\*STATUS\*:

Support:

1. Servicecloud: tickets are handled. All blue. Nothing Pending.

Advisory:

1. Apple IS&T – Repro: no errors still – loaded 500M docs now. @varun @erick: let me know when to pull the plug.
2. Toyota 360Q - cases: 20974: information about Basic Auth passed to Aswath.

OpenSource (OSD-001):

None.

Conference Talks:

Brainstorming. Revising ..

curl --data-urlencode 'expr=search(collection13, qt="/export", q=\*:\*,fq="DATE\_ID\_ORTZ:(2304192)",fq="AD\_GROUP\_ID:(2585840322732277163)",fl="DATE\_ID,ORG\_ID,CAMPAIGN\_ID,AD\_GROUP\_ID,BO\_ID,GENDER,INFERRED\_ADMIN\_AREA,CONFIRMED\_IMPRESSIONS,CONFIRMED\_CLICKS,CONVERSIONS,USD\_COST,CURRENCY\_COST", sort="DATE\_ID asc, ORG\_ID asc, CAMPAIGN\_ID asc, AD\_GROUP\_ID asc, BO\_ID asc, GENDER asc")' http://localhost:8983/solr/collection13/stream

{"result-set":{"docs":[{"ORG\_ID":6104975898872402972,"CAMPAIGN\_ID":9066440624520951981,"CONFIRMED\_CLICKS":7591808140001592723,"BO\_ID":3880142620503188518,"USD\_COST":5431306044925927023,"CONFIRMED\_IMPRESSIONS":3867316427050826372,"CURRENCY\_COST":4961627584646675685,"CONVERSIONS":3423509194969619491,"GENDER":"tfgiionyxh ","AD\_GROUP\_ID":2585840322732277163,"DATE\_ID":1616286409,"INFERRED\_ADMIN\_AREA":"jrlzedia "},{"EOF":true,"RESPONSE\_TIME":45}]}}

curl --data-urlencode 'expr=search(collection4, qt="/export", q=\*:\*,fq="DATE\_ID\_ORTZ:(8)",fq="AD\_GROUP\_ID:(9)",fq="INFERRED\_ADMIN\_AREA:eyrpnh",fl="DATE\_ID,ORG\_ID,CAMPAIGN\_ID,AD\_GROUP\_ID,BO\_ID,GENDER,INFERRED\_ADMIN\_AREA,CONFIRMED\_IMPRESSIONS,CONFIRMED\_CLICKS,CONVERSIONS,USD\_COST,CURRENCY\_COST", sort="DATE\_ID asc, ORG\_ID asc, CAMPAIGN\_ID asc, AD\_GROUP\_ID asc, BO\_ID asc, GENDER asc, CONFIRMED\_IMPRESSIONS asc, CONVERSIONS asc, USD\_COST asc")' http://localhost:8983/solr/collection4/stream

select(rollup(search(daily,q="\*:\*",qt="/export",fl="DATE\_ID,ORG\_ID,CAMPAIGN\_ID,CONFIRMED\_IMPRESSIONS,CONFIRMED\_CLICKS,CONVERSIONS,CURRENCY\_COST,CONVERSIONS,CONFIRMED\_CLICKS,CURRENCY\_COST,CONVERSIONS,CURRENCY\_COST,CONFIRMED\_CLICKS",sort="DATE\_ID asc, ORG\_ID asc, CAMPAIGN\_ID asc",fq="ORG\_ID:4060",wt=javabin,zkHost="<removed>"),over="DATE\_ID,ORG\_ID,CAMPAIGN\_ID",sum(CONFIRMED\_IMPRESSIONS),sum(CONFIRMED\_CLICKS),sum(CONVERSIONS),sum(CURRENCY\_COST),sum(CONVERSIONS),sum(CONFIRMED\_CLICKS),sum(CURRENCY\_COST),sum(CONVERSIONS),sum(CURRENCY\_COST),sum(CONFIRMED\_CLICKS)),ORG\_ID as org\_id,CAMPAIGN\_ID as campaign\_id,sum(CONFIRMED\_IMPRESSIONS) as total\_impressions,sum(CONVERSIONS) as conversions,sum(CONFIRMED\_CLICKS) as total\_taps,DATE\_ID as date\_id,div(round(div(sum(CURRENCY\_COST),pow(raw(10),raw(8)))),raw(100)) as local\_spend,div(if(eq(sum(CONFIRMED\_CLICKS),raw(0.0)),raw(0.0),sum(CONVERSIONS)),if(eq(sum(CONFIRMED\_CLICKS),raw(0.0)),raw(-1.0),sum(CONFIRMED\_CLICKS))) as conversion\_rate,div(round(mult(div(if(eq(sum(CONVERSIONS),raw(0.0)),raw(0.0),div(sum(CURRENCY\_COST),pow(raw(10),raw(10)))),if(eq(sum(CONVERSIONS),raw(0.0)),raw(-1.0),sum(CONVERSIONS))),raw(100.0))),raw(100.0)) as avg\_cpa,div(round(mult(div(if(eq(sum(CONFIRMED\_CLICKS),raw(0.0)),raw(0.0),div(sum(CURRENCY\_COST),pow(raw(10),raw(10)))),if(eq(sum(CONFIRMED\_CLICKS),raw(0.0)),raw(-1.0),sum(CONFIRMED\_CLICKS))),raw(100.0))),raw(100.0)) as avg\_cpt)

select(rollup(search(daily,q=\"\*:\*\",async=true,qt=\"/export\",fl=\"DATE\_ID,ORG\_ID,CAMPAIGN\_ID,CONFIRMED\_IMPRESSIONS,CONFIRMED\_CLICKS," +

"CONVERSIONS,CURRENCY\_COST,CONVERSIONS,CONFIRMED\_CLICKS,CURRENCY\_COST," +

"CONVERSIONS,CURRENCY\_COST,CONFIRMED\_CLICKS\",sort=\"DATE\_ID "+

"asc, ORG\_ID asc, CAMPAIGN\_ID "+

"asc\",fq=\"ORG\_ID:4060\",wt=javabin,zkHost=\"<some zk url>\")," +

"over=\"DATE\_ID,ORG\_ID,CAMPAIGN\_ID\",sum(CONFIRMED\_IMPRESSIONS),sum(CONFIRMED\_CLICKS),sum(CONVERSIONS),sum(CURRENCY\_COST),sum(CONVERSIONS),sum(CONFIRMED\_CLICKS),sum(CURRENCY\_COST),sum(CONVERSIONS),sum(CURRENCY\_COST),sum(CONFIRMED\_CLICKS)),ORG\_ID"+

"as org\_id,CAMPAIGN\_ID as campaign\_id,sum(CONFIRMED\_IMPRESSIONS) as "+

"total\_impressions,sum(CONVERSIONS) as conversions,sum(CONFIRMED\_CLICKS) as total\_taps," +

"DATE\_ID as "+

"date\_id,div(round(mult(div(if(eq(sum(CONVERSIONS),0.0),0.0,div(sum(CURRENCY\_COST),pow" +

"(10,10))),if(eq(sum(CONVERSIONS),0.0),-1.0,sum(CONVERSIONS))),100.0)),100.0) "+

"as avg\_cpa,div(round(mult(div(if(eq(sum(CONFIRMED\_CLICKS),0.0),0.0,div(sum"+

"(CURRENCY\_COST),pow(10,10))),if(eq(sum(CONFIRMED\_CLICKS),0.0),-1.0,sum" +

"(CONFIRMED\_CLICKS))),100.0)),100.0) as avg\_cpt,div(round(div(sum(CURRENCY\_COST)," +

"pow(10,8))),100) as "+

"local\_spend,div(if(eq(sum(CONFIRMED\_CLICKS),0.0),0.0,sum(CONVERSIONS)),if(eq(sum" +

"(CONFIRMED\_CLICKS),0.0),-1.0,sum(CONFIRMED\_CLICKS)))"+

"as conversion\_rate)

select(parallel(daily,rollup(search(daily,q="\*:\*",qt="/export",fq="ORG\_ID:4060",fq="CAMPAIGN\_ID : (20549866 OR 19274242 OR 18987677 OR 20549867 OR 21554020 OR 20548696 OR 19274243 OR 18952540 OR 20548229 OR 92003556 OR 88558073 OR 90858940 OR 9694526 OR 26561963 OR 26562804 OR 65142434 OR 65151186 OR 75029720 OR 9225552 OR 49824614 OR 49823858 OR 49823859 OR 23839846 OR 33615670 OR 33613595 )",fq="ORG\_ID:4060",fq="DATE\_ID\_ORTZ : [20171212 TO 20171218]",fq="DATE\_ID : [20171211 TO 20171219]",fl="CAMPAIGN\_ID,CONVERSIONS,CURRENCY\_COST,CURRENCY\_COST,CONVERSIONS,CONFIRMED\_IMPRESSIONS,CONFIRMED\_CLICKS,CONVERSIONS,CONFIRMED\_CLICKS,CURRENCY\_COST,CONFIRMED\_CLICKS,CONFIRMED\_CLICKS,CONFIRMED\_IMPRESSIONS",sort="CAMPAIGN\_ID asc",wt=javabin,partitionKeys="CAMPAIGN\_ID",zkHost="mr11p01ad-solr001.iad.apple.com:2181,mr11p01ad-solr002.iad.apple.com:2181,mr11p01ad-solr003.iad.apple.com:2181,mr11p01ad-solr004.iad.apple.com:2181,mr11p01ad-solr005.iad.apple.com:2181/data\_reporting\_serving"),over="CAMPAIGN\_ID",sum(CONFIRMED\_IMPRESSIONS),sum(CONVERSIONS),sum(CONFIRMED\_CLICKS),sum(CURRENCY\_COST)),workers="6",sort="CAMPAIGN\_ID asc"),CAMPAIGN\_ID as campaign\_id,sum(CONVERSIONS) as ,conversions,div(round(div(sum(CURRENCY\_COST),pow(10,8))),100) as local\_spend,div(round(mult(div(if(eq(sum(CONVERSIONS),0.0),0.0,div(sum(CURRENCY\_COST),pow(10,10))),if(eq(sum(CONVERSIONS),0.0),-1.0,sum(CONVERSIONS))),100d)),100d) as avg\_cpa,sum(CONFIRMED\_IMPRESSIONS) as total\_impressions,sum(CONFIRMED\_CLICKS) as total\_taps,div(round(mult(div(if(eq(sum(CONFIRMED\_CLICKS),0.0),0.0,sum(CONVERSIONS)),if(eq(sum(CONFIRMED\_CLICKS),0.0),-1.0,sum(CONFIRMED\_CLICKS))),100d)),100d) as conversion\_rate,div(round(mult(div(if(eq(sum(CONFIRMED\_CLICKS),0.0),0.0,div(sum(CURRENCY\_COST),pow(10,10))),if(eq(sum(CONFIRMED\_CLICKS),0.0),-1.0,sum(CONFIRMED\_CLICKS))),100d)),100d) as avg\_cpt,div(round(mult(div(if(eq(sum(CONFIRMED\_IMPRESSIONS),0.0),0.0,sum(CONFIRMED\_CLICKS)),if(eq(sum(CONFIRMED\_IMPRESSIONS),0.0),-1.0,sum(CONFIRMED\_IMPRESSIONS))),100d)),100d) as ttr)

ORG\_ID, CAMPAIGN\_ID, DATE, CONVERSIONS, CURRENCY\_COST, CONFIRMED\_IMPRESSIONS, CONFIRMED\_CLICKS

|  |  |
| --- | --- |
|  | div(  round(  mult(  div(  if(eq(sum(CONVERSIONS),0.0),0.0,div(sum(CURRENCY\_COST),pow(10,10))),  if(eq(sum(CONVERSIONS),0.0),-1.0,sum(CONVERSIONS))  )  ,100.0)  )  ,100.0) |
|  | div(  round(  mult(  div(  if(eq(sum(CONFIRMED\_IMPRESSIONS),0.0),0.0,sum(CONFIRMED\_CLICKS)),  if(eq(sum(CONFIRMED\_IMPRESSIONS),0.0),-1.0,sum(CONFIRMED\_IMPRESSIONS))  )  ,100d)  )  ,100d) |
|  | div(  round(  mult(  div(  if(eq(sum(CONFIRMED\_CLICKS),0.0),0.0,sum(CONVERSIONS)),  if(eq(sum(CONFIRMED\_CLICKS),0.0),-1.0,sum(CONFIRMED\_CLICKS))  )  ,100d)  )  ,100d) |
|  | sum(CONFIRMED\_IMPRESSIONS) as "total\_impressions |

|  |
| --- |
| let(a=timeseries(collection, field="test\_dt", q="\*:\*",                           start="2012-05-01T00:00:00Z",                           end="2012-06-30T23:59:59Z",                           gap="+1MONTH",                            count(\*)),       get(a)) |
| let(stockA = sql(stocks, stmt="select closing\_price from price\_data where ticker='aaa' and ..."),       stockB = sql(stocks, stmt="select closing\_price from price\_data where ticker='bbb' and ..."),       pricesA = col(stockA, closing\_price),       pricesB = col(stockB, closing\_price),       movingA = movingAvg(pricesA, 30),       movingB = movingAvg(pricesB, 30),       tuple(correlation=corr(movingA, movingB))) |

The **corr** function performs the **Pearson Product Moment**correlation (attempts to draw a line of best fit through the data) on the two arrays.

**movingAvg**

The movingAvg function calculates a moving average over an array of numbers.

**movingAvg Parameters**

numeric array

window size: The array returned will be smaller than this value.

**movingAvg Syntax**

movingAverage(numericArray, 30)

Correlation measures the extent that two variables fluctuate together. For example if the rise of **stock A** typically coincides with a rise in **stock B**they are positively correlated. If a rise in **stock A** typically coincides with a fall in **stock B** they are negatively correlated.

**Array Math on Solr Result Sets**

Let's now explore how we can apply statistical functions on Solr result sets. In the example below we'll correlate arrays of moving averages for two stocks:  
  
let(stockA = sql(stocks, stmt="select closing\_price from price\_data where ticker='aaa' and ..."),  
      stockB = sql(stocks, stmt="select closing\_price from price\_data where ticker='bbb' and ..."),  
      pricesA = col(stockA, closing\_price),  
      pricesB = col(stockB, closing\_price),  
      movingA = movingAvg(pricesA, 30),  
      movingB = movingAvg(pricesB, 30),  
      tuple(correlation=corr(movingA, movingB)))  
  
Let's break down how this expression works:  
  
1) The **let** expression is **setting variables** and then returning a single **output tuple**.  
  
2) The first two variables **stockA** and **stockB**contain result sets from sql expressions. The sql expressions return tuples with the closing prices for stock tickers aaa and bbb.  
  
3) The next two variables **pricesA** and**pricesB**are created by the **col** function. The col function creates a numeric array from a list of Tuples. In this example pricesA contains the closing prices for stockA and pricesB contains the closing prices for stockB.  
  
4) The next two variables **movingA** and **movingB**are created by the movingAvg function. In this example movingA and movingB contain arrays with the moving averages calculated from the pricesA and pricesB arrays.   
  
5) In the final step we output a single Tuple containing the correlation of the movingA and movingB arrays. The correlation is computed using the **corr** function.

All statistical functions in the initial release are backed by **Apache Commons Math**. The initial release includes a core group of functions that support:

* + Rank transformations
  + Histograms
  + Percentiles
  + Simple regression and predict functions
  + One way ANOVA
  + Correlation
  + Covariance
  + Descriptive statistics
  + Convolution
  + Finding the delay in signals/time series
  + Lagged regression
  + Moving averages
  + Sequence generation
  + Calculating Euclidean distance between arrays
  + Data normalization and scaling
  + Array creation and manipulation functions
  + **Statistical functions can be applied to:**
  + Time series result sets
  + Random sampling result sets
  + SQL result sets (Solr's Internal Parallel SQL)
  + JDBC result sets (External JDBC Sources)
  + K-Nearest Neighbor results sets
  + Graph Expression result sets
  + Search result sets
  + Faceted aggregation result sets
  + MapReduce result sets

setx -m JAVA\_HOME “C:\Program Files\Java\jdk1.8.0\_171”

setx -m PATH "%PATH%;%JAVA\_HOME%\bin";

|  |
| --- |
| {"id":"event-1","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":4,"impressions\_i":134,"clicks\_i":48},  {"id":"event-2","campaign\_id\_s":"cmp-02","org\_id\_s":"org-02","conversations\_i":2,"impressions\_i":174,"clicks\_i":26},  {"id":"event-3","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":6,"impressions\_i":152,"clicks\_i":49},  {"id":"event-4","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":5,"impressions\_i":154,"clicks\_i":27},  {"id":"event-5","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":9,"impressions\_i":176,"clicks\_i":38},  {"id":"event-6","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":5,"impressions\_i":137,"clicks\_i":83},  {"id":"event-7","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":3,"impressions\_i":154,"clicks\_i":36},  {"id":"event-8","campaign\_id\_s":"cmp-02","org\_id\_s":"org-02","conversations\_i":1,"impressions\_i":178,"clicks\_i":35},  {"id":"event-9","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":7,"impressions\_i":124,"clicks\_i":49},  {"id":"event-10","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":8,"impressions\_i":147,"clicks\_i":26},  {"id":"event-11","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":2,"impressions\_i":165,"clicks\_i":47},  {"id":"event-12","campaign\_id\_s":"cmp-03","org\_id\_s":"org-02","conversations\_i":6,"impressions\_i":126,"clicks\_i":35},  {"id":"event-13","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":8,"impressions\_i":156,"clicks\_i":36},  {"id":"event-14","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":5,"impressions\_i":154,"clicks\_i":50},  {"id":"event-15","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":7,"impressions\_i":128,"clicks\_i":39},  {"id":"event-16","campaign\_id\_s":"cmp-01","org\_id\_s":"org-02","conversations\_i":3,"impressions\_i":178,"clicks\_i":47},  {"id":"event-17","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":6,"impressions\_i":136,"clicks\_i":25},  {"id":"event-18","campaign\_id\_s":"cmp-03","org\_id\_s":"org-02","conversations\_i":1,"impressions\_i":167,"clicks\_i":68},  {"id":"event-19","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":8,"impressions\_i":128,"clicks\_i":48},  {"id":"event-20","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":3,"impressions\_i":167,"clicks\_i":38}, {"id":"event-21","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":6,"impressions\_i":138,"clicks\_i":48}, {"id":"event-22","campaign\_id\_s":"cmp-01","org\_id\_s":"org-02","conversations\_i":4,"impressions\_i":117,"clicks\_i":28}, {"id":"event-23","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":3,"impressions\_i":189,"clicks\_i":54}, {"id":"event-24","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":8,"impressions\_i":123,"clicks\_i":47}, {"id":"event-25","campaign\_id\_s":"cmp-01","org\_id\_s":"org-01","conversations\_i":5,"impressions\_i":135,"clicks\_i":38}, {"id":"event-26","campaign\_id\_s":"cmp-02","org\_id\_s":"org-02","conversations\_i":8,"impressions\_i":148,"clicks\_i":54}, {"id":"event-27","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":1,"impressions\_i":138,"clicks\_i":56}, {"id":"event-28","campaign\_id\_s":"cmp-01","org\_id\_s":"org-02","conversations\_i":5,"impressions\_i":127,"clicks\_i":37}, {"id":"event-29","campaign\_id\_s":"cmp-02","org\_id\_s":"org-01","conversations\_i":7,"impressions\_i":148,"clicks\_i":45}, {"id":"event-30","campaign\_id\_s":"cmp-03","org\_id\_s":"org-01","conversations\_i":3,"impressions\_i":128,"clicks\_i":23} |

|  |
| --- |
| search(weekly\_data,  zkHost="localhost:9983",  qt="/export",  q="\*:\*",  fq="campaign\_id\_s:(cmp-01 OR cmp-02 OR cmp-03)",  fq="org\_id\_s:org-01",  fl="id,campaign\_id\_s,org\_id\_s,conversations\_i,impressions\_i,clicks\_i",  sort="campaign\_id\_s asc") |

|  |
| --- |
| rollup(  search(weekly\_data,  zkHost="localhost:9983",  qt="/export",  q="\*:\*",  fq="campaign\_id\_s:(cmp-01 OR cmp-02 OR cmp-03)",  fq="org\_id\_s:org-01",  fl="id,campaign\_id\_s,org\_id\_s,conversations\_i,impressions\_i,clicks\_i",  sort="campaign\_id\_s asc"),  over="campaign\_id\_s",  sum(conversations\_i), sum(impressions\_i), sum(clicks\_i)) |

|  |
| --- |
| select(  rollup(  search(weekly\_data,  zkHost="localhost:9983",  qt="/export",  q="\*:\*",  fq="campaign\_id\_s:(cmp-01 OR cmp-02 OR cmp-03)",  fq="org\_id\_s:org-01",  fl="id,campaign\_id\_s,org\_id\_s,conversations\_i,impressions\_i,clicks\_i",  sort="campaign\_id\_s asc"),  over="campaign\_id\_s",  sum(conversations\_i), sum(impressions\_i), sum(clicks\_i)),  campaign\_id\_s as campaign\_id\_s,  sum(conversations\_i) as aggr\_conv,  sum(impressions\_i) as aggr\_impr,  sum(clicks\_i) as aggr\_clicks) |

|  |
| --- |
| select(  rollup(  search(weekly\_data,  zkHost="localhost:9983",  qt="/export",  q="\*:\*",  fq="campaign\_id\_s:(cmp-01 OR cmp-02 OR cmp-03)",  fq="org\_id\_s:org-01",  fl="id,campaign\_id\_s,org\_id\_s,conversations\_i,impressions\_i,clicks\_i",  sort="campaign\_id\_s asc"),  over="campaign\_id\_s",  sum(conversations\_i), sum(impressions\_i), sum(clicks\_i)),  campaign\_id\_s as campaign\_id\_s,  sum(conversations\_i) as aggr\_conv,  sum(impressions\_i) as aggr\_impr,  sum(clicks\_i) as aggr\_clicks) |

|  |
| --- |
| let(  a=timeseries(historical\_stocks\_data, field="timestamp\_dt", fl="closing\_pts\_i", q="stock\_s:stockA", start="2013-01-31T00:00:00Z", end="2017-01-31T00:00:00Z", gap="+7DAYS", avg(closing\_pts\_i)),  b=timeseries(historical\_stocks\_data, field="timestamp\_dt", fl="closing\_pts\_i", q="stock\_s:stockB", start="2013-01-31T00:00:00Z", end="2017-01-31T00:00:00Z", gap="+7DAYS", avg(closing\_pts\_i)),  stockA=select(get(a), avg(closing\_pts\_i) as avg\_closingA, timestamp\_dt as timestamp\_dt),  stockB=select(get(b), avg(closing\_pts\_i) as avg\_closingB, timestamp\_dt as timestamp\_dt),  pricesA = col(stockA, avg\_closingA),  pricesB = col(stockB, avg\_closingB),  movingA = movingMedian(pricesA, 30),  movingB = movingMedian(pricesB, 30),  tuple(correlation=corr(movingA, movingB)))  "correlation": 0.9999429332530996 |

|  |
| --- |
| let(  a=timeseries(historical\_stocks\_data, field="timestamp\_dt", fl="closing\_pts\_i", q="stock\_s:stockA", start="2013-01-31T00:00:00Z", end="2017-01-31T00:00:00Z", gap="+7DAYS", avg(closing\_pts\_i)),  get(a)) |

|  |
| --- |
| let(  a=timeseries(historical\_stocks\_data, field="timestamp\_dt", fl="closing\_pts\_i", q="stock\_s:stockA", start="2013-01-31T00:00:00Z", end="2017-01-31T00:00:00Z", gap="+7DAYS", avg(closing\_pts\_i)),  c=timeseries(historical\_stocks\_data, field="timestamp\_dt", fl="closing\_pts\_i", q="stock\_s:stockC", start="2013-01-31T00:00:00Z", end="2017-01-31T00:00:00Z", gap="+7DAYS", avg(closing\_pts\_i)),  stockA=select(get(a), avg(closing\_pts\_i) as avg\_closingA, timestamp\_dt as timestamp\_dt),  stockC=select(get(c), avg(closing\_pts\_i) as avg\_closingC, timestamp\_dt as timestamp\_dt),  pricesA = col(stockA, avg\_closingA),  pricesC = col(stockC, avg\_closingC),  movingA = movingMedian(pricesA, 30),  movingC = movingMedian(pricesC, 30),  tuple(correlation=corr(movingA, movingC)))  "correlation": -0.5077727897022903 |