



# Ship trusted data products faster with dbt Cloud on Amazon Redshift

## Challenges

Managing data at scale is complex

Turning data into competitive advantage is easier said than done. That's because your data and analytics engineers are often slowed by fragile codebases, discoverability puzzles, documentation nightmares, reactive one-off requests that don't scale, and personnel bottlenecks.

The net result is slow pipelines, burnt-out data teams, and an organization-wide erosion of trust in data.

## The dbt Labs Solution

Turning complexity into a competitive edge

dbt Cloud gives data teams a standardized approach for building data products, much like how software developers build applications: modularly, with built-in testing, continuous deployments, automated documentation, version control, and more.

This accelerates data product delivery and accuracy, improves trust in data teams, and ultimately generates a dynamic where teams can work collaboratively and manage increasingly complex data landscapes.

## Benefits

dbt Cloud is where modern data teams build, orchestrate, document, and share organizational knowledge.

### »» Unite your teams.

SQL-driven development means analysts and engineers alike can collaborate on data transformation and modeling, eliminating bottlenecks and silos, and bringing business logic closer to development work.

### »» Don't miss a thing.

Data teams get complete pipeline visibility with dbt Explorer, a visual and interactive canvas that surfaces dependencies with built-in lineage and scales knowledge with automated documentation and keyword search.

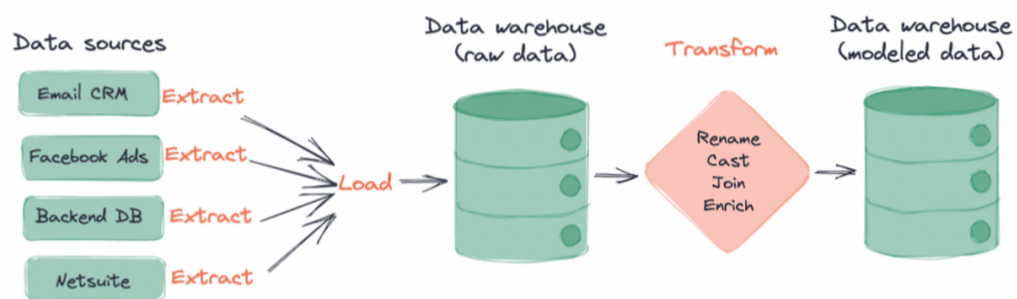
### »» Consistent metrics. Every time. Everywhere.

The dbt Cloud Semantic Layer enables data teams to set consistent definitions that are universally accessible downstream in a variety of popular BI and analytics tools.



# dbt Cloud on AWS

dbt Cloud makes it easy to manage data transformation logic and workflows directly within your cloud data platform, whether that is Amazon Redshift, Databricks, Snowflake, or another supported service on AWS. Unlike legacy transformation tools that struggle with elasticity and performance, dbt Cloud follows an “ELT” (Extract, Load, Transform) paradigm, where data is transformed after it is loaded to the warehouse. ELT supports faster, more flexible, and more cost-efficient transformations than legacy ETL processes.



Source: <https://docs.getdbt.com/terms/elt>



## Case Study: Nasdaq

### Challenges

Slow legacy data tools meant business users couldn't engage with the data they need for weeks or months. Another issue was the lack of documentation for SQL scripts, which meant code was often rewritten.

### Solution

With the upgrade to a modern data stack including AWS Redshift, dbt Cloud enables self-service at Nasdaq and accelerates the onboarding process. SQL models are now understandable, maintainable, and re-usable. The combination of SQL's accessibility and dbt Cloud's embedded software engineering best practices simplified and centralized Nasdaq's analytics workflow across teams.

### Results

- 1) 100-125 billion transactions operated per day.
- 2) 55 business users onboarded to modeling and reporting.
- 3) Improved model run speeds from 1 hour to 10 minutes.



## Features

### Modular, SQL-driven development

dbt relies on simple SQL SELECT statements to infer dependency graphs, run transformation models in order, and automatically drop or create views. Macros and packages enable complex queries to be reused for modularity, consistency, and simplicity.

### Powerful deployment and orchestration

Built-in CI workflows that include job scheduling, testing, git-enabled version control, and alerting give analysts the confidence to make incremental changes without fear of slowing or disrupting downstream dependencies.

### Domain-level data ownership

Rather than relying on a single, monolithic project that can quickly become a bottleneck, dbt Cloud projects can be broken out and owned by domain teams. Projects can easily build on each other, via model contracts and the ability to reference public models and projects, while a central team can customize access controls and set global standards.

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