

DATA & DATABASE

VERIFIED STANDARD

Relational Database Schema Design & ACID Standards Runbook

Strict Foreign Key Integrity, Migration Rollbacks & Audit Logging

Document Scope:	Database design standards across all Sibiri Innovation software builds and client deliverables.
Target Audience:	Database Administrators, Backend Engineers, Enterprise Architects
Classification:	Public · Royalty-Free Engineering Reference · ISO/IEC Aligned

1. EXECUTIVE SUMMARY & STANDARDS ALIGNMENT

Comprehensive technical standards for relational database modeling. Dictates foreign key constraints, column data typing, index design (B-tree and GIN), automated transactional rollback migrations, and immutable audit trailing.

2. SCHEMA CONSISTENCY & COLUMN OPTIMIZATION

Every database entity designed by Sibiri adheres to 3NF normalization rules while strategically utilizing JSONB columns for polymorphic payload structures.

- Strict usage of BIGINT unsigned auto-increment or UUIDv7 for clustered primary keys.
- Mandatory UTC storage for all timestamp columns with microsecond precision.
- Enforced soft-deleting patterns with foreign key cascade restrictions.

INSTITUTIONAL GOVERNANCE & ENGINEERING SLA

This document represents the official architectural baseline maintained by SIBIRI INNOVATION (OPC) PVT LTD. All client deliveries, source code handovers, and academic installations adhere strictly to the protocols outlined herein.