

How to create Ethernet type ACL with NET-SNMP on DES-3028/52

Example

```
Access Profile Table
=====
Profile ID: 1                               Type: Ethernet Frame Filter
=====
Owner: ACL
Masks Option
Source MAC      Destination MAC
-----
FF-FF-FF-FF-FF FF-FF-FF-FF-FF
=====
```

Create ACL rule

1. Create Access profile filter Source MAC and Destination MAC

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.2.1.1.2.1 i 2
1.3.6.1.4.1.171.12.9.2.1.1.3.1 i 4 1.3.6.1.4.1.171.12.9.2.1.1.4.1 x FFFFFFFFFF
1.3.6.1.4.1.171.12.9.2.1.1.5.1 x FFFFFFFFFF 1.3.6.1.4.1.171.12.9.2.1.1.6.1 i 2
1.3.6.1.4.1.171.12.9.2.1.1.7.1 i 2 1.3.6.1.4.1.171.12.9.2.1.1.8.1 i 4
```

2. Add a one ACL entry filter source MAC 001122334455 Destination MAC 001122334466, permit packet on port 3-4

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.3.1.1.4.1.1 x 001122334455
1.3.6.1.4.1.171.12.9.3.1.1.5.1.1 x 001122334466 1.3.6.1.4.1.171.12.9.3.1.1.13.1.1 i 2
1.3.6.1.4.1.171.12.9.3.1.1.14.1.1 x 3000000000000000 1.3.6.1.4.1.171.12.9.3.1.1.15.1.1 i 4
```

```
-----
Access ID : 1
Ports     : 3-4
Mode      : Permit

Source MAC      Destination MAC
-----
00-11-22-33-44-55 00-11-22-33-44-66
=====
```

2. Delete Access_profile command

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.2.1.1.8.1 i 6
```

3. Delete ACL entry command

```
snmpset -c private -v 2c 10.90.90.90 1.3.6.1.4.1.171.12.9.3.1.1.15.1.1 i 6
```

The following are the OID description for the Ethernet type ACL

1. swACLEthernetTable

ACLMGMT-MIB	
MIB Tree	
iso	
swAcMgmtMIB	
swAcCtrl	
swAcMaskMgmt	
swACLEthernetTable	
swACLEthernetEntry	
swACLEthernetProfileID	
swACLEthernetUsevlan	
swACLEthernetMacAddrMaskState	
swACLEthernetSrcMacAddrMask	
swACLEthernetDstMacAddrMask	
swACLEthernetUse8021p	
swACLEthernetUseEthernetType	
swACLEthernetRowStatus	
swACLEthernetOwner	
swACLEthernetUnusedRuleEntries	
swACLEthernetProfileName	
swACLIpTable	
swACLPktContMaskTable	
swACLIpv6MaskTable	
swACLMaskDelAllState	
swBPAACLEthernetTable	
swBPAACLEIpTable	
swACLPktContMaskOptionTable	
swAcRuleMgmt	
Object name	swACLEthernetTable
Object ID	1.3.6.1.4.1.171.12.9.2.1
Module	ACLMGMT-MIB
Base syntax	Sequence Of swACLEthernetEntry
Access	Not_Accessible
Status	Current
Sequence	1:swACLEthernetProfileID - Integer 2:swACLEthernetUsevlan - Integer 3:swACLEthernetMacAddrMaskState - Integer 4:swACLEthernetSrcMacAddrMask - Octet String 5:swACLEthernetDstMacAddrMask - Octet String 6:swACLEthernetUse8021p - Integer 7:swACLEthernetUseEthernetType - Integer 8:swACLEthernetRowStatus - Integer 9:swACLEthernetOwner - Integer 10:swACLEthernetUnusedRuleEntries - Integer 11:swACLEthernetProfileName - Octet String
Parent node	swAcMaskMgmt
First child	swACLEthernetEntry
Description	This table contains ACL mask Ethernet information. The access profile will be created on the switch to define which part of each incoming frame's layer 2 header will be examined by the switch. Masks entered will be combined with the values the switch finds in the specified frame header fields.

1.1:swACLEthernetProfileID – Integer

Object name	swACLEthernetProfileID
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.1
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 1..255
Parent node	swACLEthernetEntry
First child	None
Description	The ID of the ACL mask entry unique to the mask list.

1.2:swACLEthernetUsevlan – Integer

Object name	swACLEthernetUsevlan
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.2
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEthernetEntry
First child	None
Description	Specifies that the switch will examine the VLAN part of each packet header.

1.3:swACLEthernetMacAddrMaskState – Integer

Object name	swACLEthernetMacAddrMaskState
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.3
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : other(1) 2 : dst-mac-addr(2) 3 : src-mac-addr(3) 4 : dst-src-mac-addr(4)
Parent node	swACLEthernetEntry
First child	None
Description	This object indicates the status of the MAC address mask. other (1) - Neither source MAC address nor destination MAC address are masked. dst-mac-addr (2) - Destination MAC addresses within received frames are to be filtered when matched with the MAC address entry for the table. src-mac-addr (3) - Source MAC addresses within received frames are to be filtered when matched with the MAC address entry for the table. dst-src-mac-addr (4) - Source or destination MAC addresses within received frames are to be filtered when matched with the MAC address entry of the table.

1.4:swACLEthernetSrcMacAddrMask - Octet String

Object name	swACLEthernetSrcMacAddrMask
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.4
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swACLEthernetEntry
First child	None
Description	This object specifies the MAC address mask for the source MAC address.

1.5:swACLEthernetDstMacAddrMask - Octet String

Object name	swACLEthernetDstMacAddrMask
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.5
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swACLEthernetEntry
First child	None
Description	This object specifies the MAC address mask for the destination MAC address.

1.6:swACLEthernetUse8021p – Integer

Object name	swACLEthernetUse8021p
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.6
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEthernetEntry
First child	None
Description	Specifies if the switch will examine the 802.1p priority value in the frame's header or not.

1.7:swACLEthernetUseEthernetType – Integer

Object name	swACLEthernetUseEthernetType
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.7
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEthernetEntry
First child	None
Description	Specifies if the switch will examine the Ethernet type value in each frame's header or not.

1.8:swACLEthernetRowStatus – Integer

Object name	swACLEthernetRowStatus
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.8
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	RowStatus
Access	Read-Create
Status	Current
Value list	1 : active(1) 2 : notInService(2) 3 : notReady(3) 4 : createAndGo(4) 5 : createAndWait(5) 6 : destroy(6)
Parent node	swACLEthernetEntry
First child	None
Description	This object indicates the status of this entry.

1.9:swACLEthernetOwner – Integer

Object name	swACLEthernetOwner
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.9
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : any(1) 2 : acl(2) 3 : ipbind(3) 4 : other(4) 5 : dhcp(5) 6 : netbios(6) 7 : ext-netbios(7)
Parent node	swACLEthernetEntry
First child	None
Description	The owner of the ACL mask entry. The type of ACL entry created. ACL type entries can only be modified when being configured through the same type command. For example IP-MAC Binding entries can only be modified or deleted through the IP-MAC Binding configurations or commands.

1.10:swACLEthernetUnusedRuleEntries – Integer

Object name	swACLEthernetUnusedRuleEntries
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.10
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Parent node	swACLEthernetEntry
First child	None
Description	The number of unused rule entries of this Ethernet profile entry.

1.11:swACLEthernetProfileName - Octet String

Object name	swACLEthernetProfileName
Object ID	1.3.6.1.4.1.171.12.9.2.1.1.11
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	DisplayString
Access	Read-Create
Status	Current
Value list	1 : 1..32
Parent node	swACLEthernetEntry
First child	None
Description	The name of the ACL mask entry unique to the mask list.

2. swACLEtherRuleTable

The screenshot shows the ACLMGMT-MIB browser interface. The left pane displays a tree view under 'swAcIRuleMgmt' with 'swACLEtherRuleTable' selected. The right pane shows the properties for 'swACLEtherRuleTable'.

Base syntax	Sequence Of swACLEtherRuleEntry
Access	Not_Accessible
Status	Current
Sequence	1:swACLEtherRuleProfileID - Integer 2:swACLEtherRuleAccessID - Integer 3:swACLEtherRuleVlan - Octet String 4:swACLEtherRuleSrcMacAddress - Octet String 5:swACLEtherRuleDstMacAddress - Octet String 6:swACLEtherRule8021P - Integer 7:swACLEtherRuleEtherType - Octet String 8:swACLEtherRuleEnablePriority - Integer 9:swACLEtherRulePriority - Integer 10:swACLEtherRuleReplacePriority - Integer 11:swACLEtherRuleEnableReplaceDscp - Integer 12:swACLEtherRuleRepDscp - Integer 13:swACLEtherRulePermit - Integer 14:swACLEtherRulePort - Octet String 15:swACLEtherRuleRowStatus - Integer 16:swACLEtherRuleOwner - Integer 17:swACLEtherRuleRxRate - Integer 18:swACLEtherRuleEnableReplaceTosPrecedence - Integer 19:swACLEtherRuleRepTosPrecedence - Integer
Parent node	swAcIRuleMgmt
First child	swACLEtherRuleEntry
Description	This table contains Ethernet ACL information.

2.1:swACLEtherRuleProfileID – Integer

Object name	swACLEtherRuleProfileID
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.1
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 1..255
Parent node	swACLEtherRuleEntry
First child	None
Description	The ID of the ACL rule entry, which is unique to the mask list.

2.2:swACLEtherRuleAccessID – Integer

Object name	swACLEtherRuleAccessID
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.2
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 0..65535
Parent node	swACLEtherRuleEntry
First child	None
Description	The ID of the the ACL rule entry relates to the swACLEtherRuleProfileID. When row creation is set to 0, assignment of an Access ID for ports is automatic and the swACLEtherRulePort creates Rule entries for the swACLEtherRulePort accordingly. When set from 1 to 65535, an access ID will be created for the swACLEtherRulePort. The swACLEtherRulePort must be set to one port only otherwise the row creation will fail.

2.3:swACLEtherRuleVlan - Octet String

Object name	swACLEtherRuleVlan
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.3
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	SnmpAdminString
Access	Read-Create
Status	Current
Value list	1 : 1..32
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply to this VLAN only.

2.4:swACLEtherRuleSrcMacAddress - Octet String

Object name	swACLEtherRuleSrcMacAddress
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.4
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply to only packets with this source MAC address.

2.5:swACLEtherRuleDstMacAddress - Octet String

Object name	swACLEtherRuleDstMacAddress
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.5
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	MacAddress
Access	Read-Create
Status	Current
Value list	1 : 6..6
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply to only packets with this destination MAC address.

2.6:swACLEtherRule8021P – Integer

Object name	swACLEtherRule8021P
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.6
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..7
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply only to packets with this 802.1p priority value.

2.7:swACLEtherRuleEtherType - Octet String

Object name	swACLEtherRuleEtherType
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.7
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	OCTET STRING
Access	Read-Create
Status	Current
Value list	1 : 2..2
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply only to packets with this hexadecimal 802.1Q Ethernet type value in the packet header.

2.8:swACLEtherRuleEnablePriority – Integer

Object name	swACLEtherRuleEnablePriority
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.8
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will apply only to packets with priority value.

2.9:swACLEtherRulePriority – Integer

Object name	swACLEtherRulePriority
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.9
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..7
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies the priority will be changed in packets while the swACLEtherRuleReplacePriority is enabled .

2.10:swACLEtherRuleReplacePriority – Integer

Object name	swACLEtherRuleReplacePriority
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.10
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies if the switch will change priorities of packets that match the access profile 802.1p priority tag field or not .

2.11:swACLEtherRuleEnableReplaceDscp – Integer

Object name	swACLEtherRuleEnableReplaceDscp
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.11
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies if the switch will change priorities of packets that match the access profile DSCP field or not. The replace DSCP and the replace ToS precedence can not be both supported.

2.12:swACLEtherRuleRepDscp – Integer

Object name	swACLEtherRuleRepDscp
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.12
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..63
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies a value to be written to the DSCP field of an incoming packet that meets the criteria specified in the first part of the command. This value will over-write the value in the DSCP field of the packet.

2.13:swACLEtherRulePermit – Integer

Object name	swACLEtherRulePermit
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.13
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : deny(1) 2 : permit(2) 3 : mirror(3)
Parent node	swACLEtherRuleEntry
First child	None
Description	This object indicates the result of the packet examination is to 'permit' or 'deny'. The default is 'permit'. permit - Specifies that packets that match the access profile are permitted to be forwarded by the switch. deny - Specifies that packets that match the access profile are not permitted to be forwarded by the switch and will be filtered. mirror - Specifies the packets that match the access profile are copied to the mirror port. Note: The ACL mirror function will function after mirror has been enabled and the mirror port has been configured.

2.14:swACLEtherRulePort - Octet String

Object name	swACLEtherRulePort
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.14
Module	ACLMGMT-MIB
Base syntax	Octet String
Composed syntax	PortList
Access	Read-Create
Status	Current
Value list	1 : 0..127
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies that the access rule will only apply to port(s).

2.15:swACLEtherRuleRowStatus – Integer

Object name	swACLEtherRuleRowStatus
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.15
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	RowStatus
Access	Read-Create
Status	Current
Value list	1 : active(1) 2 : notInService(2) 3 : notReady(3) 4 : createAndGo(4) 5 : createAndWait(5) 6 : destroy(6)
Parent node	swACLEtherRuleEntry
First child	None
Description	This object indicates the status of this entry.

2.16:swACLEtherRuleOwner – Integer

Object name	swACLEtherRuleOwner
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.16
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : any(1) 2 : acl(2) 3 : ipbind(3) 4 : other(4) 5 : dhcp(5) 6 : netbios(6) 7 : ext-netbios(7)
Parent node	swACLEtherRuleEntry
First child	None
Description	The owner of the ACL rule entry. Only owners can modify this entry.

2.17:swACLEtherRuleRxRate – Integer

Object name	swACLEtherRuleRxRate
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.17
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..15624
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies the rx rate, 0 denotes no_limit.

2.18:swACLEtherRuleEnableReplaceTosPrecedence – Integer

Object name	swACLEtherRuleEnableReplaceTosPrecedence
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.18
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies if the switch will change priorities of packets that match the access profile ToS precedence field or not. The replace DSCP and the replace ToS precedence can not be both supported.

2.19:swACLEtherRuleRepTosPrecedence - Integer

Object name	swACLEtherRuleRepTosPrecedence
Object ID	1.3.6.1.4.1.171.12.9.3.1.1.19
Module	ACLMGMT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Create
Status	Current
Value list	1 : 0..7
Parent node	swACLEtherRuleEntry
First child	None
Description	Specifies a value to be written to the ToS precedence field of an incoming packet that meets the criteria specified in the first part of the command. This value will over-write the value in the ToS precedence field of the packet.