Sri Lanka Institute of Information Technology

Network Design & Management

IT3060

Lab Report 05

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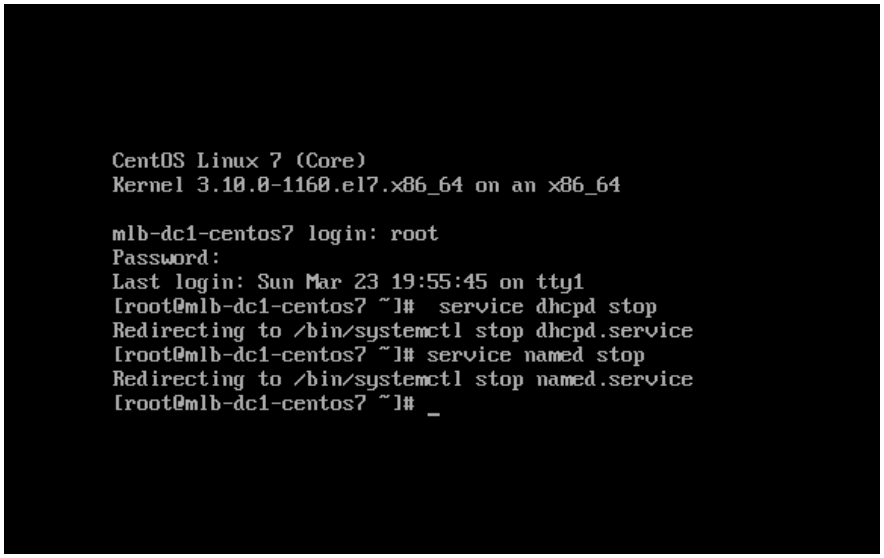
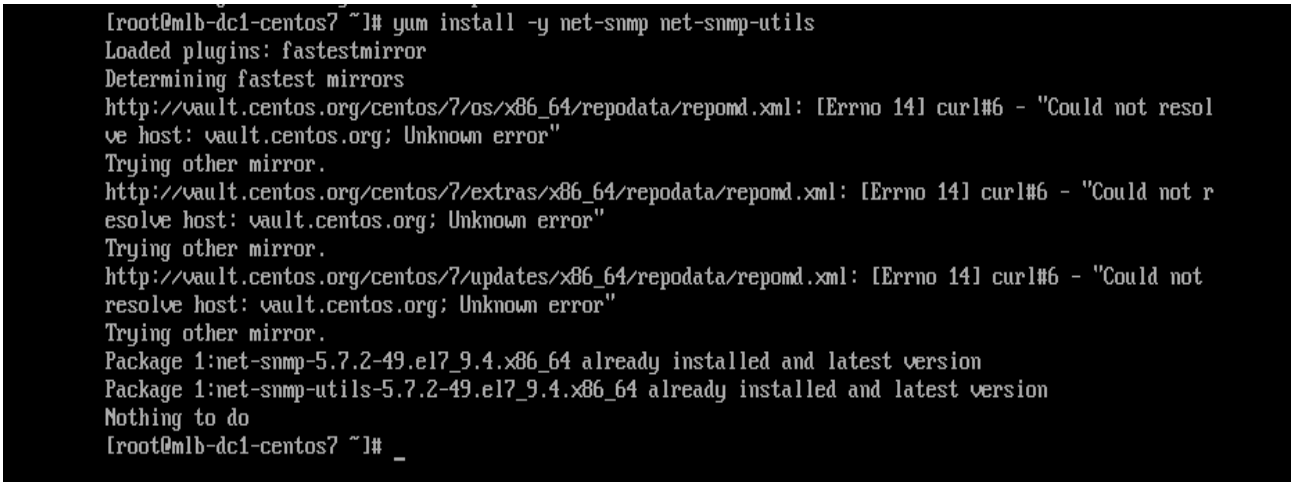
STEP 01

Stop all the running services.



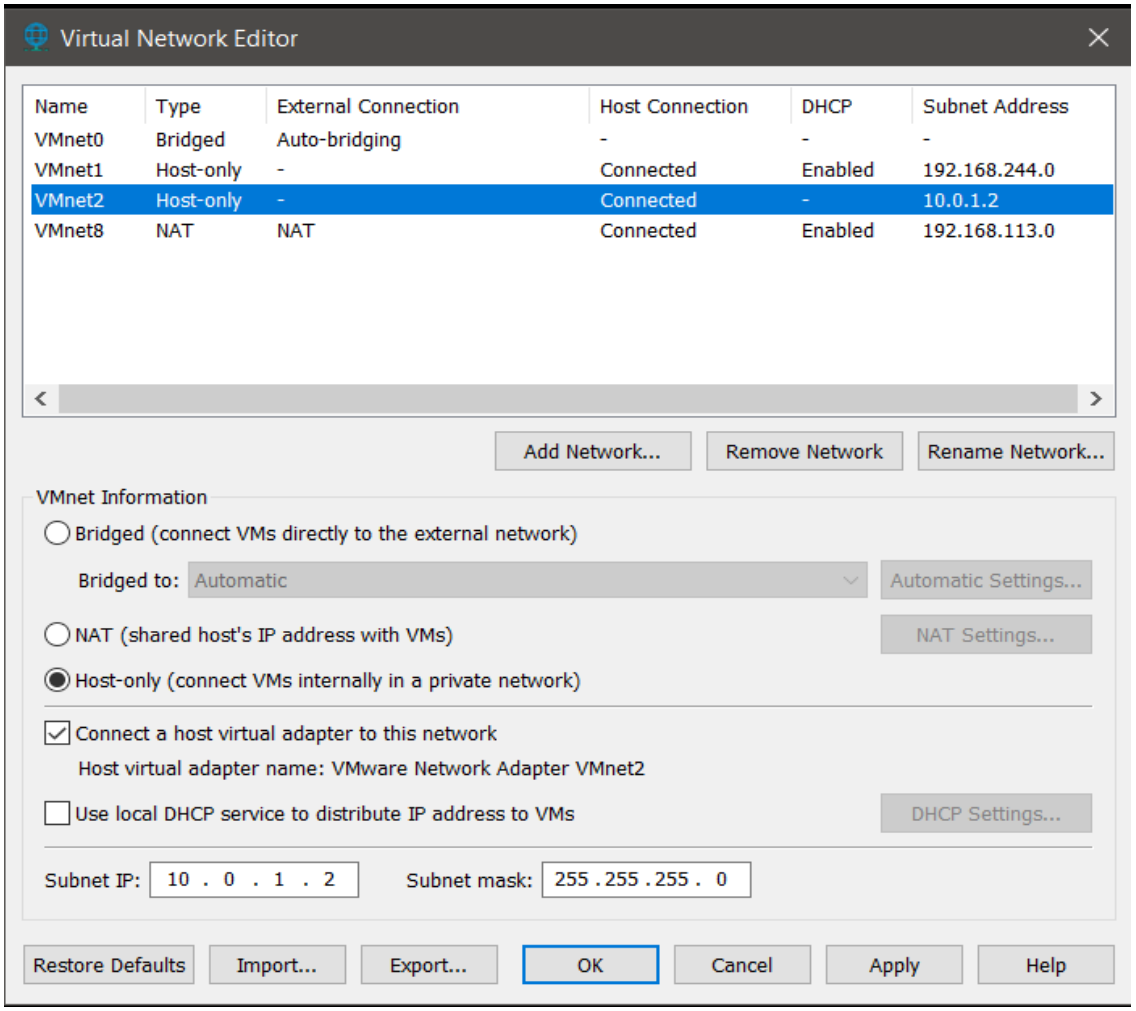
STEP 02

Install SNMP



STEP 03

Set VMware network settings to vmnet2-Host_only



STEP 04

View the SNMP configuration file

```
mlb-dc1-centos7 login: root
Password:
Last login: Sun Mar 30 15:22:32 on tty1
[root@mlb-dc1-centos7 ~]# vi /etc/snmp/snmpd.conf_
```

```
################################################################################
#
# snmpd.conf:
#   An example configuration file for configuring the ucd-snmp snmpd agent.
#
################################################################################
#
# This file is intended to only be as a starting point.  Many more
# configuration directives exist than are mentioned in this file.  For
# full details, see the snmpd.conf(5) manual page.
#
# All lines beginning with a '#' are comments and are intended for you
# to read.  All other lines are configuration commands for the agent.

################################################################################
# Access Control
################################################################################

# As shipped, the snmpd demon will only respond to queries on the
# system mib group until this file is replaced or modified for
# security purposes.  Examples are shown below about how to increase the
# level of access.

# By far, the most common question I get about the agent is "why won't
# it work?", when really it should be "how do I configure the agent to
# allow me to access it?"
#
# By default, the agent responds to the "public" community for read
# only access, if run out of the box without any configuration file in
# place.  The following examples show you other ways of configuring
# the agent so that you can change the community names, and give
# yourself write access to the mib tree as well.
#
# For more information, read the FAQ as well as the snmpd.conf(5)
# manual page.

"/etc/snmp/snmpd.conf" 469L, 18979C
```

Add below configuration to /etc/snmp/snmpd.conf

```
rocommunity public 127.0.0.1
rocommunity public 127.0.0.1 syslocation
"HYD, UM DataCenter" syscontact
admin@ndm.lk
```

Start SNMP service

```
"/etc/snmp/snmpd.conf" 476L, 18990C written
[root@mlb-dc1-centos7 ~]# service snmpd start
Redirecting to /bin/systemctl start snmpd.service
[root@mlb-dc1-centos7 ~]# _
```

STEP 05

Snmptranslate - learning about the MIB tree.

```
"/etc/snmp/snmpd.conf" 476L, 18990C written
[root@mlb-dc1-centos7 ~]# service snmpd start
Redirecting to /bin/systemctl start snmpd.service
[root@mlb-dc1-centos7 ~]# snmptranslate .1.3.6.1.2.1.1.3.0
DISMAN-EVENT-MIB::sysUpTimeInstance
[root@mlb-dc1-centos7 ~]# snmptranslate -On SNMPv2-MIB::system.sysUpTime.0
.1.3.6.1.2.1.1.3.0
[root@mlb-dc1-centos7 ~]# snmptranslate .iso.3.6.1.private.enterprises.2021.2.1.prNames.0
UCD-SNMP-MIB::prNames.0
[root@mlb-dc1-centos7 ~]# snmptranslate -On .iso.3.6.1.private.enterprises.2021.2.1.prNames.0
.1.3.6.1.4.1.2021.2.1.2.0
[root@mlb-dc1-centos7 ~]# snmptranslate -Of .iso.3.6.1.private.enterprises.2021.2.1.prNames.0
.iso.org.dod.internet.private.enterprises.ucdavis.prTable.prEntry.prNames.0
[root@mlb-dc1-centos7 ~]# snmptranslate sysUpTime.0
sysUpTime.0: Unknown Object Identifier (Sub-id not found: (top) -> sysUpTime)
[root@mlb-dc1-centos7 ~]# snmptranslate -IR sysUpTime.0
DISMAN-EVENT-MIB::sysUpTimeInstance
[root@mlb-dc1-centos7 ~]# snmptranslate -Ib 'sys.*ime'
SNMPv2-MIB::sysORUpTime
[root@mlb-dc1-centos7 ~]# snmptranslate -TB 'vacm.*table'
SNMP-VIEW-BASED-ACM-MIB::vacmViewTreeFamilyTable
SNMP-VIEW-BASED-ACM-MIB::vacmAccessTable
SNMP-VIEW-BASED-ACM-MIB::vacmSecurityToGroupTable
SNMP-VIEW-BASED-ACM-MIB::vacmContextTable
NET-SNMP-VACM-MIB::nsVacmAccessTable
[root@mlb-dc1-centos7 ~]# snmptranslate -On -Td -Ib 'sys.*ime'
.1.3.6.1.2.1.1.9.1.4
sysORUpTime OBJECT-TYPE
  -- FROM       SNMPv2-MIB
  -- TEXTUAL CONVENTION TimeStamp
  SYNTAX        TimeTicks
  MAX-ACCESS    read-only
  STATUS        current
  DESCRIPTION   "The value of sysUpTime at the time this conceptual
          row was last instantiated."
::= { iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) system(1) sysORTable(9) sysOREntry(1) 4 }
[root@mlb-dc1-centos7 ~]# _
```


|
+-- -R-- String sysDescr(1)
| Textual Convention: DisplayString
| Size: 0..255
+-- -R-- ObjID sysObjectID(2)
+-- -R-- TimeTicks sysUpTime(3)
| |
| +--sysUpTimeInstance(0)
|
+-- -RW- String sysContact(4)
| Textual Convention: DisplayString
| Size: 0..255
+-- -RW- String sysName(5)
| Textual Convention: DisplayString
| Size: 0..255
+-- -RW- String sysLocation(6)
| Textual Convention: DisplayString
| Size: 0..255
+-- -R-- INTEGER sysServices(7)
| Range: 0..127
+-- -R-- TimeTicks sysORLastChange(8)
| Textual Convention: TimeStamp
|
+--sysORTable(9)
|
+--sysOREntry(1)
| Index: sysORIndex
|
+-- ---- INTEGER sysORIndex(1)
| Range: 1..2147483647
+-- -R-- ObjID sysORID(2)
+-- -R-- String sysORDescr(3)
| Textual Convention: DisplayString
| Size: 0..255
+-- -R-- TimeTicks sysORUpTime(4)
Textual Convention: TimeStamp
[root@mlb-dc1-centos7 ~]# _

Snmpget - retrieving data from a host

```
[root@mlb-dc1-centos7 ~]# snmpget -v 1 -c public 10.0.1.2 system.sysUpTime.0
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (219792) 0:36:37.92
[root@mlb-dc1-centos7 ~]# snmpget -v 2c -c public 10.0.1.2 system.sysUpTime.0

DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (221713) 0:36:57.13
[root@mlb-dc1-centos7 ~]#
[root@mlb-dc1-centos7 ~]# snmpget -v 1 -c public 10.0.1.2 sysUpTime

Error in packet
Reason: (noSuchName) There is no such variable name in this MIB.
Failed object: SNMPv2-MIB::sysUpTime

[root@mlb-dc1-centos7 ~]#
[root@mlb-dc1-centos7 ~]# snmpget -v 2c -c public 10.0.1.2 sysUpTime
SNMPv2-MIB::sysUpTime = No Such Instance currently exists at this OID
[root@mlb-dc1-centos7 ~]# snmpget -v 2c -c public 10.0.1.2 sysUpTime.0 ucdDemoUserList.0

DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (229451) 0:38:14.51
UCD-DEMO-MIB::ucdDemoUserList.0 = No Such Object available on this agent at this OID
[root@mlb-dc1-centos7 ~]#
[root@mlb-dc1-centos7 ~]#
```

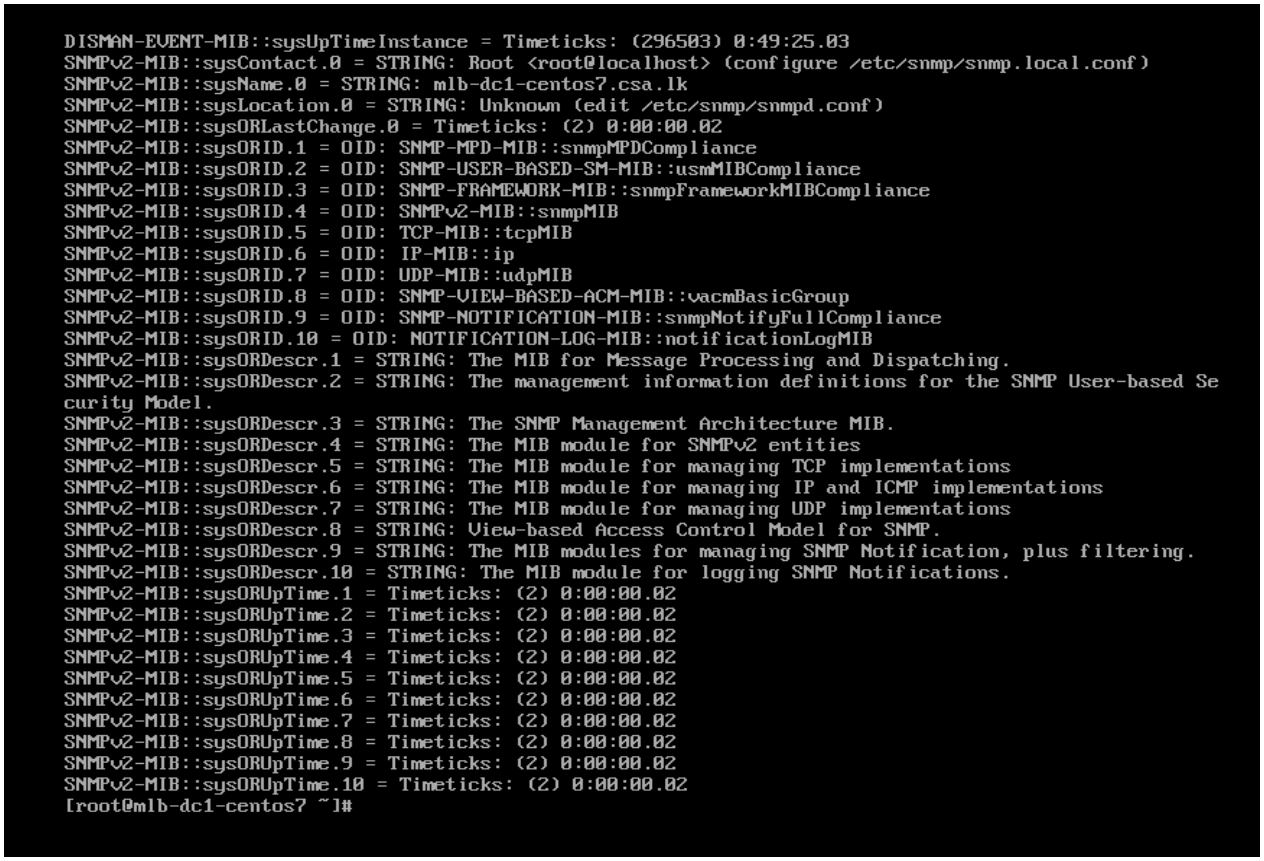
Snmpgetnext - retrieving unknown indexed data.

```
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system.sysUpTime.0

SNMPv2-MIB::sysContact.0 = STRING: Root <root@localhost> (configure /etc/snmp/snmp.local.conf)
[root@mlb-dc1-centos7 ~]#
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system.sysUpTime.0
SNMPv2-MIB::sysContact.0 = STRING: Root <root@localhost> (configure /etc/snmp/snmp.local.conf)
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system.sysContact.0
SNMPv2-MIB::sysName.0 = STRING: mlb-dc1-centos7.csa.lk
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system.sysName.0
SNMPv2-MIB::sysLocation.0 = STRING: Unknown (edit /etc/snmp/snmpd.conf)
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system.sysUpTime
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (260830) 0:43:28.30
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 system
SNMPv2-MIB::sysDescr.0 = STRING: Linux mlb-dc1-centos7.csa.lk 3.10.0-1160.el7.x86_64 #1 SMP Mon Oct
19 16:18:59 UTC 2020 x86_64
[root@mlb-dc1-centos7 ~]# snmpgetnext -v 2c -c public 10.0.1.2 .1.3.6
SNMPv2-MIB::sysDescr.0 = STRING: Linux mlb-dc1-centos7.csa.lk 3.10.0-1160.el7.x86_64 #1 SMP Mon Oct
19 16:18:59 UTC 2020 x86_64
[root@mlb-dc1-centos7 ~]#
```

Self-Study

Snmpwalk - Retrieve all available OIDs under a specified branch



Snmptable-Display SNMP tables in readable format