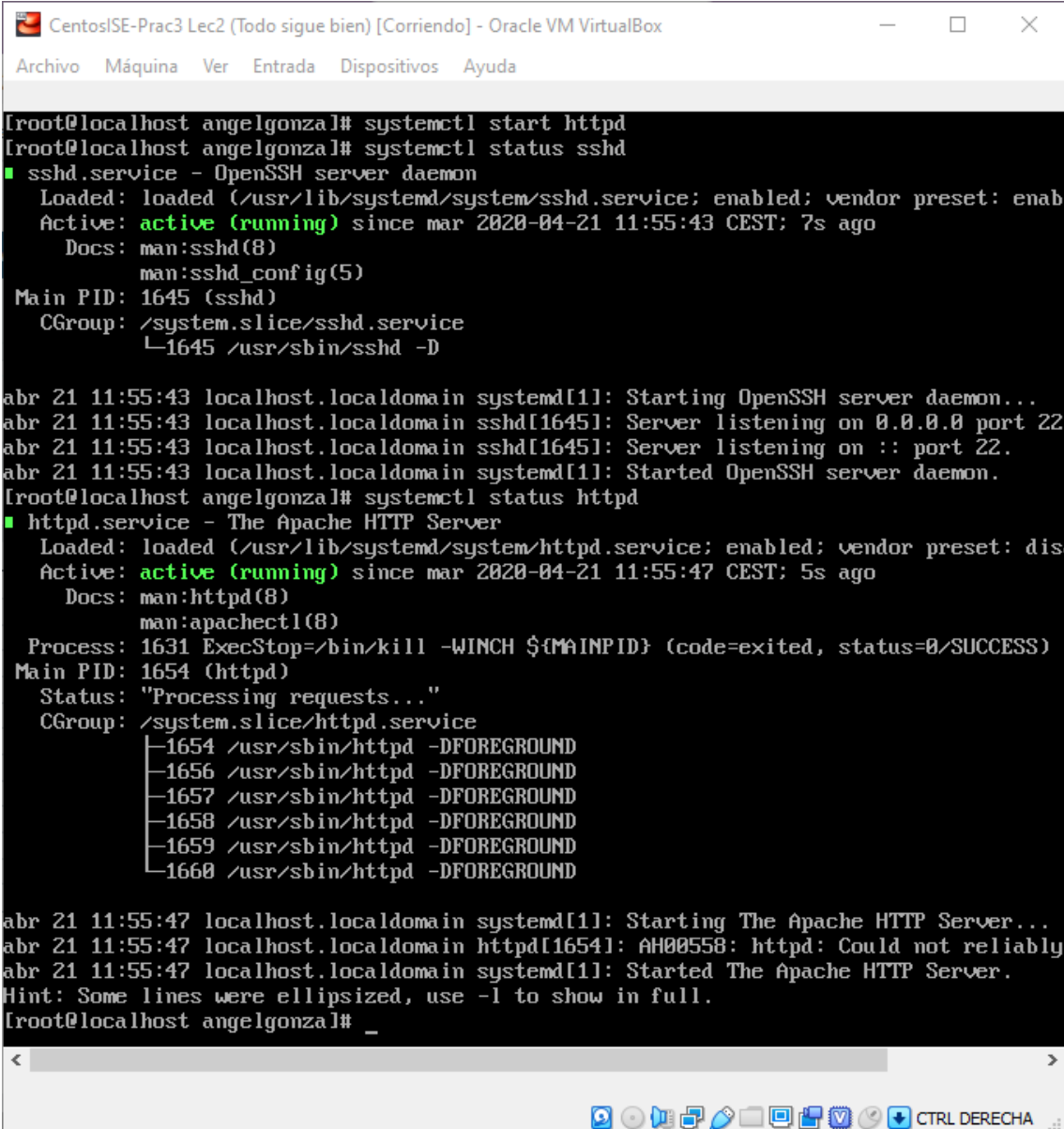
Apply Reset

<input type="checkbox"/> Name ▲	Last check	Last value	Change
- other - (2 items)			
<input type="checkbox"/> HTTP	2020-04-21 11:52:48	0	-1 Graph
<input type="checkbox"/> SSH	2020-04-21 11:52:47	0	-1 Graph

0 selected [Display stacked graph](#) [Display graph](#)

Zabbix 3.4.15. © 2001–2018, Zabbix SIA

Ahora volvemos a activarlos:



```
CentosISE-Prac3 Lec2 (Todo sigue bien) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

[root@localhost angelgonzal# systemctl start httpd
[root@localhost angelgonzal# systemctl status sshd
■ sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since mar 2020-04-21 11:55:43 CEST; 7s ago
     Docs: man:ssh(8)
           man:ssh_config(5)
   Main PID: 1645 (sshd)
    CGroup: /system.slice/ssh.service
            └─1645 /usr/sbin/sshd -D

abr 21 11:55:43 localhost.localdomain systemd[1]: Starting OpenSSH server daemon...
abr 21 11:55:43 localhost.localdomain sshd[1645]: Server listening on 0.0.0.0 port 22
abr 21 11:55:43 localhost.localdomain sshd[1645]: Server listening on :: port 22.
abr 21 11:55:43 localhost.localdomain systemd[1]: Started OpenSSH server daemon.
[root@localhost angelgonzal# systemctl status httpd
■ httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since mar 2020-04-21 11:55:47 CEST; 5s ago
     Docs: man:httpd(8)
           man:apachectl(8)
  Process: 1631 ExecStop=/bin/kill -WINCH ${MAINPID} (code=exited, status=0/SUCCESS)
   Main PID: 1654 (httpd)
    Status: "Processing requests..."
    CGroup: /system.slice/httpd.service
            └─1654 /usr/sbin/httpd -DFOREGROUND
              └─1656 /usr/sbin/httpd -DFOREGROUND
                └─1657 /usr/sbin/httpd -DFOREGROUND
                  └─1658 /usr/sbin/httpd -DFOREGROUND
                    └─1659 /usr/sbin/httpd -DFOREGROUND
                      └─1660 /usr/sbin/httpd -DFOREGROUND

abr 21 11:55:47 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
abr 21 11:55:47 localhost.localdomain httpd[1654]: AH00558: httpd: Could not reliably
abr 21 11:55:47 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
[root@localhost angelgonzal# _
```

Y ahora vemos cómo han variado las gráficas de nuestros Item:

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web **Latest data** Triggers Graphs Screens Maps Discovery Services Zabbix-Angel

Latest data

Filter ▲

Host groups Select Name

Hosts **CentOS** Select Show items without data ☒

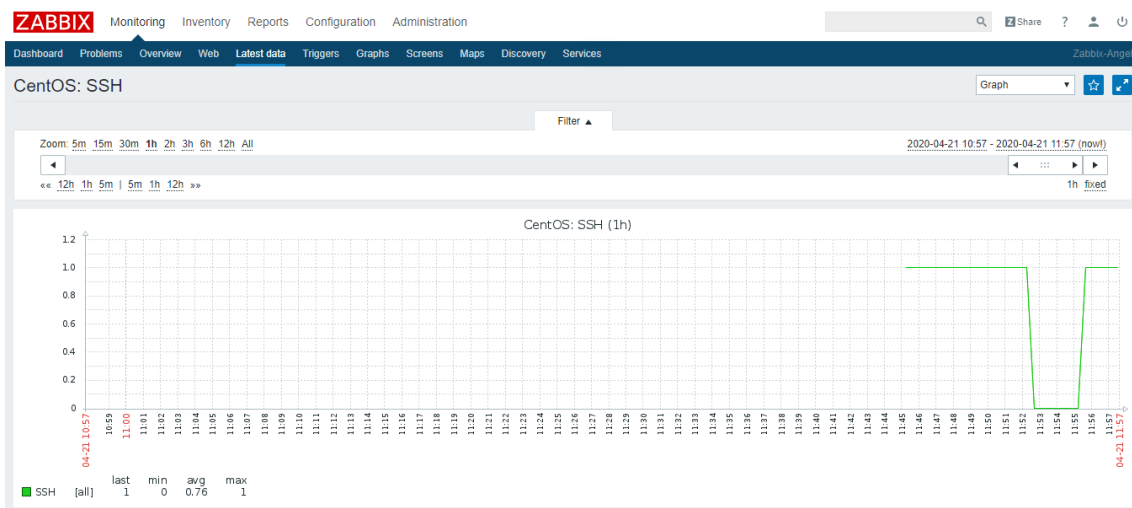
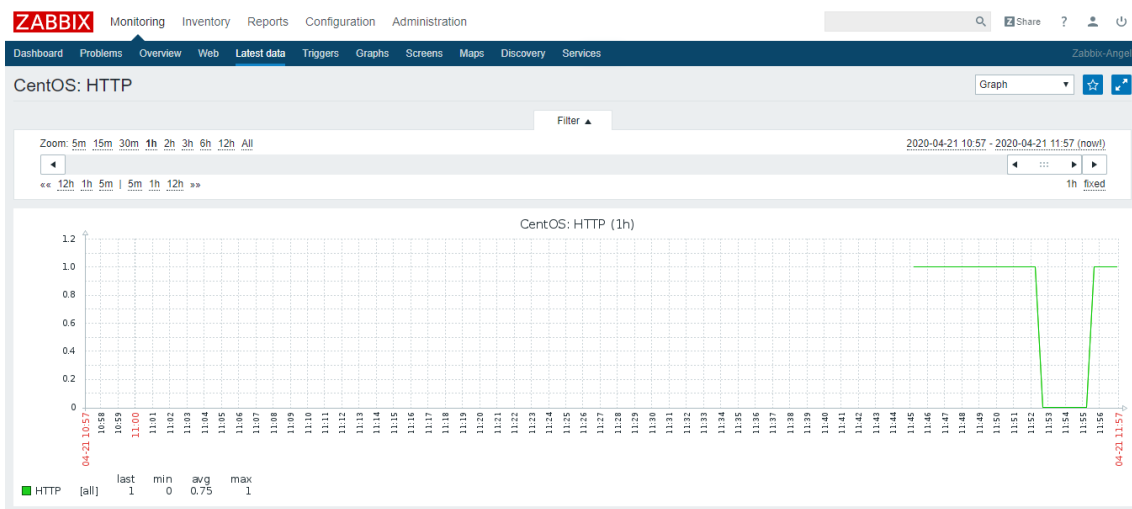
Application Select Show details ☐

Apply Reset

<input type="checkbox"/> Name ▲	Last check	Last value	Change
- other - (2 items)			
<input type="checkbox"/> HTTP	2020-04-21 11:56:18	1	Graph
<input type="checkbox"/> SSH	2020-04-21 11:56:17	1	Graph

0 selected [Display stacked graph](#) [Display graph](#)

Zabbix 3.4.15. © 2001–2018, Zabbix SIA



La monitorización con el agente en CentOS funciona con éxito.

Dashboard

Edit dashboard

All dashboards / Dashboard

Favourite graphs

No graphs added.

Updated: 11:59:09

Favourite screens

No screens added.

Updated: 11:59:09

Favourite maps

No maps added.

Updated: 11:59:09

Host status

Host group

Without problems

With problems

Total

ISE

1

1

Zabbix servers

1

1

Problems

Time

Recovery time

Status

Info

Host

Problem • Severity

Duration

Ack

Actions

11:48:33

11:58:33

RESOLVED

Zabbix server

Zabbix server has just been restarted

10m

No

11:42:21

11:45:21

RESOLVED

Zabbix server

Disk I/O is overloaded on Zabbix server

3m

No

11:41:45

11:42:45

RESOLVED

Zabbix server

Zabbix proxy poller processes more than 75% busy

1m

No

11:41:44

11:42:44

RESOLVED

Zabbix server

Zabbix poller processes more than 75% busy

1m

No

System status

Host group

Disaster

High

Average

Warning

Information

Not classified

ISE

Zabbix servers

Updated: 11:59:09