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An OutSystems & Low-Code Learning Platform

HANDS-ON SETUP GUIDE

Set up Azure AI Search for a RAG pipeline

A step-by-step walkthrough to build the retrieval backbone of an agentic project, from a fresh Azure account through to a deployed embedding model.

Azure AI Search | Vector Index | Azure OpenAI | text-embedding-3-small

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04 Create the Azure OpenAI resource for embeddings

> By the end you will have a verified Azure subscription, a vector-ready search index, and a deployed embedding model: the full retrieval backbone for an agentic RAG project.

ABOUT THIS GUIDE

From an empty portal to a working RAG backbone

Most RAG tutorials skip the part that actually trips people up: the cloud setup. This guide walks through every screen in the Azure portal so you can stand up the retrieval layer for an agentic project without guessing.

Who it’s for

Developers and students building their first retrieval-augmented or agentic application on Azure, especially those working in OutSystems and ODC.

What you’ll set up

A free Azure account, a resource group, an AI Search service with a vector index, and a deployed `text-embedding-3-small` model.

What you'll walk away with

Six credentials: two endpoints, two keys, an index name, and a deployment name. Drop them into your app and your pipeline can retrieve.

How to use it

Follow the parts in order. Each step maps to one screen, with the exact buttons to click and a screenshot to match against.

AG

Ankit Gangrade

Enterprise Software Architect · OutSystems Champion · Founder, Lowcademy

I build enterprise low-code systems and teach how real projects actually get shipped. Lowcademy is where I turn that hands-on work into guides like this one.

01

FOUNDATION

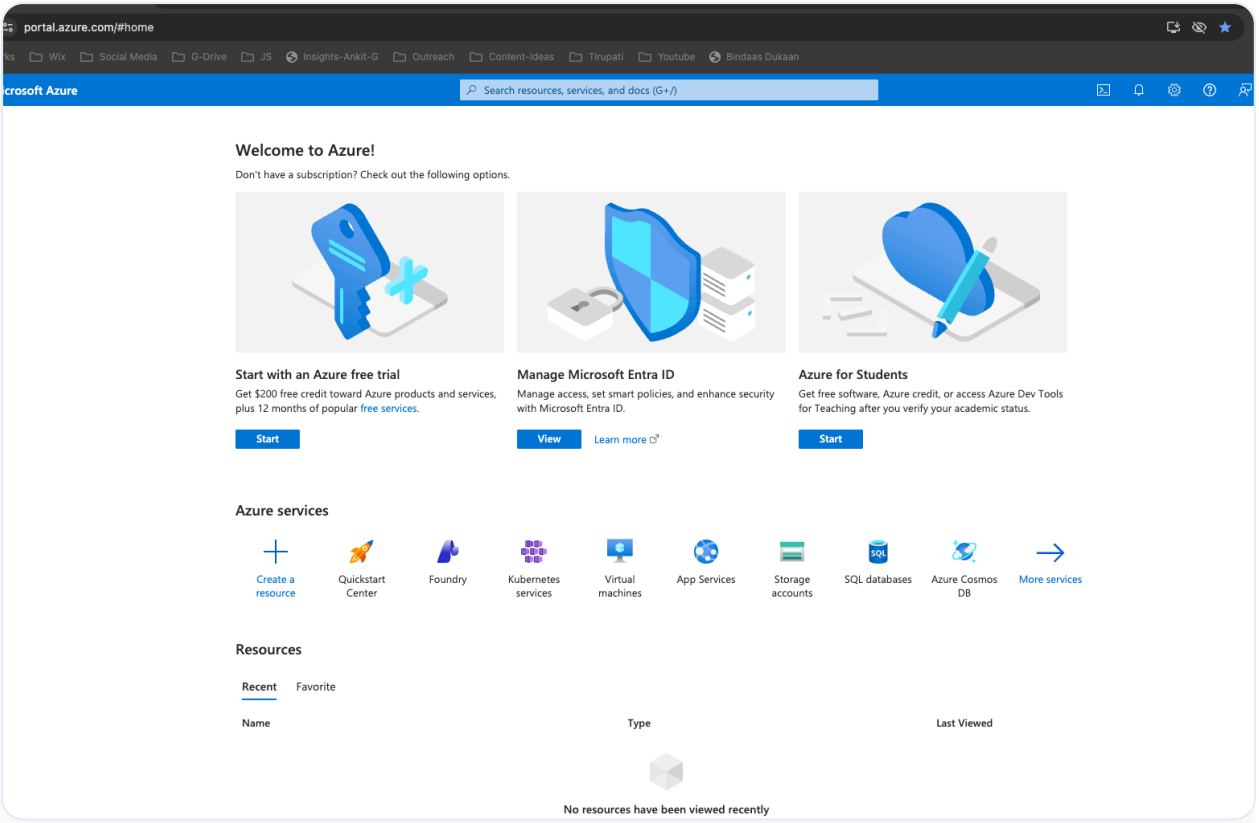
Sign up for a free Azure account

Before you can build anything, you need a verified Azure subscription. This part gets you from zero to a working portal.

1

Sign up or log in at portal.azure.com

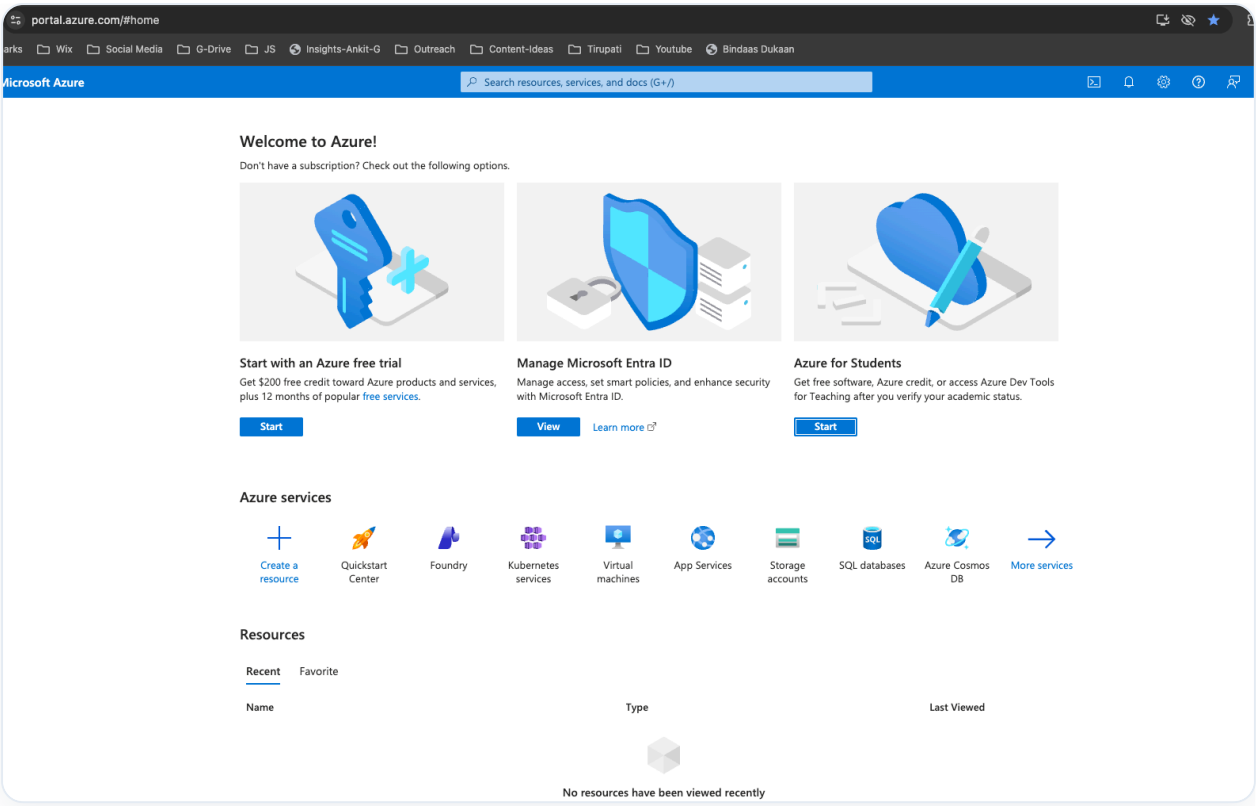
Open `portal.azure.com` in your browser. If you already have a Microsoft account, log in. If not, start the sign-up flow.



2

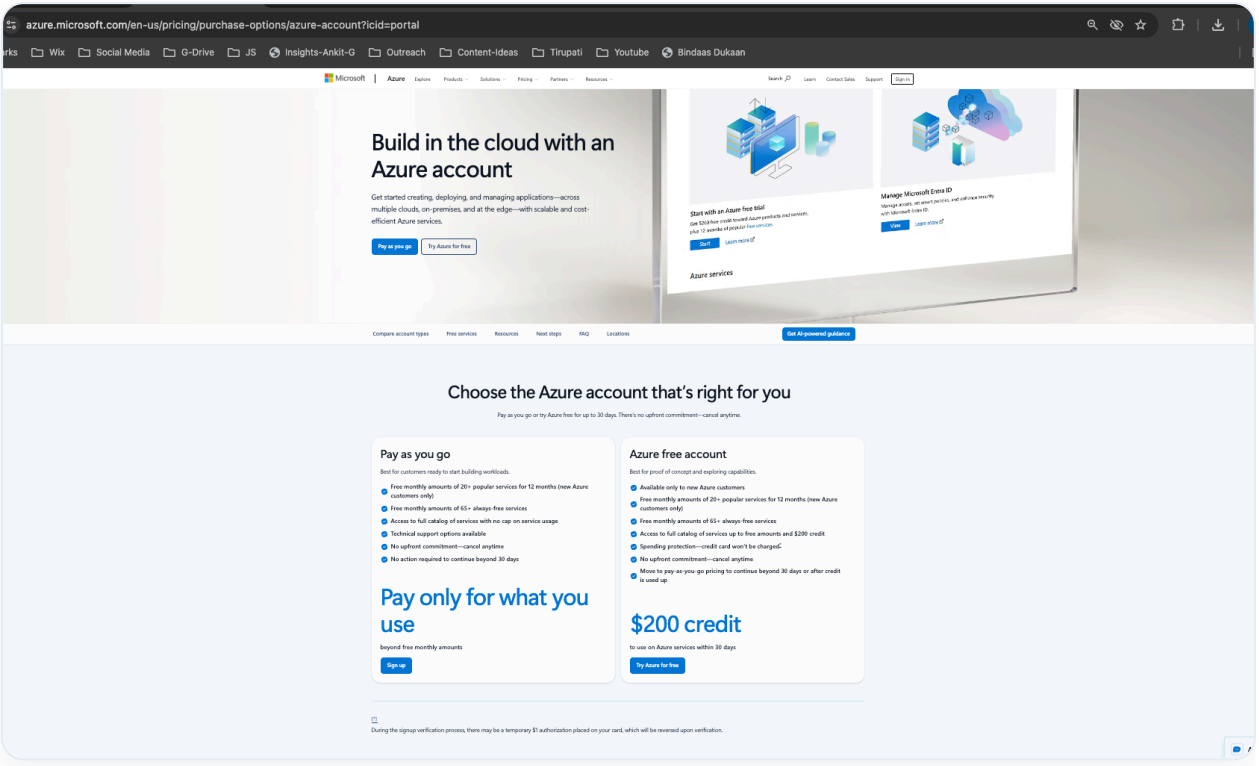
Click “Start with an Azure free trial”

On the landing screen, select the first card to begin the free trial path.



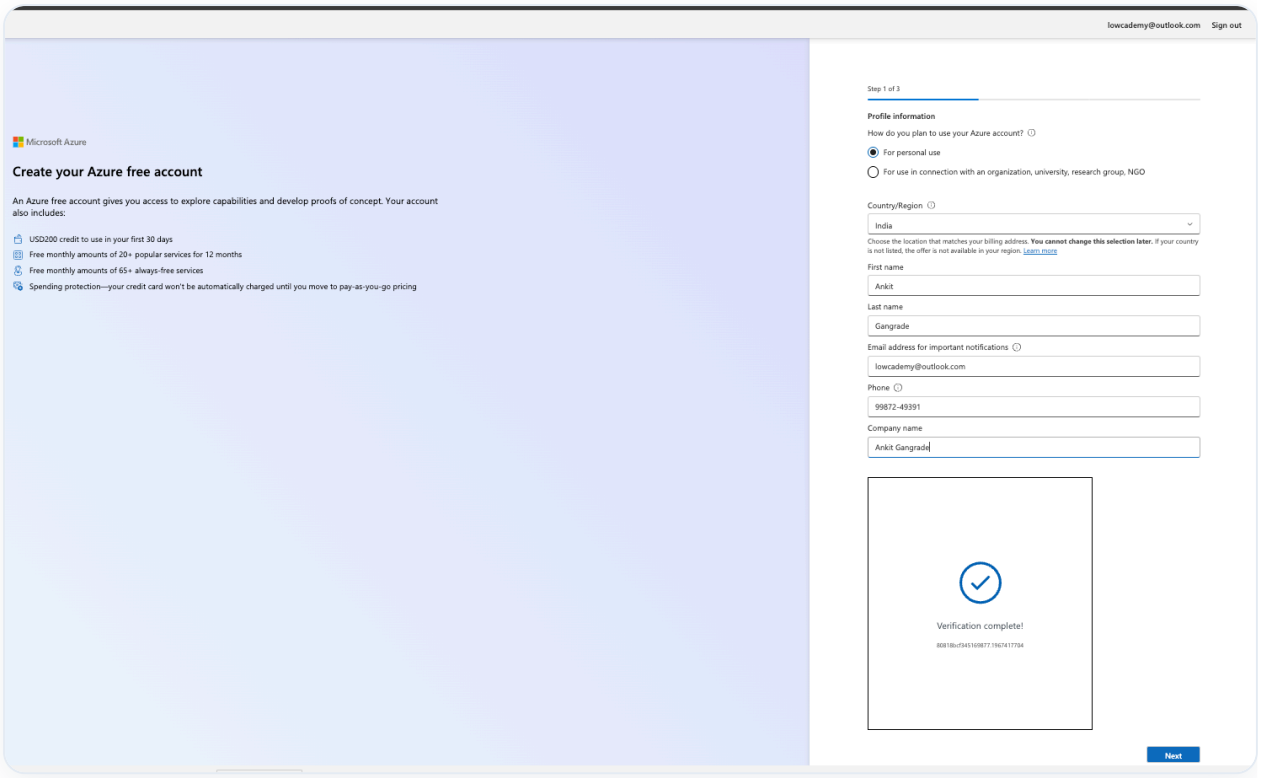
3 Create your Azure free account

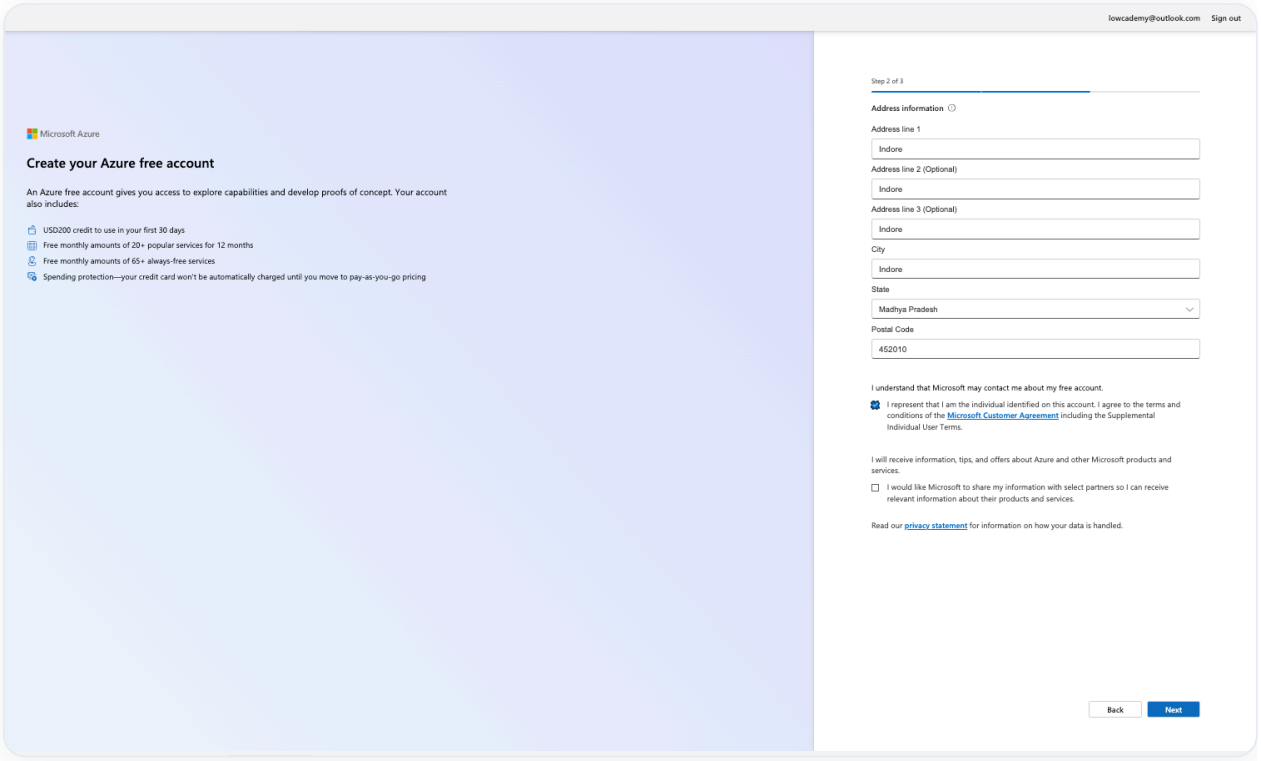
Click the second card to create a brand-new free account.

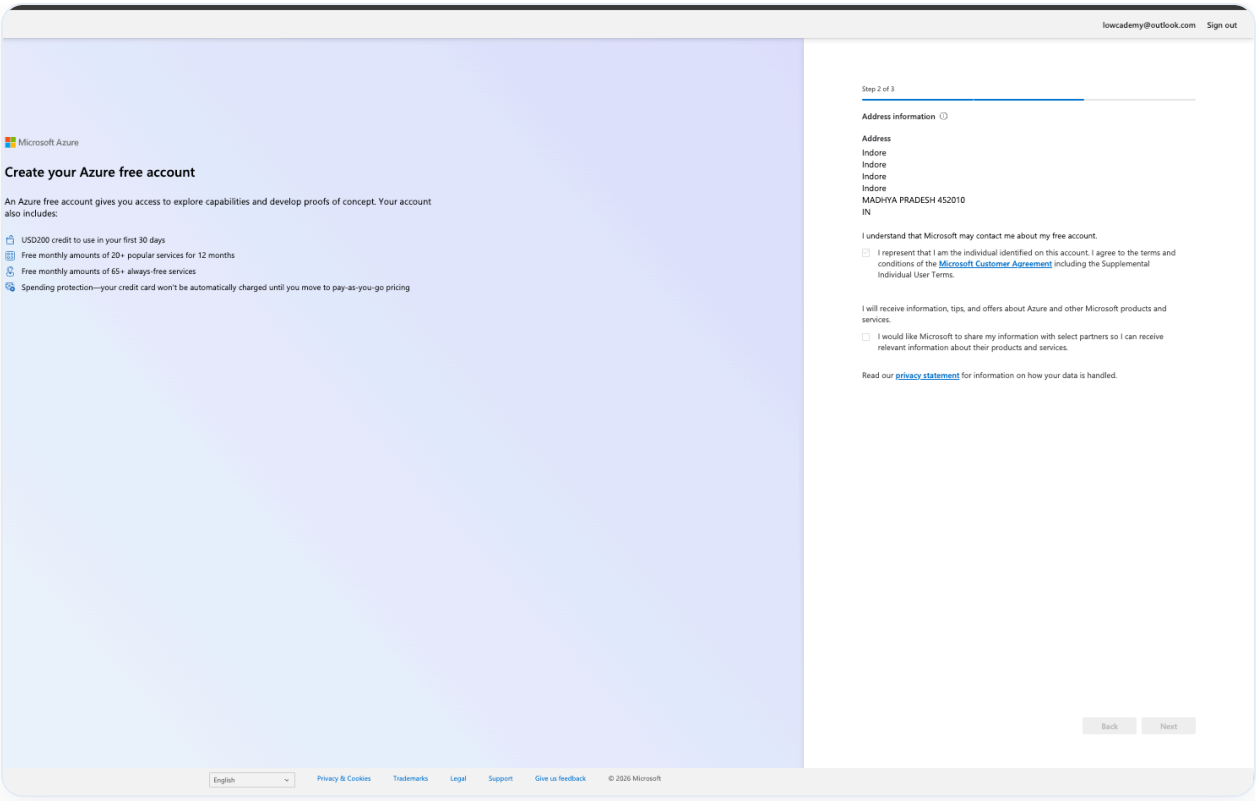


4 Enter your details

Provide your name, email, and phone number, then click **Next**.



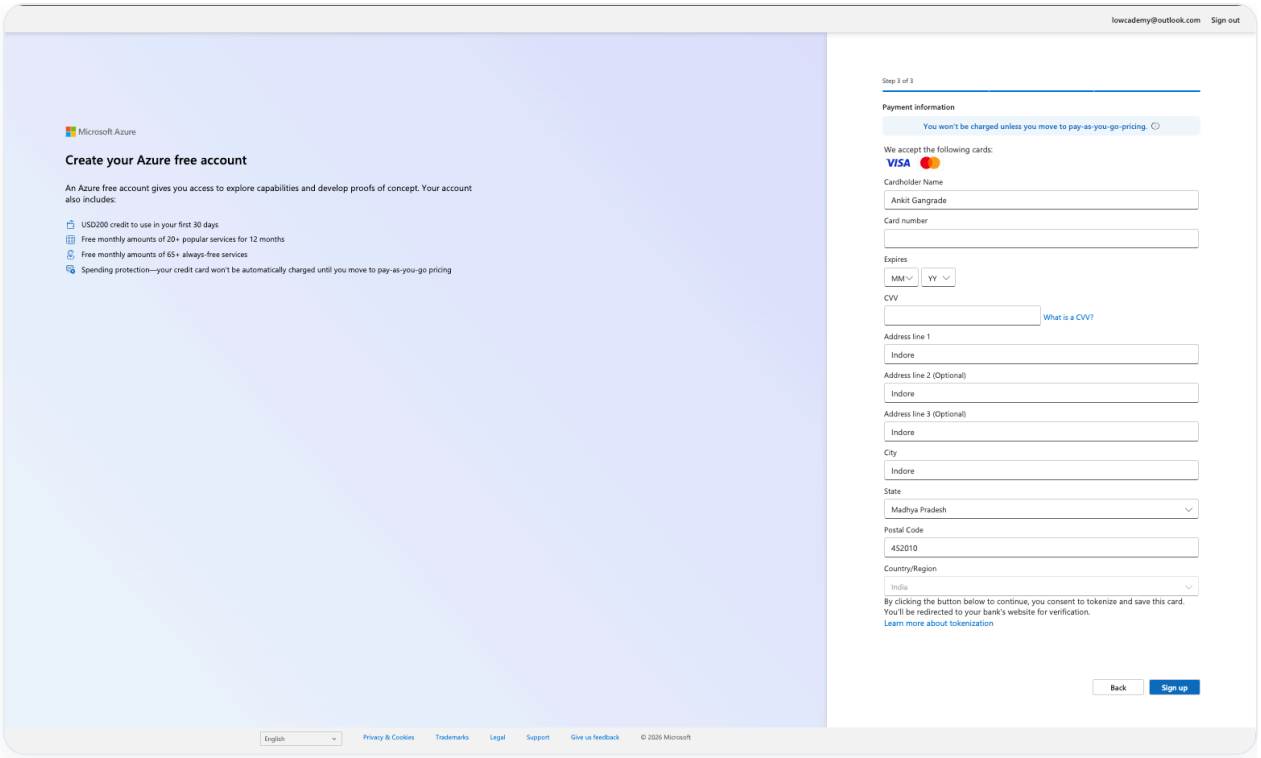




5 Add a payment method and sign up

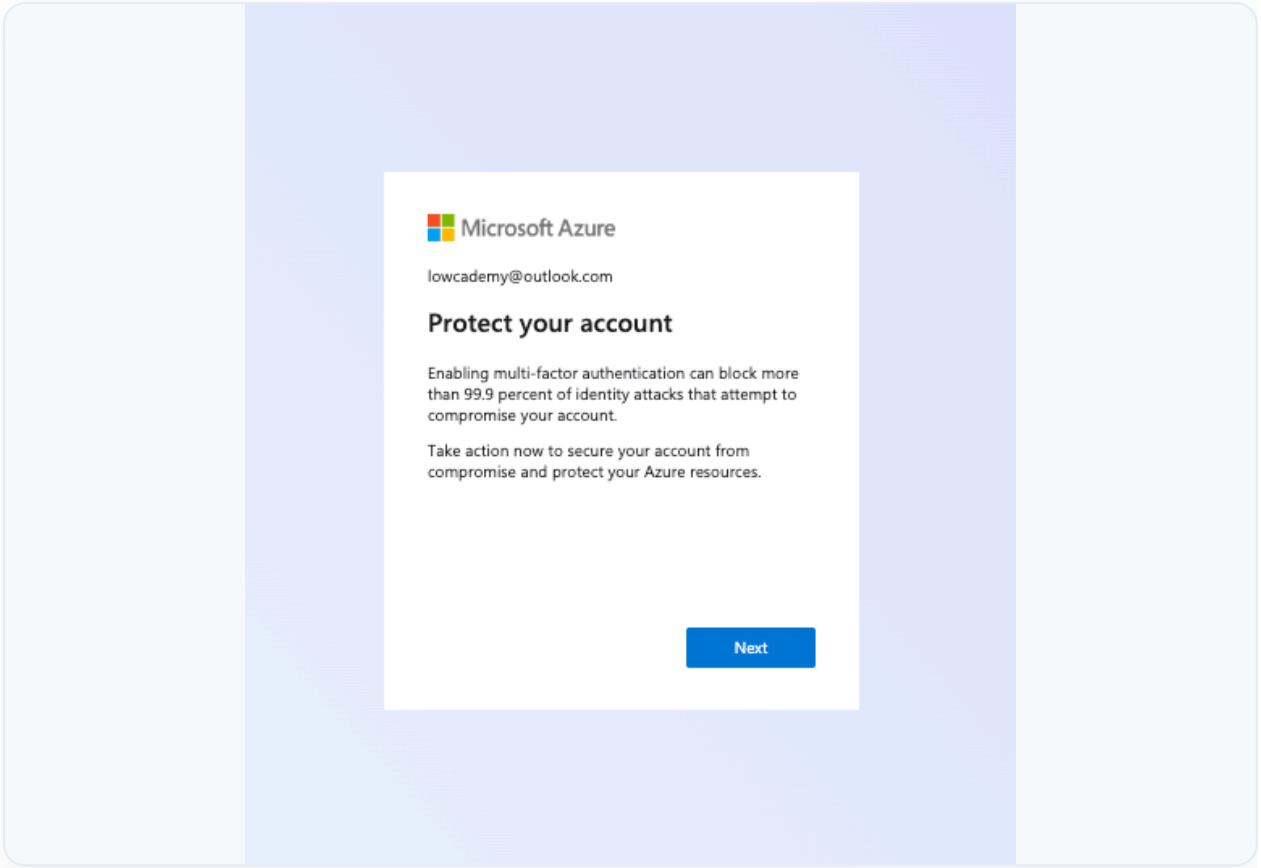
Enter your credit card information, click **Next**, and complete sign-up.

> ! Azure requires a payment method only for verification. You are not charged unless you create billable resources or upgrade to Pay-As-You-Go. As a precaution, use a spare card and set low domestic and international transaction limits to avoid accidental charges.



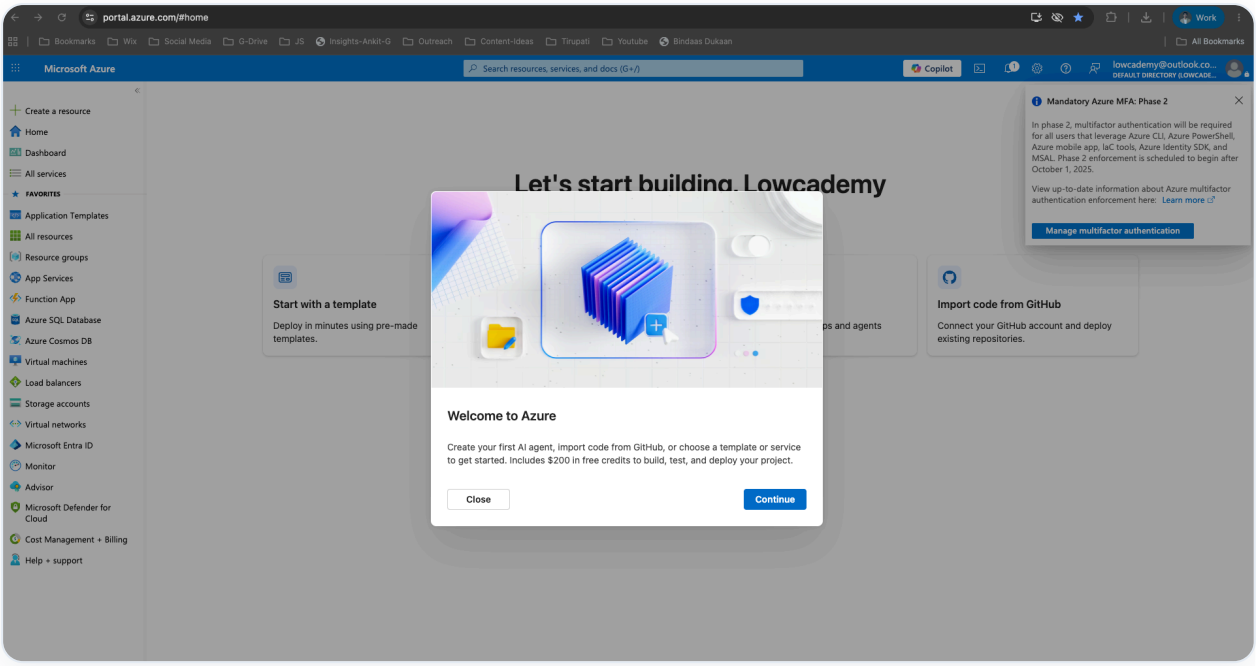
6 Enable multi-factor authentication

If prompted to enable MFA, go ahead and set it up. It keeps the account secure.



7 Land on the Azure home page

You should be redirected to `portal.azure.com/home` and see the welcome message. Your subscription is live.



02

ORGANISE

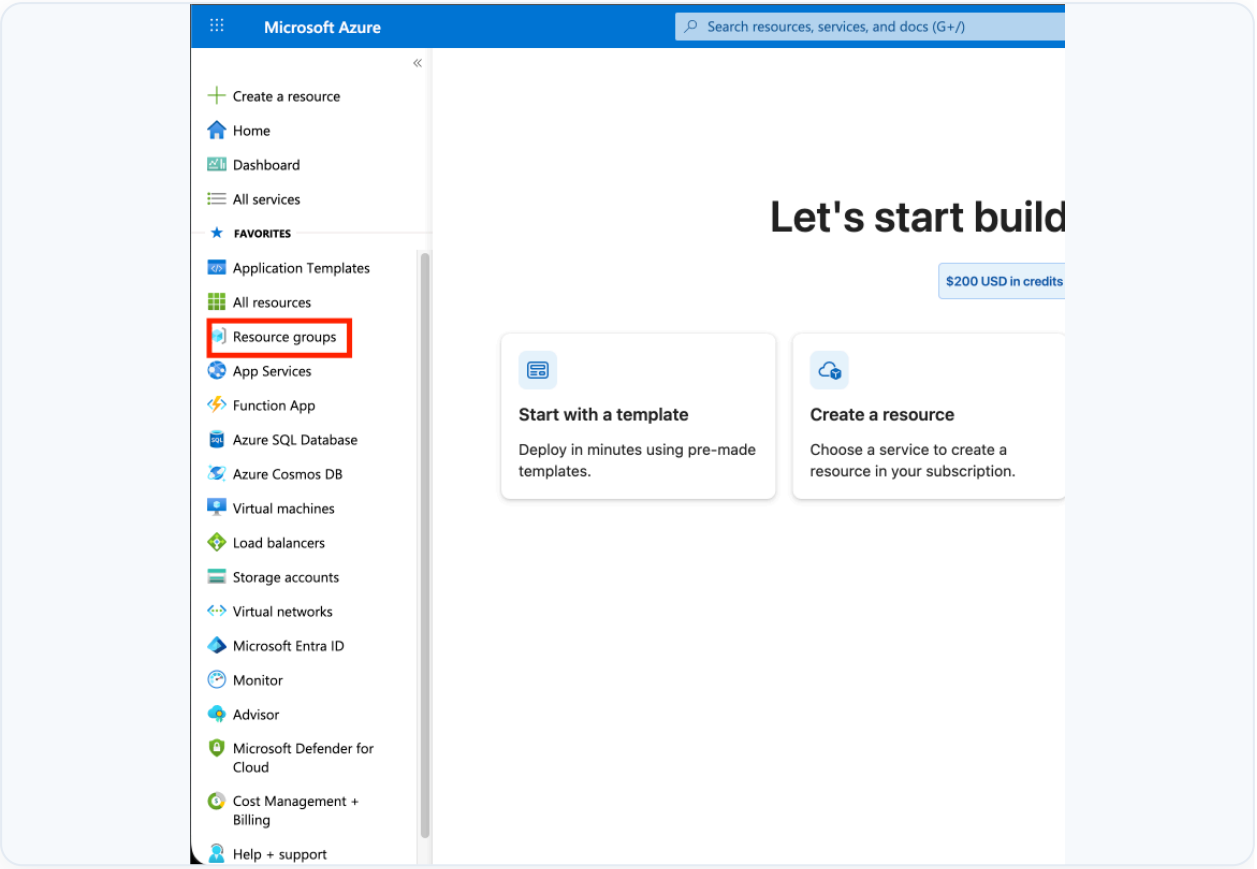
Create a new resource group

A resource group is a container that holds everything for this project, so billing, access, and clean-up stay in one place.

1

Open Resource groups

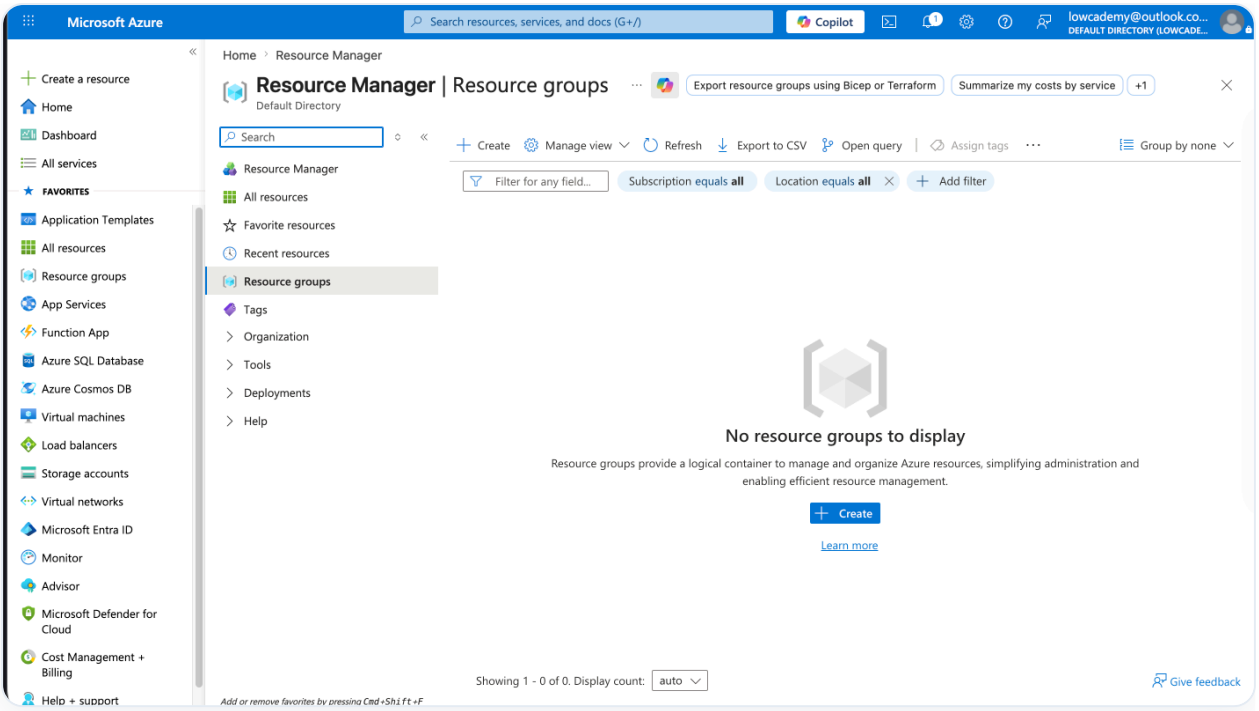
From the left-side panel, click **Resource groups**.



2

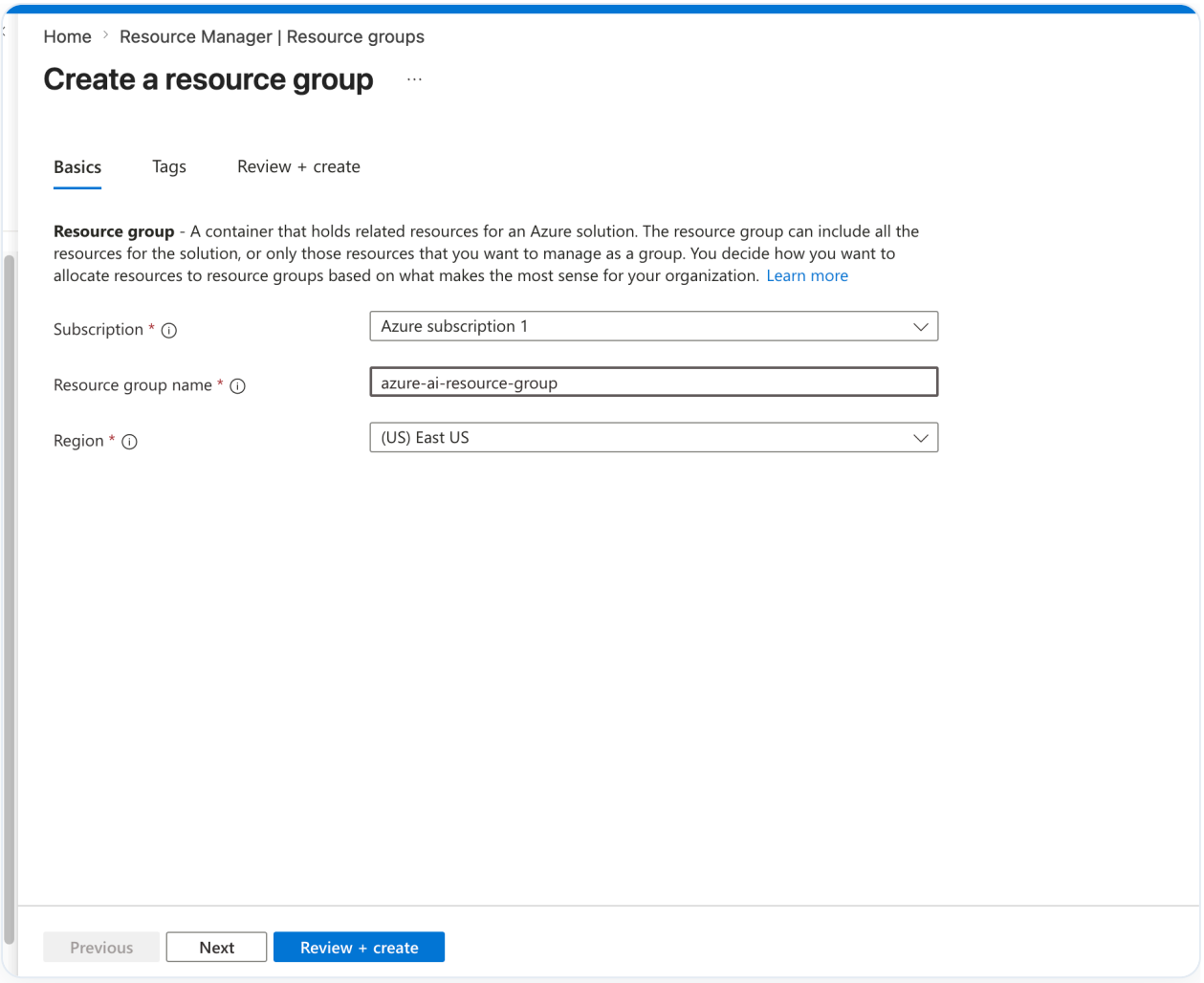
Create a new resource group

Click **Create** to start a fresh group.



3 Name it and create

Fill out the form, give it a clear, proper name, then click **Review + Create**.


Home
Resource Manager | Resource groups
Create a resource group
Basics
Tags
Review + create
Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Learn more
Subscription *
Azure subscription 1
Resource group name *
azure-ai-resource-group
Region *
(US) East US
Previous
Next
Review + create

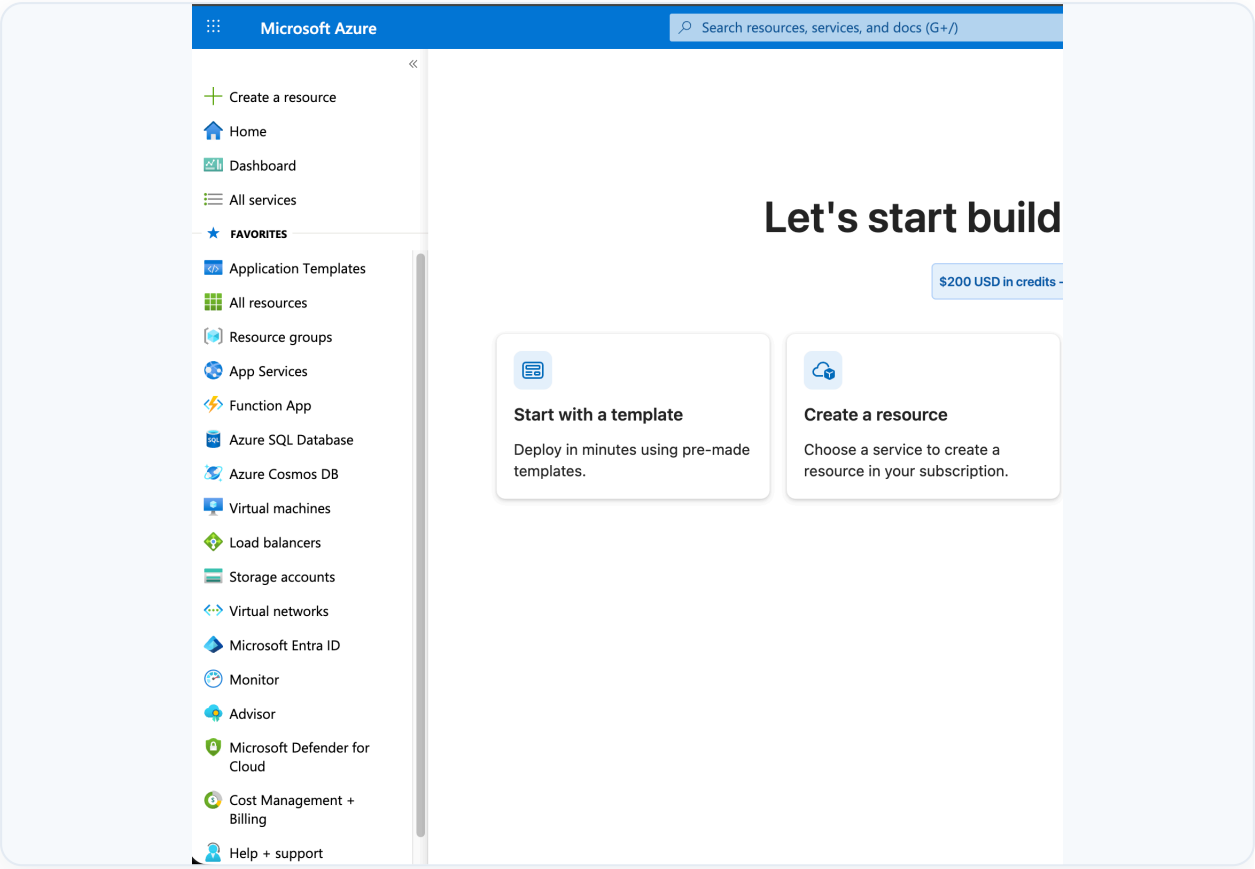
03 RETRIEVAL

Create the Azure AI Search service and index

This is the retrieval backbone of your RAG pipeline. You will provision the search service and define an index that stores both text and vector embeddings.

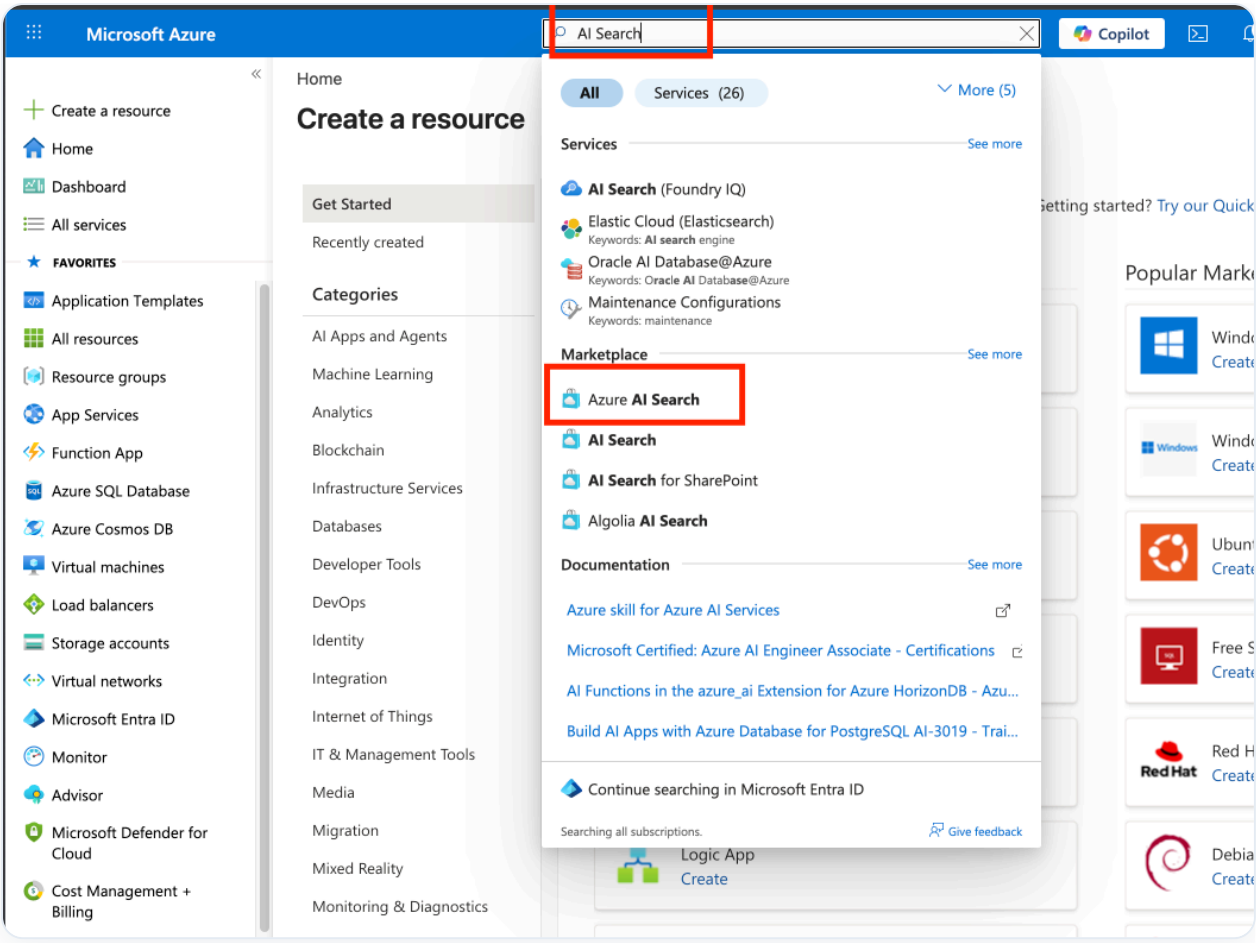
1 Create a resource

From the home page, click **Create a resource** in the left-side panel.



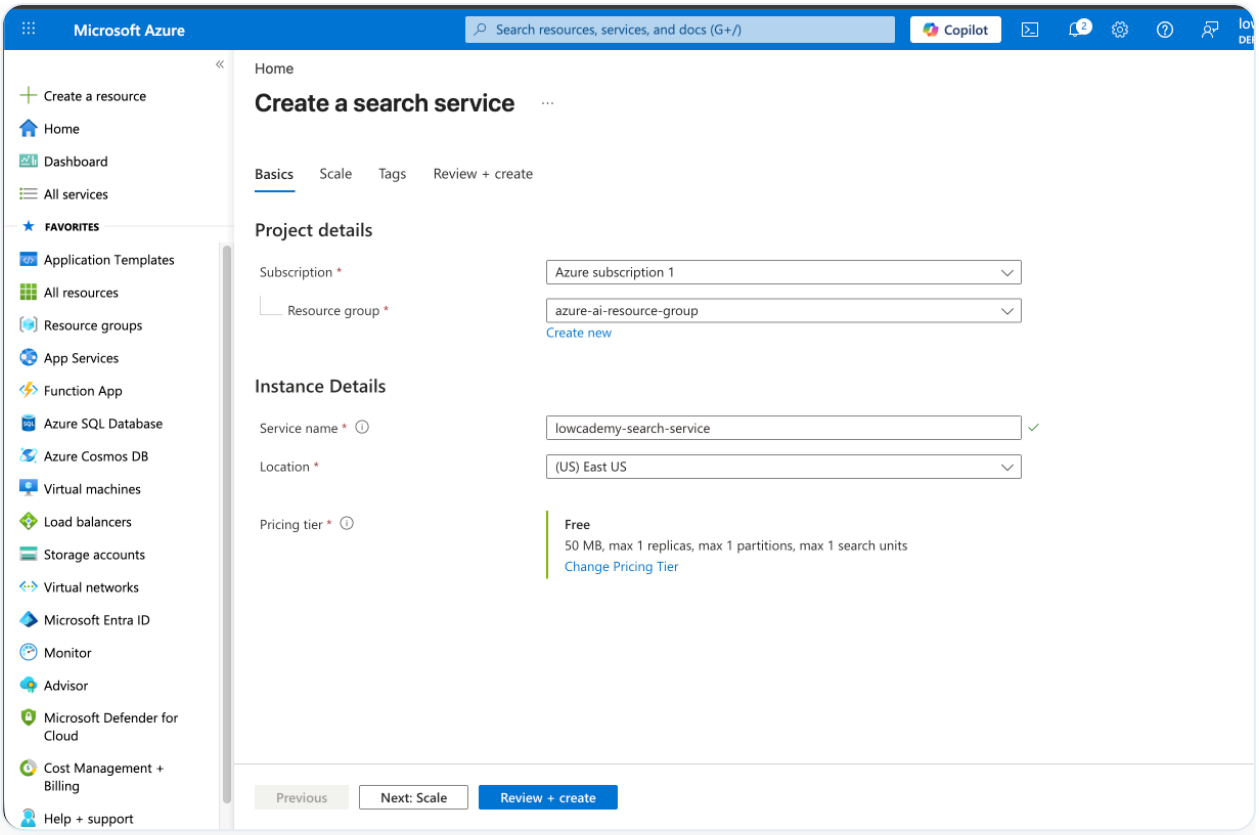
2 Find Azure AI Search

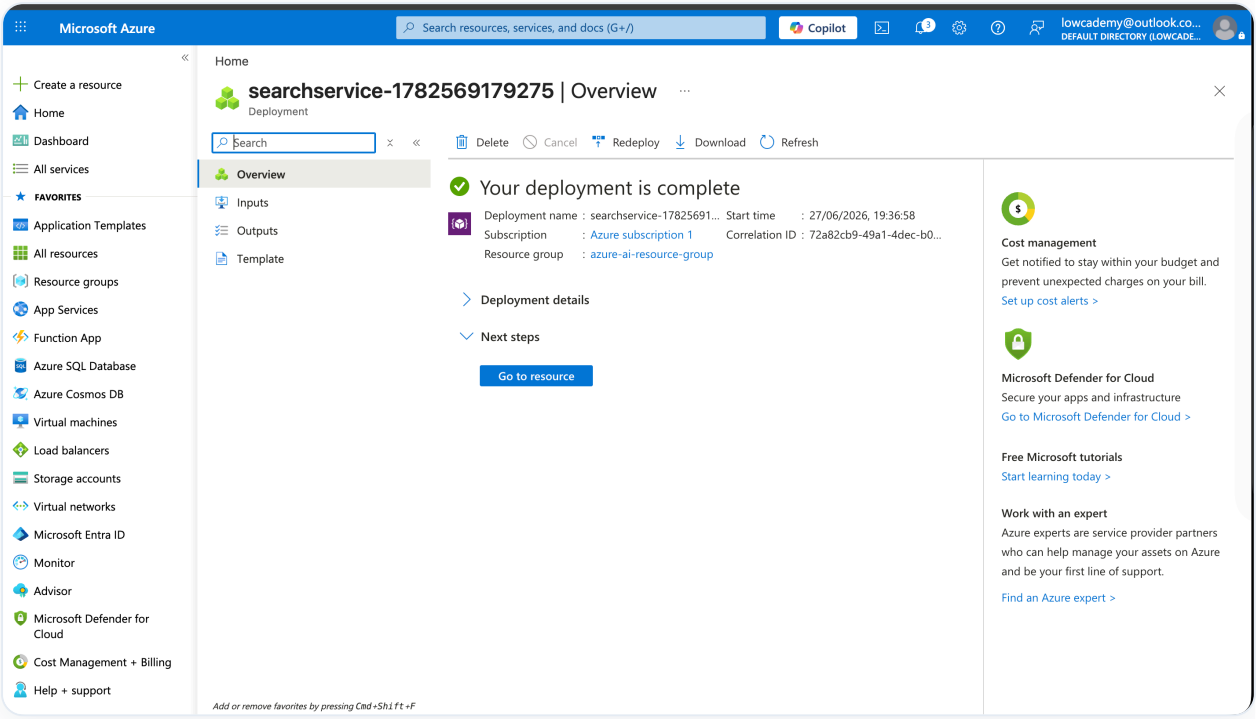
Search for **AI Search** and select **Azure AI Search** from the Marketplace.



3 Fill out the service form

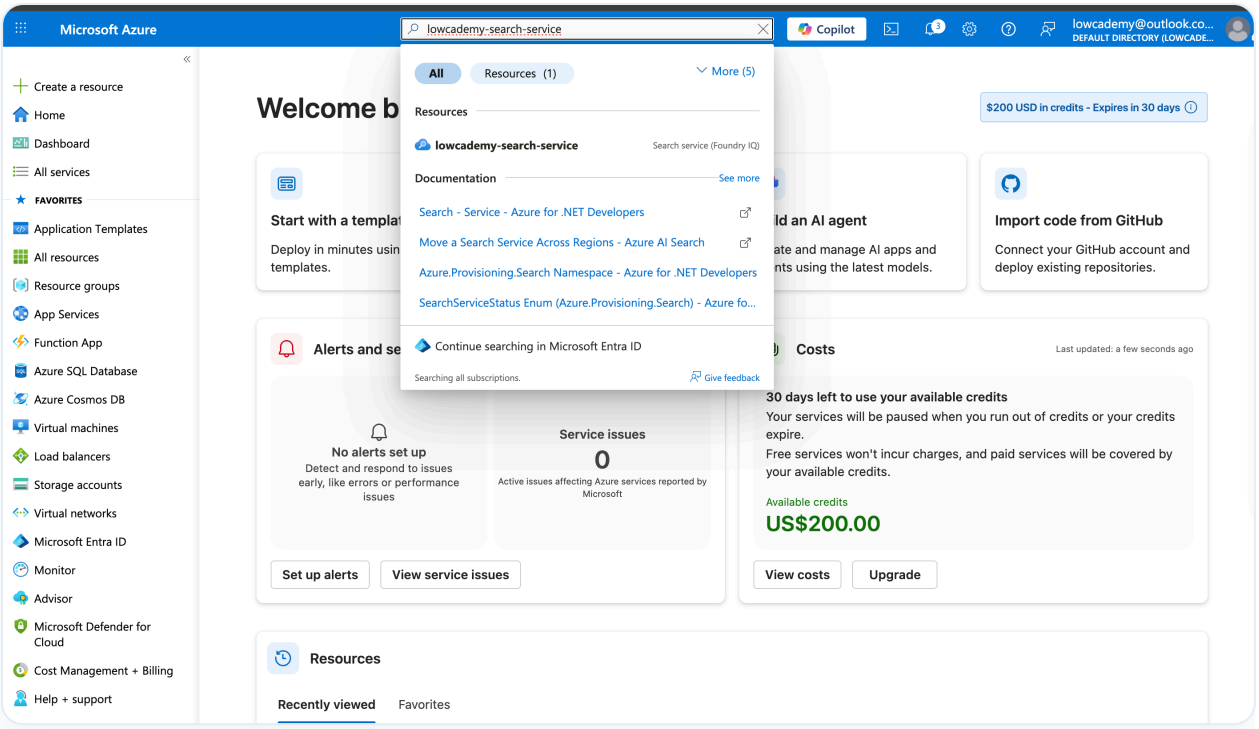
- Select your **subscription**
- Select the **resource group** you just created
- Give a **unique service name**
- Set **Location** to (US) East US
- Set **Pricing tier** to FREE
- Click **Review + Create**
- Wait 2–3 minutes for deployment to complete





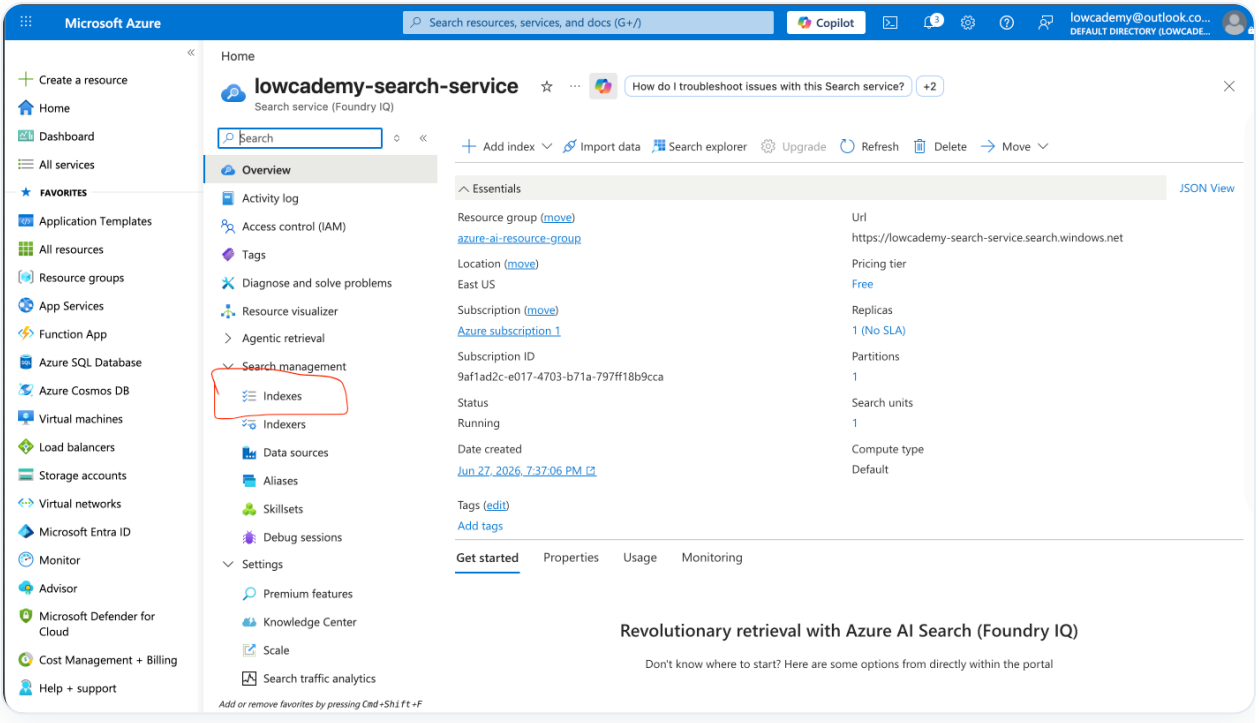
4 Open the new search service

Go back to the home page, search for the search service you just created, and open it.



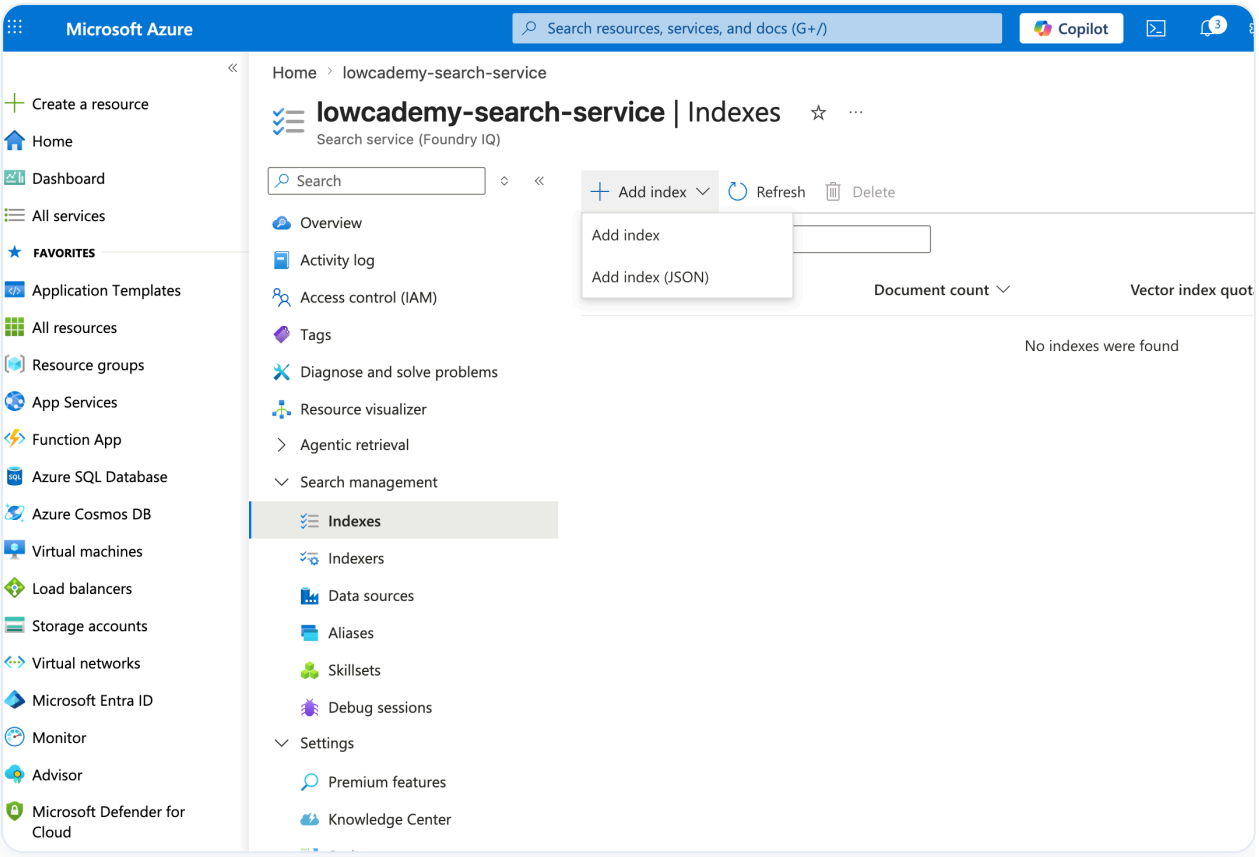
5 Go to Indexes

Click **Indexes** to create a new index.



6 Add an index via JSON

Click **New Index** › **Add index (JSON)**.

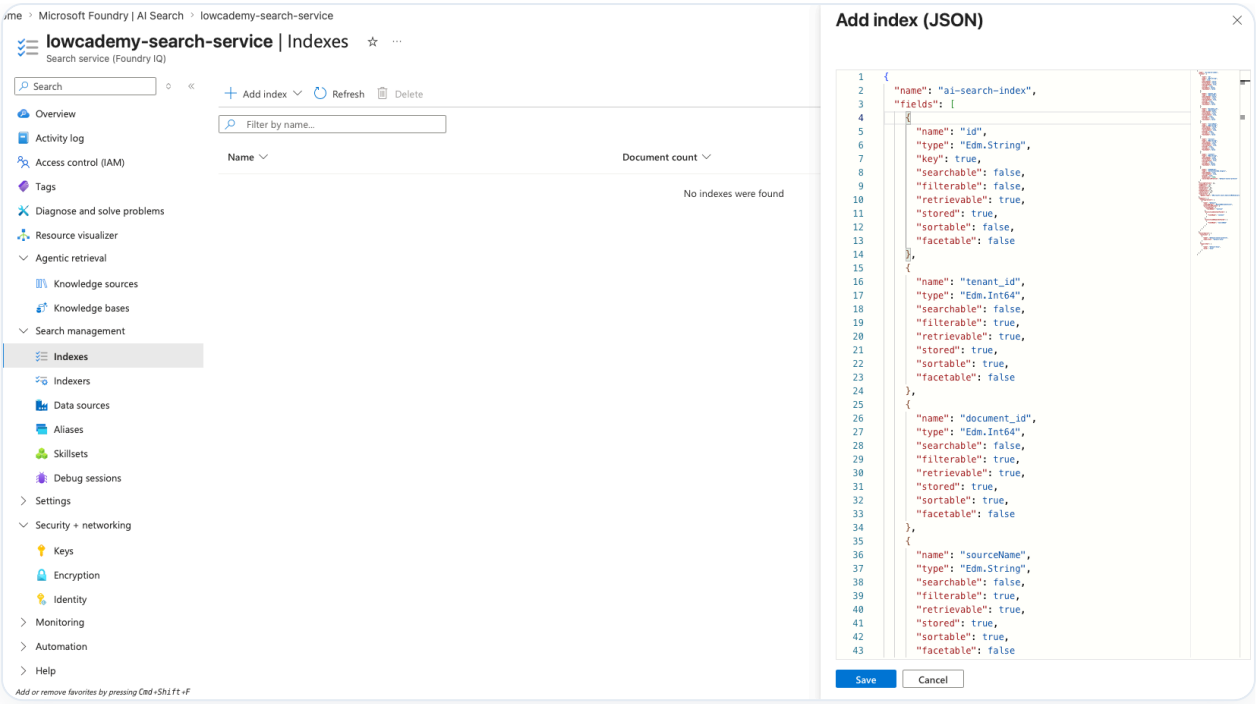


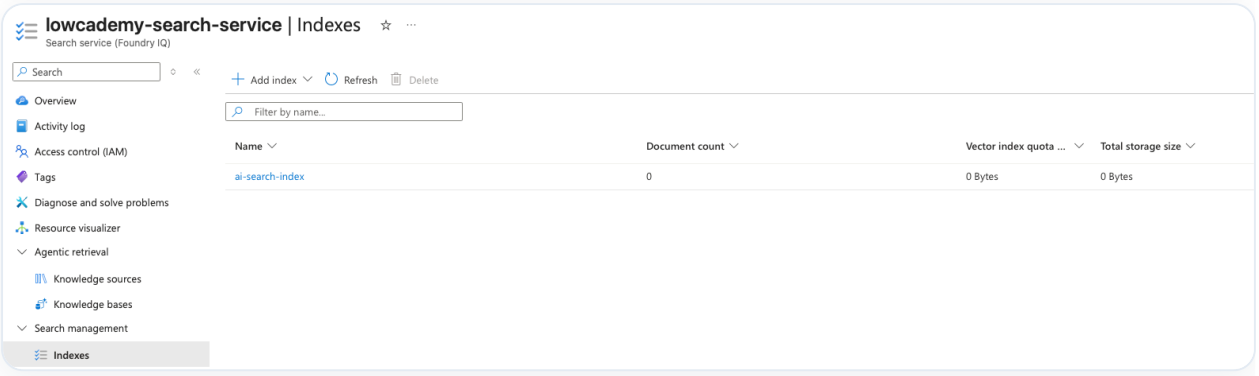
7 Paste the index definition and save

Paste the JSON below into the JSON box and click **Save**. This defines your fields, the 1536-dimension vector field for embeddings, semantic configuration, and the HNSW vector search profile.

index-definition.json

```
{
  "name": "ai-search-index",
  "fields": [
    { "name": "id", "type": "Edm.String", "key": true, "searchable": false,
"filterable": false, "retrievable": true, "stored": true, "sortable": false,
"facetable": false },
    { "name": "tenant_id", "type": "Edm.Int64", "searchable": false, "filterable":
true, "retrievable": true, "stored": true, "sortable": true, "facetable": false },
    { "name": "document_id", "type": "Edm.Int64", "searchable": false, "filterable":
true, "retrievable": true, "stored": true, "sortable": true, "facetable": false },
    { "name": "sourceName", "type": "Edm.String", "searchable": false, "filterable":
true, "retrievable": true, "stored": true, "sortable": true, "facetable": false },
    { "name": "section", "type": "Edm.String", "searchable": false, "filterable":
true, "retrievable": true, "stored": true, "sortable": true, "facetable": false },
    { "name": "content", "type": "Edm.String", "searchable": true, "filterable":
false, "retrievable": true, "stored": true, "sortable": false, "facetable": false },
    { "name": "embedding", "type": "Collection(Edm.Single)", "searchable": true,
"retrievable": true, "stored": true, "dimensions": 1536, "vectorSearchProfile":
"default-vector-profile" }
  ],
  "scoringProfiles": [],
  "suggesters": [],
  "analyzers": [],
  "normalizers": [],
  "tokenizers": [],
  "tokenFilters": [],
  "charFilters": [],
  "similarity": { "@odata.type": "#Microsoft.Azure.Search.BM25Similarity" },
  "semantic": {
    "configurations": [
      {
        "name": "default",
        "rankingOrder": "BoostedRerankerScore",
        "prioritizedFields": {
          "titleField": { "fieldName": "section" },
          "prioritizedContentFields": [ { "fieldName": "content" } ],
          "prioritizedKeywordsFields": [ { "fieldName": "sourceName" } ]
        }
      }
    ]
  },
  "vectorSearch": {
    "profiles": [ { "name": "default-vector-profile", "algorithm": "default-hnsw" }
],
    "algorithms": [ { "name": "default-hnsw", "kind": "hnsw" } ]
  }
}
```



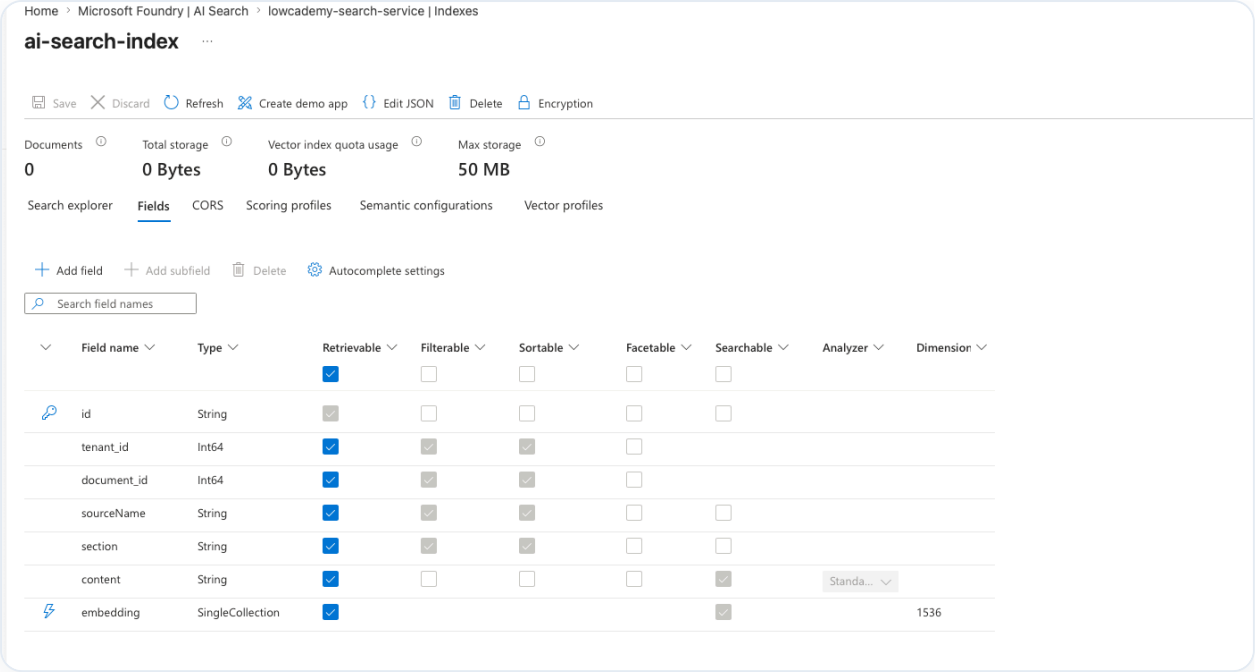


8 Verify the index fields

Confirm the fields match the JSON you pasted.

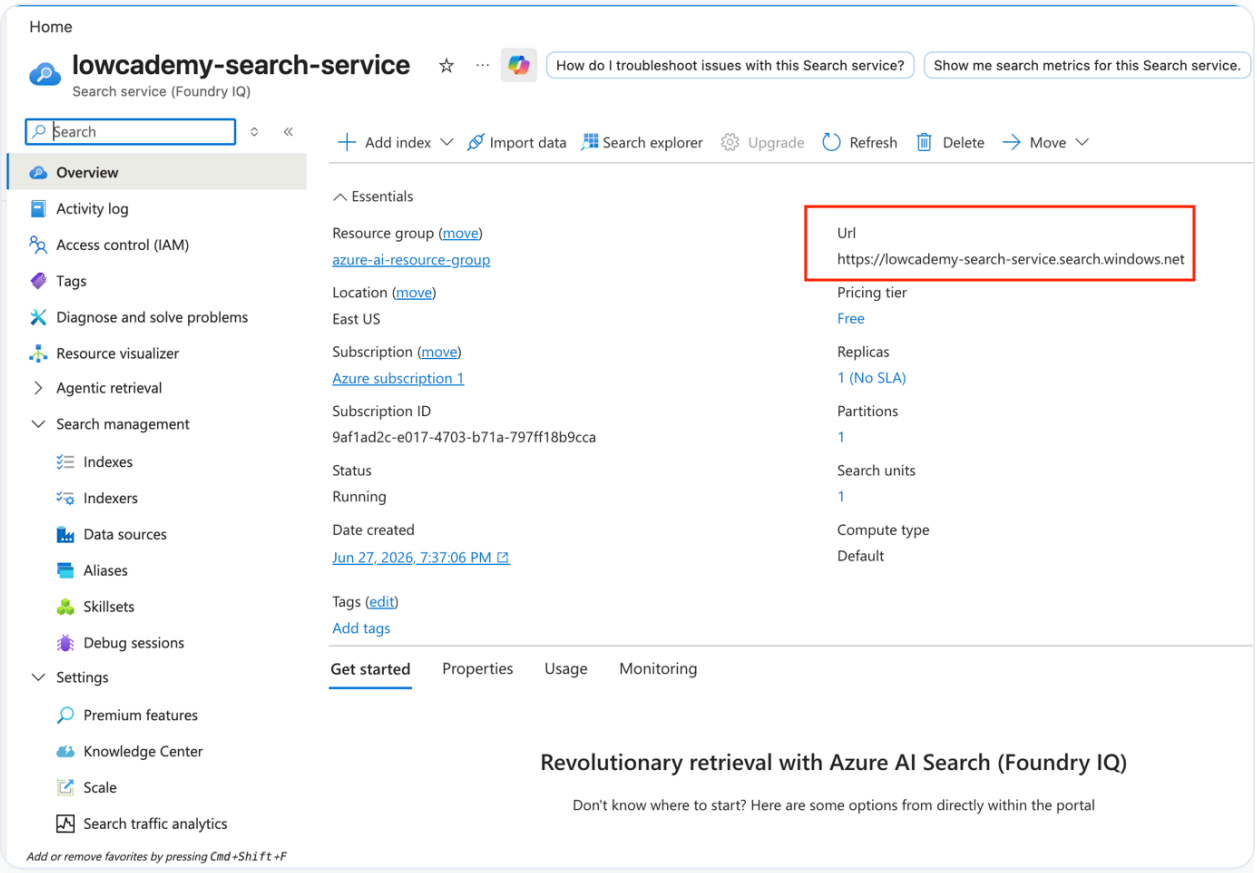
- Open the index
- Go to **Fields** and verify

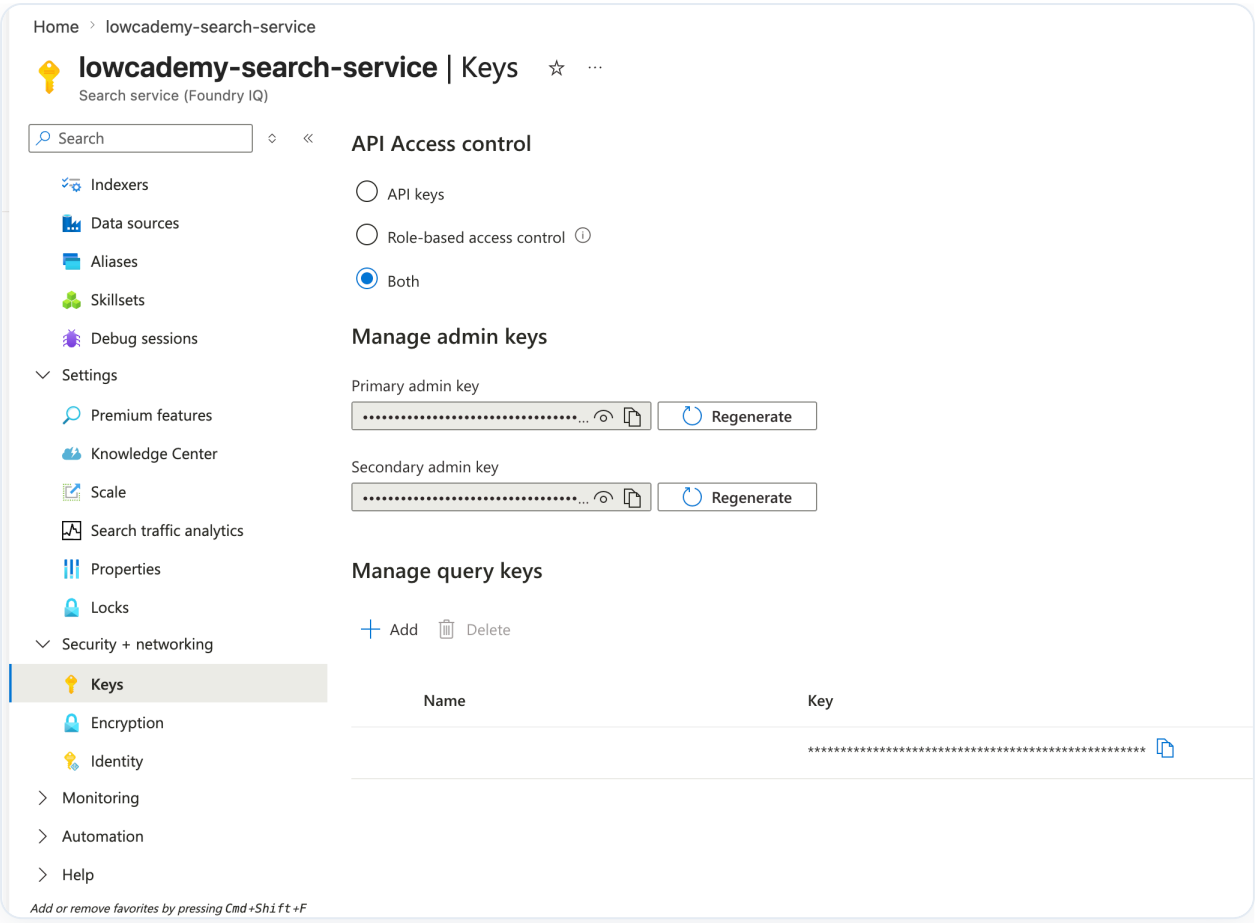
Your AI Search index is ready.



9 Grab the URL and admin key

- **URL:** open the search service; the URL is shown on the page. Copy and save it.
- To get the **admin key**, go to **Security + Networking** › **Keys**
- Copy the **Primary admin key**





AI Search service and index setup completes here.

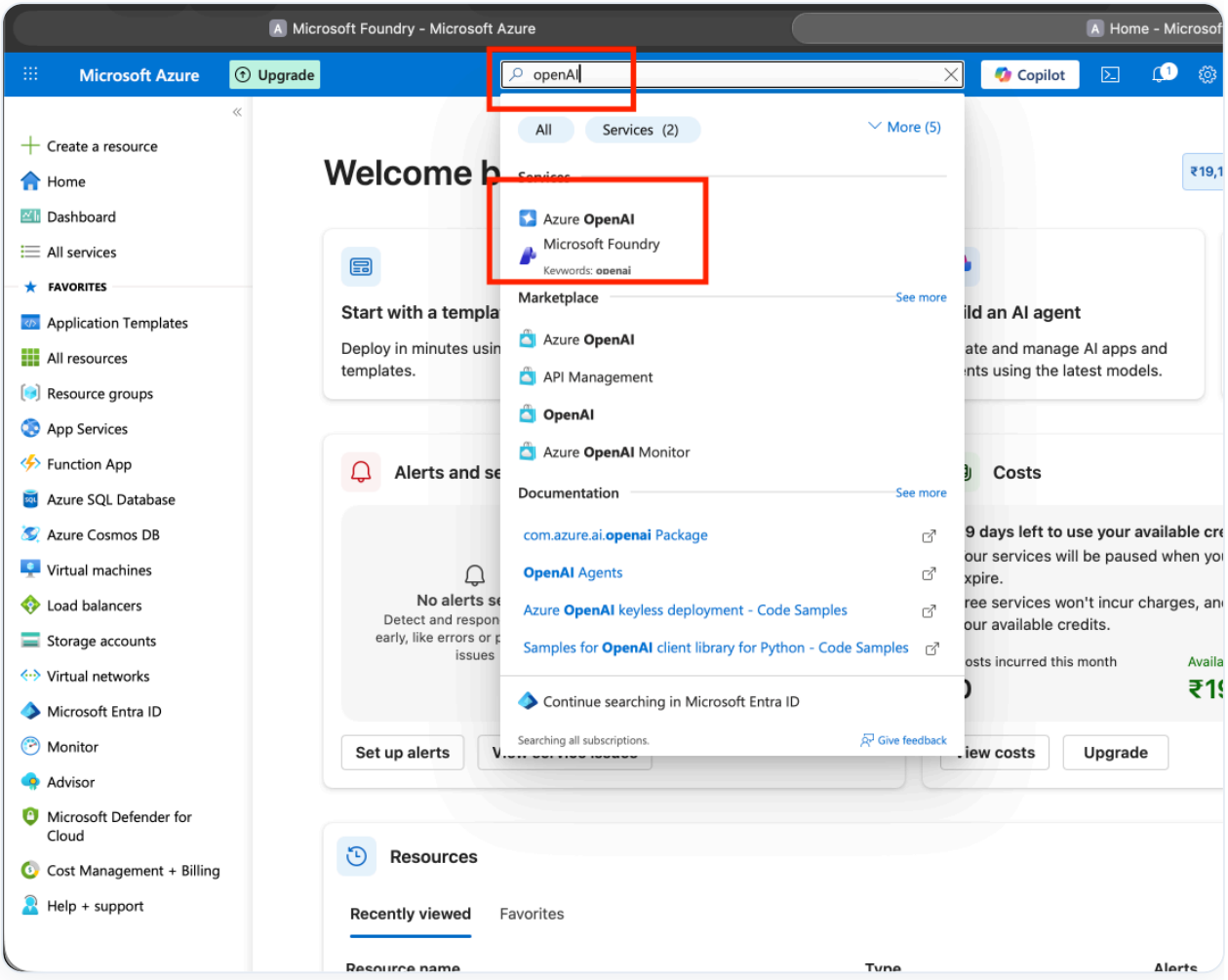
04 EMBEDDINGS

Create the Azure OpenAI resource for embeddings

Retrieval needs vectors. Here you provision Azure OpenAI and deploy the embedding model that turns your text into the 1536-dimension vectors your index expects.

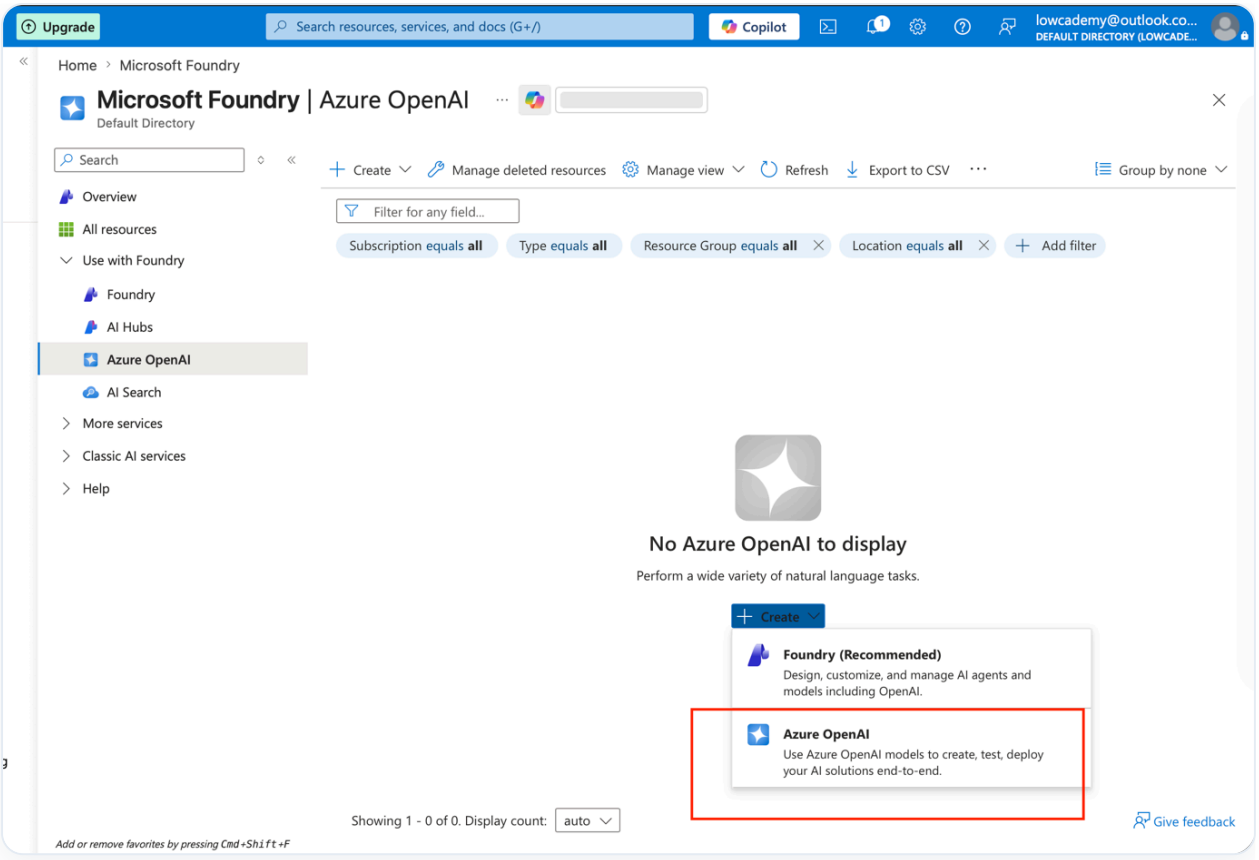
1 Find Azure OpenAI

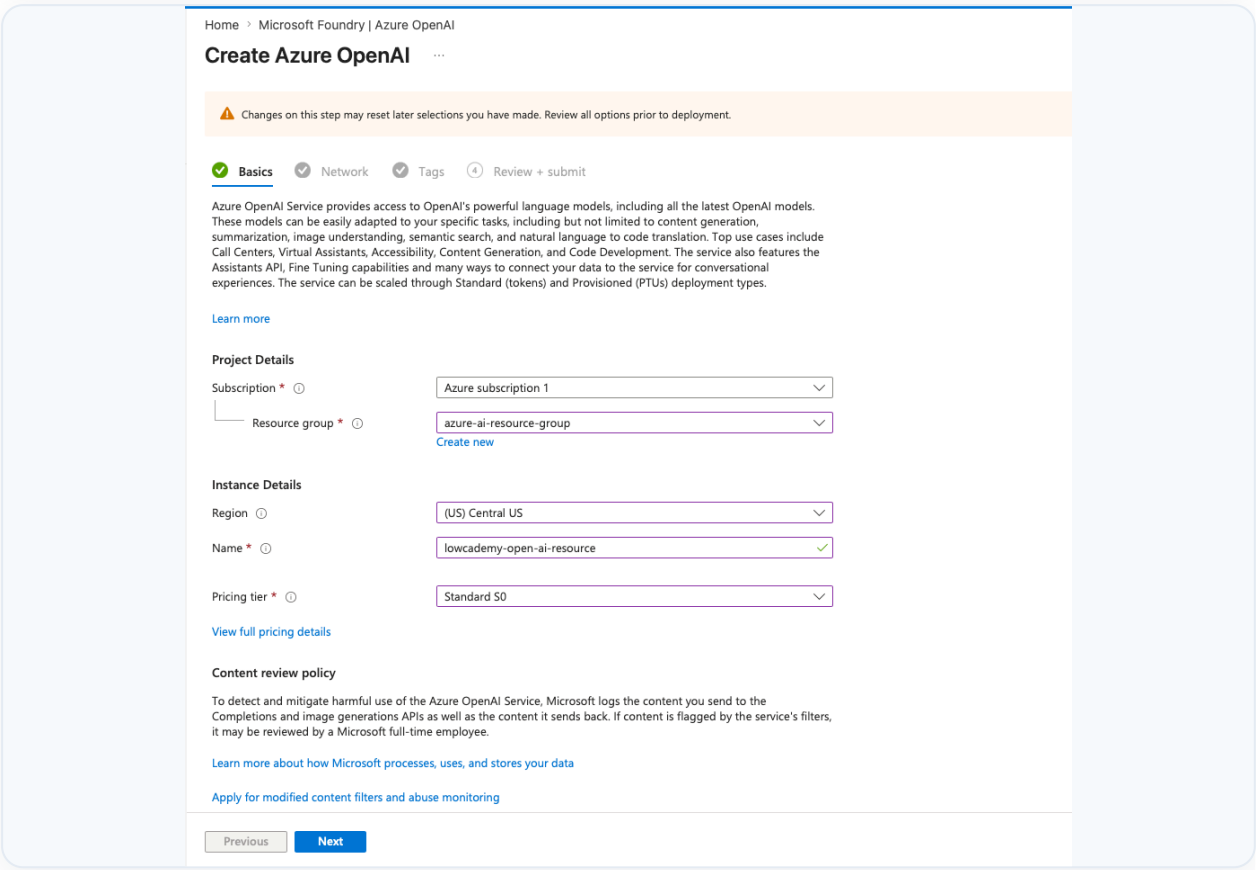
- Search for **OpenAI**
- Click **Azure OpenAI**

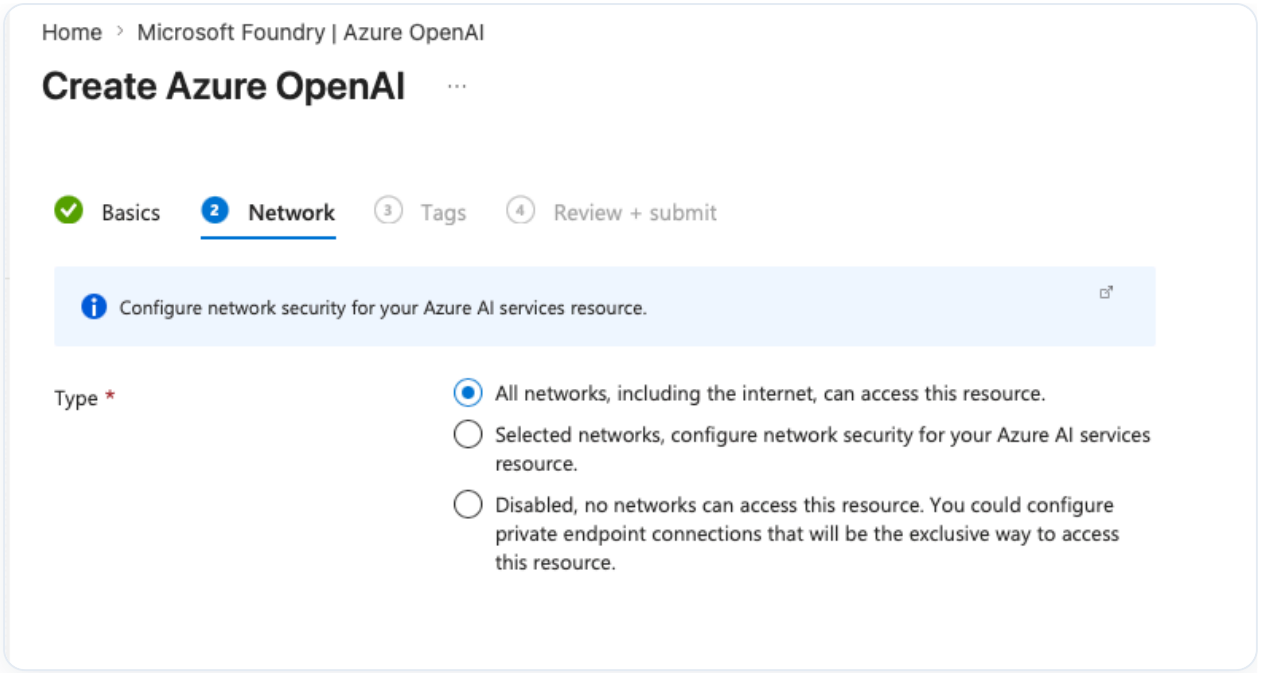


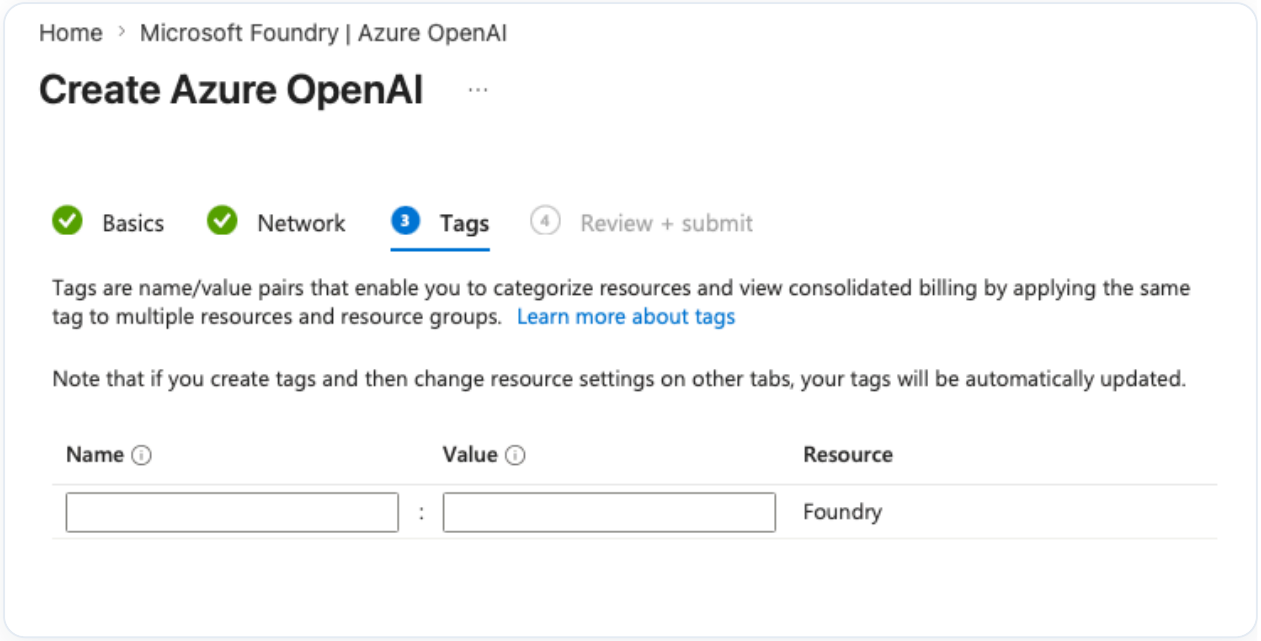
2 Create the resource

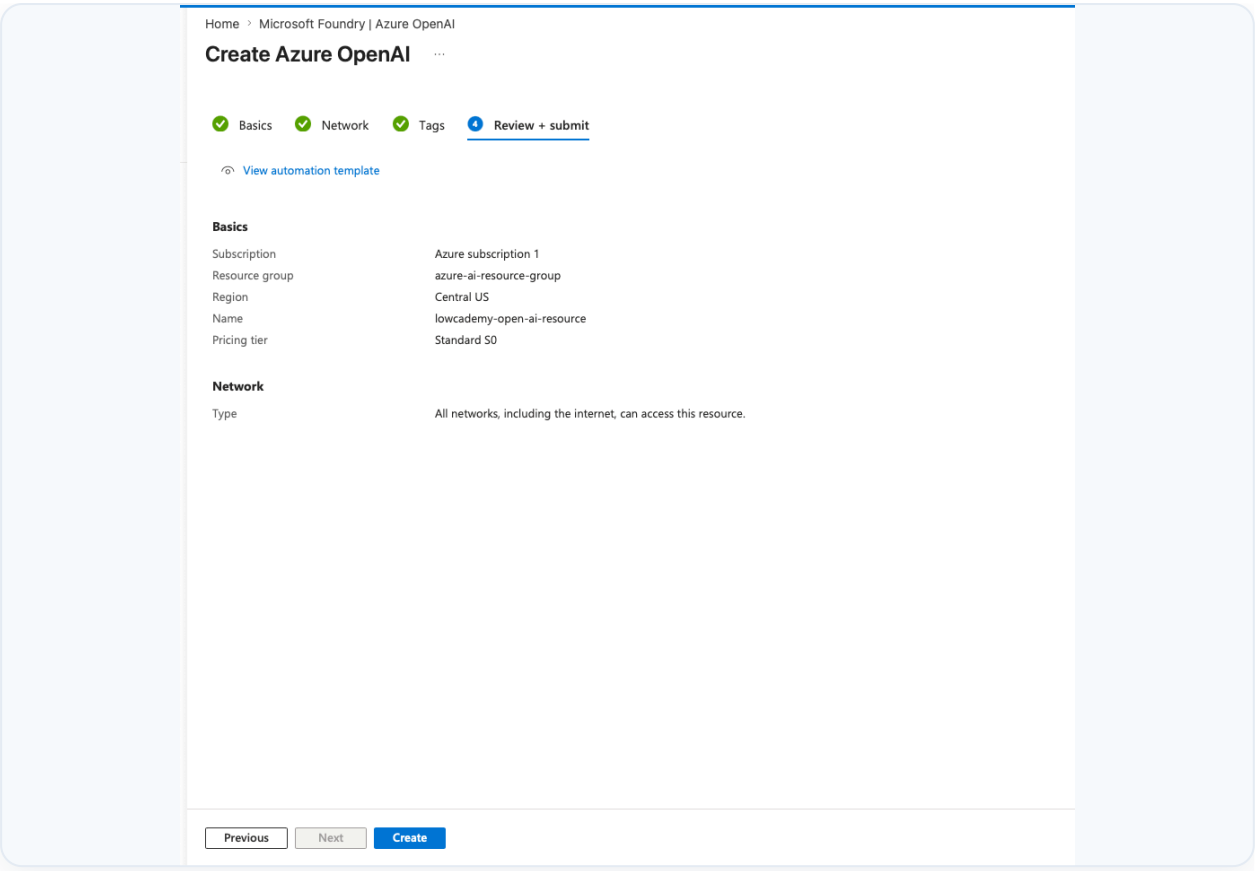
- Click **Create**
- Choose **Azure OpenAI**
- Fill the form and click **Next**
- Wait 3–4 minutes


Upgrade
Search resources, services, and docs (G+/)
Copilot
lowcademy@outlook.co...
DEFAULT DIRECTORY (LOWCADE...
Home › Microsoft Foundry
Microsoft Foundry | Azure OpenAI
Default Directory
Search
Overview
All resources
Use with Foundry
Foundry
AI Hubs
Azure OpenAI
AI Search
More services
Classic AI services
Help
Create
Manage deleted resources
Manage view
Refresh
Export to CSV
Group by none
Filter for any field...
Subscription equals all
Type equals all
Resource Group equals all
Location equals all
Add filter
No Azure OpenAI to display
Perform a wide variety of natural language tasks.
Create
Foundry (Recommended)
Design, customize, and manage AI agents and models including OpenAI.
Azure OpenAI
Use Azure OpenAI models to create, test, deploy your AI solutions end-to-end.
Showing 1 - 0 of 0. Display count: auto
Give feedback
Add or remove favorites by pressing Cmd+Shift+F


Home › Microsoft Foundry | Azure OpenAI
Create Azure OpenAI
Changes on this step may reset later selections you have made. Review all options prior to deployment.
Basics
Network
Tags
Review + submit
Azure OpenAI Service provides access to OpenAI's powerful language models, including all the latest OpenAI models. These models can be easily adapted to your specific tasks, including but not limited to content generation, summarization, image understanding, semantic search, and natural language to code translation. Top use cases include Call Centers, Virtual Assistants, Accessibility, Content Generation, and Code Development. The service also features the Assistants API, Fine Tuning capabilities and many ways to connect your data to the service for conversational experiences. The service can be scaled through Standard (tokens) and Provisioned (PTUs) deployment types.
Learn more
Project Details
Subscription *
Azure subscription 1
Resource group *
azure-ai-resource-group
Create new
Instance Details
Region
(US) Central US
Name *
lowcademy-open-ai-resource
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
Previous
Next

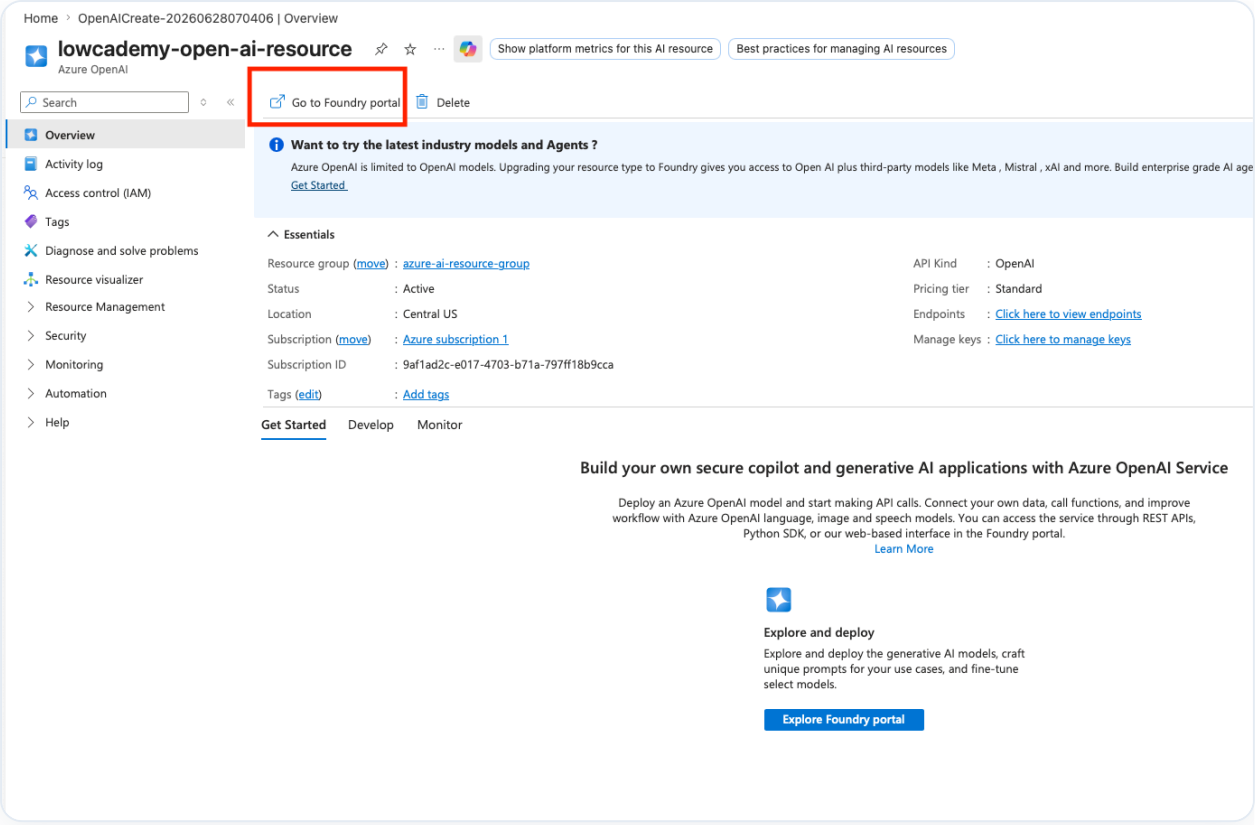

Home › Microsoft Foundry | Azure OpenAI
Create Azure OpenAI
Basics
2 Network
3 Tags
4 Review + submit
Configure network security for your Azure AI services resource.
Type *
All networks, including the internet, can access this resource.
Selected networks, configure network security for your Azure AI services resource.
Disabled, no networks can access this resource. You could configure private endpoint connections that will be the exclusive way to access this resource.


Home › Microsoft Foundry | Azure OpenAI
Create Azure OpenAI
Basics
Network
3 Tags
4 Review + submit
Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. Learn more about tags
Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.
Name
Value
Resource
:
Foundry



3 Open Foundry portal

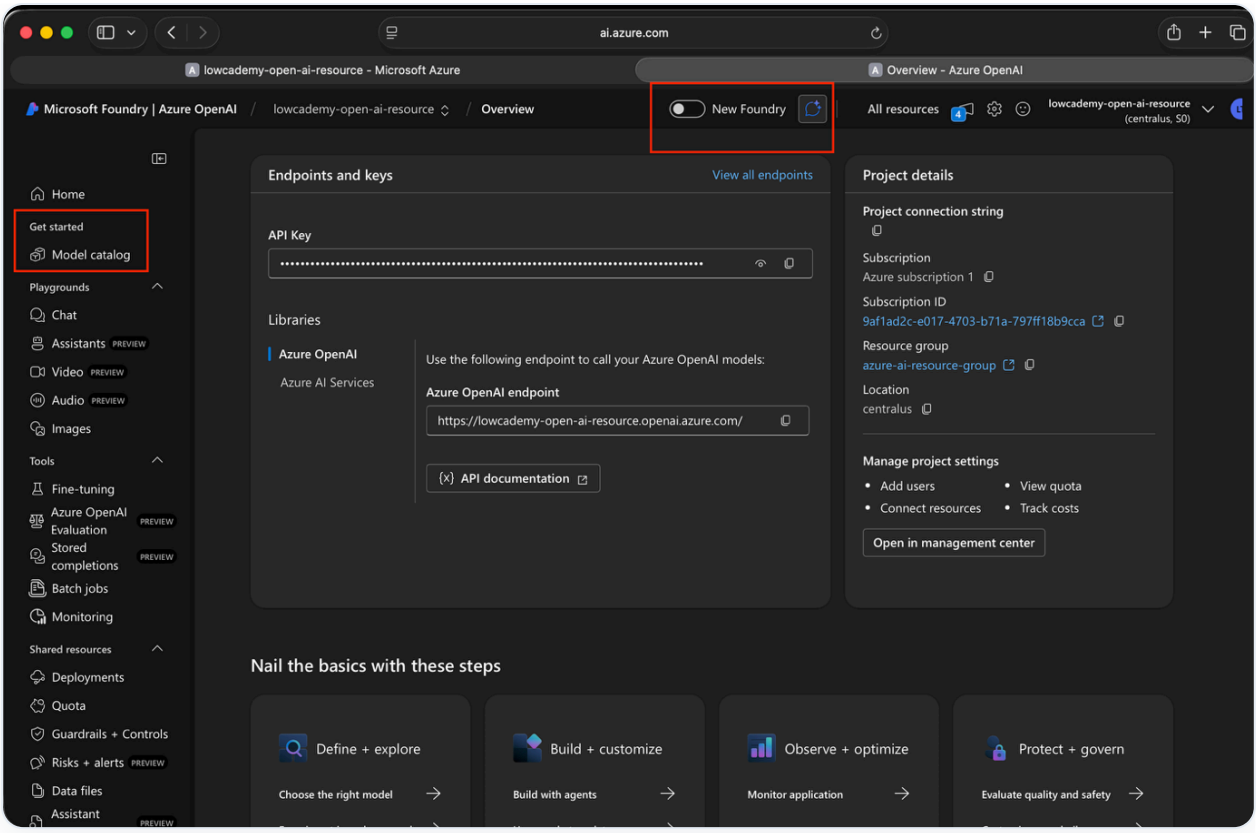
- Open the newly created Azure OpenAI resource
- Click **Go to Foundry portal**



4 Open the model catalog

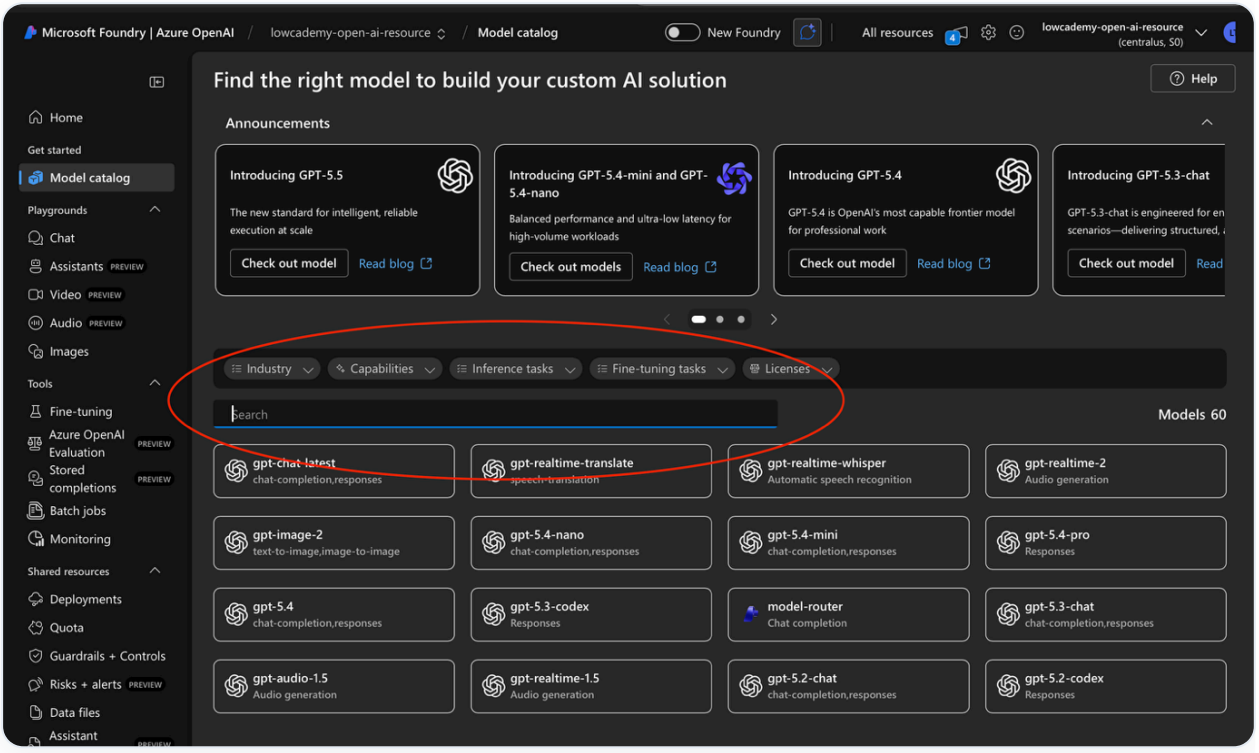
- In the Foundry portal, under the new resource, open the **Model catalog**

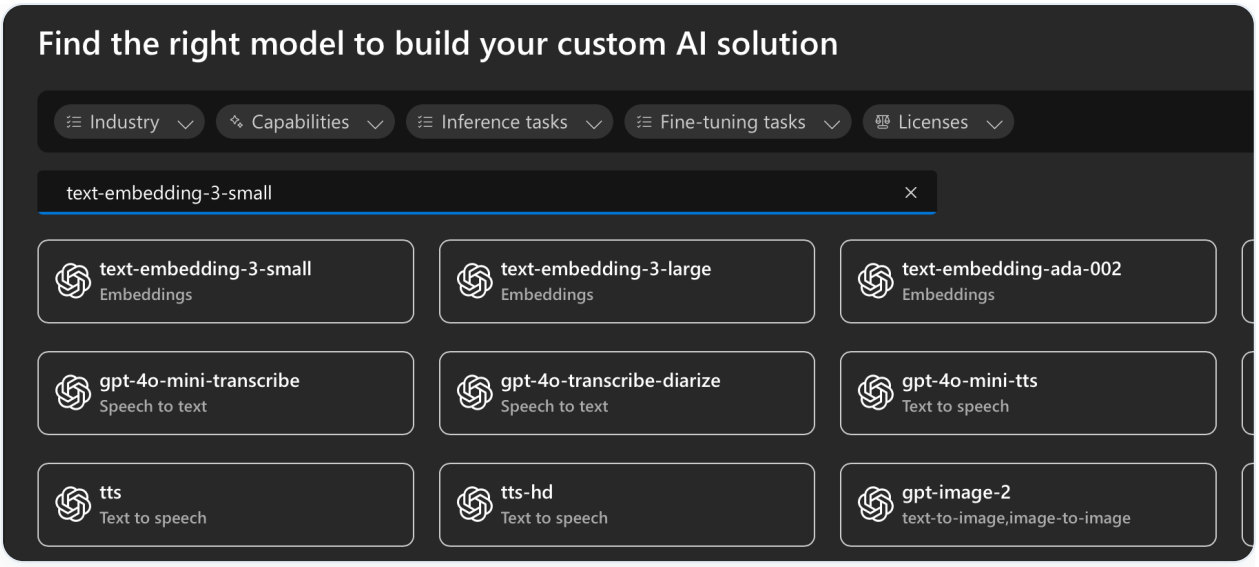
> ! If the Foundry portal sends you to the new experience, move back to the old one for these steps.



5 Search the embedding model

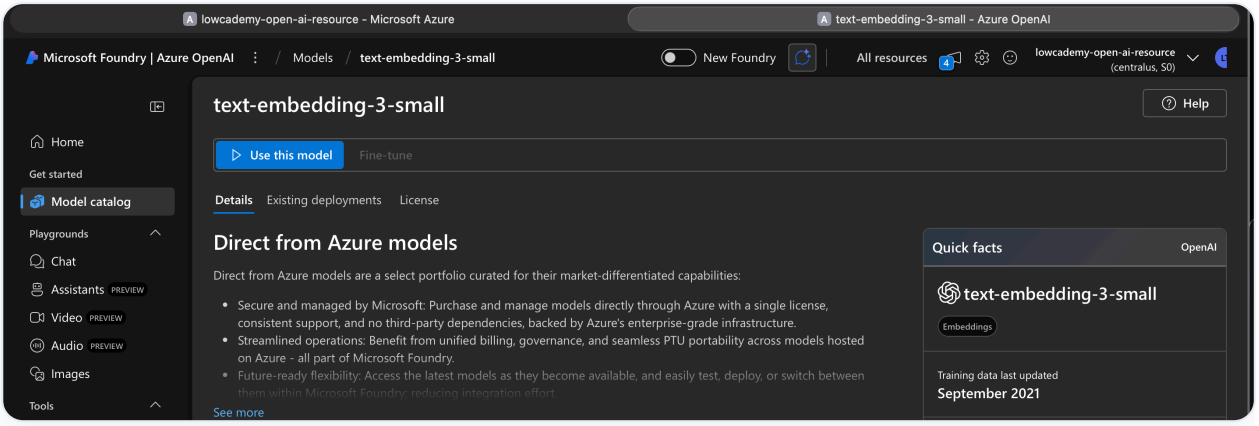
- From the model catalog
- Search **text-embedding-3-small** and select it





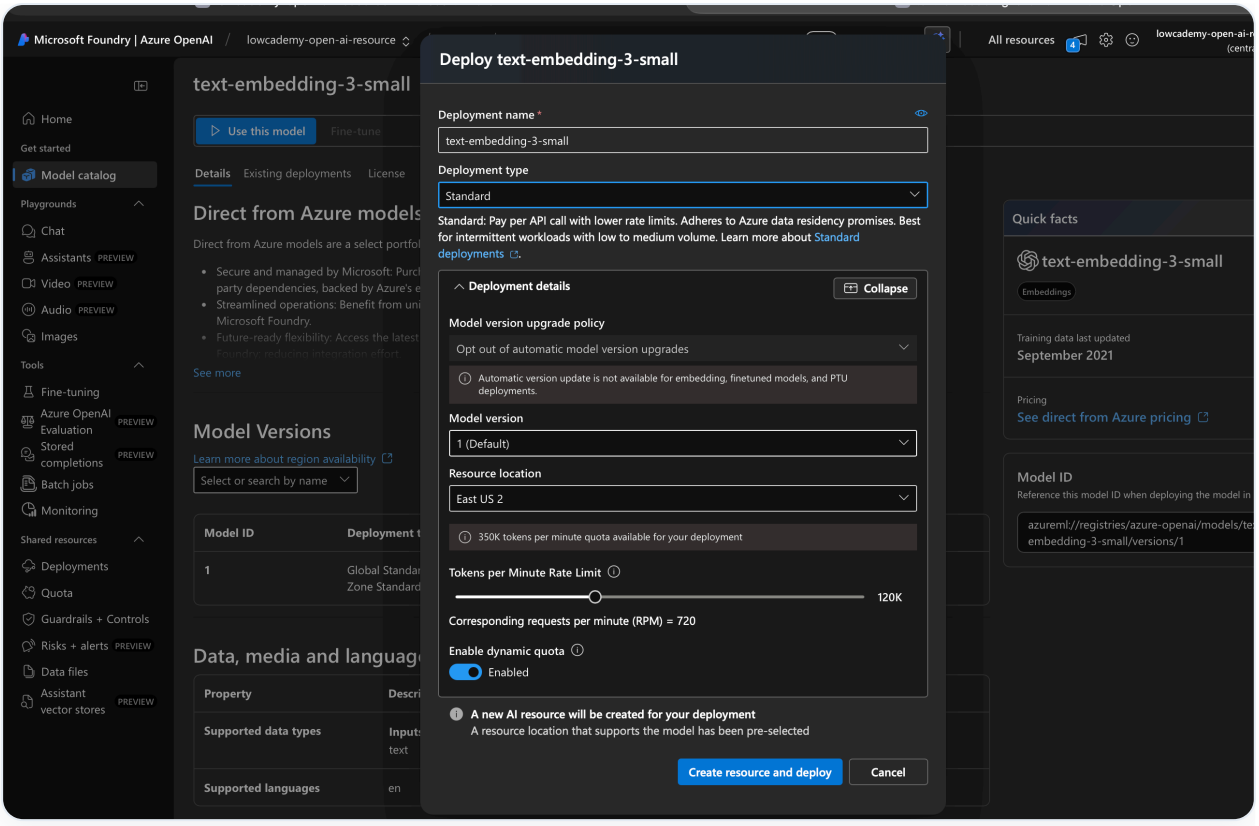
6 Select the model

- Select **text-embedding-3-small**
- Click **Use this model**



7 Deploy it

- Name the deployment **text-embedding-3-small**
- Set deployment type to **Standard**
- Click **Create resource and deploy**



8 Understand what just happened

Go to **Overview** and check the resources. You will likely see two.

In my case, I already had an Azure OpenAI resource named `lowcademy-open-ai-resource`. When I created my first model deployment, Microsoft AI Foundry automatically created a second resource named `lowca-mqx4tbd1-eastus2`. This is expected behaviour.

lowcademy-open-ai-resource

USED FOR

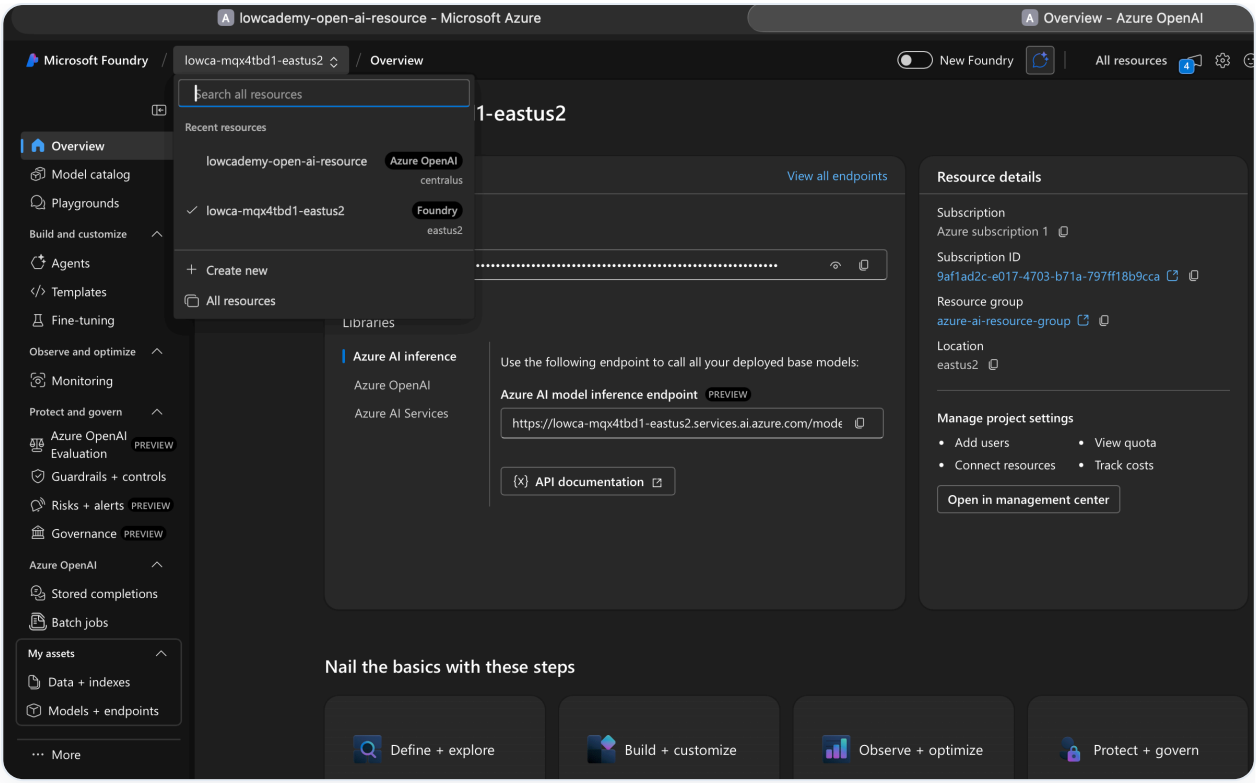
- Billing
- Access control (IAM)
- Monitoring
- Azure portal management

`lowca-mqx4tbd1-eastus2`

USED FOR

- Model deployments
- Endpoint URL
- API keys

Go to the second resource, navigate to **Models & Endpoints**, and copy the **Endpoint URL** and **API key**. Use these in your application for embedding requests.



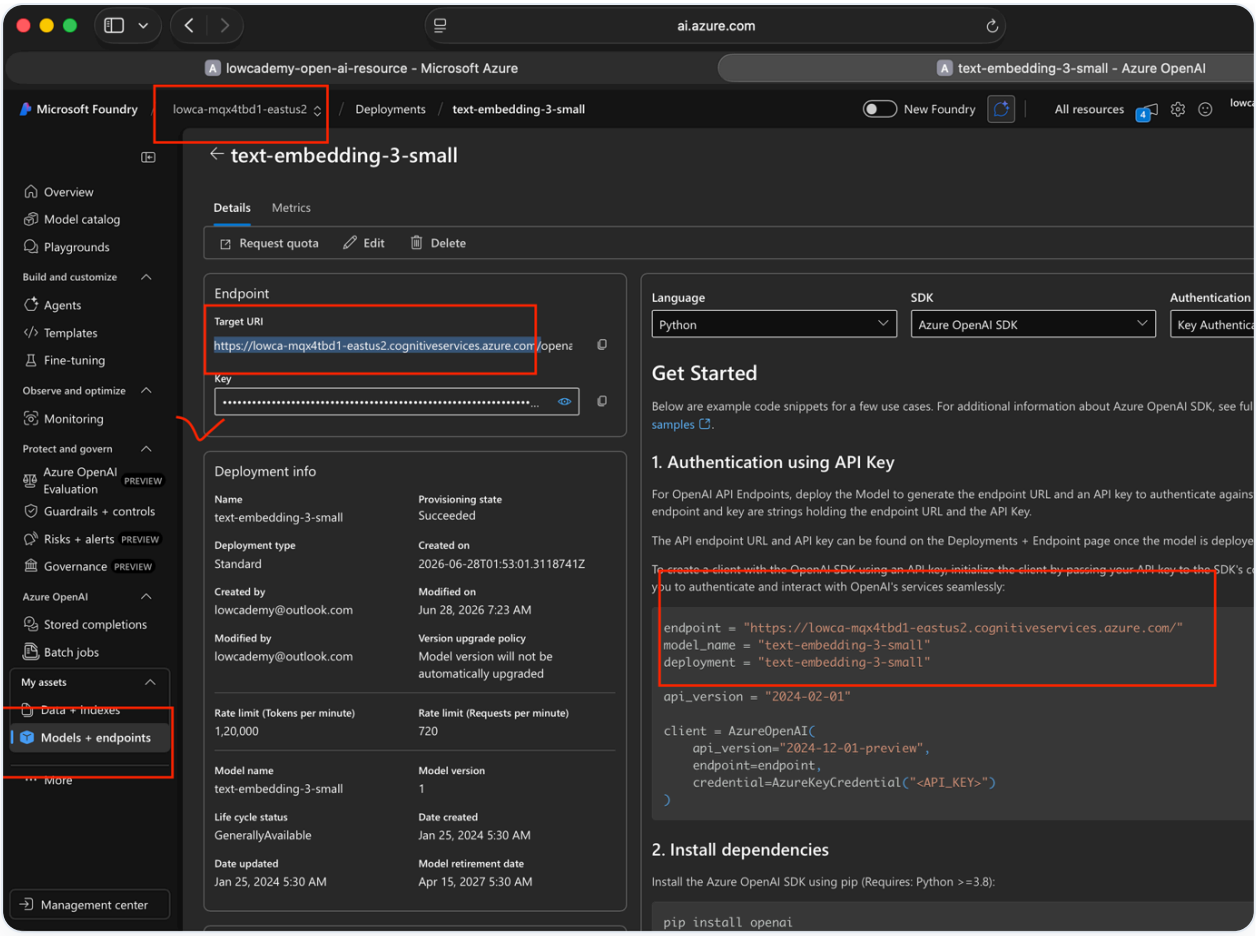
9 Get your endpoint and key

- Get your Azure OpenAI **endpoint** and **key**

azure-openai.env

```
Endpoint         https://lowca-mqx4tbd1-eastus2.cognitiveservices.azure.com/
Deployment name  text-embedding-3-small
Key              <your key>
```

You have deployed the embedding model.



Cross-check: you should have all six values handy

AZURE AI SEARCH ENDPOINT `https://<name>.search.windows.net`	AZURE AI SEARCH ADMIN KEY `<your key>`
AZURE AI SEARCH INDEX NAME `ai-search-index`	AZURE OPENAI ENDPOINT `https://<name>.openai.azure.com/`
AZURE OPENAI KEY `<your key>`	EMBEDDING DEPLOYMENT NAME `text-embedding-3-small`