



# 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.

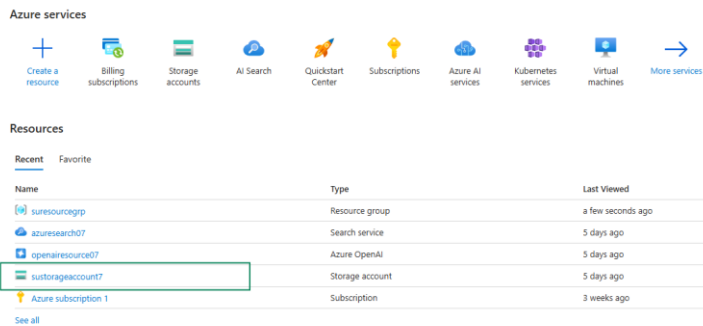
### Pre-requisites

- 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)

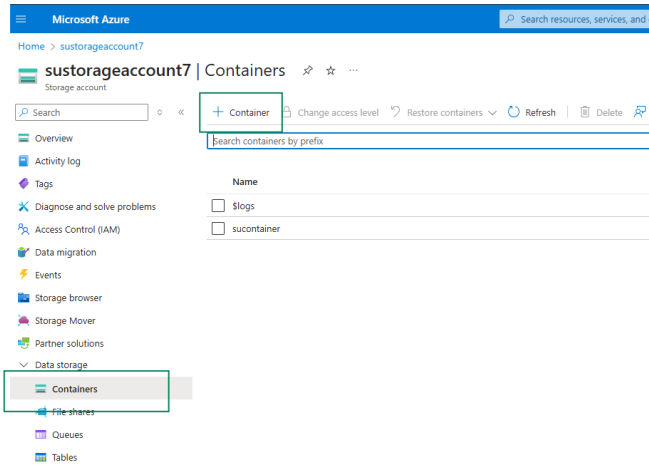
## Lab 7: AI-Powered Speech-to-Text and Customer Call Insights

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

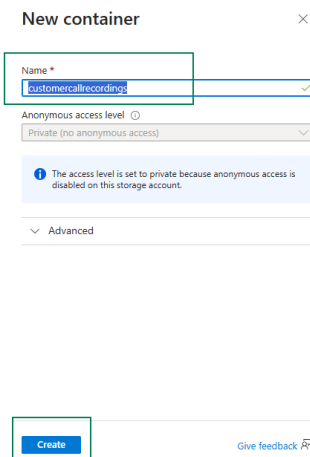
1. Log in to the **Azure Portal** (portal.azure.com) and navigate to your **Storage Account**.



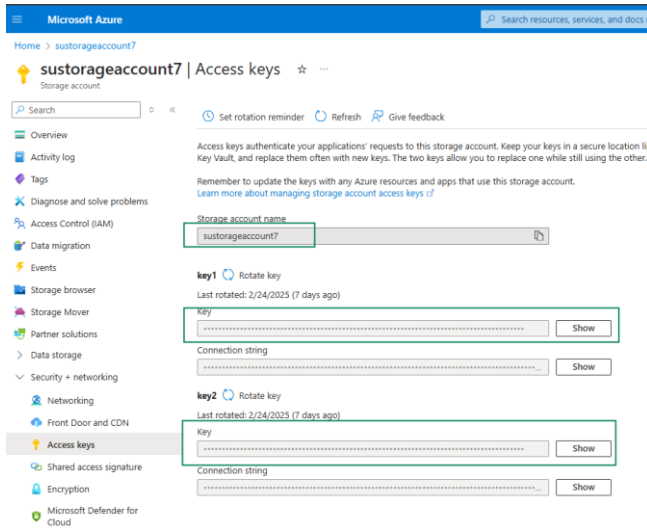
2. In the left-hand menu, expand **Data storage** and click on **Containers**. Click on **+ Container** at the top to create a new container for storing call recordings.



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

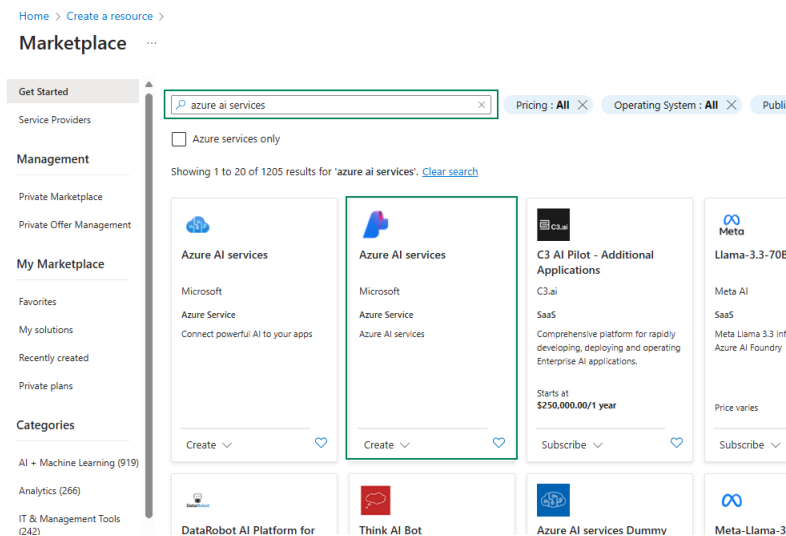


4. Confirm that the new container has been successfully created by checking the **Containers** list in your **Storage Account**. In the left-hand menu, expand **Security + Networking** and select **Access Keys**. Copy both the **Storage Account Name** and one of the available **Access Keys** into a notepad.

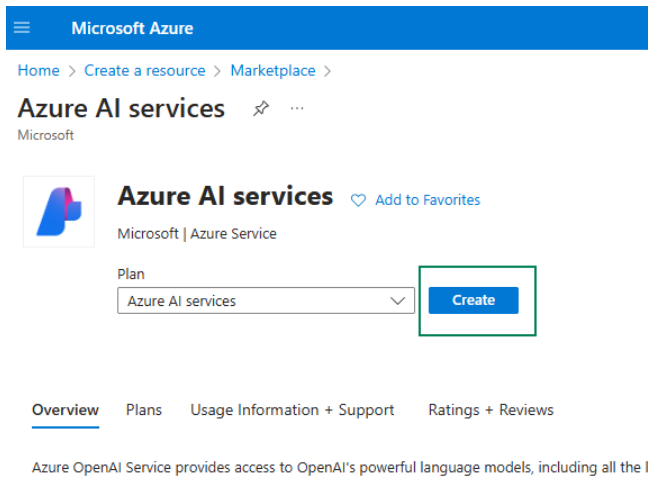


## >>Create an Azure AI Resource for Speech Capability<<

- 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 \* ⓘ  ▼

Resource group \* ⓘ  ▼  
[Create new](#)

### Instance Details

Region ⓘ  ▼

Name \* ⓘ  ✓

Pricing tier \* ⓘ  ▼

[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.

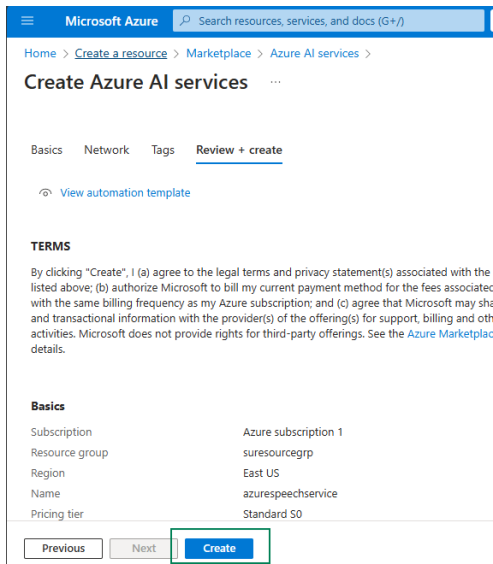
[Learn more about how Microsoft processes, uses, and stores your data](#)

[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**

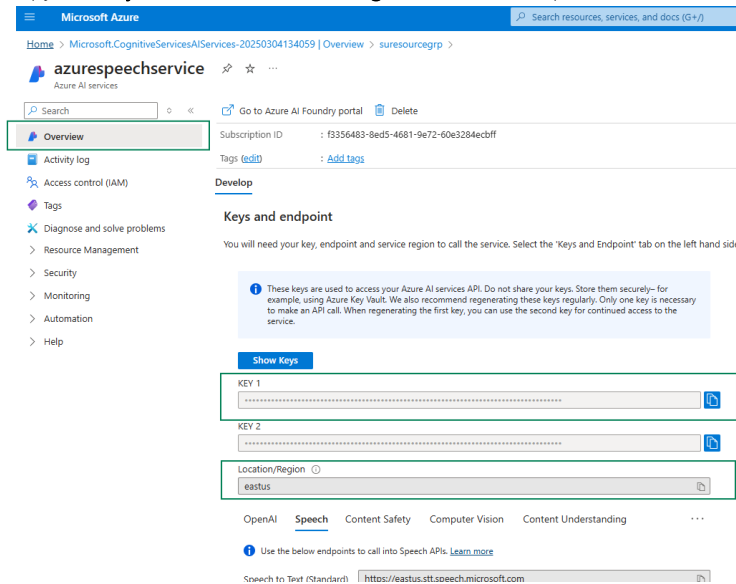
By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the I listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share transactional 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**

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

Activity log Tags (edit) Add tags

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

**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

These keys are used to access your Azure AI services API. Do not share your keys. Store them securely— for example, using Azure Key Vault. We also recommend regenerating these keys regularly. Only one key is necessary to make an API call. When regenerating the first key, you can use the second key for continued access to the service.

Show Keys

KEY 1

KEY 2

Location/Region eastus

OpenAI Speech Content Safety Computer Vision Content Understanding

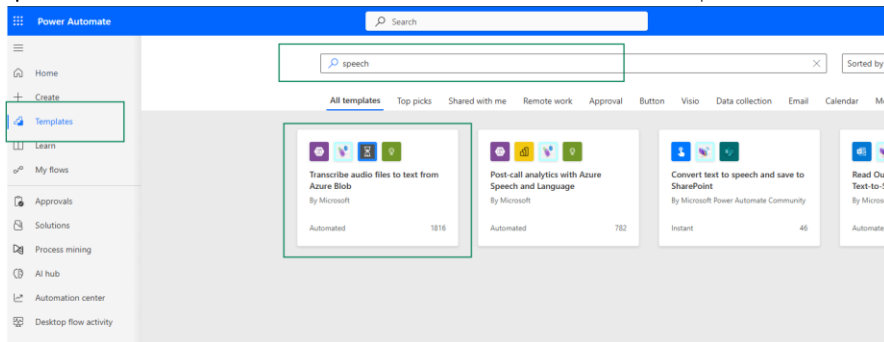
Use the below endpoints to call into Speech APIs. [Learn more](#)

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

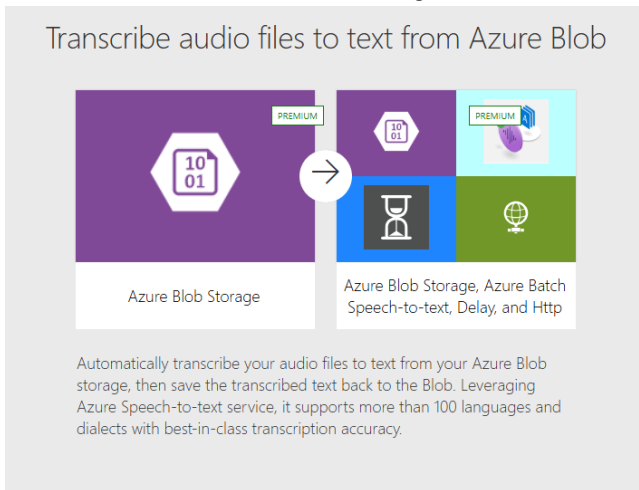
>> Set Up Power Automate flow to Monitor and Transcribe Call Recordings<<



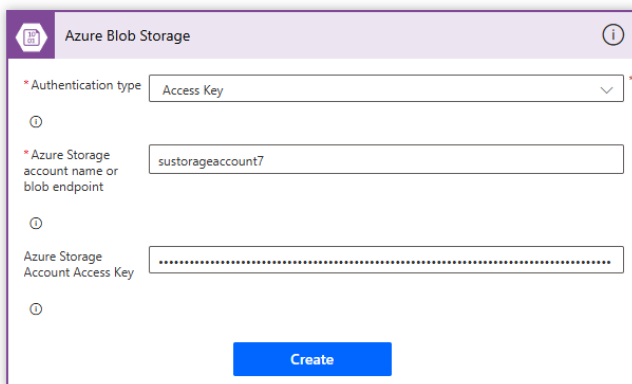
10. Login to [Microsoft Power Automate](#) and select **Templates**. Search with keyword – **speech** to find the **Transcribe audio files to text from Azure Blob** template



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

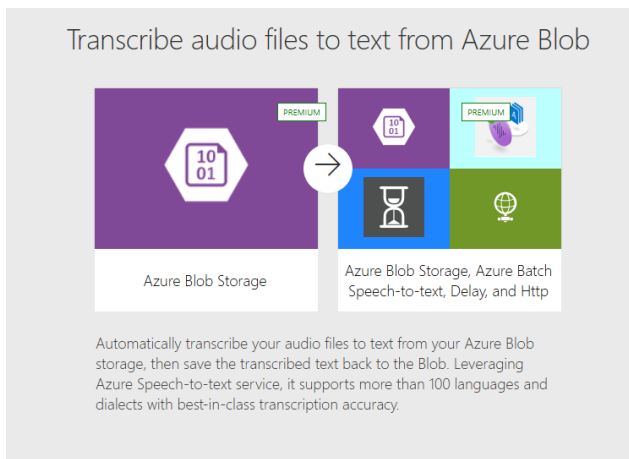


12. Select Authentication type as Access Key; paste the Azure storage account name and Key copied in Step 4 from the notepad. Select **Create**

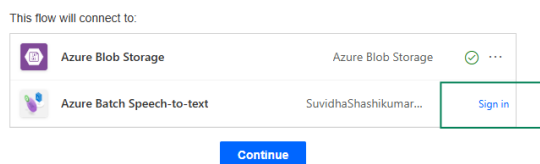


The screenshot shows the 'Azure Blob Storage' configuration window. It has a title bar with a document icon and an information icon. The window contains three main sections: 1. 'Authentication type' with a dropdown menu set to 'Access Key'. 2. 'Azure Storage account name or blob endpoint' with a text input field containing 'sustorageaccount7'. 3. 'Azure Storage Account Access Key' with a text input field containing a series of dots. At the bottom right is a blue 'Create' button.

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

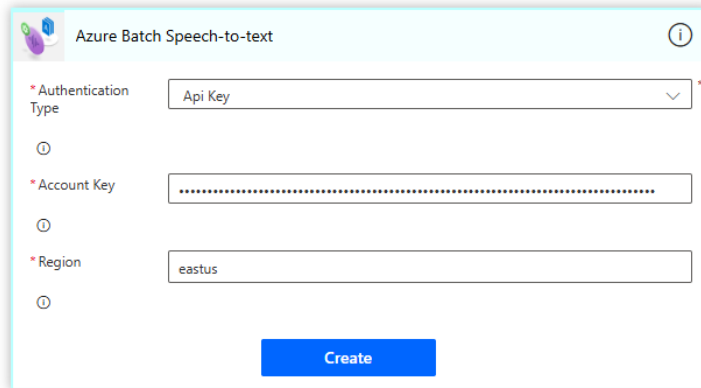


The diagram is titled 'Transcribe audio files to text from Azure Blob'. It features a central flow: a purple box on the left labeled 'Azure Blob Storage' with a '10 01' icon and a 'PREMIUM' tag, followed by a right-pointing arrow, and then a 2x2 grid of boxes on the right. The top-left box in the grid has a '10 01' icon and a 'PREMIUM' tag. The top-right box has a microphone icon and a 'PREMIUM' tag. The bottom-left box has a speech-to-text icon. The bottom-right box has a globe icon. Below the grid, the text reads: 'Azure Blob Storage, Azure Batch Speech-to-text, Delay, and Http'. Below this, 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.'



The screenshot shows a dialog box titled 'This flow will connect to:'. It contains two entries: 1. 'Azure Blob Storage' with the account name 'Azure Blob Storage', a green checkmark, and a three-dot menu icon. 2. 'Azure Batch Speech-to-text' with the user name 'SuvidhaShashikumar...', a 'Sign in' button, and a green border. At the bottom is a blue 'Continue' button.

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



Azure Batch Speech-to-text

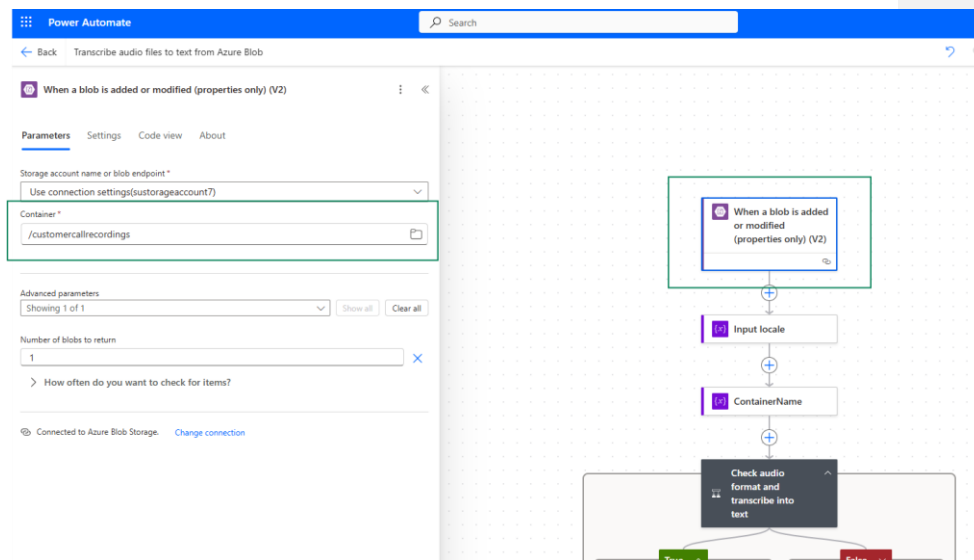
\* Authentication Type: Api Key

\* Account Key: .....

\* Region: eastus

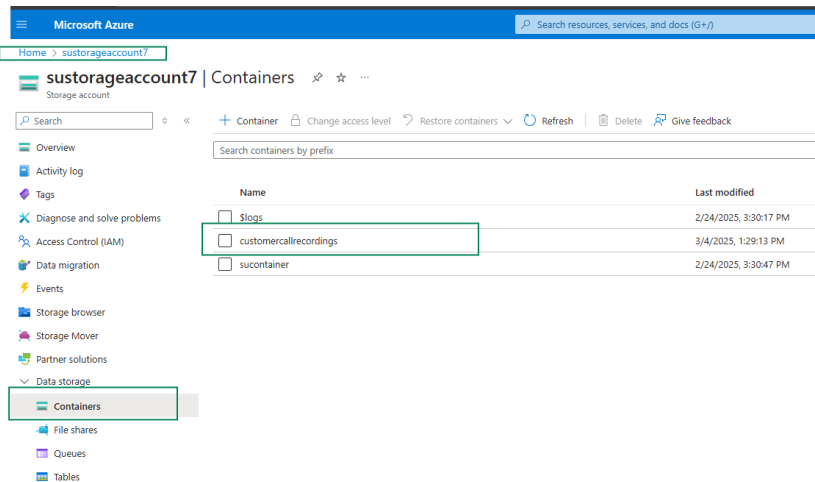
Create

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.

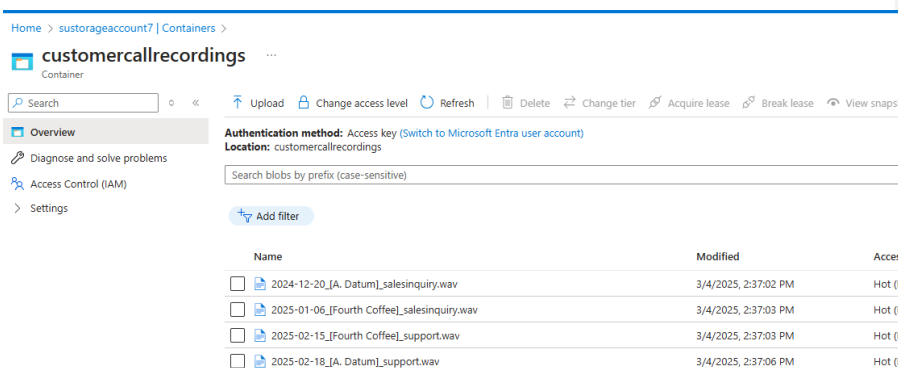


## >>Test the First Part of the Solution – Transcribe audio files<<

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



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



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.

## Copilot Studio and Azure AI Foundry Workshop

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_IA_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_IA_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 (0+)

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_IA_Datum_salesinquiry.wav.json	3/4/2025, 2:38:52 PM	Hot (Inferred)	
<input checked="" type="checkbox"/> 2024-12-20_IA_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_IA_Datum_support.wav.json	3/4/2025, 2:39:15 PM	Hot (Inferred)	
<input type="checkbox"/> 2025-02-18_IA_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 SQL Database  
Azure

 Azure Table Storage  
Azure

 Azure Search  
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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○ Advanced settings


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### Set up your data connection


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 Azure Blob Storage  
Azure

 Azure Data Lake Storage Gen2  
Azure

 Azure SQL Database  
Azure

 Azure Table Storage  
Azure

 Azure Search  
Azure

 Fabric  
Fabric

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

Home > azuresearch07 >

### Import and vectorize data

azuresearch07

● Connect to your data

○ Vectorize your text

○ Vectorize and enrich your images

○ Advanced settings

○ Review and create

#### Configure your Azure Blob Storage

Connect to your Azure Blob Storage containing PDFs, other unstructured data files, and structured data.

Subscription \*

Azure subscription 1

Storage account \*

sustorageaccount7

Blob container \*

customercallrecordings

Blob folder

Parsing mode

Default

☐ Enable document layout detection (Preview)

☐ Enable deletion tracking

☐ Authenticate using managed identity. [Learn more](#)

Previous

Next

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

Home > azuresearch07 >

### Import and vectorize data

azuresearch07

✓ Connect to your data

● Vectorize your text

○ Vectorize and enrich your images

○ Advanced settings

○ Review and create

#### Vectorize your text

Connect to an Azure OpenAI, AI Foundry or an Azure AI service and select an embedding model or model name.

Kind

Azure OpenAI

Subscription \*

Azure subscription 1

Azure OpenAI service \*

openairesource07

[Create a new Azure OpenAI service](#)

Model deployment \*

text-embedding-3-small

✓ I acknowledge that connecting to an Azure OpenAI service will incur additional costs to my account.

Previous

Next



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

Home > aisearchcpsworkshop > Import and vectorize data

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 it.

Objects name prefix  
indexcallrecordings

**Review your configuration**

**Vectorize your text**

Attached Azure OpenAI service: openaicpsworkshop  
Deployment model: text-embedding-3-small

**Others**

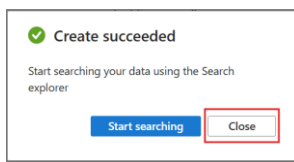
Extracting text from images: Disabled  
Semantic ranker: Enabled  
Indexer run schedule: Once

Previous Create

**Commented [RCL1]:** It would be nice to give the index a name, such as 'indexcallrecordings' as a best practice

**Commented [BB2]:** @Suvidha Shashikumar , @Rodrigo Cristelli Lugarinho I have added a screen shot with the prefix changed if you want to use this.

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

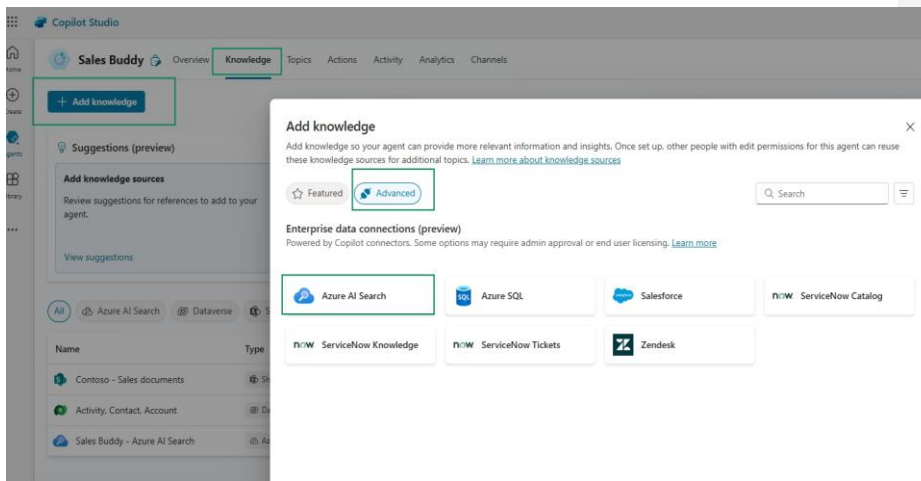
Search Filter by name...

+ Add indexer Refresh Delete

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

**Commented [BB3]:** @Suvidha Shashikumar - I have added a new screen shot with the Indexer name if we want to use.

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 \*28/100


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

**Commented [BB4]:** @Suvidha Shashikumar - I have added a new screen shot with the index named if you want to use.

## >>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"*

The screenshot displays the Sales Buddy agent Test window. It features a chat interface with a light blue background. On the left, there is a vertical sidebar with a grid pattern. The main chat area contains a message from the user: "What did we discuss in our last call with Fourth Coffee". Below this, the agent's response is shown: "The last discussion with Fourth Coffee involved a customer interested in purchasing the premium software package. The agent explained that the standard plan costs \$49 per month, while the premium package costs \$99 per month and includes analytics and priority support. The customer inquired about discounts for annual subscriptions, and the agent confirmed that subscribing for a year would provide two months free. The customer responded positively and mentioned they would discuss with their team and get back to the agent [1].". Below the response, there is a section labeled "1 reference" with a dropdown arrow, showing "1 | vector-1741129409105". At the bottom, there is a text input field with the placeholder "Ask a question or describe what you need" and a character count "0/2000". To the right of the input field are icons for editing and sending.

Congratulations. You have completed Lab 7.