In Azure AD, the Client Credentials and Authorization Code flows are distinct OAuth 2.0 grant types used for application authentication. The Client Credentials flow is suitable for applications running on servers and needing to access their own resources, while the Authorization Code flow is used for applications that require user interaction (e.g., web apps, mobile apps) to access user-specific resources.

Client Credentials Flow:

* **Purpose:**

Used when an application (e.g., a backend service) needs to access its own resources without user involvement.

* **Process:**

The application presents its client ID and secret to the authorization server, and in return, receives an access token.

* **Suitable for:**

Server-side applications, background services, or applications that don't require user interaction to obtain resources.

Authorization Code Flow:

* **Purpose:**

Enables a client application to obtain authorized access to protected resources (like web APIs) on behalf of a user.

* **Process:**

The client redirects the user to the authorization server (Azure AD), where the user logs in and grants consent. The server returns an authorization code, which the client then exchanges for an access token.

* **Suitable for:**

Web applications, mobile apps, or any application that requires a user to sign in and grant consent for accessing their data.

Key Differences:

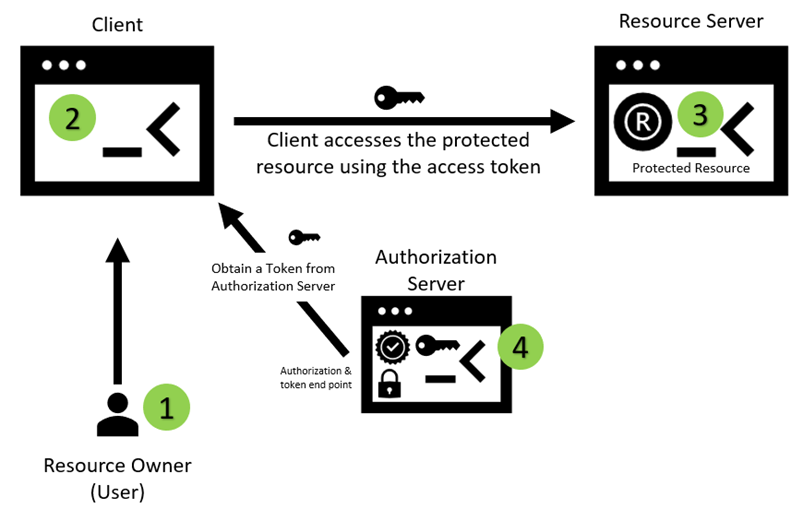
|  |  |  |
| --- | --- | --- |
| **Feature** | **Client Credentials Flow** | **Authorization Code Flow** |
| User Interaction | None | User required to sign in |
| Application Type | Server-side | Web/Mobile/Native |
| Token Exchange | Client ID and Secret | Authorization Code |
| Resource Access | Own Resources | User's Resources |
| Security | Basic (Client secret) | More secure (Authorization code, redirection) |

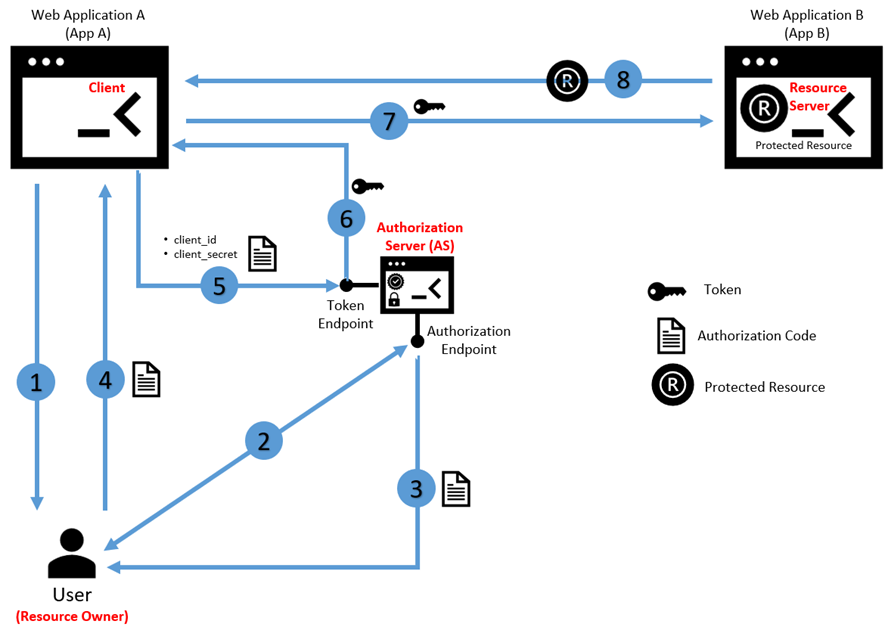
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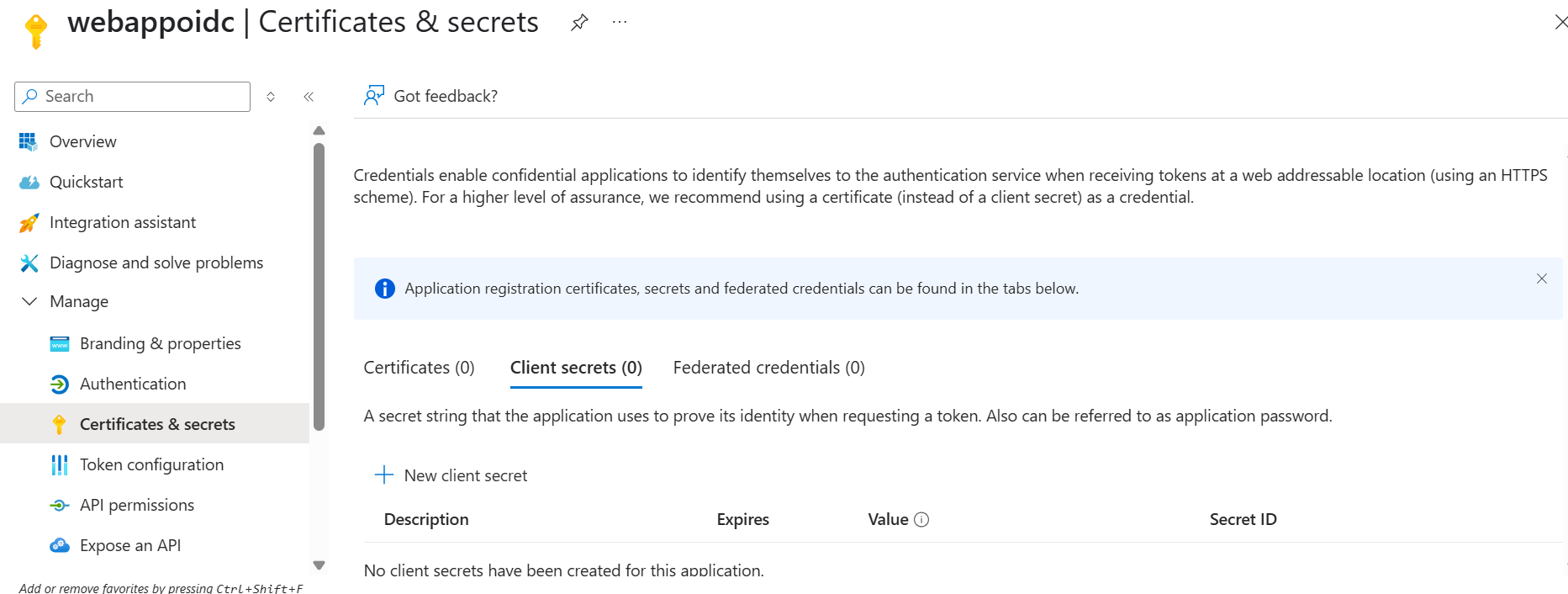
<https://medium.com/@shoaib.alam/part-2b-oauth-2-0-authorization-code-grant-with-azure-ad-d97b213ecc9>

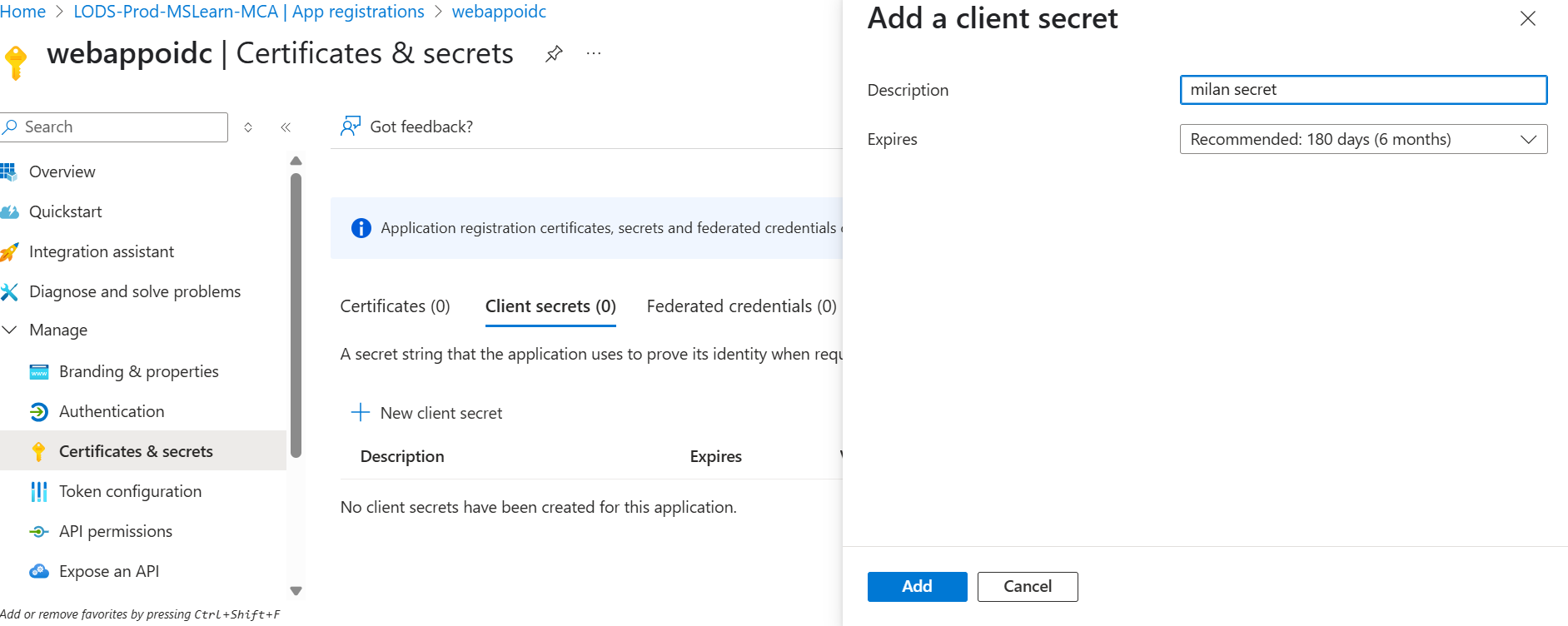
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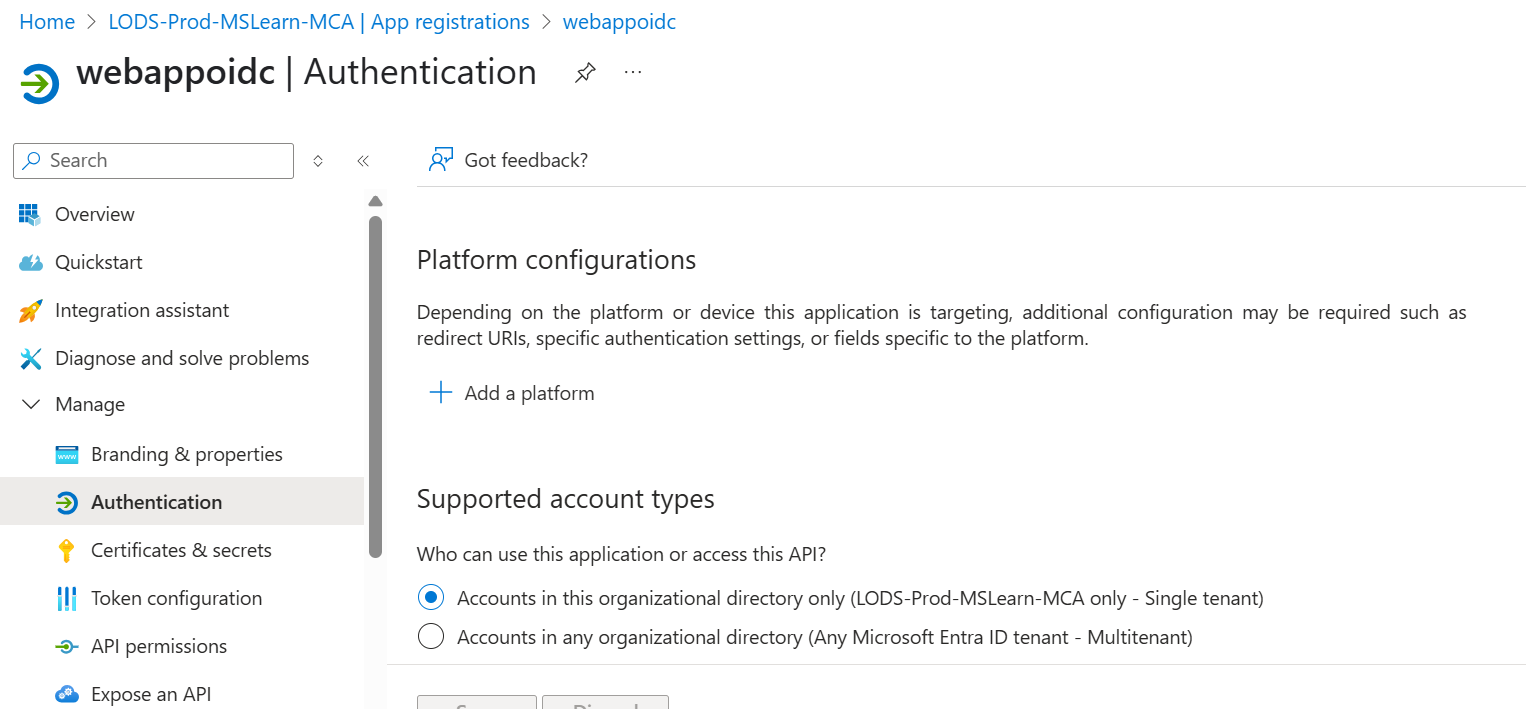
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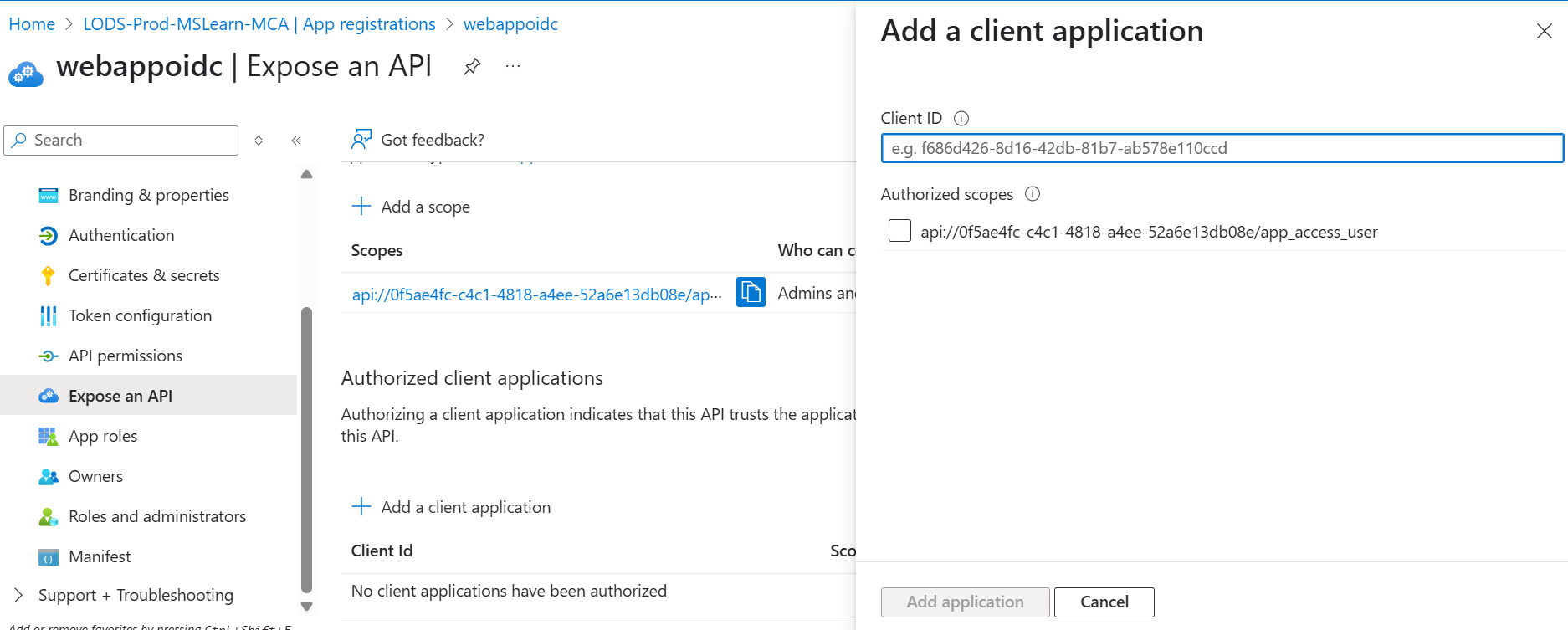


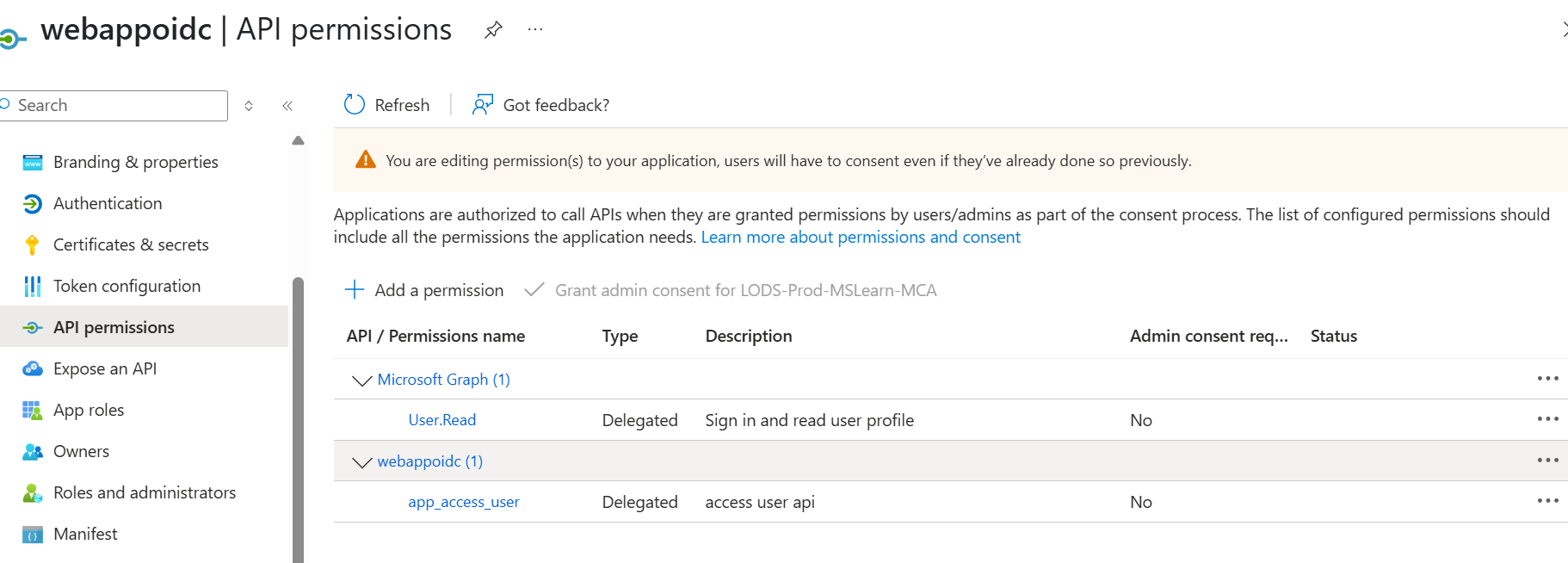


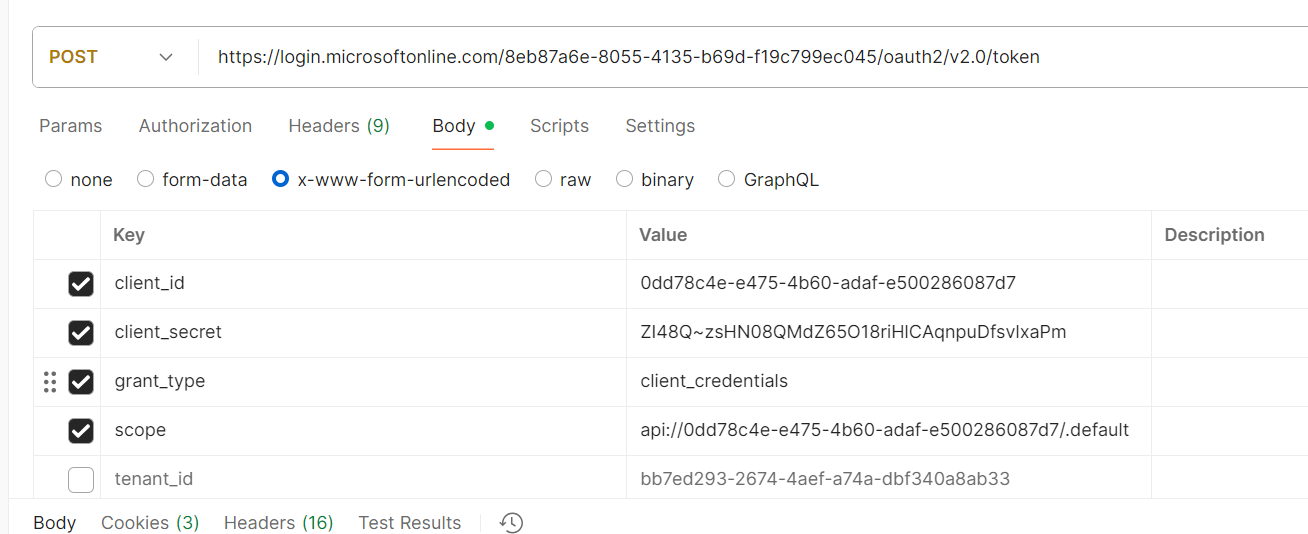








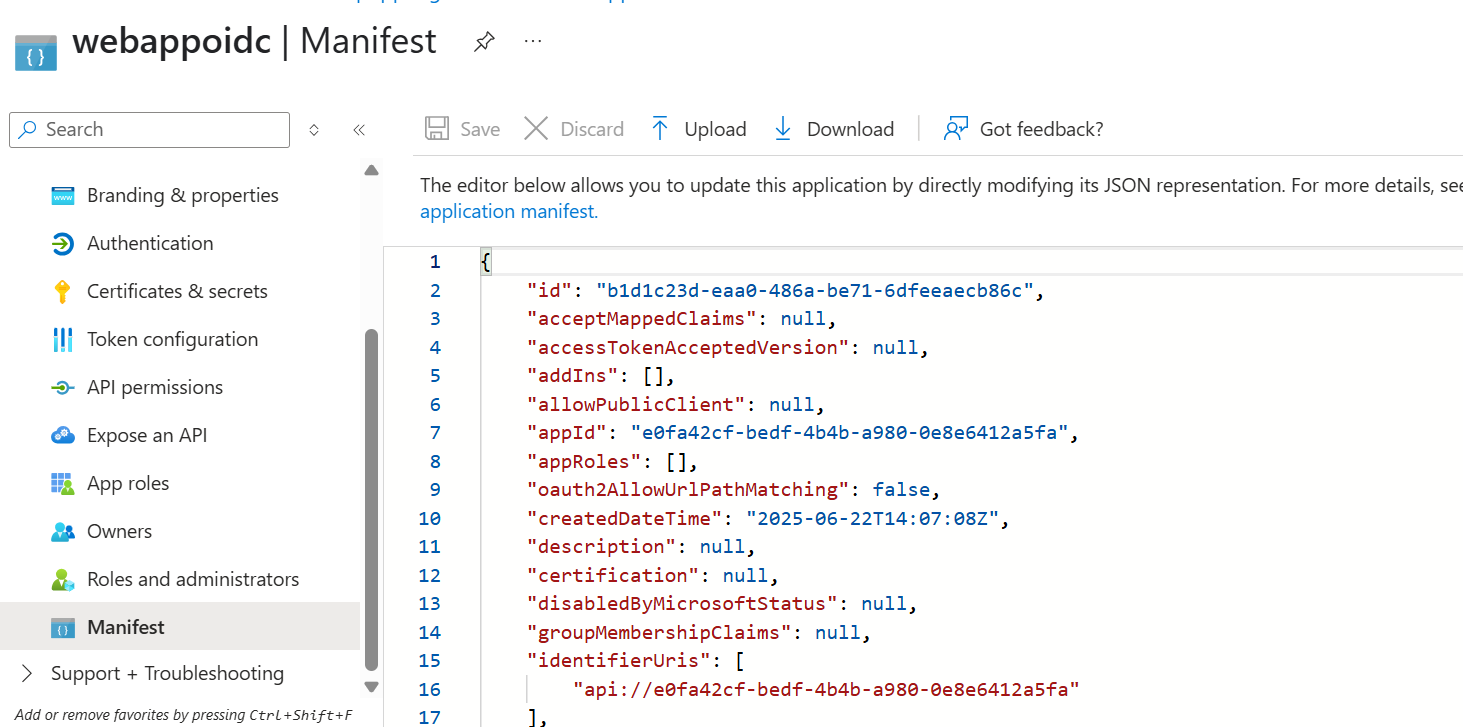




**3. Check Your App Registration**

Ensure your app is registered to support v2.0:

* Go to **Azure Portal > App registrations > Your App**
* Under **Authentication**, ensure ID tokens and Access tokens are enabled
* Check the **manifest**, make sure "accessTokenAcceptedVersion": 2



Version 2 payload

{

"aud": "e0fa42cf-bedf-4b4b-a980-0e8e6412a5fa",

"iss": "https://login.microsoftonline.com/bb7ed293-2674-4aef-a74a-dbf340a8ab33/v2.0",

"iat": 1750602147,

"nbf": 1750602147,

"exp": 1750606047,

"aio": "k2RgYAg/5yrnwxXMZbwg4PQXruc3zl66Y6Crq72e75SedhFjwEcA",

"azp": "e0fa42cf-bedf-4b4b-a980-0e8e6412a5fa",

"azpacr": "1",

"oid": "fa7e3444-4326-4475-bd46-3409b9f9841c",

"rh": "1.AVAAk9J-u3Qm70qnStvzQKirM89C-uDfvktLqYAOjmQSpfpQAABQAA.",

"sub": "fa7e3444-4326-4475-bd46-3409b9f9841c",

"tid": "bb7ed293-2674-4aef-a74a-dbf340a8ab33",

"uti": "KS-6CAlaF0OPqqKdi\_1kAA",

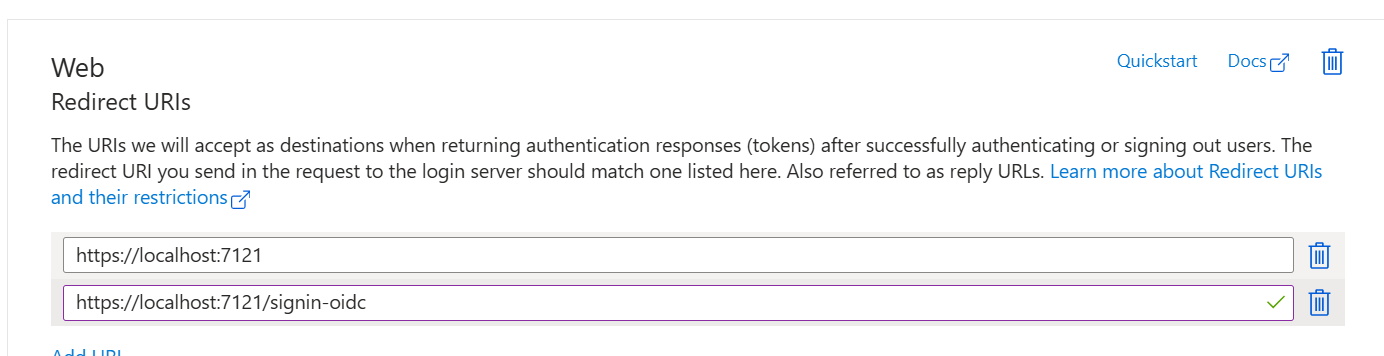
"ver": "2.0",

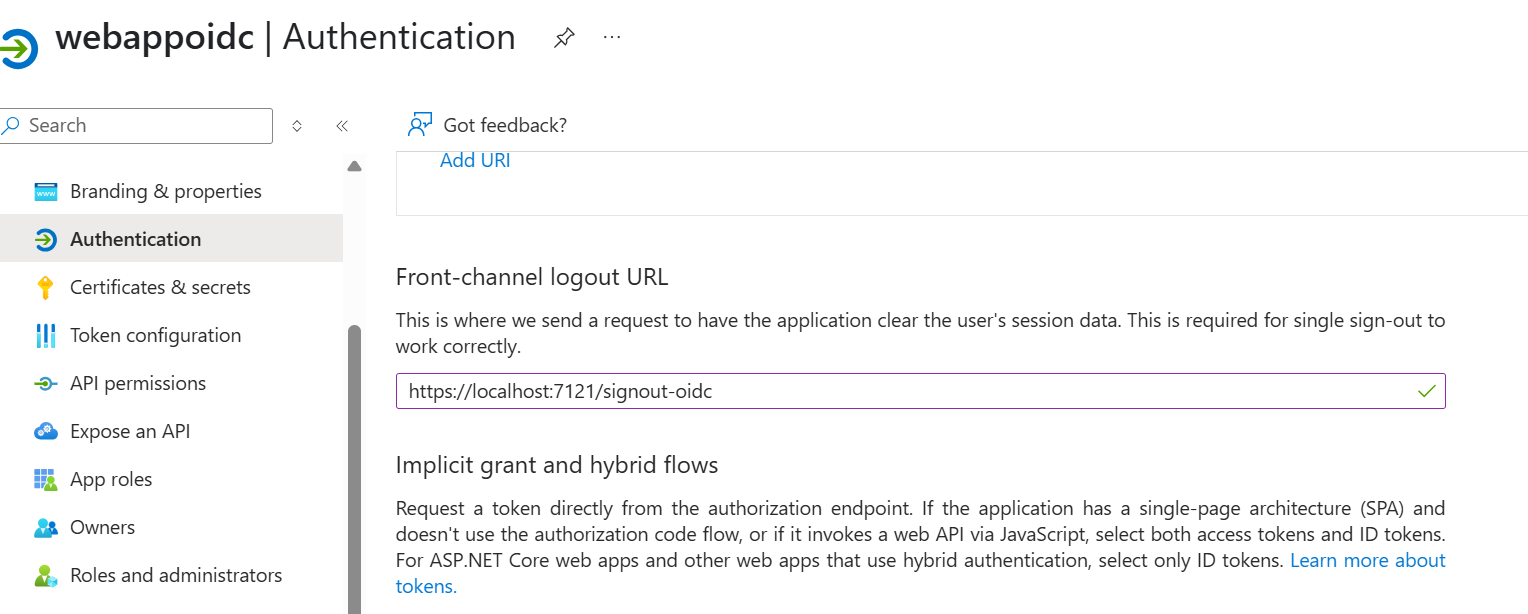
"xms\_ftd": "KlsJ2vh7AeyHYRrRh1Zlvyx5Ze30KFMpKJyptZlaRscBdXNlYXN0LWRzbXM"

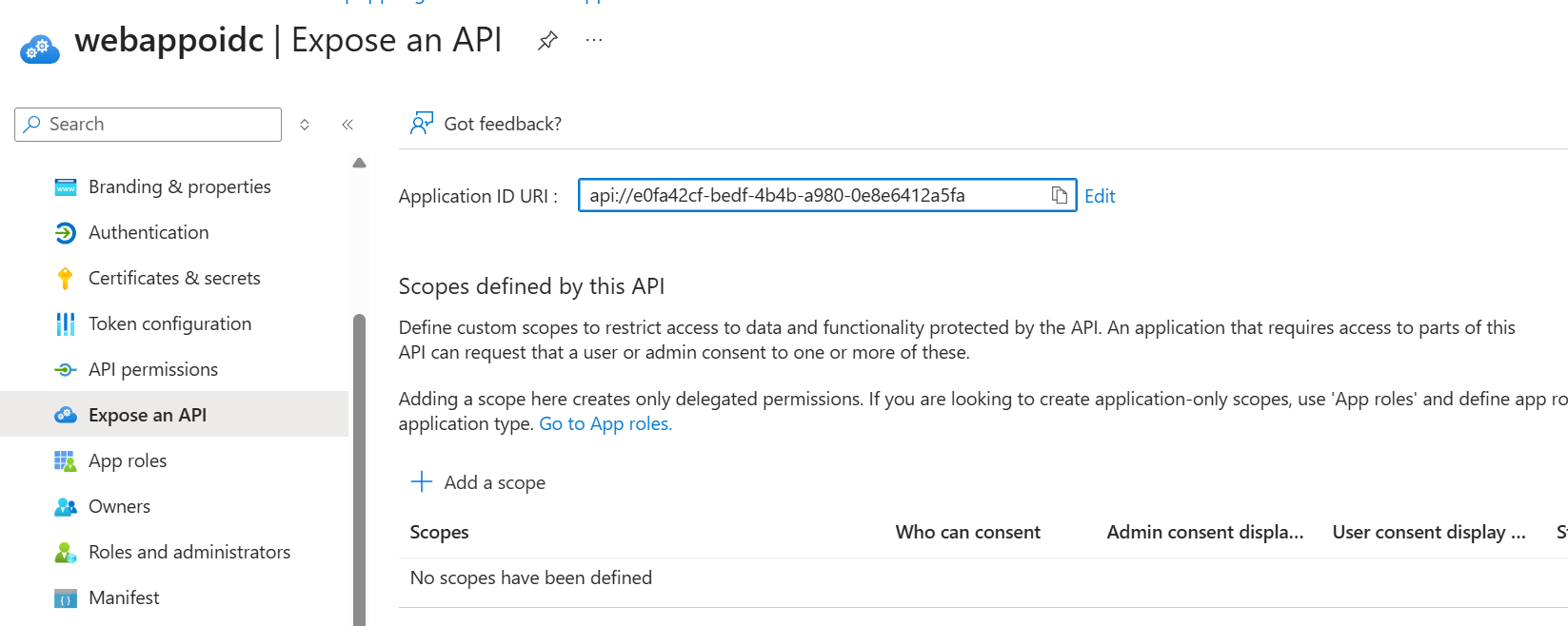
}

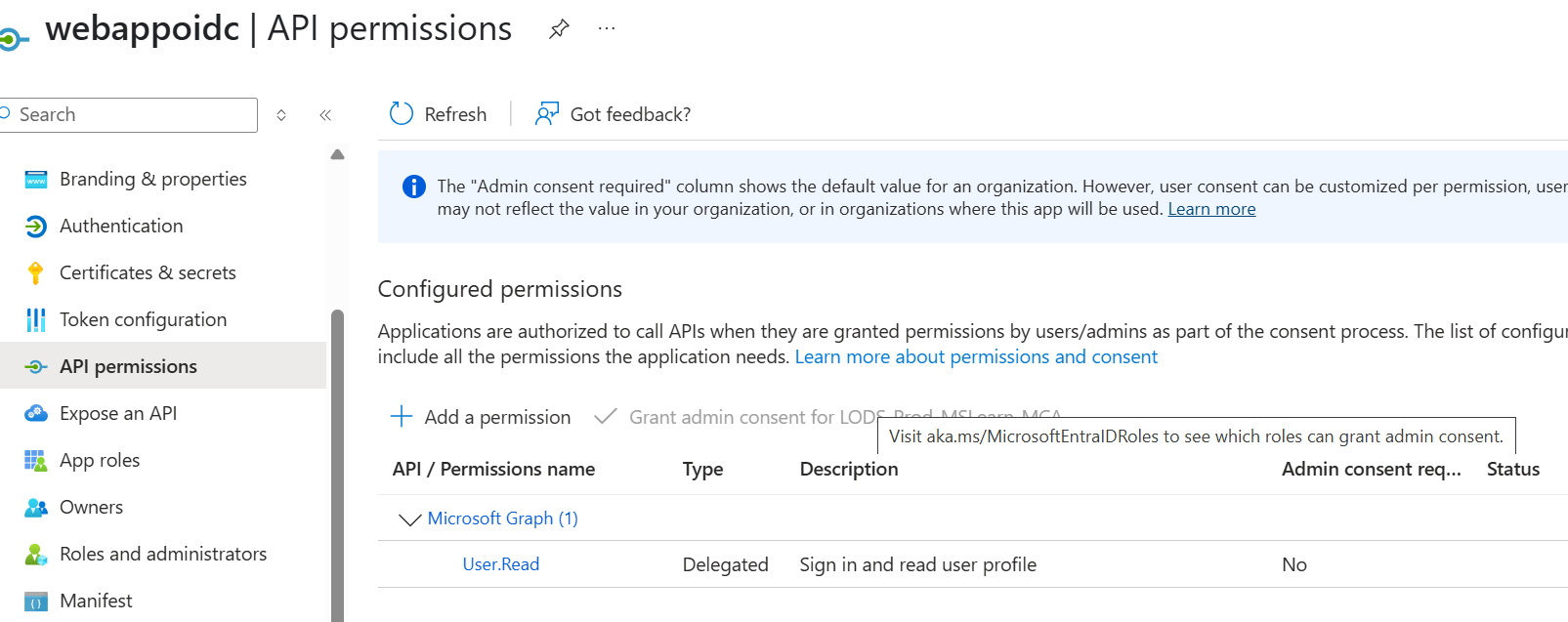
Version 1 payload("accessTokenAcceptedVersion": 1/null)

{ "typ": "JWT", "alg": "RS256", "x5t": "CNv0OI3RwqlHFEVnaoMAshCH2XE", "kid": "CNv0OI3RwqlHFEVnaoMAshCH2XE" }.{ "aud": "api://0dd78c4e-e475-4b60-adaf-e500286087d7", "iss": "https://sts.windows.net/8eb87a6e-8055-4135-b69d-f19c799ec045/", "iat": 1750586350, "nbf": 1750586350, "exp": 1750590250, "aio": "k2RgYPDdFNRptyu6aWWo7Unb89/0AA==", "appid": "0dd78c4e-e475-4b60-adaf-e500286087d7", "appidacr": "1", "idp": "https://sts.windows.net/8eb87a6e-8055-4135-b69d-f19c799ec045/", "oid": "5c22ba2e-a217-4529-9ed4-cad9f58d0cd2", "rh": "1.ASkAbnq4jlWANUG2nfGceZ7ARU6M1w115GBLra\_lAChgh9fOAQApAA.", "sub": "5c22ba2e-a217-4529-9ed4-cad9f58d0cd2", "tid": "8eb87a6e-8055-4135-b69d-f19c799ec045", "uti": "6Jxt5zB-P0ug5VooRxqLAA", "ver": "1.0", "xms\_ftd": "3MC0rS4UxaOH6OVQVlcxxaakWeMzlMN11hmPIk1F--wBdXNub3J0aC1kc21z" }.[Signature]









Microsoft Entra Id

