

Faculty of Computing (FK)

BCN3023 : Network Management

Lab 3: SNMP Commands

Objective

To practice the SNMP commands and hierarchy tree structure using the sample of the object identifier in the table form. The GetRequest, GetNextRequest, SetRequest and GetResponse commands will be applied to the given data.

Background

The five commands of SNMP is used to explore the SNMP usage in retrieve manage object's value. This command is used in the SNMP tool in the next lab session to display their instances based on the SMI and MIB objects.

Procedure

Task 1

Following is a table for ipAddressTable (1.3.6.1.2.1.4.20)

ipAddrEntry (1.3.6.1.2.1.4.20.1)

Index column is **ipAdEntAddr**.

(1)	(2)	(3)	(4)	(5)
ipAdEntAddr	ipAdEntIfIndex	IpAdEntNetMask	IpAdEntBcastAddr	IpAdEntReasmMaxSize
123.45.2.1	1	255.255.255.0	0	12000
123.45.3.4	3	255.255.0.0	1	12000
165.8.9.25	2	255.255.255.0	0	10000
9.96.8.138	4	255.255.255.0	0	15000

a) What is the GetResponse instance/value for the command:

- i) GetRequest(1.3.6.1.2.1.4.20.1.5.9.96.8.138)
GetResponse(1.3.6.1.2.1.4.20.1.5 = "15000")
- ii) GetRequest(1.3.6.1.2.1.4.20.1.4.123.45.3.4)
GetResponse(1.3.6.1.2.1.4.20.1.4 = "1")

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- iii) **GetRequest(1.3.6.1.2.1.4.20.1.2.9.96.8.138)**
 GetRespond(1.3.6.1.2.1.4.20.1.2 = "4")
- iv) **GetRequest(1.3.6.1.2.1.4.20.1.1.123.45.2.1)**
 GetRespond(1.3.6.1.2.1.4.20.1.1 = "123.45.2.1")
- v) **GetRequest(1.3.6.1.2.1.4.20.1.5.123.45.3.4,**
 1.3.6.1.2.1.4.20.1.3.9.96.8.138)
 GetRespond(1.3.6.1.2.1.4.20.1.5 , 1.3.6.1.2.1.4.20.1.3 =
 "12000","255.255.255.0")
- vi) **GetRequest(ipAdEntNetMask.123.45.3.4)**
 GetRespond(ipAdEntNetMask.123.45.3.4 = "255.255.255")
- vii) **GetRequest(ipAdEntBcastAddr.123.45.3.4)**
 GetRespond(ipAdEntBcastAddr.123.45.3.4 = "1")
- viii) **GetRequest(ipAdEntNetMask.123.45.2.1,**
 ipAdEntReasmMaxSize.123.45.3.4)
 GetRespond(ipAdEntNetMask.123.45.2.1,
 ipAdEntReasmMaxSize.123.45.3.4 =
 "255.255.255.0","12000")

b) Rewrite the command (i) to (v) using object name.

- i) **GetRequest(ipAdEntReasmMaxSize.9.96.8.138)**
- ii) **GetRequest(ipAdEntBcastAddr.123.45.3.4)**
- iii) **GetRequest(ipAdEntIfIndex.9.96.8.138)**
- iv) **GetRequest(ipAdEntAddr.123.45.2.1)**
- v) **GetRequest(ipAdEntReasmMaxSize.123.45.3.4,ipAdEntNetMask.9.96.8.138)**

c) Rewrite the command (vi) to (viii) using object ID.

- vi. **GetRequest(1.3.6.1.2.1.4.20.1.3.123.45.3.4)**
- vii. **GetRequest(1.3.6.1.2.1.4.20.1.4.123.45.3.4)**
- viii. **GetRequest(1.3.6.1.2.1.4.20.1.3.123.45.2.1,**
 1.3.6.1.2.1.4.20.1.5.123.45.3.4)

d) Write the GetRequest command to get the following GetResponse:

- (i) GetResponse("15000")
 GetRequest(ipAdEntReasmMaxSize.9.96.8.138)
- (ii) GetResponse("9.96.8.138")
 GetRequest(ipAdEntAddr.9.96.8.138)
- (iii) GetResponse("3")
 GetRequest(ipAdEntBcastAddr.123.45.3.4)
- (iv) GetResponse("2", "12000")
 GetRequest(ipAdEntIfIndex.123.45.3.4,
 ipAdEntReasmMaxSize.123.45.3.4)
- (v) GetResponse("123.45.3.4", "1")
 GetRequest(ipAdEntAddr.123.45.3.4,
 ipAdEntBcastAddr.123.45.3.4)
- (vi) GetResponse("123.45.2.1", "4", "10000")
 GetRequest(ipAdEntAddr.123.45.2.1,
 ipAdEntBcastAddr.123.45.2.1,
 ipAdEntReasmMaxSize.123.45.2.1)
- (vii) GetResponse("165.8.9.25", "2", "255.255.0.0", "1", "15000")
 GetRequest(ipAdEntAddr.165.8.9.25,
 ipAdEntIfIndex.165.8.9.25, ipAdEntNetMask.165.8.9.25,
 ipAdEntBcastAddr.165.8.9.25,
 ipAdEntReasmMaxSize.165.8.9.25)

e) Answer the questions (a) and (d) using GetNextRequest command.

ipAdEntAddr	ipAdEntIfIndex	ipAdEntNetMask	IpAdEntBcastAddr	IpAdEntReasmMaxSize
9.96.8.138	4	255.255.255.0	0	15000
123.45.2.1	1	255.255.255.0	0	12000
123.45.3.4	3	255.255.0.0	1	12000
165.8.9.25	2	255.255.255.0	0	10000

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- i) GetNextRequest(1.3.6.1.2.1.4.20.1.5.9.96.8.138)
 GetResponse(1.3.6.1.2.1.4.20.1.5.123.45.2.1 ="12000")
- ii) GetNextRequest(1.3.6.1.2.1.4.20.1.4.123.45.3.4)
 GetResponse(1.3.6.1.2.1.20.1.4.165.8.9.25 ="0")
- iii) GetNextRequest(1.3.6.1.2.1.4.20.1.2.9.96.8.138)
 GetResponse(1.3.6.1.2.1.4.20.1.2.123.45.2.1 = "1")
- iv) GetNextRequest(1.3.6.1.2.1.4.20.1.1.123.45.2.1)
 GetResponse(1.3.6.1.2.1.4.20.1.1.123.45.3.4 =
 "123.45.3.4")
- v) GetNextRequest(1.3.6.1.2.1.4.20.1.5.123.45.3.4,
 1.3.6.1.2.1.4.20.1.3.9.96.8.138)
 GetResponse(1.3.6.1.2.1.4.20.1.5.165.8.9.25,1.3.6.1.2.1.4.2
 0.1.3.123.45.2.1 = "10000", "255.255.255.0")
- vi) GetNextRequest(ipAdEntNetMask.123.45.3.4)
 GetRespond(ipAdEntNetMask.165.8.9.25 = "0")
- vii) GetNextRequest(ipAdEntBcastAddr.123.45.3.4)
 GetRespond(ipAdEntBcastAddr.165.8.9.25 = "0")
- viii) GetNextRequest(ipAdEntNetMask.123.45.2.1,
 ipAdEntReasmMaxSize.123.45.3.4)
 GetRespond(ipAdEntNetMask.123.45.3.4,
 ipAdEntReasmMaxSize.165.8.9.25 = "255.255.0.0",
 "10000")

(d)

- i. GetNextRequest(ipAdEntReasmMaxSize.9.96.8.138)
 GetRespond(ipAdEntReasmMaxSize.123.45.2.1 =
 "12000")
- ii. GetNextRequest(ipAdEntAddr.9.96.8.138)
 GetRespond(ipAdEntAddr.123.45.2.1 = "12000")
- iii. GetNextRequest(ipAdEntBcastAddr.123.45.3.4)
 GetRespond(ipAdEntBcastAddr.165.8.9.25 ="0")

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- iv. GetNextRequest(ipAdEntIfIndex.123.45.3.4,
 ipAdEntReasmMaxSize.123.45.3.4)
 GetRespond(ipAdEntIfIndex.165.8.9.25,
 ipAdEntReasmMaxSize.165.8.9.25 = "2", "10000")
- v. GetNextRequest(ipAdEntAddr.123.45.3.4,
 ipAdEntBcastAddr.123.45.3.4)
 GetRespond(ipAdEntAddr.165.8.9.25,
 ipAdEntBcastAddr.165.8.9.25 = "165.8.9.25, "0")
- vi. GetNextRequest(ipAdEntAddr.123.45.2.1,
 ipAdEntBcastAddr.123.45.2.1,
 ipAdEntReasmMaxSize.123.45.2.1)
 GetRespond(ipAdEntAddr.123.45.3.4,
 ipAdEntBcastAddr.123.45.3.4,
 ipAdEntReasmMaxSize.123.45.3.4 = "123.45.3.4",
 "1", "12000")
- vii. GetNextRequest(ipAdEntAddr.165.8.9.25,
 ipAdEntIfIndex.165.8.9.25,
 ipAdEntNetMask.165.8.9.25,
 ipAdEntBcastAddr.165.8.9.25,
 ipAdEntReasmMaxSize.165.8.9.25)
 No more entries

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