

Backend → GUI Coverage Audit (Maritime Onboarding System)

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Executive Summary

This audit verifies whether all backend services (API endpoints, services) have corresponding, accessible web GUIs. The system has strong coverage for core admin, manager, and operational features; however, several compliance and operations capabilities lack GUIs and require direct API/CLI usage.

- Overall GUI Coverage: High for Admin/Manager features (Managers, System Settings, Templates, Audit, Security, Performance)
 - Highest-priority gaps (P1):
 - Access Reports (GDPR Article 15): No UI for creation/download
 - User Data Export + Status/Download (GDPR Portability): No profile UI
 - Account Deletion (GDPR Article 17): No self-service UI
 - Admin Feature Flags: No toggle/rollout management UI
 - Incident Center (events/webhooks): No admin UI
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Methodology

- Mapped 128 API endpoints to React routes/components
 - Reviewed AdminDashboard tabs and nested components
 - Verified client services calling admin privacy/security/performance endpoints
 - Cross-checked with E2E admin flows where relevant
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Coverage Matrix (Highlights)

- Admin Dashboard
 - Managers: CRUD (present)
 - Templates: list/create/edit/preview/delete (present)
 - Performance: metrics, export (present)
 - Security: events & metrics, export (present)
 - Audit Log: filter/paginate (present)
 - System Settings: categorized settings UI (present)
 - Content Management: rich training content editor (present)
 - Manager Dashboard
 - Crew CRUD, bulk actions, emails, approvals (present)
 - Crew Profile
 - MFA management (present)
 - Data privacy actions (missing)
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Missing GUIs (Details)

1. GDPR Access Report (API: GET /api/privacy/access-report)

- Current: API only. No UI for users/admins to request access reports, filter, and download.
- Impact: Manual/API requests slow compliance workflows; users cannot self-serve.
- Priority: P1
- Effort: 1–2 days
- Proposal: Add Profile → Privacy tab and Admin → Compliance tab with report form (user/company, date range, format) and results grid + CSV download.

2. User Data Export: Request/Status/Download

- APIs: POST /pages/api/user/export-data, GET /pages/api/user/export-status/[id], GET /pages/api/user/download-export/[id]
- Current: API only. No profile UI to request/check/download exports.
- Impact: Users cannot perform GDPR data portability via web.
- Priority: P1
- Effort: 1.5–2.5 days
- Proposal: Profile → Privacy tab section “My Data Export” with Request button, recent jobs list (status, links), download button.

3. Account Deletion (API: DELETE /api/privacy/delete-account)

- Current: API only. No self-service UI with password/MFA verification.
- Impact: GDPR erasure requires support/API calls; higher admin burden.
- Priority: P1
- Effort: 1–1.5 days
- Proposal: Profile → Privacy tab “Delete Account” flow with confirmation, verification code (password/TOTP), warnings, and success receipt.

4. Feature Flags Admin (API: /api/admin/feature-flags)

- Current: Client-side environment featureFlags.js exists; no admin UI to toggle or scope flags.
- Impact: Slows controlled rollouts; tracing/rollback less safe.
- Priority: P1
- Effort: 1.5–2.5 days
- Proposal: Admin → Settings or a new “Feature Flags” tab to list flags, toggle per environment, add notes, and audit changes.

5. Incident Center (APIs: /api/incidents/index|[id]|stats|webhook)

- Current: No incident overview UI, no webhook test utility.
- Impact: Limited visibility/triage; operations rely on logs/API.
- Priority: P1
- Effort: 2–3 days
- Proposal: Admin → Incidents center listing active/resolved incidents, drill-down details, filters, status changes, webhook test tool.

6. Maintenance/Cron & Admin Tools

- APIs: /api/cron/*, /api/admin/cleanup-tokens, run/test notification migrations
- Current: No guarded admin panel for manual triggers.
- Impact: Direct calls are risky and inconvenient.
- Priority: P2
- Effort: 1.5–2 days
- Proposal: Admin → Maintenance tab with protected actions, confirmations, and minimal output.

7. Configuration Keys Explorer/Editor

- APIs: /api/config/[key], /api/config/batch (SystemSettings covers many but not generic keys)
- Impact: Non-modeled keys require manual calls.
- Priority: P2

- Effort: 2 days
- Proposal: Admin → Advanced Config explorer (read-only and editable keys, search, masking, audit).

8. Content Import/Export UI

- Client service supports export/import, but no visible buttons/flows.
- Impact: Slower migrations/backups of content.
- Priority: P2
- Effort: 1.5–2 days
- Proposal: Content Management page: “Export selected phases” + “Import from file” with validation and progress.

9. Backup Management & Retention UI

- Current: Backups/retention controlled via cron/config; no UI overview.
- Impact: Ops tasks are opaque; auditing is harder.
- Priority: P2
- Effort: 2–3 days
- Proposal: Admin → Data Management dashboard with backup schedule, manual trigger, last results, retention settings (with RLS policy notes).

10. Health/Uptime Aggregation Page

- APIs: /api/health/* (auth, email, storage, database)
- Impact: Diagnosis requires multiple calls.
- Priority: P3
- Effort: 1 day
- Proposal: Admin → Health page aggregating checks with color-coded status.

11. Roles/Permission Templates UI

- Current: Manager permissions set in forms; no centralized role templates.
- Impact: Harder to standardize and audit.
- Priority: P3
- Effort: 2–3 days
- Proposal: Admin → Roles & Permissions templates; assign templates to users.

Recommended Roadmap

- Sprint 1 (P1): Access Report UI, Data Export UI, Account Deletion UI
 - Sprint 2 (P1): Feature Flags Admin, Incident Center
 - Sprint 3 (P2): Maintenance/Cron tools, Config Explorer, Content Import/Export
 - Sprint 4 (P2/P3): Backup/Retention UI, Health/Uptime page, Role Templates
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Acceptance Criteria (Samples)

- Access Report UI: Admin and users can generate reports; CSV/JSON export; RLS/authorization enforced; audit logged.
 - Data Export UI: Request flow with deduping of pending jobs; list shows status; download link works; expiration noted; audit logged.
 - Account Deletion UI: Explicit confirmation, verification (password/TOTP), last-admin protection; returns certificate; audit logged.
 - Feature Flags UI: List/toggle flags with change log; optional environment scoping; permission-gated.
 - Incident Center: List with filters; detail view; acknowledge/resolve actions; webhook test.
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Notes

- This report reflects the current repository state and E2E/admin module flows
 - No external certification claims are included; security follows industry best practices
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