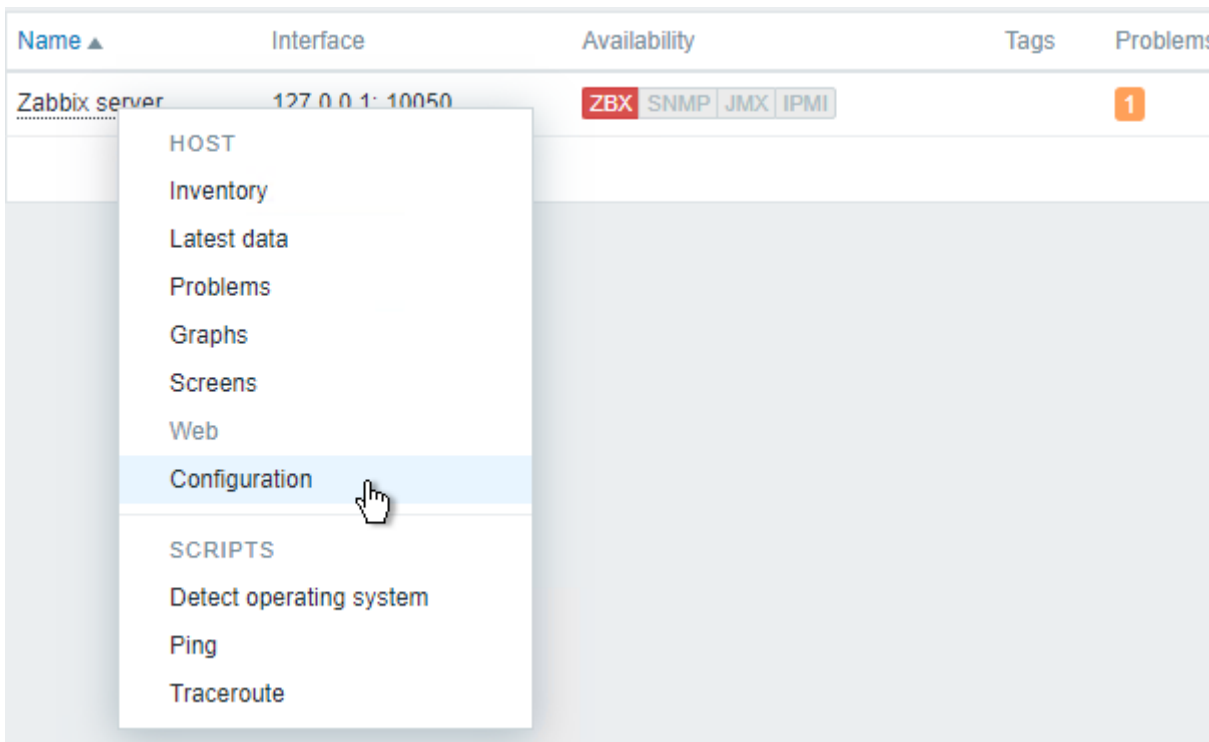


Configure Zabbix Docker

Configure Zabbix Server to point to zabbix-agent container

- Navigate to **Monitoring --> Hosts --> Zabbix Server --> Configuration (Figure 1)**

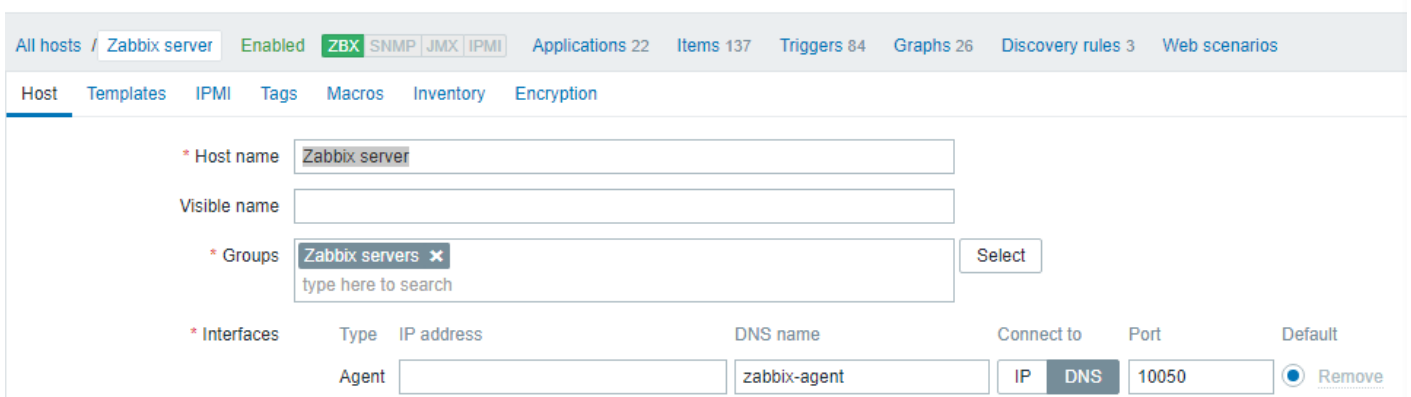
Figure 1



- Clear **127.0.0.1** from IP address field
- Enter **zabbix-agent** in the **DNS name** field
- Set **Connect to** field to **DNS**
- Click the **Update** button (**Figure 2**)

Figure 2

Hosts

A screenshot of the Zabbix Host Configuration page. The breadcrumb trail is 'All hosts / Zabbix server'. The host is 'Zabbix server', status is 'Enabled', and tags are 'ZBX SNMP JMX IPMI'. There are 22 Applications, 137 Items, 84 Triggers, 26 Graphs, 3 Discovery rules, and Web scenarios. The configuration fields are: Host name: 'Zabbix server'; Visible name: empty; Groups: 'Zabbix servers' (with a search box); Interfaces table: Type 'Agent', IP address empty, DNS name 'zabbix-agent', Connect to 'DNS', Port '10050', and a 'Remove' button.

Configure Zabbix Server Timezone

Edit `/opt/zabbix-docker/.env_web` uncomment the following line:

```
#PHP_TZ=Europe/Riga
```

Navigate to <http://php.net/manual/en/timezones.php> locate your local timezone and set `PHP_TZ` to it, for example for American Eastern you would set it to the following:

```
PHP_TZ=America/New_York
```

Configure Zabbix Server Server Name

Edit `/opt/zabbix-docker/.env_web` and set the following line:

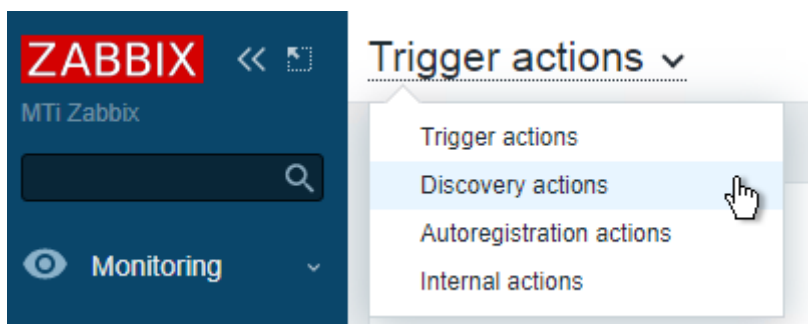
```
ZBX_SERVER_NAME=Composed installation
```

to a server name that you like (Example: `ZBX_*SERVER_*NAME=Widgets, Inc`)

Configure Zabbix Auto Discover

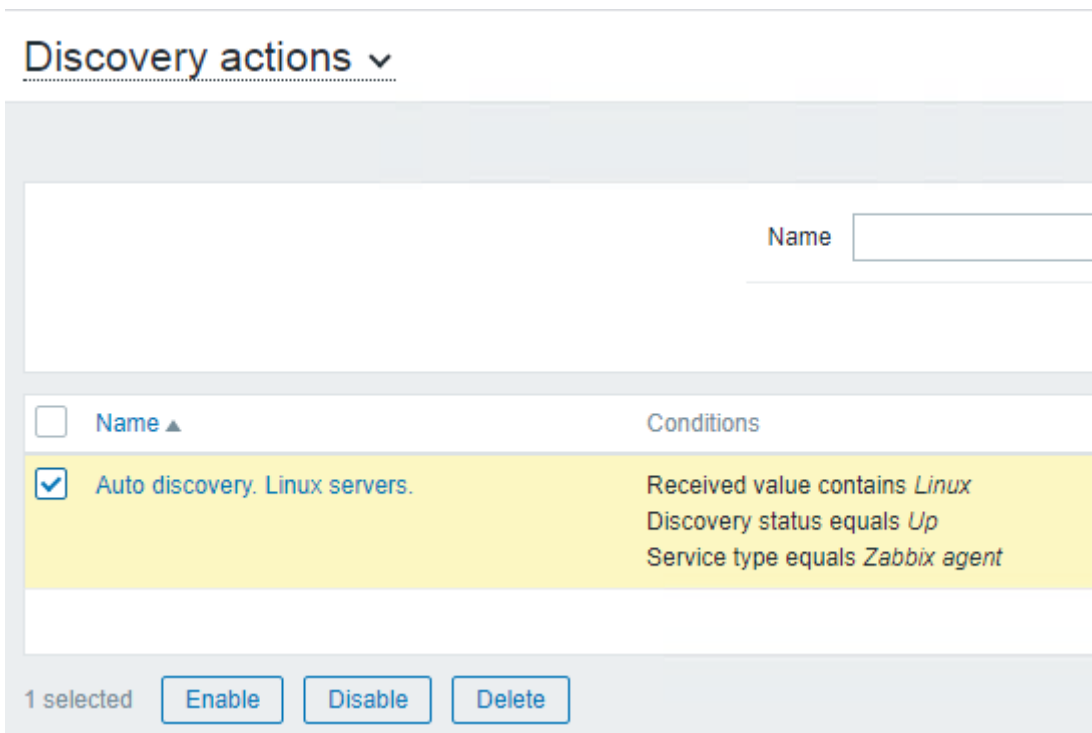
- Navigate to **Configuration --> Actions --> Actions Drop-down --> Discovery actions (Figure 3)**

Figure 3



- Select **Auto discovery. Linux servers** and click **Enable (Figure 4)** to enable Linux hosts auto discovery

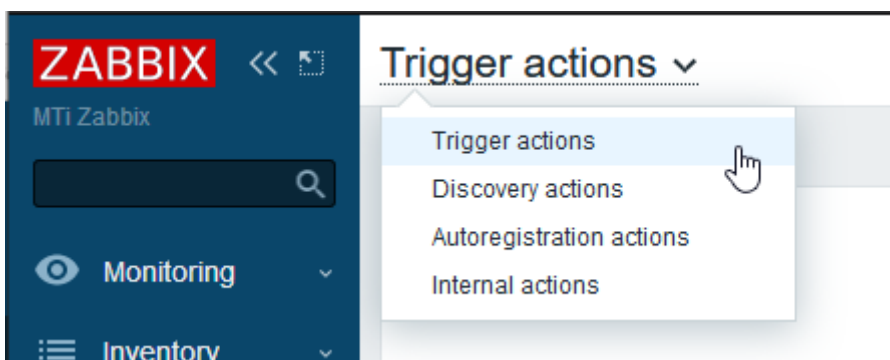
Figure 4



Enable Zabbix Notifications

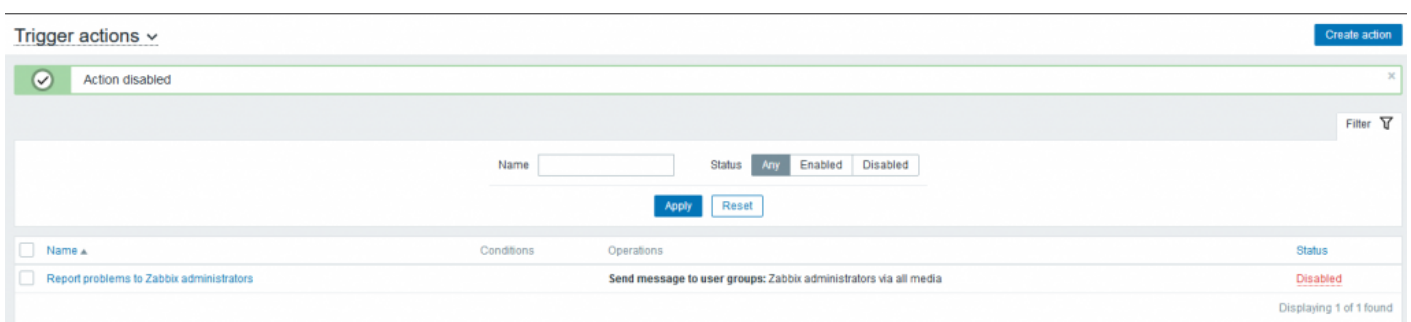
- Navigate to **Configuration --> Actions --> Actions Drop-down --> Trigger actions (Figure 5)**

Figure 5



- Ensure you have already configured notifications under **Administration --> Media types**.
- Click the **Disabled** link under the **Status** column in the **Report problems to Zabbix administrators** item in order to change the status to **Enabled (Figure 6)**.

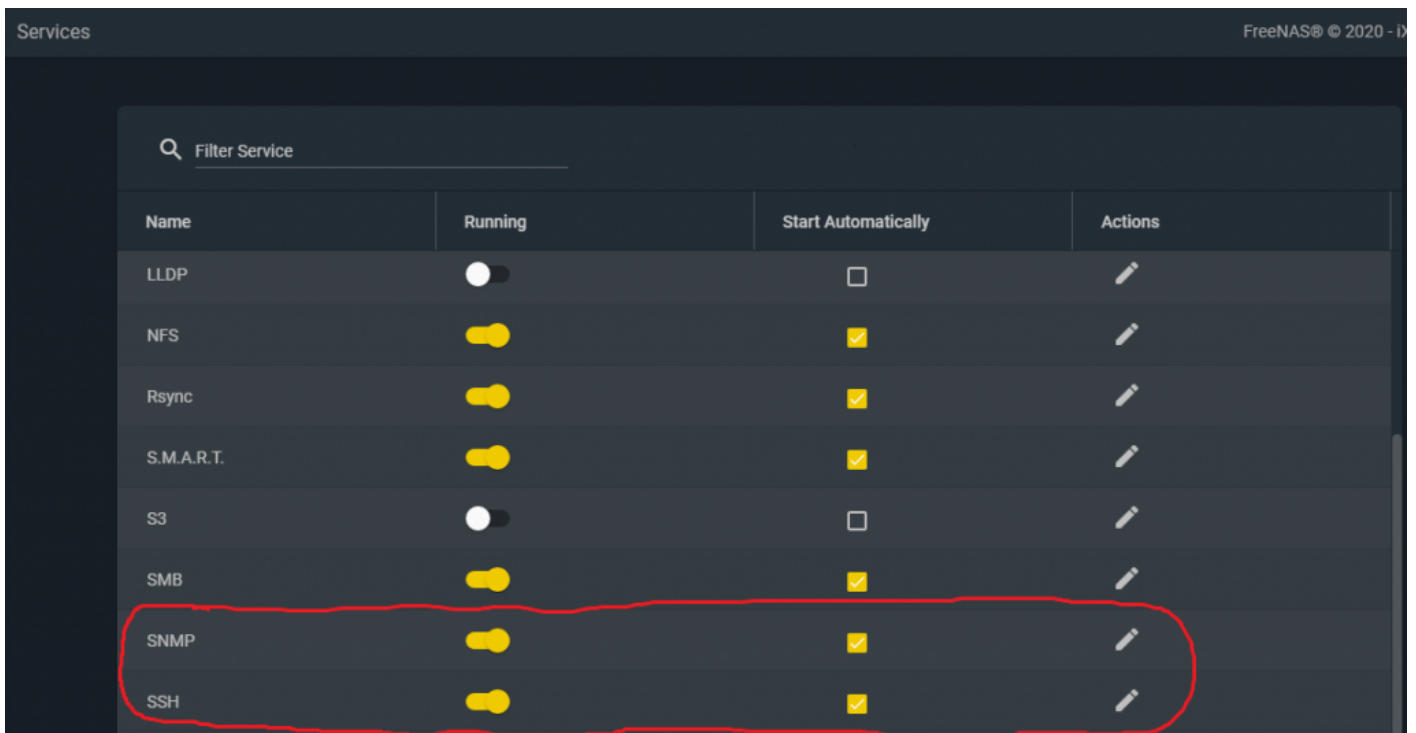
Figure 6



Enable Zabbix FreeNAS Monitoring

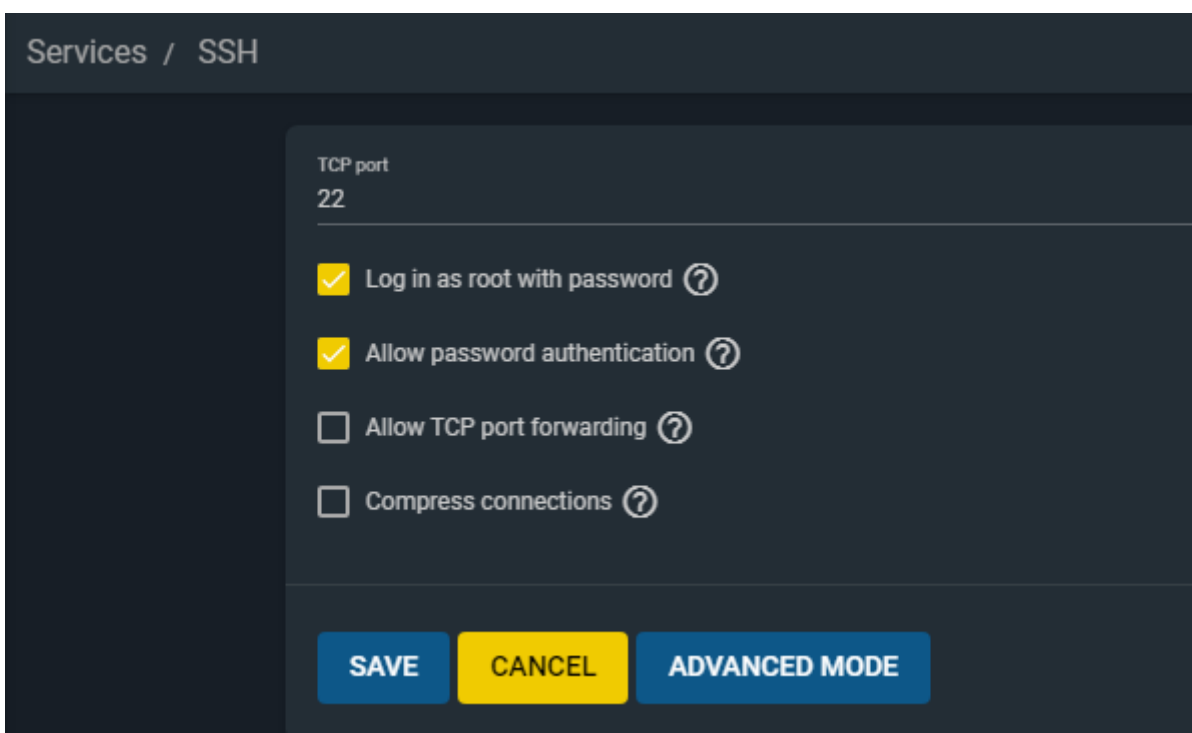
- On FreeNAS server enable **SNMP** by going to **Services --> SNMP** and set it to **Running** and **Start Automatically** and enable **SSH** by going to **Services --> SSH** and set it to **Running** and **Start Automatically** (**Figure 7**).

Figure 7



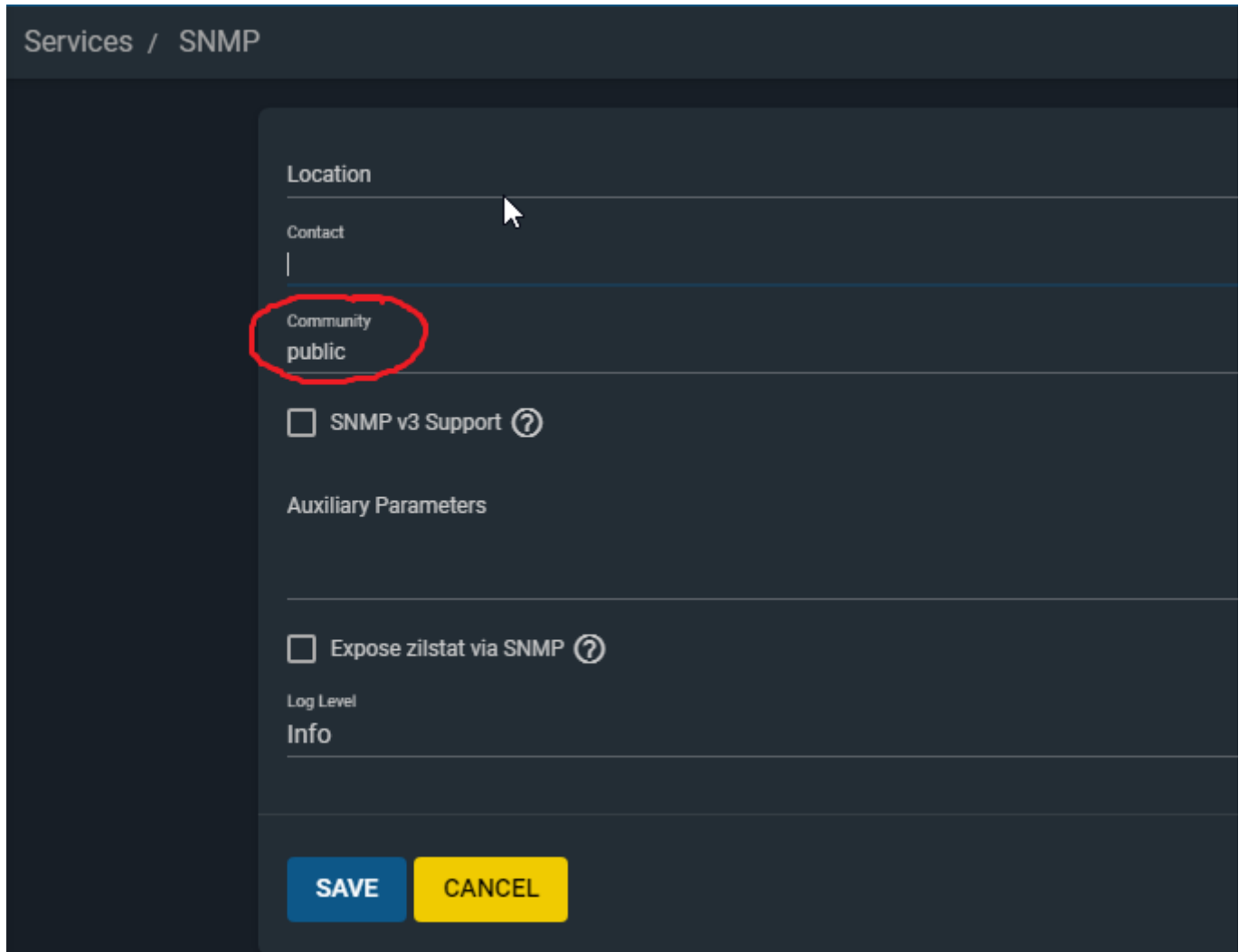
- On FreeNAS server, under **Services**, click on **SSH --> Actions** and ensure **Log in as root with password** and **Allow password authentication** checkboxes are checked and click the **Save** button (**Figure 8**).

Figure 8



- On FreeNAS server, under **Services**, click on **SNMP --> Actions** and note the **Community** string (default is **public**) or change as required and optionally set the **Log Level** to **Info** if you wish to get more information out of FreeNAS and click the **Save** button (**Figure 9**).

Figure 9



- Using WinSCP or scp download the following file from the FreeNAS server:

```
/usr/local/share/snmp/mibs/FREENAS-MIB.txt
```

- Upload the **FREENAS-MIB.txt** file to the Zabbix Docker server in the following directory:

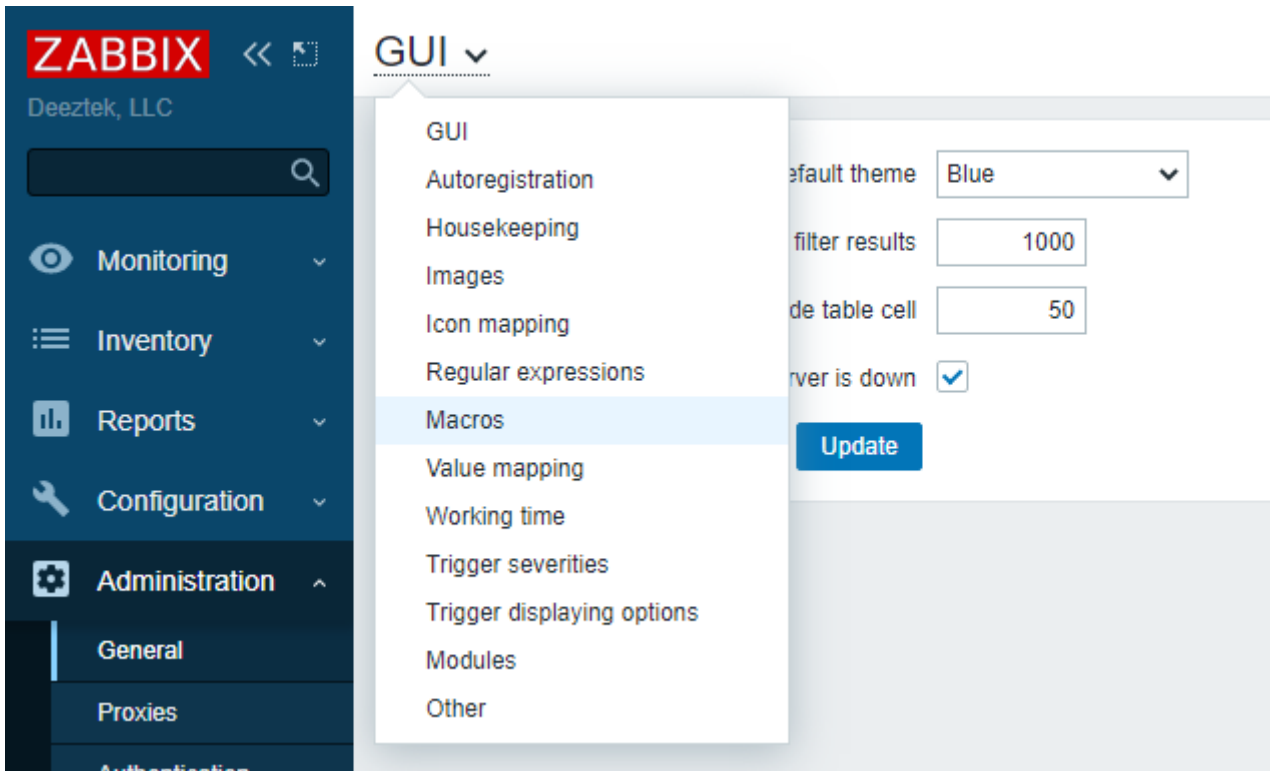
```
/opt/zabbix-docker/zbx_env/var/lib/zabbix/mibs
```

- Restart the Zabbix docker stack:

```
cd /opt/zabbix-docker && docker-compose down
cd /opt/zabbix-docker && docker-compose up -d
```

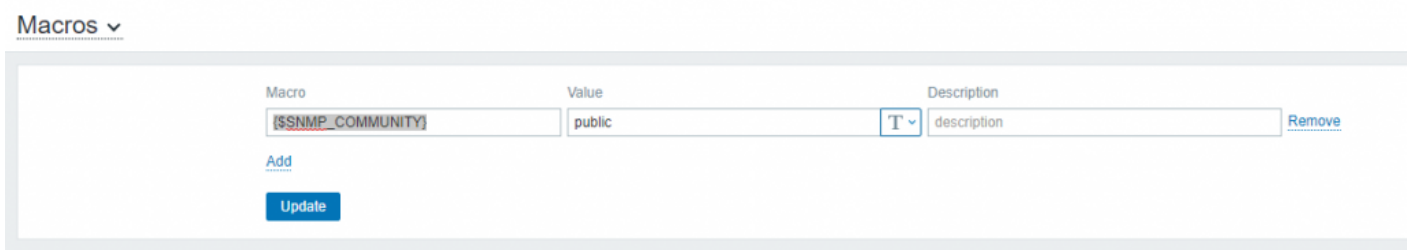
- On the Zabbix server navigate to **Administration --> General --> GUI drop-down --> Macros (Figure 10)**

Figure 10



- Ensure the **Value** field of the **{ \$SNMP_COMMUNITY }** Macro is set to **public** or whatever value you set the FreeNAS Community string from above and click the **Update** button (**Figure 11**).

Figure 11



- Using a web browser download the following templates from Zabbix Share:

SNMP Interfaces discovery

<https://share.zabbix.com/official-templates/snmp-devices/snmp-interfaces-discovery>

SNMP Interfaces discovery

<https://share.zabbix.com/official-templates/snmp-devices/snmp-processors-discovery>

SNMP Generic

<https://share.zabbix.com/official-templates/snmp-devices/snmp-generic>

FreeNAS 11 SNMP

<https://share.zabbix.com/storage-devices/freenas/freenas-11>

- On the Zabbix server navigate to **Configuration --> Templates --> Import** and import each of the templates you downloaded above ensuring the **Rules** are set like below before each import (**Figure 12**):

Figure 12

Import

Rules	Update existing	Create new	Delete missing
Groups		<input checked="" type="checkbox"/>	
Hosts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Templates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Template screens	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Template linkage		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Applications		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Items	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discovery rules	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Triggers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Graphs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Web scenarios	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Screens	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Maps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Images	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Media types	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Value mappings	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

- On the Zabbix server navigate to **Configuration --> Hosts --> Create Host**
- In the **Host** tab, fill out the **Host name**, **groups** and **interfaces** where **192.168.xxx.xxx** is the IP of your FreeNAS host (**Figure 13**)

Figure 13

Hosts

All hosts / hdgfreenas.deeztek.com Enabled ZBX **SNMP** JMX IPMI Applications 8 Items 306 Triggers 64 Graphs 138 Discovery rules 5 Web scenarios

Host Templates IPMI Tags Macros Inventory Encryption

* Host name

Visible name

* Groups
type here to search

* Interfaces	Type	IP address	DNS name	Connect to	Port	Default
Agent		<input type="text" value="192.168.xxx.xxx"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="10050"/>	<input checked="" type="radio"/> <input type="button" value="Remove"/>
SNMP		<input type="text" value="192.168.xxx.xxx"/>	<input type="text"/>	<input type="button" value="IP"/> <input type="button" value="DNS"/>	<input type="text" value="161"/>	<input checked="" type="radio"/> <input type="button" value="Remove"/>

* SNMP version

* SNMP community

Use bulk requests

[Add](#)

Description

Monitored by proxy

Enabled

- In the **Templates** tab, ensure you link the **Template Module ICMP Ping** and the **Template SNMP FREENAS 11** templates and click the **Update** button (**Figure 14**)

Figure 14

Hosts

All hosts / hdgfreenas.deeztek.com Enabled ZBX **SNMP** JMX IPMI Applications 8 Items 306 Triggers 64 Graphs 138 Disc

Host Templates IPMI Tags Macros Inventory Encryption

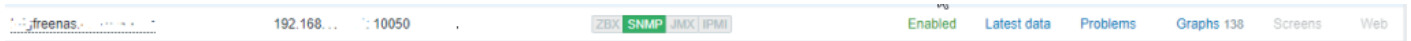
Linked templates

Name	Action
Template Module ICMP Ping	Unlink Unlink and clear
Template SNMP FreeNAS 11	Unlink Unlink and clear

Link new templates

- Wait 10-15 minutes before Zabbix starts pulling data from the FreeNAS server. If successful, **Monitoring --> Hosts** should show the FreeNAS server listed with **SNMP** turned green (**Figure 15**)

Figure 15



Enable Zabbix VMware Monitoring

Original Guide URL:

<https://bestmonitoringtools.com/vmware-monitoring-with-zabbix-esxi-vmware-vm-vsphere/>

- Enable (Remove the # from front of each line) on the following entries in **/opt/zabbix-docker/.env_srv** and save the file:

```
ZBX_STARTVMWARECOLLECTORS=3
ZBX_VMWAREFREQUENCY=60
ZBX_VMWAREPERFFREQUENCY=60
ZBX_VMWARECACHESIZE=128M
ZBX_VMWARETIMEOUT=120
```

Restart the Zabbix docker stack:

```
cd /opt/zabbix-docker && docker-compose down
cd /opt/zabbix-docker && docker-compose up -d
```

- Navigate to **Configuration --> Hosts --> Create Host**
- In the **Host** tab, fill out the **Host name** of your Vcenter/VMware server, and select **groups**. Do not fill out the IP address field, leave it to default **127.0.0.1 (Figure 16)**

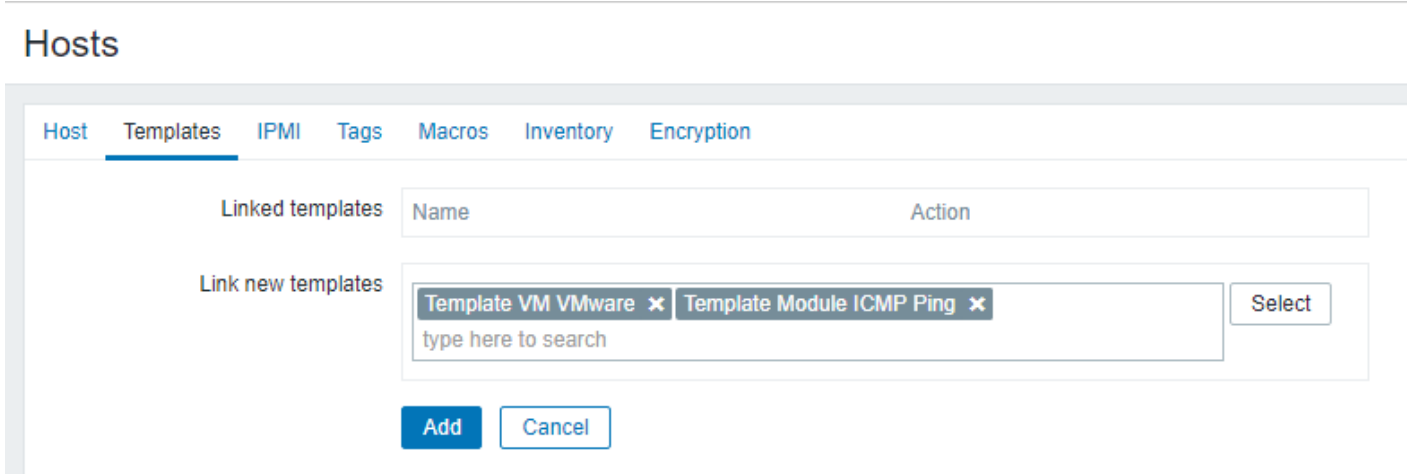
Figure 16

Hosts

A screenshot of the Zabbix 'Create Host' form. The form is titled 'Host' and has tabs for 'Templates', 'IPMI', 'Tags', 'Macros', 'Inventory', and 'Encryption'. The 'Host' tab is active. The form contains several fields: 'Host name' (value: vcenter), 'Visible name' (empty), 'Groups' (value: Hypervisors, with a 'Select' button), 'Interfaces' (a table with columns: Type, IP address, DNS name, Connect to, Port, Default), and 'Description' (a text area). The 'Interfaces' table has one row: Type: Agent, IP address: 127.0.0.1, DNS name: (empty), Connect to: IP, DNS, Port: 10050, Default: (radio button selected). There is an 'Add' button below the 'Interfaces' table and a 'Remove' button next to the 'Default' column. At the bottom, there is a 'Monitored by proxy' dropdown menu with '(no proxy)' selected.

- Click the **Templates** tab and select **Template VM VMware** and **Template Module ICMP Ping** templates (**Figure 17**)

Figure 17



- Click the **Macros** tab and then click **Inherited and host macros** button.
- Click the **Change** link next to each of the following fields and fill out the value of each field with the Password, URL (https://vcenter/sdk) and Username of your Vcenter/VMware server and click the **Add** button (**Figure 18**):

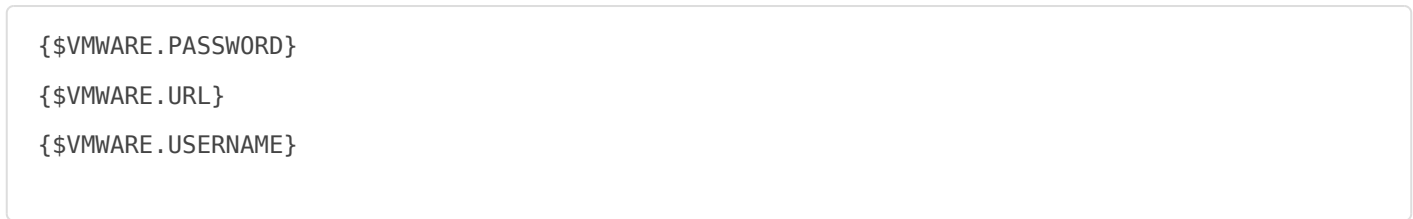
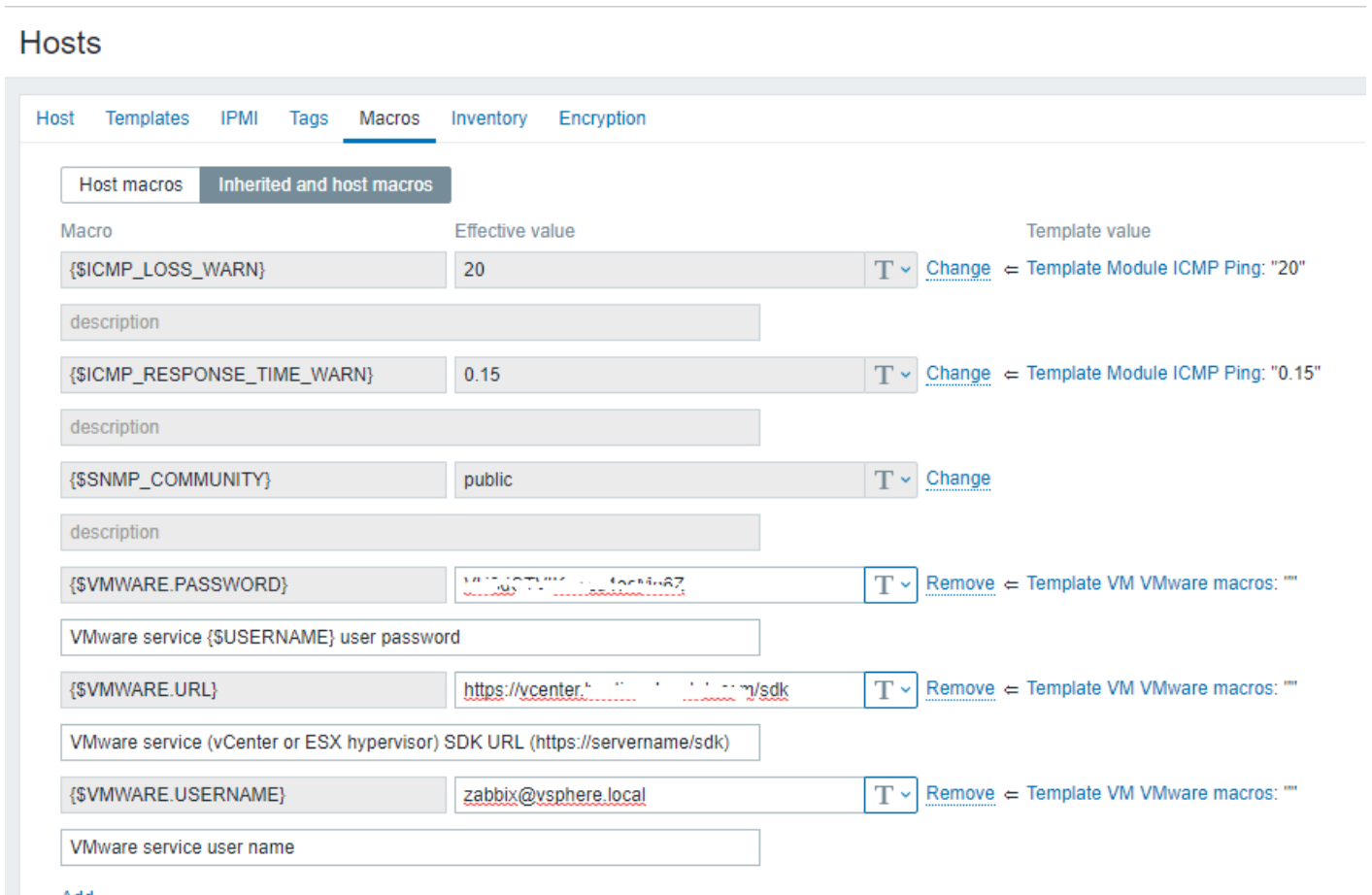
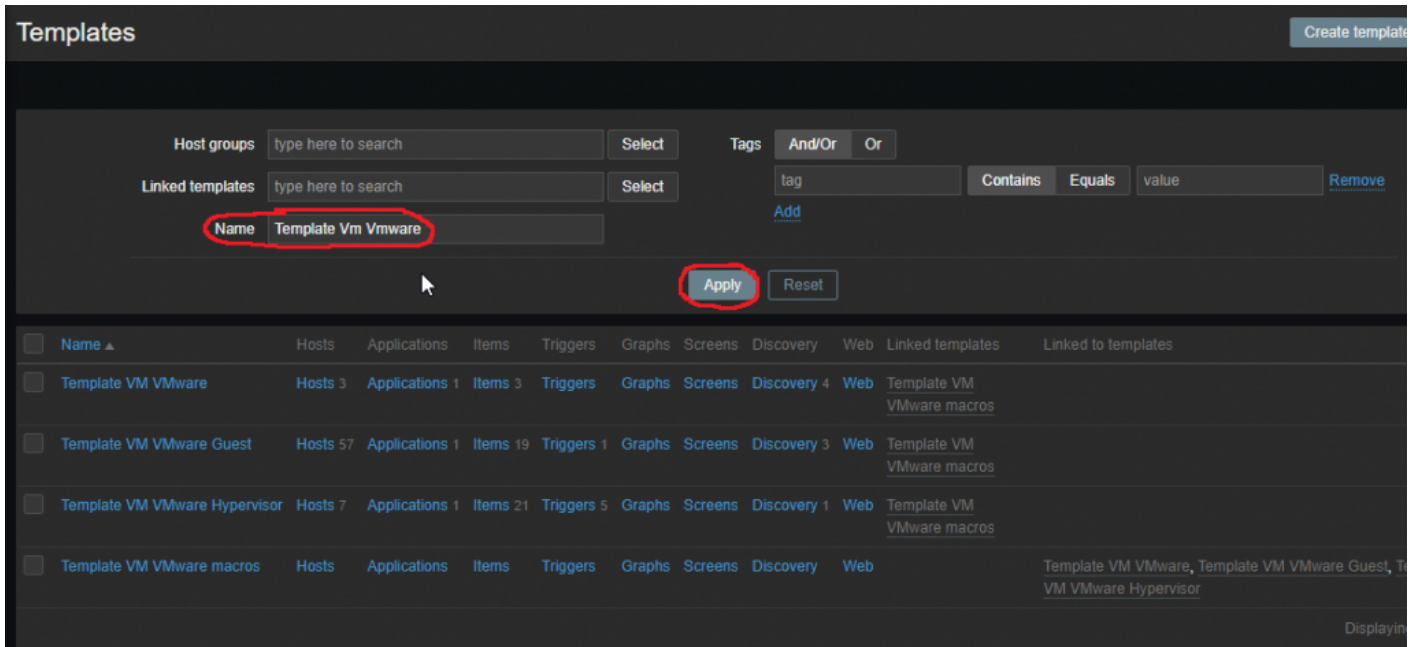


Figure 18



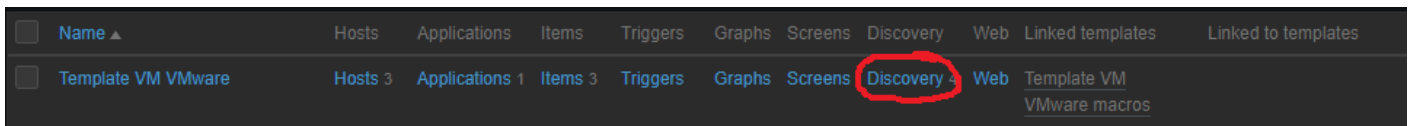
- VMware/Vcenter discovery can take hours to complete.
- Navigate to **Configuration --> Templates**. In the **Name** field enter **Template Vm VMware** and click the **Apply** button to locate the **Template Vm VMware** template (**Figure 19**):

Figure 19



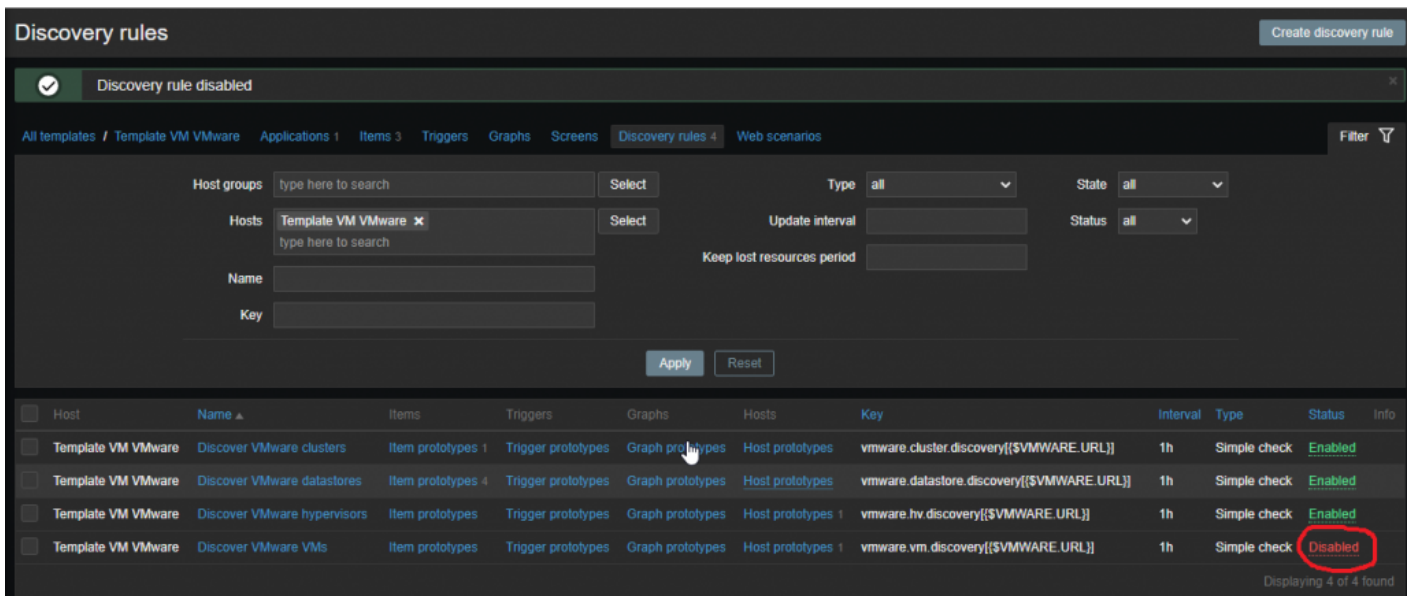
- On the **Template Vm VMware** entry click on the **Discovery** link (**Figure 20**):

Figure 20



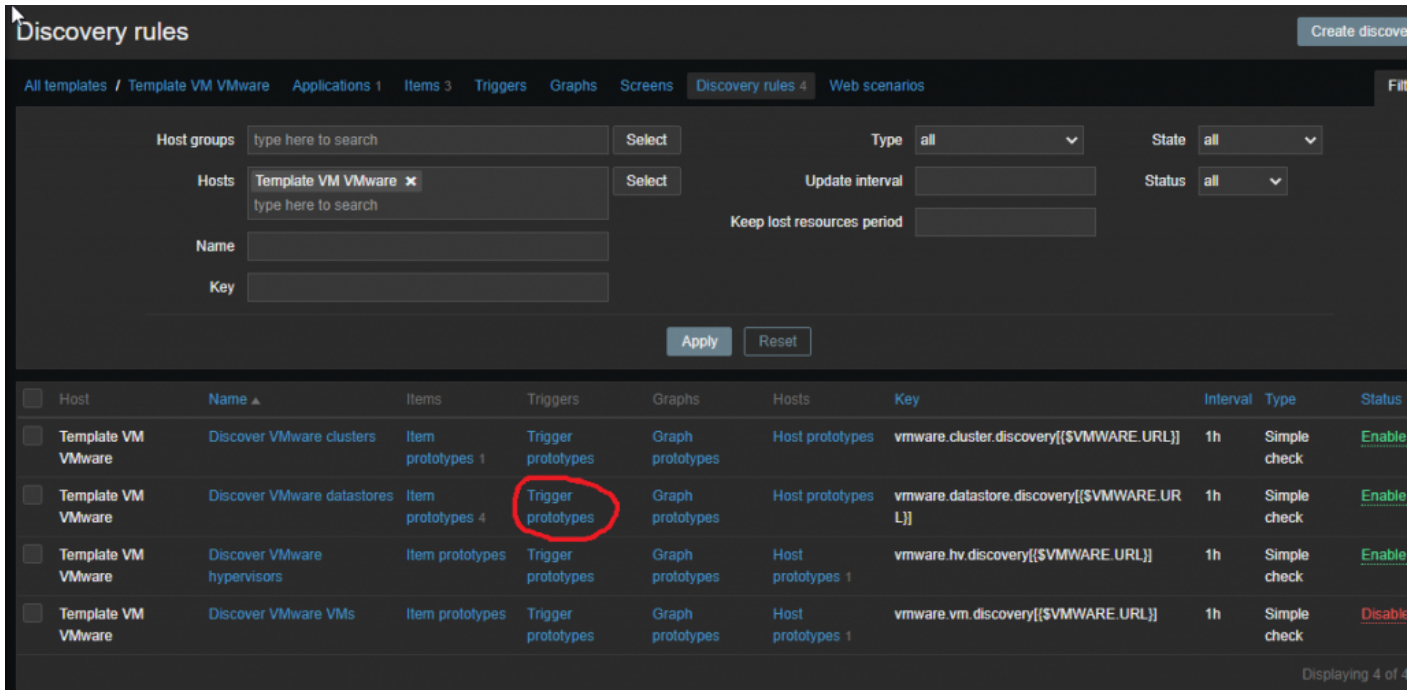
- On the **Discovery rules** screen, click on the **Enabled** link on the **Discover VMware VMs** entry to change the status to **Disabled** (**Figure 21**):

Figure 21



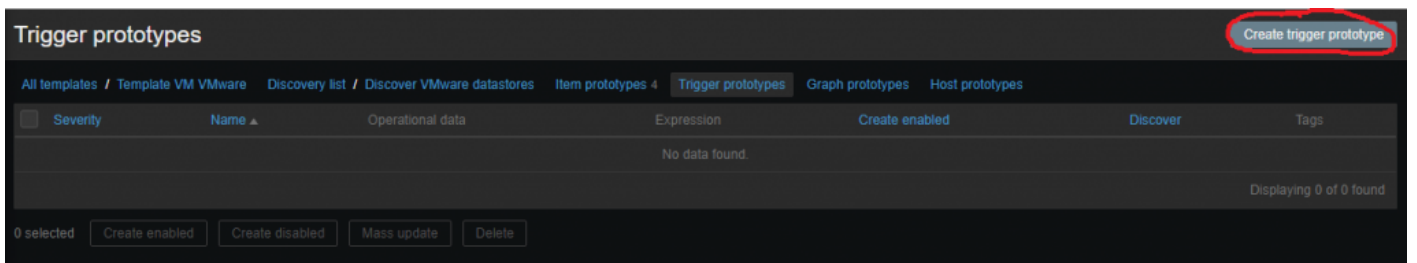
- Next, click on the **Trigger prototypes** on the **Discover VMware datastores** entry (**Figure 22**):

Figure 22



- On the **Trigger prototypes** screen, click the **Create trigger prototype** button (**Figure 23**):

Figure 23



- On the **Trigger prototype** screen, in the **Name** field enter the following:

Free space is less than 5% on datastore "#{#DATASTORE}"

- In the **Severity** field set it to **High**
- In the **Expression** field enter the following:

```
{Template VM VMware:vmware.datastore.size[{$VMWARE.URL},{#DATASTORE},pfree].max(15m)}<5
```

- Click the **Add** button (**Figure 24**):

Figure 24

Trigger prototype Tags Dependencies

* Name

Operational data

Severity

* Expression

[Expression constructor](#)

OK event generation

PROBLEM event generation mode

OK event closes

Allow manual close

URL

Description

Create enabled

Discover

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