

## **Deployment of a Security operation Analyst(SOC) ANALYST Lab : SIEM and IDS/IPS Solutions**

### **Cyber Security Enterprise Tools :-**

- 1. Snort IDS**
- 2. Wazuh SIEM**
- 3. Splunk Enterprise Security**

### **Machines used for setting up the Network**

- 1. Parrot OS :- as a Host Machine for Splunk and Snort**
- 2. Kalilinux OS :- as a Host Machine for Wazuh**
- 3. Admin :- Wazuh Agent**
- 4. Windows OS :- Wazuh Agent 1**
- 5. Metasploitable Machine :- Target Machine for the Snort IDS**

## Intrusion Detection System (IDS)

IDS is a passive monitoring solution for detecting possible malicious activities/patterns, abnormal incidents, and policy violations. It is responsible for generating alerts for each suspicious event.

There are two main types of IDS systems;

**Network Intrusion Detection System (NIDS)** - NIDS monitors the traffic flow from various areas of the network. The aim is to investigate the traffic on the entire subnet. If a signature is identified, an alert is created.

**Host-based Intrusion Detection System (HIDS)** - HIDS monitors the traffic flow from a single endpoint device. The aim is to investigate the traffic on a particular device. If a signature is identified, an alert is created.

### **Intrusion Prevention System (IPS)**

**IPS is an active protecting solution for preventing possible malicious activities/patterns, abnormal incidents, and policy violations. It is responsible for stopping/preventing/terminating the suspicious event as soon as the detection is performed.**

**There are four main types of IPS systems:**

**1. Network Intrusion Prevention System (NIPS) - NIPS monitors the traffic flow from various areas of the network. The aim is to protect the traffic on the entire subnet. If a signature is identified, the connection is terminated.**

**2. Behaviour-based Intrusion Prevention System (Network Behaviour Analysis - NBA) - Behaviour-based systems monitor the traffic flow from various areas of the network. The aim is to protect the traffic on the entire subnet. If a signature is identified, the connection is terminated. Network Behaviour Analysis System works similar to NIPS. The difference between NIPS and Behaviour-based is; behaviour based systems require a training period (also known as "baselining") to learn the normal traffic and differentiate the malicious traffic and threats. This model provides more efficient results against new threats.**

**The system is trained to know the "normal" to detect "abnormal". The training period is crucial to avoid any false positives. In case of any security breach during the training period, the results will be highly problematic. Another critical point is to ensure that the system is well trained to recognise benign activities.**

**3. Wireless Intrusion Prevention System (WIPS) - WIPS monitors the traffic flow from of wireless network. The aim is to protect the wireless traffic and stop possible attacks launched from there. If a signature is identified, the connection is terminated.**

**4. Host-based Intrusion Prevention System (HIPS) - HIPS actively protects the traffic flow from a single endpoint device. The aim is to investigate the traffic on a particular device. If a signature is identified, the connection is terminated.**

## Detection/Prevention Techniques

There are three main detection and prevention techniques used in IDS and IPS solutions;

Technique	Approach
-----------	----------

Signature-Based	
-----------------	--

This technique relies on rules that identify the specific patterns of the known malicious behaviour. This model helps detect known threats.	
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Behaviour-Based	
-----------------	--

This technique identifies new threats with new patterns that pass through signatures. The model compares the known/normal with unknown/abnormal behaviours. This model helps detect previously unknown or new threats.	
--	--

Policy-Based This technique compares detected activities with system configuration and security policies. This model helps detect policy violations.	
--	--

**SNORT is an open-source, rule-based Network Intrusion Detection and Prevention System (NIDS/NIPS). It was developed and still maintained by Martin Roesch, open-source contributors, and the Cisco Talos team.**

**Capabilities of Snort:-**

- Live traffic analysis**
  - Attack and probe detection**
  - Packet logging**
  - Protocol analysis**
  - Real-time alerting**
  - Modules & plugins**
  - Pre-processors**
  - Cross-platform support! (Linux & Windows)**
- Snort has three main use models;**

- Sniffer Mode - Read IP packets and prompt them in the console application.**
- Packet Logger Mode - Log all IP packets (inbound and outbound) that visit the network.**
- NIDS (Network Intrusion Detection System) and NIPS (Network Intrusion Prevention System) Modes - Log/drop the packets that are deemed as malicious according to the user-defined rules.**

For Snort to check and test the configuration file the commands are respectively:-

```
$sudo snort -c /etc/snort/snort.conf
```

```
$sudo snort -c /etc/snort/snort.conf -T #(snort.conf file is the configuration file)
```

Parameter	Description
-----------	-------------

-V --version	This parameter provides information about your instance version.
--------------	--

-c	Identifying the configuration file
----	------------------------------------

-T	Snort's self-test parameter, you can test your setup with this parameter.
----	---

-q	Quiet mode prevents snort from displaying the default banner and initial information about your setup
----	---

we can read the file using the -r parameter

for ex:- `$sudo snort -r logname.log`

More Examples:-

`sudo snort -r logname.log -X`

`sudo snort -r logname.log icmp`

`sudo snort -r logname.log tcp`

`sudo snort -r logname.log 'udp and port 53'`

NIDS mode parameters are explained in the table below;

Parameter	Description
-----------	-------------

-c	Defining the configuration file.
----	----------------------------------

-T	Testing the configuration file.
----	---------------------------------

-N	Disable logging.
----	------------------

-D	Background mode.
----	------------------

-A	Alert modes;
----	--------------

**full:** Full alert mode, providing all possible information about the alert. This one also is the default mode; once you use -A and don't specify any mode, snort uses this mode.

**fast:** Fast mode shows the alert message, timestamp, source and destination IP, along with port numbers.

**console:** Provides fast style alerts on the console screen.

**cmg:** CMG style, basic header details with payload in hex and text format.

**none:** Disabling alerting.



## IPS mode and dropping packets

Snort IPS mode activated with `-Q --daq afpacket` parameters. You can also activate this mode by editing `snort.conf` file. However, you don't need to edit `snort.conf` file in the scope of this room. Review the bonus task or snort manual for further information on daq and advanced configuration settings: `-Q --daq afpacket`

Capabilities of Snort are not limited to sniffing, logging and detecting/preventing the threats. PCAP read/investigate mode helps you work with pcap files. Once you have a pcap file and process it with Snort, you will receive default traffic statistics with alerts depending on your ruleset.

Reading a pcap without using any additional parameters we discussed before will only overview the packets and provide statistics about the file. In most cases, this is not very handy. We are investigating the pcap with Snort to benefit from the rules and speed up our investigation process by using the known patterns of threats.

PCAP mode parameters are explained in the table below;

Parameter	Description
-----------	-------------

-r / --pcap-single=	Read a single pcap
---------------------	--------------------

--pcap-list=""	Read pcaps provided in command (space separated).
----------------	---

--pcap-show	Show pcap name on console during processing.
-------------	--

Rules cannot be processed without a header. Rule options are "optional" parts. However, it is almost impossible to detect sophisticated attacks without using the rule options.

#### Action

There are several actions for rules. Make sure you understand the functionality and test it before creating rules for live systems. The most common actions are listed below.

**alert:** Generate an alert and log the packet.

**log:** Log the packet.

**drop:** Block and log the packet.

**reject:** Block the packet, log it and terminate the packet session.

#### Protocol

Protocol parameter identifies the type of the protocol that filtered for the rule.

Note that Snort2 supports only four protocols filters in the rules (IP, TCP, UDP and ICMP). However, you can detect the application flows using port numbers and options. For instance, if you want to detect FTP traffic, you cannot use the FTP keyword in the protocol field but filter the FTP traffic by investigating TCP traffic on port 21.



### General Rule Options

**Msg** The message field is a basic prompt and quick identifier of the rule. Once the rule is triggered, the message field will appear in the console or log. Usually, the message part is a one-liner that summarises the event.

#### Sid

Snort rule IDs (SID) come with a pre-defined scope, and each rule must have a SID in a proper format.

There are three different scopes for SIDs shown below.

<100: Reserved rules

100-999,999: Rules came with the build.

>=1,000,000: Rules created by user.

Each rule can have additional information or reference to explain the purpose of the rule or threat pattern. That could be a Common Vulnerabilities and Exposures (CVE) id or external information. Having references for the rules will always help analysts during the alert and incident investigation.

#### Rev

Snort rules can be modified and updated for performance and efficiency issues. Rev option help analysts to have the revision information of each rule. Therefore, it will be easy to understand rule improvements. Each rule has its unique rev number, and there is no auto-backup feature on the rule history. Analysts should keep the rule history themselves. Rev option is only an indicator of how many times the rule had revisions.

```
[admin@parrot]-[/]  
$cd /etc/  
[admin@parrot]-[/etc]  
$cd snort  
[admin@parrot]-[/etc/snort]  
$cd rules  
[admin@parrot]-[/etc/snort/rules]  
$sudo nano local.rules  
[admin@parrot]-[/etc/snort/rules]  
$
```

Parrot OS

Places

Applications Places System

Parrot Terminal

File Edit View Search Terminal Help

GNU nano 5.4 local.rules I

\$Id: local.rules,v 1.11 2004/07/23 20:15:44 bmc Exp \$

#

# LOCAL RULES

#

# This file intentionally does not come with signatures. Put your local

# additions here.

alert icmp any any -> \$HOME\_NET any (msg:"ICMP Message Detected";sid:100001;rev:1;)

alert tcp any any -> \$HOME\_NET 22 (msg:"SSH Connection Attempted";sid:100002;rev:2;)

alert tcp any any -> \$HOME\_NET 21 (msg:"FTP Connection Detected";sid:100003;priority:2;rev:1;)

Read 18 lines

Help Exit Read File Where Is Replace Cut Paste Execute Go To Line Undo Redo Set Mark Copy To Bracket Where Was Previous Next Back Forward Prev Word Next Word Home

Menu Parrot Terminal

Applications Places System

File Edit View Search Terminal Help

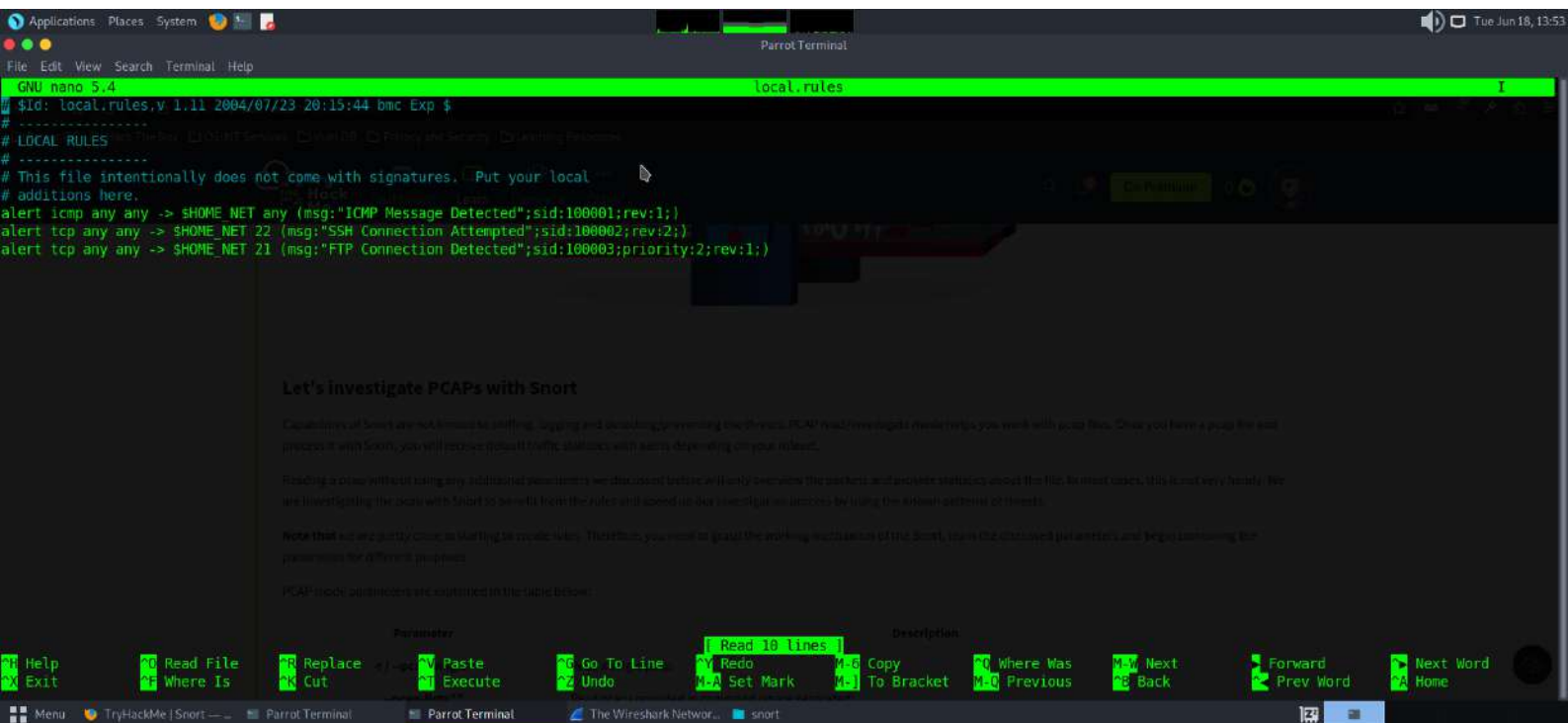
GNU nano 5.4 snort.conf I

# /etc/snort/snort.\${interface}.conf (where '\${interface}' is the name of your  
# network interface) and adjust the value there.  
#  
# The Debian init.d script is defined in such a way  
# that you can run multiple instances.  
#####  
# Step #1: Set the network variables. For more information, see README.variables  
#####  
#####  
# Setup the network addresses you are protecting  
#  
# Note to Debian users; this value is overridden when starting  
# up the Snort daemon through the init.d script by the  
# value of DEBIAN\_SNORT\_HOME\_NET s defined in the  
# /etc/snort/snort.debian.conf configuration file  
#  
ipvar HOME\_NET 192.168.17.0/24  
  
# Set up the external network addresses. Leave as "any" in most situations  
ipvar EXTERNAL\_NET any  
# If HOME\_NET is defined as something other than "any", alternative, you can  
# use this definition if you do not want to detect attacks from your internal  
# IP addresses:  
#ipvar EXTERNAL\_NET !\$HOME\_NET  
  
# List of DNS servers on your network  
ipvar DNS\_SERVERS \$HOME\_NET  
  
# List of SMTP servers on your network

line 77/757 (10%), col 1/39 (2%), char 3028/29785 (10%)

Help Read File Replace Paste Go To Line Redo Copy Where Was Next  
Exit Where Is Cut Execute Undo Set Mark To Bracket Previous Back Forward Prev Word Next Word Home

Menu Parrot Terminal





```
Applications Places System
Parrot Terminal
File Edit View Search Terminal Help
admin@parrot:~/etc/snort
$ sudo snort -q -i ens33 -A console -c /etc/snort/snort.conf
06/18-13:41:41.055496 [**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] {TCP} 192.168.44.146:52050 -> 192.168.44.150:22
06/18-13:42:45.633145 [**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] {TCP} 192.168.44.146:52050 -> 192.168.44.150:22
06/18-13:43:04.815103 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.146 -> 192.168.44.150:0
06/18-13:43:04.815764 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.150 -> 192.168.44.146:0
06/18-13:43:05.836382 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.146 -> 192.168.44.146
06/18-13:43:05.837082 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.150 -> 192.168.44.146
06/18-13:43:06.849750 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.146 -> 192.168.44.146
06/18-13:43:06.850673 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.150 -> 192.168.44.146
06/18-13:43:07.849930 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.146 -> 192.168.44.146
06/18-13:43:07.850347 [**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] {ICMP} 192.168.44.150 -> 192.168.44.146

#include [RULE_PATH]
#included default (downloaded) rules path.

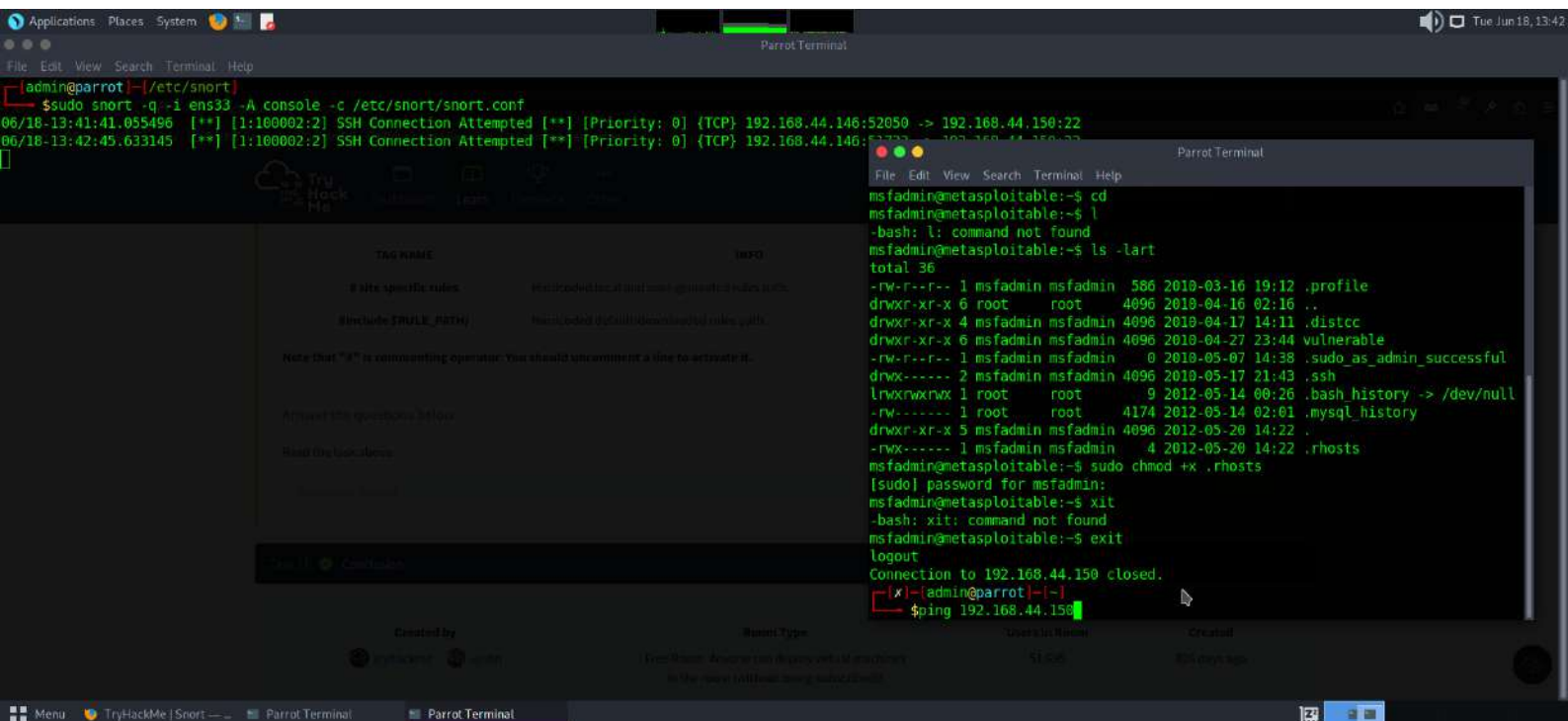
Note that '#' is commenting operator. You should uncomment a line to activate it.

Adjust the questions below.

Read the book above.

# Enable Snort

Created by: tryhackme, version: 1.0
Host Type: Free Hosts - download can be done via our website
Users UI Name: 51,246
Created: 825 days ago
```



```
Applications Places System Parrot Terminal Tue Jun 18, 13:52
File Edit View Search Terminal Help

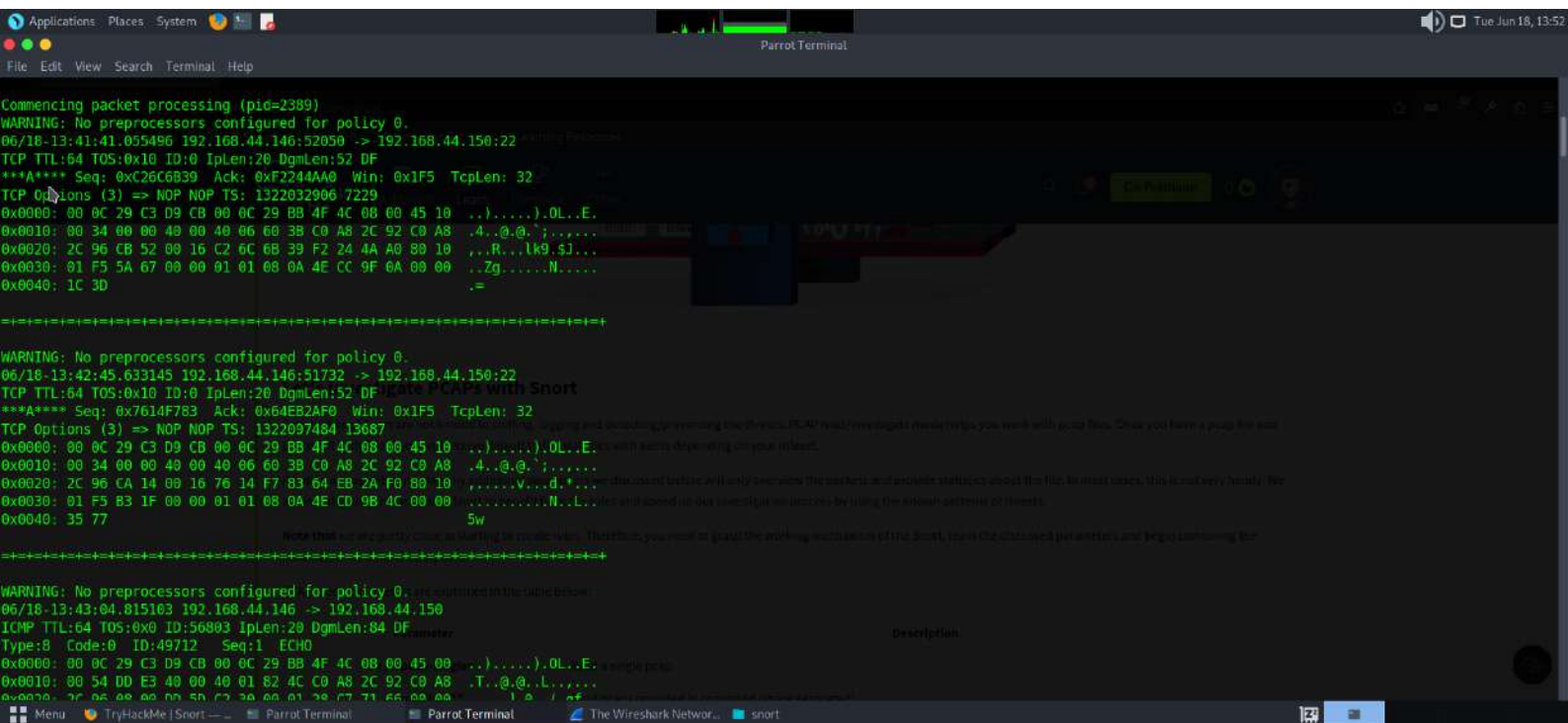
[admin@parrot]~/
$ cd /var/log/snort
[admin@parrot]~/var/log/snort
$ ls
alert snort.alert snort.alert.fast snort.log snort.log.1718732495
[admin@parrot]~/var/log/snort
$ sudo snort -r snort.log.1718732495 -X
Running in packet dump mode

--== Initializing Snort ==-
Initializing Output Plugins!
pcap DAO configured to read-file.
Acquiring network traffic from "snort.log.1718732495".

--== Initialization Complete ==-

-> Snort! <*-
Version 2.9.20 GRE (Build 82)
By Martin Roesch & The Snort Team: http://www.snort.org/contact#team
Copyright (C) 2014-2022 Cisco and/or its affiliates. All rights reserved.
Copyright (C) 1998-2013 Sourcefire, Inc., et al.
Using libpcap version 1.10.3 (with TPACKET V3)
Using PCRE version: 8.39 2016-06-14
Using ZLIB version: 1.2.11

Commencing packet processing (pid=2389)
WARNING: No preprocessors configured for policy 0.
06/18-13:41:41.055496 192.168.44.146:52050 -> 192.168.44.150:22
TCP TTL:64 TOS:0x10 ID:0 IpLen:20 DgmLen:52 DF Seq: 0xC26C6B39 Ack: 0xF2244AA0 Win: 0x1F5 TcpLen: 32
TCP Options (3) => NOP NOP TS: 1322032906 7229
0x0000: 00 0C 29 C3 D9 CB 00 0C 29 BB 4F 4C 08 00 45 10 ...).0L..E.
0x0010: 00 34 00 00 40 00 40 06 60 3B C0 A8 2C 92 C0 A8 ...4..@.0..;.....a single pkt.
0x0020: 2C 96 CB 52 00 16 C2 6C 6B 39 F2 24 4A A0 80 10 ...R...lk9.SJ...
0x0030: 01 F5 5A 67 00 00 01 01 00 0A AE C7 0E 0A 00 00 ...7A M
Description
```



```
Applications Places System Parrot Terminal Tue Jun 16, 13:46
File Edit View Search Terminal Help
$cd /var/log/snort
admin@parrot:~/var/log/snort$
$ls
alert snort.alert fast snort.log snort.log.1718732495
admin@parrot:~/var/log/snort$
$sudo tcpdump -r snort.log.1718732495
reading from file snort.log.1718732495, link-type EN10MB (Ethernet), snapshot length 1514
13:41:41.055496 IP 192.168.44.146.52050 > 192.168.44.150.ssh: Flags [.], ack 4062464672, win 501, options [nop,nop,TS val 1322032906 ecr 7229], length 0
13:42:45.633145 IP 192.168.44.146.51732 > 192.168.44.150.ssh: Flags [.], ack 1693133552, win 501, options [nop,nop,TS val 1322097484 ecr 13687], length 0
13:43:04.815764 IP 192.168.44.150 > 192.168.44.146: ICMP echo request, id 49712, seq 1, length 64
13:43:05.836382 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 2, length 64
13:43:05.837082 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 1, length 64
13:43:06.849750 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 3, length 64
13:43:06.850673 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 3, length 64
13:43:07.849930 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 4, length 64
13:43:07.850347 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 4, length 64
13:43:08.859601 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 5, length 64
13:43:08.851311 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 5, length 64
13:43:09.852115 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 6, length 64
13:43:09.852671 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 6, length 64
13:43:10.876479 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 7, length 64
13:43:10.877161 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 7, length 64
13:43:11.889790 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 8, length 64
13:43:11.890744 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 8, length 64
13:43:12.899966 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 9, length 64
13:43:12.891777 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 9, length 64
13:43:13.892038 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 10, length 64
13:43:13.892929 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 10, length 64
13:43:14.893151 IP 192.168.44.146 > 192.168.44.150: ICMP echo request, id 49712, seq 11, length 64
13:43:14.893669 IP 192.168.44.150 > 192.168.44.146: ICMP echo reply, id 49712, seq 11, length 64
13:43:48.153424 IP 192.168.44.150.60994 > 192.168.44.146: ftp: Flags [S], seq 3428233403, win 5840, options [mss 1460,sackOK,TS val 19939 ecr 0,nop,wscale 5], length 0
admin@parrot:~/var/log/snort$
```

**Search Tab in Splunk:-**

- 1- Selected Fields :** Splunk extracts the default fields like source, sourcetype, and host, which appear in each event, and places them under the selected fields column. We can select other fields that seem essential and add them to the list.
- 2- Interesting Fields** Pulls all the interesting fields it finds and displays them in the left panel to further explore.
- 3- Alpha-numeric fields 'α'** This alpha symbol shows that the field contains text values.
- 4- Numeric fields '#'** This symbol shows that this field contains numerical values.
- 5- Count** The number against each field shows the number of events captured in that timeframe.



Splunk Search Processing Language comprises of multiple functions, operators and commands that are used together to form a simple to complex search and get the desired results from the ingested logs.

Splunk field operators are the building blocks used to construct any search query. These field operators are used to filter, remove, and narrow down the search result based on the given criteria. Common field operators are Comparison operators, wildcards, and boolean operators.

**Comparison Operators:-**

These operators are used to compare the values against the fields. Some common comparisons operators are mentioned below:

**Field Name**

**UserName=Mark** This operator is used to match values against the field. In this example, it will look for all the events, where the value of the field UserName is equal to Mark.

**Not Equal to**

**!=**

**UserName!=Mark** This operator returns all the events where the UserName value does not match Mark.

**Less than:Age < 10** Showing all the events with the value of Age less than 10.

**Less than or Equal to<= :Age <= 10** Showing all the events with the value of Age less than or equal to 10.

**Greater than> :Outbound\_traffic > 50 MB** This will return all the events where the Outbound traffic value is over 50 MB.

**Greater Than or Equal to>=:Outbound\_traffic >= 50 MB**

**Example:-Search Query: index=windowslogs AccountName !=SYSTEM**

## Boolean Operators

Splunk supports the following Boolean operators, which can be very handy in searching/filtering and narrowing down result.

**NOT**

**field\_A NOT value**

Ignore the events from the result where field\_A contain the specified value.

**OR**

**field\_A=value1 OR field\_A=value2**

Return all the events in which field\_A contains either value1 or value2.

**AND**

**field\_A=value1 AND field\_B=value2**Return all the events in which field\_A contains value1 and field\_B contains value2.

To understand how boolean operator works in SPL, lets add the condition to show the events from the James account.

**Search Query: index=windowslogs AccountName !=SYSTEM AND AccountName=James**



Our network generates thousands of logs each minute, all ingesting into our SIEM solution. It becomes a daunting task to search for any anomaly without using filters. SPL allows us to use Filters to narrow down the result and only show the important events that we are interested in. We can add or remove certain data from the result using filters. The following commands are useful in applying filters to the search results.

Command

1.fields

Explanation:Fields command is used to add or remove mentioned fields from the search results. To remove the field, minus sign ( - ) is used before the fieldname and plus ( + ) is used before the fields which we want to display.Syntax | fields <field\_name1> <field\_name2> Example : | fields + HostName - EventID

Command

2.search

Explanation :This command is used to search for the raw text while using the chaining command | ; Syntax :| search <search\_keyword> ; Example :| search "Powershell"

Search Query: index=windowslogs | search Powershell

3.dedup

Explanation

Dedup is the command used to remove duplicate fields from the search results. We often get the results with various fields getting the same results. These commands remove the duplicates to show the unique values. Syntax | dedup <fieldname> ;Example:| dedup EventID.

4.rename

Explanation

It allows us to change the name of the field in the search results. It is useful in a scenario when the field name is generic or log, or it needs to be updated in the output.

Syntax :| rename <fieldname> ;Example :| rename User as Employees

5.Each event has multiple fields, and not every field is important to display. The Table command allows us to create a table with selective fields as columns.

Syntax

| table <field\_name1> <fieldname\_2> ; Example | table | head 20 # will return the top 20 events from the result list.

6.Head

Explanation

The head command returns the first 10 events if no number is specified.

Syntax

| head <number> ; Example| head # will return the top 10 events from the result list ;| head 20 # will return the top 20 events from the result list

Criteria	Splunk	Spark
Deployment area	Collecting large amounts of machine-generated data	Iterative applications and in-memory processing
Nature of tool	Proprietary	Open-source
Working mode	Streaming mode	Both streaming and batch modes

2. What is Splunk?  
Splunk is 'Google' for our machine-generated data. It's a software/engine that can be used for searching, visualizing, monitoring, reporting, etc. of our enterprise data. Splunk takes valuable machine data and turns it into powerful operational intelligence by providing real-time insights into our data through charts, alerts, reports, etc.

Service Port Number Used	
Splunk Web port	8000
Splunk Management port	8089
Splunk Indexing port	9997
Splunk Index Replication port	8080
Splunk Network port	514 (Used to get data from the Network port, i.e., UDP data)
KV Store	8191

4. What are the components of Splunk? Explain Splunk architecture.  
This is one of the most frequently asked Splunk interview questions. Below are the components of Splunk:  
Search Head: Provides the GUI for searching  
Indexer: Indexes the machine data  
Forwarder: Forwards logs to the Indexer.  
Deployment Server: Manages Splunk components in a distributed environment.

5. Which is the latest Splunk version in use? : Splunk 8.2.1 (as of June 21, 2021)

6.name a few most important configuration files in Splunk?  
props.conf indexes.conf inputs.conf transforms.conf server.conf

7. What are the types of Splunk Licenses?  
Enterprise license  
Free license  
Forwarder license  
Beta license  
Licenses for search heads (for distributed search)  
Licenses for cluster members (for index replication)

How to reset the Splunk admin password?

Resetting the Splunk admin password depends on the version of Splunk. If we are using Splunk 7.1 and above, then we have to follow the below steps:

First, we have to stop our Splunk Enterprise

Now, we need to find the 'passwd' file and rename it to 'passwd.bk'

Then, we have to create a file named 'user-seed.conf' in the below directory:

```
1
$SPLUNK_HOME/etc/system/local/
```

In the file, we will have to use the following command (here, in place of 'NEW\_PASSWORD', we will add our own new password):

```
[user_info]
```

```
PASSWORD = NEW_PASSWORD
```

After that, we can just restart the Splunk Enterprise and use the new password to log in How are forwarder licenses purchased?  
They are included in Splunk. Therefore, there is no need to purchase them separately.

Interested in learning Splunk? Go for the online instructor-led Splunk Training in Toronto!

25. What is the command for restarting Splunk web server?

This is another frequently asked Splunk commands interview question. Get a thorough idea of commands We can restart the Splunk web server by using the following command:

```
splunk start splunkweb
```

26. What is the command for restarting the Splunk Daemon?

Splunk Daemon can be restarted with the below command:

```
1
splunk start splunkd
```

27. What is the command used to check the running Splunk processes on Unix/Linux?

If we want to check the running Splunk Enterprise processes on Unix/Linux, we can make use of the following command:

```
1
ps aux | grep splunk
```

What is SIEM

SIEM stands for Security Information and Event Management system. It is a tool that collects data from various endpoints/network devices across the network, stores them at a centralized place, and performs correlation on them. This room will cover the basic concepts required to understand SIEM and how it works.

Two major types of Log Source:-

1) Host-Centric Log Sources

These are log sources that capture events that occurred within or related to the host. Some log sources that generate host-centric logs are Windows Event logs, Sysmon, Osquery, etc. Some examples of host-centric logs are:

- A user accessing a file
  - A user attempting to authenticate.
  - A process Execution Activity
  - A process adding/editing/deleting a registry key or value.
  - Powershell execution
- 2) Network-Centric Log Sources

Network-related logs are generated when the hosts communicate with each other or access the internet to visit a website. Some network-based protocols are SSH, VPN, HTTP/s, FTP, etc. Examples of such events are:

- SSH connection
- A file being accessed via FTP
- Web traffic
- A user accessing company's resources through VPN.
- Network file sharing Activity

Importance of SIEM:-  
Now that we have covered various types of logs, it's time to understand the importance of SIEM. As all these devices generate hundreds of events per second, examining the logs on each device one by one in case of any incident can be a tedious task. That is one of the advantages of having a SIEM solution in place. It not only takes logs from various sources in real-time but also provides the ability to correlate between events, search through the logs, investigate incidents and respond promptly. Some key features provided by SIEM are:

- Real-time log Ingestion
- Alerting against abnormal activities
- 24/7 Monitoring and visibility
- Protection against the latest threats through early detection
- Data Insights and visualization
- Ability to investigate past incidents.

Linux Workstation

Linux OS stores all the related logs, such as events, errors, warnings, etc. Which are then ingested into SIEM for continuous monitoring. Some of the common locations where Linux store logs are:

/var/log/httpd : Contains HTTP Request / Response and error logs.  
/var/log/cron : Events related to cron jobs are stored in this location.  
/var/log/auth.log and /var/log/secure : Stores authentication related logs.  
/var/log/kern : This file stores kernel related events.

Log Injection:-  
All these logs provide a wealth of information and can help in identifying security issues. Each SIEM solution has its own way of ingesting the logs. Some common methods used by these SIEM solutions are explained below:

- 1) Agent / Forwarder: These SIEM solutions provide a lightweight tool called an agent (forwarder by Splunk) that gets installed in the Endpoint. It is configured to capture all the important logs and send them to the SIEM server.
- 2) Syslog: Syslog is a widely used protocol to collect data from various systems like web servers, databases, etc., are sent real-time data to the centralized destination.
- 3) Manual Upload: Some SIEM solutions, like Splunk, ELK, etc., allow users to ingest offline data for quick analysis. Once the data is ingested, it is normalized and made available for analysis.
- 4) Port-Forwarding: SIEM solutions can also be configured to listen on a certain port, and then the endpoints forward the data to the SIEM instance on the listening port.

SOC Analyst Responsibilities

SOC Analysts utilize SIEM solutions in order to have better visibility of what is happening within the network. Some of their responsibilities include:

- Monitoring and Investigating.
- Identifying False positives.
- Tuning Rules which are causing the noise or False positives.
- Reporting and Compliance.
- Identifying blind spots in the network visibility and covering them.

A screenshot of a Linux terminal window titled "Parrot Terminal". The user is logged in as "admin@parrot" and has set the working directory to "/opt/splunk/bin". They run "sudo ./splunk start", which prompts for a password. After starting, they check the status with "systemctl status splunkd.service", which shows it's active. Then they run "sudo systemctl restart splunkd.service". Finally, they run "splunk \_install --accept-license --answer-no=1", which triggers a series of checks for prerequisites like ports, configuration files, and filesystem compatibility. The output shows all checks passed successfully, and the default config files were installed from a manifest file.

```
admin@parrot:~$ cd /opt/splunk/bin
admin@parrot:~/bin$ sudo ./splunk start
[sudo] password for admin:
splunkd 1730 was not running.
Stopping splunk helpers...
Done.
Stopped helpers.
Removing stale pid file... done.

Splunk> Winning the War on Error

Checking prerequisites...
Checking http port [8000]: open
Checking mgmt port [8089]: open
Checking appserver port [127.0.0.1:8065]: open
Checking kvstore port [8191]: open
Checking configuration... Done.
Checking critical directories... Done
Checking indexes... Validated: _audit_configtracker_dsappevent_dsclient_dsphonehome_internal_introspection_metrics_metrics_rollup_telemetry_thefishbucket history main summary
Done
Checking filesystem compatibility... Done
Checking conf files for problems... Done
Checking default conf files for edits... Validating installed files against hashes from '/opt/splunk/splunk-9.2.1-78803f087abb-linux-2.6-x86_64-manifest'
```

```
Applications Places System
File Edit View Search Terminal Help
Checking http port [8000]: open
Checking mgmt port [8089]: open
Checking appserver port [127.0.0.1:8065]: open
Checking kvstore port [8191]: open
Checking configuration... Done.
Checking critical directories... Done
Checking indexes...
Validated: audit_configtracker_dsappevent_dsclient_dsphonehome_internal_introspection_metrics_metrics_rollup_telemetry_thefishbucket history main summary
Done
Checking filesystem compatibility... Done
Checking conf files for problems...
Done
Checking default conf files for edits...
Validating installed files against hashes from '/opt/splunk/splunk-9.2.1-78803f08aabb-linux-2.6-x86_64-manifest'
All installed files intact.
Done
All preliminary checks passed.
Starting splunk server daemon (splunkd)...
PYTHONHTTPSVERIFY is set to 0 in splunk-launch.conf disabling certificate validation for the httplib and urllib libraries shipped with the embedded Python interpreter; must be set to "1" for
increased security
Done
Waiting for web server at http://127.0.0.1:8000 to be available..... Done
If you get stuck, we're here to help.
Look for answers here: http://docs.splunk.com
The Splunk web interface is at http://parrot:8000
[admin@parrot]-[/opt/splunk/bin]
$
```

ApplicationsPlacesSystem

Snort Event Summary | Splunk 9.2.1 — Mozilla Firefox

Fri Jun 21, 17:37

Snort Event Summary | 51 × +

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http://192.168.44.146:8000/en-US/app/snortalert/snort\_event\_summary?form.src\_ip=\*&form.src\_port=\*&form.dest\_ip=\*&form.dest\_port=\*&form.name=\*

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Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

splunkenterpriseApps

⚠ Administrator · 📬 Messages · ⚙ Settings · 📊 Activity · 🆘 Help · 🔍 Find

SearchSnort Event SearchSnort Event SummarySnort World MapReports

Snort Event Summary

Show Filters

EditExport...

Events and Sources

Time	Events	Sources
6:00 PM Tue May 29 2024	18	0
6:00 AM	0	24
10:00 AM	0	36

Top Source Countries

Country	Count
India	5

Events

18

Sources

5

Top 10 Classifications

classification	count	percent
Potentially Bad Traffic	4	100.000000

Snort Event Types

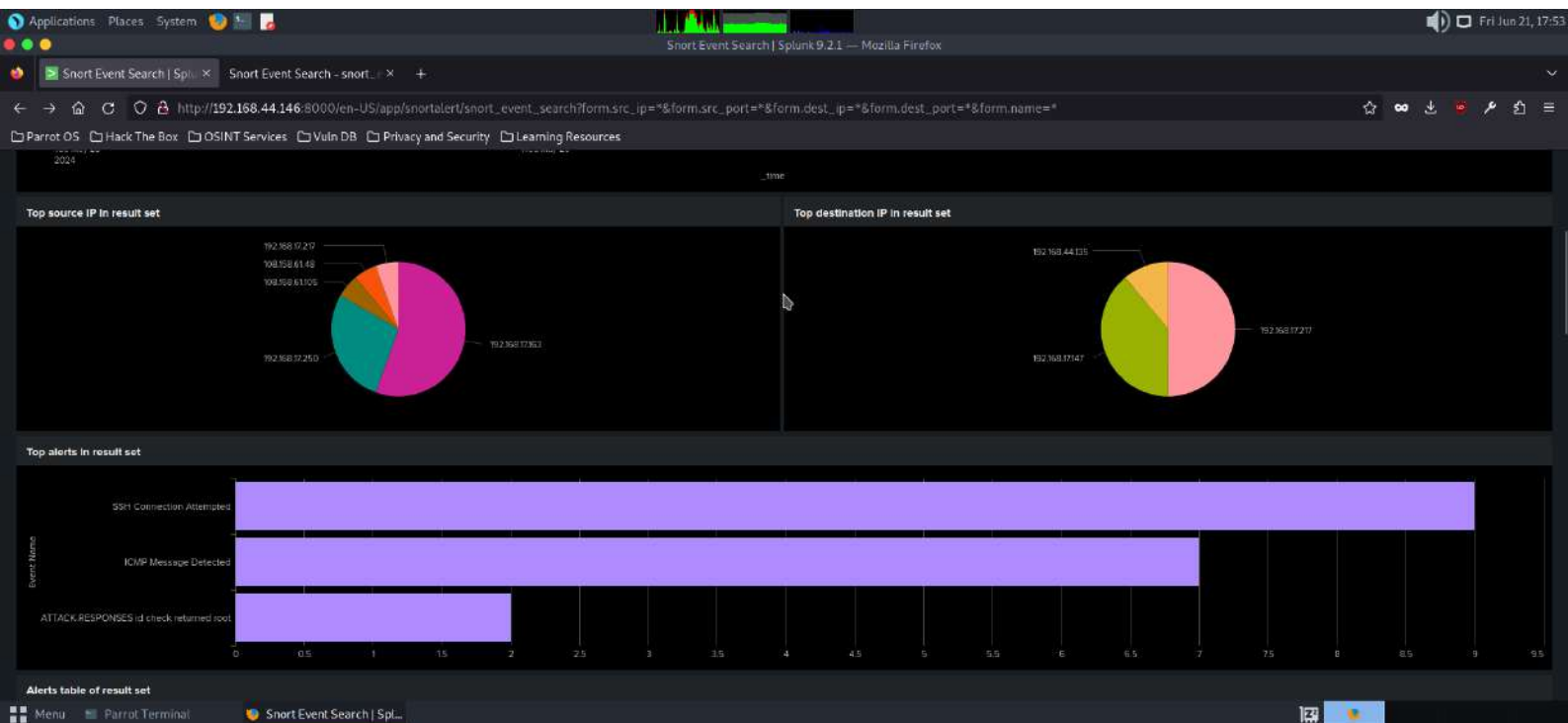
Signature	Event Name	Total Events
198062	SSH Connection Attempted	5


MenuParrot TerminalSnort Event Summary | ...

123







Applications Places System  Fri Jun 21, 17:53

Snort Event Search | Splunk 9.2.1 — Mozilla Firefox

Snort Event Search | Splunk 9.2.1 — Mozilla Firefox

http://192.168.44.146:8000/en-US/app/snortalert/snort\_event\_search?form.src\_ip=%&form.src\_port=%&form.dest\_ip=%&form.dest\_port=%&form.name=\*

Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.217	83	192.168.17.147	80453	ICMP	100001	ICMP Message Detected	[*] [1:180801:1] ICMP Message Detected [*] (Priority: 8) 05/25-12:04:33.896119 192.168.17.217 -> 192.168.17.147 ICMP TTL:64 TOS:0x00 ID:35305 ILen:20 OLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE == ORIGINAL DATAGRAM DUMP: 192.168.17.147:83 -> 192.168.17.217:80453 UDP TTL:64 TOS:0x00 ID:57423 ILen:20 OLen:125 DF Len: 97 Csum: 63944 (97 more bytes of original packet) == END OF DUMP	1716998673.690119
192.168.17.163	83	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[*] [1:180801:1] ICMP Message Detected [*] (Priority: 8) 05/25-12:05:12.264525 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0x00 ID:44859 ILen:20 OLen:165 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE == ORIGINAL DATAGRAM DUMP: 192.168.17.147:83 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x00 ID:16303 ILen:20 OLen:137 DF Len: 169 Csum: 36951 (169 more bytes of original packet) == END OF DUMP	1716998590.264525
192.168.17.163	83	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[*] [1:180801:1] ICMP Message Detected [*] (Priority: 8) 05/25-12:05:12.264423 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0x00 ID:44859 ILen:20 OLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE == ORIGINAL DATAGRAM DUMP: 192.168.17.147:83 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x00 ID:16303 ILen:20 OLen:125 DF Len: 97 Csum: 31692	1716998590.264423

Menu Parrot Terminal Snort Event Search | Spl...

Applications Places System Search | Splunk 9.2.1 — Mozilla Firefox

Search | Splunk 9.2.1 Last 100 events - Last\_100... Last 100 events - Last\_100... +

http://192.168.44.146:8000/en-US/app/snoortalert/search

Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

splunk - enterprise Apps +

Administer Messages Settings Activity Help Search

Search Search Every Search Search Every Summary Search World View

### Search

filter search text

No Event Sampling +

Search History

#### How to Search

If you are not familiar with the search features, or want to learn more, or see your live data, click on the links below.

Documentation Tutorial Data Summary

#### Data Summary

Hosts (2) Sources (21) Sourcetypes (17)

filter

Source	Count	Last Update
/opt/splunk/var/log/splunk/splunkd-utility.log	23	6/21/24 5:33:55.000 PM
/opt/splunk/var/log/splunk/splunkd.log	16,144	6/21/24 5:42:36.000 PM
/opt/splunk/var/log/splunk/splunkd_access.log	2,079	6/21/24 5:42:28.000 PM
/opt/splunk/var/log/splunk/splunkd_stderr.log	1	6/21/24 5:34:32.000 PM
/opt/splunk/var/log/splunk/splunkd_ui_access.log	17,783	6/21/24 5:42:37.000 PM
/opt/splunk/var/log/splunk/web_access.log	148	6/21/24 5:40:05.000 PM
/opt/splunk/var/log/splunk/web_service.log	502	6/21/24 5:40:05.000 PM
snoort	145	5/29/24 12:04:33.000 PM
token	2	6/21/24 1:33:08.000 PM

http://192.168.44.146:8000/en-US/app/snoortalert/search#

Menu Parrot Terminal Search | Splunk 9.2.1

The screenshot shows a Splunk search interface. The search bar at the top contains the query: `search sourcetype=csv&display.page.search.mode=smart&dispatch.sample_ratio=1&workload_pool=&earliest=-24h%40h&latest=now&sid=`. The search results are displayed in a table format. The first event is selected, and its details are shown in a sidebar on the right.

**Event Details:**

- Time:** 6/21/24 1:33:08.000 PM
- Event:** sourcetype=csv, host=localhost:8088
- Field:** token
- Value:** token
- Actions:** [Dropdown menu]

The event is a CSV file named `token.csv` located at `localhost:8088`. The event type is `Event`, and the time range is `2024-06-21T13:33:08.000-04:00`. The event is selected, and the `token` field is highlighted in yellow.

ApplicationsPlacesSystem

HTTP Event Collector | Splunk 9.2.1 — Mozilla Firefox

Fri Jun 21, 17:55

HTTP Event Collector | Snort Event Search - snort... +

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http://192.168.44.146:8000/en-US/manager/snortalert/http-eventcollector

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splunk®enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ 🔍 Find

HTTP Event Collector

Global Settings New Token

Data Inputs » HTTP Event Collector

1 Tokens

App: All ▾ filter 🔍

20 per page ▾

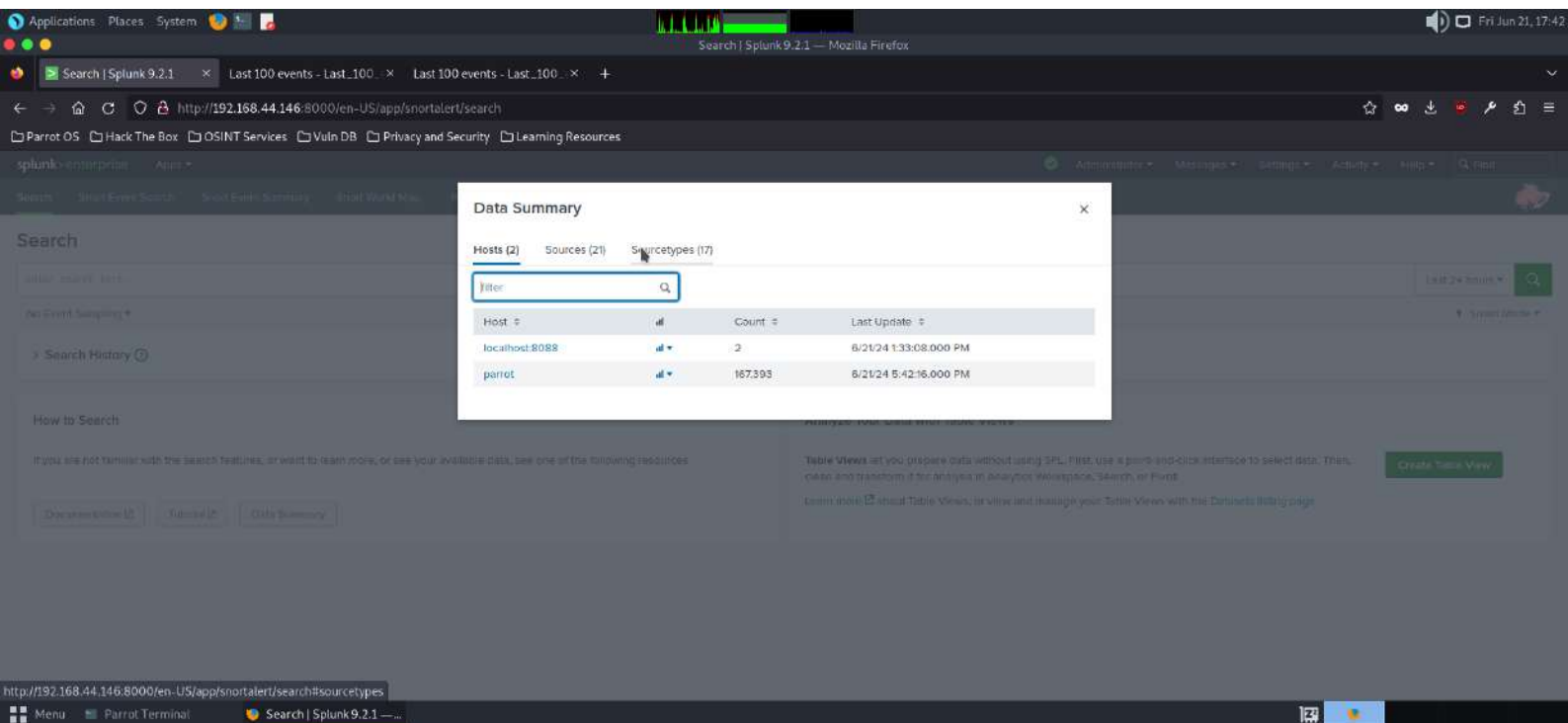
Name ▴	Actions	Token Value ▴	Source Type ▴	Index ▴	Status ▴
test_csv_token	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>	4b164b27-04c0-4783-9921-13f4b25882cd		main	Enabled

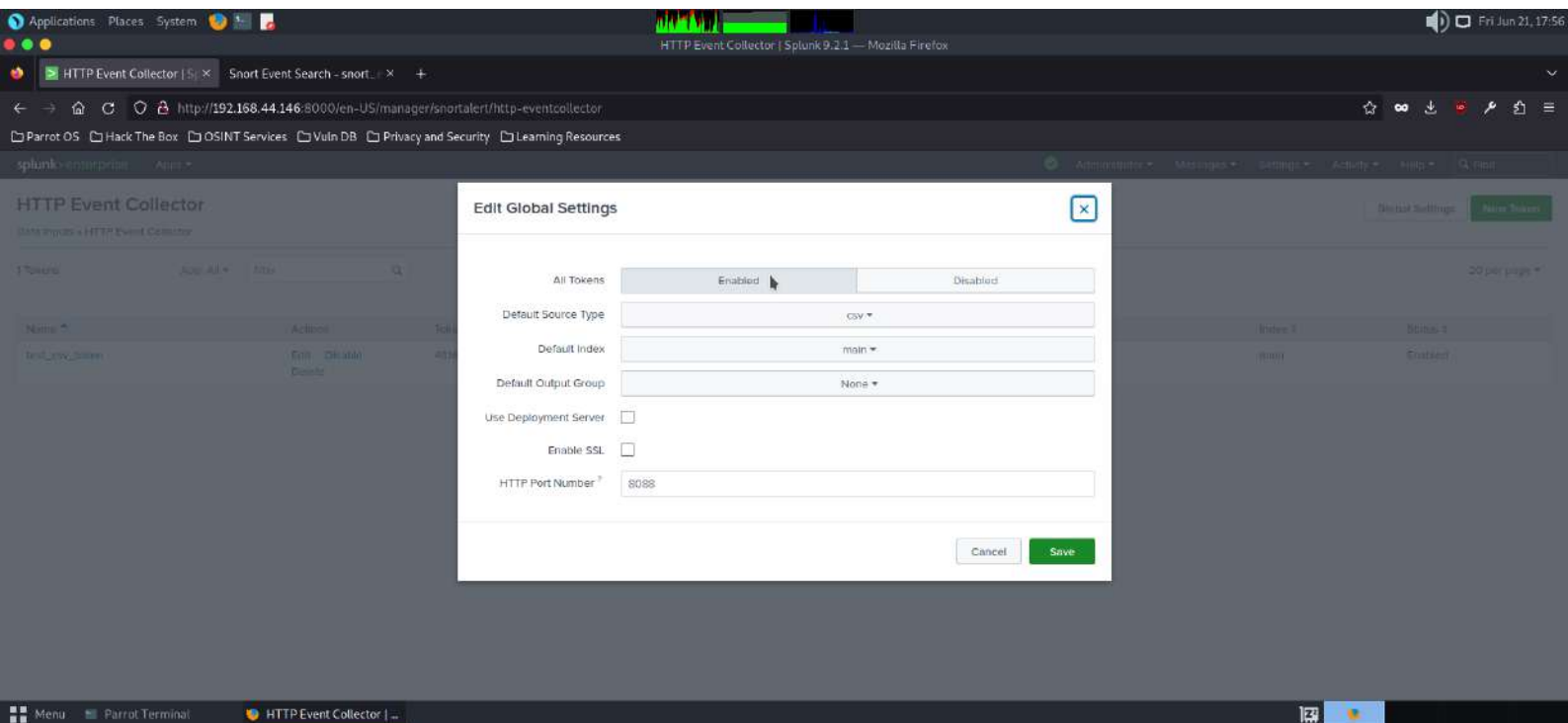
Menu

Parrot Terminal

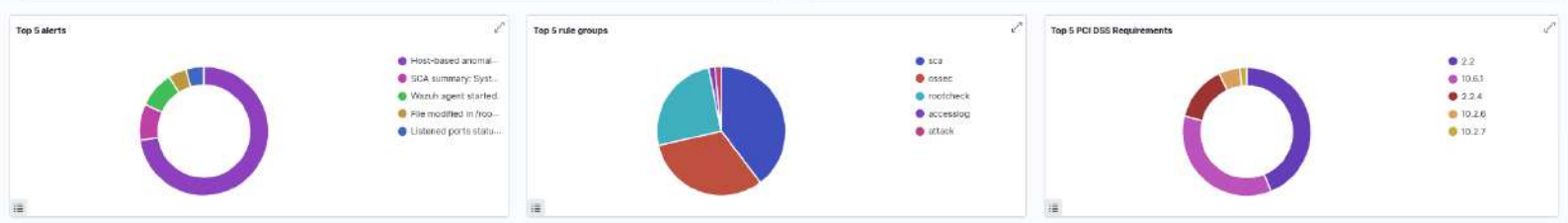
HTTP Event Collector | ...

123

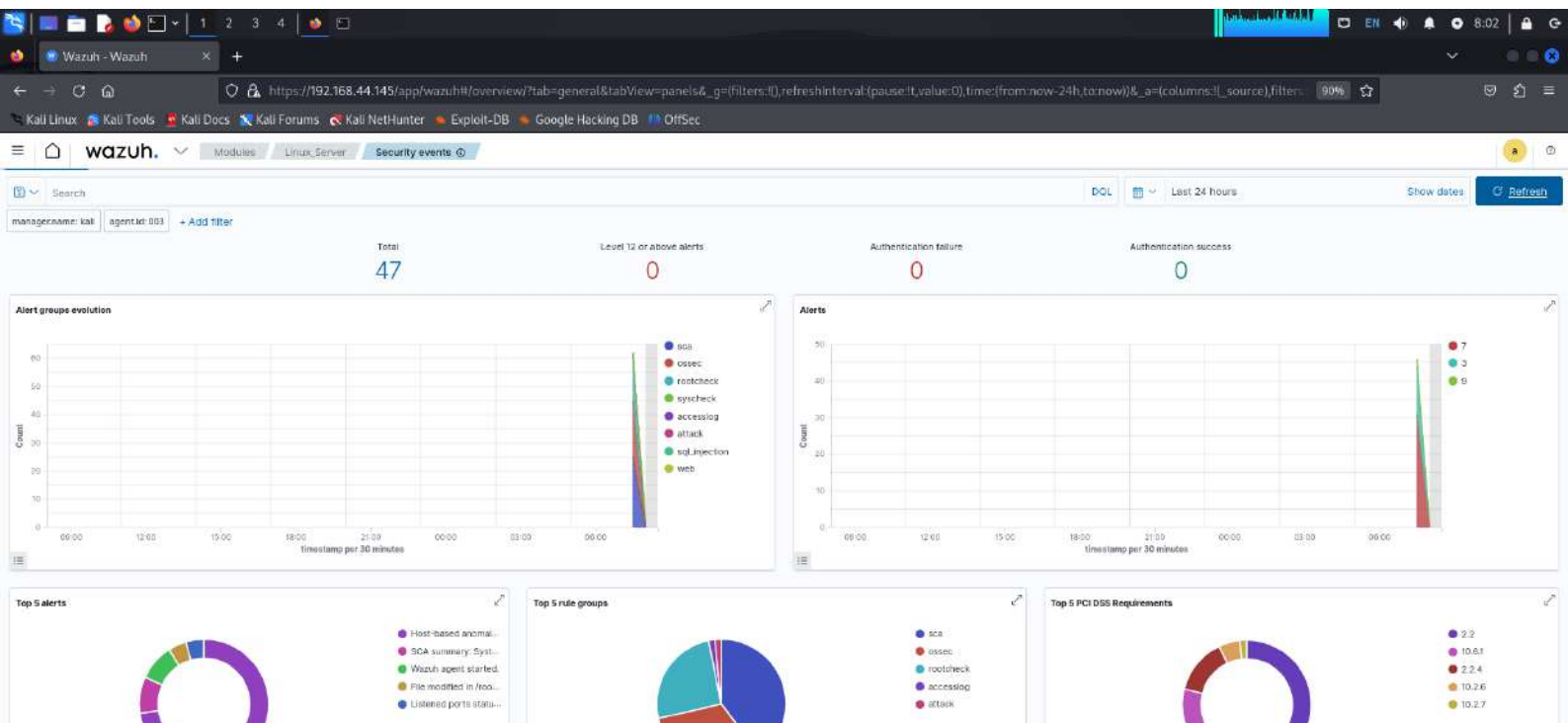








Security Alerts					
Time ↓	Technique(s)	Tactic(s)	Description	Level	Rule ID
> Jun 25, 2024 @ 08:01:06.885	T1190	Initial Access	SQL Injection attempt.	7	31103
> Jun 25, 2024 @ 07:59:40.508			Host-based anomaly detection event (rootcheck).	7	510
> Jun 25, 2024 @ 07:59:40.505			Host-based anomaly detection event (rootcheck).	7	510
> Jun 25, 2024 @ 07:59:40.504			Host-based anomaly detection event (rootcheck).	7	510
> Jun 25, 2024 @ 07:59:40.502			Host-based anomaly detection event (rootcheck).	7	510
> Jun 25, 2024 @ 07:59:40.500			Host-based anomaly detection event (rootcheck).	7	510



Wazuh - Wazuh

https://192.168.44.145/app/wazuh#/overview?tabView=panels&tab=welcome&\_g={filters:{},refreshInterval:(pause:!t,value:0),time:(from:now-24h,to:now)}&\_a={columns:[{source}],filter 90%

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wazuh. Modules

Total agents: 2 Active agents: 2 Disconnected agents: 0 Pending agents: 0 Never connected agents: 0

### SECURITY INFORMATION MANAGEMENT

**Security events**  
Browse through your security alerts, identifying issues and threats in your environment.

**Integrity monitoring**  
Alerts related to file changes, including permissions, content, ownership and attributes.

### AUDITING AND POLICY MONITORING

**Policy monitoring**  
Verify that your systems are configured according to your security policies baseline.

**System auditing**  
Audit users behavior, monitoring command execution and alerting on access to critical files.

**Security configuration assessment**  
Scan your assets as part of a configuration assessment audit.

### THREAT DETECTION AND RESPONSE

**Vulnerabilities**  
Discover what applications in your environment are affected by well-known vulnerabilities.

**MITRE ATT&CK**  
Security events from the knowledge base of adversary tactics and techniques based on real-world observations.

### REGULATORY COMPLIANCE

**PCI DSS**  
Global security standard for entities that process, store or transmit payment cardholder data.

**TSC**  
Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy.

**NIST 800-53**  
National Institute of Standards and Technology Special Publication 800-53 (NIST 800-53) sets guidelines for federal information systems.

**GDPR**  
General Data Protection Regulation (GDPR) sets guidelines for processing of personal data.

Wazuh - Wazuh

https://192.168.44.145/app/wazuh#/overview?tab=general&tabView=panels&\_g=(filters:[]&refreshInterval:(pause:1t,value:0),time:(from:now-24h,to:now))&\_a=(columns:[\_source],filters: 80%

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wazuh. Modules Linux Server Security events

manager name: kali agent id: 803 + Add filter

Security Alerts

time	timestamp	timestamp	description	level	rule id
Jun 25, 2024 @ 09:18:49.577	T1199	Initial Access	SQL injection attempt	7	31103

Table JSON Rule

@timestamp	2024-06-25T13:18:49.577Z
_id	OnCM75AB3stbqZ7tqV
agent.id	803
agent.ip	192.168.44.149
agent.name	Linux_Server
data.id	404
data.protocol	GET
data.srcip	192.168.44.149
data.url	/users?id=SELECT+++FROM+users
decoder.name	web-accesslog
full_log	192.168.44.149 - - [25/Jun/2024:09:18:49 -0400] "GET /users?id=SELECT+++FROM+users HTTP/1.1" 404 430 "-" "curl/8.2.1"
id	1719321529.128326
input.type	log
location	/var/log/apache2/access.log
manager.name	kali
rule.description	SQL injection attempt

Wazuh - Wazuh

https://192.168.44.145/app/wazuh#/overview?tab=general&tabView=panels&\_g=(filters:[]&refreshInterval:(pause:1,value:0)&time:(from:now-24h,to:now))&\_a=(columns:[\_source],filters: 80%

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wazuh. Modules Linux Server Security events ID

manager name: kali agent id: 803 + Add filter

data.scrip	192.168.44.145
data.uri	/users?id=SELECT***FROM=users
decoder.name	web-accesslog
full_log	192.168.44.145 - - [25/Jun/2024:09:18:47-0400] "GET /users?id=SELECT***FROM=users HTTP/1.1" 404 432 "-" "curl/8.2.1"
id	1719321509.128326
input.type	log
location	/var/log/apache2/access.log
manager.name	kali
rule.description	SQL injection attempt.
rule.firedtimes	1
rule.gdor	06_35_7_d
rule.groups	web, accesslog, attack, sql_injection
rule.id	31103
rule.level	7
rule.mail	false
rule.mitreid	T1190
rule.mitre tactic	Initial Access
rule.mitre technique	Exploit Public-Facing Application
rule.misp_800_53	SA-11, SI-4
rule.pci_dss	6.5, 11.4, 6.5.1
rule.tsc	CC6.6, CC7.1, CC8.1, CC8.1, CC8.6, CC7.2, CC7.3

Wazuh - Wazuh

https://192.168.44.145/app/wazuh#/overview?tab=general&tabView=panels&\_g=(filters:[]),refreshInterval:(pause:1t,value:0),time:(from:now-24h,to:now)&\_a=(columns:[\_source],filter: 80%

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wazuh

Modules Linux Server Security events

Search

DDL

Last 24 hours

Show dates

Refresh

Security Alerts

Time 4

to:checkups

to:logs

description

Level

rule ID

Jun 25, 2024 @ 09:18:49.577

T1199

Initial Access

SQL injection attempt

7

31103

Table JSON Rule

Information

ID 31103

Level 7

File

Path

Groups attack, sql\_injection, web, accesslog

Details

ft\_sid 31100,31198

Uri patterns: +select%20select+insert%20%20from%20%20where%20union%20union+where

Compliance

ODPI 10.35.2.4

MITRE T1199

Jun 25, 2024 @ 00:14:35.843

Listeners ports status (netstat) changed (new port opened or closed)

7

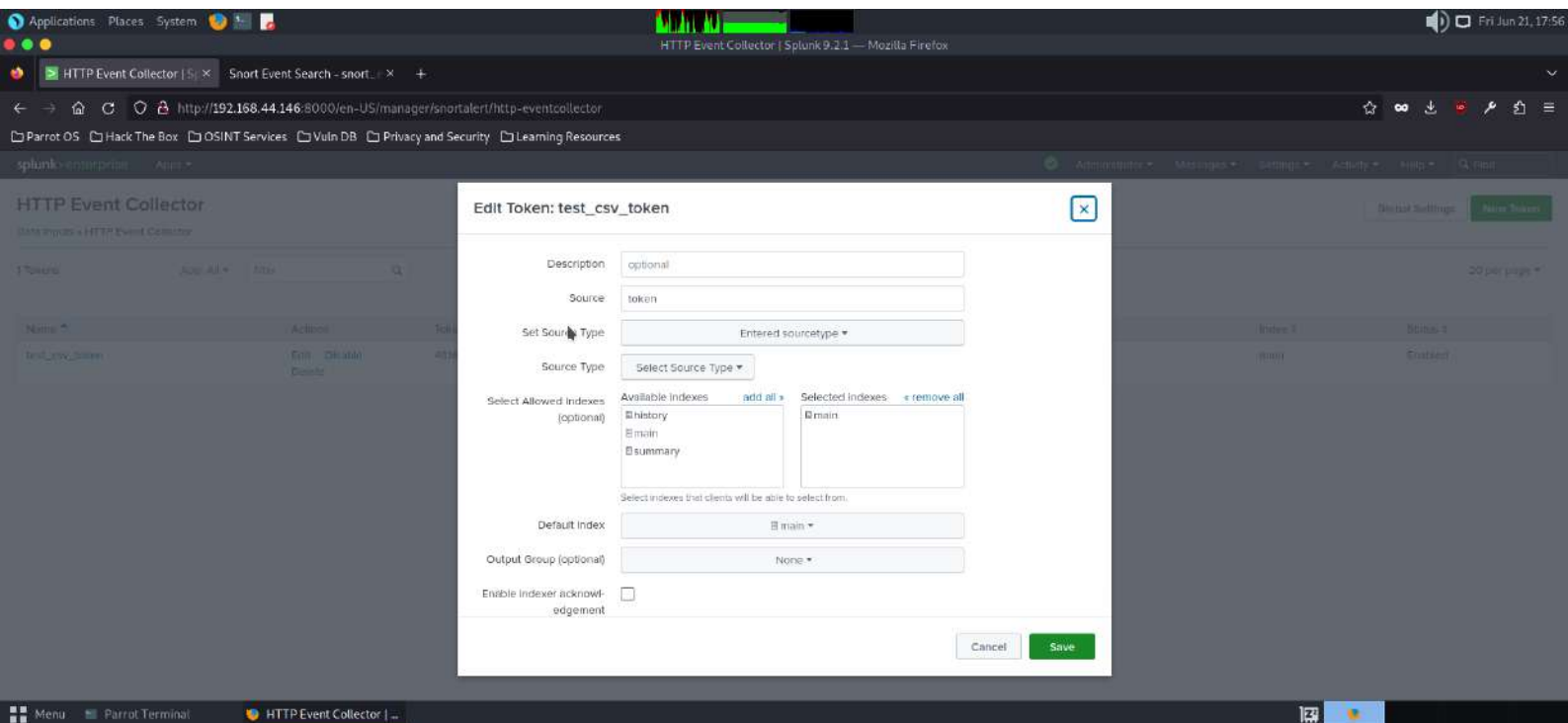
533

Jun 25, 2024 @ 09:09:32.382

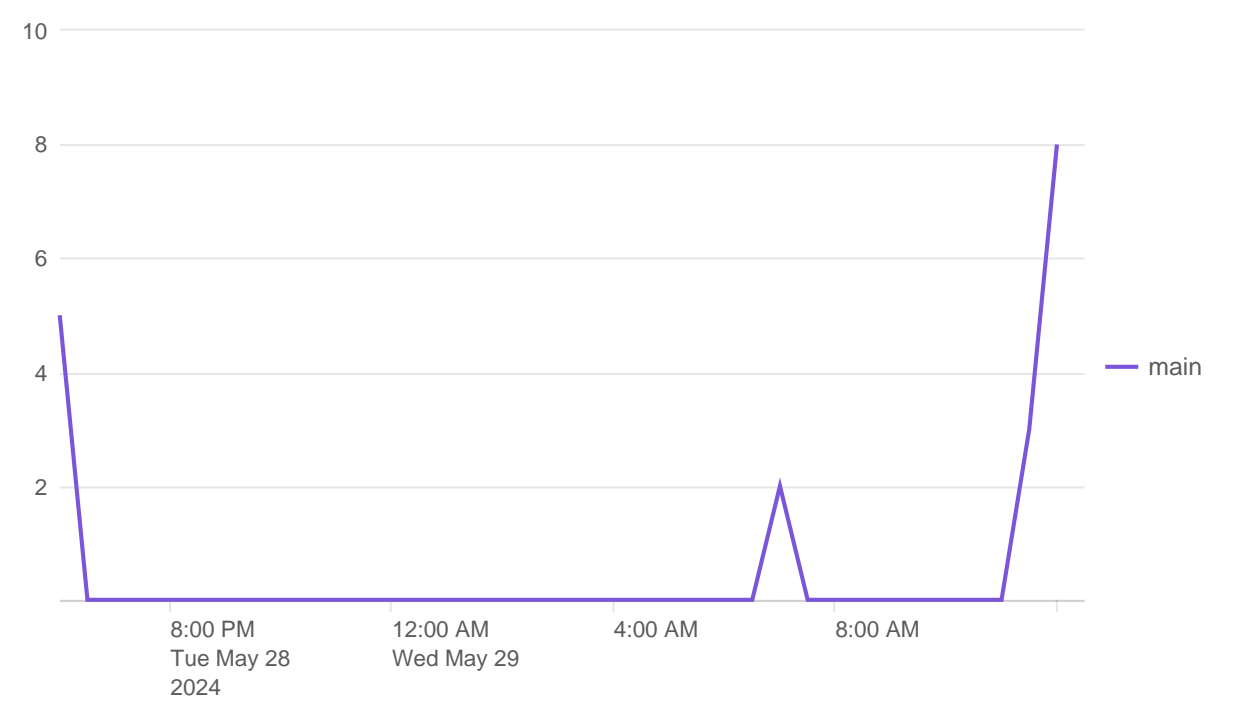
Host-based anomaly detection event (rootcheck)

7

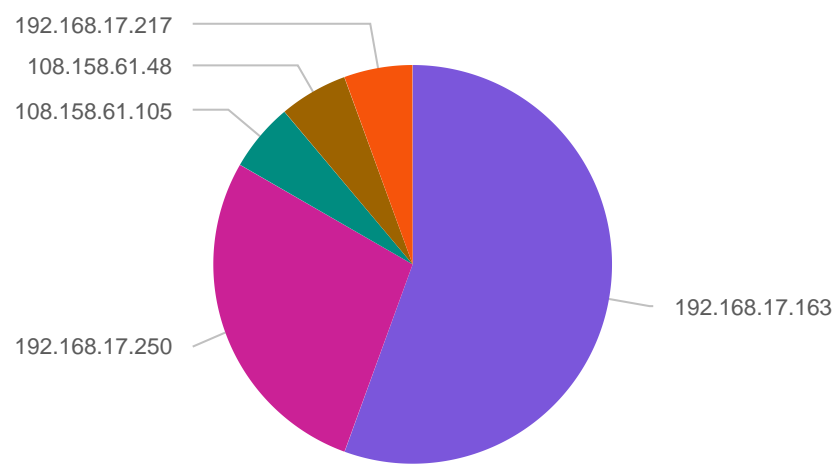
510



Events by time in result set



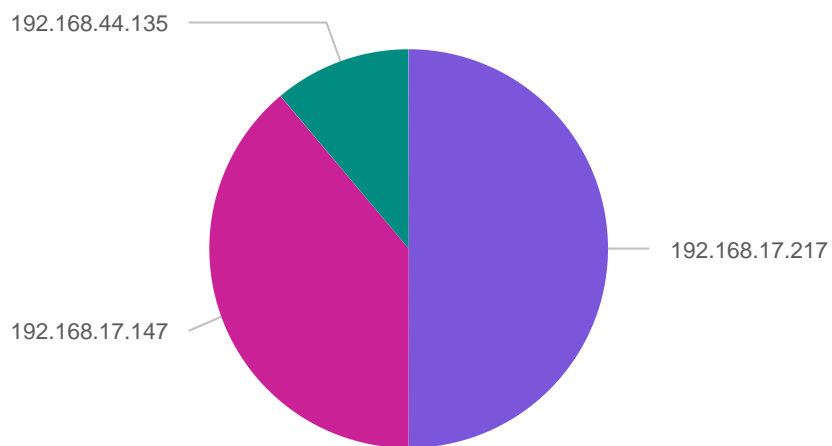
Top source IP in result set



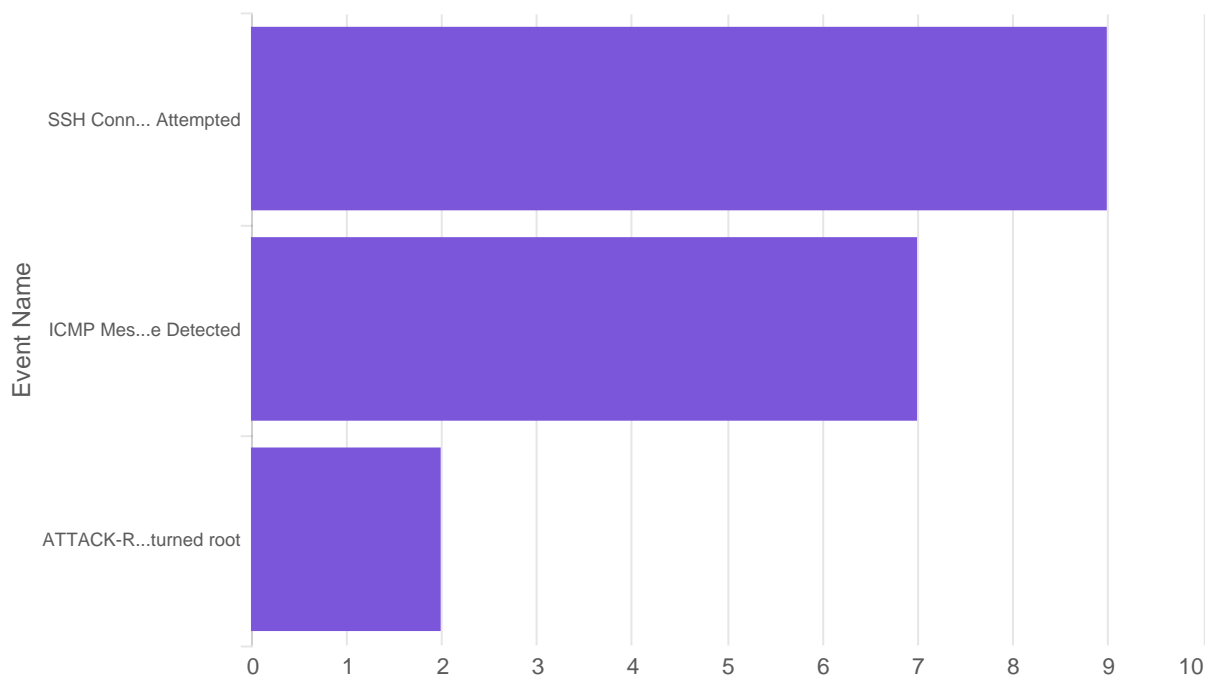


---

## Top destination IP in result set



## Top alerts in result set



## Alerts table of result set

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.217	53	192.168.17.147	60453	ICMP	100001	ICMP Message Detected	[**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] 05/29-12:04:33.090119 192.168.17.217 -> 192.168.17.147 ICMP TTL:64 TOS:0xC0 ID:35305 IpLen:20 DgmLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -> 192.168.17.217:60453 UDP TTL:64 TOS:0x0 ID: 57423 IpLen:20 DgmLen: 125 DF Len: 97 Csum: 63944 (97 more bytes of original packet) ** END OF DUMP	1716998673.090119
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] 05/29-12:03:12.264525 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0xC0 ID:44699 IpLen:20 DgmLen:165 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16903 IpLen:20 DgmLen: 137 DF Len: 109 Csum: 30551 (109 more bytes of original packet) ** END OF DUMP	1716998592.264525

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] 05/29-12:03:12.264423 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0xC0 ID:44698 IpLen:20 DgmLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16902 IpLen:20 DgmLen: 125 DF Len: 97 Csum: 31092 (97 more bytes of original packet) ** END OF DUMP	1716998592.264423
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] 05/29-12:03:12.264422 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0xC0 ID:44697 IpLen:20 DgmLen:165 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16901 IpLen:20 DgmLen: 137 DF Len: 109 Csum: 30551 (109 more bytes of original packet) ** END OF DUMP	1716998592.264422
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	[**] [1:100001:1] ICMP Message Detected [**] [Priority: 0] 05/29-12:03:12.264422 192.168.17.163 -> 192.168.17.147 ICMP TTL:64 TOS:0xC0 ID:44696 IpLen:20 DgmLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -> 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16900 IpLen:20 DgmLen: 125 DF Len: 97 Csum: 31092 (97 more bytes of original packet) ** END OF DUMP	1716998592.264422

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	<pre> [**] [1:100001:1] ICMP Message Detected [ **] [Priority: 0] 05/29-12:03:12.264422 192.168.17.163 -&gt; 192 .168.17.147 ICMP TTL:64 TOS:0xC0 ID:44695 IpLen:20 DgmLen:165 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -&gt; 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16899 IpLen:20 DgmLen: 137 DF Len: 109 Csum: 30551 (109 more bytes of original packet) ** END OF DUMP </pre>	1716998592.264422
192.168.17.163	53	192.168.17.147	34355	ICMP	100001	ICMP Message Detected	<pre> [**] [1:100001:1] ICMP Message Detected [ **] [Priority: 0] 05/29-12:03:12.264017 192.168.17.163 -&gt; 192 .168.17.147 ICMP TTL:64 TOS:0xC0 ID:44694 IpLen:20 DgmLen:153 Type:3 Code:3 DESTINATION UNREACHABLE: PORT UNREACHABLE ** ORIGINAL DATAGRAM DUMP: 192.168.17.147:53 -&gt; 192.168.17.163:34355 UDP TTL:64 TOS:0x0 ID: 16898 IpLen:20 DgmLen: 125 DF Len: 97 Csum: 31092 (97 more bytes of original packet) ** END OF DUMP </pre>	1716998592.264017
192.168.17.163	36060	192.168.17.217	22	TCP	100002	SSH Connection Attempted	<pre> [**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] 05/29-12:03:01.191294 192.168.17.163:36060 - &gt; 192.168.17.217:22 TCP TTL:64 TOS:0x10 ID :8075 IpLen:20 DgmLen: 60 DF *****S* Seq: 0xCE9F15C4 Ack: 0x0 Win: 0x7D78 TcpLen: 40 TCP Options (5) =&gt; MSS: 1460 SackOK TS: 2458129316 0 NOP WS: 7 </pre>	1716998581.191294

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.163	59209	192.168.17.217	22	TCP	100002	SSH Connection Attempted	[**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] 05/29-11:45:50.656422 192.168.17.163:59209 - > 192.168.17.217:22 TCP TTL:47 TOS:0x0 ID: 30890 IpLen:20 DgmLen: 44 *****S* Seq: 0xDD4A8ECA Ack: 0x0 Win: 0x400 TcpLen: 24 TCP Options (1) => MSS: 1460	1716997550.656422
192.168.17.163	40144	192.168.17.217	22	TCP	100002	SSH Connection Attempted	[**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] 05/29-11:45:18.336310 192.168.17.163:40144 - > 192.168.17.217:22 TCP TTL:64 TOS:0x10 ID: :25375 IpLen:20 DgmLen: 60 DF *****S* Seq: 0x89B884D6 Ack: 0x0 Win: 0x7D78 TcpLen: 40 TCP Options (5) => MSS: 1460 SackOK TS: 2457066590 0 NOP WS: 7	1716997518.336310
192.168.17.163	54240	192.168.17.217	22	TCP	100002	SSH Connection Attempted	[**] [1:100002:2] SSH Connection Attempted [**] [Priority: 0] 05/29-11:45:08.834242 192.168.17.163:54240 - > 192.168.17.217:22 TCP TTL:64 TOS:0x10 ID: :14599 IpLen:20 DgmLen: 60 DF *****S* Seq: 0xCD30D333 Ack: 0x0 Win: 0x7D78 TcpLen: 40 TCP Options (5) => MSS: 1460 SackOK TS: 2457057087 0 NOP WS: 7	1716997508.834242
108.158.61.105	80	192.168.44.135	41204	TCP	498	ATTACK-RESPONSES id check returned root	[**] [1:498:6] ATTACK-RESPONSES id check returned root [**] [Classification: Potentially Bad Traffic] [Priority: 2]  05/29-07:02:18.730020 108.158.61.105:80 -> 192.168.44.135:41204 TCP TTL:128 TOS:0x0 ID: :7942 IpLen:20 DgmLen: 575 ***AP*** Seq: 0x210C57FE Ack: 0x8003D95E Win: 0xFAF0 TcpLen: 20	1716980538.730020

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
108.158.61.48	80	192.168.44.135	58220	TCP	498	ATTACK-RESPONSES id check returned root	<p>[**] [1:498:6] ATTACK-RESPONSES id check returned root [**] [Classification: Potentially Bad Traffic] [Priority: 2]</p> <p>05/29-07:01:00.825268 108.158.61.48:80 -&gt; 192.168.44.135:58220 TCP TTL:128 TOS:0x0 ID :7605 IpLen:20 DgmLen: 573 ***AP*** Seq: 0x29913FA9 Ack: 0xA329FE9D Win: 0xFAF0 TcpLen: 20</p>	1716980460.825268
192.168.17.250	53787	192.168.17.217	22	TCP	100002	SSH Connection Attempted	<p>[**] [1:100002:1] SSH Connection Attempted [**] [Priority: 0] 05/28-18:21:47.680976 192.168.17.250:53787 -&gt; 192.168.17.217:22 TCP TTL:128 TOS:0x0 ID :10973 IpLen:20 DgmLen: 52 DF *****S* Seq: 0xC8B0E3D2 Ack: 0x0 Win: 0xFAF0 TcpLen: 32 TCP Options (6) =&gt; MSS: 1460 NOP WS: 8 NOP NOP SackOK</p>	1716934907.680976
192.168.17.250	53787	192.168.17.217	22	TCP	100002	SSH Connection Attempted	<p>[**] [1:100002:1] SSH Connection Attempted [**] [Priority: 0] 05/28-18:21:47.167973 192.168.17.250:53787 -&gt; 192.168.17.217:22 TCP TTL:128 TOS:0x0 ID :10972 IpLen:20 DgmLen: 52 DF *****S* Seq: 0xC8B0E3D2 Ack: 0x0 Win: 0xFAF0 TcpLen: 32 TCP Options (6) =&gt; MSS: 1460 NOP WS: 8 NOP NOP SackOK</p>	1716934907.167973
192.168.17.250	53787	192.168.17.217	22	TCP	100002	SSH Connection Attempted	<p>[**] [1:100002:1] SSH Connection Attempted [**] [Priority: 0] 05/28-18:21:46.656007 192.168.17.250:53787 -&gt; 192.168.17.217:22 TCP TTL:128 TOS:0x0 ID :10971 IpLen:20 DgmLen: 52 DF *****S* Seq: 0xC8B0E3D2 Ack: 0x0 Win: 0xFAF0 TcpLen: 32 TCP Options (6) =&gt; MSS: 1460 NOP WS: 8 NOP NOP SackOK</p>	1716934906.656007

Source IP	Source Port	Destination IP	Destination Port	Protocol	Signature	Event Name	RAW	Time
192.168.17.250	53787	192.168.17.217	22	TCP	100002	SSH Connection Attempted	[**] [1:100002:1] SSH Connection Attempted [**] [Priority: 0] 05/28-18:21:46.144405 192.168.17.250:53787 - > 192.168.17.217:22 TCP TTL:128 TOS:0x0 ID :10970 IpLen:20 DgmLen: 52 DF *****S* Seq: 0xC8B0E3D2 Ack: 0x0 Win: 0xFAF0 TcpLen: 32 TCP Options (6) => MSS: 1460 NOP WS: 8 NOP NOP SackOK	1716934906.144405
192.168.17.250	53787	192.168.17.217	22	TCP	100002	SSH Connection Attempted	[**] [1:100002:1] SSH Connection Attempted [**] [Priority: 0] 05/28-18:21:45.628807 192.168.17.250:53787 - > 192.168.17.217:22 TCP TTL:128 TOS:0x0 ID :10969 IpLen:20 DgmLen: 52 DF *****S* Seq: 0xC8B0E3D2 Ack: 0x0 Win: 0xFAF0 TcpLen: 32 TCP Options (6) => MSS: 1460 NOP WS: 8 NOP NOP SackOK	1716934905.628807

Last 100 events



#	Time	Source Host	Source IP	Source Country	Destination IP	Destination Country	Signature	Event Name
1	1716998673.090119	192.168.17.217	192.168.17.217	-	192.168.17.147	-	100001	ICMP Message Detected
2	1716998592.264525	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
3	1716998592.264423	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
4	1716998592.264422	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
5	1716998592.264422	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
6	1716998592.264422	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
7	1716998592.264017	192.168.17.163	192.168.17.163	-	192.168.17.147	-	100001	ICMP Message Detected
8	1716998581.191294	192.168.17.163	192.168.17.163	-	192.168.17.217	-	100002	SSH Connection Attempted
9	1716997550.656422	192.168.17.163	192.168.17.163	-	192.168.17.217	-	100002	SSH Connection Attempted
10	1716997518.336310	192.168.17.163	192.168.17.163	-	192.168.17.217	-	100002	SSH Connection Attempted
11	1716997508.834242	192.168.17.163	192.168.17.163	-	192.168.17.217	-	100002	SSH Connection Attempted
12	1716980538.730020	server-108-158-61-105.bom78.r.cloudfront.net	108.158.61.105	India	192.168.44.135	India	498	ATTACK-RESPONSES id check returned root
13	1716980460.825268	server-108-158-61-48.bom78.r.cloudfront.net	108.158.61.48	India	192.168.44.135	India	498	ATTACK-RESPONSES id check returned root
14	1716934907.680976	192.168.17.250	192.168.17.250	-	192.168.17.217	-	100002	SSH Connection Attempted
15	1716934907.167973	192.168.17.250	192.168.17.250	-	192.168.17.217	-	100002	SSH Connection Attempted
16	1716934906.656007	192.168.17.250	192.168.17.250	-	192.168.17.217	-	100002	SSH Connection Attempted

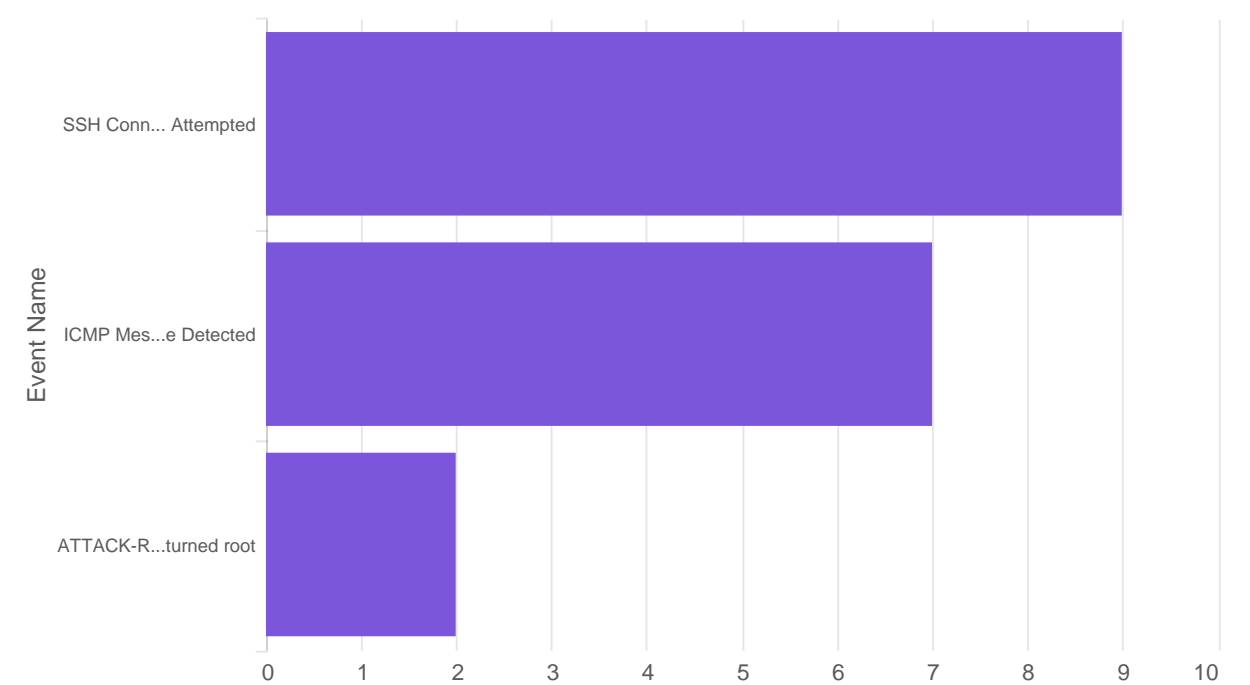


#	Time	Source Host	Source IP	Source Country	Destination IP	Destination Country	Signature	Event Name
17	1716934906.144405	192.168.17.250	192.168.17.250	-	192.168.17.217	-	100002	SSH Connection Attempted
18	1716934905.628807	192.168.17.250	192.168.17.250	-	192.168.17.217	-	100002	SSH Connection Attempted

Alerts table of result set

Time	Event
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	
None	

Top alerts in result set



Event Name	count
SSH Connection Attempted	9
ICMP Message Detected	7
ATTACK-RESPONSES id check returned root	2