Aim: Set up, configuration and use of SNORT for Intrusion Detection

Theory:

Snort is an open source network intrusion prevention and detection system (IDS/IPS) developed by Sourcefire. Combining the benefits of signature, protocol, and anomaly-based inspection, Snort is the most widely deployed IDS/IPS technology worldwide. With millions of downloads and nearly 400,000 registered users, Snort has become the de facto standard for IPS.
Snort can be configured to run in three modes:

1. Sniffer mode: It simply reads the packets off of the network and displays them for you in a continuous stream on the console (screen)
2. Packet Logger mode: logs the packets to disk
3. Network Intrusion Detection System (NIDS) mode: it performs detection and analysis on network traffic. This is the most complex and configurable mode

Steps:

1. Get root access

   ```
   $ sudo su root
   ```

2. Do updation

   ```
   # apt-get update
   ```

3. Installation

   ```
   # apt-get install snort
   ```

   During installation:

   - Put the name of network interface (by default it is eth0, change it to the interface name of your machine)
   - Put the IP address of the machine followed by /24 (by default it is the network address. Replace it with your IP addr/24)

4. Configuration

   ```
   # cd /etc
   # ls
   # cd /snort
   # ls
   # gedit snort.conf
   ```

   Go to line no. 51

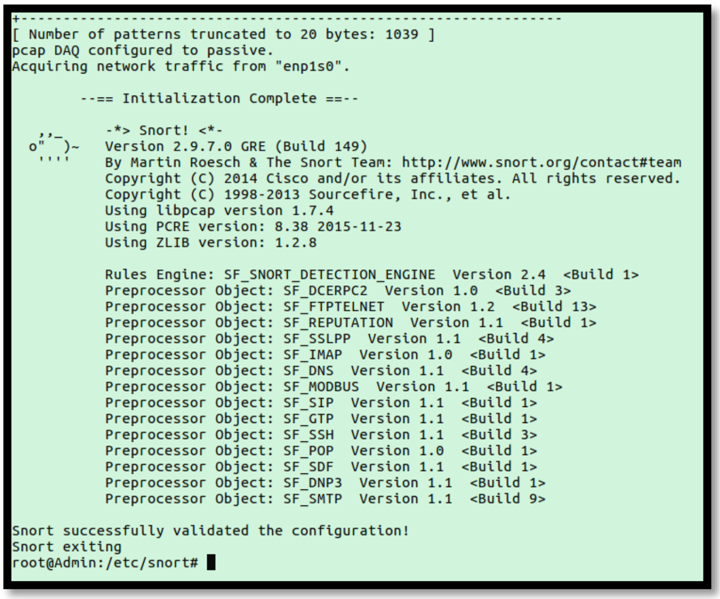
   ```
   ipvar HOME_NET any
   ```

   Replace “any” with your ip address i.e. ipvar HOME_NET 192.168.208.22
   Save and close the file

5. Monitoring

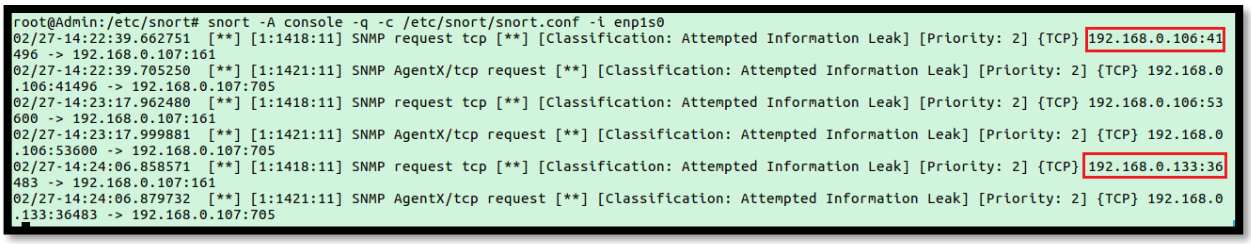
   ```
   # snort –q –A console –i enp2s0
   ```

   enp2s0 is the name of the interface



```
+------------------------------------------------------------------
[ Number of patterns truncated to 20 bytes: 1039 ]
pcap DAQ configured to passive.
Acquiring network traffic from "enp1s0".

        --== Initialization Complete ==--

   ,,_     -*> Snort! <*-
  o"  )~   Version 2.9.7.0 GRE (Build 149)
   ''''    By Martin Roesch & The Snort Team: http://www.snort.org/contact#team
           Copyright (C) 2014 Cisco and/or its affiliates. All rights reserved.
           Copyright (C) 1998-2013 Sourcefire, Inc., et al.
           Using libpcap version 1.7.4
           Using PCRE version: 8.38 2015-11-23
           Using ZLIB version: 1.2.8

           Rules Engine: SF_SNORT_DETECTION_ENGINE  Version 2.4  <Build 1>
           Preprocessor Object: SF_DCERPC2  Version 1.0  <Build 3>
           Preprocessor Object: SF_FTPTELNET  Version 1.2  <Build 13>
           Preprocessor Object: SF_REPUTATION  Version 1.1  <Build 1>
           Preprocessor Object: SF_SSLPP  Version 1.1  <Build 4>
           Preprocessor Object: SF_IMAP  Version 1.0  <Build 1>
           Preprocessor Object: SF_DNS  Version 1.1  <Build 4>
           Preprocessor Object: SF_MODBUS  Version 1.1  <Build 1>
           Preprocessor Object: SF_SIP  Version 1.1  <Build 1>
           Preprocessor Object: SF_GTP  Version 1.1  <Build 1>
           Preprocessor Object: SF_SSH  Version 1.1  <Build 3>
           Preprocessor Object: SF_POP  Version 1.0  <Build 1>
           Preprocessor Object: SF_SDF  Version 1.1  <Build 1>
           Preprocessor Object: SF_DNP3  Version 1.1  <Build 1>
           Preprocessor Object: SF_SMTP  Version 1.1  <Build 9>

Snort successfully validated the configuration!
Snort exiting
root@Admin:/etc/snort# █
```

6. Perform the following nmap command on neighbour's machine and observe the output in your machine.
   $ nmap ip addr of your machine (This command is to be performed on neignbour's machine) Output to be observed in SNORT terminal: IP address of the neighbour who is performing Intrusion I.e. Port Scanning



```
root@Admin:/etc/snort# snort -A console -q -c /etc/snort/snort.conf -i enp1s0
02/27-14:22:39.662751  [**] [1:1418:11] SNMP request tcp [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0.106:41
496 -> 192.168.0.107:161
02/27-14:22:39.705250  [**] [1:1421:11] SNMP AgentX/tcp request [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0
.106:41496 -> 192.168.0.107:705
02/27-14:23:17.962480  [**] [1:1418:11] SNMP request tcp [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0.106:53
600 -> 192.168.0.107:161
02/27-14:23:17.999881  [**] [1:1421:11] SNMP AgentX/tcp request [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0
.106:53600 -> 192.168.0.107:705
02/27-14:24:06.858571  [**] [1:1418:11] SNMP request tcp [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0.133:36
483 -> 192.168.0.107:161
02/27-14:24:06.879732  [**] [1:1421:11] SNMP AgentX/tcp request [**] [Classification: Attempted Information Leak] [Priority: 2] {TCP} 192.168.0
.133:36483 -> 192.168.0.107:705
```