Operationalizing the outputs

The ability to incrementally process data efficiently is only half of the equation. Results from the DLT workflow must be operationalized and delivered to business users. In our example, we can consume outputs from the DLT pipeline through ad hoc analytics or prepacked insights made available through an interactive dashboard.

Ad hoc analytics

Databricks SQL (or DB SQL) provides an efficient, cost-effective data warehouse on top of the lakehouse architecture. It allows us to run our SQL workloads directly against the source data with up to 12x better price/performance than its alternatives.

We can leverage DB SQL to perform specific ad hoc queries against our curated and aggregated tables. We might, for example, run a query against the curated policies table that calculates the total exposure. The DB SQL query editor provides a simple, easy-to-use interface to build and execute such queries (see example below).

```
SELECT
  round(curr.total_exposure, 0) AS total_exposure,
  round(prev.total_exposure, 0) AS previous_exposure
FROM
  (
    SELECT
      sum(sum_insured) AS total_exposure
    FROM
      insurance_demo_lakehouse.curated_policies
    WHERE
      expiry_date > '{{ date.end }}'
      AND (effective_date <= '{{ date.start }}'
        OR (effective_date BETWEEN '{{ date.start }}' AND '{{ date.end }}'))
  ) curr
  JOIN
  (
    SELECT
      ...
```

We can also use the DB SQL query editor to run queries against different versions of our Delta tables. For example, we can query a view of the aggregated claims records for a specific date and time (see example below). We can further use DB SQL to compare results from different versions to analyze only the changed records between those states.

```
SELECT
  *
FROM
  insurance_demo_lakehouse.aggregated_claims_weekly TIMESTAMP AS OF '2022-06-
05T17:00:00';
```

DB SQL offers the option to use a serverless compute engine, eliminating the need to configure, manage or scale cloud infrastructure while maintaining the lowest possible cost. It also integrates with alternative SQL workbenches (e.g., DataGrip), allowing analysts to use their favorite tools to explore the data and generate insights.