



Metabase Project Structure

The easiest, open-source way for everyone in your company to ask questions and learn from data. A large Clojure/React monolith.

Updated 2025-12-30

#metabase #clojure #react #analytics #bi #business-intelligence

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Project Directory



metabase/

- src/metabase/ Clojure Backend
 - api/ API Endpoints
 - models/ Data Models (To...
 - query_processor/ MBQL -> SQL Eng...
 - driver/ Database Drivers
- frontend/src/metabase/ React Frontend
 - visualizations/ Charting
 - query_builder/ GUI Builder
 - dashboard/ Dashboard Views
- modules/drivers/ External Driver...
- enterprise/ Paid Features
 - backend/
 - frontend/
- deps.edn Clojure Deps
- package.json JS Deps

Repository Info

Repository - metabase/metabase

Stars - 35k+

License - AGPL-3.0 / Commercial

Last Analyzed - December 2025

Tech Stack

Backend - Clojure

Frontend - React + Redux

Database - H2 (Default) / Postgres / MySQL

Build Tool - Shadow-cljs / Webpack

ORM - Toucan (Custom)

Architecture Notes

Metabase is a single-process application. The Clojure backend serves the React frontend and handles all database queries. The core innovation is the 'Query Processor', which takes a JSON-based query description (MBQL) and translates it into SQL for dozens of different databases.

Key Directories

src/metabase/query_processor/ - The most complex part of the backend. It handles the middleware pipeline that compiles abstract MBQL queries into executable SQL.

frontend/src/metabase/visualizations/ - Contains the logic for rendering data as charts, tables, and maps. Metabase has a highly polished visualization system.

modules/drivers/ - Metabase supports a plugin system for adding new database drivers. Each driver implements a standard Clojure protocol (interface).

Why This Structure?

Metabase is the most popular Clojure application in existence. It proves that a Lisp dialect can be used to build a user-friendly, mainstream product. Its architecture is optimized for query generation and data visualization.