

TypeScript Error Fixing Progress

Status: COMPLETED ✓

Goal: Fix all TypeScript compilation errors and eliminate unsafe `any` types

Progress Summary

Metric	Value
Starting Errors	133+
Current Errors	0
Fixed	All errors resolved
any Types Remaining	3 (justified)

Final Results

TypeScript Compilation

```
$ npx tsc --noEmit
# No errors - compiles successfully!
```

any Type Audit

- Starting `any count`: 50+ occurrences
- Final `any count`: 3 (all with eslint-disable justification)

Justified Remaining `any Types`:

1. `src/lib/i18n.ts` - Dynamic nested object access for translations
2. `src/utils/performance.ts` - Memoize function with generic type parameters
3. `src/services/gemini-ai.ts` - External Gemini API model without TypeScript types

Work Completed

Part 1: Critical Runtime Issues (14 fixed)

- ✓ Added missing `await` to 4 `getCurrentUser()` calls
- ✓ Fixed Promise type access in feature flag endpoints
- ✓ Added `dbUser` null checks in OAuth flows (Google + GitHub)

- ✓ Added R2 bucket existence checks in file endpoints
- ✓ Added type casts for database query results
- ✓ Fixed `parseInt` usage with userId
- ✓ Added default values for optional environment variables

Part 2: Type System & API Improvements

- ✓ Updated `getCurrentUser` return type to include `isPremium`
- ✓ Fixed array type inference in mood query params
- ✓ Added File type assertions for FormData
- ✓ Fixed ReadableStream to BodyInit conversion in R2 responses
- ✓ Added proper type casts for database results

Part 3: Comprehensive Type Definitions (NEW)

Added 50+ types to `src/types.ts`:

- `Session`, `SessionDbRow`, `MoodEntryResult`, `OAuthEnv`
- `CalendarMoodEntry`, `ExportMoodEntry`, `SqlParamValue`
- `AppError` and helper functions (`isAppError`, `getErrorMessage`)

Part 4: File-by-File Fixes (32 files modified)

Route Handlers:

- ✓ `advanced-features.ts` : Calendar and export routes
- ✓ `api/auth.ts` : User authentication with typed DB rows
- ✓ `biometrics.ts` : WebAuthn credential types
- ✓ `totp.ts` : TOTP verification types

Middleware:

- ✓ `auth-wall.ts` : `SessionDbRow` interface, typed session objects
- ✓ `analytics.ts` : Error handling with `getErrorMessage`

Utilities:

- ✓ `calendar.ts` : `CalendarMoodEntry`
- ✓ `data-export.ts` : `ExportMoodEntry`, `ExportActivity`, `ExportInsights`
- ✓ `database-pool.ts` : `SqlParamValue`, generic query methods
- ✓ `email.ts` : Response types for email API
- ✓ `geolocation.ts` : `CfLocationHeaders`, `NominatimResponse`
- ✓ `media.ts` : `MediaRow` with proper database columns
- ✓ `performance.ts` : `NavigatorWithConnection` for Network Info API
- ✓ `push-notifications.ts` : `ExtendedNotificationOptions`
- ✓ `search.ts` : `SearchFiltersInput`, `SqlParamValue`
- ✓ `secrets.ts` : `SecretListRow`, `RotationRow`

Services:

- ✓ `cache.ts` : Generic `CacheEntry`
- ✓ `hipaa-compliance.ts` : `EncryptionRow`, typed count queries
- ✓ `monitoring.ts` : `LokiPushPayload`
- ✓ `research-anonymization.ts` : Full row types
- ✓ `security-monitoring.ts` : `EventStats`, `AlertStats`
- ✓ `subscriptions.ts` : `PlanRow` for database mapping

Build Status

- **Vite Build:** Successfully compiling
 - **Runtime:** Application fully functional
 - **Tests:** All passing
 - **TypeScript: Zero errors**
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Completion Details

Date Completed: January 14, 2026

Commit: 5ebc67a - refactor: Replace 'any' types with proper TypeScript types

Files Modified: 32 files (+1014 lines, -264 lines)

Key Improvements

Type Safety Benefits:

- Compile-time error detection
- Better IDE autocompletion and IntelliSense
- Safer database query results with typed rows
- Proper session management with typed Session interface
- Error handling with type-safe `getErrorMessage()` helper

Code Quality:

- Self-documenting interfaces for database rows
 - Consistent typing across route handlers
 - Generic cache and memoization utilities
 - Proper null/undefined handling with nullish coalescing
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Last Updated: January 14, 2026

Status: COMPLETED

Final Result: Zero TypeScript errors, 3 justified `any` types remaining