



# **Configure SNMPv3 users in a cluster**

## **ONTAP 9**

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# Table of Contents

- Configure SNMPv3 users in a cluster ..... 1
  - SNMPv3 security parameters ..... 1
  - Examples for different security levels ..... 2

# Configure SNMPv3 users in a cluster

SNMPv3 is a secure protocol when compared to SNMPv1 and SNMPv2c. To use SNMPv3, you must configure an SNMPv3 user to run the SNMP utilities from the SNMP manager.

## Step

Use the "security login create command" to create an SNMPv3 user.

You are prompted to provide the following information:

- Engine ID: Default and recommended value is local Engine ID
- Authentication protocol
- Authentication password
- Privacy protocol
- Privacy protocol password

## Result

The SNMPv3 user can log in from the SNMP manager by using the user name and password and run the SNMP utility commands.

## SNMPv3 security parameters

SNMPv3 includes an authentication feature that, when selected, requires users to enter their names, an authentication protocol, an authentication key, and their desired security level when invoking a command.

The following table lists the SNMPv3 security parameters :

Parameter	Command-line option	Description
engineID	-e EngineID	Engine ID of the SNMP agent. Default value is local EngineID (recommended).
securityName	-u Name	User name must not exceed 32 characters.
authProtocol	-a {none   MD5   SHA   SHA-256}	Authentication type can be none, MD5, SHA, or SHA-256.
authKey	-A PASSPHRASE	Passphrase with a minimum of eight characters.
securityLevel	-l {authNoPriv   AuthPriv   noAuthNoPriv}	Security level can be Authentication, No Privacy; Authentication, Privacy; or no Authentication, no Privacy.

Parameter	Command-line option	Description
privProtocol	-x { none   des   aes128 }	Privacy protocol can be none, des, or aes128
privPassword	-X password	Password with a minimum of eight characters.

## Examples for different security levels

This example shows how an SNMPv3 user created with different security levels can use the SNMP client-side commands, such as `snmpwalk`, to query the cluster objects.

For better performance, you should retrieve all objects in a table rather than a single object or a few objects from the table.



You must use `snmpwalk` 5.3.1 or later when the authentication protocol is SHA.

### Security level: authPriv

The following output shows the creation of an SNMPv3 user with the authPriv security level.

```
security login create -username snmpv3user -application snmp -authmethod
usm
Enter the authoritative entity's EngineID [local EngineID]:
Which authentication protocol do you want to choose (none, md5, sha)
[none]:sha
```

### FIPS mode

```
Which authentication protocol do you want to choose (sha, sha2-256) [sha]

Enter authentication protocol password (minimum 8 characters long):
Enter authentication protocol password again:
Which privacy protocol do you want to choose (none, des) [none]: des
Enter privacy protocol password (minimum 8 characters long):
Enter privacy protocol password again:
```

### snmpwalk Test

The following output shows the SNMPv3 user running the `snmpwalk` command:

For better performance, you should retrieve all objects in a table rather than a single object or a few objects from the table.

```
$ snmpwalk -v 3 -u snmpv3user -a SHA -A password1! -x DES -X password1! -l
authPriv 192.0.2.62 .1.3.6.1.4.1.789.1.5.8.1.2
Enterprises.789.1.5.8.1.2.1028 = "vol0"
Enterprises.789.1.5.8.1.2.1032 = "vol0"
Enterprises.789.1.5.8.1.2.1038 = "root_vs0"
Enterprises.789.1.5.8.1.2.1042 = "root_vstrap"
Enterprises.789.1.5.8.1.2.1064 = "vol1"
```

## Security level: authNoPriv

The following output shows the creation of an SNMPv3 user with the authNoPriv security level.

```
security login create -username snmpv3user1 -application snmp -authmethod
usm -role admin
Enter the authoritative entity's EngineID [local EngineID]:
Which authentication protocol do you want to choose (none, md5, sha)
[none]: md5
```

## FIPS Mode

```
Which privacy protocol do you want to choose (aes128) [aes128]

Enter authentication protocol password (minimum 8 characters long):
Enter authentication protocol password again:
Which privacy protocol do you want to choose (none, des) [none]: none
```

## snmpwalk Test

The following output shows the SNMPv3 user running the snmpwalk command:

For better performance, you should retrieve all objects in a table rather than a single object or a few objects from the table.

```
$ snmpwalk -v 3 -u snmpv3user1 -a MD5 -A password1! -l authNoPriv
192.0.2.62 .1.3.6.1.4.1.789.1.5.8.1.2
Enterprises.789.1.5.8.1.2.1028 = "vol0"
Enterprises.789.1.5.8.1.2.1032 = "vol0"
Enterprises.789.1.5.8.1.2.1038 = "root_vs0"
Enterprises.789.1.5.8.1.2.1042 = "root_vstrap"
Enterprises.789.1.5.8.1.2.1064 = "vol1"
```

## Security level: noAuthNoPriv

The following output shows the creation of an SNMPv3 user with the noAuthNoPriv security level.

```
security login create -username snmpv3user2 -application snmp -authmethod  
usm -role admin  
Enter the authoritative entity's EngineID [local EngineID]:  
Which authentication protocol do you want to choose (none, md5, sha)  
[none]: none
```

## FIPS Mode

FIPS will not allow you to choose none

## snmpwalk Test

The following output shows the SNMPv3 user running the snmpwalk command:

For better performance, you should retrieve all objects in a table rather than a single object or a few objects from the table.

```
$ snmpwalk -v 3 -u snmpv3user2 -l noAuthNoPriv 192.0.2.62  
.1.3.6.1.4.1.789.1.5.8.1.2  
Enterprises.789.1.5.8.1.2.1028 = "vol0"  
Enterprises.789.1.5.8.1.2.1032 = "vol0"  
Enterprises.789.1.5.8.1.2.1038 = "root_vs0"  
Enterprises.789.1.5.8.1.2.1042 = "root_vstrap"  
Enterprises.789.1.5.8.1.2.1064 = "vol1"
```

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