Use SQL Server LocalDB (Very lightweight)

LocalDB does not require SQL Server Express installation, but it *comes bundled with Visual Studio.*

✅ PART 1 — Check if LocalDB is available

LocalDB usually comes with **Visual Studio**.
First, check if it is installed.

🔷 Step 1: Open CMD or PowerShell

Run:

sqllocaldb info

👉 If you see:

MSSQLLocalDB

then LocalDB is installed.

If not, I will tell you how to install it.

✅ PART 2 — Start LocalDB

Run this:

sqllocaldb start MSSQLLocalDB

To see details (including file path):

sqllocaldb info MSSQLLocalDB

✅ PART 3 — Connect LocalDB from SSMS

1. Open **SQL Server Management Studio (SSMS)**

2. Click **Connect → Database Engine**

3. In **Server Name**, type:

(localdb)\MSSQLLocalDB

4. Authentication: **Windows Authentication**

5. Click **Connect**

🎉 **Now you are connected to LocalDB**
You can create databases, tables, run queries, etc.

✅ **PART 4 — Create a database in LocalDB (via SSMS)**

Run this SQL:

CREATE DATABASE MyAppDb;

Refresh **Databases** → You will see **MyAppDb**.

✅ **PART 5 — Connect ASP.NET Core API to LocalDB**

In your **appsettings.json**, use this connection string:

"ConnectionStrings": {

  "DefaultConnection":
"Server=(localdb)\\MSSQLLocalDB;Database=MyAppDb;Trusted_Connection=True;MultipleActiv
eResultSets=true;"

}

Error When: This **"Cannot create an automatic instance"** error means the **LocalDB instance is corrupted**, missing, or its data folder cannot be accessed.

✅ **STEP 1 — Stop and Delete the Existing LocalDB Instance (Fixes 90% of cases)**

1️⃣ **Show existing instances**

In CMD:

sqllocaldb info

You will see:

MSSQLLocalDB

2️⃣ **Stop the instance**

sqllocaldb stop MSSQLLocalDB

3 **Delete the instance**

sqllocaldb delete MSSQLLocalDB

4 **Recreate a fresh instance**

sqllocaldb create MSSQLLocalDB

5 **Start it**

sqllocaldb start MSSQLLocalDB

Now try connecting again using SSMS.