

LOTS Protocol - Backend Overview

This document outlines the backend architecture of the LOTS protocol.

The backend is built using Node.js and Express. It acts as a bridge between the frontend interface and on-chain smart contracts by providing RESTful endpoints for admin functions, all protected via cryptographic signature verification.

All actions are non-custodial, non-financial, and respect the principles of decentralization and geographic compliance.

Key Backend Features:

Geo-Blocking Middleware

Implements IP-based filtering to prevent access from OFAC-sanctioned or restricted jurisdictions using country headers or geoIP services.

Rate Limiting

Prevents abuse of critical endpoints using express-rate-limit, with a default of 10 requests/min per IP.

Admin Routes

Includes endpoints like: /start-cycle, /request-random, /distribute-payouts, /burn-tokens, etc. All require signed messages from the owner wallet.

Contract Interaction

Connects securely to deployed contracts via ethers.js, validating ownership before execution.

Security

Includes signature verification (ECDSA), nonce handling, and restricted access via role validation.

Logging

Logs lifecycle events and errors for auditing and debugging purposes, without storing user data.