Grafana Project Structure

The open-source platform for monitoring and observability. Grafana features a highly optimized Go backend for data processing and a rich, interactive React frontend, all managed within a professional monorepo structure.

Updated 2025-12-30

#grafana #observability #golang #react #monorepo #monitoring #open-source

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Project Directory

```
grafana/
  pkg/ The core Go bac…
    api/ Web API server
    services/ Domain logic
    plugins/ Plugin system c…
    middleware/
  public/ The main React …
    app/ Frontend source
    packages/ Shared UI packa…
  packages/ Shared internal…
    grafana-ui/
    grafana-data/
    grafana-runtime/
  conf/ Default configu…
  devenv/ Development env…
  go.mod
  package.json
```

Repository Info

Repository - grafana/grafana

Stars - 65k+

License - AGPL-3.0

Last Analyzed - December 2025

Tech Stack

Backend - Go (Golang)

Frontend - React

Language - TypeScript / Go

State - Redux & React Query

Data Sources - Prometheus, Loki, InfluxDB, etc.

Architecture Notes

Grafana's architecture is built for high concurrency and performance. The Go backend (`pkg/`) handles complex data source aggregation and dashboard management with minimal overhead. On the frontend, Grafana uses a sophisticated plugin architecture that allows developers to add new visualizations and data sources dynamically. They maintain a strict boundary between core logic and UI components by extracting shared logic into internal `@grafana/` packages, which ensures consistency across their massive application.

Key Directories

pkg/ - The central Go-based engine that powers data ingestion and API services

public/app/ - A high-performance React application designed for real-time data visualization

packages/ - Reusable TypeScript libraries that define the design system and data protocols

conf/ - Essential configuration files that control every aspect of the Grafana server

Why This Structure?

Grafana is the gold standard for Go and React monorepos. It demonstrates how to build a world-class platform that is both extremely performant and highly extensible. It's a must-study for anyone building dashboarding tools or complex data-driven platforms.