



# Discourse Project Structure

The open-source platform for community discussion. A classic, high-scale application built with a Ruby on Rails backend and an Ember.js frontend.

Updated 2025-12-30

#discourse #ruby #rails #emberjs #postgresql #redis #community

PNG

PDF

Copy

Prompt

## Project Directory



### discourse/

- ✓ **app/** Rails API Source
  - models/** Domain logic
  - controllers/** JSON API
  - jobs/** Sidekiq backgro...
  - services/** Business logic
- ✓ **frontend/** Ember.js Client
  - discourse/** Main SPA code
  - discourse-plugins/** Client-side hoo...
- lib/** Custom Extensio...
- plugins/** Official Backen...
- config/** Site Settings &...
- Gemfile Ruby dependenci...
- package.json

## Repository Info

**Repository** - [discourse/discourse](#)

**Stars** - 40k+

**License** - GPL-2.0

**Last Analyzed** - December 2025

## Tech Stack

**Backend** - Ruby on Rails

**Frontend** - Ember.js

**Database** - PostgreSQL

**Cache** - Redis

**Queue** - Sidekiq

**Search** - PostgreSQL full-text search

## Architecture Notes

Discourse is a 'Thick Client' monolith. The Rails backend is primarily a JSON API, while the **Ember.js** frontend handles all the UI logic and routing. It is famous for its performance optimizations, such as infinite scrolling and 'Pretty Text' processing. The architecture is deeply pluggable, with hooks available at every layer of both the Rails and Ember stacks.

## Key Directories

**frontend/discourse/** - One of the largest Ember.js codebases in production. It contains the complex logic for the forum UI, including real-time notifications and the composer.

**lib/** - A huge 'junk drawer' of well-structured utilities. Contains custom authentication logic, the Markdown engine, and S3 integration helpers.

**plugins/** - Official plugins like 'Chat', 'Polls', and 'AI' are kept here. They demonstrate how to extend both the database schema and the Ember UI dynamically.

## Why This Structure?

Discourse is a masterclass in Rails and Ember engineering. It shows how to build a complex, highly interactive product that scales to millions of users while maintaining a cohesive monolithic structure.