Performing snort tool analysis

Aim :- To detect captured packets from an attacker (Kali) in Linux (Ubuntu) system.

1. We need two Linux VM install in our system with a host-only adapter.
   Target Machine :- Ubuntu Linux
   Attacking Machine :- Kali Linux

2. Boot up both Linux

3. In the target system we need to install Snort to detect the packets coming from the attacker machine.
   Command :- sudo apt-get install snort -y

```
ubuntu@UbuntuVM:/etc/snort$ sudo apt-get install snort -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
snort is already the newest version (2.9.20-0+deb11u1ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 86 not upgraded.
ubuntu@UbuntuVM:/etc/snort$
```

4. Now navigate to the /etc/snort directory and analyze all files

```
ubuntu@UbuntuVM:~$ cd /etc/snort
ubuntu@UbuntuVM:/etc/snort$ ls
attribute_table.dtd    community-sid-msg.map  gen-msg.map      rules       snort.debian.conf  unicode.map
classification.config  file_magic.conf        reference.config  snort.conf  threshold.conf
```

5. Using below command test the snort.conf file its fine or not
   sudo snort -T -c /etc/snort/snort.conf

```
ubuntu@UbuntuVM:/etc/snort$ sudo snort -T -c /etc/snort/snort.conf
[sudo] password for ubuntu:
Running in Test mode

        --== Initializing Snort ==--
Initializing Output Plugins!
Initializing Preprocessors!
Initializing Plug-ins!
Parsing Rules file "/etc/snort/snort.conf"
```

```
          Rules Engine: SF_SNORT_DETECTION_ENGINE  Version 3.2  <Build 1>
          Preprocessor Object: SF_SDF  Version 1.1  <Build 1>
          Preprocessor Object: SF_IMAP  Version 1.0  <Build 1>
          Preprocessor Object: SF_SSLPP  Version 1.1  <Build 4>
          Preprocessor Object: SF_MODBUS  Version 1.1  <Build 1>
          Preprocessor Object: SF_DCERPC2  Version 1.0  <Build 3>
          Preprocessor Object: SF_DNP3  Version 1.1  <Build 1>
          Preprocessor Object: SF_POP  Version 1.0  <Build 1>
          Preprocessor Object: appid  Version 1.1  <Build 5>
          Preprocessor Object: SF_FTPTELNET  Version 1.2  <Build 13>
          Preprocessor Object: SF_GTP  Version 1.1  <Build 1>
          Preprocessor Object: SF_S7COMMPLUS  Version 1.0  <Build 1>
          Preprocessor Object: SF_SIP  Version 1.1  <Build 1>
          Preprocessor Object: SF_DNS  Version 1.1  <Build 4>
          Preprocessor Object: SF_REPUTATION  Version 1.1  <Build 1>
          Preprocessor Object: SF_SSH  Version 1.1  <Build 3>
          Preprocessor Object: SF_SMTP  Version 1.1  <Build 9>

Total snort Fixed Memory Cost - MaxRss:105164
Snort successfully validated the configuration!
Snort exiting
ubuntu@UbuntuVM:/etc/snort/rules$
```

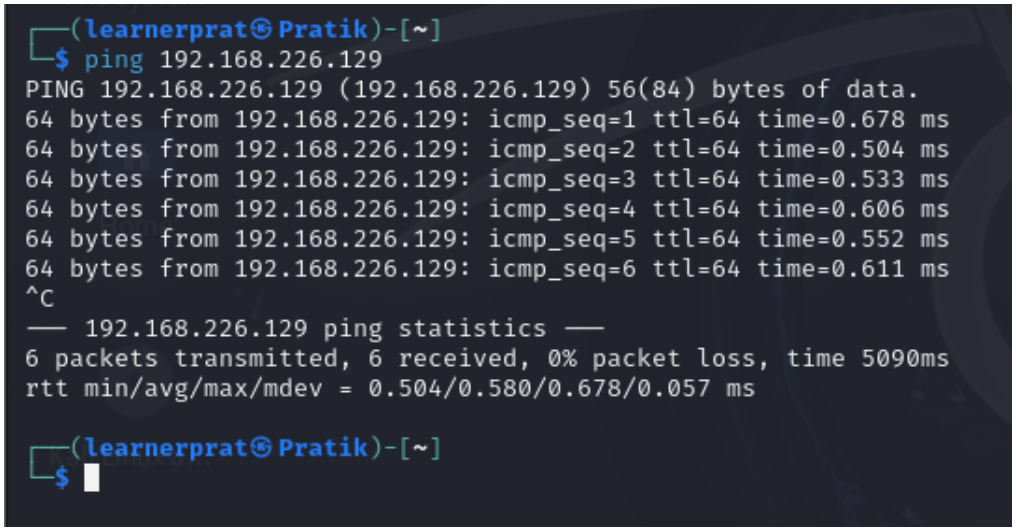
6. Now we need to capture packets in our Ubuntu using snort. Type below command.

   sudo snort -A console -c /etc/snort/snort.conf

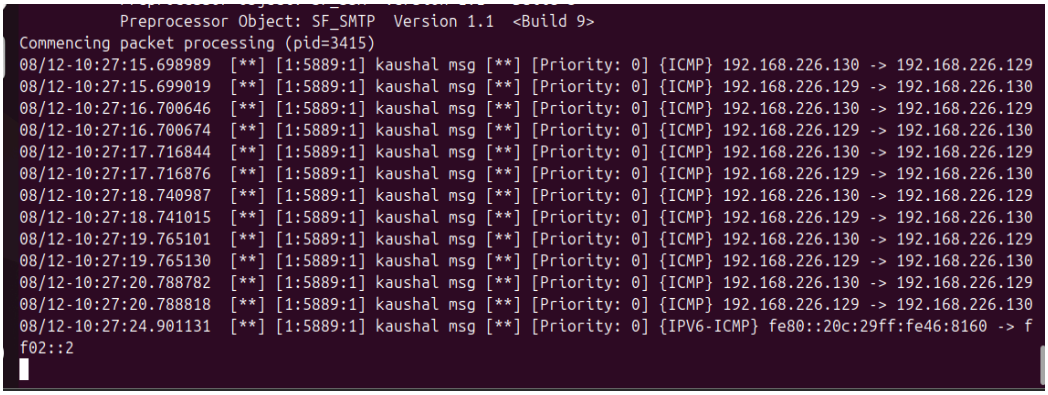
```
ubuntu@UbuntuVM:/etc/snort$ sudo snort -A console -c /etc/snort/snort.conf
[sudo] password for ubuntu:
Running in IDS mode

        --== Initializing Snort ==--
Initializing Output Plugins!
Initializing Preprocessors!
Initializing Plug-ins!
Parsing Rules file "/etc/snort/snort.conf"
PortVar 'HTTP_PORTS' defined :  [ 80:81 311 383 591 593 901 1220 1414 1741 1830 2301 2381 2809 3037 3128 3702 4
343 4848 5250 6988 7000:7001 7144:7145 7510 7777 7779 8000 8008 8014 8028 8080 8085 8088 8090 8118 8123 8180:81
81 8243 8280 8300 8800 8888 8899 9000 9060 9080 9090:9091 9443 9999 11371 34443:34444 41080 50002 55555 ]
PortVar 'SHELLCODE_PORTS' defined :  [ 0:79 81:65535 ]
PortVar 'ORACLE_PORTS' defined :  [ 1024:65535 ]
PortVar 'SSH_PORTS' defined :  [ 22 ]
PortVar 'FTP_PORTS' defined :  [ 21 2100 3535 ]
PortVar 'SIP_PORTS' defined :  [ 5060:5061 5600 ]
PortVar 'FILE_DATA_PORTS' defined :  [ 80:81 110 143 311 383 591 593 901 1220 1414 1741 1830 2301 2381 2809 303
7 3128 3702 4343 4848 5250 6988 7000:7001 7144:7145 7510 7777 7779 8000 8008 8014 8028 8080 8085 8088 8090 8118
 8123 8180:8181 8243 8280 8300 8800 8888 8899 9000 9060 9080 9090:9091 9443 9999 11371 34443:34444 41080 50002
55555 ]
```

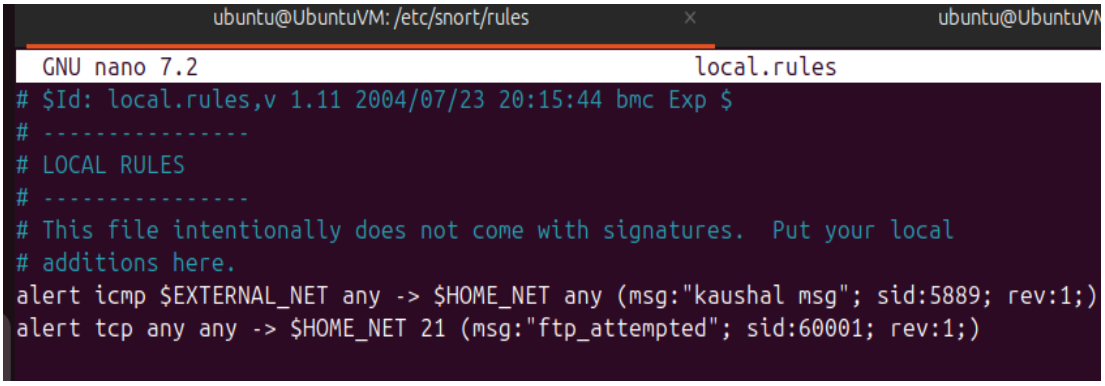
7. Now go to the attacker linux(kali Linux) open terminal and ping ip(Ubuntu linux).



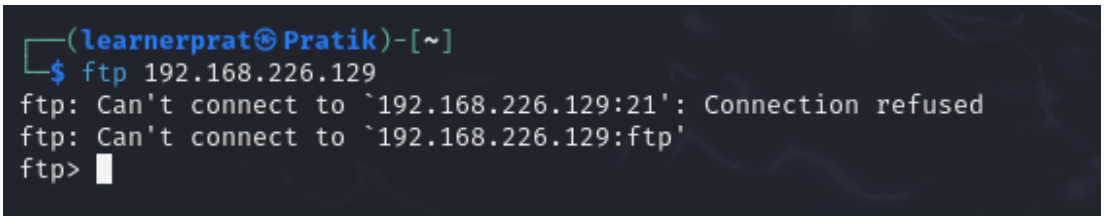
8. In Ubuntu linux it shows detected packets from kali linux.



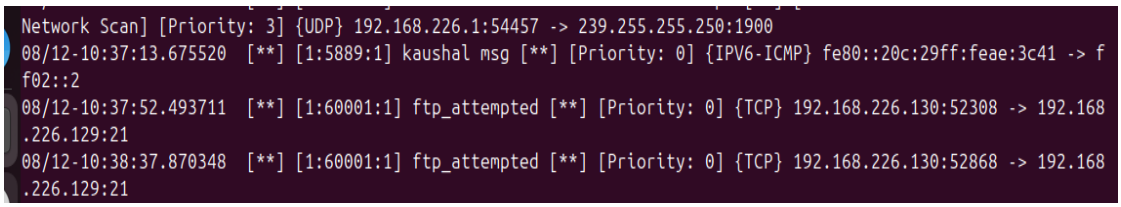
9. Now we add custom rules in /etc/snort/rules/locul.rules file in CSI linux shown in below screenshot and save it.
   alert icmp $EXTERNAL_NET any -> $HOME_NET any(msg:"kaushal msg" ; sid:5889; rev:1;)
   alert tcp any any -> $HOME_NET 21 (msg:"ftp_attempted";sid:60001; rev:1;)



10. Now go to kali and start the ftp session using the below command.
    ftp {ip of Ubuntu}



11. we can see on ubuntu linux that (ftp_attempted) message come up as we set rule



Result :-

1. Using a snort tool we can detect and prevent incidents are coming in our machine.
2. Also we can identify where incidents come from and Who is attacking our system or which process harms our system.