tinybird

Core concepts

The main concepts you'll need to understand on your journey to becoming a Tinybird pro!

Workspaces

Workspaces help you organize and collaborate on your Tinybird projects. You can have more than one.

A Workspace contains the project resources (Data Sources, Pipes), data, and state. You can share resources from one Workspace to another. You can invite other users to your Workspace(s), and choose their role to control what they are able do. People often use Workspaces to give a team, or a project, its own space to work in.

[Read more about Workspaces.](#)

Data Sources

Data Sources are how you ingest & store data in Tinybird.

Think of a Data Source like a database table (there's a little more detail behind it, but close enough for now). All your data lives inside a Data Source, and you write SQL queries against Data Sources. You can bulk upload or stream data into a Data Source, and they support several different incoming data formats (CSV, JSON, Parquet).

[Read more about Data Sources.](#)

Pipes

Pipes are how you write SQL logic in Tinybird.

Pipes are a collection of one or more SQL queries chained together and compiled into a single query. This lets you break larger queries down into multiple smaller queries that are much easier to read. Pipes can be published as API Endpoints, Copy Pipes, or Materialized Views.

[Read more about Pipes.](#)

Nodes

A Node in Tinybird is simply a single SQL `SELECT` statement that selects `FROM` a Data Source or another Node or API Endpoint. Nodes live within Pipes.

API Endpoints

The magic of Tinybird is the ability to turn any Pipe into an API Endpoint. Build your SQL logic inside a Pipe, and then publish the result of your query as an HTTP API Endpoint. All you need to do is write the SQL; everything else is taken care of for you.

Read more about APIs.

Auth Tokens

When you publish an API Endpoint from a Pipe, it's automatically secured using Auth Tokens. You can manage your Auth Tokens inside Tinybird and configure granular access permissions as needed.

Read more about Auth Tokens.

Branches

Branches in Tinybird are inspired by branches in Git. They allow you to create a copy of your Workspace, where you can make changes, run tests, and develop new features, then merge those changes back into the original Workspace.

Read more about Branches.

Releases

Releases are semantically-versioned iterations of your Tinybird project (including Data Sources, Pipes, API Endpoints). A Release marks a specific point in your project's history that is tied to a Git commit - just like creating a git tag allows you to create a tagged release on a provider like GitHub.

Read more about Releases.

CLI

The Tinybird CLI (command line interface) allows you to interact with Tinybird via the command line instead of the UI (user interface). It can be installed on your local machine, and embedded into your CI/CD pipelines.

Read more about the Tinybird CLI.

ClickHouse

Tinybird is built using open source software. We love open source and have dedicated teams that contribute to all of the projects we use. ClickHouse is an open source OLAP database, and it serves as Tinybird's real-time analytics database and SQL engine. The SQL that you write inside Tinybird uses the ClickHouse SQL dialect.

Read more about Clickhouse.

Next steps

- Understand Tinybird's underlying architecture.
- Ready to get started? Check out our Tinybird Quick Start.

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