

--Explore

Show event types

SELECT * FROM Transaction

SELECT count(*) FROM Transaction

FROM Transaction SELECT average(

--LINKING

SELECT count(*) FROM Transaction FACET appName LIMIT MAX

--Patterns

SELECT uniqueCount(session) as 'Visitors now' from PageView where appName = 'WebPortal'
since 15 minutes ago

SELECT uniqueCount(session) as 'Visitors' from PageView where appName = 'WebPortal'
since 1 day ago TIMESERIES

SELECT uniqueCount(session) as 'Visitors' from PageView where appName = 'WebPortal'
since 1 week ago TIMESERIES

-Time range & Time Series

SELECT count(*) FROM TransactionError SINCE 3 days ago UNTIL 5 hours ago TIMESERIES

Make more detailed with smaller buckets:

SELECT count(*) FROM TransactionError SINCE 3 days ago UNTIL 5 hours ago TIMESERIES
30 minutes

SELECT count(*) FROM TransactionError SINCE 3 days ago UNTIL 5 hours ago TIMESERIES
MAX

-Try out Time Series & Time Spans

SELECT count(*) FROM Transaction WHERE httpResponseCode = '500' SINCE _____
UNTIL _____

```
SELECT average(pageRenderingDuration) FROM PageView SINCE 12 hours ago
TIMESERIES
TIMESERIES 5 minutes
TIMESERIES MAX
```

-Adding your own Values & Thresholds to charts

```
SELECT count(*), 550 AS 'min', 1250 AS 'high' FROM TransactionError SINCE 3 days ago
UNTIL 5 hours ago TIMESERIES MAX
```

-Compare performance over time SINCE...COMPARE WITH

```
SELECT uniqueCount(session)
FROM PageView
where appName
='Frontend' since 1 week ago
compare with 4 week ago
timeseries 1 hour
```

-Compare metrics/attributes with multi function
SELECT more than one function on an event type

```
SELECT average(backendDuration), average(duration) FROM PageView WHERE appName
='Frontend' TIMESERIES 1 minute
```

```
SELECT average(duration ) AS 'pageload', average(pageRenderingDuration ) AS 'page render',
average(backendDuration ) AS 'web app + network' FROM PageView where appName
='Frontend'
```

-Compare with Multi-FACET, FACET CASES (labelling AS), FACET CASES (define brackets)

SELECT average(duration) from PageView facet pageUrl, countryCode, city

SELECT count(*) FROM Transaction FACET CASES (WHERE name LIKE '%cart%' AS 'cart',
Where name LIKE '%checkout%' AS 'checkout', WHERE name LIKE '%shipping%' AS
'shipping')

SELECT count(*) from PageView facet cases(where backendDuration < 0.5 as '<0.5', where
backendDuration < 1 as '0.5-1', where backendDuration >= 1 as '>1')

-Multi-Query (+add Query) multi-account

Account: Demo Prod

SELECT average(duration) as 'Frontend' FROM Transaction TIMESERIES WHERE appName
='Frontend'

Account: Other

SELECT average(duration) as 'xxxxx' FROM Transaction TIMESERIES WHERE appName
='xxxxxxx'

-FUNNEL

SELECT funnel(session, WHERE pageUrl like '%/' AS 'Homepage', where pageUrl like
'%product%' AS 'Place bet', WHERE pageUrl LIKE '%check%' AS 'cart', WHERE pageUrl LIKE
'%error%' AS 'shipping') FROM PageView SINCE 1 day ago

-HiSTOGRAM

SELECT histogram(duration, 10, 20) FROM PageView SINCE 1 week ago

-Apps > Custom Viz > Radar

SELECT count(*) FROM PageView FACET city LIMIT MAX WHERE city != 'San Jose' AND
city IS NOT NULL

Misc:

--WHERE

```
SELECT average(duration) FROM Transaction WHERE appName = 'FoodMe'
SELECT average(duration) FROM Transaction FACET appName WHERE appName ='Billing
Service' OR appName = 'Delivery'
SELECT average(duration) FROM Transaction FACET appName WHERE appName IN ('Billing
Service','Inventory Service','Delivery')
SELECT average(duration) FROM Transaction FACET appName WHERE appName LIKE
'%Service%'
```

--NULL VALUES

```
SELECT * FROM Transaction WHERE appName = 'WebPortal' WHERE couponCode is not null
```

--LIMIT MAX

```
SELECT count(*) FROM Log WHERE namespace_name NOT LIKE '%acme' FACET message
SINCE 10 minutes ago LIMIT MAX
```

Lab:

Query part of your data

/* Add a chart to show average page performance for specific browsers (userAgentName).
Use the WHERE IN clause to include Chrome, Safari, and Microsoft Edge : */

```
SELECT average(duration) FROM PageView FACET userAgentName
WHERE _____ IN ('_____', '_____', '_____')
```

/* Add a chart to show average page performance for specific pages (pageUrl).
Use the WHERE LIKE clause and wildcards to include any urls that contain 'phones' : */

```
SELECT average(duration) FROM PageView FACET pageUrl
WHERE _____ LIKE '_____'
```

Aggregate functions

--Count/Average/Min/Max/Percentile/Percentage count

```
SELECT count(attribute) FROM Transaction
```

```
SELECT count(*) FROM Transaction FACET Name
```

```
SELECT average(duration) FROM Transaction FACET appName
```

```
SELECT percentile(duration, 5, 50, 95) FROM PageView TIMESERIES AUTO
```

```
SELECT percentage(count(result ), WHERE result !='SUCCESS') FROM SyntheticCheck
```

Lab: Aggregate functions

--Try out these aggregate functions.

Percentile:

/* You want to understand more about outlier performance for your pages

Show the 95th percentile of pageview durations grouped by browser (userAgentName). Use

SELECT percentile(attribute [, percentile]) */

```
SELECT _____(_____, 95) FROM PageView FACET _____
```

Percentage:

--Show the percentage of your pageviews which reach the 'shoppingcart' using a string match in the pageUrl SELECT percentage(function(attribute), WHERE condition) FROM eventType

```
SELECT _____(Count(*), where pageUrl LIKE '%cart%') FROM PageView
```

Time ranges and TIMESERIES

--SINCE, SINCE...UNTIL, TIMESERIES

--SINCE

SELECT ... SINCE 1 day AGO | SELECT ... SINCE yesterday | SELECT ... SINCE sunday

--SINCE ... UNTIL

SELECT ... SINCE 3 days ago UNTIL 5 hours ago

--Add TIMESERIES to your queries to plot over time

SELECT ... SINCE 3 days ago SINCE 5 hours ago TIMESERIES

--Add a value after the TIMESERIES to indicate the evaluation window,

SELECT ... SINCE 1 day AGO TIMESERIES 30 minutes

--Add MAX after TIMESERIES to get the max no. of intervals in the time window (auto scales)

--(The maximum number of TIMESERIES buckets that will be returned is 366)

SELECT ... SINCE 1 day AGO TIMESERIES MAX

Adding your own values to charts

--SELECT function(attribute), value x AS 'x', value y AS 'y'

SELECT average(cpuPercent), 6 AS 'min', 26 AS 'high' FROM SystemSample TIMESERIES

Lab: Try out time spans and TIMESERIES

--Try out these queries

SELECT count(*) FROM Transaction WHERE httpResponseCode = '500'

SINCE _____

SINCE _____ UNTIL _____

SELECT average(pageRenderingDuration) FROM PageView SINCE 12 hours ago

TIMESERIES

TIMESERIES 5 minutes

TIMESERIES MAX

Adding your own values to charts

--SELECT function(attribute), value x AS 'x', value y AS 'y'

SELECT average(cpuPercent), 6 AS 'min', 26 AS 'high' FROM SystemSample TIMESERIES

Lab: Try out time spans and TIMESERIES

--Try out these queries

SELECT count(*) FROM Transaction WHERE httpResponseCode = '500'

SINCE _____

SINCE _____ UNTIL _____

```
SELECT average(pageRenderingDuration) FROM PageView SINCE 12 hours ago
TIMESERIES
TIMESERIES 5 minutes
TIMESERIES MAX
```

Lab: Rate, TIMESERIES and SLIDE BY

--Try out these queries and explore the results.

--Run these queries and note the x axis values stay constant. Save one to your dashboard

```
select rate(count(*), 1 minute ) FROM Transaction since 12 hours ago timeseries
```

```
select rate(count(*), 1 minute ) FROM Transaction since 1 day ago timeseries
```

--SLIDE BY example - try one query then the second query. Try out larger TIMESERIES windows and larger SLIDE BY amounts

```
SELECT average(duration) FROM Transaction timeseries 1 minute
```

```
SELECT average(duration) FROM Transaction timeseries 6 minute SLIDE BY 3 minute
```

Lab: Multi FACET and FACET CASES

--Add a Bar or Pie chart using a Multi-Facet query eg. :

--What are my 5 worst page load durations grouped by Browser (userAgentName), CountryCode, PageUrl

```
SELECT max(duration) FROM PageView WHERE appName ='WebPortal' FACET
userAgentName, countryCode, pageUrl LIMIT 5
```

--Use FACET CASES to show me how many PageViews durations are less than 6 seconds, and longer than 6 seconds:

```
SELECT count(*) FROM PageView FACET CASES (WHERE _____ < 6, WHERE duration
_____)
```

Lab: Try one of these

--Pick one of the below and try it out

--Show the average duration of my pageloads grouped by pageUrl. Some of them are over 5 seconds!

```
SELECT average(duration) AS 'avdur' FROM PageView LIMIT MAX FACET pageUrl
```

--Narrow down the list of my pageloads which have an average duration 'avdur' > 5 seconds.

Make sure to match the label (avdur) as your attribute to filter on

```
SELECT * FROM (SELECT average(duration) AS 'avdur' FROM PageView LIMIT MAX FACET pageUrl) WHERE avdur > 5
```

--RLIKE example: Show the transactions which used a coupon code and for a subset of products which have 8 values, but start with the value 6 and have any combination of 7 numbers after the 6.

```
SELECT * FROM Transaction WHERE appName = 'WebPortal' AND couponCode is not null AND request.uri RLIKE '.*6.{7}'
```

Multi function

--SELECT more than one function on an event type

```
SELECT average(duration ) AS 'pageload', average(pageRenderingDuration ) AS 'page render', average(backendDuration ) AS 'web app + network' FROM PageView where appName ='WebPortal'
```

Compare

--use SINCE ... COMPARE WITH

```
SELECT uniqueCount(session) FROM PageView where appName='WebPortal' since 1 week ago compare with 4 week ago timeseries 1 hour
```

Funnel, Histogram, Heatmap

--Funnel

```
SELECT funnel(session, WHERE pageUrl like '%/' AS 'Homepage', where pageUrl like '%/browse/plans' AS 'Place bet', WHERE pageUrl LIKE '%login.jsp' AS 'Login', WHERE pageUrl LIKE '%/checkout' AS 'Confirm') FROM PageView SINCE 1 day ago
```

Histogram

--Create a chart with a Histogram of back-end response times (Transaction)
--ranging up to 2 seconds with 10 buckets
SELECT histogram(_____, _____, _____) FROM _____
SINCE 1 day ago

heatmap

--Turn this into a heatmap of response times by adding FACET appName
SELECT histogram(_____, _____, _____)
FROM _____ SINCE 1 day ago FACET appName

Customise widgets

SELECT * FROM NginxSample

SELECT average(cpuPercent) FROM SystemSample TIMESERIES

Lab: Challenge yourself!

--Add some of these useful charts. use DemotronV2 account and WebPortal application:

1

--Count only http 500 errors from your Transaction event type and group by transaction name
and transactionSubType

2

--SELECT the following function(attribute) and label from the PageView event to find out how
many visitors are on my site right now?

--(use SINCE 5 minutes ago)

uniqueCount(session) AS 'Site Visitors'

3

--You have added a custom attribute to your Transaction event type in the WebPortal app to
store shopping cart total value called PurchasedCartGrandTotal

--SELECT the total shopping cart value using the function(attribute):

sum(PurchasedCartGrandTotal)

Custom Visualisations

```
SELECT count(*) FROM PageView FACET city LIMIT MAX WHERE city != 'San Jose' AND  
city IS NOT NULL
```