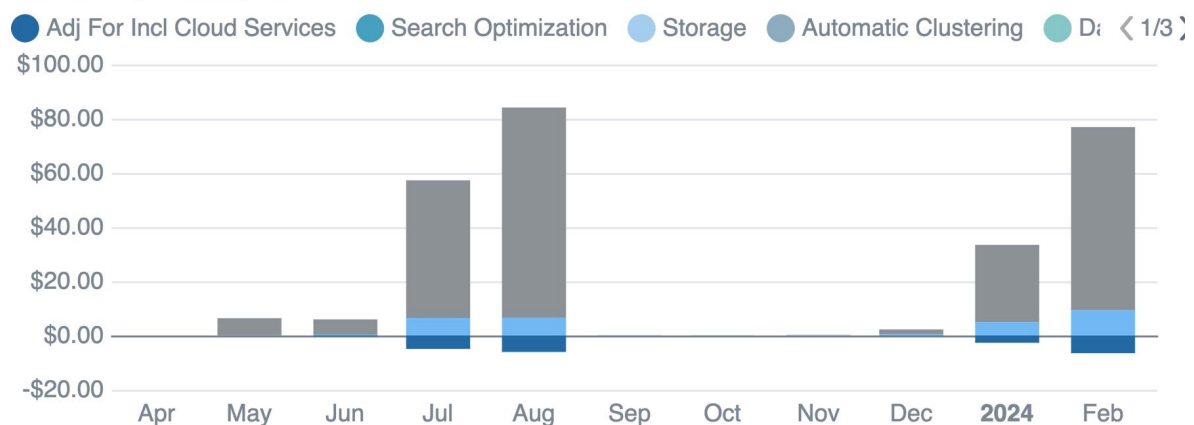# Advanced dbt - Week 4

*Using dbt-snowflake-monitoring package to monitor Snowflake costs*

## Reproducing the Monthly Snowflake Invoice

The daily_spend model reproduces the monthly Snowflake invoice precisely, broken down by the same service categories. The daily_spend model contains additional columns for warehouse_name, database_name and storage_type to further break down spend (see more examples below).

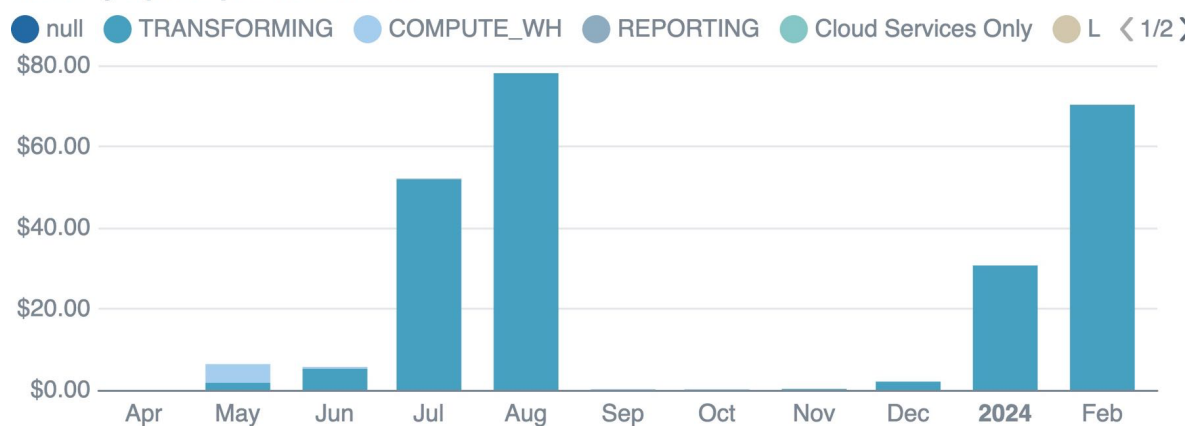**Invoice by Month, USD**



## Warehouse Costs

Monthly Spend per Warehouse This query uses the daily_spend model to explore spend by warehouse name. Some queries don't require a running warehouse, which is why you'll see a row for warehouse_name = 'Cloud Services Only'.
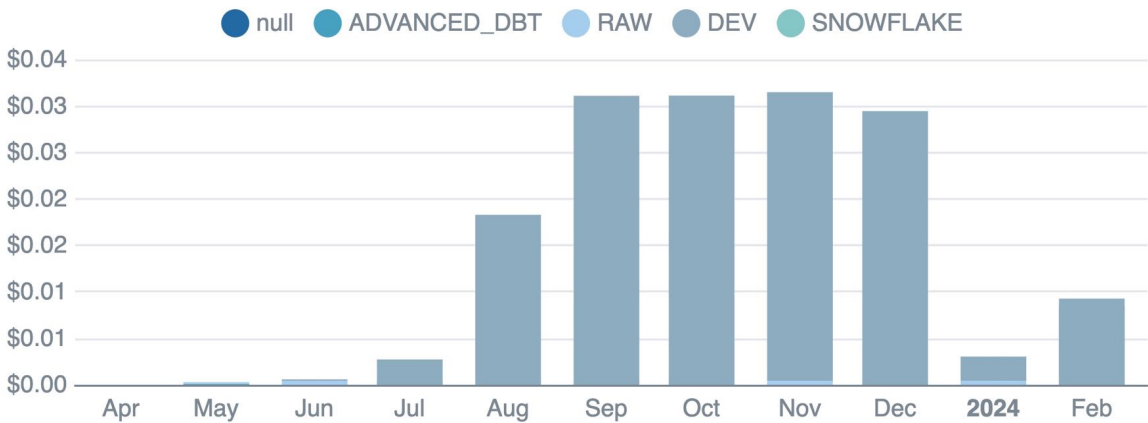
**Monthly Spend per Warehouse**

## Storage Costs

Monthly Spend per Database This query uses the daily_spend model to explore table spend by database. Note that this also returns storage costs for data held in stages (user and table stages or internal named stages), see the storage_type column.

**Monthly Spend per Database**



## Unused Tables

This query uses the query_base_table_access model (available as of 4.0.0) to identify tables which have not been queried in the last 30 days. The total storage costs of each table are also shown, which uses the account"""s current storage rate (usually between $20-$40 per TB per month). See this post for more details on the difference between base versus direct tables accessed.

## My Query Cost Attribution

Snowflake bills for the number of seconds that a warehouse is running, not by query. Query cost attribution helps understand how queries are contributing to warehouse active time. Removing a query will not reduce the bill by the exact amount attributed to the query if other queries are running at the same time and causing the warehouse to stay active.

Cloud services credits are only billed if they exceed 10% of the compute credit consumption on a given day. The cost per query model accounts for this, but current day values will change up until the end of the day.

### Top 10 costliest queries in the last 30 days

| Query Signature | Query Text |
| --- | --- |
| 6b96e2dc5b1a6613d6d683b62e8ac0d8 | create or replace transient table dev.dbt_ricardojc |

| Query Signature | Query Text |
|---|---|
| e6db481f77ca71749704020644dfa0e4 | select * from ( -- This model is created following t |
| f011f28adb8480457dcf287a8451e1ce | with tables as ( select table_catalog as "table_dat |
| 3712c9020fc7fffda4e1ab45742022dc | with tables as ( select table_catalog as "table_dat |
| fe7e01c8441c12ec1a4c29ac918e679a | select * from (select * from information_schema.t |
| 5eb853b5ac051affc509898265c37000 | select count(*) as failures, count(*) != 0 as shoulc |
| 4ed80f41977a45536dd4ce1ff107ce9f | select * from ( -- This model is created following t |
| 6d498f217d53c67c8f487208126cd080 | select * from (with events as ( select user_id, date |
| 0c3ea7f41a7359bd6248faa68f4d05af | select count(*) as failures, count(*) != 0 as shoulc |
| 318e0582b50ccdf68afe07ab7aa8419b | with tables as ( select table_catalog as "table_dat |

## dbt Cost Attribution

### Top 10 costliest dbt models in the last 30 days

| Dbt Node ID | Total Cost Last 30d |
|---|---|
| model.dbt_snowflake_monitoring.stg_query_history | 0.1190 |
| model.dbt_snowflake_monitoring.query_history_enriched | 0.0386 |
| model.dbt_snowflake_monitoring.stg_access_history | 0.0374 |
| model.dbt_snowflake_monitoring.hourly_spend | 0.0264 |
| model.dbt_snowflake_monitoring.stg_warehouse_events_history | 0.0115 |
| model.dbt_snowflake_monitoring.stg_rate_sheet_daily | 0.0106 |
| model.dbt_snowflake_monitoring.stg_remaining_balance_daily | 0.0101 |
| model.dbt_snowflake_monitoring.daily_rates | 0.0084 |
| test.course_advanced_dbt.unique_fct_mrr_surrogate_key.deed3bc59b | 0.0084 |
| model.dbt_snowflake_monitoring.stg_serverless_task_history | 0.0081 |

### Daily dbt model running costs

Models ⌄

| Date | Dbt Node Name | Cost ⌄ |
|---|---|---|
| 2024-02-15 | stg_query_history | 0.119036 |
| 2024-02-15 | query_history_enriched | 0.038590 |
| 2024-02-15 | stg_access_history | 0.037405 |
| 2024-02-15 | hourly_spend | 0.026352 |
| 2024-02-15 | stg_warehouse_events_history | 0.011516 |
| 2024-02-15 | stg_rate_sheet_daily | 0.010578 |
| 2024-02-15 | stg_remaining_balance_daily | 0.010052 |
| 2024-02-15 | daily_rates | 0.008380 |

| Date | Dbt Node Name | Cost |
| --- | --- | --- |
| 2024-02-15 | stg_serverless_task_history | 0.008071 |
| 2024-02-15 | stg_metering_history | 0.007544 |

10 of 38 records