Ex. No : 9 Date :	**Demonstration of Intrusion Detection System(IDS)**

AIM:

To demonstrate Intrusion Detection System (IDS) using Snort software tool.

STEPS ON CONFIGURING AND INTRUSION DETECTION:

1. Download Snort from the Snort.org website. (http://www.snort.org/snort-downloads)
2. Download Rules(https://www.snort.org/snort-rules). You must register to get the rules. (You should download these often)
3. Double click on the .exe to install snort. This will install snort in the "C:\Snort" folder.It is important to have WinPcap (https://www.winpcap.org/install/) installed
4. Extract the Rules file. You will need WinRAR for the .gz file.
5. Copy all files from the "rules" folder of the extracted folder. Now paste the rules into *"C:\Snort\rules"* folder.
6. Copy "snort.conf" file from the "etc" folder of the extracted folder. You must paste it into "C:\Snort\etc" folder. Overwrite any existing file. Remember if you modify your snort.conf file and download a new file, you must modify it for Snort to work.
7. Open a command prompt (cmd.exe) and navigate to folder "C:\Snort\bin" folder. (at the Prompt, type cd\snort\bin)
8. To start (execute) snort in sniffer mode use following command:
snort -dev -i 3
-i indicates the interface number. You must pick the correct interface number. In my case, it is 3.
-dev is used to run snort to capture packets on your network.

To check the interface list, use following command:
snort -W

Finding an interface

You can tell which interface to use by looking at the Index number and finding Microsoft. As you can see in the above example, the other interfaces are for VMWare. My interface is 3.

9. To run snort in IDS mode, you will need to configure the file "snort.conf" according to your network environment.
10. To specify the network address that you want to protect in snort.conf file, look for the following line.
var HOME_NET 192.168.1.0/24 (You will normally see any here)
11. You may also want to set the addresses of DNS_SERVERS, if you have some on your network.

Example:

example snort
12. Change the RULE_PATH variable to the path of rules folder.
var RULE_PATH c:\snort\rules

path to rules

13. Change the path of all library files with the name and path on your system. and you must change the path of snort_dynamicpreprocessorvariable.
C:\Snort\lib\snort_dynamiccpreprocessor
You need to do this to all library files in the "C:\Snort\lib" folder. The old path might be: "/usr/local/lib/…". you will need to replace that path with your system path. Using C:\Snort\lib
14. Change the path of the "dynamicengine" variable value in the "snort.conf" file..
Example:
dynamicengine C:\Snort\lib\snort_dynamicengine\sf_engine.dll

15 Add the paths for "include classification.config" and "include reference.config" files.
include c:\snort\etc\classification.config
include c:\snort\etc\reference.config
16. Remove the comment (#) on the line to allow ICMP rules, if it is commented with a #.
include $RULE_PATH/icmp.rules
17. You can also remove the comment of ICMP-info rules comment, if it is commented.
include $RULE_PATH/icmp-info.rules
18. To add log files to store alerts generated by snort, search for the "output log" test in snort.conf and add the following line:
output alert_fast: snort-alerts.ids
19. Comment (add a #) the whitelist $WHITE_LIST_PATH/white_list.rules and the blacklist

Change the nested_ip inner , \ to nested_ip inner #, \
20. Comment out (#) following lines:
#preprocessor normalize_ip4
#preprocessor normalize_tcp: ips ecn stream
#preprocessor normalize_icmp4
#preprocessor normalize_ip6
#preprocessor normalize_icmp6

21. Save the “snort.conf” file.
22. To start snort in IDS mode, run the following command:

snort -c c:\snort\etc\snort.conf -l c:\snort\log -i 3
(Note: 3 is used for my interface card)

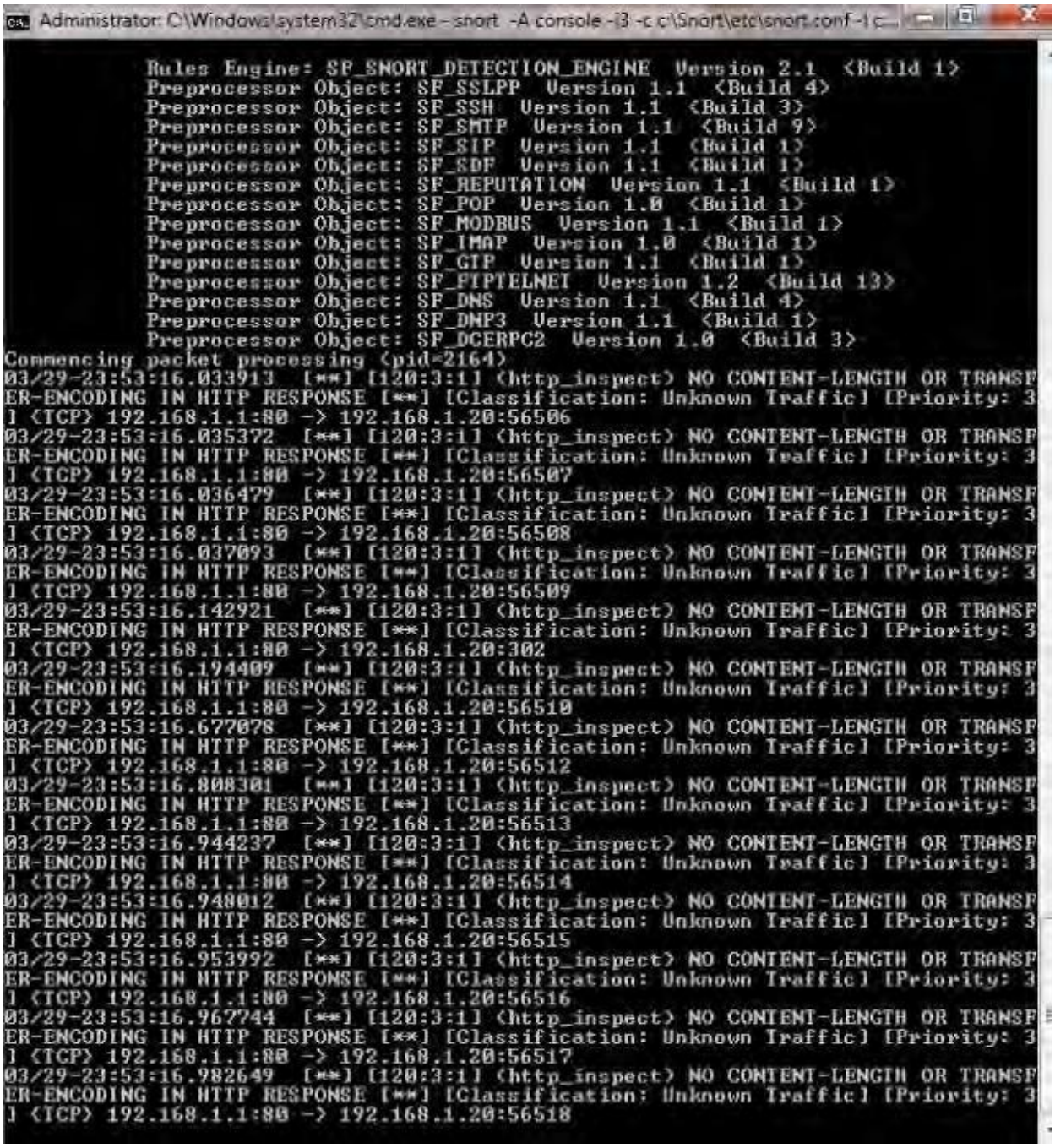
If a log is created, select the appropriate program to open it. You can use WordPard or NotePad++ to read the file.

To generate Log files in ASCII mode, you can use following command while running snort in IDS mode:
snort -A console -i3 -c c:\Snort\etc\snort.conf -l c:\Snort\log -K ascii

23. Scan the computer that is running snort from another computer by using PING or NMap (ZenMap).

After scanning or during the scan you can check the snort-alerts.ids file in the log folder to insure it is logging properly. You will see IP address folders appear.

Snort monitoring traffic –



RESULT:

Thus the Intrusion Detection System(IDS) has been demonstrated by using the Open Source Snort Intrusion Detection Tool.