**AnimeManager Project - Debugging & Setup SOP (Standard Operating Procedure)**

This document outlines common issues, their causes, and step-by-step resolutions encountered during the development of the AnimeManager Console App (.NET 8, EF Core, SQLite).

## ✅ Initial Setup Overview

* **Project Type**: Console App (.NET 8)
* **ORM**: Entity Framework Core with SQLite
* **Database File**: animecharacters.db (default location is the bin/Debug/net8.0/ folder unless path is customized)

## ⚠️ Issues & Fixes

### 1. **Missing** ``\*\* Error\*\*

**Problem**: App fails to build. **Fix**: Ensure Program.cs contains a proper static Main() method.

static void Main(string[] args) { /\* ... \*/ }

### 2. **EF Core Command Not Found (**``**)**

**Problem**: PowerShell error: Add-Migration not recognized. **Fix**:

* Ensure these packages are installed:

dotnet add package Microsoft.EntityFrameworkCore.Design  
dotnet add package Microsoft.EntityFrameworkCore.Tools

* Reload project or restart terminal.
* Run EF CLI commands via **bash/terminal**, not Visual Studio Package Manager Console if using .NET CLI.

### 3. **Unable to create DbContext / SQLitePCL Error**

**Problem**: Error: You need to call SQLitePCL.raw.SetProvider() **Fix**:

* Add this line at the beginning of Main():

SQLitePCL.Batteries.Init();

### 4. **Records Not Being Added to DB**

**Problem**: Only one record appears despite adding more in code. **Fix**:

* If you already ran the app once, DB file persists. So, subsequent runs won’t insert duplicates due to condition:

if (service.GetAllCharacters().Count == 0)

* **Solution**:
  + Delete the animecharacters.db manually from:
  + bin/Debug/net8.0/
  + Or temporarily comment out the condition to test.

### 5. **Auto-Increment ID**

**Behavior**:

* EF Core uses [Key] and int Id by convention as the primary key and auto-increments.
* No manual setting of Id is needed.

### 6. **Missing** \*\* or \*\*\*\* Field Errors\*\*

**Problem**: NOT NULL constraint failed: AnimeCharacters.CreatedAt **Cause**: Old DB schema missing newer fields. **Fix**:

* Delete the existing animecharacters.db
* Rebuild and run. EnsureCreated() will create the updated schema.

### 7. **Can’t See the DB File**

**Default Location**:

/bin/Debug/net8.0/animecharacters.db

**To Make It Visible in Root**:

optionsBuilder.UseSqlite("Data Source=./animecharacters.db");

### 8. **Breakpoints Not Hitting**

**Fix**:

* Ensure you’re running the Debug configuration.
* Make sure you’re not editing stale builds or watching an outdated output window.

## ✅ Best Practices

* Always use migrations for schema changes in real apps.
* Avoid EnsureCreated() once you’re past prototyping.
* Keep a consistent DB path for easy tracking.
* Add logging for DB exceptions.
* Delete/recreate DB when model changes (in dev only).

## ✨ Sample Output After Fixes

Anime Manager App Starting...  
  
 Anime Characters in Database:  
  
 Name: Naruto Uzumaki, Anime: Naruto, Power Level: 8500 ,Famous quote:  
 Name: Levi Ackerman, Anime: Attack on Titan, Power Level: 10000 ,Famous quote:  
 Name: Monkey D. Luffy, Anime: One Piece, Power Level: 9000 ,Famous quote:  
 Name: Eren Yeager, Anime: Attack on Titan, Power Level: 105000 ,Famous quote:  
 Name: Sebastian, Anime: Black Butler, Power Level: 76000 ,Famous quote:  
 Name: Satorou Gojo, Anime: JJK, Power Level: 243500000 ,Famous quote: Yo wai mo!  
 Name: Inouske, Anime: Demonsalyer, Power Level: 7632000 ,Famous quote: Kamamoto Gonpochiro

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