## Configuring Azure Metrics Charts

These are the instructions on creating common Azure Metric Charts. We are going to pin them to an Azure Dashboard, but the Azure Dashboard portion will be reviewed later.

Follow these steps to configure Azure Metrics charts:

1. Navigate to your Azure Synapse instance by searching in the top Azure Portal bar for ‘Azure Synapse’ then selecting the database you would like to configure.

From the landing page, navigate to the ‘metrics’ tab:

Graphical user interface, application

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### Create the Resource Utilization Chart

This chart shows DWU consumption, which is the maximum of either CPU or Data IO %. We add both of those metrics to this chart so you can see which metric is primarily using your DWU. Typically, CPU % will be equivalent to DWU % most of the time.

1. In the metric bar along the top of the chart, select ‘DWU percentage’ for metric and set Aggregation to ‘Max’

Graphical user interface, text, application, email

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1. Now select ‘Add metric’, then select CPU Percentage and set Aggregation to ‘Max’

Chart

Description automatically generated

1. Once again hit ‘Add Metric’ and add ‘Data IO Percentage’ and set Aggregation to ‘max’
2. Your chart should now look like this, note that CPU percentage and DWU percentage overlap a lot of the time, so you may only see one of them:

Chart, line chart

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1. Click the pencil icon at the top of the chart to name the chart. We will name this one ‘Resource Utilization’

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1. Next we will click ‘Pin to dashboard’ and in the popup select the dashboard we previously created and click ‘pin’

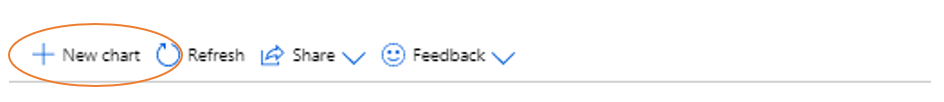


CONTINUE WITH THIS SAME METHOD TO CONFIGURE THE REST OF THE CHARTS.

### Create the Tempdb Utilization Chart

The Tempdb utilization chart will show you how much tempdb is being consumed at any given time. This is a very important metric when identifying opportunities to optimize queries because whenever tempdb usage is high that likely means there is a lot of data movement going on.

1. Click New chart

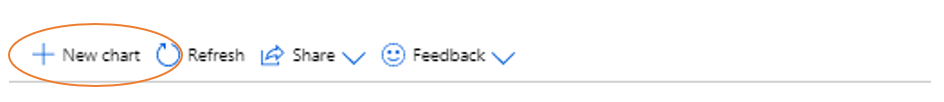


1. In the metric drop-down, select ‘Local tempdb percentage’
2. Set the aggregation to ‘max’
3. Set name to ‘TempDB Utilization
4. Pin to Dashboard

### Create the Active & Queued Queries Chart

The Active & Queued queries chart is helpful in determining how many queries are queued at any given time. Remember that whatever your interval is set to, the chart is adding up however many queries were running or queued during that time. So if the interval is set to 5 minutes, then it is adding up however many queries were queued at any point during that 5 minute window. It does not necessarily mean they were all queued at the same time.

1. Click New chart



1. In the metric drop-down select ‘Active Queries’
2. Set aggregation to ‘SUM’
3. Click ‘add metric’
4. In the metric drop-down select ‘Queued Queries’
5. Set aggregation to ‘SUM’
6. Select the chart type and change it to ‘Bar chart’

Graphical user interface, application

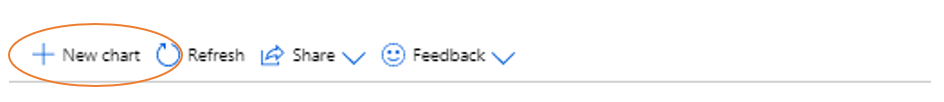
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1. Set name to ‘Active and Queued Queries
2. Pin to dashboard

### Create the Workload Group allocation Chart

The workload group allocation chart is a good indicator of how effectively workload management is configured. This chart is used in conjunction with active and queued queries. If you notice a lot of query queuing it could be that certain queries are being granted too many resources, and throughput could possibly increase by giving certain queries a smaller resource grant using workload groups and classifiers.

1. Click New chart



1. In the metric drop-down select ‘Workload Group allocation by system percentage’
2. Set aggregation to ‘MAX’
3. Select the chart type and change it to a bar chart
4. Click ‘apply splitting’, set ‘values’ to ‘Workload group’, set ‘limit’ to 20.

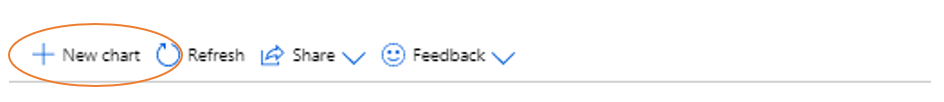
A picture containing implement, pencil, sitting, colorful

Description automatically generated

1. Name the chart “Workload Group Allocation”
2. Pin to dashboard

### Adaptive Cache Hit vs Used %

1. Click New chart



1. In the metric drop-down select ‘Cache hit Percentage’
2. Set aggregation to ‘MAX’
3. Click ‘add metric’
4. In the metric drop-down select ‘Cache Used Percentage’
5. Set aggregation to ‘MAX’
6. Name the chart Cache Used vs Cache hit %
7. Pin to Dashboard

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