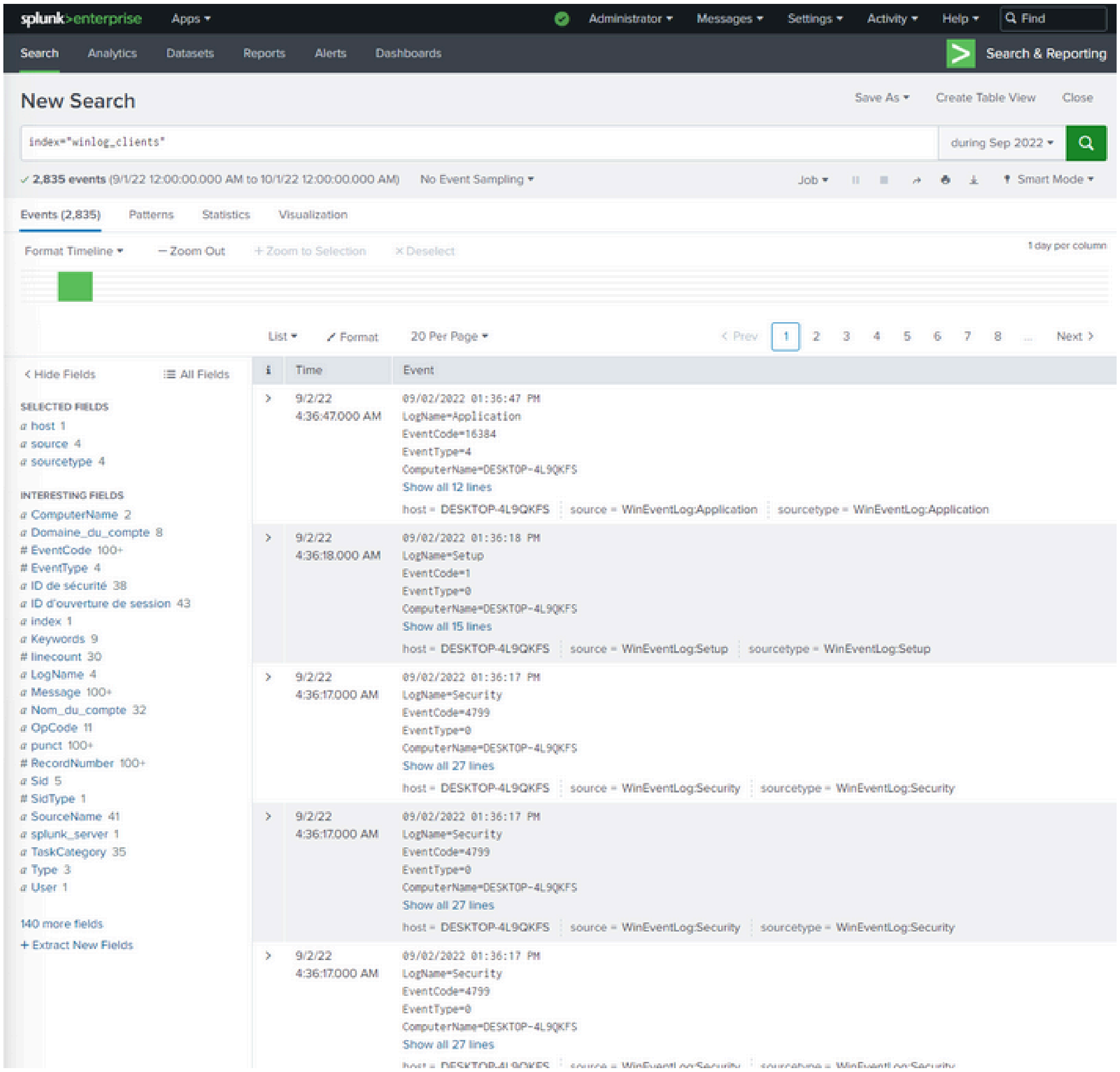
Search on Splunk

By: Ryan Stewart

Let's explore the Search page together and clarify some essential aspects.



New Search

```
index="winlog_clients"
```

during Sep 2022

✓ 2,835 events (9/1/22 12:00:00.000 AM to 10/1/22 12:00:00.000 AM) No Event Sampling

SELECTED FIELDS

- a host 1
- a source 4
- a sourcetype 4

INTERESTING FIELDS

- a ComputerName 2
- a Domaine_du_compte 8
- # EventCode 100+
- # EventType 4
- a ID de sécurité 38
- a ID d'ouverture de session 43
- a index 1
- a Keywords 9
- # linecount 30
- a LogName 4
- a Message 100+
- a Nom_du_compte 32
- a OpCode 11
- a punct 100+
- # RecordNumber 100+
- a Sid 5
- # SidType 1
- a SourceName 41
- a splunk_server 1
- a TaskCategory 35
- a Type 3
- a User 1

140 more fields

+ Extract New Fields

i	Time	Event

>	9/2/22
	4:36:47.000 AM
		09/02/2022 01:36:47 PM
		LogName=Application
		EventCode=16384
		EventType=4
		ComputerName=DESKTOP-4L9QKFS
		Show all 12 lines
		host = DESKTOP-4L9QKFS source = WinEventLog:Application sourcetype = WinEventLog:Application

>	9/2/22
	4:36:18.000 AM
		09/02/2022 01:36:18 PM
		LogName=Setup
		EventCode=1
		EventType=0
		ComputerName=DESKTOP-4L9QKFS
		Show all 15 lines
		host = DESKTOP-4L9QKFS source = WinEventLog:Setup sourcetype = WinEventLog:Setup

>	9/2/22
	4:36:17.000 AM
		09/02/2022 01:36:17 PM
		LogName=Security
		EventCode=4799
		EventType=0
		ComputerName=DESKTOP-4L9QKFS
		Show all 27 lines
		host = DESKTOP-4L9QKFS source = WinEventLog:Security sourcetype = WinEventLog:Security

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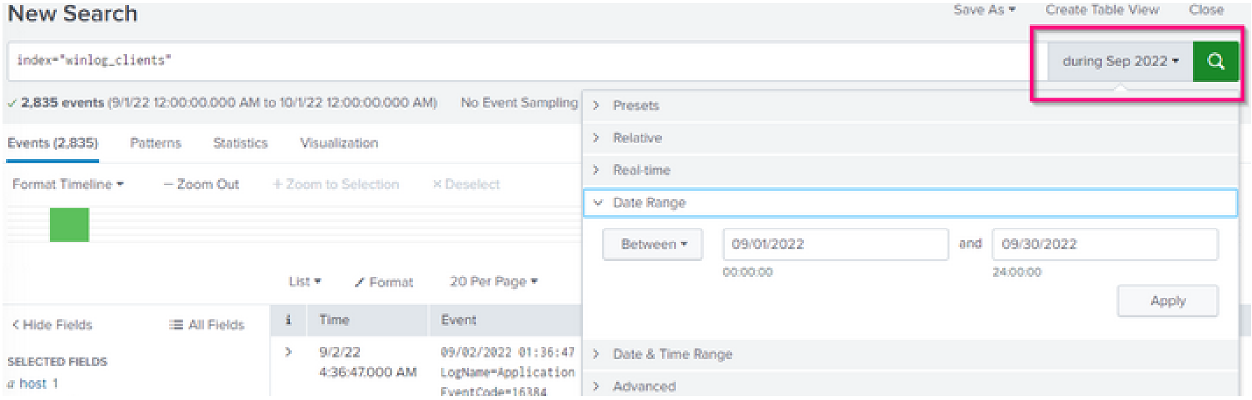
Traps and Tips:

- Field names are case-sensitive.
- Field values are not case-sensitive.
- The wildcard character "*" is available for use.
- Operators such as AND, OR, and NOT can be utilized.

Date Selection:

The first step is selecting the data range. You have various options:
- Presets (today, last week, last year, last 24 hours, etc.).
- Relative (beginning of the hour, X minutes ago, X weeks ago, etc.).
- Real-time.
- Date range (between 00:00 DD/MM/YYYY and 24:00 DD/MM/YYYY).
- Date & time range (same but with the option to choose an hour).



New Search

```
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```

during Sep 2022

✓ 2,835 events (9/1/22 12:00:00.000 AM to 10/1/22 12:00:00.000 AM) No Event Sampling

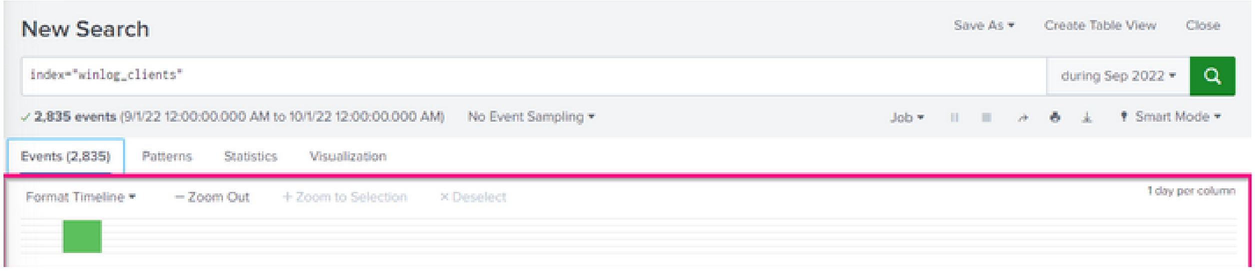
Date Range: Between 09/01/2022 00:00:00 and 09/30/2022 24:00:00

i	Time	Event

>	9/2/22
	4:36:47.000 AM
		09/02/2022 01:36:47
		LogName=Application
		EventCode=16384

Timeline:

Upon conducting a search, Splunk displays a Timeline.



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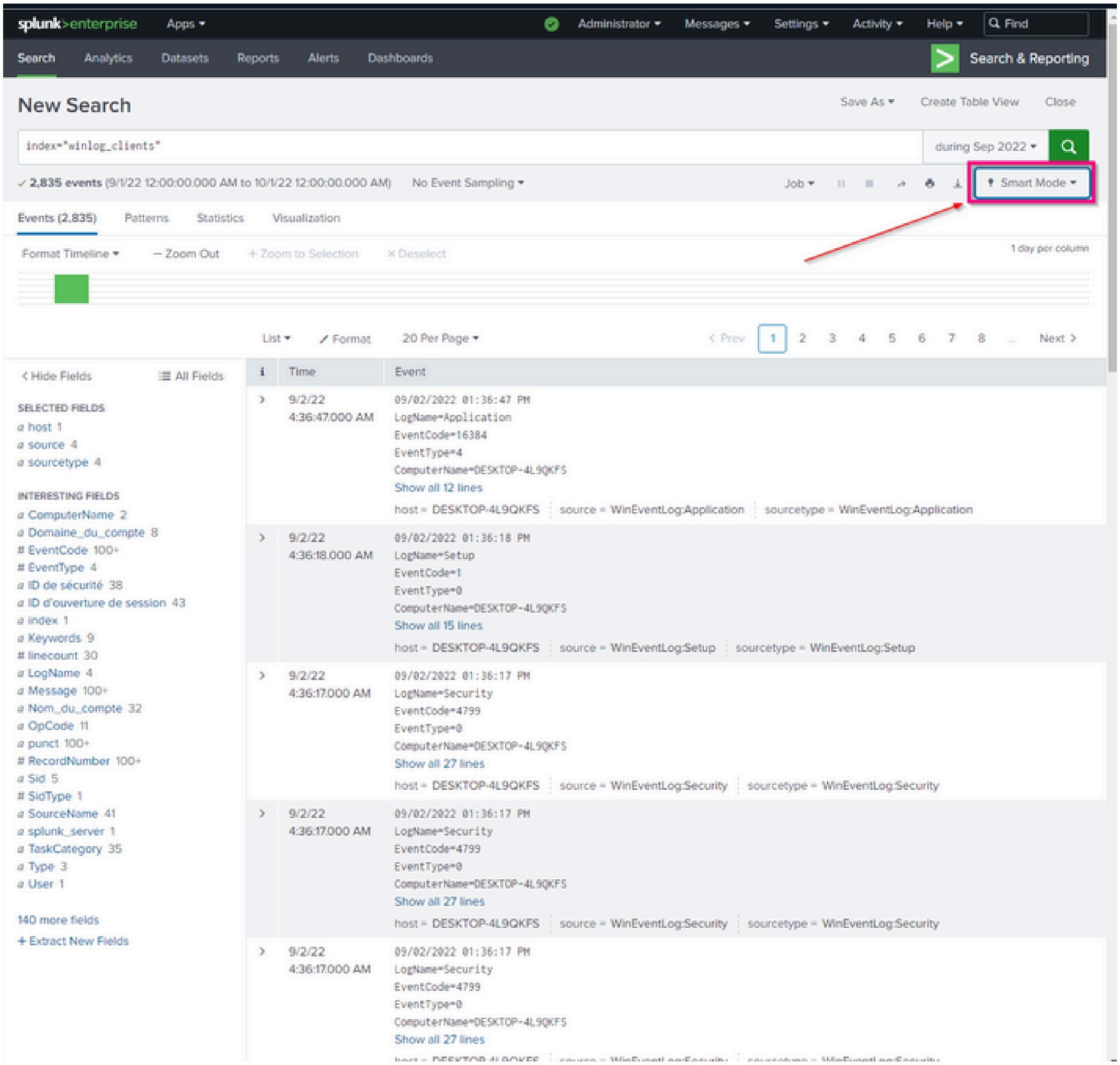
Search Mode:

There are three modes, with Smart Mode being the most frequently used.



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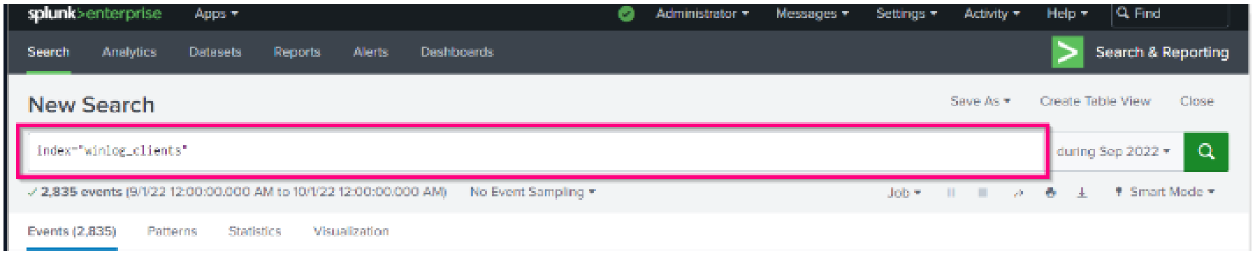
		ComputerName=DESKTOP-4L9QKFS
		Show all 27 lines

Search Bar:

This is where you formulate your requests. As mentioned earlier, utilize the wildcard character ("*") and operators. Examples include:

- Search for a username with "Je" in it: "Username=Je*"
- Search for connections on the computer named computer1: "eventid=4624 AND computername=computer1"
- Search for every connection on the computer except the domain controller: "eventid=4624 NOT computername=domaincontroller"
- Utilize "Search History."



New Search

```
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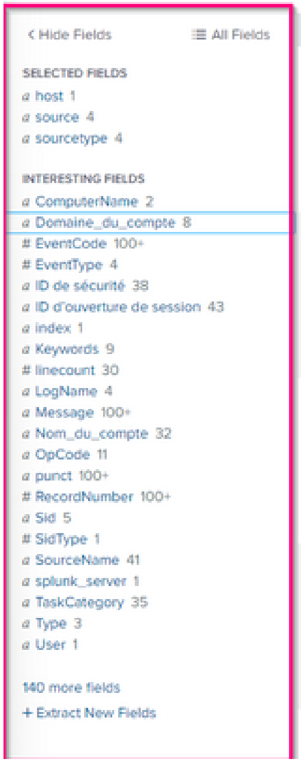
Fields:

Fields are listed on the left, providing information about each field in your search. Select a field to view details.



SELECTED FIELDS

a	host	1
a	source	4
a	sourcetype	4

INTERESTING FIELDS

a	ComputerName	2
a	Domaine_du_compte	8
#	EventCode	100+
#	EventType	4
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a	ID d'ouverture de session	43
a	index	1
a	Keywords	9
#	linecount	30
a	LogName	4
a	Message	100+
a	Nom_du_compte	32
a	OpCode	11
a	punct	100+
#	RecordNumber	100+
a	Sid	5
#	SidType	1
a	SourceName	41
a	splunk_server	1
a	TaskCategory	35
a	Type	3
a	User	1

140 more fields

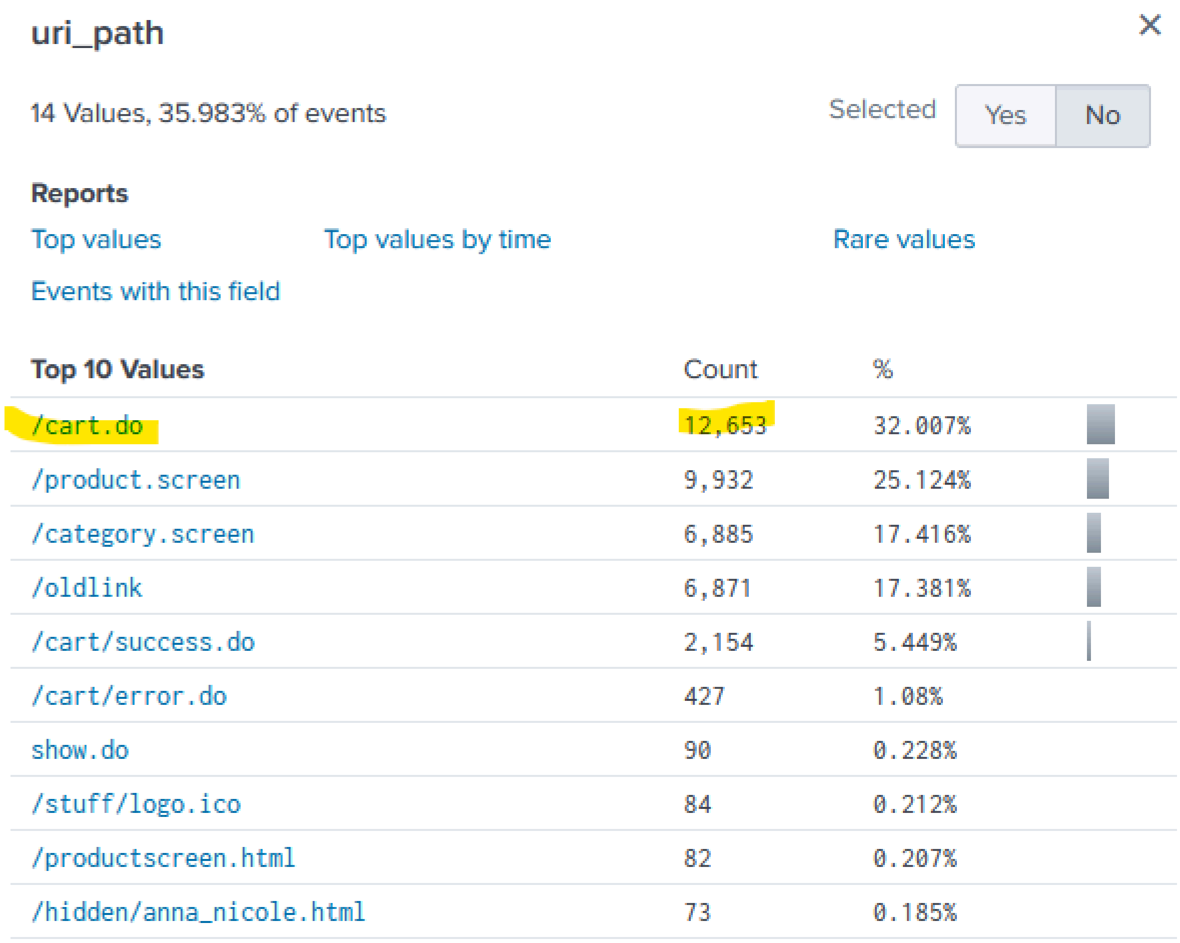
+ Extract New Fields

Save As:

In this menu, you can opt to save your request as a report, alert, or dashboard.

Quiz Questions

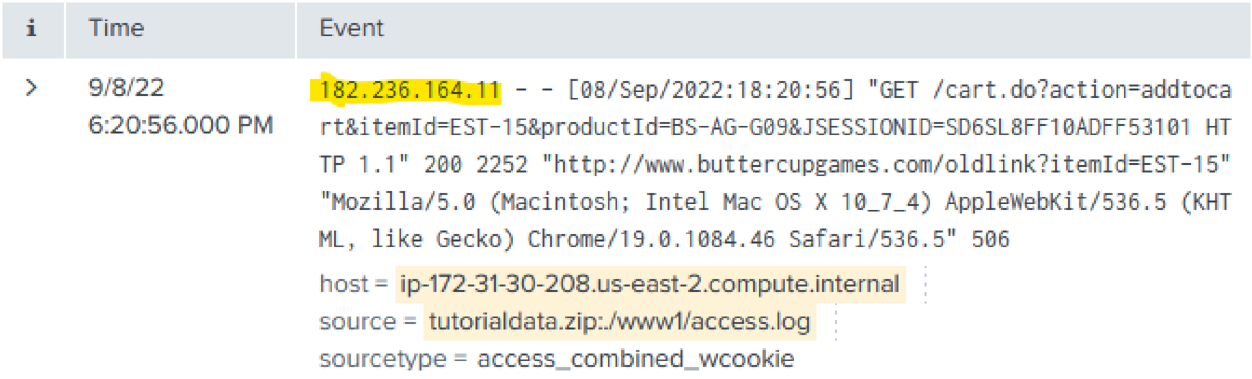
1. Path with the highest number of web requests from the client IP address "128.241.220.82":



uri_path

14 Values, 35.983% of events

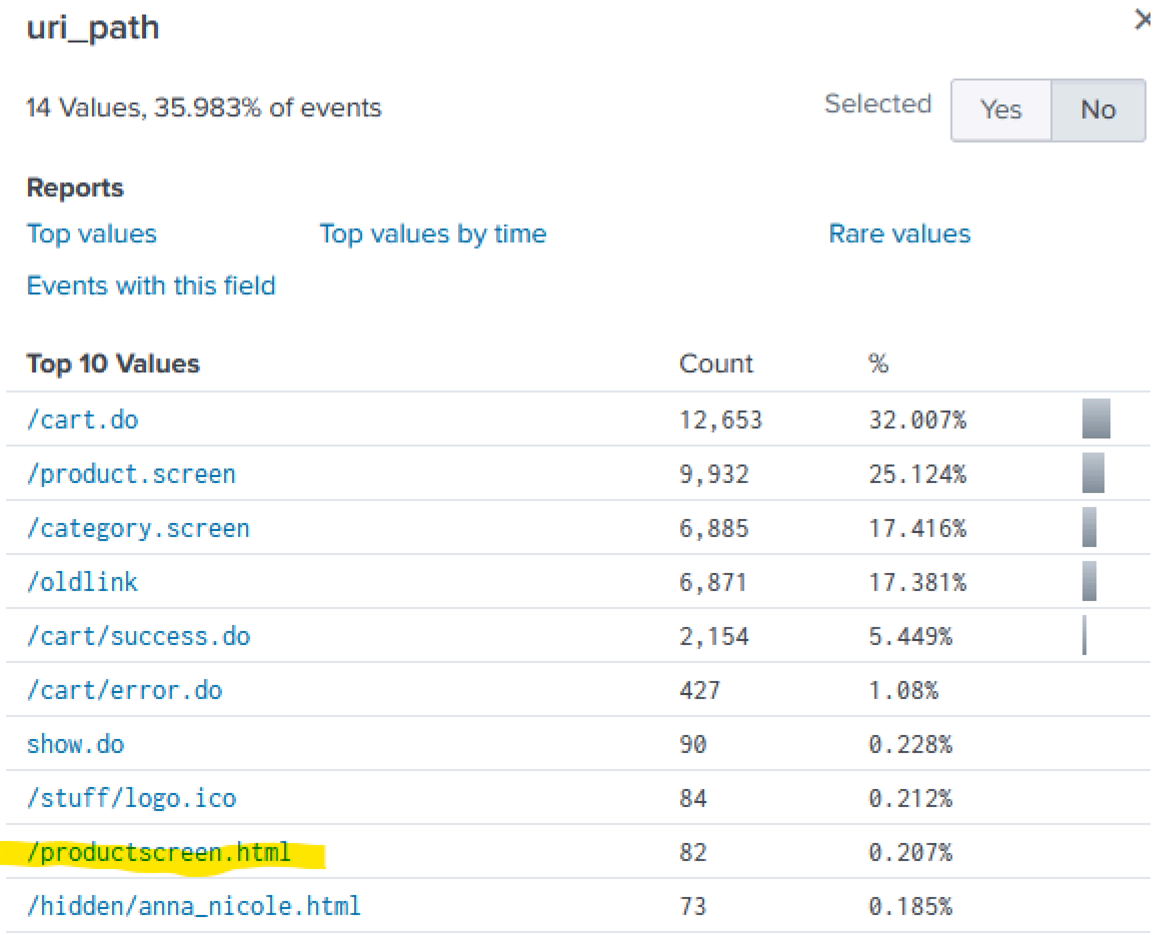
Top 10 Values	Count	%
/cart.do	12,653	32.007%
/product.screen	9,932	25.124%
/category.screen	6,885	17.416%
/oldlink	6,871	17.381%
/cart/success.do	2,154	5.449%
/cart/error.do	427	1.08%
show.do	90	0.228%
/stuff/logo.ico	84	0.212%
/productscreen.html	82	0.207%
/hidden/anna_nicole.html	73	0.185%



i	Time	Event

>	9/8/22
	6:20:56.000 PM
		182.236.164.11 - - [08/Sep/2022:18:20:56] "GET /cart.do?action=addtocart&itemId=EST-15&productId=BS-AG-G09&JSESSIONID=SD6SL8FF10ADFF53101 HTTP 1.1" 200 2252 "http://www.buttercupgames.com/oldlink?itemId=EST-15" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_7_4) AppleWebKit/536.5 (KHTML, like Gecko) Chrome/19.0.1084.46 Safari/536.5" 506
		host = ip-172-31-30-208.us-east-2.compute.internal
		source = tutorialdata.zip:./www1/access.log
		sourcetype = access_combined_wcookie

2. Number of unique client IP addresses requesting the "/productscreen.html" path:**



uri_path

14 Values, 35.983% of events

Selected Yes [✓ No]

Reports

Top values

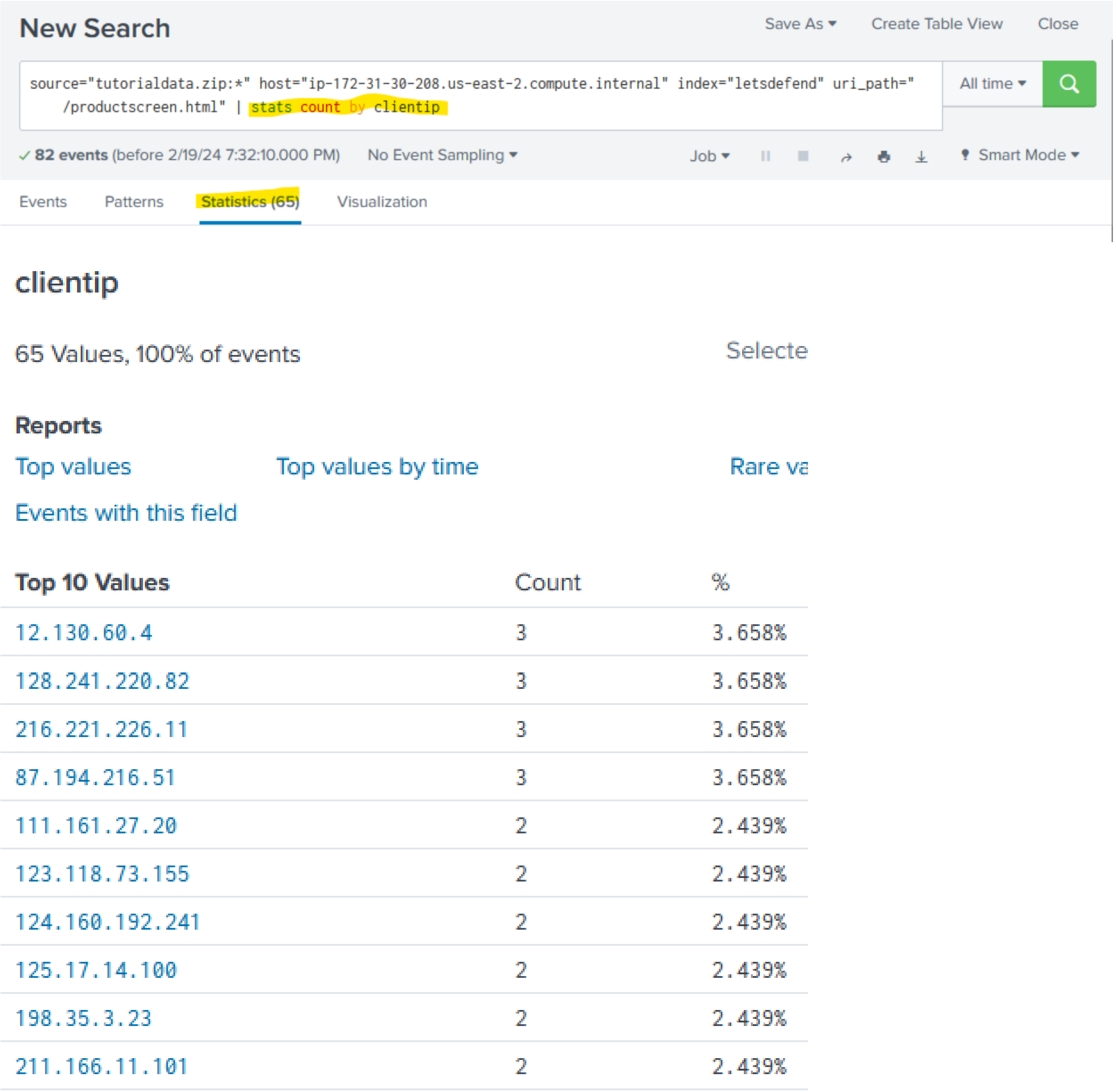
Top values by time

Rare values

Events with this field

Top 10 Values	Count	%
/cart.do	12,653	32.007%
/product.screen	9,932	25.124%
/category.screen	6,885	17.416%
/oldlink	6,871	17.381%
/cart/success.do	2,154	5.449%
/cart/error.do	427	1.08%
show.do	90	0.228%
/stuff/logo.ico	84	0.212%
/productscreen.html	82	0.207%
/hidden/anna_nicole.html	73	0.185%

In Splunk, I'll use the `stats` command along with the `count` function to find the count of unique IP addresses. According to the source data the IP addresses are stored in a field named `clientip`, the search command would look like this:



```
source="tutorialdata.zip:*" host="ip-172-31-30-208.us-east-2.compute.internal" index="letsdefend" uri_path="
    /productscreen.html" | stats count by clientip
```

✓ 82 events (before 2/19/24 7:32:10.000 PM)

clientip

65 Values, 100% of events

Selecte

Reports

Top values Top values by time Rare va

Events with this field

Top 10 Values	Count	%
12.130.60.4	3	3.658%
128.241.220.82	3	3.658%
216.221.226.11	3	3.658%
87.194.216.51	3	3.658%
111.161.27.20	2	2.439%
123.118.73.155	2	2.439%
124.160.192.241	2	2.439%
125.17.14.100	2	2.439%
198.35.3.23	2	2.439%
211.166.11.101	2	2.439%