

Configuring an SNMP Manager and Alerts

Fundamentals of Communications and Networking, Third Edition - Lab 07

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Time on Task:

19 hours, 0 minutes

Progress:

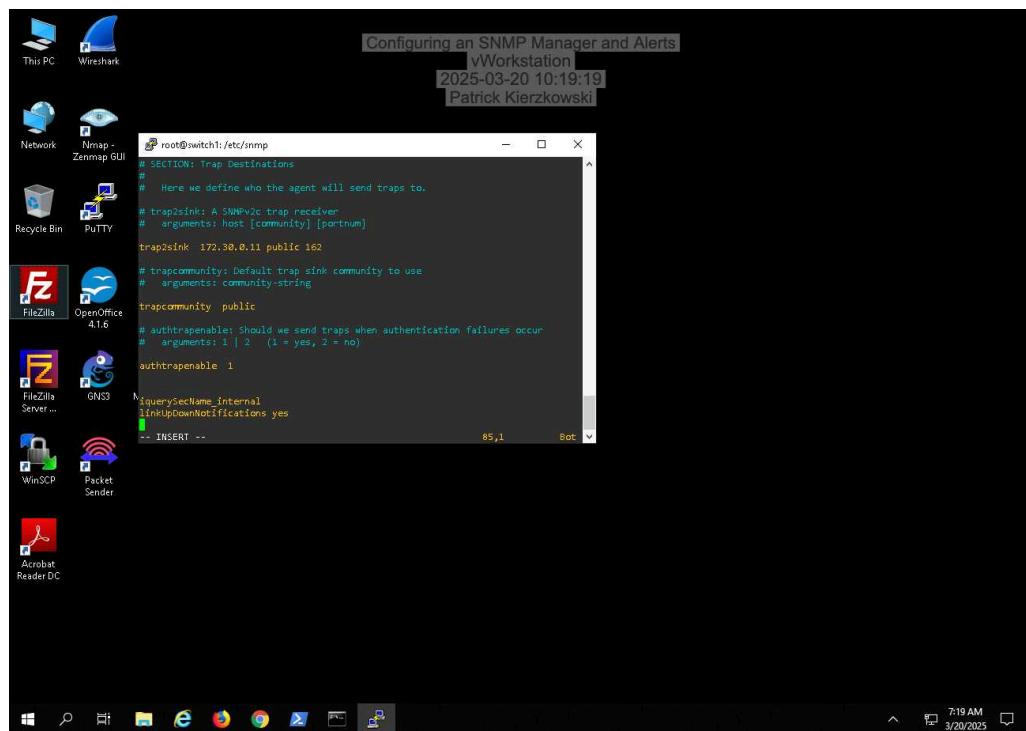
100%

Report Generated: Monday, July 7, 2025 at 9:46 PM

Section 1: Hands-On Demonstration

Part 1: Configure an SNMP Agent on a Network Device

44. Make a screen capture showing your manual additions to the snmpd.conf file.



The screenshot shows a Windows desktop environment with a terminal window open. The terminal window title is "root@switch1:/etc/snmp". The content of the window is as follows:

```
# SECTION: Trap Destinations
#
# Here we define who the agent will send traps to.

# trap2sink: A SNMPv2c trap receiver
# arguments: host [community] [portnum]
trap2sink 172.30.0.11 public 162

# trapcommunity: Default trap sink community to use
# arguments: community-string
trapcommunity public

# authtrapenable: Should we send traps when authentication failures occur
# arguments: 1 | 2 (1 = yes, 2 = no)
authtrapenable 1

# querystackname: Internal linkUp/Down notifications
# arguments: internal
querystackname internal
linkUpDownNotifications yes
```

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49. Make a screen capture showing the sysLocation and sysContact information obtained from your snmpwalk command.

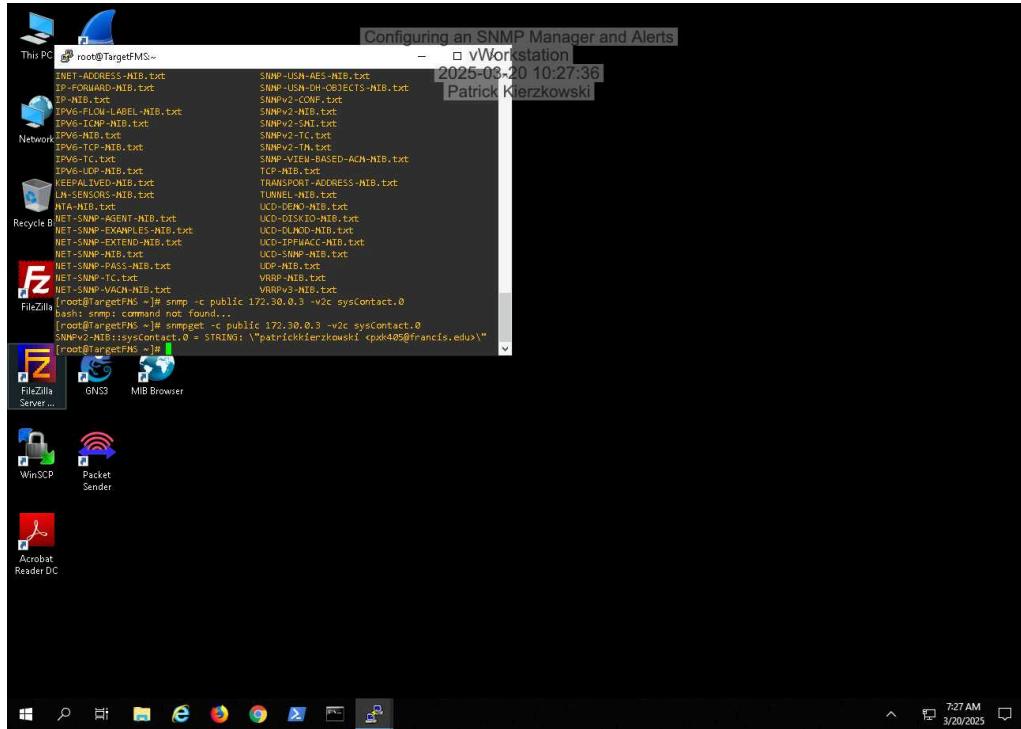
A screenshot of a Windows desktop environment. On the left, there's a vertical column of pinned icons: This PC, Wireshark, Network, Zabbix GUI, Recycle Bin, PUTTY, FileZilla, OpenOffice 4.1.6, FileZilla Server ..., WinSCP, Packet Sender, and Acrobat Reader DC. The main window is titled "Configuring an SNMP Manager and Alerts vWorkstation" and has a timestamp of "2025-03-20 10:20:25" and author "Patrick Kierzkowski". It's a terminal window for "root@switch1:/etc/snmp" showing configuration for SNMPv2 entities. The output includes descriptions for modules like sysOidDescr, sysName, and sysLocation, along with their corresponding Timeticks for sysUpTime. The desktop taskbar at the bottom shows icons for File Explorer, Edge, Google Chrome, and other system icons.

Part 2: Configure an SNMP Manager on a Network Monitoring System

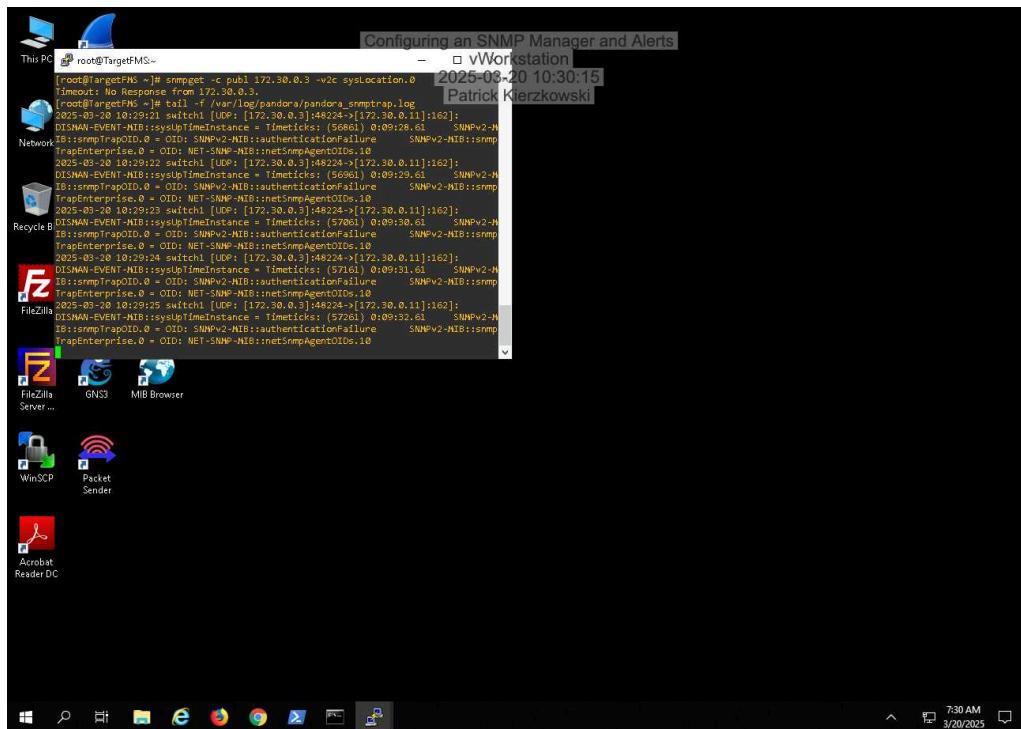
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10. Make a screen capture showing the output of your snmpget request.



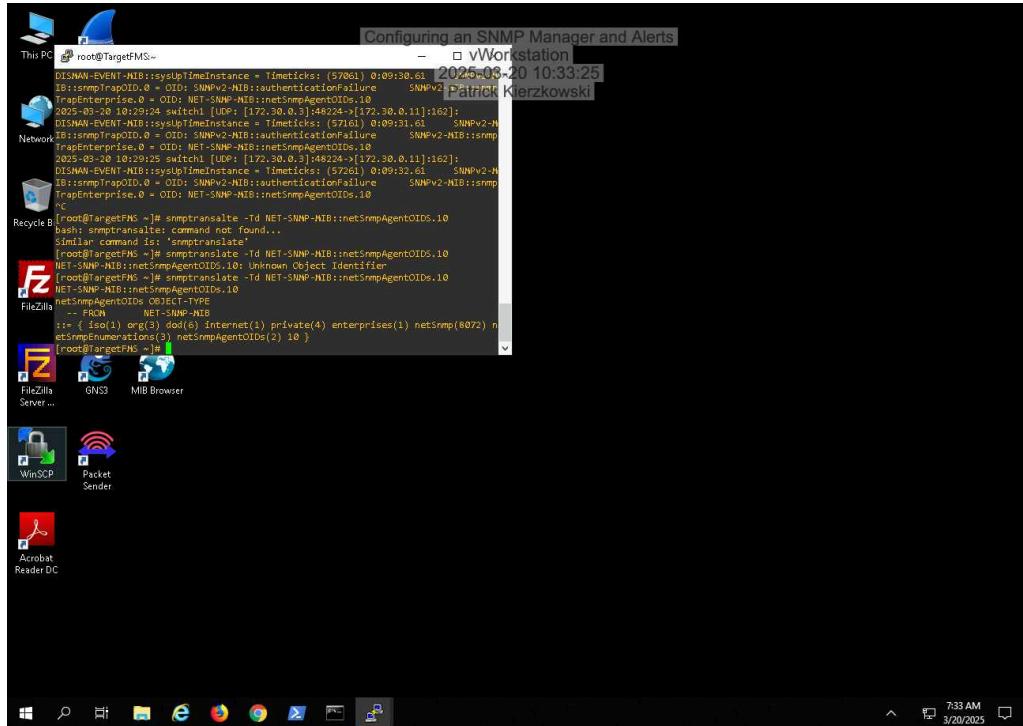
17. Make a screen capture showing the authentication failure traps in `pandora_snmptrap.log`.



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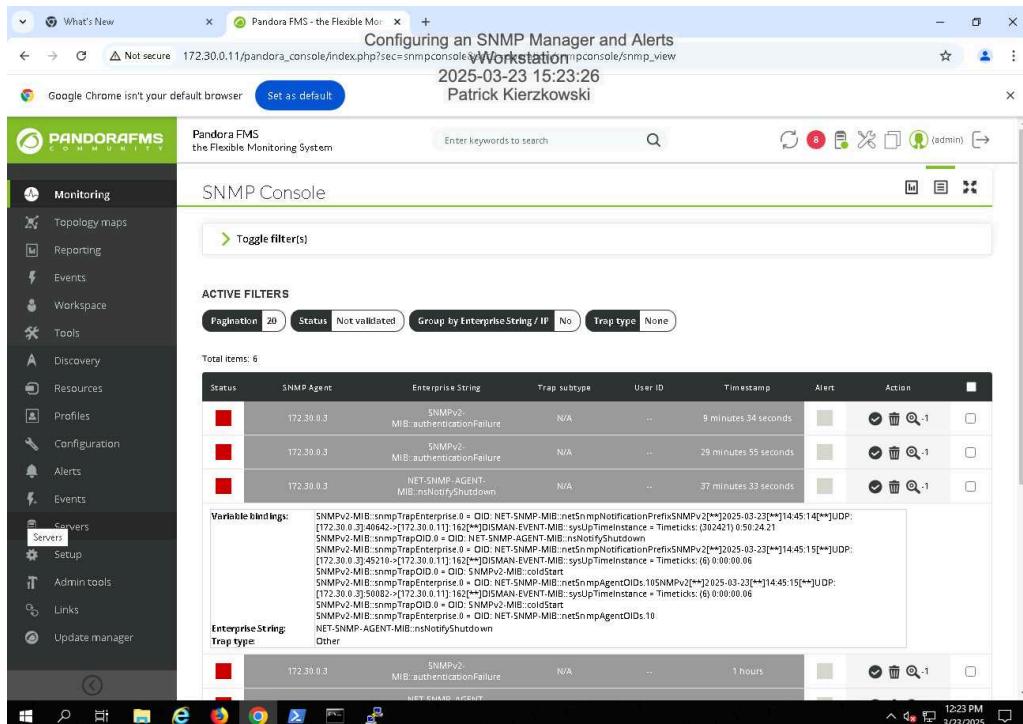
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20. Make a screen capture showing the output of your snmptranslate command.



```
Configuring an SNMP Manager and Alerts
vWorkstation 2025-03-20 10:33:25
root@TargetFMS:~$ snmptranslate -Id NET-SNMP-NIB:inet5RpmpAgentOIDs.10
bash: snmptranslate: command not found...
root@TargetFMS:~# snmptranslate
[root@TargetFMS ~]# snmptranslate -Id NET-SNMP-NIB:inet5RpmpAgentOIDs.10
NET-SNMP-NIB:inet5RpmpAgentOIDs.10: Unknown Object Identifier
[root@TargetFMS ~]# snmptranslate -Id NET-SNMP-NIB:inet5RpmpAgentOIDs.10
NET-SNMP-NIB:inet5RpmpAgentOIDs.10
Filezilla
Filezilla Server ...
GNS3
MIB Browser
WinSCP
Packet Sender
Acrobat Reader DC
7:33 AM 3/20/2025
```

45. Make a screen capture showing the full details of the linkDown trap captured in Pandora SNMP console.



The screenshot shows the Pandora FMS interface with the following details:

- Page Title:** Configuring an SNMP Manager and Alerts
- Timestamp:** 2025-03-23 15:23:26
- User:** Patrick Kierzkowski
- Section:** SNMP Console
- ACTIVE FILTERS:** Status: Not validated, Trap type: None
- Table Headers:** Status, SNMP Agent, Enterprise String, Trap subtype, User ID, Timestamp, Alert, Action
- Trap Details:**
 - Status: 172.30.0.3, SNMP Agent: 172.30.0.3, Enterprise String: MIB::authenticationFailure, Trap subtype: N/A, User ID: .., Timestamp: 9 minutes 34 seconds, Alert: [red], Action: [checkboxes]
 - Status: 172.30.0.3, SNMP Agent: 172.30.0.3, Enterprise String: MIB::authenticationFailure, Trap subtype: N/A, User ID: .., Timestamp: 29 minutes 55 seconds, Alert: [red], Action: [checkboxes]
 - Status: 172.30.0.3, SNMP Agent: 172.30.0.3, Enterprise String: NET-SNMP-AGENT-MIB::notifyShutdown, Trap subtype: N/A, User ID: .., Timestamp: 37 minutes 39 seconds, Alert: [red], Action: [checkboxes]
- Variable bindings:** A detailed table showing variable bindings for each trap, including OID, Enterprise String, and timestamp.
- Enterprise String:** NET-SNMP-AGENT-MIB::notifyShutdown
- Trap type:** Other

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Section 2: Applied Learning

Part 1: Configure an SNMP Agent on a Network Device

20. Make a screen capture showing the full details of the SNMPv2-MIB::coldStart trap generated by the pfSense-router.

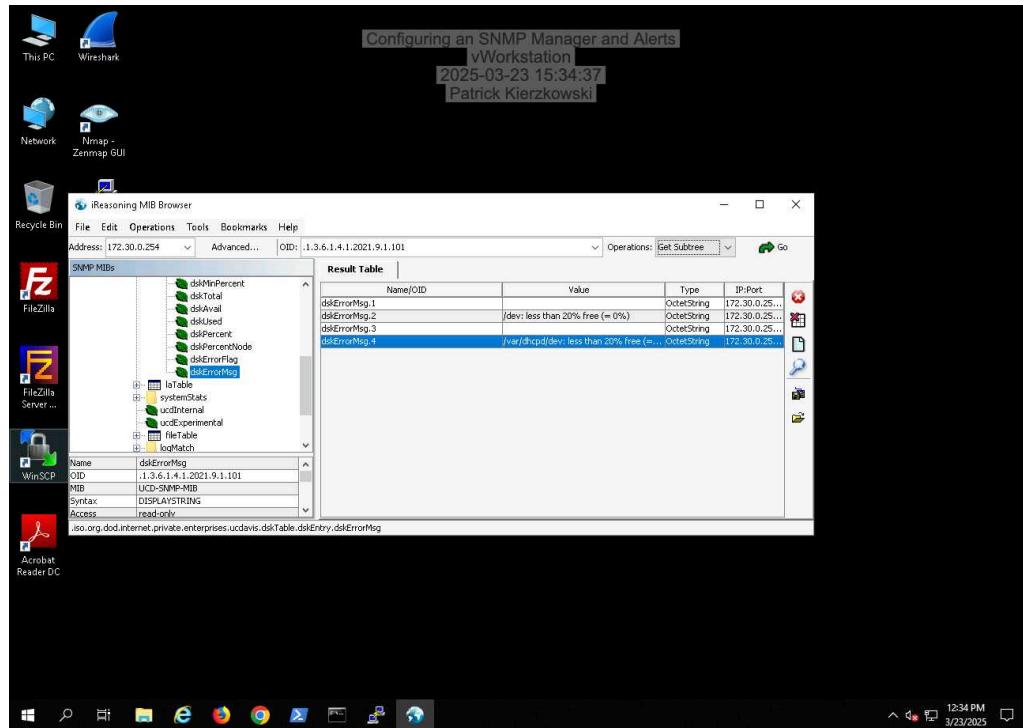
The screenshot shows the Pandora FMS SNMP Console interface. The title bar indicates the page is 'Configuring an SNMP Manager and Alerts' and the timestamp is '2025-03-23 15:28:22'. The user is Patrick Kierzkowski. The left sidebar has a 'Monitoring' section with 'Topology maps', 'Reporting', 'Events', 'Workspace', 'Tools', 'Discovery', 'Resources', 'Profiles', 'Configuration', 'Alerts' (selected), 'Events', 'Servers', 'Setup', 'Admin tools', 'Links', and 'Update manager'. The main area is titled 'SNMP Console' with a search bar and a 'Toggle filter(s)' button. Below is a table header for 'ACTIVE FILTERS' with columns: Pagination (20), Status (Not validated), Group by Enterprise String / IP (No), Trap type (None). The table shows one item: 'Total items: 1'. The row details a trap from 'pfSense-router' with 'Status' as red, 'SNMP Agent' as 'SNMPv2-MIB: coldStart', 'Enterprise String' as 'N/A', 'Trap subtype' as '...', 'User ID' as '...', 'Timestamp' as '27 seconds', 'Alert' as '...', and 'Action' as '...'. A detailed view of the trap variables is shown in a modal window:

Variable bindings:
SNMPv2-MIB::snmpTrapEnterprise.0 = OID:NET-SNMP-MIB::netSnmpAgentOIDs:SNMPv2-2[*]2025-03-23[**]15:27:39[*]UDP:[172.30.0.254]:1122->[172.30.0.11]:162[*]DISMAN-EVENT-MIB::sysUpTimeInstance + Timeticks: [1] 0:00:00:11 SNMPv2-MIB::snmpTrapOID.0 = OID: DISMAN-EVENT-MIB::mteTriggered DISMAN-EVENT-MIB::mteHotTrigger.0 = STRING: diskTable DISMAN-EVENT-MIB::mteHotTargeteth.0 = STRING: DISMAN-EVENT-MIB::mteHotReason.0 = STRING: DISMAN-EVENT-MIB::mteHotOID.0 = OID: UCD-SNMP-MIB::diskErrorFlag.2 DISMAN-EVENT-MIB::mteHotValue.0 = INTEGER: 1 UCD-SNMP-MIB::diskPath.2 = STRING: /var/dhcpd/dev UCD-SNMP-MIB::diskErrorMsg.4 = STRING: /var/dhcpd/dev: less than 20% free (= 0%) SNMPv2-MIB::coldStart Other

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30. Make a screen capture showing the **disk error messages** in the Result Table.



Part 2: Configure SNMP Polling on a Network Monitoring System

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7. Make a screen capture showing the newly defined switch1 agent in the Manage agents view.

The screenshot shows the 'Agents defined in Pandora FMS' page. The left sidebar has 'Discovery' selected under 'Discovery'. The main area displays a table of agents:

Agent name	R	OS	Type	Group	Description	Actions
pfSense-router	●	Ubuntu	Host	None		[Edit] [Delete]
switch1	●	Ubuntu	Host	None	Ubuntu 16 multi-port bridge in rockITC	[Edit] [Delete]
TargetFMS	●	Ubuntu	Host	None	Pandora FMS Server version 7.0NG.736	[Edit] [Delete]

A 'Create agent' button is at the bottom right. The browser address bar shows '172.30.0.11/pandora_console/index.php?sec=gagent&sec2=modificar_agente'.

27. Make a screen capture showing the critical event generated in the Pandora Tactical view.

The screenshot shows the 'Tactical view' page. The left sidebar has 'Monitoring' selected. The main area is divided into sections:

- Status report:** Shows server health, monitor health, and module sanity.
- Defined and triggered alerts:** Displays a bell icon and a list of triggered alerts.
- Monitors by status:** A pie chart showing monitor status distribution.
- Latest events:** A table listing recent events:

Type	Event name	Agent name	Timestamp	Status	V.
Module	'cron' is going to CRITICAL (0)	switch1	4 seconds	CRITICAL	★
System	Warmup mode for unknown modules started.	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS datanode going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS networkserver going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS reconserver going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS snmpconsole going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS wmserver going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS pluginserver going UP	System	4 minutes 29 seconds	SYSTEM	★
System	TargetFMS datanode going DOWN	System	7 minutes 06 seconds	SYSTEM	★
System	TargetFMS networkserver going DOWN	System	7 minutes 06 seconds	SYSTEM	★

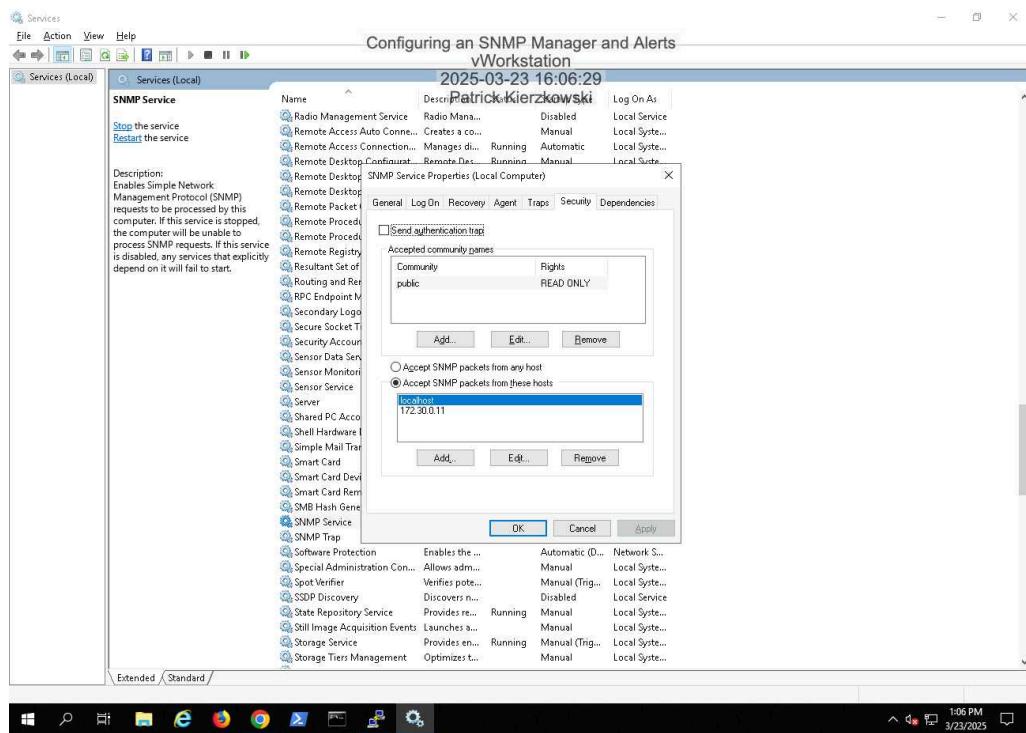
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Section 3: Challenge and Analysis

Part 1: Configure the SNMP Service on a Windows Server

Make a screen capture showing the **Security configuration in the SNMP Service Properties**.

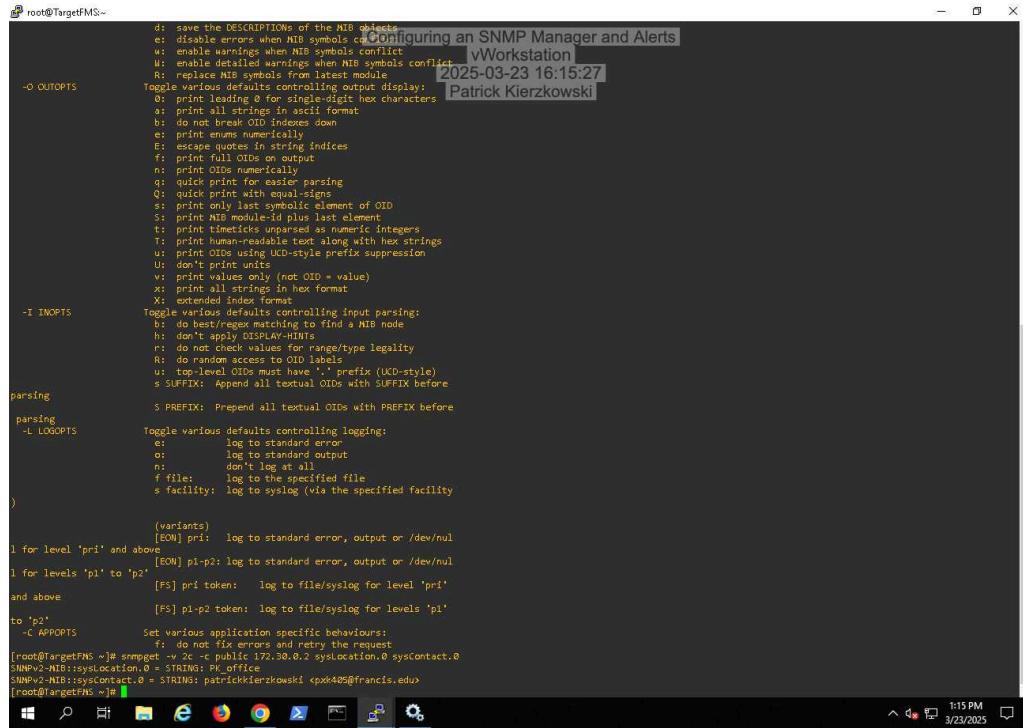


Part 2: Validate an SNMP Agent Configuration via GET Requests

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Make a screen capture showing the output of your SNMP GET request.



The screenshot shows a terminal window titled "Configuring an SNMP Manager and Alerts" running on a Windows operating system. The window displays the help documentation for the snmpget command, which includes various options for managing SNMP requests. The terminal window has a dark background with white text. At the bottom, there is a taskbar with icons for the Start button, File Explorer, Internet Explorer, Google Chrome, and other applications. The status bar at the bottom right shows the time as 1:15 PM and the date as 3/23/2025.

```
d: save the DESCRIPTIONs of the MIB objects
e: disable errors when MIB symbols conflict
w: enable warnings when MIB symbols conflict
W: enable detailed warnings when MIB symbols conflict
l: list replaced symbols from the module
-O OUTPUTS Toggle various defaults controlling output display:
 0: print leading 0 for single-digit hex characters
  a: print all strings in ascii format
  b: do not break OID indexes down
  e: print enums numerically
  f: escape quotes in string indices
  p: print full OID in output
  n: print OIDs numerically
  q: quick print for easier parsing
  Q: quick print with equal-signs
  s: print only last symbolic element of OID
  S: print MIB module-id plus last element
  t: print timestamps as numeric Integers
  T: print timestamp-readable text along with hex strings
  u: print OIDs using ICD-style prefix suppression
  U: don't print units
  v: print values only (not OID + value)
  x: print all strings in hex format
  X: extended index output
-I INPUTS Toggle various options controlling input parsing:
  b: do token/regex matching to find a MIB node
  h: don't apply DISPLAY-HINTs
  r: do not check values for range/type legality
  R: do random access to OID labels
  u: top-level OIDs must have '.' prefix (ICD-style)
  S: SUFFIX Append all textual OIDs with SUFFIX before
parsing
  S: PREFIX Prepend all textual OIDs with PREFIX before
parsing
  -L LOGOPTS Toggle various defaults controlling logging:
    e: log to standard error
    o: log to standard output
    n: don't log
    f: file: log to the specified file
    s: facility: log to syslog (via the specified facility)
  )
  (variants)
  [EON] pri: log to standard error, output or /dev/nul
  l for level 'pri' and above
  [EON] p1-p2: log to standard error, output or /dev/nul
  l for levels 'p1' to 'p2'
    [FS] pri token: log to file/syslog for level 'pri'
  and above
    [FS] p1-p2 token: log to file/syslog for levels 'p1'
  to 'p2'.
  -C APPORTS Set various application specific behaviours:
    f: do not fix errors and retry the request
[root@TargetFMS ~]# snmpget -v 2c -c public 172.30.0.2 syslocation.0 sysContact.0
SNMPv2-MIB::syslocation.0 = STRING: PK_office
SNMPv2-MIB::sysContact.0 = STRING: patrickkierzkowski (pxk405@francis.edu)
[root@TargetFMS ~]#
```

Part 3: Add a Windows Agent in Pandora and Configure SNMP Polling

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Make a screen capture showing the **CRITICAL freeFTPService event in Pandora's Tactical view.**

The screenshot shows the Pandora FMS interface with the following details:

- Title Bar:** Configuring an SNMP Manager and Alerts - Workstation
- Header:** 2025-03-23 16:43:31, Patrick Kierzkowski
- Left Sidebar (Resources):** Monitoring, Topology maps, Reporting, Events, Workspace, Tools, Discovery, Profiles, Configuration, Alerts, Events, Servers, Setup, Admin tools, Links, Update manager.
- Main Content - List of modules:**

Type	Module name	Description	Status	Thresholds	Data	Graph	Last contact
Process	freeFTPService.exe	Check if the process freeFTPService.exe is running	N/A - N/A	0			4 minutes 43 seconds
- Main Content - Full list of alerts:** INFORMATION: No alerts found.
- Main Content - Latest events for this agent:** Event list:

Type	Event name	Timestamp	Status	V.
Module	Module 'freeFTPService.exe' is going to CRITICAL (0)	Now	CRITICAL	*
- Bottom Status Bar:** Pandora FMS v7.0NG.736 - Build PC100627 - MR 29, Page generated on 2025-03-23 16:43:16
- System Taskbar:** Windows icons for Start, Search, File Explorer, Edge, Firefox, Task View, File Explorer, Task View, Settings, Task View.