

# NR500 Series Industrial Cellular VPN Router

## Application Note 049

### SNMP

**Version:** V1.0.0  
**Date:** Mar 2020  
**Status:** Confidential



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# 1. Introduction

## 1.1 Overview

This document contains information regarding the configuration and use of SNMP.

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product, and of the requirements for their specific application.

## 1.2 Compatibility

This application note applies to:

**Models Shown:** NR500 series.

**Firmware Version:** V1.1.3(e335ec6) or newer

**Other Compatible Models:** None

## 1.3 Version

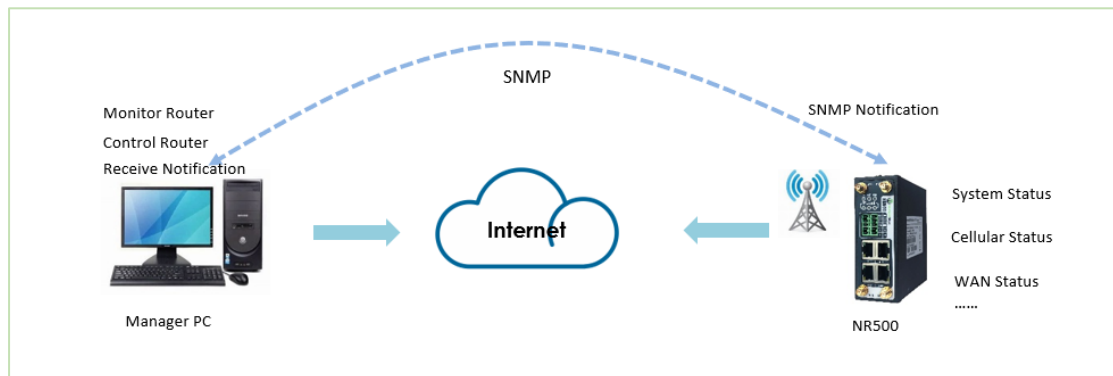
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2020/03/04	V1.0.0	V1.1.3(e335ec6)	First released

## 1.4 Corrections

Appreciate for corrections or rectifications to this application note, and if any request for new application notes please email to: [support@navigateworx.com](mailto:support@navigateworx.com)

## 2. Topology



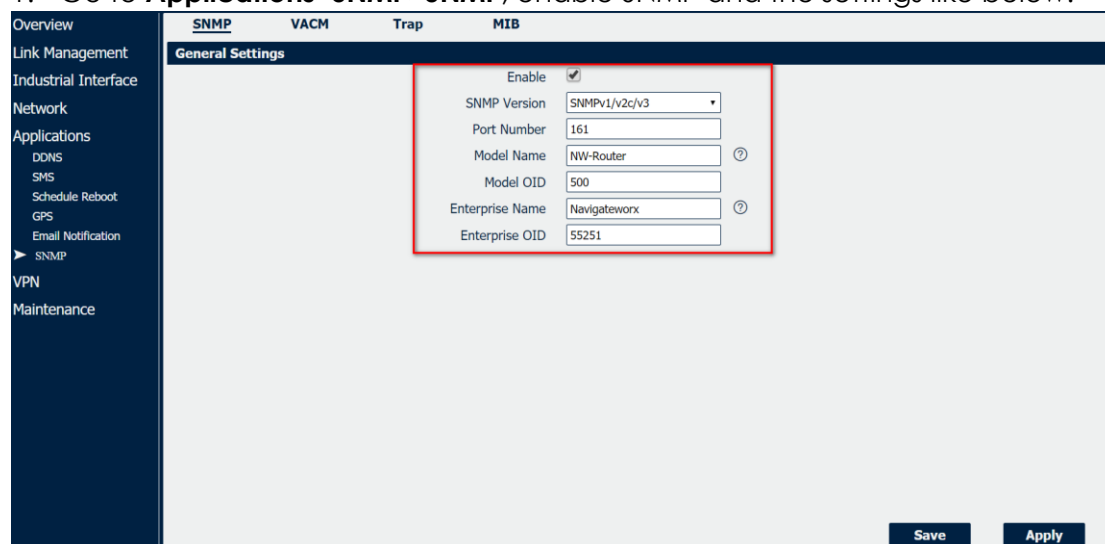
1. Manager PC access to NR500 router via SNMP Protocol.
2. Manager PC get the running status, control the router and receive the SNMP Notification from NR500 router.

*Note: For this Application Note, we use the Intranet for testing instead of Cellular WAN. Manager PC connect to the LAN port of NR500. The IP address of Manager PC is: 192.168.5.19/24. The IP address of NR500 LAN port is: 192.168.5.1/24.*

## 3. Configuration

### 3.1 Configuration on NR500 Router

1. Go to **Applications>SNMP>SNMP**, enable SNMP and the settings like below:



Overview | **SNMP** | VACM | Trap | MIB

Link Management

Industrial Interface

Network

Applications

- DDNS
- SMS
- Schedule Reboot
- GPS
- Email Notification
- SNMP

VPN

Maintenance

**General Settings**

Enable

SNMP Version: SNMPv1/v2c/v3

Port Number: 161

Model Name: NW-Router

Model OID: 500

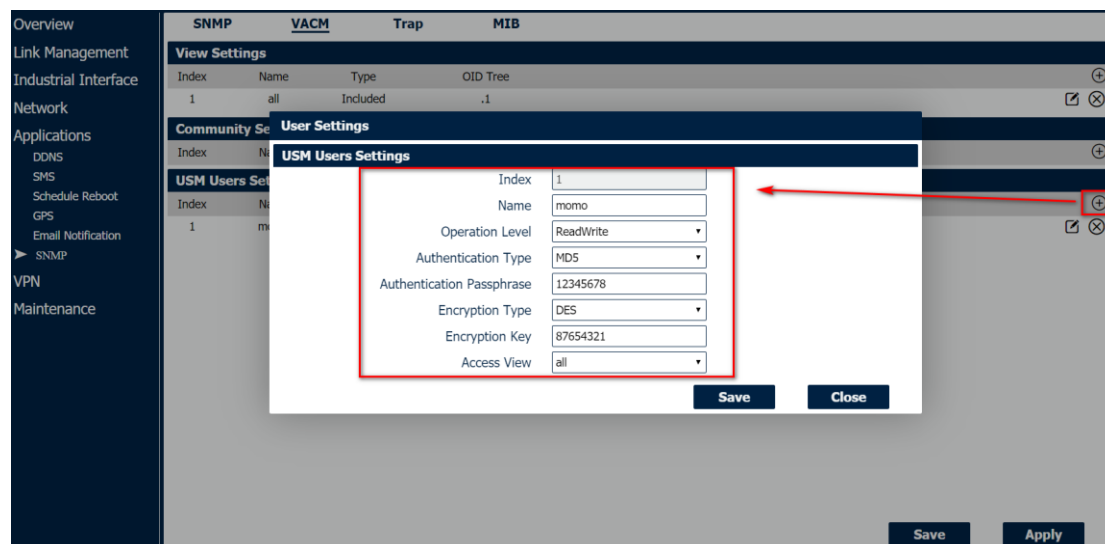
Enterprise Name: Navigateworx

Enterprise OID: 55251

Save Apply

2. Click Save>Apply.

3. Go to **Applications>SNMP>VACM**, Let the configuration of “View Settings” as default. For “USM Users Settings”, please setup like below:



Overview | **SNMP** | **VACM** | Trap | MIB

Link Management

Industrial Interface

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Applications

- DDNS
- SMS
- Schedule Reboot
- GPS
- Email Notification
- SNMP

VPN

Maintenance

**View Settings**

Index	Name	Type	OID Tree
1	all	Included	.1

**USM Users Settings**

Index: 1

Name: momo

Operation Level: ReadWrite

Authentication Type: MD5

Authentication Passphrase: 12345678

Encryption Type: DES

Encryption Key: 87654321

Access View: all

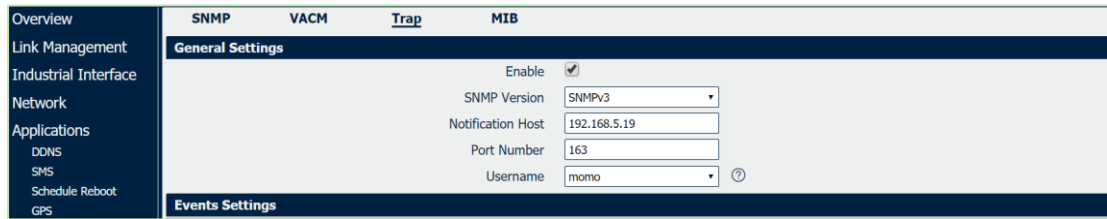
Save Close

Save Apply

4. Click Save>Apply.

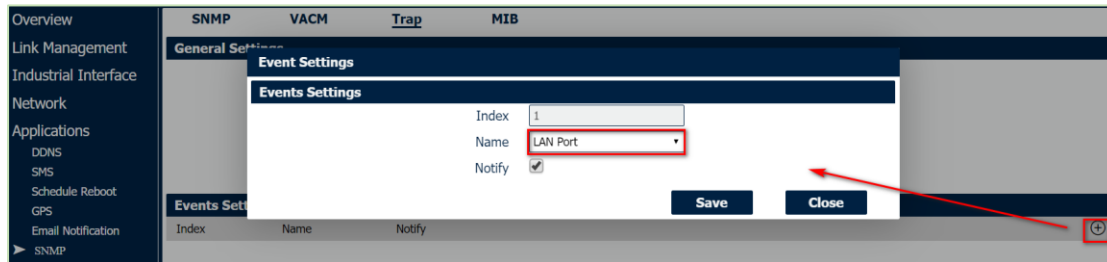
5. Go to “**Applications>SNMP>Trap**”, enable SNMP Trap configuration, and the “Notification Host” should be the IP address of the PC run with SNMP

management tool, like below:



Section	Field	Value
General Settings	Enable	<input checked="" type="checkbox"/>
	SNMP Version	SNMPv3
	Notification Host	192.168.5.19
	Port Number	163
	Username	momo

- Here we set the “LAN Notify” as an example, when the LAN Port status changed, the SNMP management tool will receive the event alarm. Go to **“Applications>SNMP>Trap>Events Settings”**, configuration like below:



Index	Name	Notify
1	LAN Port	<input checked="" type="checkbox"/>

- Click Save>Apply

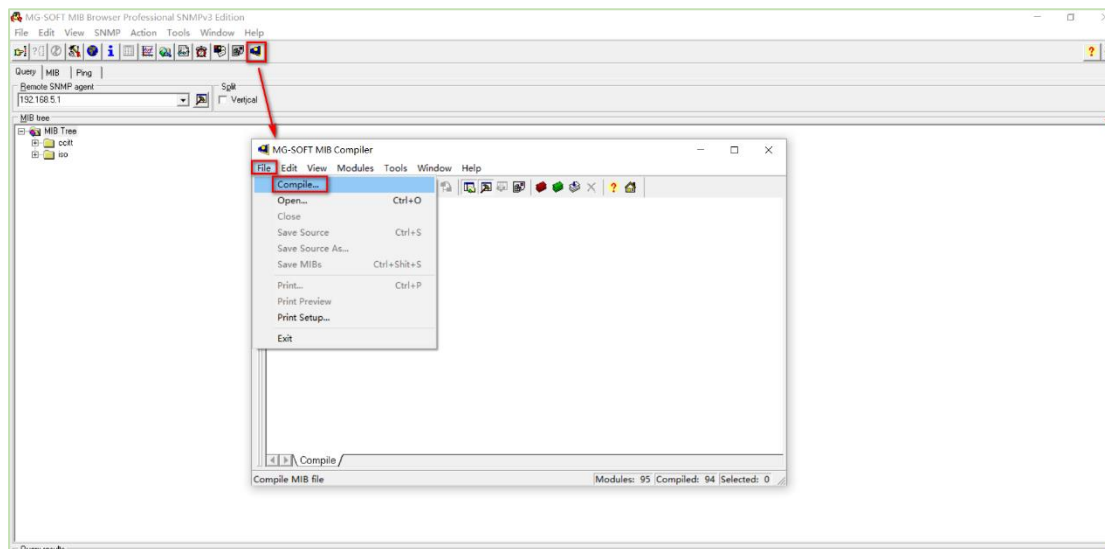
## 3.2 Configuration on SNMP Management Tool

Here we use the software “MG MibBrowser” as the management tool, please install the it on the PC, after finishing installation, then we can see below:

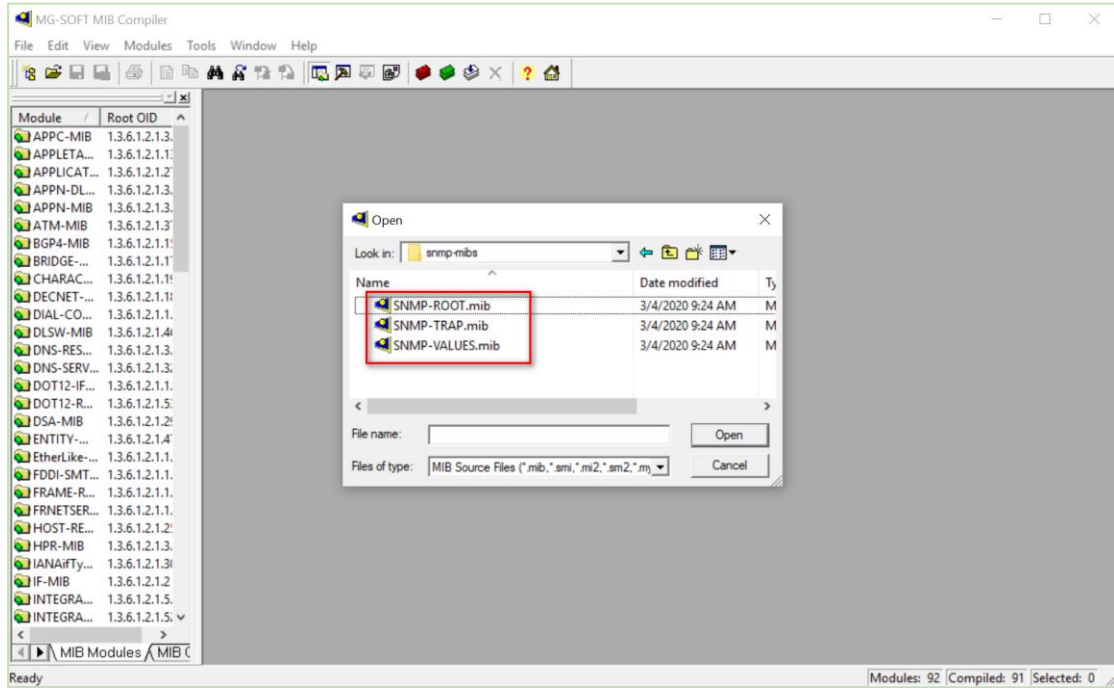
Command Line Utilities	2020/3/3 15:54	文件夹	
Document Files	2020/3/3 15:54	文件夹	
MIB Browser Help	2020/3/3 15:54	快捷方式	2 KB
MIB Browser User Manual	2020/3/3 15:54	快捷方式	2 KB
<b>MIB Browser</b>	2020/3/3 15:54	快捷方式	1 KB
MIB Builder Help	2020/3/3 15:54	快捷方式	2 KB
MIB Builder	2020/3/3 15:54	快捷方式	1 KB
MIB Compiler Help	2020/3/3 15:54	快捷方式	2 KB
MIB Compiler	2020/3/3 15:54	快捷方式	1 KB
MIB Explorer Help	2020/3/3 15:54	快捷方式	2 KB
MIB Explorer	2020/3/3 15:54	快捷方式	1 KB
Quick Start Guide	2020/3/3 15:54	快捷方式	2 KB
Uninstall MIB Browser	2020/3/3 15:55	快捷方式	2 KB

*Note: After unzip the “MG MibBrowser” package, we should install all the files into the “unzip” folder during the installation.*

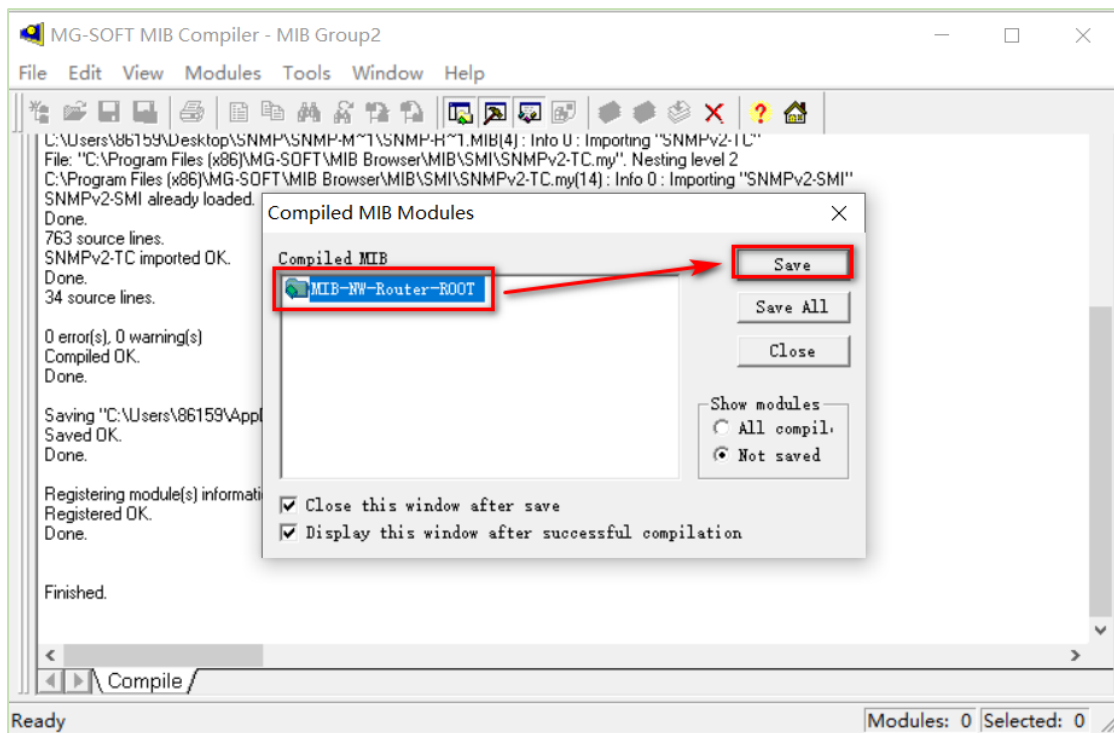
1. Open MibBrowser and run the MIB Compiler:



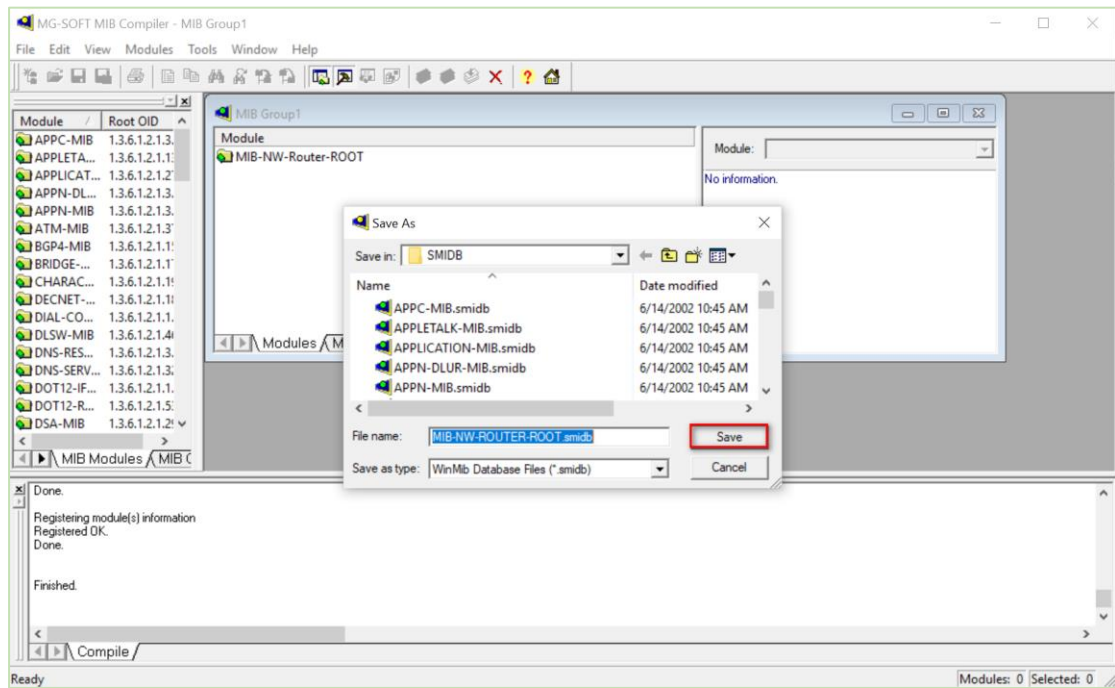
2. Compiler the MIB files “SNMP-ROOT.mib”, “SNMP-TRAP.mib” and “SNMP-VALUES.mib” **one by one**:



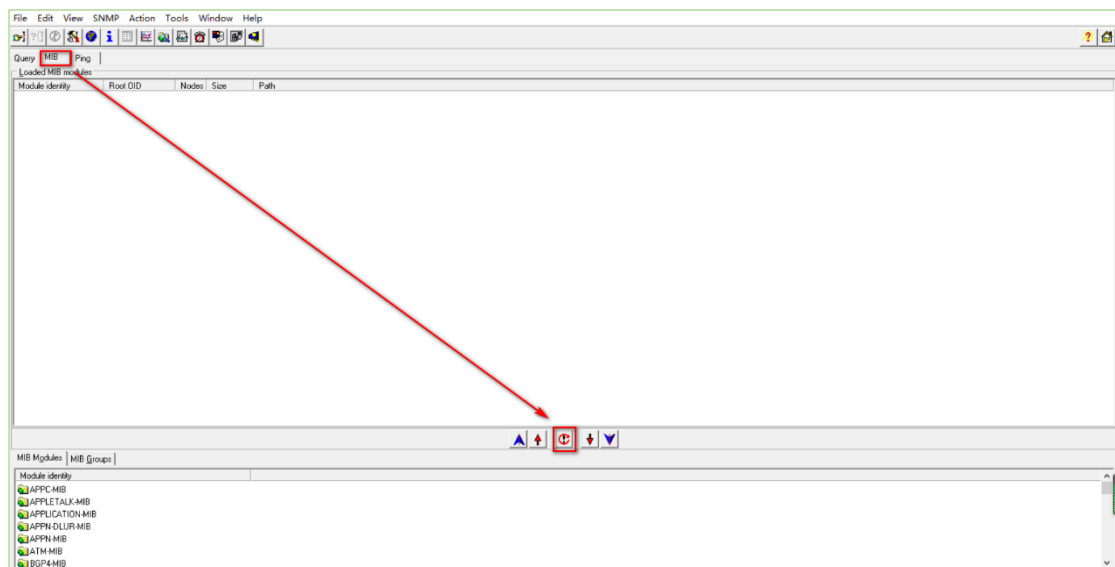
3. Save the Compiled File as default path, like below:



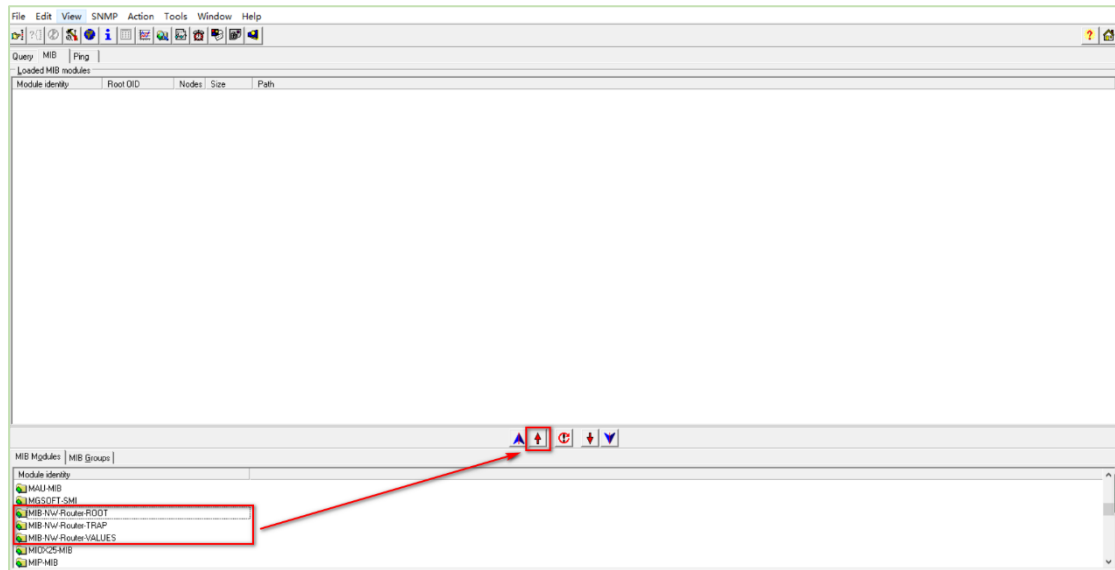




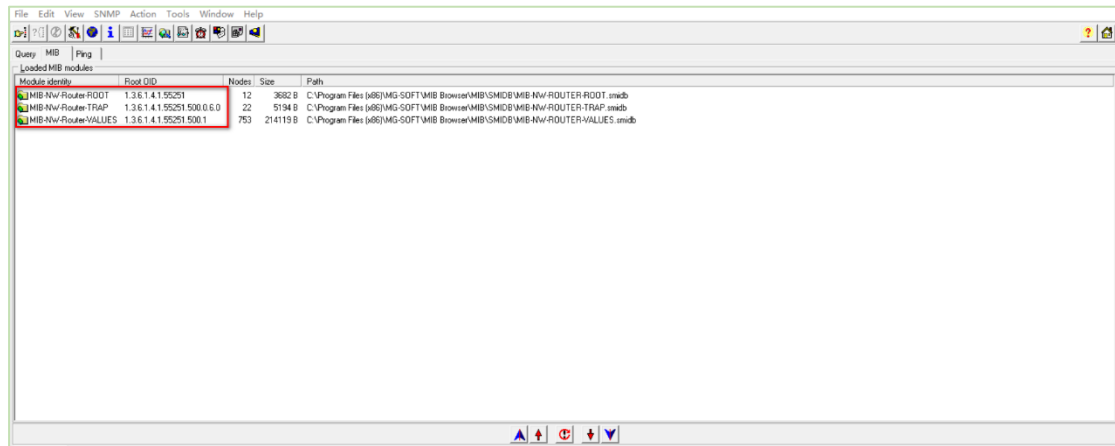
4. After above, we need to refresh the MIB Module:



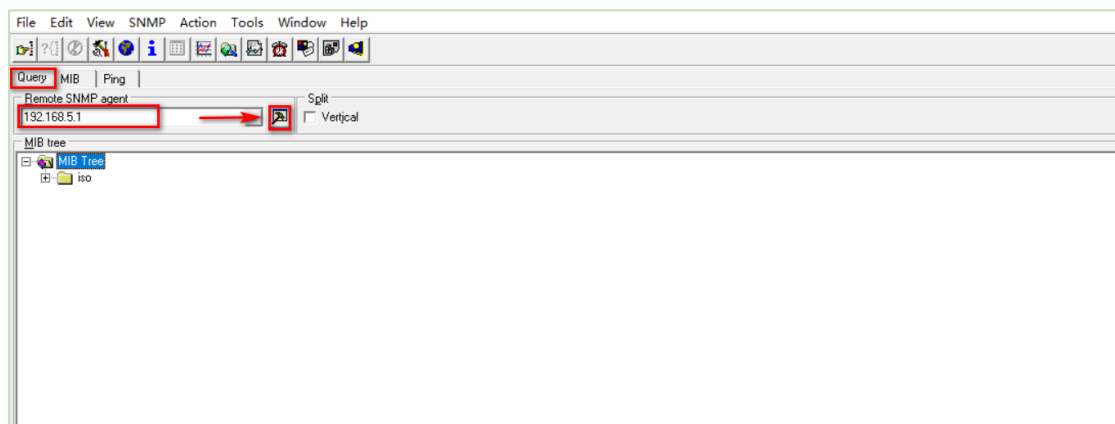
5. Then we can check the MIB file and load them:



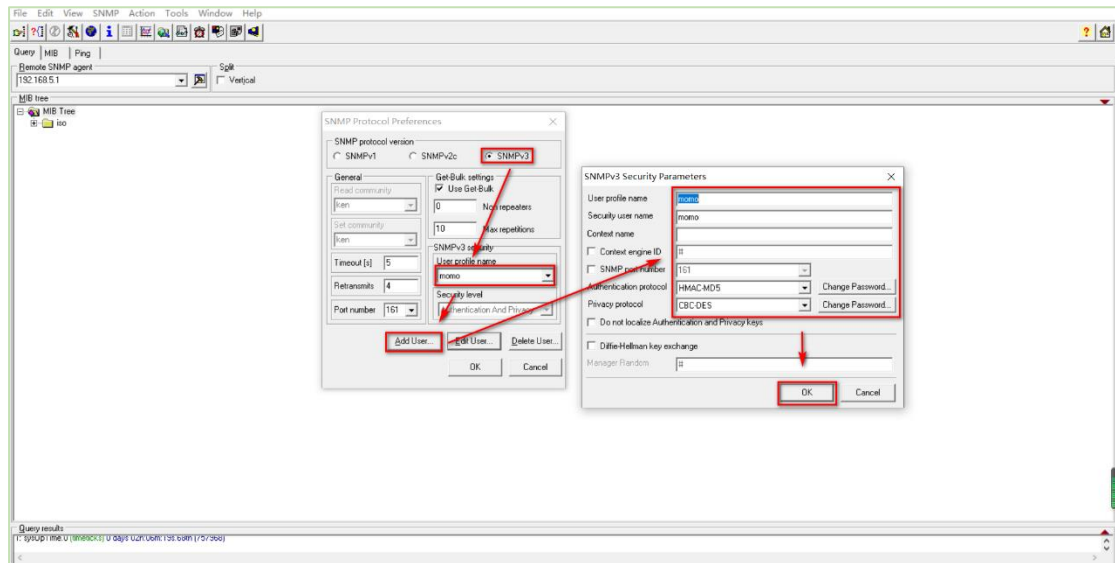
6. The MIB file had been loaded:



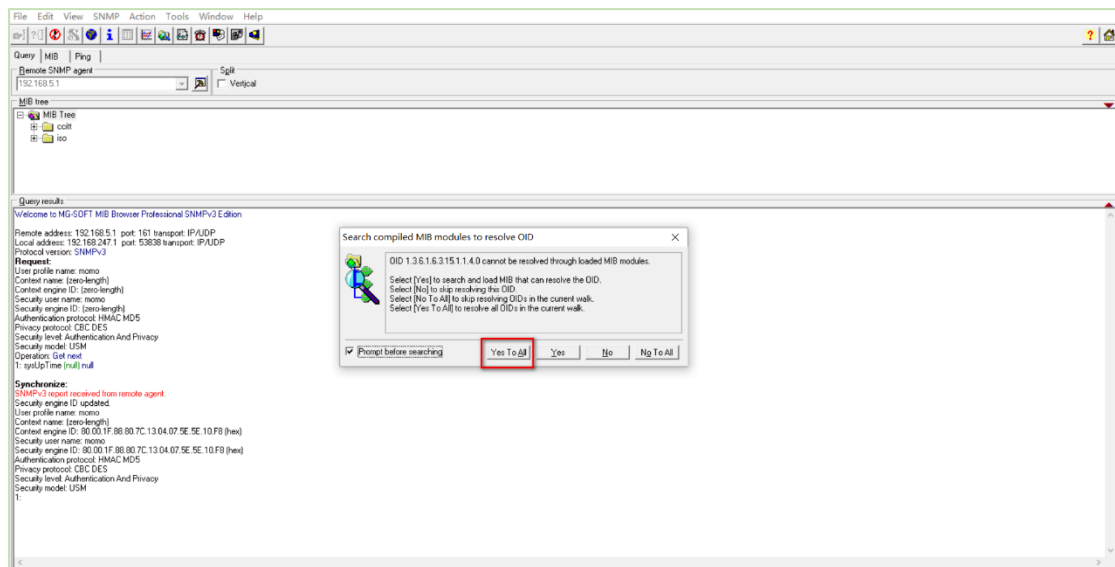
7. After that, enter the IP address of NR500 router and connect to NR500 from the management tool:



8. Enter the related parameters of SNMPv3, Like the Name and the Authentication and so on, like below:



9. Click "Yes To All":



10. After that, we can see the menu of NR500 router:

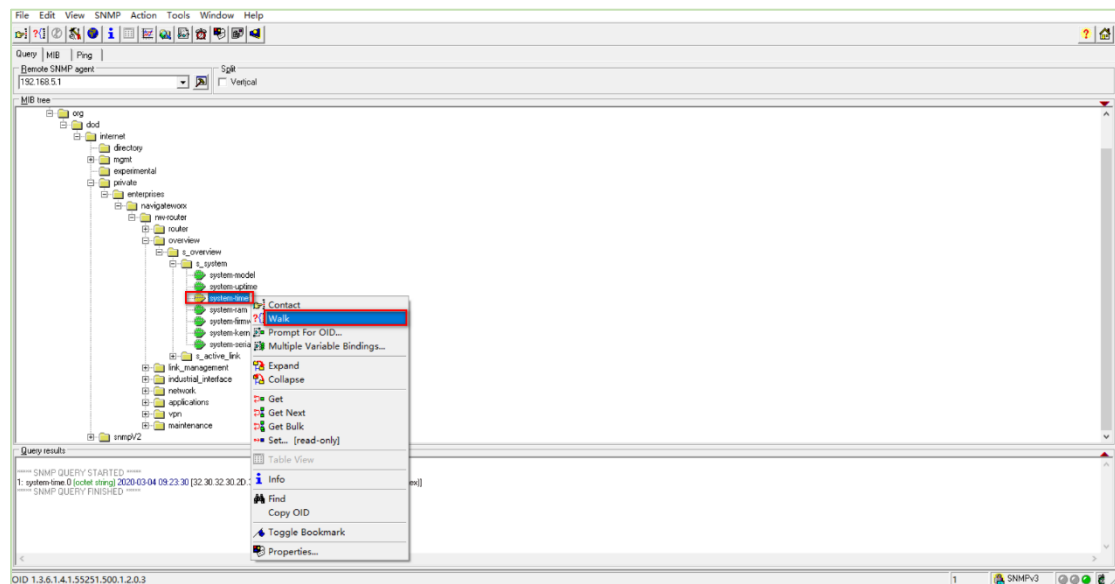


## 4. Testing

### 4.1 Monitor The Running Status Of The Router

Here we check the “system time” and check the “firmware version” as an example.

1. Go to the “system-time” and Right Click, then click “Walk”:



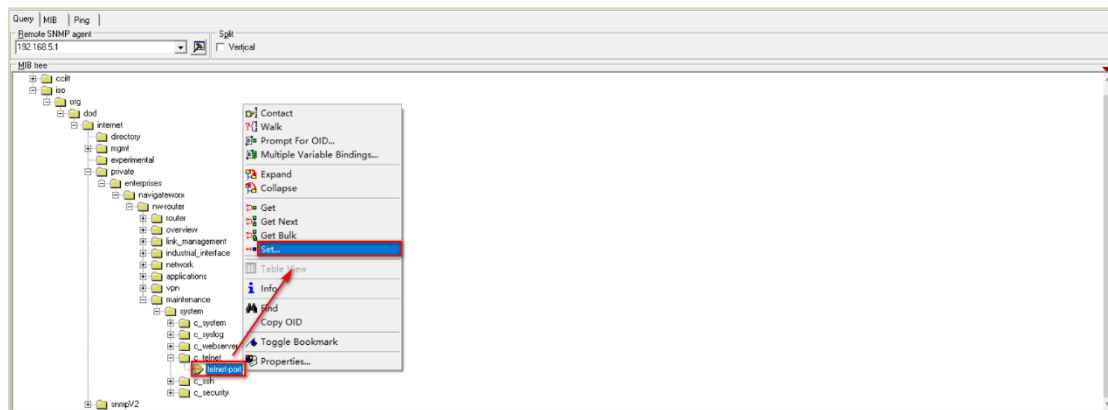
2. Get the System Time of the router:



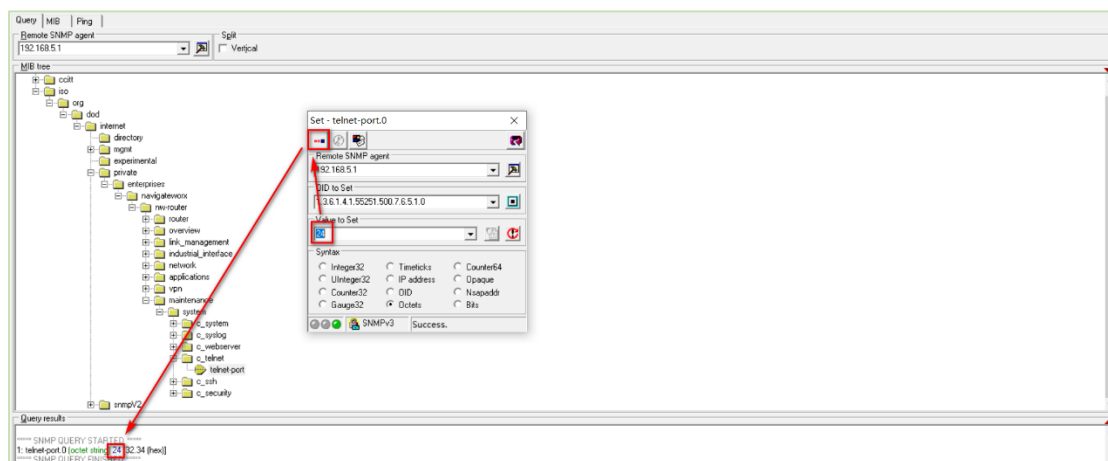
## 4.2 Control The Router

Here we change the Telnet Port of the router as an example, after checking, then we need to Save, then Apply.

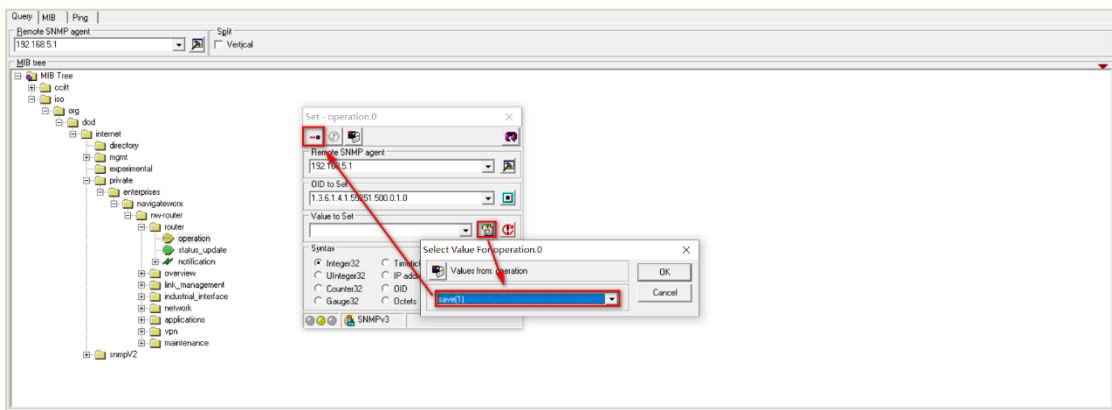
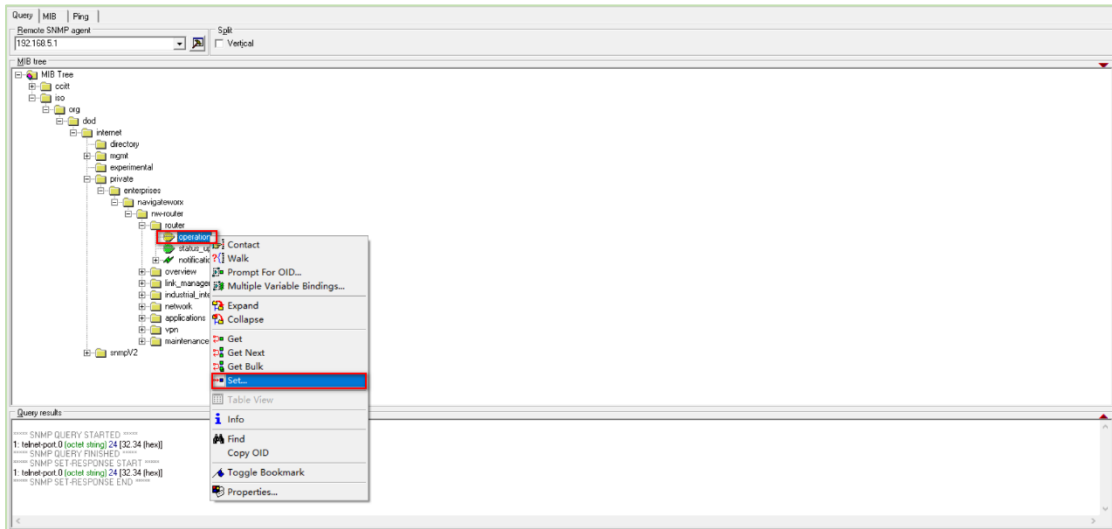
1. Go to the "Telnet" Option, Right Click, then Click "Set":



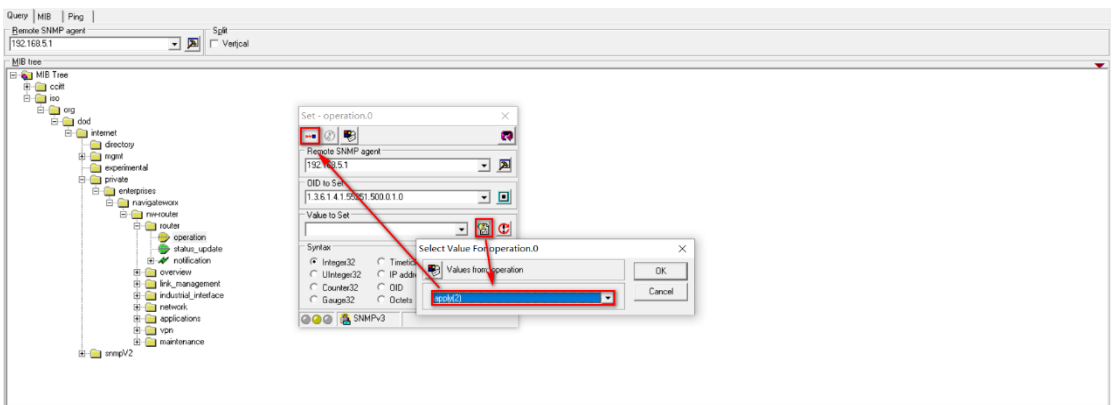
2. Set the Port to "24", like below:



3. After setting, it needs to be saved. Go to "Save Operation" and save it:



4. Then "Apply":



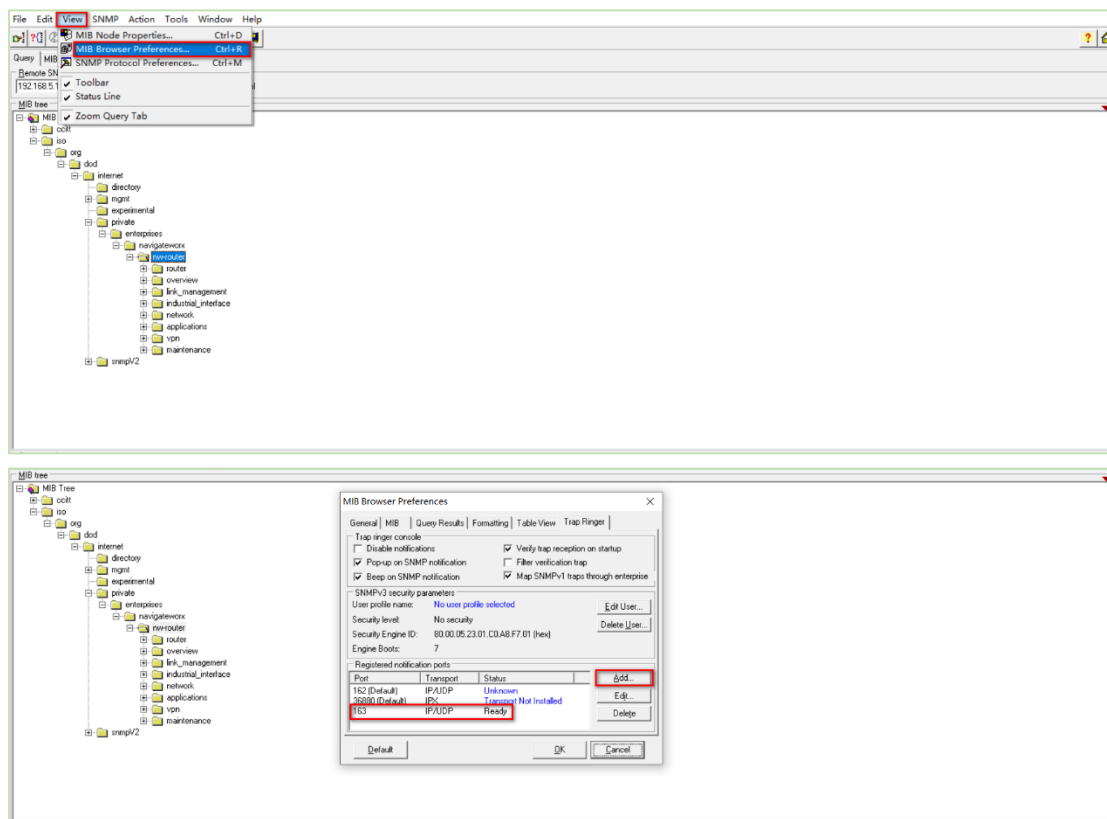
5. Log in to the router and the Tenet Port had been changed to "24":



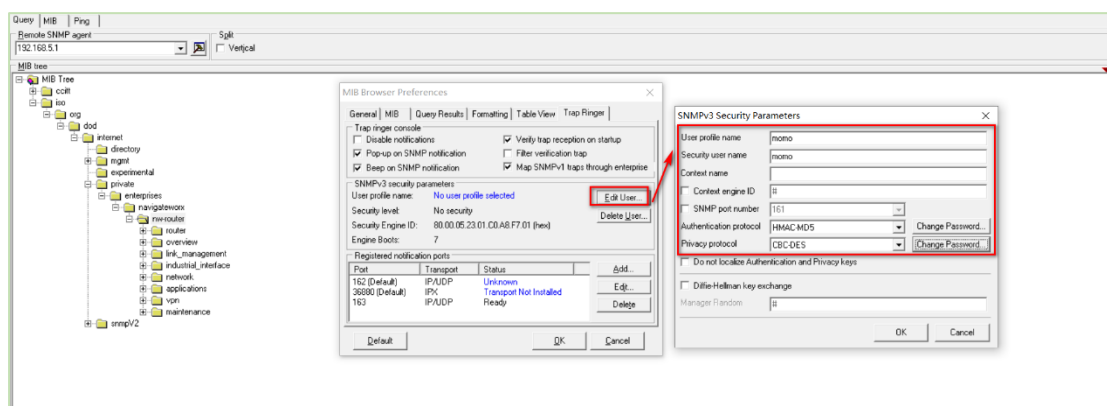
6. Test Successfully

## 4.3 SNMP Trap Notification

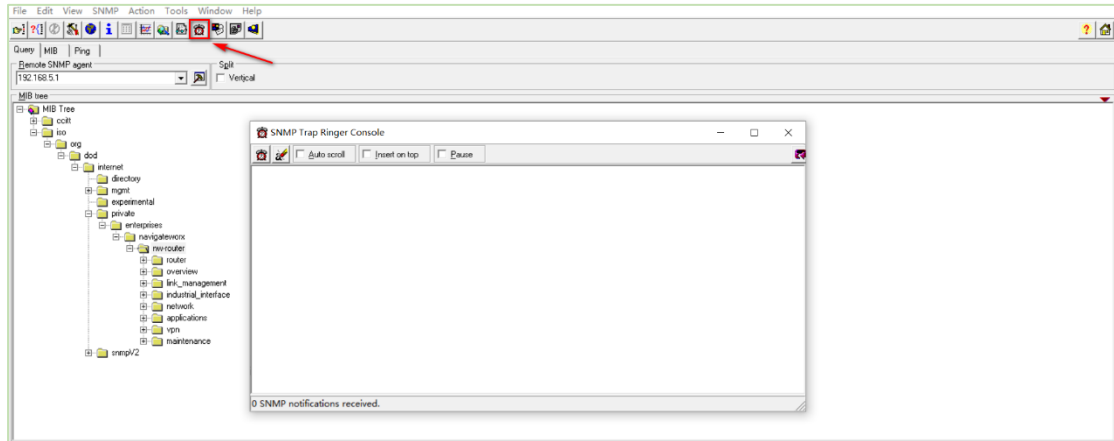
For this AN, test SNMP Trap with UDP port 163, like below:



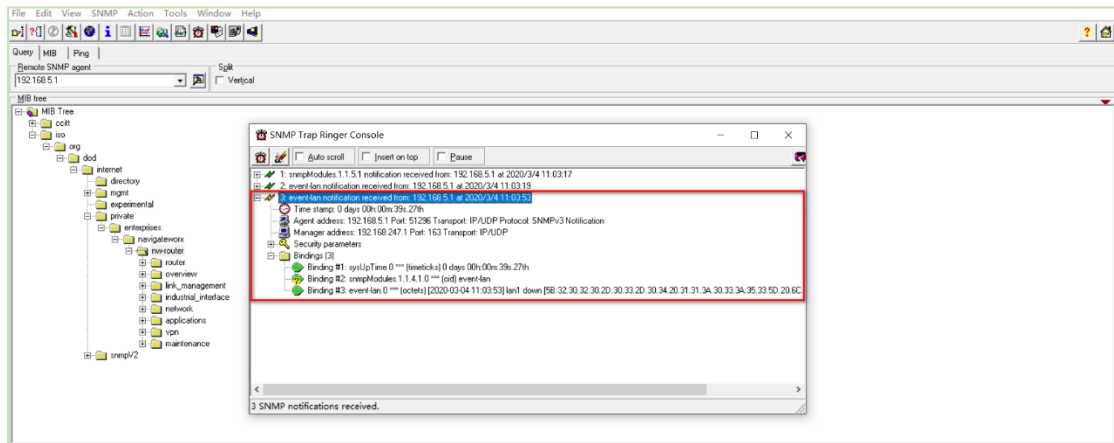
1. Add User and click "OK":



2. Open the SNMP Trap Ringer Console:



3. Remove the Ethernet Cable from LAN port of the router, then receive the LAN Notification on SNMP Management tool:



4. Test successfully.