KNOWLEDGE BASE ARTICLE

Microsoft Graph Permissions Required by Employee Directory

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Introduction

The Vitextra Employee Directory solution does not keep an employee database of its own. People, profile attributes, photos, managers, Teams presence and free/busy information are read at run time from **Microsoft 365** through the **Microsoft Graph** API. For that, the solution package requests five Microsoft Graph permissions, which a **tenant** administrator approves once.

This article lists the permissions, explains what each of them is used for and which **web part** needs it, describes exactly what users see when a permission is not approved, and shows how to approve the permissions and check their status. It is intended for **SharePoint** and Microsoft 365 administrators and for security reviewers who assess the product before deployment.

The permissions

The **Vitextra Employee Directory** package contains three web parts - **Employee Directory**, **Employee Directory (Entra ID)** and **New Employees** - and requests one set of permissions for all of them. All five are **delegated permissions** for Microsoft Graph:

Permission	Used for	Needed by	If not approved
`Directory.Read.All`	Reading the members of Microsoft Entra directory roles for the **User Roles** condition of the filter editor. It also covers reading user accounts, together with `User.Read.All`	Employee Directory (Entra ID), New Employees - only when the filter uses a **User Roles** condition	When a role filter is configured, Employee Directory (Entra ID) shows a warning and cannot reliably evaluate role membership; New Employees shows an error.
`User.Read.All`	Reading and searching user accounts and their profile attributes, the manager and direct reports of a person, the signed-in user's own team,	All three web parts; in the **Employee Directory** web part with the **User profiles** source - photos, the details pane and the quick filters	The **list** of people cannot be loaded and an error is shown (see **below**)

Permission	Used for	Needed by	If not approved
	and employee photos		
`Presence.Read.All`	The **Microsoft Teams** presence indicator on cards, the **Status** column and the **Out of Office** message in the details pane	All three web parts	People are shown without presence; the **Status** column shows **Offline**
`Calendars.Read`	Today's free/busy schedule of the person and of the signed-in user, together with the person's time zone and working hours	Employee Directory, Employee Directory (Entra ID) - details pane	The **Local time**, **Working hours** and **Availability** section is not shown
`People.Read`	The list of people the signed-in user works with most	Employee Directory, Employee Directory (Entra ID) - **People I work with** quick filter	The **People I work with** tab is not shown

Note

`Directory.Read.All` and `User.Read.All` overlap: Microsoft Graph accepts either of them for reading user accounts. The error described in the `User.Read.All` row therefore appears when neither of them is approved - which is the normal state right after deployment, when all five requests are still pending. Approve both, as the package requests.

Employee Directory uses these permissions only to **read** directory, profile and mailbox data in **Microsoft Entra ID** and Microsoft 365. It does not modify those data or request permissions with *Write* in their names. Saving web part settings on a SharePoint page is separate from these Microsoft Graph permissions.

Delegated, not application permissions

All five permissions are **delegated**: every call to Microsoft Graph is made from the browser of the signed-in user, with a token issued for that user. The web parts have no application (app-only) permissions, no service account and no back-end of their own that reads your directory.

Microsoft Graph evaluates the granted delegated scopes together with the signed-in user's rights. The directory may therefore differ from the people visible in Outlook or Teams; it is not a copy of their address books.

Note

The permissions are not granted to the Employee Directory package itself. SharePoint grants them to a single Microsoft Entra ID application that it uses for all SPFx solutions in the tenant - *Web Client Extensibility* (earlier: *SharePoint Online Client Extensibility Web Application Principal*). If a permission has already been approved for another solution, for example the Vitextra Organizational Chart, the same grant is reused and the request does not appear as pending again. The same approval also covers the web parts when they run in Microsoft Teams.

The User Profiles source and SharePoint search

The **Employee Directory** web part can read people from two sources, selected in its settings:

- **Entra ID (Azure AD)** - the list, search and paging go through Microsoft Graph and depend on the permissions above.
- **User profiles** - the list, search, refiners and sorting come from **SharePoint search** (the People results of the SharePoint **search service**), not from Microsoft Graph. They work under the user's own SharePoint search rights with the usual security trimming and need none of the Microsoft Graph permissions. The **Recent Documents** section of the details pane also uses SharePoint search.

Even with the **User profiles** source, some parts of the web part still call Microsoft Graph: photos, presence and the **Out of Office** message, the **Manager** and **Direct Reports** sections and the **Local time**, **Working hours** and **Availability** section in the details pane, as well as the **My team** and **People I work with** quick filters. They depend on the same permissions as in the **Entra ID (Azure AD)** mode.

The **Employee Directory (Entra ID)** and **New Employees** web parts always use Microsoft Graph.

Tip

For the differences between the two directory web parts and their sources, see KB10310. Employee Directory vs. Employee Directory (Entra ID): Which Web Part to Choose.

What users see when a permission is missing

The web parts are designed so that a missing optional permission removes only the dependent **feature**. The exact behavior, as implemented in the current version:

Web part / mode	Missing permission	What users see
Employee Directory (Entra ID)	`User.Read.All` (and `Directory.Read.All`)	On initial loading, without a previously loaded, non-empty list: Instead of the list, an error icon with the error text returned by Microsoft Graph; if there is no text, the message *Sorry, something went wrong. Please refresh the page and try again.*
Employee Directory, **Entra ID (Azure AD)** source	`User.Read.All` (and `Directory.Read.All`)	The same error instead of the search results
Employee Directory, **User profiles** source	`User.Read.All` (and `Directory.Read.All`)	The list, search and refiners keep working. In the details pane, the **Manager** and **Direct Reports** sections are not shown, and photos are taken from SharePoint instead of Microsoft Graph
New Employees	`User.Read.All` (and `Directory.Read.All`)	An error icon with *Sorry, something went wrong. Please refresh the page and try again.* followed by the error text returned by

Web part / mode	Missing permission	What users see
		Microsoft Graph
Employee Directory (Entra ID), New Employees	`Directory.Read.All`	When a role filter is configured, Employee Directory (Entra ID) shows a warning and cannot reliably evaluate role membership; New Employees shows an error.
All web parts	`Presence.Read.All`	Cards show no presence indicator, the **Status** column shows **Offline** for everybody, and the details pane shows no **Out of Office** message
Employee Directory, Employee Directory (Entra ID)	`Calendars.Read`	The **Local time**, **Working hours** and **Availability** section of the details pane is not shown. No error is shown
Employee Directory, Employee Directory (Entra ID)	`People.Read`	The **People I work with** tab is hidden from the quick-filter bar. The other tabs keep working

Warning

The **Employee Directory (Entra ID)** web part keeps a copy of the loaded list in the browser and shows it on the next visit. Once the copy is older than 24 hours, it is refreshed in the background; **Refresh** also starts a new request. If that request fails after a permission is revoked and a previously loaded, non-empty list is already displayed, the web part keeps the list and its original update date. A warning appears: *Couldn't update the list. The saved copy is shown.*, followed by the error text if available. The list is not replaced with an error screen. An error screen appears if loading fails without a previously loaded, non-empty list. When you test a permission change, clear the browser data of the **site** or use a private window.

Note

Presence and free/busy information need more than the permission: the person must use Microsoft Teams to have a presence status, and must have an Exchange Online mailbox to have a free/busy schedule. For details on the availability section, see KB10317. Employee Directory: Local Time, Working Hours and Availability; for the quick filters, see KB10214. Employee Directory Quick Filters: My Department, My Team, People I Work With, Favorites.

Approving the permissions

The permission requests are created automatically when the Employee Directory package is deployed to the tenant **App Catalog**. A **Global Administrator** approves them:

1 Open the **SharePoint admin center**.
2 In the left navigation, expand **Advanced** and select **API access**.
3 On the **Pending requests** tab, find the requests of the **Vitextra Employee Directory** package for **Microsoft Graph** - `Directory.Read.All`, `User.Read.All`, `Presence.Read.All`, `Calendars.Read` and `People.Read`.
4 Select each request, click **Approve** and confirm.

Users get no consent prompt: after the approval the web parts work for everybody in the tenant. If a web part still shows an error a few minutes after the approval, reload the page.

Tip

The full procedure, including approving with PowerShell, partial approval and revoking permissions, is described in KB10360. How to Approve Microsoft Graph API Permissions for Vitextra Solutions in the SharePoint Admin Center.

Checking the status of the permissions

To check which permissions are in place, open **Advanced** › **API access** in the SharePoint admin center:

- The **Approved requests** tab must list all five Microsoft Graph permissions. Because the grants are tenant-wide, a permission may be listed there under another package that requested it first - that is enough.
- Any permission still listed on the **Pending requests** tab is not yet in effect; the features that depend on it behave as described in **What users see when a permission is missing**.

When you update Employee Directory, the permissions approved earlier stay approved. If a new version requests an additional permission, it appears on the **Pending requests** tab and must be approved in the same way.

Notes for security reviews

For a security review, these points are usually relevant:

- All five Microsoft Graph permissions are delegated and read-only; they do not allow Employee Directory to modify directory, profile or mailbox data.
- Directory data, photos, presence and calendar information are requested by the user's browser directly from Microsoft Graph and SharePoint and are not sent to Vitextra or to any third party.
- The **User profiles** source reads people through SharePoint search under the user's own rights and needs no Microsoft Graph permission for the list itself.
- Favorites, the cached employee list and the default configuration of the Teams personal app are stored outside Microsoft Graph; where exactly, and what data the web parts read, is described in KB10469. Employee Directory: What Data It Reads and Where Favorites and Settings Are Stored.
- Requests to Vitextra services include license checks, usage telemetry with technical identifiers and, when used, storage of the Teams personal-app default configuration; see KB10363. Where Vitextra Products Store Your Data: Privacy, Data Residency and GDPR.

Tip

To install the solution, see KB10035. How to Install a Vitextra Product in SharePoint Online. To add the web part to a page, see KB10309. How to Add and Configure the Employee Directory Web Part.

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

Terms

App Catalog
The App Catalog is a special SharePoint site that stores apps for SharePoint, Teams, and other Microsoft 365 services. Global or SharePoint administrators can upload and manage applications from the AppSource marketplace, custom-developed apps, or third-party apps for the organization's internal use. There can be only one tenant-level App Catalog in a tenant; site collection app catalogs can be added for individual site collections.

Delegated Permissions
Delegated permissions allow an application to act on behalf of a signed-in user. The effective access of the application is the intersection of the permissions granted to the application and the permissions of the user.

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.

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 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.

Terms

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.

Microsoft Teams
Microsoft Teams is a chat-based collaboration platform for business communications with features for online meetings, live events, and document sharing.

Search Service
The SharePoint Search Service Application provides enterprise search functionality, including crawling, indexing, and querying, and helps users find the most relevant information. The Search Service Application is available both in on-premises SharePoint Server deployments and in SharePoint Online.

SharePoint
SharePoint is a web-based collaboration platform that provides content management, document management, workflow applications, search, and other tools that empower employees and teams to work together. SharePoint is also a secure place to store, organize, and access shared information.

Site
A SharePoint site is a container for information within the SharePoint platform. Sites typically offer features such as document libraries, lists, calendars, discussion boards, and workflows, facilitating collaboration, communication, and document management within teams or across departments. Sites can be customized and configured to suit the specific needs and workflows of an organization.

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.

Web Part

Terms

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.