

# Handz V1 PRD Bundle

## CH22 — Practice Mode: Logging & History

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**Depends on:** CH08, CH20, CH21, CH25, CH27, CH28, CH33

**Related:** CH04, CH05, CH06, CH23, CH24, CH30, CH31, CH34, CH35, CH36, CH37

**Supersedes:** —

**Owned Decisions:** Practice log schema + retention rules; history UI + routing; streak definitions; credit-consumption rules for logging; “actual duration” computation; log immutability rules; orphan handling when flows are edited/deleted.

**Open Questions / Placeholders:** See §12 (explicit list; do not guess).

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### 0. Cross-References and Non-Negotiables

This chapter defines only logging + history for Practice Mode. It must not redefine rules owned by other chapters. Use the cross-reference standard from CH00.

See: HZ-V1-CH00 §0–§3 (no detail loss, required front-matter, and cross-reference rules).

### 1. Scope & Goals

**Scope:** everything that happens after a practice session runs: how we compute what was accomplished, how we store it, how we show it back to the user (history, streaks, records), and how we prevent trust-breaking inconsistencies when flows change later.

**Out of scope for this chapter:** choosing drill items, ordering, timers, rest logic, and in-session controls (owned by CH20/CH21). This chapter consumes outputs from CH21 and persists them.

#### Primary UX goals:

- Users can immediately see what they accomplished in concrete terms (paths drilled, sets completed, reps assumed, time actually spent).
- History remains understandable even if the user edits or deletes the underlying flow later (no “my log changed” surprises).
- Streak and consistency signals feel motivating and forgiving (no shame/overwhelm), while still being accurate.
- Free/Pro gating is transparent and does not break the sharing funnel (practice is paywalled, viewing is not).

### 2. Definitions (Logging-specific)

- **Practice session:** one run of Practice Mode from Start → End (or interruption), containing one or more *drill items*.
- **Drill item:** one selected path (or sequence) that the user drills in a session, with a per-item config (sets, reps, time per set) defined in CH20.

- **Set:** one timed work interval for a drill item, optionally completed early. Set outcomes are defined in CH21 and recorded here.
- **Planned duration:** the expected duration based on configuration (sum of planned set times + planned rest times).
- **Actual duration:** time actually spent in the session, subtracting paused time (definition in §6).
- **Assumed reps:** trust-based reps credited when a set is completed, based on configured reps-per-set (definition in §6).
- **Qualifying practice day:** a local-calendar day where the user completed at least one set in any session (definition in §8).
- **Orphaned session:** a log whose referenced flow/path no longer exists (deleted or missing). The log remains viewable via frozen snapshot data (definition in §7).

### 3. Inputs from CH21 (What Logging Receives)

Practice Logging does not invent or infer the session timeline. The active session engine (CH21) must hand Logging a complete session record with the following minimum data.

See: HZ-V1-CH21 §(Active Session Output Contract) (create this section if not yet written).

- **Session lifecycle timestamps:** sessionStartAt, sessionEndAt, totalPausedMs, appBackgroundIntervals[] (optional), deviceTimezoneAtStart.
- **Session status:** completed | ended\_early | interrupted (saved as interrupted) (status meanings in §5).
- **Drill items in order:** each item references a selected path/sequence and includes config: setsPlanned, repsPerSetAssumed, secondsPerSet, secondsRestBetweenSets, plus the actual per-set outcomes recorded during the run.
- **Per-set outcomes:** for each set attempt: startAt, endAt, outcome, completedBy (auto/manual), elapsedMs, restSkipped (bool), userActions[] (optional).
- **Navigation context:** where the session was started from (Practice tab vs Flow detail vs Gameplan), and which plan state (Guest/Free/Pro/Trial).

## 4. Pages & Routing (History Surfaces)

This chapter defines every screen involved in viewing logs and streaks. Full app-wide route naming is owned by CH04/CH05; below are canonical route IDs to avoid guesswork.

- **PracticeTab** (CH04): entry point. Contains “Start Practice”, “History”, and “Streak” affordances.
- **PracticeSessionSummaryModal**: shown when a session ends (completed or ended early). Has primary actions: “Log Session” (if not auto-logged) and “View History”.
- **PracticeHistoryList**: chronological list of past sessions (with filters).
- **PracticeHistoryDetail**: detail view for one session log.
- **StreakAndRecords**: streak card(s), best streak, total practice days, top drilled paths, and personal records.
- **PracticeExport**: export/share of history data (owned by CH34, but this chapter defines what data is included).

### Routing rules:

- From PracticeTab → tap “History” → PracticeHistoryList.
- From PracticeSessionSummaryModal → “View History” opens PracticeHistoryDetail for the just-finished session.
- From PracticeHistoryList → tap row → PracticeHistoryDetail.
- From PracticeHistoryDetail → “Open Flow” attempts to open FlowDetailView (CH16) for the referenced flow; if missing, show Orphaned state (see §7).
- From any history screen → “Export” opens PracticeExport (CH34) with history scope preselected.

## 5. Session Status Model

A practice log always has a status. Status is not cosmetic; it affects streak crediting, analytics, and how the summary is worded.

- **completed**: the session ran through the planned drill items and ended normally. (Set completion can be automatic at timer 0 or manual early completion; see CH21.)
- **ended\_early**: the user intentionally ended the session early via “End Practice”. At least one set may or may not have been completed.
- **interrupted**: the session did not end cleanly (app killed, crash, OS kill, unrecoverable error). The app should restore or mark as interrupted per CH21 “save as interrupted” decision.

### Additional flags (not statuses):

- **qualifiesForStreak** (bool): computed (see §8).
- **creditConsumed** (bool): whether a Free credit was consumed for this session (see §9).
- **hasOrphans** (bool): whether any drill item references missing flow/path (see §7).

## 6. Core Computations (Actual Duration, Planned Duration, Assumed Reps)

This section is the single source of truth for what we compute and how we compute it. Do not let the client invent alternative math in different places.

### 6.1 Planned duration

Planned duration is computed from configuration, regardless of what the user actually did.

- $\text{plannedWorkSeconds} = \sum \text{over drill items} (\text{setsPlanned} \times \text{secondsPerSet})$ .
- $\text{plannedRestSeconds} = \sum \text{over drill items} ((\text{setsPlanned} - 1) \times \text{secondsRestBetweenSets}) + \text{any inter-item rest if CH21 defines it}$ .
- $\text{plannedTotalSeconds} = \text{plannedWorkSeconds} + \text{plannedRestSeconds}$ .
- If a drill item has custom rest rules (future), store them per item and include here (placeholder).

### 6.2 Actual duration

User requested “actual duration” tracking. Actual duration must reflect real time in session while excluding paused time.

- $\text{sessionWallClockMs} = (\text{sessionEndAt} - \text{sessionStartAt})$ .
- $\text{actualDurationMs} = \text{sessionWallClockMs} - \text{totalPausedMs}$ .
- $\text{actualDurationMs}$  must never be negative; clamp at 0 if needed.
- If the app records multiple pause intervals,  $\text{totalPausedMs} = \sum(\text{pauseEnd} - \text{pauseStart})$ .
- If the app goes to background and the session is configured to auto-pause (CH21), treat background time as paused and include it in  $\text{totalPausedMs}$ .

Display format: mm:ss for < 1 hour; hh:mm:ss for  $\geq 1$  hour. Also show a “Planned vs Actual” comparison on the detail screen.

### 6.3 Assumed reps

The app does not rep-count. It credits assumed reps for completed sets only.

- For each drill item:  $\text{repsPerSetAssumed}$  is configured in CH20 (defaulted; user-editable).
- For each set attempt: if  $\text{setOutcome} \in \{\text{completed\_auto}, \text{completed\_manual}\}$  then  $\text{repsCredited} = \text{repsPerSetAssumed}$ ; else  $\text{repsCredited} = 0$ .
- $\text{itemAssumedReps} = \sum \text{repsCredited}$  across set attempts for that item.
- $\text{sessionAssumedReps} = \sum \text{itemAssumedReps}$  across drill items.
- Store both “assumed reps” and “completed sets” so users can reason about progress even if they don’t trust the reps number.

### 6.4 Completed set counting

Completed sets are the atomic unit for streak, credits, and accomplishment summaries.

- $\text{completedSetCount} = \text{number of set attempts with outcome completed\_auto or completed\_manual}$ .
- Skipped sets do not count as completed.

- If the timer hits 0 without user action, it counts as completed\_auto (see CH21).

## 7. Log Immutability, Snapshots, and Orphan Handling

Logs must remain understandable even when flows change. Therefore, logs store both references *and* a frozen snapshot of what was drilled.

### 7.1 Reference fields (pointers)

- flowId (nullable): the flow the path originally came from.
- pathId or pathSignature (nullable): stable identifier for the selected path (definition owned by CH20/CH13).
- flowRevisionAtPractice (optional): if flows have revisions; else store updatedAt timestamp.

### 7.2 Frozen snapshot fields (what to render)

- displayNameAtPractice: flow name + optional path label as seen at practice time.
- moveSequenceSnapshot: ordered list of move display names (and optional alias chosen), plus optional sequence labels between moves (if sequences were used).
- nodeIdsSnapshot: list of underlying node IDs (for debugging/mapping).
- notesSnapshot: any per-item notes visible during practice (if applicable).

### 7.3 What happens if the user edits a flow after practicing?

- History continues to render the frozen snapshot by default (so logs never “change”).
- PracticeHistoryDetail includes a secondary action: “Open current version” (if flowId still exists). This navigates to FlowDetailView (CH16).
- If the current flow differs from snapshot, show a small info note: “This log shows what you drilled on . The flow may have changed since.”

### 7.4 What happens if the user deletes a flow?

- The practice log remains. The detail view shows “Deleted Flow” where “Open Flow” would be.
- The log is marked hasOrphans=true; filtering can include/exclude orphaned logs.
- Export includes snapshot data, so deletions do not erase user history unless they explicitly delete history (CH34).

## **8. Streaks, Consistency, and Records**

Streaks must use the user's local time and must be computed from completed sets (not session status alone).

See: HZ-V1-CH00 §5 (global lock: streak is updated from practice logs; user local time; one completed set qualifies).

### **8.1 Qualifying practice day**

- A day qualifies if the user completes at least 1 set (`completedSetCount >= 1`) in any session whose local-date (at `sessionEndAt`) is that day.
- Local-date is computed using the user's device timezone (`deviceTimezoneAtStart`) unless the app stores a user-selected timezone (future).
- If multiple sessions qualify on the same day, it still counts as 1 practice day.
- If a session is interrupted and later resumed, only the final logged record counts; do not double-count the same session.

### **8.2 Current streak computation**

- `currentStreakDays` = consecutive count of qualifying days ending at today (local).
- If yesterday was not a qualifying day, streak resets to 0 (or 1 if today qualifies).
- Store: `currentStreakDays`, `bestStreakDays`, `lastQualifyingDateLocal`, `totalPracticeDays`.

### **8.3 “Forgiving” UX without lying**

We do not fake streaks, but we do avoid shame language. Copy guidance:

- If streak breaks: “New streak starts today. You’ve still practiced days total.”
- If user has 0 qualifying days: “Run your first practice session to start tracking.”
- If user practiced but didn’t complete a set (0 completed sets): “Session saved, but streak starts when you complete at least one set.”

### **8.4 Records**

Records are computed from logs. v1 records are intentionally simple and concrete:

- Longest session (`actualDurationMs` max).
- Most sets completed in one session.
- Most assumed reps in one session.
- Most practiced drill item (count of sessions including that item).

Any “mastery” progress metrics are owned by CH23/CH24; this chapter only provides the raw history data they consume.

## **9. Plan Gating Interaction (Credits, Paywall, and Logging)**

Practice is paywalled. Free users receive 3 monthly practice credits usable only on saved flows.

See: HZ-V1-CH00 §5 (global locks on paywall, credits, saved flows cap, and inbox restriction).

## **9.1 When a credit is reserved/consumed**

To prevent abuse and avoid “I lost a credit because the app crashed,” use a reserve/consume model.

- At session start (Start Practice): if plan=Free and creditBalance>0, create a “credit reservation” attached to sessionId (reservedAt, expiresAt).
- At session end: if completedSetCount  $\geq 1$ , consume the reserved credit (creditConsumed=true).
- If completedSetCount == 0 (user ends immediately or crash before first completion): release reservation; no credit consumed.
- If the app crashes with a reservation active: on next launch, offer “Resume session” or “Discard”. Discard releases reservation.
- Reservation expires after a short window (PLACEHOLDER: e.g., 12 hours) to auto-release if session is abandoned.

## **9.2 What Free users can and cannot practice**

- Free can practice only saved flows (flows in their library).
- Free cannot practice inbox items (view-only).
- Free has saved flows cap=2; when at cap, they can still view inbox items but cannot save more without deleting an existing flow (see CH18).
- Trial behaves as Pro (CH08).

## **9.3 History visibility by plan**

- Guest: no persistence; show only demo history in-session (not stored).
- Free: can view full history for sessions they ran (including credit sessions).
- Pro/Trial: same as Free plus any Pro-only session metadata if later added.

## 10. Screen Specs (History & Streak Surfaces) — Every Button and Destination

Design system (colors, typography, spacing, motion) is owned by CH06. This chapter defines layout structure, required elements, and interaction logic.

See: HZ-V1-CH06 (Design System) for palette and type; see CH04/CH05 for final route names.

### 10.1 PracticeSessionSummaryModal

**When shown:** Immediately after session ends (completed or ended\_early). If interrupted, summary is shown on resume or when user discards an interrupted session.

**Header:** “Practice complete” (completed) or “Practice ended early” (ended\_early).

#### Summary fields (always visible):

- Actual Duration (formatted).
- Planned Duration (formatted) + small “planned” label.
- Completed Sets: X (with “of Y planned” if session had a planned count).
- Assumed Reps: N (label “assumed”).
- Drill Items Completed: M (count of items with  $\geq 1$  completed set).
- Streak: show current streak days if qualifiesForStreak; else show “Complete 1 set to start streak.”

#### Optional breakdown (expand/collapse):

Collapsed by default. Expand shows per drill item rows: item name, completed sets, assumed reps, and a tiny badge if item is orphaned.

#### Primary buttons:

- **[Done]** → returns to PracticeTab. (If log is auto-saved, this is safe.)
- **[View Details]** → navigates to PracticeHistoryDetail for this sessionId.
- **[View History]** (secondary) → PracticeHistoryList (scrolled to this session).

**Auto-save rule:** Logs are created automatically at session end (no extra “save” button). If auto-save fails, show non-blocking error toast and keep a local pending log for retry (see CH28).

### 10.2 PracticeHistoryList

**Top bar:** title “History”, back button, overflow menu (Export).

**Primary content:** scrollable list grouped by local date (Today, Yesterday, or date label).

#### Each row shows:

- Time (start or end time; choose end time as default).
- Session status badge: Completed / Ended Early / Interrupted.
- Actual duration.
- Completed sets + assumed reps (small).
- Top 1–2 drill item names (ellipsis if more).
- If qualifiesForStreak: small flame icon or “Streak day” pill (style per CH06).

### **Filters (sticky filter row):**

- All / Completed / Ended Early / Interrupted
- Flow (picker) (optional in v1; if too heavy, make this a search field instead)
- Time range: Last 7 days / 30 days / All (default All)

**Search (v1 optional):** search across drill item display names (snapshot) and flow names. If not shipping search here, do not fake it; omit.

### **Buttons:**

- Tap session row → PracticeHistoryDetail(sessionId).
- Export (overflow) → PracticeExport with scope=history (CH34).

## **10.3 PracticeHistoryDetail**

**Top bar:** back, title “Session”, overflow: Export Session, Delete Session (if allowed by CH34).

**Header block:** status + date/time + streak indicator.

- Actual duration (big).
- Planned duration (small).
- Completed sets, skipped sets, ended-early sets (counts).
- Assumed reps (label “assumed”).
- Credit consumed? (only show for Free: “1 credit used” badge; Pro hides).

### **Drill item timeline section:**

For each drill item (in order), show an expandable card:

- Title: item displayNameAtPractice (snapshot).
- Subtitle: completed sets / planned sets; assumed reps; per-item actual time (sum of set elapsed + rests for that item if available).
- Tap expands → shows moveSequenceSnapshot (chips or lines), plus per-set list (Set 1: completed\_auto 5:00, Set 2: completed\_manual 3:12, Set 3: skipped 1:08, etc.).
- Buttons inside card:
  - [Open Flow] (if flowId exists) → FlowDetailView(flowId) (CH16).
  - [Open Current Version] (if flowId exists but snapshot differs) → same destination; optionally show a compare banner.

### **Orphan handling in detail:**

- If flowId is missing or flow fetch fails: disable Open Flow and show “Flow not available”.
- Still show moveSequenceSnapshot and per-set outcomes.

## **10.4 StreakAndRecords**

**Purpose:** motivate consistency with concrete counts, not just time spent.

### **Top cards:**

- Current streak (days) + small note “based on completing at least 1 set per day”.
- Total practice days.
- Best streak.

**Records section:** show the 4 records from §8.4 with values and dates.

**Buttons:**

- [View History] → PracticeHistoryList
- [Export] → PracticeExport (CH34)

## 11. Data Model (Backend-Agnostic Schema + Firebase Notes)

This chapter is implementation-light but must define a stable schema so multiple screens and analytics agree. Storage engine choice is handled elsewhere; V1 direction is Firebase.

### 11.1 Entities

- **practiceSession** (one per run).
- **practiceSessionItem** (one per drill item within session).
- **practiceSetAttempt** (one per set attempt).
- **streakSummary** (denormalized per-user counters).
- **creditLedger** (Free credits + reservations; owned by CH25/CH08 but referenced here for linkage).

### 11.2 practiceSession fields

- sessionId (uuid)
- userId
- createdAt (server)
- sessionStartAt, sessionEndAt (client or server; store both if needed)
- deviceTimezoneAtStart
- status (completed | ended\_early | interrupted)
- plannedTotalSeconds, actualDurationMs, totalPausedMs
- completedSetCount, skippedSetCount, assumedRepsTotal
- qualifiesForStreak (bool), streakDayLocal (YYYY-MM-DD string)
- creditConsumed (bool), creditReservationId (nullable)
- startedFrom (practice\_tab | flow\_detail | gameplan)
- planStateAtRun (guest | free | pro | trial)
- hasOrphans (bool)
- items[]: optional lightweight summary array (session item summaries) for list rendering

### 11.3 practiceSessionItem fields

- itemId (uuid)
- sessionId
- orderIndex
- flowId (nullable), pathId/pathSignature (nullable)
- displayNameAtPractice
- moveSequenceSnapshot[] (strings)
- nodeIdsSnapshot[] (strings)
- config: setsPlanned, repsPerSetAssumed, secondsPerSet, secondsRestBetweenSets
- computed: completedSetCount, assumedReps, actualWorkMs (optional), actualRestMs (optional)

### 11.4 practiceSetAttempt fields

- setId (uuid)

- sessionId, itemId
- setIndex (1-based)
- startAt, endAt
- elapsedMs
- outcome: completed\_auto | completed\_manual | skipped | aborted
- completedBy: auto | user
- repsCredited (int)

## 11.5 Firebase structure suggestion (non-binding)

If using Firestore, avoid hitting document size limits by storing items/sets as subcollections when sessions get large.

Example:

```
users/{userId}/practiceSessions/{sessionId}
users/{userId}/practiceSessions/{sessionId}/items/{itemId}
users/{userId}/practiceSessions/{sessionId}/items/{itemId}/sets/{setId}
Also store streakSummary at users/{userId}/streakSummary
```

## **12. Open Questions / Placeholders (Must Be Resolved Later)**

Anything not locked is explicitly listed here. Do not make assumptions elsewhere.

- PLACEHOLDER: Reservation Expiry Window • Owner: CH22 • Options: 1h / 12h / 24h • Default: 12h • Decide-by: before beta.
- PLACEHOLDER: Inter-item Rest Inclusion • Owner: CH21/CH22 • Options: include/exclude • Default: include if CH21 defines inter-item rest • Decide-by: when CH21 finalized.
- PLACEHOLDER: Pro-rating Reps on Skipped Sets • Owner: CH22 • Options: 0 reps / time-proportional / user-editable “partial” button • Default: 0 reps • Decide-by: post-MVP.
- PLACEHOLDER: History Search in v1 • Owner: CH22 • Options: none / basic search / advanced filters • Default: none • Decide-by: scope lock.
- PLACEHOLDER: Record Types Expansion • Owner: CH22/CH23 • Options: keep simple / add mastery-linked records • Default: keep simple • Decide-by: after CH23 locked.

## **13. Acceptance Tests (Given/When/Then) + Checklist**

### **Qualifying day from one completed set**

Given a session with completedSetCount = 1 and sessionEndAt on 2026-01-02 local, when the session is saved, then qualifiesForStreak=true and streakDayLocal='2026-01-02' and currentStreak increments.

### **No streak credit with zero completed sets**

Given a session ended\_early with completedSetCount = 0, when saved, then qualifiesForStreak=false and the UI shows "Session saved, but streak starts when you complete at least one set."

### **Actual duration excludes pause time**

Given sessionStartAt=0, sessionEndAt=600000ms, totalPausedMs=120000ms, when computing actualDurationMs, then actualDurationMs=480000ms and renders as 08:00.

### **Assumed reps crediting**

Given repsPerSetAssumed=15 and three set attempts outcomes [completed\_manual, skipped, completed\_auto], when computing assumedReps, then assumedReps = 30.

### **Flow edited after practice does not change log**

Given a log with moveSequenceSnapshot=['Jab','Cross'], when the underlying flow is later edited to ['Jab','Hook'], then PracticeHistoryDetail still renders ['Jab','Cross'] for that session.

### **Deleted flow yields orphan state**

Given a log whose flowId no longer exists, when opening PracticeHistoryDetail, then Open Flow is disabled and snapshot still renders, and hasOrphans=true.

### **Credit reservation refund on zero sets**

Given Free user starts a session with creditBalance=1 and ends immediately with completedSetCount=0, when session ends, then credit is not consumed and creditBalance remains 1.

### **Credit consumption on qualifying session**

Given Free user starts a session with creditBalance=1 and completes >=1 set, when session ends, then creditConsumed=true and creditBalance decrements by 1.

### **History list shows correct grouping**

Given two sessions on the same local date, when viewing PracticeHistoryList, then they appear under the same date header in correct time order.

### **Session summary routes correctly**

Given a completed session, when tapping View Details on PracticeSessionSummaryModal, then app navigates to PracticeHistoryDetail(sessionId).

### **Checklist**

- Logs persist for completed, ended\_early, and interrupted statuses.
- Actual duration excludes paused time and matches displayed timer behavior.
- Streak computed by local calendar day; no double counting.

- History renders snapshot even after edits/deletes.
- Export includes snapshot and computed fields (handoff to CH34).
- Free credit reserve/consume logic implemented with crash-safe recovery.
- All buttons and routes match §10 specs; no dead ends.

## 14. Replit Build Prompt (CH22 Only)

You are implementing **HZ-V1-CH22\_Practice\_Mode\_Logging\_And\_History\_R1** only. Attach CH00 + CH20 + CH21 + CH08 + CH25 + CH28 + CH33 for dependencies. Follow CH00 rules: no guessing; if you must assume, write it into a *PRD Assumptions* comment block and stop that feature until confirmed.

**Goal:** Implement practice-session persistence, history UI, and streak computation exactly as CH22 specifies.

**Steps:** 1) Create data models (practiceSession, practiceSessionItem, practiceSetAttempt) per §11. Decide Firestore layout (single doc vs subcollections) WITHOUT breaking the schema fields. 2) Implement the “session output contract” adapter: take CH21 in-memory session object and transform into CH22 persistence payload (compute plannedTotalSeconds, actualDurationMs, assumedRepsTotal, completedSetCount, qualifiesForStreak, streakDayLocal). 3) Implement Free credit reservation + consumption per §9. Store reservation state so crashes can be recovered. 4) Implement write path with retry queue (offline-safe) per CH28: if write fails, store pending log locally and retry on next network. 5) Build screens: - PracticeSessionSummaryModal (§10.1) - PracticeHistoryList (§10.2) - PracticeHistoryDetail (§10.3) - StreakAndRecords (§10.4) 6) Wire routing exactly as §4 and buttons as §10. 7) Add analytics event hooks, but do not invent event names; create stubs to be finalized in CH33. 8) Write unit tests for computations (§6, §8, §9) and integration tests for routing (§13). 9) Run acceptance checklist (§13) manually on iOS simulator.

## 15. Troubleshooting Notes (CH22)

- **Streak looks wrong by 1 day:** check timezone used to compute streakDayLocal; ensure local date is derived from device timezone and sessionEndAt, not UTC.
- **Duplicate sessions in history:** ensure interrupted/resumed sessions finalize into one log; use sessionId idempotency on writes.
- **Credits disappearing:** verify reserve/consume model; release reservation on 0 completed sets; add expiry to auto-release abandoned reservations.
- **History rows missing drill item names:** confirm snapshot fields are saved even when pointers are null; list UI must use snapshot summary not live flow fetch.
- **Firestore document too large:** move items/sets to subcollections; keep only lightweight summaries on the session doc.
- **Offline practice not logging:** ensure pending logs are queued locally and retried; show a subtle “Syncing...” badge until confirmed.