**Document: 08 – UI / UX Specification**

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**Document Control**

| **Version** | **Date** | **Author** | **Change Summary** | **Status** |
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| 1.0.0 | 2025-09-26 | Doc-Factory | Initial Figma prototype notes | Draft |
| 1.1.0 | 2025-09-27 | UX + FE Leads | Swap shadcn/Radix → **KendoReact (Fluent 2)**; ThemeBuilder tokens; MSAL PKCE auth; env badge; SSE progress UI; Evidence link | Draft |
| 1.2.0 | 2025-09-27 | UX + FE Leads | **Added /sessions page** (session monitor + terminate), acceptance criteria updates, cross-links to 08a | Draft |

**Approvals**

| **Role/Team** | **Name** | **Signature/Date** | **Comment** |
| --- | --- | --- | --- |
| Director of Software Eng. |  |  |  |
| Systems Architect |  |  |  |
| Security/Compliance |  |  |  |
| QA Lead |  |  |  |

**1. Purpose**

Define the **production UI/UX** for the Admin Portal using **KendoReact (Fluent 2 theme)** with **ThemeBuilder tokens**. This converts the Figma Make prototype (shadcn/Radix visuals) into a **1:1 component map**, adds **Azure SSO (MSAL PKCE)** flows, and specifies accessibility, routing, streaming (SSE), and the new **Sessions** view.

**2. Scope**

Web SPA only (React + KendoReact). API behavior lives in FR/NFR and OpenAPI. Personas: **Portal.Admin** (full), **Portal.Viewer** (read-only).

**3. Design System & Theming**

**3.1 Component Library (single source)**

* **Production:** @progress/kendo-react-\* with @progress/kendo-theme-fluent.
* **No mixed systems** in production (no shadcn/Radix). Any non-mapped Figma element must be replaced with the nearest Kendo component.

**3.2 ThemeBuilder Tokens (source of truth)**

* Tokens exported from **ThemeBuilder** (vendored under design/themebuilder/export/...).
* Import the generated Fluent 2 CSS/SCSS; **do not** hard-code palette or radii.
* Tokens govern color, radius, spacing, typography, and chart palette.

**3.3 Responsiveness & Layout**

* Shell uses **Kendo Drawer** (sidebar) + **Kendo AppBar** (header).
* Breakpoints: ≥1280 (desktop), 768–1279 (tablet), <768 (compact). Drawer collapses to icons in compact.

**4. Authentication UX (MSAL PKCE)**

**4.1 Login**

* Unauthenticated users are redirected to AAD.
* On success, route to **/dashboard**; show **environment badge** (Alpha/Beta/RTM/Prod) sourced from /config/effective.
* Tokens are **not** stored in localStorage. Prefer session storage or secure cookie per app decision.

**4.2 Roles & Visibility**

* **Server is authoritative**. UI hides actions where role lacks permission, but API enforces RBAC.
* Viewer: read-only; Admin: CRUD on config/flags/lookups, jobs, CORS allow-list, access (if enabled), and **terminate session**.

**5. Information Architecture & Routing**

| **Route** | **Roles** | **Purpose / Key Modules** |
| --- | --- | --- |
| /login | Public | AAD redirect start (MSAL) |
| /dashboard | Admin/Viewer | Health/Ready cards; p50/p95/error%; uptime; version; queue depth; environment badge |
| /sessions | Admin/Viewer | **Session monitor**: list active/background sessions (ID, user/role, start, last heartbeat, status); Admin can terminate |
| /config | Admin/Viewer | **Effective config** grid (non-secrets); export |
| /config/keys | Admin | App config CRUD dialogs; audit panel |
| /flags | Admin | Feature flags list + toggles (optional scoping by env/role) |
| /lookups | Admin | Lookup tables (add/update/deprecate); referential hints |
| /jobs | Admin | Job launcher form; **SSE progress** viewer with heartbeats + reconnect |
| /audit | Admin | Audit trail filters; details drawer; export |
| /evidence | Admin/Viewer | Releases grid; Evidence Pack artifacts; checksums/attestations |
| /access | Admin | AAD user search + role assignment (if Graph write enabled) or Change-Request generator |
| /security/cors | Admin | CORS allow-list editor with optional two-person approval |

**6. Component Mapping (Figma → KendoReact Fluent 2)**

| **Figma / Prototype Element** | **KendoReact Fluent 2** | **Notes** |
| --- | --- | --- |
| App Shell (sidebar + header) | **Drawer**, **AppBar**, **Avatar**, **Menu** | Environment badge in AppBar; user menu with sign-out |
| Cards / KPIs | **Card**, **Typography** | Dashboard tiles; compact variants for tablet/mobile |
| Tables / Lists | **Grid** | Server paging/sorting/filtering; CSV export |
| Charts (latency, error%) | **Charts (React)** | Line/area for time-series; use tokens for color |
| Forms (config/flags/lookups/jobs) | **Form**, **Inputs**, **DropDowns**, **Switch** | Validation summary; async submit with toasts |
| Dialogs / Modals | **Dialog** | Confirmations, edit forms, error details |
| Notifications / Toasts | **Notification** | Success/warn/error with requestId |
| Breadcrumbs / Nav | **Breadcrumb** | Reflect IA; show current page |
| Tabs / Segments | **TabStrip** | Use where prototype shows segmented controls |
| Progress Bar / Skeletons | **ProgressBar**, **Skeleton** | Job progress; loading placeholders |
| Tooltips | **Tooltip** | Keyboard accessible; no hover-only critical info |
| “Sheet”/Slide-over details | **Drawer** (right side) | Details & audit panels |
| Resizable Panels | **Splitter** | Prefer over custom resizers |

**7. Pages — Detailed UI Behavior**

**7.1 Dashboard**

* **Cards:** Health/Ready, Version/Uptime, Queue depth, p50/p95 latency, Error rate.
* **Charts:** Request rate & error percentage (last 15m/1h).
* **Env Badge:** color + label from /config/effective.
* **Empty/Error states:** friendly copy + retry.
* **A11y:** announce live updates politely.

**7.2 Effective Config (/config)**

* **Grid Columns:** key, description, value, type, scope, last changed (who/when), tags.
* **Filtering/Paging:** server-side; search by key/tag.
* **Export:** CSV.
* **Secrets:** never shown.

**7.3 App Config Keys (/config/keys)**

* **Add/Update dialogs** with validation; **audit panel** (before→after).
* **Idempotency:** send Idempotency-Key on submit; dedupe retries.
* **Toasts** on success/failure (include requestId).

**7.4 Feature Flags (/flags)**

* **Grid + Switch** toggle; optional targeting by env/role; all changes audited.
* Display current evaluation (true/false) for current user/env.

**7.5 Lookups (/lookups)**

* **Grid per domain**; add/update/deprecate (soft-delete).
* Warn if referenced; show referential hints.

**7.6 Jobs & Streaming (/jobs)**

* **Create Job** form → Job ID.
* Open **SSE** to /jobs/{id}/events:
  + Events: progress (with %/message), **heartbeat** every ≤10s, terminal completed|failed.
  + **Reconnect** with backoff; if supported, use Last-Event-ID.
  + **TTFB target ≤ 200ms** for first event.
* **Progress UI:** progress bar, event log list, final status with duration.
* **Errors:** standardized envelope; show requestId.

**7.7 Audit (/audit)**

* Filters: actor, action, entity, date.
* **Grid + Drawer** (before→after JSON).
* CSV export.

**7.8 Evidence (/evidence)**

* Releases list; artifact links (OpenAPI diff, CodeQL, SBOM, axe, **k6**, parity, approvals).
* Show checksums/attestations.
* Link from footer “Evidence” and dashboard quick-actions.

**7.9 Access (/access)**

* Search AAD user; view role/group; **Assign/Remove** if Graph write enabled.
* If not enabled: **Generate Change Request** (pre-filled), copy/download.

**7.10 Security / CORS (/security/cors)**

* Env selector; **Allowed Origins** grid.
* Optional two-person approval.
* All edits audited.

**7.11 Sessions (/sessions) — new**

**Goal:** Visibility into active/background sessions; allow **Admin** to terminate a session. **Viewer** is read-only.

* **Layout:** **Grid** (server paging/sort/filter).  
  **Columns:** sessionId, user, role, clientIp, startedAt, lastHeartbeat, status (active|idle|ended).
* **Live Indicators:**
  + status badge;
  + “Last heartbeat” auto-updates (poll or SSE if available);
  + row shimmer (**Skeleton**) during refresh.
* **Actions (Admin only):** Terminate per row → confirm **Dialog** → success **Notification** (shows requestId).
* **Errors:** envelope surfaced inline; never expose stack traces.
* **A11y:** keyboard row actions, labelled buttons, focus returned to row after action.
* **Feature Flag:** expose **Terminate** only when API endpoint is enabled.

**8. Accessibility (WCAG 2.2 AA)**

* Keyboard operable paths for all pages; **visible focus**.
* Labels, ARIA roles/states; toasts use **live region**.
* Contrast via tokens ≥ 4.5:1.
* Axe checks run in CI; **0 critical** before merge.

**9. Content & Copy Guidelines**

* Errors: concise, actionable; include **requestId**.
* Empty states: explain purpose + next step (e.g., “No sessions yet — check back soon”).
* Time/number formats: ISO in logs/tooltips; humanized in UI (e.g., “2m 13s”).

**10. Performance & Reliability UX**

* **Skeletons** for grids/charts >250 ms load.
* **Optimistic UI** for quick toggles (flags), rollback on failure.
* **SSE reconnection** banner with jittered backoff.
* Bundle size budget for initial route: **≤ 500 KB gz**; defer heavy charts until visible.

**11. Security & Privacy UX**

* No secrets or stack traces in UI.
* Env info (host/origin) is Admin-only.
* Evidence links visible to Viewer but without mutating controls.
* Session **Terminate** confirms impact and logs audit context.

**12. KendoReact Implementation Notes**

* Install: @progress/kendo-react-buttons, -inputs, -layout, -grid, -charts, -dialog, -form, etc.
* Theme: @progress/kendo-theme-fluent (or ThemeBuilder package).
* Providers: Kendo Intl + Router + MSAL provider at app root.
* Grid: use server operations (onDataStateChange) for paging/sorting/filtering.

**13. Navigation, States & Guards**

* **Auth Guard:** redirect unauthenticated → /login; after SSO, return to intended route.
* **Role Guard:** hide unauthorized actions; disabled buttons show tooltip “Requires Admin role.”
* **Environment Badge:** read from /config/effective (e.g., EnvironmentName).

**14. Telemetry & Observability Hooks**

* Log page views and key actions with **requestId** correlation.
* **SSE metrics:** connection start/stop, first-event ms, heartbeat gap, reconnects.
* **Sessions:** log terminate events with sessionId + actor; expose “last heartbeat” as a metric.
* UI error boundary logs unhandled exceptions (redacted) with requestId.

**15. Acceptance Criteria (UI/UX)**

1. All mapped pages implemented in **KendoReact Fluent 2** with ThemeBuilder tokens; no shadcn/Radix in production.
2. AAD login (MSAL PKCE) + route guards; **Viewer** cannot mutate.
3. Dashboard renders health/ready, p50/p95, error rate; env badge from config.
4. Jobs page streams **SSE** with **TTFB ≤ 200 ms** and **heartbeat ≤ 10 s**; supports reconnect.
5. Effective config shows **non-secrets only**; CSV export works.
6. **Sessions page present**:
   * Viewer: read-only list;
   * Admin: **Terminate** with confirm dialog → success toast with requestId;
   * “Last heartbeat” updates without page reload.
7. Accessibility: axe CI **0 critical**; keyboard/focus paths verified.
8. Evidence page lists release artifacts with checksums; footer/header link present.
9. Initial route bundle **≤ 500 KB gz**.

**16. Cross-References & Appendices**

* **08a – UI Component Mapping (shadcn → KendoReact Fluent 2)**: concrete component substitutions and code sketches.
* **09 – Test Strategy**: E2E for /sessions, negative RBAC, SSE k6 thresholds.
* **11 – Monitoring**: SSE TTFB/heartbeat dashboards; session heartbeat metric.
* **12 – Evidence Pack**: a11y report, k6 results, screenshots.

**17. Open Issues**

* Confirm Sessions data source (poll vs SSE).
* Decide Terminate behavior for long-running jobs (graceful cancel vs hard stop).
* Finalize default dashboard chart windows (15m vs 1h).