

Configure Zabbix to Monitor FS Switches via SNMP

Models: S5860 Series
S3910 Series
S3900 Series
S3950 Series
S3700 Series
PoE+ Series
S5850 Series
S5800 Series
S5900 Series
S8050 Series

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1. Preface

Zabbix is an open-source monitoring software for networks and applications. It can monitor many network parameters and the health and integrity of servers, virtual machines, and any other kind of network device. This document will guide you to import the FS template in Zabbix and apply the template to monitor the FS Switches. The version of Zabbix in this document is 4.4.4 (CentOS Linux version is 7.7, Mysql version is 5.6.46), and taking FS-S5860 switch as an example to monitor the S5860-24XB-U switch.

2. Operation Guide

2.1 Operation Steps

- Configure SNMP function of the switch
- Log in to Zabbix to import the FS-S5860 template
- Create host group S5860-Switch and link FS-S5860 template
- Create host, link S5860-Switch host group, link FS-S5860 template
- Monitor host data

2.2 Operation Process

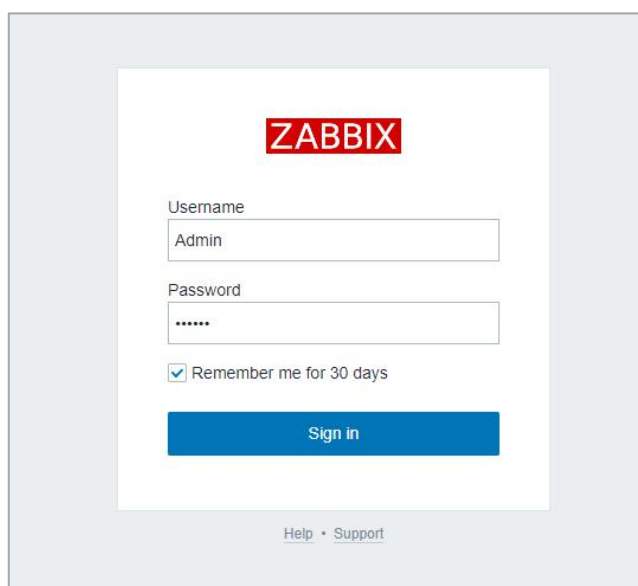
2.2.1 Configure the Switch

Take S5860-24XB-U as an example to configure the SNMP function

```
FS#configure terminal
FS(config)#snmp-server enable version v2c
FS(config)#snmp-server community Public ro
```

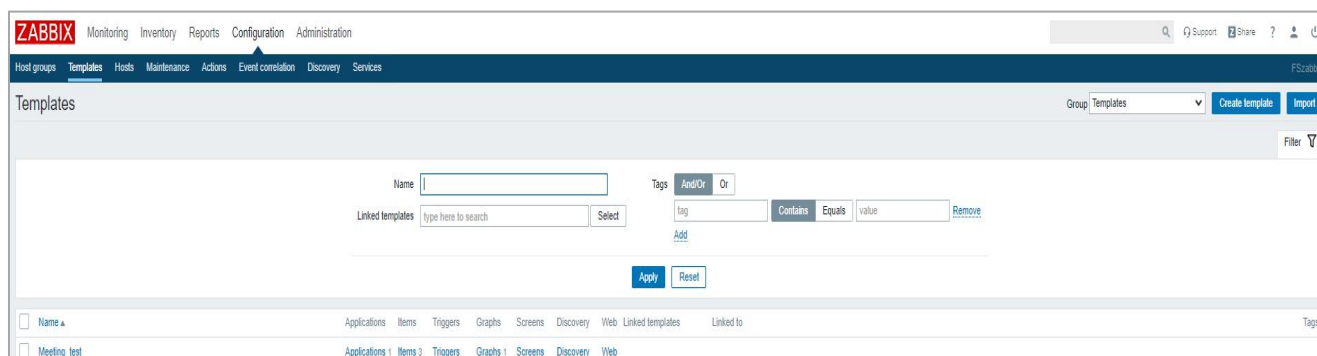
2.2.2 Log in to Zabbix to Import Templates

Step 1: Open Zabbix login interface and enter the user name and password to log in to the Zabbix software.



The image shows the Zabbix login interface. At the top, there is a red 'ZABBIX' logo. Below it, there are two input fields: 'Username' with the value 'Admin' and 'Password' with masked characters '*****'. A checkbox labeled 'Remember me for 30 days' is checked. Below these fields is a blue 'Sign in' button. At the bottom, there are links for 'Help' and 'Support'.

Step 2: Select the **Templates** under Configuration category, and click **Import** in the upper right corner to enter the template import interface.



The image shows the Zabbix 'Templates' configuration page. The top navigation bar includes 'Monitoring', 'Inventory', 'Reports', 'Configuration', and 'Administration'. The 'Configuration' tab is active, and the 'Templates' sub-tab is selected. The main area is titled 'Templates' and features a search bar, a 'Group' dropdown set to 'Templates', and buttons for 'Create template' and 'Import'. Below the search bar, there are fields for 'Name', 'Tags' (with 'And/Or' and 'Or' options), and a 'Linked templates' section with a search input and a 'Select' button. At the bottom, there are 'Apply' and 'Reset' buttons. A table at the very bottom lists various templates, including 'Name', 'Applications', 'Items', 'Triggers', 'Graphs', 'Screens', 'Discovery', 'Web', 'Linked templates', and 'Linked to'.

Step 3: Select the 'FS-S5860_zbx_templates', click the **Import** button to import it, and then you can see the FS-S5860 templates that have been successfully imported in the template list after the import success is displayed.

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Import

* Import file: FS-S5860_zbx_templates.xml

Rules	Update existing	Create new	Delete missing
Groups	☒	☒	☒
Hosts	☐	☒	☒
Templates	☐	☒	☒
Template screens	☐	☒	☐
Template linkage	☐	☒	☐
Applications	☐	☒	☐
Items	☐	☒	☐
Discovery rules	☐	☒	☐
Triggers	☐	☒	☐
Graphs	☐	☒	☐
Web scenarios	☐	☒	☐
Screens	☐	☒	☐
Maps	☐	☒	☐
Images	☐	☒	☐
Media types	☐	☒	☐
Value mappings	☐	☒	☐

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups Templates Hosts Maintenance Actions Event correlation Discovery Services

Templates

Name:

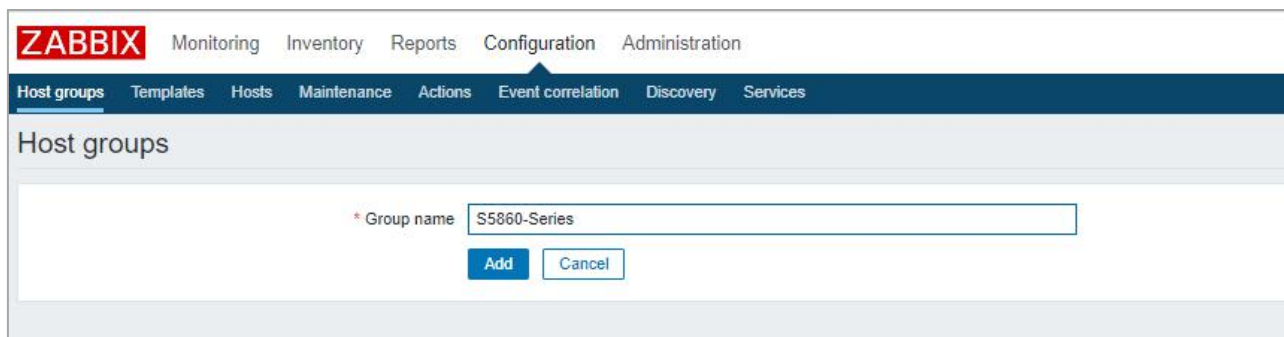
Tags: And/Or Or

Linked templates:

Name	Applications	Items	Triggers	Graphs	Screens	Discovery	Web	Linked templates	Linked to
FS-S5860	Applications 9	Items 50	Triggers 3	Graphs	Screens 1	Discovery 1	Web	Template Module	Interfaces SNMPv2

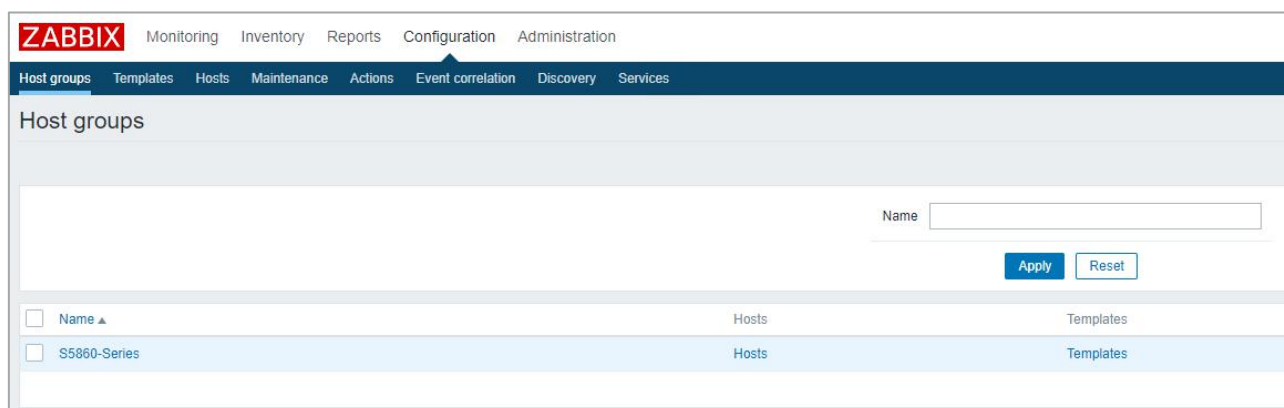
2.2.3 Create Host Groups

Step 1: Select the **host groups** and click the **Create host group** button in the upper-right corner.



The screenshot shows the Zabbix web interface with the 'Configuration' menu selected. The 'Host groups' sub-menu is active. A form titled 'Host groups' is displayed with a text input field for 'Group name' containing 'S5860-Series'. Below the input field are 'Add' and 'Cancel' buttons.

Step 2: Create a host group named 'S5860-Series' host group, then view the successfully created host group.

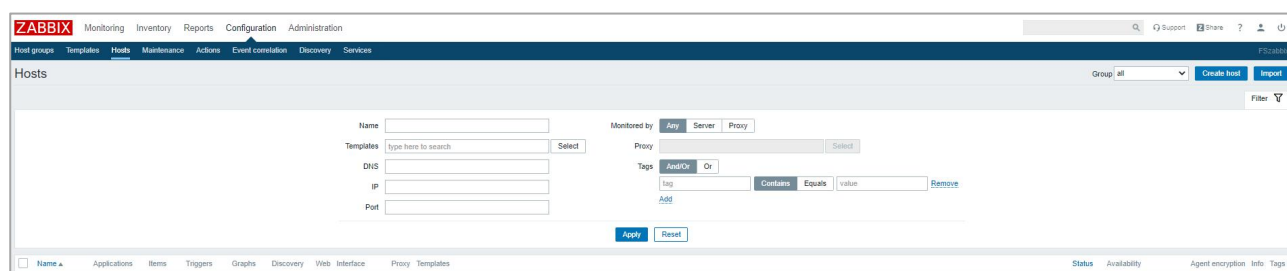


The screenshot shows the Zabbix web interface with the 'Host groups' sub-menu active. A table lists the created host groups. The table has columns for 'Name', 'Hosts', and 'Templates'. The first row shows 'S5860-Series' with 'Hosts' and 'Templates' links.

Name	Hosts	Templates
S5860-Series	Hosts	Templates

2.2.4 Create Hosts

Step 1: Enter **Hosts** page under **Configuration**, click on the **Create Host** button in the upper right corner to create the host.



The screenshot shows the Zabbix web interface with the 'Hosts' sub-menu active. A form titled 'Hosts' is displayed. The form includes fields for 'Name', 'Templates', 'DNS', 'IP', and 'Port'. There are also sections for 'Monitored by' (Any, Server, Proxy), 'Priority', and 'Tags'. The 'Create Host' button is visible in the top right corner.

Step 2: Create a host named S5860-24XB-U, select the S5860-Series host group, enter the management IP address of the switch in the SNMP interfaces, remove the check box before Use bulk requests, and click Add.

ZABBIX Monitoring Inventory Reports Configuration Administration

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

Hosts

All hosts / S5860-24XB-U Enabled ZBX **SNMP** JMX IPMI Applications 43 Items 356 Triggers 139 Graphs 34 Discovery rules 1 Web scenarios

Host Templates IPMI Tags Macros Inventory Encryption

* Host name S5860-24XB-U

Visible name

* Groups S5860-Series ✕ Select
type here to search

* At least one interface must exist.

Agent interfaces IP address DNS name Connect to Port Default
[Add](#)

SNMP interfaces 10.32.104.140 IP DNS 161 [Remove](#)
☐ Use bulk requests [Add](#)

JMX interfaces [Add](#)

IPMI interfaces [Add](#)

Description

Monitored by proxy (no proxy) ▼

Enabled ☒

[Update](#) [Clone](#) [Full clone](#) [Delete](#) [Cancel](#)

Step 3: You can view the created hosts under the host list.

ZABBIX Monitoring Inventory Reports Configuration Administration

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

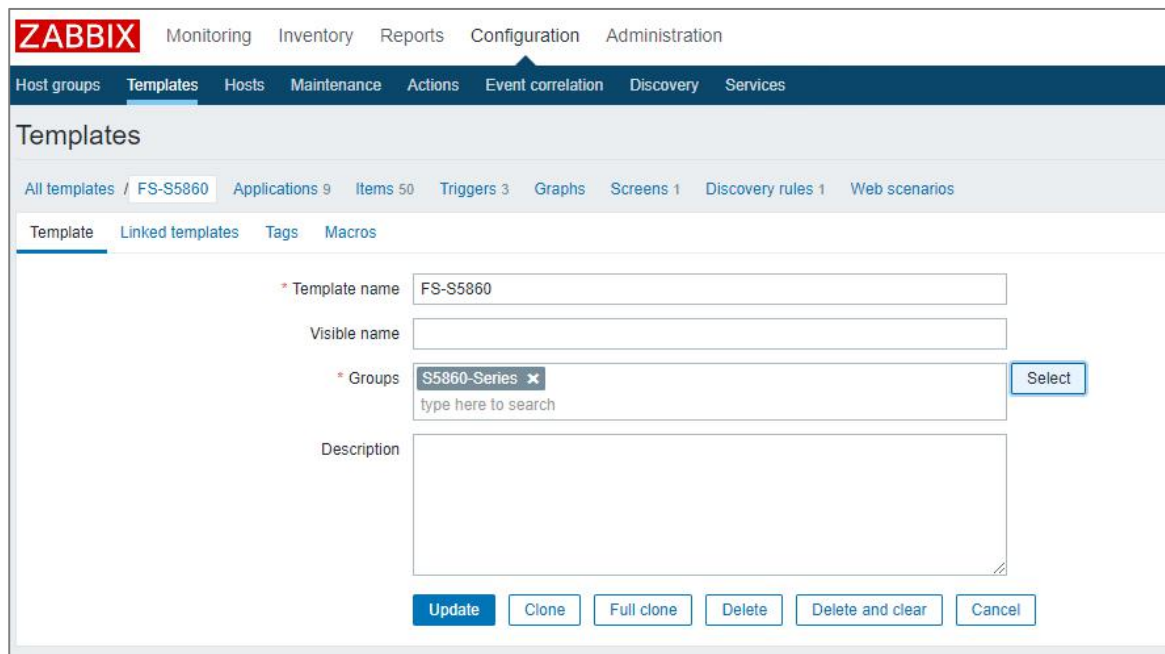
Group: all [Create host](#) [Import](#) [Filter](#)

Name Monitored by Any Server Proxy
Templates type here to search [Select](#)
Proxy [Select](#)
DNS
IP
Port
Tags [Add](#) [AndOr](#) [Or](#) [Contains](#) [Equals](#) [value](#) [Remove](#)
[Apply](#) [Reset](#)

☐ Name ▲	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
☐ S5860-24XB-U	Applications 43	Items 356	Triggers 139	Graphs 34	Discovery 1	Web	10.32.104.140 161		FS-S5860 (Template Module Interfaces SNMPv2)	Enabled		SNMP JMX IPMI NONE		

2.2.5 Link Template and Host Group

Step 1: Link the S5860-Series host group in the FS-S5860 template.

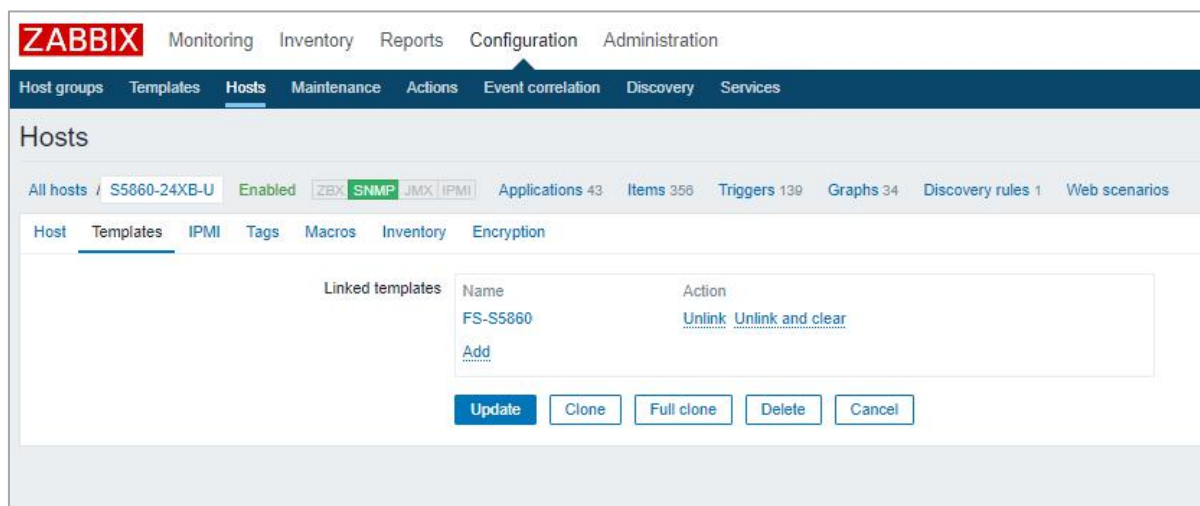


The screenshot shows the Zabbix web interface for editing the 'FS-S5860' template. The 'Configuration' menu is active. The 'Templates' section is selected, showing a breadcrumb trail: 'All templates / FS-S5860'. Below this, there are tabs for 'Template', 'Linked templates', 'Tags', and 'Macros'. The 'Template' tab is active, displaying the following fields:

- * Template name:** FS-S5860
- Visible name:** (empty)
- * Groups:** S5860-Series (selected), with a 'Select' button and a search input 'type here to search'.
- Description:** (empty text area)

At the bottom, there are buttons: 'Update', 'Clone', 'Full clone', 'Delete', 'Delete and clear', and 'Cancel'.

Step 2: Link FS-S5860 template under S5860-24XB-U host.



The screenshot shows the Zabbix web interface for editing the 'S5860-24XB-U' host. The 'Configuration' menu is active. The 'Hosts' section is selected, showing a breadcrumb trail: 'All hosts / S5860-24XB-U'. Below this, there are tabs for 'Host', 'Templates', 'IPMI', 'Tags', 'Macros', 'Inventory', and 'Encryption'. The 'Templates' tab is active, displaying the following information:

- Linked templates:** A table with two columns: 'Name' and 'Action'.

Name	Action
FS-S5860	Unlink Unlink and clear
Add	

At the bottom, there are buttons: 'Update', 'Clone', 'Full clone', 'Delete', and 'Cancel'.

Step 3: Return to the host interface, you can view the information that has been linked to the template in the host.

ZABBIX Monitoring Inventory Reports Configuration Administration

Host groups: Templates Hosts Maintenance Actions Event correlation Discovery Services

Hosts

Group: all Create host Import

Filter

Name:

Templates: Select

DNS:

IP:

Port:

Monitored by: Any Server Proxy

Priority: Select

Tags: And/Or Or

Tag: Contains Equals value Remove

Add

Apply Reset

Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
S5860-24XB-U	Applications 43	Items 356	Triggers 139	Graphs 34	Discovery 1	Web	10.32.104.140 181		FS-S5860 (Template Module Interfaces SNMPv2)	Enabled	SNMP	OK		

2.2.6 Monitoring Switch Data

Select S5860-Series Host groups and S5860-24XB-U Hosts, you can view that Zabbix has monitored the relevant information and data of the switch S5860-24XB-U.

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Latest data

Filter

Host groups: S5860-Series Select

Hosts: S5860-24XB-U Select

Application: Select

Show items without data: ☐

Show details: ☐

Apply Reset

Host	Name	Last check	Last value	Change
S5860-24XB-U	Interface Mg0/0 (IP management Console) (9 items)			
	Interface Mg0/0 (IP management Console): Speed	11/20/2020 04:19:49 PM	1 Gbps	Graph
	Interface Mg0/0 (IP management Console): Outbound packets with errors	11/20/2020 04:46:41 PM	0	Graph
	Interface Mg0/0 (IP management Console): Outbound packets discarded	11/20/2020 04:43:07 PM	0	Graph
	Interface Mg0/0 (IP management Console): Operational status	11/20/2020 04:44:23 PM	down (2)	Graph
	Interface Mg0/0 (IP management Console): Interface type	11/20/2020 12:15:57 PM	ethernetCarnad (6)	Graph
	Interface Mg0/0 (IP management Console): Inbound packets with errors	11/20/2020 04:41:59 PM	0	Graph
	Interface Mg0/0 (IP management Console): Inbound packets discarded	11/20/2020 04:47:25 PM	0	Graph
	Interface Mg0/0 (IP management Console): Bytes sent	11/20/2020 04:46:15 PM	0 bps	Graph
	Interface Mg0/0 (IP management Console): Bytes received	11/20/2020 04:45:33 PM	0 bps	Graph
S5860-24XB-U	Interface Td0/1 (8 items)			
	Interface Td0/1: Speed	11/20/2020 04:04:16 PM	10 Gbps	Graph
	Interface Td0/1: Outbound packets with errors	11/20/2020 04:43:08 PM	0	Graph
	Interface Td0/1: Outbound packets discarded	11/20/2020 04:45:50 PM	0	Graph
	Interface Td0/1: Operational status	11/20/2020 04:47:50 PM	down (2)	Graph
	Interface Td0/1: Inbound packets with errors	11/20/2020 04:47:27 PM	0	Graph
	Interface Td0/1: Inbound packets discarded	11/20/2020 04:46:52 PM	0	Graph
	Interface Td0/1: Bytes sent	11/20/2020 04:46:42 PM	0 bps	Graph
	Interface Td0/1: Bytes received	11/20/2020 04:47:00 PM	0 bps	Graph

2.3 Zabbix Personalized Customization

Zabbix's Dashboard can display visualized information and data (overview, map, chart, clock, etc.). Here we take the creation of CPU utilization as an example.

Step 1: Click Create dashboard in the upper right corner to create a dashboard.

ZABBIX Monitoring Inventory Reports Configuration Administration

Dashboard Problems Overview Web Latest data Graphs Screens Maps Discovery Services

Dashboards

Create dashboard

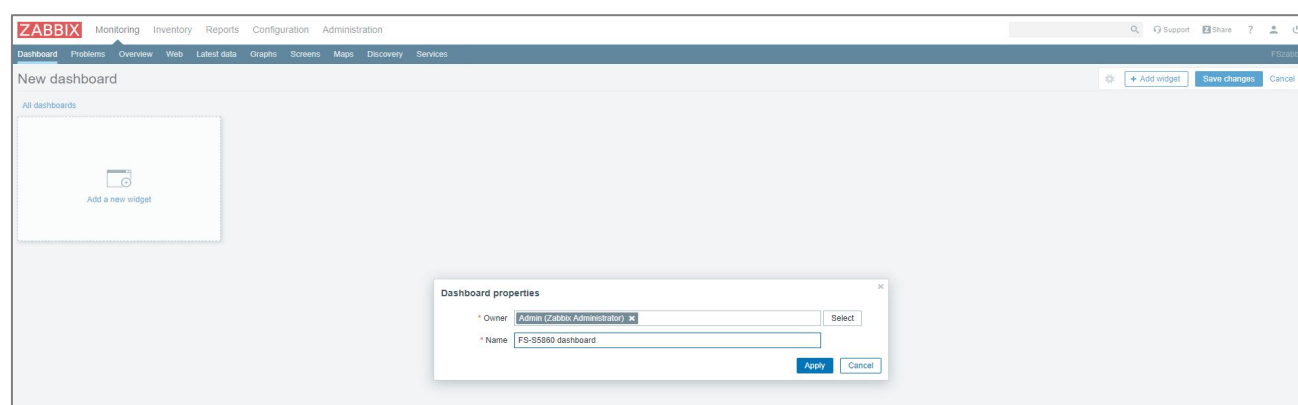
Name:

Global view

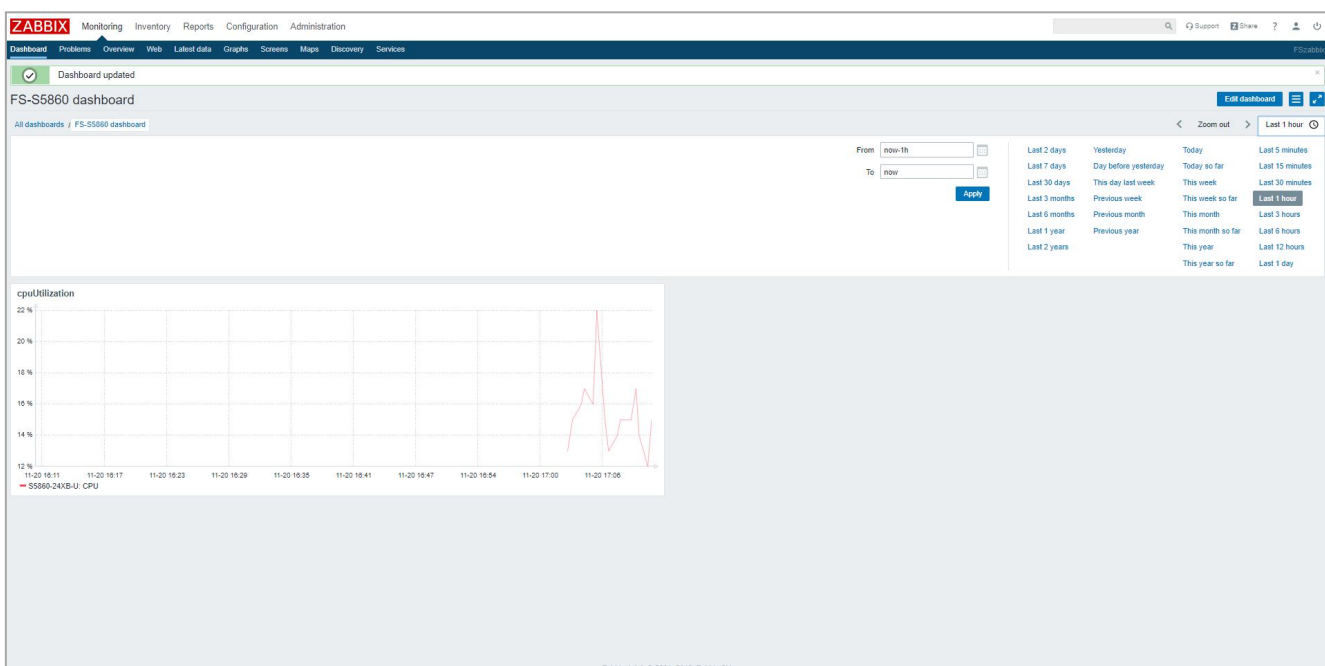
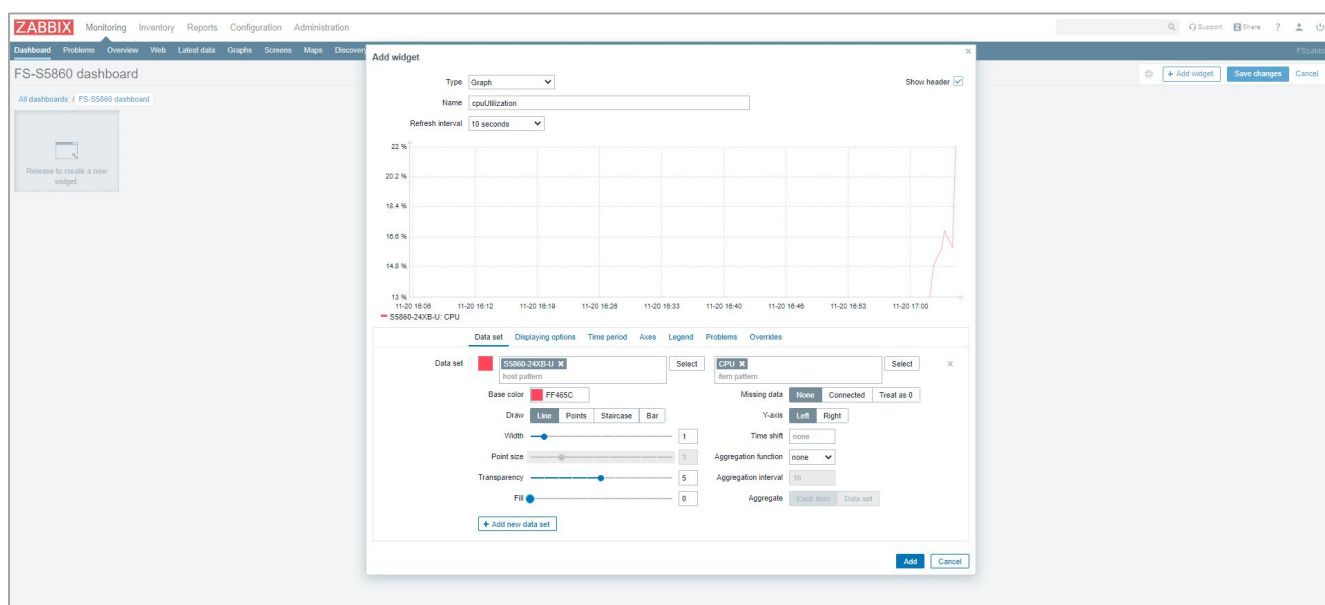
Zabbix server health

Displaying 2 of 2 found

Step 2: Create a dashboard named FS-S5860 dashboard.

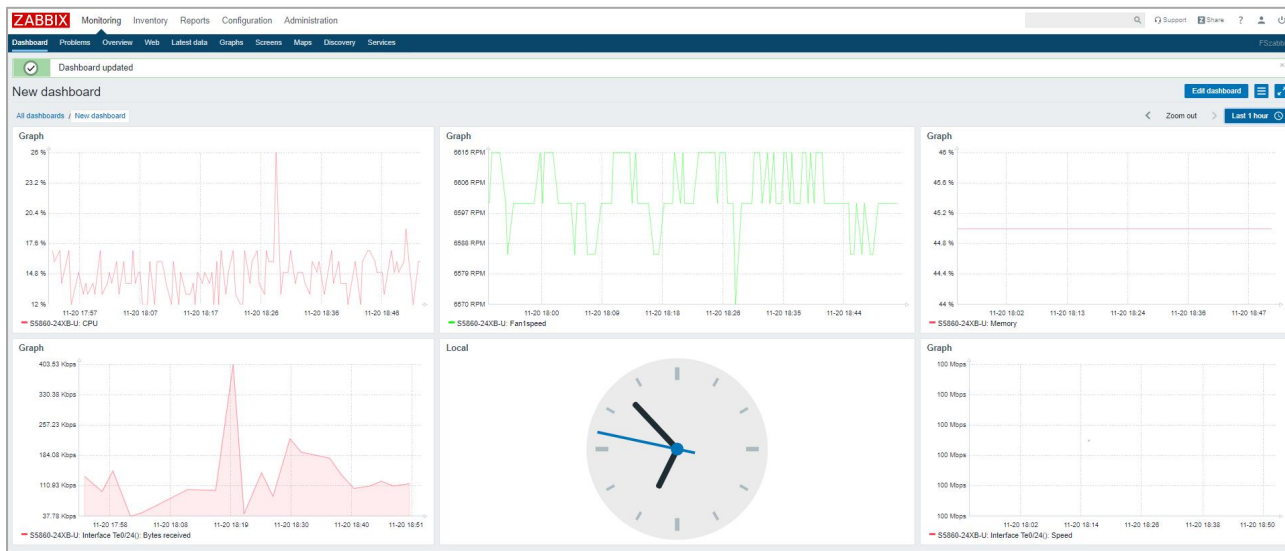


Step 3: Click anywhere on the dashboard to create a component, for example named as cpu Utilization, select S5860-24XB-U host pattern, CPU item pattern of Data set, and click Create.



Step 4: View the created components and save the dashboard.

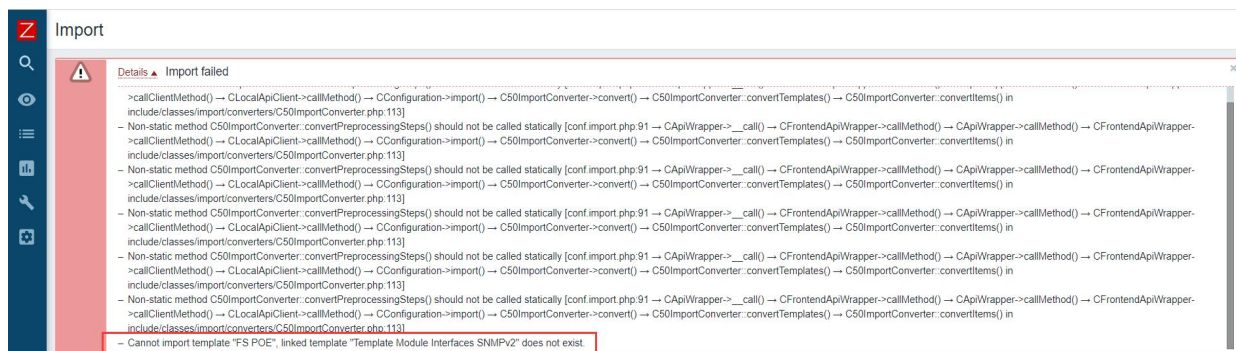
Of course, you can also configure the visualized information in the dashboard according to personal preferences.



2.4 FAQ

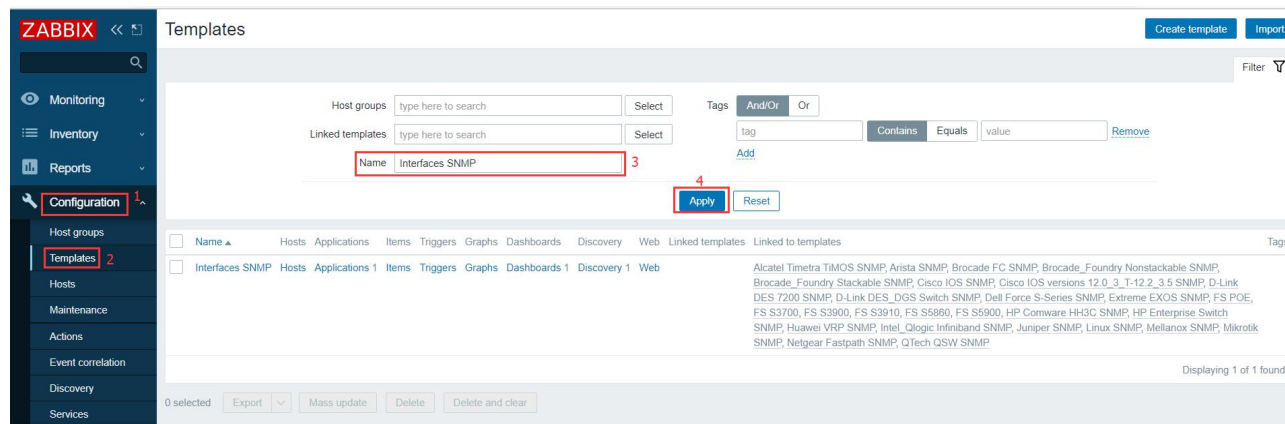
2.4.1 Template Import Failed

Due to the iteration of Zabbix version, the name of the public template provided by Zabbix may change. The template provided by FS refers to the public template "Template Module Interfaces SNMPv2". During the template import process, if the import fails, it prompts that the template is not found like below:

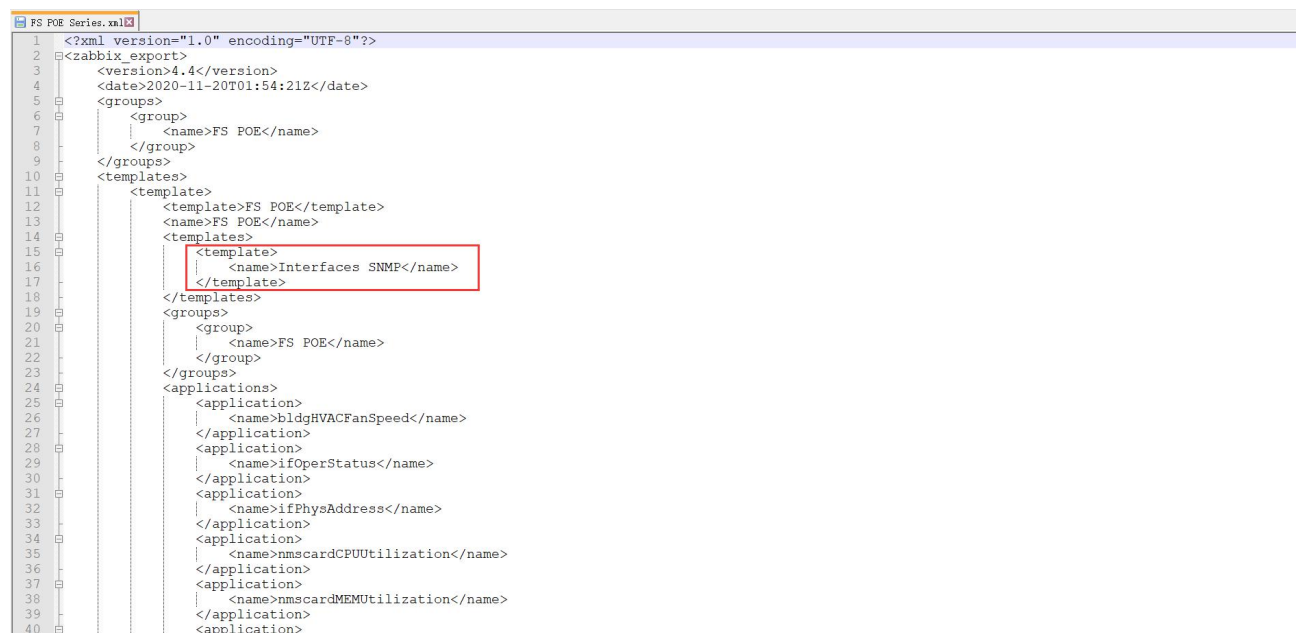


Pls refer to below solution:

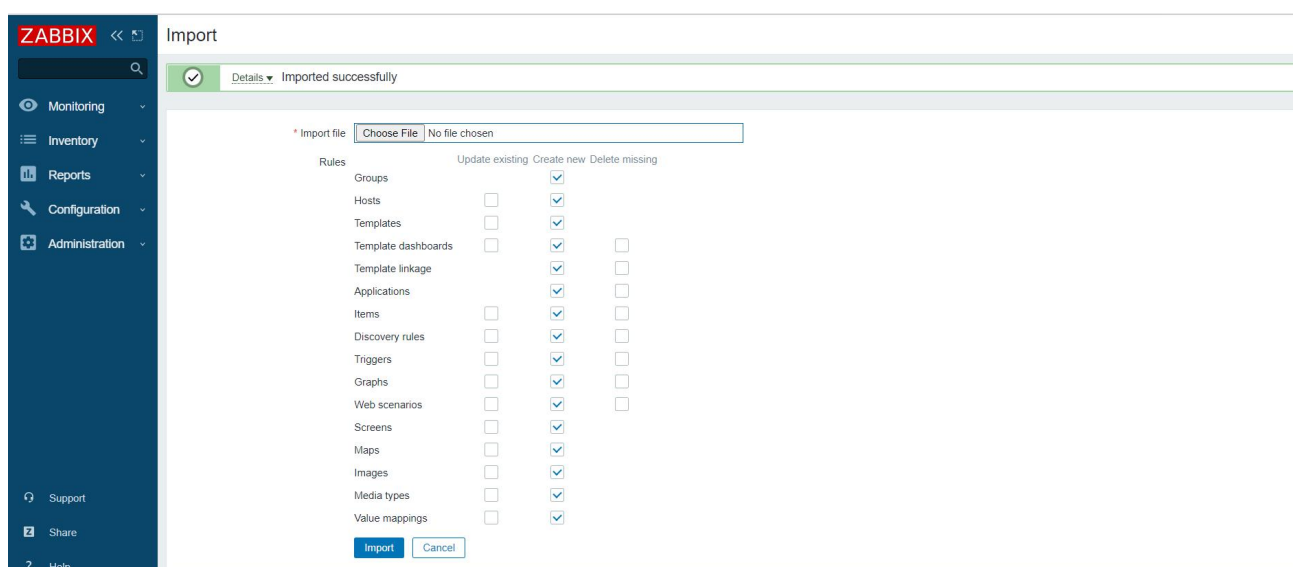
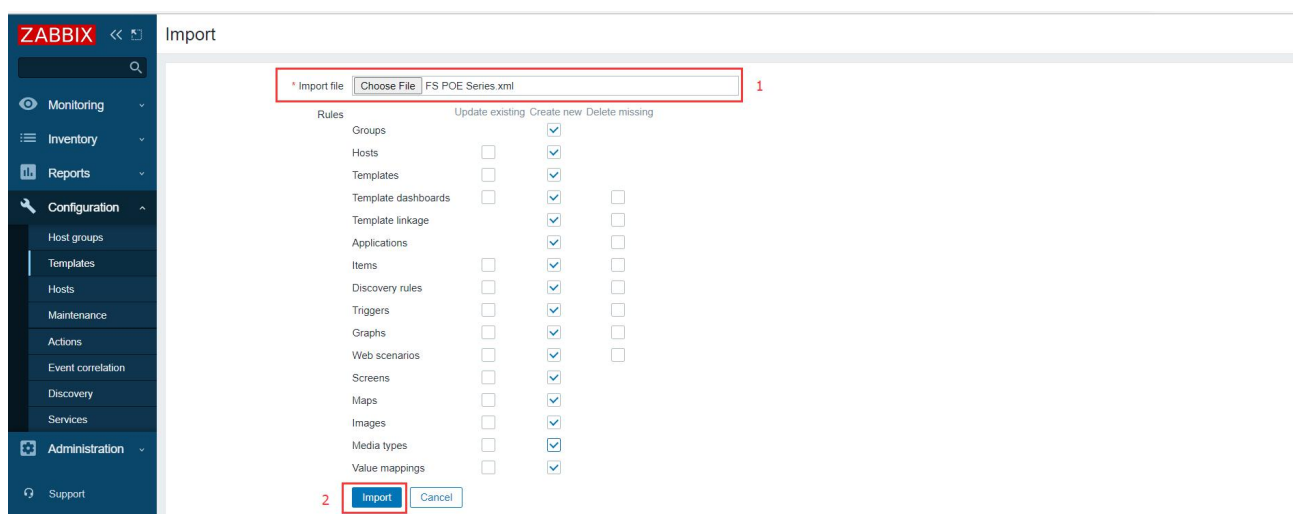
Step 1: Search for the keyword "Interfaces SNMP" in Zabbix, find the template, and record the template name.



Step 2: Edit the template in text mode and replace "Template Module Interfaces SNMPv2" with the searched template name.



Step 3: Save the modified template and re-import the template.



2.4.2 Monitor Host Failed

Due to the configuration of the SNMP community name of the switch(case-sensitive), the switch may not be monitored and managed by Zabbix, as shown in the following figure:

ZABBIX

Monitoring

Inventory

Reports

Configuration

Host groups

Templates

Hosts 2

Maintenance

Actions

Event correlation

Discovery

Services

Administration

Hosts

Create host Import

Filter

Host groups FS S3900

Monitored by Any Server Proxy

Templates type here to search

Proxy

Tags tag Contains Equals value Remove

Name S3900-24T4S-109

DNS

IP

Port

Apply Reset

Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
S3900-24T4S-109	Applications 5	Items 30	Triggers	Graphs 8	Discovery 1	Web	192.168.1.109:161		FS S3900 (Interfaces SNMP)	Enabled	ZBX SNMP JMX IPMI	None		

0 selected

Enable

Disable

Export

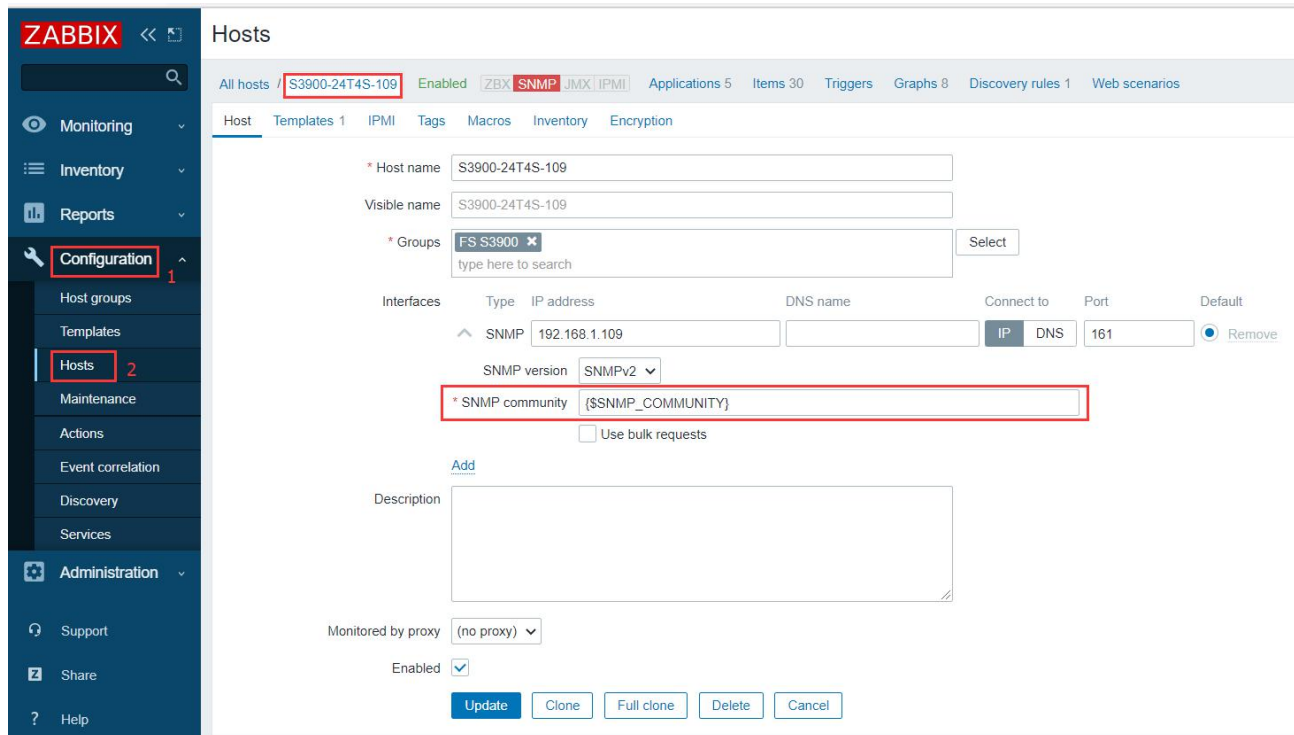
Mass update

Delete

Timeout while connecting to "192.168.1.109:161"

Pls refer to below solution:

Step 1: View and record the Zabbix host SNMP community name configuration.



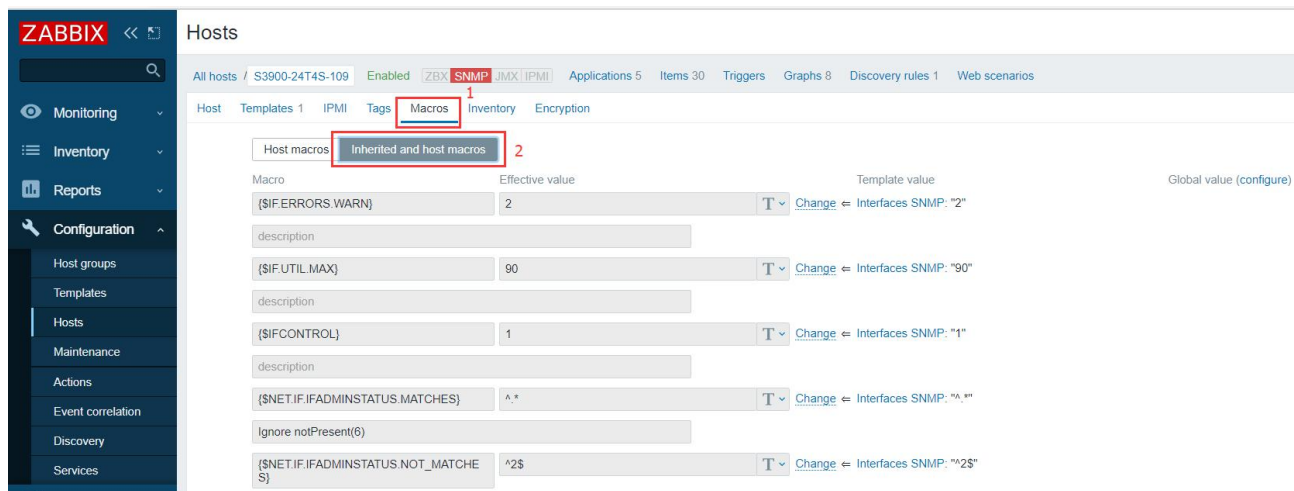
The screenshot shows the Zabbix web interface for configuring a host. The left sidebar has 'Configuration' and 'Hosts' highlighted. The main panel shows the 'Hosts' configuration for 'S3900-24T4S-109'. The 'SNMP' tab is selected, and the 'SNMP community' field is highlighted with a red box. The community name is set to '{SNMP_COMMUNITY}'.

Host configuration details:

- Host name: S3900-24T4S-109
- Visible name: S3900-24T4S-109
- Groups: FS S3900
- Interfaces:

Type	IP address	DNS name	Connect to	Port	Default
SNMP	192.168.1.109		IP	DNS	161
- SNMP version: SNMPv2
- * SNMP community: {SNMP_COMMUNITY}
- Use bulk requests: ☐
- Description: (empty text area)
- Monitored by proxy: (no proxy)
- Enabled: ☒

Buttons at the bottom: Update, Clone, Full clone, Delete, Cancel.



The screenshot shows the Zabbix web interface for configuring a host. The left sidebar has 'Configuration' and 'Hosts' highlighted. The main panel shows the 'Hosts' configuration for 'S3900-24T4S-109'. The 'Macros' tab is selected, and the 'Inherited and host macros' section is highlighted with a red box. The macros are listed in a table.

Host macros configuration:

Macro	Effective value	Template value	Global value (configure)
{IFERRORS.WARN}	2	Interfaces SNMP: "2"	
{IFUTIL.MAX}	90	Interfaces SNMP: "90"	
{IFCONTROL}	1	Interfaces SNMP: "1"	
{NET.IFADMINSTATUS.MATCHES}	^.*	Interfaces SNMP: ".*"	
Ignore notPresent(6)			
{NET.IFADMINSTATUS.NOT_MATCHES}	^2\$	Interfaces SNMP: "2\$"	

Step 2: Check whether the SNMP community name configuration of the switch is consistent with the Zabbix host SNMP community name configuration.

www.fs.com

```
S3900-24T4S-109-1#show running-config
Building running configuration. Please wait...
!<version>0.0.2</version>
!<stackingDB>0000000000000</stackingDB>
!<stackingMac>01_64-9d-99-10-35-6a_05</stackingMac>
!<stackingMac>00_00-00-00-00-00-00_00</stackingMac>
!<stackingMac>00_00-00-00-00-00-00_00</stackingMac>
!<stackingMac>00_00-00-00-00-00-00_00</stackingMac>
!<stackingMac>00_00-00-00-00-00-00_00</stackingMac>
!<stackingMac>00_00-00-00-00-00-00_00</stackingMac>
!
!
!
!
!
!
hostname S3900-24T4S-109

!
!
!
!
!
snmp-server community public rw
```

ZABBIX

Monitoring

Inventory

Reports

Configuration

Host groups

Templates

Hosts

Maintenance

Actions

Event correlation

Discovery

Services

Administration

Hosts

Filter

Host groups

FS S3900

type here to search

Select

Monitored by

Any Server Proxy

Proxy

type here to search

Select

Tags

And/Or Or

tag

Contains Equals value

Remove

Add

Apply

Reset

☐	Name	Applications	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
☐	S3900-24T4S-109	Applications 5	Items 30	Triggers	Graphs 8	Discovery 1	Web	192.168.1.109: 161		FS S3900 (Interfaces SNMP)	Enabled	ZBX SNMP	MAX IPMI	None	

0 selected

Enable

Disable

Export

Mass update

Delete

Displaying 1 of 1 found



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