CYB102 Project 7

(🔗 Instructions Page)

👤 Student Name: Didier Joseph DESMANGLES

✉️ Student Email: djdesmangles@gmail.com

Reflection (Required)

> 🤔 **Reflection Question #1:** If I had to **explain "what is an IOC" in 3 emojis,** they would be...
> (Feel free to put other comments about your experience in this unit here, too!)
>
> IOC in cybersecurity is "Indicator Of Compromise". It is a digital artifact or sign that suggests a potential security breach, malicious activity, or other unwanted behavior in a network or system. They could be unusual IP addresses, unfamiliar file names or hashes on a system, anomalous account activities like unexpected logins or privilege escalations or unusual network traffic patterns.
>
> If I had to explain "IOC" (Indicator of Compromise) in three emojis, they would be:
>
> 🚩🔍💻
>
> - 🚩 Red flag for the alert to something suspicious
> - 🔍 Magnifying glass for investigating it further
> - 💻 Computer to show it's a cyber-related threat

> 🧠**Reflection Question #2:** If you found out that an IP address was reported malicious a year ago, would you still consider it dangerous? Why or why not?
>
> If an IP address was flagged as malicious a year ago, I'd consider it potentially dangerous and approach it cautiously. Here's why:
>
> **IP Reuse and Reassignment:** Many IP addresses get reassigned frequently, especially in cloud environments. This IP might now belong to a different, legitimate entity.
>
> But,
>
> **Persistence of Threats:** Some threat actors maintain control over the same IP addresses for

long periods, particularly if they're using them in advanced, ongoing attack campaigns. In this case, an old report could still be relevant.

Reputation Checks: It's important to check for updated information from threat intelligence sources. If the IP is currently clean, it may have been de-listed or cleared, making it less likely to pose a threat.

Additional Context: Other factors like current network behavior, connection frequency, and whether it's paired with other IOCs could strengthen or weaken its threat profile.

📢 **Shoutouts:** Share appreciation for anyone who helped you out with this project or made your day a little better!

TEAM 17 !!! Israel Melendez !!!

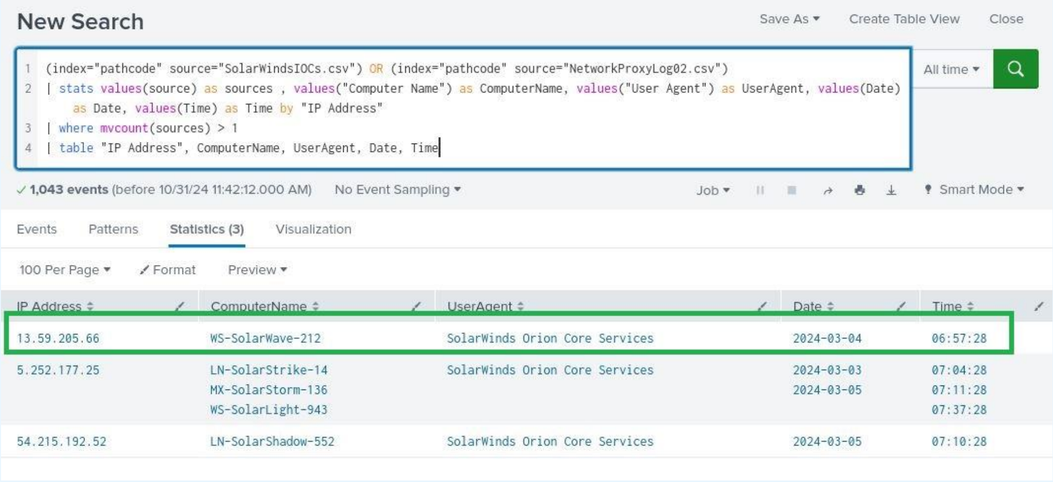
Required Challenges (Required)

Match #1

Steps 1-2.5: General match data from Splunk (see Step 2.5)

Matched IP address:	13.59.205.66
The event date(s) and time(s):	2024-03-04 06:57:28
Affected computer(s):	WS-SolarWave-212

Step 2.5: Screenshot of the match in Splunk

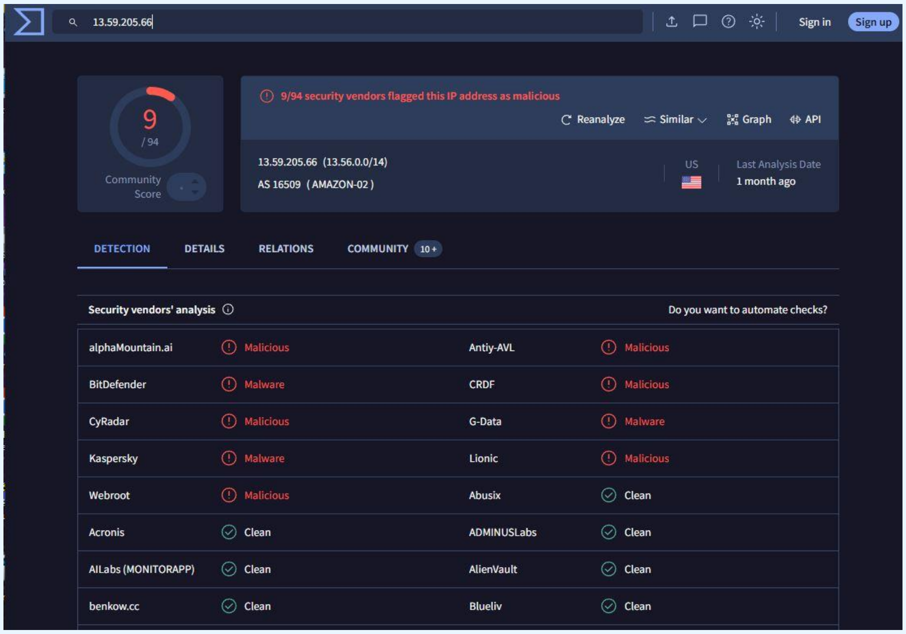


```
(index="pathcode" source="SolarWindsIOCs.csv") OR (index="pathcode" source="NetworkProxyLog02.csv")
| stats values(source) as sources , values("Computer Name") as ComputerName, values("User Agent") as UserAgent, values(Date)
    as Date, values(Time) as Time by "IP Address"
| where mvcount(sources) > 1
| table "IP Address", ComputerName, UserAgent, Date, Time
```

✓ 1,043 events (before 10/31/24 11:42:12.000 AM)

IP Address	ComputerName	UserAgent	Date	Time
13.59.205.66	WS-SolarWave-212	SolarWinds Orion Core Services	2024-03-04	06:57:28
5.252.177.25	LN-SolarStrike-14 MX-SolarStorm-136 WS-SolarLight-943	SolarWinds Orion Core Services	2024-03-03 2024-03-05	07:04:28 07:11:28 07:37:28
54.215.192.52	LN-SolarShadow-552	SolarWinds Orion Core Services	2024-03-05	07:10:28

Step 3: Screenshot of VirusTotal search for the IP listed above



9/94 security vendors flagged this IP address as malicious

13.59.205.66 (13.56.0.0/14)
AS 16509 (AMAZON-02)

US

Last Analysis Date
1 month ago

Security vendors' analysis

Do you want to automate checks?

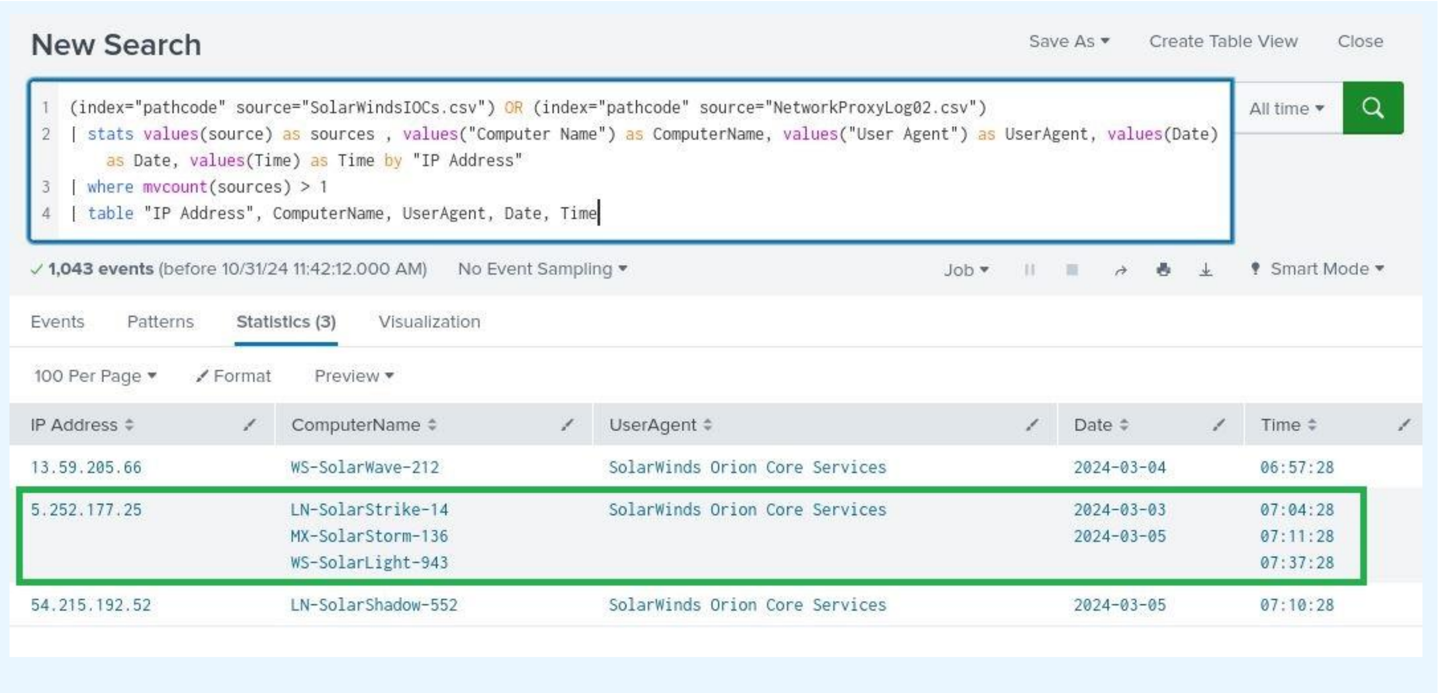
alphaMountain.ai	Malicious	Antiy-AVL	Malicious
BitDefender	Malware	CRDF	Malicious
CyRadar	Malicious	G-Data	Malware
Kaspersky	Malware	Lionic	Malicious
Webroot	Malicious	Abusix	Clean
Acronis	Clean	ADMINUSLabs	Clean
AILabs (MONITORAPP)	Clean	AlienVault	Clean
benkow.cc	Clean	Blueliv	Clean

Match #2

Steps 1-2.5: General match data from Splunk (see Step 2.5)

Matched IP address:	5.252.177.25
The event date(s) and time(s):	2024-03-03 07:04:28 2024-03-05 07:11:28 2024-03-05 07:37:28
Affected computer(s):	LN-SolarStrike-14 MX-SolarStorm-136 WS-SolarLight-943

Step 2.5: Screenshot of the match in Splunk

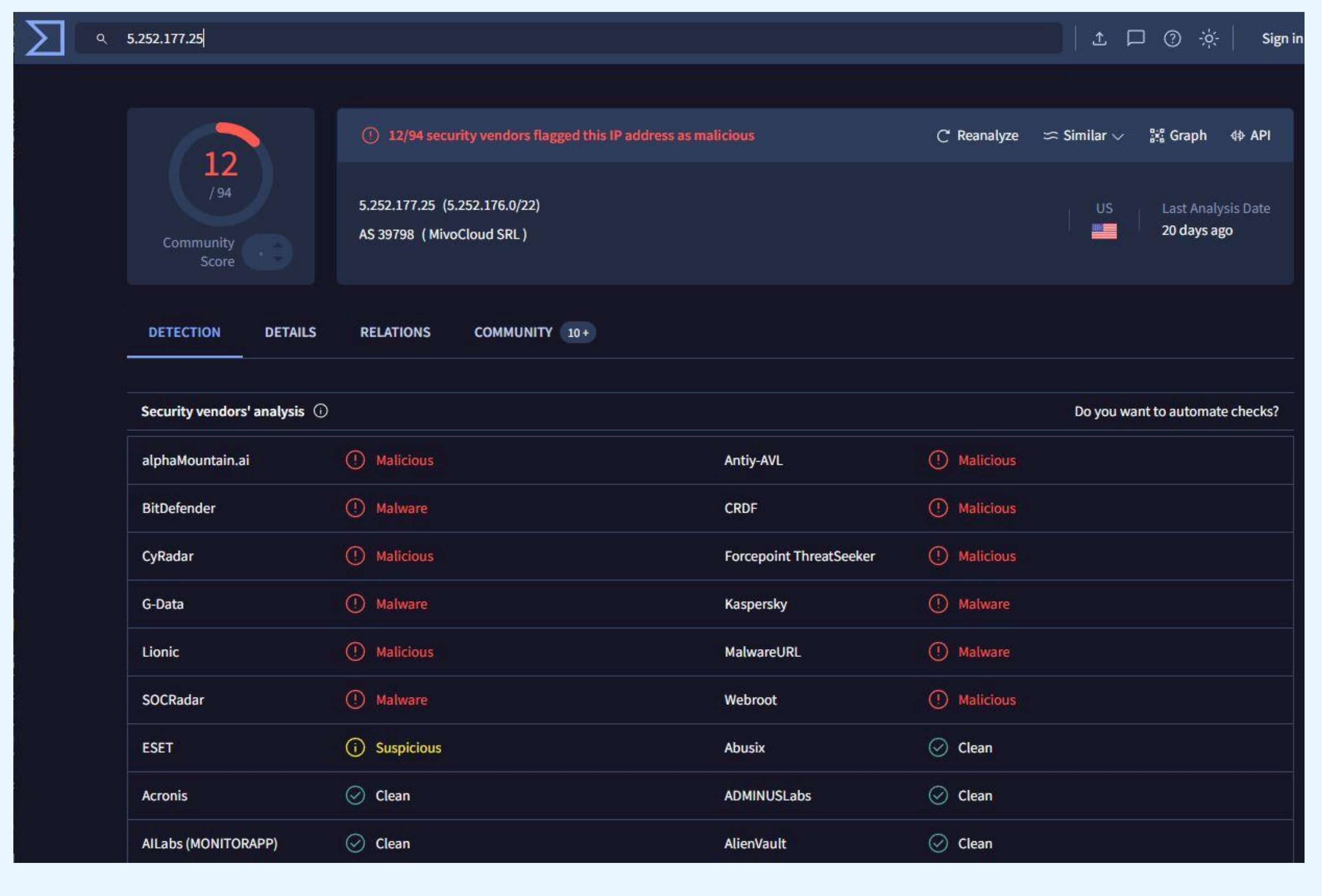


```
(index="pathcode" source="SolarWindsIOCs.csv") OR (index="pathcode" source="NetworkProxyLog02.csv")
| stats values(source) as sources , values("Computer Name") as ComputerName, values("User Agent") as UserAgent, values(Date)
  as Date, values(Time) as Time by "IP Address"
| where mvcount(sources) > 1
| table "IP Address", ComputerName, UserAgent, Date, Time
```

✓ 1,043 events (before 10/31/24 11:42:12.000 AM) No Event Sampling ▾

IP Address	ComputerName	UserAgent	Date	Time
13.59.205.66	WS-SolarWave-212	SolarWinds Orion Core Services	2024-03-04	06:57:28
5.252.177.25	LN-SolarStrike-14 MX-SolarStorm-136 WS-SolarLight-943	SolarWinds Orion Core Services	2024-03-03 2024-03-05	07:04:28 07:11:28 07:37:28
54.215.192.52	LN-SolarShadow-552	SolarWinds Orion Core Services	2024-03-05	07:10:28

Step 3: Screenshot of VirusTotal search for the IP listed above



12/94 security vendors flagged this IP address as malicious

5.252.177.25 (5.252.176.0/22)
AS 39798 (MivoCloud SRL)

US

Last Analysis Date
20 days ago

Security vendors' analysis

alphaMountain.ai	Malicious	Antiy-AVL	Malicious
BitDefender	Malware	CRDF	Malicious
CyRadar	Malicious	Forcepoint ThreatSeeker	Malicious
G-Data	Malware	Kaspersky	Malware
Lionic	Malicious	MalwareURL	Malware
SOCRadar	Malware	Webroot	Malicious
ESET	Suspicious	Abusix	Clean
Acronis	Clean	ADMINUSLabs	Clean
AILabs (MONITORAPP)	Clean	AlienVault	Clean

Steps 1-2.5: General match data from Splunk (see Step 2.5)

If you find a Match #3, enter it in the Stretch Challenge below!

Splunk Dashboard Query

Step 4: Enter the search query used to generate your Splunk Dashboard below

```
(index="pathcode" source="SolarWindsIOCs.csv" earliest=-24h@h) OR (index=index="pathcode" source="NetworkProxyLog02.csv" earliest=-24h@h)

| stats values(source) as sources, values("Computer Name") as ComputerName, values("User Agent") as UserAgent, values(Date) as Date, values(Time) as Time by "IP Address"

| where mvcount(sources) > 1

| table "IP Address", ComputerName, UserAgent, Date, Time
```

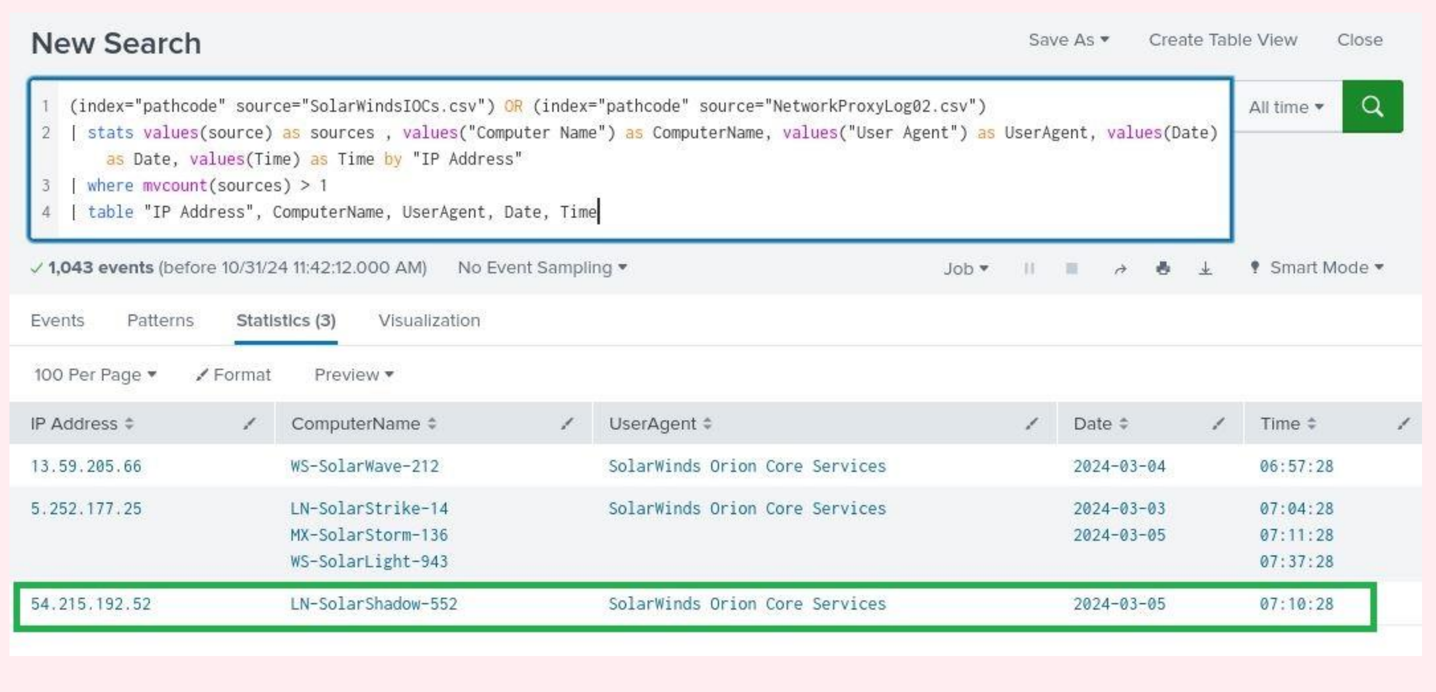
Stretch Challenge (Optional)

Match #3

Steps 1-2.5: General match data from Splunk (see Step 2.5)

Matched IP address:	54.215.192.52
The event date(s) and time(s):	2024-03-05 07:10:28
Affected computer(s):	LN-SolarShadow-552

Step 2.5: Screenshot of the match in Splunk

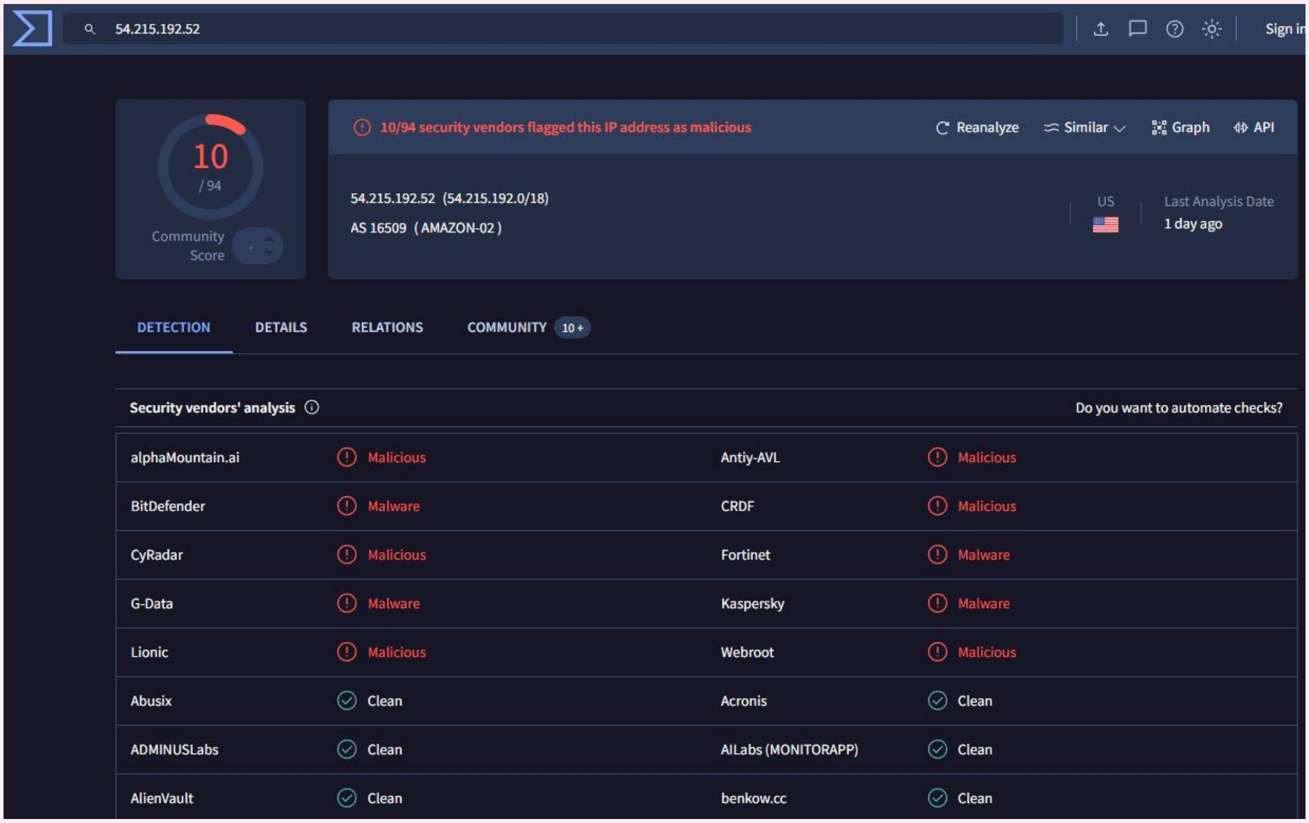


```
(index="pathcode" source="SolarWindsIOCs.csv") OR (index="pathcode" source="NetworkProxyLog02.csv")
| stats values(source) as sources , values("Computer Name") as ComputerName, values("User Agent") as UserAgent, values(Date)
   as Date, values(Time) as Time by "IP Address"
| where mvcount(sources) > 1
| table "IP Address", ComputerName, UserAgent, Date, Time
```

✓ 1,043 events (before 10/31/24 11:42:12.000 AM) No Event Sampling ▾

IP Address	ComputerName	UserAgent	Date	Time
13.59.205.66	WS-SolarWave-212	SolarWinds Orion Core Services	2024-03-04	06:57:28
5.252.177.25	LN-SolarStrike-14 MX-SolarStorm-136 WS-SolarLight-943	SolarWinds Orion Core Services	2024-03-03 2024-03-05	07:04:28 07:11:28 07:37:28
54.215.192.52	LN-SolarShadow-552	SolarWinds Orion Core Services	2024-03-05	07:10:28

Step 3: Screenshot of VirusTotal search for the IP listed above



10/94 security vendors flagged this IP address as malicious

54.215.192.52 (54.215.192.0/18)
AS 16509 (AMAZON-02)

US

Last Analysis Date: 1 day ago

Security vendors' analysis

alphaMountain.ai	Malicious	Antiy-AVL	Malicious
BitDefender	Malware	CRDF	Malicious
CyRadar	Malicious	Fortinet	Malware
G-Data	Malware	Kaspersky	Malware
Lionic	Malicious	Webroot	Malicious
Abusix	✓ Clean	Acronis	✓ Clean
ADMINUSLabs	✓ Clean	AILabs (MONITORAPP)	✓ Clean
AlienVault	✓ Clean	benkow.cc	✓ Clean

Steps 1-2.5: General match data from Splunk (see Step 2.5)

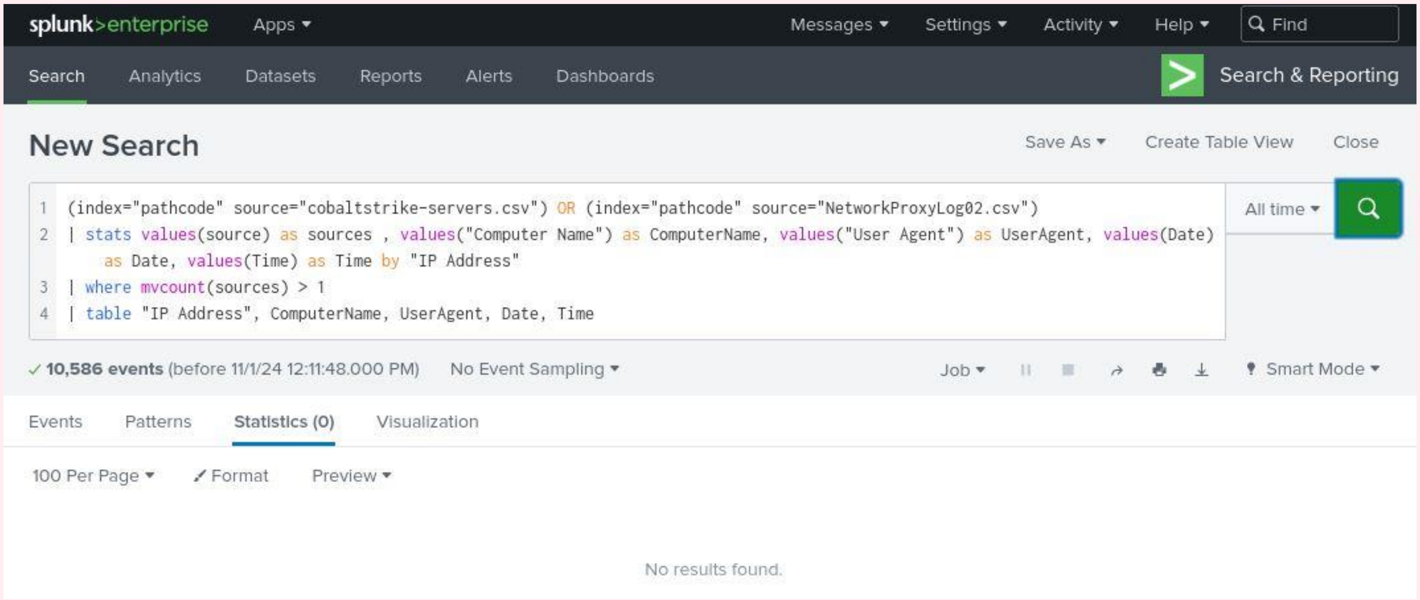
Bonus Task #1

Import a new set of IOC data into Splunk, then search your network data for matches.

A link to the threat source used:

https://github.com/fox-it/cobaltstrike-extraneous-space/blob/master/cobaltstrike-servers.csv

Screenshot(s) of your Splunk search that shows you investigating with the newly imported data:



New Search

```
(index="pathcode" source="cobaltstrike-servers.csv") OR (index="pathcode" source="NetworkProxyLog02.csv")
| stats values(source) as sources , values("Computer Name") as ComputerName, values("User Agent") as UserAgent, values(Date)
   as Date, values(Time) as Time by "IP Address"
| where mvcount(sources) > 1
| table "IP Address", ComputerName, UserAgent, Date, Time
```

✓ 10,586 events (before 11/1/24 12:11:48.000 PM) No Event Sampling ▾

No results found.

A short answer describing your findings: (Even if you didn't find anything, you should explain where you looked and why!)

We use the same method as in “Required Challenge”, which consists in checking that the IPs contained in the IOC file are not present in the “NetworkLog02.csv” file. If the IOC is present, then the system is compromised, as can be seen with the “SolarWinds” file.

In our case, we use the “counterstrike-servers” file, but there's no result.

So the system has not been infected by CounterStrike.

"IP Address" as an IOC (Indicator of Compromise) is relatively common in cybersecurity. IP addresses are often used as IOCs because they can help identify potential threat sources or entities attempting to compromise a network.

Available cvs files regularly present IP Address addresses as IOC. But, in regards of “Reflexion Question #2”, it is important to regularly check the system with updated IOC csv files.

Submission Checklist

👉*Check off each of the features you have completed.* ***You will only be graded on the features you check off.***

Required Challenges

- ~~Match #1~~
- ~~Match #2~~
- ~~Splunk Dashboard Query~~

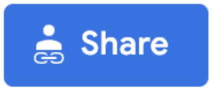
Stretch Challenge

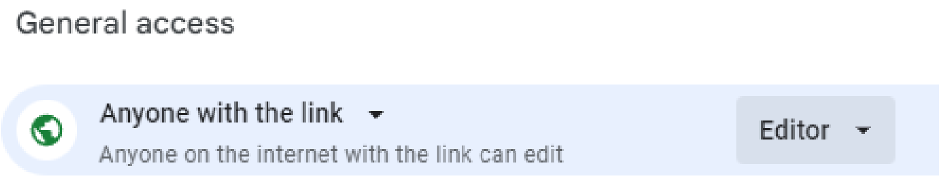
- ~~Match #3~~
- ~~Bonus Task #1~~

💡***Tip: You can see specific grading information, including points breakdown, by going to 🔗 the grading page on the course portal.***

Submit your work!

Step 1: **Click** the Share button at the top of your screen double check that anyone with the link can edit.



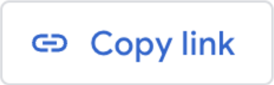

General access

Anyone with the link

Anyone on the internet with the link can edit

Editor

Step 2: **Copy** the link to this document.



Step 3: **Submit** the link on the portal.