polaris

Polaris and OAuth 2.0 with OpenID Connect Integration Guide

7.3

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Contents

Introduction

Polaris System Administration (web-based) requires OAuth 2.0 with OpenID Connect and Proof Key for Code Exchange (PKCE). As of version 7.2, Leap supports using OAuth 2.0 with OpenID.

Staff authentication for Polaris System Administration (web-based) is handled by either Active Directory and Active Directory Federation Services (AD FS), or by Azure Active Directory (Azure AD).

Staff authentication for Leap is handled by either Active Directory and AD FS, or by Azure AD.

Review the Minimum Requirements for the configuration you plan to use:

- Polaris System Administration (web-based) with Active Directory and AD FS Authentication
- Polaris System Administration (web-based) with Azure AD authentication
- Leap with Active Directory and AD FS authentication
- Leap with Azure AD authentication

Then, continue to one of the following configuration procedures:

- Configuring Active Directory with AD FS
- Configuring Azure AD

Minimum Requirements

This section discusses minimum requirements for the following configurations:

Polaris System Administration (Web-Based) with Active Directory and AD FS Authentication

To use Polaris System Administration (web-based) with Active Directory and AD FS authentication, you must have the following installed:

- Windows Server 2019 Standard
  - Polaris requires OAuth 2.0 with PKCE support
  - AD FS on Windows Server 2019 supports PKCE
- Active Directory Domain Services
- SSL Certificate
  - Publicly trusted CA signed certificate
- Polaris 7.1 or later
- Polaris 7.1 or later PolarisAdmin

Polaris System Administration (Web-Based) with Azure AD Authentication

To use Polaris System Administration (web-based) with Azure AD authentication, you must have:

- Access to Microsoft's Azure AD services
- The Polaris 7.3 PolarisAdmin installed

Leap with Active Directory and AD FS Authentication

To use Leap with Active Directory and AD FS authentication, you must have the following installed:

- Windows Server 2019 Standard
  - Polaris requires OAuth 2.0 with PKCE support
  - AD FS on Windows Server 2019 supports PKCE
- Active Directory Domain Services
- SSL Certificate
  - Publicly trusted CA signed certificate
- Polaris 7.2 or later
- Polaris 7.2 or later LeapWebApp

Leap with Azure AD Authentication

To use Leap with Azure AD authentication, you must have:

- Access to Microsoft's Azure AD services
- The Polaris 7.3 LeapWebApp installed

Configuring Active Directory with AD FS

> **Important:**
> The mechanism used to connect an Active Directory user to a Polaris user is the user principal name (UPN) in the format of an email address. For example, user@mydomain.com. During the account verification process, we request the UPN claim from Active Directory. This must return a UPN in the name@domain format. The Polaris.AdminServices (API) can then use that information to map the AD user to a Polaris user.

To configure Polaris OAuth support with Active Directory and AD FS, perform the following tasks:

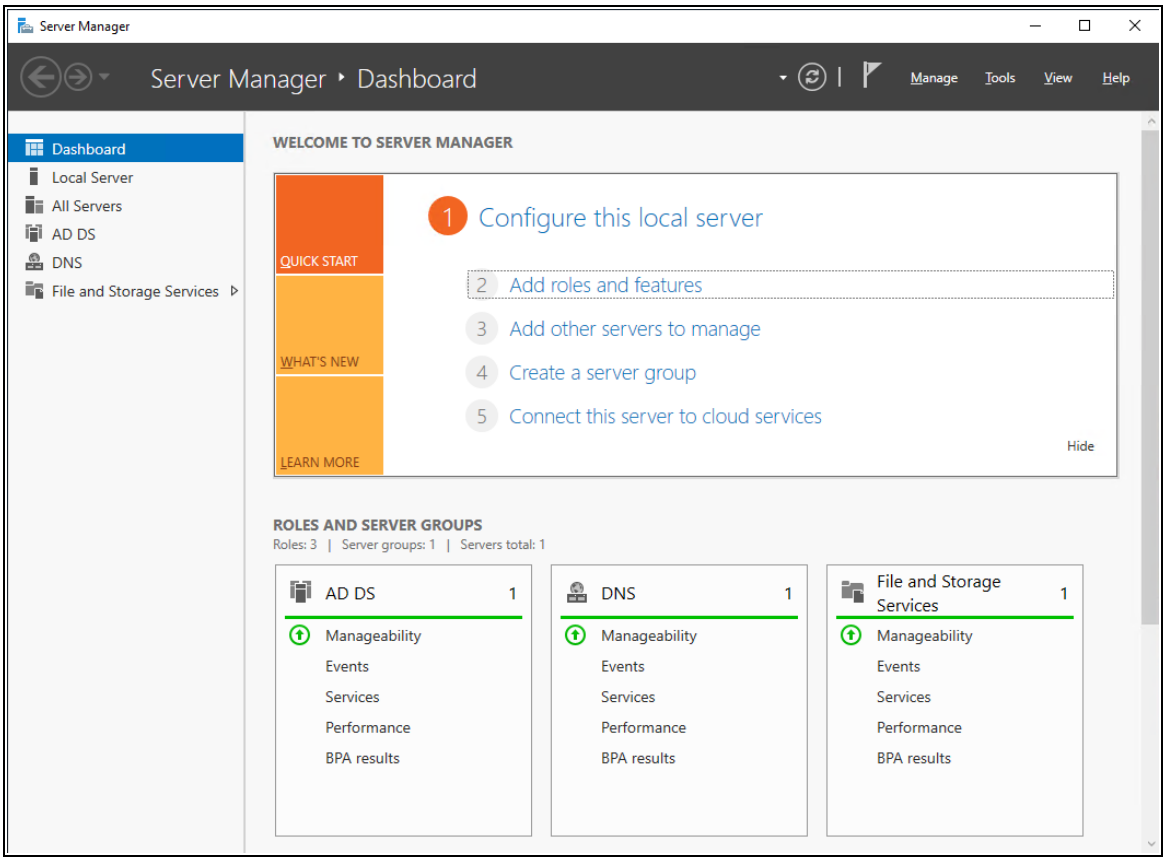
1. Install Active Directory Federation Services.
2. Configure Active Directory Federation Services.
3. Verify that Active Directory Federation Services is running.
4. Verify that OAuth 2.0 is Enabled.
5. Create an Application Group for Polaris LeapWebApp.
6. Configure the AD FS Web Application: Claims and Permitted Scopes.
7. Enable CORS on AD FS to accept requests from Polaris APIs.
8. Set up web services and applications.
9. Enable session storage for LeapWebApp.
10. Customize the AD FS pages.
11. Change the access token lifetime.
12. Bind a new SSL certificate.
13. Troubleshoot.

After you complete these tasks, Add a URL rewrite rule for LeapWebApp.

Install Active Directory Federation Services

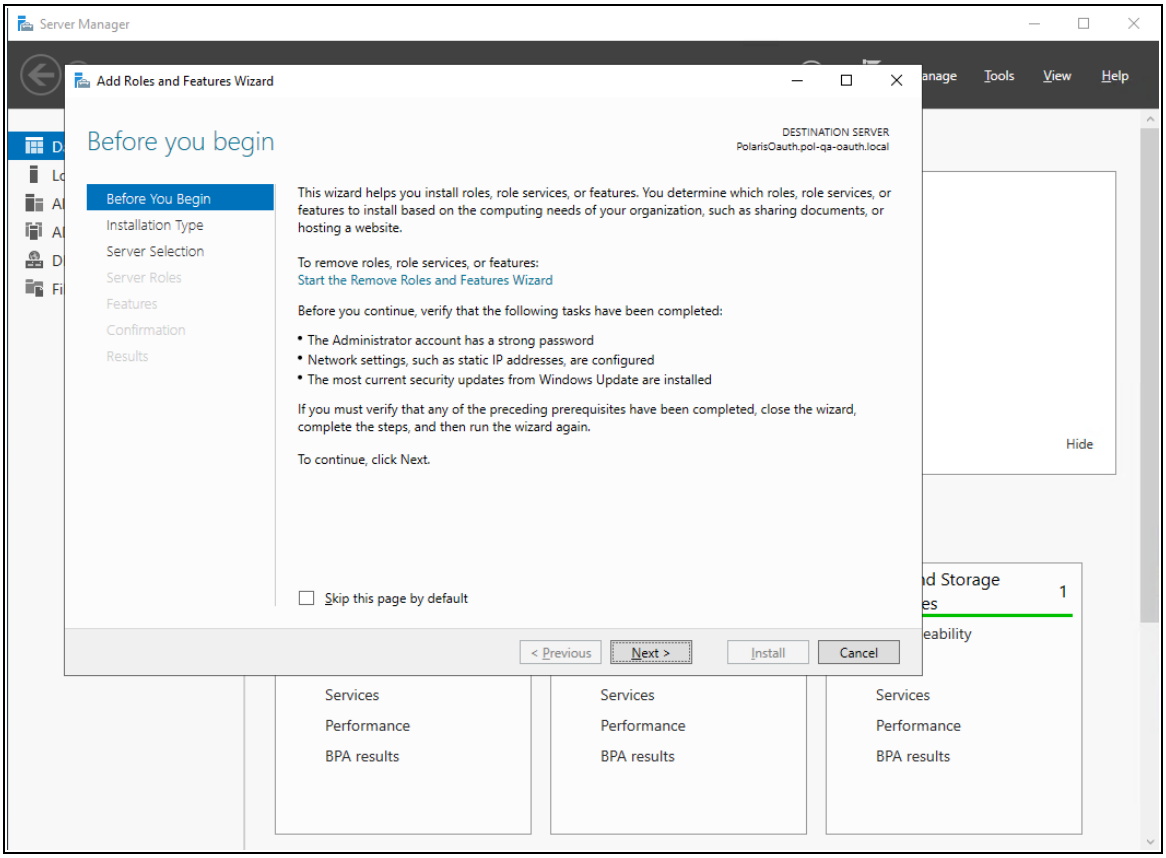
To install AD FS

1. Sign in to Windows Server 2019 with administrative privileges.
2. Start the Server Manager desktop application.

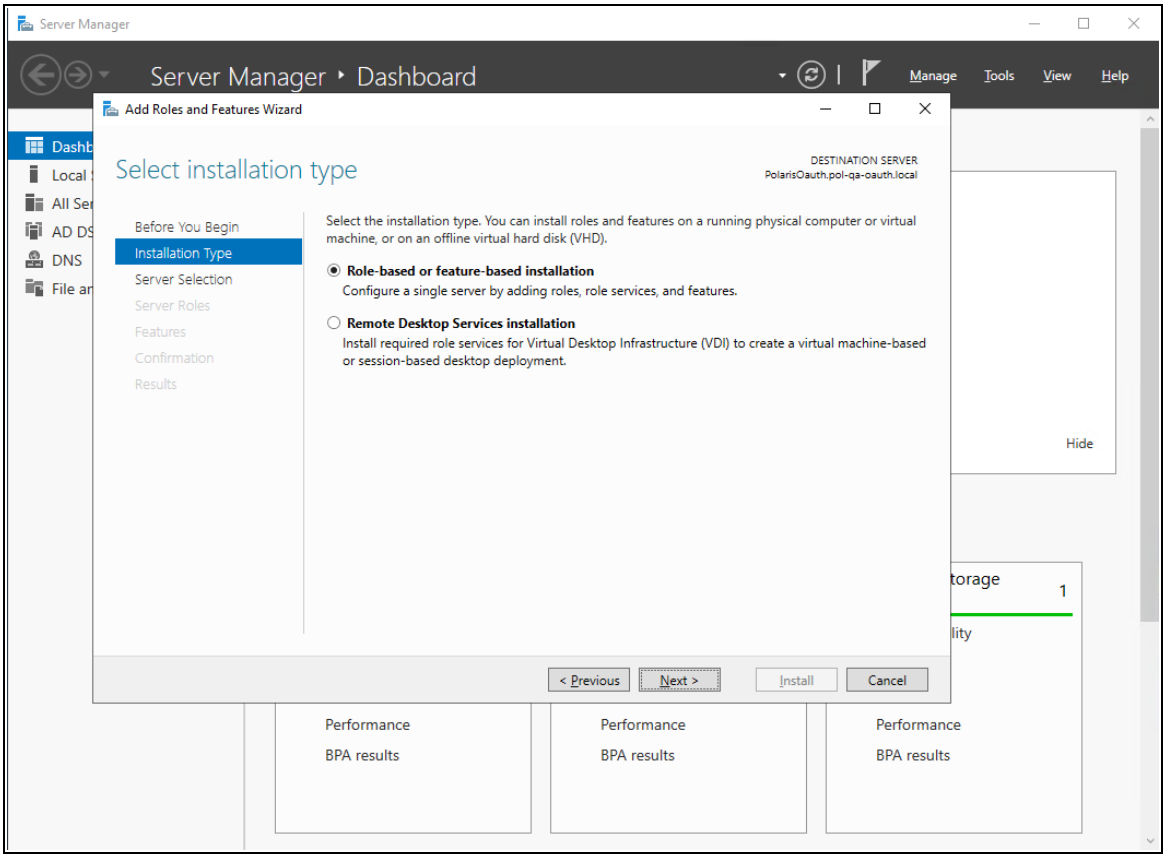


3. On the **Server Manager Dashboard** view, select **Add roles and features**.

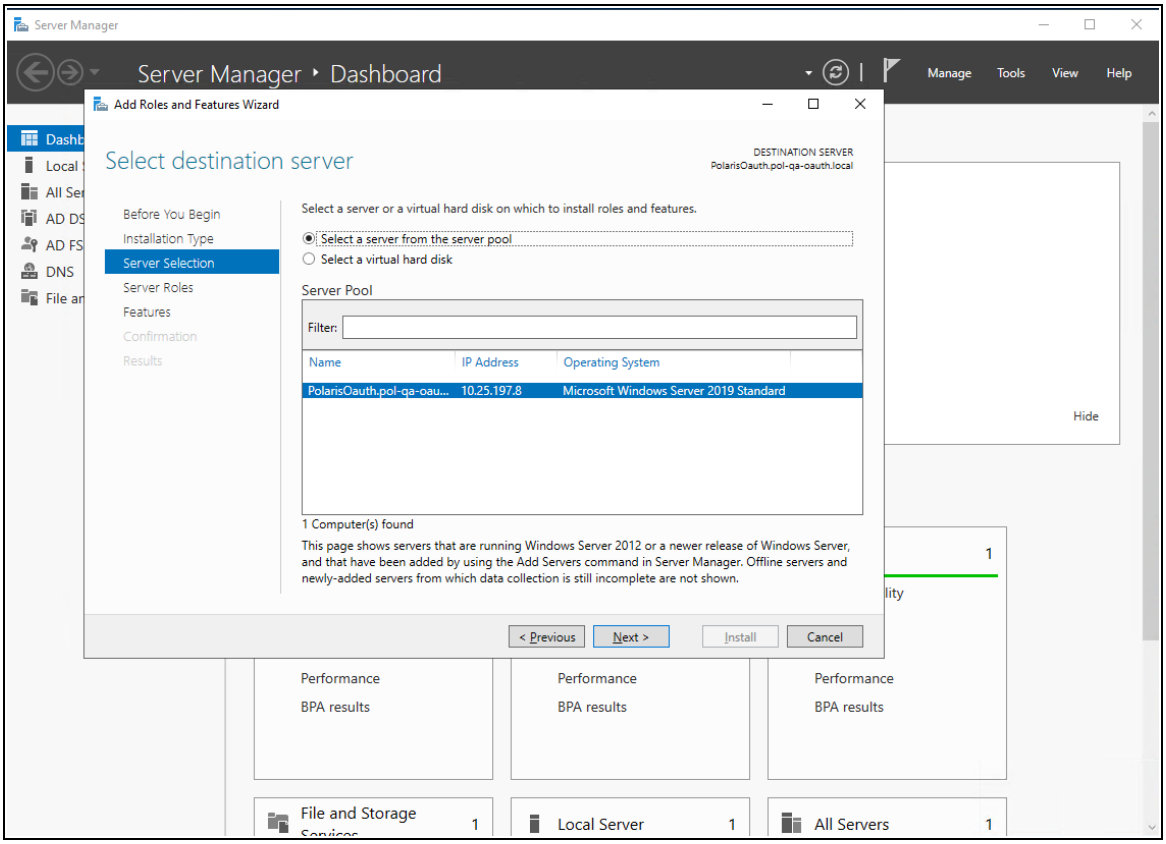
   The Add Roles and Features Wizard opens.



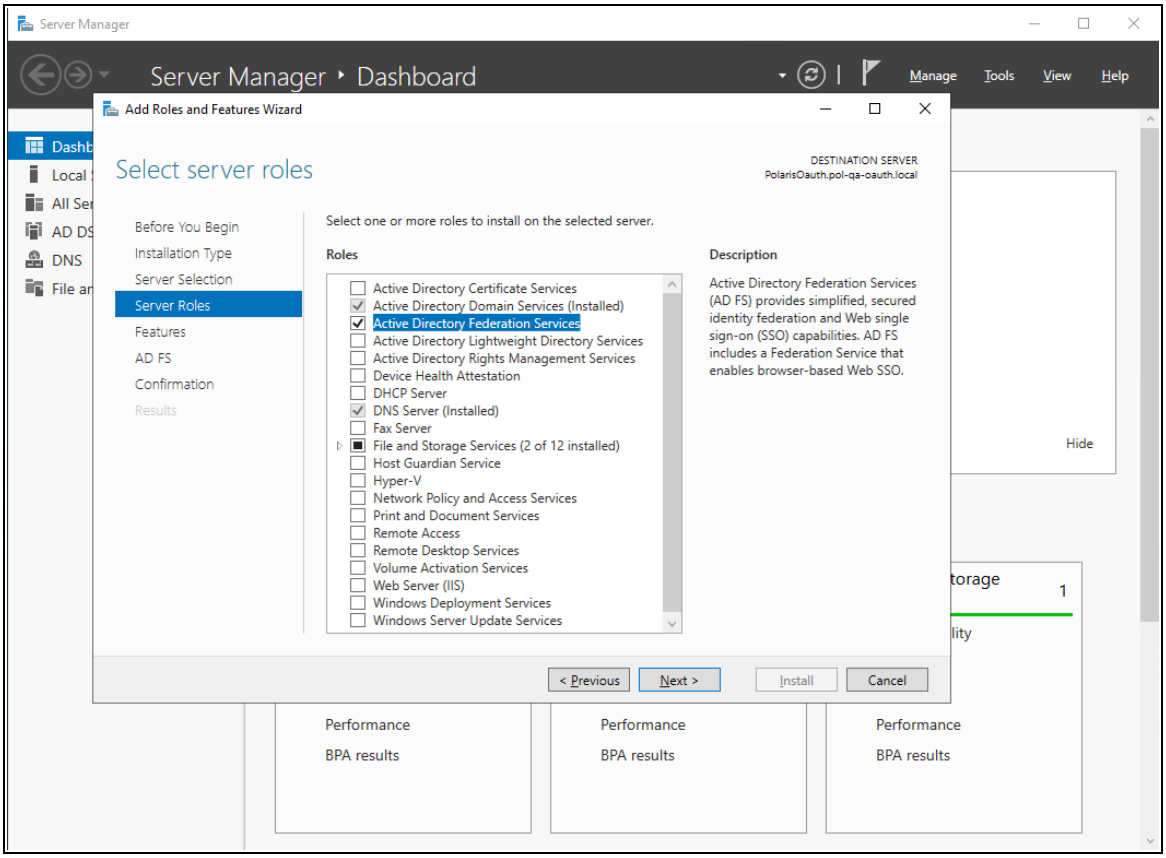
4. On the **Before You Begin** tab, select **Next**.



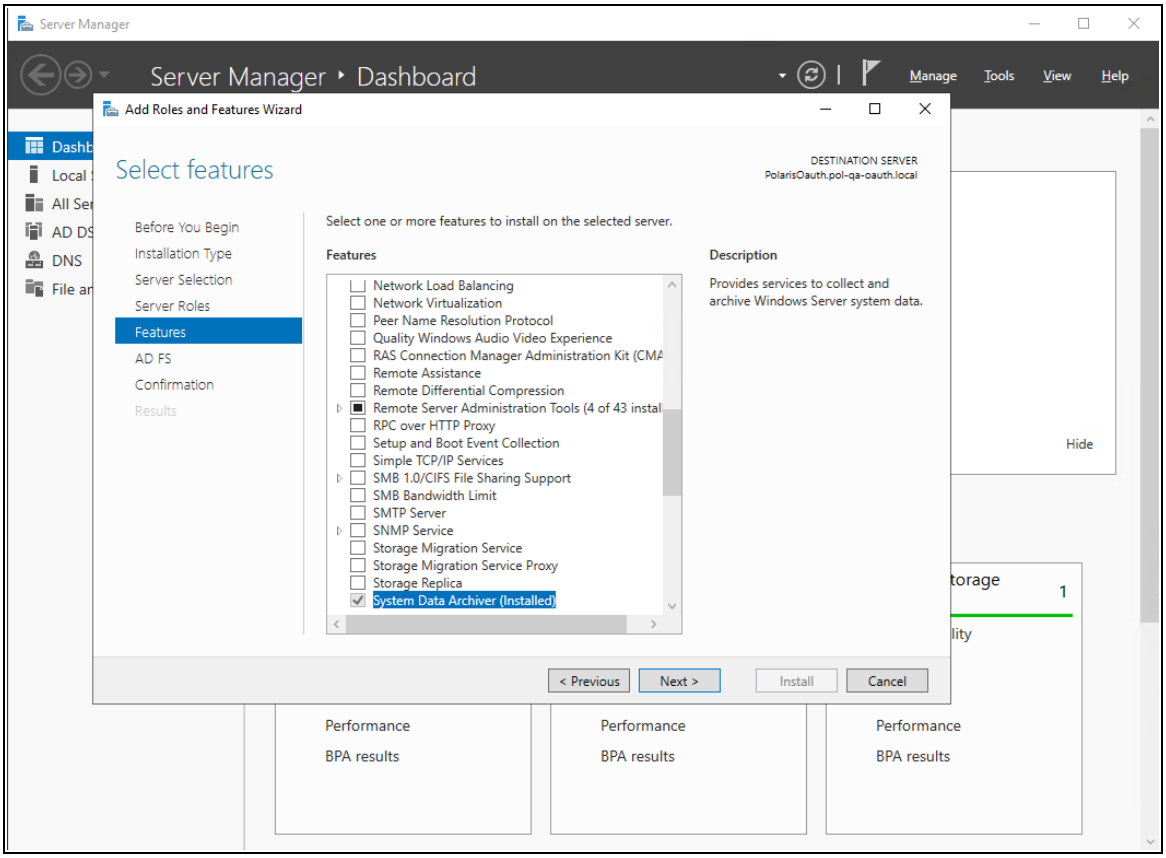
5. On the **Installation Type** tab, select **Role-based or feature-based installation**, and then select **Next**.



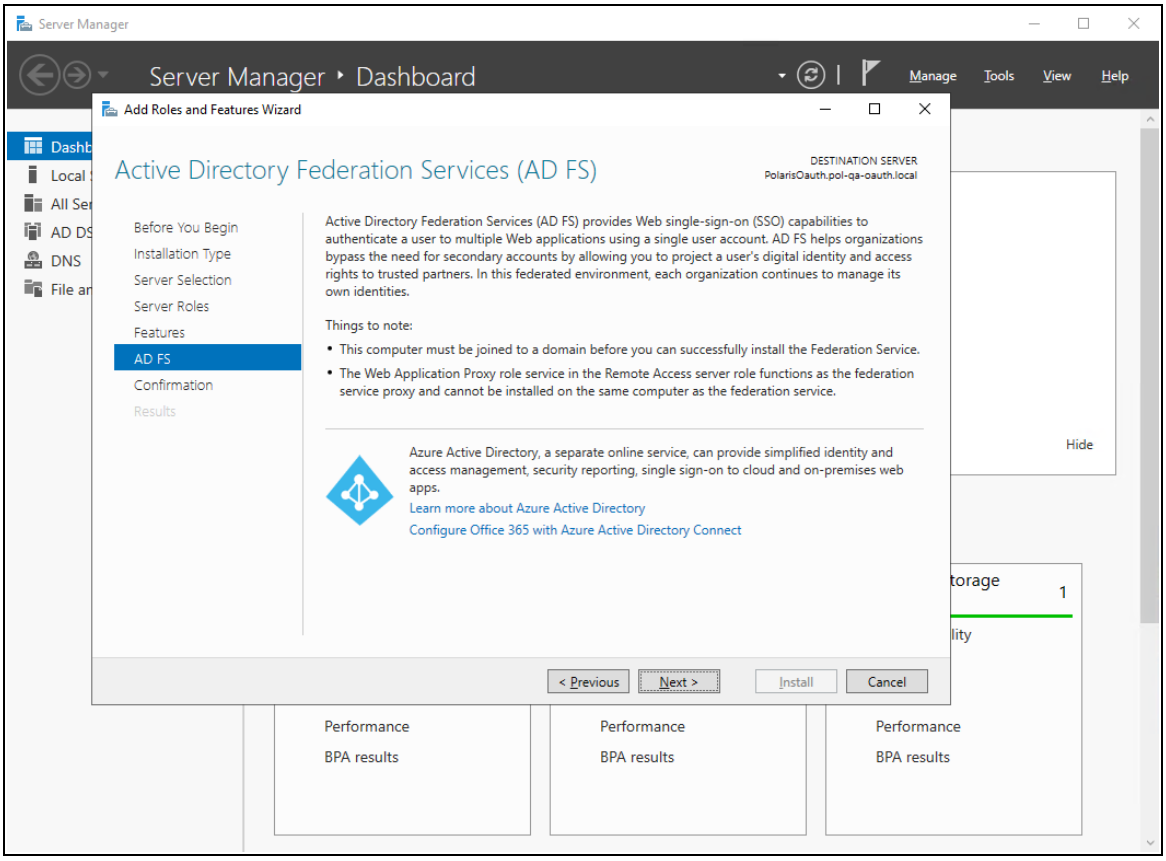
6. On the **Server Selection** tab, select the server, and then select **Next**.



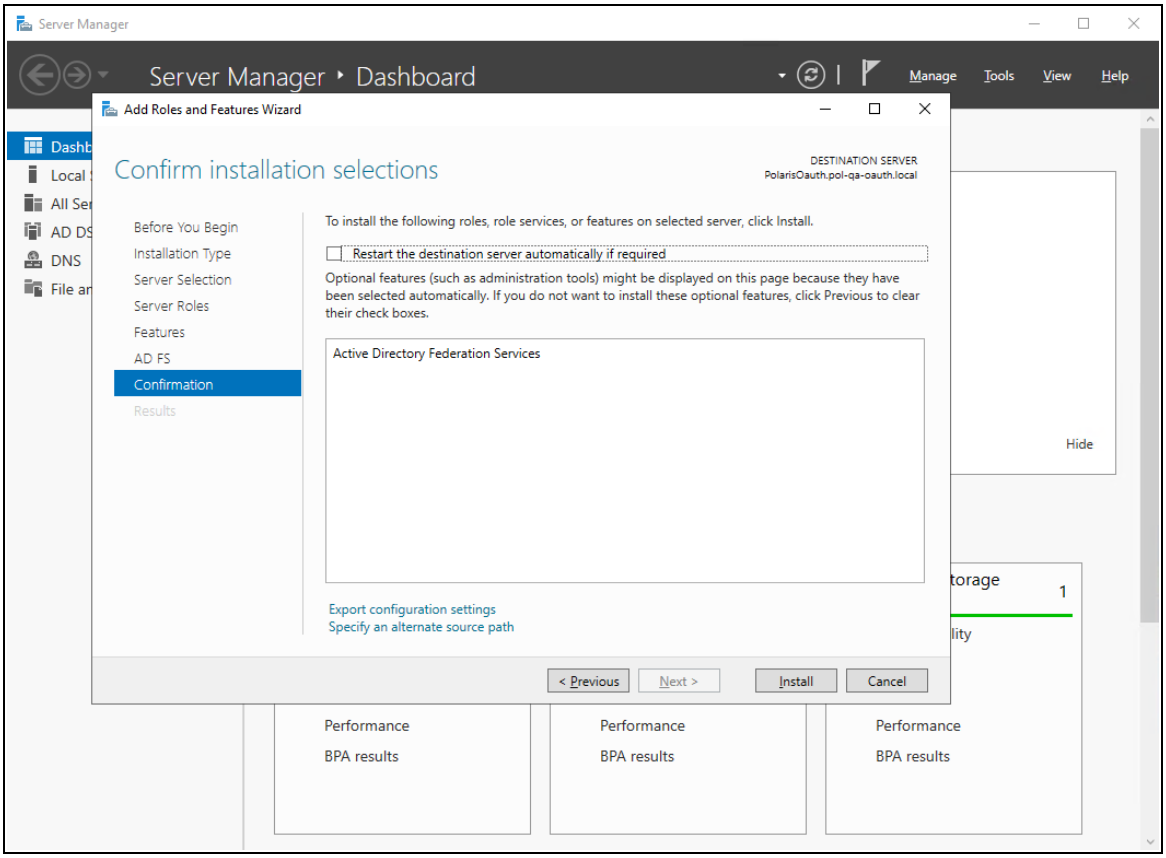
7. On the **Server Roles** tab, do the following:
    a. Verify that **Active Directory Domain Services** are installed.
    b. Select the **Active Directory Federation Services** role.
    c. Select **Next**.



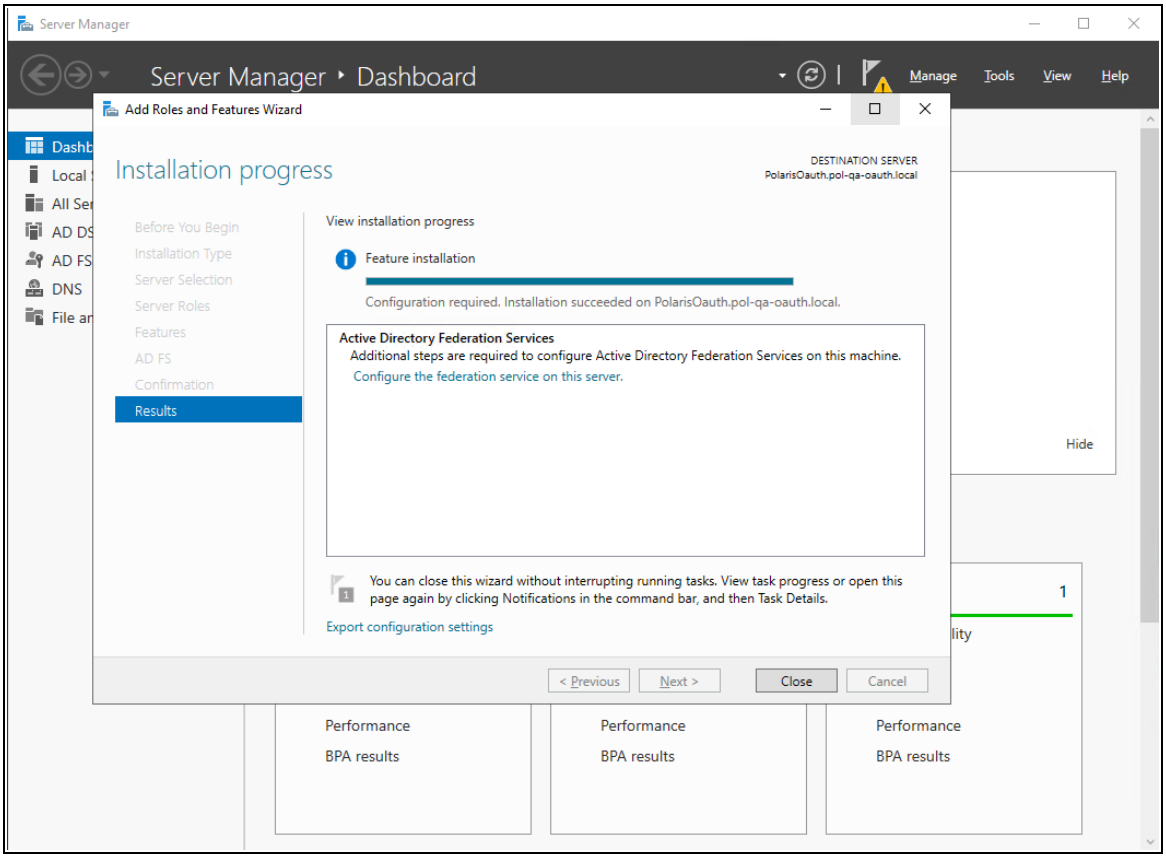
8. On the **Features** tab, select **Next**.



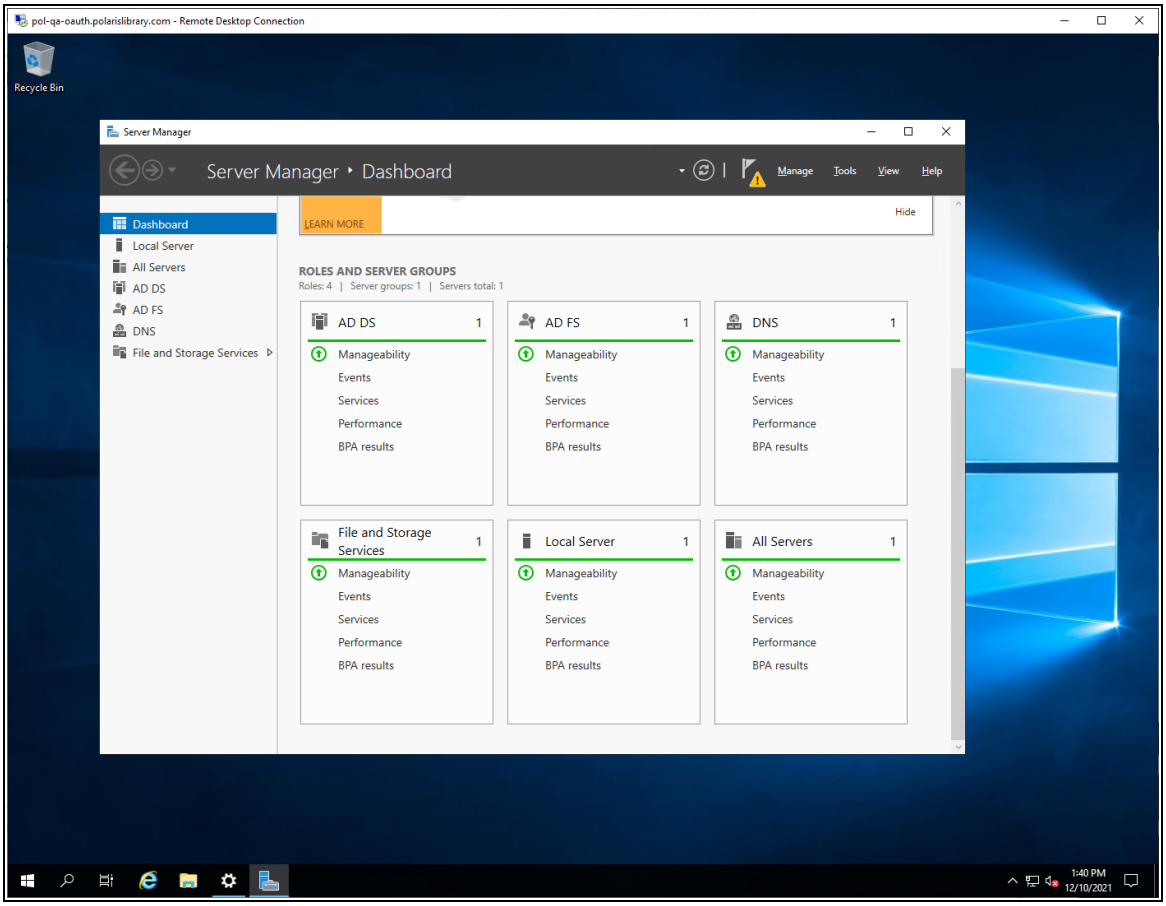
9. On the **AD FS** tab, read the Active Directory Federation Services (AD FS) information, and then select **Next**.



10. On the **Confirmation** tab, confirm your selections, and then select **Install**.



11. On the **Results** tab, select **Close** when the installation is complete.



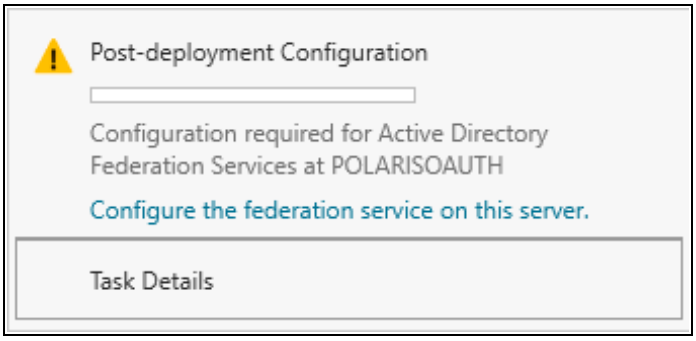
12. On the Server Manager dashboard, verify that AD FS is an installed role.
13. Restart the server.

Configure Active Directory Federation Services

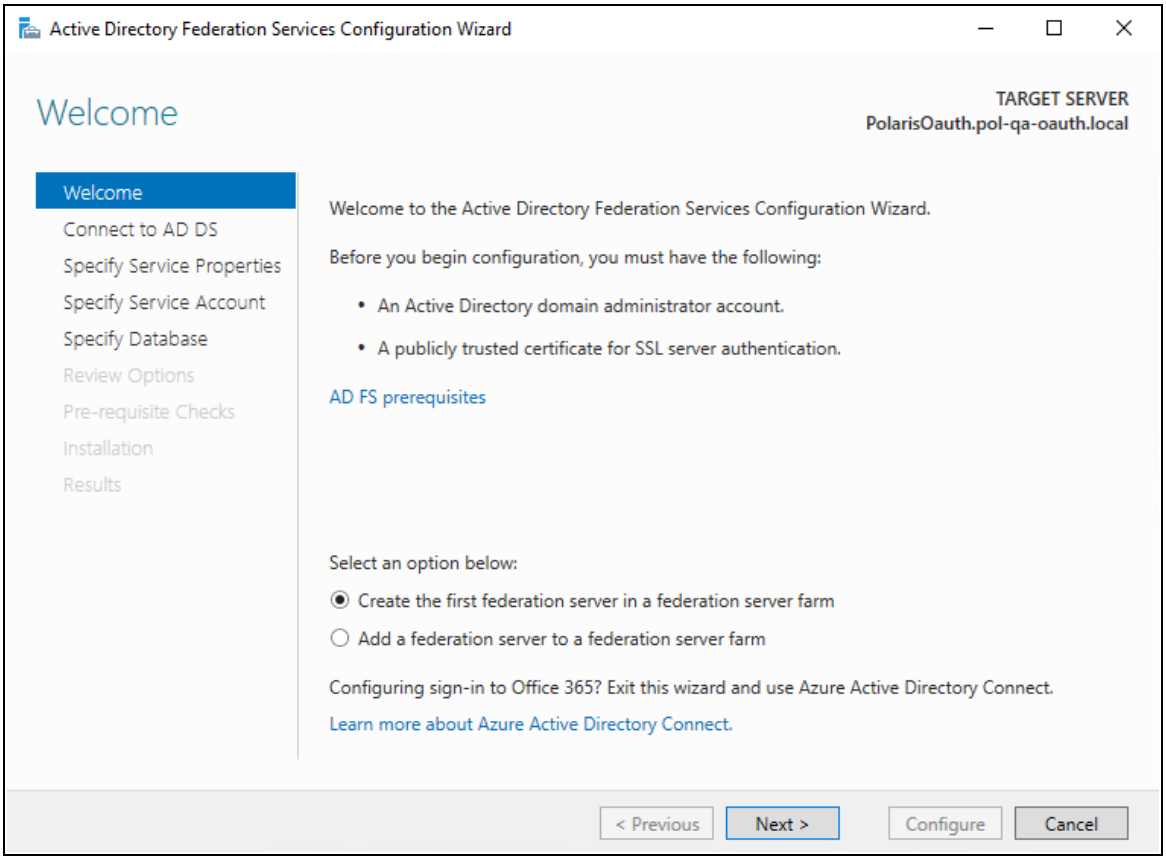
To configure Active Directory Federation Services

1. Start the Server Manager desktop application.

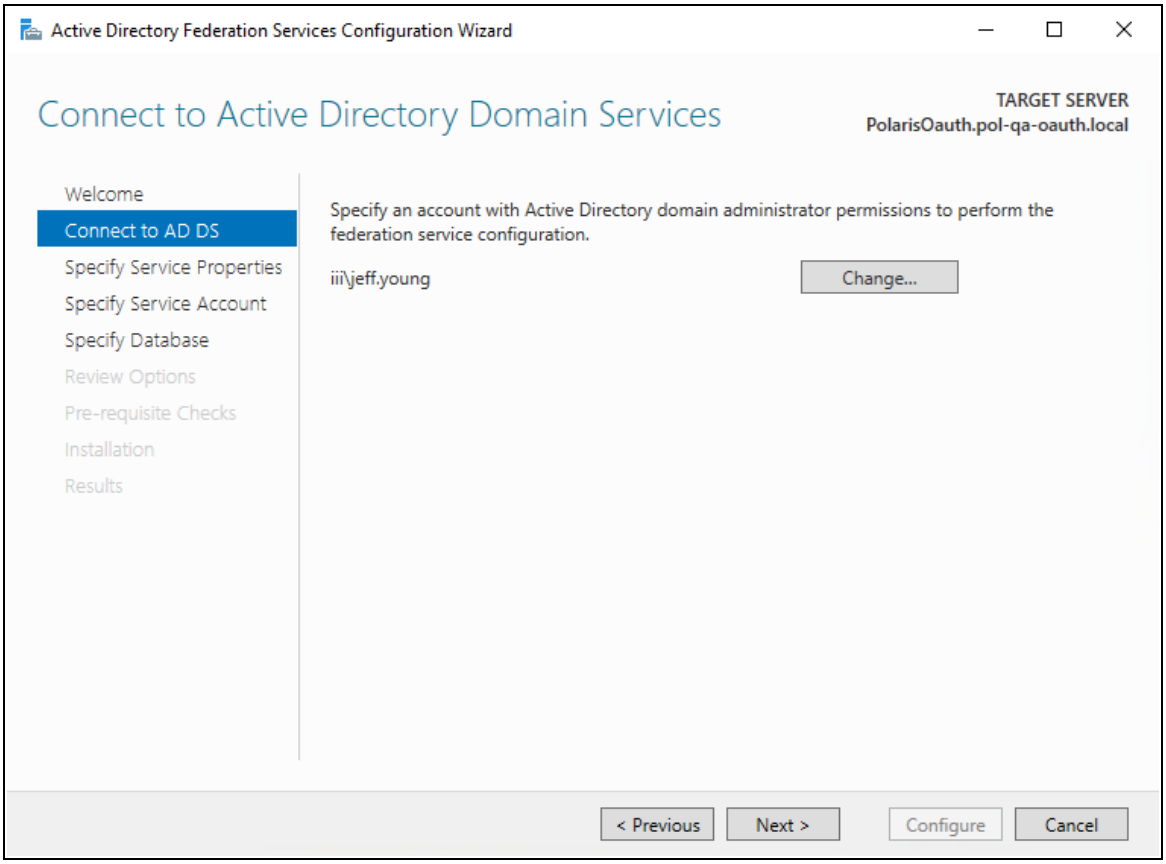
   The system generates a configuration notification.



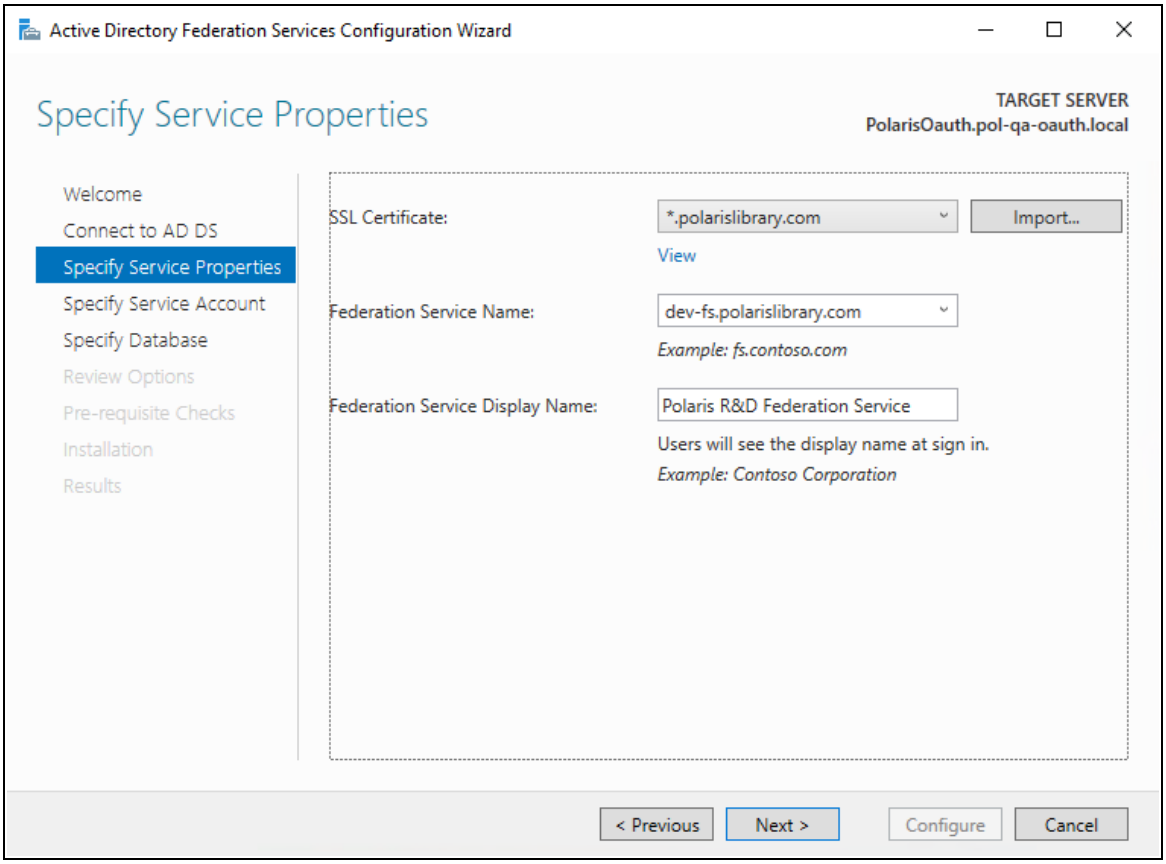
2. Open the notification, and select **Configure the federation service on this server**. The Active Directory Federation Services Configuration wizard opens.



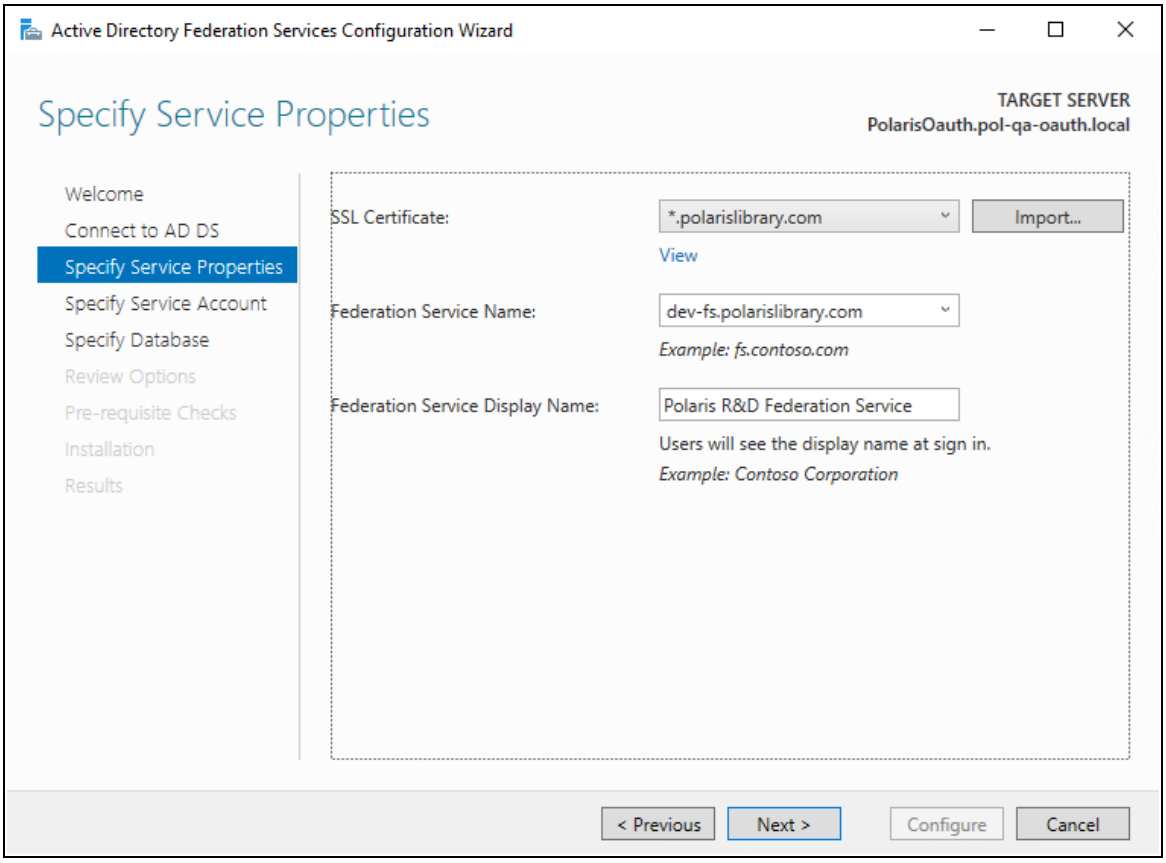
3. On the Welcome tab, select **Next**.



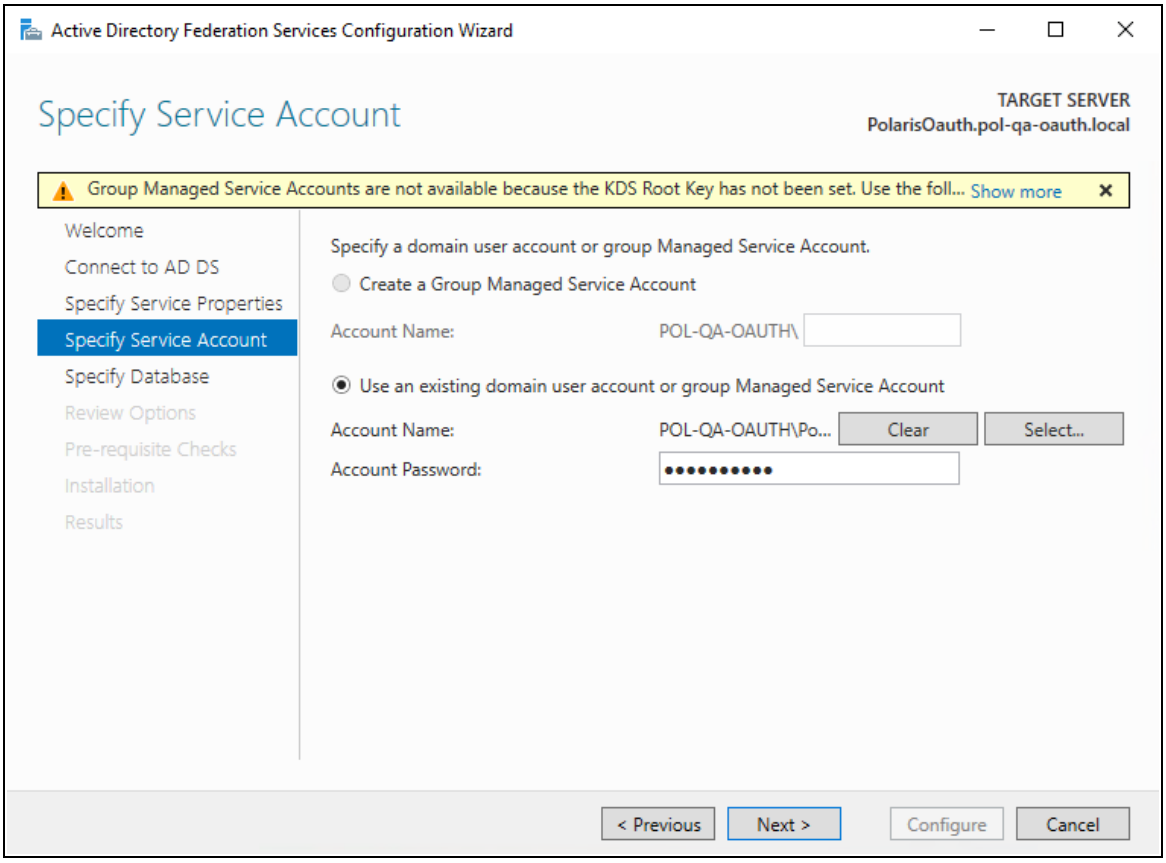
4. Select **Change**, and provide an administrator account. Then select **Next**.



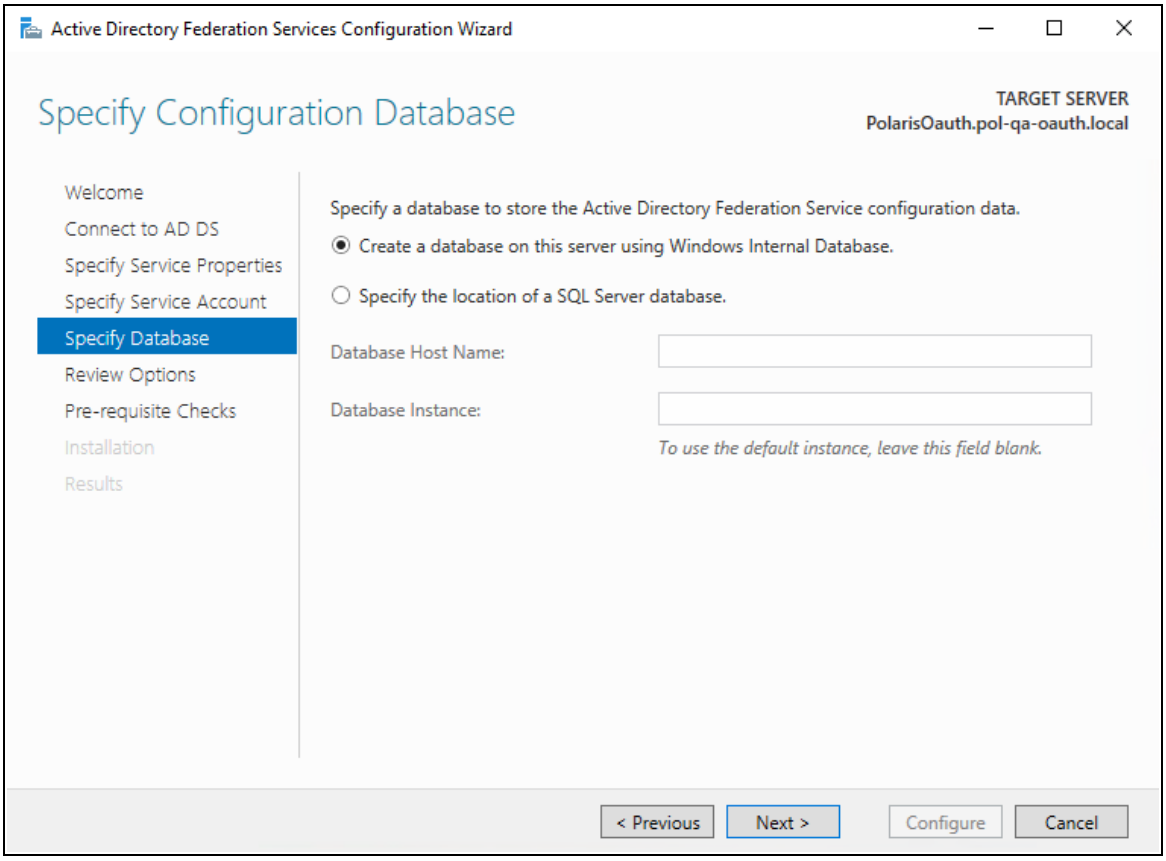
5. If not already installed on the server, select **Import** to install an SSL certificate.



6. Enter the following, and then select **Next**:
    - Federation Service Name
    - Federation Service Display Name

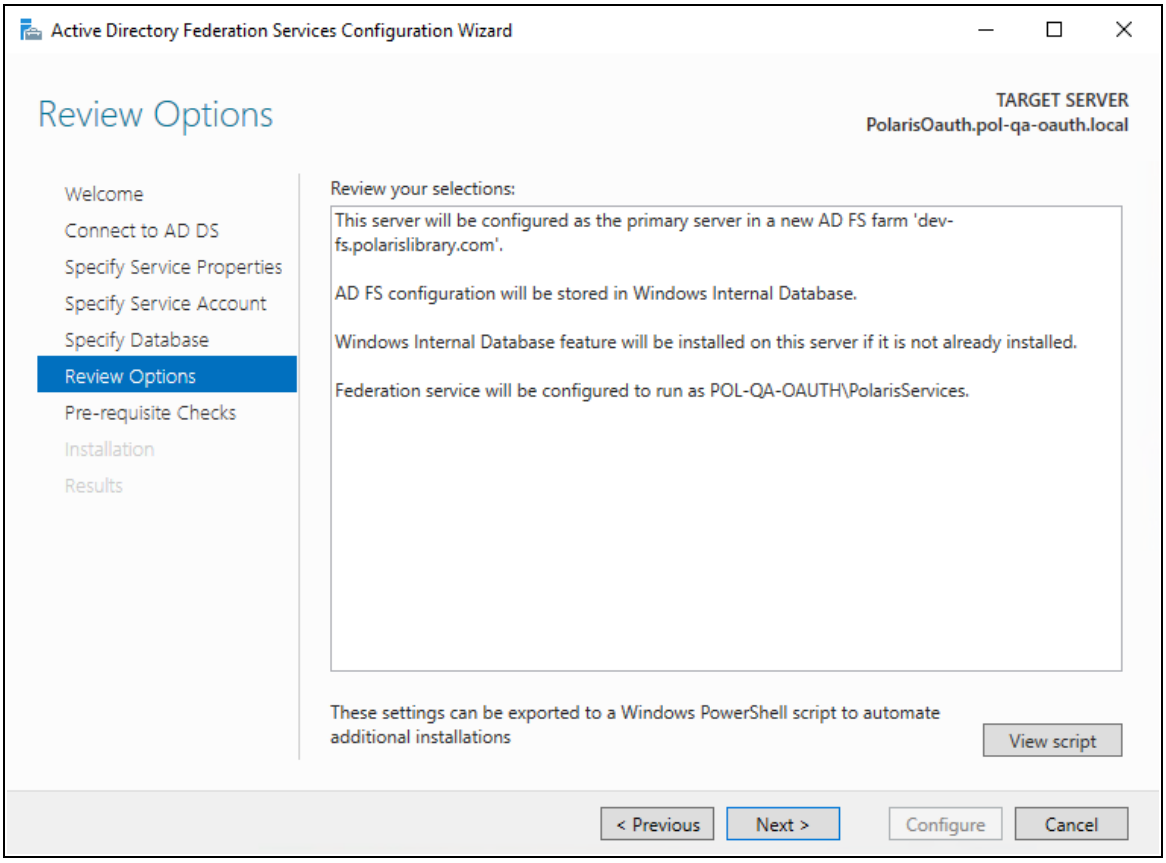


7. Specify a service account, and then select **Next**.

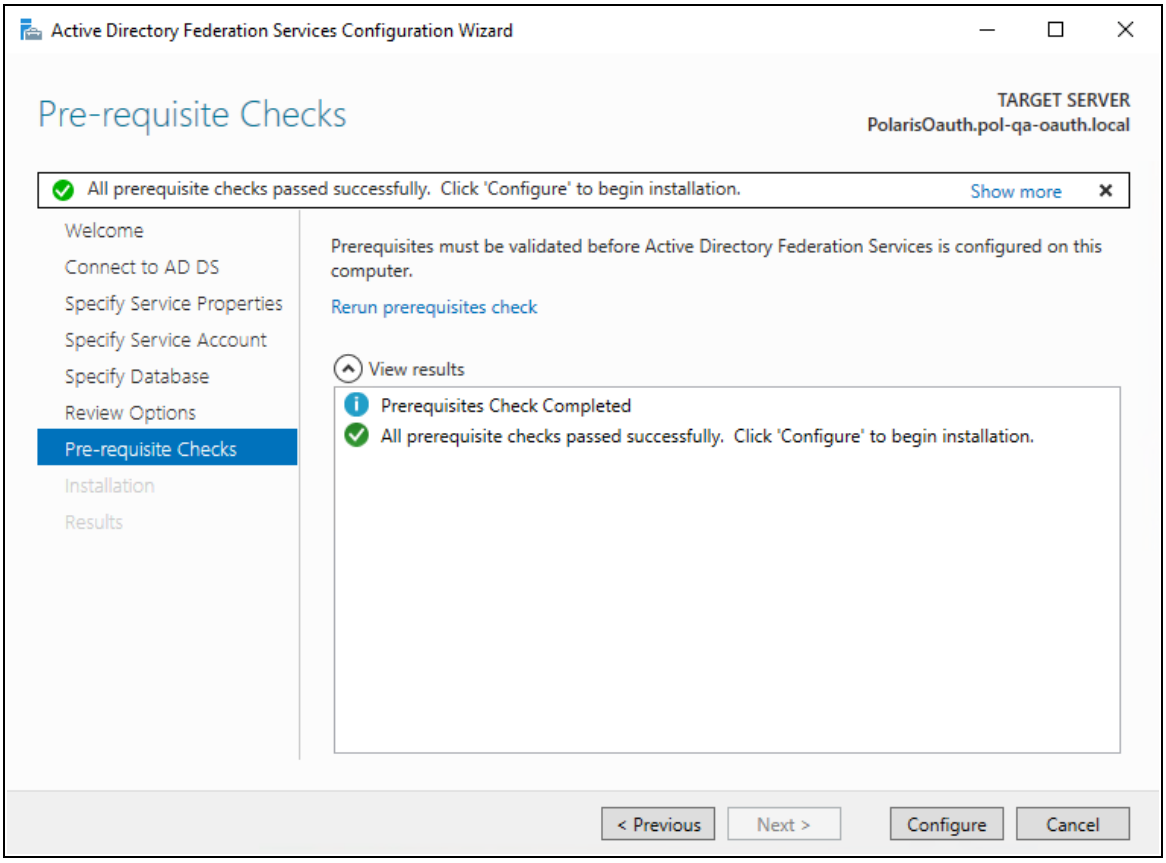


8. Specify the location of the AD FS configuration database, and then select **Next**.

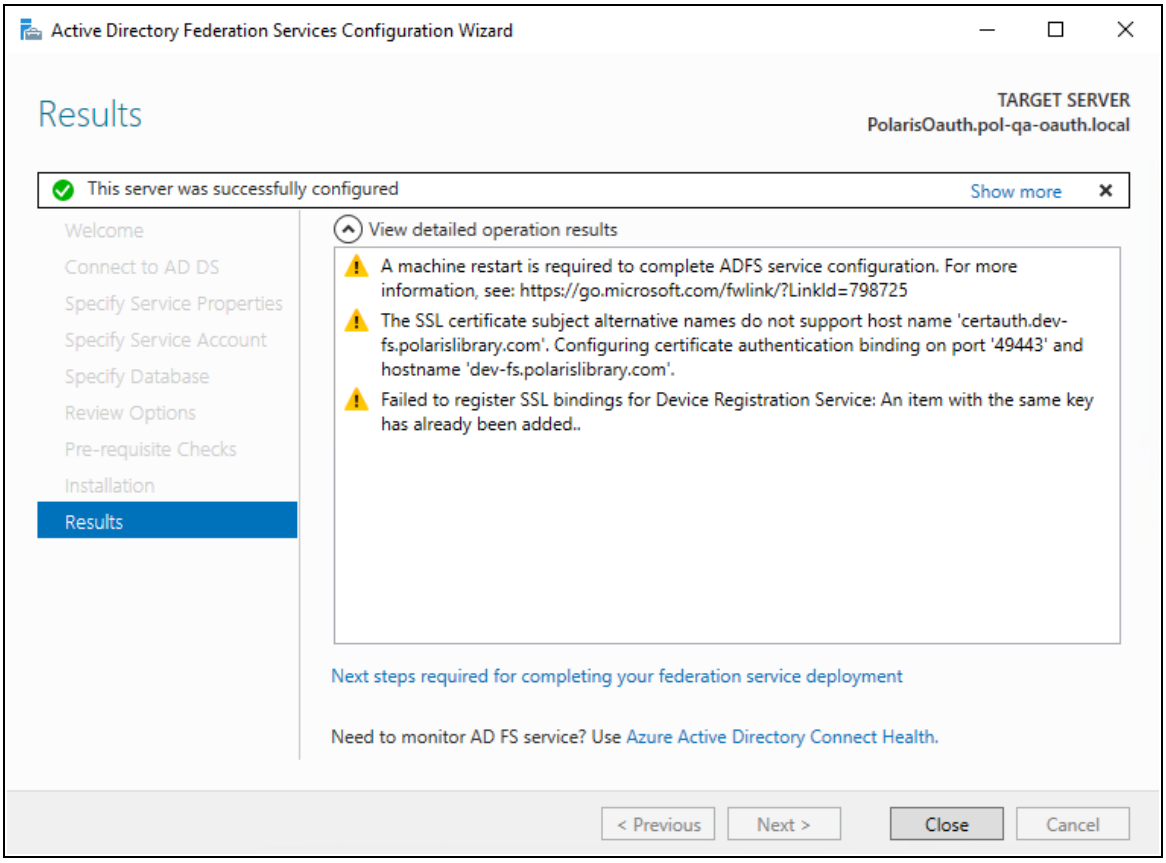
   For simple scenarios, creating the local database is acceptable.



9. Review your selections, and then select **Next**.



10. After you complete all pre-requisite checks, select **Configure**.



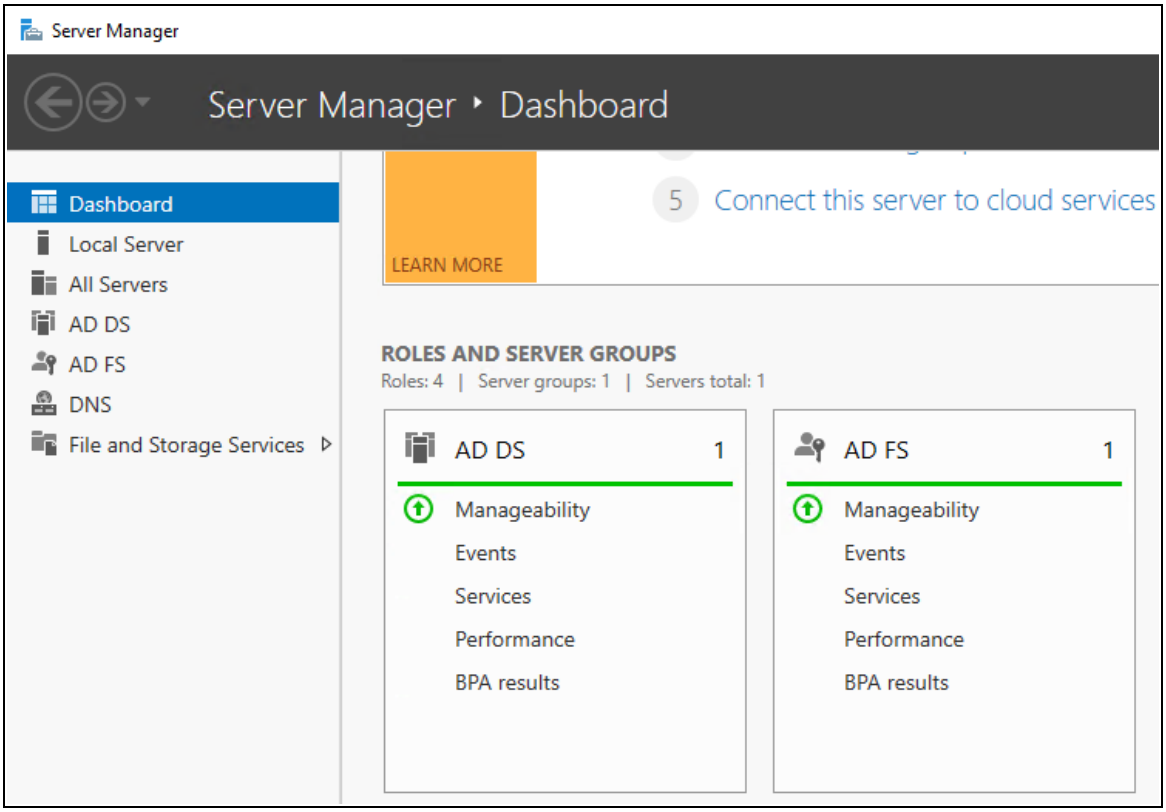
11. When the configuration wizard has completed successfully, select **Close**, and then restart the server.

Verify Active Directory Federation Services Is Running

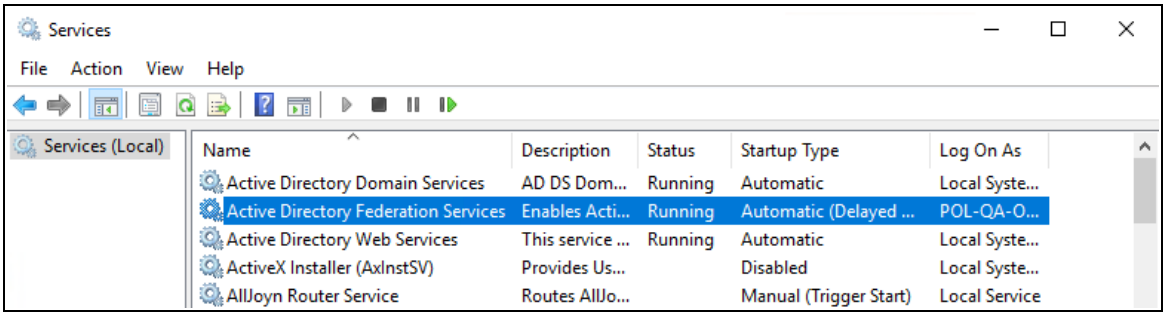
To verify that Active Directory Federation Services is running

1. Start the Server Manager desktop application.

   AD FS should be green.

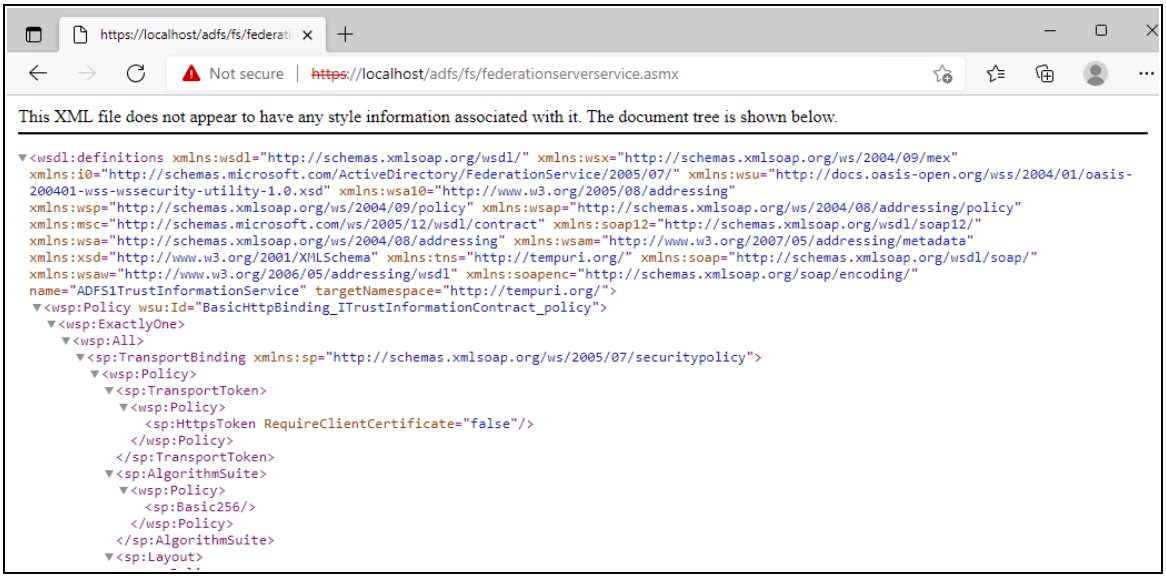


2. Start the Services application and check the status.



3. Open the Edge (or Chrome) web browser and go to https://localhost/adfs/fs/federationserverservice.asmx
   - If you want to ignore certificate errors, select **Advanced**.

   A page similar to the following image opens:

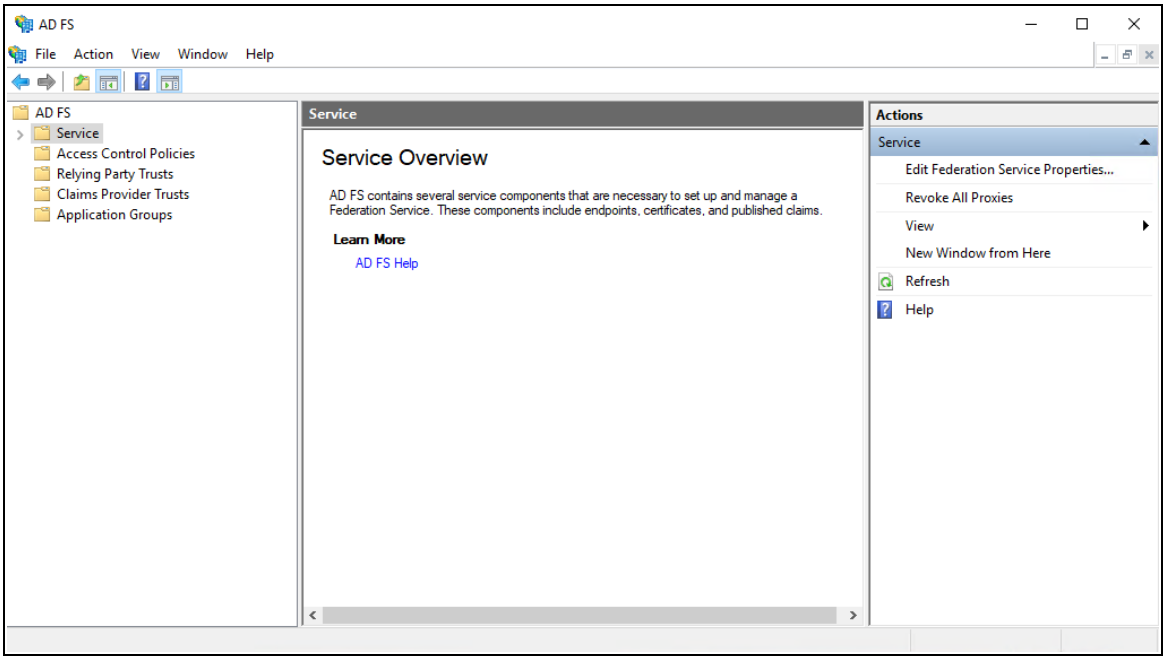


This indicates that Active Directory Federation Services is running.

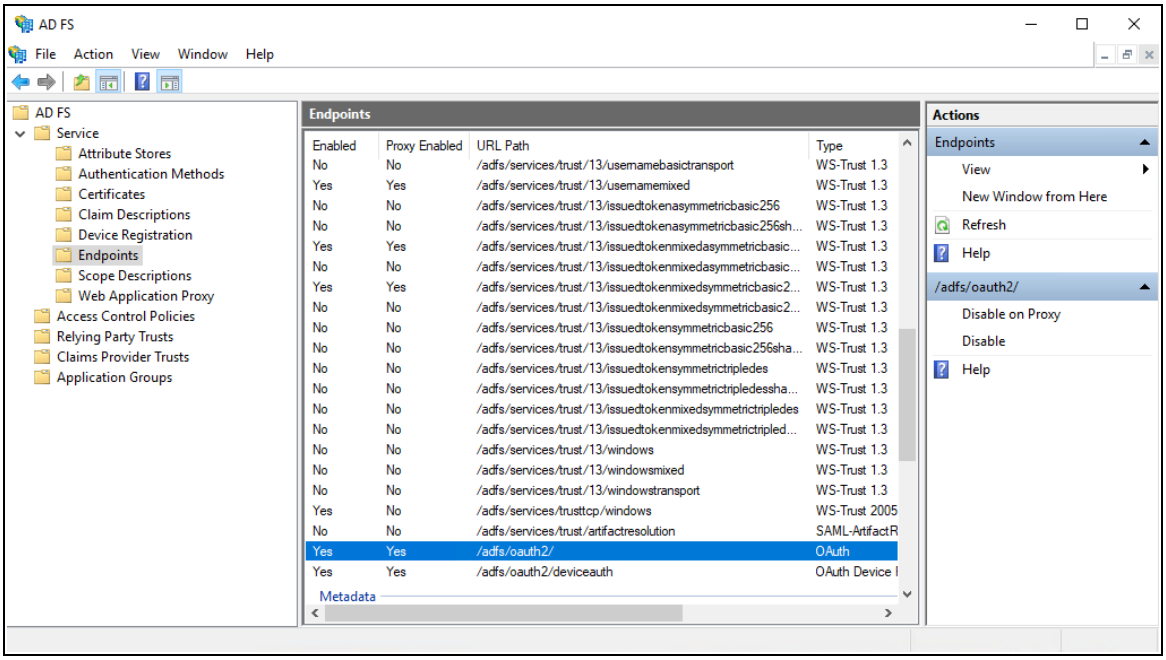
Verify that OAuth 2.0 is Enabled

To verify that OAuth 2.0 is enabled

1. Open the AD FS Management desktop application.



2. Open the **Service** folder, and then select the **Endpoint** folder.



3. Search for the oauth2 path.
4. In either the Edge or Chrome web browser, go to https://localhost/adfs/.well-known/openid-configuration
    - If you want to ignore certificate errors, select **Advanced**.

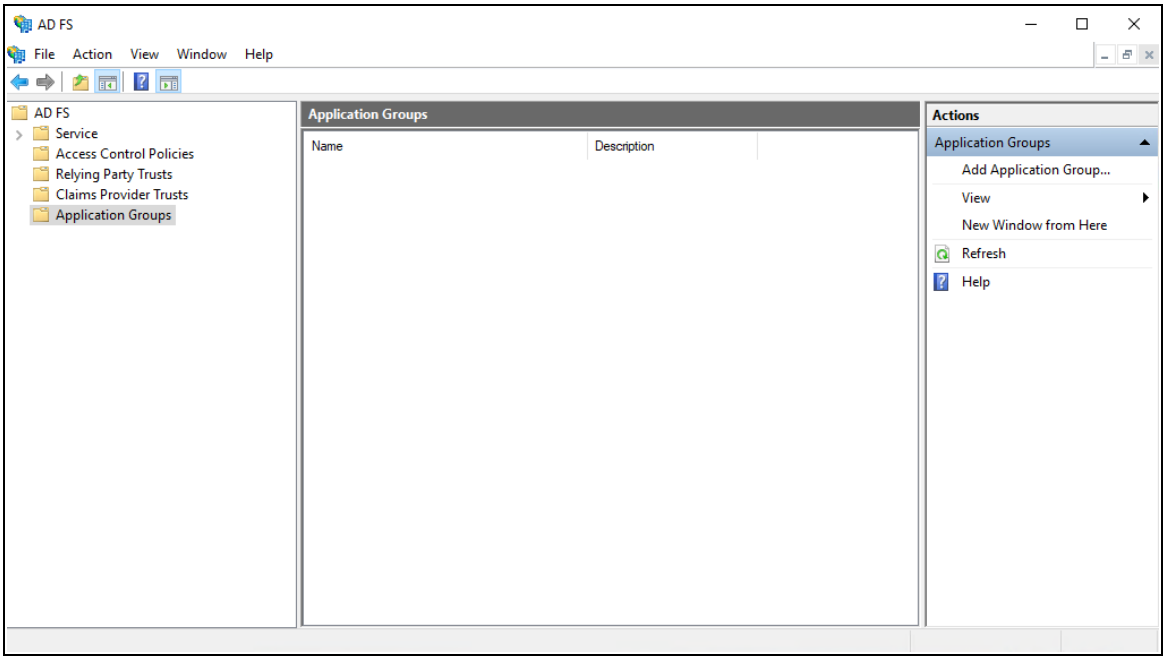
A page similar to the following image opens:

This indicates that OAuth 2.0 is available.

Create an Application Group

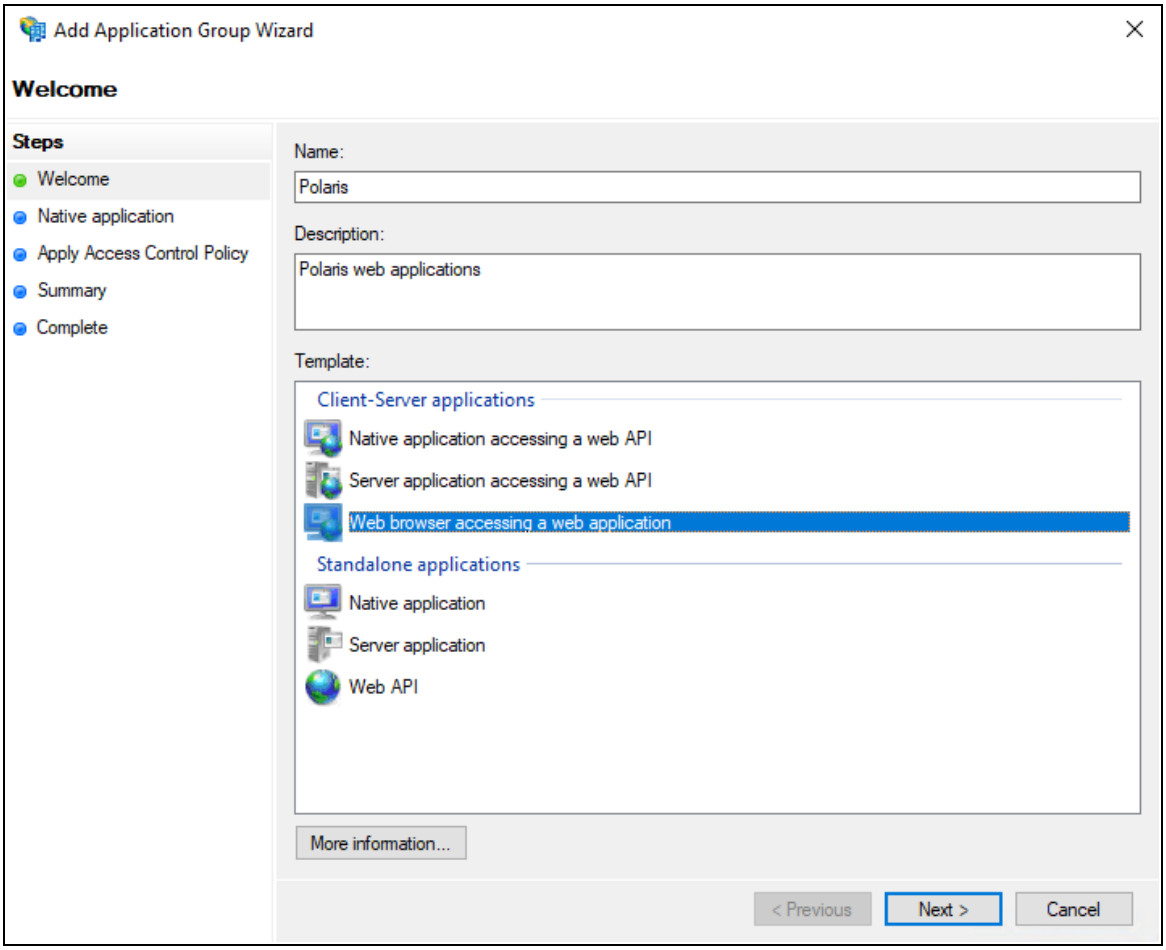
To create an application group for use with Polaris Admin and LeapWebApp

1. Open the AD FS Management desktop application.

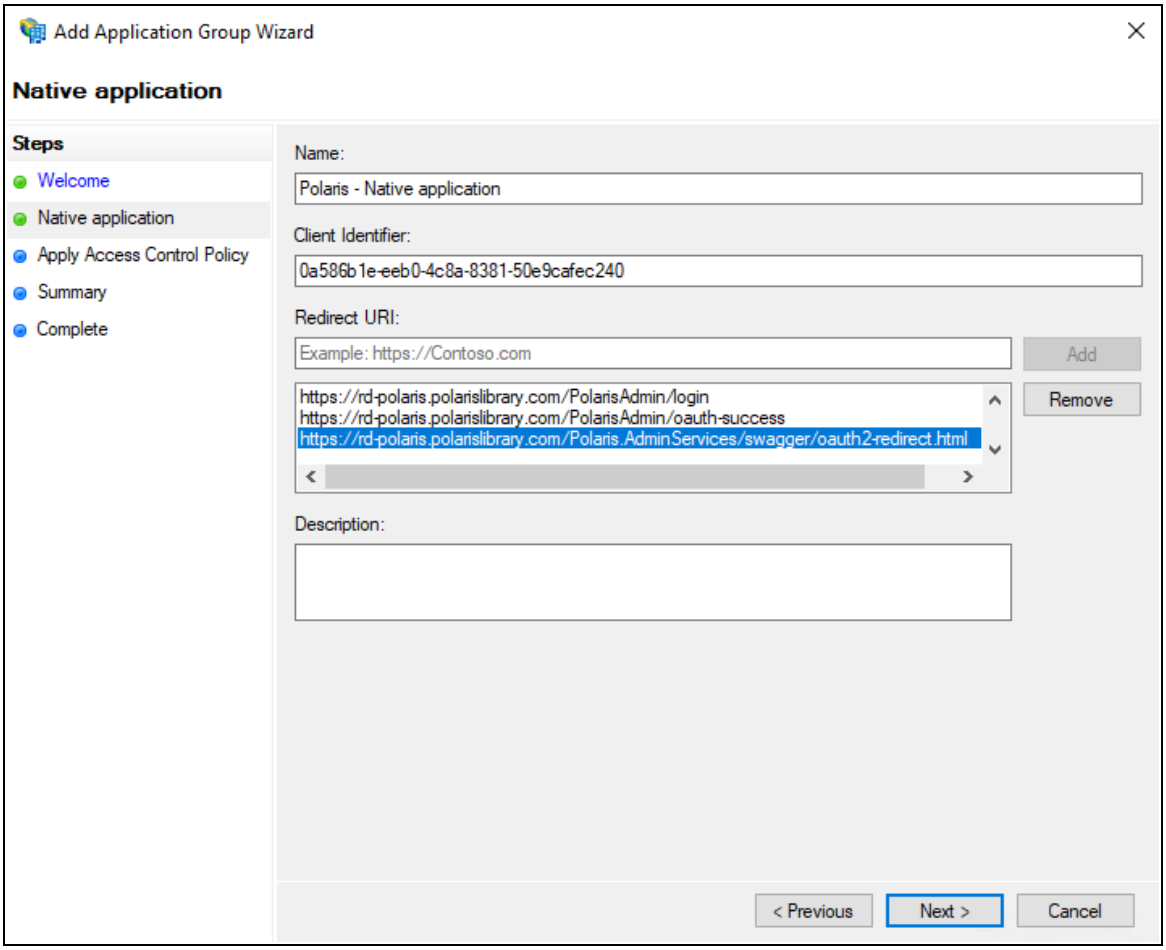


2. Select the **Application Groups** folder.
3. Under **Actions**, select **Add Application Group**.

   The Add Application Group wizard opens.



4. On the **Welcome** tab, do the following:
    a. In the **Name** box, enter **Polaris**.
    b. In the **Description** box, enter **Polaris web applications**.
    c. From the Template section, select **Web browser accessing a web application**.
5. Select **Next**.



6. On the **Native application** tab, in the **Redirect URI** box, enter the following URIs:
    - https://*server address*/PolarisAdmin/
    - https://*server address*/PolarisAdmin/login
    - https://*server address*/PolarisAdmin/oauth-success
    - https://*server address*/Polaris.AdminServices/swagger/oauth2-redirect.html
    - https://*server address*/LeapWebApp/signin-oidc
    - https://*server address*/LeapWebApp/signin-override-oidc
    - https://*server address*/LeapWebApp/signout-callback-oidc
    - https://*server address*/Polaris.ApplicationServices/swagger/oauth2-redirect.html

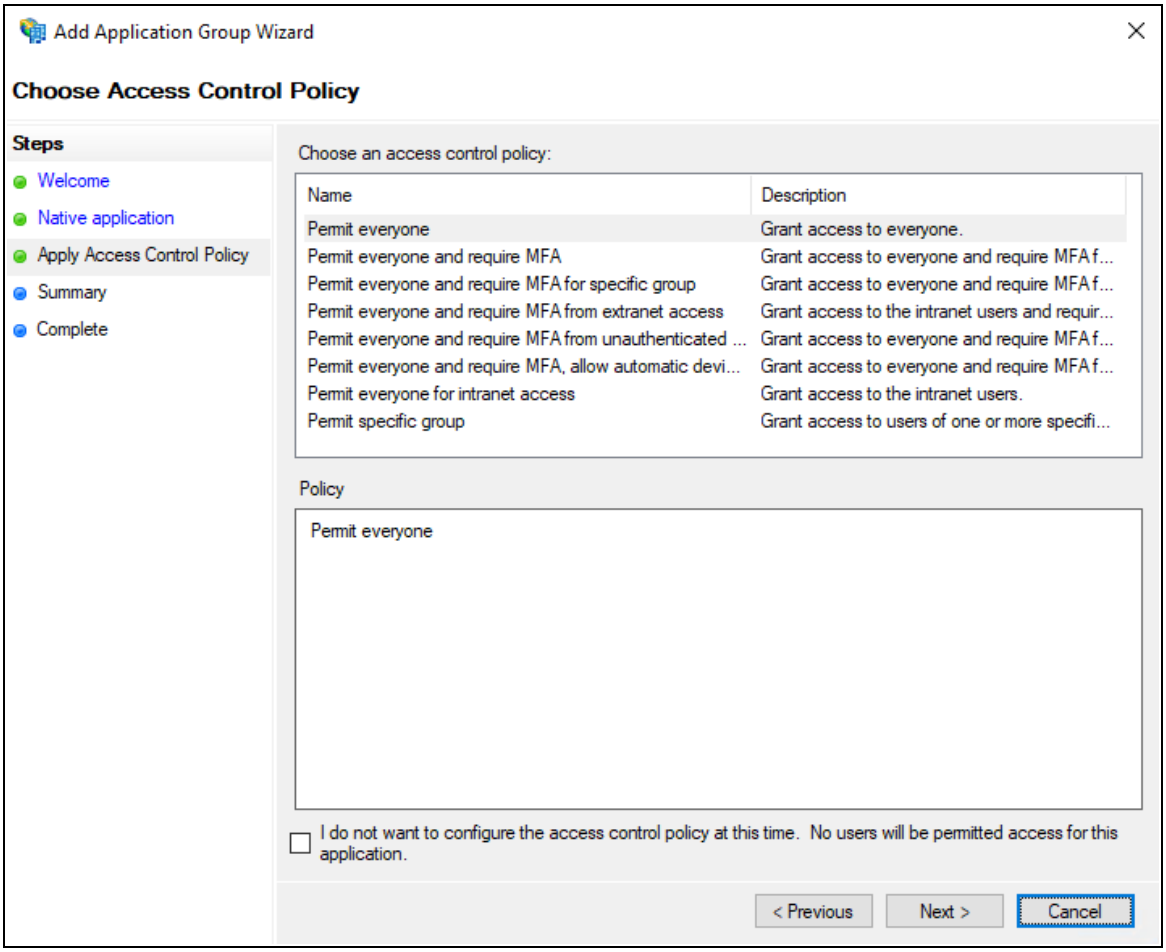
    Note:
    Replace *server address* with the FQDN that matches your Polaris

System Administration (web-based) or Leap server name and certificate.

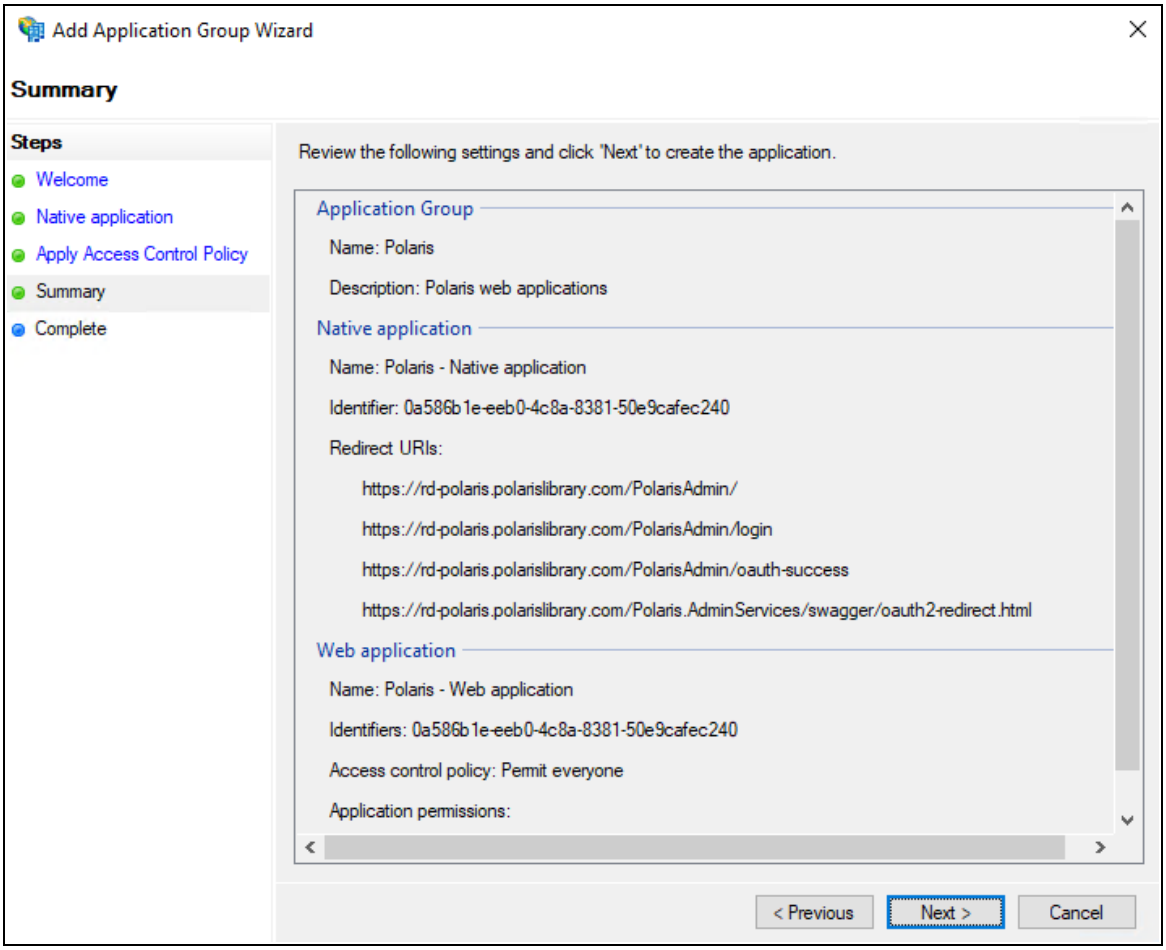
7. Copy the value in the **Client Identifier** box to Notepad.

   You'll need this when you set up PolarisAdmin's appsettings.user.json.

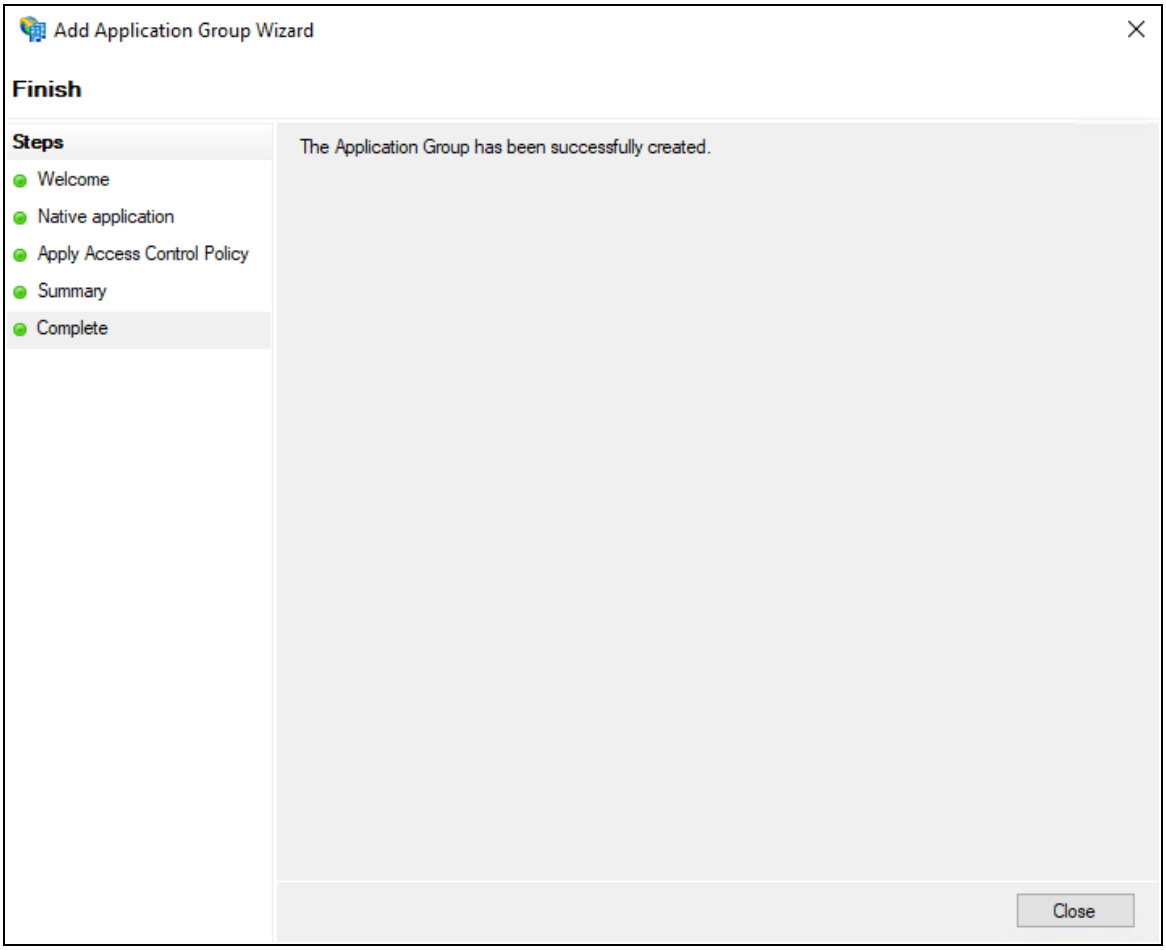
8. Select **Next**.



9. On the **Apply Access Control Policy** tab, select an access control policy, and then select **Next**.



10. On the **Summary** tab, review the settings and then select **Next**.

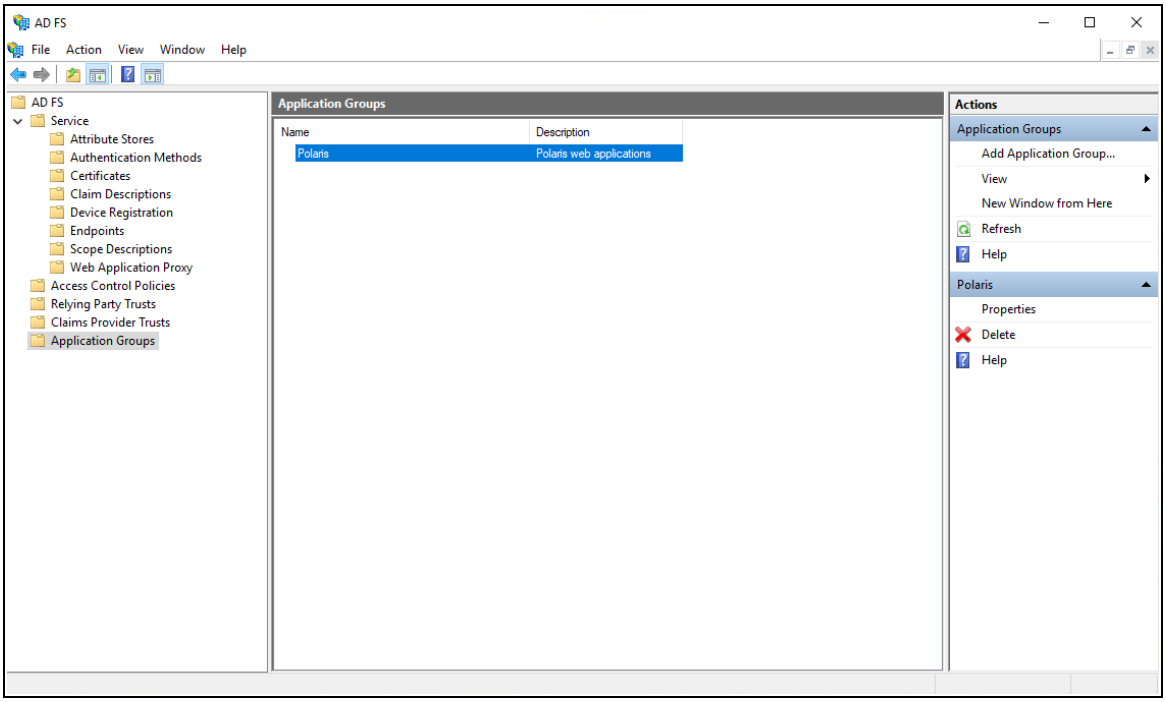


11. On the **Complete** tab, select **Close**.

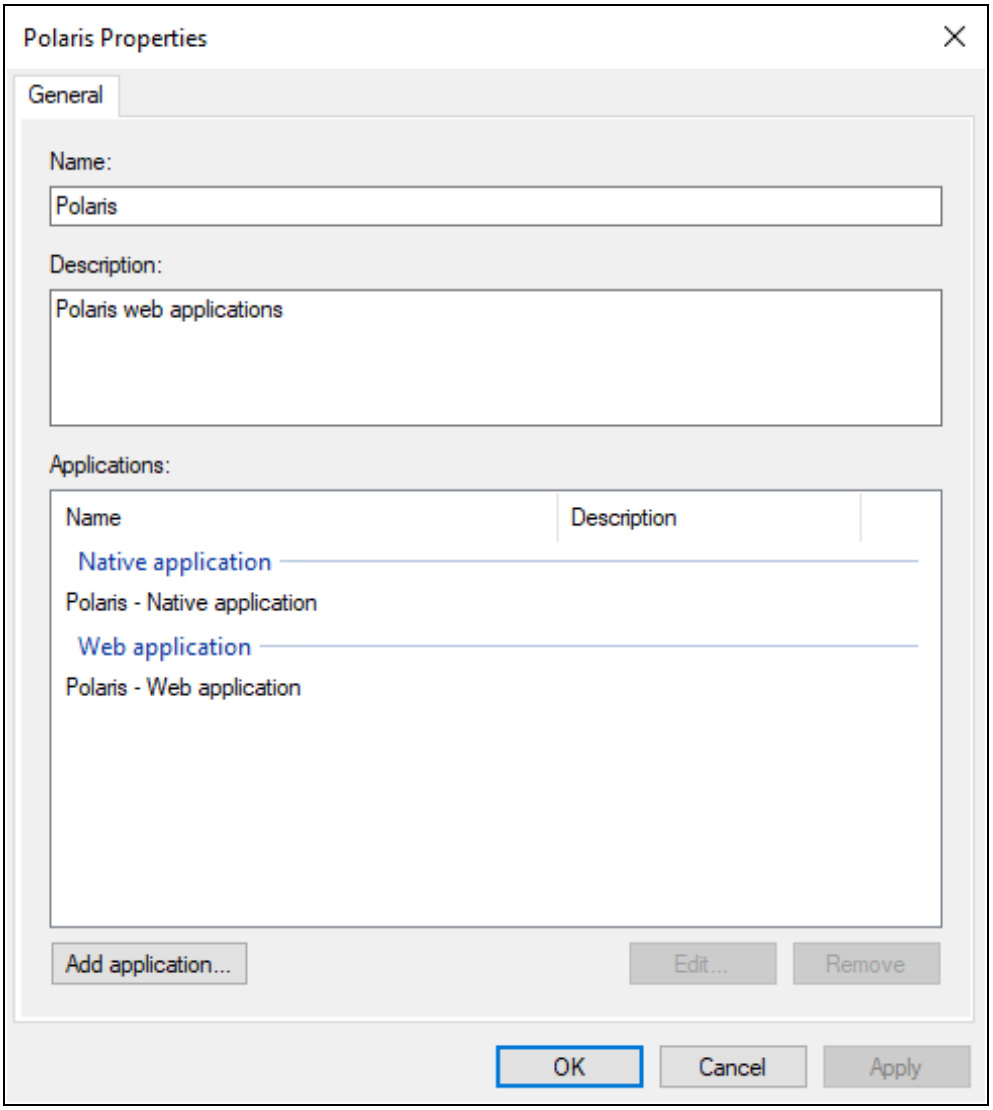
Configure the AD FS Web Application: Claims and Permitted Scopes

To configure the AD FS web application

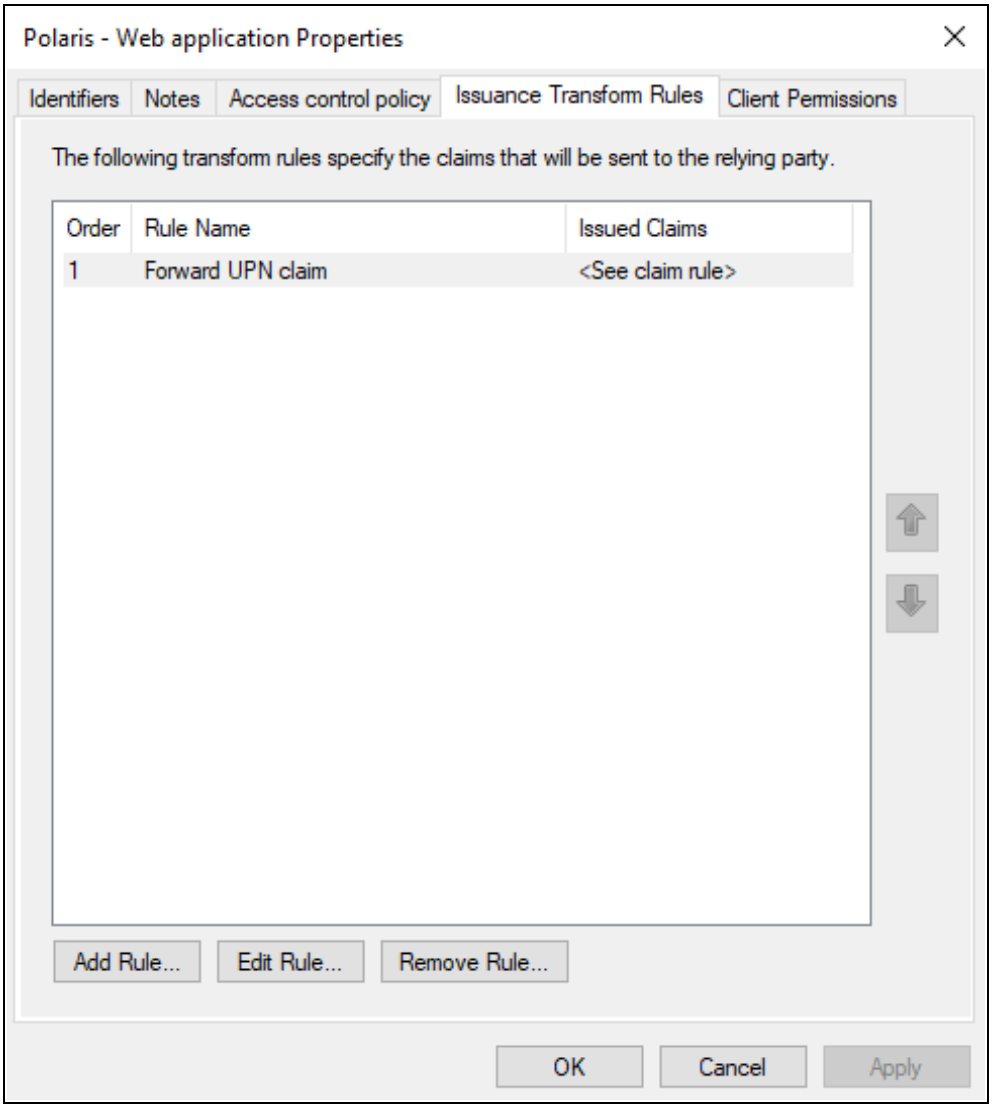
1. Open the AD FS Management desktop application.



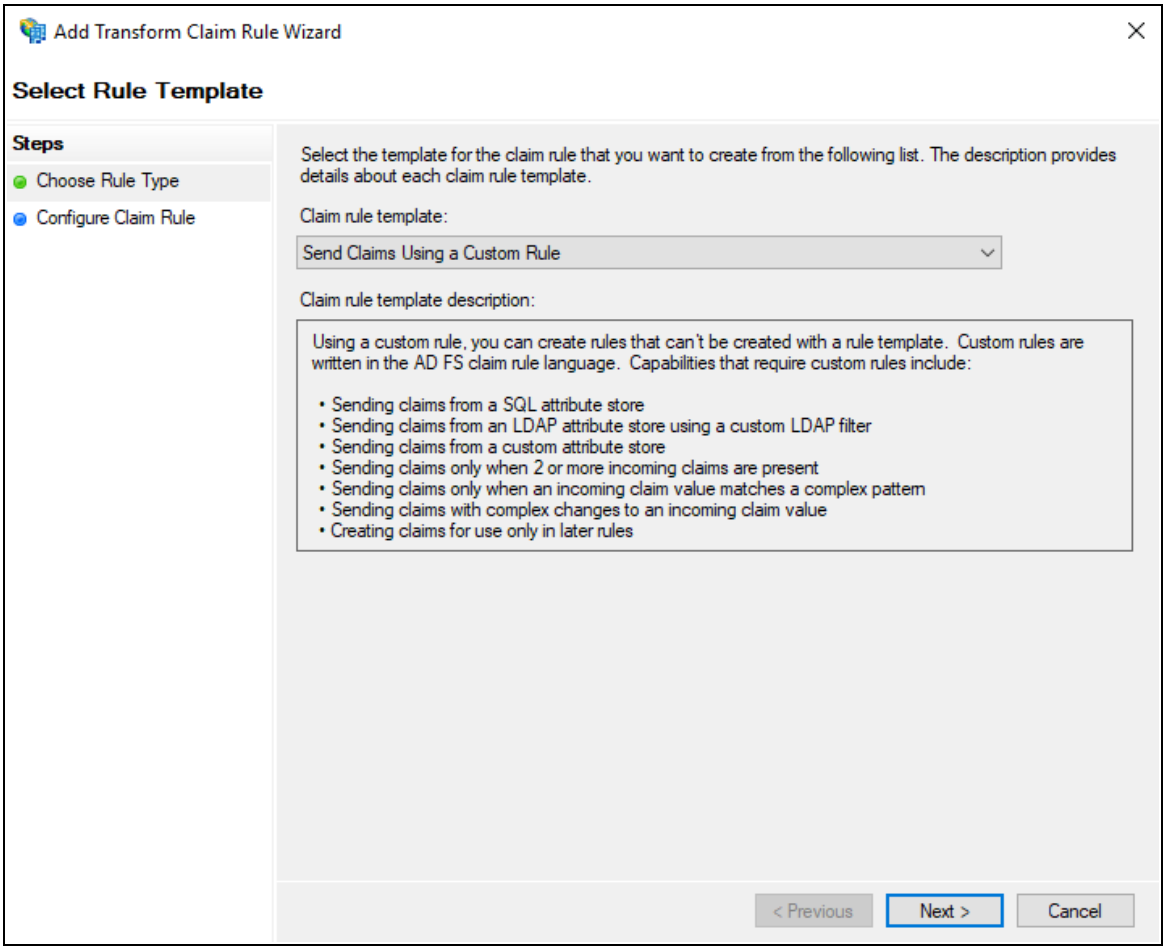
2. Select the **Application Groups** folder.
3. Select the **Polaris** application group, and then select **Properties**.



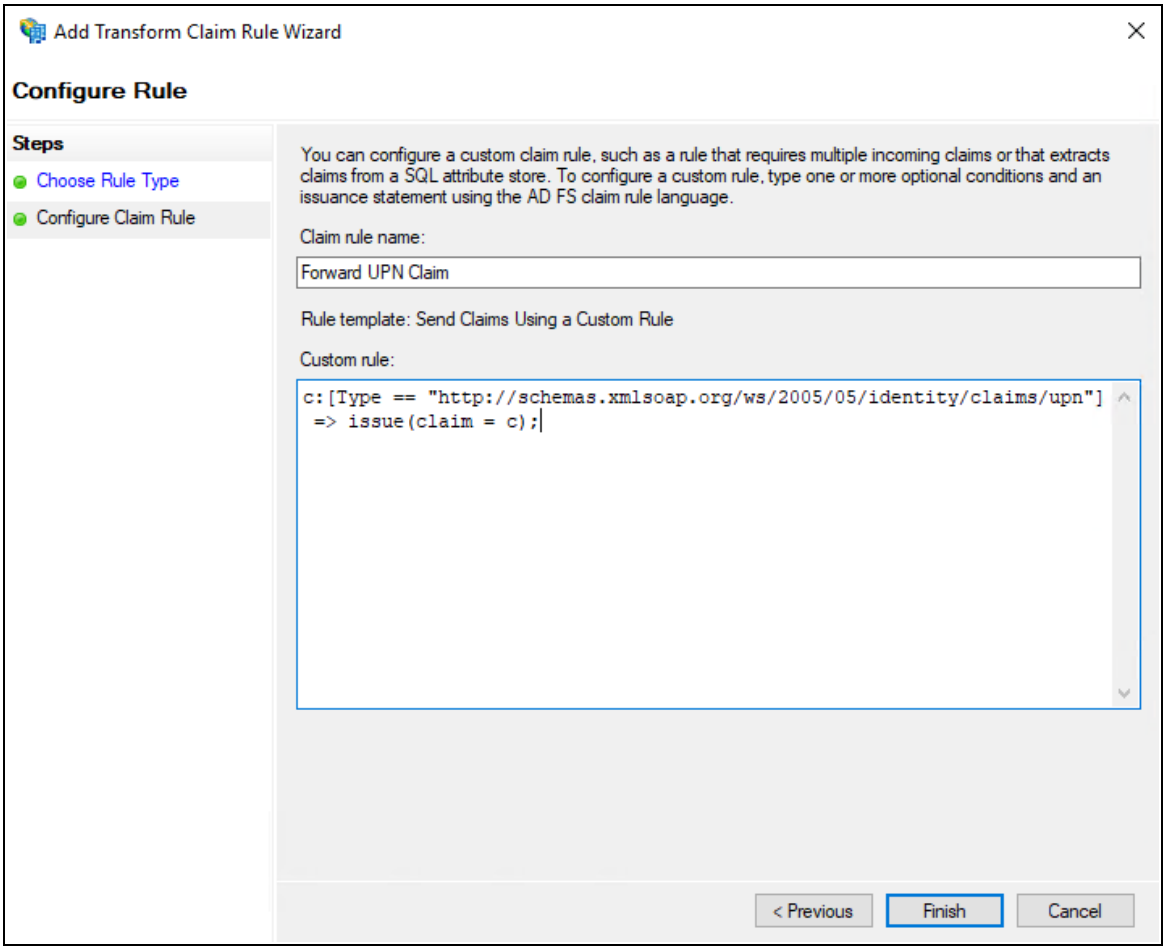
4. Select **Polaris** - **Web application**, and then select **Edit**.



5. Select the **Issuance Transform Rules** tab, and then select **Add Rule**.



6. On the Add Transform Claim Rule Wizard, select **Send Claims Using a Custom Rule** from the **Claim rule template** list, and then select **Next**.



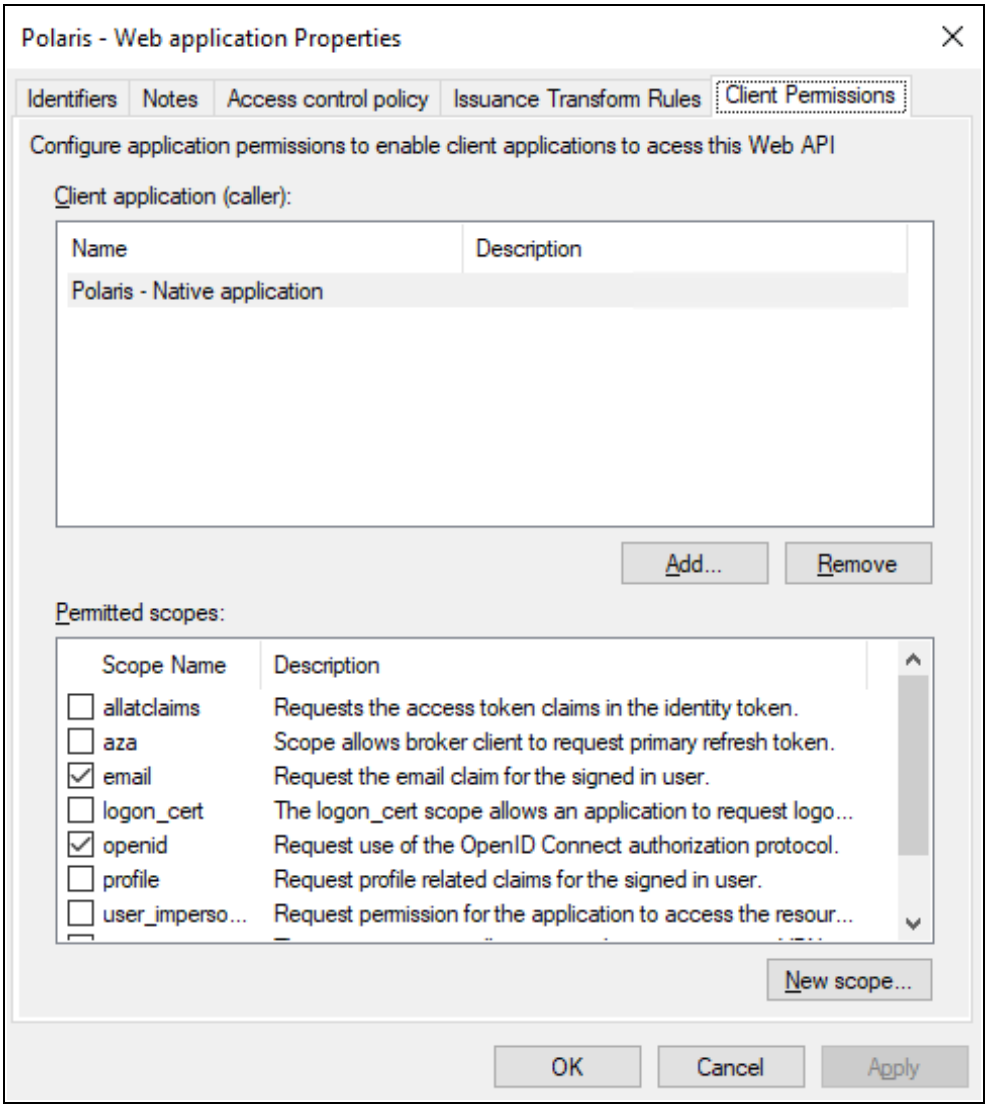
7. In the **Claim rule name** box, enter **Forward UPN Claim**.
8. In the **Custom rule** box, enter the following rule:

```
c:[Type ==
"http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn"]
=> issue(claim = c);
```

9. Select **Finish**.
10. On the **Issuance Transform Rules** tab, select **Add Rule**.
11. On the Add Transform Claim Rule Wizard, select **Send Claims Using a Custom Rule** from the **Claim rule template** list, and then select **Next**.
12. In the **Claim rule name** box, enter **Add TenantId**.
13. In the **Custom rule** box, enter the following rule:

```
=> issue(Type =
"http://schemas.microsoft.com/identity/claims/tenantid",
Value = "polaris");
```

14. Select **Finish**.



15. On the **Client Permissions** tab, verify that **email** and **openid** are selected.
16. Select **OK** to close the Web application Properties dialog.
17. Select **OK** to close the Polaris properties dialog.
18. Using the services applet, restart the Active Directory Federation Services service.

Enable CORS on AD FS To Accept Requests from Polaris APIs

To enable CORS on AD FS to accept requests from Polaris APIs

1. Refer to the information on the following page:
   - https://docs.microsoft.com/en-us/windows-server/identity/ad-fs/operations/customize-http-security-headers-ad-fs#cross-origin-resource-sharing-cors-headers
2. Use the following commands:
   - `Set-AdfsResponseHeaders -EnableCORS $true`
   - `Set-AdfsResponseHeaders -CORSTrustedOrigins` *`https://rd-polaris.polarislibrary.com`*`,`*`https://example2.com`*

     Note:
     Replace *`https://rd-polaris.polarislibrary.com`* and *`https://example2.com`* with your own URL or list of URLs.

Set Up Web Services and Applications

To set up each of the following web services and applications, you must configure a .json file for each of the following:

- Polaris.AdminServices (the API service)
- PolarisAdmin (the web-based Polaris System Administration application)
- Polaris.ApplicationServices (Leap's API service)
- LeapWebApp (Leap)

The four .json files are all named appsettings.user.json, but they reside in different directories:

- C:\Program Files\Polaris\7.3\Polaris.AdminServices
- C:\Program Files\Polaris\7.3\PolarisAdmin\assets
- C:\Program Files\Polaris\7.3\Polaris.ApplicationServices
- C:\Program Files\Polaris\7.3\LeapWebApp

This section contains the following topics:

Set Up Polaris.AdminServices

To set up Polaris.AdminServices

> **Note:**
> When you edit the appsettings.user.json file, you must run the editing application (for example, Notepad) as administrator.

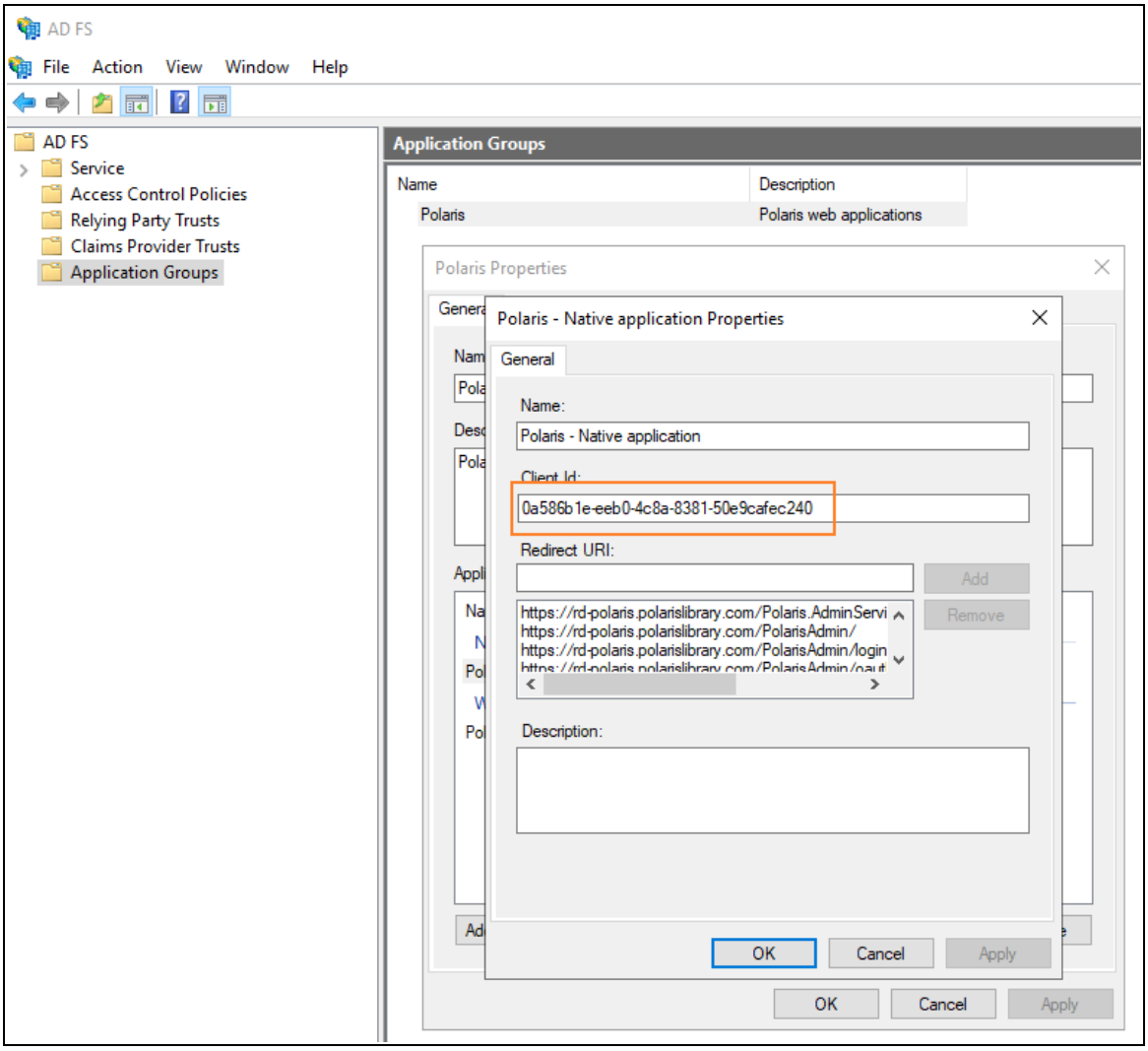
Verify that OAuth is Enabled

- Open C:\Program Files\Polaris\7.3\Polaris.AdminServices\appsettings.user.json and verify `Polaris.OAuth.Enabled` is set to `true`.

```
"Polaris": {
  "CachePermissions": true,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "ClientID": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "Authority": "https://dev-fs.polarislibrary.com/adfs/",
    "Audience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "ValidIssuer": "http://dev-fs.polarislibrary.com/adfs/services/trust",
    "ValidAudience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token"
  },
```

Update the Client ID

1. On the AD FS server, open AD FS Management desktop application.



2. Copy the client ID from the Polaris - Native application properties dialog.
3. Paste the copied client ID into the appsettings.user.json file.
4. If you started from the template, replace `[client-id-that-might-look-like-a-guid]` with the copied client ID.

   It should look like the following image when complete (your client ID will be different):

```
"Polaris": {
  "CachePermissions": true,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "ClientID": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "Authority": "https://dev-fs.polarislibrary.com/adfs/",
    "Audience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "ValidIssuer": "http://dev-fs.polarislibrary.com/adfs/services/trust",
    "ValidAudience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token"
  },
```

Update the AD FS Server Location

1. If you started from the template, replace *[my-adfs-server-domain-name]* with the AD FS server address.
2. It should look like the following when complete (your AD FS server address will be different):

```
"Polaris": {
  "CachePermissions": true,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "ClientID": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "Authority": "https://dev-fs.polarislibrary.com/adfs/",
    "Audience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "ValidIssuer": "http://dev-fs.polarislibrary.com/adfs/services/trust",
    "ValidAudience": "microsoft:identityserver:0a586b1e-eeb0-4c8a-8381-50e9cafec240",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token"
  },
```

Set Up PolarisAdmin

To set up PolarisAdmin

> **Note:**
> When you edit the appsettings.user.json file, you must run the editing application (for example, Notepad) as administrator.

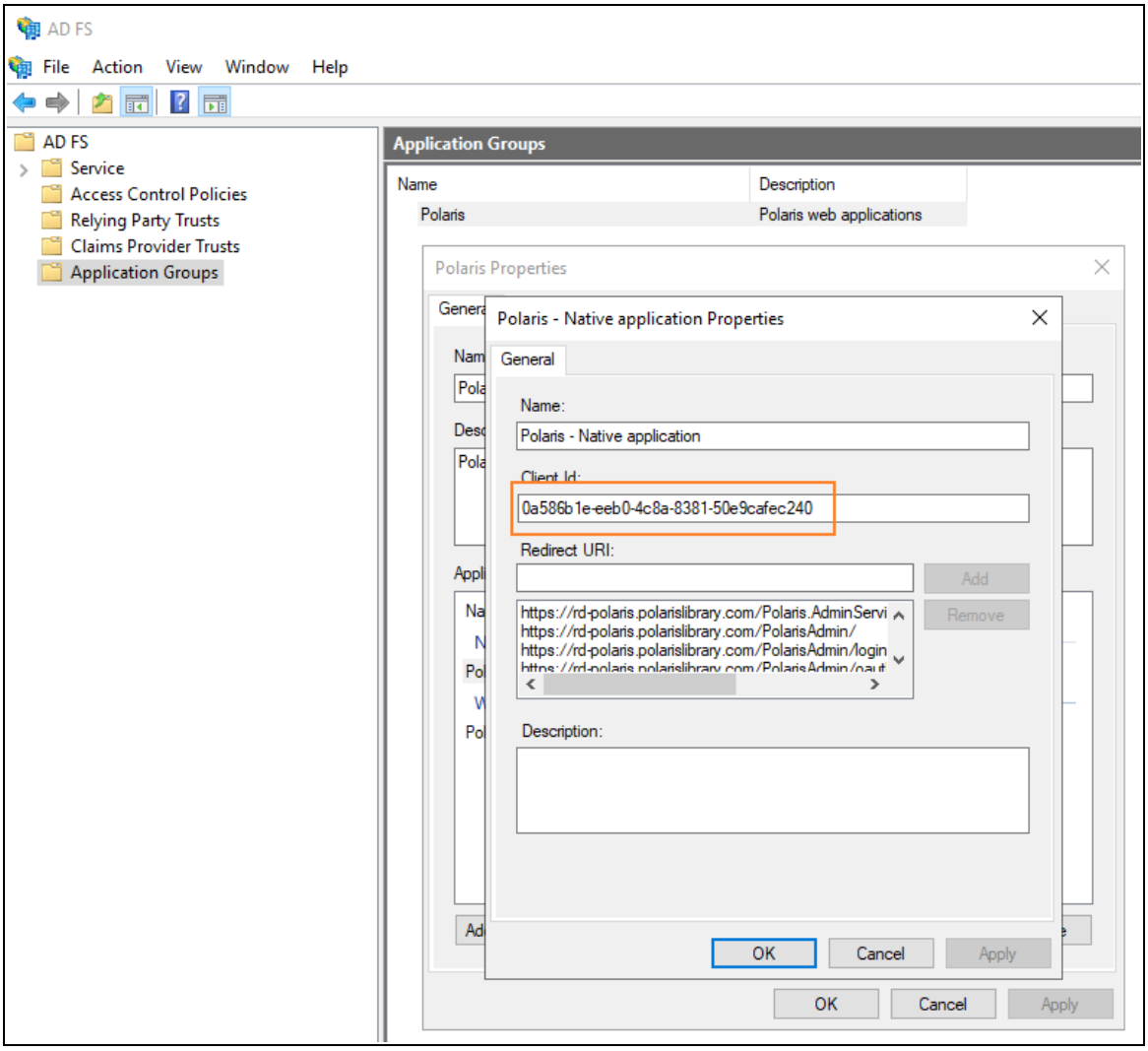
Verify that OAuth is Enabled

- Open C:\Program Files\Polaris\7.3\PolarisAdmin\assets\appsettings.user.json and verify that `oauthEnabled` is set to `true`.

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

Update the Client ID

1. On the AD FS server, open AD FS Management desktop application.



2. Copy the client ID from the Polaris - Native application Properties dialog.
3. Paste the copied client ID into the appsettings.user.json file.
4. If you started from the template, replace *[CLIENTID-ASSIGNED-IN-ADFS]* with the copied client ID.

   It should look like the following when complete (your client ID will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

Update AD FS Server Location

- If you started from the template, replace *[ADFS-SERVER-ADDR]* with the AD FS server address.

  It should look like the following when complete (your AD FS server address will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

Update Polaris Admin Server Location

- If you started from the template, replace *[POLADMIN-SERVER-ADDR]* with the AD FS server address.

  It should look like the following image when complete (your AD FS server address will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

Update Polaris Admin Services (API) Server Location

- If you started from the template, replace *[POLADMINSVC-SERVER-ADDR]* with the AD FS server address.

  It should look like the following image when complete (your AD FS server address will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

Set Up Polaris.ApplicationServices

To set up Polaris.ApplicationServices

> **Note:**
> When you edit the appsettings.user.json file, you must run the editing application (for example, Notepad) as administrator.

Verify that OAuth Is Enabled

- Open C:\Program Files\Polaris\7.3\Polaris.ApplicationServices\appsettings.user.json and verify that `OAuth.Enabled` is set to `true`.

```
"OAuth": {
  "Enabled": true,
  "Authorities": [
    {
      "Name": "ADFS",
      "Authority": "https://dev-fs.polarislibrary.com/adfs/",
      "Audience": "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
      "MetaAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
      "RequireHttpsMetadata": true,
      "RequireSignedTokens": true,
      "ValidateIssuer": true,
      "ValidIssuers": [
        "https://dev-fs.polarislibrary.com/adfs",
        "http://dev-fs.polarislibrary.com/adfs/services/trust"
      ],
      "ValidateAudience": true,
      "ValidAudiences": [
        "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
        "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a"
      ],
      "ClaimTypeUPN": "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn"
    }
  ],
  "Swagger": {
    "ClientID": "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
    "AppName": "Polaris.ApplicationServices",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "RefreshTokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "LogoutUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/logout"
  }
},
```

Update the AD FS Server Location

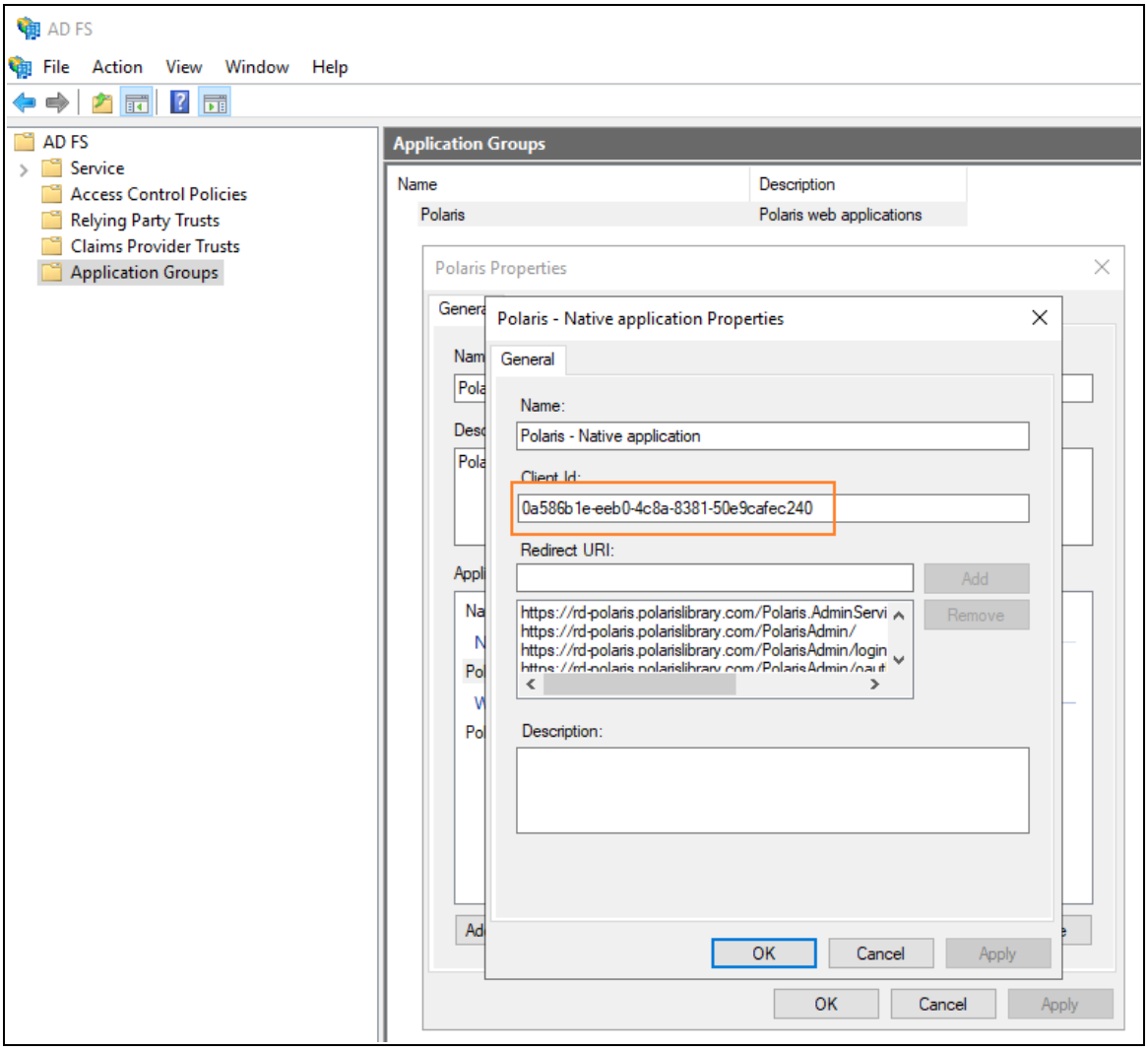
- If you started from the template, replace *adfs-server-address* with the AD FS server address.

  It should look like the following when complete (your AD FS server address will be different):

```
"OAuth": {
  "Enabled": true,
  "Authorities": [
    {
      "Name": "ADFS",
      "Authority": "https://dev-fs.polarislibrary.com/adfs/",
      "Audience": "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
      "MetaAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
      "RequireHttpsMetadata": true,
      "RequireSignedTokens": true,
      "ValidateIssuer": true,
      "ValidIssuers": [
        "https://dev-fs.polarislibrary.com/adfs",
        "http://dev-fs.polarislibrary.com/adfs/services/trust"
      ],
      "ValidateAudience": true,
      "ValidAudiences": [
        "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
        "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a"
      ],
      "ClaimTypeUPN": "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn"
    }
  ],
  "Swagger": {
    "ClientID": "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
    "AppName": "Polaris.ApplicationServices",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "RefreshTokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "LogoutUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/logout"
  }
},
```

Update the Client ID

1. On the AD FS server, open the AD FS Management desktop application.



2. Copy the client ID from the Polaris - Native application Properties dialog.
3. Paste the copied client ID into the appsettings.user.json file.
4. If you started from the template, replace `client-id-configured-in-adfs` with the copied client ID.

   It should look like the following when complete (your client ID will be different):

```
"OAuth": {
  "Enabled": true,
  "Authorities": [
    {
      "Name": "ADFS",
      "Authority": "https://dev-fs.polarislibrary.com/adfs/",
      "Audience": "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
      "MetaAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
      "RequireHttpsMetadata": true,
      "RequireSignedTokens": true,
      "ValidateIssuer": true,
      "ValidIssuers": [
        "https://dev-fs.polarislibrary.com/adfs",
        "http://dev-fs.polarislibrary.com/adfs/services/trust"
      ],
      "ValidateAudience": true,
      "ValidAudiences": [
        "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
        "microsoft:identityserver:3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a"
      ],
      "ClaimTypeUPN": "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn"
    }
  ],
  "Swagger": {
    "ClientID": "3eb2a79f-db5a-4ba0-b22f-e7d16a616d4a",
    "AppName": "Polaris.ApplicationServices",
    "AuthorizationUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/authorize",
    "TokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "RefreshTokenUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/token",
    "LogoutUrl": "https://dev-fs.polarislibrary.com/adfs/oauth2/logout"
  }
},
```

Set Up LeapWebApp

To set up LeapWebApp

> **Note:**
> When you edit the appsettings.user.json file, you must run the editing application (for example, Notepad) as administrator.

Verify that OAuth Is Enabled

- Open C:\Program Files\Polaris\7.3\LeapWebApp\appsettings.user.json and verify that `OAuthEnabled` is set to `true`.

```
"OAuthEnabled": true,
"OAuth": {
  "Authority": "https://dev-fs.polarislibrary.com/adfs/",
  "ClientSecret": null,
  "MetadataAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
  "KnownAuthorities": [ "dev-fs.polarislibrary.com" ],
  "CallbackPath": "/signin-oidc",
  "SignedOutCallbackPath": "/signout-callback-oidc",
  "SignedOutRedirectUri": "/login",
  "RemoteAuthenticationTimeout": 15,
  "RemoteFailureRedirectUri": "/leapwebapp/logout",
  "ResponseMode": "form_post",
  "ResponseType": "code id_token token",
  "UsePkce": true
  "UsePkce": true
},
```

Update the AD FS Server Location

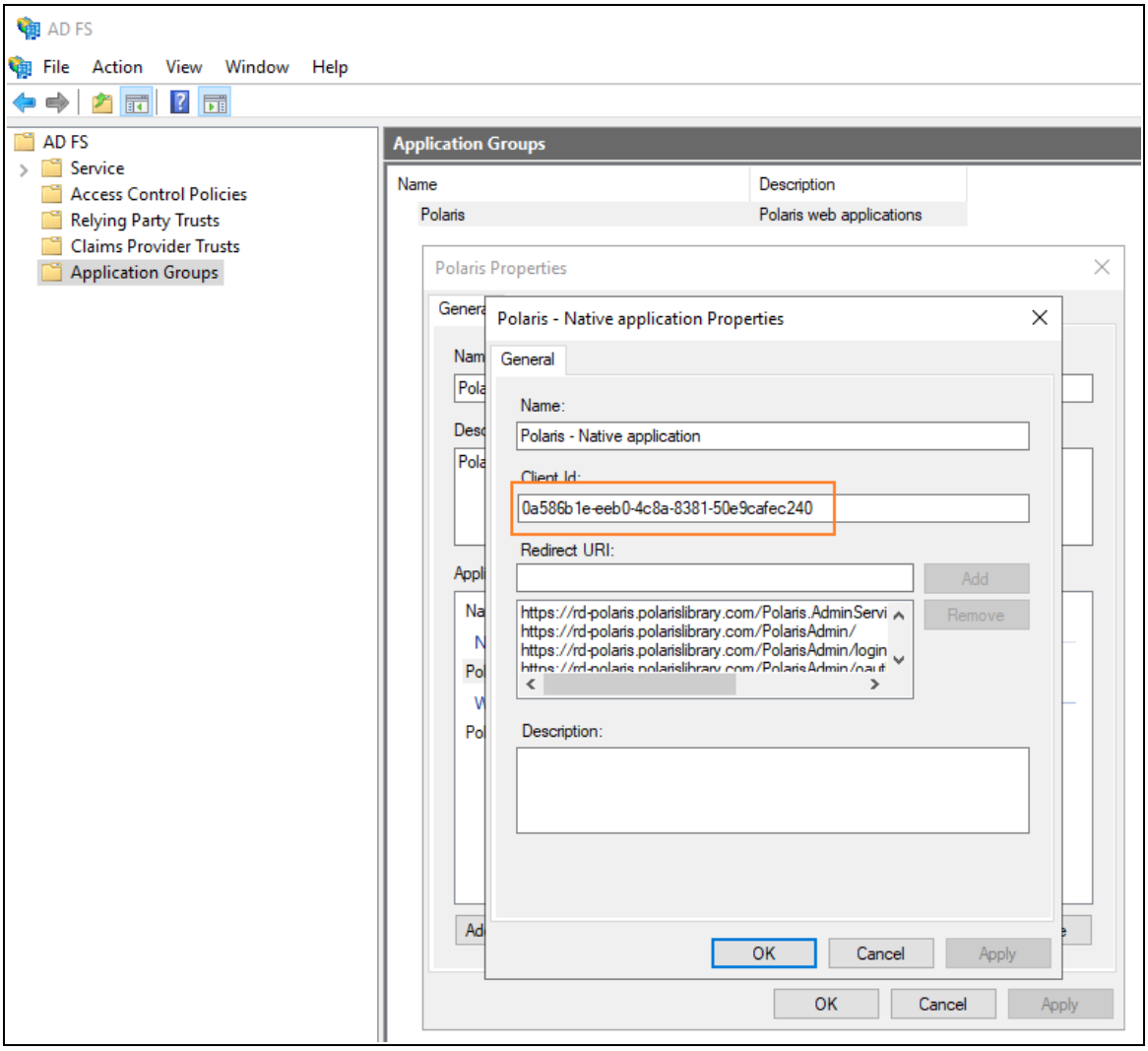
- If you started from the template, replace *[adfs-server-address]* with the AD FS server address.

  It should look like the following when complete (your AD FS server address will be different):

```
"OAuthEnabled": true,
"OAuth": {
  "Authority": "https://dev-fs.polarislibrary.com/adfs/",
  "ClientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
  "ClientSecret": null,
  "MetadataAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
  "KnownAuthorities": [ "dev-fs.polarislibrary.com" ],
  "CallbackPath": "/signin-oidc",
  "SignedOutCallbackPath": "/signout-callback-oidc",
  "SignedOutRedirectUri": "/login",
  "RemoteAuthenticationTimeout": 15,
  "RemoteFailureRedirectUri": "/leapwebapp/logout",
  "ResponseMode": "form_post",
  "ResponseType": "code id_token token",
  "UsePkce": true
},
```

Update the Client ID

1. On the AD FS server, open the AD FS Management desktop application.



2. Copy the client ID from the Polaris - Native application Properties dialog.
3. Paste the copied client ID into the appsettings.user.json file.
4. If you started from the template, replace `client-id-configured-in-adfs` with the copied client ID.

   It should look like the following when complete (your client ID will be different):

```
"OAuthEnabled": true,
"OAuth": {
  "Authority": "https://dev-fs.polarislibrary.com/adfs/",
  "ClientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
  "ClientSecret": null,
  "MetadataAddress": "https://dev-fs.polarislibrary.com/adfs/.well-known/openid-configuration",
  "KnownAuthorities": [ "dev-fs.polarislibrary.com" ],
  "CallbackPath": "/signin-oidc",
  "SignedOutCallbackPath": "/signout-callback-oidc",
  "SignedOutRedirectUri": "/login",
  "RemoteAuthenticationTimeout": 15,
  "RemoteFailureRedirectUri": "/leapwebapp/logout",
  "ResponseMode": "form_post",
  "ResponseType": "code id_token token",
  "UsePkce": true
},
```

(Optional) Disable Permission Overrides in Leap

By default, permission overrides are enabled in Leap.

To disable permission overrides

- Add the following value to the root level object in the .json file:

  `"client_permissionoverride_enabled": "false",`

> **Note:**
> If you disable permission overrides in Leap, we recommend that you also update the language string that controls the title of the Permission Override dialog. For more information, search for the SW_CI_PERMISSION_OVRRD_TTL language string in the Polaris Web Admin Tool (Language Editor) Guide.

Enable Session Storage for LeapWebApp

Enable session storage for the best user experience when using OAuth and OIDC.

Microsoft SQL Server Express 2019 (or a newer version) must be installed to use session storage. You install SQL Server Express separately. It is not part of the Leap installation.

To enable session storage

- Open C:\Program Files\Polaris\7.3\LeapWebApp\appsettings.user.json and set `SessionStore.Enabled` to `true`.

Note:
You must run the editing application (for example, Notepad) as administrator.

```
"SessionStore": {
  "Enabled": true,
  "ConnectionString": "Data Source=.\\Polaris; Initial Catalog=PolarisCache; Integrated Security=True;",
  "SessionTimeoutMinutes": "1440",
  "SchemaName": "dbo",
  "TableName": "Sessions"
},
```

Customize the AD FS Pages

Use the following resources to customize AD FS pages:

- https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/dn280950(v=ws.11)
  - Get-AdfsGlobalWebContent
  - Set-AdfsGlobalWebContent

    Examples:
    Customize the examples below to suit your library's needs.

    ```
    PS C:\Windows\system32> Set-AdfsGlobalWebContent -SignOutPageDescriptionText "You have successfully signed out.<br>If you have been directed here immediately after signing in, your session may have timed out."

    PS C:\Windows\system32> Set-AdfsWebTheme -TargetName default -Logo @{path="c:\ADFS Custom\leap_logo.png"}

    PS C:\Windows\system32> Set-AdfsGlobalWebContent -CompanyName "Polaris R&D"
    ```

- Advanced customization:
  - https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/dn636121(v=ws.11)

Change the Access Token Lifetime

The default token lifetime for both access and ID tokens is 60 minutes. Execute the following command to increase the expiration time to 24 hours:

```
Set-AdfsWebApiApplication -TokenLifetime 1440 -TargetIdentifier
"0a586b1e-eeb0-4c8a-8381-50e9cafec240"
```

> **Note:**
> Replace *TargetIdentifier* with the Polaris Application Group native application client ID.

Bind a New SSL Certificate

If your web server certificate expires, use the instructions below to bind a new SSL certificate.

To bind a new SSL certificate

1. Install the certificate using Certificates Management.
2. Set the service communications certificate using the AD FS Management Console:
    a. Expand the Services folder.
    b. Select a new certificate.
    c. Restart the AD FS service.
3. Attach the certificate to AD FS using PowerShell:
    a. Get the certificate's thumbprint by viewing the certificate.

    ```
    c:\> Set-AdfsSslCertificate –Thumbprint
    e8fd5016542796214e94f72d76095f9fc587c731
    ```

    b. Restart the AD FS service.

Troubleshoot

Force a logout

- https://*AD FS server address*/adfs/oauth2/logout

> **Note:**
> Replace *AD FS server address* with your library's AD FS server address.

AD FS in one-way trust

Problem: Only local accounts are authenticating

Solution: Make sure the account running the AD FS service is a parent domain account and not a local account.

Receiving "User is not a valid Polaris user." error

- Check the setting Polaris.OAuth.ValidIssuer in the Polaris.AdminServices appsettings.user.json file.

  Example value: http://*AD FS server address*/adfs/services/trust

  > **Note:**
  > Replace *AD FS server address* with your library's AD FS server address.

- Verify a domain is attached to AD user accounts so the UPN claim can be added to the ID token's claims.

  The UPN claim should look like user@mydomain.com.

Troubleshoot Redirect URIs

Redirect URIs are case-sensitive.

Configuring Azure AD

Important:

The mechanism used to connect an Azure AD user to a Polaris user is the user principal name (UPN) in the format of an email address. For example, user@mydomain.com.

During the account verification process, we use the `openid` and `profile` scopes, which triggers Azure AD to return the `upn` claim or the `preferred_username` claim (or both). These must be returned in the name@domain format. The Polaris.ApplicationServices (API) can then use that information to map the Azure AD user to a Polaris user. If the `preferred_username` is a generic name, phone number, or other value, you can choose to apply the `email` scope to return the email.

See Configure LeapWebApp for Use with Azure AD for more information.

To configure Polaris OAuth support with Azure AD, perform the following tasks:

1. Register LeapWebApp with Azure AD.
2. Create client credentials.
3. Add authentication redirect URIs.
4. Expose the Polaris.ApplicationServices API.
5. Configure an ID token.
6. Set up users and groups.
7. Control access to LeapWebApp using Azure AD.
8. Set up web services and applications.

After you complete these tasks, Add a URL rewrite rule for LeapWebApp.

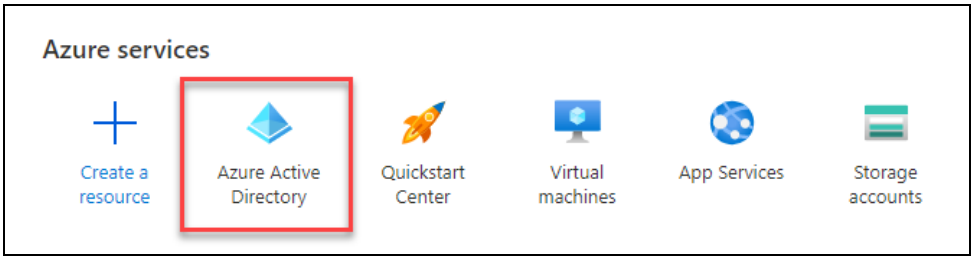
Register LeapWebApp with Azure AD

To register LeapWebApp with Azure AD

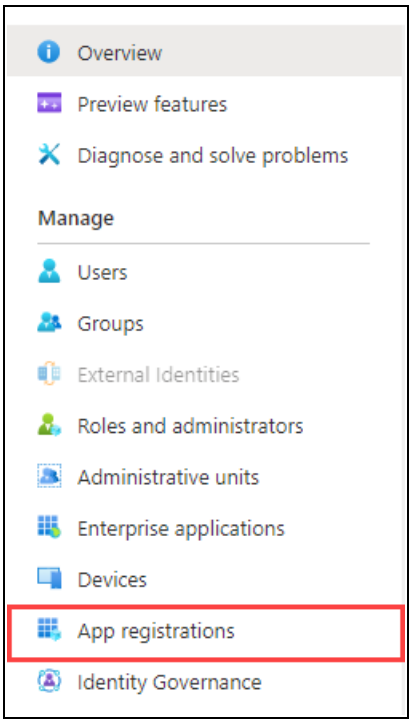
1. Sign in to the Azure portal:

   https://portal.azure.com/

2. In the **Azure services** list, select **Azure Active Directory**.



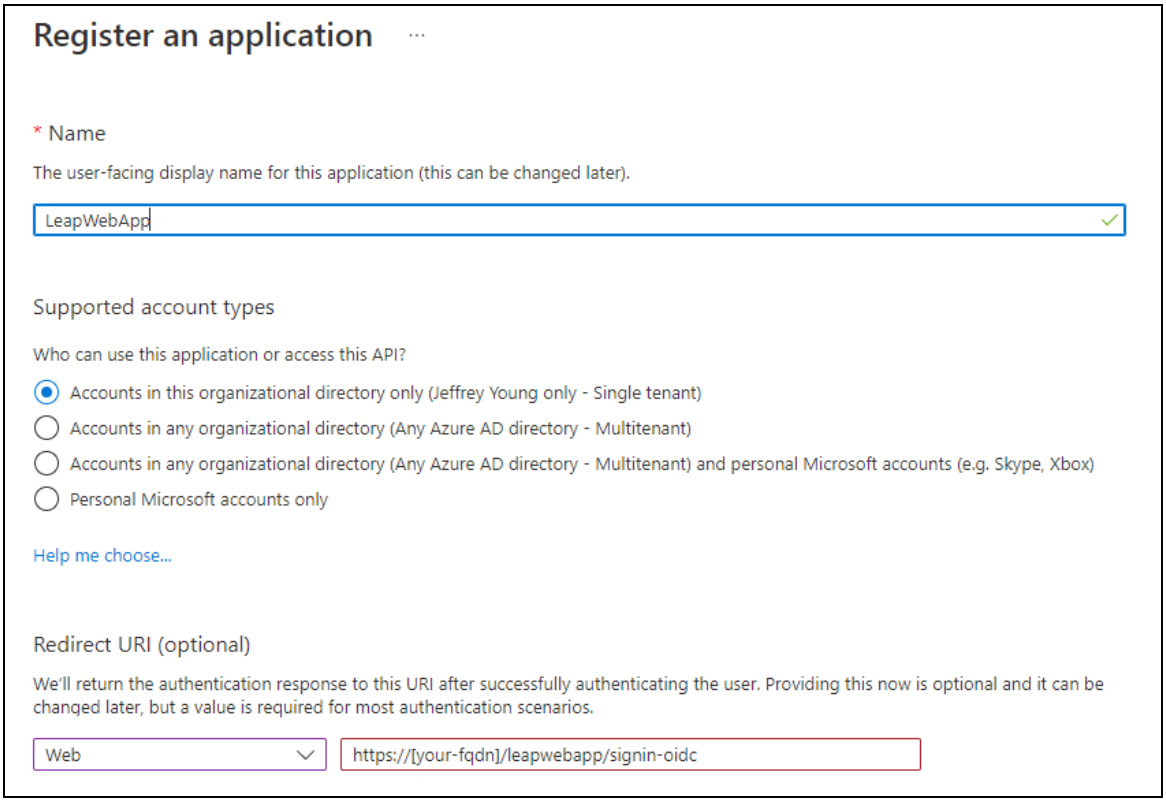
3. In the list of options at the left side of the screen, select **App registrations**.



   The App registrations page appears.

4. Select **New registration**.

   The Register an application dialog appears.



5. Enter "LeapWebApp" in the **Name** field.
6. Select an option from the **Supported account types** list.
7. Add a redirect URI:
    a. Select the **Web** URI type.
    b. Enter an address that uses the following format:

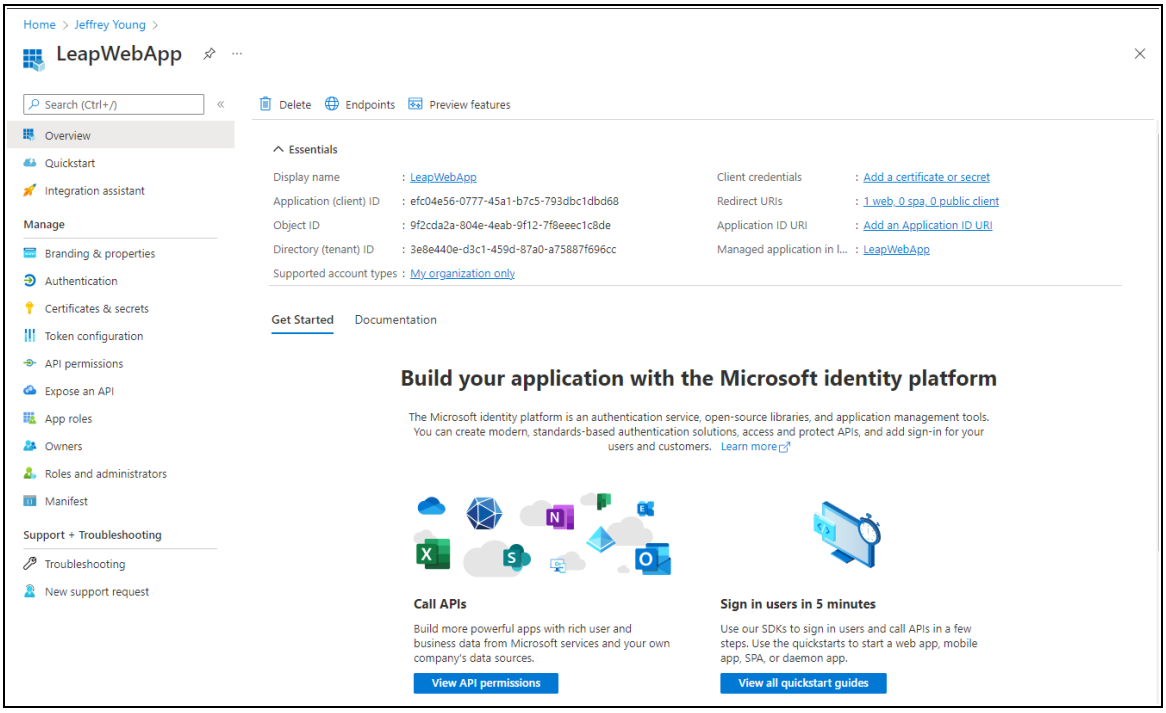
    https://*[FQDN]*/leapwebapp/signin-oidc

    Notes:

    - Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
    - Example: https://leap.mylibrary.org/leapwebapp/signin-oidc

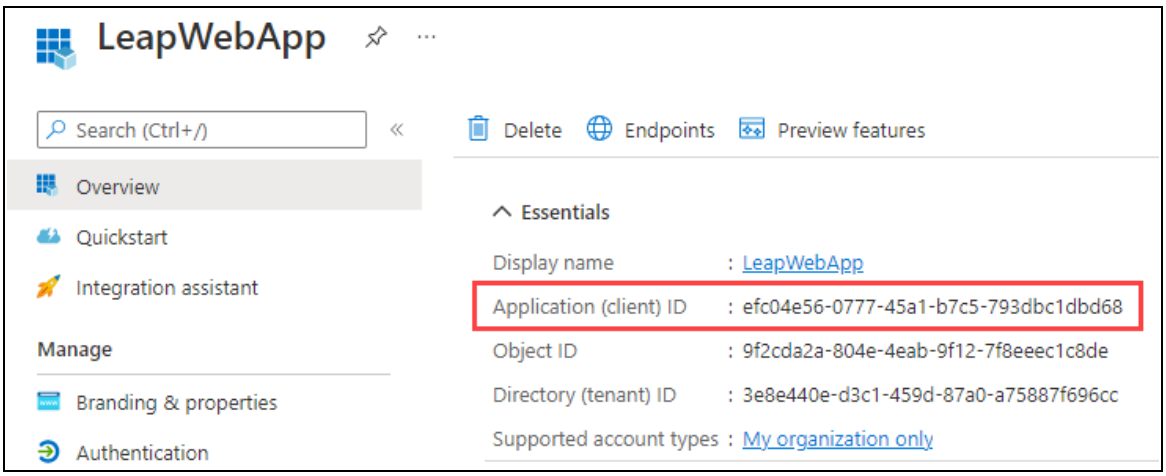
8. Select **Register**.

    The page for your new LeapWebApp application appears.



9. Copy the application (client) ID and paste it into Notepad (or a similar text editor) and save the file. You must have this value to complete several procedures later in the Azure AD configuration process.

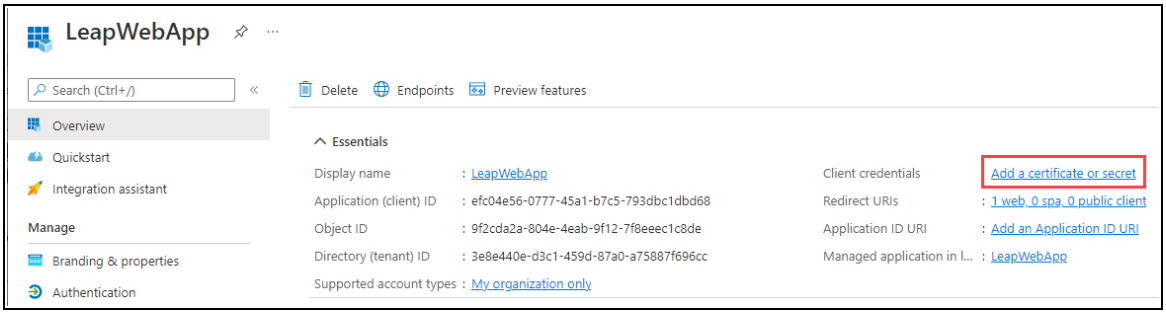
   In the example below, the application (client) ID is "efc04e56-0777-45a1-b7c5-793dbc1dbbd68".



Create Client Credentials

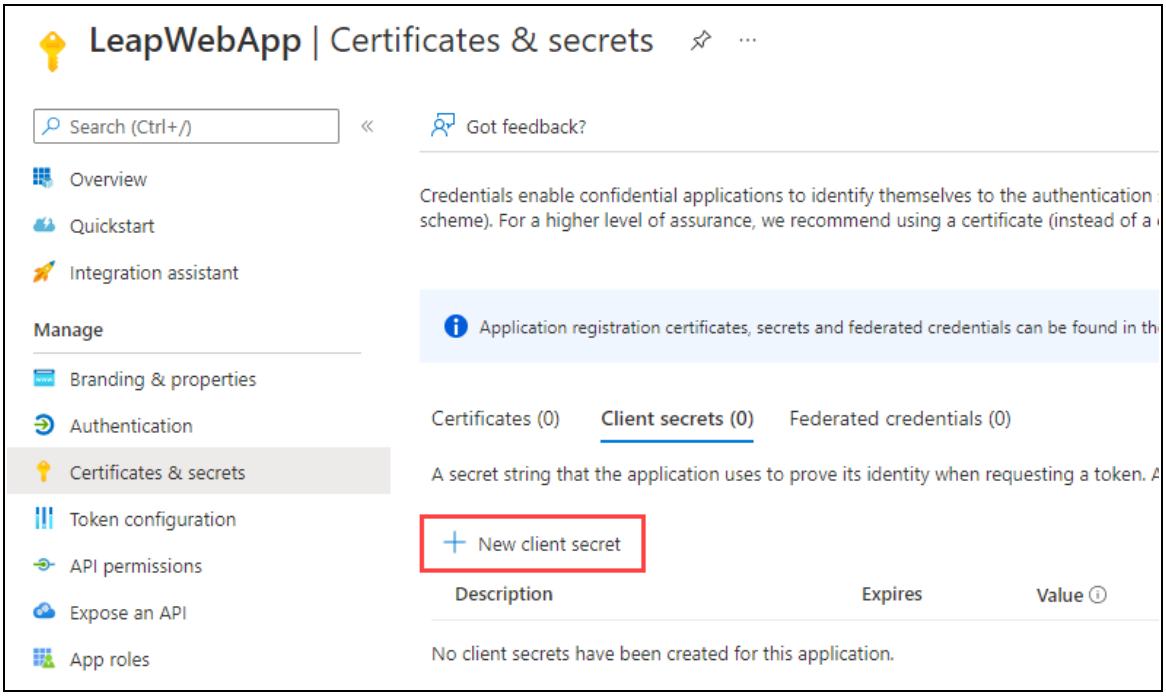
To create client credentials for LeapWebApp

1. On the LeapWebApp page, select **Add a certificate or secret**.



   The Certificates & secrets page appears.

2. Select the **Client secrets** tab.
3. Select **New client secret**.



   The Add a client secret dialog appears.

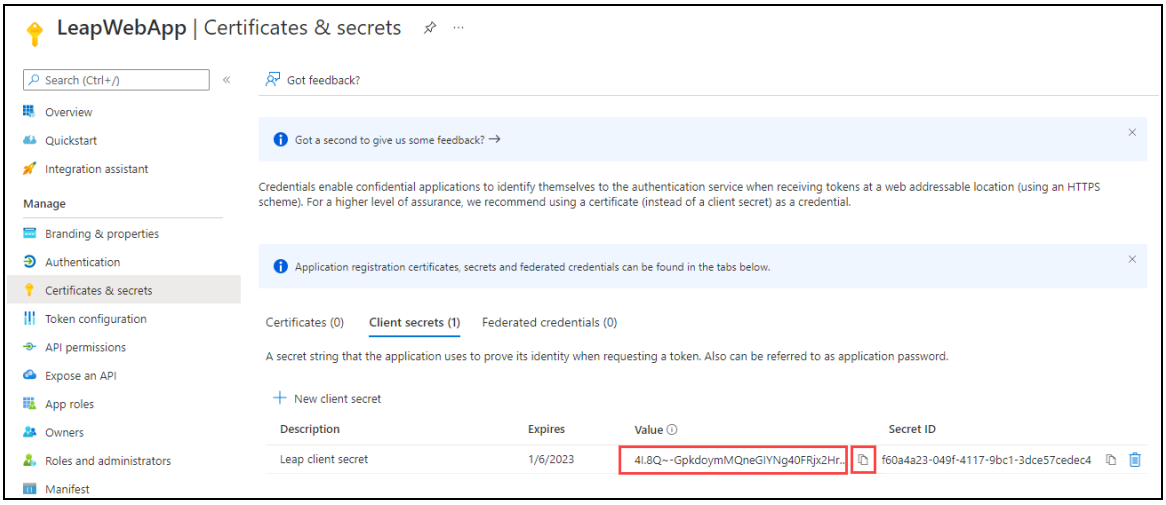
4. Enter a description in the **Description** field.
5. Select an option from the **Expires** list to specify when the client credentials expire.
6. Select **Add**.

   The Add a client secret dialog closes. The client secret for LeapWebApp appears on the **Client secrets** tab of the Certificates & secrets page.
7. Copy the text in the **Value** column, then paste it into Notepad (or a similar text editor) and save the file. You must have this value to complete the Configure LeapWebApp for Use with Azure AD procedure.

   Important:

   - You must save this value now. Only a portion of the value appears when you return to the page later.
   - Use the copy icon to be sure that you are copying the entire value.

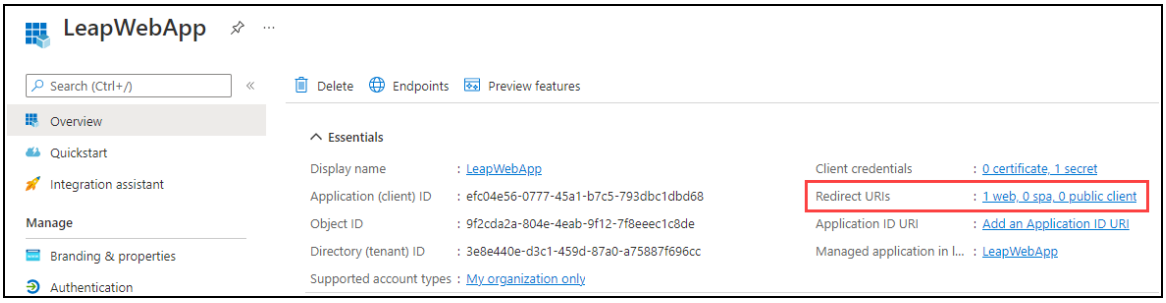
   In the example below, the value is "4I.8Q~-GpkdoymMQneGIYNg40FRjx2Hr1wWLDcbr".



Add Authentication Redirect URIs

To add authentication redirect URIs

1. On the LeapWebApp page, select the link beside **Redirect URIs**.



   The Authentication page appears.

2. Select **Add a platform**.

   The Configure platforms dialog appears.

3. Select the **Single-page application** tile.

   The Configure single-page application dialog appears.

4. In the **Redirect URIs** field, enter an address that uses the following format:

   https://*[FQDN]*/leapwebapp/signin-override-oidc

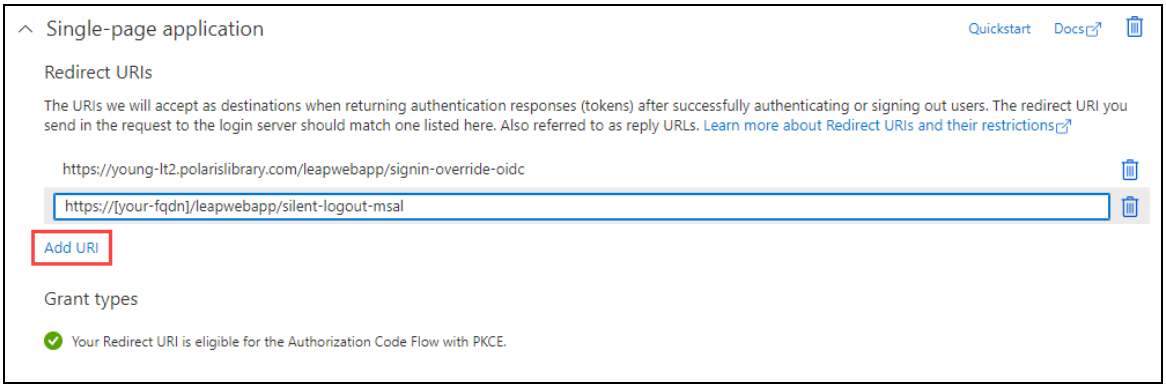
   Notes:

   - Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
   - Example: https://leap.mylibrary.org/leapwebapp/signin-override-oidc

5. Select **Configure**.

   The new redirect URI appears on the Authentication page in the **Single-page application** list.

6. Select **Add URI**.



7. Enter an address that uses the following format:

   https://*[FQDN]*/leapwebapp/silent-logout-msal

   Notes:

   - Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
   - Example: https://leap.mylibrary.org/leapwebapp/silent-logout-msal

8. Select **Add URI** again.
9. Enter an address that uses the following format:

   https://*[FQDN]*/Polaris.ApplicationServices/swagger/oauth2-redirect.html

   Notes:

   - Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
   - Example: https://leap.mylibrary.org/Polaris.ApplicationServices/swagger/oauth2-redirect.html

10. Select **Add URI** again.
11. Enter an address that uses the following format:

    https://*[FQDN]*/PolarisAdmin/oauth-success

    Notes:

- Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
- Example: https://leap.mylibrary.org/PolarisAdmin/oauth-success

12. Select **Add URI** again.
13. Enter an address that uses the following format:

    https://*[FQDN]*/Polaris.AdminServices/swagger/oauth2-redirect.html

    Notes:

    - Replace *[FQDN]* with the fully-qualified domain name of your LeapWebApp server.
    - Example: https://leap.mylibrary.org/Polaris.AdminServices/swagger/oauth2-redirect.html

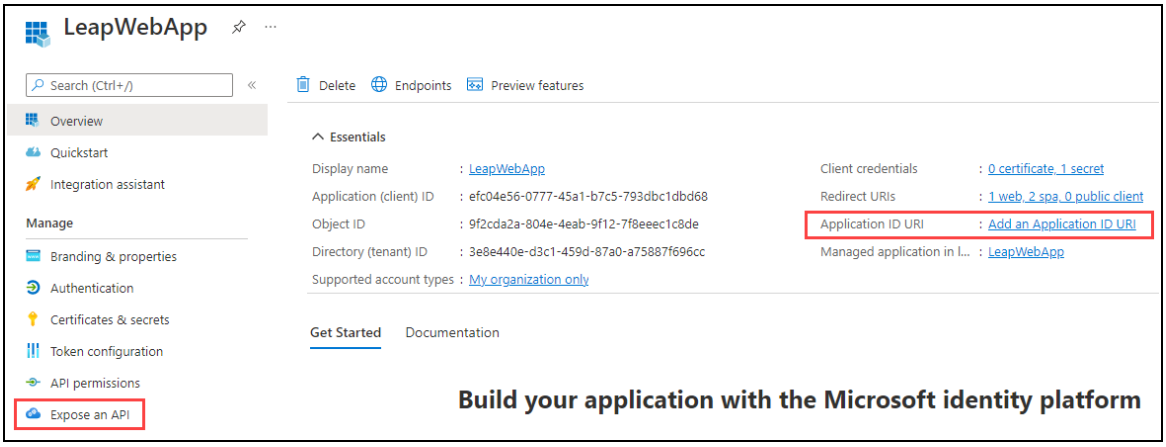
14. Select **Save** to save the five redirect URIs.

Expose the Polaris.ApplicationServices API

To expose the Polaris.ApplicationServices API

1. On the LeapWebApp page, select **Add an Application ID URI**.

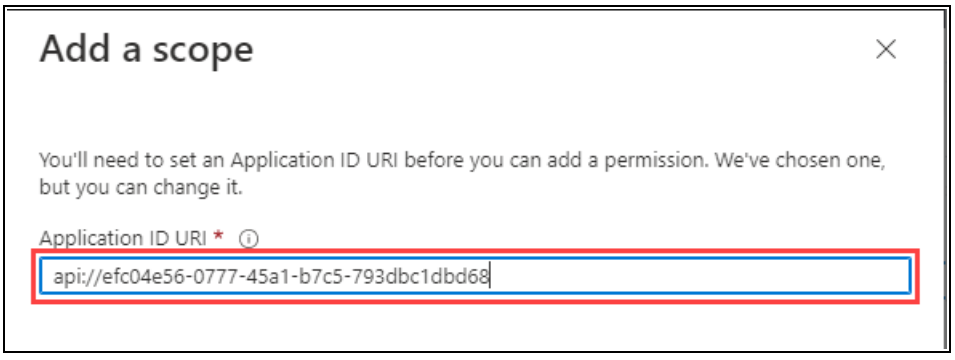
   > **Note:**
   > You can also select **Expose an API** in the list of options at the left side of the screen.



   The Expose an API page appears.

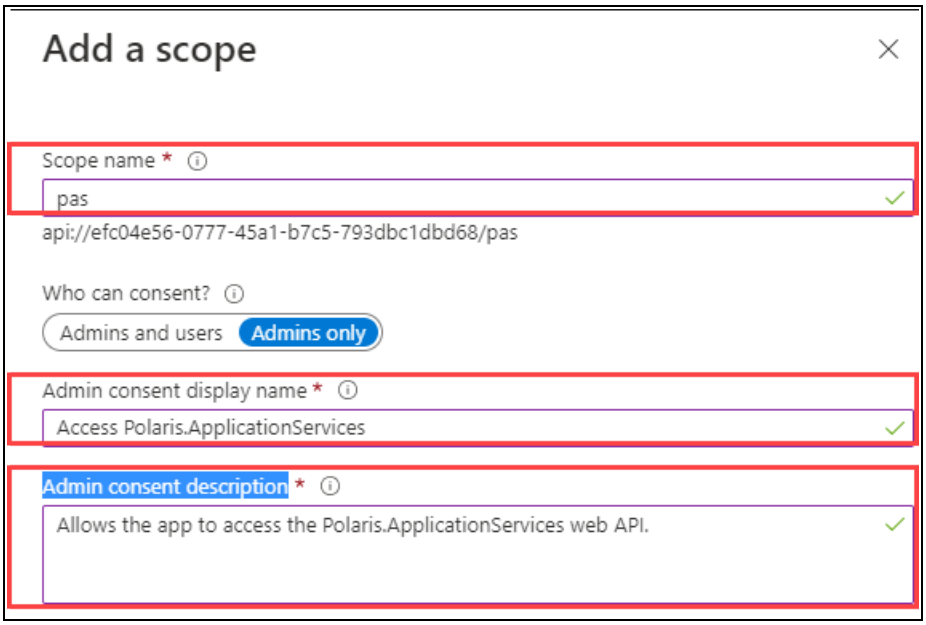
2. Select **Add a scope**.

   The Add a scope dialog appears. The **Application ID URI** field contains an automatically-generated URI.



3. Select **Save and continue**.

The Add a scope dialog refreshes.



4. Enter "pas" in the **Scope name** field.
5. Enter "Access Polaris.ApplicationServices" in the **Admin consent display name** field.
6. Enter "Allows the app to access the Polaris.ApplicationServices web API." in the **Admin consent description** field.
7. Select **Add scope**.

   The Azure portal saves the scope and closes the Add a scope dialog.
8. On the Expose an API page, select **Add a client application**.

   The Add a client application dialog appears.

9. In the **Client ID** field, enter the Application (client) ID that you copied and saved during the Register LeapWebApp with Azure AD procedure.
10. Select the **Authorized scopes** checkbox.
11. Select **Add application**.

    The Azure portal saves your changes and closes the Add a client application dialog.
12. On the Expose an API page, copy the new scope, then paste it into Notepad (or a similar text editor) and save the file. Your value will be similar to this one:

    api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas

    You must have this value to complete two procedures later in the Azure AD configuration process.

Configure an ID Token

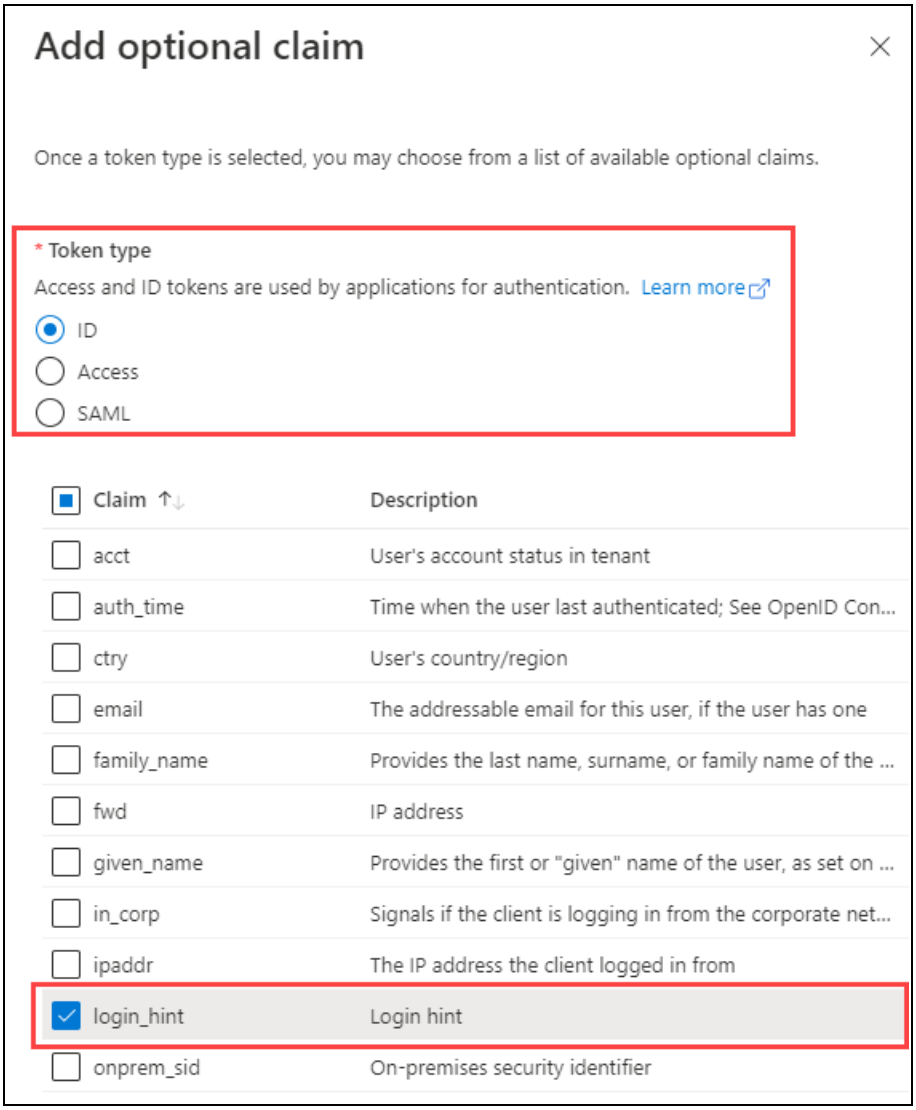
To allow Leap to sign out of specific accounts, you must add an ID token that contains the login_hint claim.

To configure an ID token

1. On the LeapWebApp Overview page, select **Token configuration** from the list of options at the left side of the screen.

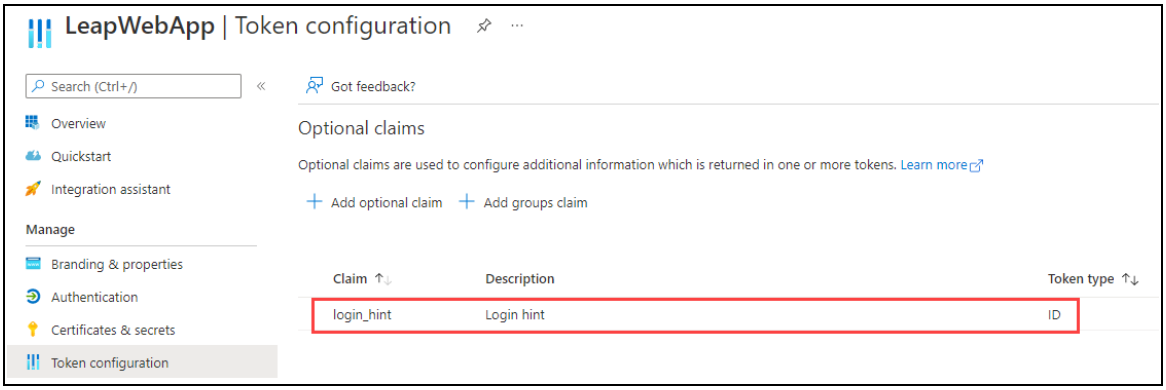
   The Token configuration page appears.
2. Select **Add optional claim**.

   The Add optional claim dialog appears.



3. Set the **Token type** setting to the **ID** option.
4. Select the **login_hint** checkbox.
5. Select **Add**.

   The Azure portal saves the token and closes the Add optional claim dialog.
6. Verify that the new login_hint claim appears on the Token configuration page.



Set Up Users and Groups

To set up users and groups

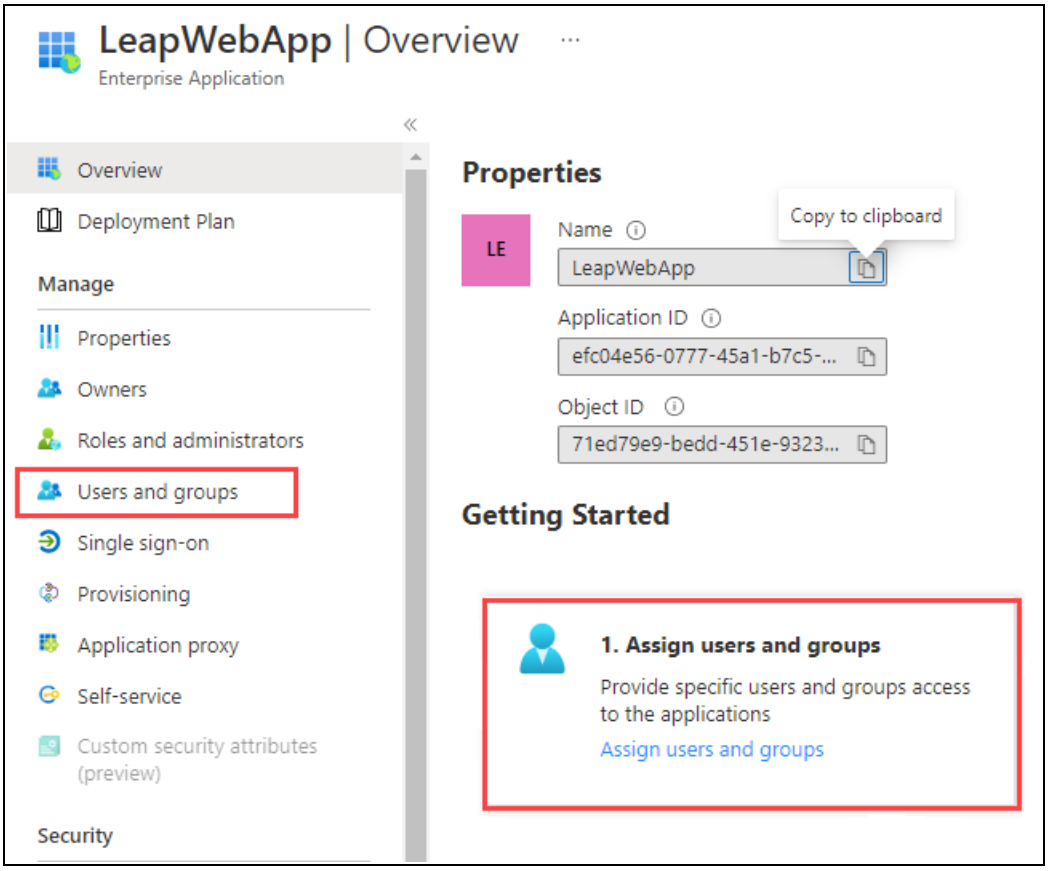
1. On the Azure AD Overview page, select the **Enterprise applications** option from the list at the left side of the screen.

   > **Note:**
   > You can also select **Enterprise applications** from the list of services on the Azure portal home page.

   The All applications page appears.

2. Select the **LeapWebApp** link.

   The LeapWebApp Overview page appears.



3. Select the **Users and groups** option from the list at the left side of the screen. You can also select the **Assign users and groups** tile.

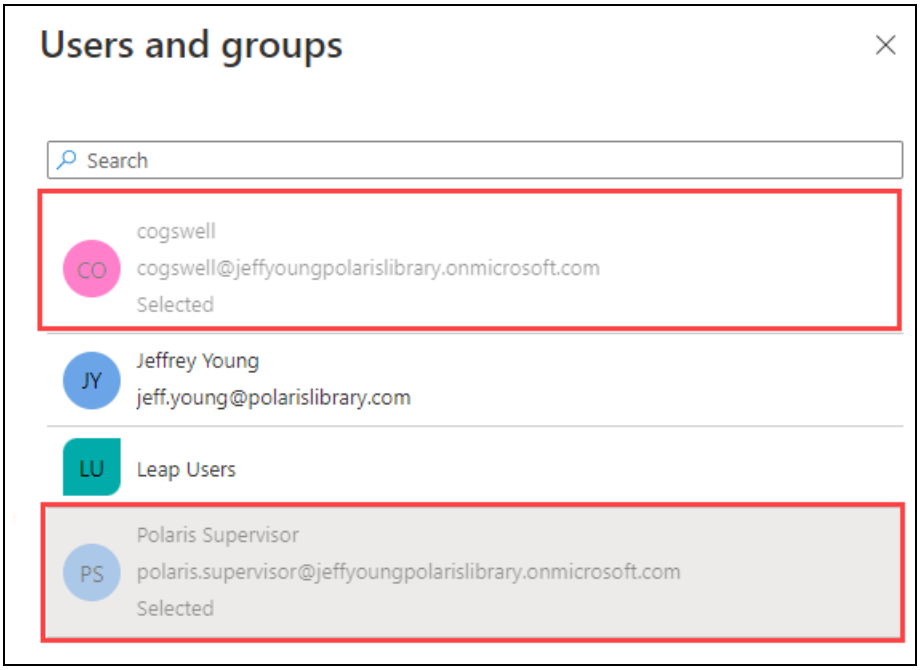
   The Users and groups page appears.

4. Select **Add user/group**.

   The Add Assignment page appears.

5. Select the **None Selected** link.

   The Users and groups dialog appears.



6. Select the users and groups that you want to allow access to LeapWebApp.
7. Click **Select**.

   The Users and groups dialog closes.
8. On the Add Assignment page, select **Assign**.

   The Azure portal saves the user and group assignments.

Control Access to LeapWebApp Using Azure AD

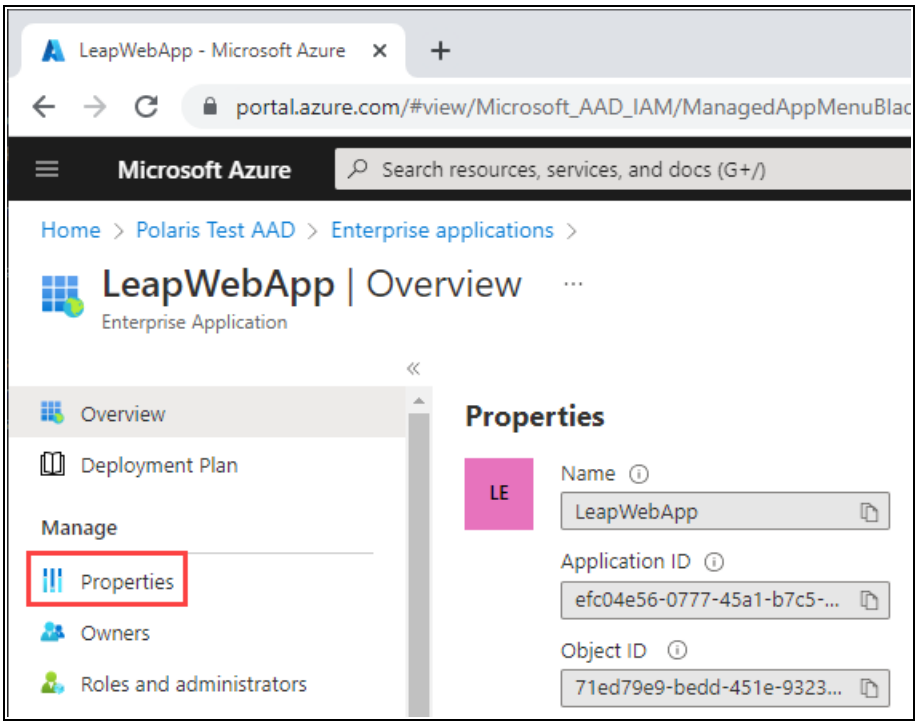
To control access to LeapWebApp using Azure AD

1. On the Azure AD Overview page, select the **Enterprise applications** option from the list at the left side of the screen.

   > **Note:**
   > You can also select **Enterprise applications** from the list of services on the Azure portal home page.

   The All applications page appears.
2. Select the **LeapWebApp** link.

The LeapWebApp Overview page appears.

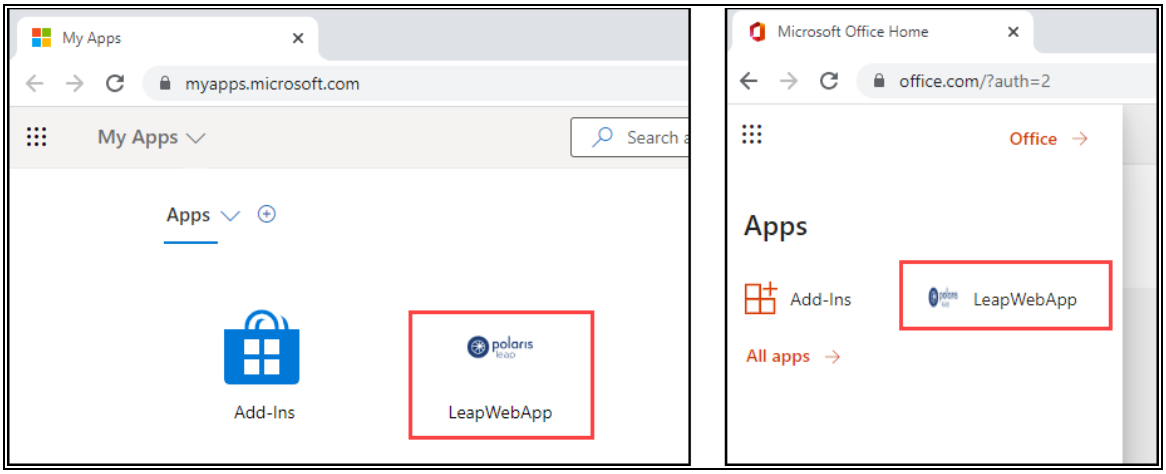


3. Select the **Properties** option from the list at the left side of the screen.

   The Properties page appears.

4. Set the **Assignment requirement?** setting to **Yes**. This allows access to be controlled by the users and groups assigned to the LeapWebApp enterprise application. (When it is set to **No**, all users can sign in.)

5. Set the **Visible to users?** setting to **Yes**. This makes the LeapWebApp application visible to users in their Microsoft My Apps portal and on their Office 365 page.



Important:
When a user accesses LeapWebApp from the Microsoft My Apps portal or their Office 365 page, they might have to click the Polaris Leap Sign In button. This is because cookies are a part of the Leap authentication process.

6. Select **Save**.

   The Azure portal saves your changes.

Set Up Web Services and Applications

To set up each of the following web services and applications, you must configure a .json file for each of the following:

- LeapWebApp (Leap)
- Polaris.ApplicationServices (Leap's API service)
- PolarisAdmin (the web-based Polaris System Administration application)
- Polaris.AdminServices (the API service)

The four .json files are named appsettings.user.json, but they reside in different directories:

- C:\Program Files\Polaris\7.3\LeapWebApp
- C:\Program Files\Polaris\7.3\Polaris.ApplicationServices

- C:\Program Files\Polaris\7.3\PolarisAdmin\assets
- C:\Program Files\Polaris\7.3\Polaris.AdminServices

This section contains the following topics:

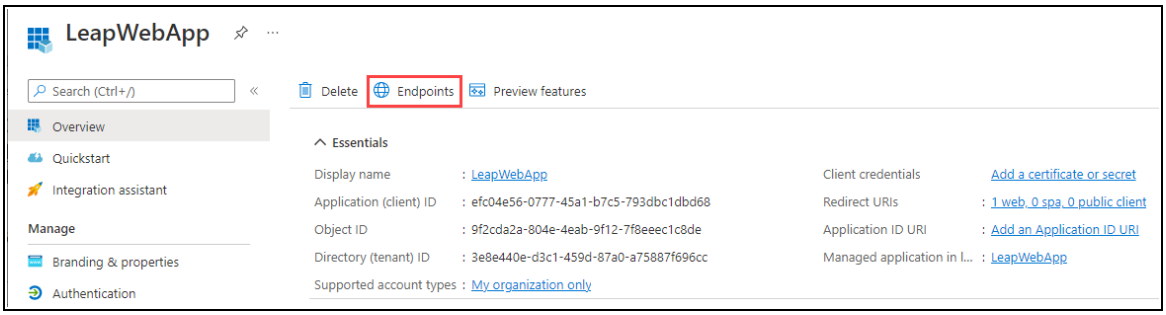
Configure LeapWebApp for Use with Azure AD

To configure LeapWebApp, you will update the C:\Program Files\Polaris\7.3\LeapWebApp\appsettings.user.json file using the following information:

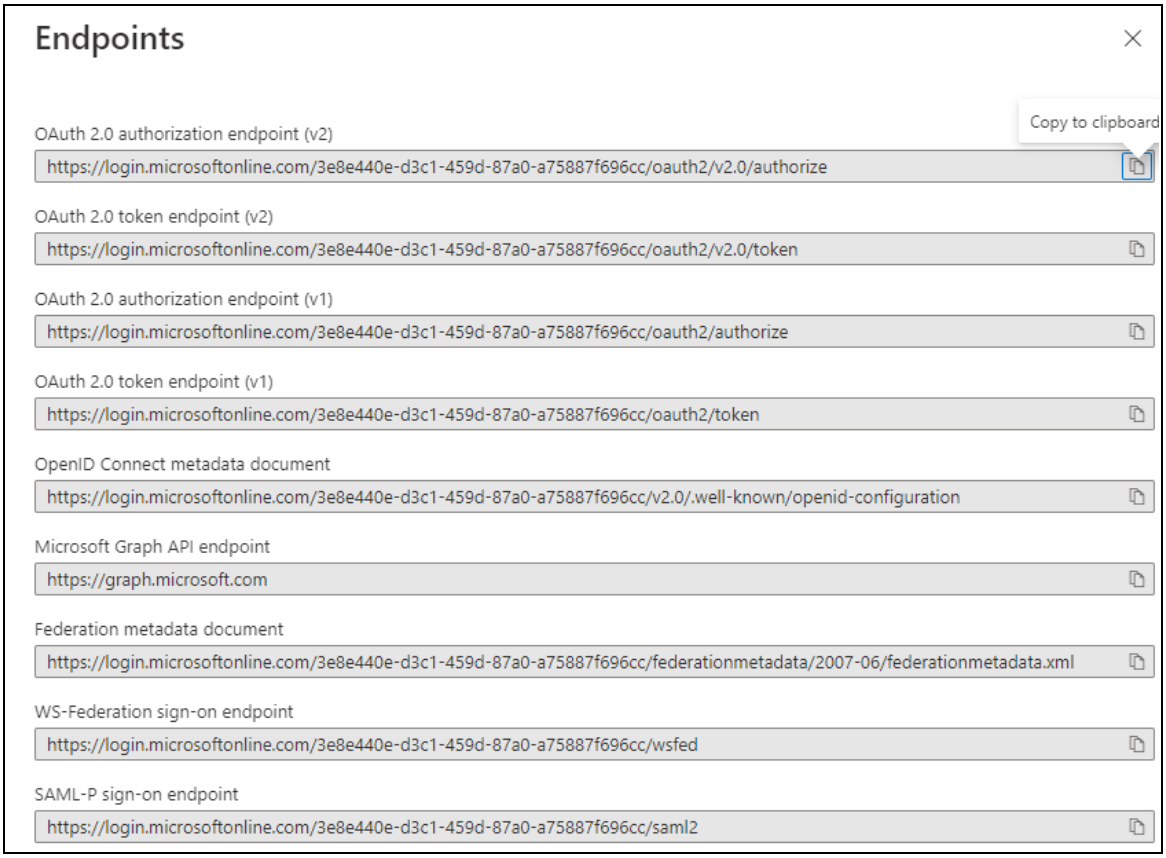
- Endpoint URIs copied from the Azure portal
- Values that you copied and saved during earlier steps in the Azure AD configuration process

To configure LeapWebApp

1. In the Azure portal, select **App registrations** from the list of options at the left side of the screen.
2. Select **LeapWebApp**.
3. On the LeapWebApp page, select **Endpoints**.



The Endpoints dialog appears. Leave this browser tab open so that you can copy endpoint URIs from it and paste them into the LeapWebApp appsettings.user.json file.



4. Open the C:\Program Files\Polaris\7.3\LeapWebApp\appsettings.user.json file.

   Note:
   You must run the editing application (for example, Notepad) as administrator.

5. On the Endpoints dialog, copy the root value and tenant ID from the **OAuth 2.0 authorization endpoint (v2)** box and paste it into the `Authority` property in the .json file. Your value will be similar to this one:

   `https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/`

   Note:
   The value must include the trailing slash character.

6. In the .json file, replace the `ClientId` property value with the application (client) ID you copied during the Register LeapWebApp with Azure AD step. Your value will be similar to this one:

   `efc04e56-0777-45a1-b7c5-793dbc1dbd68`

7. In the .json file, replace the `ClientSecret` property value with the client secret you copied and saved during the Create Client Credentials step. Your value will be similar to this one:

   `4I.8Q~-GpkdoymMQneGIYNg40FRjx2Hr1wWLDcbr`

8. On the Endpoints dialog, copy the value from the **OpenID Connect metadata document** box and paste it into the `MetadataAddress` property in the .json file. Your value will be similar to this one:

   `https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/.well-known/openid-configuration`

9. On the Endpoints dialog, copy the FQDN of the Microsoft server from the **OpenID Connect metadata document** box and paste it into the `KnownAuthorities` property in the .json file. The value will be identical to this one:

   `login.microsoftonline.com`

10. In the .json file, update the `Scopes` property to add the scope you copied and saved during the Expose the Polaris.ApplicationServices API step. Your value will be similar to this one:

    `api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas`

    > **Note:**
    > If you want Azure AD to return the user's email address, add `"email"` to the `Scopes` property. You might choose to do this if the `preferred_username` is a generic name, phone number, or other value.

11. In the .json file, set the `AlternateUpnClaimType` property to `"preferred_username"`.

    > **Note:**
    > You can also set this property to `"email"`, if you choose.

12. (Optional) Disable permission overrides in Leap. By default, permission overrides are enabled in Leap. If you want to disable overrides:
    - Add the following value to the root level object in the .json file:

      `"client_permissionoverride_enabled": "false",`

      Note:
      If you disable permission overrides in Leap, we recommend that you also update the language string that controls the title of the Permission Override dialog. For more information, search for the SW_CI_PERMISSION_OVRRD_TTL language string in the Polaris Web Admin Tool (Language Editor) Guide.
13. Save the .json file. Your updated file should look similar to the example below.

```
"OAuth": {
  "Authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/",
  "ClientId": "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
  "ClientSecret": "4I.8Q~-GpkdoymMQneGIYNg40FRjx2HrlwWLDcbr",
  "MetadataAddress": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/
.well-known/openid-configuration",
  "KnownAuthorities": [ "login.microsoftonline.com" ],
  "CallbackPath": "/signin-oidc",
  "SignedOutCallbackPath": "/signout-callback-oidc",
  "SignedOutRedirectUri": "/login",
  "RemoteAuthenticationTimeout": 1,
  "RemoteFailureRedirectUri": "/leapwebapp/logout",
  "ResponseMode": "form_post",
  "ResponseType": "code",
  "SaveTokens": false,
  "Scopes": [ "openid", "profile", "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas" ],
  "UsePkce": true,
  "AlternateUpnClaimType": "preferred_username",
  "AlternateLogoutUri": null
},
```

14. Leave the browser tab displaying the Endpoints dialog open, and continue to the Configure Polaris.ApplicationServices for Use with Azure AD procedure.

Configure Polaris.ApplicationServices for Use with Azure AD

To configure Polaris.ApplicationServices, you will update the C:\Program Files\Polaris\7.3\Polaris.ApplicationServices\appsettings.user.json file using the following information:

- Endpoint URIs copied from the Azure portal
- Values that you copied and saved during earlier steps in the Azure AD configuration process

To configure Polaris.ApplicationServices

1. Open the C:\Program Files\Polaris\7.3\Polaris.ApplicationServices\appsettings.user.json file.

   > **Note:**
   > You must run the editing application (for example, Notepad) as administrator.

2. In the `Authorities` array, set the `Name` property to `"AzureAD"`.
3. In the .json file, update the `Authority` property:
   a. On the Endpoints dialog of the Azure AD portal, copy the value from the **OAuth 2.0 authorization endpoint (v2)** box but omit the trailing *authorize*.
   b. Paste this value into the `Authority` property in the .json file. Your value will be similar to this one:

      ```
      https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/
      ```

4. In the .json file, update the `Audience` property:
   a. Locate the application (client) ID you copied and saved during the Register LeapWebApp with Azure AD step.
   b. Use it to construct a string with the following format:

      api://*[application (client) ID]*

   c. Paste this value into the `Audience` property. Your value will be similar to this one:

      ```
      api://efc04e56-0777-45a1-b7c5-793dbc1dbd68
      ```

5. On the Endpoints dialog, copy the value from the **OpenID Connect metadata document** box and paste it into the `MetaAddress` property in the .json file. Your value will be similar to this one:

   ```
   https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/well-known/openid-configuration
   ```

6. In the .json file, add a value to the `ValidIssuers` property:

a. On the Endpoints dialog, copy the tenant ID from the **OAuth 2.0 authorization endpoint (v2)** box.

b. Use it to construct a URI with the following format:

   https://sts.windows.net/*[tenant ID]*

c. Paste this value into the `ValidIssuers` property. Your value will be similar to this one:

   ```
   https://sts.windows.net/3e8e440e-d3c1-459d-87a0-a75887f696cc/
   ```

7. In the .json file, add a second value to the `ValidIssuers` property:

   a. On the Endpoints dialog, copy the value from the **OAuth 2.0 authorization endpoint (v2)** box but omit the trailing *authorize*.

   b. Paste this value into the `ValidIssuers` property in the .json file. Your value will be similar to this one:

      ```
      https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0
      ```

8. In the .json file, add a value to the `ValidAudiences` property:

   a. Locate the application (client) ID you copied and saved during the Register LeapWebApp with Azure AD step.

   b. Paste this value into the `ValidAudiences` property. Your value will be similar to this one:

      ```
      efc04e56-0777-45a1-b7c5-793dbc1dbd68
      ```

9. In the .json file, add a second value to the `ValidAudiences` property:

   a. Locate the application (client) ID you copied and saved during the Register LeapWebApp with Azure AD step.

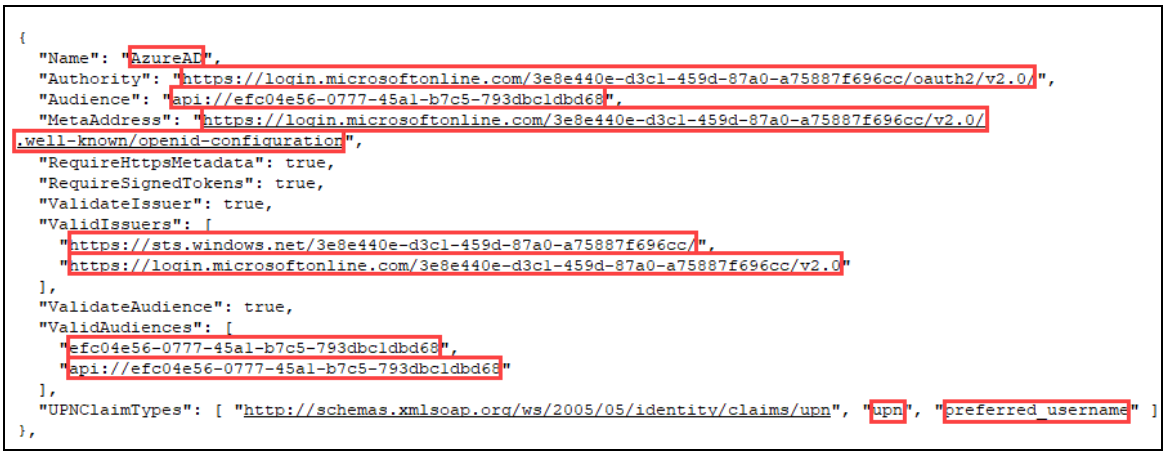
   b. Use it to construct a string with the following format:

      api://*[application (client) ID]*

   c. Paste this value into the `ValidAudiences` property. Your value will be similar to this one:

      ```
      api://efc04e56-0777-45a1-b7c5-793dbc1dbd68
      ```

10. In the .json file, update the `UPNClaimTypes` property to add `"upn"` and `"preferred_username"` if those values are not already present. Your updated values in the `Authorities` array should look similar to the example below.



```
{
  "Name": "AzureAD",
  "Authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/",
  "Audience": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68",
  "MetaAddress": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/
.well-known/openid-configuration",
  "RequireHttpsMetadata": true,
  "RequireSignedTokens": true,
  "ValidateIssuer": true,
  "ValidIssuers": [
    "https://sts.windows.net/3e8e440e-d3c1-459d-87a0-a75887f696cc/",
    "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0"
  ],
  "ValidateAudience": true,
  "ValidAudiences": [
    "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
    "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68"
  ],
  "UPNClaimTypes": [ "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn", "upn", "preferred_username" ]
},
```

11. In the `Swagger` property in the .json file, update the `ClientID` property:
    a. Locate the application (client) ID you copied and saved during the Register LeapWebApp with Azure AD step.
    b. Paste this value into the `ClientID` property. Your value will be similar to this one:

       `efc04e56-0777-45a1-b7c5-793dbc1dbd68`

12. On the Endpoints dialog, copy the value from the **OAuth 2.0 authorization endpoint (v2)** box and paste it into the `AuthorizationUrl` property in the .json file. Your value will be similar to this one:

    `https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/authorize`

13. In the .json file, update the `TokenUrl` property:
    a. On the Endpoints dialog, copy the value from the **OAuth 2.0 token endpoint (v2)** box but replace *authorize* with *token*.
    b. Paste the value into the `TokenUrl` property in the .json file. Your value will be similar to this one:

```
https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token
```

14. In the .json file, update the `RefreshTokenUrl` property:
    a. On the Endpoints dialog, copy the value from the **OAuth 2.0 token endpoint (v2)** box but replace *authorize* with *token*.
    b. Paste the value into the `RefreshTokenUrl` property in the .json file. Your value will be similar to this one:

    ```
    https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token
    ```

15. In the .json file, update the `LogoutUrl` property:
    a. On the Endpoints dialog, copy the value from the **OAuth 2.0 authorization endpoint (v2)** box but replace *authorize* with *logout*.
    b. Paste the value into the `LogoutUrl` property in the .json file. Your value will be similar to this one:

    ```
    https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/logout
    ```

16. In the .json file, add a new scope `Name` and `Description`:
    a. Locate the scope you copied and saved during the Expose the Polaris.ApplicationServices API step.
    b. Copy the scope and use it to construct a new `Name` property. Your value will be similar to this one:

    ```
    "Name": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas"
    ```

    c. Paste the `Name` property into the .json file.
    d. Add a `Description` property that matches the example below:

    ```
    "Description": "API Scope defined in AzureAD for LeapWebApp"
    ```

17. Save the .json file. Your updated values in the `Swagger` property should look similar to the example below.

```
"Swagger": {
    "ClientID": "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
    "ClientSecret": "",
    "AppName": "Polaris.ApplicationServices",
    "AuthorizationUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/
v2.0/authorize",
    "TokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
    "RefreshTokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/
v2.0/token",
    "LogoutUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/logout",
    "Scopes": [
      {
        "Name": "openid",
        "Description": "Use OIDC to verify the user's identity"
      },
      {
        "Name": "email",
        "Description": "Optional to return user's email address"
      },
      {
        "Name": "urn:microsoft:userinfo",
        "Description": "urn:microsoft:userinfo"
      },
      {
        "Name": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas",
        "Description": "API Scope defined in AzureAD for LeapWebApp"
      }
    ]
}
```

Note:
Changes to the appsettings.user.json files do note take effect until the IIS application pools are restarted or IIS is reset.

Configure PolarisAdmin for Use with Azure AD

To configure PolarisAdmin, you will update the C:\Program Files\Polaris\7.3\PolarisAdmin\assets\appsettings.user.json file. You will use several values copied from the Azure AD portal.

Important:
By default, the appsettings.user.json template file contains configuration settings that apply to AD FS. The latest 7.3 patch includes a RELEASE-NOTES.md file that contains the template settings that apply to Azure AD.

To configure PolarisAdmin

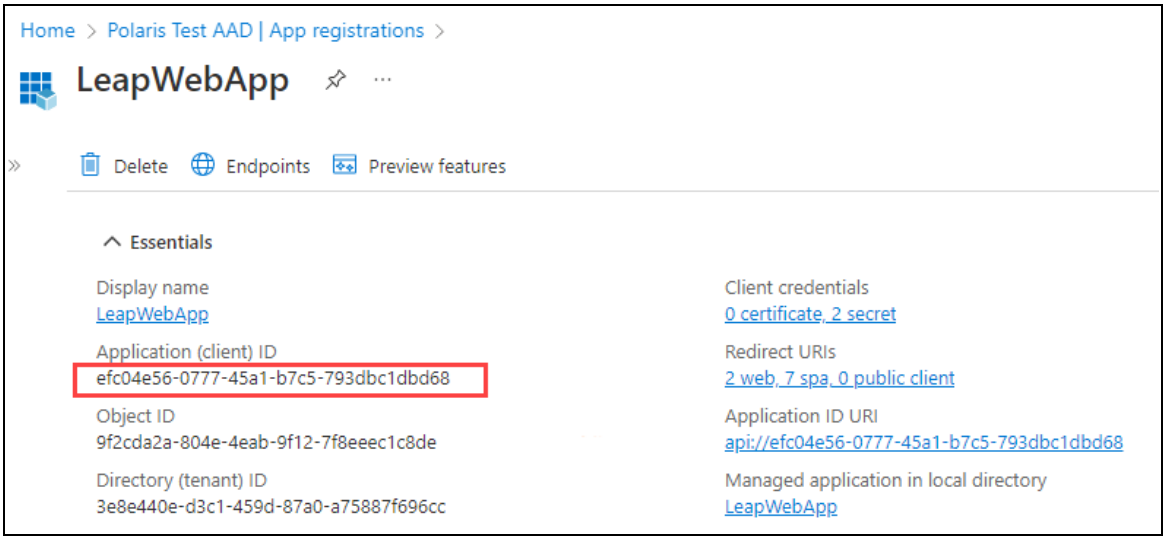
1. Open the C:\Program Files\Polaris\7.3\PolarisAdmin\assets\appsettings.user.json file.

Note:
You must run the editing application (for example, Notepad) as administrator.

2. Verify that `oauthEnabled` is set to `true`.

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/polaris.adminservices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
          "clientId": "0a586b1e-eeb0-4c8a-8381-50e9cafec240",
          "authority": "https://dev-fs.polarislibrary.com/adfs/",
          "knownAuthorities": ["dev-fs.polarislibrary.com"],
          "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
          "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
          "protocolMode": "OIDC",
          "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile", "email", "urn:microsoft:userinfo"]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/", ["email"]]
            ]
        }
    }
}
```

3. In the Azure portal, copy the Application (client) ID.

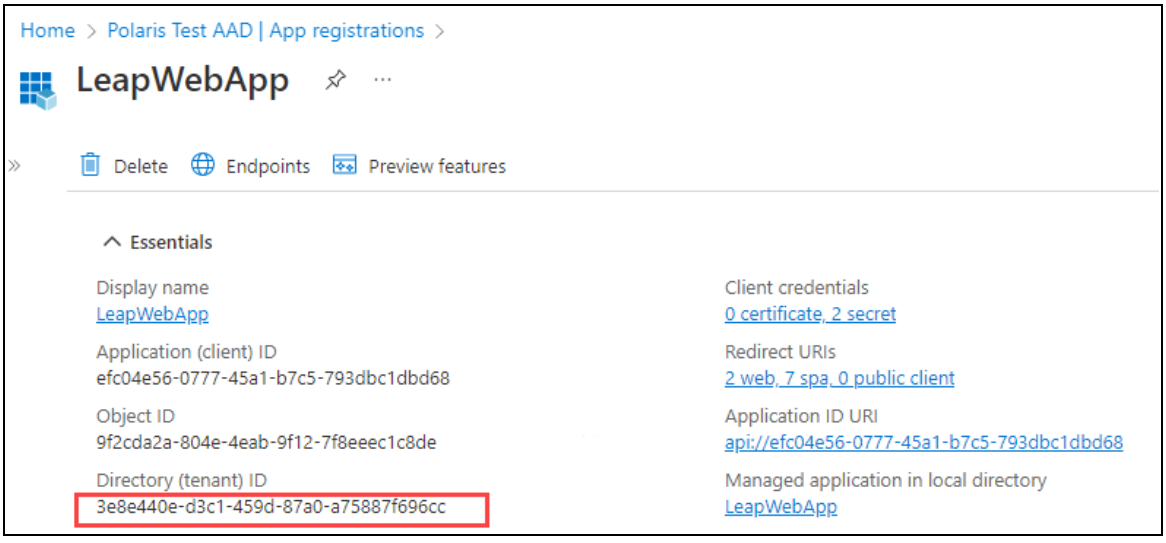


4. Paste the copied client ID into the appsettings.user.json file. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[CLIENTID-ASSIGNED-IN-AZUREAD]* with the copied client ID.

   When complete, your file should look like the following example (your client ID will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
            "clientId": "efc04e56-0777-45a1-b7c5-793dbcldbd68",
            "authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/",
            "knownAuthorities": [ "login.microsoftonline.com"],
            "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
            "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
            "protocolMode": "OIDC",
            "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile" ]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/",
                ["openid", "profile", "api://efc04e56-0777-45a1-b7c5-793dbcldbd68/pas"]]
            ]
        }
    }
}
```

5. In the .json file, update the `authority` to use `login.microsoftonline.com`.
6. Update the `knownAuthorities` to use `login.microsoftonline.com`.
7. In the Azure portal, copy the Directory (tenant) ID.



8. In the .json file, paste the copied tenant ID into the `authority`. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[TENANTID-ASSIGNED-IN-AZUREAD]* with the copied tenant ID.

   When complete, your file should look like the following example (your tenant ID will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
            "clientId": "efc04e56-0777-45a1-b7c5-793dbcldbd68",
            "authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/",
            "knownAuthorities": [ "login.microsoftonline.com"],
            "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
            "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
            "protocolMode": "OIDC",
            "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile" ]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/",
                ["openid", "profile", "api://efc04e56-0777-45a1-b7c5-793dbcldbd68/pas"]]
            ]
        }
    }
}
```

9. In the .json file, update the server location in the `redirectUri` and the `postLogoutRedirectUri`. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[POLADMIN-SERVER-ADDR]* with the FQDN of the server that hosts the Polaris System Administration (web-based) user interface.

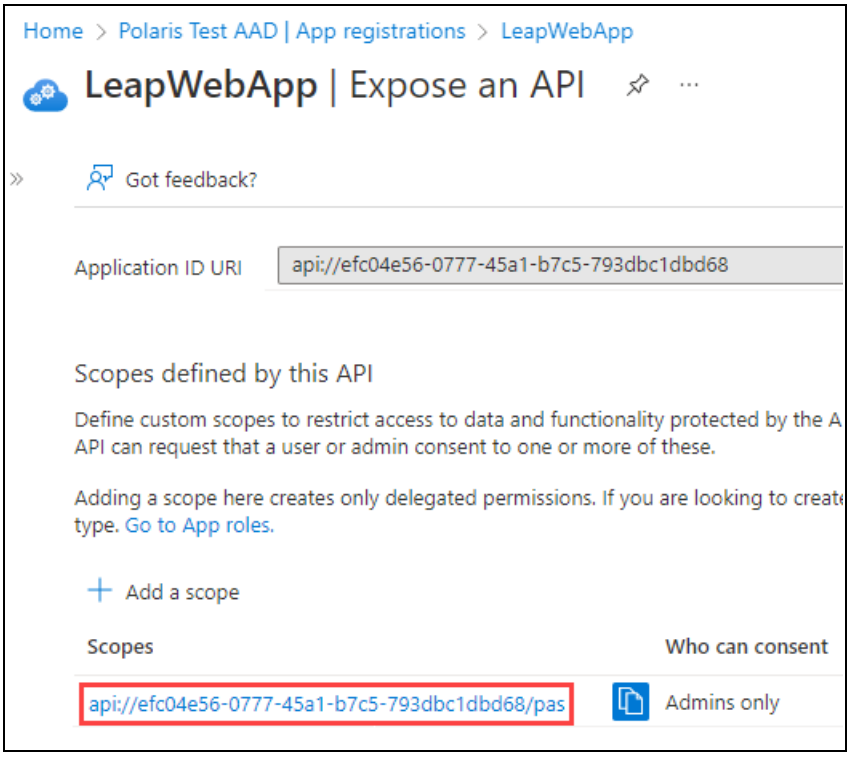
   When complete, your file should look like the following example (your server address will be different):

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
            "clientId": "efc04e56-0777-45a1-b7c5-793dbcldbd68",
            "authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/",
            "knownAuthorities": [ "login.microsoftonline.com"],
            "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
            "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
            "protocolMode": "OIDC",
            "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile" ]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/",
                ["openid", "profile", "api://efc04e56-0777-45a1-b7c5-793dbcldbd68/pas"]]
            ]
        }
    }
}
```

10. In the .json file, update the server location in the `protectedResourceMap`. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[POLADMINSVC-SERVER-ADDR]* with the FQDN of the server that hosts the API service for Polaris System Administration (web-based).

    When complete, your file should look like the example shown in step 13 (your server address will be different).

11. In the Azure portal, LeapWebApp section of the App registrations dashboard and copy the API scope.



12. In the .json file, paste the copied scope into the `protectedResourceMap` array.

    When complete, your file should look like the example shown in step 13.

13. In the `protectedResourceMap` array, verify that:

    - The `openid` and `profile` scopes are listed.
    - The `email` scope is not listed.

    When complete, your file should look like the following example:

```
{
    "apiUrlRoot": "https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/",
    "oauthEnabled": true,
    "msal": {
        "auth": {
            "clientId": "efc04e56-0777-45a1-b7c5-793dbcldbd68",
            "authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/",
            "knownAuthorities": [ "login.microsoftonline.com"],
            "redirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin/oauth-success",
            "postLogoutRedirectUri": "https://rd-polaris.polarislibrary.com/PolarisAdmin",
            "protocolMode": "OIDC",
            "navigateToLoginRequestUrl": false
        },
        "cache": {
            "cacheLocation" : "localStorage",
            "storeAuthStateInCookie": false,
            "secureCookies": true
        },
        "guard": {
            "interactionType": "redirect",
            "authRequest": {
                "scopes": ["openid", "profile" ]
            },
            "loginFailedRoute": "/login-failed"
        },
        "interceptor": {
            "interactionType": "redirect",
            "protectedResourceMap": [
                ["https://rd-polaris.polarislibrary.com/Polaris.AdminServices/api/protected/",
                ["openid", "profile", "api://efc04e56-0777-45a1-b7c5-793dbcldbd68/pas"]]
            ]
        }
    }
}
```

14. Save the .json file.

Configure Polaris.AdminServices for Use with Azure AD

To configure Polaris.AdminServices, you will update the C:\Program Files\Polaris\7.3\Polaris.ApplicationServices\appsettings.user.json file. You will use several values copied from the Azure AD portal.

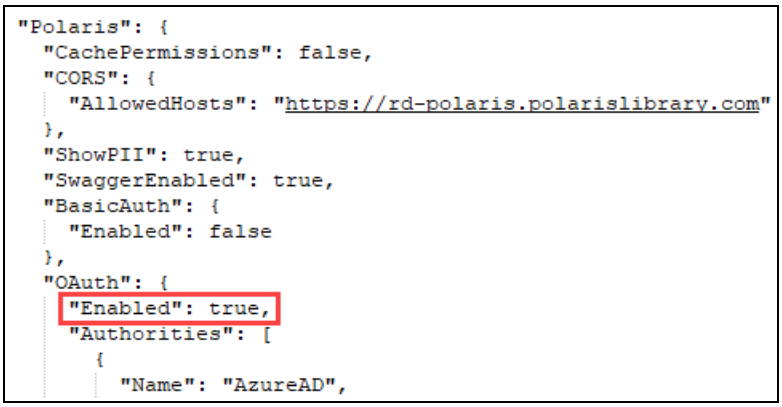
> **Important:**
> By default, the appsettings.user.json template file contains configuration settings that apply to AD FS. The latest 7.3 patch includes a RELEASE-NOTES.md file that contains the template settings that apply to Azure AD.

To configure Polaris.AdminServices

1. Open the C:\Program Files\Polaris\7.3\Polaris.AdminServices\appsettings.user.json file.

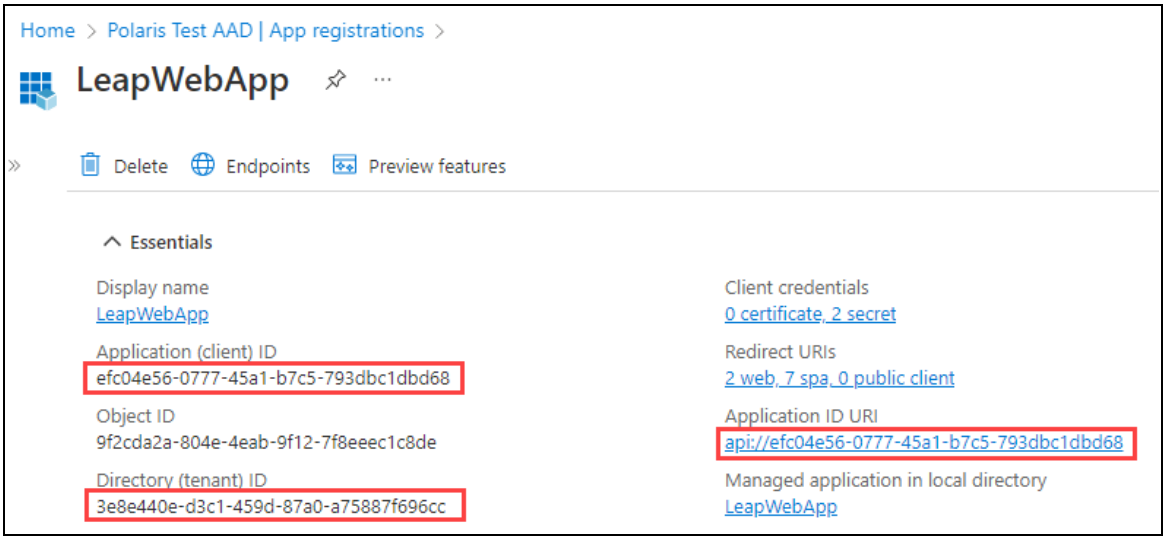
> **Note:**
> You must run the editing application (for example, Notepad) as administrator.

2. Verify that `Enabled` is set to `true` under the `OAuth` object.



3. In the Azure portal, go to the App registrations dashboard and retrieve the following values:
   - Application (client) ID
   - Directory (tenant) ID
   - Application ID URI

   You will use these values in the steps below.



4. Paste the application (client) ID into the appsettings.user.json file. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[CLIENTID-ASSIGNED-IN-AZUREAD]* with the client ID from the Azure portal.

   When complete, your file should look like the following example (your client ID will be different):

```
"Polaris": {
  "CachePermissions": false,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "ShowPII": true,
  "SwaggerEnabled": true,
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "Authorities": [
      {
        "Name": "AzureAD",
        "Authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/",
        "Audience": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68",
        "MetaAddress": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/.well-known/openid-configuration",
        "RequireHttpsMetadata": true,
        "RequireSignedTokens": true,
        "ValidateIssuer": true,
        "ValidIssuers": [
          "https://sts.windows.net/3e8e440e-d3c1-459d-87a0-a75887f696cc/",
          "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0"
        ],
        "ValidateAudience": true,
        "ValidAudiences": [
          "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
          "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68"
        ],
        "UPNClaimTypes": [ "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn", "upn", "preferred_username" ]
      }
    ],
    "Swagger": {
      "ClientID": "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
      "ClientSecret": "",
      "AppName": "Polaris.ApplicationServices",
      "AuthorizationUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/authorize",
      "TokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
      "RefreshTokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
      "LogoutUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/logout",
      "Scopes": [
        {
          "Name": "openid",
          "Description": "Use OIDC to verify the user's identity"
        },
        {
          "Name": "email",
          "Description": "Optional to return user's email address"
        },
        {
          "Name": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas",
          "Description": "API Scope defined in AzureAD"
        }
      ]
    }
  }
}
```

5. Paste the directory (tenant) ID into the appsettings.user.json file. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[TENANTID-ASSIGNED-IN-AZUREAD]* with the tenant ID from the Azure portal.

   When complete, your file should look like the following example (your tenant ID will be different):

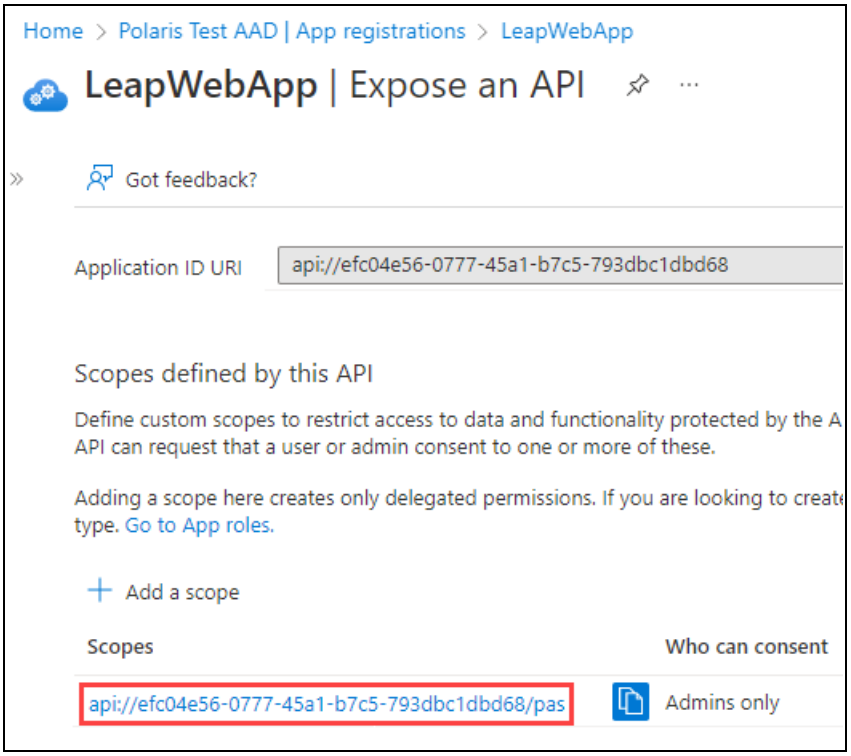
```
"Polaris": {
  "CachePermissions": false,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "ShowPII": true,
  "SwaggerEnabled": true,
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "Authorities": [
      {
        "Name": "AzureAD",
        "Authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/",
        "Audience": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68",
        "MetaAddress": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/.well-known/openid-configuration",
        "RequireHttpsMetadata": true,
        "RequireSignedTokens": true,
        "ValidateIssuer": true,
        "ValidIssuers": [
          "https://sts.windows.net/3e8e440e-d3c1-459d-87a0-a75887f696cc/",
          "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0"
        ],
        "ValidateAudience": true,
        "ValidAudiences": [
          "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
          "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68"
        ],
        "UPNClaimTypes": [ "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn", "upn", "preferred_username" ]
      }
    ],
    "Swagger": {
      "ClientID": "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
      "ClientSecret": "",
      "AppName": "Polaris.ApplicationServices",
      "AuthorizationUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/authorize",
      "TokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
      "RefreshTokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
      "LogoutUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/logout",
      "Scopes": [
        {
          "Name": "openid",
          "Description": "Use OIDC to verify the user's identity"
        },
        {
          "Name": "email",
          "Description": "Optional to return user's email address"
        },
        {
          "Name": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas",
          "Description": "API Scope defined in AzureAD"
        }
      ]
    }
  }
}
```


6. Paste the application ID URI into the appsettings.user.json file. If you started from the template settings provided in the RELEASE-NOTES.md file, replace *[APPID-URI-ASSIGNED-IN-AZUREAD]* with the application ID URI from the Azure portal.

   When complete, your file should look like the following example (your application ID URI will be different):

```
"Polaris": {
  "CachePermissions": false,
  "CORS": {
    "AllowedHosts": "https://rd-polaris.polarislibrary.com"
  },
  "ShowPII": true,
  "SwaggerEnabled": true,
  "BasicAuth": {
    "Enabled": false
  },
  "OAuth": {
    "Enabled": true,
    "Authorities": [
      {
        "Name": "AzureAD",
        "Authority": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/",
        "Audience": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68",
        "MetaAddress": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/v2.0/.well-known/openid-configuration",
        "RequireHttpsMetadata": true,
```


7. In the Azure portal, go to the LeapWebApp section of the App registrations dashboard and copy the API scope.



8. Paste the API scope into the appsettings.user.json file.

   When complete, your file should look like the following example (your scope value will be different):

```
"Swagger": {
  "ClientID": "efc04e56-0777-45a1-b7c5-793dbc1dbd68",
  "ClientSecret": "",
  "AppName": "Polaris.ApplicationServices",
  "AuthorizationUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/authorize",
  "TokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
  "RefreshTokenUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/token",
  "LogoutUrl": "https://login.microsoftonline.com/3e8e440e-d3c1-459d-87a0-a75887f696cc/oauth2/v2.0/logout",
  "Scopes": [
    {
      "Name": "openid",
      "Description": "Use OIDC to verify the user's identity"
    },
    {
      "Name": "email",
      "Description": "Optional to return user's email address"
    },
    {
      "Name": "api://efc04e56-0777-45a1-b7c5-793dbc1dbd68/pas",
      "Description": "API Scope defined in AzureAD"
    }
  ]
}
```

9. Save the .json file.

Add a URL Rewrite Rule for LeapWebApp

Adding a URL rewrite rule redirects incoming URLs to the correct address for the LeapWebApp. This must be done manually, since the library may already use other URL rewrite rules.

To add a URL rewrite rule, you must have the Microsoft IIS URL Rewrite 2.1 extension. For more information, see https://www.iis.net/downloads/microsoft/url-rewrite.

To add a URL rewrite rule

1. Open the root IIS web.config file, found in the following location:

   C:\inetpub\wwwroot\web.config

2. Add a rewrite rule to the **system.webServer** node.

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
    <system.webServer>
        <rewrite>
            <rules>
                <rule name="UrlToLowercase" stopProcessing="true">
                    <match url="(.*)" ignoreCase="true" />
                        <action type="Redirect" url="https://{HTTP_HOST}{ToLower:{PATH_INFO}}" redirectType="Found" appendQueryString="true" />
                        <conditions>
                            <add input="{PATH_INFO}" pattern="^/LeapWebApp(.*)|^/Leapwebapp(.*)|^/LEAPWEBAPP(.*)" ignoreCase="false" />
                        </conditions>
                    </rule>
            </rules>
        </rewrite>
    </system.webServer>
</configuration>
```

> **Note:**
> For sample rewrite rule text that you can copy and paste, see Sample Rewrite Rule Text.

   In the example above, if the incoming URL includes a path that contains any of the following, the rewrite rule redirects to /leapwebapp:

   - /LeapWebApp
   - /Leapwebapp
   - /LEAPWEBAPP

3. Save the web.config file.

> **Note:**
> When registering redirect URIs for LeapWebApp in AD FS, the URIs should

be lowercase. For example:

- https://rd-polaris.polarislibrary.com/leapwebapp/signin-oidc
- https://rd-polaris.polarislibrary.com/leapwebapp/signin-override-oidc
- https://rd-polaris.polarislibrary.com/leapwebapp/signout-callback-oidc

Sample Rewrite Rule Text

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
   <system.webServer>
      <rewrite>
         <rules>
            <rule name="UrlToLowercase" stopProcessing="true">
               <match url="(.*)" ignoreCase="true" />
                  <action type="Redirect" url="https://{HTTP_HOST}
                  {ToLower:{PATH_INFO}}" redirectType="Found"
                  appendQueryString="true" />
                  <conditions>
                     <add input="{PATH_INFO}" pattern="^/LeapWebApp
                     (.*)|^/Leapwebapp(.*)|^/LEAPWEBAPP(.*)"
                     ignoreCase="false" />
                  </conditions>
            </rule>
         </rules>
      </rewrite>
   </system.webServer>
</configuration>
```

Additional URL Rewrite Resources

See Microsoft's URL Rewrite Module Configuration Reference for additional information:

- https://docs.microsoft.com/en-us/iis/extensions/url-rewrite-module/url-rewrite-module-configuration-reference