

Project Kushim: Technical Specification

System Architecture Document

January 2026

1 Introduction

Kushim is a high-performance web platform designed to unify disparate data streams into a single, secure source of truth.

2 Problem Statement

Current digital workflows suffer from **Context Switching Fatigue** and **Data Siloing**. Fragmentation across SaaS tools leads to latency and increased technical debt.

3 Solution

A unified interface using an Adapter Pattern to aggregate data, providing internal modules that share a common schema, eliminating the need for external platform jumping.

4 Technical Details

- **Frontend:** Next.js, TypeScript, Tailwind CSS.
- **Backend:** Node.js (NestJS) / Go.
- **Database:** PostgreSQL (Relational), Redis (Caching).
- **Security:** OAuth 2.0, AES-256, TLS 1.3.

5 Implementation Modules

5.1 Module A: IAM

Handles user lifecycles and RBAC using stateless JWTs.

5.2 Module B: Persistence

Standardizes data ingestion via unified JSONB formats.

5.3 Module C: Real-Time Engine

WebSocket layer with Redis Pub/Sub backbone.

5.4 Module D: UI Framework

Component-driven architecture with TanStack Query.