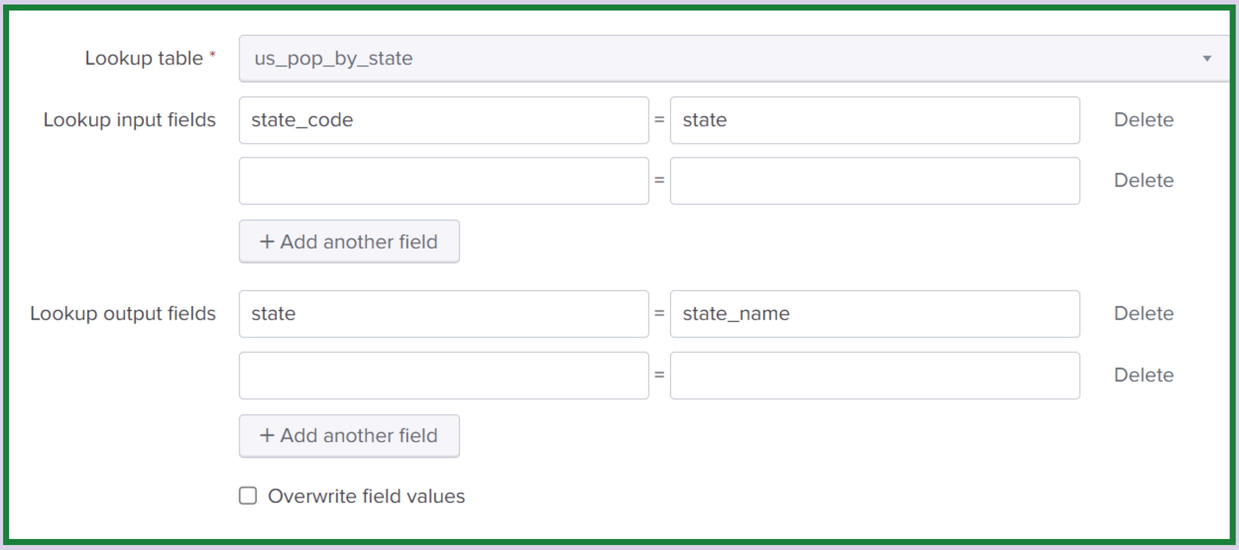
Steps

I. Created an index: shooting

II. Added data, uploaded washingtoon_shooting file (host="local"). This csv file is available here: https://www.kaggle.com/datasets/aquibahmad7/police-shootings-in-the-united-states-2015-2024

III. Created an eventtype ("washington_shootings") with the main search string: source="2024-07-23-washington-post-police-shootings-export.csv" host="local" index="shooting"

IV. This csv contains state code, not the state name (for ex: AK for Alaska, AL for Alabama), so I'll use a lookup file to include state name to the index for a better understanding. This file is avaialble at: https://www.kaggle.com/datasets/alexandrepetit881234/us-population-by-state



Lookup table * us_pop_by_state

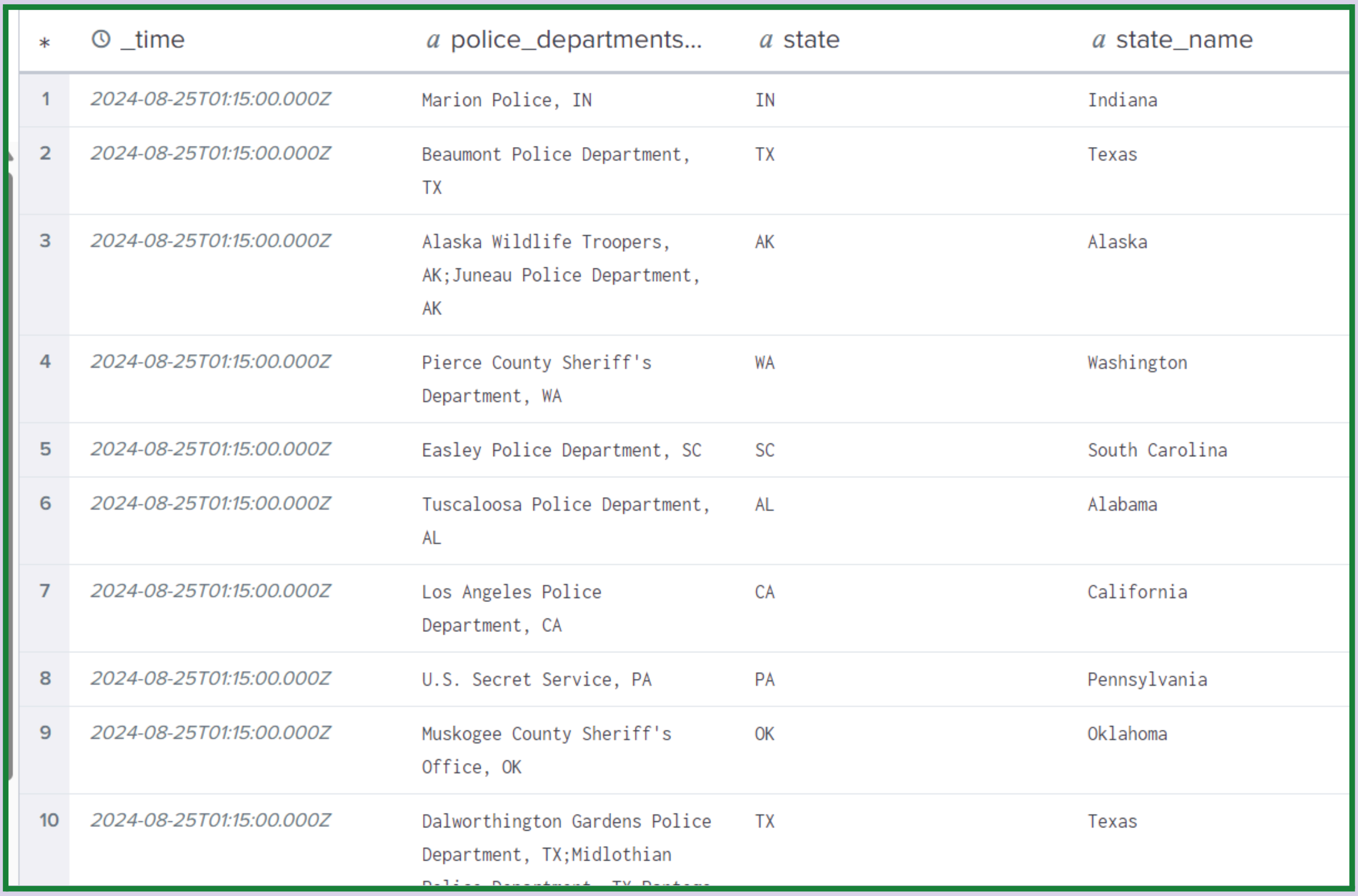
Lookup input fields state_code = state

Lookup output fields state = state_name

☐ Overwrite field values

Fig 1: Automatic lookup

As a result of using lookup table, state_name appears in the search result. SPL: eventtype="washington_shootings"

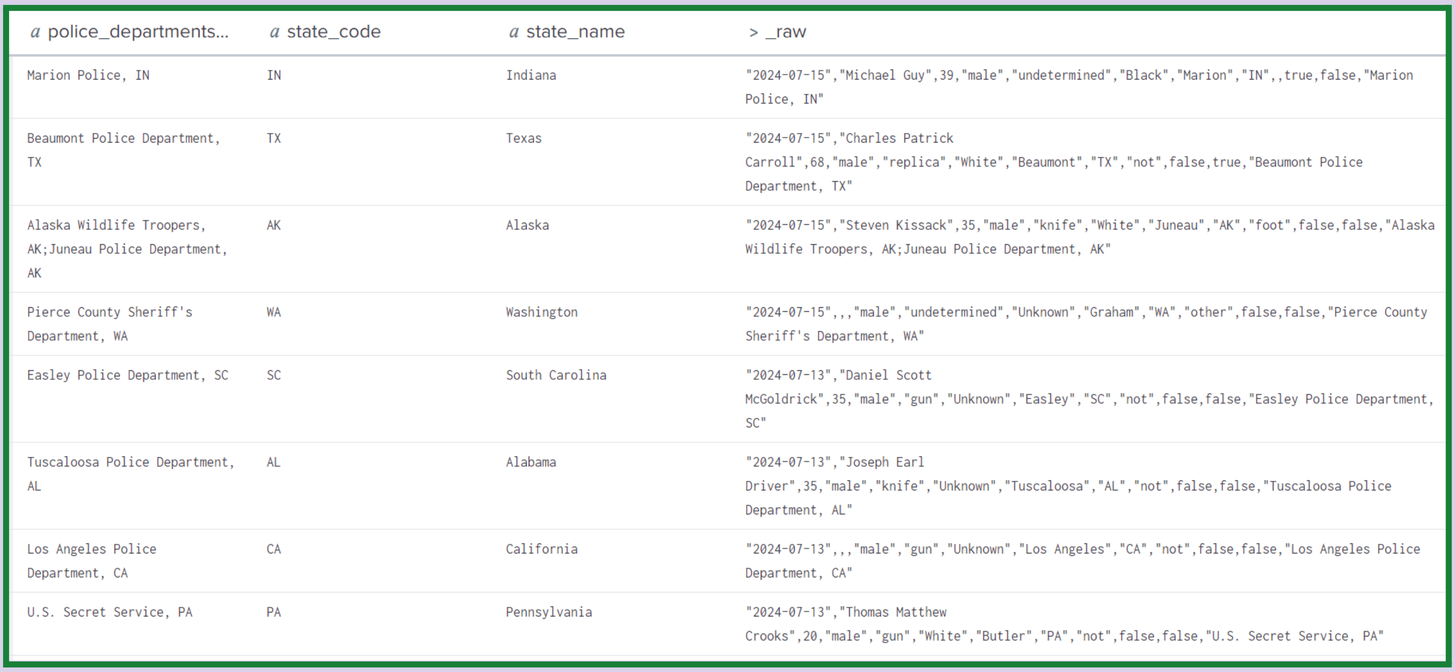


*	_time	police_departments...	state	state_name
1	2024-08-25T01:15:00.000Z	Marion Police, IN	IN	Indiana
2	2024-08-25T01:15:00.000Z	Beaumont Police Department, TX	TX	Texas
3	2024-08-25T01:15:00.000Z	Alaska Wildlife Troopers, AK;Juneau Police Department, AK	AK	Alaska
4	2024-08-25T01:15:00.000Z	Pierce County Sheriff's Department, WA	WA	Washington
5	2024-08-25T01:15:00.000Z	Easley Police Department, SC	SC	South Carolina
6	2024-08-25T01:15:00.000Z	Tuscaloosa Police Department, AL	AL	Alabama
7	2024-08-25T01:15:00.000Z	Los Angeles Police Department, CA	CA	California
8	2024-08-25T01:15:00.000Z	U.S. Secret Service, PA	PA	Pennsylvania
9	2024-08-25T01:15:00.000Z	Muskogee County Sheriff's Office, OK	OK	Oklahoma
10	2024-08-25T01:15:00.000Z	Dalworthington Gardens Police Department, TX;Midlothian	TX	Texas

Fig 2: A fraction of events, stating only a few fields (this is a table view)

Automatic lookup will add the state_name field to events if a field in the produced events matches with the state_code field in the lookup table.

V. Still, I'm unhappy and going to change from state to state_code using rename function. SPL: eventtype="washington_shootings" | rename state as state_code



police_departments...	state_code	state_name	> _raw
Marion Police, IN	IN	Indiana	"2024-07-15","Michael Guy",39,"male","undetermined","Black","Marion","IN",,true,false,"Marion Police, IN"
Beaumont Police Department, TX	TX	Texas	"2024-07-15","Charles Patrick Carroll",68,"male","replica","White","Beaumont","TX","not",false,true,"Beaumont Police Department, TX"
Alaska Wildlife Troopers, AK;Juneau Police Department, AK	AK	Alaska	"2024-07-15","Steven Kissack",35,"male","knife","White","Juneau","AK","foot",false,false,"Alaska Wildlife Troopers, AK;Juneau Police Department, AK"
Pierce County Sheriff's Department, WA	WA	Washington	"2024-07-15",,,"male","undetermined","Unknown","Graham","WA","other",false,false,"Pierce County Sheriff's Department, WA"
Easley Police Department, SC	SC	South Carolina	"2024-07-13","Daniel Scott McGoldrick",35,"male","gun","Unknown","Easley","SC","not",false,false,"Easley Police Department, SC"
Tuscaloosa Police Department, AL	AL	Alabama	"2024-07-13","Joseph Earl Driver",35,"male","knife","Unknown","Tuscaloosa","AL","not",false,false,"Tuscaloosa Police Department, AL"
Los Angeles Police Department, CA	CA	California	"2024-07-13",,,"male","gun","Unknown","Los Angeles","CA","not",false,false,"Los Angeles Police Department, CA"
U.S. Secret Service, PA	PA	Pennsylvania	"2024-07-13","Thomas Matthew Crooks",20,"male","gun","White","Butler","PA","not",false,false,"U.S. Secret Service, PA"

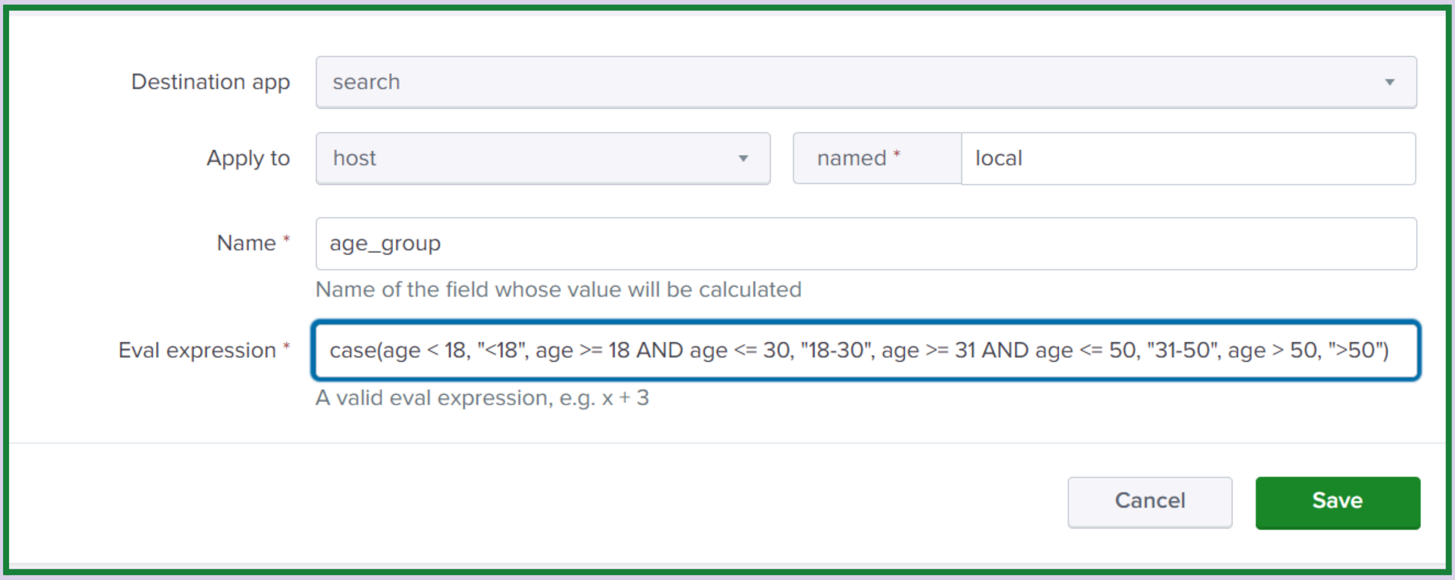
Now state is renamed as state_code

I conside categorizing victims according to 3 age ranges: <18, 18-50 and >50. It can be done appending an eval expression straight into search or by dint of a calculated field:

1st option:

```
eventtype="washington_shootings"  | rename state as state_code
| eval age_group = case(age < 18, "<18", age >= 18 AND age <= 30, "18-30", age >= 31 AND age <=
50, "31-50", age > 50, ">50")
| table age, age_group
```

2nd option: calculating field



Destination app: search

Apply to: host | named *: local

Name *: age_group

Name of the field whose value will be calculated

Eval expression *: case(age < 18, "<18", age >= 18 AND age <= 30, "18-30", age >= 31 AND age <= 50, "31-50", age > 50, ">50")

A valid eval expression, e.g. x + 3

CF helps to simplify search string as we invoke it like a regular field (the CF is age_group):

```
 eventtype="washington_shootings"
| rename state as state_code
| table age, age_group
```

VI. Why not induce a macro instead of a CF? It combines 2 tasks, categorizing age & creating an spl which gives counts by these categories.

```
eval age_group = case($age$ < 18, "<18", $age$ >= 18 AND $age$ <= 30, "18-30", $age$ >=
31 AND $age$ <= 50, "31-50", $age$ > 50, ">50") | stats count by age_group
```

I saved it as a report to incorporate it to dashboard later.

VII. Lastly, I created a dashboard "us_police_shootings" covering 7 panels:

- US police shootings over 10 years from 2015 to 2024
- Victim counts against 4 age groups
- Correlation Between Mental Illness Indicators and Fleeing Actions
- Victims' race
- Statewise shooting counts in 10 years

- ➢ Most violent years in descending order
- ➢ Statewise count in 2023, the most violent year

  All (almost) report queries are available in spl files

VIII. Last words / improvements

Calculating a field causes me annoyance because the 'Name' field description says it's the name of the field that will be calculated. In reality, it's the field that will hold the value of the eval expression.

I wish we could use comments in SPL for better readability.