

# Настройка SNMPv3

- 1) Настройка SNMPv3 (web интерфейс)
- 2) Настройка SNMPv3 (CLI)
- 3) Проверка работы



## 1) Настройка SNMPv3 (web интерфейс)

1. Создаем пользователя USM User:  
user1

[Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail](#) : [V3 User Name Table](#)

Path: [Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail](#) : [V3 User Name Table](#)

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

All	Security Name	Engine ID	Security Level	Authentication Protocol	Authentication Password	Privacy Protocol	Privacy Password
<input type="checkbox"/>	user1	800065d303001ecd664517	AuthPriv	MD5	user1234	AES	user12345

Apply Del



# 1) Настройка SNMPv3 (web интерфейс)

2. Создаем группу:  
group1

[Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 Group Table](#)

Path: [Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 Group Table](#)

V3 User Name Table

V3 Group Table

V3 View Table

V3 Access Table

Index	Group Name	Security Name	Security Model
1	default_ro_group	public	V2C ▾
2	default_rw_group	private	V2C ▾
3	group1	user1	usm ▾
4			usm ▾
5			usm ▾
6			usm ▾
7			usm ▾
8			usm ▾
9			usm ▾
10			usm ▾
11			usm ▾
12			usm ▾
13			usm ▾
14			usm ▾
15			usm ▾
16			usm ▾
17			usm ▾
18			usm ▾

Apply



# 1) Настройка SNMPv3 (web интерфейс)

3. Создаем область просмотра таблицы MIB:  
view1

[Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 View Table](#)

Path: [Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 View Table](#)

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	View Name	View Type	OID
1	view1	included ▼	.1
2	default_view	included ▼	.1
3		included ▼	
4		included ▼	
5		included ▼	
6		included ▼	
7		included ▼	
8		included ▼	
9		included ▼	
10		included ▼	
11		included ▼	
12		included ▼	
13		included ▼	
14		included ▼	
15		included ▼	
16		included ▼	

Apply



## 1) Настройка SNMPv3 (web интерфейс)

4. Сопоставляем group и view:

group1

view1

[Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 Access Table](#)

Path: [Home](#) >> [Service](#) >> [SNMP](#) >> [V3 Detail : V3 Access Table](#)

V3 User Name Table V3 Group Table V3 View Table **V3 Access Table**

Index	Group Name	Security Model	Security Level	Read View	Write View
1	group1	usm	AuthPriv	view1	view1
2	default_ro_group	any	NoAuthNoPriv	default_view	None
3	default_rw_group	any	NoAuthNoPriv	default_view	default_view
4		usm	NoAuthNoPriv	None	None
5		usm	NoAuthNoPriv	None	None
6		usm	NoAuthNoPriv	None	None
7		usm	NoAuthNoPriv	None	None
8		usm	NoAuthNoPriv	None	None
9		usm	NoAuthNoPriv	None	None
10		usm	NoAuthNoPriv	None	None
11		usm	NoAuthNoPriv	None	None
12		usm	NoAuthNoPriv	None	None
13		usm	NoAuthNoPriv	None	None
14		usm	NoAuthNoPriv	None	None
15		usm	NoAuthNoPriv	None	None
16		usm	NoAuthNoPriv	None	None
17		usm	NoAuthNoPriv	None	None
18		usm	NoAuthNoPriv	None	None

[Apply](#)



## 1) Настройка SNMPv3 (web интерфейс)

Конфигурация коммутатора:

```
switch03# show running-config
Building configuration...
hostname switch03
set temperature high 85 low -40
set voltage V0.9 mV high 1000 low 800
set voltage V1.1 mV high 1200 low 1000
set voltage V1.2 mV high 1300 low 1100
set voltage V1.5 mV high 1600 low 1400
set voltage V1.8 mV high 1900 low 1700
set voltage V3.3 mV high 3600 low 3000
username admin privilege 15 password encrypted 86875faea060a84cf8566f2b101e25530
15047e1e62feed519618096c949b419799417a19967d4122e448c0e1aac428468974fb4a25a93452
865a56945ab2e49
!
vlan 1
!
!
!
!
ntp
ntp server 1 ip-address 192.168.0.11
clock timezone '' 3
snmp-server contact mail@stezelectro.ru
snmp-server location 142821, Moscow region, Stupino urban district, Shmatovo vil
lage, Industrialnaya street, 6
no snmp-server community public
no snmp-server community private
snmp-server user user1 engine-id 800065d303001ecd664517 md5 encrypted 8A145BDC6B
73795FF0961CDCE4899DDF priv aes encrypted D6BAF1B43B48DE5D480A9DCADD1C8F54
snmp-server security-to-group model v3 name user1 group group1
snmp-server view view1 .1 include
snmp-server access group1 model v3 level priv read view1 write view1
no snmp trap security
radius-server disable
!
mvrp managed vlan 1-4093
!
interface Ethernet 1/1/1
!
interface Ethernet 1/1/2
!
interface Ethernet 1/1/3
!
-- more --, next page: Space, continue: g, quit: ^C
```



## 2) Настройка SNMPv3 (CLI)

Пример конфигурации SNMPv3:

```
configure terminal
snmp-server user user2 engine-id 800065d303001ecd664517 md5 user1111 priv aes user1111
snmp-server security-to-group model v3 name user2 group group2
snmp-server view view2 .1.3.6 include
snmp-server access group2 model v3 level priv read view2 write view2
end
save
```



## 2) Настройка SNMPv3 (CLI)

Результат:

Path: Home >> Service >> SNMP >> V3 Detail : V3 User Name Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

All	Security Name	Engine ID	Security Level	Authentication Protocol	Authentication Password	Privacy Protocol	Privacy Password
<input type="checkbox"/>		800065d303001ecd664517	NoAuthNoPriv	MD5		DES	
<input type="checkbox"/>	user1	800065d303001ecd664517	AuthPriv	MD5	*****	AES	*****
<input type="checkbox"/>	user2	800065d303001ecd664517	AuthPriv	MD5	*****	AES	*****

Apply Del

Path: Home >> Service >> SNMP >> V3 Detail : V3 Group Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Name	Security Model
1	group1	user1	usm
2	group2	user2	usm
3			usm
4			usm
5			usm
6			usm
7			usm
8			usm
9			usm
10			usm

Apply

Path: Home >> Service >> SNMP >> V3 Detail : V3 View Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	View Name	View Type	OID
1	view1	included	.1
2	view2	included	1.3.6
3	default_view	included	.1
4		included	
5		included	
6		included	
7		included	
8		included	
9		included	
10		included	

Apply

Path: Home >> Service >> SNMP >> V3 Detail : V3 Access Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Model	Security Level	Read View	Write View
1	group1	usm	AuthPriv	view1	view1
2	group2	usm	AuthPriv	view2	view2
3	default_ro_group	any	NoAuthNoPriv	default_view	None
4	default_rw_group	any	NoAuthNoPriv	default_view	default_view
5		usm	NoAuthNoPriv	None	None
6		usm	NoAuthNoPriv	None	None
7		usm	NoAuthNoPriv	None	None
8		usm	NoAuthNoPriv	None	None
9		usm	NoAuthNoPriv	None	None
10		usm	NoAuthNoPriv	None	None

Apply





## 2) Настройка SNMPv3 (CLI)

Удалить group2 из V3 Access Table.

Команда CLI:

no snmp-server access group2 model v3 level priv read view2 write view2

Path: Home >> Service >> SNMP >> V3 Detail : V3 Access Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Model	Security Level	Read View	Write View
1	group1	usm	AuthPriv	view1	view1
2	group2	usm	AuthPriv	view2	view2
3	default_ro_group	any	NoAuthNoPriv	default_view	None
4	default_rw_group	any	NoAuthNoPriv	default_view	default_view
5		usm	NoAuthNoPriv	None	None
6		usm	NoAuthNoPriv	None	None
7		usm	NoAuthNoPriv	None	None
8		usm	NoAuthNoPriv	None	None
9		usm	NoAuthNoPriv	None	None
10		usm	NoAuthNoPriv	None	None

Apply

Path: Home >> Service >> SNMP >> V3 Detail : V3 Access Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Model	Security Level	Read View	Write View
1	group1	usm	AuthPriv	view1	view1
2	default_ro_group	any	NoAuthNoPriv	default_view	None
3	default_rw_group	any	NoAuthNoPriv	default_view	default_view
4		usm	NoAuthNoPriv	None	None
5		usm	NoAuthNoPriv	None	None
6		usm	NoAuthNoPriv	None	None
7		usm	NoAuthNoPriv	None	None
8		usm	NoAuthNoPriv	None	None
9		usm	NoAuthNoPriv	None	None
10		usm	NoAuthNoPriv	None	None

Apply



## 2) Настройка SNMPv3 (CLI)

Удалить group2 из V3 Group Table.

Команда CLI:

```
no snmp-server security-to-group model v3 name user2
```

Path: Home >> Service >> SNMP >> V3 Detail : V3 Group Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Name	Security Model
1	group1	user1	usm ▼
2	group2	user2	usm ▼
3			usm ▼
4			usm ▼
5			usm ▼
6			usm ▼
7			usm ▼
8			usm ▼
9			usm ▼
10			usm ▼

Apply

Path: Home >> Service >> SNMP >> V3 Detail : V3 Group Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	Group Name	Security Name	Security Model
1	group1	user1	usm ▼
2			usm ▼
3			usm ▼
4			usm ▼
5			usm ▼
6			usm ▼
7			usm ▼
8			usm ▼
9			usm ▼
10			usm ▼

Apply



## 2) Настройка SNMPv3 (CLI)

Удалить view2 из V3 View Table.

Команда CLI:

no snmp-server view view2 .1.3.6 include

Path: Home >> Service >> SNMP >> V3 Detail : V3 View Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

Index	View Name	View Type	OID
1	view1	included ▼	.1
2	view2	included ▼	.1.3.6
3	default_view	included ▼	.1
4		included ▼	
5		included ▼	
6		included ▼	
7		included ▼	
8		included ▼	
9		included ▼	
10		included ▼	

Apply

Path: Home >> Service >> SNMP >> V3 Detail : V3 View Table

V3 User Name Table V3 Group Table V3 View Table V3 Access Table

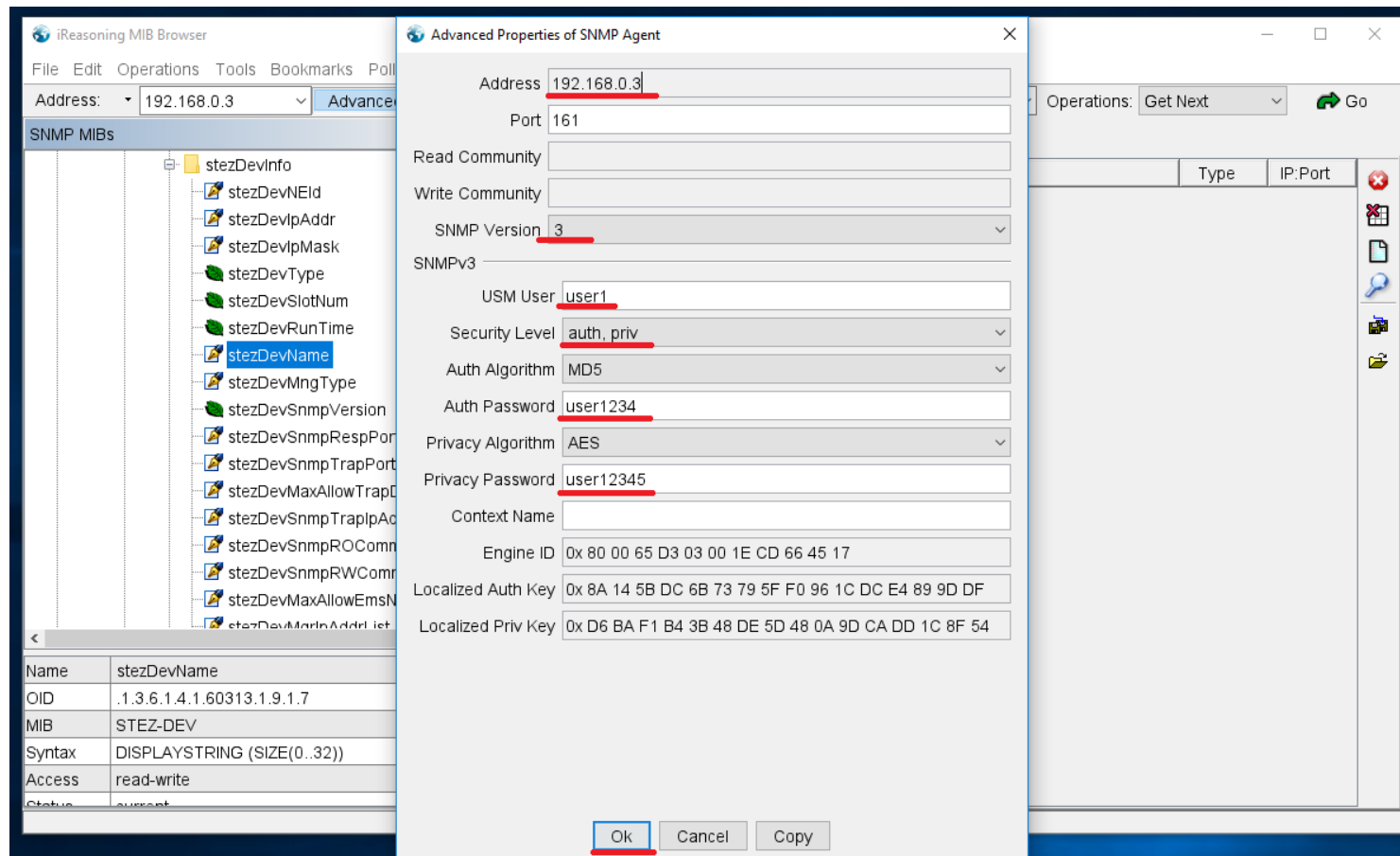
Index	View Name	View Type	OID
1	view1	included ▼	.1
2	default_view	included ▼	.1
3		included ▼	
4		included ▼	
5		included ▼	
6		included ▼	
7		included ▼	
8		included ▼	
9		included ▼	
10		included ▼	

Apply



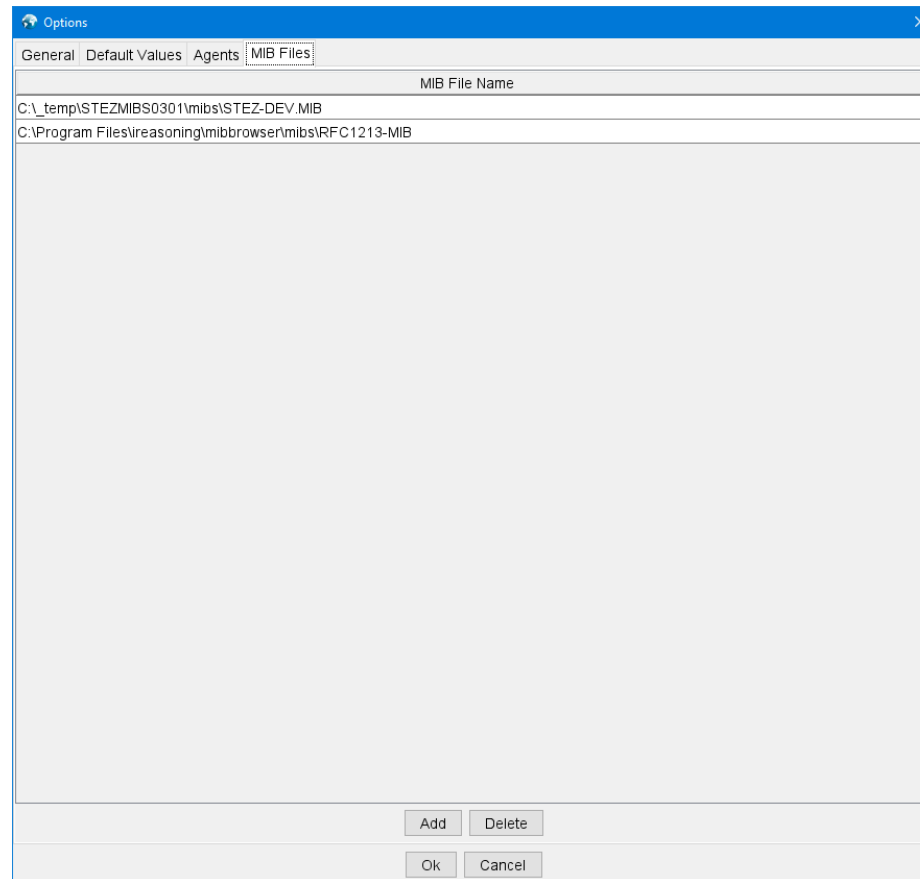
### 3) Проверка работы

Для проверки работы используем MIB Brower.  
В настройках указываем IP адрес коммутатора, SNMP Version 3.



### 3) Проверка работы

Коммутатор может работать со стандартными MIB. Например, MIB RFC1213. Также поддерживаются MIB от STEZ (предоставляются по запросу).  
Просмотр загруженных в приложение MIB:



### 3) Проверка работы

Проверка работы стандартного MIB RFC1213 в режиме SNMPv3:

iReasoning MIB Browser

File Edit Operations Tools Bookmarks Polls Expressions Help

Address: 192.168.0.3 Advanced... OID: .1.3.6.1.2.1.2.2.1.8 Operations: Get Next Go

**SNMP MIBs**

- sysServices
  - interfaces
    - ifNumber
      - ifTable
        - ifEntry
          - ifIndex
          - ifDescr
          - ifType
          - ifMtu
          - ifSpeed
          - ifPhysAddress
          - ifAdminStatus
          - ifOperStatus**
          - ifLastChange
          - ifInOctets
          - ifInUcastPkts
          - ifInNUcastPkts
          - ifInDiscards
          - ifInErrors
          - ifInUnknownProtos

**Result Table**

Name/OID	Value	Type	IP:Port
sysDescr.0	STEZ Ethernet Switch	OctetStr...	192.168...
sysUpTime.0	3 hours 37 minutes 0.92 second (1302092)	TimeTicks	192.168...
sysContact.0	mail@stezelectro.ru	OctetStr...	192.168...
sysName.0	switch03	OctetStr...	192.168...
sysLocation.0	142821, Moscow region, Stupino urban district, Shmatovo vill...	OctetStr...	192.168...
ifOperStatus.1	up (1)	Integer	192.168...
ifOperStatus.2	up (1)	Integer	192.168...
ifOperStatus.3	down (2)	Integer	192.168...
ifOperStatus.4	down (2)	Integer	192.168...
ifOperStatus.5	down (2)	Integer	192.168...
ifOperStatus.6	down (2)	Integer	192.168...
ifOperStatus.7	down (2)	Integer	192.168...
ifOperStatus.8	down (2)	Integer	192.168...
ifOperStatus.9	up (1)	Integer	192.168...
ifOperStatus.10	down (2)	Integer	192.168...
ifOperStatus.11	down (2)	Integer	192.168...
ifOperStatus.12	down (2)	Integer	192.168...

**ifOperStatus**

Name	ifOperStatus
OID	.1.3.6.1.2.1.2.2.1.8
MIB	RFC1213-MIB
Syntax	INTEGER {up(1), down(2), testing(3), u...
Access	read-only
Status	mandatory

.iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifOperStatus



### 3) Проверка работы

#### Проверка работы MIB STEZ-DEV в режиме SNMPv3:

iReasoning MIB Browser

File Edit Operations Tools Bookmarks Polls Expressions Help

Address: 192.168.0.3 Advanced... OID: .1.3.6.1.4.1.60313.1.9.2.10.0 Operations: Get Next Go

SNMP MIBs

- stezDevTimezoneSubzone
- stezDevTimezoneSubMinute
- stezDevTypeName
- stezDevSerialNumber
- stezDevSwVersion
- stezDevHwVersion
- stezDevLgVersion
- stezDevPerformInfo
- cpuCurrentUtilRate
- cpuLongTimeUtilRate
- devMemoryTotalNum
- devMemoryFreeNum
- devMemoryAllocNum
- cpuUtilRateLimit
- memUtilRateLimit
- devRingLoadRate
- devMemoryUtilRate
- devTemperature**
- devTemperatureHighLimit
- devTemperatureLowerLimit

Result Table

Name/OID	Value	Type	IP:Port
stezDevName.0	switch03	OctetStr...	192.168...
stezDevMasterPowerState.0	powerDisable (2)	Integer	192.168...
stezDevBackupPowerState.0	backupPwNormal (1)	Integer	192.168...
stezDevTypeName.0	STEZ3000-8G-4GSFP-24	OctetStr...	192.168...
stezDevSerialNumber.0	S60C0057A231200008	OctetStr...	192.168...
stezDevSwVersion.0	T0002	OctetStr...	192.168...
stezDevHwVersion.0	V1.1	OctetStr...	192.168...
stezDevLgVersion.0	V1.1.2	OctetStr...	192.168...
<b>devTemperature.0</b>	<b>44</b>	<b>Integer</b>	<b>192.168...</b>

Name	devTemperature
OID	.1.3.6.1.4.1.60313.1.9.2.10
MIB	<b>STEZ-DEV</b>
Syntax	INTEGER (-40..100)
Access	read-only
Status	current



### 3) Проверка работы

## Проверка данных в WireShark. Версия протокола SNMPv3.

The screenshot displays the Wireshark network protocol analyzer interface. The top menu bar includes options like 'Файл', 'Редактирование', 'Просмотр', 'Запуск', 'Захват', 'Анализ', 'Статистика', 'Телефония', 'Беспроводной', 'Инструменты', and 'Помощь'. The main window is divided into three panes:

- Packet List:** Shows a list of captured packets. The selected packet (No. 9709) is an SNMPv3 message from 192.168.0.112 to 192.168.0.3, containing an encrypted PDU.
- Packet Details:** Provides a hierarchical view of the selected packet's structure. It shows the Ethernet II header, Internet Protocol Version 4, User Datagram Protocol, and the Simple Network Management Protocol (SNMPv3) section. The SNMPv3 section includes fields like msgVersion (3), msgGlobalData, msgAuthoritativeEngineID, msgAuthoritativeEngineBoots, msgAuthoritativeEngineTime, msgUserName, msgAuthenticationParameters, msgPrivacyParameters, and msgData (encryptedPDU).
- Packet Bytes:** Displays the raw hexadecimal and ASCII data of the selected packet, showing the encrypted PDU structure.

At the bottom, the status bar indicates 'Simple Network Management Protocol: Protocol' and 'Пакеты: 10011 · Показаны: 116 (1.2%)'. The profile is set to 'Default'.





### 3) Проверка работы

Удаляем пользователя user1 в коммутаторе. Проверяем доступность данных по SNMPv3:

The screenshot shows the iReasoning MIB Browser interface. The left pane displays a tree of MIBs under 'SNMP MIBs', with 'stezDevName' selected. The right pane shows a 'Result Table' with columns 'Name/OID', 'Value', 'Type', and 'IP:Port'. An error dialog box is overlaid on the table, displaying a red 'X' icon and the message 'SNMPv3 authentication failed (192.168.0.3)'. The status bar at the bottom indicates 'Request has been sent. Waiting for response...'.

Name/OID	Value	Type	IP:Port
stezDevName.0	switch03	OctetStr...	192.168...
stezDevMasterPowerState.0	powerDisable (2)	Integer	192.168...
stezDevBackupPowerState.0	backupPwNormal (1)	Integer	192.168...
stezDevTypeName.0	STEZ3000-8G-4GSFP-24	OctetStr...	192.168...
stezDevSerialNumber.0	S60C0057A231200008	OctetStr...	192.168...
stezDevSwVersion.0	T0002	OctetStr...	192.168...
stezDevHwVersion.0	V1.1	OctetStr...	192.168...
stezDev...	...	OctetStr...	192.168...
devTe...	...	Integer	192.168...

Name	stezDevName
OID	.1.3.6.1.4.1.60313.1.9.1.7
MIB	STEZ-DEV
Syntax	DISPLAYSTRING (SIZE(0..32))
Access	read-write
Status	current

