

# System Audit Report

**Overall Score: 3.0 / 5.0**

Date: 2026-01-05

**Risk Level: High**

Scope: Full System

## 1. Dimension Scores

Dimension	Score	Findings
Code Quality	5.0	0
Security	5.0	1
Testing	0.0	1
Database	3.5	16
API	0.5	1
Architecture	5.0	0
UI/UX	0.0	3
AI Layer	5.0	6
DevOps	5.0	1
Drift Detection	1.5	7

## 2. Critical Findings

### [Critical] Potential hardcoded secret detected

Description: Found in test\_custom\_rules.py

Recommendation: Move secrets to environment variables

### [Critical] Could not load FastAPI app

Description: Failed to import 'app' from backend.main for inspection.

Recommendation: Fix import paths in analyzer.

## 3. Major Findings

### [Major] Test coverage estimated at 8%

Description: Low test coverage detected

Recommendation: Add unit tests for core modules

### [Major] Unenforced Foreign Key: 'employees.department\_id'

Description: Column 'department\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for department\_id

### [Major] Unenforced Foreign Key: 'employees.designation\_id'

Description: Column 'designation\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for designation\_id

### [Major] Unenforced Foreign Key: 'employees.grade\_id'

Description: Column 'grade\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for grade\_id

### [Major] Unenforced Foreign Key: 'employees.plant\_id'

Description: Column 'plant\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for plant\_id

### [Major] Unenforced Foreign Key: 'employees.shift\_id'

Description: Column 'shift\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for shift\_id

### [Major] Unenforced Foreign Key: 'organizations.tax\_id'

Description: Column 'tax\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for tax\_id

### [Major] Unenforced Foreign Key: 'hr\_plants.organization\_id'

Description: Column 'organization\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for organization\_id

### [Major] Unenforced Foreign Key: 'performance\_reviews.employee\_id'

Description: Column 'employee\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for employee\_id

### [Major] Unenforced Foreign Key: 'performance\_reviews.reviewer\_id'

Description: Column 'reviewer\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for reviewer\_id

### [Major] 101 components lack accessibility attributes

Description: Missing aria-labels, alt text, or other a11y features

Recommendation: Add ARIA labels and alt text to improve accessibility

### [Major] Insufficient input validation on AI calls

Description: Not all AI integrations validate input data (10/39)

Recommendation: Add schema validation before sending data to AI models

### [Major] Unsafe AI Temperature Settings

Description: Found 38 AI calls without explicit low-temperature settings (risk of hallucinations).

Recommendation: Set temperature=0.0-0.2 for factual tasks.

### [Major] Missing Grounding Instructions

Description: Found 38 AI prompts without grounding constraints.

Recommendation: Include 'only use provided context' or similar constraints in prompts.

### [Major] Missing Response Validation

Description: Found 35 AI calls without response validation.

Recommendation: Implement schema validation or parsing for AI outputs to catch malformed responses.

### [Major] Insufficient Fallback Behavior

Description: Less than 50% of AI calls have fallback logic (0/39).

Recommendation: Implement graceful degradation with default responses when AI calls fail.

## 4. Action Plan

Issue	Owner	Priority
Potential hardcoded secret detected	unassigned	Critical
Could not load FastAPI app	unassigned	Critical
Test coverage estimated at 8%	unassigned	High
Unenforced Foreign Key: 'employees.department'	unassigned	High
Unenforced Foreign Key: 'employees.designatio'	unassigned	High
Unenforced Foreign Key: 'employees.grade_id'	unassigned	High
Unenforced Foreign Key: 'employees.plant_id'	unassigned	High
Unenforced Foreign Key: 'employees.shift_id'	unassigned	High
Unenforced Foreign Key: 'organizations.tax_id'	unassigned	High
Unenforced Foreign Key: 'hr_plants.organizati	unassigned	High