Workspace Workload Analysis

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Overview

The following notebook Workspace Workload Analysis allows you to analyze information about your Databricks workspace workload without giving direct access to your system.

How it works

- This notebook uses standard Databricks python API to gather minimal clusters, jobs, tasks, and runs information.
- It is required to be executed by the workspace owner.
- The information is stored in PySpark dataframes and a few visualizations are provided for your perusal.
- If you decide to share the information, At the end of the notebook the data frames are converted to CSV, and zipped. You can then press the **download zip** button to get the file.

Requirements

Permissions

The workspace admin account will required the following permissions:

- Personal Access Tokens
- Workspace visibility Control
- Cluster Visibility Control
- Job Visibility Control
- DBS File Browser

Workflows/Jobs

To be able to make an estimation, we need each jobs:

- Scheduling must be configured
- At least one successful execution in the last 60 days.
- If configured in staging or production mirror, it must include
  - Same machine configuration
  - Complete dataset

Steps

1. Open your workspace and create a new notebook.
2. Open File menu and click import.
3. Select URL and paste ***workspace_estimator.html***
4. Follow notebook instructions.

1. Install dependency with pip.
2. Update configuration according to your cluster (host_url, and token). ***We Advise against using the token directly in the notebook. Please store it in a secret scope, using the CLI***. For more details Authentication

Sample Data

Clusters

cluster_id	cluster_name	driver_node_type_id	node_type_id	state	cluster_source	runtime_engine	spark_version	workload	num_workers	autoscale_min	autoscale_max	calc_workers	cluster_memory_mb	cluster_cores	cluster_gpus
0123-345678-g4bimt0u	photon Shared Compute Cluster	Standard_D4as_v5	Standard_DS3_v2	RUNNING	UI	PHOTON	11.3.x-scala2.12	STANDARD	1	1	2	1	30720	8	0
1234-567890-abcdef0h	Another Cluster	Standard_DS3_v2	Standard_DS3_v2	TERMINATED	UI	STANDARD	10.4.x-cpu-ml-scala2.12	ML	1	0	0	1	28672	8	0
0234-567890-abcdef0h	demo	Standard_DS3_v2	Standard_DS3_v2	TERMINATED	UI	STANDARD	11.3.x-scala2.12	STANDARD	0	0	0	0	14336	4	0

Jobs

job_id	name	num_tasks	schedule	status
123456778000000	different_driver_and_worker_job	1		
123456778000001	sample_job	2	32 34 14 ? * MON-TUE	PAUSED
35	automl	1	57 23 19 * * ?	PAUSED

Jobs Tasks

job_id	name	num_tasks	schedule	status
123456778000004	Python_job	1	0 17 10 * * ?	PAUSED
123456778000000	sample_job	2	32 34 14 ? * MON-TUE	PAUSED
35	automl	1	57 23 19 * * ?	PAUSED

All Jobs Clusters

job_id	job_cluster_key	spark_version	driver_node_type_id	node_type_id	num_workers	runtime_engine	cluster_source
123456778000006	different_driver_and_worker_cluster	11.3.x-scala2.12	Standard_DS4_v2	Standard_DS3_v2	1	STANDARD	JOB
123456778000008	Job_cluster	11.3.x-scala2.12	Standard_DS3_v2	Standard_DS3_v2	8	STANDARD	JOB
123456778000008		12.2.x-scala2.12	Standard_DS4_v2	Standard_DS4_v2	2	STANDARD	UI

Job Runs

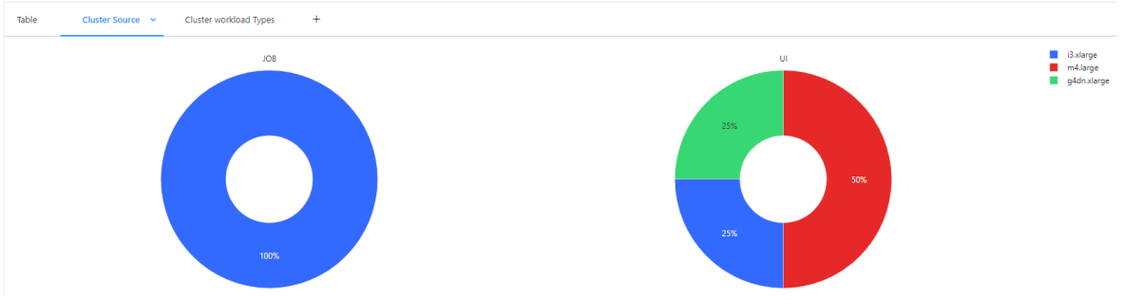
run_id	job_id	result_state	life_cycle_state	start_time	end_time	run_duration_sec	setup_duration_sec	execution_duration_sec	cleanup_duration_sec	date	trigger
987654	123456778000006	SUCCESS	TERMINATED	1679343600648	1679344048022	447.374	0	0	0	2023-03-20	PERIODIC
987653	123456778000001	SUCCESS	TERMINATED	1674185037643	1674185582464	544	254	290	0	2023-01-20	PERIODIC

Job Duration

job_id	name	num_drivers	num_workers	driver_node_type_id	node_type_id	runtime_engine	cluster_source	schedule	duration_min	success_rate
123456778000009	multi-cluster-job_with_jobs_cluster	1	8	Standard_DS3_v2	Standard_DS3_v2	STANDARD	JOB		11	1
123456778000009	different_driver_and_worker_job	1	1	Standard_DS4_v2	Standard_DS3_v2	STANDARD	JOB		5	1
123456778000011	sample_job	1	8	Standard_DS3_v2	Standard_DS3_v2	STANDARD	JOB	32 34 14 ? * MON-TUE	18	0.3333333333333333

Examples of Visualizations

Clusters



Top Time-consuming jobs