KINTO Operations & QA

Database Setup Guide

for MAC

PostgreSQL Installation & Migration

Last Updated: November 14, 2025

All 53 Tables • Production Ready

Database Schema Overview

Total Tables: 53

Tables Distribution:
- ' Baseline Schema: 31 tables (database_scripts/)
- ' WhatsApp Integration: 1 table
- ' Financial & Invoicing: 6 tables
- ' Sales Returns & Credit Notes: 5 tables
- ' Production Management: 5 tables
- ' Configuration & Assignments: 5 tables

Baseline Schema (31 Tables)

Core System (4 tables):
- ' sessions
- ' roles
- ' role_permissions
- ' users

Machine Management (5 tables):
- ' machine_types
- ' machines
- ' machine_spares
- ' user_assignments
- ' spare_parts_catalog

Quality & Checklists (4 tables):
- ' checklist_templates
- ' template_tasks
- ' checklist_submissions
- ' submission_tasks

Preventive Maintenance (6 tables):
- ' maintenance_plans
- ' pm_task_list_templates
- ' pm_template_tasks
- ' pm_executions
- ' pm_execution_tasks
- ' maintenance_history

Inventory & Materials (5 tables):
- ' uom (Unit of Measurement)
- ' products
- ' raw_materials
- ' raw_material_transactions
- ' finished_goods

Vendors & Purchase (3 tables):
- ' vendors
- ' purchase_orders
- ' required_spares

Issuance & Dispatch (4 tables):
- ' raw_material_issuance
- ' raw_material_issuance_items
- ' gatepasses
- ' gatepass_items

Incremental Migrations (22 Tables)

WhatsApp Integration (1 table):
- ' partial_task_answers

Financial & Invoicing (6 tables):
- ' banks
- ' invoice_templates
- ' terms_conditions
- ' invoices
- ' invoice_items
- ' invoice_payments

Sales Returns & Credit Notes (5 tables):
- ' sales_returns
- ' sales_return_items
- ' credit_notes
- ' credit_note_items
- ' manual_credit_note_requests

Production Management (5 tables):
- ' raw_material_types
- ' product_bom
- ' production_entries
- ' production_reconciliations
- ' production_reconciliation_items

Configuration & Assignments (5 tables):
- ' product_categories
- ' product_types
- ' notification_config
- ' machine_startup_tasks
- ' checklist_assignments

Verification Status

- **' Schema Completeness: ALL 53 TABLES PRESENT**
- **' Missing Scripts: NONE**
- **' Script Organization: PROPERLY ORGANIZED**
- **' Foreign Key Dependencies: CORRECT ORDER**

MAC Installation Instructions

Prerequisites

1. Install PostgreSQL (if not already installed):

```
brew install postgresql@15
brew services start postgresql@15
```

2. Verify Installation:

```
psql --version
```

Should show: psql (PostgreSQL) 15.x or higher

Step 1: Create Database

```
# Create database
createdb kinto_qa
# Or using psql:
psql postgres -c "CREATE DATABASE kinto_qa;"
```

Step 2: Execute Baseline Schema Scripts

```
# Navigate to project directory
cd /path/to/your/project
# Execute baseline schema (creates 31 tables)
psql -d kinto_qa -f database_scripts/01_schema.sql
# Insert seed data
psql -d kinto_qa -f database_scripts/02_seed_data.sql
# Create performance indexes
psql -d kinto_qa -f database_scripts/03_indexes.sql
# Create test users (optional)
psql -d kinto_qa -f database_scripts/03_test_users.sql
```

Expected Output:

- ' 31 tables created
- ' 4 roles created (Admin, Manager, Operator, Reviewer)
- ' 1 admin user created (admin / Admin@123)
- ' 60+ permissions configured
- ' 8 units created (Kg, Ltr, Nos, Mtr, Pcs, Box, Carton, Set)
- ' 5 machine types created
- ' 40+ indexes created

Step 3: Execute Incremental Migrations

Execute in this EXACT order:

1. Legacy migrations (chronological order):

```
psql -d kinto_qa -f updated_dbscripts/20251106_163500_production_management.sql
psql -d kinto_qa -f updated_dbscripts/20251107_020000_notification_config.sql
psql -d kinto_qa -f updated_dbscripts/20251110_incremental_whatsapp_checklist.sql
psql -d kinto_qa -f updated_dbscripts/20251111_add_photo_spare_parts_columns.sql
```

2. Complete schema migrations:

```
psql -d kinto_qa -f updated_dbscripts/20251112_140000_financial_invoicing.sql
psql -d kinto_qa -f updated_dbscripts/20251112_140001_sales_returns_credit_notes.sql
psql -d kinto_qa -f updated_dbscripts/20251112_140002_production_management.sql
psql -d kinto_qa -f updated_dbscripts/20251112_140003_configuration_assignments.sql
```

3. Recent patches:

```
psql -d kinto_qa -f updated_dbscripts/20251112_150000_add_credit_notes_approved_by.sql
psql -d kinto_qa -f
updated_dbscripts/20251113_060000_product_category_type_display_order.sql
```

Expected Output:

' 22 additional tables created
' Total: 53 tables in database

Step 4: Verify Installation

```
# Count tables (should be 53)
psql -d kinto_qa -c "SELECT COUNT(*) FROM information_schema.tables
WHERE table_schema = 'public';"

# List all tables
psql -d kinto_qa -c "\dt"

# Verify admin user exists
psql -d kinto_qa -c "SELECT username, email, role_id
FROM users WHERE username = 'admin';"
```

Expected Results:

' Table count: 53
' Admin user: admin / admin@kinto.com

Default Credentials

After installation, you can log in with:

Admin:

- Username: admin
- Password: Admin@123
- Email: admin@kinto.com

Test Users (Optional):

- Manager: manager_test / Test@123
- Operator: operator_test / Test@123
- Reviewer: reviewer_test / Test@123

& IMPORTANT: Change admin password immediately after first login!

Production Deployment Checklist

Before deploying to production:

- Change admin password from Admin@123
- Delete test users:

```
DELETE FROM users WHERE username IN
('manager_test', 'operator_test', 'reviewer_test');
```

- Review and adjust role permissions
- Configure notification settings (Email/WhatsApp)
- Backup database
- Set production DATABASE_URL in environment

Environment Configuration

Create a .env file in your project root:

```
# Database Connection
DATABASE_URL=postgresql://username:password@localhost:5432/kinto_qa
# Example for local development:
DATABASE_URL=postgresql://postgres:yourpassword@localhost:5432/kinto_qa
# Session Secret
SESSION_SECRET=your-super-secret-key-here-min-32-chars
```

Backup and Restore

Backup Database

```
# Full backup (custom format)
pg_dump -d kinto_qa -F c -f kinto_qa_backup_$(date +%Y%m%d).dump

# SQL format backup
pg_dump -d kinto_qa > kinto_qa_backup_$(date +%Y%m%d).sql
```

Restore Database

```
# From custom format
pg_restore -d kinto_qa kinto_qa_backup_20251114.dump

# From SQL format
psql -d kinto_qa < kinto_qa_backup_20251114.sql
```

Troubleshooting

Issue: "database does not exist"

```
createdb kinto_qa
```

Issue: "permission denied"

```
# Grant privileges to your user
psql postgres -c "GRANT ALL PRIVILEGES ON DATABASE kinto_qa TO your_username;"
```

Issue: "table already exists"

Scripts use CREATE TABLE IF NOT EXISTS, so they're safe to re-run.

If you need to start fresh:

```
dropdb kinto_qa
createdb kinto_qa
# Then re-run all scripts
```

Issue: "foreign key violation"

Ensure you execute scripts in the exact order specified in this guide.

Quick Verification Queries

```sql
-- Count all tables (Expected: 53)
SELECT COUNT(*) FROM information_schema.tables
WHERE table_schema = 'public';

-- List all tables
SELECT table_name FROM information_schema.tables
WHERE table_schema = 'public' ORDER BY table_name;

-- Check roles (Expected: 4 roles)
SELECT * FROM roles ORDER BY id;

-- Check users
SELECT username, email, role_id FROM users;

-- Check permissions count (Expected: 60+)
SELECT COUNT(*) FROM role_permissions;
```

Installation Checklist

- & PostgreSQL installed and running
- & Database kinto_qa created
- & Baseline schema executed (01_schema.sql)
- & Seed data inserted (02_seed_data.sql)
- & Indexes created (03_indexes.sql)
- & Test users created (03_test_users.sql) - optional
- & All 10 incremental migrations executed in order
- & Total 53 tables verified
- & Admin login tested
- & Environment variables configured
- & Database backup taken

For support or questions, refer to your system administrator.

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