



Microsoft Power Platform **CONFERENCE**

POWER BI

POWER AUTOMATE

POWER APPS

POWER VIRTUAL AGENTS

POWER PAGES

How to Bring Your Own Custom Knowledge Sources to Generative Answers



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Agenda

- Power Virtual Agents
- Generative Answers
- Infusing generative AI into your bots
- **Demo #1:** ServiceNow as a custom data source
- **Demo #2:** Azure OpenAI 'on your data' data source with documents indexed from SharePoint
- Q&A



Power Virtual Agents

Microsoft's low-code conversational AI platform.

Enables your team to accelerate innovation through the creation of natural conversational AI, with ease.

Easiest way to deploy generative AI chatbots leveraging your own data.

The screenshot displays two main components of the Power Virtual Agents interface. On the left, a 'Test chat' window shows a conversation between a user and a bot named 'Fabrikam bot'. The user asks for help with a return, and the bot responds with a code for verification. On the right, the 'Topics > VerifyID' rule editor is shown. It includes a 'Pattern' input field, a 'Save response as' variable ('EnteredCode'), and a 'Condition' block that checks if the entered code equals the sent code. A 'Set variable value' block then sets the 'VerifiedID' boolean variable to 'Yes'. The 'Variables' sidebar on the right lists various global variables and their current values, such as 'UserID', 'UserPhone', and 'EnteredCode'.

Power Virtual Agents enables anyone to build powerful conversational bots for customers and employees



Modern and generative bot builder

Empower developers and low code users with a collaborative graphical bot builder, enhanced by large language models and Generative AI.



Build without limits with advanced capabilities

Unleash your development potential by harnessing advanced capabilities for limitless building possibilities.



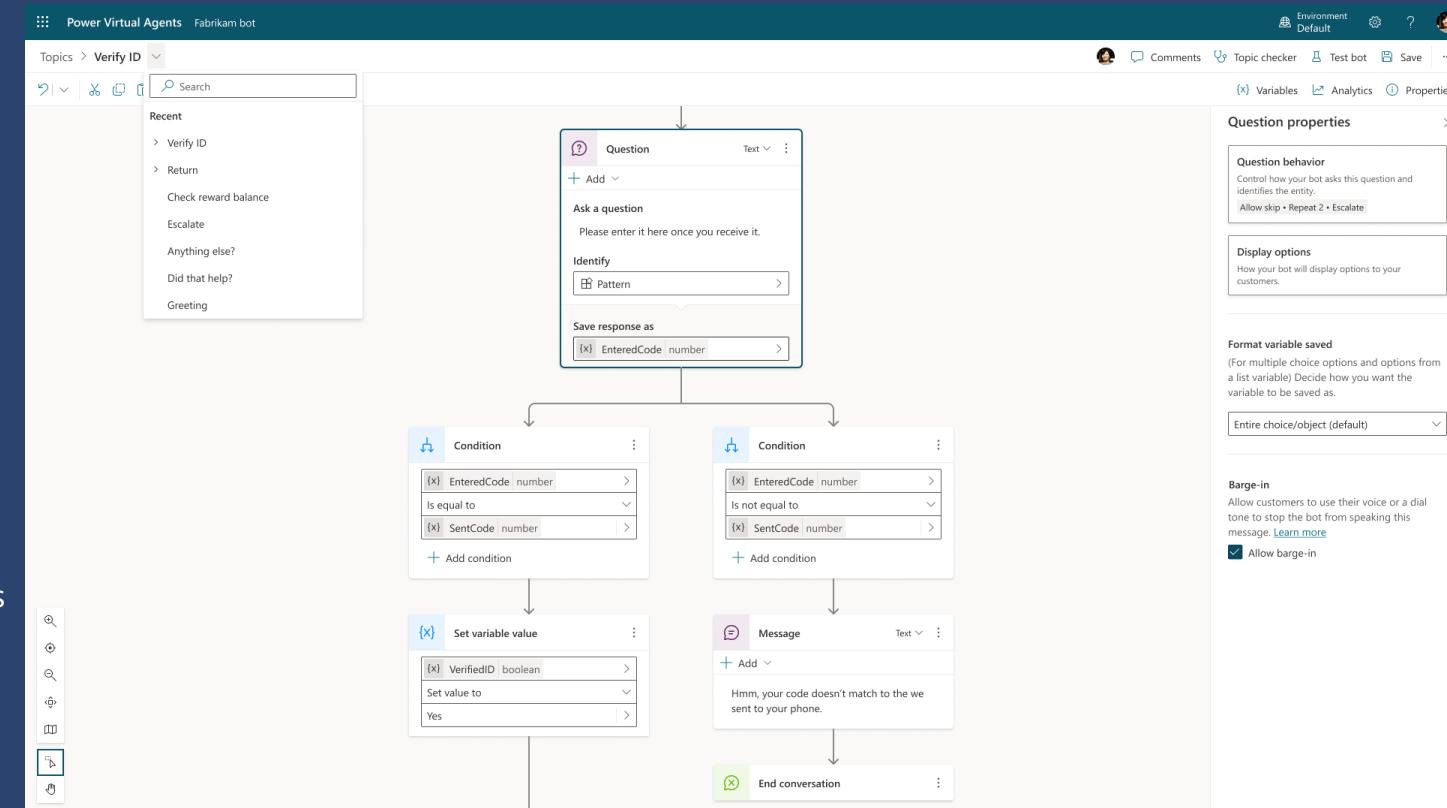
Connect the conversation

Unlock conversations across experiences by seamlessly publishing your bot to the Microsoft Cloud and Copilots, across Dynamics 365, Power Platform, Azure and Microsoft 365.



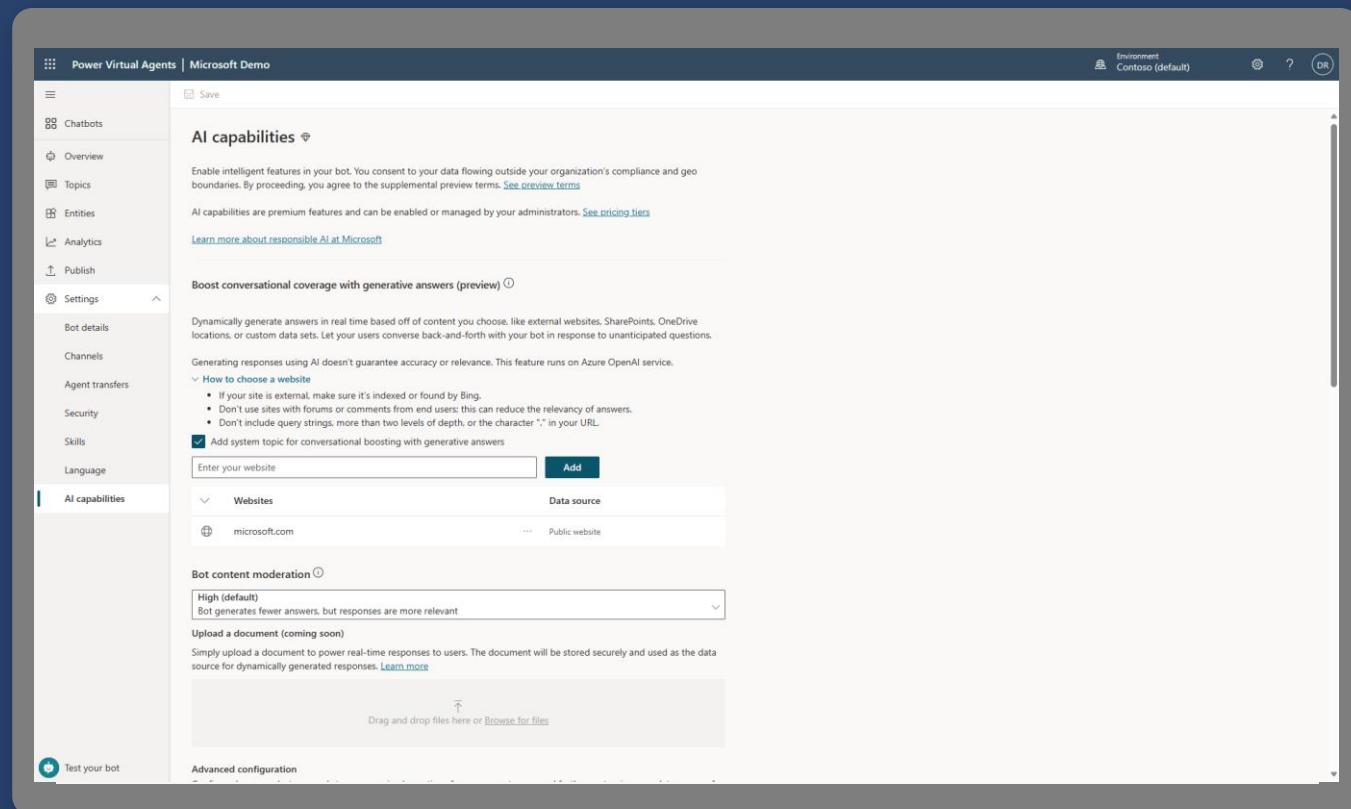
Secure and Scale with trust

Unified cloud control with a secure, global SaaS for enterprise-grade management without infrastructure hassle.



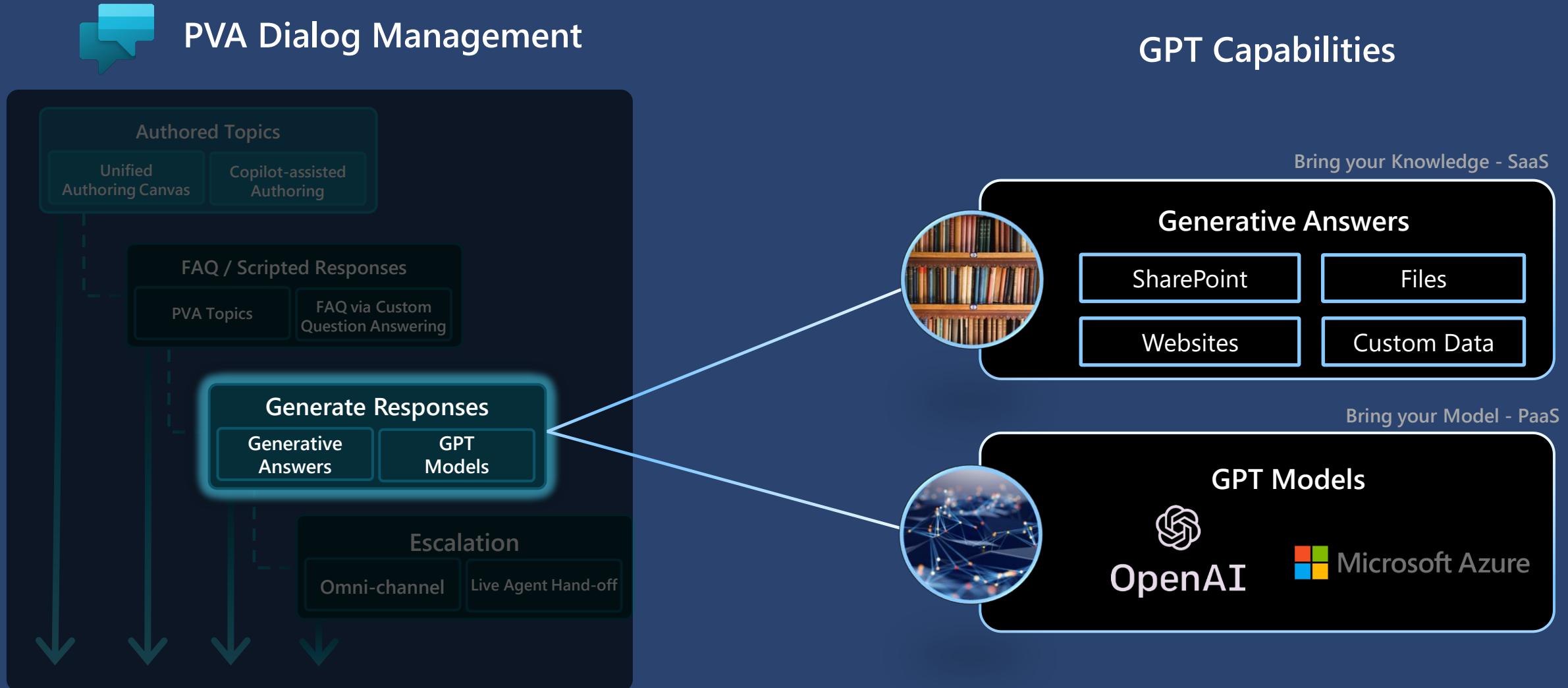
Generative Answers

Make bots immediately useful by creating responses in real time with a GPT model without needing to create topics



- Search existing content data sources and summarize relevant results.
- Dramatically increases the questions that your bot can answer in seconds without the complexity of creating topics.
- Multiple data sources.
- Generate answers are available as a node, so you can choose exactly when and where to invoke it.

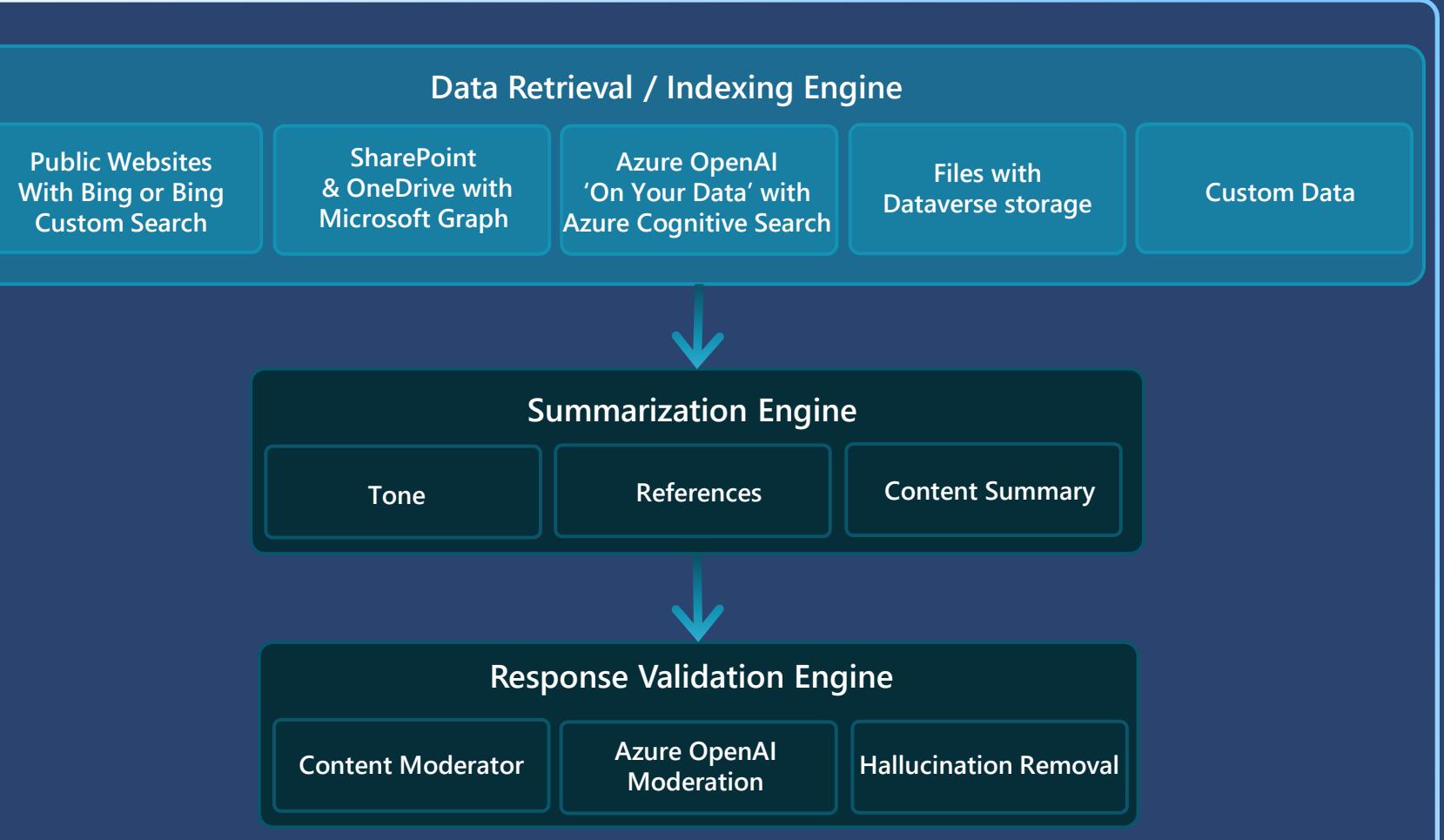
PVA integration with GPT



Architecture Overview of generative answers



Generative Answers



- Built on Azure OpenAI and Azure Cognitive Services
- SaaS-based Solution providing Enterprise Scale / Control / Governance
- Generate responses from numerous indexed content and across multiple systems
- Response Validation for Response Governance and Hallucination management
- Easily pluggable into dialog management stack of PVA



New Paradigm – Topic Responses

Authored Topics

"How many miles do I have in my account?"

FAQ / Scripted Responses

"Why are all flights currently grounded?"

(NEW!) Generated Responses

"What type of snacks are available on your flights?"

Escalation

"Can I talk to an agent?"

STAGE 1

Authored Topics

Unified
Authoring Canvas

Copilot-assisted
Authoring

*...STAGE 2

FAQ / Scripted Responses

PVA Topics

FAQ via Custom
Question Answering

...STAGE 3

Generated Responses

Generative
Answers

GPT Models

...STAGE 4

Escalation

Omni-channel

Live Agent Hand-off

* Will only move to next stage(s) if necessary

Infusing generative AI into topics example

Generative answers unlock new use cases for chatbots where dialog paths no longer need to be fully anticipated.

By plugging generative answers into your internal and external data sources, the bot can search and summarize answers for user queries.

It's not an 'either' choice: you can configure generative answers wherever you choose in your topics, and the data sources can both be dynamic, hard coded, or enriched with context variables

PVA Dialog Management

Pattern #1:

Placing Generative Answers as the first level of unknown intent logic before Fallback.



Generative Answers

If no answer: Fallback

Pattern #2:

Enriching your existing Fallback

Fallback

Your current Fallback logic,
e.g. Question Answering



Your 2nd layer if no results are turned: Generative Answers

Pattern #3:

For simple, single-turn question & answer topics, group them into a single or multiple new topics with their past trigger phrases

Topic 1

Topic 2

Topic 3

Topic 4

Topic 5



New Topic A, merging previous topics trigger phrases and using Generative Answers

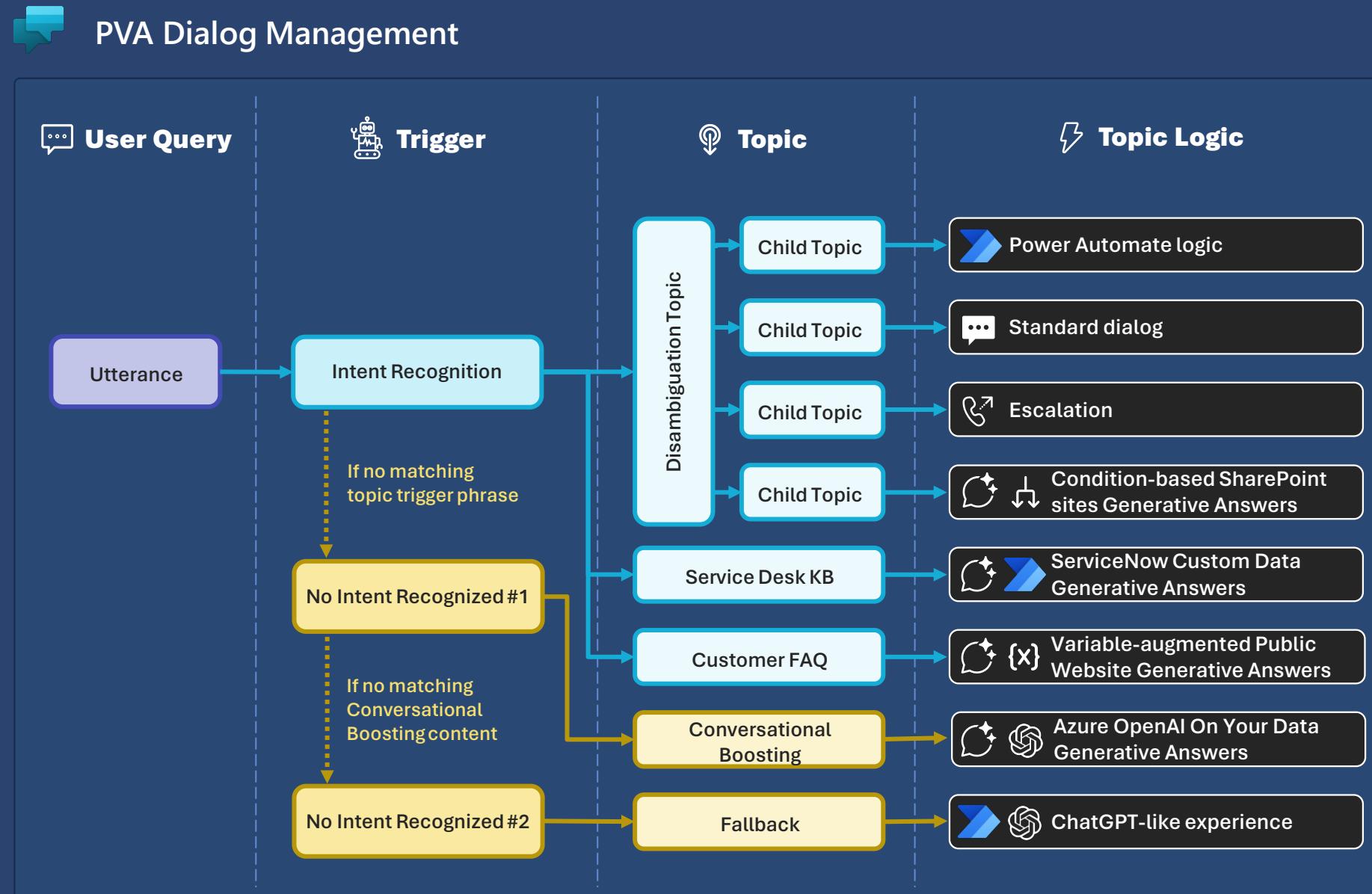


New Topic B with Generative Answers

Mixing scripted dialog paths and generative answers from different data sources

It's still a good idea to have generative answers also configured in the Conversational boosting topic that triggers before Fallback, to try to catch and answer user queries with broader data sources before they get to Fallback.

While planning for generative answers, it's important to plan for follow-up questions (should they remain in context of the previous answer or trigger a new topic?) and how you will measure, track, and validate that the generated answers are accurate and answer the user questions.



Demo

aka.ms/MPPCPVADemo

SCAN ME



Demo #1

ServiceNow knowledge base as your
data source for Generative Answers



☰ Knowledge Number



Actions on selected rows...

New

ⓘ This knowledge article has been published X

All > Workflow in (Draft, Review, Published, Pending retirement, Retired) > Author = System Administrator

<input type="checkbox"/> Number ▾	Short description	Author	Category	Workflow	Updated
KB99999999	Microsoft Outlook Issues	System Administrator	Microsoft	▶	2019-02-22 05:12:54
KB0010003	Retire a knowledge article	System Administrator	(empty)	▶	2023-10-03 00:05:34
KB0010002	Edit a knowledge article	System Administrator	(empty)	▶	2023-10-03 00:04:52
KB0010001	Create a knowledge article	System Administrator	(empty)	▶	2023-10-03 00:04:05
KB0000033	Eclipse configuration for Android develo...	System Administrator	Android	▶	2022-12-05 20:46:33
KB0000032	Getting Around in Windows	System Administrator	Java	▶	2022-12-05 20:46:33

In this example, we're using a knowledge base setup in ServiceNow



Create a knowledge article

KB0010001

☆☆☆☆☆ 2 views

Knowledge contributors can create and edit knowledge articles within a knowledge base to share information across your organization.

Before you begin

To view an article template, you must activate the article templates feature and enable the desired templates.

Role required: knowledge, knowledge_manager, knowledge_admin, knowledge_coach, knowledge_domain_expert, knowledge_group_member, admin. You must have contribute access to at least one active knowledge base.

About this task

Users with at least one role can create and edit knowledge articles. These users are known as knowledge contributors. Users without any role can read articles and submit feedback, but can't create or edit articles.

Some knowledge bases may allow only certain users to contribute. For example, a member of the IT department can create knowledge articles in the IT knowledge base, such as desktop support information or articles describing company IT processes.

Procedure

1. There are three ways of creating knowledge articles.
 - Navigate to Self-Service > Knowledge and select the Create an Article icon.
 - Navigate to Knowledge > Articles > Create New.
 - From the Knowledge Management homepage, select the more icon () and then select Create New.

2. On the Create new article page, select a knowledge base.

The list of article templates to select in the next step is filtered according to the article templates available in the selected knowledge base.

Note:

On the Create new article page, you can select to Switch to older version of this page or Switch to updated version of this page.

3. Select an article template.

4. Select Next.

The Knowledge form is displayed based on the article template selected.

5. On the Knowledge form, fill in the fields.

Knowledge form

Field	Description
Number	Number of the article. This field is automatically set to a number. For more information, see Duplicate knowledge article

Articles have been created and contain fairly large amounts of text content.



now Certified App

Knowledge API

App id: sn_km_api

Version: 1.0.2 | Installed On: Oct 03, 2023

Summary

Knowledge API provides REST API endpoints for accessing knowledge articles. It enables searching for articles, retrieving an article, and fetching lists of the most-viewed and featured articles.

Installed Version 1.0.2

Latest Version 1.0.2

Get started

Your application is installed and ready for you to use on your instance

Installation complete 100%

[View Details](#)

Quick Actions

[Repair](#)[Uninstall](#)[Open in Studio](#)

For Power Automate to be able to use the ServiceNow “Get Knowledge Articles” action, the Knowledge API plugin needs to be enabled.

[Version Details](#)[Installed Details](#)[Update Details](#)

Version Details

1.0.2

Installed



Test bot

Track between topics ⓘ



How to create a knowledge article?



Just now



To create a knowledge article in ServiceNow, you can follow these steps:

1. Activate the article templates feature and enable the desired templates [\[1\]](#).
2. Make sure you have the necessary roles: knowledge, knowledge_manager, knowledge_admin, knowledge_coach, knowledge_domain_expert, knowledge_group_member, admin [\[1\]](#).
3. Navigate to Self-Service > Knowledge and select the Create an Article icon, or navigate to Knowledge > Articles > Create New, or from the Knowledge Management homepage, select the more icon and then select Create Article [\[1\]](#).
4. On the Create new article page, select a knowledge base [\[1\]](#).
5. Select an article template [\[1\]](#).
6. Select Next [\[1\]](#).
7. Fill in the fields on the Knowledge form [\[1\]](#).

Yes

No

Type your message



Topics > ⚡ Trick: Generative Answers (Custom ...)



Action

Power Automate inputs (1)

{x} Question (String) =

{x} Question string >

ServiceNow Knowledge Base Se...
[View flow details](#)

Outputs (1) ▾

{x} searchresultsjson string =

{x} SearchResultsJSON string >

Parse value

Parse value

{x} SearchResultsJSON string >

Data type

Table

Edit schema

Save as

{x} SearchResultsTable table >

The Power Virtual Agents chatbot calls ServiceNow through a Power Automate cloud flow.

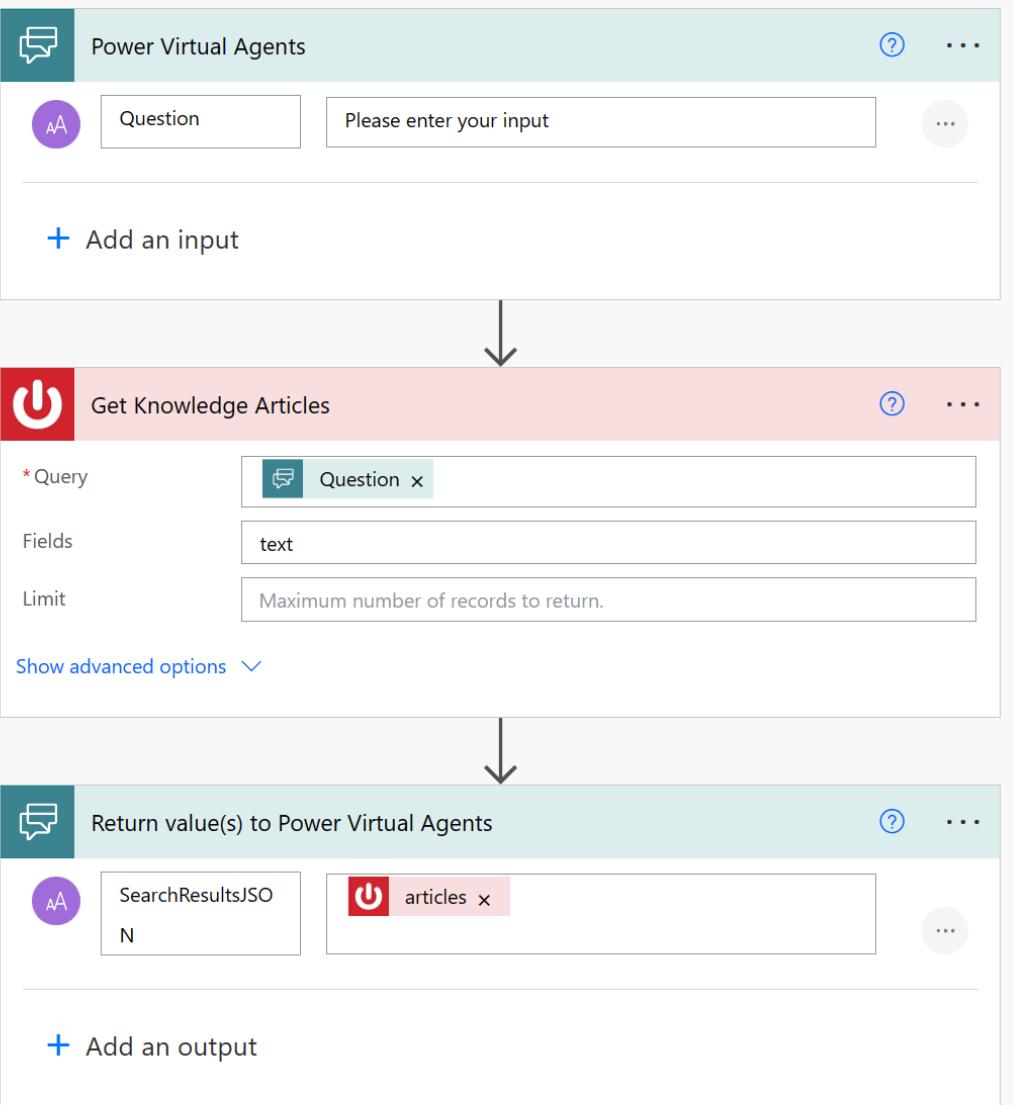
It passes the question as an input for the ServiceNow search.

As an output from the cloud flow, the JSON is parsed into a table.

ServiceNow Knowledge Search

Undo Redo Comments Save Flow checker Test

- Home
 - Create
 - Templates
 - Learn
 - My flows
 - Approvals
 - Solutions
 - Process mining
 - AI models
 - Desktop flow activity
 - More
- Power Platform



In Power Automate, the question is run against the ServiceNow knowledge base.

The “text” field is configured to retrieve the full article in the response.

Test bot

Track between topics ⓘ

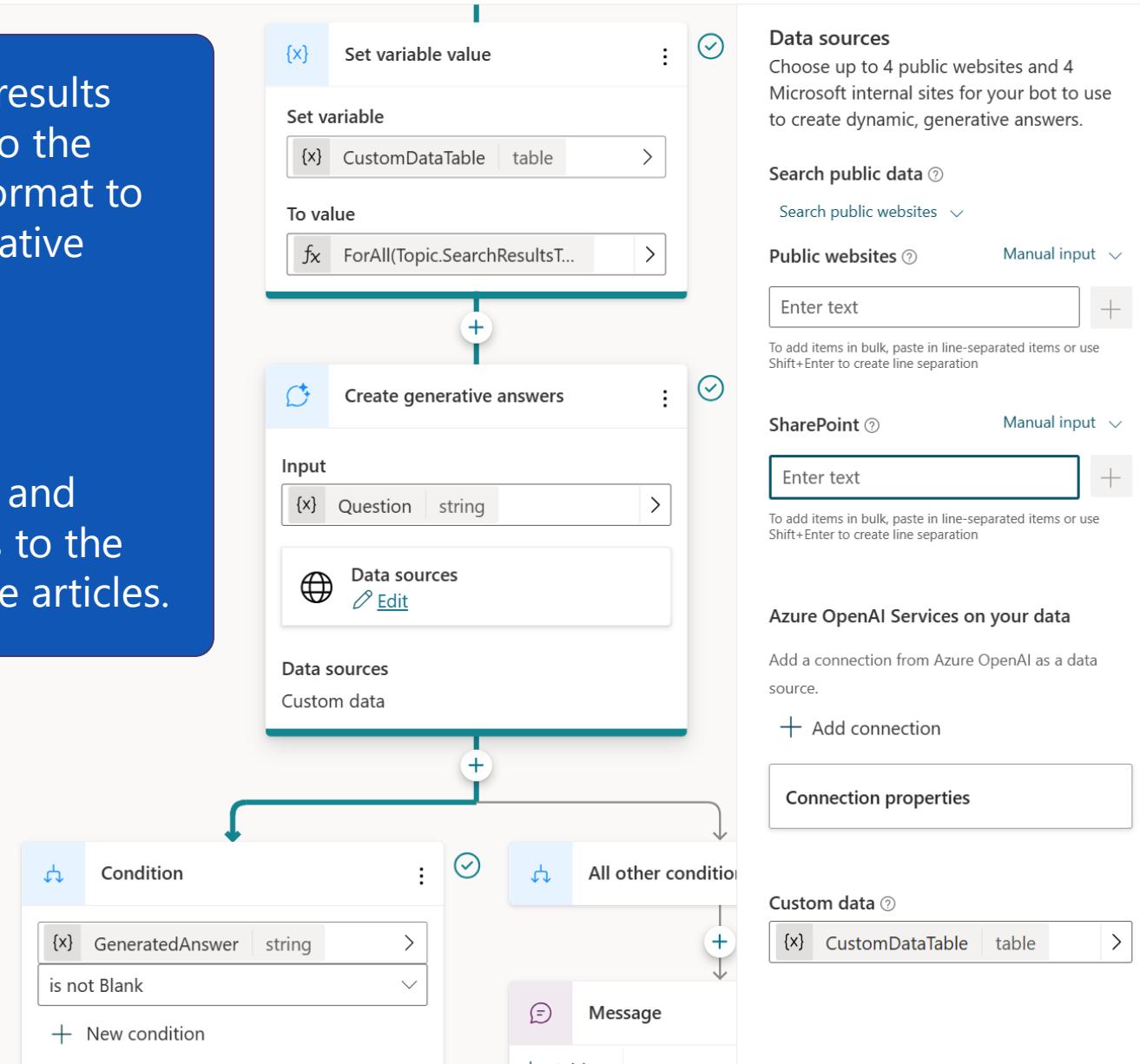
Chat

knowledge_domain_expert, knowledge_group_member, admin [1 ⓘ].
3. Navigate to Self-Service > Knowledge and select the Create an Article icon, or navigate to Knowledge > Articles > Create New, or from the Knowledge Management homepage, select the more icon and then select Create Article [1 ⓘ].
4. On the Create new article page, select a knowledge base [1 ⓘ].
5. Select an article template [1 ⓘ].
6. Select Next [1 ⓘ].
7. Fill in the fields on the Knowledge form [1 ⓘ].
8. Select Submit to create the article [1 ⓘ].
After creating the article, you can perform additional actions such as requesting translations, retiring the article, translating the article, or deleting the article [1 ⓘ].
1 reference ⓘ
1 dev98110.service-now.com ⓘ
Surfaced with Azure OpenAI | ↗ ⓘ
Was this helpful?
Just now
Yes No
Type your message ➤



The ServiceNow results are formatted into the expected Table format to be used in Generative Answers.

The answer gets generated using ServiceNow data and includes citations to the source knowledge articles.



Data sources
Choose up to 4 public websites and 4 Microsoft internal sites for your bot to use to create dynamic, generative answers.

Search public data ⓘ
Search public websites ⓘ

Public websites ⓘ Manual input ⓘ
Enter text +
To add items in bulk, paste in line-separated items or use Shift+Enter to create line separation

SharePoint ⓘ Manual input ⓘ
Enter text +
To add items in bulk, paste in line-separated items or use Shift+Enter to create line separation

Azure OpenAI Services on your data
Add a connection from Azure OpenAI as a data source.
+ Add connection

Connection properties

Custom data ⓘ
CustomDataTable table +
To add items in bulk, paste in line-separated items or use Shift+Enter to create line separation

Demo #2

Azure OpenAI 'on your data' as your
data source for Generative Answers





KB

Knowledge Base

Home Documents Pages Site contents Edit

Following

Site access

+ New ▾

Upload ▾

Edit in grid view

Share

Copy link

Sync

Add shortcut to OneDrive

...

All Documents ▾



Documents > Benefits

Name ▾	Modified ▾	Modified By ▾	+ Add column
Benefit_Options 1.pdf	August 21	Charlie Guibord	
employee_handbook 1.pdf	August 21	Charlie Guibord	
Northwind_Health_Plus_Benefits_Details 1.pdf	August 21	Charlie Guibord	
Northwind_Standard_Benefits_Details 1.pdf	August 21	Charlie Guibord	
PerksPlus 1.pdf	August 21	Charlie Guibord	

In this scenario, the business has uploaded multiple employee benefits documents to a SharePoint library.



Edit

Share

Copy link

Download

...

Benefit_Options 1.pdf

i

|

<

1 / 5

>

|

X



Welcome to Contoso Electronics! We are excited to offer our employees two comprehensive health insurance plans through Northwind Health.

Northwind Health Plus

Northwind Health Plus is a comprehensive plan that provides comprehensive coverage for medical, vision, and dental services. This plan also offers prescription drug coverage, mental health and substance abuse coverage, and coverage for preventive care services. With Northwind Health Plus, you can choose from a variety of in-network providers, including primary care physicians, specialists, hospitals, and pharmacies. This plan also offers coverage for emergency services, both in-network and out-of-network.

Northwind Standard

Northwind Standard is a basic plan that provides coverage for medical, vision, and dental services. This plan also offers coverage for preventive care services, as well as prescription drug coverage. With Northwind Standard, you can choose from a variety of in-network providers, including primary care physicians, specialists, hospitals, and pharmacies. This plan does not offer coverage for emergency services, mental health and substance abuse coverage, or out-of-network services.

Comparison of Plans

Both plans offer coverage for routine physicals, well-child visits, immunizations, and other preventive care services. The plans also cover preventive care services such as mammograms, colonoscopies, and other cancer screenings.

Northwind Health Plus offers more comprehensive coverage than Northwind Standard. This plan offers coverage for emergency services, both in-network and out-of-network, as well as mental health and substance abuse coverage. Northwind Standard does not offer coverage for mental health and substance abuse coverage, or out-of-network services.

Both plans offer coverage for prescription drugs. Northwind Health Plus offers more comprehensive prescription drug coverage than Northwind Standard. Northwind Standard only covers generic name, and specialty drugs, while Northwind Standard covers all prescription drugs.

Both plans offer coverage for vision and dental services. Northwind Health Plus offers more comprehensive coverage for vision and dental services than Northwind Standard. Northwind Standard only offers coverage for vision exams and glasses.

Both plans offer coverage for medical services. Northwind Health Plus offers more comprehensive coverage for medical services than Northwind Standard. Northwind Standard only covers doctor visits, lab tests, and X-rays. Northwind Standard does not cover imaging services like MRIs and CT scans.

Northwind Health Plus is a comprehensive plan that offers more coverage than Northwind Standard. Northwind Health Plus offers coverage for emergency services, mental health and substance abuse coverage, and out-of-network services, while Northwind Standard does not. Northwind Health Plus also offers coverage for prescription drugs, vision and dental services, and medical services.

The documents include details on the various options for the health benefit plans.

Filter by title

How-to guides

[Create a search service](#)[Planning](#)[Service management](#)[Security](#)[Development](#)[Indexes](#)[Analyzers](#)[Indexers](#)

Data sources (indexers)

[Data sources gallery](#)[Azure Storage](#)[Azure Cosmos DB](#)[Azure DB for MySQL](#)[Azure SQL](#)

SharePoint in Microsoft 365

[Skillsets \(indexers\)](#)[Vectors](#)[Queries](#)[Relevance](#)[Performance and monitoring](#)[Reference](#)[Download PDF](#)

Additional resources

Training

Module

[Search Azure Cosmos DB for NoSQL data with Azure Cognitive Search - Training](#)

Index Azure Cosmos DB for NoSQL data with Azure Cognitive Search.

Documentation

[Data sources gallery - Azure Cognitive Search](#)

Lists all of the supported data sources for importing into an Azure Cognitive Search index.

[Preview feature list - Azure Cognitive Search](#)

Preview features are released so that customers can

In this article

[Functionality](#)[Prerequisites](#)[Supported document formats](#)[Configure the SharePoint indexer](#)[Show 7 more](#)

Important

SharePoint indexer support is in public preview. It's [not recommended for production use](#). Preview features aren't recommended for production use. They're not guaranteed to become generally available.

To use this preview, [request access](#), and after access is granted, use the [SharePoint indexer API \(2020-06-30-preview or later\)](#) to index your content. This preview supports REST API only and no .NET SDK support.

As Azure OpenAI 'on your data' require content that is indexed in Azure Cognitive Search, we use the SharePoint indexer.

This article explains how to configure a [search indexer](#) to index documents stored in SharePoint document libraries for full text search in Azure Cognitive Search. Configuration steps are followed by a deeper exploration of behaviors and scenarios you're likely to encounter.



Power Virtual Agents

New Import



+



...

Azure Cognitive Search (SharePoint)

POST Create data source

PUT Create skillset

PUT Create index

PUT Create indexer

GET Get indexer status

> Dataverse

> PVA 1 (Test Chatbot)

> PVA 2 (Test Chatbot)

POST Create data source



...

Azure Cognitive Search

HTTP Azure Cognitive Search (SharePoint) / Create data source

Save



Send

POST

https://{{search-service-name}}.search.windows.net/datasources?api-version={{api-version}}

Params

Authorization Headers (2)

Body

Pre-request Script Tests Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Beautify

```
1  {
2    "name": "{{datasource-name}}",
3    "description": "SharePoint Data Source",
4    "type": "sharepoint",
5    "credentials": {
6      "connectionString": "SharePointOnlineEndpoint={{SharePointLibrary}};ApplicationId={{ApplicationId}};TenantId={{TenantId}}"
7    },
8    "container": {
9      "name": "defaultSiteLibrary",
10     "query": null
11   }
12 }
```

Response

The SharePoint indexer requires a few POST and PUT requests over the Azure Cognitive Search APIs to be configured and ready to go.

Click Send to get a response



Power Virtual Agents

New Import



+



...



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PUT Create skillset

+ ...

Azure Cognitive Search

HTTP Azure Cognitive Search (SharePoint) / Create skillset

PUT

https://{{search-service-name}}.search.windows.net/skillsets/{{skillset-name}}?api-version={{api-version}}

Send

Params

Authorization

Headers (2)

Body

Pre-request Script

Tests

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Beautify

```
1  {
2    "name": "{{skillset-name}}",
3    "description": "SharePoint skillset",
4    "skills": [
5      {
6        "@odata.type": "#Microsoft.Skills.Text.KeyPhraseExtractionSkill",
7        "inputs": [
8          {
9            "name": "text",
10           "source": "/document/content"
11         },
12         {
13           "name": "languageCode",
14           "source": "/document/language"
15         }
16       ],
17       "outputs": [
18         {
19           "name": "keyPhrases",
20           "targetName": "myKeyPhrases"
21         }
22       ]
23     }
24   }
```

Response



Power Virtual Agents

New Import



+



...



Azure Cognitive Search (SharePoint)

POST Create data source

PUT Create skillset

PUT Create index

PUT Create indexer

GET Get indexer status

> Dataverse

> PVA 1 (Test Chatbot)

> PVA 2 (Test Chatbot)



PUT Create index

+ ...

Azure Cognitive Search

HTTP Azure Cognitive Search (SharePoint) / Create index

PUT

https://{{search-service-name}}.search.windows.net/indexes/{{index-name}}?api-version={{api-version}}

Send

Params



Authorization

Headers (2)

Body



Pre-request Script

Tests

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Beautify

```
1 {  
2   "name": "{{index-name}}",  
3   "fields": [  
4     {  
5       "name": "id",  
6       "type": "Edm.String",  
7       "key": true,  
8       "searchable": false  
9     },  
10    {  
11      "name": "url",  
12      "type": "Edm.String",  
13      "key": false,  
14      "searchable": true  
15    },  
16    {  
17      "name": "metadata_spo_item_name",  
18      "type": "Edm.String",  
19      "key": false,  
20      "searchable": true,  
21      "filterable": false,  
22      "sortable": false,  
23      "facetable": false  
24    }  
]
```

Response