

BlueWhale Terminal - README Summary

BlueWhale Terminal

Modern Investment Research Platform for JSE Small-Cap Insights

Frontend: React + TailwindCSS | Backend: Node.js + PostgreSQL | AI-ready architecture

Project Overview

BlueWhale Terminal is a financial research dashboard inspired by Bloomberg and TradingView, designed to help analysts, investors, and financial institutions analyze small-cap markets in South Africa. It delivers a terminal-like experience with a clean UI, modular architecture, and future-ready integrations (AI, live data APIs, payment systems).

Tech Stack

Frontend: React 18 + TypeScript

Styling: TailwindCSS

State Management: React Query / Redux Toolkit

Routing: React Router v6

Backend: Node.js (Express)

Database: PostgreSQL

ORM: Prisma

Scraping: Puppeteer / Cheerio

AI Layer (future): OpenAI API

Payments (future): Stripe / Paystack

Repository Structure (simplified)

client/ - React Frontend (components, layouts, pages, hooks, services, store, types, utils)

server/ - Node.js Backend (routes, controllers, services, config, middleware, prisma, tests)

Setup & Installation

1. Prerequisites: Node.js ≥18, npm, PostgreSQL ≥14, Git
2. Clone repository: git clone <https://github.com/bluewhale-terminal.git>
3. Create .env files for client and server
4. Install dependencies: npm install (in client/ and server/)
5. Run database migrations: npx prisma migrate dev
6. Start servers: npm run dev (backend) and npm run dev (frontend)

Features (Phase 1 MVP)

Login Page – secure branded login (mock auth)
Dashboard Layout – persistent sidebar, header, content
Screener – sortable stock data table
Watchlist – track user tickers
Reports Section – mock downloadable reports
AI Hub – sentiment analysis, summary, DCF calculator placeholders
Subscription Page – pricing tiers and upgrades
Data Scraper – Node.js scraper for financial data
PostgreSQL Integration – persistent backend storage

Testing

Unit & Integration tests using Jest, 80% coverage recommended.

Deployment

Frontend: Netlify or Vercel

Backend: Render or Railway

Database: PostgreSQL managed instance

Definition of Done

Responsive UI, PostgreSQL connection, API endpoints functional, scraper prototype operational, code linted, and documented.

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