# Report

## 1.Install elasticsearch.

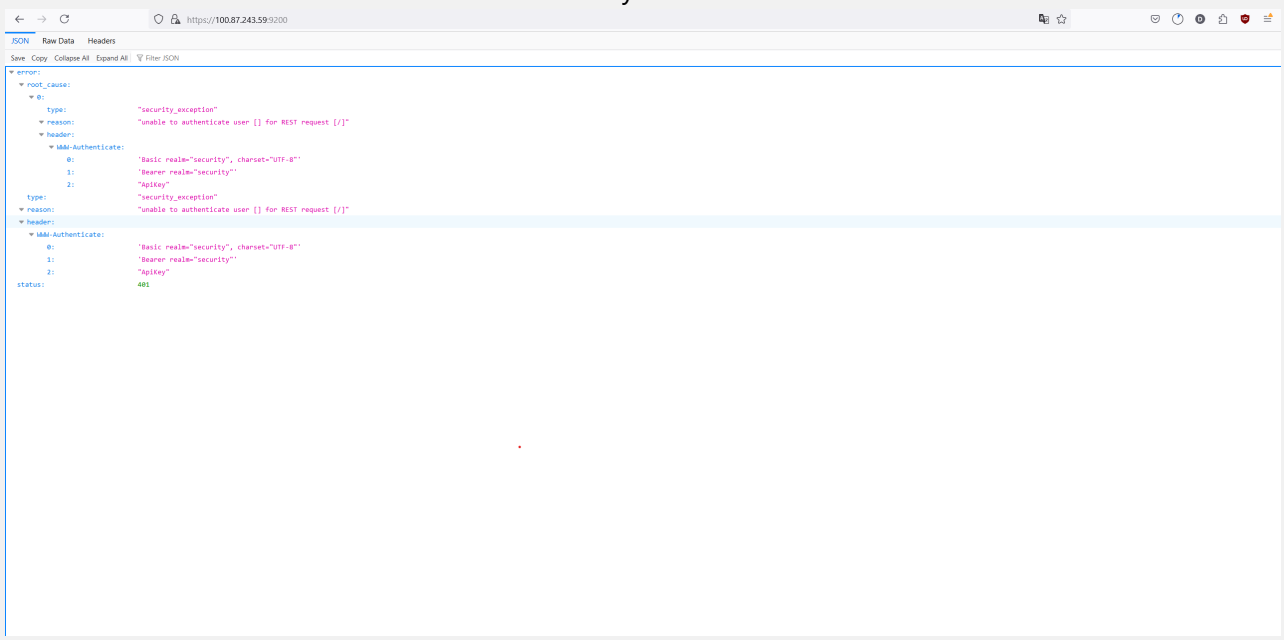
1. Install elasticsearch from apt (Just search on google).
2. Enable elasticsearch to run as service:

```
sudo systemctl daemon-reload
sudo systemctl enable elasticsearch.service
```

3. Locate to `/usr/share/elasticsearch/bin/elasticsearch-create-token -s node` to generate token for node enrollment.
4. Locate to `/usr/share/elasticsearch/bin/elasticsearch-create-token -s kibana` to generate token for kibana enrollment.
5. Edit needed information in the file `/etc/elasticsearch/elasticsearch.yml` (this step maybe require changing file permission of folder or editting under root's right) Change the following varibale:

```
cluster.name: demo
network.host: 100.87.243.59
http.host: 0.0.0.0
transport.host: 0.0.0.0
```

Noted that data and logs are stored in the following file:

> /var/lib/elasticsearch /var/log/elasticsearch 6. Noted that in the second node need to do this actions `sudo /usr/share/elasticsearch/bin/elasticsearch-reconfigure-node --enrollment-token <enrollment-token>` 7. Install successfully elasticsearch.
>
> 
> 

**Default account**:elastic Password: tRZfgFvq+6bzGBh+aqAE Updated: password: elastic123

## 2. Install Kibana.

Back to the elasticsearch node and generate token using:

```
/usr/share/elasticsearch/bin/elasticsearch-create-enrollment-token -s kibana
```

> The result is:
>
> ```
> Unable to create enrollment token for scope [kibana]
>
> ERROR: Read timed out, with exit code 73
> root@duyanhserver:/home/satan# /usr/share/elasticsearch/bin/elasticsearch-create-enrollment-token -s kibana
> warning: ignoring JAVA_HOME=/usr/lib/jvm/java-21-openjdk-amd64; using bundled JDK
> eyJ2ZXIiOiI4LjE0LjAiLCJhZHIiOlsiMTAwLjg3LjI0My41OTo5MjAwIl0sImZnciI6ImJhYWYyYjgxYTMxNTU2NDQ0YWQxNzFmODZjYjRmOWRlMGY3NjM2
> NWVhZjQ3NGJkN2E5Nzk3MDdkMzM5NjBkM2IiLCJrZXkiOiIydVJxT0pNQkotTWR1eU5FMGxvdjpPU2F1N3FXdFRCZVU1NXktYzA5S0JnIn0=
> root@duyanhserver:/home/satan#
> ```

1. Install kibana as guided through google (Just search installing Kibana)
2. 

```
sudo systemctl daemon-reload
sudo systemctl enable kibana.service
```

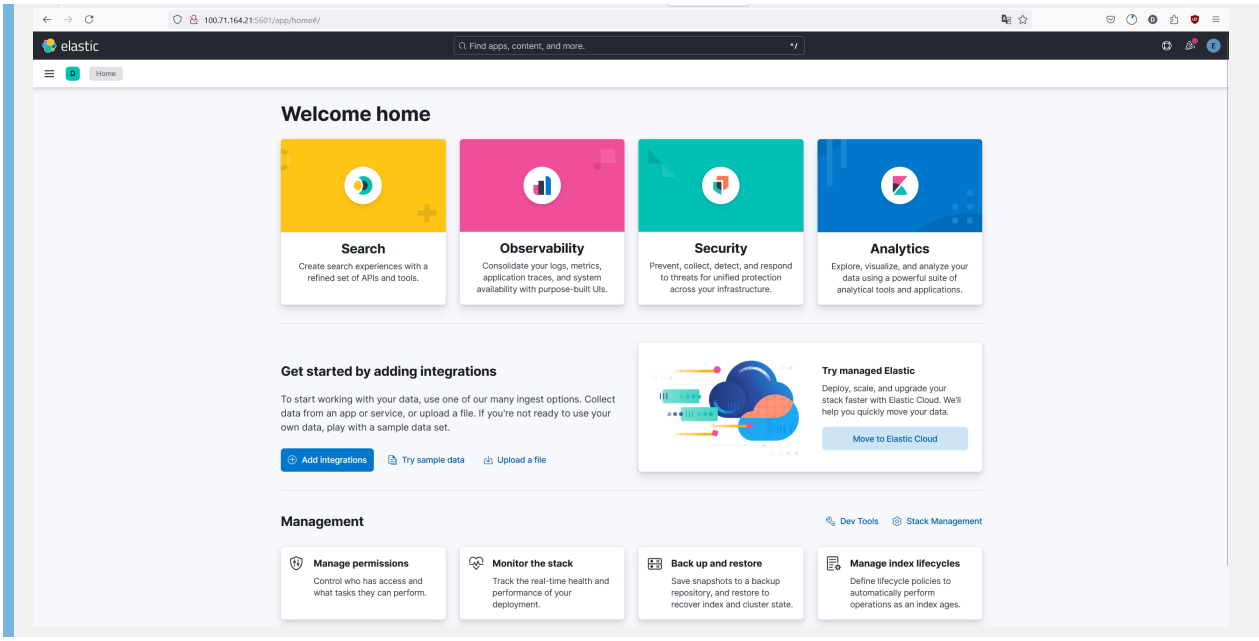
3. Edit `etc/kibana/kibana.yml'
4. Back to elastic server to generate kibana enrollment token.
5. Enable elasticsearch to run as a service.

```
sudo systemctl daemon-reload
sudo systemctl enable kibana.service
```

6. Edit file `/etc/kibana/kibana.yml` Keys to edit:

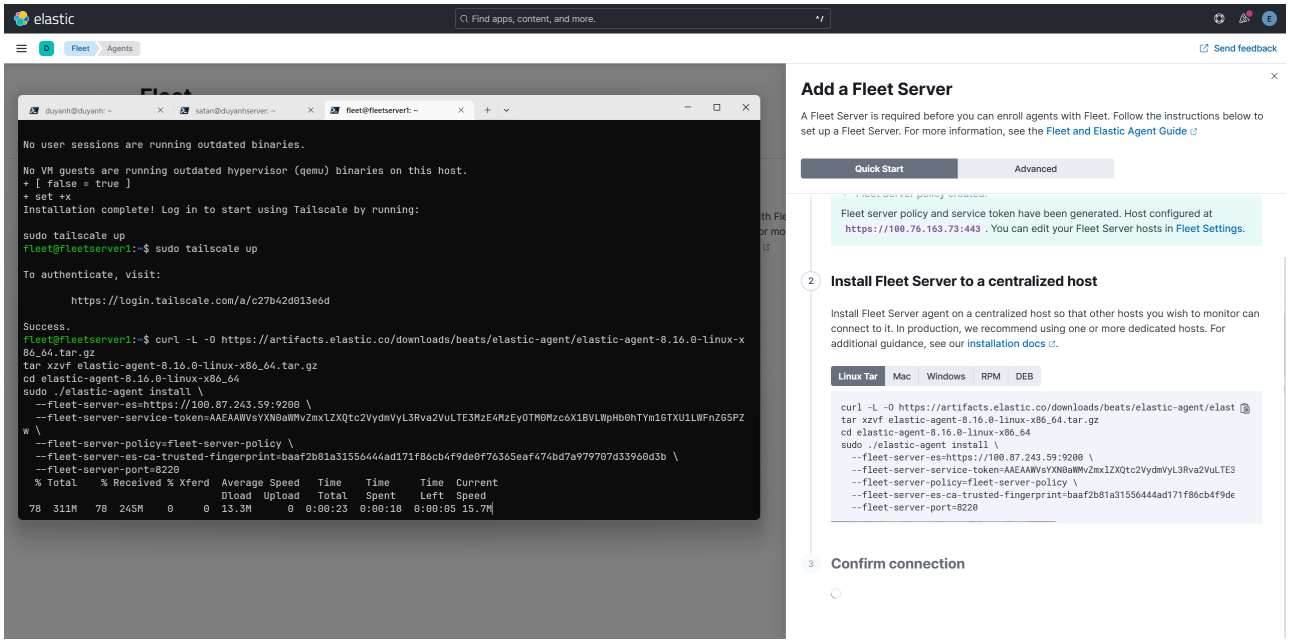
```
server.host: the current ip address of the server
```

7. Start kibana `sudo systemctl start kibana.service`
8. http://ip_address:5601/code= `(Node that this code get by run systemctl status)`
   `http://100.71.164.21:5601`
9. `Result:`

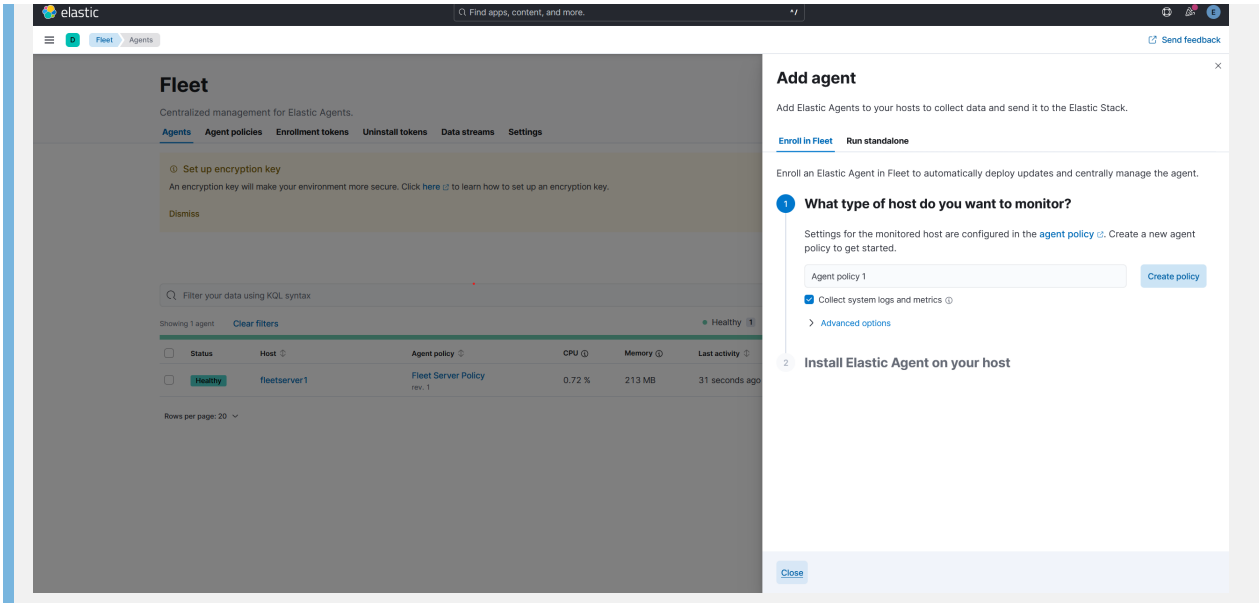



## 3. Install Fleet Server

1. Navigate to fleet in kibana dashboard.
2. Do the step as guided in the dashboard.

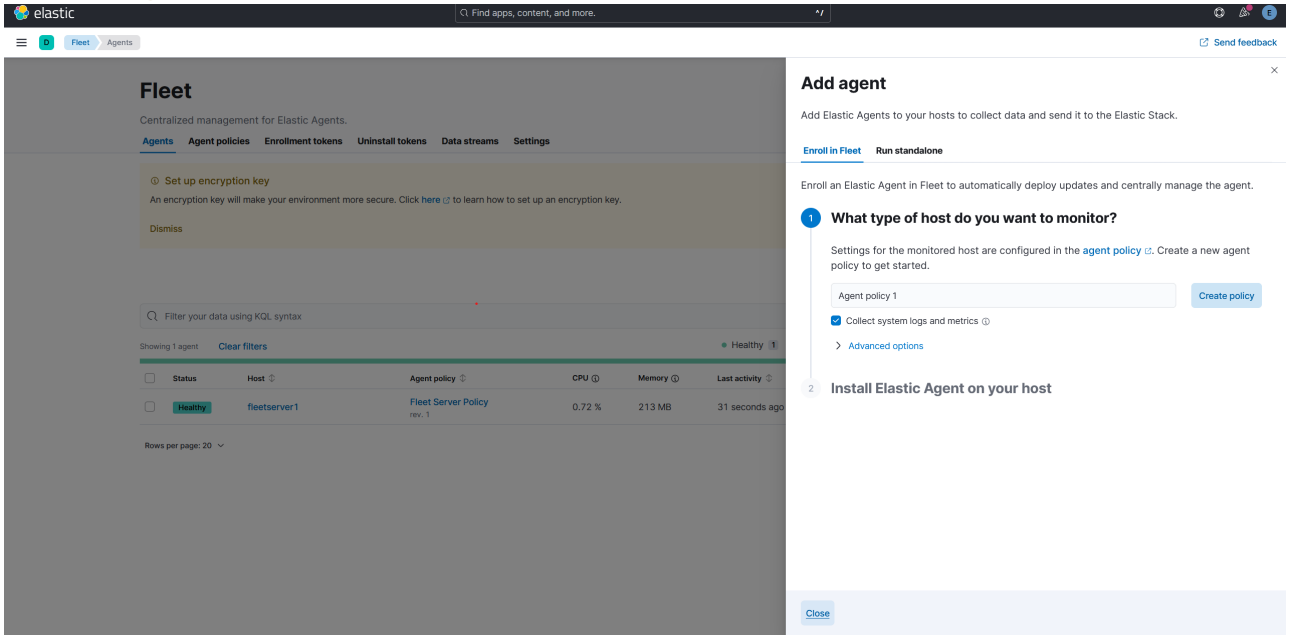



3. Result

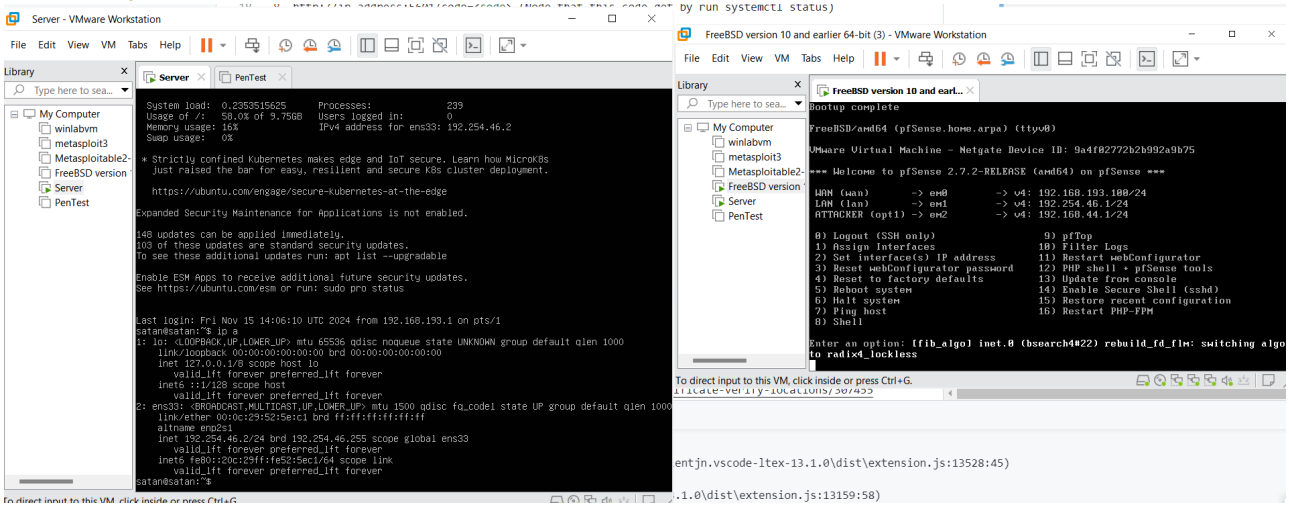



## 4. Add agent.

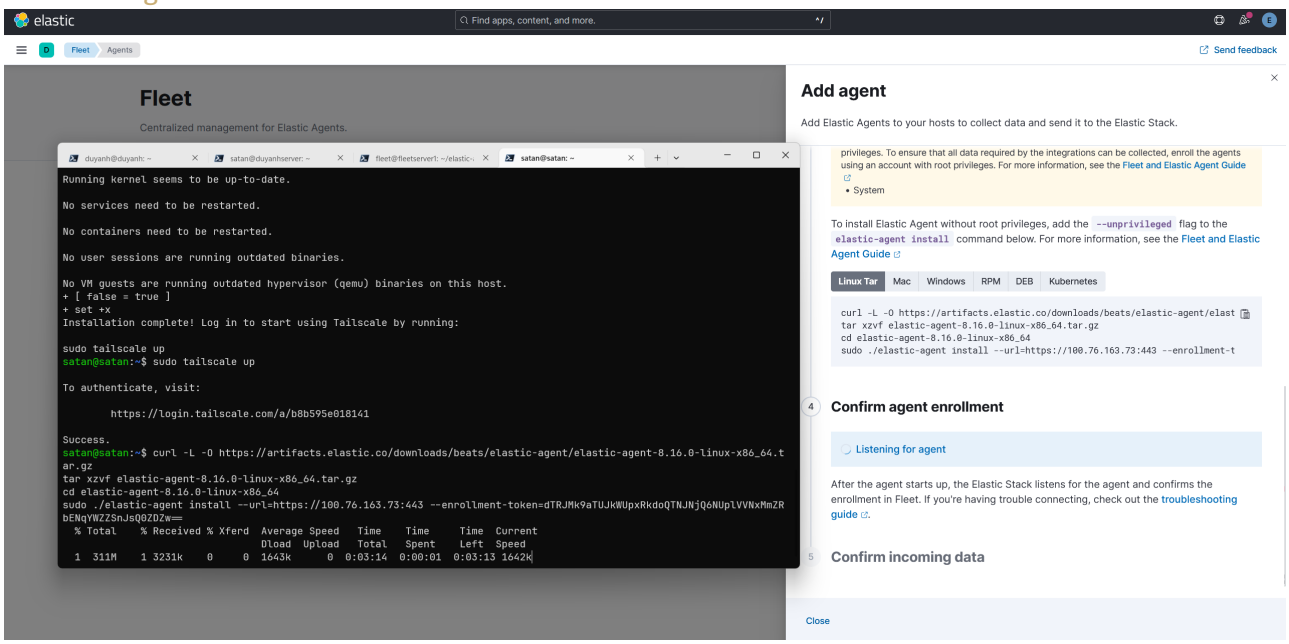
### 1. Install agent.




### 2. Turn on pfsense firewall and the server behind it.

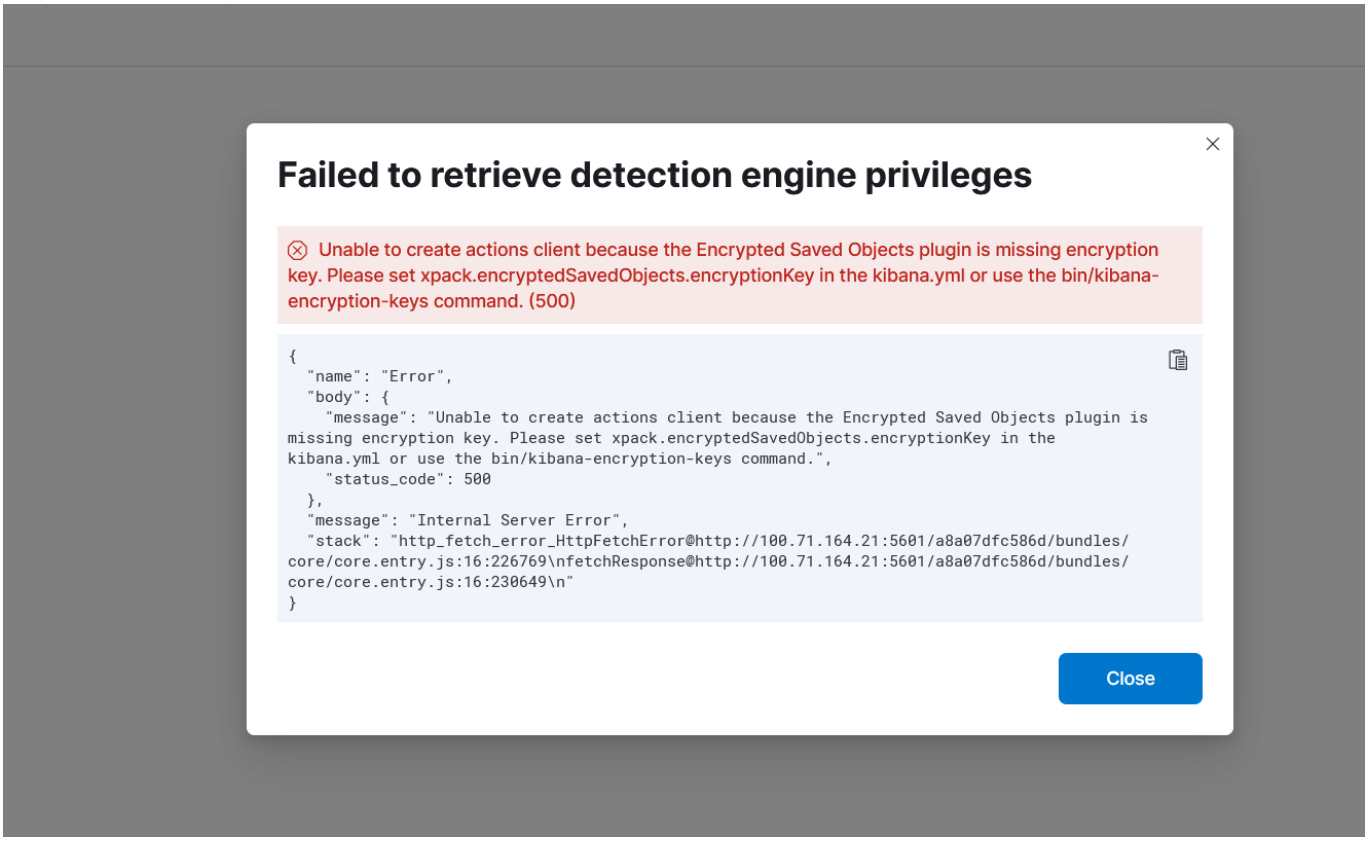


3. Install agent.




5. Add rule.

Engine priviliged error.



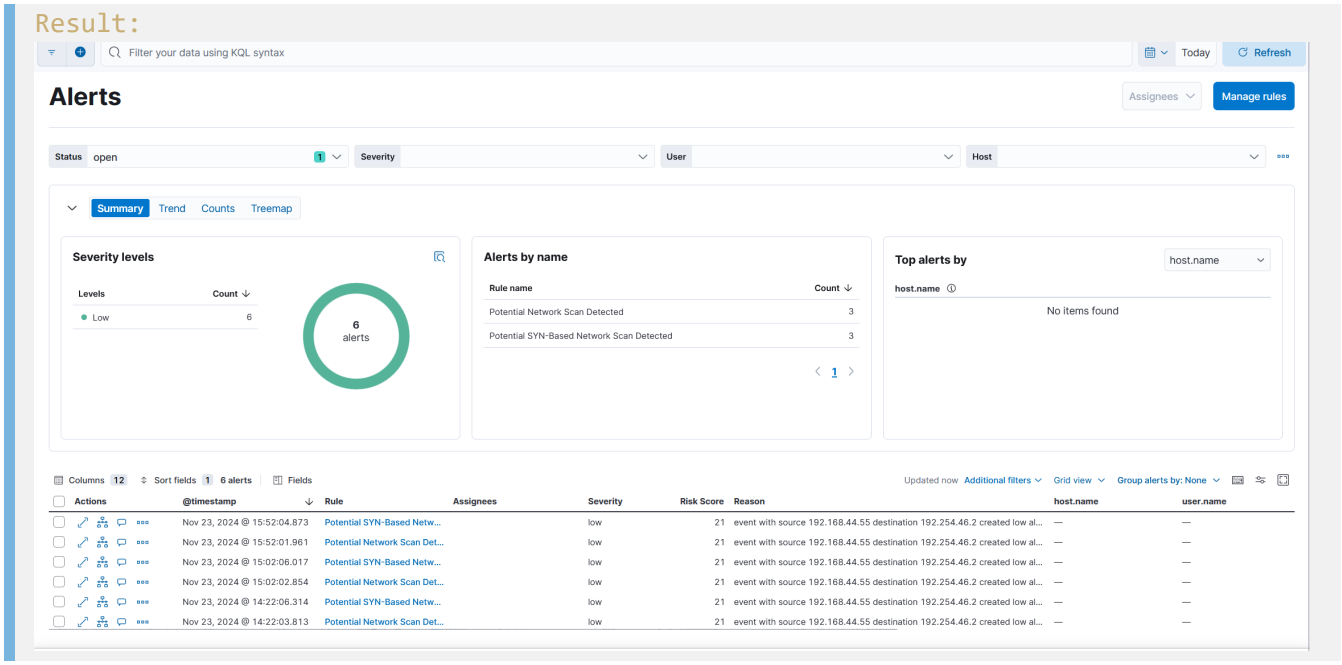

Link to fix: https://www.elastic.co/guide/en/security/current/detections-permissions-section.html .

Install and enable two rule "Potential SYN-Based Network Scan detected" and "Potential Network Scan detected"

Demo by pingint from kali linux vm to an ubuntu server:

```
┌──(satan㉿kali)-[~]
└─$ sudo nmap 192.254.46.2
[sudo] password for satan:
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-11-23 00:47 PST
Nmap scan report for 192.254.46.2
Host is up (0.00087s latency).
Not shown: 999 closed tcp ports (reset)
PORT   STATE SERVICE
22/tcp open  ssh

Nmap done: 1 IP address (1 host up) scanned in 0.25 seconds
```

Result:




There are some necessary command that I have learn:

```
ss -tuln | grep -E ':443|:9001'
```

to check whether those port is opening or not.

edit file: /etc/rsyslog.conf to open collect log at port 9001

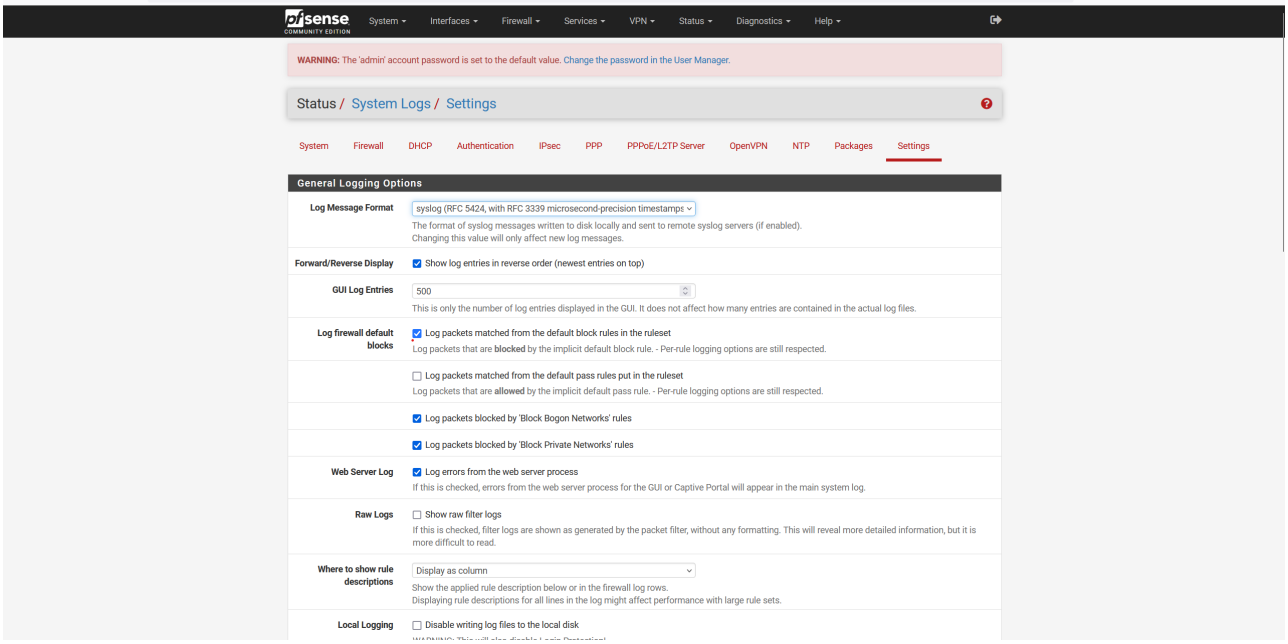
```
#
$WorkDirectory /var/spool/rsyslog

#
# Include all config files in /etc/rsyslog.d/
#
$IncludeConfig /etc/rsyslog.d/*.conf
module(load="imudp")  # Load the UDP module
input(type="imudp" port="9001")  # Listen on UDP port 9001
```

firewall@forwarder:/var/log$ tail -n 10 syslog

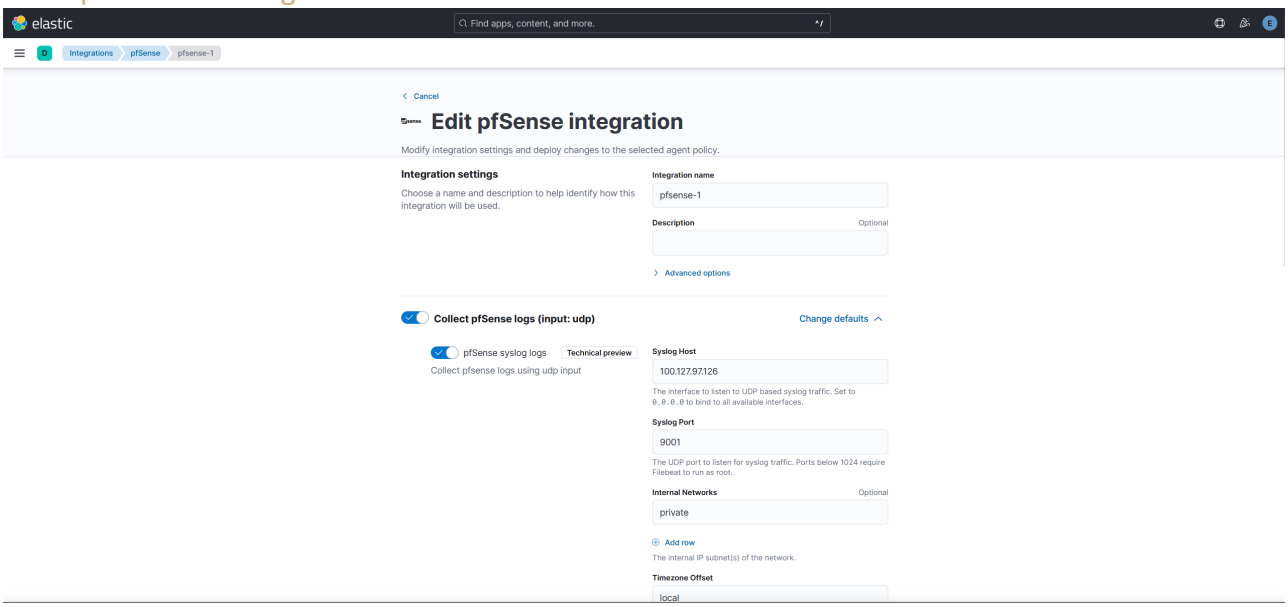
use this to see newest log

# Setup pfsense

1. Install iso disk from the netgate page.
2. Then cofigure vmnet host-only in vmare.
3. The wan interface will receive internet through the real machine. Unable dhcp in all interfaces, we can enable them later.
4. There will be 2 LAN network.
5. From pfsense, send logs to elk.
6. Navigate to Status/System Logs/ Settings.

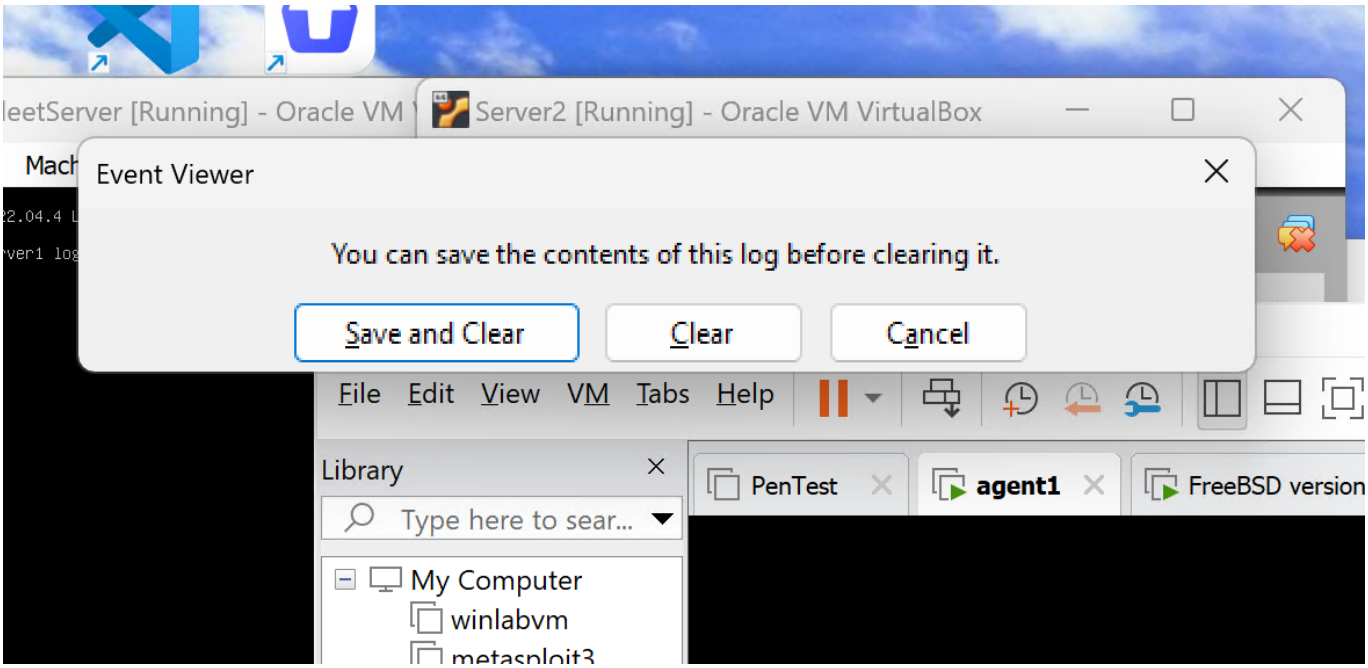



- Change Log message format to syslog.
- Enable send log to remote syslog server
- Enter ip address of remote syslog host and port, here choose another elastic agent as remote syslog server and ports for sending logs are: 443,9001, 5601 and then select send everything.
- Edit pfsense intergration.

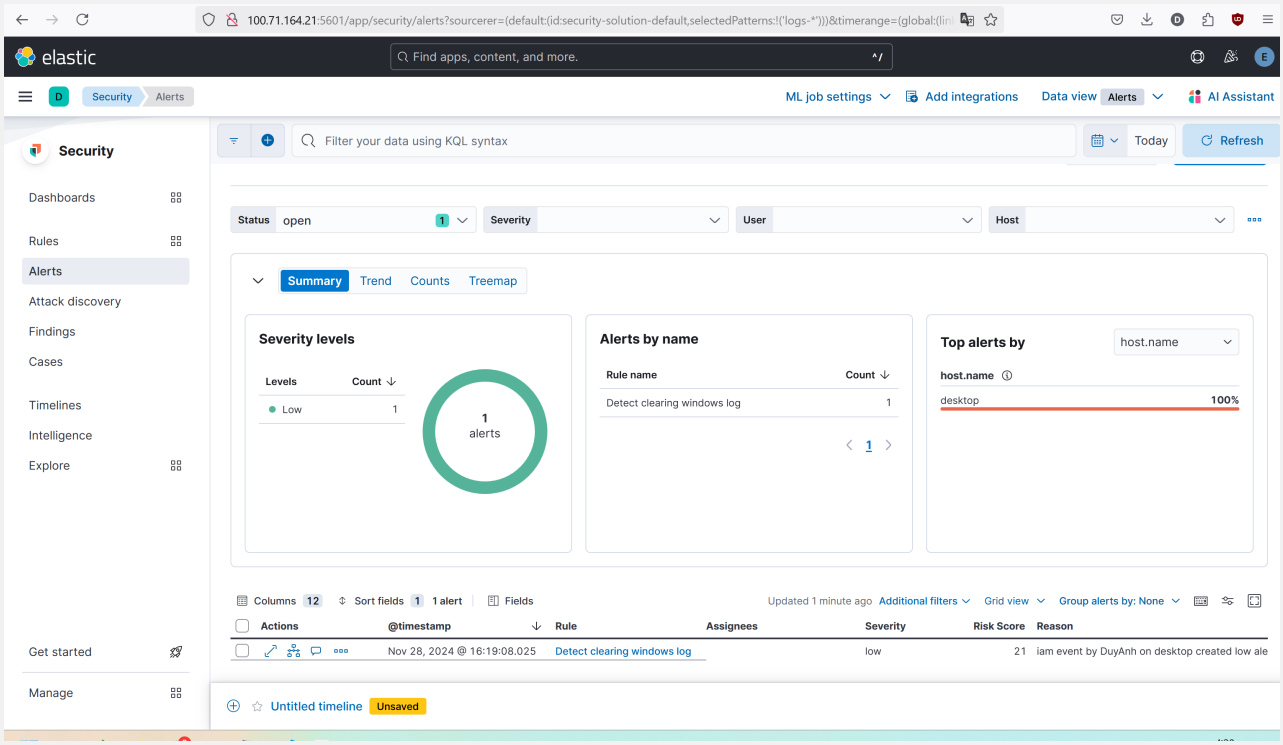



# Rules detection in some usecases

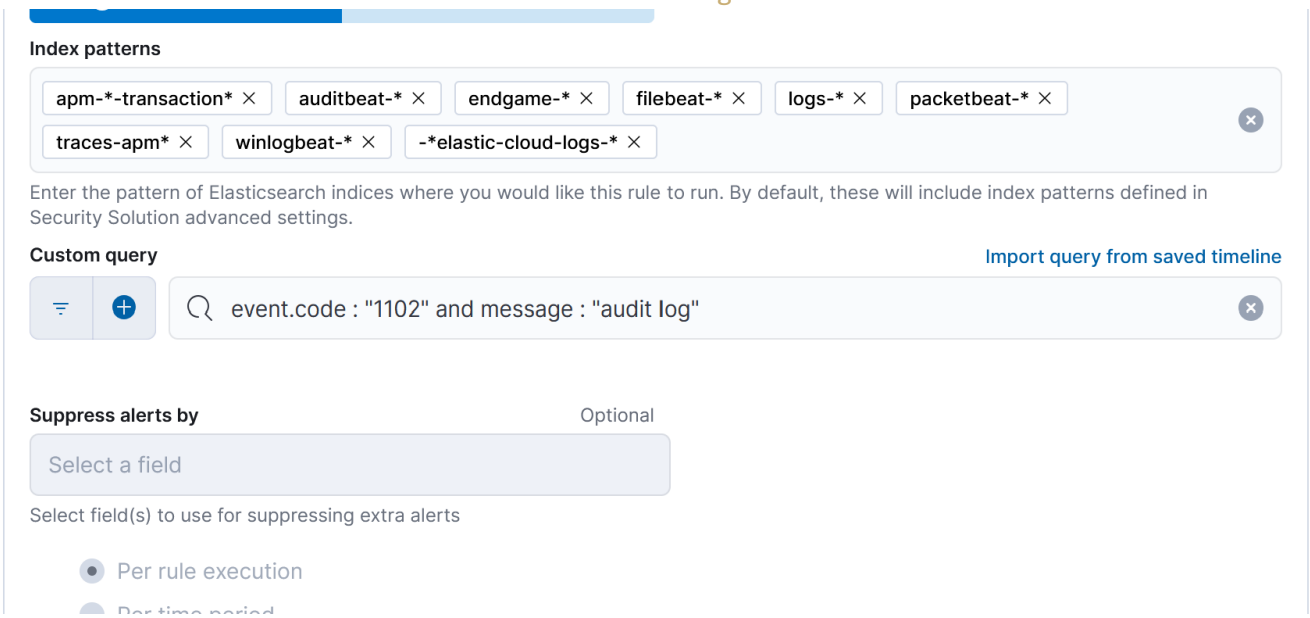
1. Detect clearing Windows log.


Server2 [Running] - Oracle VM VirtualBox
Event Viewer
You can save the contents of this log before clearing it.
Save and Clear
Clear
Cancel
File Edit View VM Tabs Help
Library
Type here to sear...
My Computer
winlabvm
PenTest
agent1
FreeBSD version

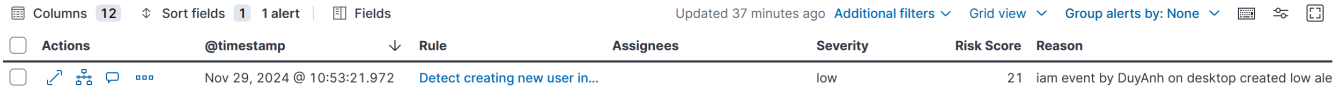
Result:


elastic
Find apps, content, and more.
Security
Alerts
ML job settings
Add integrations
Data view
AI Assistant
Filter your data using KQL syntax
Today
Refresh
Dashboards
Rules
Alerts
Attack discovery
Findings
Cases
Timelines
Intelligence
Explore
Get started
Manage
Status open
Severity
User
Host
Summary
Trend
Counts
Treemap
Severity levels
Levels
Count
Low 1
1 alerts
Alerts by name
Rule name
Count
Detect clearing windows log 1
Top alerts by
host.name
desktop 100%
Columns 12
Sort fields 1 1 alert
Fields
Updated 1 minute ago
Additional filters
Grid view
Group alerts by: None
Actions
@timestamp
Rule
Assignees
Severity
Risk Score
Reason
Nov 28, 2024 @ 16:19:08.025
Detect clearing windows log
low
21
iam event by DuyAnh on desktop created low ale
Untitled timeline
Unsaved

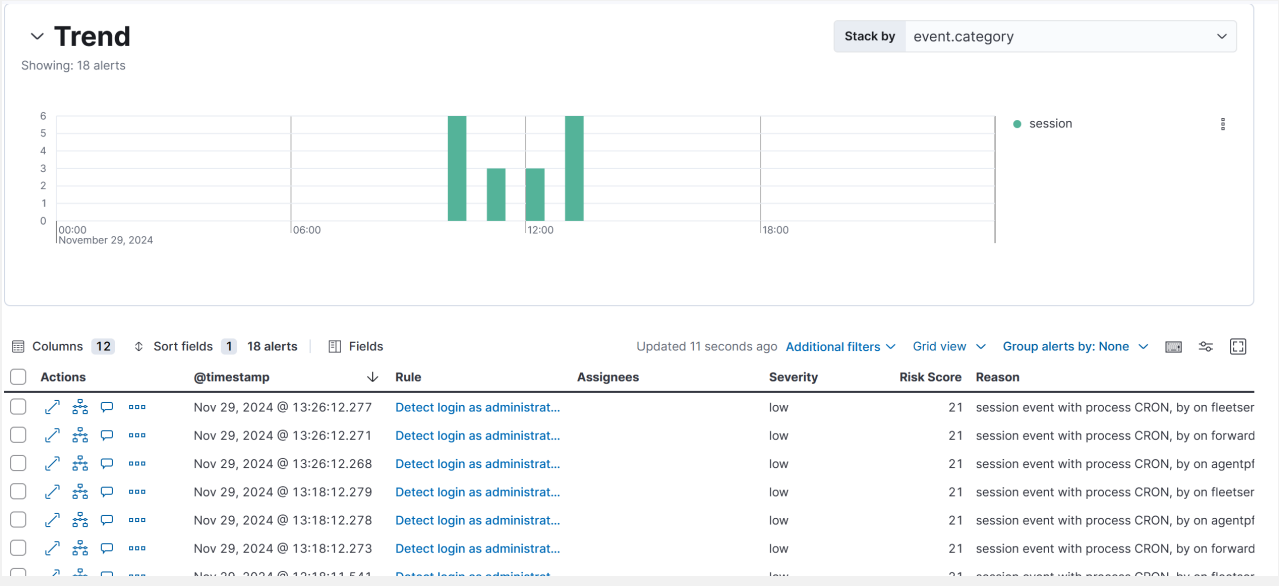
Set the rule so that it will alert when event.log = "1102"




- Detect clearing **Linux** logs. Set the KQL query as: process.name: "rm" and process.args: ("-rf" or "-f" or "/var/log" or "*.log")

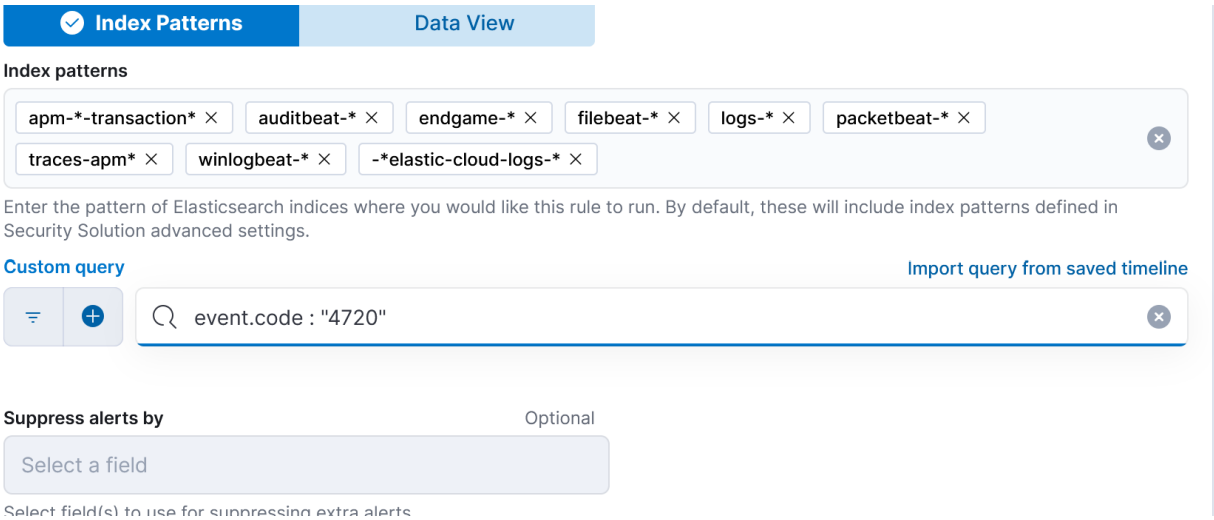



Result:

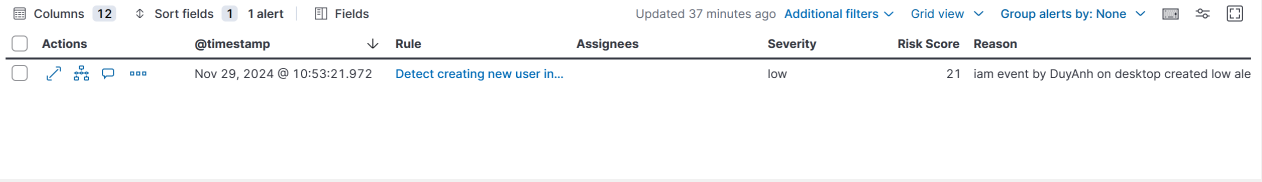



2. Detect adding new user.

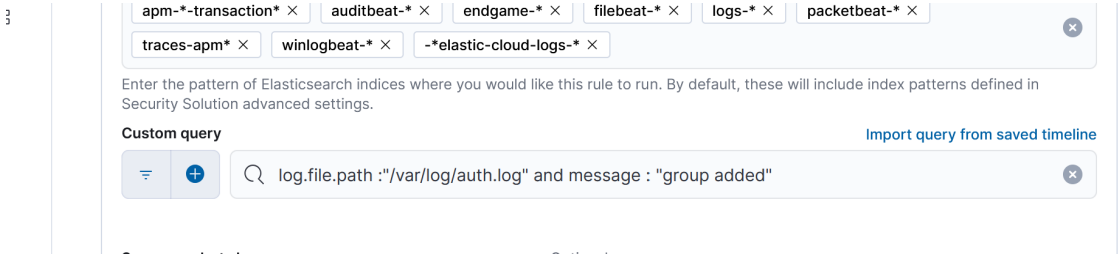
- In Windows. Set rule to detect event ID :




Result:

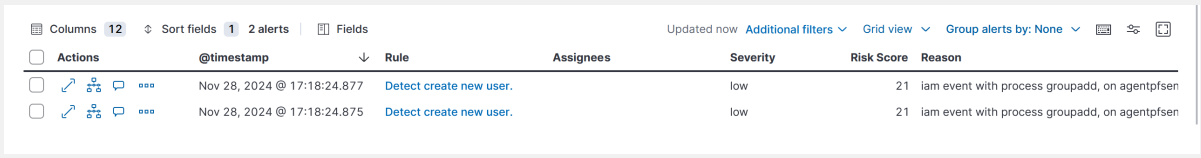



- In Linux.




Set rule to detect log from auth.log file with message : "group added"

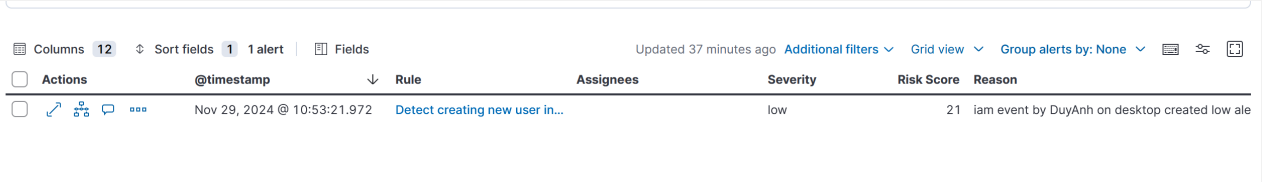
Result:




3. Detect login as administrator.

- In linux
  - Setup the custom query: log.file.path :"/var/log/auth.log" and message : "user root" and message : "opened"

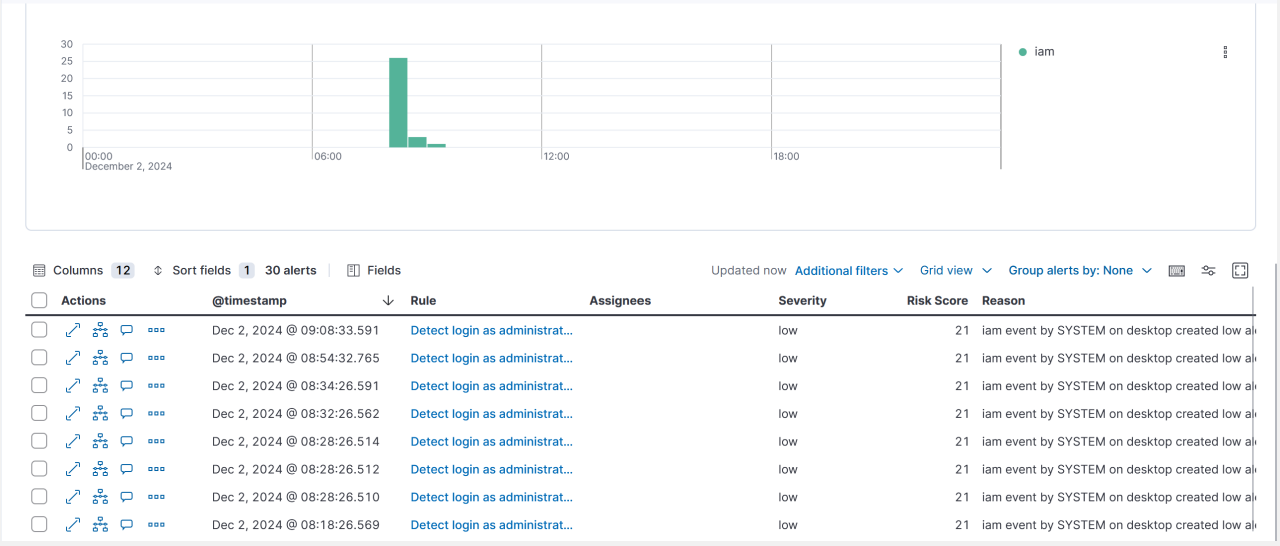
Result:




- In Windows:

- Setup the custom query: event.code : "4672" and message : "Special privileges assigned to new logon"

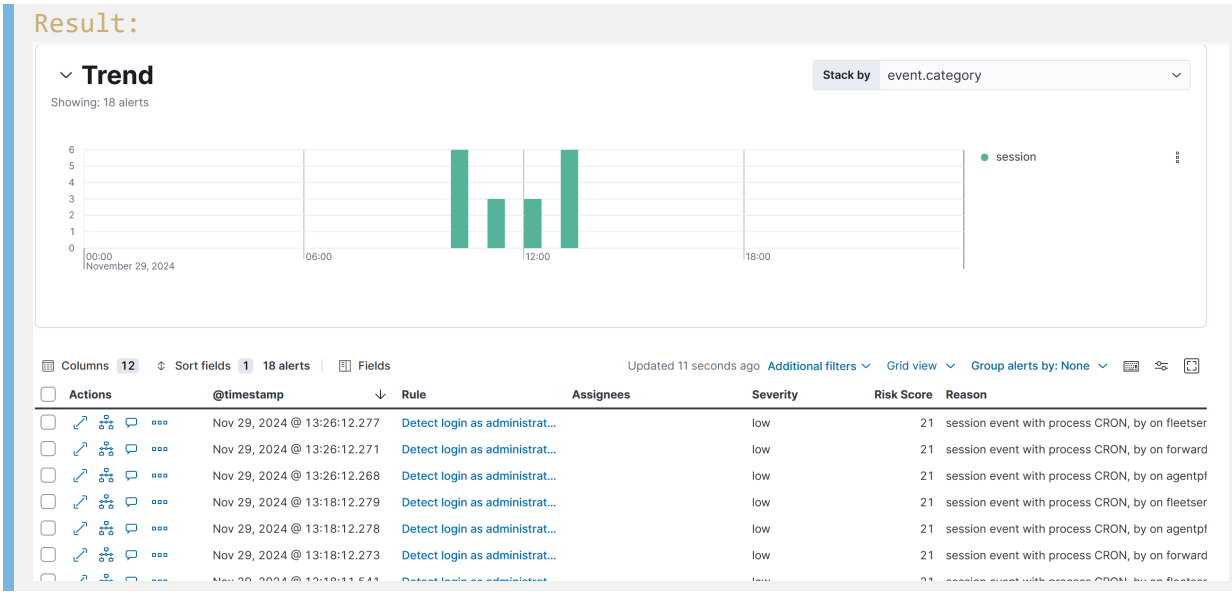
Result:




4. Detect suspicous outbound traffic.

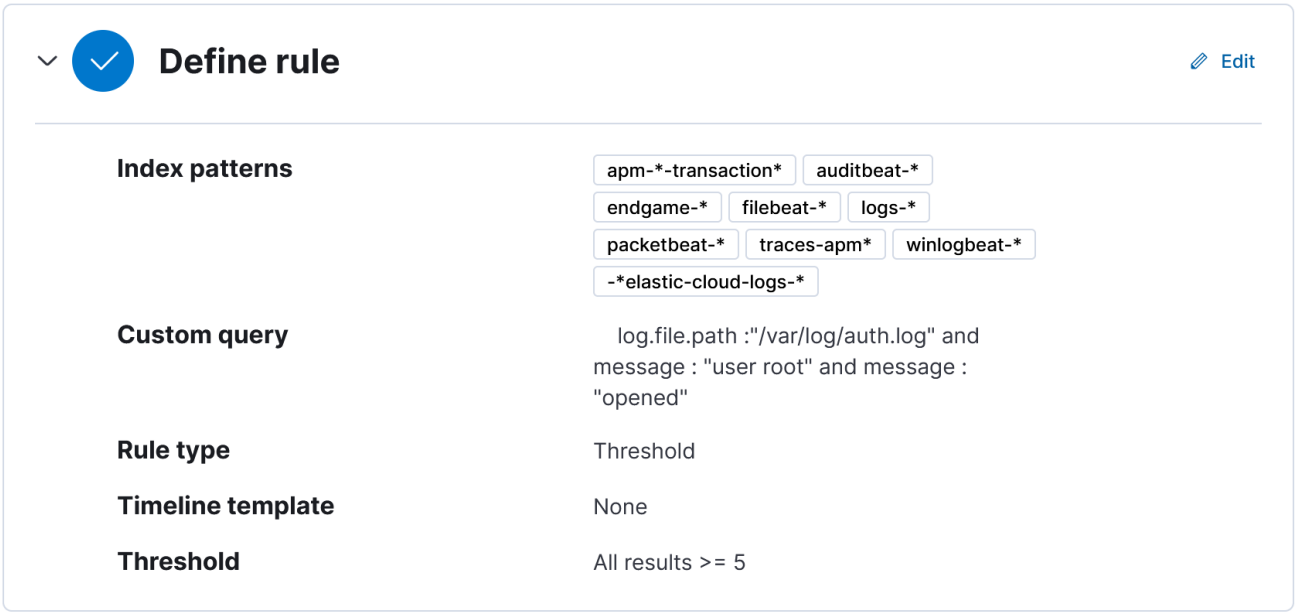
- Setup the custom query: network.protocol :"tls"

Result:




5. Monitor for activities such as brute force by login by malware.

- Set the query: log.file.path :"/var/log/auth.log" and message : "user root" and message : "opened"




This alert will be triggered when there are more than 5 login attemp, here we cannot set during any time period due to lack of license.

## Some good reference.

1. https://discuss.elastic.co/t/new-install-error-setting-certificate-verify-locations/307455
2. https://www.elastic.co/guide/en/elastic-stack/8.13/installing-stack-demo-self.html#install-stack-self-elasticsearch-first
3. PFSENSE - ELASTIC: https://www.elastic.co/docs/current/integrations/pfsense
4.