

Configure Zabbix to Monitor NC8200 and NC8400 Series Switches via SNMP

Models: NC8200-4TD; NC8400-4TH

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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 N5860-48SC switch as an example to monitor the N5860-48SC switch.

2. Operation Guide

2.1 Operation Steps

- Configure SNMP function of the switch
- Log in to Zabbix to import the "FS N5860 Series" template
- Create host group FS N5860 and link "FS N5860 Series" template
- Create host, link FS N5860 host group, link "FS N5860 Series" template
- Monitor host data

2.2 Operation Process

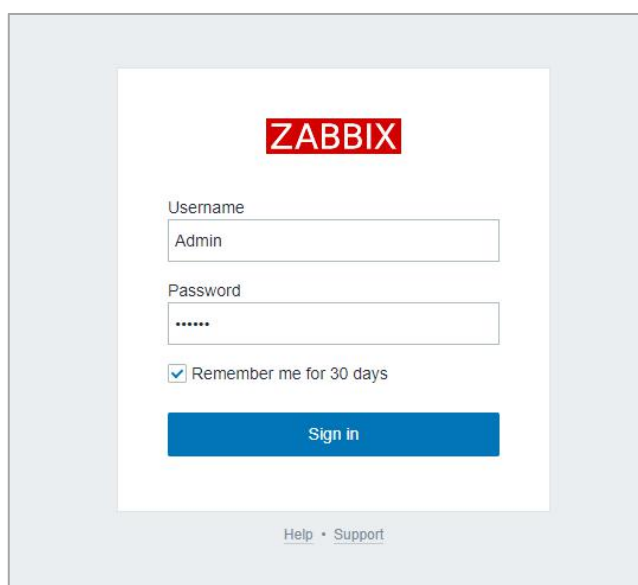
2.2.1 Configure the Switch

Take N5860-48SC as an example to configure the SNMP function

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

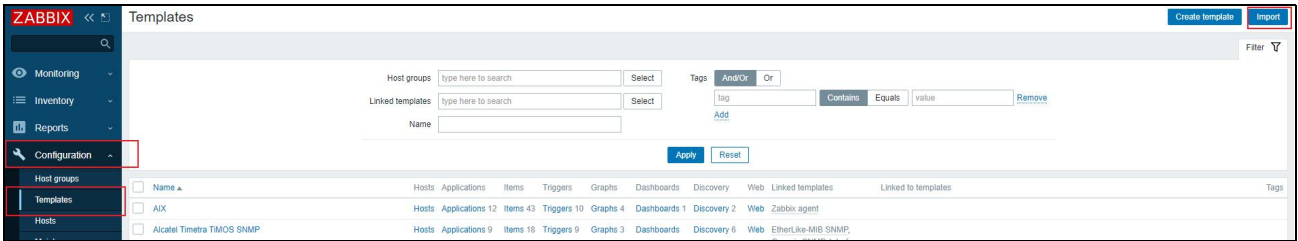
2.2.2 Log in to Zabbix to Import Templates

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

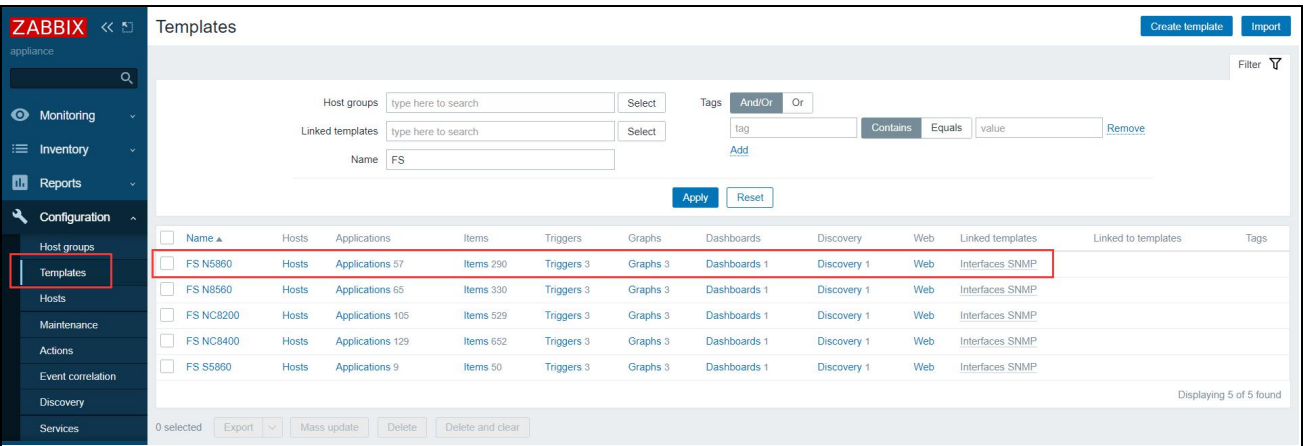
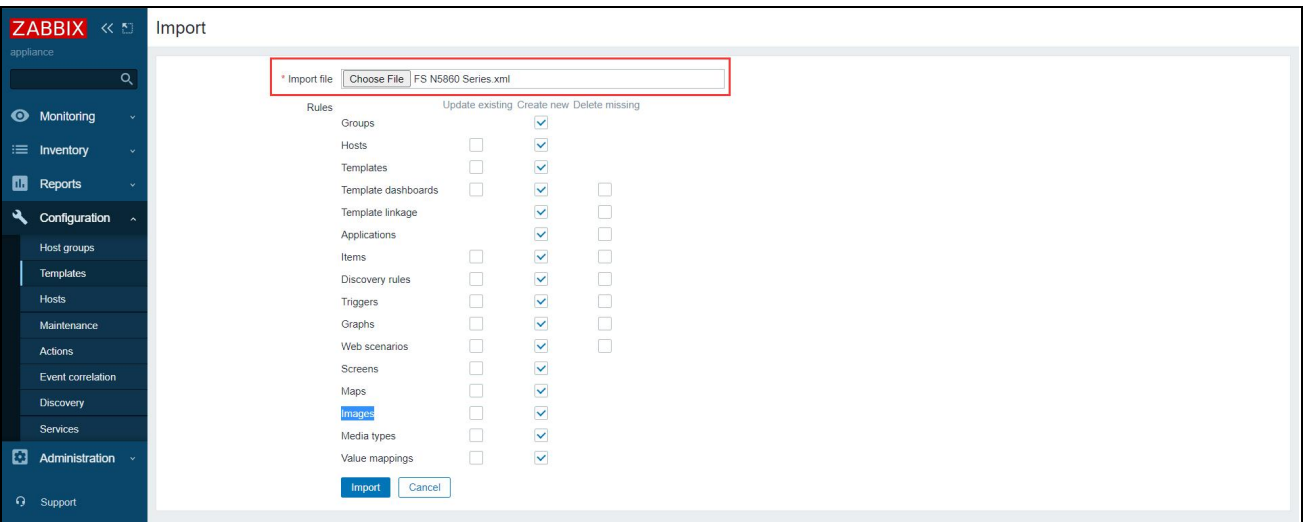


The image shows the Zabbix login interface. At the top, the word "ZABBIX" is displayed in a red box. Below it, there are two input fields: "Username" with the value "Admin" and "Password" with a masked password "*****". A checkbox labeled "Remember me for 30 days" is checked. A blue "Sign in" button is positioned below the password field. At the bottom of the form, 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.

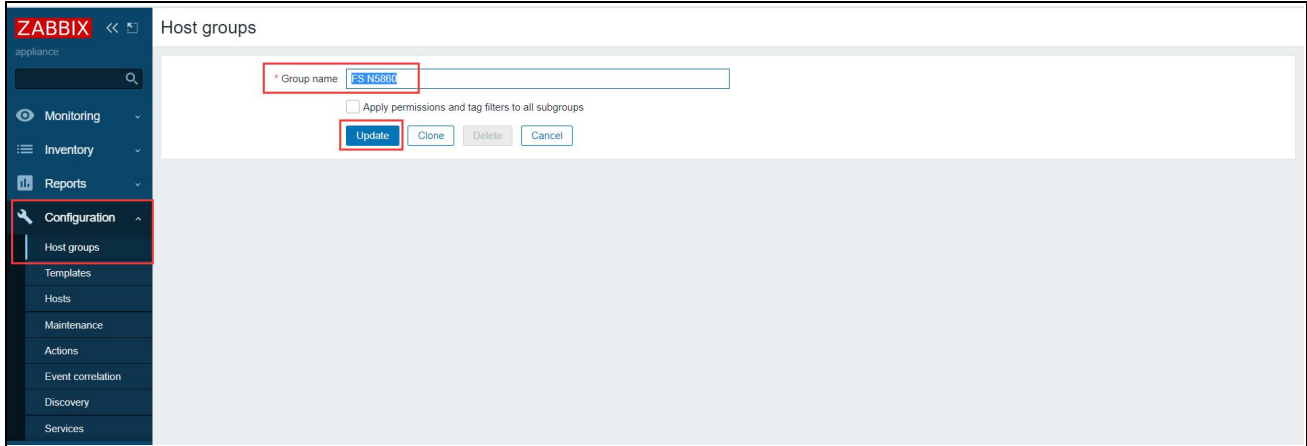


Step 3: Select the 'FS N5860 Series', click the **Import** button to import it, and then you can see the "FS N5860 Series" templates that have been successfully imported in the template list after the import success is displayed.

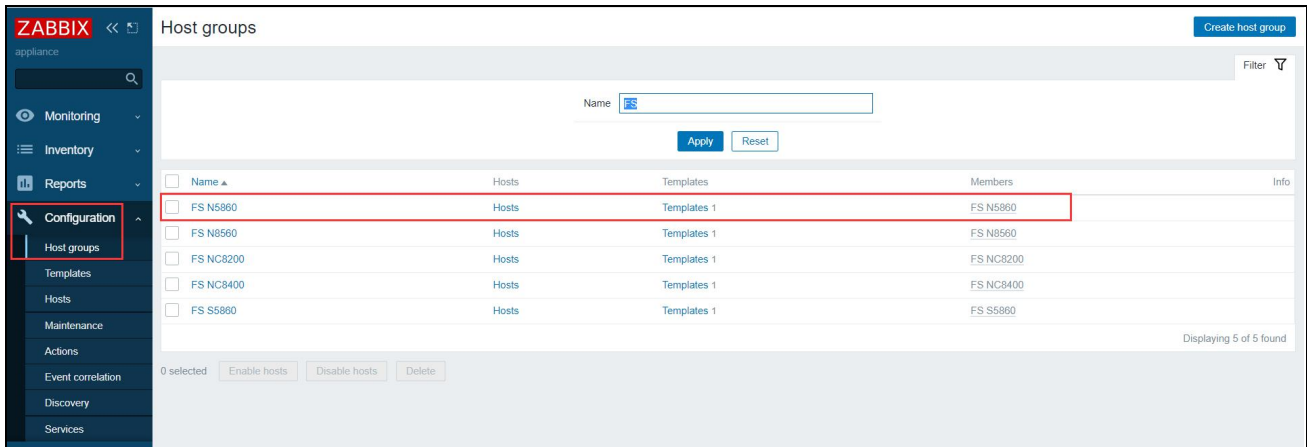


2.2.3 Create Host Groups

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

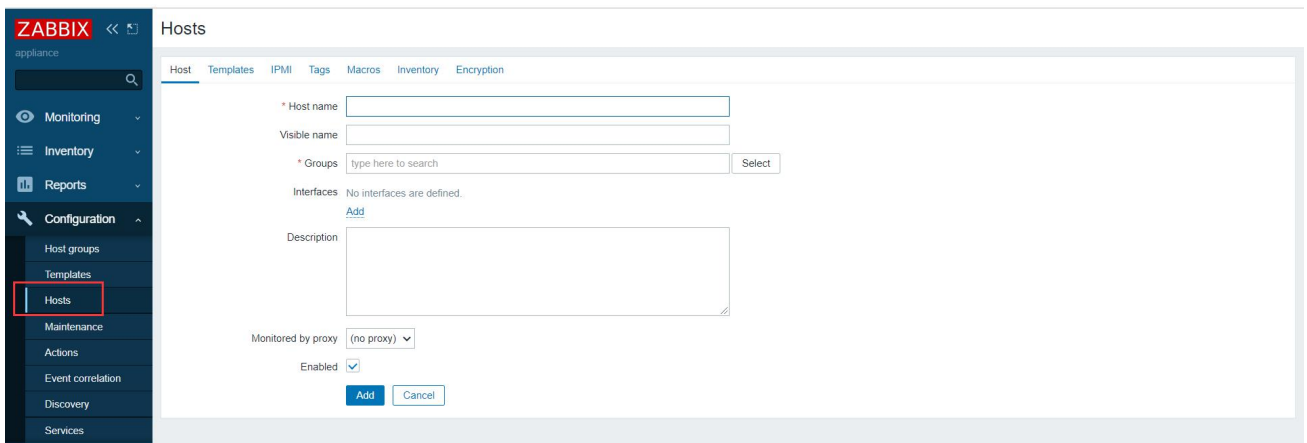


Step 2: Create a host group named 'FS N5860' host group, then view the successfully created host group.

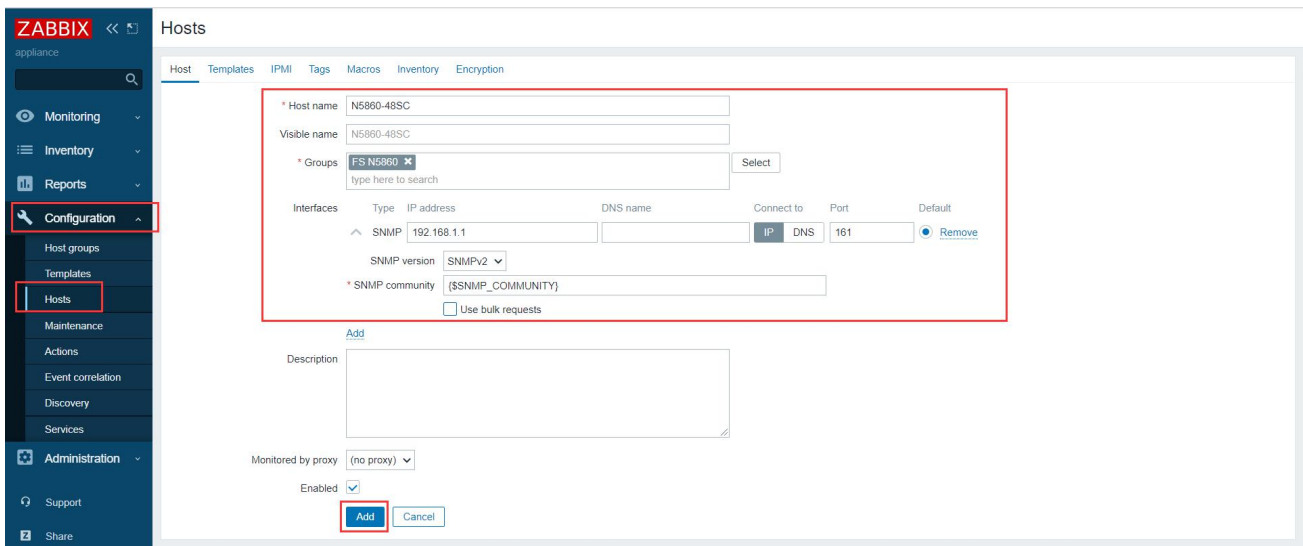


2.2.4 Create Hosts

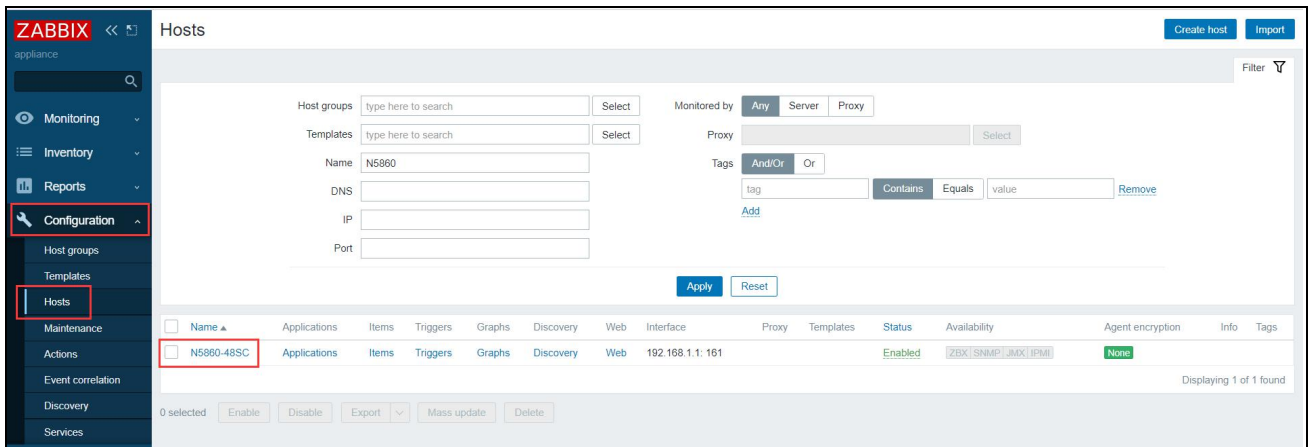
Step 1: Enter **Hosts** page under **Configuration**, click on the **Create Host** button in the upper right corner to create the host.



Step 2: Create a host named N5860-48SC, select the FS N5860 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.

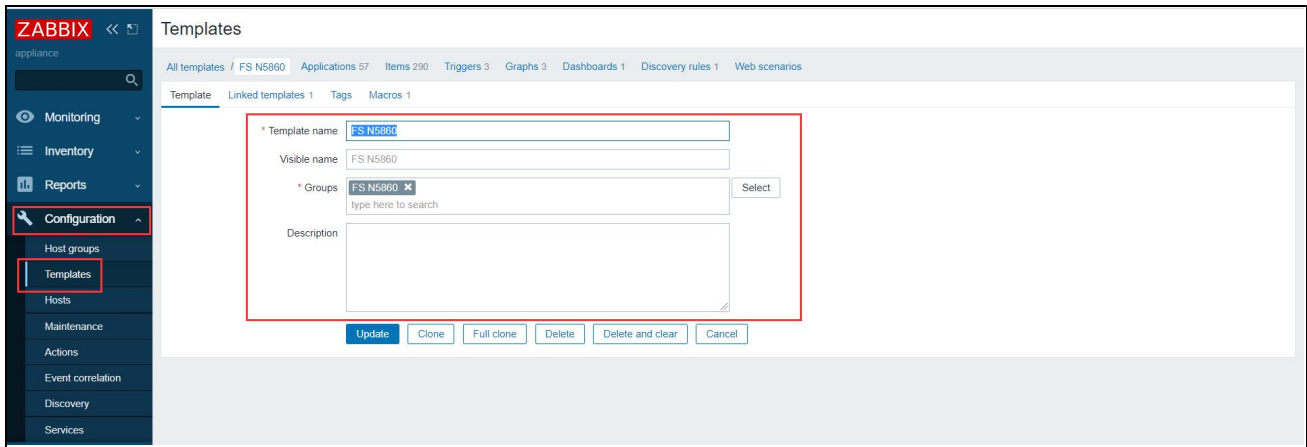


Step 3: You can view the created hosts under the host list.

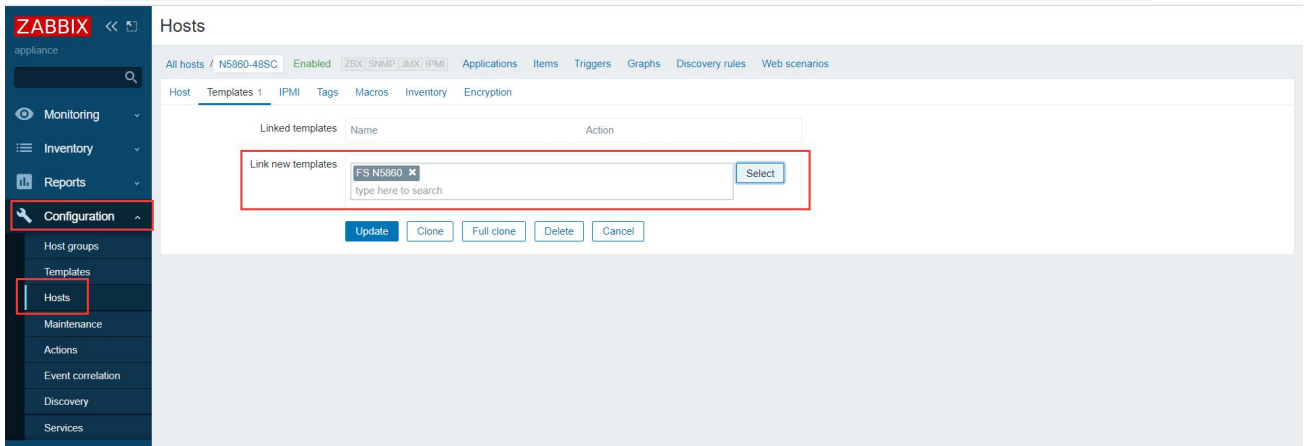


2.2.5 Link Template and Host Group

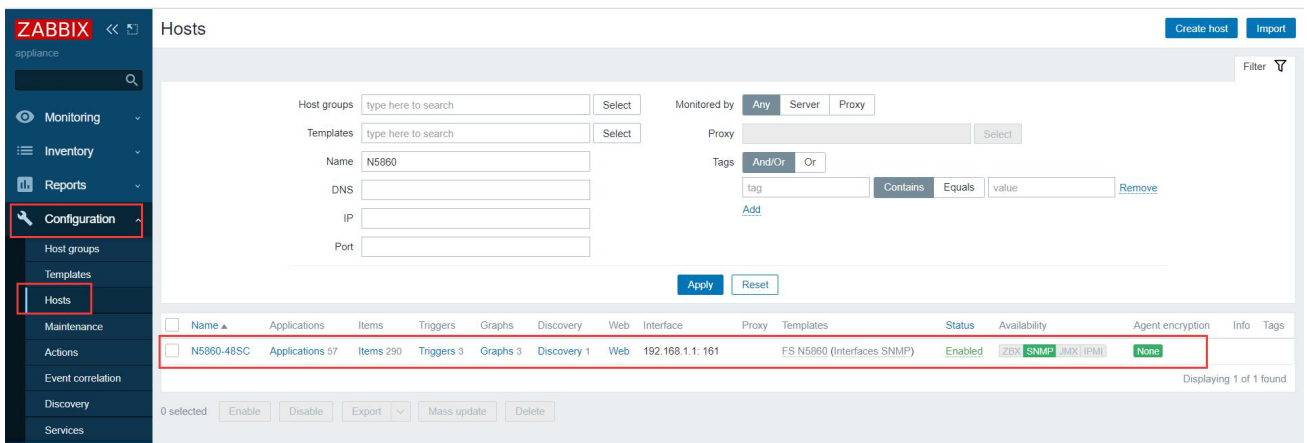
Step 1: Link the FS N5860 host group in the “FS N5860 Series” template.



Step 2: Link “FS N5860 Series” template under N5860-48SC host.



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



2.2.6 Monitoring Switch Data

Select FS N5860 Host groups and N5860-48SC Hosts, you can view that Zabbix has monitored the relevant information and data of the switch N5860-48SC.

Host	Name	Last check	Last value	Change
N5860-48SC	Port 0/51 Optical module parameter monitoring (5 Items)			
N5860-48SC	Port 0/52 Optical module parameter monitoring (5 Items)			
N5860-48SC	Port 0/53 Optical module parameter monitoring (5 Items)			
N5860-48SC	Port 0/54 Optical module parameter monitoring (5 Items)			
N5860-48SC	Port 0/55 Optical module parameter monitoring (5 Items)			
N5860-48SC	- other - (10 Items)			
	CPU	2021-01-07 17:38:06	19 %	Graph
	Device Mac	2021-01-07 17:38:01	30 0D 9E 7D 36 7D	History
	Fan1speed	2021-01-07 17:38:03	10744 RPM	Graph
	Fan2speed	2021-01-07 17:38:04	10676 RPM	-7 RPM Graph
	Fan3speed	2021-01-07 17:38:05	10799 RPM	+139 RPM Graph
	Fan4speed	2021-01-07 17:38:06	10482 RPM	+51 RPM Graph
	Memory	2021-01-07 17:38:02	33 %	Graph

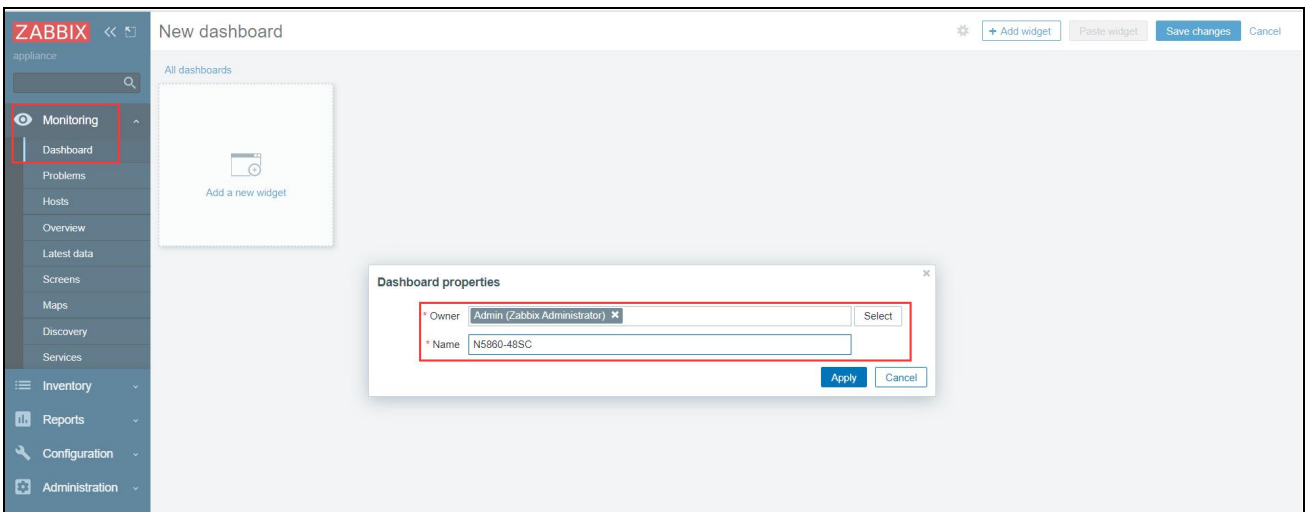
2.3 Zabbix Personalized Customization

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.

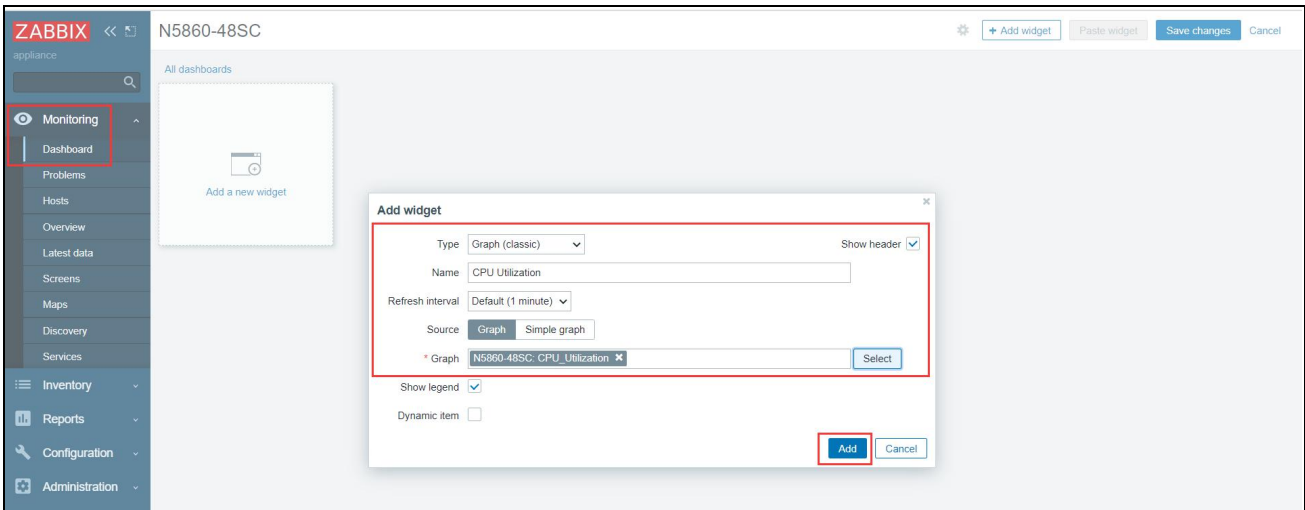
Step 1: Click Create dashboard in the upper right corner to create a dashboard.

Name	Global view	Zabbix server health
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

Step 2: Create a dashboard named N5860-48SC dashboard.

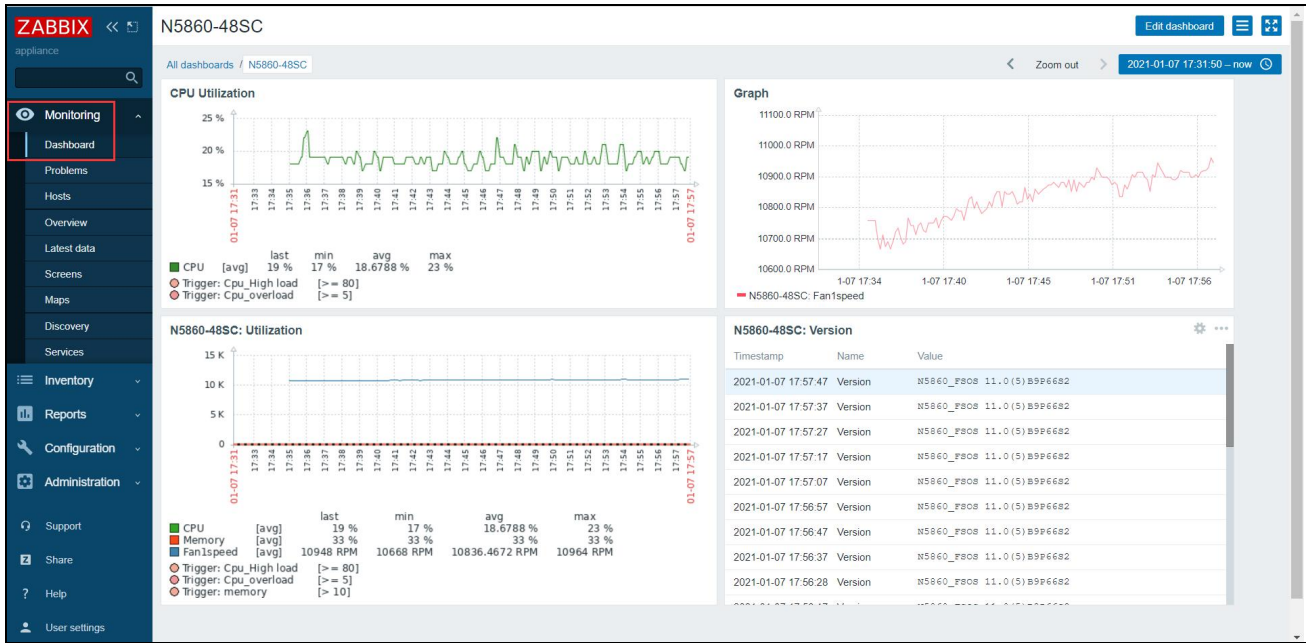


Step 3: Click anywhere on the dashboard to create a component, for example named as cpu Utilization, select N5860-48SC host pattern, CPU item pattern of Data set, and click Create.



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

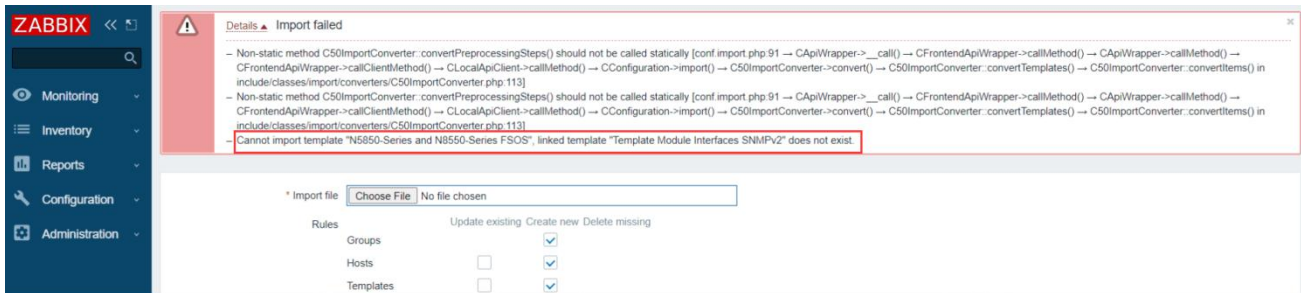
Of course, you can also configure the visualized information in the dashboard according to personal preferences.



2.4 FAQ

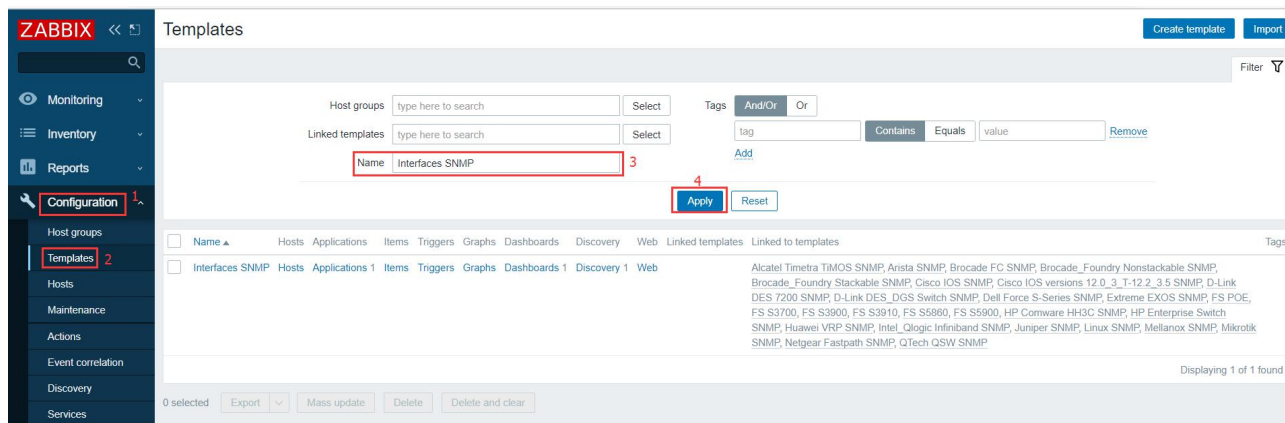
2.4.1 Template Import Failed

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:

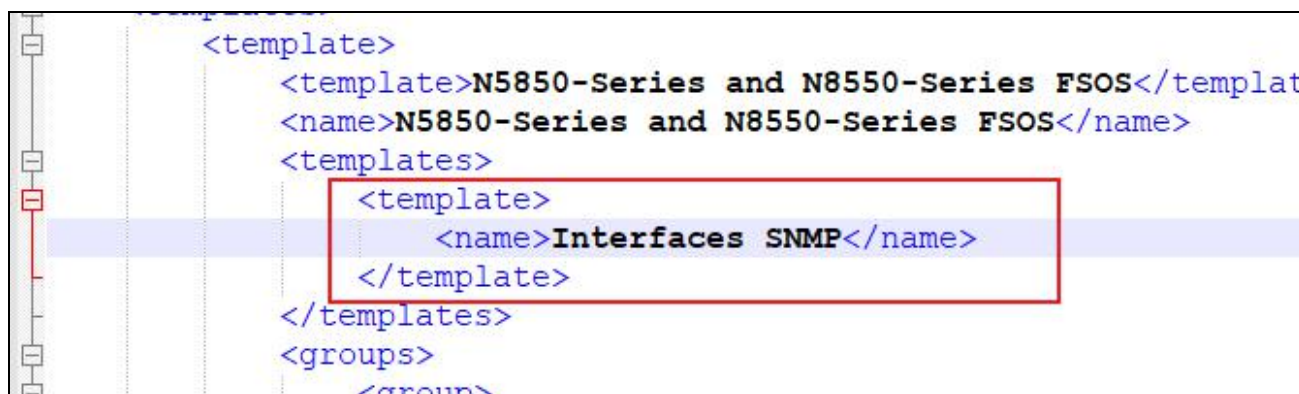


Pls refer to below solution :

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.

ZABBIX << Import

* Import file 1

Rules	Update existing	Create new	Delete missing
Groups		<input checked="" type="checkbox"/>	
Hosts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Templates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Template dashboards	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discovery rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Triggers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Graphs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Web scenarios	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Screens	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Maps	<input 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"/>	

2

ZABBIX << Import

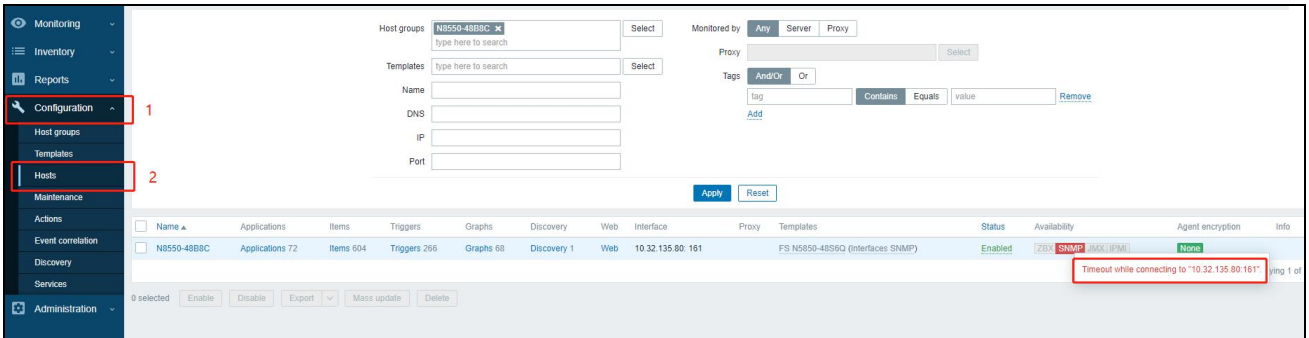
Imported successfully

* Import file

Rules	Update existing	Create new	Delete missing
Groups		<input checked="" type="checkbox"/>	
Hosts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Templates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Template dashboards	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discovery rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Triggers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Graphs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Web scenarios	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Screens	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Maps	<input 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"/>	

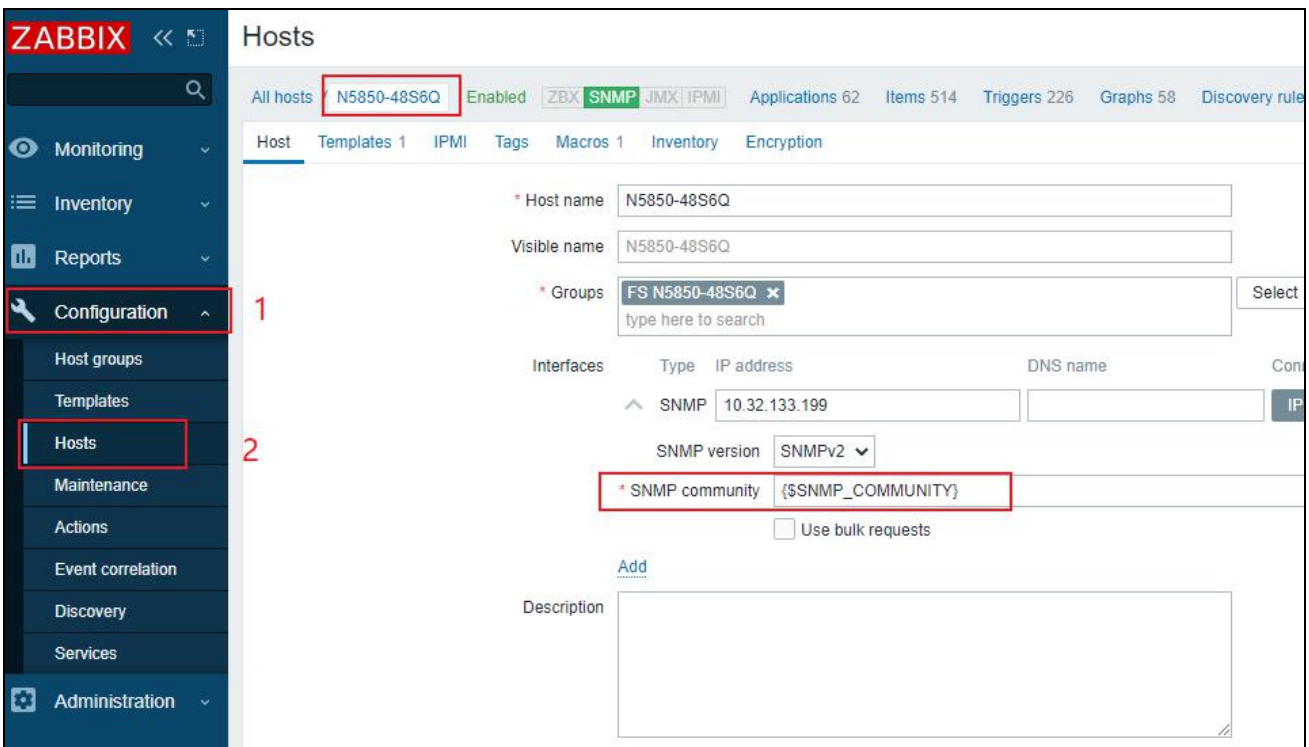
2.4.2 Monitor Host Failed

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:



Pls refer to below solution :

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



Hosts

All hosts / N5850-48S6Q Enabled ZBX SNMP JMX IPMI Applications 62 Items 514 Triggers 226 Graphs 58 Discovery rules 1 Web scenarios

Host Templates 1 IPMI Tags Macros 1 Inventory Encryption

Host macros Inherited and host macros 2

Macro	Effective value	Template value
{\$IF.ERRORS.WARN}	2	Interfaces SNMP: "2"
{\$IF.UTIL.MAX}	90	Interfaces SNMP: "90"
{\$IF.CONTROL}	1	Interfaces SNMP: "1"
{\$NET.IF.IFADMINSTATUS.MATCHES}	^.*	Interfaces SNMP: "^.*"

Configuration

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

{\$NET.IF.IFDESCR.NOT_MATCHES}	CHANGE_IF_NEEDED	Interfaces SNMP: "CHANGE_IF_NEEDED"
{\$NET.IF.IFNAME.MATCHES}	^.*\$	Interfaces SNMP: "^.*\$"
{\$NET.IF.IFNAME.NOT_MATCHES}	(^Software Loopback Interface*NULL[0-9]*\$ ^([Ll][0-9]*\$ ^([Ss]ystem\$ ^Nu[0-9]*\$ ^veth[0-9a-z]*-)\$ docker[0-9]* br-[a-z0-9]{12})\$)	Interfaces SNMP: "(^Software Loopback Interface*NULL[0-9]*\$ ^([Ll][0-9]*\$ ^([Ss]ystem\$ ^Nu[0-9]*\$ ^veth[0-9a-z]*-)\$ docker[0-9]* br-[a-z0-9]{12})\$"
Filter out loopbacks, nulls, docker veth links and docker0 bridge by default		
{\$NET.IF.IFOPERSTATUS.MATCHES}	^.*\$	Interfaces SNMP: "^.*\$"
{\$NET.IF.IFOPERSTATUS.NOT_MATCHES}	^6\$	Interfaces SNMP: "^6\$"
Ignore notPresent(6)		
{\$NET.IF.IFTYPE.MATCHES}	^.*	Interfaces SNMP: "^.*"
{\$NET.IF.IFTYPE.NOT_MATCHES}	CHANGE_IF_NEEDED	Interfaces SNMP: "CHANGE_IF_NEEDED"
{\$SNMP_COMMUNITY}	Public	FS N5850-48S6Q: "public"

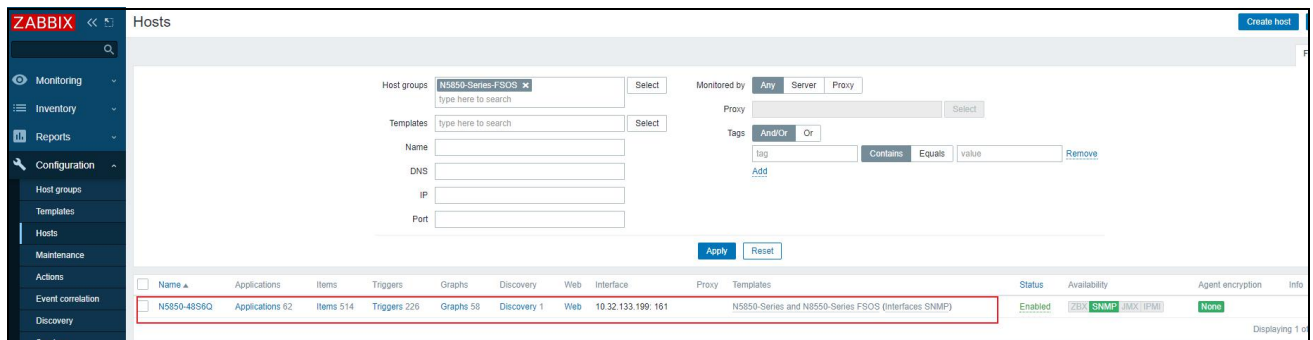
Step 2: Check whether the SNMP community name configuration of the switch is consistent with the Zabbix host SNMP community name configuration.

```
N5850-48S6Q#show run
!Device running configuration:
!version V100R201
!2001/01/04 16:58:56
!
hostname N5850-48S6Q
!
username admin group administrators password $1$ki$vj$b1P5gEaeX6
!
snmp community Public ro plain view internet
!
vlan 1
!
line console 1
```

Step 3: Modify the SNMP community name configuration of the switch to keep it consistent with the Zabbix host SNMP community name configuration.

```
N5850-48S6Q(config)#snmp community public ro
N5850-48S6Q(config)#end
N5850-48S6Q#show run
!Device running configuration:
!version V100R201
!2001/01/04 16:59:46
!
hostname N5850-48S6Q
!
username admin group administrators password $1$kijv$b1P5gEaeX6wG6eQLeT3Di0
!
vlan 1
!
line console 1
  length 24
  monitor
  timeout 10 0
  login authentication local
```

Step 4: Wait for Zabbix to reconnect to the host, and finally connect to the host successfully.





 <https://www.fs.com>



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