**1) High-level flow (recommended)**

1. User clicks **Sign in with Google** on Angular.
2. Angular redirects the browser to your backend endpoint /auth/signin-google.
3. Backend redirects to Google’s OAuth2 authorize URL (with client\_id, redirect\_uri, scope, state).
4. User signs in / consents at Google.
5. Google redirects to your backend callback /auth/signin-google-callback?code=...&state=....
6. Backend exchanges code for access\_token and id\_token (POST to https://oauth2.googleapis.com/token), validates token and/or gets userinfo.
7. Backend **creates or finds a local user** in DB (by providerId or email).
8. Backend issues your **app JWT** (signed by your server) and sets it as an **HttpOnly cookie** (recommended) or returns it to the frontend.
9. Frontend calls protected APIs with credentials (cookie or Authorization header). Backend validates JWT and returns user data.

# How to Register Your App for Google OAuth (Get client\_id & client\_secret)

### 1. Go to Google Cloud Console

Open:  
https://console.cloud.google.com/apis/credentials

### 2. Create a new project (if you don’t have one)

* Click on the project dropdown (top left) > New Project
* Give it a name and create.

### 3. Enable Google+ API (or “Google People API”)

* In the Cloud Console, go to **APIs & Services > Library**.
* Search for **Google People API** and click **Enable**.
* This API provides profile and email info.

### 4. Create OAuth 2.0 Credentials

* Go to **APIs & Services > Credentials**.
* Click **+ CREATE CREDENTIALS** > **OAuth client ID**.
* You may be prompted to configure the **OAuth consent screen** first:
  + Choose **External** (if your app is for general public) or **Internal** (only your org).
  + Fill in app name, support email, etc.
  + Save & continue until done.

### 5. After consent screen setup, create OAuth Client ID

* Application type: **Web application**
* Give it a name (e.g., My ASP.NET MVC App)
* **Authorized redirect URIs**: add your redirect URI exactly as in your app, e.g.:

bash

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https://localhost:5001/auth/google-callback

* Click **Create**

### 6. Copy your **Client ID** and **Client Secret**

* These appear in a popup after creation.
* You’ll use these in your appsettings.json as:

json

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"Google": {

"ClientId": "YOUR\_CLIENT\_ID.apps.googleusercontent.com",

"ClientSecret": "YOUR\_CLIENT\_SECRET",

"RedirectUri": "https://localhost:5001/auth/google-callback"

}

### 7. Use proper scopes when building the OAuth URL:

* Typical scopes for basic info:

nginx

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openid email profile

* Example OAuth URL parameters:

ini

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response\_type=code

client\_id=YOUR\_CLIENT\_ID

redirect\_uri=https://localhost:5001/auth/google-callback

scope=openid email profile

state=xyz123