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KNOWLEDGE BASE ARTICLE

Preparing Microsoft Entra ID and User Profile Data for Employee Directory



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Introduction

The Vitextra Employee Directory reads employee information from **Microsoft 365**: **Microsoft Entra ID** through **Microsoft Graph**, or SharePoint user profiles through SharePoint search. The Entra ID web part can cache a copy in the browser. The completeness of those profiles determines the directory's usefulness: consistent departments support filtering, reporting relationships populate **My team**, and last names enable A–Z navigation.

This article is a reference for the people who maintain the directory data - Microsoft 365 administrators, identity administrators and HR teams. It lists which attribute drives which **feature**, where each attribute is edited, how long changes take to reach the directory, and what to check before the directory goes live.

Tip

If you have not yet decided which directory **web part** to use, start with KB10310. Employee Directory vs. Employee Directory (Entra ID): Which Web Part to Choose. The data source you choose determines which of the two stores described below you need to prepare.

Where each web part reads its data

Web part and data source	Where the data comes from	When changes become visible
Employee Directory (Entra ID)	Microsoft Entra ID, through Microsoft Graph. The whole user **list** is loaded and kept in the browser.	On the next data refresh: the saved copy is renewed in the background once it is older than 24 hours, or at once with **Refresh**.
Employee Directory with the **Entra ID (Azure AD)** data source	Microsoft Entra ID, through Microsoft Graph, page by page for every search.	On the next request after the change becomes available in Microsoft Graph; replication can delay visibility.
Employee Directory	The SharePoint user profiles,	After the profile is

Web part and data source	Where the data comes from	When changes become visible
with the **User profiles** data source	through SharePoint people search.	updated in SharePoint **and** re-crawled by search.
New Employees	Microsoft Entra ID, through Microsoft Graph.	On the next request after the change becomes available in Microsoft Graph; replication can delay visibility.

Some features use Microsoft Graph in every web part, whatever the data source: the photo, the presence status, the **Manager** and **Direct Reports** sections of the details pane, the **My team** quick filter and the **Availability** section with local time and working hours. With the **User profiles** source, the web part connects a search result to the Entra ID account through the `AADObjectID` **managed property**, the Entra ID object ID stored in the profile.

Attribute reference

The table lists the Microsoft Entra ID user properties that Employee Directory reads and what each of them drives. The column names are those shown in the **Columns** configuration of the web part.

Entra ID property	Column	What it drives
`displayName`	**Full Name**	The card header and the name in the details pane; the default sort order.
`givenName`, `surname`	**First Name**, **Last Name**	The A–Z navigation and the **Last name (first letter)** grouping use the last name. With the **Entra ID (Azure AD)** source of **Employee Directory**, search matches the beginning of the display name, first name, last name, email, job title, department, employee ID, city, state or country.
`jobTitle`	**Job Title**	The second line of the card; a searchable column; the **Exclude Employees with blank Job Title**

Entra ID property	Column	What it drives
		option.
`department`	**Department**	The **My department** quick filter, refiners, **Group by**, the **Exclude Employees with blank Department** and **Show only users with non-empty department** options, search.
`companyName`	**Company name**	A column and a field of the details pane.
`officeLocation`	**Office Location**	A column and a field of the details pane.
`streetAddress`, `city`, `state`, `postalCode`, `country`	**Address**, **City**, **State/Province**, **ZIP/Postal Code**, **Country/Region**	Columns and fields of the details pane. City, state and country are also matched by the search of the **Entra ID (Azure AD)** source.
`businessPhones`, `mobilePhone`	**Business Phone**, **Cell phone**	Phone numbers with click-to-call links.
`mail`	**Email**	The email action and link. A person without an email address has no **Availability** section, local time or working hours.
`userPrincipalName`	**User Name**	The sign-in name; also the Teams address for chat and calls when `imAddresses` is empty.
`imAddresses`	-	The first value is the Teams address used by the chat and call actions.
`employeeId`	**Employee ID**	A column; matched by the search of the **Entra ID (Azure AD)** source.
`employeeType`	**Employee Type**	A column and a field of the details pane.
`manager`	**Manager**	The **My team** quick filter, the **Manager** and **Direct Reports** sections of the details pane and the **Manager** column.

Entra ID property	Column	What it drives
Profile photo	**Image**	The photo on the list, cards and details pane.
`aboutMe`, `skills`, `interests`, `responsibilities`	**About Me**, **Skills**, **Interests**, **Responsibilities**	The **About Me**, **Skills** and **Interests** sections of the details pane; skills search.
`assignedLicenses`	-	The **Exclude Unlicensed Employees** option.
`accountEnabled`	-	The **Exclude blocked users** option and the automatic exclusion of blocked accounts described below.
`userType`	-	Guests (`Guest`) are always excluded from the directory.
`createdDateTime`	-	The **New Employees** web part.
`onPremisesExtensionAttributes`, directory extensions	**Custom Columns**	Custom columns - see **Custom attributes**.

Note

Microsoft Graph returns `aboutMe`, `skills`, `interests` and `responsibilities` only for a single user, not in lists. With the Entra ID–based sources, the details pane therefore loads them when it opens, while the **Skills**, **Interests**, **Responsibilities** and **About Me** columns in the list stay empty (except for the skills of people found by skills search). The **Manager** column is filled only in the **Employee Directory (Entra ID)** web part. The Entra ID properties `pastProjects`, `schools`, `otherMails` and the hire date are not shown by Employee Directory.

The User profiles data source

With the **User profiles** source, the **Employee Directory** web part reads SharePoint search managed properties instead of Entra ID properties:

Column	Managed property	Remarks
Full Name	`Title`	`PreferredName` is used when `Title` is empty.
First Name, **Last Name**	`FirstName`, `LastName`	
Job Title, **Department**	`JobTitle`, `Department`	Refiners need a refinable managed property.
Company name	`OrgNames`	
Location	`OfficeNumber`	With **User profiles**, **Location** reads `OfficeNumber` and **Office Location** reads `BaseOfficeLocation`. With Entra ID sources, both columns read `officeLocation`.
Office Location	`BaseOfficeLocation`	
Business Phone, **Cell phone**, **Home Phone**	`WorkPhone`, `MobilePhone`, `HomePhone`	**Home Phone** is available only with this data source.
Email, **User Name**	`WorkEmail`, `UserName`	
About Me	`Description`	
Skills, **Interests**, **Responsibilities**	`Skills`, `Interests`, `Responsibilities`	Multi-value properties, separated by semicolons.
Image	`PictureUrl`	Used only when the photo cannot be loaded from Microsoft Graph.
-	`AADObjectID`	Connects the profile to the Entra ID account (photo, presence, manager, direct

Column	Managed property	Remarks
		reports, favorites).

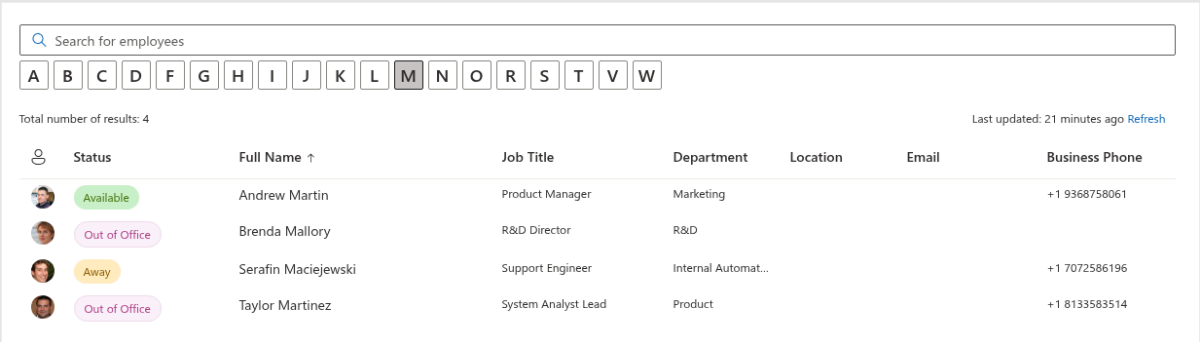
The address fields, **Employee ID**, **Employee Type** and **Manager** have no managed property in this data source and stay empty. To show such data, add the profile property as a custom column, as described in KB10049. How to Add Custom User Profile Attributes to the Employee Directory Web Part.

Names and the A–Z navigation

Display name is what people see first, so it should follow one convention across the **tenant** - for example *First Last* - without job titles, department codes or "(External)" suffixes in the name itself.

First name and **last name** matter more than they may seem:

- The A–Z navigation of the **Employee Directory (Entra ID)** web part is built from the first letter of the **last name**. A person without a last name is not listed under any letter, and disappears from the list as soon as a letter is selected.
- The **Last name (first letter)** option of **Group by** uses the last name too; when it is empty, the first letter of the display name is used instead.
- With the **Entra ID (Azure AD)** source of **Employee Directory**, search matches the beginning of the display name, first name, last name, email, job title, department, employee ID, city, state or country.



The A–Z navigation uses the last name

Job title, department and company

Job title and **department** are the most visible fields after the name: they are the second and third lines of the cards and the details pane, and they are searchable by default.

Department drives several features at once, so its values must be consistent. Filters

and refiners compare values as text: *Sales*, *Sales Department* and *sales EMEA* are three different departments.

- **My department** shows the people whose department has the same value as the department in the signed-in user's own Entra ID profile (letter case is ignored). If the user's own department is empty, the tab is not shown at all. With the **User profiles** source, the user's department still comes from Entra ID, while colleagues are matched by the `Department` property of their SharePoint profiles - the two must be in sync.
- **Refiners** list the distinct department values. Misspelled values appear as separate entries. See KB10313. How to Set Up the Refinement Panel in Employee Directory.
- **Exclude Employees with blank Department** (**Employee Directory (Entra ID)**) and **Show only users with non-empty department** (**Employee Directory**, **Entra ID (Azure AD)** source, on by default) hide accounts without a department. This is a simple way to keep shared mailboxes, rooms and service accounts out of the directory - provided every real employee has a department.

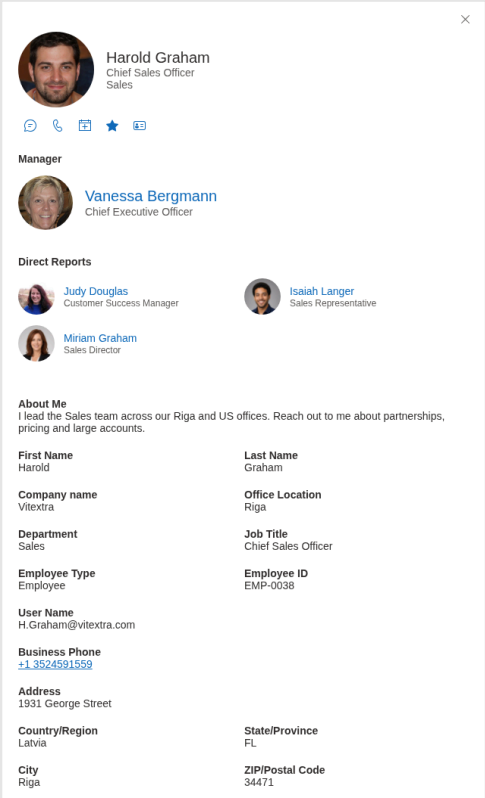
Company name is useful in tenants that contain several legal entities or subsidiaries; it is shown as a column, in the details pane and can be used for **Group by**.

Manager and the reporting line

The **manager** attribute is read from Microsoft Entra ID in every web part and drives:

- the **My team** quick filter - the signed-in user's manager, the people who report to the same manager and the user's own direct reports (blocked accounts are left out). Without a manager and without direct reports, the tab is hidden;
- the **Manager** and **Direct Reports** sections of the details pane. Direct reports with a blocked account are always omitted; when **Exclude Unlicensed Employees** or the department exclusion is on, they are applied to this list too;
- the **Manager** column and grouping by manager in the **Employee Directory (Entra ID)** web part. The web part loads the managers only when the **Manager** column is shown in the list or on the cards.

Every employee except the head of the organization should have a manager. For quick filters in detail, see KB10214. Employee Directory Quick Filters: My Department, My Team, People I Work With, Favorites.



The details pane shows the manager, direct reports and profile fields

Contact details, location and photo

- **Phones.** The business phone and the mobile phone come from `businessPhones` and `mobilePhone`; all business phones are shown, separated by commas. The **Home Phone** column is filled only with the **User profiles** source.
- **Email.** For licensed Exchange Online users, `mail` is set automatically from the primary SMTP address. It is required for the email action and for the **Availability** section.
- **Teams chat and calls.** The actions use the first `imAddresses` value; if it is empty, the user principal name, and then the email address.
- With **User profiles**, **Location** reads `OfficeNumber` and **Office Location** reads `BaseOfficeLocation`. With Entra ID sources, both columns read `officeLocation`.
- **Photo.** Photos are loaded from Microsoft Graph for every data source. Users can upload their own photo in their Microsoft 365 profile or in Teams, administrators can change it in the **Microsoft 365 admin center**. If Graph returns no photo, the web part falls back to the SharePoint profile picture.

About me, skills and interests

About Me, **Skills** and **Interests** are shown as sections of the details pane; each can be

turned on or off in the **Panel** group of the web part settings. **Skills** also powers skills search ("who knows **Power BI**?"). These fields are stored in the SharePoint **user profile** (for example, skills in the `SPS-Skills` property) and are exposed by Microsoft Graph as `aboutMe`, `skills`, `interests` and `responsibilities`.

They are usually filled in by the employees themselves:

- on their SharePoint profile page, if the organization allows users to edit their profile;
- with the Employee Details web part, which lets users edit their own **About Me**, interests, responsibilities, past projects and schools - see KB10283. Employee Details: Filling In About Me, Interests, Responsibilities, Past Projects and Schools.

Administrators can edit these properties in the **SharePoint admin center** (**More features** › **User profiles** › **Manage User Profiles**) or in bulk with **PnP PowerShell**. For skills in detail, see KB10316. How to Search Employees by Skills in Employee Directory.

Account status, licenses and guests

Employee Directory decides who counts as an employee from three Entra ID attributes:

Rule	Attribute	Where it applies
Guests are never shown	`userType` is `Guest`	Always, in all web parts. With the **User profiles** source, guest profiles are excluded by search.
Blocked accounts are hidden	`accountEnabled` is `false`	**Employee Directory (Entra ID)**: the **Exclude blocked users** option, on by default. **Employee Directory** with the **Entra ID (Azure AD)** source: always. **My team** and **Direct Reports**: always. **New Employees**: not automatically - use the **Account Status** field in the filter editor.
Unlicensed accounts are hidden	`assignedLicenses` is empty	**Employee Directory (Entra ID)**: the **Exclude Unlicensed Employees** option, off by default.

Use the appropriate exclusion options or filters for shared mailboxes, rooms, service accounts and test accounts. Blank department values or missing licenses hide

accounts only where the corresponding exclusion is enabled. Keep licenses required for the account's purpose. KB10311. How to Configure the Employee Directory (Entra ID) Web Part: Filters, Exclusions and A–Z Navigation.

Warning

The **User profiles** source has no license or account-status options. Blocked users keep their SharePoint profile and are still found by people search until the profile is removed. Hide such profiles from address lists (see **Hidden users**) or exclude them with the **Predefined Query**.

New employees: the creation date

The **New Employees** web part lists the member accounts whose `createdDateTime` falls within the period set in **Show users created for last months**. This is the date when the account was created in Microsoft Entra ID - for accounts synchronized from on-premises **Active Directory**, the date when synchronization created them in the cloud - not the hire date. Create accounts close to the start date, and do not re-create existing accounts, or the web part will present long-standing colleagues as new hires. See KB10207. How to Showcase New Hires with the New Employees Web Part.

Local time and working hours

The **Local time** and **Working hours** rows of the details pane do not come from an Entra ID attribute. They are read from the person's mailbox together with the free/busy schedule: the time zone and working hours each user sets in Outlook (**Settings** › **Calendar** › **Work hours and location** in Outlook on the web). A person needs an Exchange Online mailbox and an email address; without working hours or a time zone, the two rows are hidden. Ask employees to check these settings, especially in distributed teams - see KB10317. Employee Directory: Local Time, Working Hours and Availability.

Custom attributes

When the standard attributes are not enough - a cost center, a badge number, a building - Employee Directory can show additional attributes as **Custom Columns**:

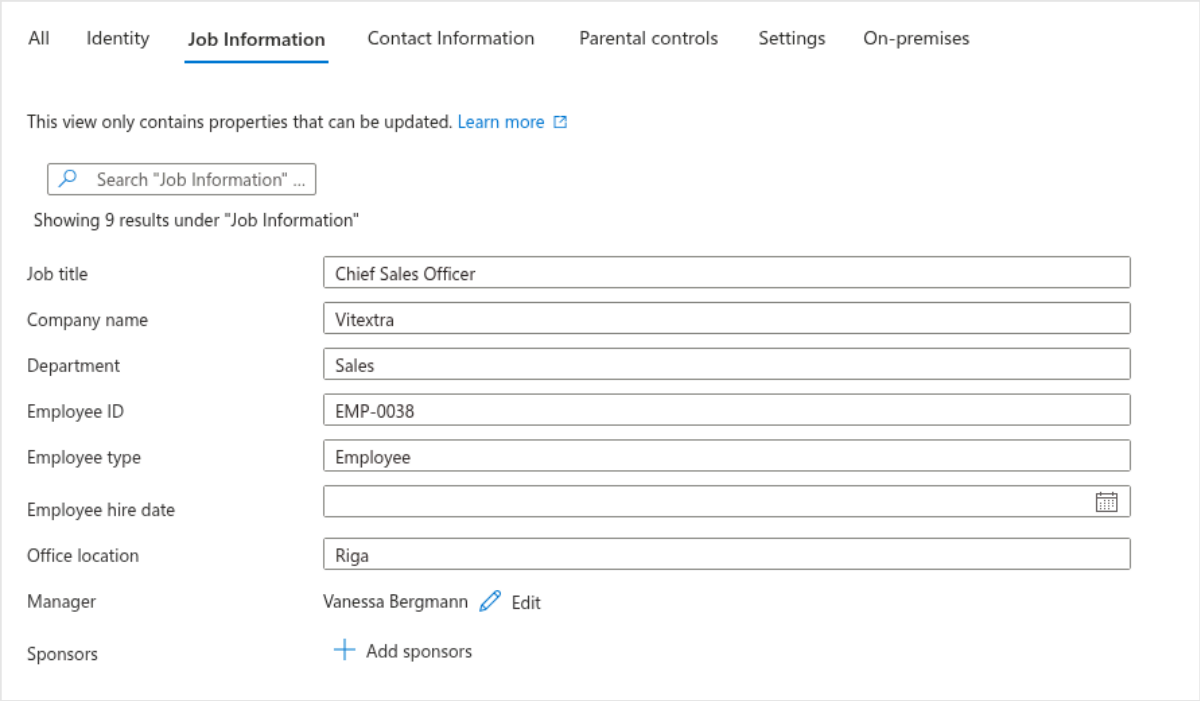
- With the Entra ID–based sources: `extensionAttribute1`–`extensionAttribute15` (read from `onPremisesExtensionAttributes`), directory extensions and other Entra ID user properties. See KB10060. How to Display Custom Entra ID Attributes in the Employee Directory Web Part.

- With the **User profiles** source: any user profile property that is indexed and mapped to a retrievable managed property. See KB10049. How to Add Custom User Profile Attributes to the Employee Directory Web Part.

Where to edit the data

Where an attribute is edited depends on where the identity is mastered:

- **Cloud-only accounts.** In the **Microsoft Entra admin center**, open **Users** › **All users**, select the user and click **Edit properties**: the **Identity**, **Job information** (job title, company name, department, employee ID, employee type, office location, manager) and **Contact information** sections hold the attributes above. The **Microsoft 365 admin center** offers the same fields under **Users** › **Active users** › the user (**Manage contact information**, **Manage manager**), along with photos and licenses.
- **Accounts synchronized from on-premises Active Directory.** With Microsoft Entra Connect or Cloud Sync, the on-premises directory is the source of truth and the synchronized attributes cannot be changed in the cloud. Edit them in Active Directory (for example, the **Organization** tab of **Active Directory Users and Computers** holds the job title, department, company and manager); the changes reach Entra ID with the next synchronization cycle - on the schedule of the synchronization service in use.
- **HR-driven provisioning.** If users are provisioned from an HR system, maintain the data there and map the HR fields to the Entra ID attributes in the provisioning configuration.
- **Employees themselves.** Users normally cannot change their Entra ID job information. They maintain their photo, the profile fields described in **About me, skills and interests** and their Outlook working hours.



Job information of a user in the Microsoft Entra admin center

How long changes take to appear

- **Entra ID–based sources.** On the next request after the change becomes available in Microsoft Graph; replication can delay visibility. The **Employee Directory (Entra ID)** web part keeps a copy of the data in the browser and refreshes it in the background once it is older than 24 hours; select **Refresh** next to **Last updated** above the results to load the current data at once.
- **User profiles source.** A change takes two more steps. First, Microsoft 365 synchronizes the Entra ID attributes into the SharePoint user profiles; this runs automatically and usually takes from several hours to a day, longer in large tenants. Then SharePoint search must re-crawl the profile before the change becomes searchable. Changes made directly in the user profile (skills, about me) need only the crawl. Plan a day or more between a bulk update and the moment the directory reflects it.

Note

Because of these delays, the **Employee Directory** web part with the **User profiles** source and the details pane, which reads some data from Microsoft Graph, can briefly show different values for the same person. This resolves itself once the profiles are synchronized and re-crawled.

Hidden users

With the **User profiles** source, the **Employee Directory** web part does not show profiles that are hidden from address lists - the `SPS-HideFromAddressLists` user profile property, which reflects the **Hide from global address list** setting of the mailbox in Exchange. Turn on **Show hidden users** in the **Data Source** group to include them. Service accounts (such as `app@sharepoint`, `Sync_DC_*` or `nt service*` accounts) are always excluded.

Hiding a mailbox from the address list is therefore the way to remove an account from this data source without deleting it. The Entra ID–based sources do not use this setting: there, hide such accounts with the exclusion options or the filter editor.

Checklist before go-live

1. **Choose the data source** and know which store you prepare: Entra ID, the SharePoint user profiles, or both.
2. **Names.** Every employee has a display name, first name and last name that follow one convention.
3. **Job title and department** are filled in for every employee, and department names are spelled identically everywhere.
4. **Manager** is set for everyone except the head of the organization.
5. **Contact details.** Email, business phone, mobile phone and office location are filled in; city and country for multi-site organizations.
6. **Photos** are uploaded for as many employees as possible.
7. **Non-person accounts** are excluded using suitable filters or enabled exclusion options; test each data source separately.
8. **Blocked accounts** of former employees are disabled in Entra ID; check the **Exclude blocked users** setting.
9. **Profile fields.** Employees are invited to fill in **About Me**, **Skills** and **Interests** and to check their Outlook working hours and time zone.
10. **Custom attributes** are synchronized and, for the **User profiles** source, mapped to managed properties.
11. **Wait for synchronization and crawl** after bulk updates, then open the directory, select **Refresh**, and spot-check a few employees, the A–Z navigation, the refiners and the **My department** and **My team** quick filters.

Tip

To configure the refiners on top of the prepared data, see KB10313. How to Set Up the Refinement Panel in Employee Directory. The exclusions and the A–Z navigation are covered in KB10311. How to Configure the Employee Directory (Entra ID) Web Part: Filters, Exclusions and A–Z Navigation, and the New Employees web part in KB10207. How to Showcase New Hires with the New Employees Web Part.

Learn more about the product: *https://vitextra.com/en/products/employee-directory*

Terms

Active Directory
Active Directory (AD) is a directory service developed by Microsoft for Windows domain networks. It provides a centralized platform for managing and storing information about network resources, including users, computers, and services. Active Directory facilitates authentication and authorization, allowing administrators to control access to resources and enforce security policies across the network.

Feature
A feature is a set of SharePoint elements (artifacts), such as site columns, content types, web parts, application pages, custom actions, list templates, list instances, and others.

List
A list is a storage unit in SharePoint. A list can contain columns of different types, content types, and views. A document library is a special type of list and therefore inherits the functionality of a list.

Managed Property
A managed property in the SharePoint search schema defines what data from crawled properties is included in the search index. Managed properties have a large number of settings that determine how the content is shown in search results. Managed properties can be used in search queries to specify which information to return.

Microsoft 365
Microsoft 365 is a cloud-based subscription service that combines productivity apps such as Word, Excel, PowerPoint, and Outlook with cloud services such as SharePoint, OneDrive, Teams, and Exchange Online, together with advanced security and device management.

Microsoft 365 Admin Center
The Microsoft 365 admin center is the web portal where administrators manage users, groups, licenses, domains, billing, and services for a Microsoft 365 tenant.

Microsoft Entra ID
Microsoft Entra ID (formerly Azure Active Directory) is a cloud-based identity and

access management service offered by Microsoft. It allows organizations to efficiently manage and secure their users' identities and access to a variety of resources, both internal and external. These resources include Microsoft 365, the Azure platform, and thousands of other software-as-a-service (SaaS) applications.

Microsoft Graph
Microsoft Graph is a REST API secured with Microsoft Entra ID (formerly Azure Active Directory) and OAuth 2.0. It provides a single endpoint for accessing data and services in Microsoft 365, such as SharePoint, Outlook, OneDrive, Teams, and others.

PnP PowerShell
PnP PowerShell is a PowerShell module that provides over 600 cmdlets for working with Microsoft 365 environments, including SharePoint Online, Microsoft Teams, Microsoft Project, Security & Compliance, and Microsoft Entra ID. The module is part of the Microsoft 365 Patterns and Practices (PnP) community initiative and is open source, which means that it is maintained and supported by the community rather than by Microsoft directly.

Power BI
Microsoft Power BI is a business analytics tool that enables users to visualize data and share insights across their organization or embed them in an app or website. It allows users to connect to various data sources, transform raw data into interactive dashboards and reports, and analyze data using intuitive drag-and-drop features.

SharePoint Admin Center
The SharePoint admin center is the web portal where SharePoint administrators manage sites, sharing and access settings, the App Catalog, storage, and other SharePoint Online settings for the tenant.

Tenant
A Microsoft 365 tenant is a dedicated instance of Microsoft 365 services. The tenant holds the organization's information, such as users and domains (Microsoft Entra ID), configurations, subscriptions, and services. An organization receives a tenant by signing up for Microsoft 365 services.

User Profile

Terms

A user profile is a set of properties that describe a user. The properties include basic information about the user, contact details, and other data. The user profile is used by services such as Delve, My Site, and others.

Web Part
A web part is a primary building block of functionality or content placed on a SharePoint page. Some web parts support customization, such as configuring the web part or changing its appearance.