Process Director Documentation

Azure and Process Director

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TOC

Azure and Process Director

Process Director has features that enable close integration with Microsoft Azure services such as SharePoint, SMTP Email, and Microsoft 365 (formerly Office 365). These features require configuration in both your Azure/Entra portal, as well as in Process Director. Different services may require different processes to configure. There are three main services that you might wish to configure for use with Process Director.

1. Creating a SharePoint Datasource object for both site-level and Tenant-level SharePoint Installations. This feature is covered in the SharePoint DataSource topic, along with special configuration needed for Tenant-Level SharePoint installations.
2. Using your Microsoft-based SMTP email service to send task notifications and other emails from Process Director. This configuration is covered in the Microsoft OAuth for SMTP topic.
3. Using Microsoft 365 to collaboratively edit document attachments using the separately-licensed Collaborative Document Authoring component. The Configuring Azure for Microsoft 365 topic covers the Azure, Entra, and SharePoint configuration for this component.

Please consult the specific topics listed above for the feature or features you wish to configure.

SharePoint Data Sources

The purpose of the SharePoint data source is to connect to a SharePoint List to retrieve documents or data. **This datasource is a core feature of the product, and is *not* related to the use of the Collaborative Document Authoring (CDA) feature with Microsoft 365 (M365) in any way.** CDA for M365 is a separately licensed feature, with its own setup and configuration process.

With the implementation of Microsoft's move to **Modern Authentication**, using the Microsoft identity platform, logging into cloud-based versions of SharePoint is no longer possible by simply using a user name and password. Legacy installations that user older versions of SharePoint may still do so, but SharePoint has largely implemented an OAuth- based authentication scheme, with additional security provided by the use of encryption certificates.

In Process Director v5.44.1000, Modern Authentication for SharePoint was implemented using the SharePoint OAuth Datasource, which only gives access to SharePoint at the Tenant (organizational) level.

For Process Director v5.44.1103, The SharePoint OAuth Datasource was renamed to SharePoint OAuth (Tenant), while a new Datasource SharePoint OAuth (Site), was added to give access to SharePoint at the Site level, rather than at the entire tenant.

The existing SharePoint Datasource, which uses the simple username/password authentication scheme, is still available for customers who are using older versions of SharePoint. This legacy authentication method should be relevant to only a very small minority of customers, and has been renamed to SharePoint Legacy.

This update to the SharePoint Datasources will require updating the SharePoint Custom Tasks!

Configuring a SharePoint OAuth (Tenant) Datasource

Modern Authentication provides much more secure access to SharePoint, but does require a more complex setup process for Tenant-based SharePoint installations.

Create the Registered Application for the Tenant

To set up Modern Authentication between SharePoint and Process Director, you must first create a Registered Application in Microsoft Entra. Please see the Tenant-Based SharePoint Configuration topic for instructions on how to complete this task.

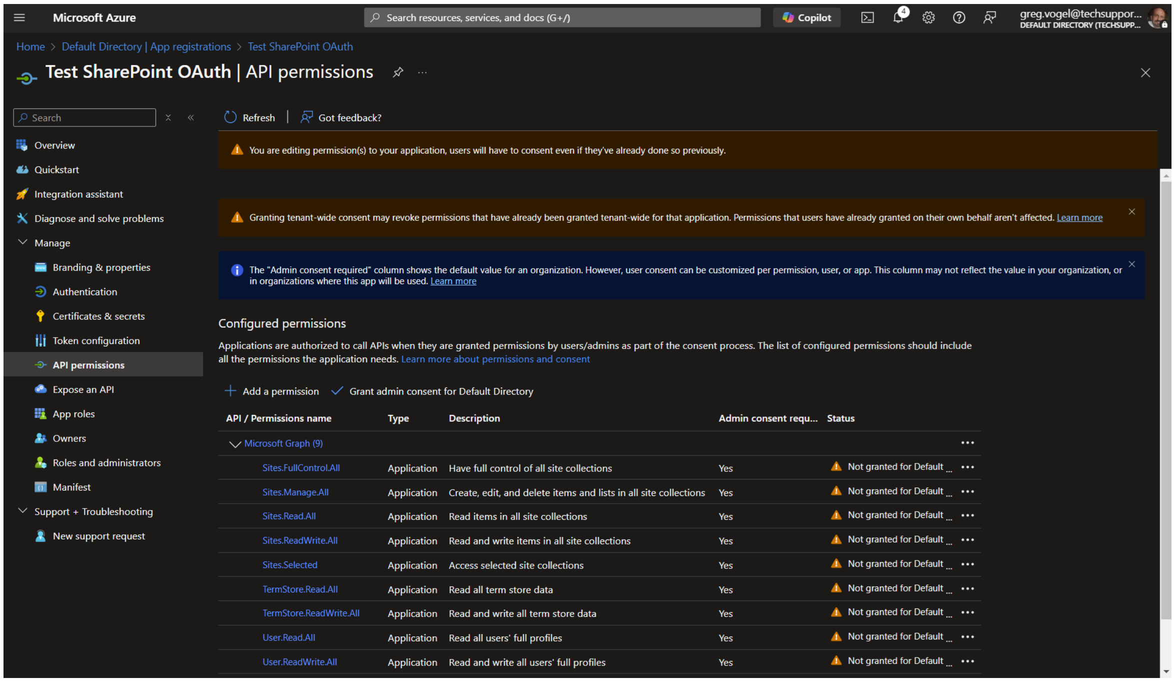
Once you've created the Registered Application, you can begin the process for configuring SharePoint Online, as described below.

Configure SharePoint Online permissions

To configure the application to use SharePoint with Process Director, you'll need to perform the following configuration steps:

1. If you have access to multiple tenants, use the Directories + subscriptions filter in the top menu to switch to the tenant in which you want to register the application.
2. Search for and select Azure Active Directory.

3. Under Manage, select App registrations, then select your Process Director application. In this example, we'll use “Test SharePoint OAuth” as the Registered Application name, though, of course, the name you use may vary.
4. Click API permissions.
5. Click Add a permission and add all permissions displayed below to the SharePoint section of the API Permissions area:

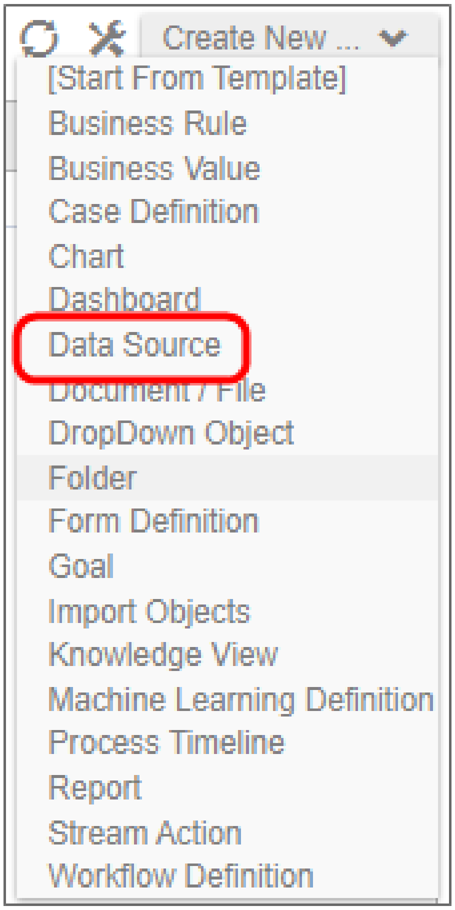


Create the SharePoint OAuth (Tenant) Datasource

Now that the application has been fully registered in Azure, and the appropriate SharePoint API permissions have been set, you can create the SharePoint OAuth Datasource in Process Director. Be sure to keep the Azure window open, however, as you'll need to transfer some information from Azure to configure the SharePoint OAuth Datasource. Ensure you've opened the Entra admin center window to the Overview tab of the App registrations page of your Process Director integration app. In this example, we'll use the "Test SharePoint OAuth" application we used in the steps above.

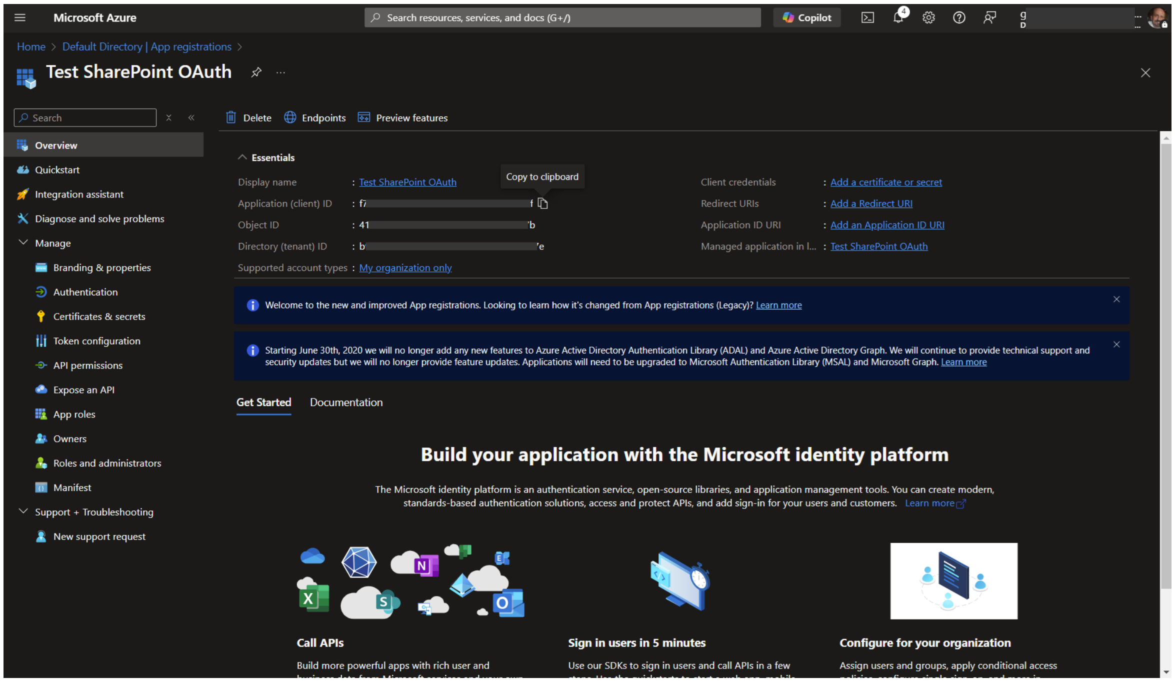
Instructions

1. Navigate to the Process Director folder in which you want to store the new Datasource, then select Data Source from the Create New menu.

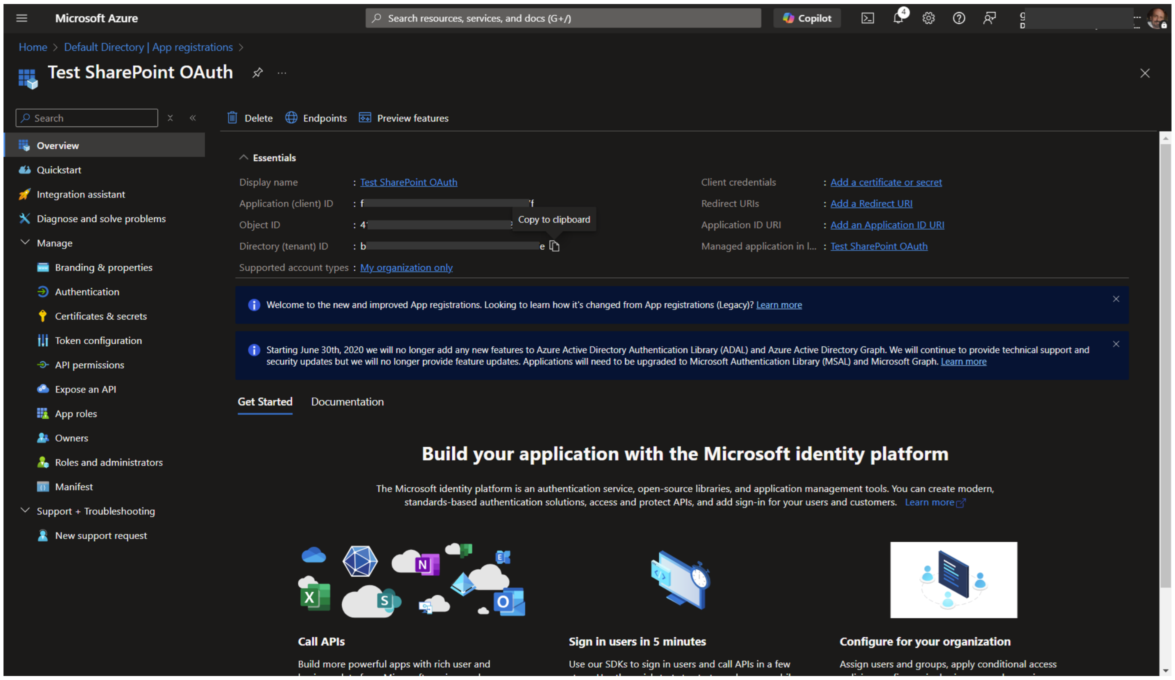


2. In the Create New Data Source screen, enter an Name for the Datasource, then click the OK button to create the Datasource and open its configuration screen.
3. On the Properties tab of the Datasource definition, change the Datasource Type to "SharePoint OAuth (Tenant)".
4. Set the SharePoint Site URL to the URL your SharePoint Online server.
5. To set the Client ID property, go to the Azure window, and using the "Copy to Clipboard" icon, copy the value in the Application (client) ID property, then

paste it into the Client ID Property of the Datasource definition.



6. Similarly, you'll need to copy the value of the Directory (tenant) ID property in Azure to the Tenant ID property of the Datasource definition.

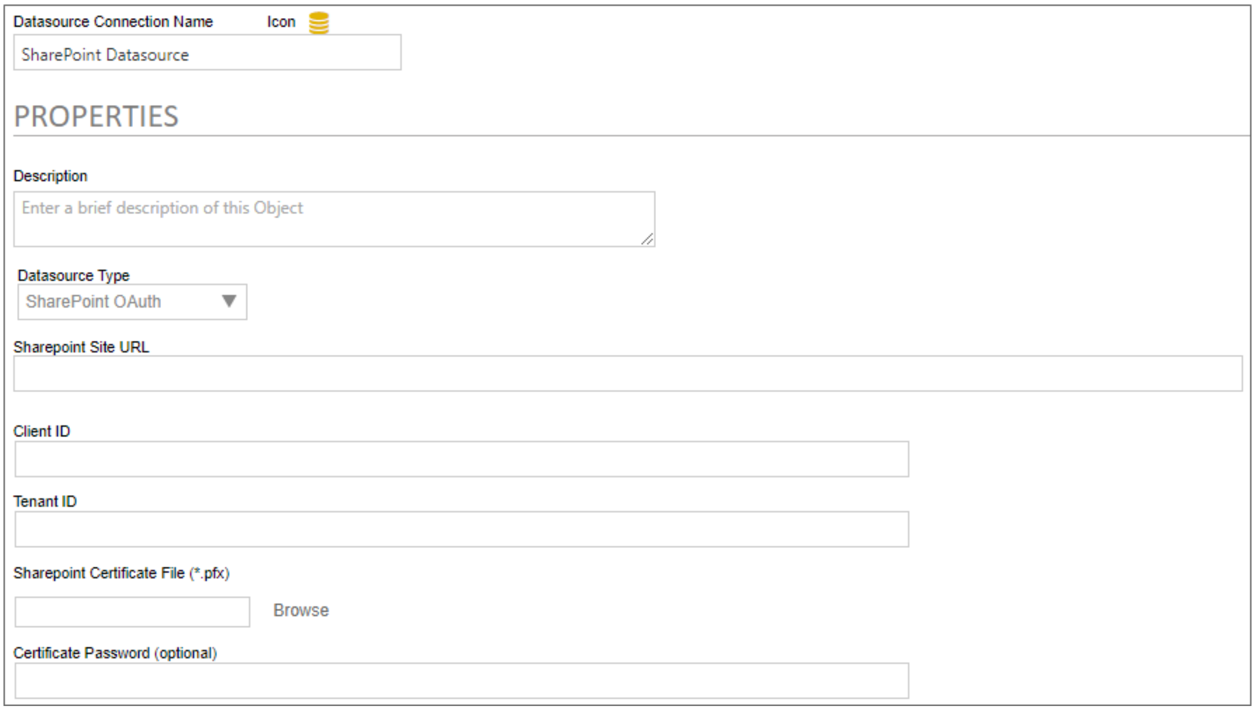


7. To set the certificate to use for this Datasource, click the Browse button for the SharePoint Certificate File property, then locate and select the

PrivatePublicKeys.pfx file you created earlier (either with certreq.exe or PowerShell).

8. Enter the certificate Password that you created for the PrivatePublicKeys.pfx file.
9. Click the OK button to save your changes, then update the Datasource definition by selecting Update from the OK dropdown menu at the upper right corner of the page.
10. Click the Test Connection button to ensure that the Datasource can connect properly to SharePoint.

SharePoint OAuth (Tenant) Datasource Properties



In addition to the standard Description property, setting the Datasource Type property to *SharePoint OAuth* enables configuration of the connection properties listed below.

SharePoint Site URL

The fully-qualified URL that connects to the SharePoint installation.

Client ID

The value of the Application (client) ID property contained in the App Registration screen in Azure.

Tenant ID

The value of the Directory (tenant) ID property contained in the App Registration screen in Azure.

SharePoint Certificate File

A Content Picker than enables you to browse to and upload the certificate (.PFX) file to Azure.

Certificate Password

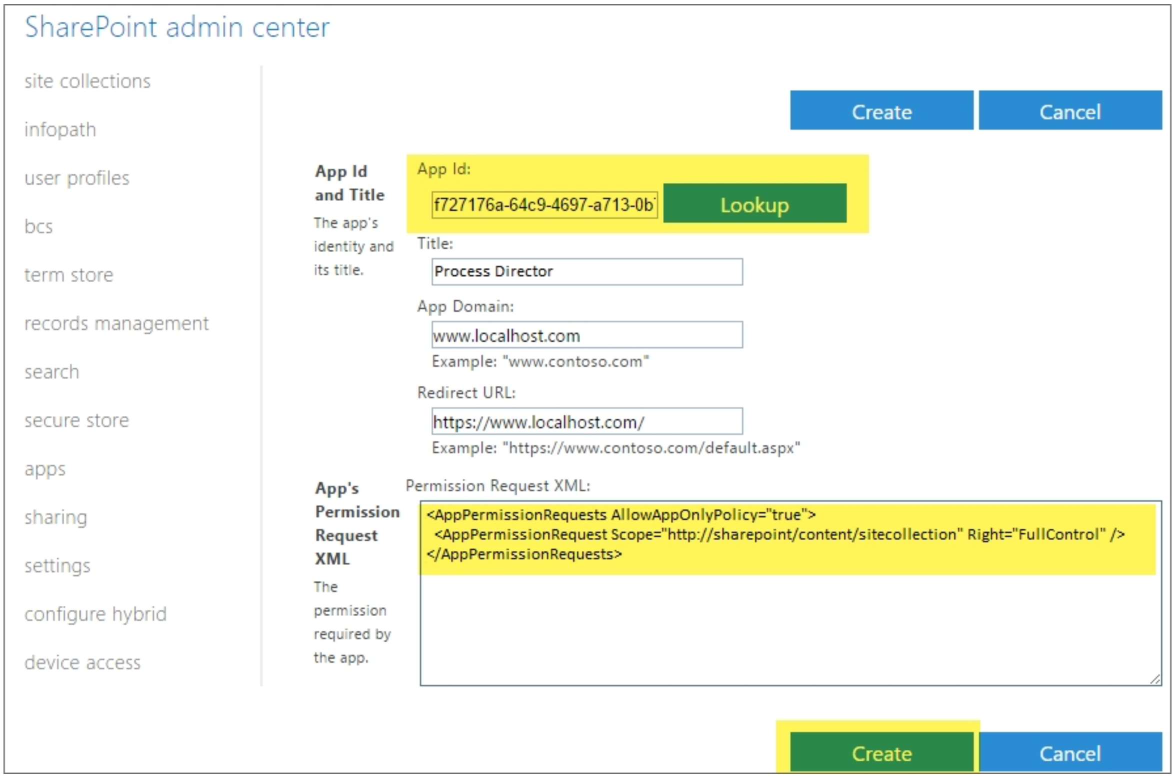
The password that you configured for the certificate (.PFX) file when you created it.

Configuring the SharePoint OAuth (Site) Datasource

Configuring the SharePoint OAuth (Site) Datasource is far less complex than configuring the tenant-level Datasource, and requires no certificate to be created or uploaded to Azure. To add Process Director as an application in your Azure Active Directory portal at the Site level, complete the steps below after signing into your Azure portal (portal.azure.com):

1. Configure SharePoint Site Permissions

1. Navigate to the site you want to configure access for in your tenant. This is typically of the form `https://mytenant.sharepoint.com`, replacing “mytenant” with the appropriate name.
2. Adjust the URL to `https://mytenant.sharepoint.com/_layouts/15/appregnew.aspx`.
   a. Click the buttons to generate both a Client Id as well as a Client Secret.
   b. Select the Client Id value, copy the text and store the value somewhere safe to be used in later steps in this guide.
   c. Select the Client Secret value, copy the text and store the value somewhere safe to be used in later steps in this guide.
3. Now you need to grant permissions to newly registered app (AKA principal). Navigate to
   `https://mytenant-admin.sharepoint.com/_layouts/15/appinv.aspx`.
   It’s important to note the addition of “-admin” to your site's normal name.



a. Add your Client Id as App Id.
b. Add the XML as shown, reproduced here to aid in copy and paste. Note, there are other, more restrictive options that can be considered listed in Table 1 at Microsoft's documentation topic, [Add-in permissions in SharePoint](). Be careful using other values as it may prevent Process Director from working correctly.

```
<AppPermissionRequests AllowAppOnlyPolicy="true">
     <AppPermissionRequest Scope="http://sharepoint/content/sitecollection" Right="FullControl" />
</AppPermissionRequests>
```

c. Set the Title to “Process Director”.
d. Set App Domain to the fully qualified domain name of you Process Director deployment.
e. Set the Redirect URL to the URL of your Process Director deployment.

4. Click Create.
5. Click Trust It in the follow-up prompt.

2. Configure the Datasource

1. In a Process Director Content List folder, select Data Source from the Create New menu.
2. Supply a Name and click OK to open the new Datasource definition.
3. Set the Datasource Type drop-down to "SharePoint OAuth (Site)".
4. Add the SharePoint Site URL for your SharePoint Online installation.
5. Add the Client ID (AKA Application Id) and Client Secret from SharePoint that you set aside in the steps for **Configure SharePoint Site Permissions** above.
6. Click OK then select the Update item from the OK menu at the top right corner of the page to save the configuration.
7. Click theTest Connection button to test your connection to the SharePoint site.

A successful test means that your Datasource is correctly configured and is connecting to the SharePoint site correctly.

Assuming that you've correctly followed the instructions above, you've now configured both SharePoint Online and Process Director. You can now use this Datasource and the SharePoint Custom Tasks in Process Director to integrate your SharePoint sites and data with Process Director.

Tenant-Based SharePoint Configuration

Tenant-based SharePoint installations have a complex and more cumbersome access model than Site-based installations. Tenant-based installations, therefore, require a different process to set up and configure:

1. Create a certificate to authenticate Process Director with Azure.
   a. Using Microsoft’s certreq.exe, installed on all modern Windows OS versions.
   b. Using PowerShell, also included with all modern Windows OS versions.
2. Add Process Director as a Registered Application in Azure.
   a. Add the public key certificate to the Process Director application in Azure.
   b. Configure the appropriate Azure settings.

In this topic, we'll address each of these required steps in detail. Additional information about this topic can also be obtained from Microsoft's online documentation.

You cannot configure any OAuth settings for SharePoint Datasources or SMTP Email in Process Director until you have created and registered an Azure Active Directory Application in Azure by completing the steps described in this topic.

Create a certificate to authenticate Process Director with Azure

Microsoft prefers the use of certificates for authentication. Each certificate includes both the public and private keys used to encrypt data. The public key (in a CER file) is used by SharePoint Online to authenticate Process Director. The private key is packaged in a password-protected PFX file and is used by Process Director to authenticate with Azure Services. There are two methods that can be used on Windows-based systems to create a proper certificate.

- Using Microsoft's certreq.exe, installed on all modern Windows OS versions.
- Using PowerShell, also included with all modern Windows OS versions.

Keep in mind that certificates expire after a set period of time. Most organizations specify the maximum length of time certificates should be used. By default, the instructions that follow will generate certificates valid for one year. You should, therefore, generate and install new certificates well before existing certificates expire. This implies that your organization also has a mechanism in place to be reminded when expiration is approaching, to ensure that service interruptions don't occur.

Creating a Certificate with certreq.exe

This method of certificate creation might be preferred if you're less comfortable with command-line operations and don't intend to automate the generation of certificates. Microsoft's online documentation has additional information about certreq.exe.

Instructions

First, using a text editor like Notepad, copy and paste the following text into a new document:

```
[Version]
Signature = "$Windows NT$"
```

```
[Strings]
szOID_ENHANCED_KEY_USAGE = "2.5.29.37"
szOID_KEY_ENCIPHERMENT = "1.3.6.1.5.5.7.3.1"

[NewRequest]
Subject = "cn=BP Logix Process Director"
MachineKeySet = false
KeyLength = 2048
HashAlgorithm = Sha1
Exportable = true
RequestType = Cert

KeyUsage = "CERT_KEY_ENCIPHERMENT_KEY_USAGE"
; The following values can be changed to generate certificates
that expire
; sooner or later depending on your organizations needs. The
default is 1 year.
ValidityPeriod = "Years"
ValidityPeriodUnits = "1"

[Extensions]
%szOID_ENHANCED_KEY_USAGE% = "{text}%szOID_KEY_ENCIPHERMENT%"
```

Once you've done so, save the document as an INF file in a folder on your system, e.g., `c:\Users\Some.User\Documents\PD Certificate\CertReq.inf`.

Open the Windows Command Prompt. You can press the [WINDOWS] key, type "cmd", then select the "Command Prompt" application.

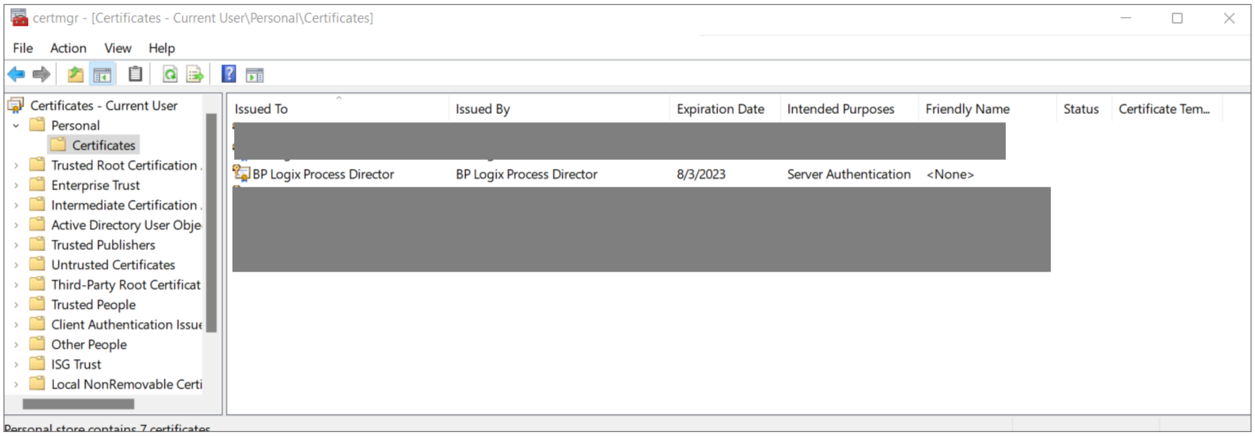
In the Command Prompt, open the directory in which you installed the INF by using the cd command, and the folder path to the INF file, then pressing the [ENTER] key. Using the example above, you'd need to type:

```
cd c:\Users\Some.User\Documents\PD Certificate\
```

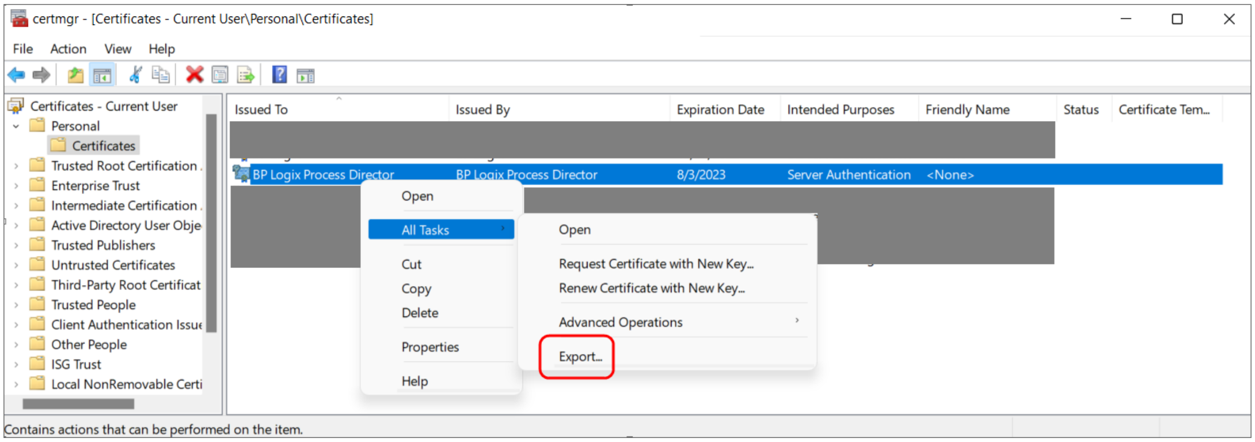
Once the directory changes, type the following and press the [ENTER] key to run the certreq application.

```
certreq -new certreq.inf PublicKey.cer
```

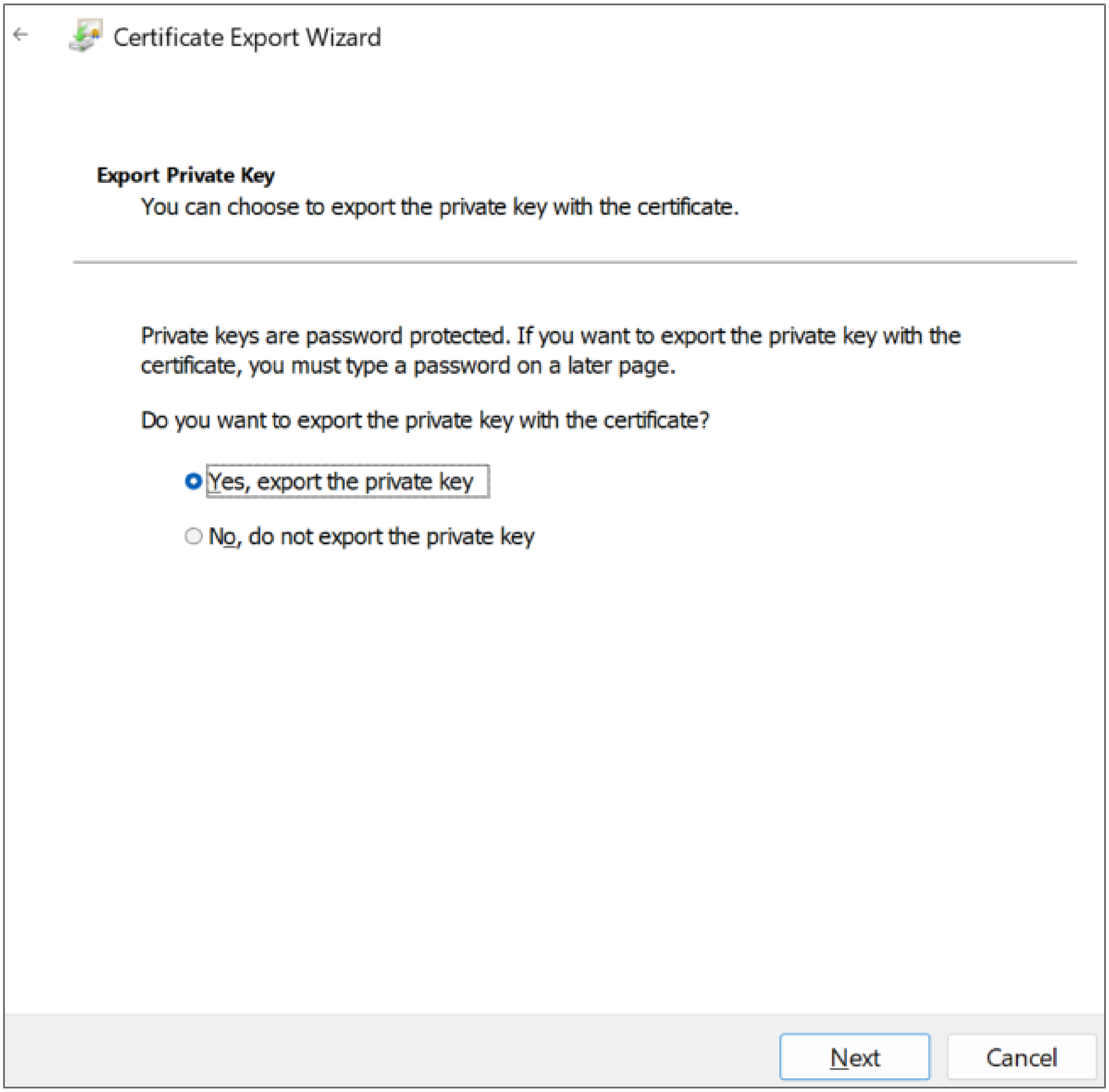
Running the certreq application will create the certificate, and add it to the Windows Certificate Manager. To continue, you'll need to open the Certificate Manager to access the new certificate. To open the Certificate Manager, you can press the [WINDOWS] key, type "certmgr", then select the "Manage computer certificates" option. When the Certificate Manager opens, you'll need to navigate to the `Personal\Certificates` folder, where you should see the certificate issued to and by BP Logix Process Director.



Right-click that certificate and then select All Tasks > Export.

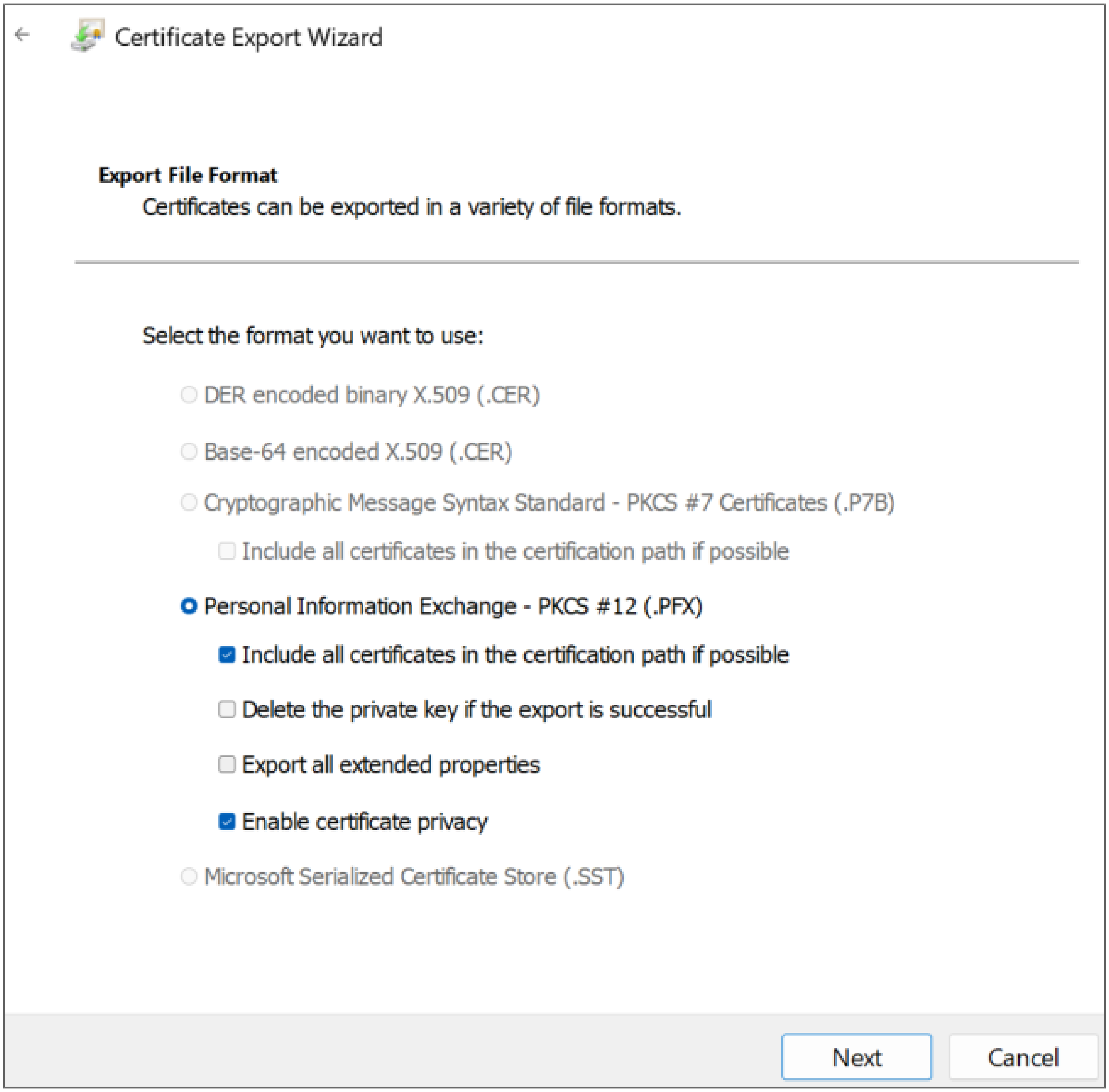


The Certificate Export Wizard will open. On the first screen, click the Next button. On the Export Private Key screen, select Yes, export the private key, then click the Next button.



On the Export File Format screen of the Wizard, Ensure that you select the following options:

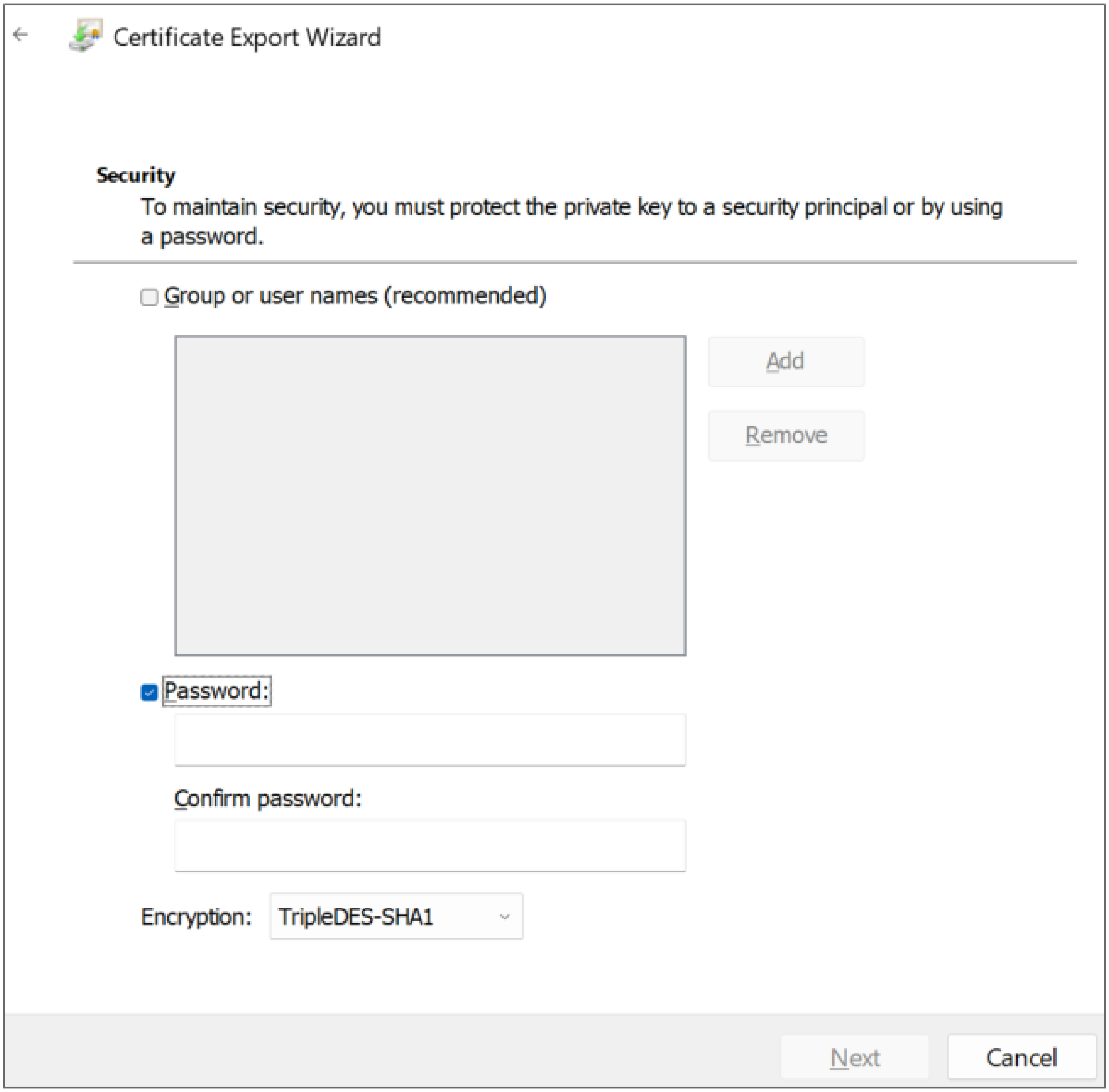
- Personal Information Exchange - PKCS #12 (.PFX)
- Include all certificates in the certification path, if possible
- Enable certificate privacy



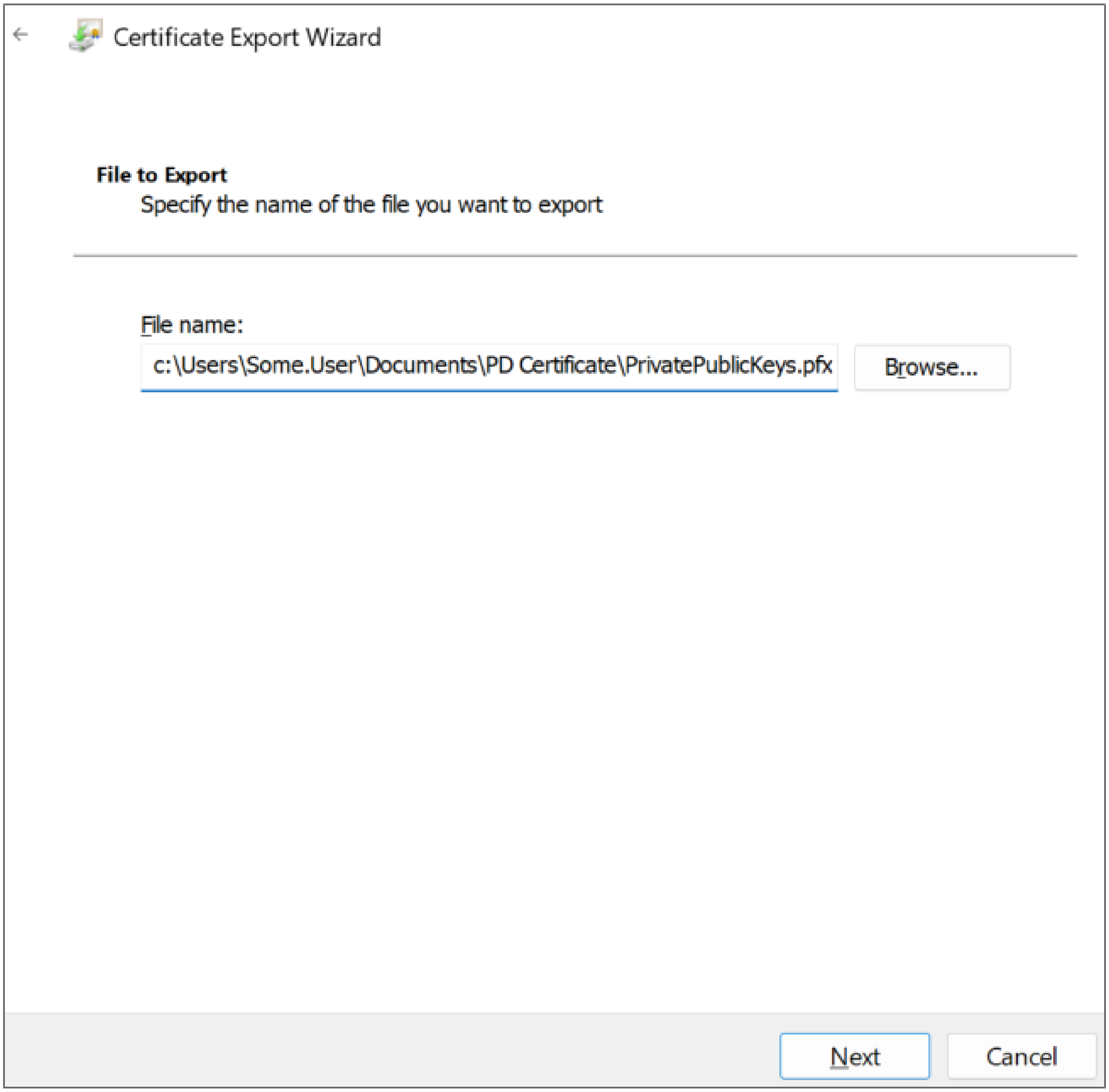
On the Security screen, check Password as the security protocol and enter a password twice.

Be sure to store this password securely, you'll need it in future steps.

Be sure to use a long, sufficiently complex password in line with your organization’s cryptographic standards.



On the File to Export screen, store the resulting PFX file in the same folder as you stored the CertReq.Inf and PublicKey.Cer files, then click the Next button.



Click the Finish button on the next Wizard screen, then OK to finish the Wizard and close it.

BP Logix recommends that you remove the certificate installed in the Certificate Manager by right-clicking it and then selecting Delete followed by Yes to delete it in the confirmation dialog.

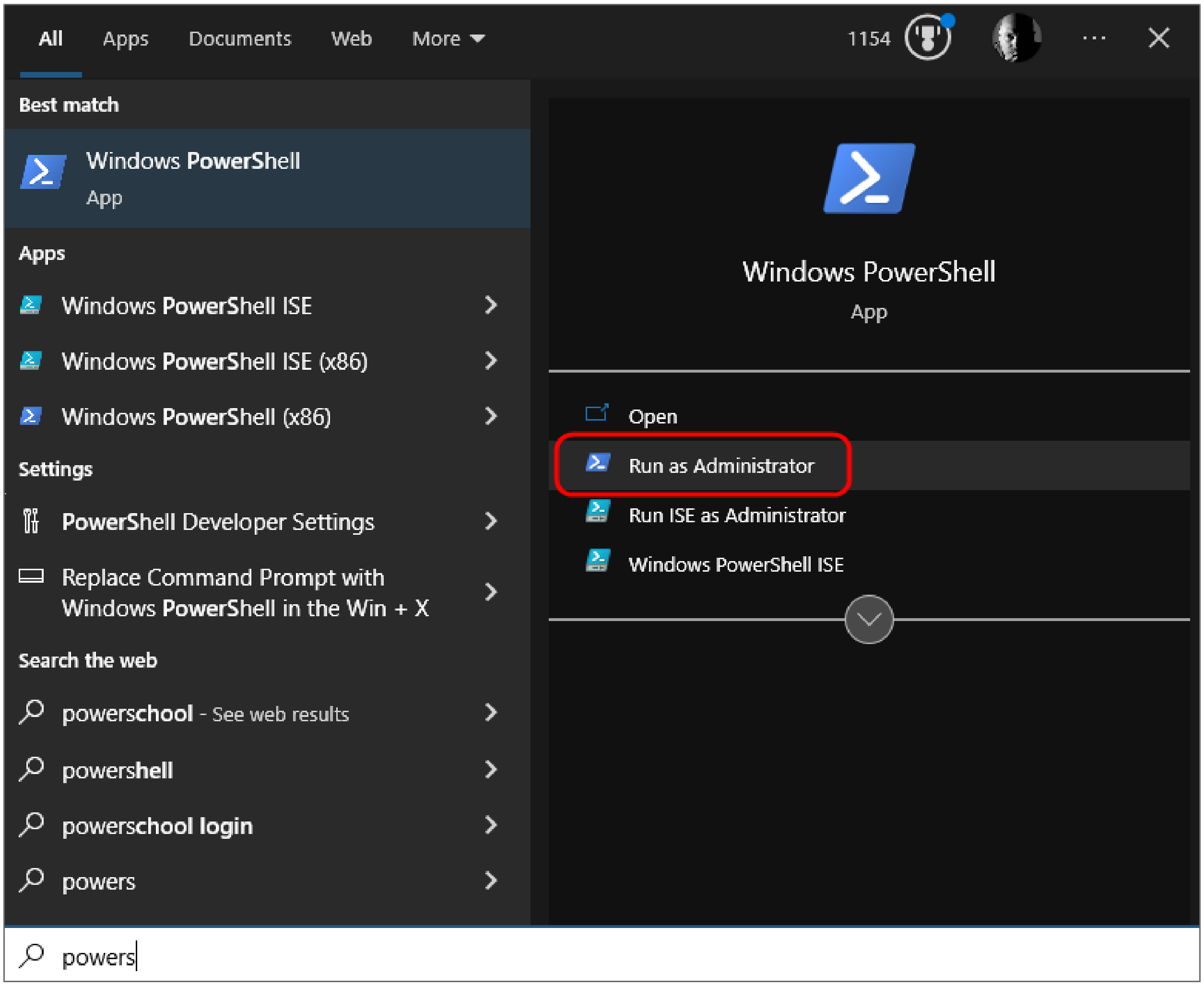
Keep both the PublicKey.cer and PrivatePublicKeys.pfx files handy for subsequent steps in this setup process. You should also archive them in a secure, backed up location as well.

Creating a Certificate with PowerShell

PowerShell is a command line application that's included with all modern versions of Windows. You can choose this method if you're comfortable with PowerShell and might want to automate certificate generation on a recurring basis.

Instructions

Open PowerShell by pressing the [WINDOWS] key, typing "PowerShell" then selecting the Run as Administrator option to open Windows PowerShell.



In PowerShell, create or navigate to the directory you'd like to use to store the certificate files. Once you're in the desired directory, run the following command:

```
$cert = New-SelfSignedCertificate -CertStoreLocation Cer-
t:\LocalMachine\ -KeyUsage KeyEncipherment
    -KeyAlgorithm rsa -KeyLength 2048 -subject "BP Logix
```

```
Process Director"
    -DnsName "BP Logix Process Director" -Type SSLServer-
Authentication
    -TextExtension @("2.5.29.37={text}1.3.6.1.5.5.7.3.1")
```

Next, run these commands in PowerShell, replacing `<password>` with a password of your choosing. Ensure the passowrd is cryptographically secure, in accordance with your organization's standards. Be sure to also store this password securely, as you'll need it in future steps.

```
$pwd = ConvertTo-SecureString -String '<password>' -Force -
AsPlainText
$path = 'cert:\LocalMachine\My\' + $cert.Thumbprint
```

Finally, run these commands to create the .PFX and .CER files. Modify the `<path>` value to store the file in a location of your choosing.

```
Export-PfxCertificate -cert $path -FilePath <path>\Priv-
atePublicKeys.pfx -Password $pwd
Export-Certificate -cert $path -FilePath <path>\PublicKey.cer
```

Keep both the PublicKey.cer and PrivatePublicKeys.pfx files handy for subsequent steps in this setup process. You should also archive them in a secure backup location as well.

Add Process Director to Azure

To add Process Director as an application in your Azure Active Directory portal at the Tenant level, complete the steps below after signing into your Azure portal (portal.azure.com):

1. Register Process Director as an Application

A. If you have access to multiple tenants, use the Directories + subscriptions filter in the top menu to switch to the tenant in which you want to register the application.
B. Search for and select Azure Active Directory.
C. Under Manage, select App registrations > New registration.
D. Enter a display Name for your application, e.g., "Process Director". This name can be changed later, if needed.
E. Specify who can use the application. Typically, only accounts in this organizational directory should be used. See the Microsoft documentation titled

Quickstart: Register an application with the Microsoft identity platform for more information.

F. Add the Redirect URI, which is the URI for your Process Director installation, e.g., https://myorg.bplogix.net.
G. Click the Register button to register the application.

2. Add Your Public Key Certificate

To add your public key certificate to the Process Director application in Azure, complete the steps below.

A. In the Azure portal, in App registrations, select the Process Director application you created previously, e.g., “Process Director”, as in step 1D, above.
B. Select Certificates & secrets > Certificates > Upload certificate.
C. Select the PublicKey.cer file you created earlier.
D. Upload the certificate file to Azure.

Your AAD Application should now be properly registered and secured with a certificate.

Conclusion

Congratulations! Assuming that you've correctly followed the instructions above, you've now configured an Azure Integration with Process Director. To complete the integration, you'll need to perform some additional, specialized configuration in Azure, which is covered in the Create a Sharepoint data source topic.

Microsoft OAuth for SMTP

To configure integration between Azure and Process Director, you'll first need to create an Registered Application for Process Director, if you do not have one. Once the Registered Application has been created, you'll need to perform some additional configuration to the Registered Application's settings in Azure.

First, in the Authentication area, you'll need to set the Allow public client flows property to: `Yes (On)`

Unfortunately, there are many factors that might impact the remaining Registered Application settings you'll need to use. Since that is so, you may wish to reference Microsoft's explanation of SMTP OAuth implementation.

Depending on your Azure installation, as well as your organization's policies, there are different configuration settings that you might need to implement, in order to enable your Registered Application to enable Process Director to use OAuth to send mail messages. **BP Logix cannot, therefore, definitively describe what settings might be required to make your Azure installation accept OAuth authentication, as we have no knowledge of, or access to, your Azure configuration.**

> **We strongly recommend that you refer to the Microsoft documentation topic on this subject: How to set up a multifunction device or application to send emails using Microsoft 365 or Office 365.**

We can provide some common configuration suggestions that have worked for our customers in the past, though ***we cannot guarantee that these settings will work with your specific Azure configuration***.

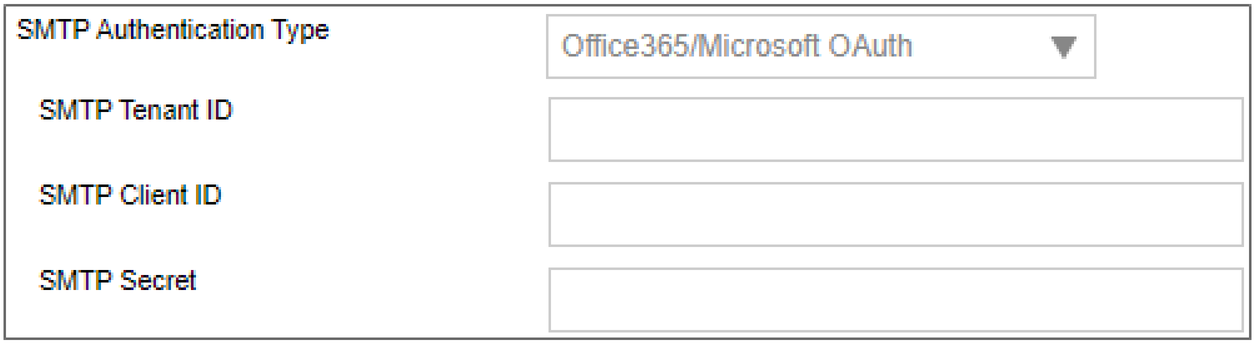
1. If it's available for your Azure installation, in the Office 365 Exchange Online section of the API Permissions area, you can set the permissions `SMTP.AccessAsUser.All`. This setting is not available for all installations. This setting seems to have been deprecated for recent installations of Azure, in lieu of #2, below.
2. In the Office 365 Exchange Online area, enable the `SMTP.SendAsApp` property. You may also need to enable `IMAP.SendAsUser.All` to true.
3. In the Microsoft Graph section of the API Permissions area, you can enable the following permissions: `Microsoft.Graph Delegated SMTP.Send` and `Delegated User.Read`.
4. For more comprehensive email access, you can set `Microsoft.Graph Delegated IMAP.AccessAsUser.All`.

If no combination of the settings above work for you, you may need to contact your Microsoft Azure technical support representative to assist you with configuring the correct AAD App permissions for your installation.

> **For more information on authentication permissions, please refer to the Microsoft Graph Permissions Reference from Microsoft. Please be**

aware that BP Logix has an extremely limited ability to assist you with troubleshooting your Azure installation or settings.

Once configured, you'll need to get the following properties from the Registered Application's settings to transfer to the corresponding OAuth settings for the "Office365/Microsoft OAuth" SMTP Authentication Type, which is found on the [Properties page](#) of the Installation Settings section of the IT Admin area.:



1. SMTP Tenant ID
   a. The ID of the Azure Tenant in which the Registered Application resides (Creation of a Registered App requires the existence of a Tenant)
   b. The Tenant ID is displayed as the Directory (tenant) ID property on the Overview page of your Registered Application in Azure, but this value will also be displayed following `login.microsoft.com/...` in the End-point URLs that the App references
2. SMTP Client ID
   a. The ID of the Registered Application
   b. This value is displayed as the Application (client) ID property on the Overview page of your Registered Application.
3. SMTP Secret
   a. The client secret or application password the administrator created to use with the Registered Application.
4. UserID/Password
   a. Some installations may require that you provide a valid UserID and Password to connect to an email account on your system for sending mail messages, as part of the authentication.

Some Azure configurations may also be configured to require a specific email address be used to send ***all*** mails as the "From" email address. In that case, you will *at least* need to go to the Global Variables page and set the Workflow From Email Address property to the email address you've specified in Azure. You may also wish to set that email address for the Registered Email property on this page (Properties), as a backup to the Global Variables setting.

Be advised that, with this configuration, ALL email addresses sent from the system MUST use the specified email address as the From address. This means that any custom email addresses you configure elsewhere, such as the "From Email" property of a Email Data control in an email template, *will not send email messages*.

Microsoft 365 and CDA

For Process Director v6.1.300 and higher, CDA can optionally be used in conjunction with Microsoft 365 (M365), rather than the OnlyOffice service. M365 was formerly called "Office 365" until 2025, when it was renamed. M365 is an online service that provides online access to, storage for, and use of all the productivity applications that have been part of the Microsoft Office software suite for many years, such as Microsoft Word®, Excel®, PowerPoint®, etc.

Additional configuration is required to use M365 as the editor for CDA documents.

- First, you must set up the configuration in Azure/Entra to create the appropriate SAML setup and application endpoints, as described in the Configuring Microsoft 365 for CDA topic of the System Administrator Guide.
- Next, the Properties page of the Installation Settings section of the IT Admin area has several properties that must be configured to create the connection to both the M365 installation and the shared SharePoint site root folder in which document attachments will be stored. These properties also require supplying the OAuth settings for the Registered Application in Azure/Entra.

The configuration of M365 CDA is a stand-alone process and is completely unrelated to other, similar features, such as OAuth for SMTP through Microsoft Azure or the SharePoint Datasource object, both of which will require their own, unique settings and configuration.

Configuring Azure for Microsoft 365 (M365)

For Process Director v6.1.300 and higher, Collaborative Document Authoring (CDA), can be implemented using the online version of Microsoft 365 (M365). Setting up M365 CDA is a relatively complex process. This process will require setup within your Azure/Entra instance, and will, in most cases, also require some assistance from BP Logix. BP Logix recommends that you read this guide thoroughly before executing the steps provided. Key information can be overlooked if you're not careful.

In order to provide optimal security, confining Process Director to a single SharePoint site, you'll need to create two different application registrations in Microsoft Entra. The first “Full Scope” registration is used only during initial configuration. The second “Site” registration is configured through the “Full Scope” registration and is the application registration that Process Director will utilize, once configured.

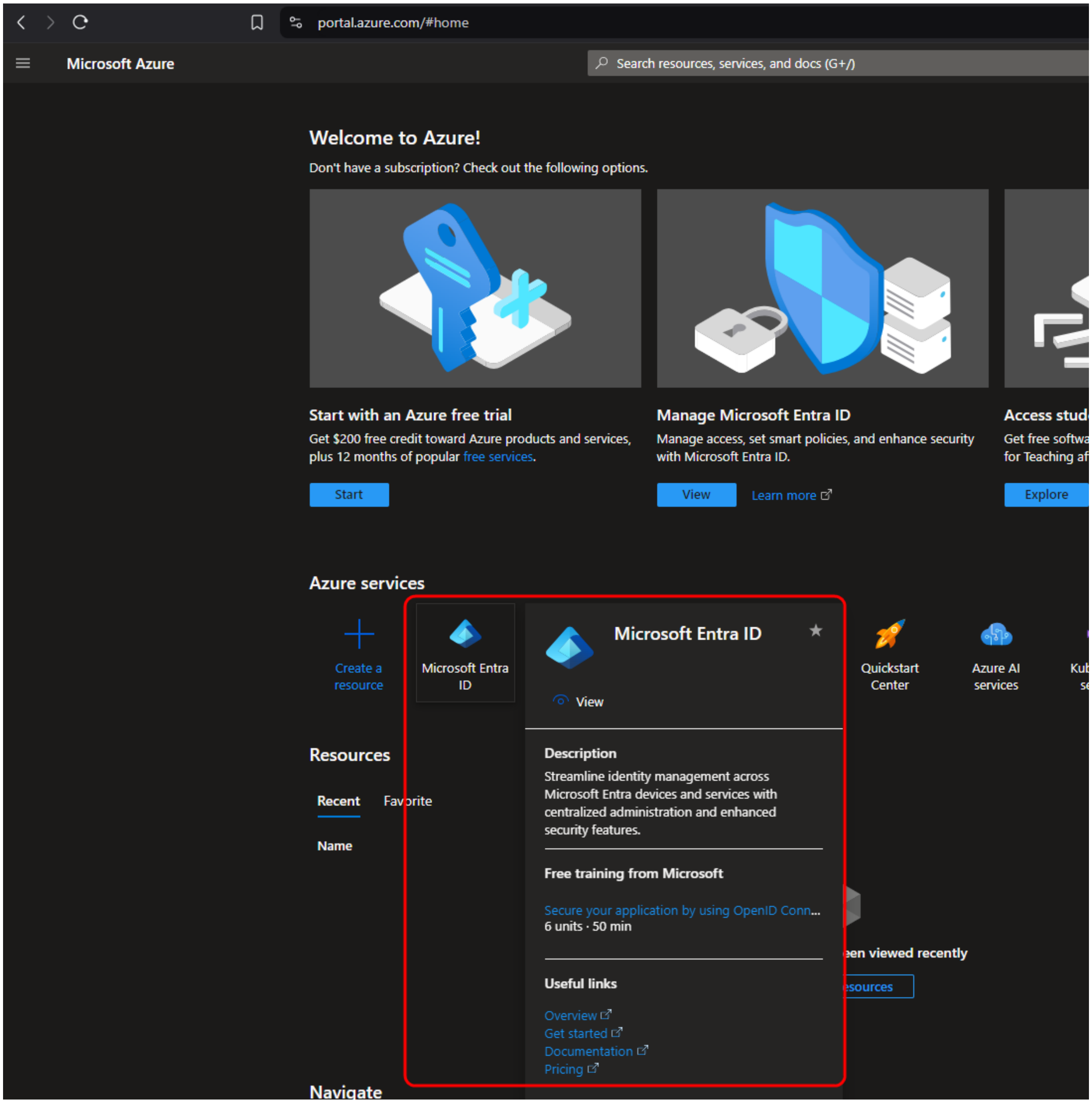
There are several steps to the process of configuration, each of which are linked to a documentation topic below, in the order in which they must be completed. In each topic, we'll specifically designate which steps you must perform as part of your Azure/Entra configuration, and which steps BP Logix must perform to complete the configuration in Process Director. Configuring M365 CDA requires that the steps below must be completed in order.

1. Configure SAML access for PD in Azure.
2. Create and configure “Full Scope” App Registration for PD in Azure/Entra.
3. Create and configure “Site” App Registration for PD in Azure/Entra.
4. Grant proper “Site” App Registration permission.
5. Securely exchange “Site” App Registration and related settings with Process Director.
6. Configure Process Director to leverage the application registration.
7. Configure SharePoint external sharing.

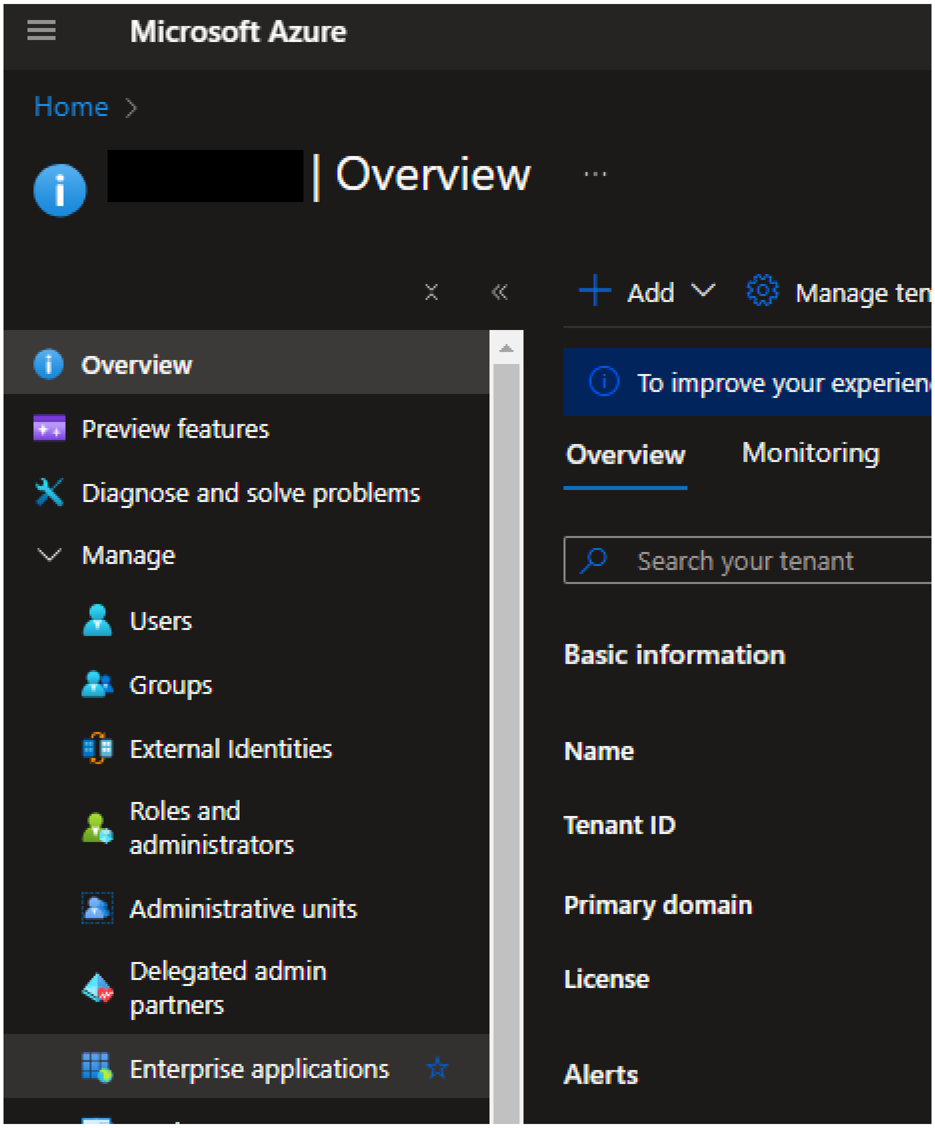
Configuring SAML Access for M365 CDA

There are several ways to register external applications for use in Azure; however, only Enterprise applications currently support SAML. Thus for this topic, we'll cover the creation of the Enterprise Application for configuring SAML with Process Director.

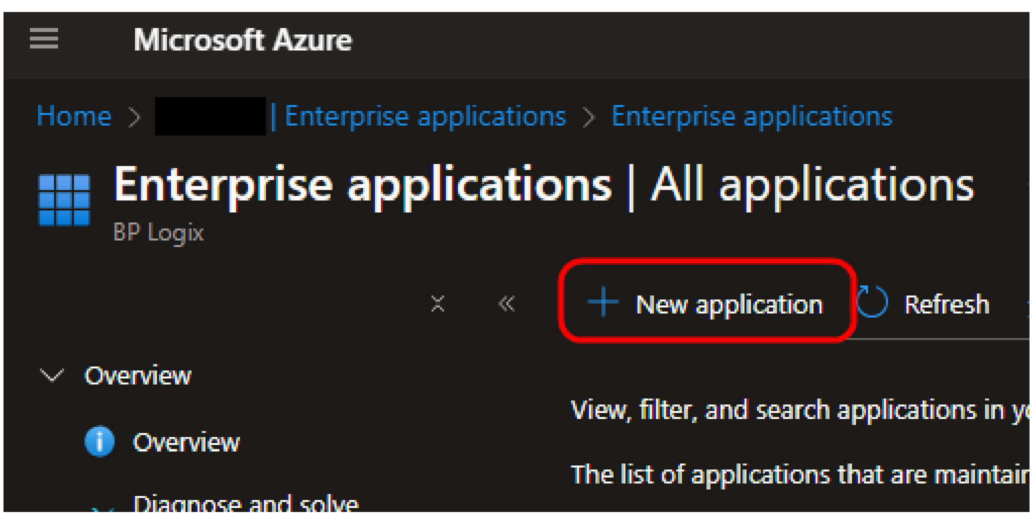
To begin creating the Enterprise application for SAML integration, first navigate to the Microsoft Entra ID page of your Azure portal.



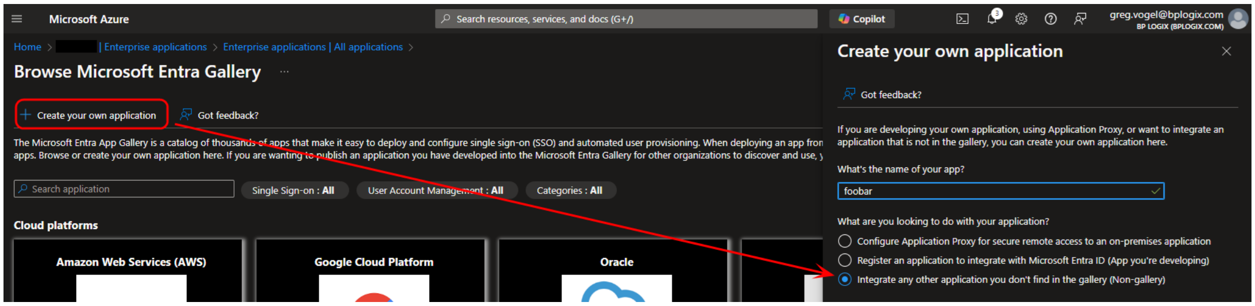
From this page, use the navigation bar on the left side of the screen to navigate to the Enterprise Applications page.



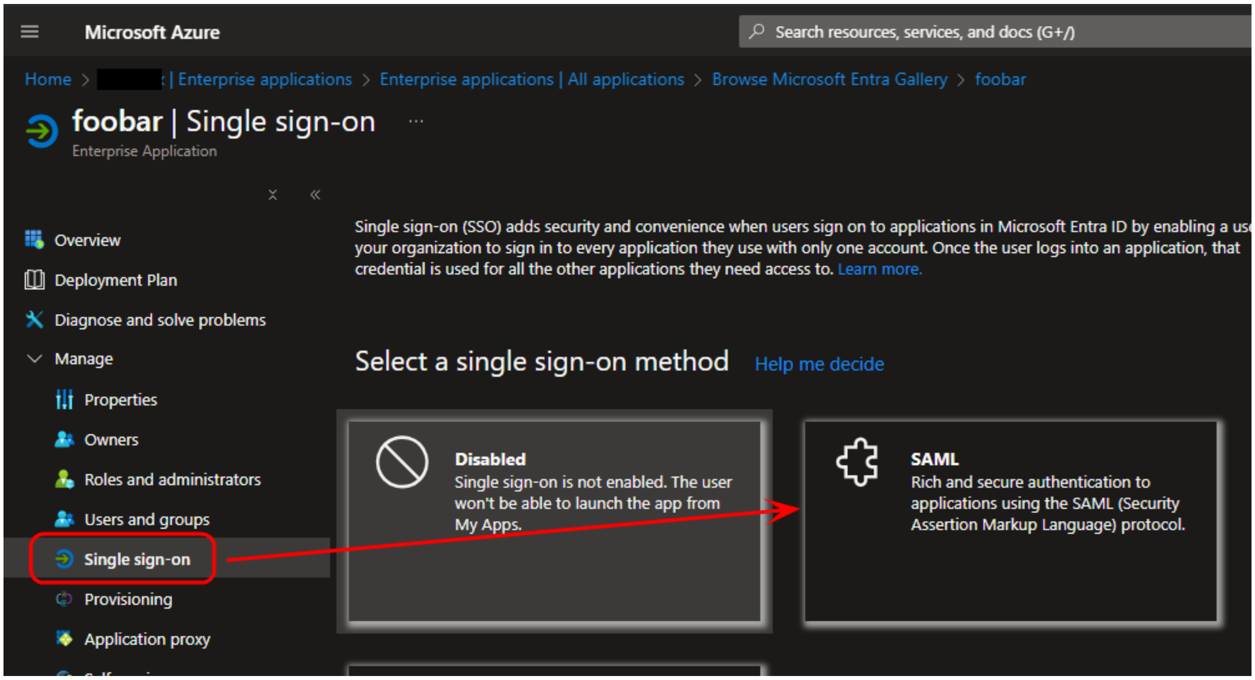
From the toolbar at the top of the page, select the New application button.



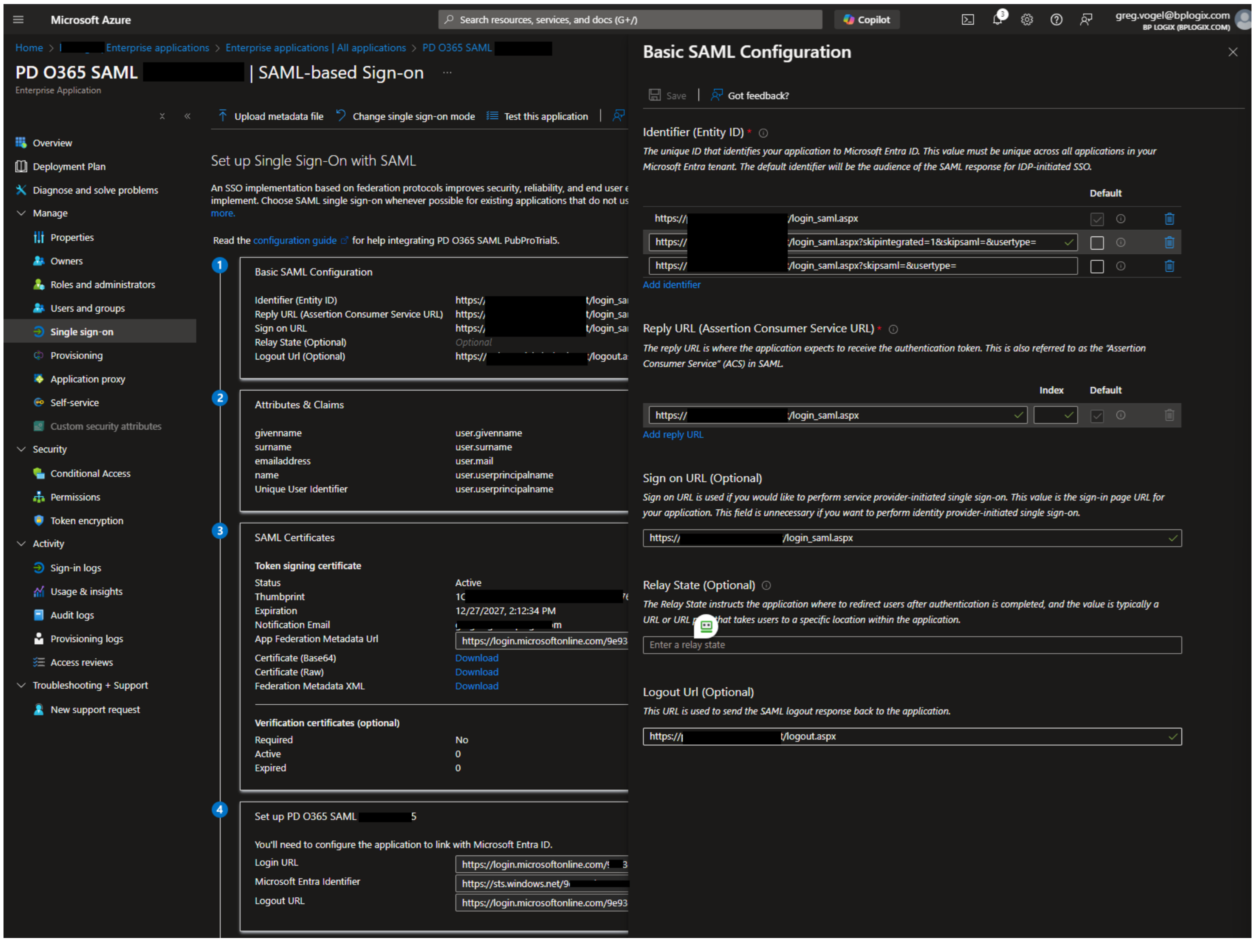
Click the Create your own application button, then select the option labeled, Integrate any other application you don't find in the gallery.



Once the application has been created, you'll need to select the application type. To do so, click the Single sign-on button from the navigation bar on the left side of the page, then click the SAML button that will appear in the main portion of the screen.



On the SAML-based Sign-on page, you'll need to add the appropriate identifying URLS to configure the linkage between Process Director's SAML-related pages and Azure/Entra.



First, you'll need to add the Identifier (Identity ID) URLs that specify where the SAML logins will originate in Process Director. There are three of them that must be configured, using your actual Process Director server domain in place of the `<pdserver.domain>` placeholder text:

1. `https://<pdserver.domain>/login_saml.aspx`
2. `https://<pdserver.domain>/login_saml.aspx?skipintegrated=1&skipsaml=&usertype=`
3. `https://<pdserver.domain>/login_saml.aspx?skipsaml=&usertype=`

You'll then need to set the Reply URL (Assertion Consumer Service URL) property to:

`https://<pdserver.domain>/login_saml.aspx`.

Next, set the Signon URL (Optional) property to:

`https://<pdserver.domain>/login_saml.aspx`.

Finally, set the Logout Url (Optional) property to:

`https://<pdserver.domain>/logout.aspx`.

The remainder of the Azure default property settings can remain unchanged. Click the Save button to save your newly configured application. Keep the page open, however, as we'll want to test the configuration later.

With the application configured in Azure, you'll now need to make the appropriate changes to your Process Director installation to enable SAML sign on for Process Director. **For Cloud customers, this process will most likely be done by BP Logix personnel.** On-Premise customers, however, will have to perform this configuration in their Process Director installation. Please see the appropriate Process Director documentation for configuring SAML 2.0 (Federated Identity) Support in the Installation Guide. This configuration will require setting several SAML Custom Variables in your Custom Variables file.

Once SAML is correctly configured in Process Director, you can return to the Azure Application window. At the bottom of the configuration page, click the Test button. This button will verify that all your changes work by opening a pop-up browser window to perform the connection testing. It will even look up errors you may receive from Microsoft’s login server and provide you help with resolving them.

Once the testing is complete, and you've corrected any SAML configuration or connection errors that may appear, your Process Director server should be fully integrated with Azure for SAML authentication.

With the configuration completed, you'll then need to determine how existing users will be added to Process Director from your SAML system. There are two common methods for adding existing users:

1. Direct import into Process Director via a CSV/Excel file.
2. Enabling Process Director to auto-create user accounts when the user first logs in via SAML.

BP Logix personnel will work with you to determine the most appropriate method for your user provisioning, both initially and on an ongoing basis. There are, as always, pros and cons with both methods, so BP Logix will work with you to determine the user provisioning method that best meets your needs.

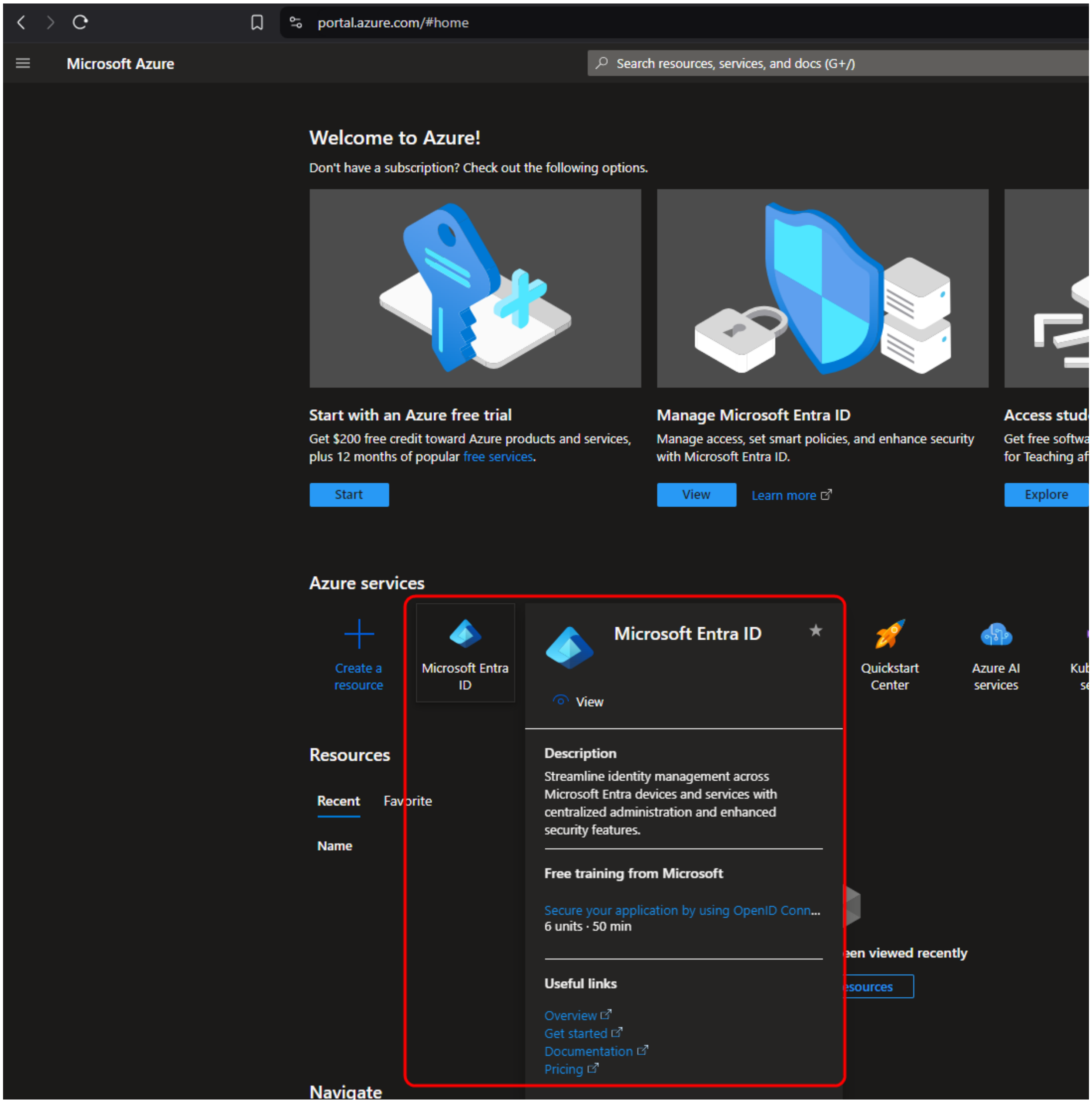
With SAML set up properly, you can move to the next step, which is to create and configure the "Full Scope" App Registration in Azure.

Configuring "Full Scope" App Registration

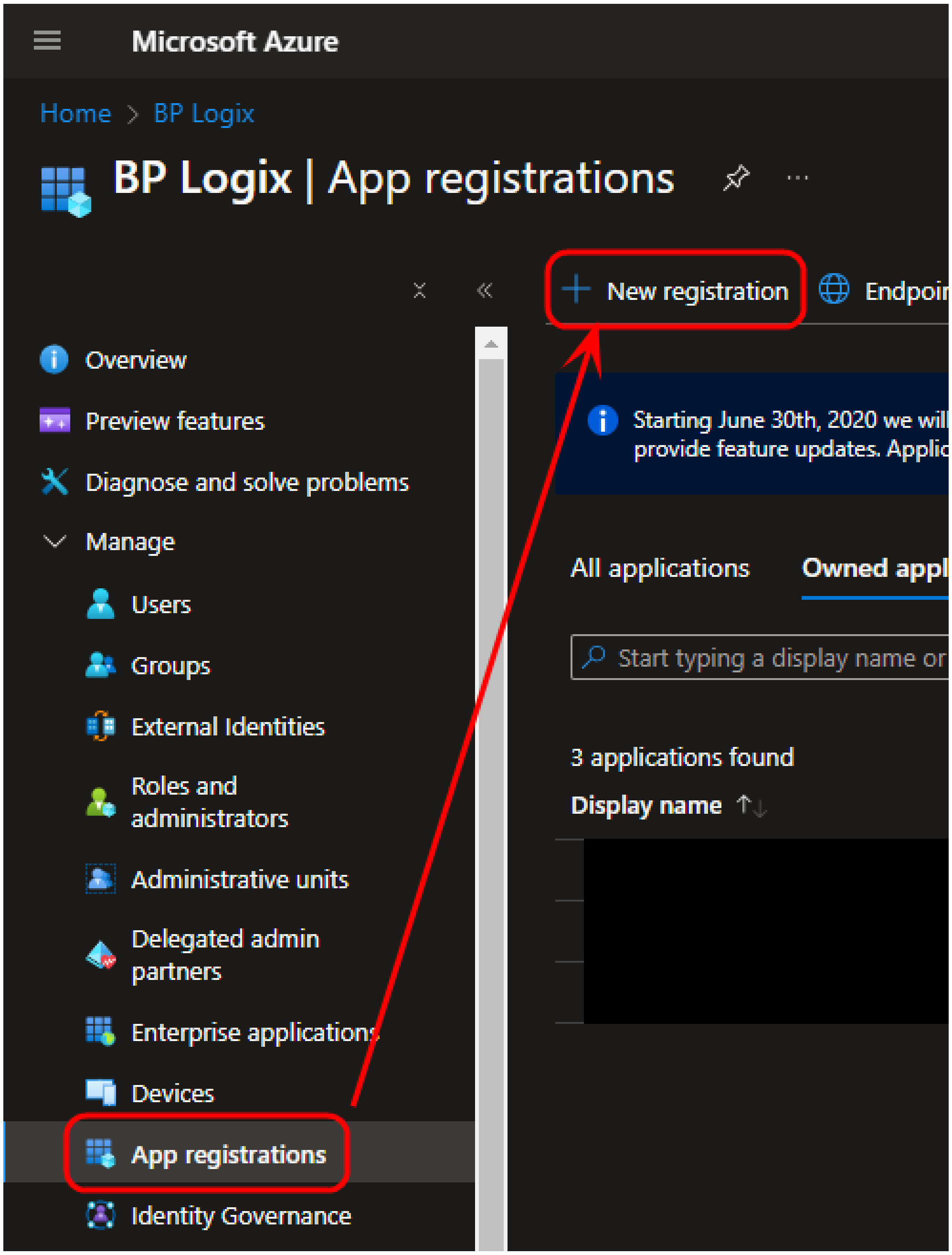
When fully configured, M365 CDA will access a single, specified SharePoint site. In order to create this configuration, you'll need to provide a mechanism to isolate that site. A "Full Scope" application registration in Azure provides this isolation mechanism, which we'll use to create the site-level application later.

The official Azure/Entra proprietary term for creating the entity we're about to configure is *Application (App) Registration*, and that's the term we'll use in this documentation. Your personnel who have IT/IS specialties may refer to this Azure/Entra entity by different names. Most commonly, the generic term *Service Principal* is likely familiar, since it's a generic term that can be used for other cloud providers like AWS and Google Cloud, and is the term commonly used in Internet Security.

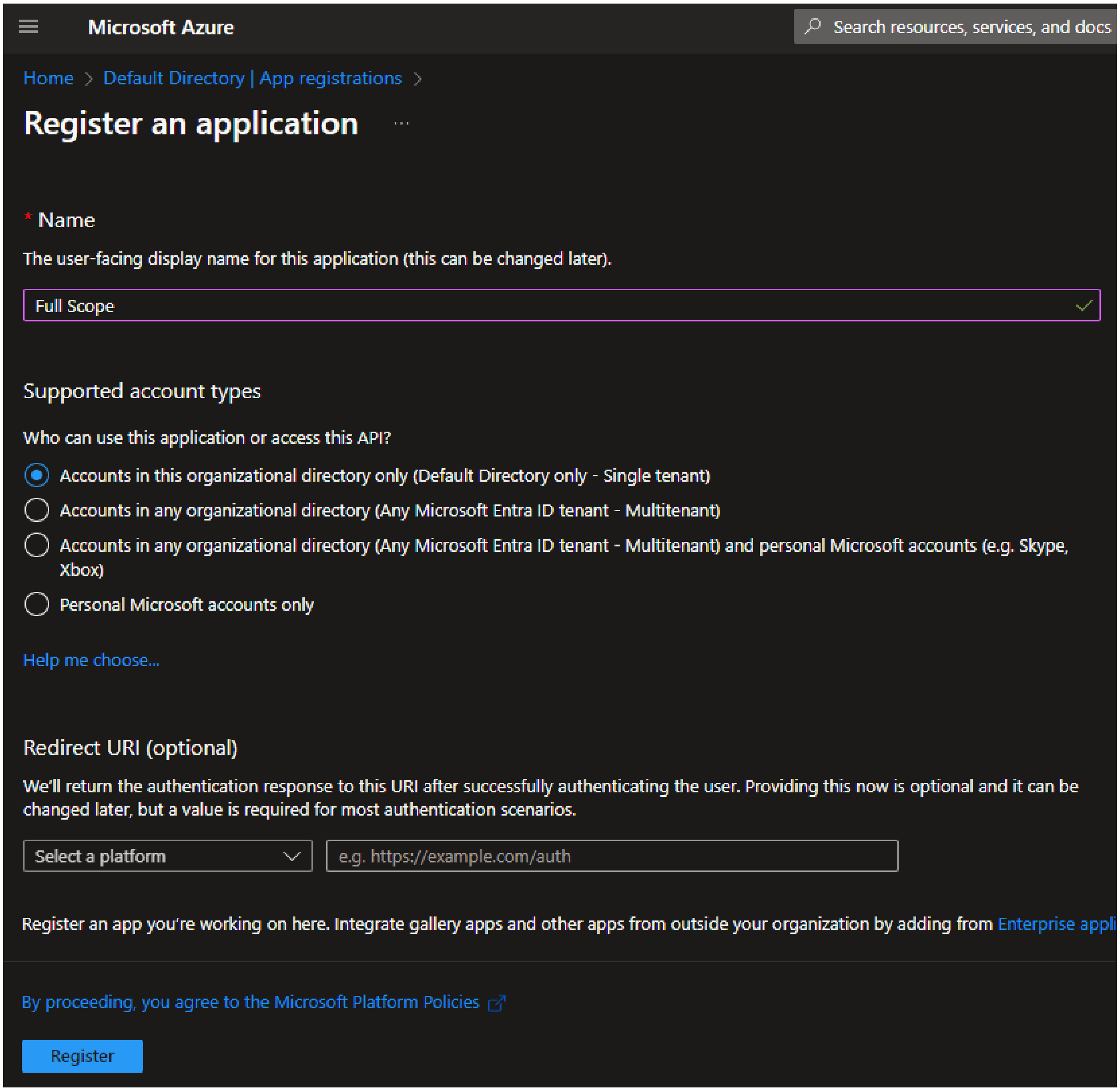
To create the "Full Scope" App Registration, first navigate to the Microsoft Entra ID page of your Azure installation.



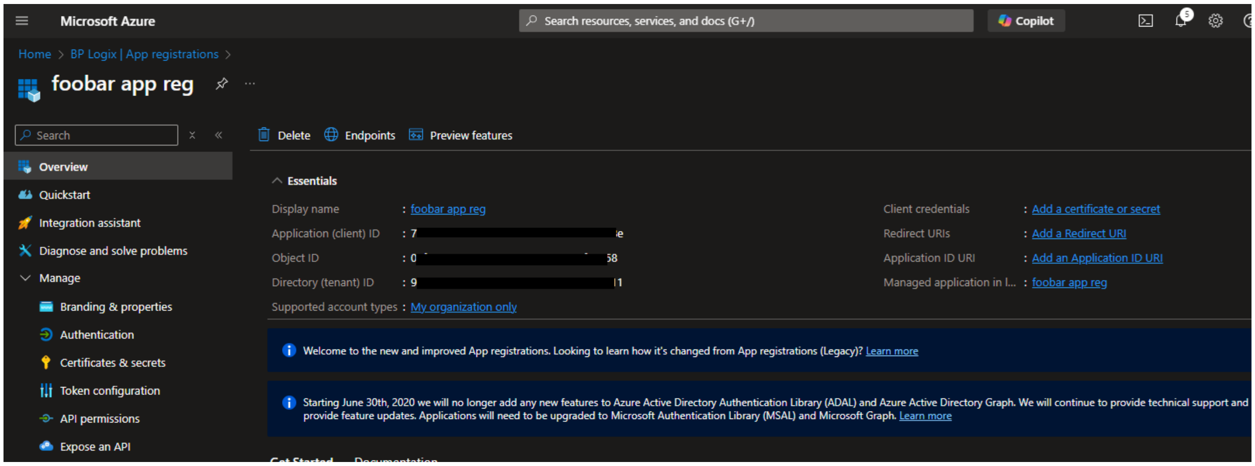
From this page, use the navigation bar on the left side of the screen to navigate to the App Registrations page. From this page, click the New registration button that appears at the top of the page.



On the Register an application page, Set the Name of the new application as “Full Scope” (or a suitable name of your choosing but note we refer to it as “Full Scope” in this document). Typically, the default setting of the Supported Account Types property is "Accounts in this organizational directory only" is satisfactory and provides optimal security.



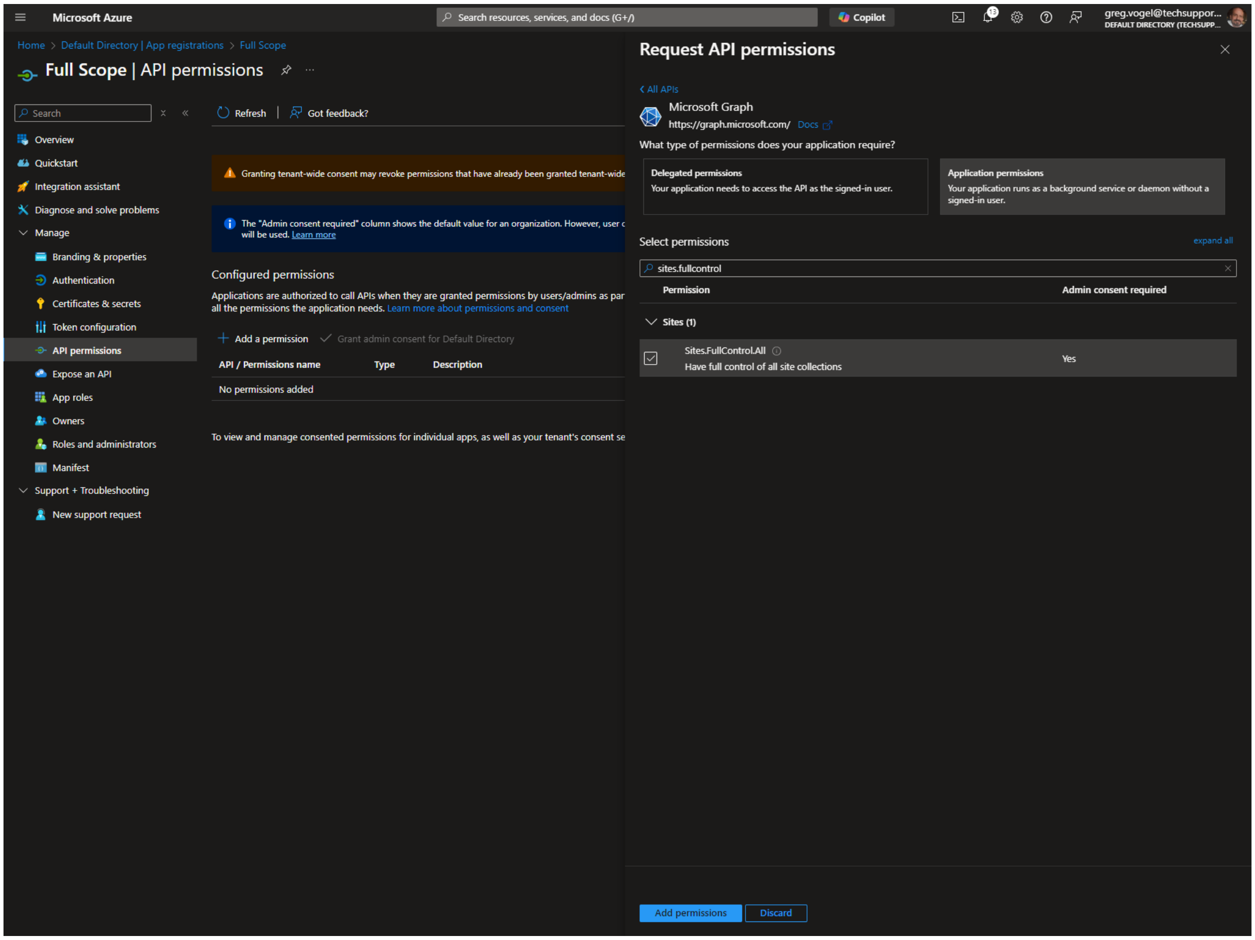
You can click the Register button at the bottom of the page to register the new application. Once registered, you'll see the Overview page for the new application. Note the Application (client) ID and Directory (tenant) ID properties. These values will be needed later when we grant access to the "Site" level App Registration. They are easily copied when hovering the mouse over each value.



Next, you'll need to click the API Permissions menu item from the left sidebar of the page to open the API Permissions page. You'll need to edit some of the default permissions for this application.

If the `User.Read` permission is shown, you'll need to delete it.

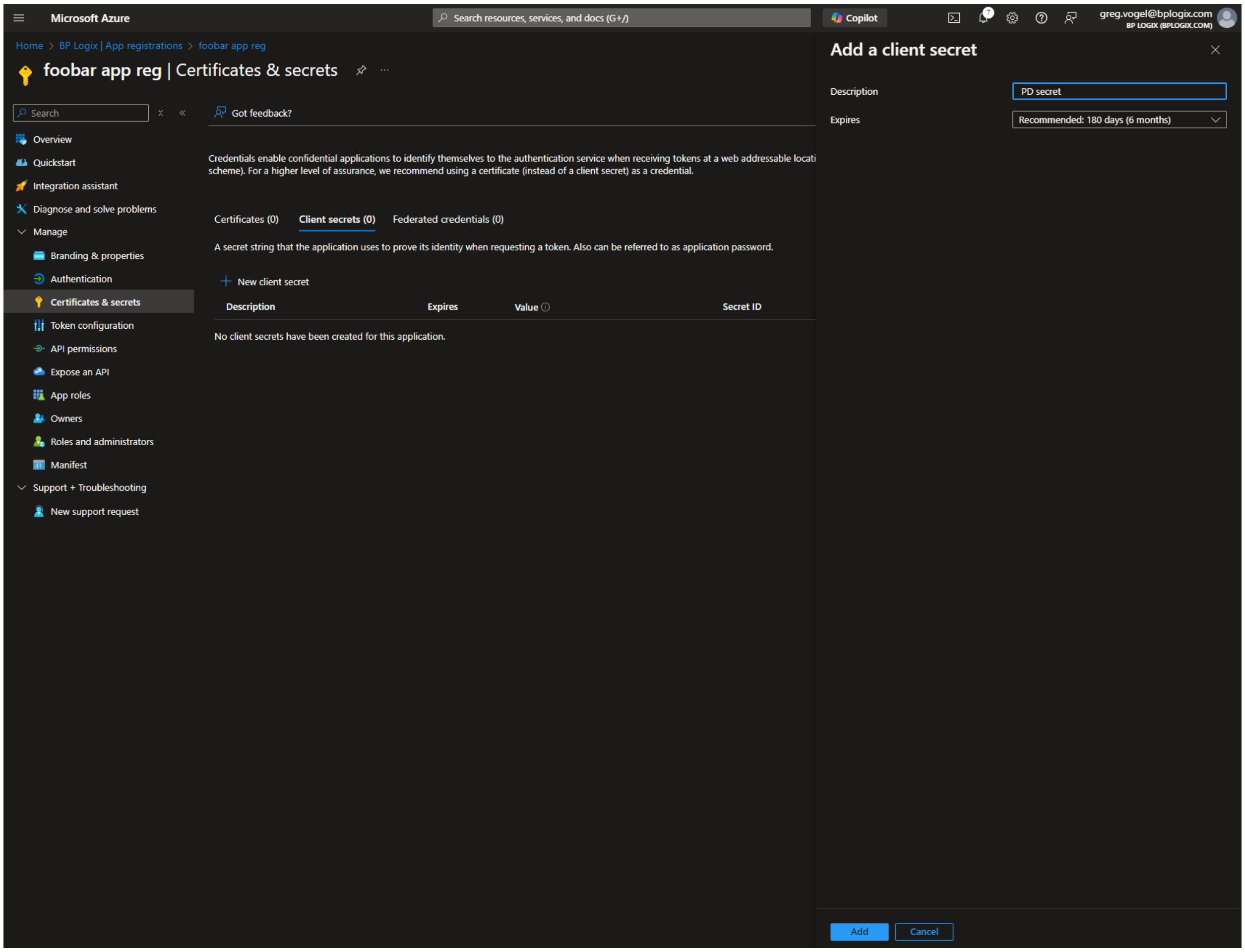
Next, you'll need to click the Add a permission button to open its dialog box. Select Microsoft Graph, then Application Permissions. Once in the Application Permissions section, you'll need to add the `Sites.FullControl.All` permission to the application.



Once you've done so, click the Add Permissions button at the bottom of the page. Once you do, you'll need to click the Grant admin consent for <Enterprise name> button to confirm the change.

Now that the permissions have been changed, you'll need to create the Client Secret property for the new application. To do so, click the Certificates & secrets navigation menu item on the left sidebar of the page. When the page opens, click the New Client Secret button to create a new client secret. You'll need to provide a Name for the new item. Once you do so, click the Add button.

> **Once you click the *Add* button, you are presented with the secret *once and only once*. Do not navigate away or refresh the page.**



Click the Copy to clipboard icon and then paste the secret into a secure document or file. Keep the file secret, and store it in a safe and secure place, preferably one that is backed up securely. Losing this value will make it impossible to use the "Full Scope" app to create the site isolation for the M365 CDA integration.

Keep the values for the Client Secret as well as the Client ID and Tenant ID properties for the “Full Scope” App Registration on hand. We'll need them to create and configure the "site" level App Registration, which is the next step in the process.

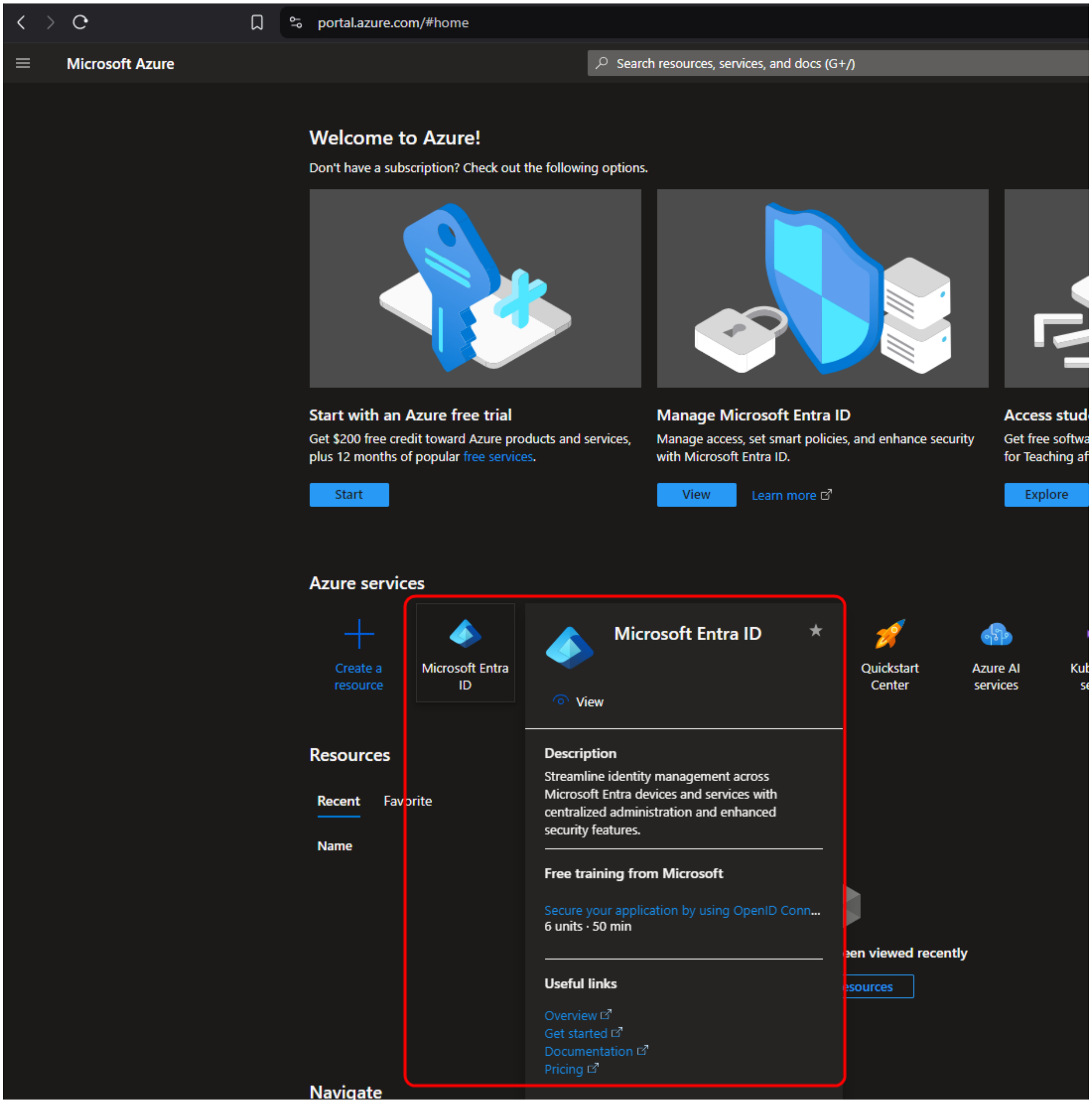
Configuring the "Site" Level App Registration

As mentioned at the end of the previous configuration step, you're going to need to refer to the Client Secret, Client ID, and Tenant ID properties of the "Full Scope" App registration. The "Site" level App registration also has the same properties, with the same property names. To avoid confusion during the configuration, we'll explicitly refer to these

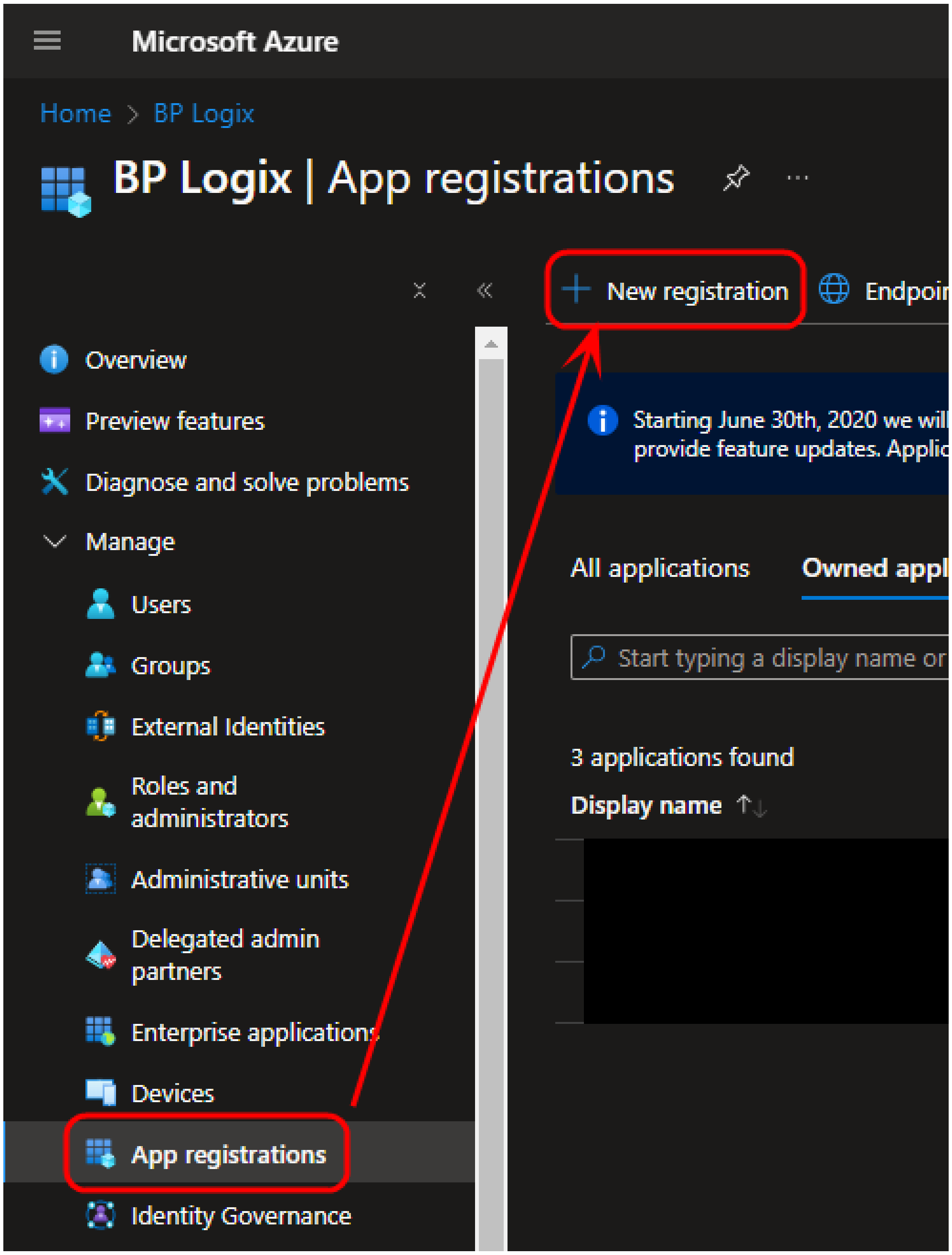
properties as "Full Scope" or "Site" when referring to the property names, e.g., Full Scope Client ID, Site Client ID, etc.

The purpose of the "Site" level App Registration is to enable the Process Director web application server to access your enterprise's Microsoft 365 (Office Online/M365/SharePoint Online) document storage for the purposes of using it for CDA. The "Site" level application is what CDA will access to enable the use of M365 for the collaborative editing of documents.

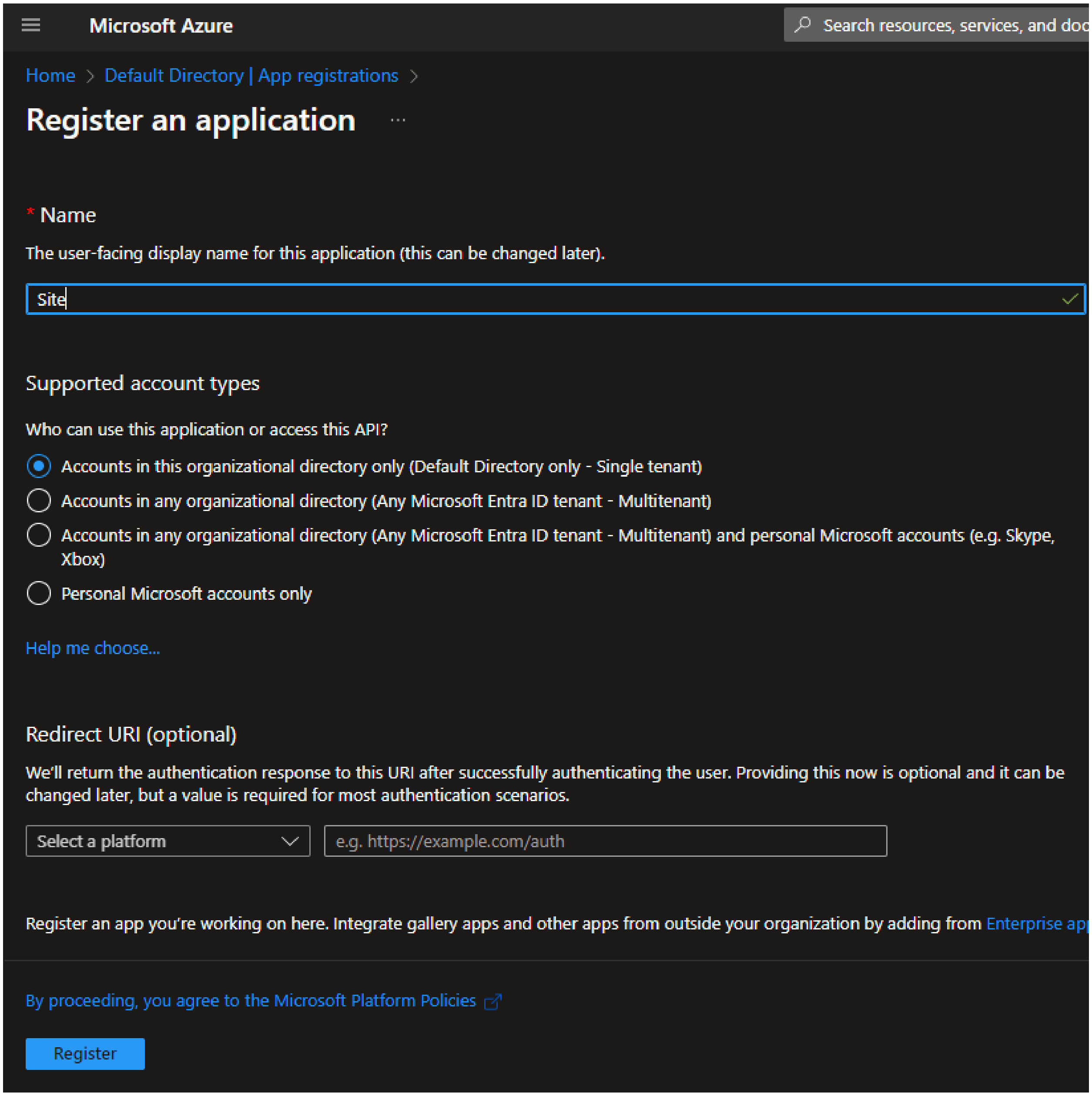
To create the "Site" level App Registration, first navigate to the Microsoft Entra ID page of your Azure installation.



From this page, use the navigation bar on the left side of the screen to navigate to the App Registrations page. From this page, click the New registration button that appears at the top of the page.

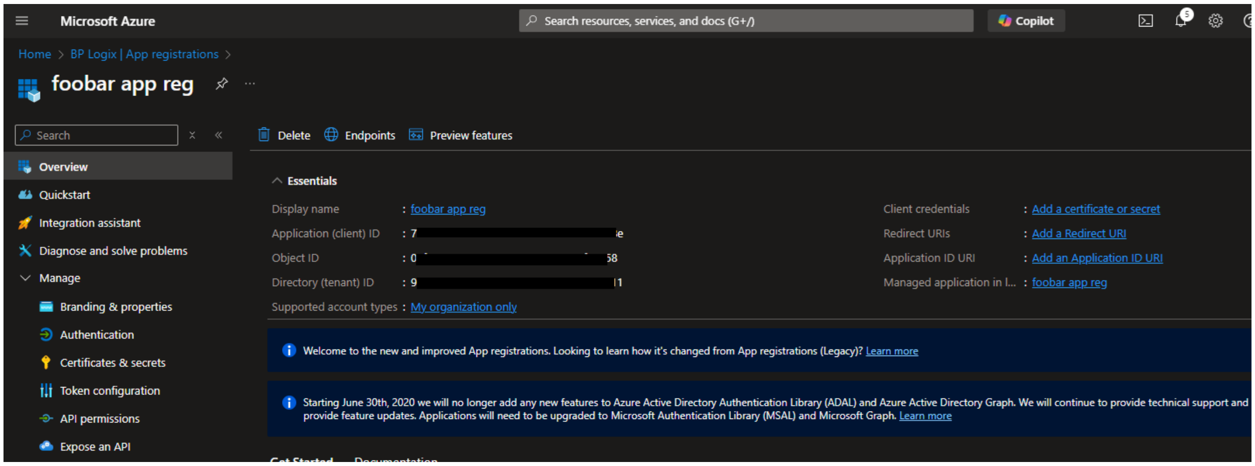


Set the Name property of the new registration to "Site"(or a suitable name of your choosing but we'll refer to it as “Site” in this document), to distinguish it from the "Full Scope" registration you created previously. Typically, the default setting of the Supported Account Types property is "Accounts in this organizational directory only" is satisfactory and provides optimal security.



You can click the Register button at the bottom of the page to register the application. Once registered, you'll see the Overview page for it. Note the Application (client) ID and Directory (tenant) ID properties. These values are easily copied when hovering the mouse over each value.

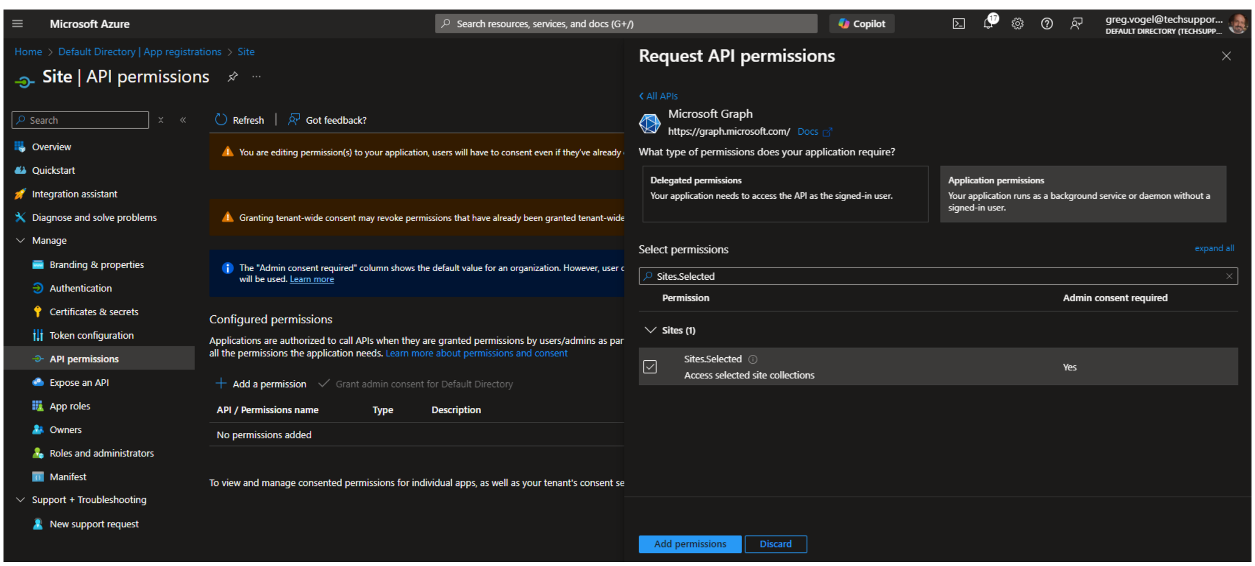
As mentioned previously, these are the same property names that are used in the "Full Site" App Registration, so we'll refer to them as Site Client ID and Site Tenant ID for the remainder of this document. Similarly, we'll refer to the Full Scope Client ID and Full Scope Tenant ID for the same properties used by the "Full Scope" App Registration.



Next, you'll need to click the API Permissions menu item from the left sidebar of the page to open the API Permissions page. You'll need to edit some of the default permissions for this application.

If the `User.Read` permission is shown, you'll need to delete it.

Next, you'll need to click the Add a permission button to open its dialog box. Select Microsoft Graph, then Application Permissions. Once in the Application Permissions section, you'll need to add the `Sites.Selected` permission to the application.

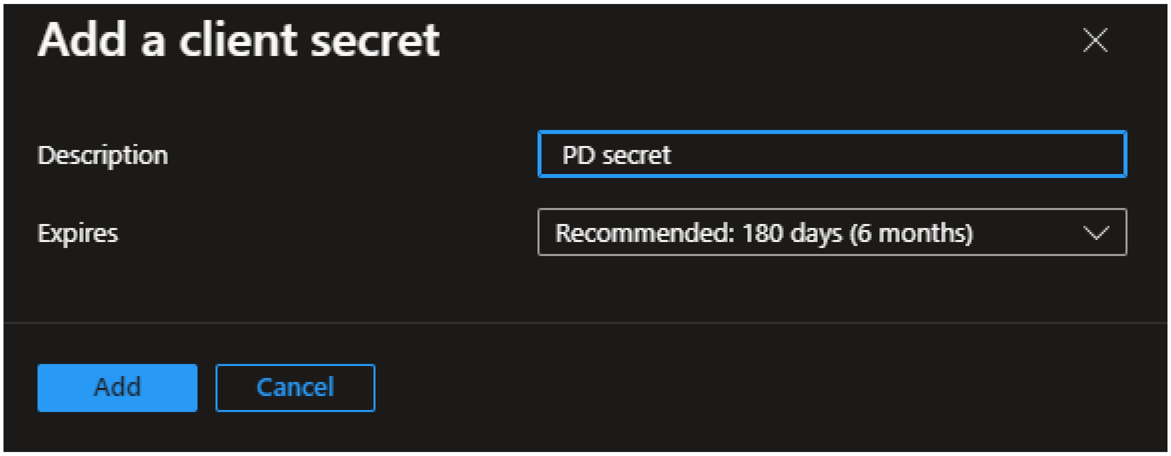


Once you've done so, click the Add Permissions button at the bottom of the page. Once you do, you'll need to click the Grant admin consent for <Enterprise name> button to confirm the change.

Now that the permissions have been changed, you'll need to create the Client Secret property for the new application. To do so, click the Certificates & secrets navigation menu item on the left sidebar of the page. When the page opens, click the New Client Secret button to create a new client secret. You'll need to provide a Name for the new item.

Additionally you'll need to specify when this Site Client Secret will expire, using the Expires property. This property consists of a dropdown control from which you can select how long the Site Client Secret will remain active.

It's important to take note of the expiration time chosen. The expiration MUST be communicated to BP Logix. Also, you must provide a new Site Client Secret to BP Logix, on an ongoing basis, before each one expires, to avoid interruptions in service.



Once you've set the Name and Expires properties, click the Add button to create the new Site Client Secret.

Once you click the *Add* button, you are presented with the secret *once and only once*. Do not navigate away or refresh the page.

Just as you did previously with the Full Scope Client Secret, click the Copy to clipboard icon and then paste the Site Client Secret into a secure document or file. Keep the file secret, and store it in a safe and secure place, preferably one that is backed up securely.

You must provide BP Logix with the values for the Site Client Secret, Site Client ID and Site Tenant ID properties. In addition, you'll need to provide BP Logix with the SharePoint site URL that will be used to access your enterprise's SharePoint environment. Keep in mind that these values are sensitive information, so you'll need to provide them to BP Logix via a secure method. Do NOT send this information via email.

The initial configuration of the "Site" level App Registration is complete. Now you'll need to move to the next step, granting the correct "Site" App Registration permissions.

Granting "Site" App Registration Permissions

BP Logix will provide you with a set of Powershell scripts for applying the appropriate permissions to your "Site" level App Registration. These scripts have no additional external dependency; however, prior to running them, you should run the following PowerShell cmdlet:

```
Set-ExecutionPolicy -ExecutionPolicy Bypass
```

Once executed, it should ensure that the scripts provided by BP Logix won't be blocked from running.

Once you've done so, locate the folder into which you extracted the PowerShell scripts provided to you by BP Logix. Start PowerShell in that folder location.

First you must obtain a bearer token from the "Full Scope" App Registration you configured earlier. To obtain the bearer token, run the PowerShell command below. For each parameter in the command, use the "Full Scope" value you obtained earlier (Full Scope Tenant ID, Full Scope Client ID, and Full Scope Client Secret).

```
.\get-access-token.ps1 -tenantId <Full Scope Tenant ID> -clientId <Full Scope Client ID> -clientSecret <Full Scope Client Secret>
```

You'll need to replace the text in angled brackets with the actual values from your "Full Scope" App Registration, e.g.:

```
.\get-access-token.ps1 -tenantId deadbeef-deed-feed-f00d-0123456789ab -clientId 87654321-deed-feed-f00d-0123456789ab -clientSecret dI8AQ~EKNqYwcXf0CJ_lFBJvR6xnDWOZDM4Qbao7
```

Once you’ve run the script successfully, you’ll have a file named "bearer.txt" in the current folder. The script will also output the bearer token to the console, though it will be truncated, due to its length.

Next you’ll need to obtain the Site ID for the SharePoint site you wish to use with Process Director. Process Director uses a specific path within the site to avoid conflicts with other files, documents, and folders that may be in use.

Using a browser of your choice, login and access the SharePoint site you wish to use. In that same browser, without logging out of SharePoint/Entra, navigate to:

```
https://<tenantname>.sharepoint.com/sites/<sitename>/api/site/id
```

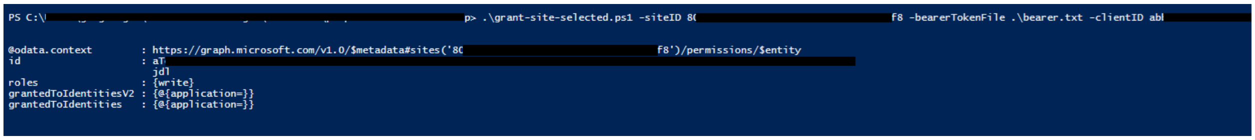
Once that page loads, it will display some XML values, as shown below.

In the example above, the redacted value that's outlined in blue (starts with “80” and ends with “f8”) is the Site ID. Copy this value and save it.

Now that we have the correct bearer token, and SharePoint Site ID, you'll need to use them, along with the Site Client ID, the file location of the bearer.txt file that contains the bearer token, and the Site Name for the "Site" level App Registration, to run the following PowerShell command.

```
.\grant-site-selected.ps1 -siteID <SharePoint Site ID> -bearerTokenFile .\bearer.txt -clientID <Site Client ID> -appName "Site"
```

Again, you'll need to replace the values in angled brackets above with the appropriate values from your systems. Upon successful completion of the script, you should see the appropriate output in the console, and there should be no red error text.



The console messages should indicate that the appropriate roles/permissions were granted to the specified "Site" App Registration.

With this complete, you can now securely transmit the configuration information BP Logix needs to configure your system.

Securely Transmit Configuration to BP Logix

The secure online information exchange services mentioned in this topic are suggestions. BP Logix is happy to use other secure services you've vetted and wish to use. Avoid sending any this information in this topic to BP Logix via email or other insecure methods to prevent unnecessarily exposing this sensitive data.

Using a secure online information exchange mechanism (e.g. FireCloud, Kiteworks, ShareFile, onetimescret.com, Privnote, etc.), send BP Logix the following information:

- Site Tenant ID
- Site Client ID
- Site Client Secret
- Site Client Secret Expiration Date (what month/day/year will the secret expire?)
- SharePoint site URL, e.g.: `https://<tenant-name>.sharepoint.com/sites/<site-name>`
- (Optional) SharePoint site folder path: If there’s a specific location within the site where you'd like to store the Process Director data, provide that path here.

Once BP Logix receives this information, we can perform the next step in the process, Configuring your Process Director installation.

Configuring Process Director

Whether you're a Cloud customer of the Process Director platform, or a customer who has purchased a Use Case application, such as PubPro, Approvia, MIRador, etc., BP Logix will configure your Process Director and/or application installation with the values you've securely supplied to us. Please refer to the documentation for the M365 CDA property settings of the Properties page to see the details of the properties that will have to be configured.

You can now move to the final step of the configuration process, Configuring SharePoint External Access.

Microsoft 365 CDA Installation Settings

For Process Director v6.1.300 and higher, the product supports the use of Microsoft 365 for CDA. All prior versions can use only the third-party document editing service provided by OnlyOffice. The implementation of M365 for CDA requires several properties be configured on the Installation Settings > Properties page.

Microsoft 365 SharePoint CDA Site URL

The URL of the SharePoint/M365 site that hosts the office installation.

Microsoft 365 SharePoint CDA Root Folder

The root folder in which the documents will be stored for access via CDA.

Microsoft 365 Tenant ID

a. The ID of the Tenant in which the registered application resides in Azure/Entra. Creation of an application requires the existence of a Tenant.
b. The Tenant ID is displayed as the Directory (tenant) ID property on the Overview page of your AAD Application in Azure, but this value will also be displayed following `login.microsoft.com/...` in the Endpoint URLs that the App references.

Like SMTP, This is an OAuth property to enable authentication with Microsoft.

Microsoft 365 CDA Client ID

a. The ID of the Application in SharePoint.
b. This value is displayed as the Application (client) ID property on the Overview page of your application from the "Site" application registration.

Microsoft 365 CDA Client Secret

The client secret or application password the administrator created to use with the application.

Microsoft 365 CDA Advanced options (optional)

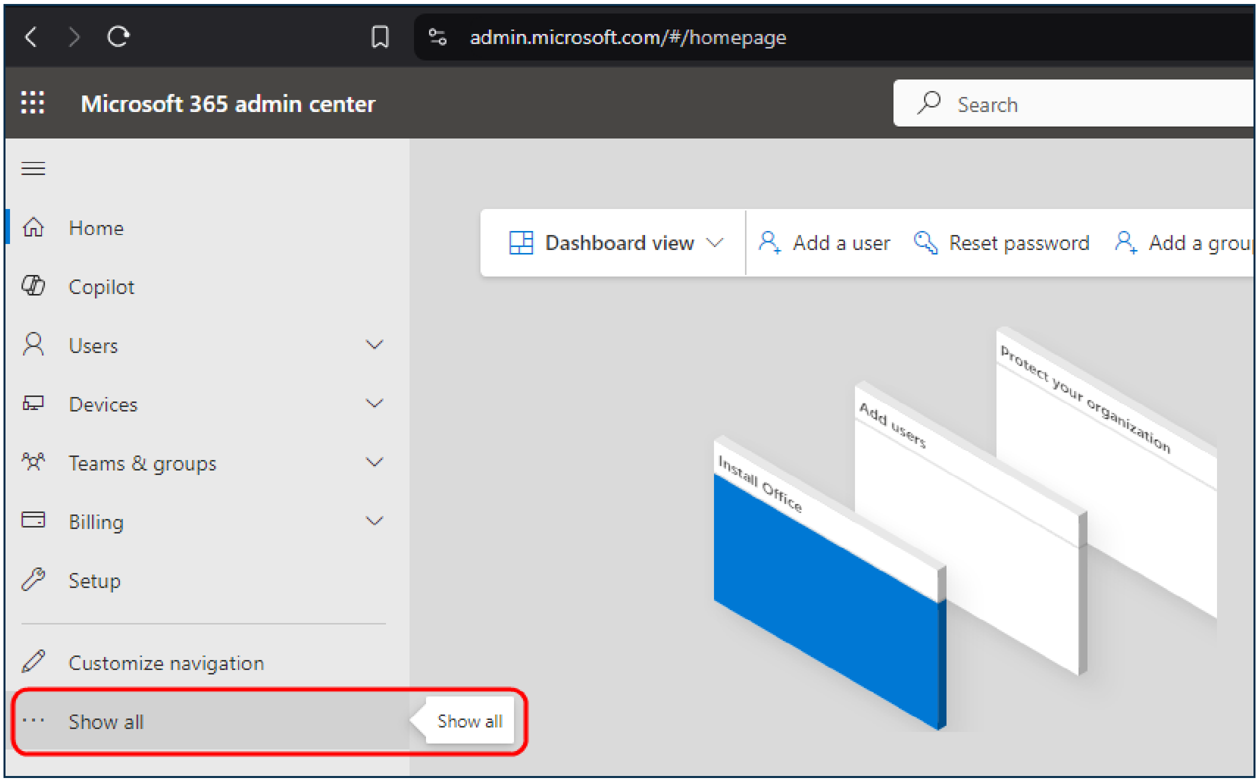
A list of options to pass to your M365 system, using JSON format.

This property should only be configured at the direction of BP Logix support personnel.

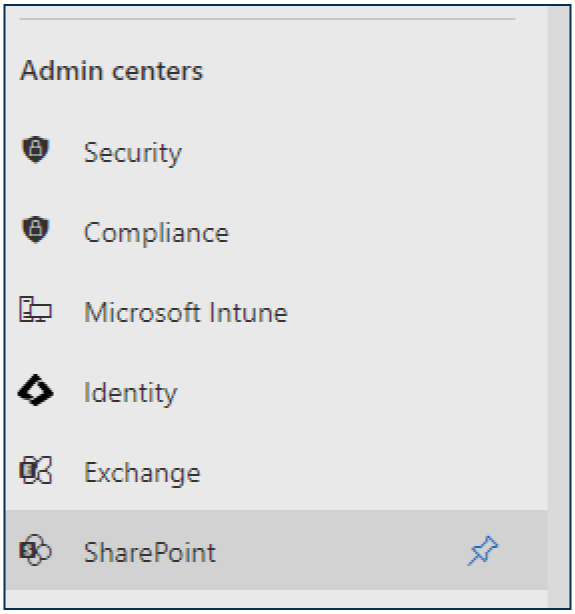
Configuring SharePoint for External Access

Once you've configured Azure/Entra, and transmitted the appropriate information to BP Logix, you may need to make some changes to your SharePoint installation to enable its access for CDA, as a final step in this process. For some customers, this won't be necessary, since every user who accesses the documents for CDA will be valid, authenticated users of your Azure/Entra tenant. In many cases, however, you'll need to provide access to the documents for review or editing by users outside of your organization. In that case, you'll need to provide those external users with access to your SharePoint installation, to enable them to participate.

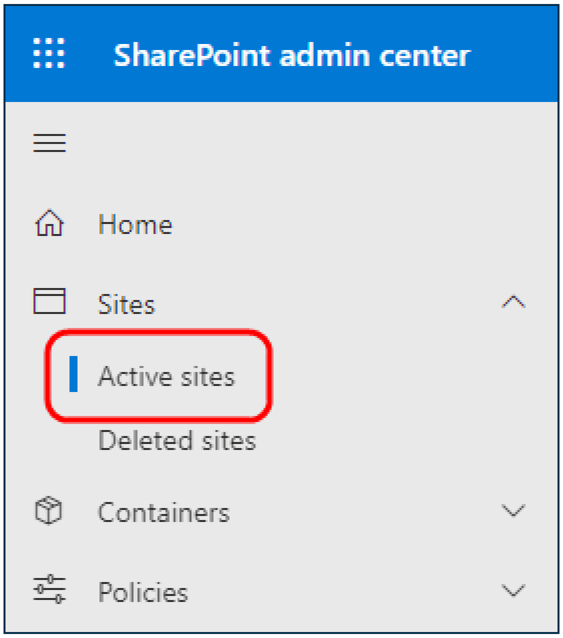
To do so, you'll first need to go to admin.microsoft.com to access your **Microsoft 365 Admin Center**. Once the admin center main page opens, you'll need to click the Show All menu item that appears in the sidebar on the left side of the page. Clicking this item will expand the sidebar to show additional menu items.



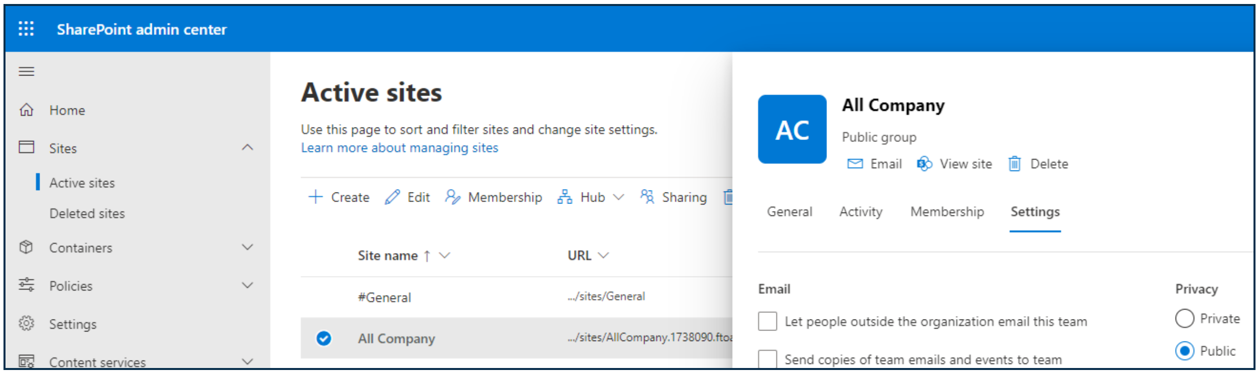
When the new menu items appear, you'll need to scroll down to the Admin Centers section, and select the SharePoint menu item.



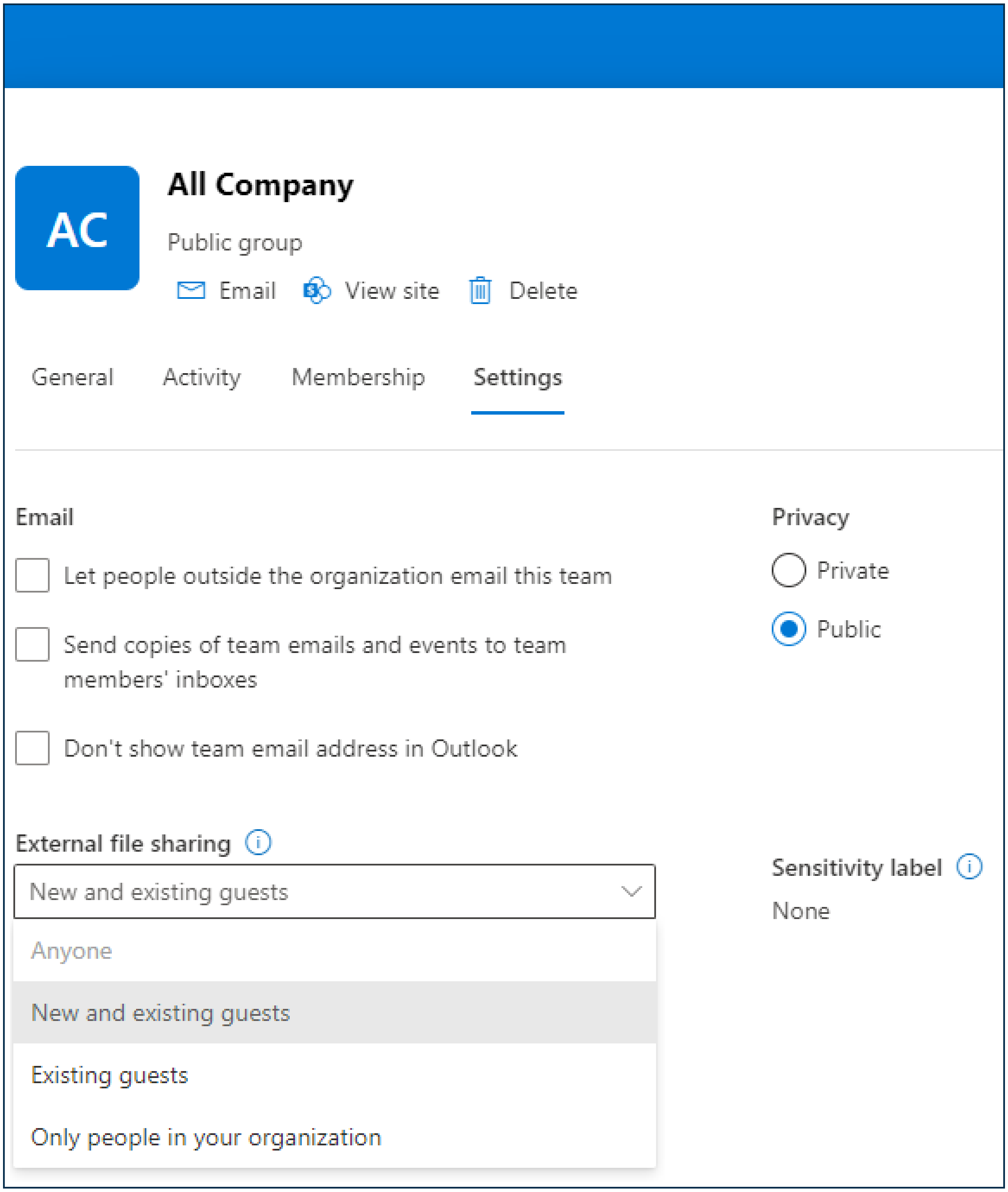
Clicking the SharePoint menu item will open a new browser tab to display the **SharePoint Admin Center**. On the left sidebar of the page, you'll need to click the Sites menu to expand it, then select the Active Sites menu item.



Clicking Active Sites will display the Active Sites page, listing all of your currently active SharePoint sites. Find the Web site in the list of sites, and click on it to select and expand it. When you do so, an informational pane for the selected site will appear on the right side of the page.



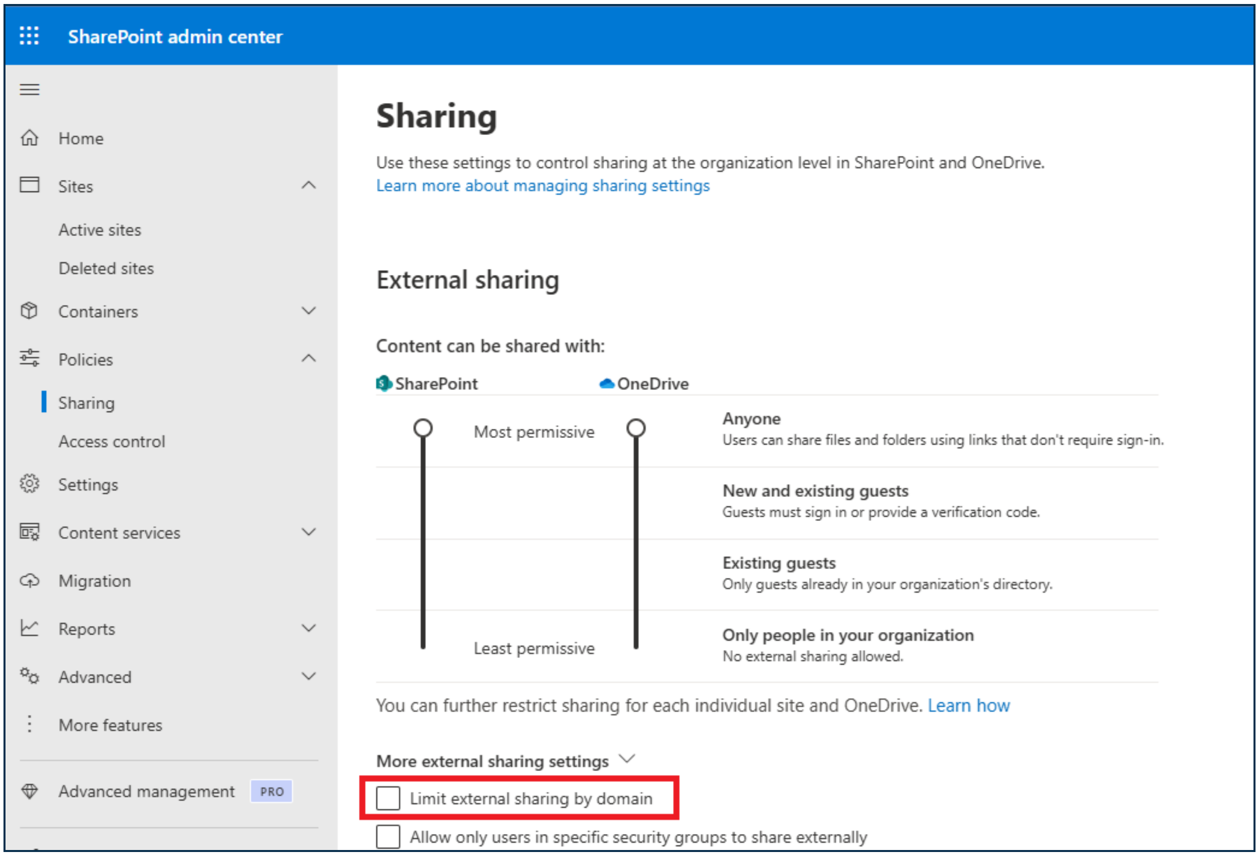
In the informational pane, a series of tabs will be displayed, just below the header information and logo. You'll need to click the Settings tab to display its contents.



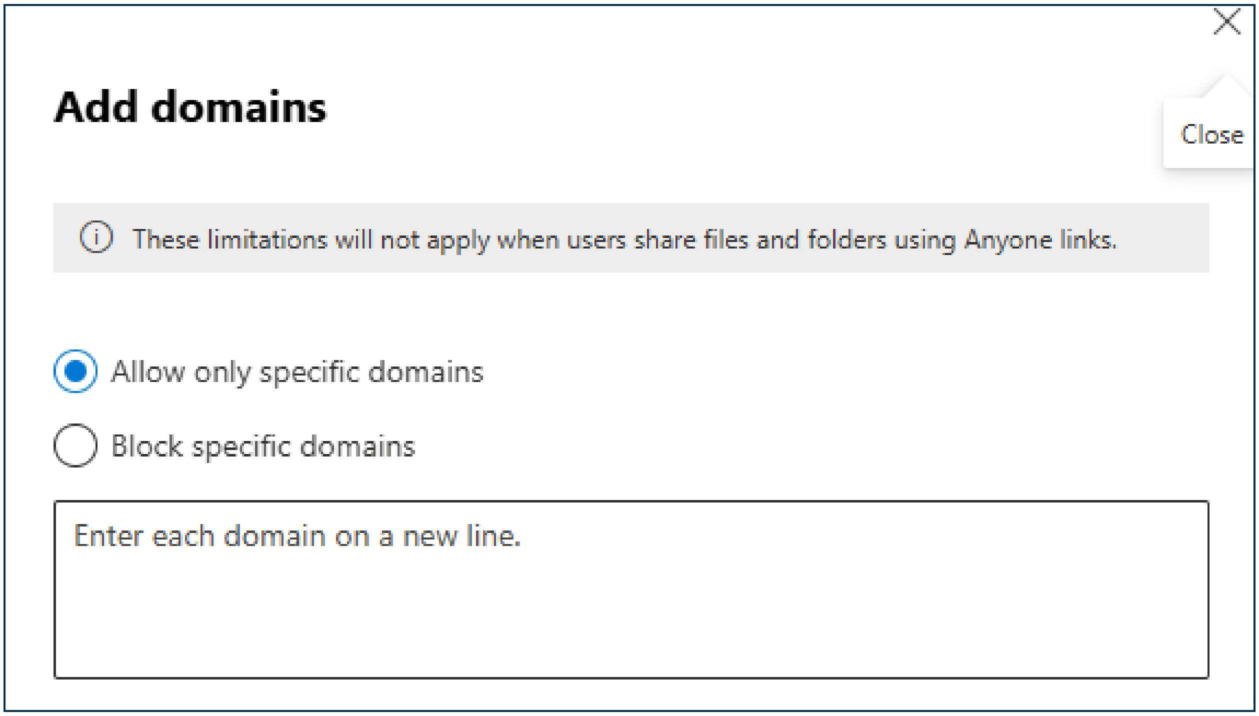
In the Settings tab, select either *Anyone* or *New and existing guests* from the External file sharing property options. You must choose one of these options to enable external sharing to users from outside of your organization. There are different security implications for each item. *New and existing guests* is a more secure option that verifies external users by sending a one-time password (OTP) to their email address. While more secure, some organizations may find this too cumbersome for their use-case. The Anyone selection enables access to documents without the additional OTP verification. Irrespective of which option you choose, it will require specially crafted URLs to access individual documents. You'll need to refer to Microsoft's SharePoint documentation for more information about that.

External Sharing

In some SharePoint installations, there may be some additional settings that prevent external users, i.e., those outside of your Azure/M365 tenant, from accessing shared documents. This issue can occur if the Limit external sharing by domain property is enabled in your global (tenant-wide) SharePoint settings. This feature resides within the SharePoint Admin Center under Policies > Sharing.



Either disable this feature altogether by unchecking it or, if you wish it to remain checked, you must be sure that all of the expected domains for email addresses to be used on the system are included in the Add Domains screen for this property setting. You can also configure the inverse, and exclude specific domains, though, in most cases, this will not be the optimal option.



Conclusion

Once you've set the desired External file sharing property option, you can click the Save button to save it. Once saved, the appropriate external users will be able to access the documents they need to access when participating in the editing/collaboration process.

This step, combined with the changes made to your Process Director installation, should fully enable M365 for use with the product's CDA feature.

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