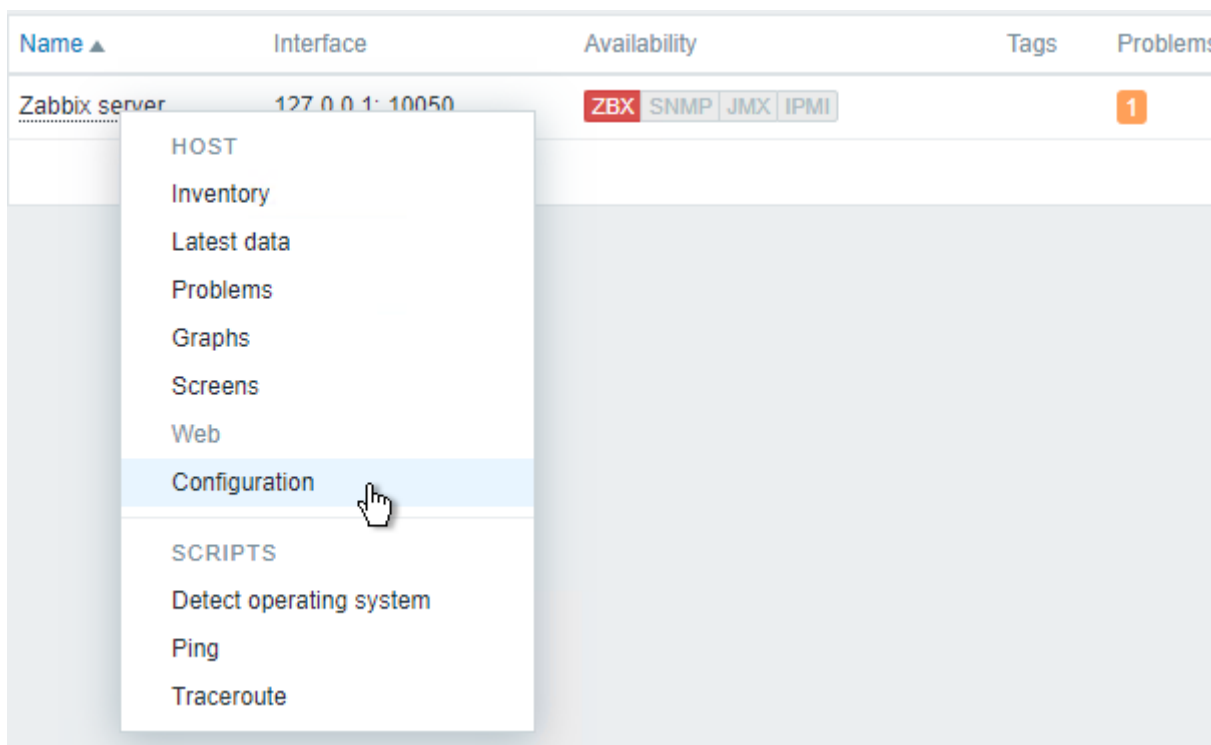


Configure Zabbix Docker

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 top navigation bar shows 'All hosts / Zabbix server' and various status indicators. Below the navigation bar, there are tabs for 'Host', 'Templates', 'IPMI', 'Tags', 'Macros', 'Inventory', and 'Encryption'. The 'Host' tab is active. The form contains the following fields:

- * Host name: Zabbix server
- Visible name: (empty)
- * Groups: Zabbix servers (with a dropdown arrow and a search box)
- * Interfaces: A table with columns: Type, IP address, DNS name, Connect to, Port, and Default.

The 'Interfaces' table has one row for 'Agent' with the following values: IP address is empty, DNS name is 'zabbix-agent', Connect to is 'DNS' (selected), Port is '10050', and Default is 'Remove' (with a radio 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:

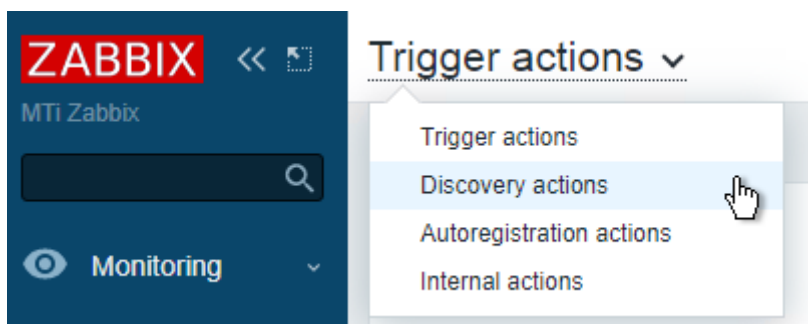
```
ZBX_SERVER_NAME=Composed installation
```

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

Configure Zabbix Auto Discover

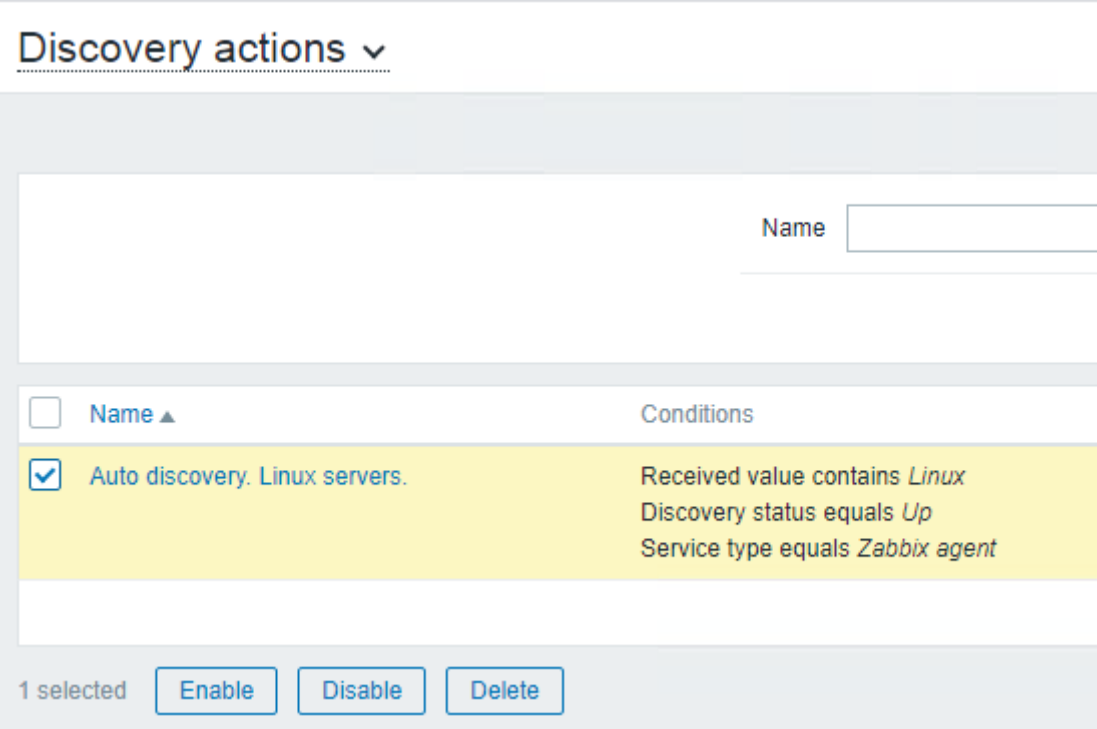
- Navigate to **Configuration --> Actions --> Actions Drop-down --> Discovery actions (Figure 3)**

Figure 3



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

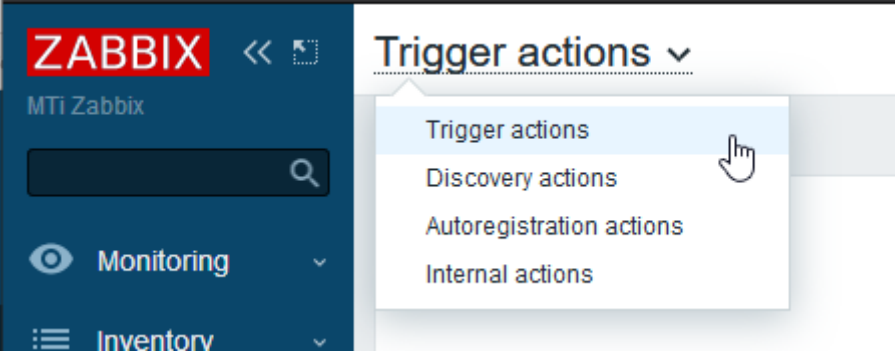
Figure 4



Enable Zabbix Notifications

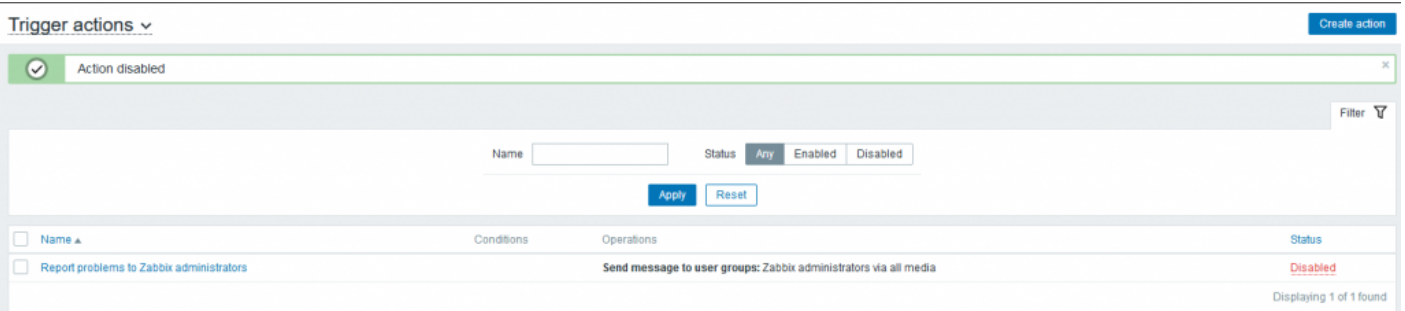
- Navigate to **Configuration --> Actions -->Actions Drop-down --> Trigger actions (Figure 5)**

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)**.

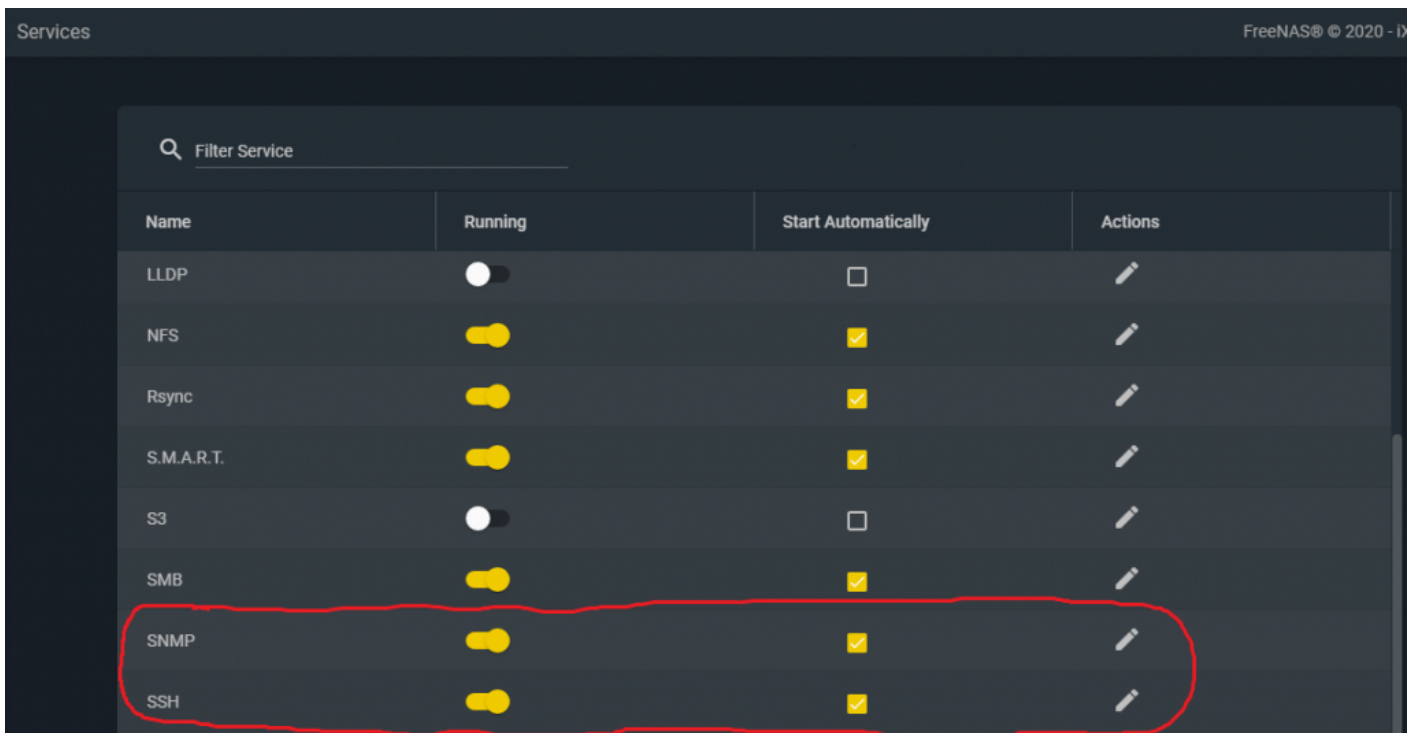
Figure 6



Enable Zabbix FreeNAS Monitoring

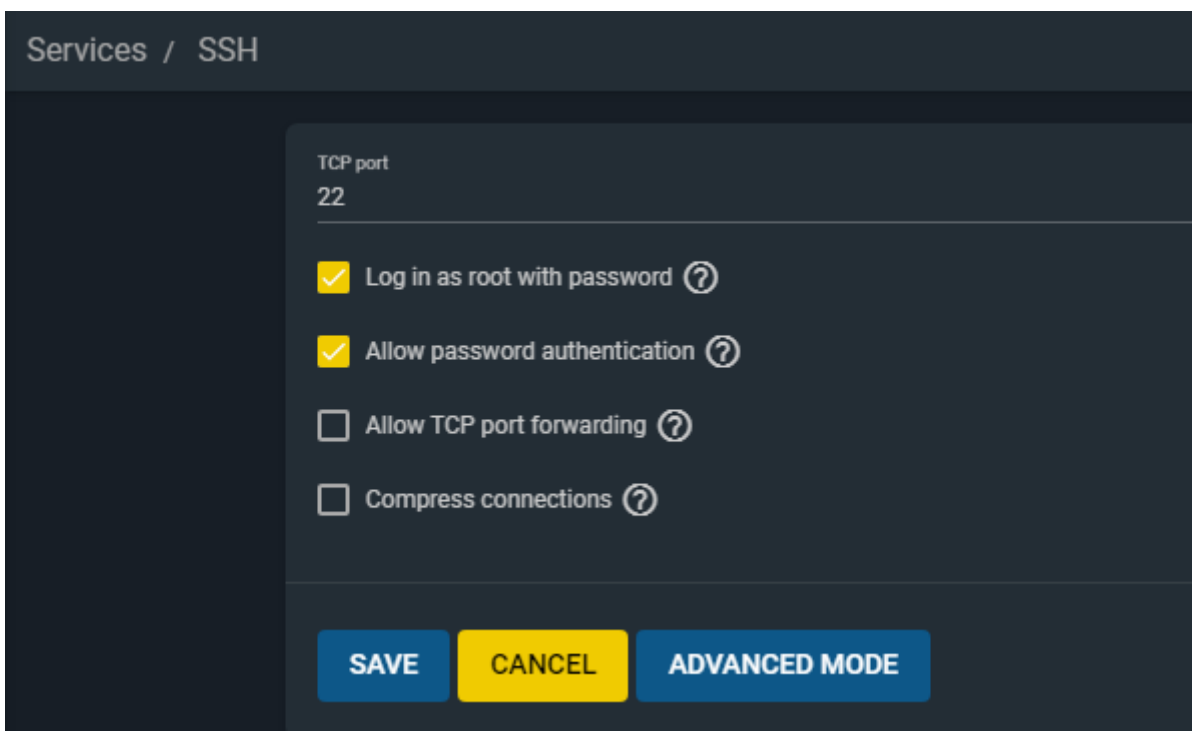
- On FreeNAS server enable **SNMP** by going to **Services --> SNMP** and set it to **Running** and **Start Automatically** and enable **SSH** by going to **Services --> SSH** and set it to **Running** and **Start Automatically** (Figure 7).

Figure 7



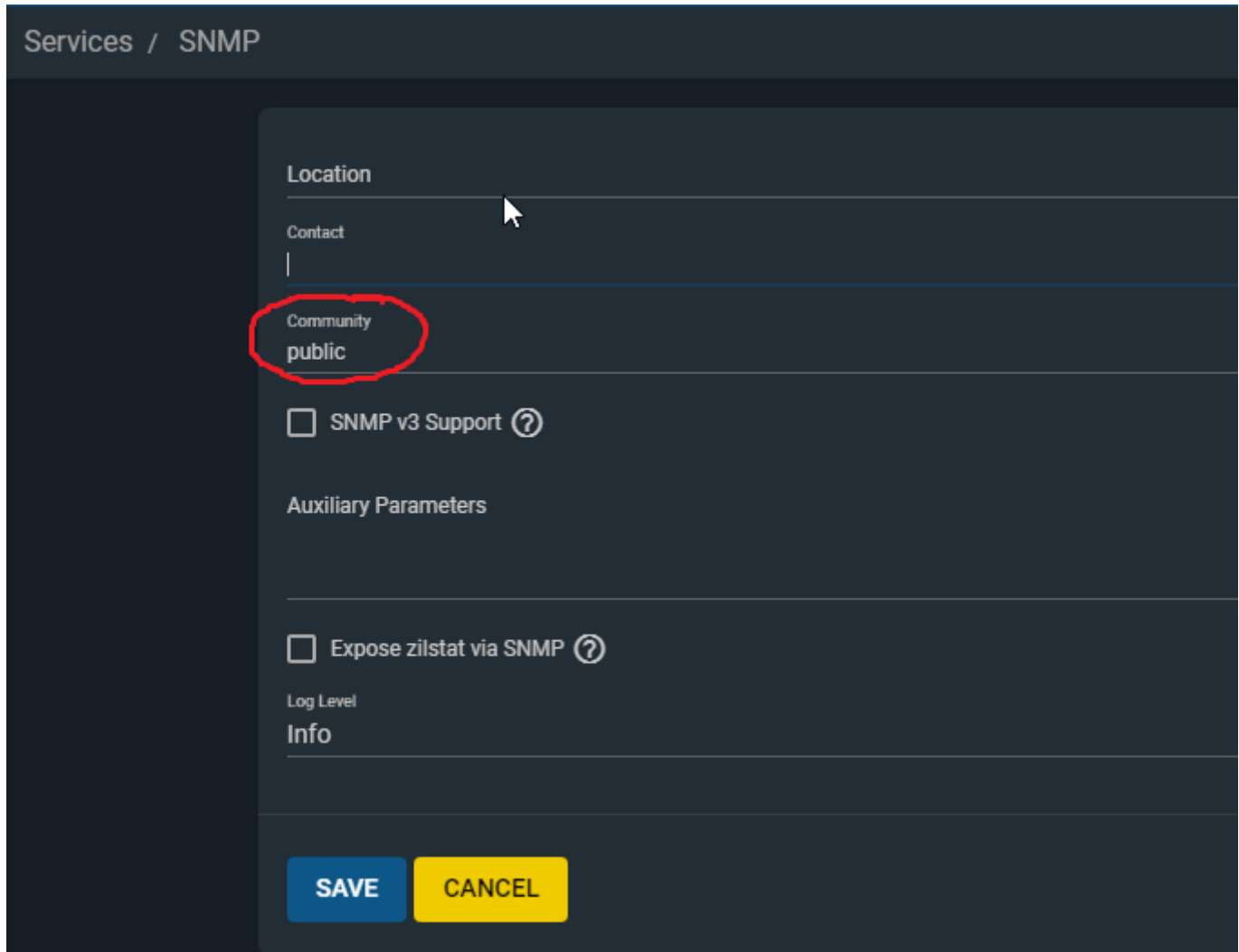
- On FreeNAS server, under **Services**, click on **SSH --> Actions** and ensure **Log in as root with password** and **Allow password authentication** checkboxes are checked and click the **Save** button (Figure 8).

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



The screenshot shows the 'Services / SNMP' configuration interface. The 'Location' field is empty. The 'Contact' field is empty. The 'Community' field is highlighted with a red circle and contains the value 'public'. Below it, there is a checkbox for 'SNMP v3 Support' which is unchecked. Under the 'Auxiliary Parameters' section, there is a checkbox for 'Expose zabbix via SNMP' which is unchecked. The 'Log Level' is set to 'Info'. At the bottom, there are two buttons: 'SAVE' (blue) and 'CANCEL' (yellow).

- 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:

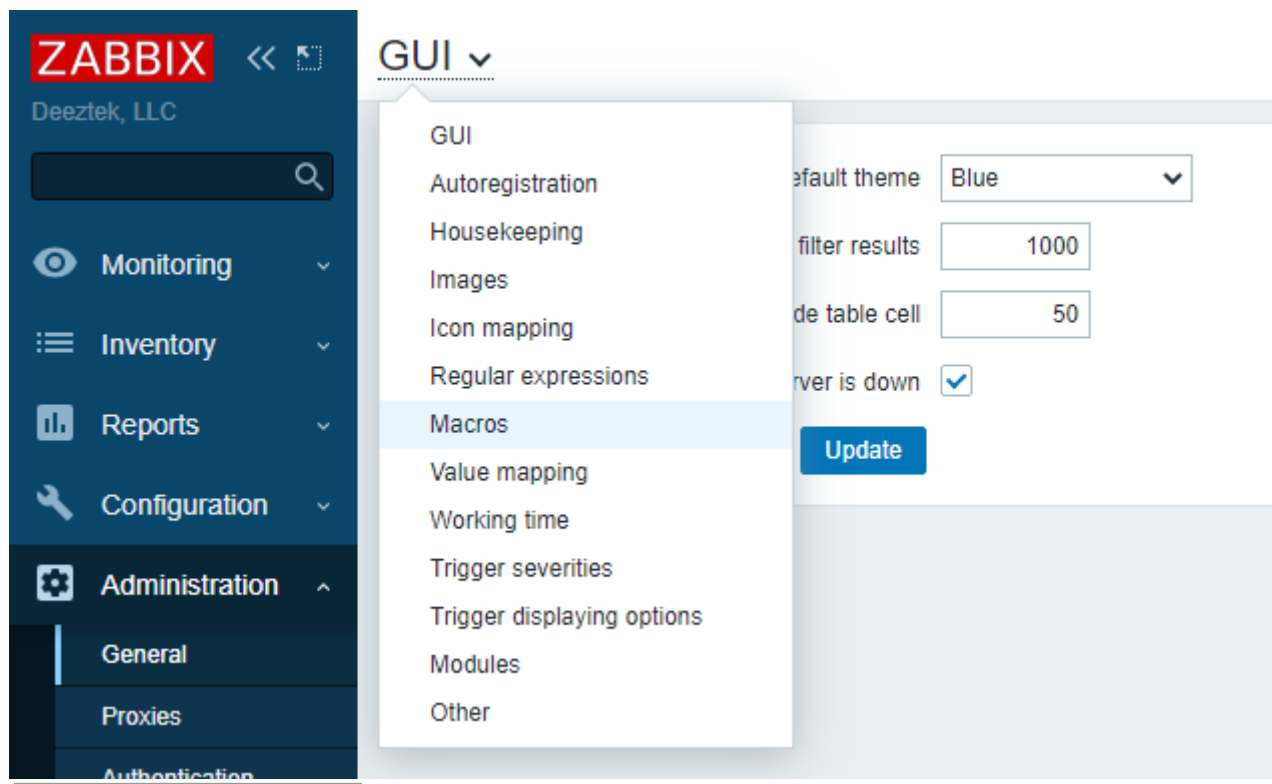
```
/opt/zabbix-docker/zbx_env/var/lib/zabbix/mibs
```

- Restart the Zabbix docker stack:

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

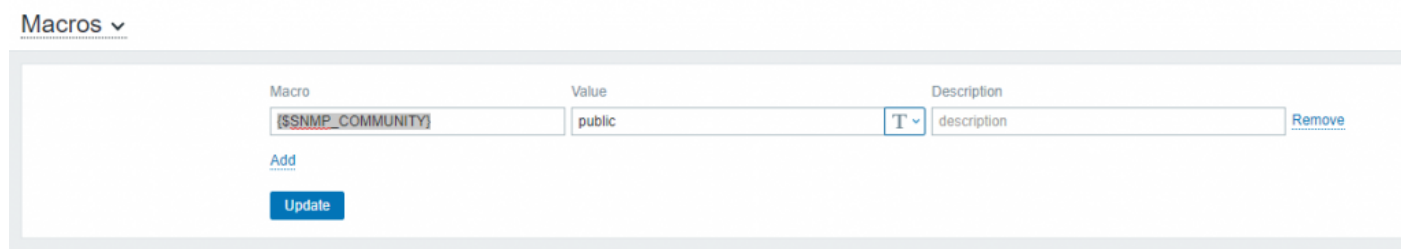
- On the Zabbix server navigate to **Administration --> General --> GUI drop-down --> Macros (Figure 10)**

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

Figure 13

Hosts

All hosts / hdgfreenas.deeztek.com

EnabledZBXSNMPJMXIPMI

Applications 8Items 306Triggers 64Graphs 138Discovery rules 5Web scenarios

Host

Templates

IPMI

Tags

Macros

Inventory

Encryption

* Host name

freenas

Visible name

* Groups

FreeNAS x HDG x

type here to search

Select

* Interfaces

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

* SNMP version

SNMPv1

* SNMP community

{\${SNMP_COMMUNITY}}

☒ Use bulk requests

Add

Description

Monitored by proxy

(no proxy)

Enabled

☒

Update

Clone

Full clone

Delete

Cancel

- 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

EnabledZBXSNMPJMXIPMI

Applications 8Items 306Triggers 64Graphs 138Disc

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

type here to search

Select

Update

Clone

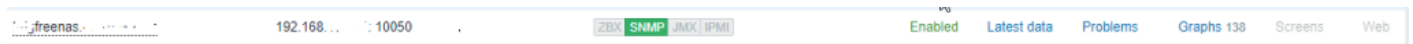
Full clone

Delete

Cancel

- 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 web interface showing the 'Host' configuration form. The form is titled 'Host' and has tabs for 'Host', 'Templates', 'IPMI', 'Tags', 'Macros', 'Inventory', and 'Encryption'. The 'Host' tab is active. The form contains several fields: 'Host name' (filled with 'vcenter'), 'Visible name' (empty), 'Groups' (a dropdown menu showing 'Hypervisors' with a 'Select' button), 'Interfaces' (a table with columns for Type, IP address, DNS name, Connect to, Port, and Default), and 'Description' (a large text area). The 'Interfaces' table has one row with 'Agent' as the type, '127.0.0.1' as the IP address, and '10050' as the port. There is a 'Remove' button next to the port field. At the bottom, there is a 'Monitored by proxy' dropdown menu set to '(no proxy)'.

Type	IP address	DNS name	Connect to	Port	Default
Agent	127.0.0.1		IP DNS	10050	<input checked="" type="radio"/> Remove

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

Figure 17

Hosts

Host
Templates
IPMI
Tags
Macros
Inventory
Encryption

Linked templates
Name
Action

Link new templates

Template VM VMware
Template Module ICMP Ping
type here to search

Select

Add
Cancel

- 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**):

```
{ $VMWARE.PASSWORD }
{ $VMWARE.URL }
{ $VMWARE.USERNAME }
```

Figure 18

Hosts

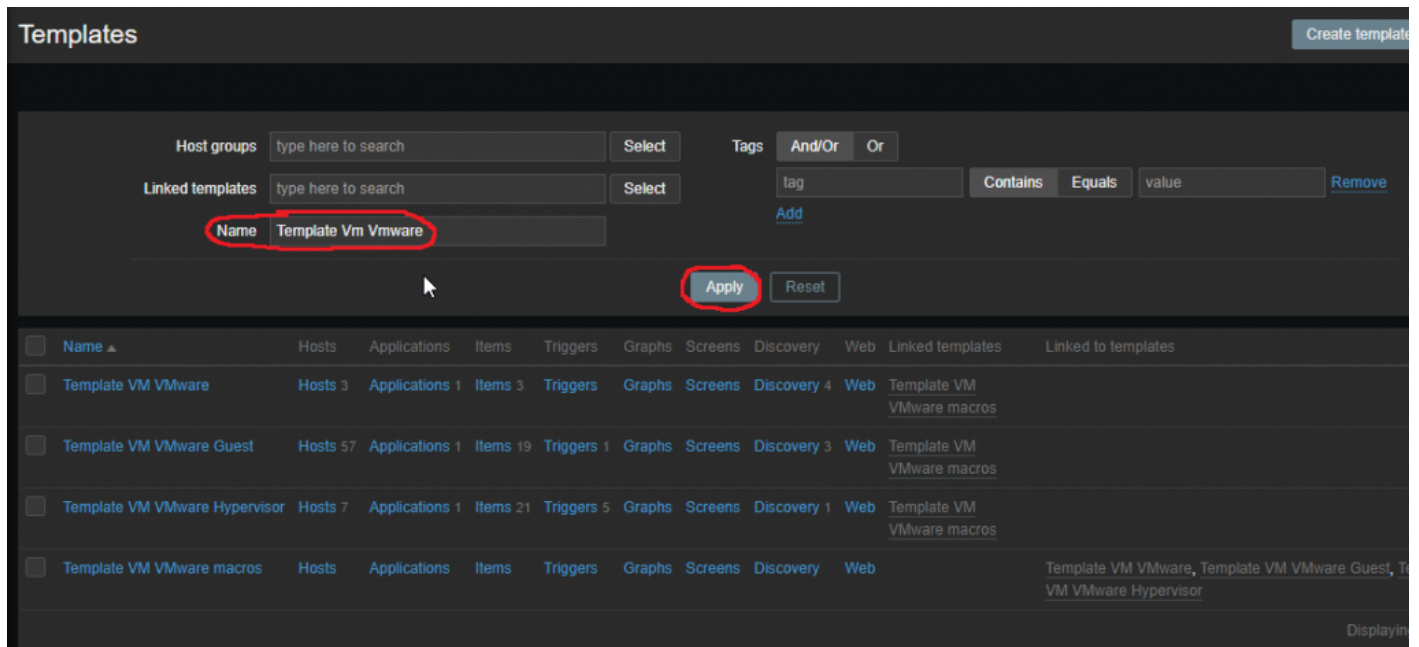
Host
Templates
IPMI
Tags
Macros
Inventory
Encryption

Host macros
Inherited and host macros

Macro	Effective value	Template value
{ \$ICMP_LOSS_WARN }	20	Template Module ICMP Ping: "20"
description		
{ \$ICMP_RESPONSE_TIME_WARN }	0.15	Template Module ICMP Ping: "0.15"
description		
{ \$SNMP_COMMUNITY }	public	
description		
{ \$VMWARE.PASSWORD }	VMware service user password	Template VM VMware macros: ""
VMware service { \$USERNAME } user password		
{ \$VMWARE.URL }	https://vcenter/sdk	Template VM VMware macros: ""
VMware service (vCenter or ESX hypervisor) SDK URL (https://servername/sdk)		
{ \$VMWARE.USERNAME }	zabbix@vsphere.local	Template VM VMware macros: ""
VMware service user name		

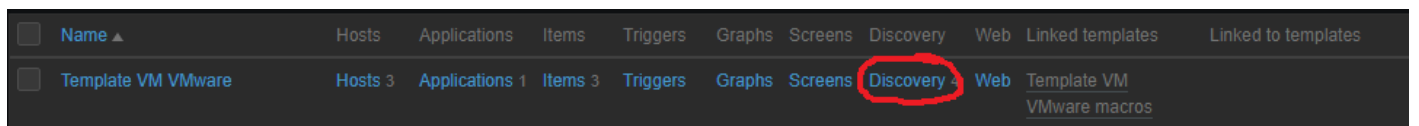
- VMware/Vcenter discovery can take hours to complete.
- Navigate to **Configuration --> Templates**. In the **Name** field enter **Template Vm VMware** and click the **Apply** button to locate the **Template Vm VMware** template (**Figure 19**):

Figure 19



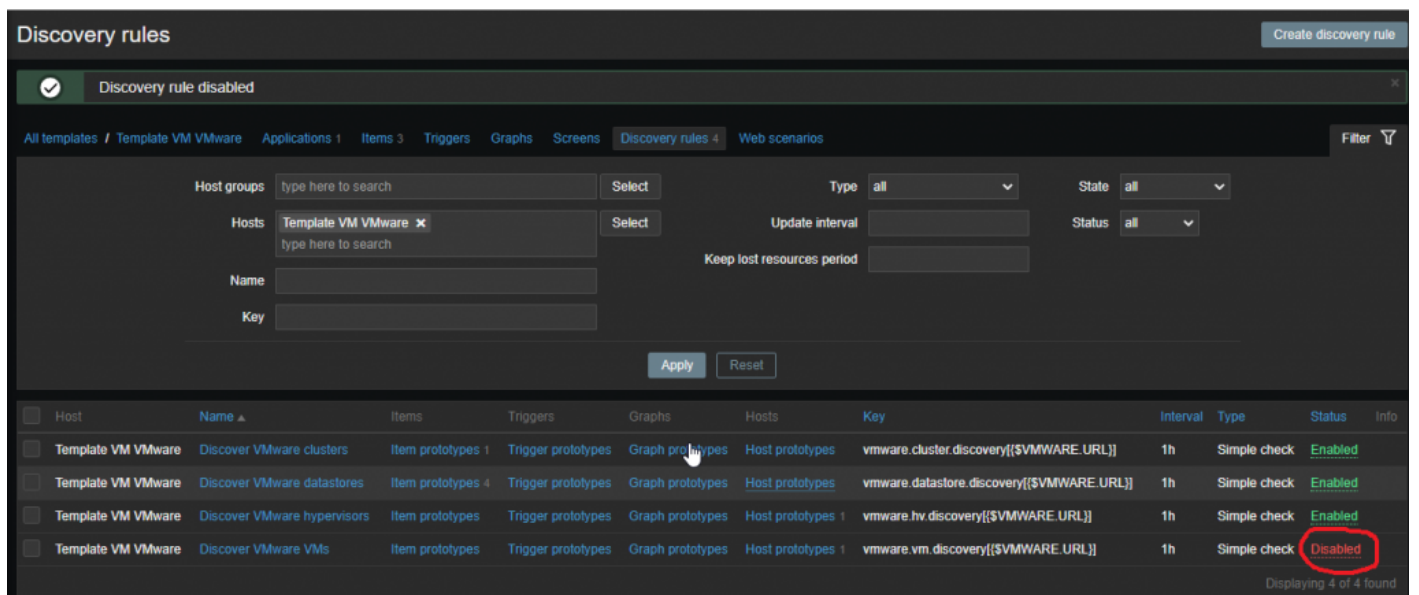
- On the **Template Vm VMware** entry click on the **Discovery** link (**Figure 20**):

Figure 20



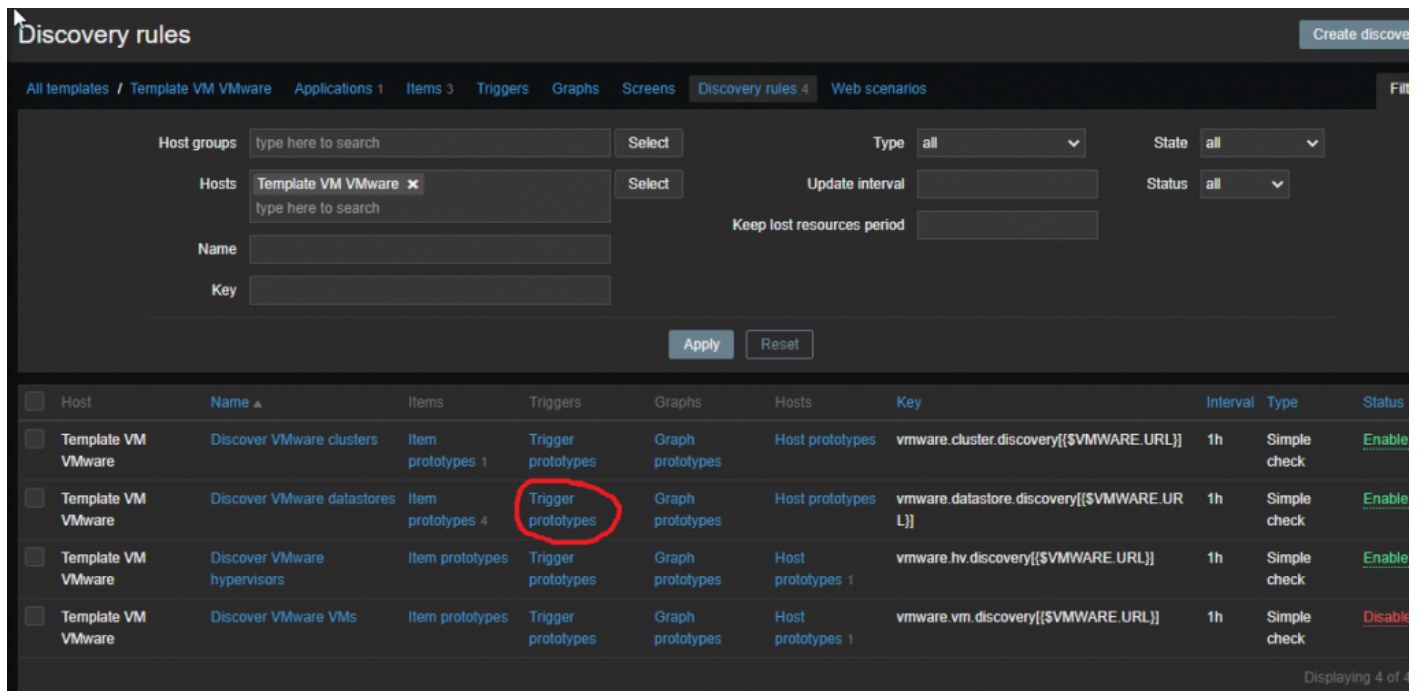
- On the **Discovery rules** screen, click on the **Enabled** link on the **Discover VMware VMs** entry to change the status to **Disabled** (**Figure 21**):

Figure 21



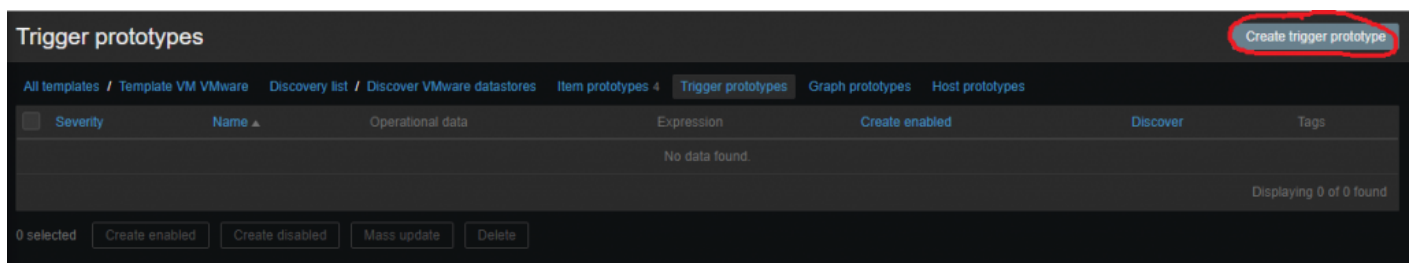
- Next, click on the **Trigger prototypes** on the **Discover VMware datastores** entry (**Figure 22**):

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

Operational data

Severity Not classified Information Warning Average High Disaster

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

[Expression constructor](#)

OK event generation Expression Recovery expression None

PROBLEM event generation mode Single Multiple

OK event closes All problems All problems if tag values match

Allow manual close ☐

URL

Description

Create enabled ☒

Discover ☒

Add Cancel

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