■■ WealthRun Backend Task Checklist (PostgreSQL Edition)

■ 1. Project Setup

- - Initialize backend project folder (wealthrun-backend/)
- - Setup Node.js + Express (or Nest.js if preferred)
- - Install dependencies: express, pg, dotenv, bcrypt, jsonwebtoken, cors, nodemailer, nodemon
- - Setup .env for secrets
- - Create folder structure with config, models, routes, controllers, middlewares, services, utils

■■ 2. Database Setup (PostgreSQL)

- - Install PostgreSQL (local or Docker)
- - Create wealthrun database
- - Install ORM (Prisma recommended)
- - Define schema for Users, Wallet, Transactions, InvestmentPlans
- - Run migrations to create tables

■ 3. Authentication & User Management

- - Implement registration with hashed passwords
- - Login with JWT authentication
- - Auth middleware for private routes
- - Role management (admin vs user)
- - Email verification & password reset flow

■ 4. Wallet & Payments

- - Create wallet service (BTC, ETH, USDT, Pi)
- - Integrate blockchain API (Coinbase Commerce, Moralis, Alchemy)
- - Track incoming transactions
- - Update balances on confirmation
- - Withdrawal request flow with admin approval

■ 5. Investment & Earnings

- - Define investment plans (ROI logic)
- - API for user investments
- - Cron jobs for monthly ROI crediting
- - Show investment history

■ 6. Market Data (Crypto Carousel)

- - Integrate with CoinGecko API
- - Fetch BTC, ETH, USDT, Pi prices in real time
- - Store daily snapshots (optional)
- - Provide API for frontend

■■ 7. Admin Panel (Backend APIs)

- - List users
- - Approve/reject withdrawals
- - Manage plans
- - View transactions

■ 8. Notifications

- - Email alerts (deposit, withdrawal, ROI)
- - Optional SMS/WhatsApp (Twilio)

■■ 9. Security & Compliance

- - Enforce HTTPS
- - Use Helmet & CORS
- - Sanitize inputs
- - Rate limiting
- - Secure JWT & refresh tokens
- - Audit trail for transactions

■■ 10. Deployment

- - Dockerize backend
- - Use cloud DB (AWS RDS / Supabase)
- - Deploy API server (Render, Railway, AWS, Vercel)
- - Setup CI/CD
- - Monitor logs & metrics