**Runbook: Deploy (Alpha → Beta → RTM → Prod)**

**Project:** MCPX-KendoBridge Admin Portal  
**Runbook ID:** TJ-MCPX-RB-01  
**Version:** 1.1.0  
**Status:** Draft  
**Date:** 2025-09-27  
**Owner:** Release Manager / DevSecOps (Technijian)  
**Confidentiality:** Technijian Internal

**Document Control**

| **Version** | **Date** | **Author** | **Change Summary** | **Status** |
| --- | --- | --- | --- | --- |
| 1.0.0 | 2025-09-26 | RM + SRE | Initial deploy procedure | Draft |
| 1.1.0 | 2025-09-27 | RM + SRE | Added parity gate, SSE perf smoke, SP-signature snapshot, DocX→MD/TREE checks | Draft |

**Approvals**

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

**1) Purpose**

Define the **repeatable, auditable** steps to deploy the Admin API & Web across **Alpha → Beta → RTM → Prod**, including DB migrations, parity checks, SSE smoke, and Evidence Pack creation.

**2) Scope**

* **API (.NET 8)**, **Web (React + KendoReact Fluent 2)**, **SQL Server 2022** migrations/SPs
* **Azure SSO** config references (no changes here)
* **Environments:** Alpha, Beta, RTM, Prod
* **Out-of-scope:** non-admin/tenant apps

**3) Pre-Deploy Checklist (per environment)**

**Blocking items must be ✅ before proceeding.**

**A. Release Inputs**

* ✅ Commit SHA & tag selected; release notes draft started
* ✅ OpenAPI path casing verified in CI (matches repo folder)
* ✅ DocX→MD mirror & TREE.md present at release commit

**B. Secrets & Config**

* ✅ No secrets in repo; env secrets present (incl. **KENDO\_UI\_LICENSE**)
* ✅ config/expected/expected-prod.json (canonical) maintained (for RTM→Prod)
* ✅ CORS allow-list correct for target env

**C. Database**

* ✅ Migrations are **add-only**; no destructive DDL
* ✅ App principal **EXECUTE-only** grants in place (no table DML)
* ✅ SP **signature snapshot** collector available (runs post-deploy)

**D. Quality Gates (CI green)**

* ✅ Build/tests (API & Web)
* ✅ OpenAPI lint/diff (waivers recorded if needed)
* ✅ CodeQL, Dependency Review, Secret Scan
* ✅ SBOM generated
* ✅ axe (a11y) shows **0 critical**

**E. Observability**

* ✅ Dashboards exist (Executive, API Perf, **SSE Health**, Readiness & Parity)
* ✅ Alert policies committed (p95 breach, 5xx spike, **SSE heartbeat gap**, parity blocked)

**4) Deploy Steps (Alpha → Beta → RTM → Prod)**

**Step 1 — Announce & Freeze (5–10 min)**

* Notify #release channel (env, window, SHA)
* Freeze non-urgent merges to main until deploy completes

**Step 2 — Build & Artifact Stage**

* CI builds API & Web
* **Activate Kendo license** in CI before npm run build
* Upload artifacts (API package, Web build, SBOM, test reports)

**Step 3 — Database Migrations**

* Apply migrations to target env (idempotent, **add-only**)
* Verify:
  + App user has **only EXECUTE** on whitelisted SPs
  + No table DML rights

**Step 4 — API Deploy**

* Roll out API package (slot or rolling)
* Wait for **/healthz** green; then **/ready** green

**Step 5 — Web Deploy**

* Publish static build to target hosting
* Run synthetic: login (MSAL) → /dashboard cards render; env badge correct

**Step 6 — Post-Deploy Verification (Alpha/Beta)**

* Contract tests (OpenAPI) against target
* **SSE Smoke (k6):** validate **TTFB ≤ 200 ms** and heartbeat **≤ 10 s**
* Quick UI passes: /config, /flags, /jobs stream, /evidence list

**Step 7 — Evidence Capture (Alpha/Beta)**

* Attach to the release:
  + Build/test outputs, OpenAPI diff, CodeQL & Dependency Review, Secret Scan, **SBOM**
  + **k6 SSE** results, dashboard screenshots (Executive, **SSE Health**)
  + docs-md/\*\* snapshot and TREE.md at commit

**Step 8 — Promote**

* Repeat Steps 3–7 for **Beta**, then **RTM**

**Step 9 — RTM Parity Gate (before Prod)**

* Generate **Config Parity Report** (RTM effective vs intended Prod): **0 critical diffs required**
* Run **SP Signature Snapshot** and attach to release
* Confirm alerts quiet (no p95/5xx/heartbeat issues)

**Step 10 — Prod Deploy**

* Repeat Steps 3–7
* After web/API live:
  + Re-run **SSE Smoke**
  + Confirm parity widget green (N/A in Prod), dashboards stable

**5) Rollback (summary; see runbooks/rollback.docx)**

Trigger if any **P1** breach occurs (availability, readiness flapping, SSE failure, parity regression in RTM):

* Re-deploy prior green release (API & Web)
* Restore prior **expected config** if changed
* Post-incident evidence and RCA required

**6) Evidence Pack (what to attach per environment)**

* Build/test reports; **OpenAPI diff**; **CodeQL/Dependency/Secrets** summaries
* **SBOM** (+ attestation if used)
* **k6 SSE** smoke results; parity report (RTM)
* **SP signature snapshot** (RTM/Prod)
* Dashboard screenshots; alert policy export
* Approvals log (protected environments)

Retention: **≥ 1 year** per release tag.

**7) Operational Checks After Go-Live**

* Dashboards: request rate, p95, error %, **SSE first-event** trend, heartbeat gaps
* Logs: error envelope codes (spikes), auth failures
* Alerts: ensure no flapping; tune thresholds if noisy

**8) Communication Templates**

**Start notice (Slack):**

Deploying **{env}** for MCPX-KendoBridge. SHA {abcd123}. Window {HH:MM–HH:MM}. Expect minor restarts. Ping @RM for status.

**Success:**

**{env}** deploy complete. Health/Ready ✅. SSE smoke ✅ (TTFB {ms}, heartbeat {s}). Evidence attached to release {tag}.

**Rollback:**

**{env}** rollback executed to release {tag\_prev} due to {reason}. Incident opened. Updates to follow.

**9) Acceptance Criteria (Deploy Runbook)**

* All **Pre-Deploy** checks pass; CI green
* Migrations applied with **no** destructive DDL; app principal restricted to **EXECUTE**
* API/Web healthy; synthetics pass; **SSE TTFB ≤ 200 ms**, heartbeat ≤ 10 s
* **RTM parity = 0 critical** before Prod
* Evidence Pack complete and attached; alerts quiet post-deploy

**10) Appendix — Quick Commands (reference)**

**k6 SSE Smoke (example):**

k6 run tests/perf/k6\_sse\_ttfb.js -e BASE\_URL=https://{env-host}/api -e TOKEN={bearer}

**Parity (concept):**

# Compare intended Prod vs RTM effective (non-secrets)

# Attach JSON diff to release

**Signature Snapshot (SQL):**

EXEC dbo.sp\_Signature\_Collect;

-- export latest snapshot and attach to release

**End of Runbook — TJ-MCPX-RB-01 v1.1.0**