



PostHog Project Structure

The all-in-one platform for product analytics, session replay, and feature flags. PostHog is built as a highly performant polyglot monorepo, combining a Django backend, a React frontend, and a specialized Rust-based ingestion engine.

Updated 2025-12-30

#posthog #analytics #django #react #rust #clickhouse #monorepo #open-source

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Prompt

Project Directory

- posthog/
 - posthog/ The core Django...
 - api/ REST API endpoi...
 - models/ Data models
 - hogql/ HogQL (SQL-like...
 - frontend/ Main dashboard ...
 - src/ React source co...
 - scenes/ Page-level comp...
 - plugin-server/ Node.js service...
 - rust/ High-performanc...
 - ee/ Enterprise edit...
 - infra-scripts/ Deployment and ...
 - package.json Root workspace ...

Repository Info

Repository - PostHog/posthog

Stars - 20k+

License - MIT / Proprietary (ee)

Last Analyzed - December 2025

Tech Stack

Backend - Python (Django)

Frontend - React

Ingestion - Node.js & Rust

Database - ClickHouse & PostgreSQL

Queuing - Kafka & Redis

Architecture Notes

PostHog is a 'Product OS' that manages massive data volumes. Its architecture is built around ClickHouse for lightning-fast analytical queries and Kafka for high-throughput data ingestion. The monorepo strategy allows them to manage closely coupled services—like the Django API and the Node.js plugin server—while using Rust for performance-critical ingestion paths. They've also pioneered 'HogQL', an internal SQL dialect that enables powerful, type-safe data exploration directly from their frontend.

Key Directories

posthog/ - Houses the primary business logic, API, and the HogQL analytical engine

frontend/ - A complex React application featuring a data-rich dashboard and session replay tools

plugin-server/ - Handles real-time data processing, plugin execution, and Kafka ingestion

rust/ - Contains optimized services for capturing events at scale with minimal latency

Why This Structure?

PostHog is one of the most sophisticated open-source architectures available. It's a goldmine for anyone interested in high-volume data ingestion, analytical databases (ClickHouse), and building a platform that combines multiple technologies (Python, Node, Rust) into a unified product experience.