

# Copilot Studio and Azure AI Workshop

## Lab 7: AI-Powered Speech-to-Text and Customer Call Insights

Hands-on Lab Step-by-Step Guide

April 2025

## Lab Overview and Pre-requisites

### Learning Objectives

In this lab, participants will process and analyze customer support and sales calls stored in Azure Blob Storage. They will use Azure AI Speech to convert audio recordings into text and leverage Azure AI Search to index and enable semantic search on call transcripts. By the end of the lab, they will have a solution that allows sales and support teams to quickly retrieve past conversations, extract key insights, and respond to customer inquiries more effectively.

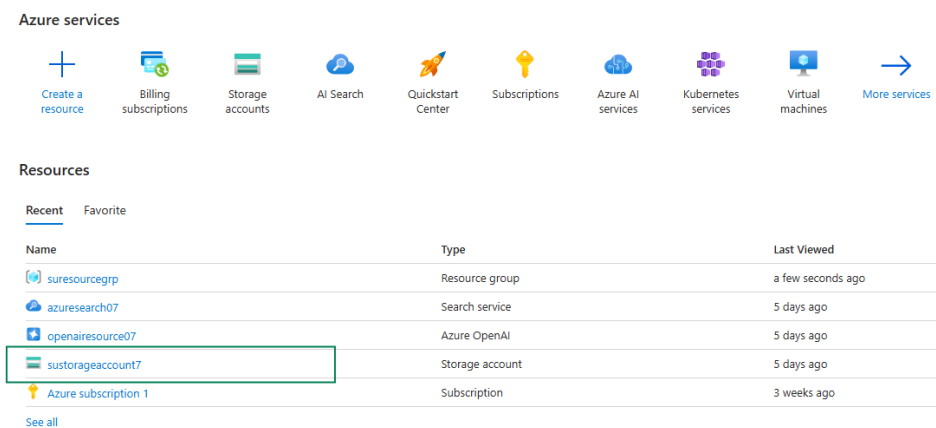
### Pre-requisites

- You will need credentials to a demo tenant that has Copilot Studio and AI Builder trial enabled.
- You will need access to Azure portal with an active Azure subscription
- Access to Lab 7 Assets folder.
- You should have completed Lab 6 (As some of the Azure resources are created in Lab 6)

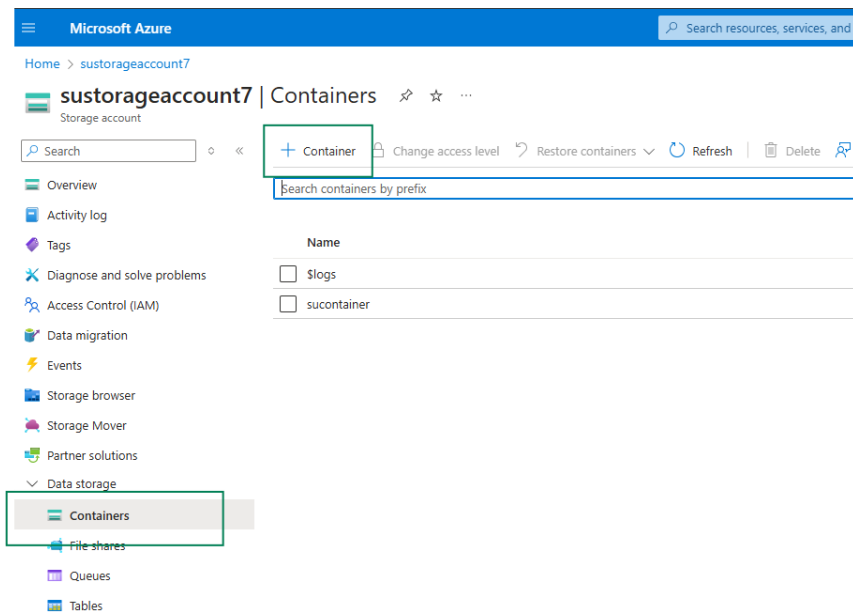
## Lab 7: AI-Powered Speech-to-Text and Customer Call Insights

### >>Store Call Recording Audio Files in a New Storage Container<<

1. Log in to the **Azure Portal** (portal.azure.com) and navigate to your **Storage Account**.

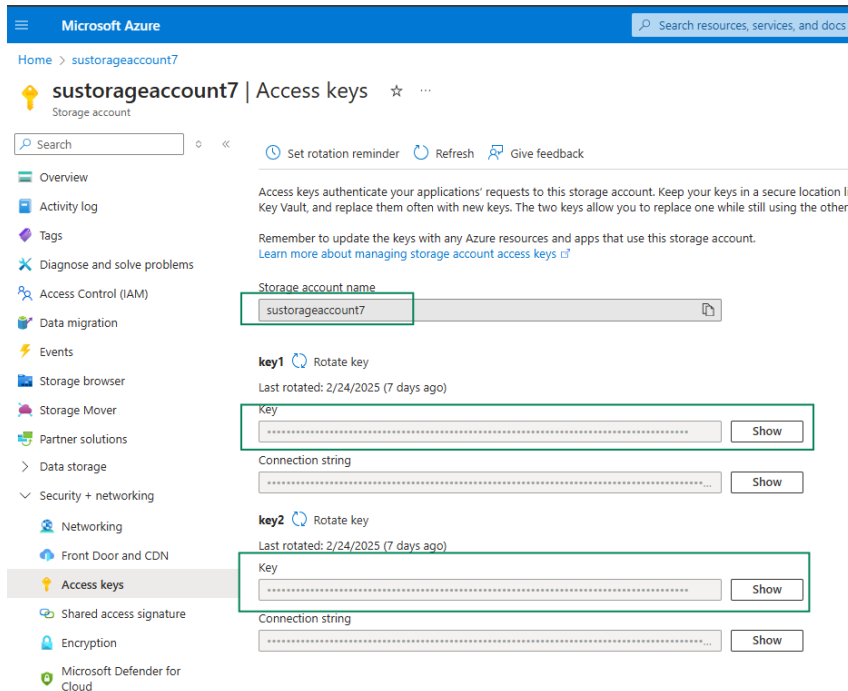


2. In the left-hand menu, expand **Data storage** and click on **Containers**. Click on **+ Container** at the top to create a new container for storing call recordings.



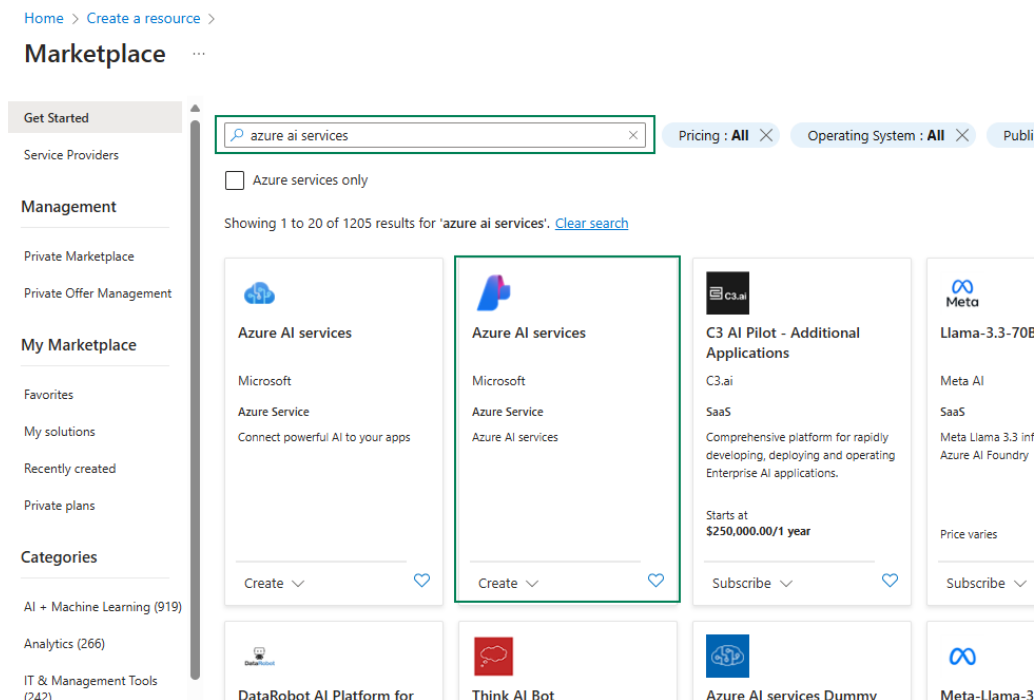
3. Provide the unique name for your container (ex: customercallrecordings) and select **Create**.

4. Confirm that the new container has been successfully created by checking the **Containers** list in your **Storage Account**. In the left-hand menu, expand **Security + Networking** and select **Access Keys**. Copy both the **Storage Account Name** and one of the available **Access Keys** into a notepad.

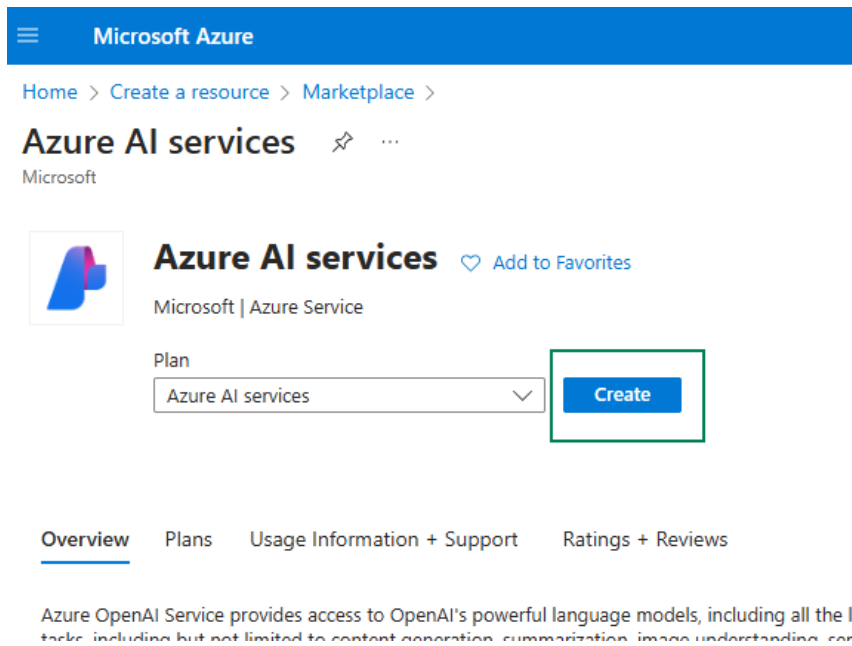


## >>Create an Azure AI Resource for Speech Capability<<

- Go to Azure portal home page, select **Create a resource** and type "azure ai services" in the search bar and select **Azure AI services** resource.



6. Select Create



7. Select values from the dropdown and provide a unique name for this service as shown below. Next, select **Review + Create**.

[Home](#) > [Create a resource](#) > [Marketplace](#) > [Azure AI services](#) >

## Create Azure AI services ...

**Basics** Network Tags Review + create

Get access to Azure OpenAI, Speech, Vision, Language, and Translator Azure AI services with a single API key. Quickly connect services together to achieve more insights into your content and easily integrate with other services.

[Learn more](#)

### Project Details

Subscription \* ⓘ

Azure subscription 1 ▾

Resource group \* ⓘ

suresourcegrp ▾

[Create new](#)

### Instance Details

Region ⓘ

East US ▾

Name \* ⓘ

azurespeechservice ✓

Pricing tier \* ⓘ

Standard S0 ▾

[View full pricing details](#)

### Content review policy

To detect and mitigate harmful use of the Azure OpenAI Service, Microsoft logs the content you send to the Completions and image generations APIs as well as the content it sends back. If content is flagged by the service's filters, it may be reviewed by a Microsoft full-time employee.

[Learn more about how Microsoft processes, uses, and stores your data](#)

[Apply for modified content filters and abuse monitoring](#)

[Review the Azure OpenAI code of conduct](#)

[Previous](#) [Next](#) [Review + create](#)

8. Select **Create** to create the Azure AI service resource

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

Home > Create a resource > Marketplace > Azure AI services >

## Create Azure AI services

Basics Network Tags **Review + create**

[View automation template](#)

**TERMS**

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the A listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share and transactional information with the provider(s) of the offering(s) for support, billing and other activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace](#) details.

**Basics**

Subscription	Azure subscription 1
Resource group	suresourcegrp
Region	East US
Name	azurespeechservice
Pricing tier	Standard S0

Previous Next **Create**

9. Once the Azure AI service resource is successfully created, open the resource and copy the **Key value** and **Location/Region** into the notepad for later use.

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

Home > Microsoft.CognitiveServicesAIServices-20250304134059 | Overview > suresourcegrp >

**azurespeechservice** Azure AI services

Search Go to Azure AI Foundry portal Delete

**Overview** Activity log Access control (IAM) Tags Diagnose and solve problems Resource Management Security Monitoring Automation Help

Subscription ID : f3356483-8ed5-4681-9e72-60e3284ecbff

Tags (edit) : [Add tags](#)

**Develop**

**Keys and endpoint**

You will need your key, endpoint and service region to call the service. Select the 'Keys and Endpoint' tab on the left hand side

**Show Keys**

KEY 1

KEY 2

Location/Region [eastus](#)

OpenAI **Speech** Content Safety Computer Vision Content Understanding

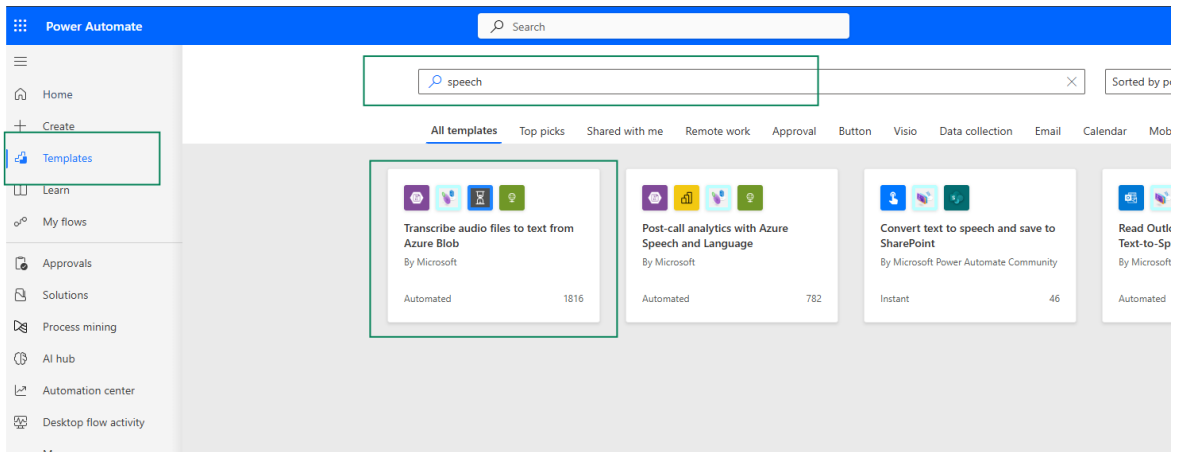
Use the below endpoints to call into Speech APIs. [Learn more](#)

Speech to Text (Standard) <https://eastus.stt.speech.microsoft.com>

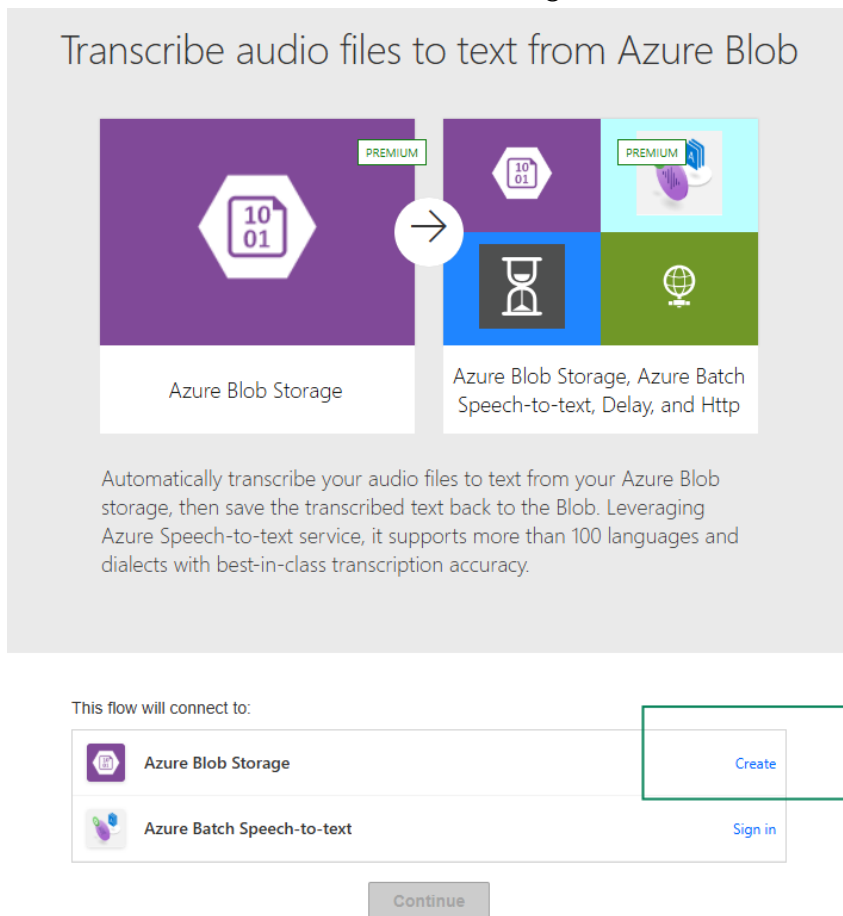
>> Set Up Power Automate flow to Monitor and Transcribe Call Recordings<<



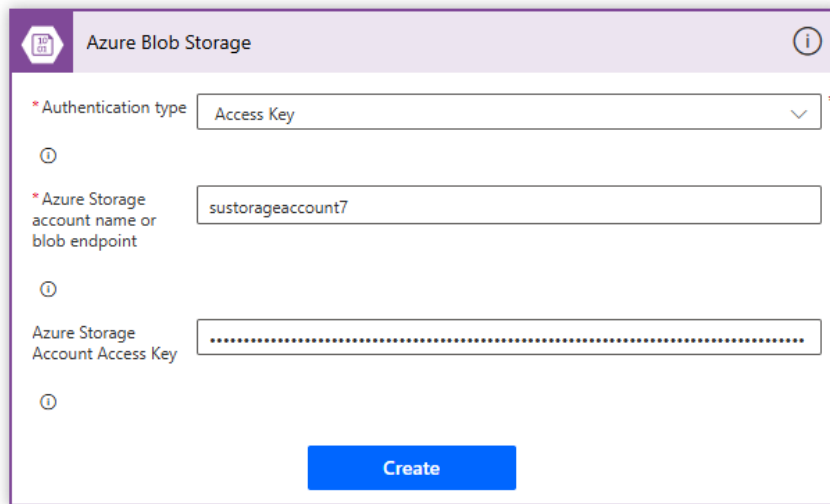
10. Login to [Microsoft Power Automate](https://powerautomate.microsoft.com) and select **Templates**. Search with keyword – **speech** to find the **Transcribe audio files to text from Azure Blob** template



11. Click on **Create** next to Azure Blob Storage if the connection is not established.

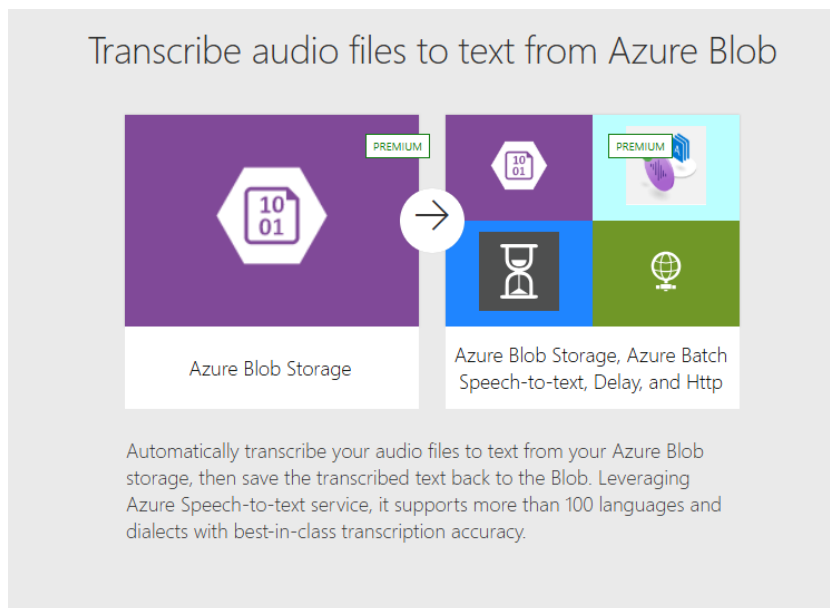


12. Select Authentication type as Access Key; paste the Azure storage account name and Key copied in Step 4 from the notepad. Select **Create**





The screenshot shows the 'Azure Blob Storage' configuration window. It has a title bar with the Azure logo and an information icon. The main content area contains three fields, each with an information icon to its left: 1. 'Authentication type' with a dropdown menu set to 'Access Key'. 2. 'Azure Storage account name or blob endpoint' with a text box containing 'sustorageaccount7'. 3. 'Azure Storage Account Access Key' with a text box containing a masked key (dots). At the bottom right is a blue 'Create' button.

13. Select **Sign-in** next to Azure Batch Speech-to-text.



The diagram is titled 'Transcribe audio files to text from Azure Blob'. It shows a flow from 'Azure Blob Storage' (represented by a purple box with a document icon) to a combination of services (represented by a blue and green box with an hourglass and globe icon). An arrow points from the first box to the second. Above the first box is a 'PREMIUM' label. Above the second box is a 'PREMIUM' label and a small icon of a document with a speech bubble. Below the second box, the text reads 'Azure Blob Storage, Azure Batch Speech-to-text, Delay, and Http'. Below the diagram, a paragraph states: 'Automatically transcribe your audio files to text from your Azure Blob storage, then save the transcribed text back to the Blob. Leveraging Azure Speech-to-text service, it supports more than 100 languages and dialects with best-in-class transcription accuracy.'

This flow will connect to:

	Azure Blob Storage	Azure Blob Storage	✓ ...
	Azure Batch Speech-to-text	SuvidhaShashikumar...	Sign in

Continue

14. Select Authentication type as Api Key; paste the Key value and Location/Region copied in Step 9 from the notepad. Select **Create**

15. You should now see a Power Automate flow with a trigger and series of actions for converting audio files to text. Select the trigger node and update the container to point to our new container where audio files are stored. Select **Save** to save the power automate flow.

## &gt;&gt;Test the First Part of the Solution – Transcribe audio files&lt;&lt;

16. Go to **Azure portal** and open the **storage account** > select **containers** under Data storage > open your container for audio files.

Microsoft Azure

Home > sustorageaccount7

sustorageaccount7 | Containers

Search

Container Change access level Restore containers Refresh Delete Give feedback

Search containers by prefix

Name	Last modified
logs	2/24/2025, 3:30:17 PM
customercallrecordings	3/4/2025, 1:29:13 PM
sucontainer	2/24/2025, 3:30:47 PM

Overview  
Activity log  
Tags  
Diagnose and solve problems  
Access Control (IAM)  
Data migration  
Events  
Storage browser  
Storage Mover  
Partner solutions  
Data storage  
Containers  
File shares  
Queues  
Tables

17. Select **Upload** to upload the 4 audio files (available in **Lab 7 assets** folder) into this container.

Home > sustorageaccount7 | Containers >

customercallrecordings

Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshot

Authentication method: Access key (Switch to Microsoft Entra user account)  
Location: customercallrecordings

Search blobs by prefix (case-sensitive)

Add filter

Name	Modified	Access
2024-12-20_[A. Datum]_salesinquiry.wav	3/4/2025, 2:37:02 PM	Hot (l)
2025-01-06_[Fourth Coffee]_salesinquiry.wav	3/4/2025, 2:37:03 PM	Hot (l)
2025-02-15_[Fourth Coffee]_support.wav	3/4/2025, 2:37:03 PM	Hot (l)
2025-02-18_[A. Datum]_support.wav	3/4/2025, 2:37:06 PM	Hot (l)

Overview  
Diagnose and solve problems  
Access Control (IAM)  
Settings

18. Open the newly created Power Automate flow to find the run history. (This flow may take a few minutes to complete running). Once complete, you should see successful runs.

[Edit](#) [Share](#) [Save As](#) [Delete](#) [Send a copy](#) [Export](#) [Analytics](#) [Turn off](#) [Repair tips off](#)

Flows > **Transcribe audio files to text from Azure Blob**

**Details** [Edit](#)

**Flow**  
Transcribe audio files to text from Azure Blob

**Primary owner**  
Suvidha Shashikumar

**Status**  
On

**Created**  
Mar 4, 02:27 PM

**Modified**  
Mar 4, 02:27 PM

**Type**  
Automated

**Plan**  
This flow runs on owner's plan

[Original template](#)

**28-day run history** [Edit columns](#) [All runs](#)

Start	Duration	Status
Mar 4, 02:38 PM (2 min ago)	00:01:16	Succeeded
Mar 4, 02:38 PM (2 min ago)	00:01:16	Succeeded
Mar 4, 02:38 PM (2 min ago)	00:01:18	Succeeded
Mar 4, 02:37 PM (2 min ago)	00:01:16	Succeeded

19. In Azure portal, go into the storage account and open the container with audio files again. (If this is already open, just select Refresh). You should now see a new folder called **trans** where the transcription of each file is stored.

Home > sustorageaccount7 | Containers >

### customercallrecordings

Container

Search

«

»

Upload

Change access level

Refresh

Delete

Change tier

Acquire lease

Break lease

View snapshots

Create snapshot

#### Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Authentication method: Access key (Switch to Microsoft Entra user account)

Location: customercallrecordings

Search blobs by prefix (case-sensitive)

Add filter

Name	Modified	Access tier	Archive status
<input type="checkbox"/> log			
<input type="checkbox"/> trans			
<input type="checkbox"/> 2024-12-20_[A. Datum]_salesinquiry.wav	3/4/2025, 2:37:02 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-01-06_[Fourth Coffee]_salesinquiry.wav	3/4/2025, 2:37:03 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-15_[Fourth Coffee]_support.wav	3/4/2025, 2:37:03 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-18_[A. Datum]_support.wav	3/4/2025, 2:37:06 PM	Hot (Inferred)	

20. For each audio file, you'll find a newly created text and a Json file. Feel free to download one of the text files to see the transcribed text.

### Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

Home > sustorageaccount7 | Containers >

### customercallrecordings

Container

Search

«

»

Upload

Change access level

Refresh

Delete

Change tier

Acquire lease

Break lease

View snapshots

Create snapshot

Give feedback

#### Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Authentication method: Access key (Switch to Microsoft Entra user account)

Location: customercallrecordings / trans

Search blobs by prefix (case-sensitive)

Add filter

Name	Modified	Access tier	Archive status
<input type="checkbox"/> [.]			
<input type="checkbox"/> 2024-12-20_[A. Datum]_salesinquiry.wav.json	3/4/2025, 2:38:52 PM	Hot (Inferred)	
<input checked="" type="checkbox"/> 2024-12-20_[A. Datum]_salesinquiry.wav.txt	3/4/2025, 2:38:52 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-01-06_[Fourth Coffee]_salesinquiry.wav.json	3/4/2025, 2:39:14 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-01-06_[Fourth Coffee]_salesinquiry.wav.txt	3/4/2025, 2:39:14 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-15_[Fourth Coffee]_support.wav.json	3/4/2025, 2:39:13 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-15_[Fourth Coffee]_support.wav.txt	3/4/2025, 2:39:14 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-18_[A. Datum]_support.wav.json	3/4/2025, 2:39:15 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-18_[A. Datum]_support.wav.txt	3/4/2025, 2:39:15 PM	Hot (Inferred)	

Now that the audio files are automatically transcribed and stored in this container, we will configure the available **Azure search** on it to get insights on calls in our Sales Buddy Agent.

21. In Azure portal, open the Azure search resource created in Lab 6. Select **Import and vectorize data**.

[Home](#) > [azuresearch07](#) >

## Import and vectorize data

azuresearch07

● Connect to your data

○ Vectorize your text


○ Vectorize and enrich your images


○ Advanced settings


○ Review and create


### Set up your data connection


Start by picking a data source type from the available options below. [Learn more](#)


**Azure Blob Storage**  
Azure

**Azure Data Lake Storage Gen2**  
Azure

**Azure Cosmos DB**  
Azure

**Azure SQL Database**  
Azure

**Azure Table Storage**  
Azure

**Azure Fabric**  
Fabric

22. Select **Azure Blob Storage**

[Home](#) > [azuresearch07](#) >

## Import and vectorize data

azuresearch07

● Connect to your data

○ Vectorize your text


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Start by picking a data source type from the available options below. [Learn more](#)


**Azure Blob Storage**  
Azure

**Azure Data Lake Storage Gen2**  
Azure

**Azure Cosmos DB**  
Azure

**Azure SQL Database**  
Azure

**Azure Table Storage**  
Azure

**Azure Fabric**  
Fabric

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15 | Page

23. Under **Configure your Azure Blob Storage**, select relevant values and select **Next**

The screenshot shows the 'Import and vectorize data' wizard for user 'azuresearch07'. The left sidebar indicates the current step is 'Connect to your data'. The main panel is titled 'Configure your Azure Blob Storage' with the subtitle 'Connect to your Azure Blob Storage containing PDFs, other unstructured data files, and structur'. A green box highlights the following fields: 'Subscription \*' (Azure subscription 1), 'Storage account \*' (sustorageaccount7), 'Blob container \*' (customercallrecordings), 'Blob folder' (empty), and 'Parsing mode' (Default). Below these are three unchecked checkboxes: 'Enable document layout detection (Preview)', 'Enable deletion tracking', and 'Authenticate using managed identity. Learn more'. At the bottom are 'Previous' and 'Next' buttons, with 'Next' highlighted by a green box.

24. Under **Vectorize your text**, select relevant values and select **Next**

The screenshot shows the 'Import and vectorize data' wizard for user 'azuresearch07'. The left sidebar indicates the current step is 'Vectorize your text'. The main panel is titled 'Vectorize your text' with the subtitle 'Connect to an Azure OpenAI, AI Foundry or an Azure AI service and select an embedding model or r'. A checkbox is checked. The following fields are filled: 'Kind' (Azure OpenAI), 'Subscription \*' (Azure subscription 1), 'Azure OpenAI service \*' (openairesource07), and 'Model deployment \*' (text-embedding-3-small). A link 'Create a new Azure OpenAI service' is visible. A green checkmark icon is followed by the text 'I acknowledge that connecting to an Azure OpenAI service will incur additional costs to my acc'. At the bottom are 'Previous' and 'Next' buttons, with 'Next' highlighted by a green box.



25. Select **Next** until the last step, update the **Objects Name prefix** to **indexcallrecordings** and select **Create**.

Home > aisearchcpsworkshop >

### Import and vectorize data

aisearchcpsworkshop

- Connect to your data
- Vectorize your text
- Vectorize and enrich your images
- Advanced settings
- Review and create

The wizard generates an index, indexer, data source, and skillset on your search service. You can change many other properties are fixed for the lifetime of the object. To customize the name, change the

Objects name prefix  
indexcallrecordings

#### Review your configuration

##### Vectorize your text

Attached Azure OpenAI service: openaicpsworkshop

Deployment model: text-embedding-3-small

##### Others

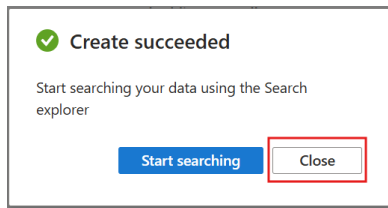
Extracting text from images: Disabled

Semantic ranker: Enabled

Indexer run schedule: Once

Previous Create

26. Close the success message pop-up.



27. In the Azure search service, expand **Search management** in the left pane and select **Indexers**. You should find a new indexer created (Note the Name).

aisearchcpsworkshop | Indexers

Search service

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Search management

Indexers

Indexers

+ Add indexer

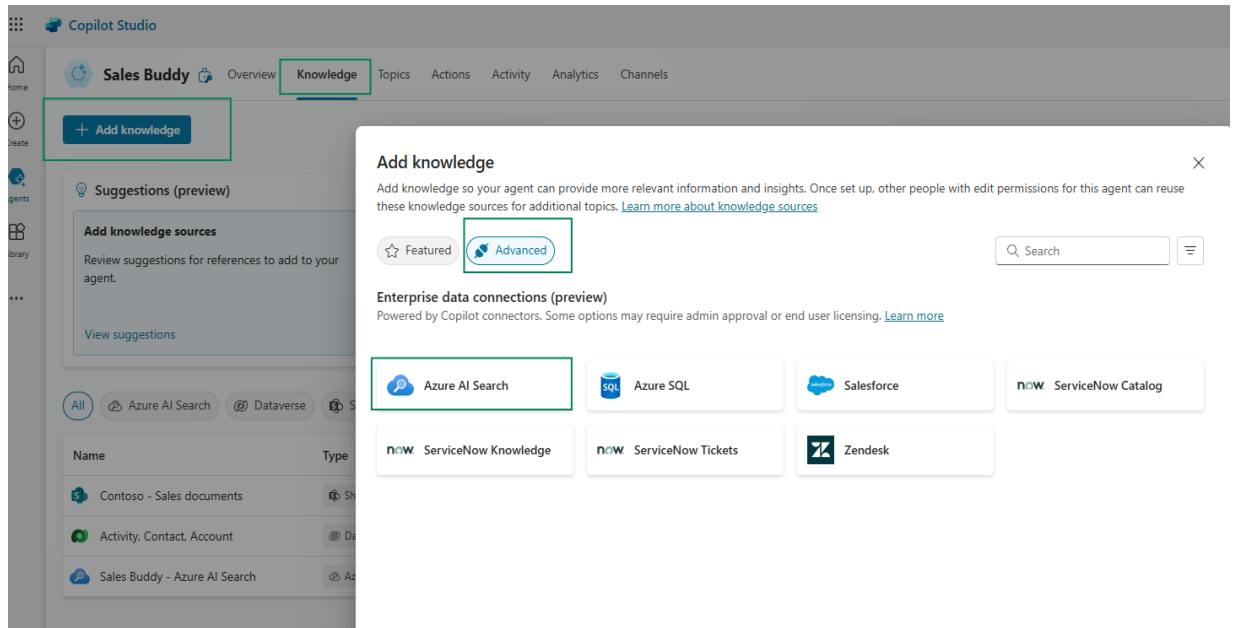
Refresh

Delete

Filter by name...

Status	Name	Last run	Docs succeeded
Success	indexcustomersalescontract-indexer	47 minutes ago	4/4
Success	indexcallrecordings-indexer	3 minutes ago	16/16

28. Open Sales Buddy Agent, select Knowledge tab > + Add knowledge > Advanced > Azure AI Search



29. Update Knowledge name to *Sales Buddy - Azure AI Search Customer Calls*;  
In Knowledge Description provide the following text and select Next


*“This knowledge source provides access to transcribed customer call recordings stored in Azure Blob Storage.*

*Each file follows the format: YYYY-MM-DD\_CustomerName\_CallType.txt, where:*

*YYYY-MM-DD represents the call date*

*CustomerName identifies the customer/account*

*CallType specifies whether it is a SalesInquiry, Support, Complaint, or General Inquiry”*



### Azure AI Search

To create an Azure AI Search connection, you need an API Key and an Endpoint URL of the Search Service along with a pre-built Vector Index from that Search Service selected. [Learn more](#)

Knowledge name \* 29/100


Sales Buddy - Azure AI Search

Knowledge description \* 352/2500

This knowledge source provides access to transcribed customer call recordings stored in Azure Blob Storage. Each file follows the format: YYYY-MM-DD\_CustomerName\_CallType.txt, where:

Connectors let data move from a system or service to Microsoft Copilot Studio. Link to a connector by signing in.


Currently selected: <https://azuresearch07.search.windows.net>



Azure AI Search

Back Next Cancel

30. Select the newly created **Vector Index** (Name noted in step 27) and select **Add**.



### Azure AI Search

Select a Vector Index and see Index details. Vector Indexes must be created using integrated vectorization to be supported. [Learn more](#)

Select a Vector Index \*

indexcallrecordings

Document count  
103

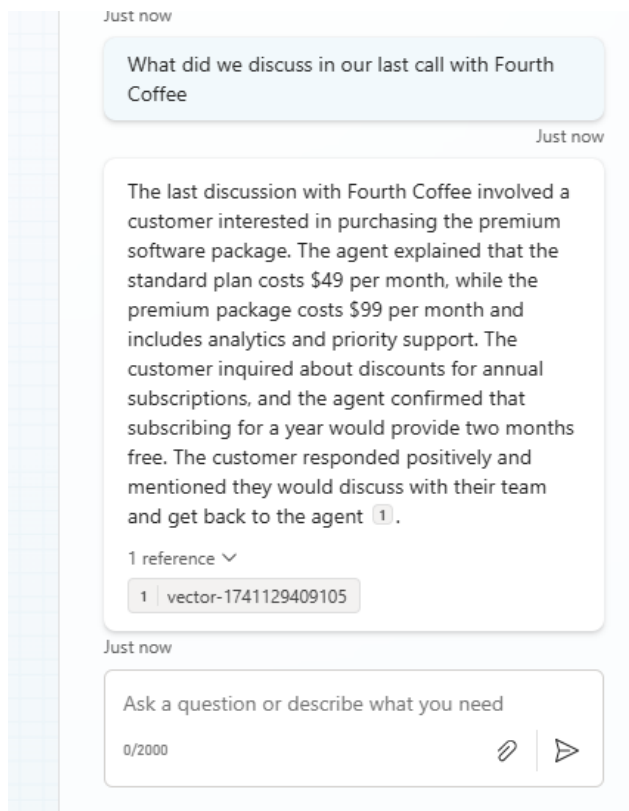
Storage size  
2.13 MB

Vector Index size  
1.83 MB

Back Add Cancel

## >>Query Customer Calls and Test the Solution<<

31. In the Sales Buddy agent Test window, type and send—  
*"What did we discuss in our last call with Fourth Coffee"*



Congratulations. You have completed Lab 7.