



Laboratory Worksheet -3

4. Lab Exercise:

Problem Statement:

Open the linux terminal and execute the following basic networking tools and utilities. Make your observations and record the output of each command.

Steps to be followed: Open the terminal in Linux and execute the following commands:

- Verify that snmp daemon status run the below command and record the output of each command.

- `sudo systemctl status snmpd`

```
labuser@ip-172-31-12-204:~$ sudo systemctl status snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-01-18 08:47:18 UTC; 26min ago
     Main PID: 649 (snmpd)
        Tasks: 1 (limit: 9221)
       Memory: 20.7M
      CGroup: /system.slice/snmpd.service
              └─649 /usr/sbin/snmpd -L0w -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f -p /run/snmpd.pid

Jan 18 08:47:18 ip-172-31-12-204 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon....
Jan 18 08:47:18 ip-172-31-12-204 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
labuser@ip-172-31-12-204:~$
```

Observation:

This command checks whether the SNMP daemon (snmpd) is active. If it is running, the output shows a green "active (running)" status. If not, it displays "inactive" or "dead."



- `sudo systemctl stop snmpd`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~$ sudo systemctl stop snmpd
labuser@ip-172-31-12-204:~$ sudo systemctl status snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: inactive (dead) since Sat 2025-01-18 09:14:40 UTC; 3s ago
   Process: 649 ExecStart=/usr/sbin/snmpd -L0w -u Debian-snmp -g Debian-snmp -I -smux,mteTrigger,mteTriggerConf -f -p /run/snmpd.pid (code=exited, status=0/SUCCESS)
   Main PID: 649 (code=exited, status=0/SUCCESS)

Jan 18 08:47:18 ip-172-31-12-204 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon....
Jan 18 08:47:18 ip-172-31-12-204 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
Jan 18 09:14:40 ip-172-31-12-204 systemd[1]: Stopping Simple Network Management Protocol (SNMP) Daemon....
Jan 18 09:14:40 ip-172-31-12-204 systemd[1]: snmpd.service: Succeeded.
Jan 18 09:14:40 ip-172-31-12-204 systemd[1]: Stopped Simple Network Management Protocol (SNMP) Daemon..
lines 1-11/11 (END)
```

Observation:

This stops the SNMP service. Running status snmpd afterward confirms the service has stopped, with the output showing "inactive" or "dead."

- `sudo systemctl start snmpd`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~$ sudo systemctl start snmpd
labuser@ip-172-31-12-204:~$ sudo systemctl status snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-01-18 09:15:54 UTC; 3s ago
   Process: 3149 ExecStartPre=/bin/mkdir -p /var/run/agentx (code=exited, status=0/SUCCESS)
   Main PID: 3150 (snmpd)
   Tasks: 1 (limit: 9221)
   Memory: 5.2M
   CGroup: /system.slice/snmpd.service
           └─3150 /usr/sbin/snmpd -L0w -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f -p /run/snmpd.pid

Jan 18 09:15:54 ip-172-31-12-204 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon....
Jan 18 09:15:54 ip-172-31-12-204 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
labuser@ip-172-31-12-204:~$
```

Observation:

After executing start command, as the system is re-initating daemon services,running sudo systemctl status snmpd should show that the daemon is active and running.

(Make sure that SNMP services are running always)

Note: Write your comments on observation of each command output



- Update SNMP Configuration

- `sudo vi /etc/snmp/snmpd.conf`



Modify the “*agentaddress*” to your machine in the config file

```
# agentaddress: The IP address and port number that the agent will listen on.
# By default the agent listens to any and all traffic from any
# interface on the default SNMP port (161). This allows you to
# specify which address, interface, transport type and port(s) that you
# want the agent to listen on. Multiple definitions of this token
# are concatenated together (using ':'s).
# arguments: [transport:]port[@interface/address],...

agentaddress 127.0.0.1,[:1]
```

Make sure to have both <loopback IP address> and <Your_machine_IP_Address> in the configuration file as shown below

```
# agentaddress: The IP address and port number that the agent will listen on.
# By default the agent listens to any and all traffic from any
# interface on the default SNMP port (161). This allows you to
# specify which address, interface, transport type and port(s) that you
# want the agent to listen on. Multiple definitions of this token
# are concatenated together (using ':'s).
# arguments: [transport:]port[@interface/address],...

agentaddress 127.0.0.1,172.31.20.139
```



- **Earlier:** agentaddress 127.0.0.1,[:,1]
- We have changed the agentaddress line with our system IP address.
127.0.0.1,172.31.12.204

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
# Currently, the only supported master agent type for this token
# is "agentx".
# arguments: (on|yes|agentx|all|off|no)
master agentx
# agentaddress: The IP address and port number that the agent will listen on.
# By default the agent listens to any and all traffic from any
# interface on the default SNMP port (161). This allows you to
# specify which address, interface, transport type and port(s) that you
# want the agent to listen on. Multiple definitions of this token
# are concatenated together (using ':'s).
# arguments: [transport:]port[@interface/address],...
agentaddress 127.0.0.1,172.31.12.204
#####
# SECTION: Access Control Setup
#
# This section defines who is allowed to talk to your running
# snmp agent.
# Views
# arguments viewname included [oid]
# system + hrSystem groups only
view systemonly included .1.3.6.1.2.1.1
view systemonly included .1.3.6.1.2.1.25.1
view all included .1 80
# rocommunity: a SNMPv1/SNMPv2c read-only access community name
# rocommunity: default hostnames default (oid | -V view)
```

Modify SNMP community name to your desired community name (replace public) name and comment IPv6 Community

```
# rocommunity: a SNMPv1/SNMPv2c read-only access community name
# arguments: community [default|hostname|network/bits] [oid | -V view]

# Read-only access to everyone to the systemonly view
rocommunity public default -V systemonly
rocommunity6 public default -V systemonly

# SNMPv3 doesn't use communities but users with (optionally) an
```

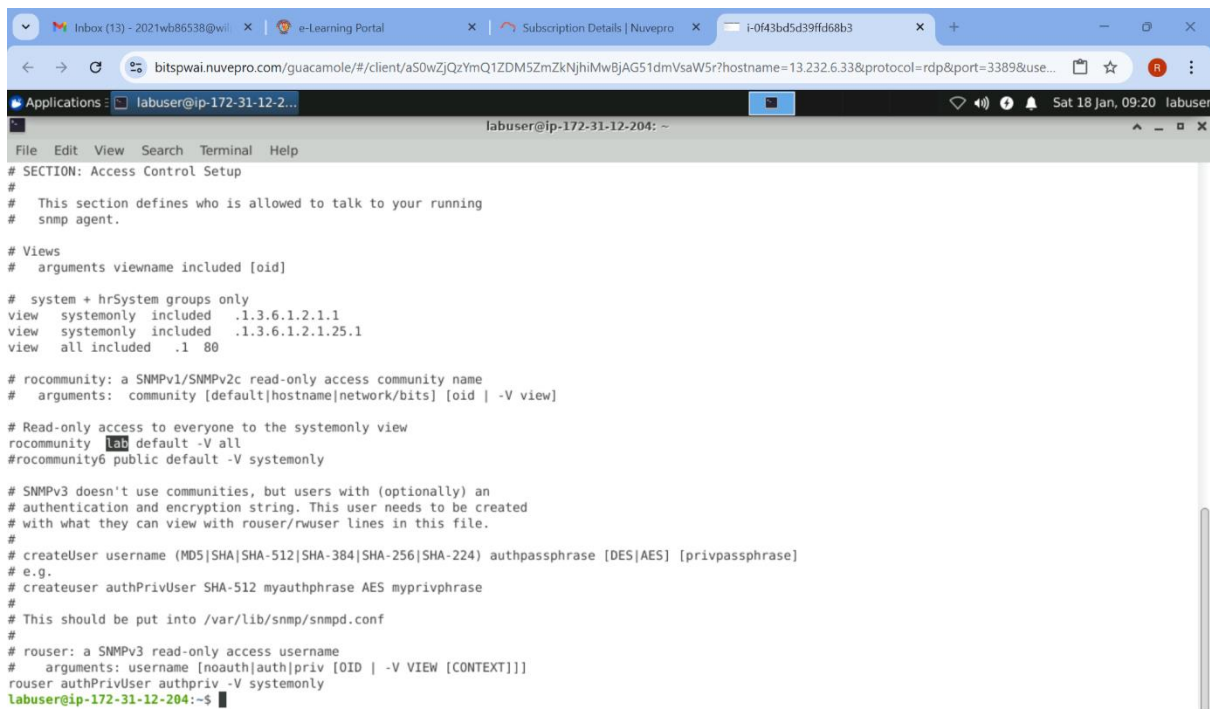


In the below system is the SNMP community name (You can use any community name)

```
# rocommunity: a SNMPv1/SNMPv2c read-only access community name
# arguments: community [default|hostname|network/bits] [oid | -V v]

# Read-only access to everyone to the systemonly view
rocommunity system default -V systemonly
#rocommunity6 public default -V systemonly

# SNMPv3 doesn't use communities, but users with (optionally) an
# authentication and encryption string. This user needs to be created
# with what they can view with rouser/rwuser lines in this file.
```



```
File Edit View Search Terminal Help
# SECTION: Access Control Setup
#
# This section defines who is allowed to talk to your running
# snmp agent.

# Views
# arguments viewname included [oid]

# system + hrSystem groups only
view systemonly included .1.3.6.1.2.1.1
view systemonly included .1.3.6.1.2.1.25.1
view all included .1 80

# rocommunity: a SNMPv1/SNMPv2c read-only access community name
# arguments: community [default|hostname|network/bits] [oid | -V view]

# Read-only access to everyone to the systemonly view
rocommunity lab default -V all
#rocommunity6 public default -V systemonly

# SNMPv3 doesn't use communities, but users with (optionally) an
# authentication and encryption string. This user needs to be created
# with what they can view with rouser/rwuser lines in this file.
#
# createUser username (MD5|SHA|SHA-512|SHA-384|SHA-256|SHA-224) authpassphrase [DES|AES] [privpassphrase]
# e.g.
# createUser authPrivUser SHA-512 myauthphrase AES myprivphrase
#
# This should be put into /var/lib/snmp/snmpd.conf
#
# rouser: a SNMPv3 read-only access username
# arguments: username [noauth|auth|priv [OID | -V VIEW [CONTEXT]]]
rouser authPrivUser authpriv -V systemonly
labuser@ip-172-31-12-204:~$
```

- Update the SNMP community name by replacing public with lab and comment out IPv6 configurations by adding a # at the beginning of the relevant lines.
- We have changed the name to lab and also commented the IPv6 configuration line.



- On modifying SNMP config file, you need to Restart the SNMP Services with the commands used in beginning.

Restarted the SNMP services and now it's up and running.

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ sudo systemctl restart snmpd
labuser@ip-172-31-12-204:~$ sudo systemctl status snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-01-18 09:22:09 UTC; 5s ago
     Process: 3417 ExecStartPre=/bin/mkdir -p /var/run/agentx (code=exited, status=0/SUCCESS)
    Main PID: 3418 (snmpd)
       Tasks: 1 (limit: 9221)
      Memory: 5.2M
    CGroup: /system.slice/snmpd.service
            └─3418 /usr/sbin/snmpd -Lw -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f -p /run/snmpd.pid

Jan 18 09:22:09 ip-172-31-12-204 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon....
Jan 18 09:22:09 ip-172-31-12-204 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
labuser@ip-172-31-12-204:~$
```

1. Run the below command and record the output and also explain the usage of the command.

- `sudo netstat -nlpu | grep snmp`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ sudo netstat -nlpu | grep snmp
udp      0      0 172.31.12.204:161    0.0.0.0:*           3418/snmpd
udp      0      0 127.0.0.1:161        0.0.0.0:*           3418/snmpd
labuser@ip-172-31-12-204:~$
```

Observation:

This command displays all listening UDP ports and filters for SNMP. The output includes the SNMP service's bound addresses (127.0.0.1:161 & 172.31.12.204:161), indicating it is listening on the configured addresses.



2. Explore the usage of snmpwalk command

- `snmpwalk -Os -c lab -v 2c localhost`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpwalk -Os -c lab -v 2c localhost
```

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = OID: iso.3.6.1.6.3.1.1.5.3
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = OID: iso.3.6.1.6.3.1.1.5.4
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = OID: iso.3.6.1.2.1.88.2.0.4
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = OID: iso.3.6.1.2.1.88.2.0.3
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = OID: iso.3.6.1.2.1.88.2.0.1
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = OID: iso.3.6.1.2.1.88.2.0.2
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = STRING: "linkUpDown"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = STRING: "linkUpDown"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = STRING: "triggerFail"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = STRING: "triggerFire"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = STRING: "triggerFire"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = STRING: "triggerFire"
iso.3.6.1.2.1.92.1.1.1.0 = Gauge32: 1000
iso.3.6.1.2.1.92.1.1.2.0 = Gauge32: 1440
iso.3.6.1.2.1.92.1.2.1.0 = Counter32: 0
iso.3.6.1.2.1.92.1.2.2.0 = Counter32: 0
labuser@ip-172-31-12-204:~$
```



- `snmpwalk -Os -c lab -v 2c 172.31.12.204`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpwalk -Os -c system -v 2c 172.31.12.204
Timeout: No Response from 172.31.12.204
labuser@ip-172-31-12-204:~$ snmpwalk -Os -c lab -v 2c 172.31.12.204

iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.4.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.2.1.5.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = INTEGER: 1
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = OID: iso.3.6.1.6.3.1.1.5.3
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = OID: iso.3.6.1.6.3.1.1.5.4
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = OID: iso.3.6.1.2.1.88.2.0.4
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = OID: iso.3.6.1.2.1.88.2.0.3
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = OID: iso.3.6.1.2.1.88.2.0.1
iso.3.6.1.2.1.88.1.4.3.1.1.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = OID: iso.3.6.1.2.1.88.2.0.2
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.2.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = STRING: "_snmpd"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.108.105.110.107.68.111.119.110 = STRING: "_linkUpDown"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.108.105.110.107.85.112 = STRING: "_linkUpDown"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.105.108.117.114.101 = STRING: "_triggerFail"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.97.108.108.105.110.103 = STRING: "_triggerFire"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.70.105.114.101.100 = STRING: "_triggerFire"
iso.3.6.1.2.1.88.1.4.3.1.3.6.95.115.110.109.112.100.95.109.116.101.84.114.105.103.103.101.114.82.105.115.105.110.103 = STRING: "_triggerFire"
iso.3.6.1.2.1.92.1.1.1.0 = Gauge32: 1000
iso.3.6.1.2.1.92.1.1.2.0 = Gauge32: 1440
iso.3.6.1.2.1.92.1.2.1.0 = Counter32: 0
iso.3.6.1.2.1.92.1.2.2.0 = Counter32: 0
labuser@ip-172-31-12-204:~$
```

Observation:

The `snmpwalk` command retrieves a tree of SNMP objects. Using localhost fetches data for the local machine. The `172.31.12.204` query ensures SNMP is accessible via the configured IP.

3. Run the below `snmpget` command to get the OID's of the following from your machine/snmp agent and record the output

- **OID of Ethernet interface (ens5)**
- `snmpget -c lab -v 2c localhost ifDescr.2`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.2
IF-MIB::ifDescr.2 = STRING: Amazon.com, Inc. Elastic Network Adapter (ENA)
labuser@ip-172-31-12-204:~$
```

Observation: Retrieves the OID of the Ethernet interface.



- **OID of Loopback interface(lo)**
- `snmpget -c lab -v 2c localhost ifDescr.1`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.2
IF-MIB::ifDescr.2 = STRING: Amazon.com, Inc. Elastic Network Adapter (ENA)
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.1
IF-MIB::ifDescr.1 = STRING: lo
labuser@ip-172-31-12-204:~$
```

Observation: Retrieves the OID for the loopback interface.

- **OID of MAC Address**
- `snmpget -c lab -v 2c localhost ifPhysAddress.1`
- `snmpget -c lab -v 2c localhost ifPhysAddress.2`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.2
IF-MIB::ifDescr.2 = STRING: Amazon.com, Inc. Elastic Network Adapter (ENA)
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.1
IF-MIB::ifDescr.1 = STRING: lo
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifPhysAddress.1
IF-MIB::ifPhysAddress.1 = STRING:
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifPhysAddress.2
IF-MIB::ifPhysAddress.2 = STRING: a:83:29:d7:86:c3
labuser@ip-172-31-12-204:~$
```

Observation: Displays the MAC address for the specified interface.

- **OID of sysContact**
- `snmpget -c lab -v 2c localhost sysContact.0`

```
Applications: labuser@ip-172-31-12-2...
labuser@ip-172-31-12-204: ~
File Edit View Search Terminal Help
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.2
IF-MIB::ifDescr.2 = STRING: Amazon.com, Inc. Elastic Network Adapter (ENA)
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifDescr.1
IF-MIB::ifDescr.1 = STRING: lo
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifPhysAddress.1
IF-MIB::ifPhysAddress.1 = STRING:
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ifPhysAddress.2
IF-MIB::ifPhysAddress.2 = STRING: a:83:29:d7:86:c3
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost sysContact.0
SNMPv2-MIB::sysContact.0 = STRING: 2021wb86538@wilp.bits-pilani.ac.in
labuser@ip-172-31-12-204:~$
```



Observation: Displays the contact information configured in the SNMP settings.

4. Get the following system Information with the help of snmpget command

- **Host Name**

- `snmpget -c lab -v 2c localhost sysName.0`
- **Equivalent:** `hostname`

```
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost sysName.0
SNMPv2-MIB::sysName.0 = STRING: ip-172-31-12-204
labuser@ip-172-31-12-204:~$ hostname
ip-172-31-12-204
labuser@ip-172-31-12-204:~$
```

- **Hostname with kernel version**

- `snmpget -c lab -v 2c localhost sysDescr.0`
- **Equivalent:** `uname -a`

```
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost sysDescr.0
SNMPv2-MIB::sysDescr.0 = STRING: Linux ip-172-31-12-204 5.15.0-1026-aws #30-20.04.2-Ubuntu SMP Fri Nov 25 14:53:22 UTC 2022 x86_64
labuser@ip-172-31-12-204:~$ uname -a
Linux ip-172-31-12-204 5.15.0-1026-aws #30-20.04.2-Ubuntu SMP Fri Nov 25 14:53:22 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
labuser@ip-172-31-12-204:~$
```

- **IP Address of the Host**

- `snmpget -c lab -v 2c localhost ipAdEntAddr.127.0.0.1`
- `snmpget -c lab -v 2c localhost ipAdEntAddr.172.31.12.204`
- **Equivalent:** `hostname -i`

```
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ipAdEntAddr.127.0.0.1
IP-MIB::ipAdEntAddr.127.0.0.1 = IPAddress: 127.0.0.1
labuser@ip-172-31-12-204:~$ snmpget -c lab -v 2c localhost ipAdEntAddr.172.31.12.204
IP-MIB::ipAdEntAddr.172.31.12.204 = IPAddress: 172.31.12.204
labuser@ip-172-31-12-204:~$
```

(Note: Verify the output of each snmpget command with equivalent Linux command)



Thank you !