EMEA DevXchange 2017

Tech Talk: Customize Dashboards in CA App Experience Analytics with Elastic Search and Kibana

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10th of May 2017

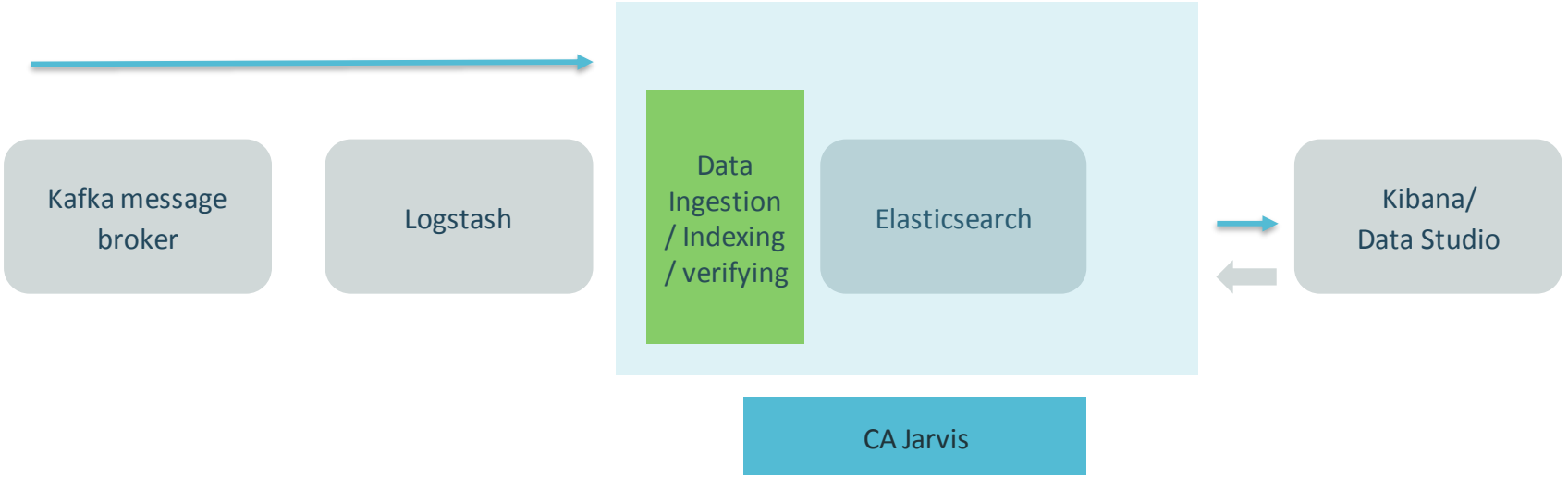
ca technologies

Customize Dashboards in CA App Experience Analytics

- WHAT IS DATA STUDIO?
- DISCOVER DATA
- FILTERING
- CREATE VISUALIZATIONS
- CREATE DASHBOARDS
- QUESTIONS / DISCUSSION

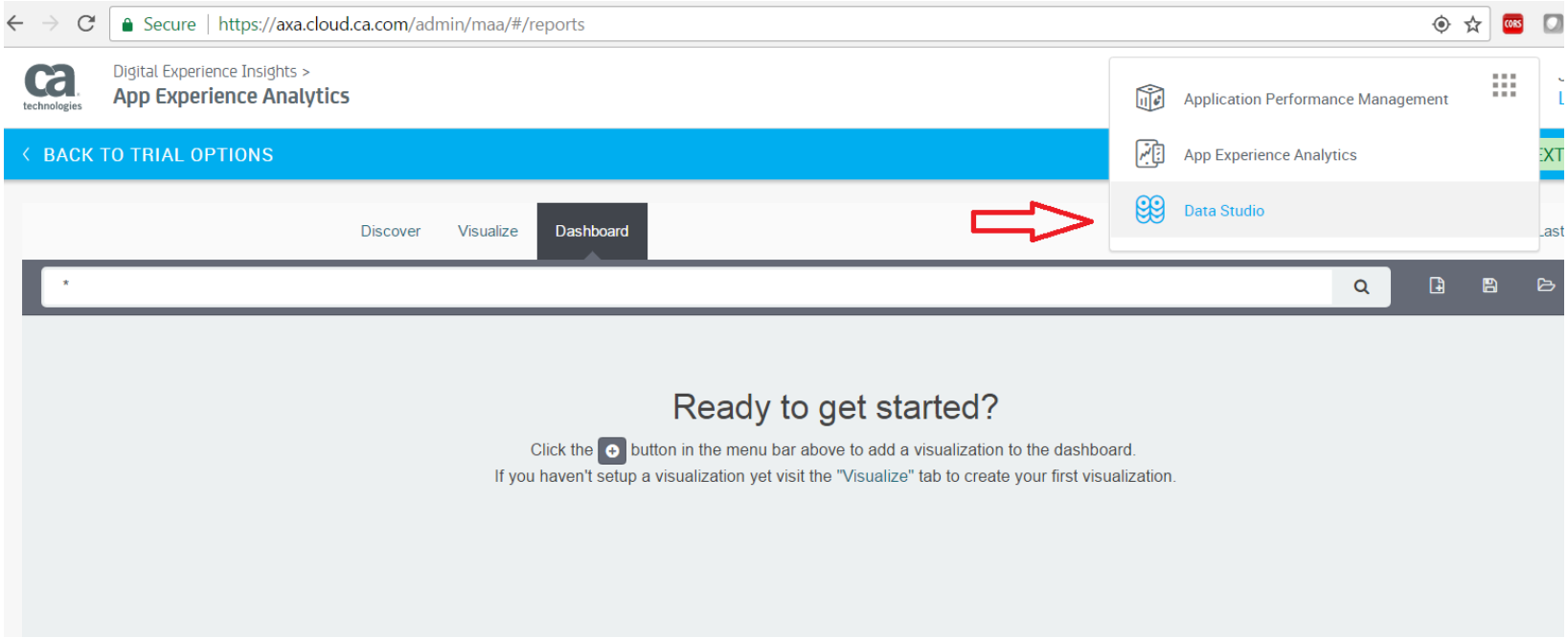
Data flow in CA AXA

Elastic Stack / CA Jarvis



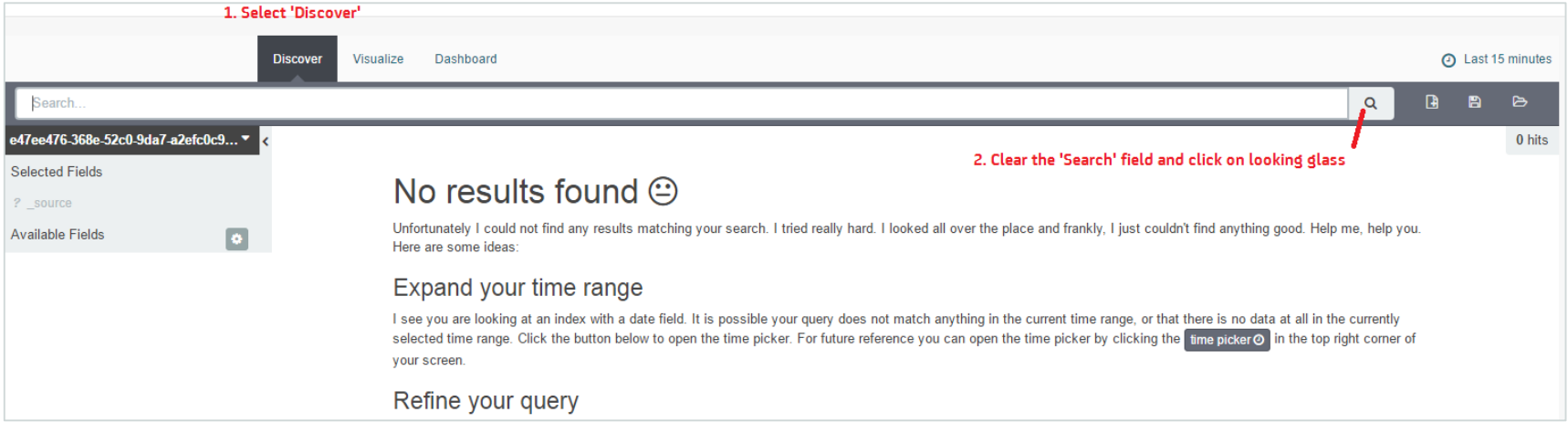
Data Studio

Access to Data Studio



Data Studio

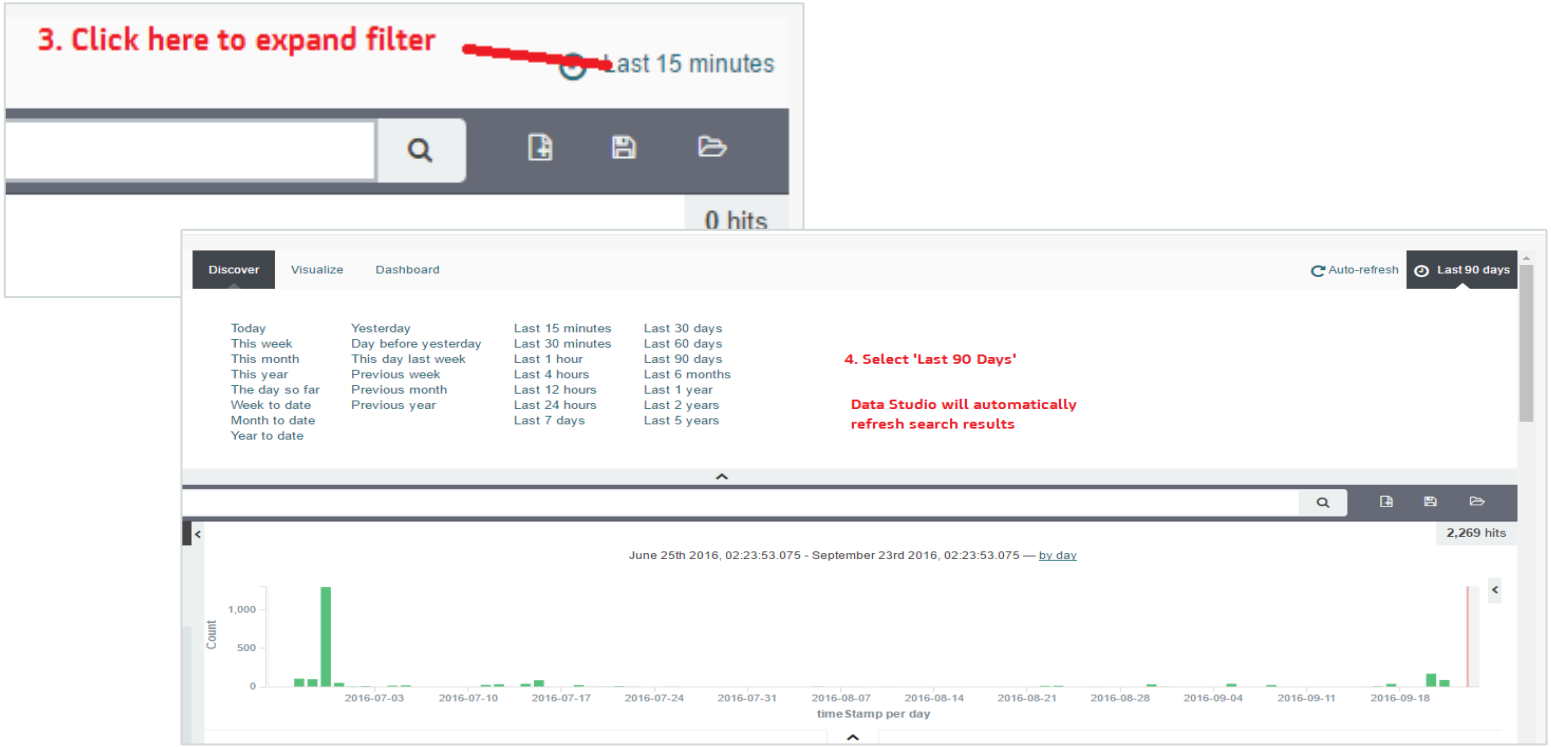
Navigation Example: Discover



The reason why no data appears is the time period filter – it is set to 15 minutes by default

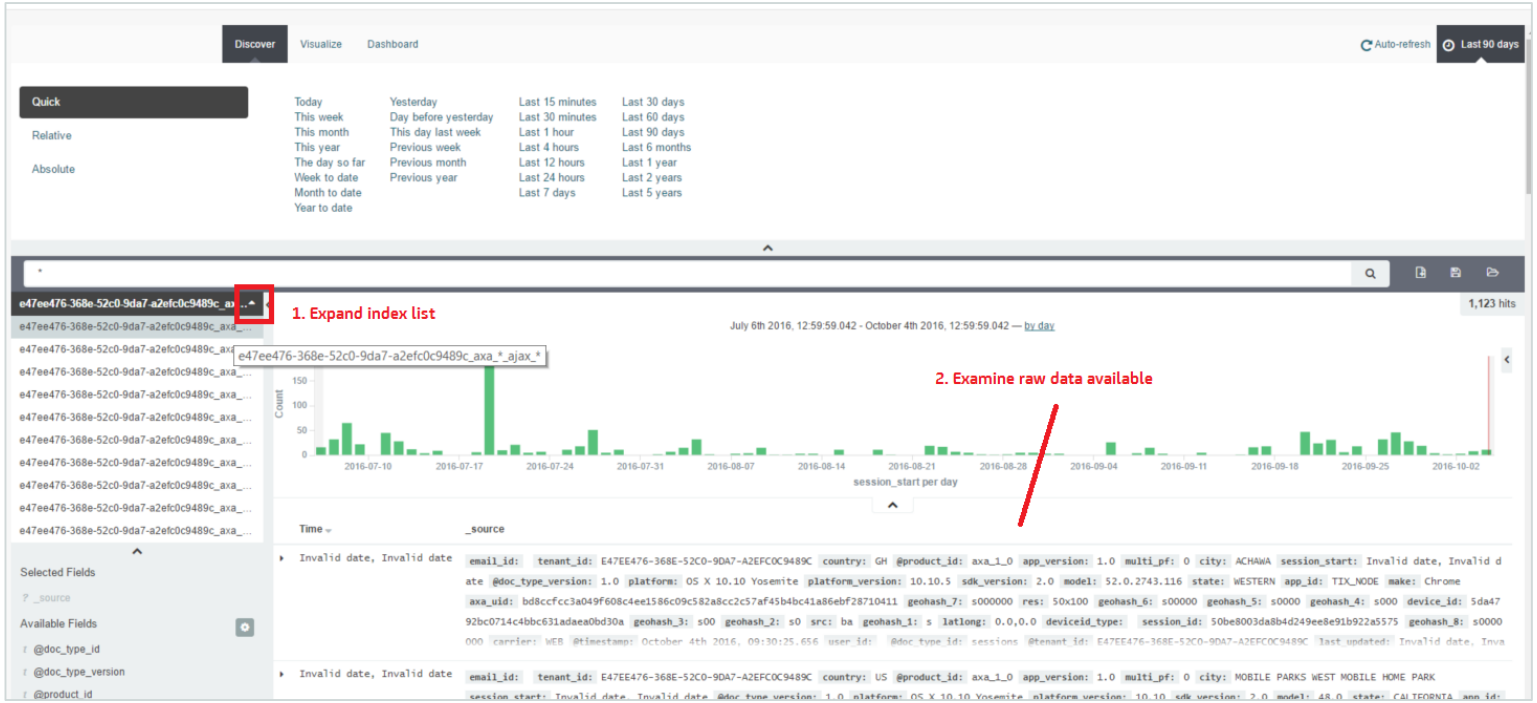
Data Studio

Navigation Example: Time Period



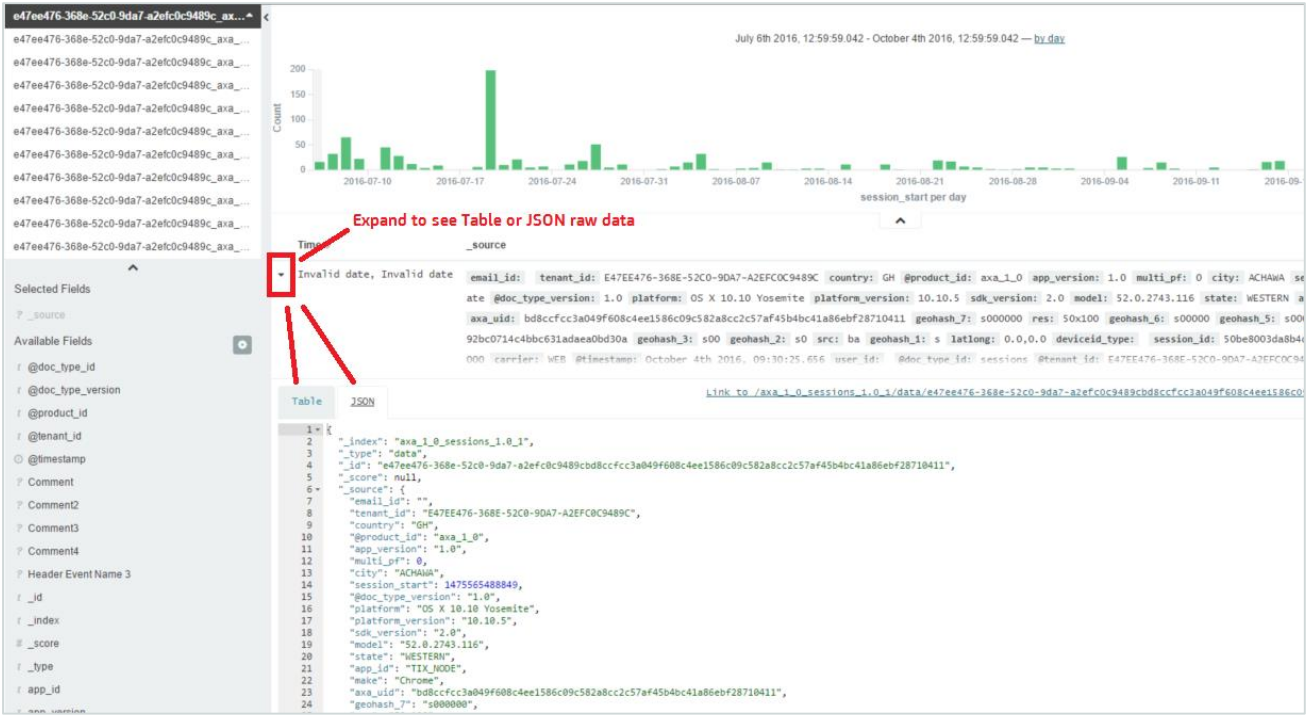
Data Studio

Discover: Raw Data Available with Each Index



Data Studio

Discover: Raw Data Available with Each Index



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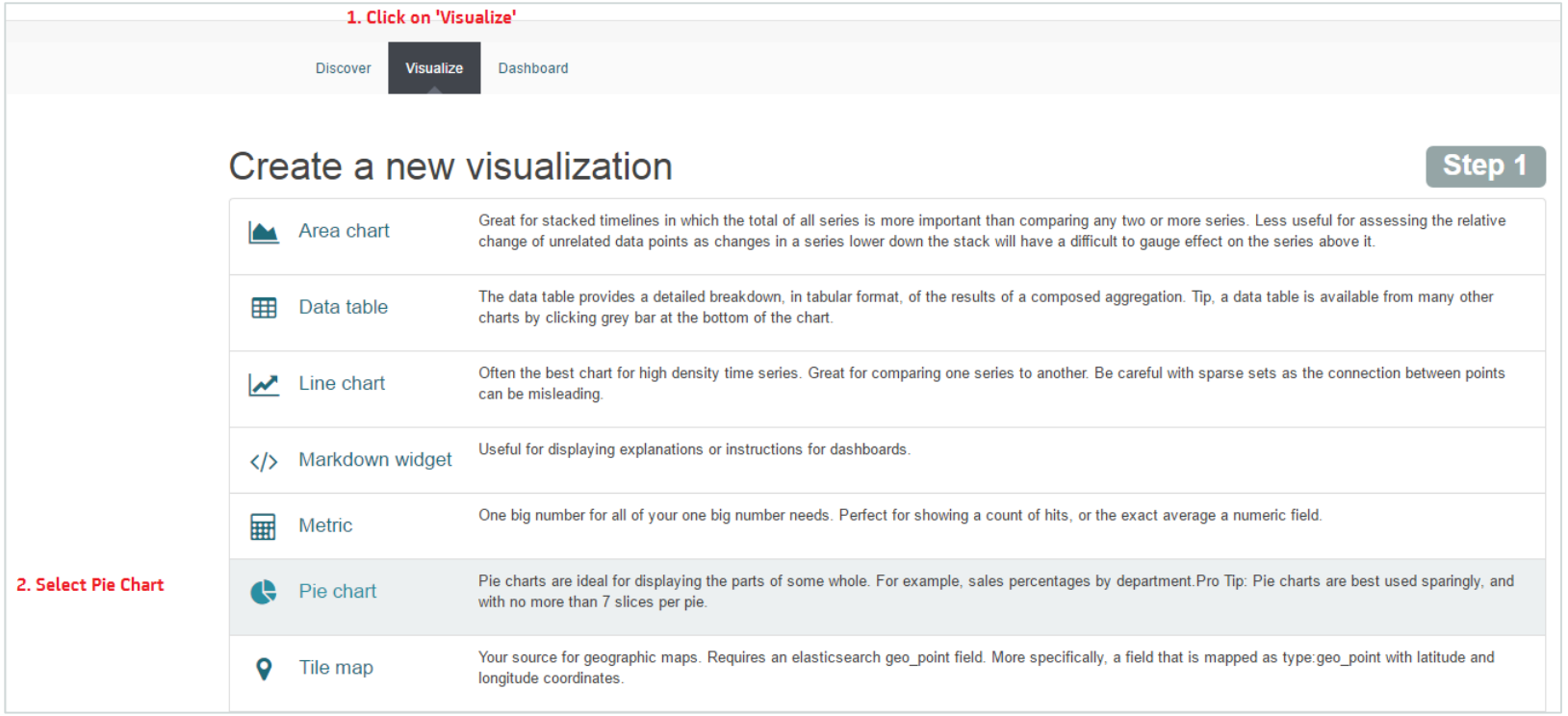
Building Visualizations: Pie chart and table

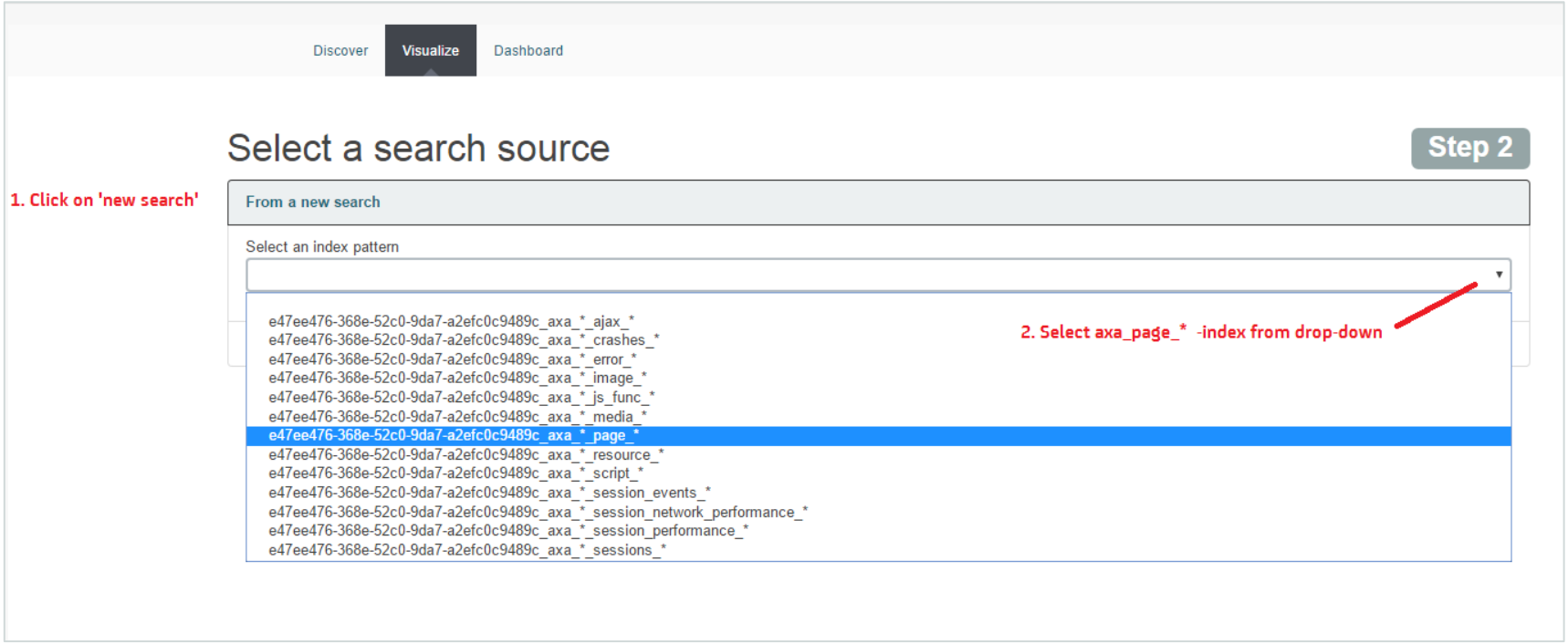
Visualizations

Creating Your First Data Studio Pie Chart



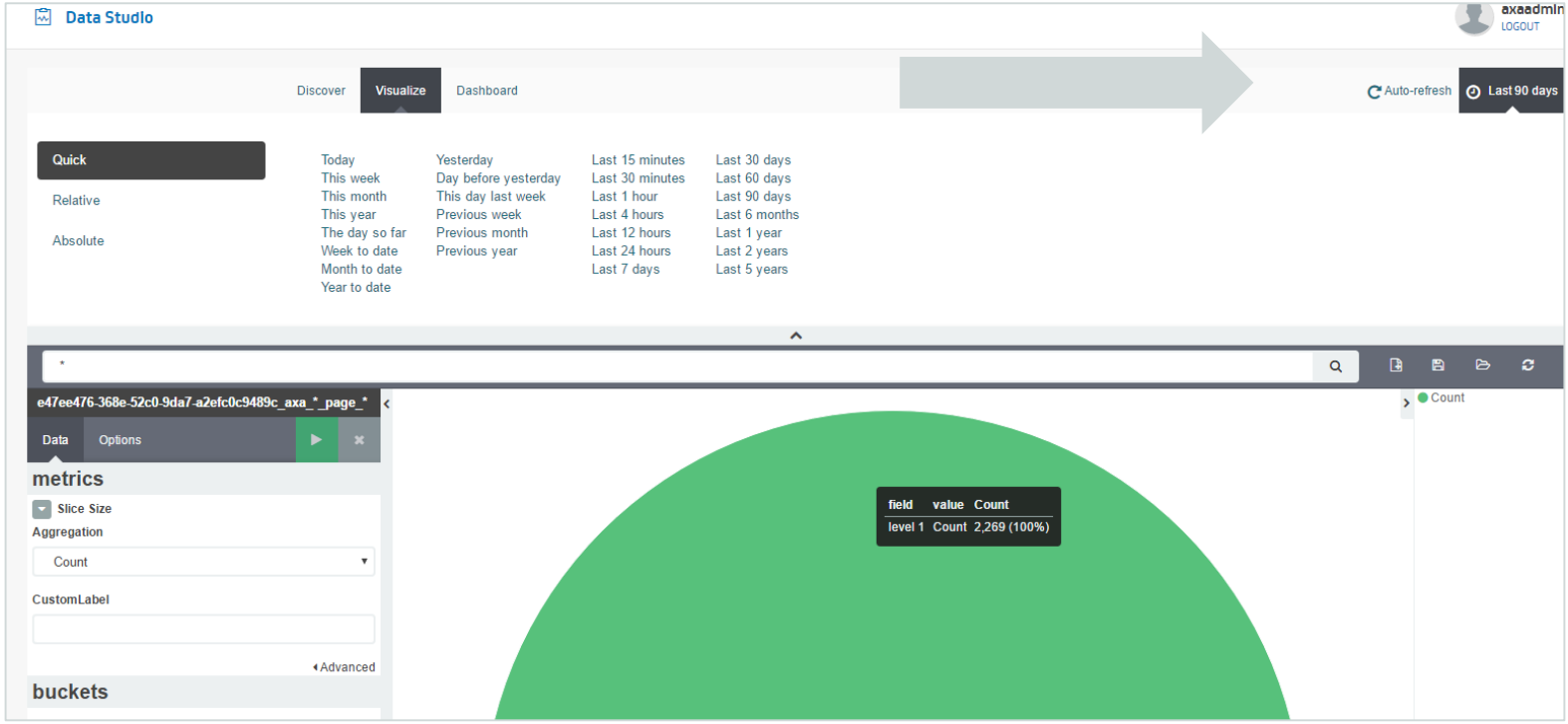
Visualizations

Creating Your First Data Studio Pie Chart



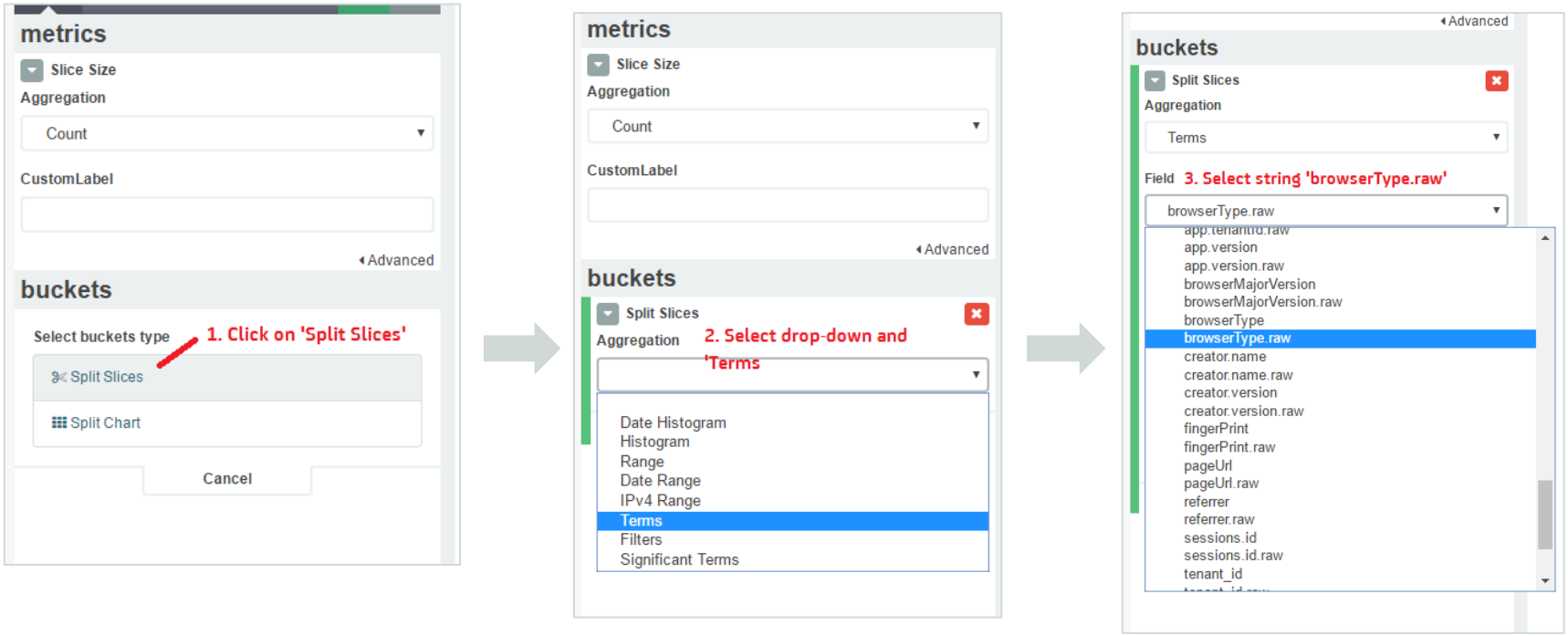
Visualizations

To See Results, Expand the Time Period Filter



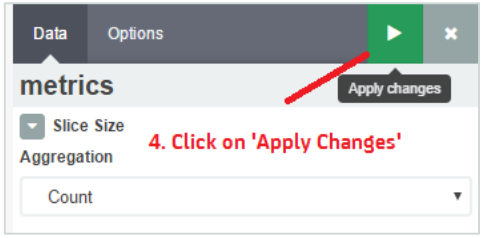
Visualizations

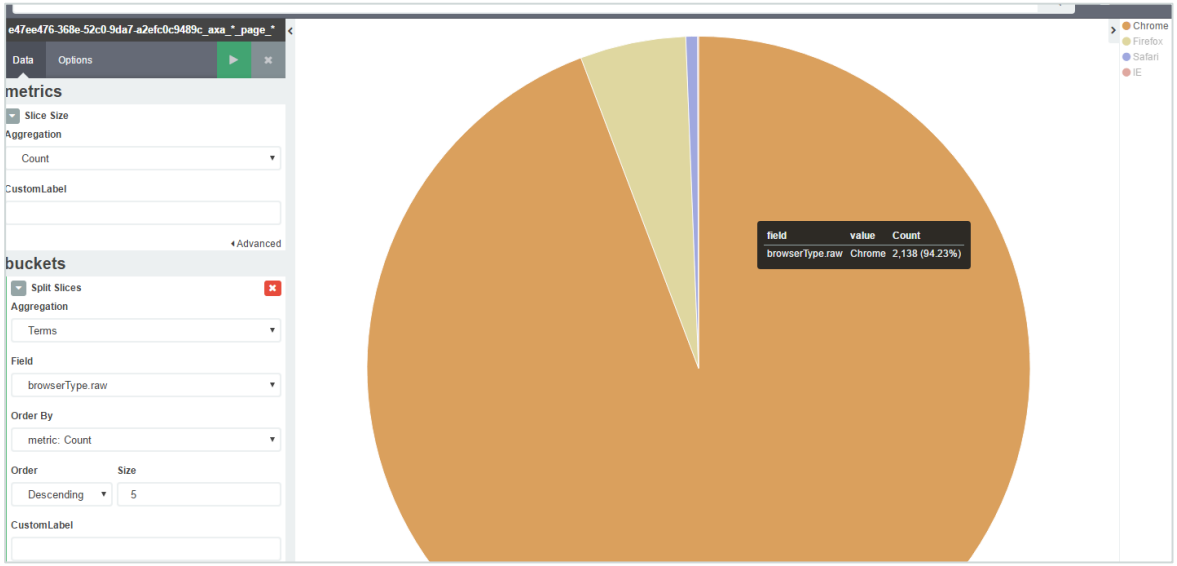
To Slice Metric, Add a Bucket to Separate Metric Data by String Data



Visualizations

Apply Changes to See Sliced Data





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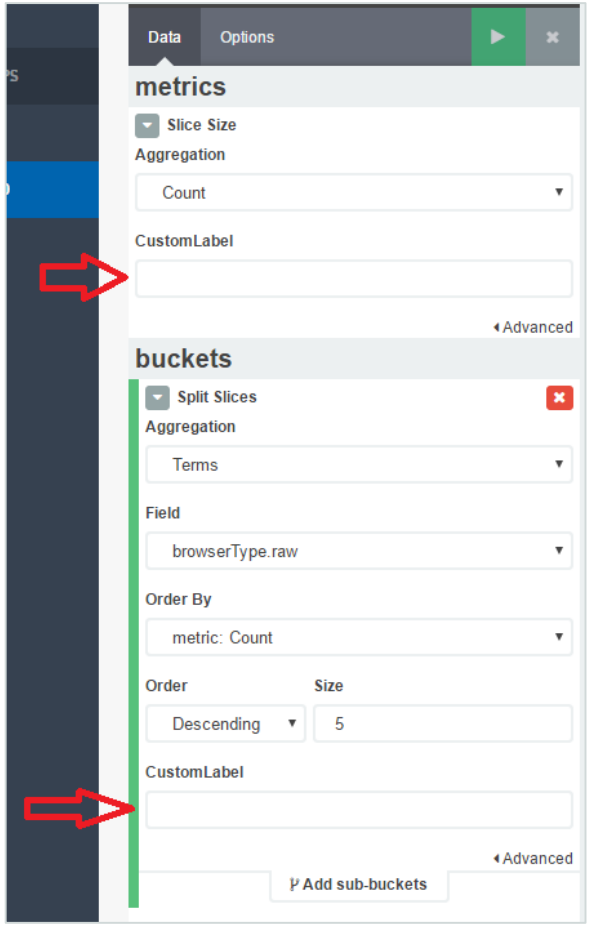
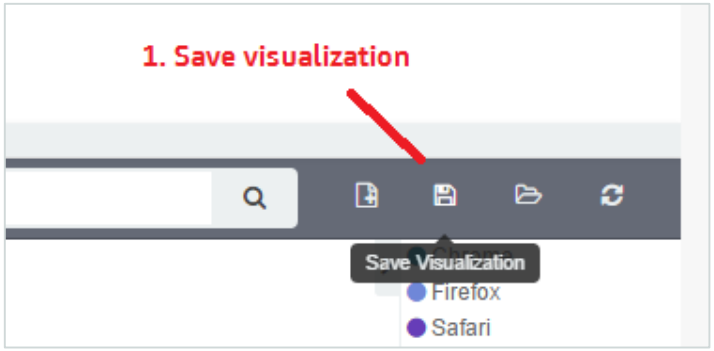
Visualizations

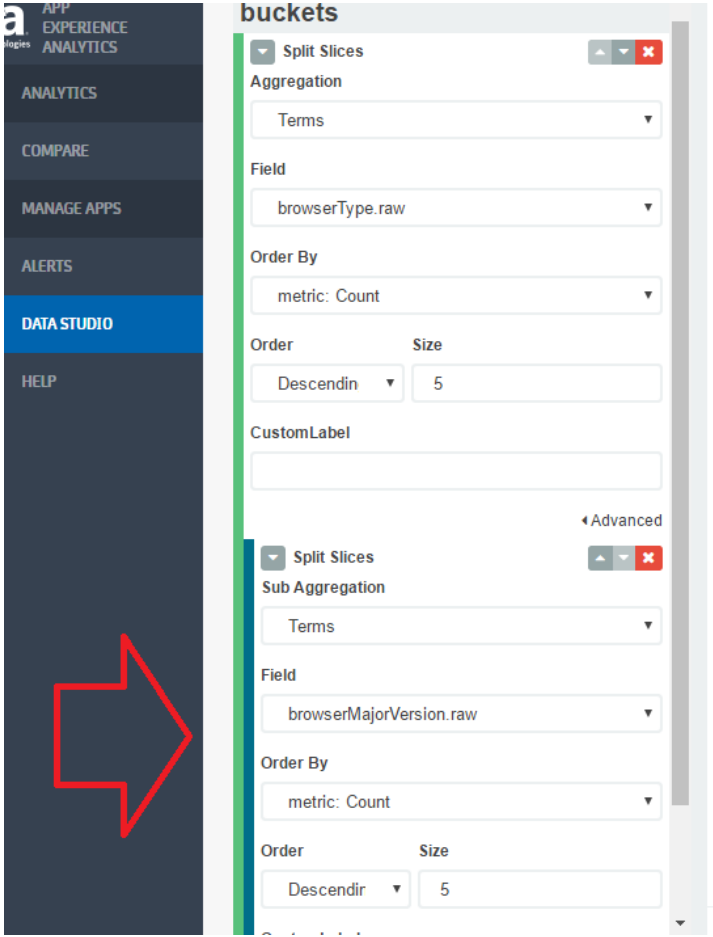
Task 1: Add custom field names and apply changes



Visualizations

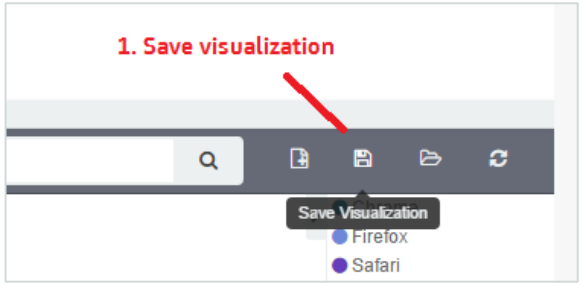
Task 2: Add another bucket to further slice by browser major version

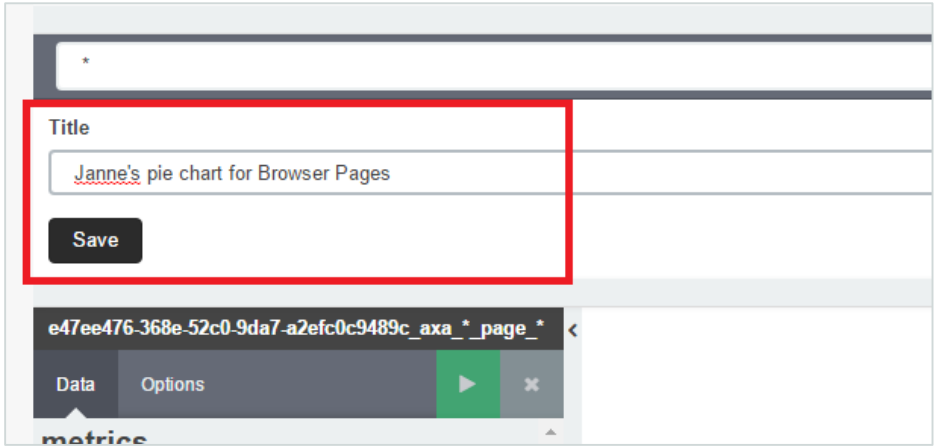




Visualizations

Save Visualization





The visualization is now available for selection

Visualizations

Create a New Visualization Using the Table

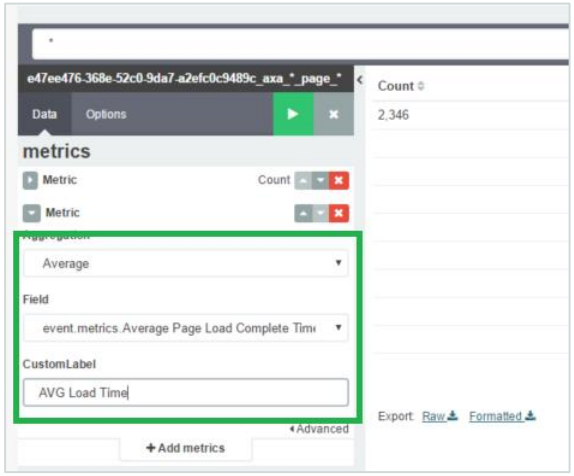
Step 1: Create a Data Table visualization using index pattern *_page_*

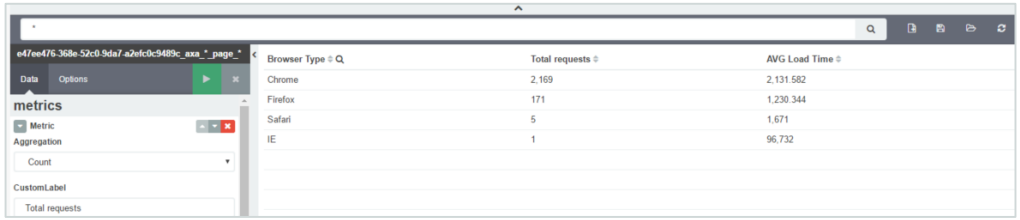
Step 2: Add metric AVG Load Time

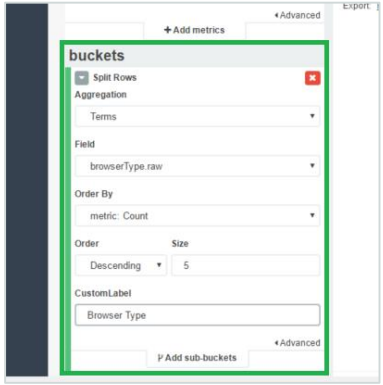
Step 3: Split the rows by using bucket Terms – BrowserType.raw

Step 4: Add custom labels and run report

Step 5: Save



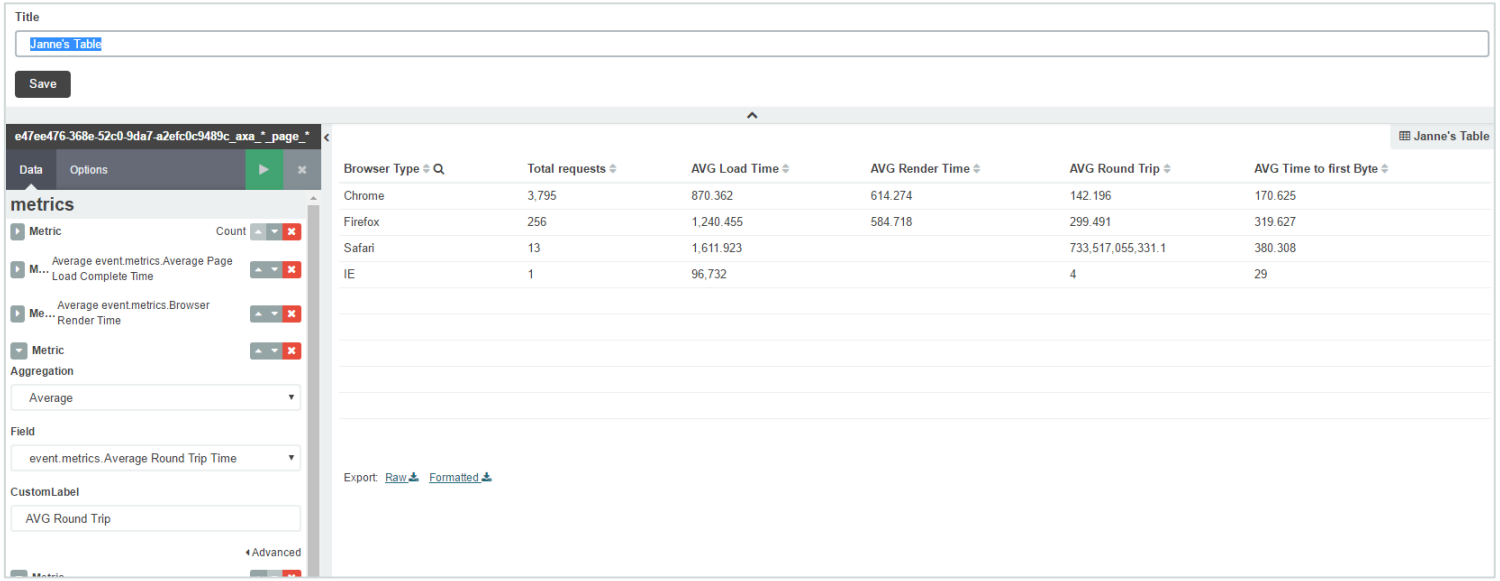




Visualizations

Table

Step 6: Add more metrics and save



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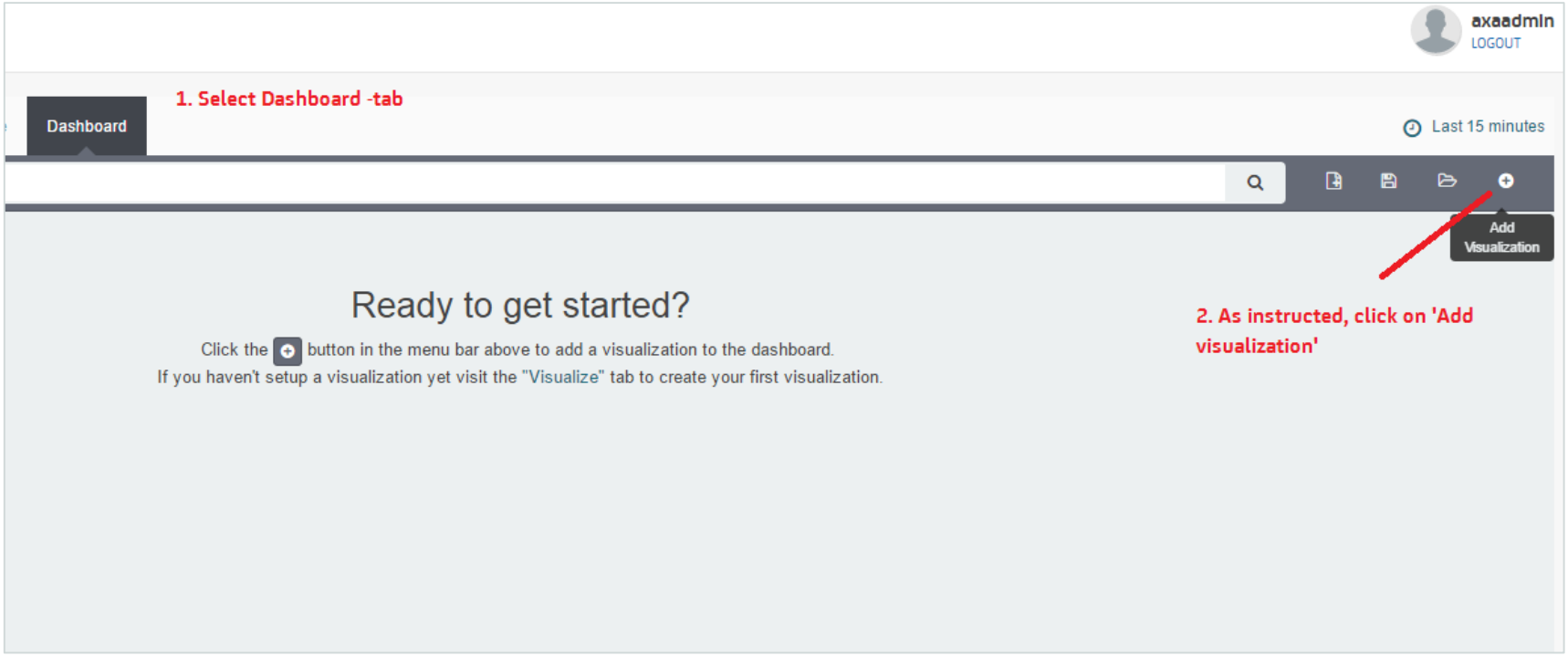
Building Dashboards

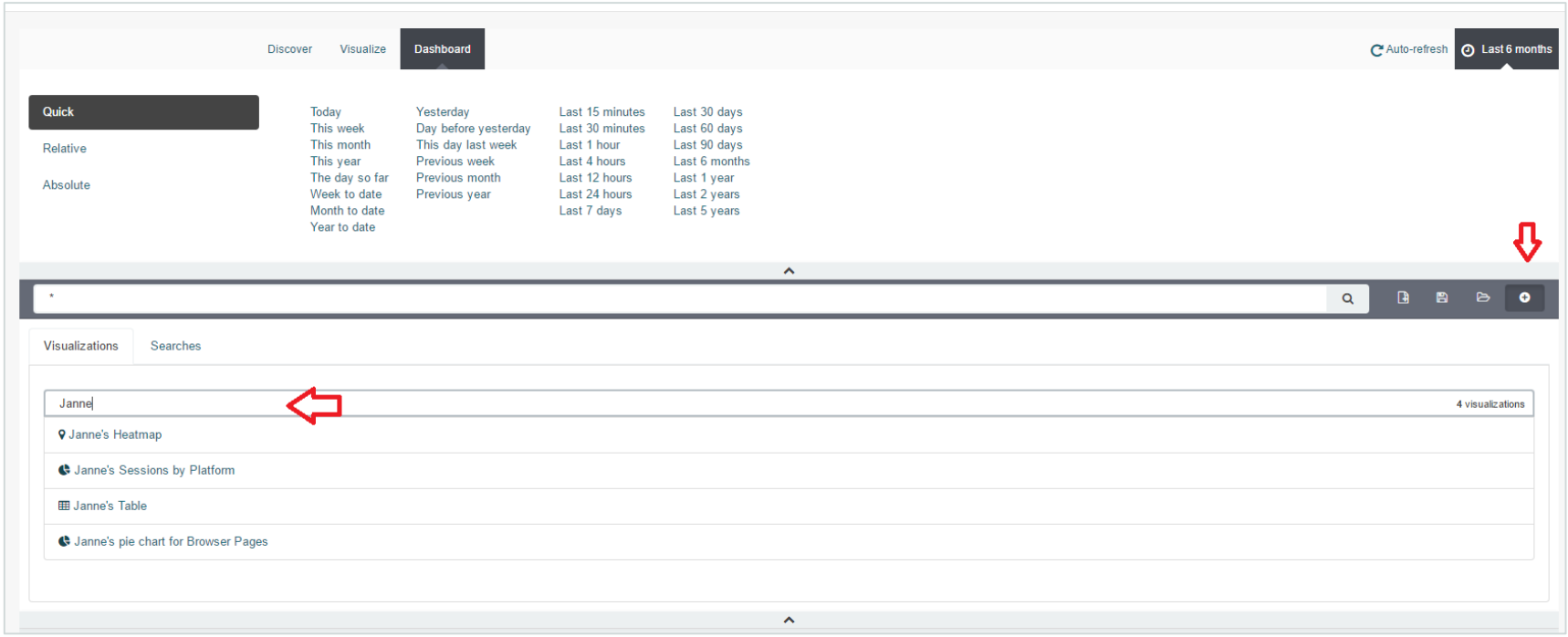
Dashboard

Using Saved Visualizations



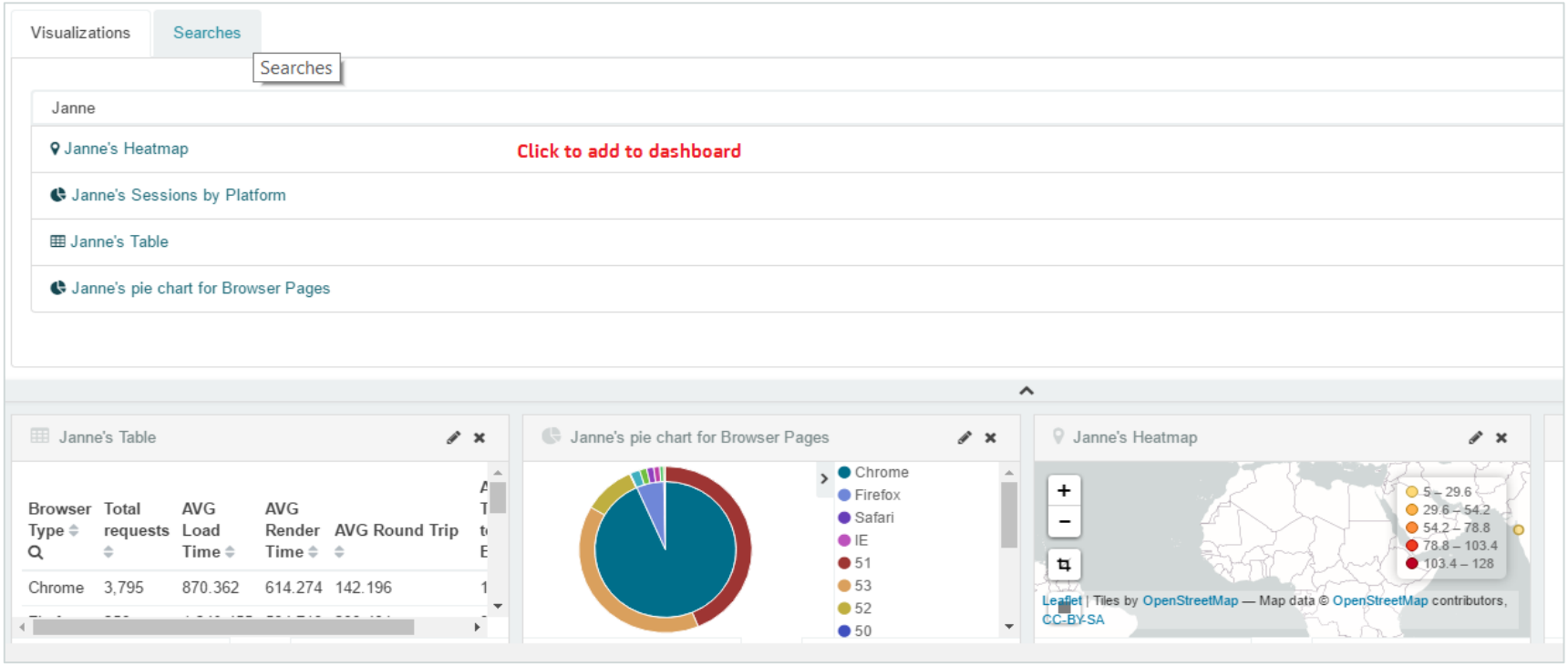
Dashboard

Find Saved Visualizations



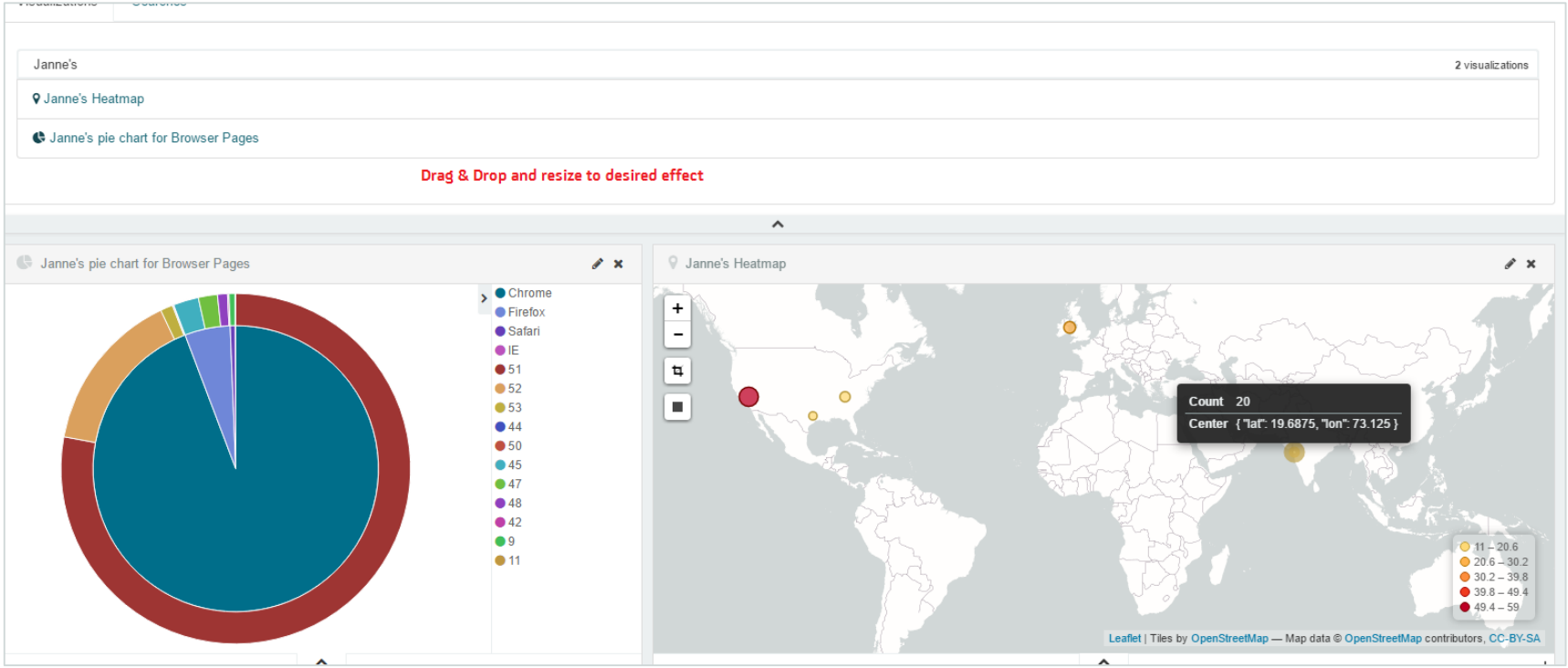
Dashboard

Click on Visualizations to Add Them to Dashboard



Dashboard

Modify Layout



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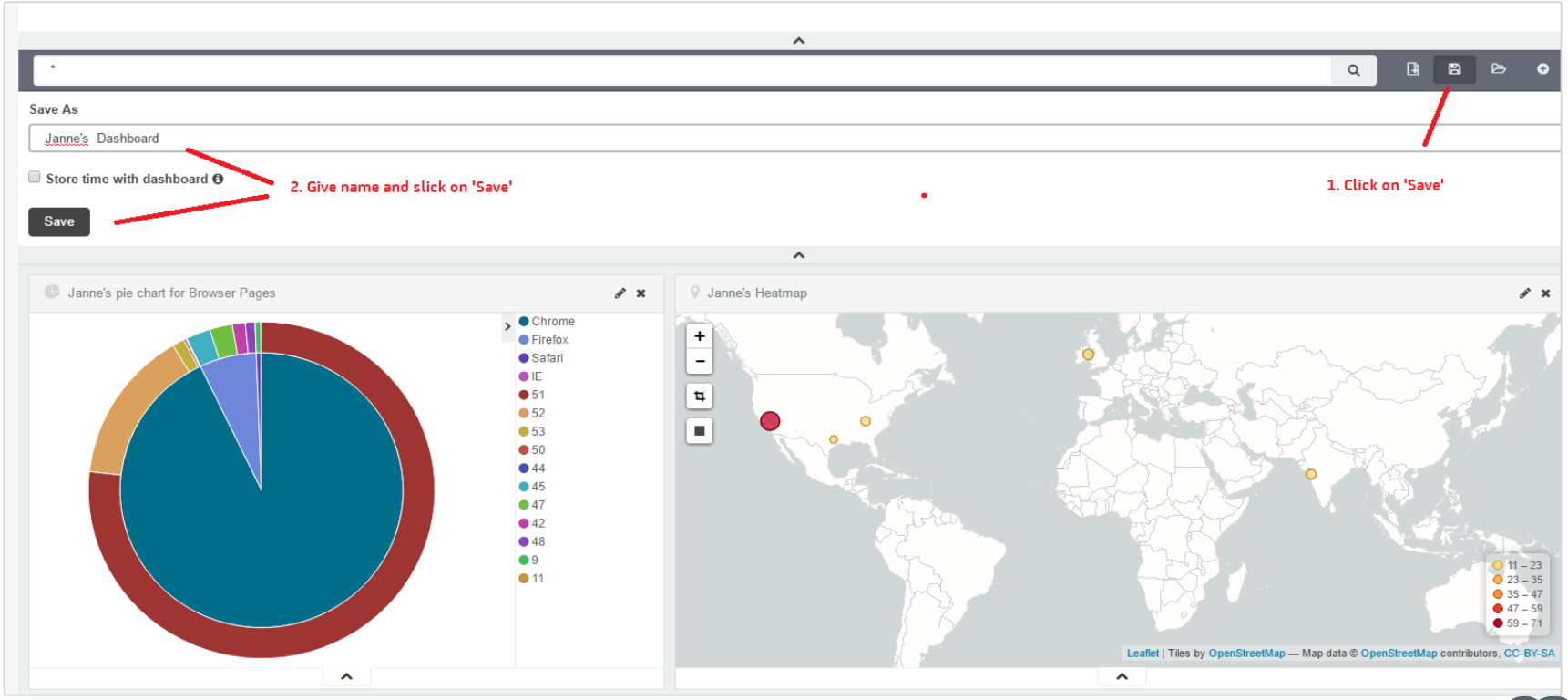
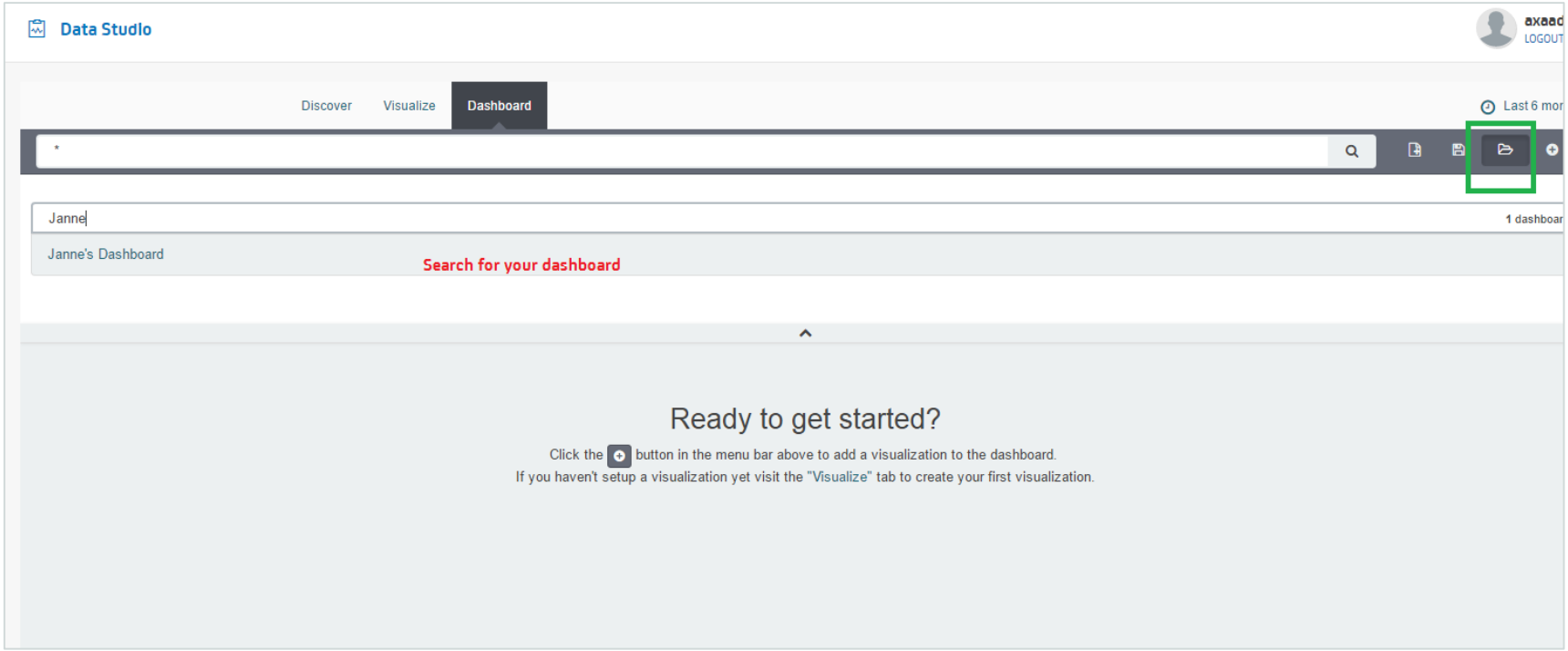
Dashboard

Save



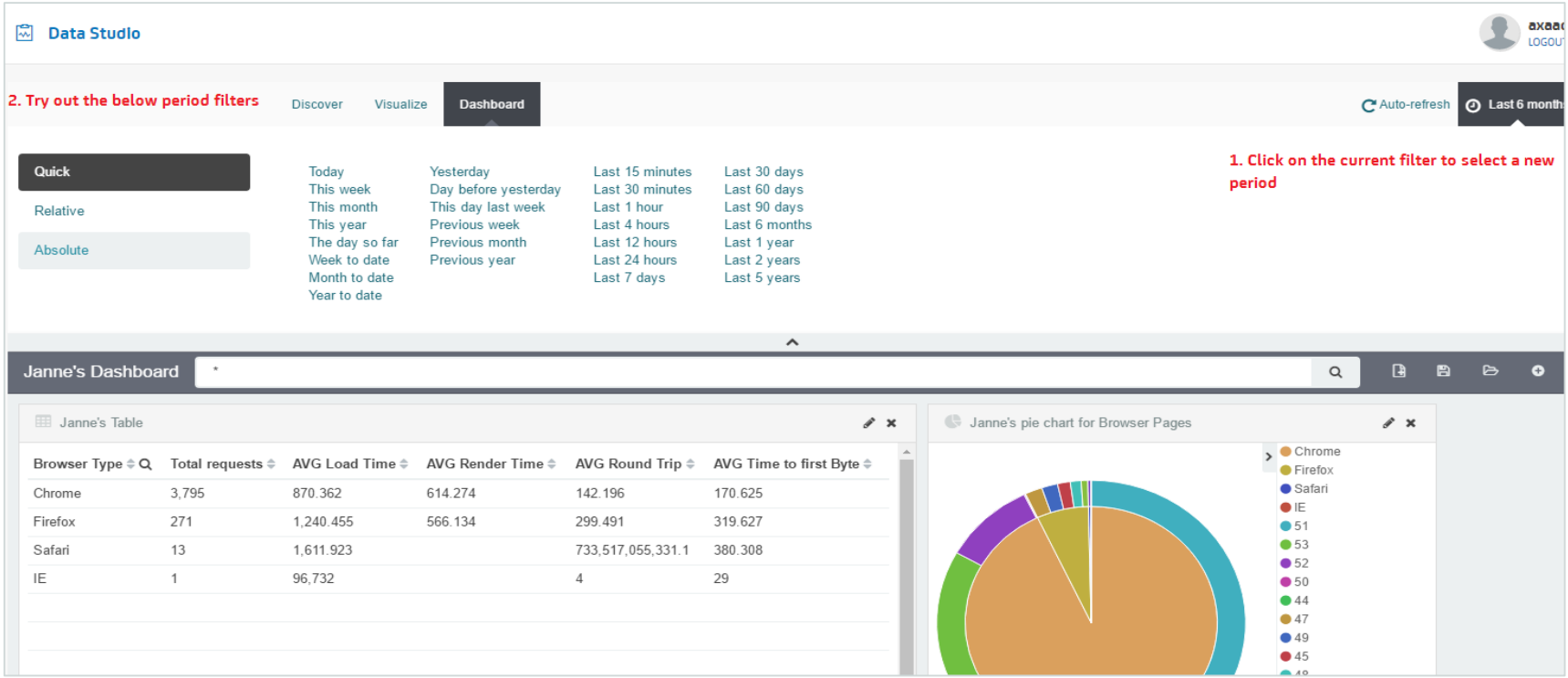
Existing Dashboards

Open Dashboard



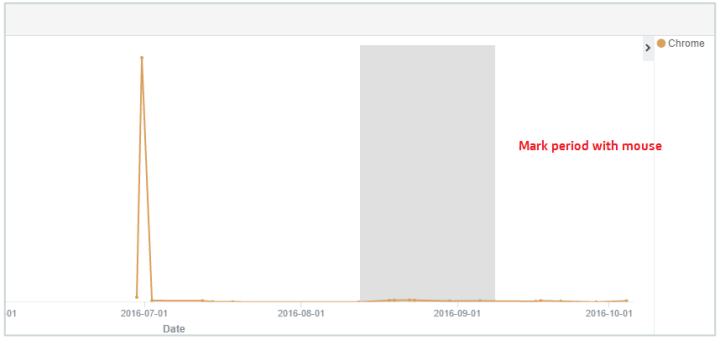
Existing Dashboards

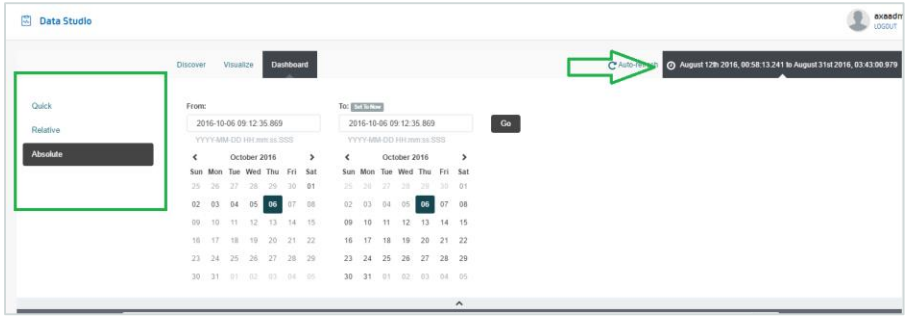
Filtering Data: Time Period

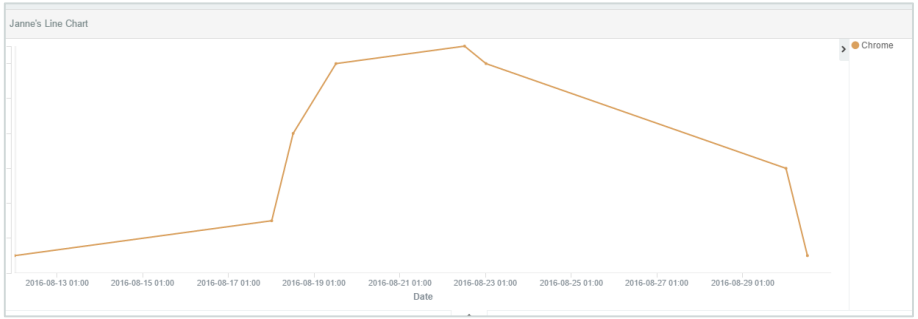


Existing Dashboard

Filtering Data: Line Chart



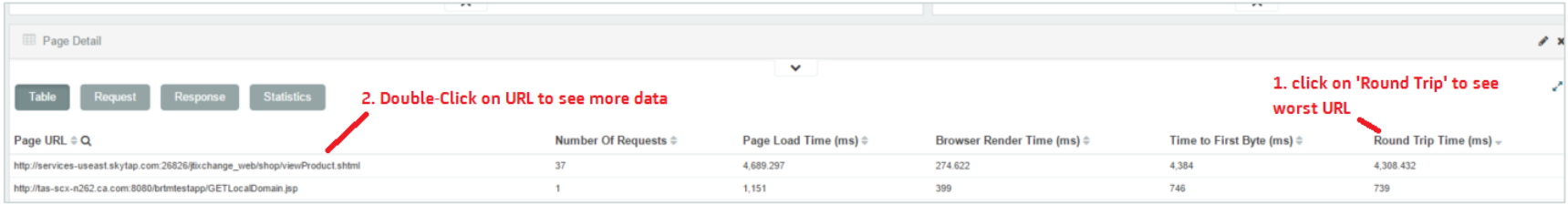




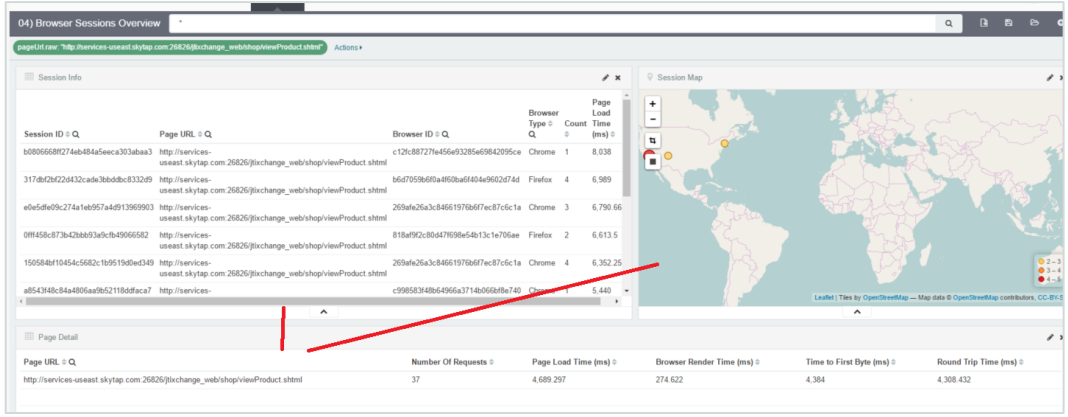
Selected time period is applied to the whole dashboard

Existing Dashboard

Filtering Data: Drill-Down



Data for the URL is shown on Dashboard



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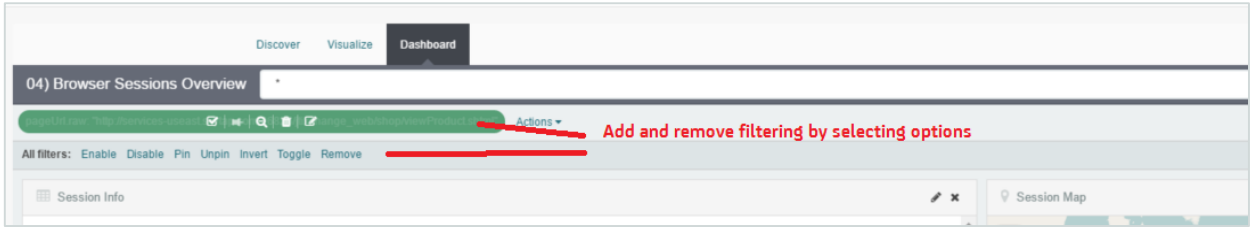
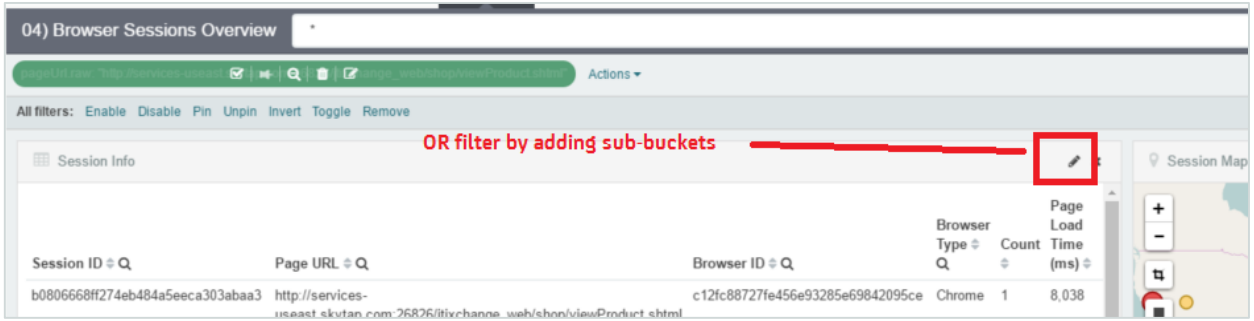
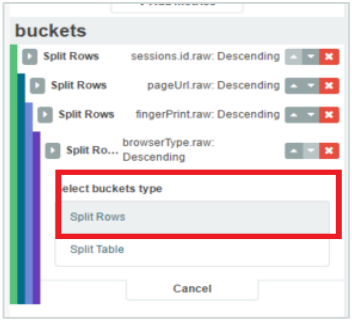
Existing Dashboard

Filtering Data: Filter Bar and Sub-Buckets



Tip: Filter bar is only visible when a filter, such as click on a URL, has been applied





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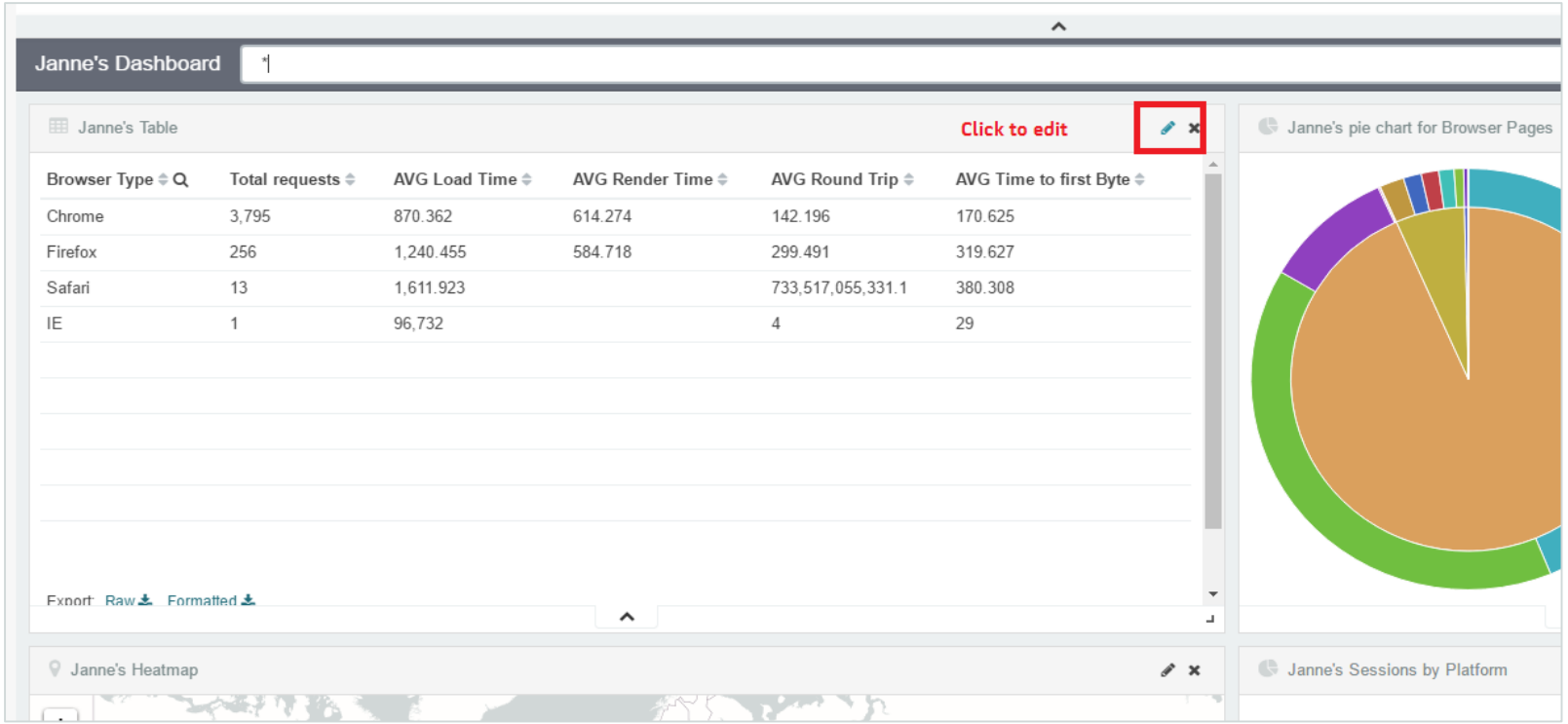
Existing Dashboard

To Add Sub-Bucket Filters, Open Your Dashboard for Edit



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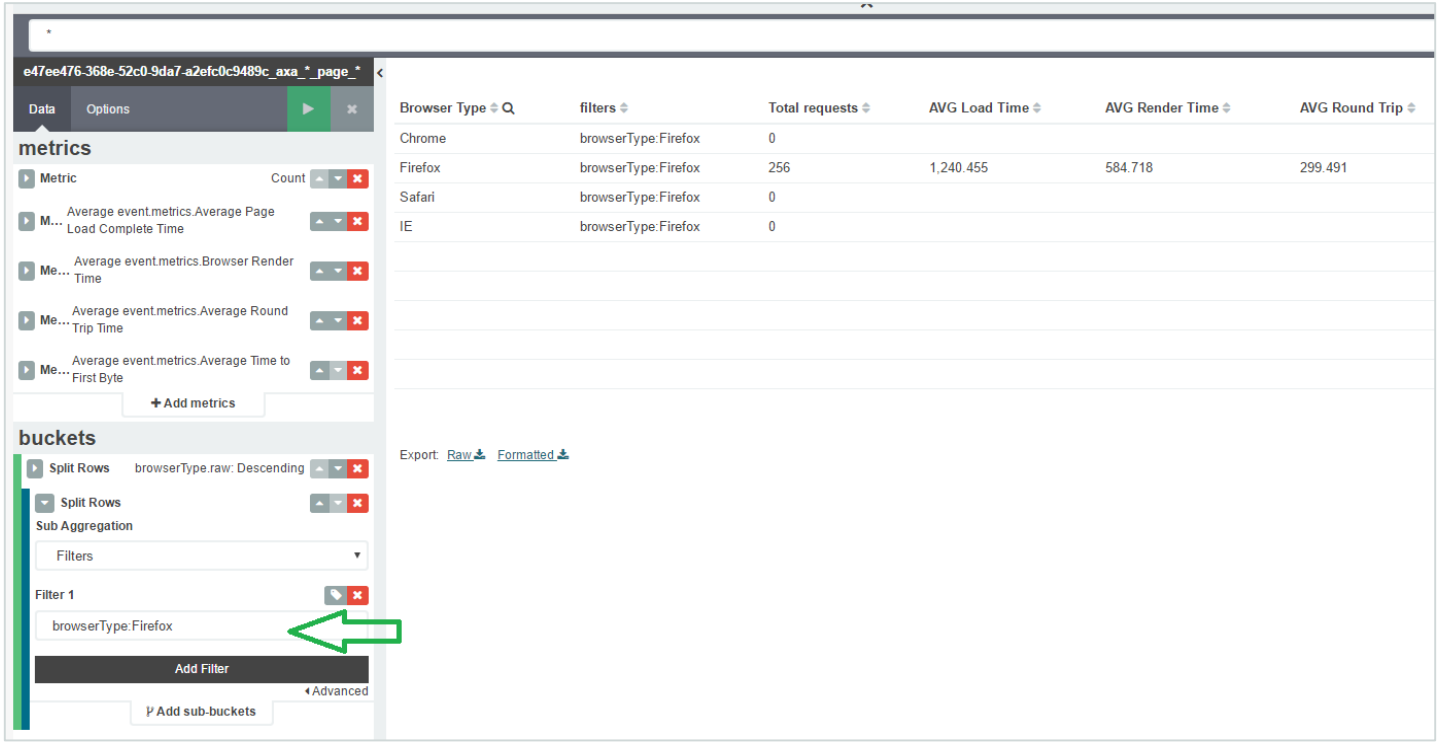
Existing Dashboard

Add String Filter to Sub-Bucket: browserType:Firefox



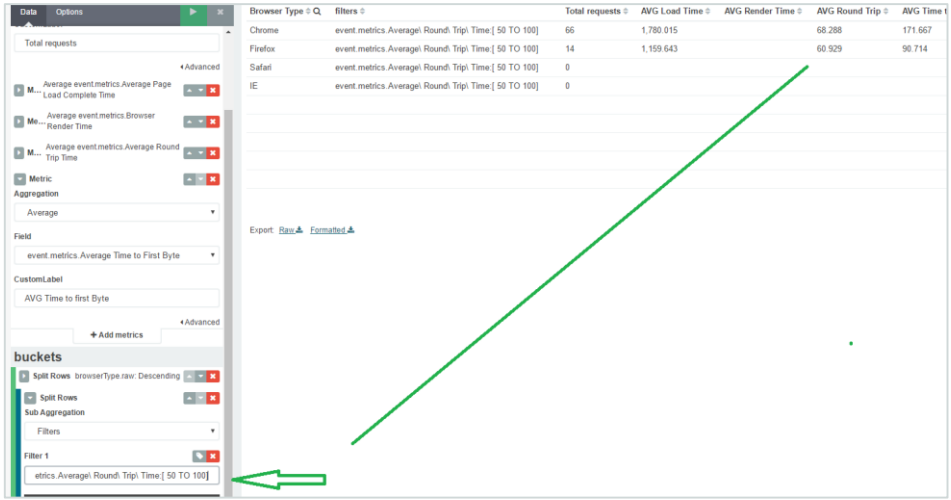
Existing Dashboard

Add a New Filter to Sub-Bucket: event.metrics.Average\ Round\ Trip\ Time:>100

(Note backslash to escape spaces)

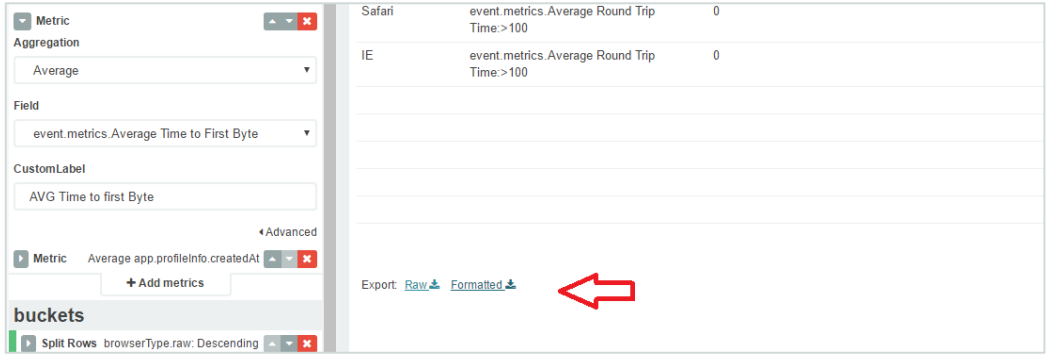
Match queries: browserType:Firefox
Range queries: [1 TO 10]
Operator queries: > 100
Regular expressions: browserType:F*

JSON queries



Existing Dashboard

Export Data



A1 | Browser Type

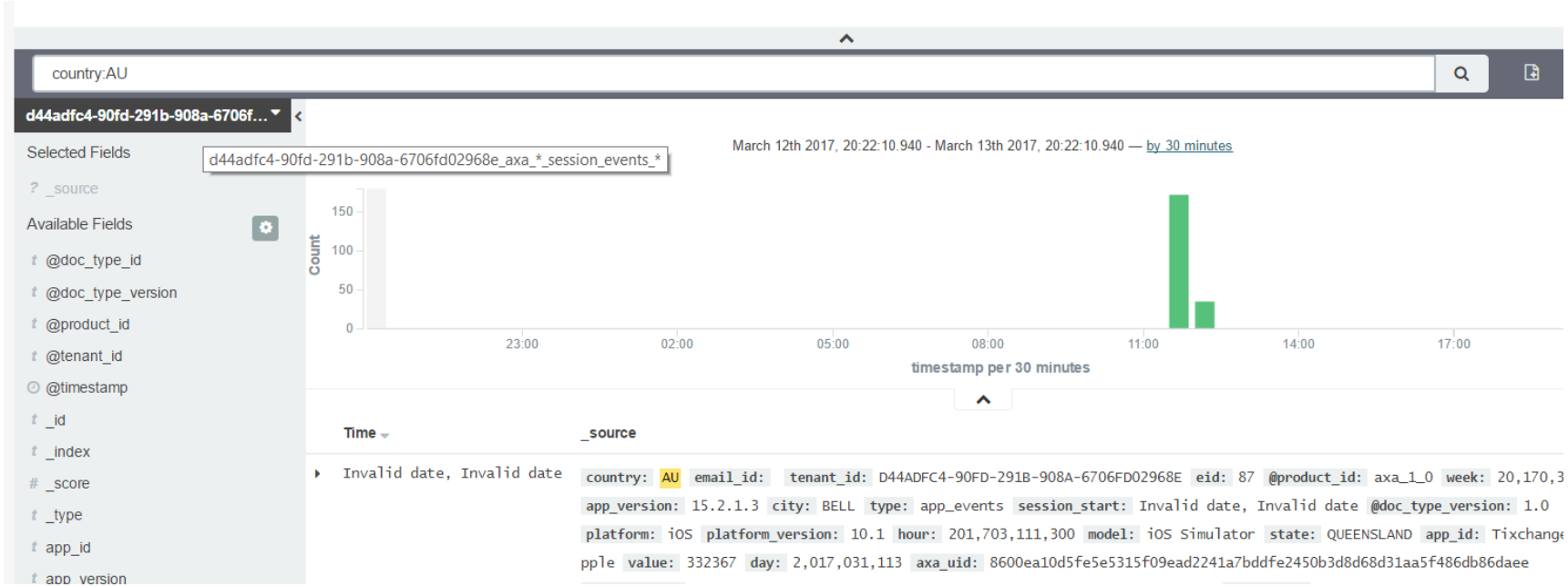
	A	B	C	D	E	F	G	H
1	Browser Type	Total requests	AVG Load Time	AVG Render Time	AVG Round Trip	AVG Time to first Byte	Average app.profileInfo.createdAt	
2	Chrome	2,199	2,131.58	614.274	273.959	322.32	1,469,038,287,478.12	
3	Firefox	210	1,230.34	584.718	456.719	465.203	1,471,186,240,409.16	
4	Safari	5	1,671		1,006.40	984	1,466,172,810,146	
5	IE	1	96,732		4	29	1,469,074,302,188	
6								
7								
8								
9								

Searches and filters

https://www.elastic.co/guide/en/kibana/current/field-filter.html

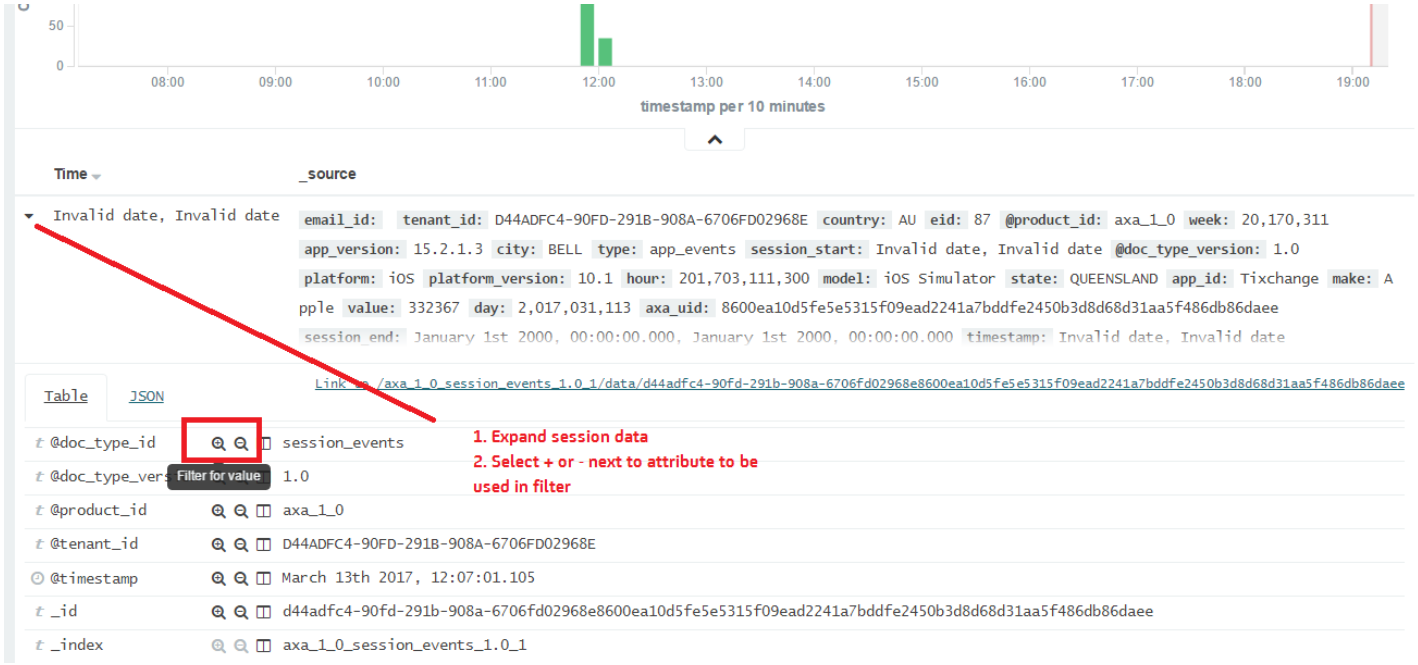
Search bar

Make sure to select the right index – try country:"AU“ vs country:(AU US)



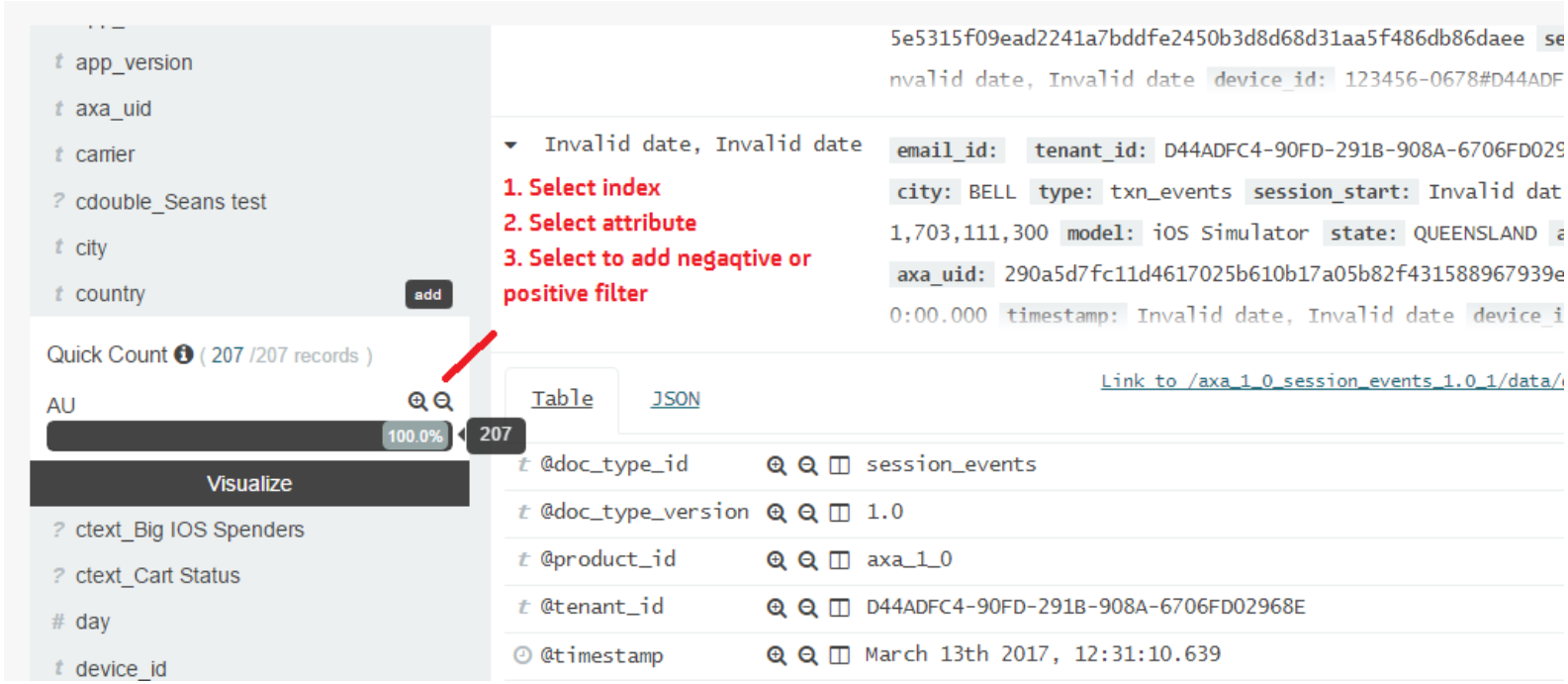
Set filters

Create new filter in data table



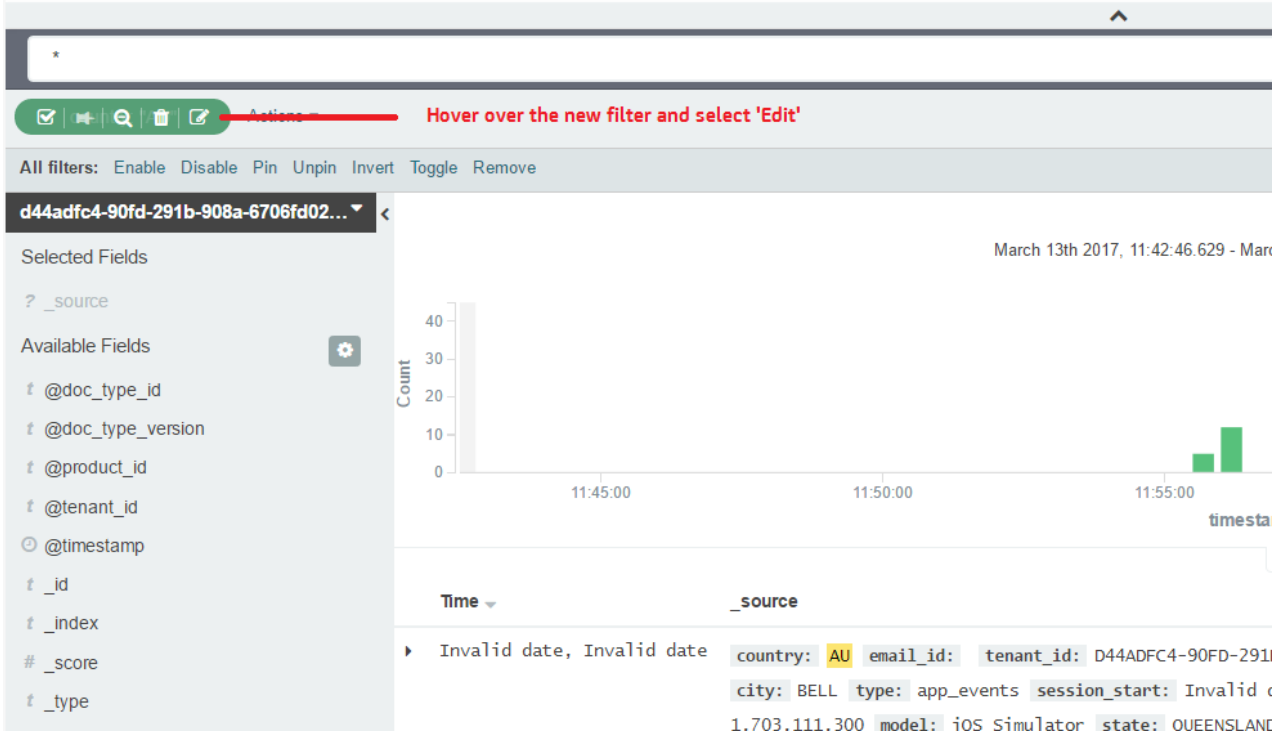
New filters

Create new filter in attribute list



Edit filters

Using Query DSL to search for data – edit filter



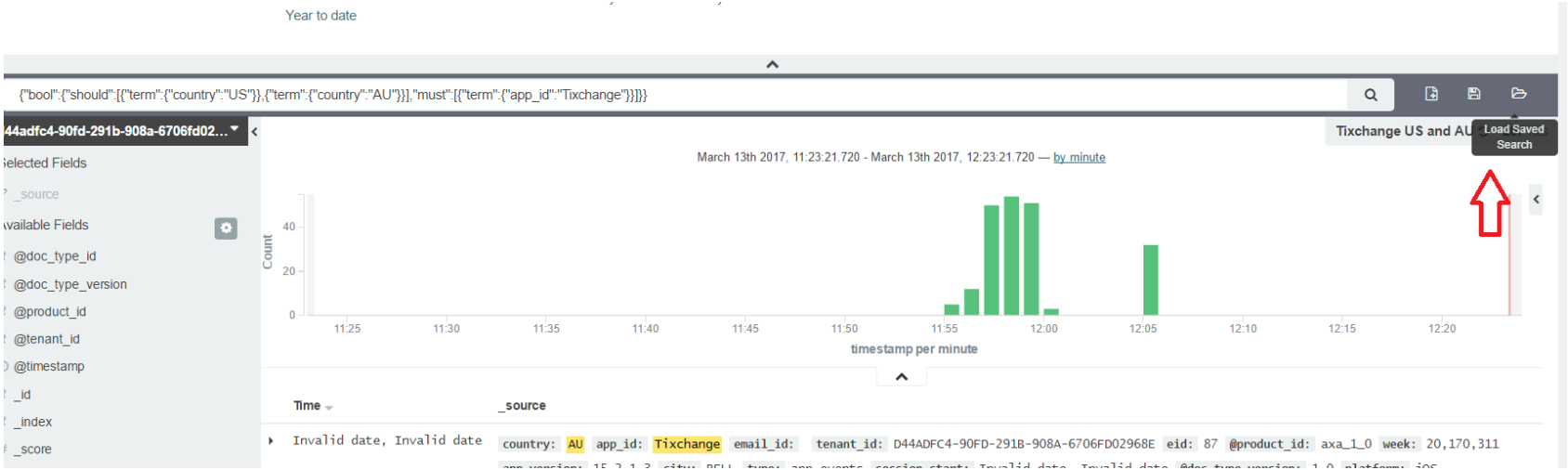
Edit filters

Search for data – Query DSL: boolean


```
{ "bool": {   "should":
[
            {      "term": {       "country": "US"     }
},
            {      "term": {   "country": "AU"      }
}
],
 "must": [
            {      "term": {    "app_id": "Tixchange"      }
 }
]
}}
```

Edit filters

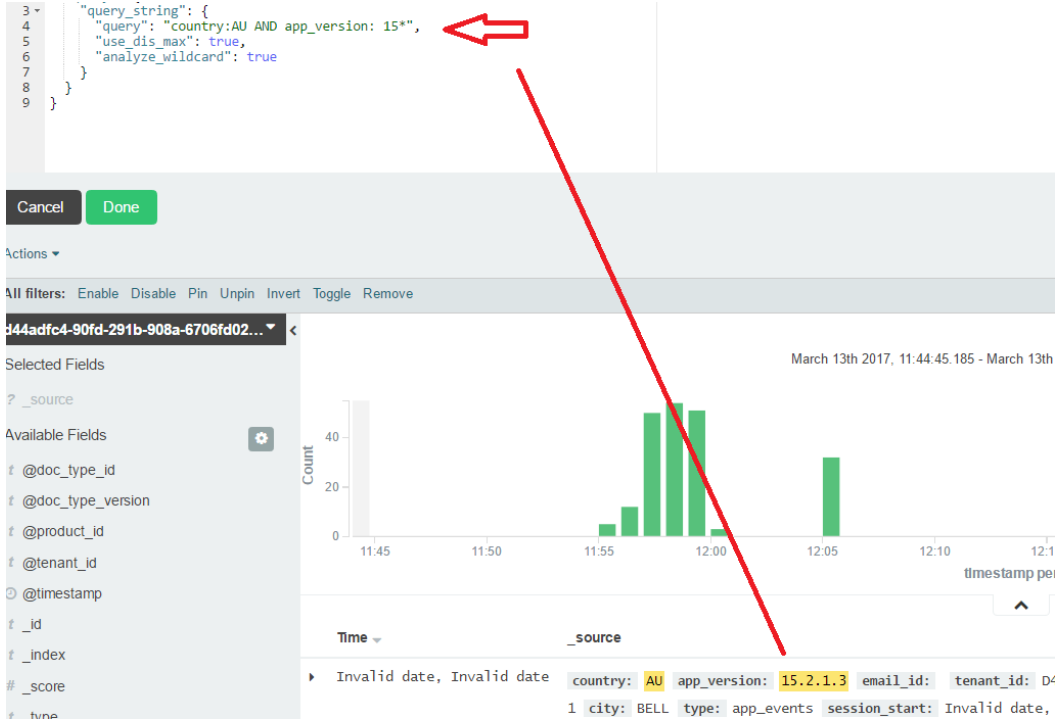
Searches can be saved and reused



Edit filters

Wildcard DSL with operators AND and OR

```
{  "query":
{   "query_string":
{    "query": "country:AU AND app_version: 15*",
"use_dis_max": true,
"analyze_wildcard": true   }
}}
```



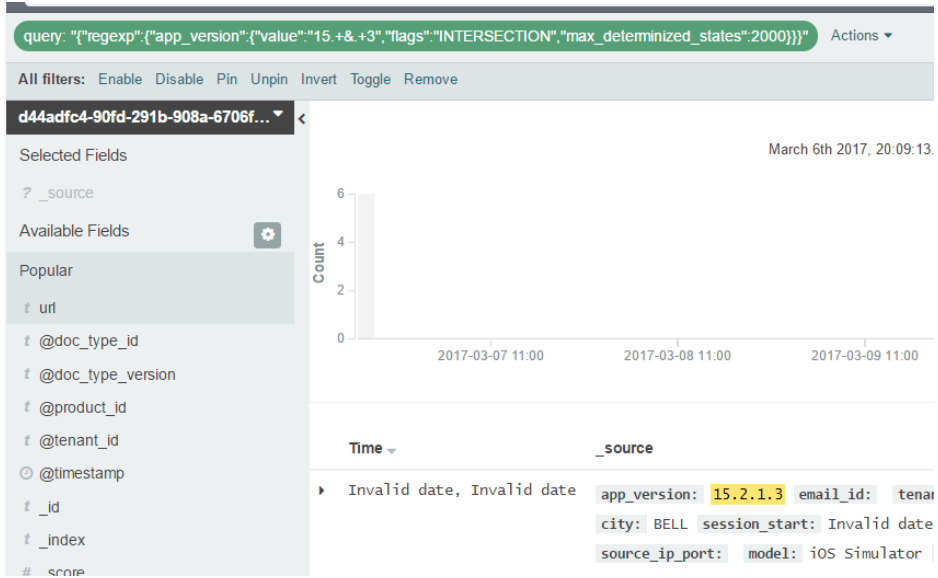
https://www.elastic.co/guide/en/elasticsearch/reference/5.2/query-dsl-query-string-query.html#query-string-syntax

Edit filters

"Regular expressions are dangerous because it's easy to accidentally create an innocuous looking one that requires an exponential number of internal determinized automaton states (and corresponding RAM and CPU) for Lucene to execute" – cap searches with *max-determined-states*

```
{  "query":
{   "regexp":
{    "app_version":
{      "value": "15.+&.+3",
"flags": "INTERSECTION",
"max_determinized_states": 2000
 }
 }
 }}
```

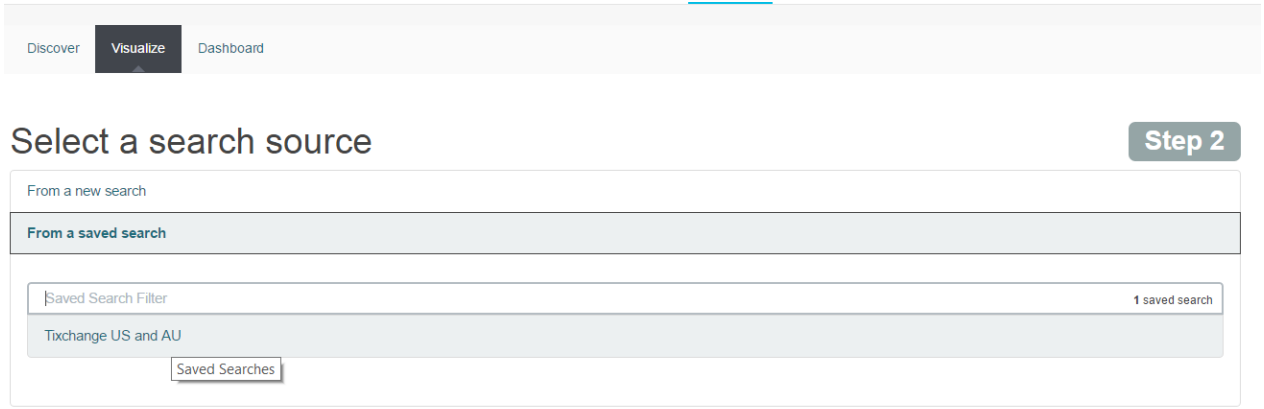
Both patterns joined by ampersand must match



https://www.elastic.co/guide/en/elasticsearch/reference/5.2/query-dsl-regexp-query.html#regexp-syntax

Saved searches

Save your good Query DSL searches – they can be used for new visualizations



https://www.elastic.co/guide/en/elasticsearch/reference/5.2/query-dsl-regexp-query.html#regexp-syntax

External searches – on-premise REST

Curl, Java, C#, Python, javaScript, PHP, Perl, Ruby

```
curl -XGET 'http://localhost:9200/social-*/_search' -d '{
{  "query":
{    "regexp":
{      "app_version":
{       "value": "15.+&.+3",
"flags": "INTERSECTION",
"max_determinized_states": 2000
  }
 }
 }}
}'
```

What Questions Do You Have?

THANK YOU!