How to set up a Microsoft Entra ID Sync

A **Microsoft Entra ID Sync** imports users from Microsoft Entra ID (formerly Azure AD) and keeps their details up to date on a schedule: their name, email address, PIN, card number, phone extension and department. Users placed in the right department inherit its settings, such as Rules, account access and billing.

Create the sync

1. Open Resource Manager.
2. In the tree, click **Scheduled Tasks** > **Microsoft Entra ID Sync**, then click **Add**.
3. Enter a **Scheduled Task Name**, for example *Main sync* (left empty, it becomes the tenant name), and choose the PDServer to run it in **Execute on PDServer**.
4. On the **Schedule** tab, choose how often it runs (**Daily** is the default), and the **Execute time**.

Give the sync access to Entra ID

The sync reads users and groups with the permissions **User.Read.All** and **Group.Read.All**. On the **Sync Settings** tab, under **Import settings**, choose the **MS Graph access type**:

- **User delegated:** someone signs in once to create a token, and grants the permissions. They need the right to grant them: the **Global Administrator** role, or **Application Administrator**.
- **Client secret:** uses an app registration in your Entra tenant, with the two permissions granted as application permissions with admin consent (see *How to create a custom private client app in Azure*).

For **User delegated**:

1. In **User delegated token**, choose a token that already exists (for example one made for an Email Send Account), or leave **<create new>** and click the **...** button next to it, then click **New**.
2. In the **Delegated authentication token** window, click **New token**, and sign in with Microsoft. The sign-in works as for an Email Send Account: see Signing in in *How to create an Email Send Account*.
3. Accept the permissions Microsoft asks for, then click **OK**, and **OK** again.

Import settings

- **Don't import disabled users:** leaves out users whose account is disabled in Entra ID.
- **Run delete routine after import:** deletes a user that this sync imported before but no longer imports (they were deleted or disabled in Entra ID, or no longer pass the group filters), if their user record allows it (**If created by a sync, delete if no longer found in the same sync**, on the user's **Advanced** tab).
- **Create unmatched Departments:** if a user's department (from the mapped attribute, for example *Marketing*) does not exist in Print Director, it is created. Otherwise the user goes into the department chosen in the list below it.
- **Add unmatched phone extensions to PBX:** if a user's extension does not exist yet and their PBX cannot be found from the **PBX name** field, the extension is created on this PBX.

Import only members of certain groups (optional)

1. Click the **Group Filters, Rules and Workflows** tab, then click **Download all groups** (or **Download with filter** to download only some).
2. Select a group (or several), click **Edit**, and set its **Membership requirement**:
   - **no requirement:** the group is not used to choose users.
   - **required membership:** users must be members of this group.
   - **exclude if member:** members of this group are not imported.
   - **require membership of at least one:** users must be members of at least one of the groups set to this.
3. Click **OK**.

For example, to import members of *Europe* who are in *Directors* or *Middle management* but not in *Remote workers*: set *Europe* to **required membership**, *Directors* and *Middle management* to **require membership of at least one**, and *Remote workers* to **exclude if member**.

The same tab can assign Rules by group membership (see *How to assign Rules to users based on their Entra ID group membership*).

Map user attributes

On the **Map user attributes** tab, double-click a field to choose its **Mapping action**:

- **not mapped:** the field is not imported.
- **only if source not empty:** the field is updated only when Entra ID has a value, so an empty value does not clear it.
- **always update:** the field is always updated, even with an empty value.
- **only if destination is empty:** the field is only filled in where it is empty in Print Director, for example to import card numbers without changing existing ones.

Four fields are mapped to start with: **User name** to *[displayName]*, **Login name** to *[displayNameNoSpaces]* (**only if destination is empty**), **Department** to *[department]* and **Email address** to *[mail]*. In **Map to attributes**, enter the attribute in square brackets, or click **…** and insert it. For example, map the user name to *[givenName] [surname]* to import the first name and surname with a space between. The fields are used for:

- **Email address:** used for scan to email at the printer, emails from Resource Manager (for example the user's PIN), Rule violation emails, resetting a PIN or password from the PDAgent client, and the welcome email.
- **Controller ID (PIN):** used to log in to printers with a PIN, and to the PDAgent client where it is set to PIN login.
- **Card number:** used to log in to printers with a card.
- **User account code:** only needed for users who choose accounts in a billing popup, if their user account code must differ from their login name. If not mapped, the login name is used.
- **Tel extension** (and **PBX name**): assigns the user's phone extension, so their calls are charged to them and call popups reach them.
- **PBX PIN:** the PIN the user dials before calls, where calls are charged by PIN.
- **Home folder:** adds a scan to home button on Konica Minolta printers set up for scan to home.
- **Secondary login name:** a second user name (for example an admin account) whose jobs are matched to the same user.

After user created actions

On the **After user created actions** tab, choose what happens when the sync creates a new user, so they can log in to the printers straight away:

- **Auto create PIN:** creates a PIN if the PIN is not mapped, or the user's value is empty. Its length is set in **Tools** > **System Configuration**, on the **General** tab, in **Auto PIN length**.
- **Send welcome email:** sends the new user an email from the template you choose, for example with their PIN and how to release jobs at a printer.

Test the settings

Click **Test Settings**. It shows the users that would be imported, with their mapped values, without changing anything. Change the settings and test again until they are right, then click **OK**.

Run the sync now

1. In the tree, click **Scheduled Tasks** > **Microsoft Entra ID Sync**.
2. Right-click the sync and click **Execute now**. Resource Manager asks the PDServer to run it straight away.
3. After a minute or two, click **View** > **Refresh** and check the **Last message** column: it shows how many users were imported, created and deleted, or an error.

Related articles

- *How to set up an LDAP Sync*
- *How to assign Rules to users based on their Entra ID group membership*
- *How to manually create a Department*
- *How to manually create a User*

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