



Creating Queries

Cloud Insights

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Creating Queries 1

Creating Queries

Queries enable you to search the assets in your environment at a granular level, allowing to filter for the data you want and sort the results to your liking.

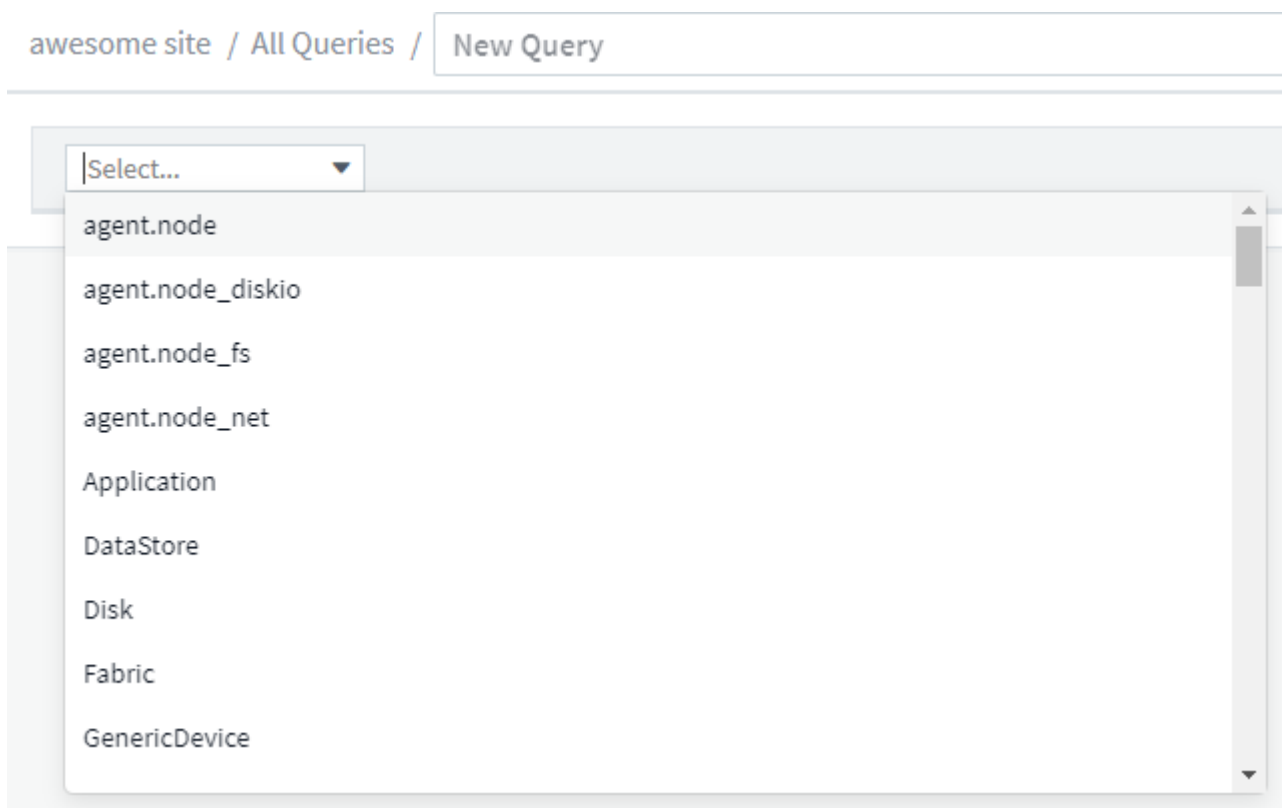
For example, you can create a query for *volumes*, add a filter to find particular *storages* associated with the selected volumes, add another filter to find a particular *annotation* such as "Tier 1" on the selected storages, and finally add another filter to find all storages with *IOPS - Read (IO/s)* greater than 25. When the results are displayed, you can then sort the columns of information associated with the query in ascending or descending order.

Note: When a new data collector is added which acquires assets, or any annotation or application assignments are made, you can query for those new assets, annotations, or applications only after the queries are indexed. Indexing occurs at a regularly scheduled interval or during certain events such as running annotation rules.

Creating a Query is very simple:

1. Navigate to **Queries > *+New Query**.
2. From the 'Select...' list, select the object type you want to query for. You can scroll through the list or you can start typing to more quickly find what you're searching for.

Scroll list:



Type-to-Search:

on aggr

netapp_ontap.aggregate

netapp_ontap.resource_headroom_aggr

You can add filters to further narrow down your query by clicking the **+** button in the **Filter By** field. Group rows by object or attribute. When working with integration data (Kubernetes, ONTAP Advanced Metrics, etc.), you can group by multiple attributes, if desired.

netapp_ontap.aggregate

Filter By
cluster_name
ci-

Group
aggr_name

5 items found

Table Row Grouping	Metrics & Attributes	
aggr_name	cp_read_blocks	cluster_name ↓
oci02sat0	0.59	oci-phonehome
oci02sat1	0.15	oci-phonehome
oci02sat2	212.64	oci-phonehome
oci01sat0	0.39	oci-phonehome
oci01sat1	48.89	oci-phonehome

The query results list shows a number of default columns, depending on the object type searched for. To add, remove, or change the columns, click the gear icon on the right of the table. The available columns vary based on the asset/metric type.

netapp_ontap.aggregate

Filter By

Group
aggr_name

14 items found

Table Row Grouping	Metrics & Attributes	
aggr_name	cp_read_blocks	agent_version ↑
aggr0_optimus_02	1.72	Apache-HttpCli
aggr1_optimus_02	408.84	Apache-HttpCli
ocinaneqa1_04_aggr0	6.19	Apache-HttpCli
ocinaneqa1_03_aggr0	6.48	Apache-HttpCli
oci02sat0	1.04	Apache-HttpCli

Search...
☐ Show Selected Only
☒ agent_version
☐ aggr_name
☐ cluster_location
☒ cluster_name
☐ cluster_serial_number
☐ cluster_version

After you have configured your query to show you the results you want, you can click the **Save** button to save the query for future use. Give it a meaningful and unique name.

More on Filtering

Wildcards and Expressions

When you are filtering for text or list values in queries or dashboard widgets, as you begin typing you are presented with the option to create a **wildcard filter** based on the current text. Selecting this option will return all results that match the wildcard expression. You can also create **expressions** using NOT or OR, or you can select the "None" option to filter for null values in the field.

The screenshot shows a filter interface for 'kubernetes.pod'. The 'Filter By' section has 'pod_name' selected with the value 'ingest'. A dropdown menu is open, showing options: 'Create wildcard containing "ingest"', 'ci-service-datalake-ingestion-85b5bdfd6d-2qbwr', 'service-foundation-ingest-767dfd5bfc-vxd5p', and 'None'. The 'Group' section also has 'pod_name' selected. Below the filter, it says '71 items found' and 'Table Row Grouping'.

Filters based on wildcards or expressions (e.g. NOT, OR, "None", etc.) display in dark blue in the filter field. Items that you select directly from the list are displayed in light blue.

The screenshot shows a filter interface for 'kubernetes.pod'. The 'Filter By' section has 'pod_name' selected with the value '*ingest*'. There are also filters for 'ci-service-audit-5f775dd975-brfdc' and 'pod_name' with 'ci-service-audit-5f775dd975-brfdc'. The 'Group' section has 'pod_name' selected. Below the filter, it says '3 items found' and 'Table Row Grouping'.

3 items found

Table Row Grouping	
pod_name	
ci-service-audit-5f775dd975-brfdc	
ci-service-datalake-ingestion-85b5bdfd6d-2qbwr	
service-foundation-ingest-767dfd5bfc-vxd5p	

Note that Wildcard and Expression filtering works with text or lists but not with numerics, dates or booleans.

Refining Filters

You can use the following to refine your filter:

Filter	What it does	Example	Result
* (Asterisk)	enables you to search for everything	vol*rhel	returns all resources that start with "vol" and end with "rhel"
? (question mark)	enables you to search for a specific number of characters	BOS-PRD??-S12	returns BOS-PRD 12 -S12, BOS-PRD 23 -S12, and so on
OR	enables you to specify multiple entities	FAS2240 OR CX600 OR FAS3270	returns any of FAS2440, CX600, or FAS3270
NOT	allows you to exclude text from the search results	NOT EMC*	returns everything that does not start with "EMC"
None	searches for NULL values in all fields	None	returns results where the target field is empty
Not *	searches for NULL values in <i>text-only</i> fields	Not *	returns results where the target field is empty

If you enclose a filter string in double quotes, Insight treats everything between the first and last quote as an exact match. Any special characters or operators inside the quotes will be treated as literals. For example, filtering for "*" will return results that are a literal asterisk; the asterisk will not be treated as a wildcard in this case. The operators OR and NOT will also be treated as literal strings when enclosed in double quotes.

What do I do now that I have query results?

Querying provides a simple place to add annotations or assign applications to assets. Note that you can only assign applications or annotations to your inventory assets (Disk, Storage, etc.). Integration metrics cannot take on annotation or application assignments.

To assign an annotation or application to the assets resulting from your query, simply select the asset(s) using the check box column on the left of the results table, then click the **Bulk Actions** button on the right. Choose the desired action to apply to the selected assets.

Volume X ▾

Filter By Name Any X +

Query Results (5) | 2 Selected

Bulk Actions ▾

Add Annotation

Remove Annotation

Add Application

Remove Application

<input type="checkbox"/>	Name ↑	Storage Pools	Capacity - Raw (GB)	Mapped Ports
<input type="checkbox"/>	DmoESX_optimus:mc_Dm...	optimus-02:aggr1_optimu...	N/A	
<input checked="" type="checkbox"/>	DmoSAN_optimus:hoffma...	optimus-02:aggr1_optimu...	N/A	
<input checked="" type="checkbox"/>	DmoSAN_optimus:mc_D...	optimus-02:aggr1_optimu...	N/A	
<input type="checkbox"/>	oci-3070-01:/vol/vfiler_lun...	oci-3070-01:aggr5	N/A	OS:windows
<input type="checkbox"/>	spectravsl:sjimmyscsi:/v...	ocinaneqa1-01:spectraaggr1	N/A	OS:linux

Annotation Rules require query

If you are configuring [Annotation Rules](#), each rule must have an underlying query to work with. But as you've seen above, queries can be made as broad or as narrow as you need.

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