
Explorar um índice (UI) do Azure AI Search

Vamos imaginar que você trabalhe para a Fourth Coffee, uma rede nacional de cafés. Você é solicitado a ajudar a criar uma solução de mineração de conhecimento que facilite a pesquisa de insights sobre as experiências do cliente. Você decide criar um índice do Azure AI Search usando dados extraídos de avaliações de clientes.

Neste laboratório, você irá:

- Criar recursos do Azure
- Extrair dados de uma fonte de dados
- Enriqueça os dados com habilidades de IA
- Usar o indexador do Azure no portal do Azure
- Consultar seu índice de pesquisa
- Revisar os resultados salvos em um Armazenamento de Conhecimento

Recursos do Azure necessários

A solução que você criará para o Fourth Coffee requer os seguintes recursos em sua assinatura do Azure:

- Um recurso do Azure AI Search, que gerenciará a indexação e a consulta.
- Um recurso de serviços de IA do Azure, que fornece serviços de IA para habilidades que sua solução de pesquisa pode usar para enriquecer os dados na fonte de dados com insights gerados por IA.
  - Nota Seus recursos do Azure AI Search e dos serviços do Azure AI devem estar no mesmo local!
- Uma conta de armazenamento com contêineres de blob, que armazenará documentos brutos e outras coleções de tabelas, objetos ou arquivos.

Criar um recurso *do Azure AI Search*

1. Entre no portal do Azure.
2. Clique no botão + Criar um recurso, pesquise Azure *AI Search* e crie um recurso Azure AI Search com as seguintes configurações:
    - Assinatura: *sua assinatura do Azure*.
    - Grupo de recursos: *selecione ou crie um grupo de recursos com um nome exclusivo*.
    - Nome do serviço: *um nome exclusivo*.
    - Local: *escolha qualquer região disponível. Se estiver no leste dos EUA, use "Leste dos EUA 2".*
    - Tipo de preço: Básico
3. Selecione Examinar + criar e, depois de ver a resposta Validação bem-sucedida, selecione Criar.
4. Após a conclusão da implantação, selecione Ir para o recurso. Na página de visão geral do Azure AI Search, você pode adicionar índices, importar dados e pesquisar índices criados.

Criar um recurso de serviços de IA do Azure

Você precisará provisionar um recurso de serviços de IA do Azure que esteja no mesmo local que o recurso de Pesquisa de IA do Azure. Sua solução de pesquisa usará esse recurso para enriquecer os dados no armazenamento de dados com insights gerados por IA.

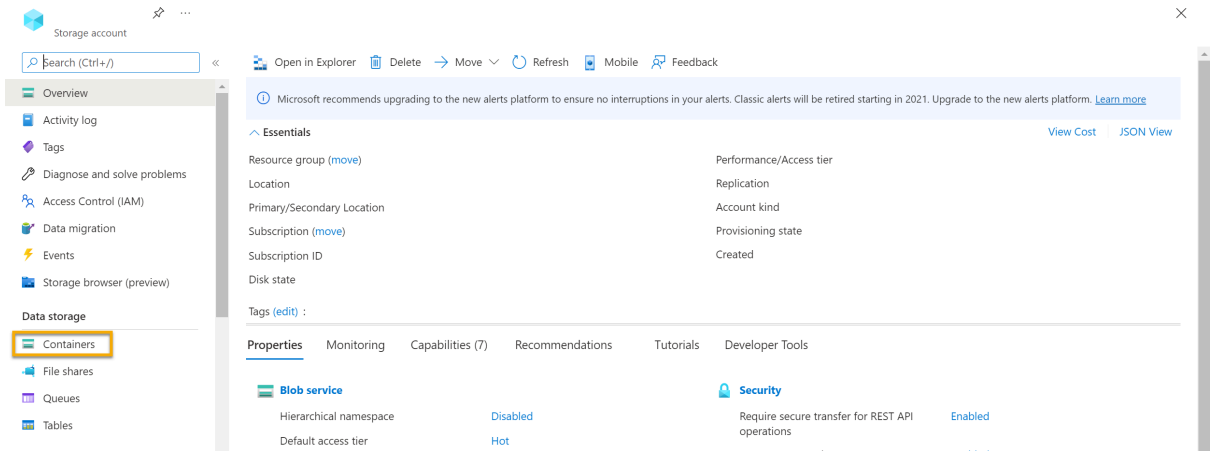
1. Retorne à home page do portal do Azure. Clique no botão +Criar um recurso e pesquise *os serviços de IA do Azure*. Selecione criar um plano de serviços de IA do Azure. Você será levado a uma página para criar um recurso de serviços de IA do Azure. Configure-o com as seguintes configurações:
    - Assinatura: *sua assinatura do Azure*.
    - Grupo de recursos: *o mesmo grupo de recursos que o recurso do Azure AI Search*.
    - Região: *o mesmo local que o recurso do Azure AI Search*.
    - Nome: *Um nome exclusivo*.
    - Tipo de preço: Standard S0
    - Ao marcar esta caixa, reconheço que li e entendi todos os termos abaixo: Selecionado
2. Selecione Examinar + criar. Depois de ver a resposta Validação aprovada, selecione Criar.
3. Aguarde a conclusão da implantação e exiba os detalhes da implantação.

Criar uma conta de armazenamento

1. Return to the home page of the Azure portal, and then select the + Create a resource button.
2. Search for *storage account*, and create a Storage account resource with the following settings:
    - Subscription: *Your Azure subscription*.
    - Resource group: *The same resource group as your Azure AI Search and Azure AI services resources*.
    - Storage account name: *A unique name*.
    - Location: *Choose any available location*.
    - Performance: Standard
    - Redundancy: Locally redundant storage (LRS)
3. Click Review and then click Create. Wait for deployment to complete, and then go to the deployed resource.
4. In the Azure Storage account you created, in the left-hand menu pane, select Configuration (under Settings).
5. Change the setting for *Allow Blob anonymous access* to Enabled and then select Save.

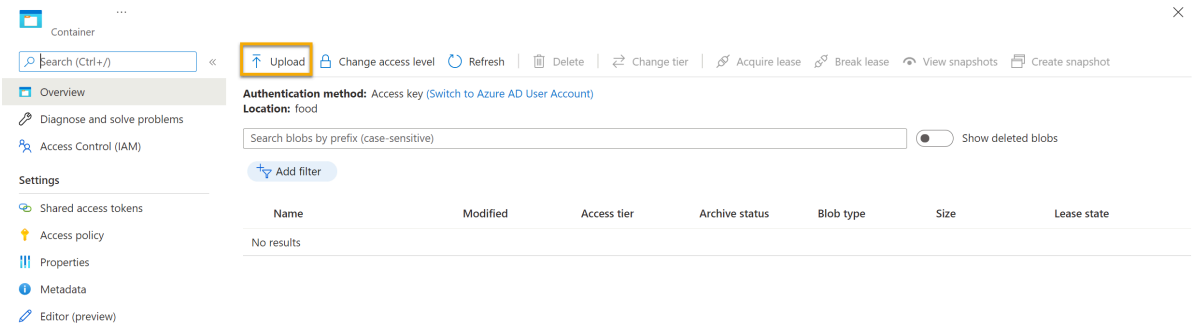
Upload Documents to Azure Storage

1. In the left-hand menu pane, select Containers.

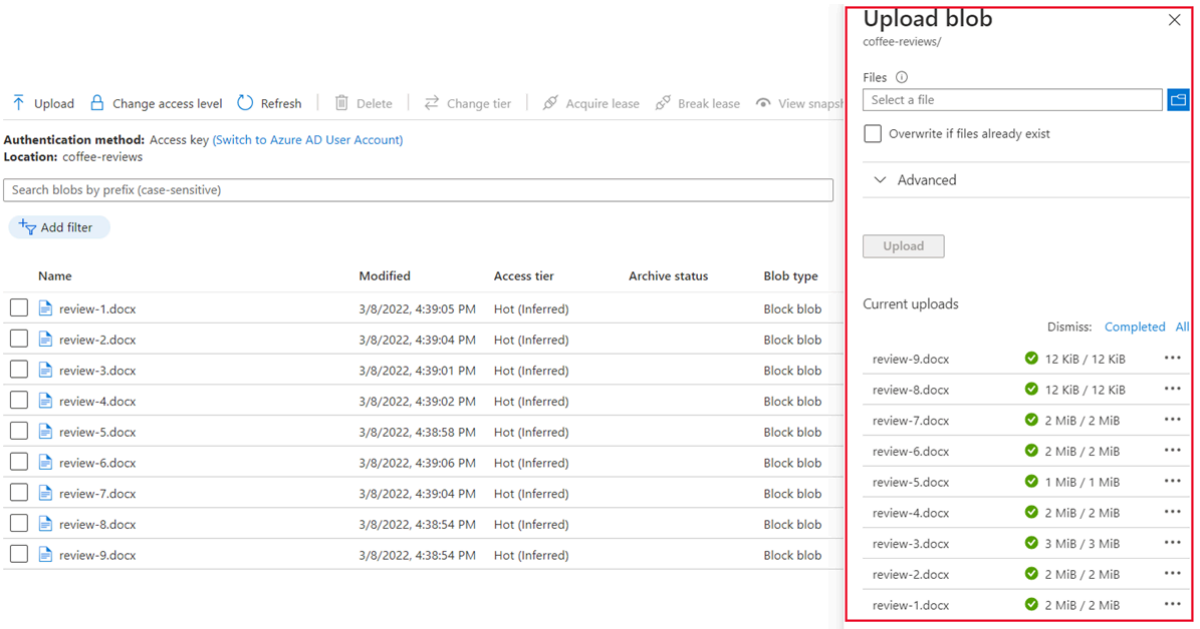


2. Select + Container. A pane on your right-hand side opens.
3. Enter the following settings, and click Create:
    - Name: coffee-reviews
    - Public access level: Container (anonymous read access for containers and blobs)
    - Advanced: *no changes*.
4. In a new browser tab, download the zipped coffee reviews from , and extract the files to the *reviews* folder.`https://aka.ms/mslearn-coffee-reviews`

5. In the Azure portal, select your *coffee-reviews* container. In the container, select Upload.



6. In the Upload blob pane, select Select a file.
7. In the Explorer window, select all the files in the *reviews* folder, select Open, and then select Upload.

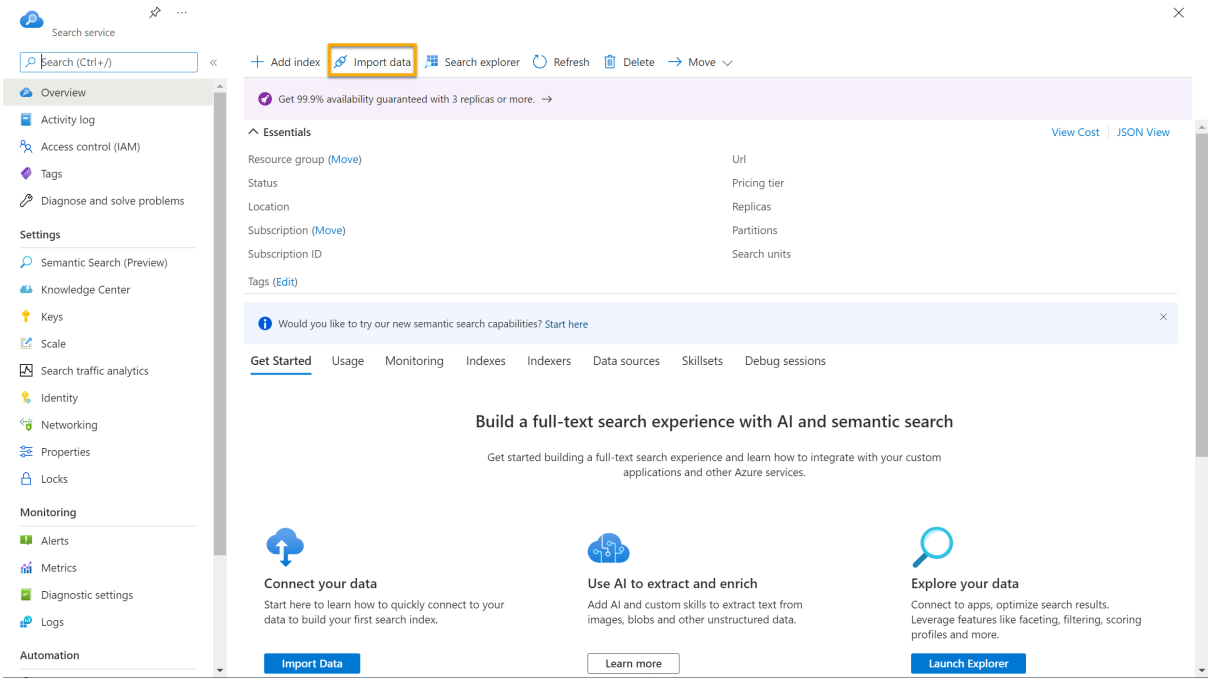


8. After the upload is complete, you can close the Upload blob pane. Your documents are now in your *coffee-reviews* storage container.

Index the documents

After you have the documents in storage, you can use Azure AI Search to extract insights from the documents. The Azure portal provides an *Import data wizard*. With this wizard, you can automatically create an index and indexer for supported data sources. You'll use the wizard to create an index, and import your search documents from storage into the Azure AI Search index.

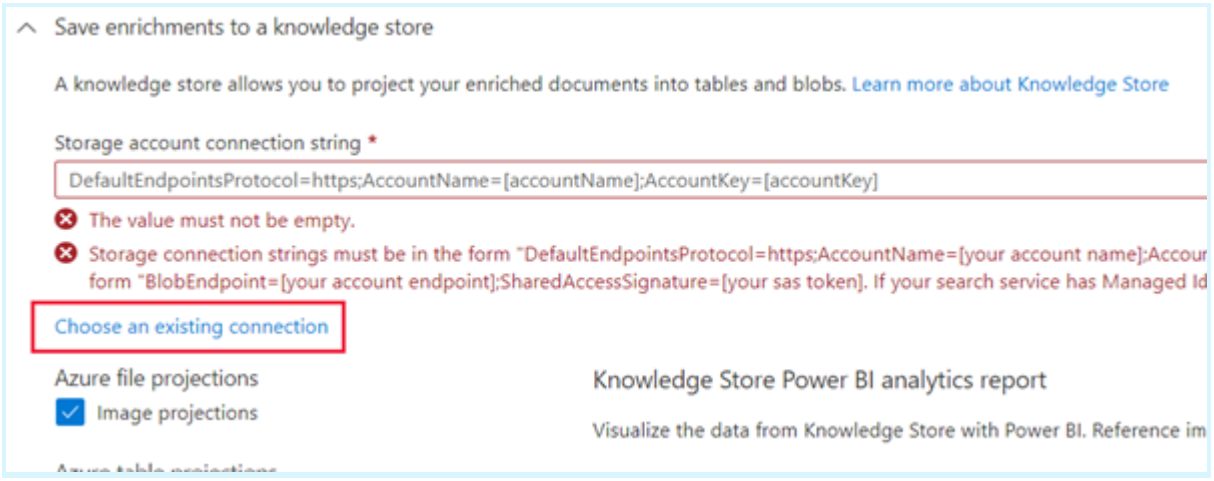
1. In the Azure portal, browse to your Azure AI Search resource. On the Overview page, select Import data.



2. On the Connect to your data page, in the Data Source list, select Azure Blob Storage. Complete the data store details with the following values:
    - Data Source: Azure Blob Storage
    - Data source name: coffee-customer-data
    - Data to extract: Content and metadata
    - Parsing mode: Default
    - Connection string: *Select Choose an existing connection. Select your storage account, select the coffee-reviews container, and then click Select.
    - Managed identity authentication: None
    - Container name: *this setting is auto-populated after you choose an existing connection*.
    - Blob folder: *Leave this blank*.
    - Description: Reviews for Fourth Coffee shops.
3. Select Next: Add cognitive skills (Optional).
4. In the Attach AI Services section, select your Azure AI services resource.
5. In the Add enrichments section:
    - Change the Skillset name to coffee-skillset.
    - Select the checkbox Enable OCR and merge all text into merged_content field.
        - Note It's important to select Enable OCR to see all of the enriched field options.
    - Ensure that the Source data field is set to merged_content.
    - Change the Enrichment granularity level to Pages (5000 character chunks).

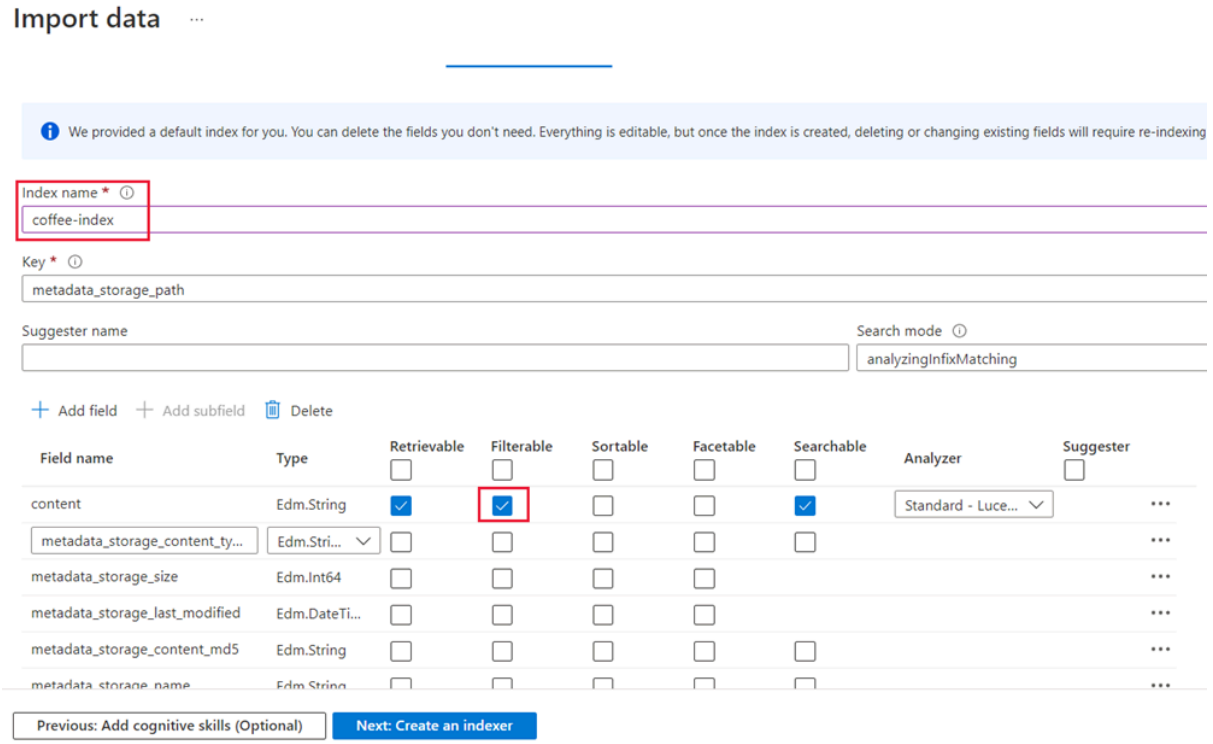
- Don’t select *Enable incremental enrichment*
- Select the following enriched fields:

Cognitive Skill	Parameter	Field name
Extract location names		locations
Extract key phrases		keyphrases
Detect sentiment		sentiment
Generate tags from images		imageTags
Generate captions from images		imageCaption

6. Under Save enrichments to a knowledge store, select:
   - Image projections
   - Documents
   - Pages
   - Key phrases
   - Entities
   - Image details
   - Image references
7. Note A warning asking for a Storage Account Connection String appears.
8. 

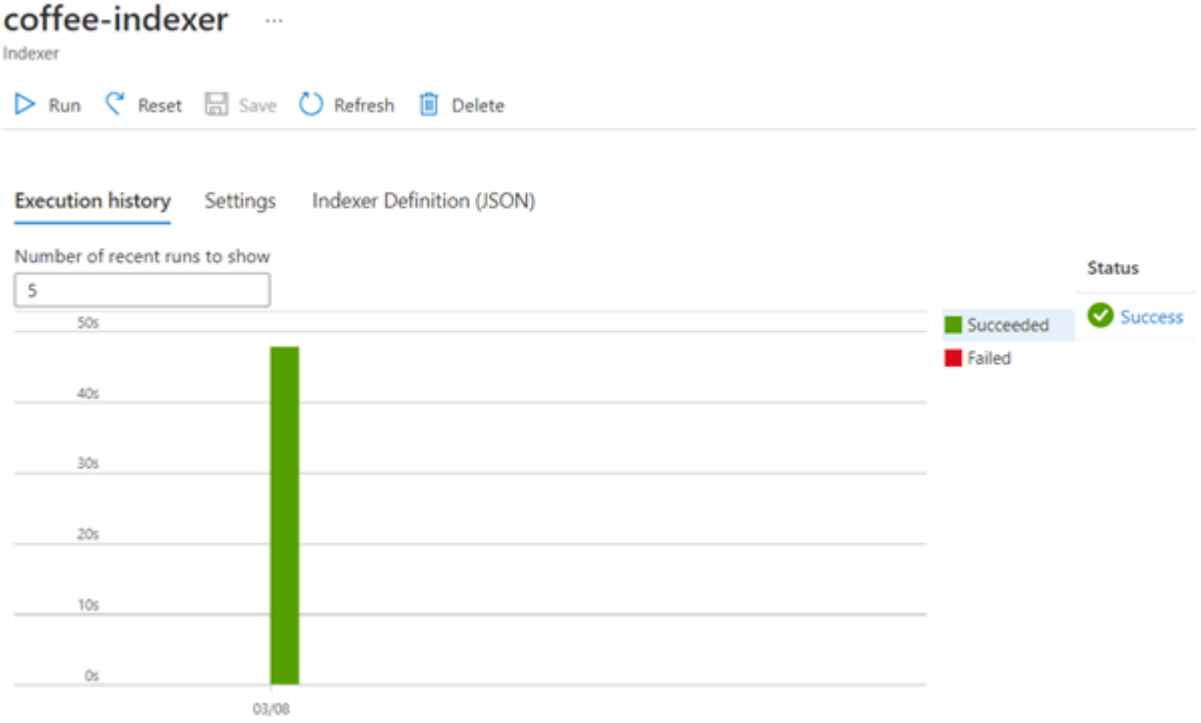
9. Select Choose an existing connection. Choose the storage account you created earlier.
   - Click on + Container to create a new container called knowledge-store with the privacy level set to Private, and select Create.
   - Select the knowledge-store container, and then click Select at the bottom of the screen.

10. Select Azure blob projections: Document. A setting for *Container name* with the *knowledge-store* container auto-populated displays. Don't change the container name.
11. Select Next: Customize target index. Change the Index name to coffee-index.
12. Ensure that the Key is set to metadata_storage_path. Leave Suggester name blank and Search mode autopopulated.
13. Review the index fields' default settings. Select filterable for all the fields that are already selected by default. The field names that need to be marked *filterable* include: content, locations, keyphrases, sentiment, merged_content, text, layoutText, imageTags, imageCaption.



14. Select Next: Create an indexer.
15. Change the Indexer name to coffee-indexer.
16. Leave the Schedule set to Once.
17. Expand the Advanced options. Ensure that the Base-64 Encode Keys option is selected, as encoding keys can make the index more efficient.
18. Select Submit to create the data source, skillset, index, and indexer. The indexer is run automatically and runs the indexing pipeline, which:
    - Extracts the document metadata fields and content from the data source.
    - Runs the skillset of cognitive skills to generate more enriched fields.
    - Maps the extracted fields to the index.
19. Return to your Azure AI Search resource page. On the left pane, under Search Management, select Indexers. Select the newly created coffee-indexer. Wait a minute, and select ↻ Refresh until the Status indicates success.

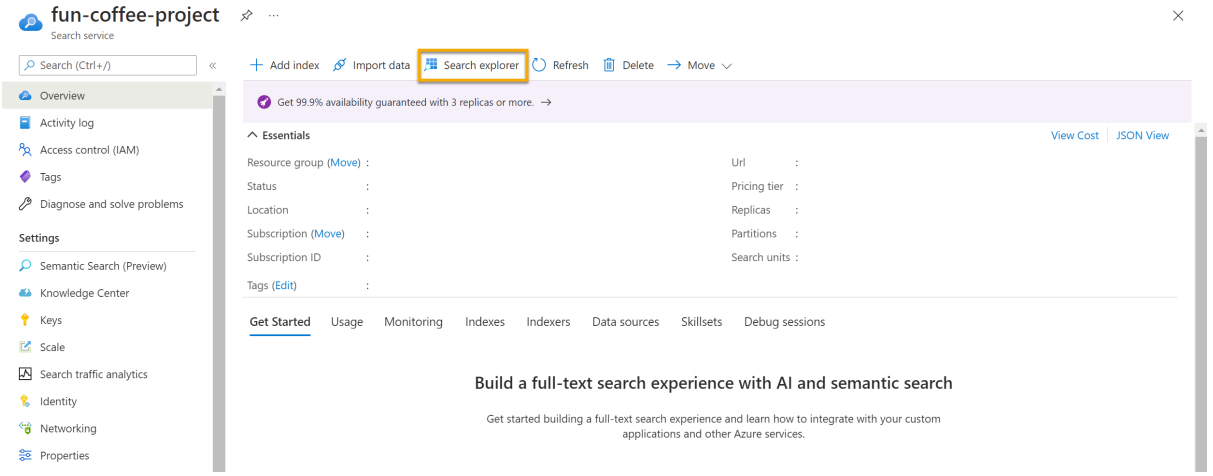
20. Select the indexer name to see more details.



Query the index

Use the Search explorer to write and test queries. Search explorer is a tool built into the Azure portal that gives you an easy way to validate the quality of your search index. You can use Search explorer to write queries and review results in JSON.

1. In your Search service's *Overview* page, select Search explorer at the top of the screen.



2. Notice how the index selected is the *coffee-index* you created. Below the index selected, change the *view* to JSON view.

In the JSON query editor field, copy and paste:

codeCopy

```
{
    "search": "*",
    "count": true
}
```

1. Select Search. The search query returns all the documents in the search index, including a count of all the documents in the @odata.count field. The search index should return a JSON document containing your search results.
2. Now let's filter by location. In the JSON query editor field, copy and paste:
3. codeCopy

```
{
 "search": "locations:'Chicago'",
 "count": true
}
```

4.
5. Select Search. The query searches all the documents in the index and filters for reviews with a Chicago location. You should see in the field.`3@odata.count`
6. Now let's filter by sentiment. In the JSON query editor field, copy and paste:
7. codeCopy

```
{
 "search": "sentiment:'negative'",
 "count": true
}
```

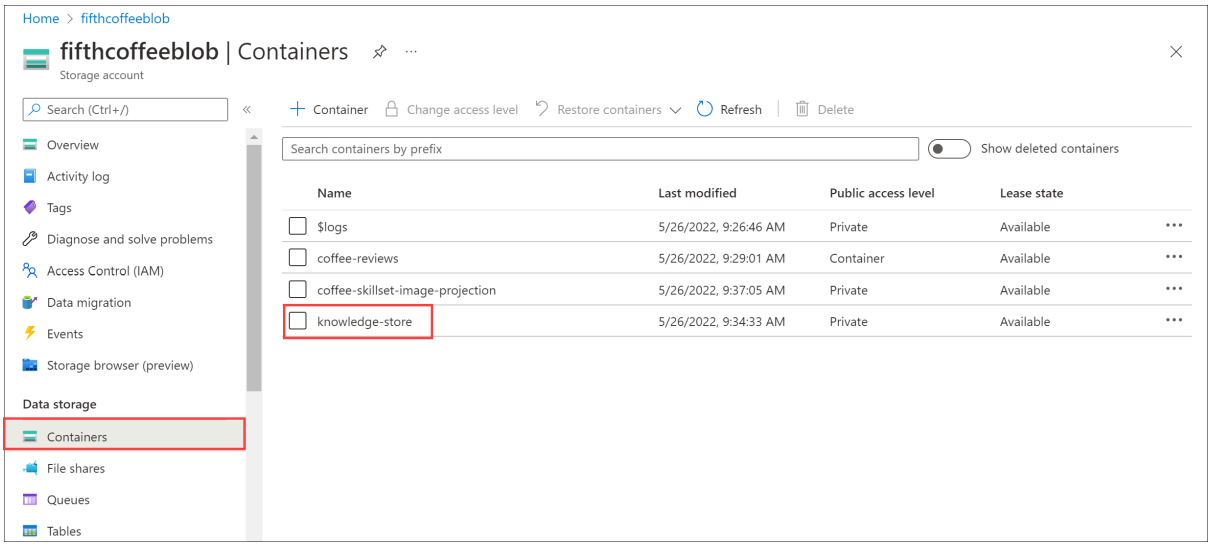
8.
9. Select Search. The query searches all the documents in the index and filters for reviews with a negative sentiment. You should see in the field.`1@odata.count`

10. Note See how the results are sorted by . This is the score assigned by the search engine to show how closely the results match the given query.`@search.score`
11. One of the problems we might want to solve for is why there might be certain reviews. Let's take a look at the key phrases associated with the negative review. What do you think might be the cause of the review?

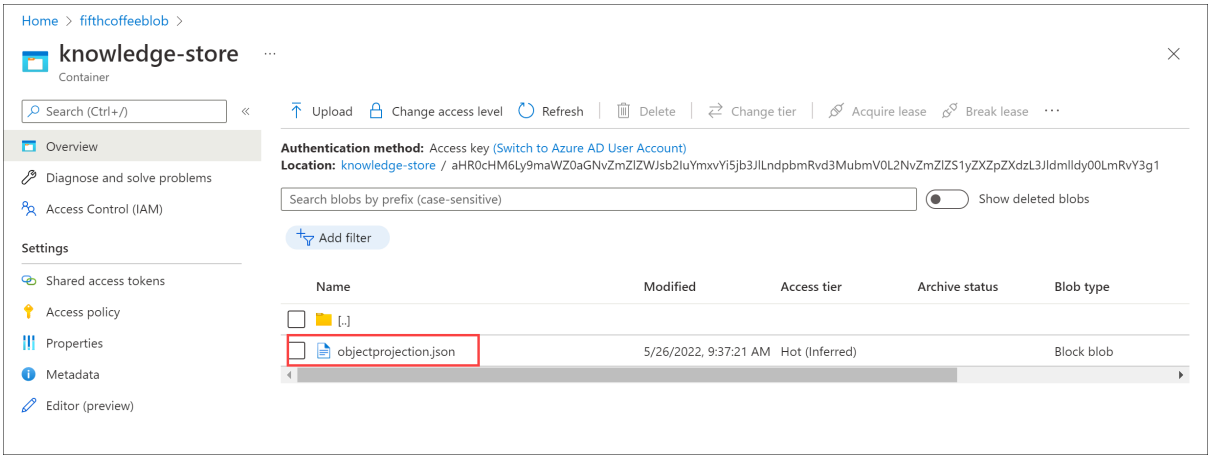
Review the knowledge store

Let's see the power of the knowledge store in action. When you ran the *Import data wizard*, you also created a knowledge store. Inside the knowledge store, you'll find the enriched data extracted by AI skills persists in the form of projections and tables.

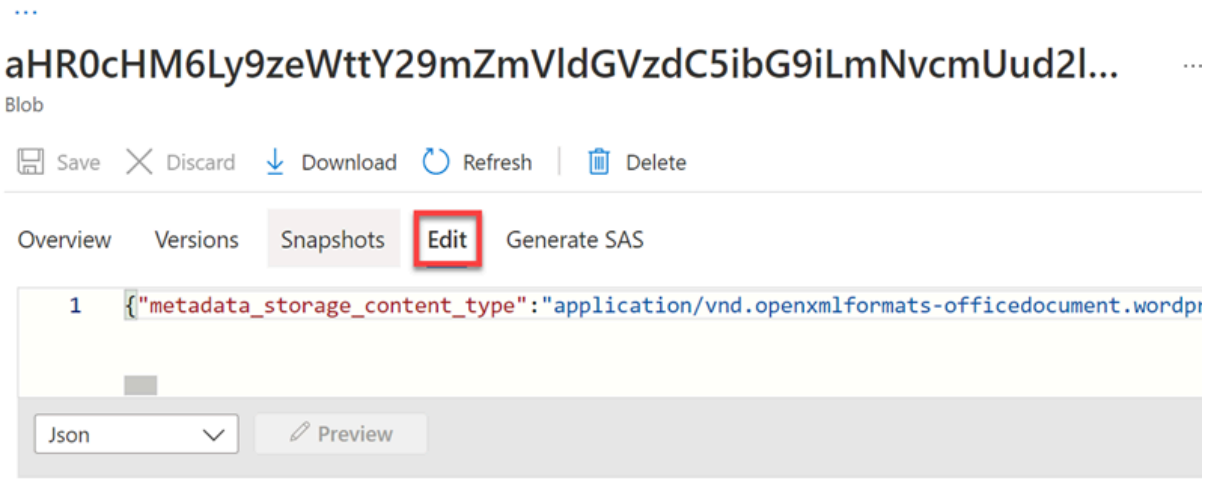
1. In the Azure portal, navigate back to your Azure storage account.
2. In the left-hand menu pane, select Containers. Select the knowledge-store container.



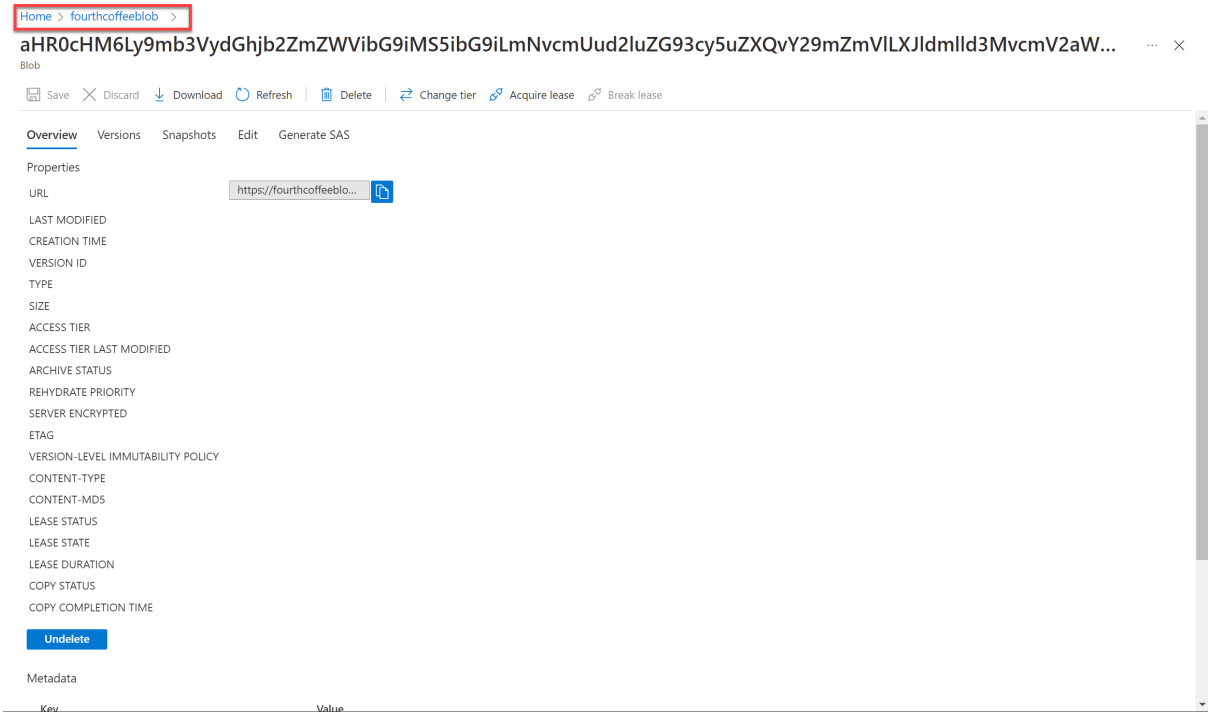
3. You will see a list of folders. There is one folder for all of the metadata for each review document. Select any of the folders. Within the folder, click the objectprojection.json file.



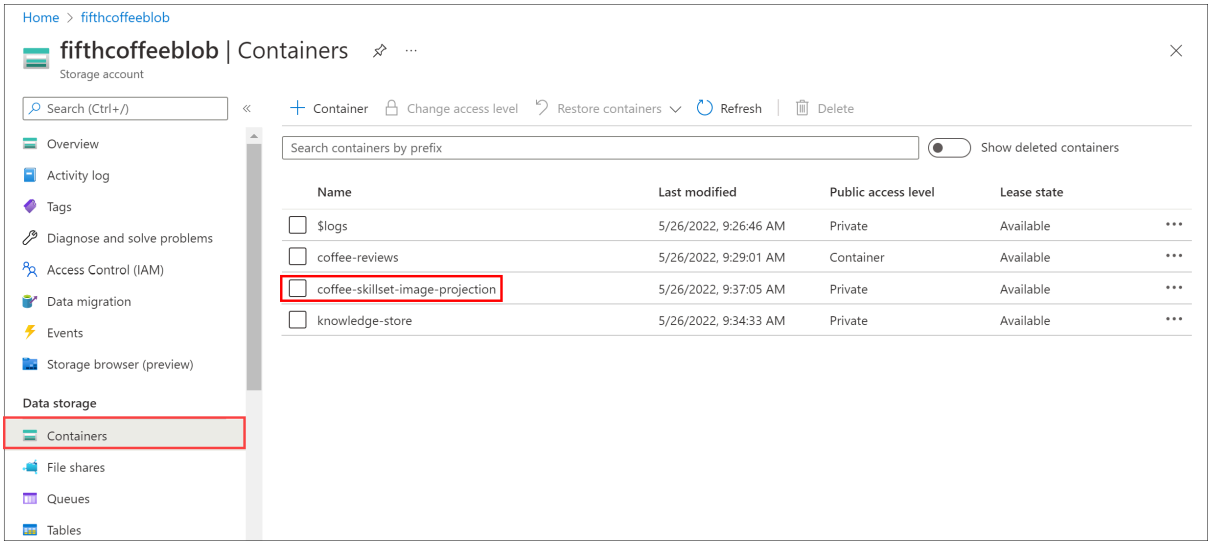
4. Select Edit to see the JSON produced for one of the documents from your Azure data store.



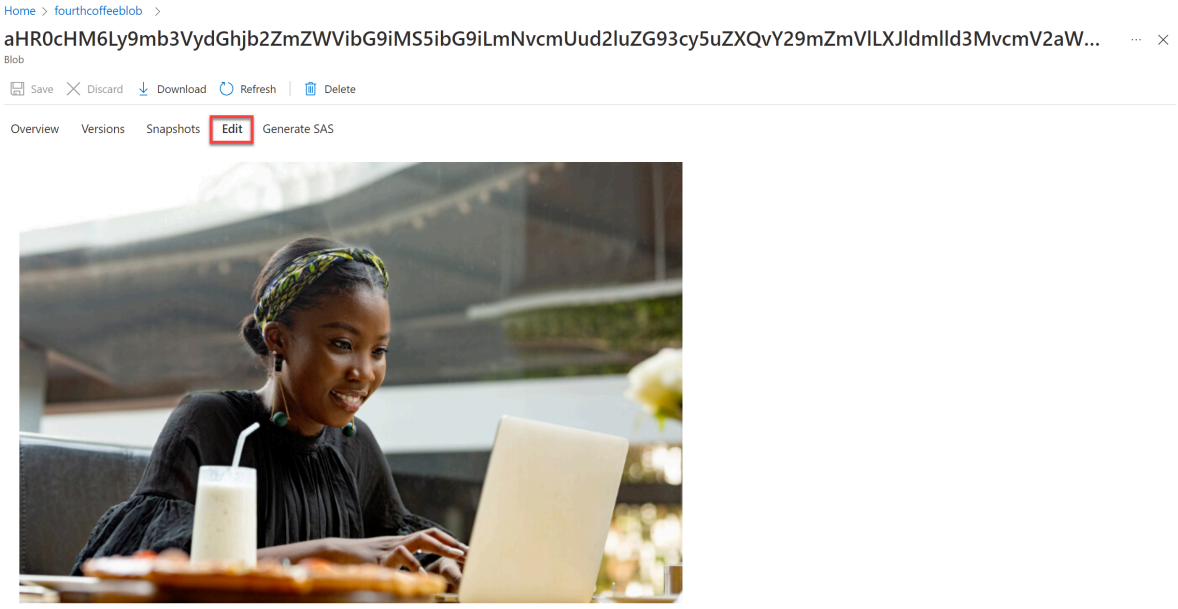
5. Select the storage blob breadcrumb at the top left of the screen to return to the Storage account *Containers*.



6. In the *Containers*, select the container *coffee-skillset-image-projection*. Select any of the items.



7. Select any of the *.jpg* files. Select Edit to see the image stored from the document. Notice how all the images from the documents are stored in this manner.



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8. Selecione a trilha de navegação do blob de armazenamento na parte superior esquerda da tela para retornar aos *Contêineres* da conta de armazenamento.
9. Selecione Navegador de armazenamento no painel esquerdo e selecione Tabelas. Há uma tabela para cada entidade no índice. Selecione a tabela *coffeeSkillsetKeyPhrases*.
   Veja as frases-chave que o repositório de conhecimento conseguiu capturar do conteúdo nas avaliações. Muitos dos campos são chaves, portanto, você pode vincular as tabelas como um banco de dados relacional. O último

campo mostra as frases-chave que foram extraídas pelo conjunto de habilidades.

Saiba Mais

Essa pesquisa simples indexa apenas alguns dos recursos do serviço Azure AI Search. Para saber mais sobre o que você pode fazer com esse serviço, consulte a página do serviço Azure AI Search.