How to use SNMP to set Ethernet ACL on DGS-3100

■ CLI command:

> create access_profile profile_id 1 ethernet source_mac ff:ff:ff:ff:ff:ff

■ SNMP Command:

Step 1) before next step, use the following OID (from MIB "*qosclimib.mib*" -> "*rlQosFreeIndexesValue.1*") to get free

"acl" index, for this time the free index is "**2**":

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.25.1.2.1
SNMPv2-SMI::enterprises.171.10.94.89.89.88.25.1.2.1 = INTEGER: 2
```

Step 2) using the MIB "*qosclimib.mib*" -> "*rlQosTupleTable*", create and go a ACL profile with L2 Ethernet +

Source MAC mask ff:ff:ff:ff:ff:ff, (but not finish the creating yet, you need to finish the whole step 1~4):

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.5.1.2.2 i 10
1.3.6.1.4.1.171.10.94.89.89.88.5.1.4.2 x 000000000000000000000000
1.3.6.1.4.1.171.10.94.89.89.88.5.1.5.2 i 4
```

10 : mac-src (10)

4: createAndGo (4)

2: the key value is used for creating an entry; it's a free ACL index from step 1

1.3.6.1.4.1.171.10.94.89.89.88.5.1.4 = using for the type with masks (ex: MAC address at this example),

see detail at NOTE 1.

Step 3) using the MIB "*qosclimib.mib*" -> "*rlQosAclTable*", to create and go the ACL index and type:

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.7.1.3.100001 i 1
1.3.6.1.4.1.171.10.94.89.89.88.7.1.2.100001 x 41434c31
1.3.6.1.4.1.171.10.94.89.89.88.7.1.4.100001 i 4
```

100001: means ACL1

41434c31: The hex of "ACL1"

Step 4) before next step, use the following OID (from MIB "*qosclimib.mib*" -> "*rlQosFreeIndexesValue.3*") to get free

"acl" index, the free index is "**60**":

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.25.1.2
SNMPv2-SMI::enterprises.171.10.94.89.89.88.25.1.2.3 = INTEGER: 60
```

Step 5)   Final step, using the MIB "*qosclimib.mib*" -> "*rlQosAceTidxTable*", to set the command with the free index value from step 3:

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.31.1.3.100001.60 i 1
1.3.6.1.4.1.171.10.94.89.89.88.31.1.4.100001.60 i 5
1.3.6.1.4.1.171.10.94.89.89.88.31.1.5.100001.60 i 2
```

100001: means ACL1

60: free "acl" index number from step 4.

2: the same value from step1, which stand for the free ACL index of this example.

1.3.6.1.4.1.171.10.94.89.89.88.31.1.5 = using when creates ACL profile type is "Source MAC"; see the detail at NOTE 2.

NOTE 2:

For "*rlQosAceTidxTable*", there are 8 TidxTuple values; the index pointed in *rlQosAceTidxTuple<n>* should match *rlQosTupleIndex* (see NOTE 1), and separate into two parts according to *rlQosAclType*:

1) If rlQosAclType = 'mac' :

rlQosAceTidxTuple1 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.5) = Source Mac Mask

rlQosAceTidxTuple2 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.6) = Destination Mac Mask

rlQosAceTidxTuple3 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.7) = VLAN

rlQosAceTidxTuple4 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.8) = 802.1p

rlQosAceTidxTuple5 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.9) = Ethernet Type

2) If rlQosAclType = 'IP'

rlQosAceTidxTuple1 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.5) = according to ACE type (IP, TCP, UDP, ICMP, IGMP, IPv6, etc…).

rlQosAceTidxTuple2 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.6) = Source IP Mask

rlQosAceTidxTuple3 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.7) = Destination IP Mask if ICMP or IGMP, else Source Port Mask.

rlQosAceTidxTuple4 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.8) = ICMP/IGMP Type if ICMP or IGMP, else Destination IP Mask.

rlQosAceTidxTuple5 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.9) = ICMP Code if ICMP or IGMP, else Destination Port Mask.

rlQosAceTidxTuple6 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.10) = if ACL type is IP then Dscp

rlQosAceTidxTuple7 (1.3.6.1.4.1.171.10.94.89.89.88.31.1.11) = TCP Flag Mask

---

■ **Packet:**

Captured after whole step 1~4:

DGS-3100-create_eth Srcffff_ACL.zip

- **CLI command:**

  L2 Ethernet with Source MAC, Permit:

  > config access_profile profile_id 1 add access_id 1 ethernet source_mac 00:00:00:00:00:0A ports 1:1 permit

- **SNMP Command:**

  Step 1) before next step, use the following OID (from MIB "**qosclimib.mib**" -> "**rlQosFreeIndexesValue.1**") to get free

  "acl" index, for this time the free index is "**3**":

  ```
  snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.25.1.2.1
  SNMPv2-SMI::enterprises.171.10.94.89.89.88.25.1.2.1 = INTEGER: 3
  ```

  Step 2) using MIB "**qosclimib.mib**" -> "**rlQosTupleTable**", to add the new access id with Src MAC 00000000000A:

  ```
  snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.5.1.2.3 i 10
  1.3.6.1.4.1.171.10.94.89.89.88.5.1.4.3 x 00000000000A000000000000
  1.3.6.1.4.1.171.10.94.89.89.88.5.1.5.3 i 4
  ```

  10 : mac-src (10)

  00000000000A000000000000: MAC address 00:00:00:00:00:0A

  4: createAndGo (4)

  3: the key value is used for creating a entry, it's a free ACL index from step 1

  Step 3) using the MIB "**qosclimib.mib**" -> "**rlQosAclTable**", to

  ```
  snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.7.1.2.1 x 41434c3131
  1.3.6.1.4.1.171.10.94.89.89.88.7.1.3.1 i 1    1.3.6.1.4.1.171.10.94.89.89.88.7.1.4.1 i 4
  ```

  41434c3131: hex of "ACL11", means access-id 1

  1: mac(1)

  4: createAndGo (4)

  Step 4) Before next step, use the following OID to get free **"acl" index**, for this time, the free index is "**100**":

  ```
  snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.25.1.2.3
  SNMPv2-SMI::enterprises.171.10.94.89.89.88.25.1.2.3 = INTEGER: 100
  ```

  Step 5) using MIB "**qosclimib.mib**" -> "**rlQosAceTidxTable**", to set the command with the free index from step 3:

  ```
  snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.31.1.4.1.100 i 5
  1.3.6.1.4.1.171.10.94.89.89.88.31.1.5.1.100 i 3
  1.3.6.1.4.1.171.10.94.89.89.88.31.1.3.1.100 i 1
  1.3.6.1.4.1.171.10.94.89.89.88.31.1.14.1.100 i 4
  ```

  100: free "acl" index number from step 4

  5: mac (5)

  3: free "acl" index number from step 3 from step 1

  1 : permit (1)

  4: createAndGo (4)

Step 6) Using another MIB "*rlActionAcl.mib*" -> "*rlActionAclTable*",

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.130.1.1.2.1 x 8000
1.3.6.1.4.1.171.10.94.89.89.130.1.1.3.1 i 1 1.3.6.1.4.1.171.10.94.89.89.130.1.1.4.1 i 0
1.3.6.1.4.1.171.10.94.89.89.130.1.1.5.1 i 0 1.3.6.1.4.1.171.10.94.89.89.130.1.1.6.1 i 4
```

8000: port 1

1: none(1)

4: createAndGo (4)

0: The two fields are not used for this command, so the value is 0

- ■ **Packet:**

DGS-3100-config_et
hSrc_ACL.zip

- **Please see the explanation above, the following 2 commands only for example:**
- **CLI Command:**

  L2 Ethernet with Destination MAC:

  > **create access_profile profile_id 2 ethernet destination_mac 00:00:00:00:00:00**

- **SNMP Command:**

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.5.1.2.4 i 11
1.3.6.1.4.1.171.10.94.89.89.88.5.1.4.4 x 000000000000FFFFFFFFFFFF
1.3.6.1.4.1.171.10.94.89.89.88.5.1.5.4 i 4

snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.7.1.3.100002 i 1
1.3.6.1.4.1.171.10.94.89.89.88.7.1.2.100002 x 41434c32
1.3.6.1.4.1.171.10.94.89.89.88.7.1.4.100002 i 4

snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.31.1.3.100002.80 i 1
1.3.6.1.4.1.171.10.94.89.89.88.31.1.4.100002.80 i 5
1.3.6.1.4.1.171.10.94.89.89.88.31.1.6.100002.80 i 4
```

1.3.6.1.4.1.171.10.94.89.89.88.31.1.6 = using when creates ACL profile type is "Destination MAC"

- **Packet:**

DGS3100-create_eth
Dst0000-ACL.zip

- **CLI Command:**

  L2 Ethernet with Destination MAC, deny

  config access_profile profile_id 2 add access_id 2 ethernet destination_mac 0B:00:0C:00:00:0D ports 1-2 deny

- **SNMP Command:**

```
snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.5.1.2.5 i 11
1.3.6.1.4.1.171.10.94.89.89.88.5.1.4.5 x 0B000C00000DFFFFFFFFFFFF
1.3.6.1.4.1.171.10.94.89.89.88.5.1.5.5 i 4

snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.7.1.2.2 x
41434c3232 1.3.6.1.4.1.171.10.94.89.89.88.7.1.3.2 i 1
1.3.6.1.4.1.171.10.94.89.89.88.7.1.4.2 i 4

snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.88.31.1.4.2.100 i 5
1.3.6.1.4.1.171.10.94.89.89.88.31.1.6.2.100 i 5
1.3.6.1.4.1.171.10.94.89.89.88.31.1.3.2.100 i 2
1.3.6.1.4.1.171.10.94.89.89.88.31.1.14.2.100 i 4

snmpset -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.10.94.89.89.130.1.1.2.2 x c000
1.3.6.1.4.1.171.10.94.89.89.130.1.1.3.2 i 1 1.3.6.1.4.1.171.10.94.89.89.130.1.1.4.2 i
0 1.3.6.1.4.1.171.10.94.89.89.130.1.1.5.2 i 0
1.3.6.1.4.1.171.10.94.89.89.130.1.1.6.2 i 4
```

- **Packet:**

  DGS3100-config_eth
  Dst0000-ACL2.zip