

## **DAS: Core Concepts**

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## Data Analytics Studio overview

Data Analytics Studio (DAS) is an application that provides diagnostic tools and intelligent recommendations to make the business analysts self-sufficient and productive with Hive.

DAS helps you to perform operations on Hive tables and provides recommendations for optimizing the performance of your queries. You can use DAS to:

- **Search queries:** You can search for queries executed on Hive tables in a database. You can further refine your search results using filters. DAS provides recommendations to optimize the performance of your queries on Hive tables. You can view the recommendations and edit your queries.
- **Compose and execute queries:** You can compose queries using the intuitive query composer. It has context based auto-complete feature that helps you to edit a query faster. You can also view the visual explain of the query after executing it. You can save queries to view them later and edit them. You can edit the existing, saved queries and then save them as new queries. When you try to edit a query, you can use the query composer to easily create and execute your queries.
- **Compare queries:** You can compare two queries to know how each query is performing in terms of speed and cost effectiveness. DAS compares various aspects of the two queries, based on which you can identify what changed between the execution of those two queries, and you can also debug performance-related issues between different runs of the same query.
- **Manage databases:** Using the Database Explorer, you (the admin user) can manage existing databases by creating new tables, editing existing tables, and deleting tables. You can also create new database and add tables to it. You can manage existing tables by editing them to modify existing columns or add new columns. You can create new tables in DAS or upload existing tables available in CSV, JSON, and XML formats. You can edit columns in tables and also view suggestions for partitions and implement these recommendations.
- **View reports:** You can view which columns and tables are used for joins and make changes to the data layout to optimize the performance of the query with different search criteria.

## DAS architecture

In a CDP Private Cloud Base deployment, DAS is included in the Cloudera Runtime parcel. Use the latest version of Cloudera Manager to configure and deploy DAS in your CDP Private Cloud Base clusters.

DAS comprises of an Event Processor and a Webapp. The Event Processor processes Hive and Tez events, and also replicates the Hive metadata. The Webapp serves as the DAS UI. It serves data from the Postgres instance which is populated by the Event Processor, and uses the Hive on Tez to run Hive queries triggered through the Query Compose page.

The following diagram shows the interactions between the DAS components and its dependencies:

**Figure 1: DAS Architecture in CDP Private Cloud Base**

