In work life...

20%

of work time
is spent searching for info
(and often in the wrong location)

Commsverse

How to use and configure Microsoft Search

Create your own Graph Connector

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What is it?

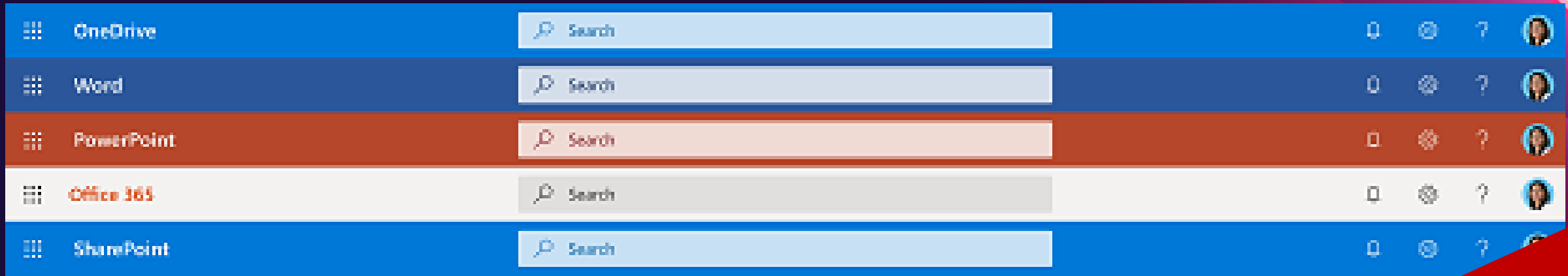Simple, intelligent search across Microsoft 365 and your company

Data is secure, private, and never shared

An experience that's consistent and familiar, everywhere you search

Results are personalized for you and your work

Search from any device, anywhere

Where is it?

- Outlook on the web
- Microsoft Office apps on Windows
- OneDrive for Business
- SharePoint
- Office.com or the starting pages for Word, Excel, and Power...
- Bing
- "Over time the Microsoft Search box will come to more of the ...osoft 365"

https://support.microsoft.com/en-us/office/find-what-you-need-with-microsoft-searh-d5ed5d11-9e5d-4f1d-b8b4-3d371fe0cb87?ui=en-us&rs=en-us&ad=us

It's personal!
+ permissions!

Demo Microsoft Search

Search terms

- You can use AND, NOT, OR, <, >, =,
  and other operators to refine your search.

- Operators should be typed in uppercase letters.

- Examples:
  - Vespa AND scooter
  - business AND date > 03/31/2022

https://support.microsoft.com/en-us/office/how-to-search-in-outlook-d824d1e9-a255-4c8a-8553-276fb895a8da?ui=en-us&rs=en-us&ad=us

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Why use the Microsoft Search?

ONE unified
search endpoint
for Microsoft
cloud data

- No setup
- Easy to use
- Personal search
- Personal history
- Spell correction
- Configuration
- Automatic crawling
- Integrate other data sources
- Integrate custom data

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Differences btw. Microsoft Search and SharePoint Search

Microsoft Search

- Modern search experience
- Microsoft Search is personal
- Using the same existing SPO Index
- At: SharePoint start page, hub sites, communication sites, and modern team sites
- Microsoft Search experience cannot be customized *
- Can be extended with custom data easily

SharePoint Search

- Classic Search
- Same result for everyone
- Using the existing SPO Index
- At: publishing sites, classic team sites, and in the Search Center
- Search admin can customize the classic search experience

https://docs.microsoft.com/en-us/sharepoint/differences-classic-modern-search

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Microsoft Search technologies by effort & price

Microsoft Search	SharePoint Syntex	Viva Topics	Azure Cognitive Search
• Built-in • No extra costs	• configure • Requires a license	• configure • Requires a license	• develop • Azure-based billing

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SharePoint Syntex examples (form processing)

Track contract information with Microsoft SharePoint Syntex

1 In the Content Center, create a model for understanding contracts

2 Upload sample documents and run the training to identify contracts

3 Train the model to extract key fields from the contracts

4 Apply the model to the contracts library

5 Apply a retention label to the date field

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Viva Topics examples

Introducing topic pages

Microsoft Viva helps you discover knowledge through topics. Some topics are discovered automatically. Some are added or edited by members of the topic center.

Learn more about Viva Topics

We've listed you on these topics. Did we get it right?

Find the reasons you're listed in the topic summaries. Stay listed so you can share your knowledge on the topic. Learn more about topics.

SUGGESTED TOPIC	SUGGESTED TOPIC	SUGGESTED TOPIC	SUGGESTED TOPIC
Azure Backup	**SQL Server Express**	**Graph API**	**Power BI**
You contributed to resources	You contributed to resources	You contributed to resources	You contributed to resources
Azure Backup is a backup as a service offering that provides protection for physical or virtual machines no matter where they reside-on-premises or in the...	Alternate name: SSE SQL Server Express (SSE) is a lightweight and free database engine based on the SQL Server Yukon engine (currently in beta release).	Alternate name: GraphAPI The Graph API is an OData API that offers programmatic access to the entities that constitute an Azure AD tenant and all that it contains.	Alternate names: PowerBI, Power-BI Power BI is a business analytics service by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple...
From 9781509302963_Microsoft Azure Essentia...	From Beginning ASP.NET 2.0 Databases Beta Pr...	From Modern Authentication with Azure Active...	From Wikipedia Text under CC-BY-SA license
Do you want to be listed on this topic? Yes No. Remove me.	Do you want to be listed on this topic? Yes No. Remove me.	Do you want to be listed on this topic? Yes No. Remove me.	Do you want to be listed on this topic? Yes No. Remove me.

Azure Cognitive Search concept

Your content

(in the cloud or behind a firewall)

Full indexing

Refresh indexing

AI enrichment

Azure Cognitive Search

Indexing engine

Indexes and other structures

Query engine

Query requests

Query responses

Your app

1. Collects user input
2. Formulates and sends requests
3. Handles responses
   a result set
   a single document
   . . .

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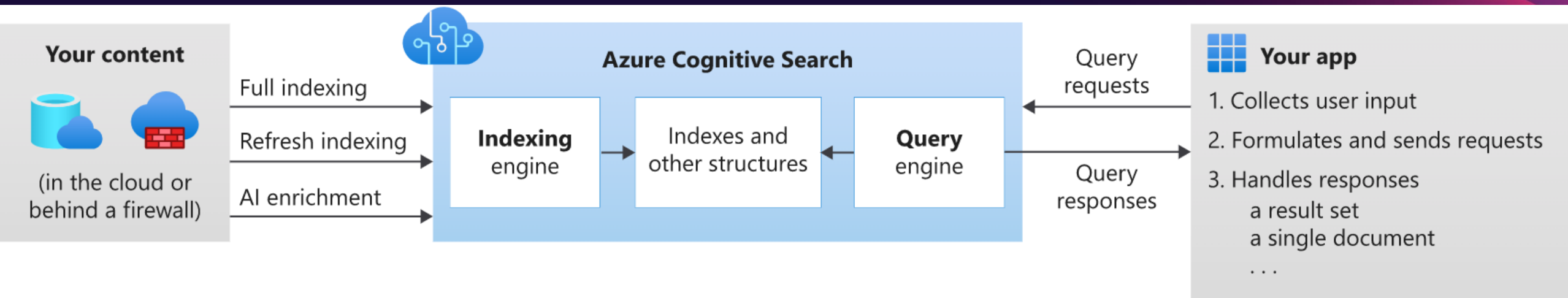
Microsoft Search technologies

Microsoft Search

- Ready-to-use for content in M365
- Built-in features like AI, history, spell checker, etc
- Configure bookmarks, QnA, locations, acronyms
- Ingest your custom data easily

SharePoint Syntex

- Content extraction from unstructured documents
- Automatic forms extraction
- Power Platform AI Builder
- No-Code AI Models
- Trainable with document types

Viva Topics

- Discover important topics highlighted in content
- Automatically identify, process, and organize content
- Automatically build topic pages

Azure Cognitive Search

- No out-of-the-box solution – for developers
- Full control of the Indexing pipeline
- Powered by AI for OCR, translations, pictures, custom data recognition
- Data from Azure and SPO

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Graph Connectors + API

Graph connectors support virtually **any** data source

Microsoft-built connectors

Partner connectors
> 100 connectors

Microsoft Graph API

Use Azure Data Lake Storage Gen2 Graph Connector

https://docs.microsoft.com/en-us/microsoftsearch/azure-data-lake-connector

Search

Search & intelligence > Data sources > Add

Connect to data source

Connect to data source

Choose a data source to create a connection for your organization. **Learn more about connectors.**

Find More Connectors.

ADLS Gen2

Connect to ADLS Gen2

Oracle SQL database

Connect to Oracle SQL database

ServiceNow

Connect to ServiceNow catalog..

File share

Connect to on-prem network file share

Microsoft SQL server(New)

Connect to Microsoft SQL 2008 or later

Enterprise websites

MediaWiki

Salesforce

Azure SQL

Next

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

● Name the connection

○ Connection settings

○ Assign property labels

○ Manage schema

○ Manage search permissions

○ Refresh settings

○ Review connection

○ Complete

Connection Name

To get started, fill out the basic information for the connection.

Name *

marketing

Connection ID *   ⓘ

marketing

Description

marketing

Next

Save and Close

Microsoft Azure 🔍 Search resources, services, and docs (G+/)

toni@tpe5.onmicrosoft....
TPE5

🔑 m365search | Access keys ···
Storage account

🔍 Search (Ctrl+/)

Data storage

🛢️ Data migration

⚡ Events

🗄️ Storage browser (preview)

Data storage

🛢️ Containers

📁 File shares

📊 Queues

📋 Tables

Security + networking

👥 Networking

🔑 **Access keys**

🔗 Shared access signature

🔒 Encryption

🛡️ Security

Data management

🌐 Geo-replication

👁️ Hide keys   🕐 Set rotation reminder   🔄 Refresh

Access keys authenticate your applications' requests to this storage account. Keep your keys in a secure location like Azure Key Vault, and replace them often with new keys. The two keys allow you to replace one while still using the other.

Remember to update the keys with any Azure resources and apps that use this storage account. Learn more ↗

Storage account name

m365search

key1

Last rotated: 11/3/2021 (23 days ago)

🔄 Rotate key

Key

2B2+ck86dm3Q

Connection string   Copy to clipboard

DefaultEndpointsProtocol=https;AccountName=m365search;AccountKey=2B2+ck...

key2

Last rotated: 11/3/2021 (23 days ago)

🔄 Rotate key

Key

54BF8q1hLImGa

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

Connection settings

- ✓ Name the connection

- ● Connection settings

Step to setup the authentication and configuration of ADLS Gen2 connector

- ○ Assign property labels

ⓘ Default Read access is not granted to "Other" in ADLS. So if you choose the option "Limited to Access Control Level (ACL)" in Search Permissions, please make sure to grant "Other" Read Access at the top most blob container or top most folder, so that indexed items from ADLS are returned in Search Results for users in your Org.

- ○ Manage schema

- ○ Manage search permissions

> Follow these steps to find the connection string for your ADLS resource.

- ○ Refresh settings

Primary storage connection string *

DefaultEndpointsProtocol=https;AccountName=m365search;Accoun... *

☑ Same with primary storage

- ○ Review connection

Notifications storage connection string

DefaultEndpointsProtocol=https;AccountName=m365search;Accoun...

- ○ Complete

Notification queue name

marketingnotifications

Test connection

Back   Next

Search

Connection settings

Step to setup the authentication and configuration of ADLS Gen2 connector

- ✓ Name the connection

- ● **Connection settings**

- ○ Assign property labels

- ○ Manage schema

- ○ Manage search permissions

- ○ Refresh settings

- ○ Review connection

- ○ Complete

ⓘ Default Read access is not granted to "Other" in ADLS. So if you choose the option "Limited to Access Control Level (ACL)" in Search Permissions, please make sure to grant "Other" Read Access at the top most blob container or top most folder, so that indexed items from ADLS are returned in Search Results for users in your Org.

✓ The connection is successful.

〉 Follow these steps to find the connection string for your ADLS resource.

Primary storage connection string * |DefaultEndpointsProtocol=https;AccountName=m365search;Accoun...| *

✓ Same with primary storage

Notifications storage connection string   DefaultEndpointsProtocol=https;AccountName=m365search;Accoun...

Notification queue name |marketingnotifications|

Back   **Next**

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

- ✓ Name the connection
- ✓ Connection settings
- ● **Assign property labels**
- ○ Manage schema
- ○ Manage search permissions
- ○ Refresh settings
- ○ Review connection
- ○ Complete

Assign property labels

You can select a source property to assign to each label. Assigning properties is optional, but can improve search relevance and ensure more accurate search results for people in your organization.

Label	Description	Type	Source properties
Title	The title of the item that you want shown i...	String	Name
url	The target URL of the item in the data sou...	String	Url
Last modified by	Name of the person who most recently edi...	String	Select
Last modified date time	Date & time the item was last modified in ...	DateTime	LastModifiedDateTime
File name	In case of a file, the name of the file in the ...	String	Select

Back   Next

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

Content Property

The content property you select will be used to generate result snippets and descriptions in search results.

Content	⌄

12 items   🔍 Search   ▽ Filter

Source properties	Alias	Type	Labels	Query
BlobSASUri	SystemIncludeAuthzSign1 ✕	String		☑
Content (Content)		String		▢
ContentLength		Int64		☐
ContentPreview		String		☐

- ✔ Name the connection
- ✔ Connection settings
- ✔ Assign property labels
- **Manage schema**
- ○ Manage search permissions
- ○ Refresh settings
- ○ Review connection
- ○ Complete

Back   Next   Save and Close

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

...ed to generate result snippets and descriptions in search results.

- ✓ Name the connection
- ✓ Connection settings
- ✓ Assign property labels
- ● **Manage schema**

	Type	Labels	Query	Search	Retrieve	Refine
mIncludeAuthzSign1 ✕	String		☑	☑	☑	☐
	String		▨	✓	▨	▨
	Int64		☐	▨	☐	☐
	String		☐	☐	☑	☐

12 items   🔍 Search   ▽ Filter

- ○ Manage search permissions
- ○ Refresh settings
- ○ Review connection
- ○ Complete

Back   Next   Save and Close

Search

- ✓ Name the connection
- ✓ Connection settings
- ✓ Assign property labels
- ✓ Manage schema
- ● **Manage search permissions**
- ○ Refresh settings
- ○ Review connection
- ○ Complete

Manage search permissions

These users will see search results from this data source.

○ **Only people with access to this data source**
Only users in your source Access Control List (ACL) will see search results from this data source. An ACL specifies which users can access files and other items.

◉ **Everyone**
Everyone in your organization will see search results from this data source.

Back   Next   Save and Close
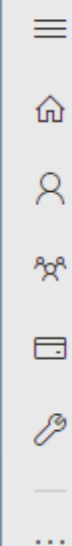
Search

- ✓ Name the connection
- ✓ Connection settings
- ✓ Assign property labels
- ✓ Manage schema
- ✓ Manage search permissions
- ● **Refresh settings**
- ○ Review connection
- ○ Complete

Refresh settings

Set the refresh interval to update data that's changed

Incremental refresh interval

| 15 minutes | ∨ |

Full refresh interval

| 1 day | ∨ |

| 1 day |
| 1 week |
| 2 weeks |
| 4 weeks |

Back   Next   Save and Close

Search

Search & intelligence > Data sources > Add New 'ADLS Gen2' Connector

Review connection

Review the configured settings for the connection

- ✓ Name the connection
- ✓ Connection settings
- ✓ Assign property labels
- ✓ Manage schema
- ✓ Manage search permissions
- ✓ Refresh settings
- ● **Review connection**
- ○ Complete

Connection Name

marketing

Edit Connection Name

Data source

m365search

Edit Data Source

Schema

12 properties added.

Edit Schema

Search Permissions

Visible to everyone

Edit Search Permissions

Back   Finish   Save and Close

Search

- ✓ Name the connection
- ✓ Connection settings
- ✓ Assign property labels
- ✓ Manage schema
- ✓ Manage search permissions
- ✓ Refresh settings
- ✓ Review connection
- ● **Complete**

New connection created

This connection will be published in a few minutes, and then it will get indexed. If the data source is large, indexing may take a few hours.

When this connection is published, which you'll see on the Connectors tab, you'll need to add a Vertical for this connector to view insights on how users search this data source.

Done

Search

Search & intelligence

Search & intelligence

Insights   Answers   **Data sources**   Customizations   Configurations

Search connection quota utilization (1.48%)

185 items indexed out of 12,500.ⓘ

+ Add   ↻ Refresh

Name	Required actions	Connection
⊞ parts	-	parts
⊞ workshops	Create Vertical | Create Result type	workshops
⊞ trainings	-	trainings
⊞ cloud	Create Result type	cloud
🛢 contracts	-	contracts
🛢 marketing	Create Vertical | Create Result type	marketing

🟢 marketing

🗑   ‖

🛢 marketing • Microsoft

Detail   Statistics   Error

Description

marketing

Current Crawl   ⌄

Next Crawl   ⌃

Start time	**Type**
11/27/2021, 11:12 PM	Incremental

Last Crawl

Total item errors   **Data source**

Search

Home > Search & intelligence > Data sources

Search & intelligence

Insights   Answers   **Data sources**   Customizations   Configurations

Search connection quota utilization (1.48%)

185 items indexed out of 12,500.ⓘ

➕ Add   🔄 Refresh

Name	Required actions	Connection
parts	-	parts
workshops	Create Vertical | Create Result type	workshops
trainings	-	trainings
cloud	Create Result type	cloud
contracts	-	contracts
marketing	Create Vertical | Create Result type	marketing

🟢 marketing

🗑️   ‖

marketing • Microsoft

Last Crawl   ⌄

Total item errors   **Data source**

0   m365search

Permissions   **Items indexed**

Visible to everyone   17

Schema   **Crawl Schedule**

12 properties added.   Full refresh interval
                                   1 day

                                   Incremental refresh interval
                                   15 minutes

Note: Azure Data Lake Storage Gen2 Graph connector

- Files size needs to be 4 MB or less for it to be crawled.
- Word (docx, .docm, .dotx, .dotm)
- PowerPoint (.pptm, .pptx, .potm, .potx, .ppam, .ppsm, .ppsx)
- Excel (.xlsx, .xlsm)
- Legacy Office formats (.doc, .dot, etc.)
- Text (.txt)
- HTML
- PDF
- Binary files like images (.jpg, .bmp, etc. , also when embedded) are not supported

https://docs.microsoft.com/en-us/microsoftsearch/azure-data-lake-connector

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Microsoft Graph connector API limits

Keep these limits in mind when designing connectors:
- Max. 10 connections per Microsoft 365 tenant
- Max. 700,000 items per connection
- Max. 70 GB byte size of a connection
- Max .128 properties per schema
- Max. 100,000 external groups per Microsoft 365 tenant
- Max. 1000 requests/sec (HTTP 429)
- Item ingestion: 4 items/sec (250 MB/hour)
- Item ingestion: 4 MB is the maximum size of an item (request body size)
- HTTP status code 429 if too many requests occured

https://docs.microsoft.com/en-us/graph/connecting-external-content-api-limits

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Use the API with Powershell

https://github.com/tonipohl/MicrosoftSearch

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Use the API with C# Code

https://github.com/microsoftgraph/msgraph-search-connector-sample

Use the API with the ready to use PnP Search solution

(PnP Modern Search v4, February 2022)

http://aka.ms/pnp-search

https://github.com/microsoft-search/pnp-modern-search/releases

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Microsoft Search Summary

- How to configure Microsoft Search?
  - Do nothing. It comes with M365 automatically
- Does it cost extra?
  - No (included in the M365 licenses)
- What happens if a user has no Search license?
  - The "Microsoft Search" plan is assigned automatically. It can´t be unassigned.
- Does it support various languages?
  - Yes
- Does it search Team chats?
  - Currently, no
- Does it search pictures (OCR, …)?
  - No. Use Azure Cognitive Search
- What does Microsoft Search search?
  - See graphics

- How many connectors can I configure?
  - You can add a maximum of ten Graph connections to each tenant.
- Can you customize the refiners?
  - Currently, no
- Can you customize the search results?
  - Currently only for your own connectors (but December is a good month…)
- What quota/what if I reach the quota?
  - e.g. E5: 500 items * 100 users = 50,000 items index quota
  - Add Extra Graph Connector Capacity licenses
- What other data and features will be included in future?
  - Coming…

Knowledge & Content Services roadmap 2021-2022

	Experiences	Foundation	Language support	Clouds
Viva Topics	• Topics in Teams – Preview • Topics in Outlook and Yammer • Question concierge • Topic management updates • Support for topic types	• Graph connected content available for knowledge indexing • Shared components for topics • API in Microsoft Graph • Syntex taxonomy integration	• Extended language support French, German, Spanish	Government Community Cloud (GCC) availability
SharePoint Syntex	• Content assembly • Advanced metadata search • Contract management • Image tagging	• APIs in Microsoft Graph	• Extended language support French, German, Italian, Spanish	GCC High availability

Microsoft Search	• Azure Cognitive Search results in Microsoft Search
	• Recommended Bookmarks
	• Recommended Q&A
	• Connector results on All vertical
	• Personal query history in SharePoint and Office.com
	• Semantic search
	• People-centric search in SharePoint and Office.com
		• New connectors
		  • Jira
		  • Confluence
		  • SharePoint Server
		  • Schoology
		  • CSV
		• eDiscovery support for Microsoft Graph connectors
		• Stemming support with Microsoft Graph connectors
				GCC availability

Compliance	• Retention policies for Yammer • Retention for cloud attachments • Retention labels auto-applied based on sensitivity label • Outlook clients support for records management	• Graph API to manage labels & events		

What to expect in Microsoft Search in near future?

https://www.microsoft.com/en-us/microsoft-365/roadmap?filters=Microsoft%20Search

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Microsoft Search Resources

- Microsoft Graph Resources (code)
https://developer.microsoft.com/en-us/graph/gallery/?filterBy=Samples,SDKs

- SPFx sample
https://github.com/microsoft-search/spfx-samples/tree/master/Sample1.0
Microsoft Search in SharePoint and Office 365
https://www.youtube.com/watch?v=6upqwbhHoJM

- Bringing external data into Microsoft 365 - custom search result types and verticals Chris O´Brien
https://www.sharepointnutsandbolts.com/2021/09/Microsoft-365-custom-search-vertical-result-type.html?m=0

- Licensing and pricing
https://docs.microsoft.com/en-us/microsoftsearch/licensing

- Custom Conn. with Logic Apps by Kevin McDonnel
https://www.mcd79.com/2020/09/30/creating-custom-microsoft-search-connector-with-logicapps

- Microsoft Graph Postman Collections
https://www.postman.com/microsoftgraph/workspace/microsoft-graph/collection/455214-085f7047-1bec-4570-9ed0-3a7253be148c?ctx=documentation

- Session content
https://github.com/tonipohl/MicrosoftSearch

- Configure Search Connector with the admin portal
https://www.youtube.com/watch?v=TVSkJpk1RiE

- Configure the Azure Data Lake Storage Gen2 Graph connector
https://docs.microsoft.com/en-us/microsoftsearch/azure-data-lake-connector

- File share Graph connector to search on-premise Windows file shares
https://docs.microsoft.com/en-us/microsoftsearch/fileshare-connector

- On-prem connectors: Install the Microsoft Graph connector Agent
https://docs.microsoft.com/en-us/microsoftsearch/graph-connector-agent & https://aka.ms/gcadownload

- C# sample
https://github.com/microsoftgraph/msgraph-search-connector-sample

- PnP Modern Search v4 webparts
https://microsoft-search.github.io/pnp-modern-search/

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Thank you!

Let´s connect! https://www.linkedin.com/in/tonipohl/

Find my samples at https://github.com/tonipohl/MicrosoftSearch

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