



OVERVIEW

This overview covers the *Charts* (Core Package) and *Analyzes* (Tooling Package) of *Force-Instrumenter*. The charts provide an unlimited number of charts (Line, Pie, Doughnut and Bar) for information on Commands, Queries and Services. The Analyzes package allows a granular view of specific runs whereby one can analyze the metrics via chart, list data, explicit tiles and Sequence Diagrams.

CHARTS

Each graph type presents different views to help understand your application metrics. The graphs initially separate the information into three categories of (1) *Commands*, (2) *Queries*, (3) *Services*. Each category is further broken down into representative attributes of Duration, CPU, Heap-Size, Query Rows, Queries, Callouts, etc. [See **Attributes** for more information]. Each of the attributes are separated into 5 stages your application goes through. Those stages are as followed:

- **Stage 1, *ObjectCreated***; The class is created.
- **Stage 2, *Dispatcher***; The class is dispatched and ready to run.
- **Stage 3, *Started***; The object is started (running).
- **Stage 4, *InProgress***; The class is in progress
- **Stage 5, *Complete***; the class has completed

Each of the charts allows you to display all gathered metrics broken down by *Commands*, *Queries*, *Services*. You also can view,

- View Average of a metric
- View various category combination (Command, Query, Service)
- Select by Date

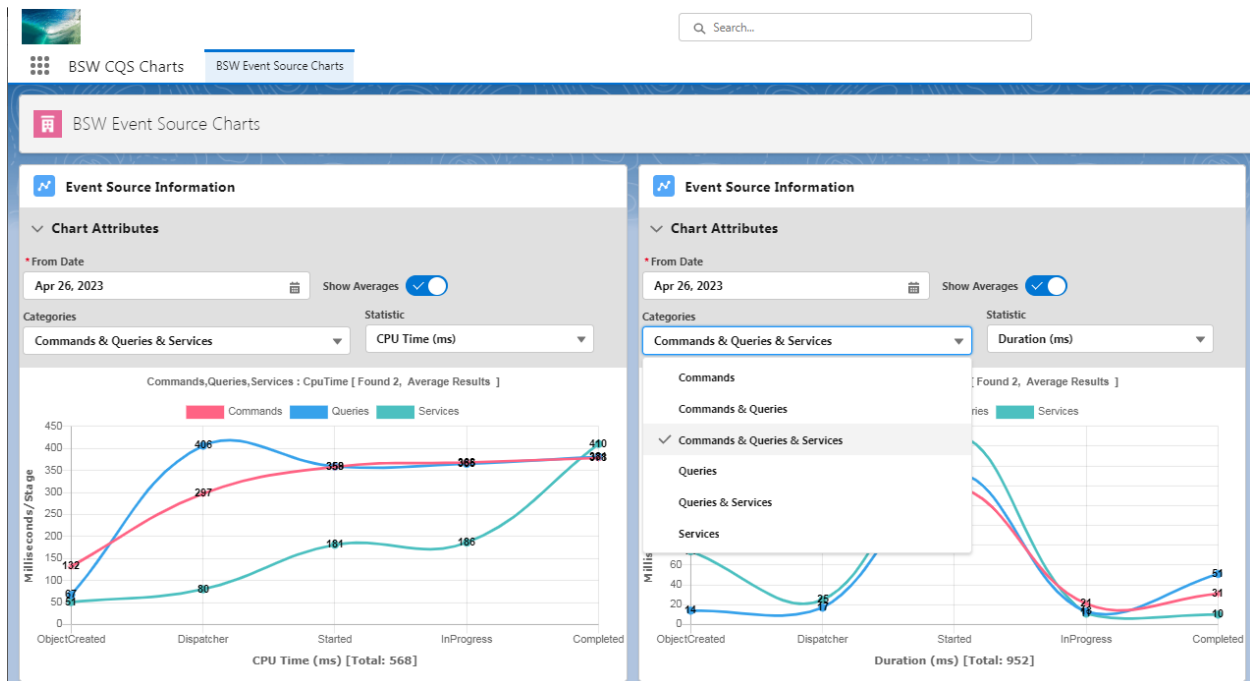


Figure 1 Chart allowing Selection of Category

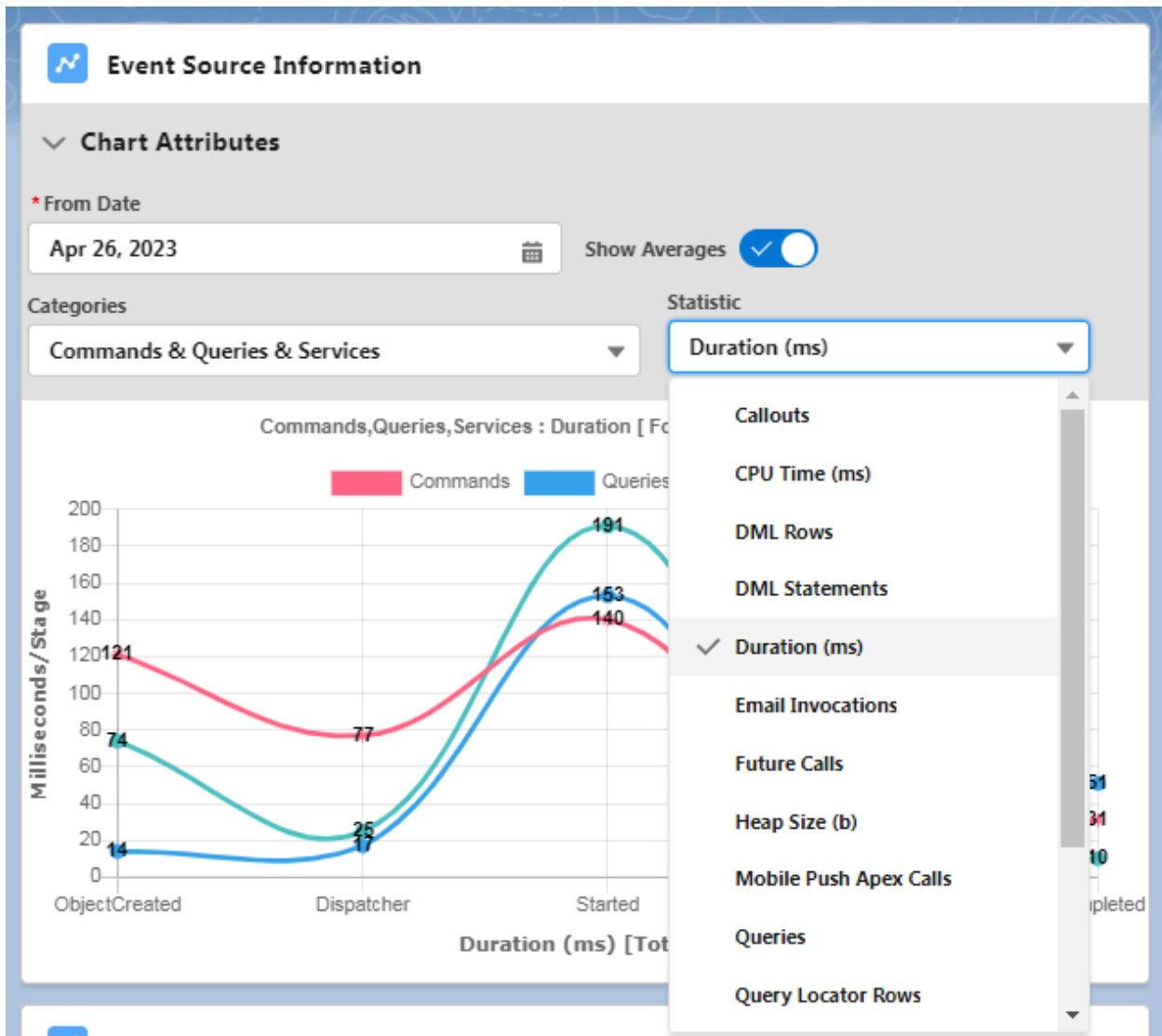


Figure 2 Chart allowing specific metrics



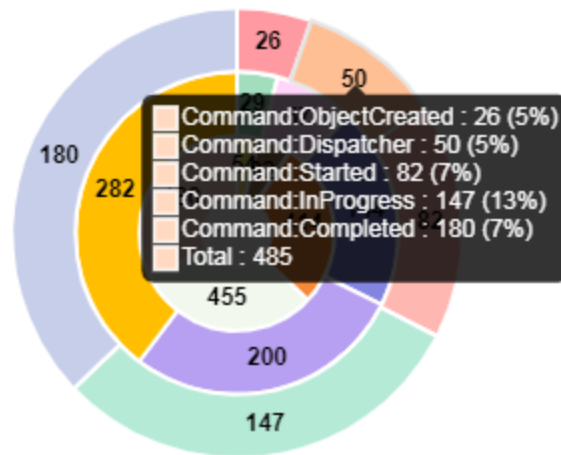
MULTI-PIE - DURATION



Event Source Information

> Chart Attributes

Commands,Queries,Services : Duration [Found 1]



Duration (ms) [Total: 942]

Figure 3 Multi-Pie Chart

LINE - DURATION



Event Source Information

> Chart Attributes

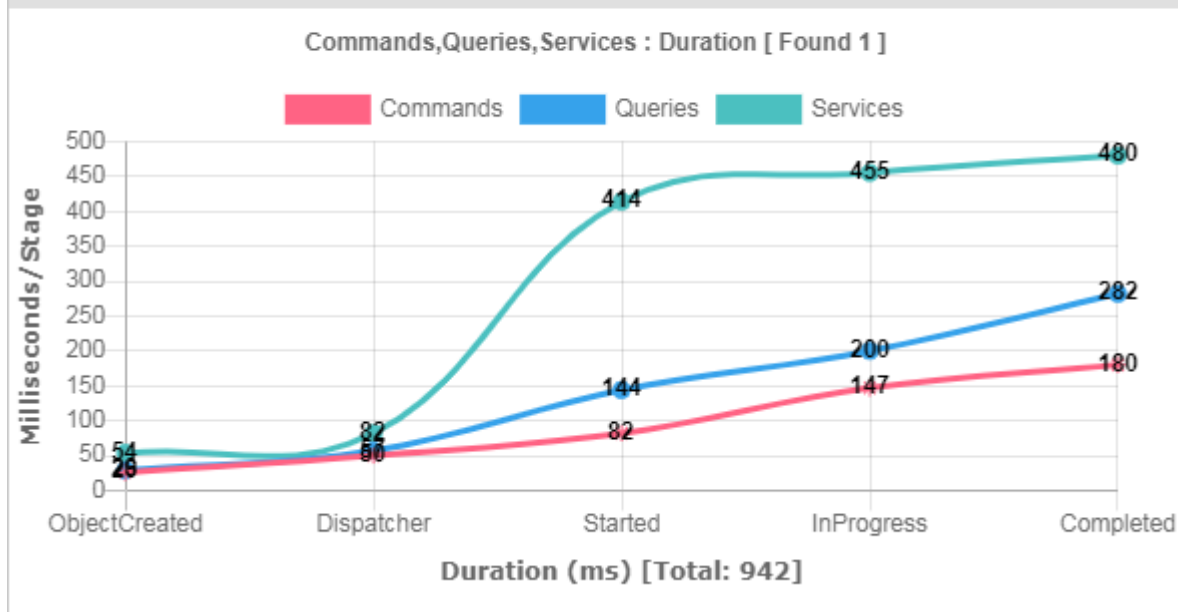


Figure 4 Line Chart of Metrics

DOUGHNUT – DURATION

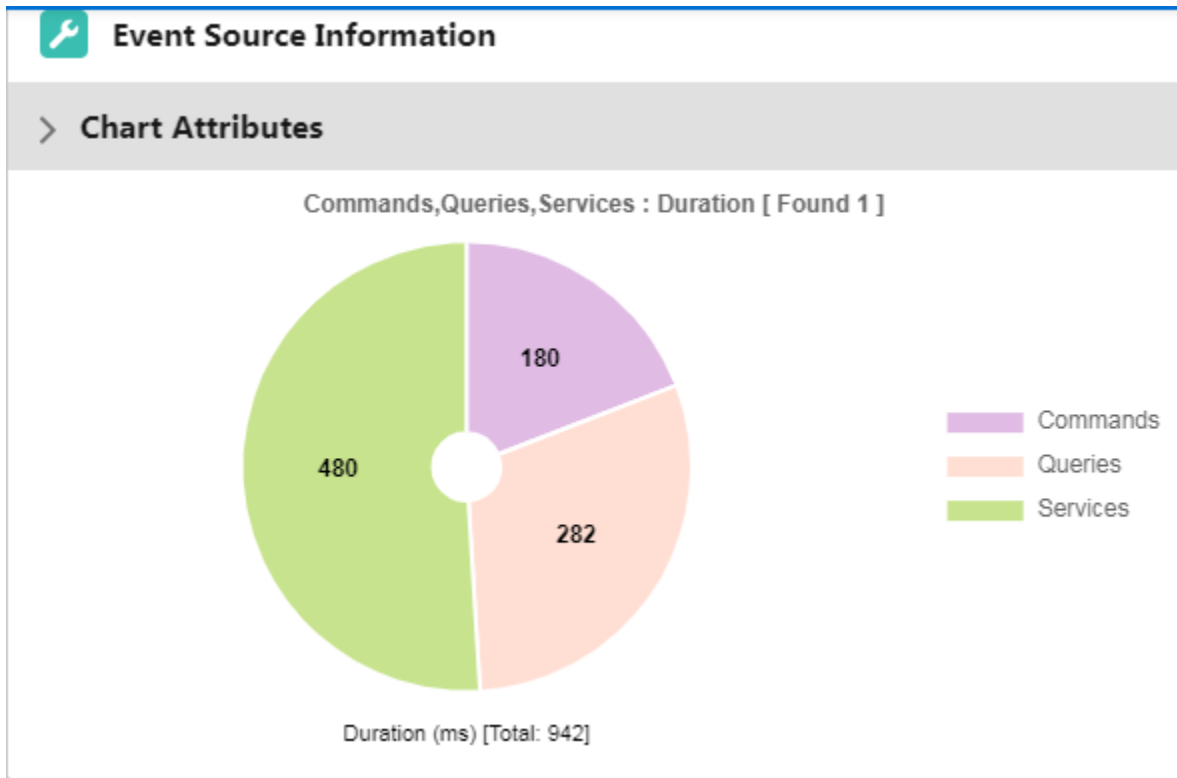


Figure 5 Doughnut Chart

BAR – CPU TIME

Event Source Information

> Chart Attributes

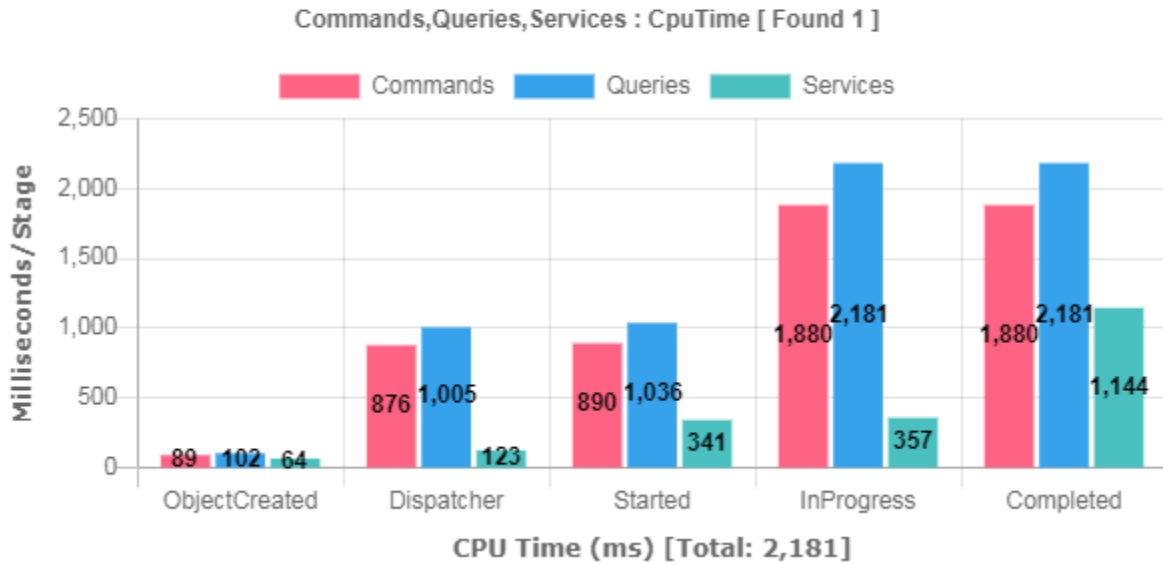


Figure 6 Bar Chart

CODE ANALYZER (TOOLING PACKAGE)

[illegible]

This tab, *Analyze CQS Components*, allows you to select a CQS component (Command, Query, Service and Runner¹). Once selected, the code is presented in the adjacent window. Next, select

¹ More on the Runner later

Run, to analyze the runtime behavior. Assuming no errors, three other panes will be shown; chart pane, list-view of metrics pane and the tile pane.

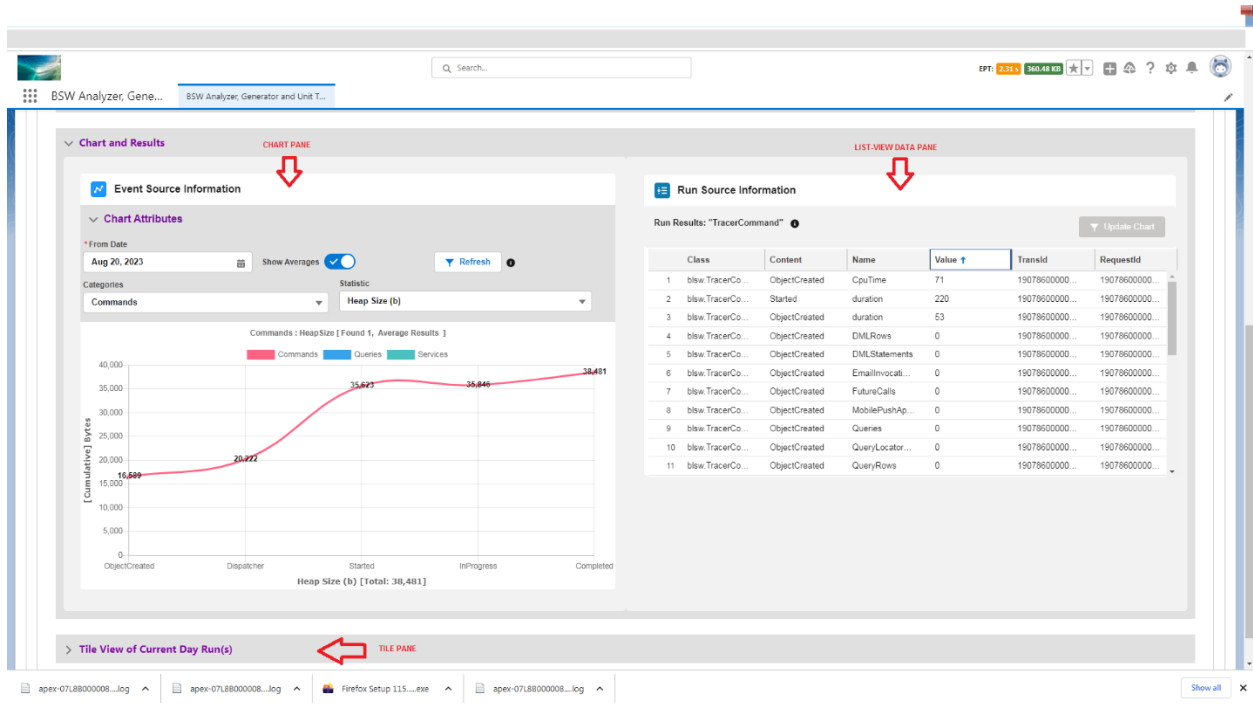
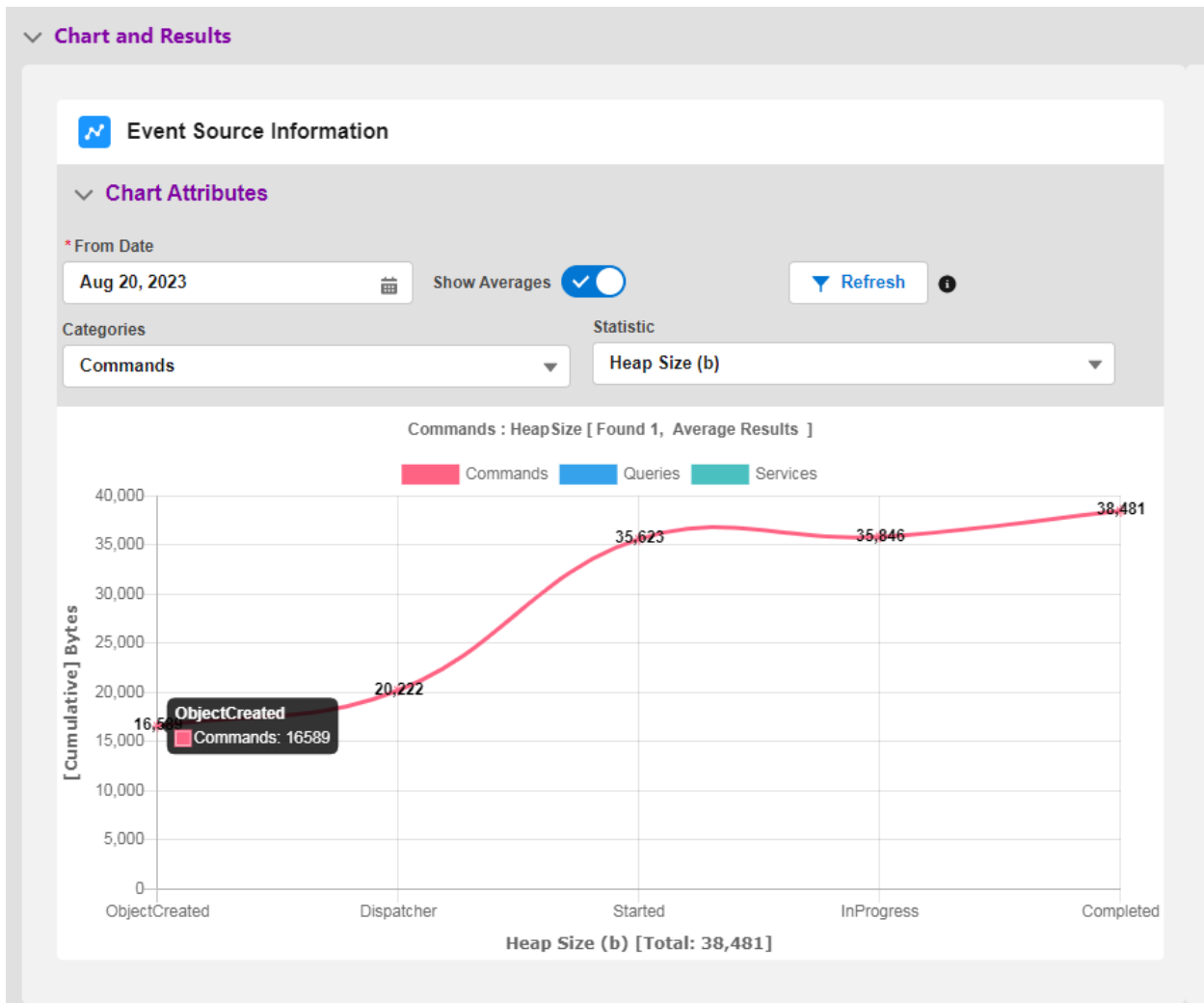


CHART PANE


The Chart Pane shows the results of the Analysis Run. You can run the analyses more than once (by selecting the **Run** button) and it will accommodate for the number of runs. You may have to refresh (Refresh Button) as the results are captured asynchronously.



LIST-VIEW DATE PANE

The view provides a list of metrics for the runs and is reflected in the Chart Pane. Here you can sort as needed. It keeps a total combination of results from the runs.



 **Run Source Information**

Run Results: "TracerCommand" ⓘ

Update Chart

	Class	Content	Name	Value ↑	TransId	RequestId
1	blsw.TracerCo...	ObjectCreated	CpuTime	71	19078600000...	19078600000...
2	blsw.TracerCo...	Started	duration	220	19078600000...	19078600000...
3	blsw.TracerCo...	ObjectCreated	duration	53	19078600000...	19078600000...
4	blsw.TracerCo...	ObjectCreated	DMLRows	0	19078600000...	19078600000...
5	blsw.TracerCo...	ObjectCreated	DMLStatements	0	19078600000...	19078600000...
6	blsw.TracerCo...	ObjectCreated	EmailInvocati...	0	19078600000...	19078600000...
7	blsw.TracerCo...	ObjectCreated	FutureCalls	0	19078600000...	19078600000...
8	blsw.TracerCo...	ObjectCreated	MobilePushAp...	0	19078600000...	19078600000...
9	blsw.TracerCo...	ObjectCreated	Queries	0	19078600000...	19078600000...
10	blsw.TracerCo...	ObjectCreated	QueryLocator...	0	19078600000...	19078600000...
11	blsw.TracerCo...	ObjectCreated	QueryRows	0	19078600000...	19078600000...

TILE VIEW OF CURRENT DAY RUN(S) [TILE PANE]

The Tile View shows current daily runs via the Run Id. The Run Id is the unique transaction Identifier associate with each CQS execution. The Tiles provide a breakdown of all the metrics gathered along with the associated timestamp of execution.

Within each tile you can pop up the CQS Sequence Diagram. The provides a different flow view.

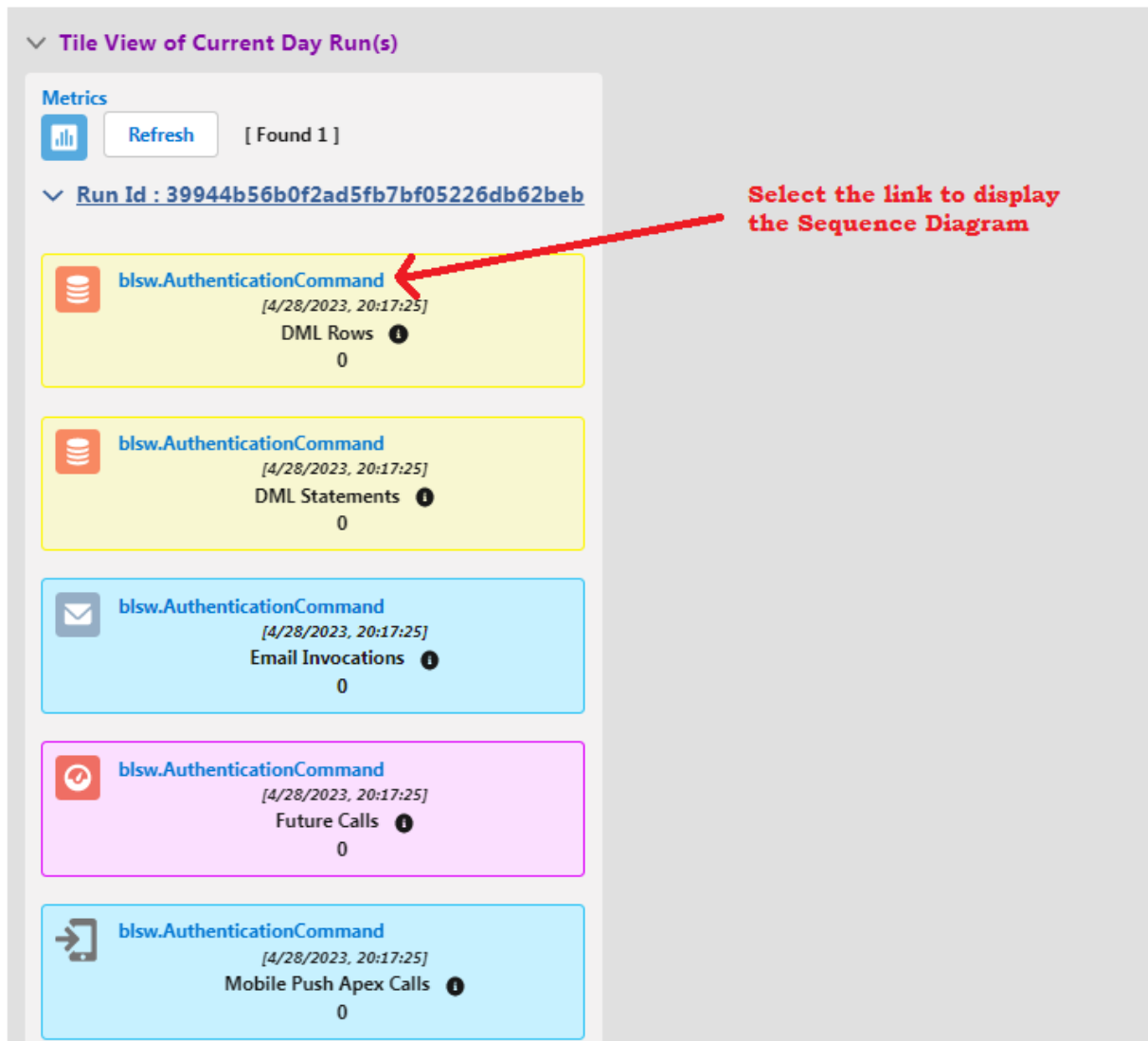


Figure 7 Tile View of Metrics

CODE FLOW VIA SEQUENCE DIAGRAMS

Once a CQS class has executed, the instrumented information is accessible, allowing you the ability to display the Sequence Diagram of the flow of the CQS execution from the [Tile View](#) by selecting the link.

CQS SEQUENCE DIAGRAM

From a transaction Id we can display a Sequence Diagram of the metrics and the methods. The diagram is **not** a complete stack trace of all the methods. However, the flow represents the instrumentation of events that occurred and associate metrics.

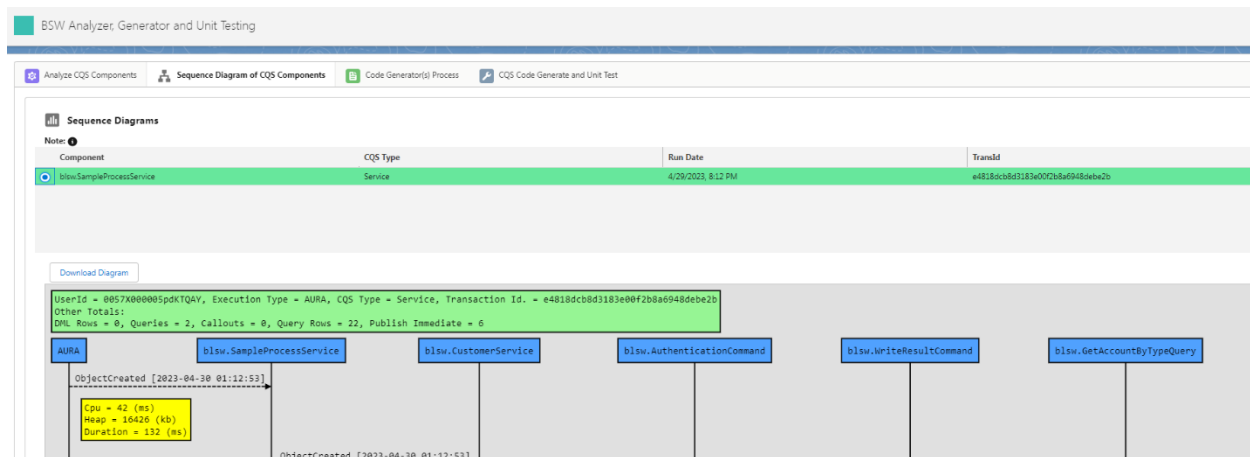


Figure 8 Sequence Diagram from Transaction Id

Below diagram shows (simpler) Sequence Diagram of a sample CQS transaction.

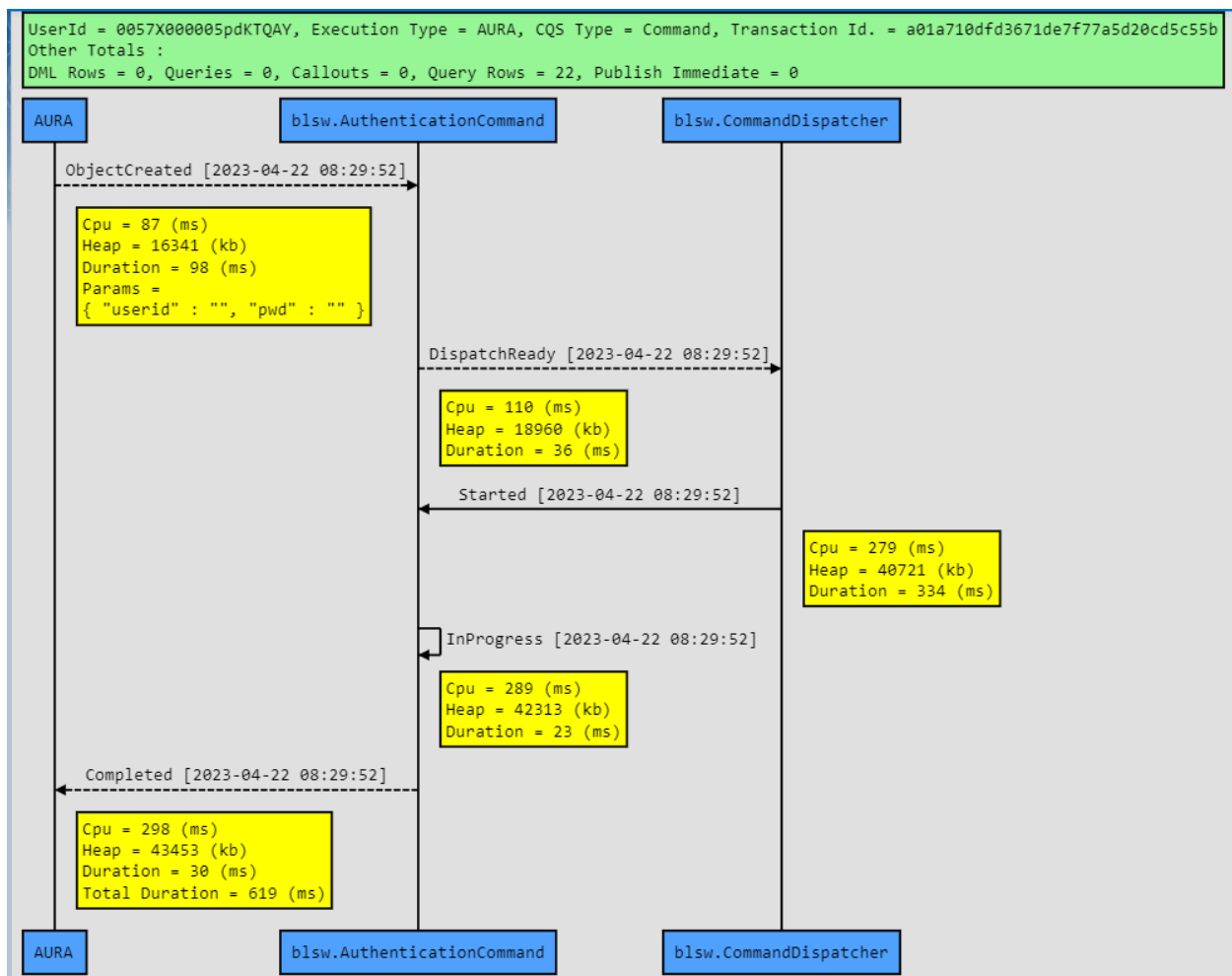


Figure 9 CQS Sequence Diagram