

# AgentBricks Workshop

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## Introduction

This document serves as a comprehensive **User Guide** for the **AgentBricks Workshop**. It is designed to walk participants through the entire setup process for the workshop environment, primarily leveraging a Databricks workspace provided through the Databricks Academy via **Vocareum**.

The guide covers essential prerequisites, including:

- Access to a Databricks workspace and setting up Git integration.
- Instructions for cloning and forking the main GitHub repository.
- Detailed steps for launching your workspace in Vocareum and creating the necessary repository.

Following the setup, the guide provides an outline for two main hands-on labs:

- Lab 1: Basic Knowledge Assistant
- Lab 2: Building Multi Agent Systems with Agent Bricks (including Knowledge Assistant)

## Prerequisites

During the workshop, participants will have access to a Databricks workspace spin up through the Databricks Academy. The following prerequisites would only be needed if you would like to follow this guide in your own environment.

## Access to Databricks workspace

Please refer to below if you don't have a Databricks Workspace or [here](#) for Lighthouse access later in the year.

- [Get started: Account and workspace setup | Databricks on AWS](#)
- [Get started: Account Get started with Databricks and workspace setup - Azure Databricks | Microsoft Learn](#)
- [Get started: Account and workspace setup | Databricks on Google Cloud](#)

## Setting up Git Integration in your workspace

Here is how you set up a Github integration by clicking your profile at the top right corner in your Databricks Workspace , and then go to **Settings** -> **Linked accounts** -> **Git provider** -> Personal access token, input your Token and then click Save as below.

For more detail and on how to create a Github token, please refer to [Configure Git credentials & connect a remote repo to Databricks](#)

**Settings**

Workspace admin

Appearance

Identity and access

Security

Compute

Development

Notifications

Advanced

User

Profile

Preferences

Developer

**Linked accounts**

Notifications

## Linked accounts

Connect your Databricks account to other services

### Git integration

#### With co-versioned repo

Databricks Git folders and Repos allow you to clone a remote Git repo, which you can specify when you add a Git folder. [Learn more](#)

#### With individual notebooks

Although we recommended using co-versioned repo for Git integration, Databricks supports individual notebook version control integration with [GitHub](#), [Bitbucket Cloud](#), or [Azure DevOps Services](#) (using AAD authentication only).

#### Set your Git provider and credentials

You can also set your Git provider credentials via API. [Learn more](#)

**Git provider**

GitHub

Link Git account  
Simple setup in a few clicks to link your GitHub account. [Learn more](#)

Personal access token  
Use an existing personal access token to authenticate Git requests.

**Git provider username or email**

dbsys21

**Token**  
To generate a GitHub personal access token, follow the [GitHub documentation](#). The token must have the "repo" and "workflow" (if your repository has GitHub Action workflows) scopes.

.....

**Save** **Cancel**

## Clone & Fork Github repo (optional)

In your github repository, please fork the [main repo](#), so that you could work with the forked repo when required. Here is how you could fork the repo in Github.

miguelpera-db / agentbricks-workshop

Type  to search

Code Issues Pull requests Actions Projects Security Insights

### Create a new fork

A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.

Required fields are marked with an asterisk (\*).

**Owner \*** MiguelPeralvo / **Repository name \*** agentbricks-workshop  agentbricks-workshop is available.

By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.

**Description** agentbricks-workshop 20 / 350 characters

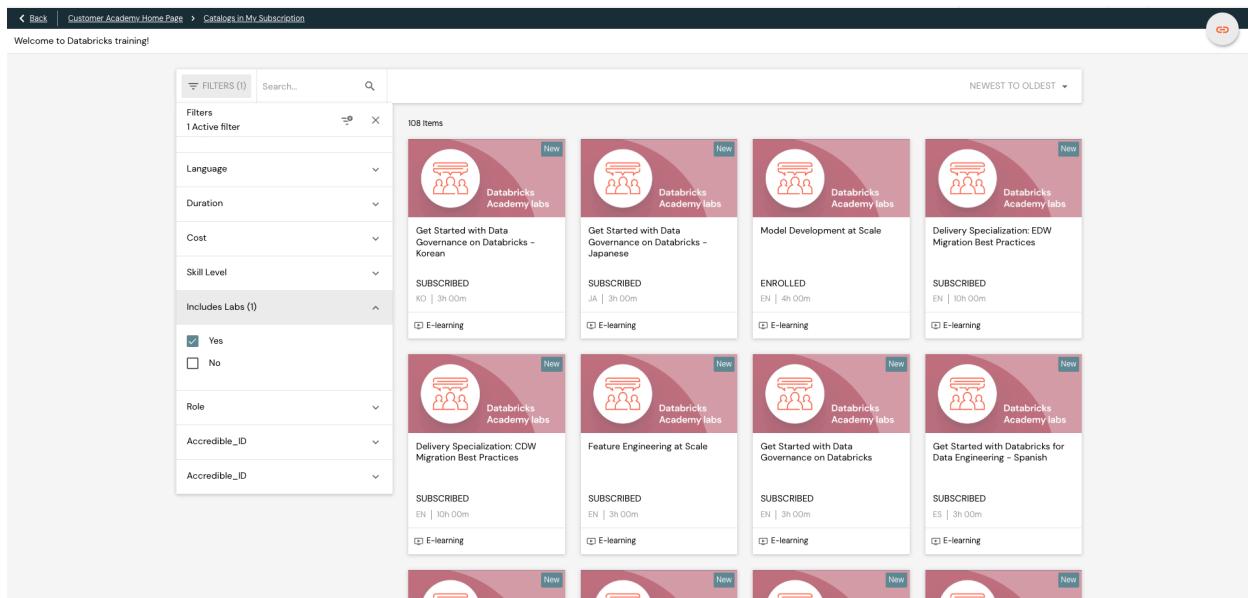
Copy the main branch only Contribute back to miguelpera-db/agentbricks-workshop by adding your own branch. [Learn more](#).

(1) You are creating a fork in your personal account.

**Create fork**

# Launch your workspace in Vocareum

Browse the “Catalogs in my subscription” and set the “Includes Labs” filter to Yes:



The screenshot shows the Databricks Customer Academy Home Page. In the top navigation bar, there are links for 'Back', 'Customer Academy Home Page', and 'Catalogs in My Subscription'. Below the navigation, a message says 'Welcome to Databricks training!'. On the left, there is a 'FILTERS (1)' sidebar with the following filters applied:

- Filters: 1 Active filter
- Language
- Duration
- Cost
- Skill Level
- Includes Labs (1)
  - Yes
  - No
- Role
- Accredible\_ID
- Accredible\_ID

The main area displays 108 items under the heading '108 Items'. Each item card includes a thumbnail, the title, and a status indicator. The titles include:

- Get Started with Data Governance on Databricks - Korean
- Get Started with Data Governance on Databricks - Japanese
- Model Development at Scale
- Delivery Specialization: EDW Migration Best Practices
- Delivery Specialization: CDW Migration Best Practices
- Feature Engineering at Scale
- Get Started with Data Governance on Databricks
- Get Started with Databricks for Data Engineering - Spanish

Each card also shows a 'New' badge and a small circular icon with three people.

Or alternatively follow this link for 4-hours lab:

[https://customer-academy.databricks.com/learn/courses/4834/model-development-at-s  
cale/lessons/49048/sp-lab-environment-model-development-at-scale](https://customer-academy.databricks.com/learn/courses/4834/model-development-at-scale/lessons/49048/sp-lab-environment-model-development-at-scale)

Then go to task “SP Lab: {dependent on your lab}” - you will get a new tab with your Vocareum workspace after a few minutes.

 databricks

Harmony Search or ask a question

< Back Customer Academy Home Page > My Courses and Learning Plans > Model Development at Scale

Welcome to Databricks training!

Model Development at Scale

E-learning • English • 2 of 24 lessons completed

Syllabus 3 Sections • 24 Lessons • 4hr

- Course Introduction Slides Course introduction
- Before we get started Slides Before we get started
- Completed Accessing Vocareum Labs in Your Training Slides This content walks you through the process on how to launch your Vocareum lab environment from Databricks Academy and how to enable pop-ups from Databricks Academy.
- Completed SP Lab Environment: Model Development at Scale LTI

SP Lab Environment: Model Development at Scale



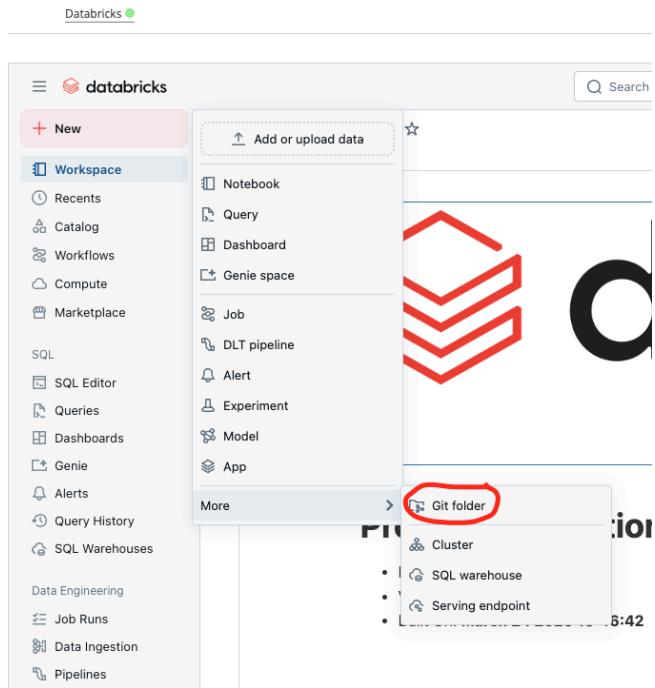
You have completed this lesson!

Next lesson Retake the lesson

The workspace will last for a few hours, but if you need it you can relaunch the workspace by clicking on "Retake the lesson".

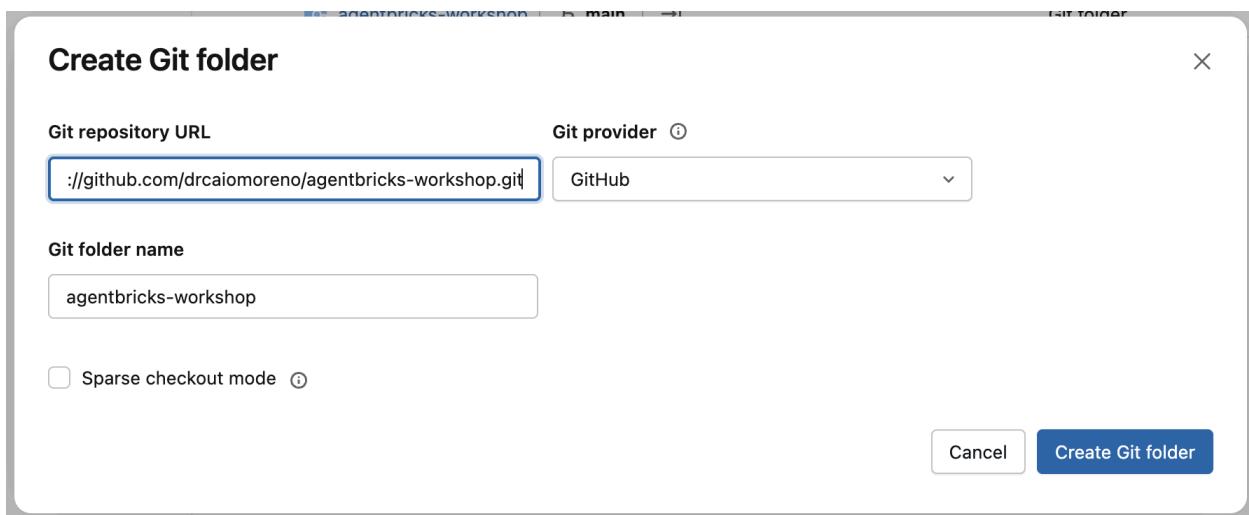
# Create the Repo in your workspace

In your workspace, navigate to **+ New -> Git Folder** as below.



The screenshot shows the Databricks workspace interface. On the left is a sidebar with various options like Workspace, Recents, Catalog, Workflows, Compute, Marketplace, SQL, SQL Editor, Queries, Dashboards, Genie, Alerts, Query History, SQL Warehouses, Data Engineering, Job Runs, Data Ingestion, and Pipelines. A pink 'New' button is at the top. The main area has a search bar and a 'Add or upload data' button. A large red hexagon icon is on the left, and a black circle icon is on the right. A 'More' menu is open, and the 'Git folder' option is highlighted with a red oval. Other items in the 'More' menu include Cluster, SQL warehouse, and Serving endpoint.

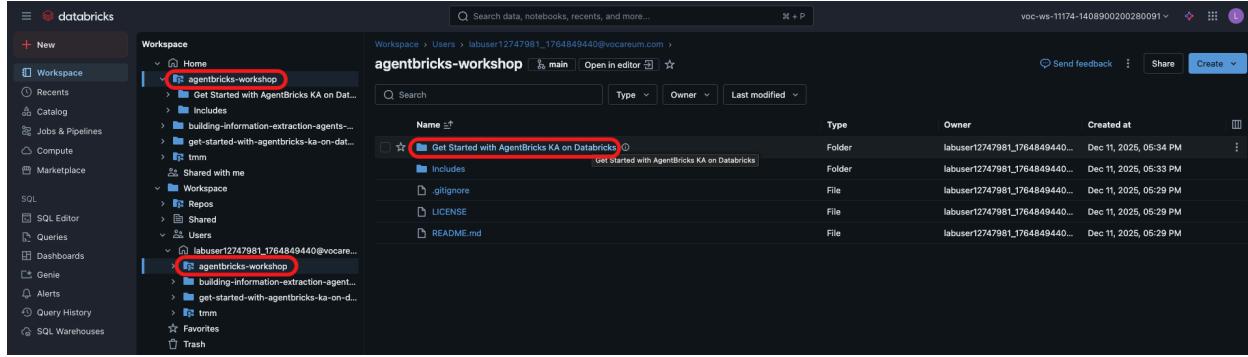
Once you click Git Folder, you will be directed to the screen below, simply input the **Git repository URL**: <https://github.com/drcaiomoreno/agentbricks-workshop>, and click **Create Git Folder**.



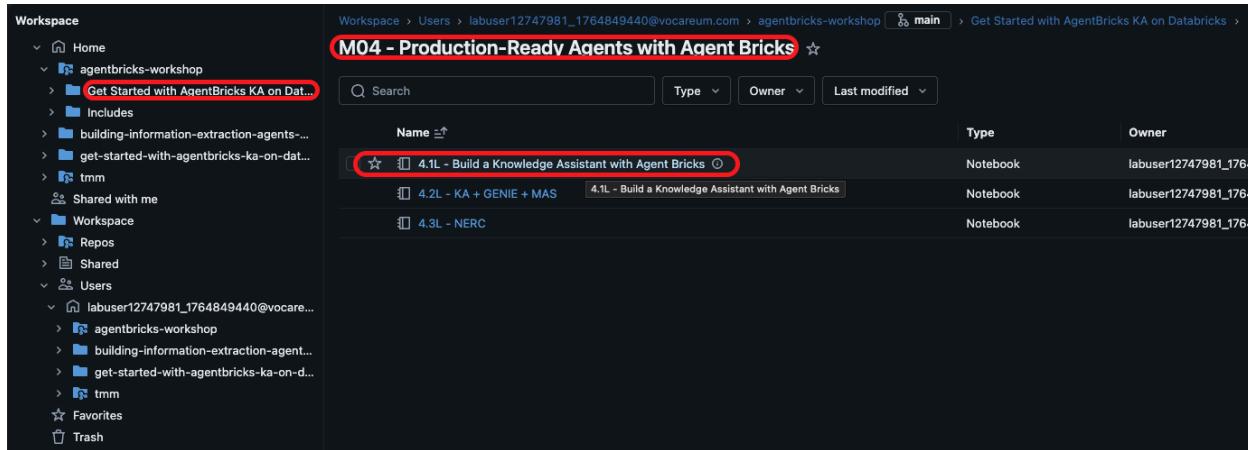
The dialog box is titled 'Create Git folder'. It has fields for 'Git repository URL' containing '://github.com/drcaiomoreno/agentbricks-workshop.git' and 'Git provider' set to 'GitHub'. Below these are fields for 'Git folder name' (containing 'agentbricks-workshop') and 'Sparse checkout mode' (unchecked). At the bottom are 'Cancel' and 'Create Git folder' buttons.

## Start Lab 1 - Basic Knowledge Assistant

Once the repo is created, navigate to the repo **agentbricks-workshop** (both under your home or User in the Users section), directory "**Get Started with AgentBricks KA on Databricks**".



Now go to the subdirectory "M04 - Production-Ready Agents with Agent Bricks", and click on the notebook **4.1L - Build a Knowledge Assistant with Agent Bricks**.



You will be navigated to the the notebook contents below:



## Lab Setup

In the notebook, run setup by executing the following two commands in your notebook cells.

```
%run "../../Includes/Workspace-Setup"
```

```
%run "../../Includes/Classroom-Setup-4.1L"
```

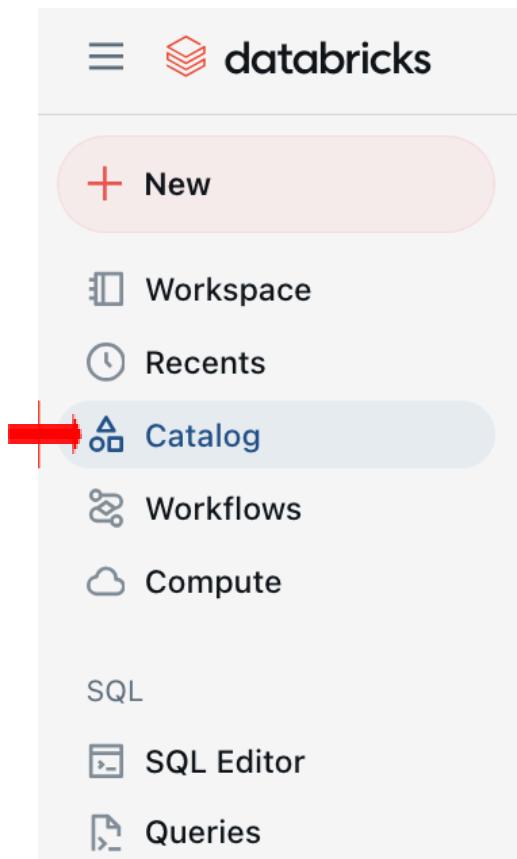
## Explore the data

The [Catalog Explorer](#) (Catalog) provides a space to explore and manage data, schemas (databases), tables, permissions, and models.

The data explorer is the main UI for the [Unity Catalog object model](#). Here, you can view schema details, preview sample data, see table details and properties, and explore lineage.

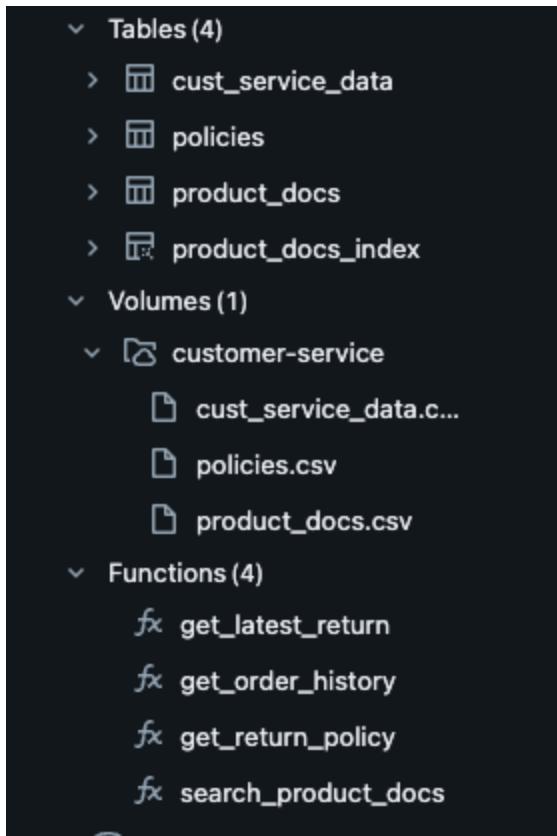
Admins can change owners and grant and revoke permissions.

## STEP 1: Navigate to the Catalog Explorer



## STEP 2: Explore the data assets

In the Catalog page, you will be able to see the catalogs you have access to. In your vocareum environment, you can only write into schema **labuser{nnn}-{nnn} under catalog dbacademy**. Once the setup script is complete, you should see, at a minimum, the following data assets under your schema:



In the sections A3 and A4 you get more information about the different data assets.

### Follow the instructions in the notebook

Start with section A:

## A. Create the Knowledge Assistant

Please follow along, but this part of the lab will be performed by you so you can query the Agent Brick deployed within this Workspace.

1. In the left nav, go to **AI / ML** → **Agents** → **Agent Bricks** → **Knowledge Assistant**. (Or search "Knowledge Assistant" in the workspace search.)
2. On **Configure**, fill in:
  - **Name:** my-product-agent
  - **Description:** An agent used to answer questions regarding customer product information.
3. **Add knowledge source** (the core of your RAG):
  - **Type:** Vector Search Index
  - **Source:** product\_docs\_index
  - **Doc URI Column:** product\_id
  - **Text Column:** indexed\_doc
  - **Describe the content:** Product documentation
4. (Optional) **Instructions:** Style/guardrails for answers (tone, citation behavior, etc.).
5. Legacy (skipped)

### A1. WAITING FOR THE KNOWLEDGE ASSISTANT

6. The right-side panel will show build-sync progress and, once ready, links to the **deployed endpoint**, **experiment**, and **synced sources**. (Initial build-sync can take a while.)

| Please allow for 5-10 minutes for the agent to be deployed.

## A2. Using the Knowledge Assistant

7. Navigate to the Playground using the left menu.
8. Using the model name dropdown menu at the top, select your model. You can search for `my-product-agent`.
9. Start querying! Here are some sample questions you can ask
  - "Can you tell me about the BlendMaster Elite 4000?"

Note the citations presented as a part of the output. This brings in the power of Agent Bricks; your agent is connected to your data and completely governed by Unity Catalog. It's in this way that your agent lives alongside your data.

## A3. Explore the Dataset and Test your Brick

You can reference different product names by running the cell below.

```
▶ 10  
%sql  
select product_name from product_docs where product_name is not null
```

Continue with the B, C and D sections if you have enough time.

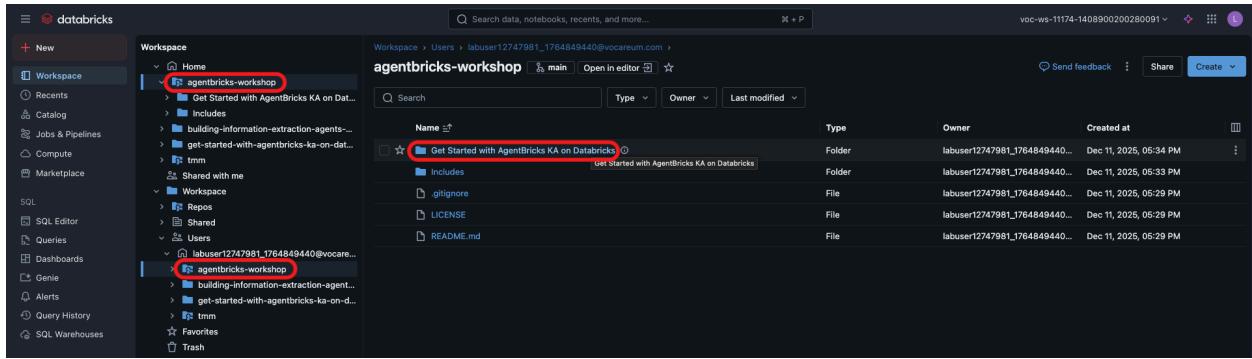
And finally remember to clean up:

## Clean Up

If you *did* create an agent using the instructions above, please navigate to your agent using the **Agents** menu on the left side of the workspace, select the three vertical dots, and select **delete**. This helps preserve resources for other users in this lab environment.

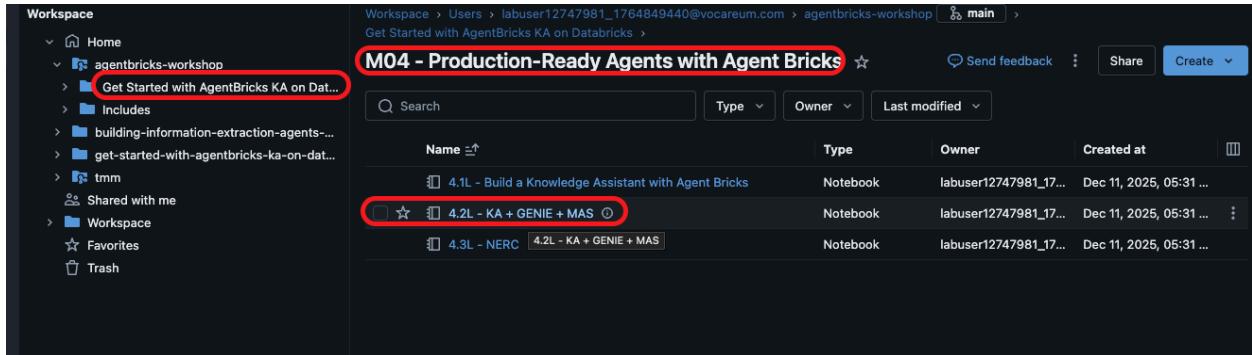
## Start Lab 2: Building Multi Agent Systems with Agent Bricks (including Knowledge Assistant)

Navigate again to the repo **agentbricks-workshop** (both under your home or User in the Users section), directory "**Get Started with AgentBricks KA on Databricks**".



The screenshot shows the Databricks workspace interface. On the left sidebar, under the 'Workspace' section, there is a folder named 'agentbricks-workshop'. This folder is highlighted with a red box. Inside this folder, there are several sub-folders and files, also highlighted with a red box. The main content area shows a detailed view of the 'Get Started with AgentBricks KA on Databricks' folder, which contains sub-folders like 'Includes', files like 'LICENSE' and 'README.md', and other sub-folders like 'gitignore' and 'tmm'. The top navigation bar includes search, type, owner, and last modified filters, and a 'Send feedback' button.

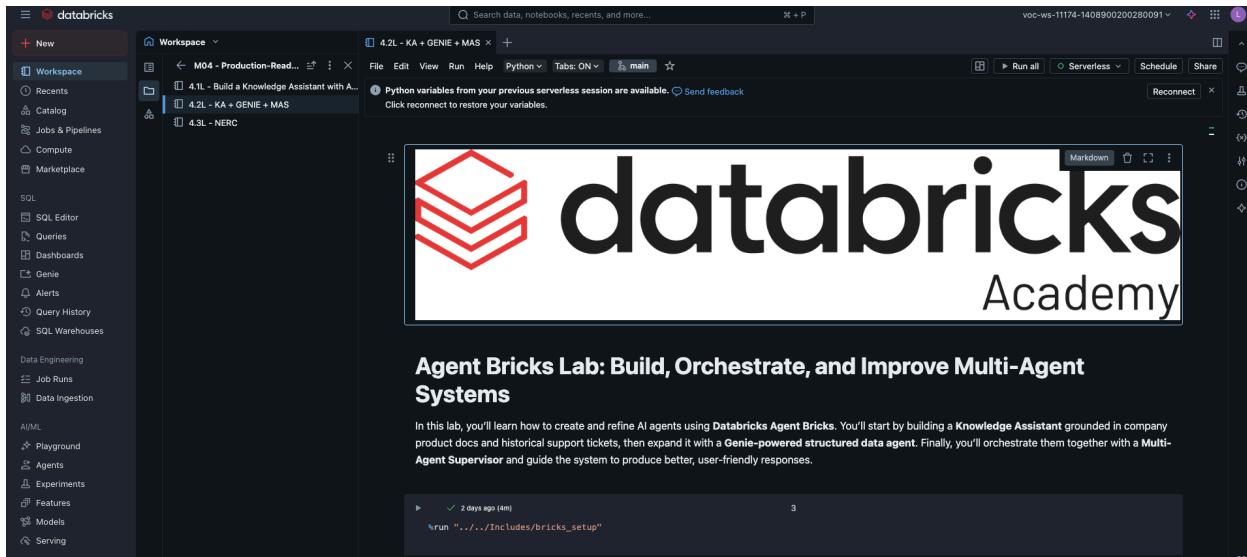
Now go to the subdirectory "M04 - Production-Ready Agents with Agent Bricks", and click on the notebook **4.2L - KA + GENIE + MAS**



This screenshot shows the 'M04 - Production-Ready Agents with Agent Bricks' subdirectory within the 'agentbricks-workshop' folder. The left sidebar shows the same 'agentbricks-workshop' folder structure as the previous screenshot. The main content area displays a list of notebooks in this subdirectory. One specific notebook, '4.2L - KA + GENIE + MAS', is highlighted with a red box. The notebook list includes:

Name	Type	Owner	Created at
4.1L - Build a Knowledge Assistant with Agent Bricks	Notebook	labuser12747981_17...	Dec 11, 2025, 05:31 ...
4.2L - KA + GENIE + MAS	Notebook	labuser12747981_17...	Dec 11, 2025, 05:31 ...
4.3L - NERC	Notebook	labuser12747981_17...	Dec 11, 2025, 05:31 ...

You will be navigated to the the notebook contents below:



## Lab Setup

In the notebook, run setup by executing the following two commands in your notebook cells.

```
%run ".../Includes/bricks_setup"
```

## Explore the data

Once the setup script is complete, you should see, at a minimum, the following data assets under your schema:

- `billing`
- `customers`
- `knowledge_base`
- `knowledge_base_index`
- `support_tickets`
- `support_tickets_index`

If you take a look at the `knowledge_base` table, for example, you should see the following:

knowledge\_base

Open in a dashboard Share Create

Overview Sample Data Details Permissions History Lineage Insights Quality

Ask Genie Preview

	<sup>A<sub>C</sub></sup> kb_id	<sup>A<sub>C</sub></sup> content_type	<sup>A<sub>C</sub></sup> category	<sup>A<sub>C</sub></sup> subcategory	<sup>A<sub>C</sub></sup> title
1	KB-1001	Policy	Billing	Unexpected charges explanation	Unexpected Charges Explanation Policy
2	KB-1002	FAQ	Billing	Paper bill vs. electronic billing	What's the difference between paper bills and electronic billing?
3	KB-1003	Policy	Account	Changing account details	Account Management Policy: Changing Account Details
4	KB-1004	FAQ	Billing	Bill payment options	What are my bill payment options?
5	KB-1005	FAQ	Billing	Prepaid vs. postpaid billing differences	What's the difference between prepaid and postpaid billing?
6	KB-1006	Procedure	Account	Account security	Account Security Management Procedure
7	KB-1007	Policy	Technical	International roaming setup	International Roaming Setup Policy
8	KB-1008	FAQ	Account	Multi-line account management	How Do I Manage Multiple Lines on My Account?
9	KB-1009	FAQ	Billing	Billing error resolution	How Do I Resolve an Error on My Bill?
10	KB-1010	FAQ	Technical	Bluetooth connectivity problems	Bluetooth Connectivity Problems
11	KB-1011	Policy	Billing	Payment methods	Payment Methods Policy
12	KB-1012	Policy	Technical	5g connection troubleshooting	5G Connection Troubleshooting Policy
13	KB-1013	FAQ	Billing	Payment due dates	When is my payment due?
14	KB-1014	Procedure	Account	Port-out requirements	Port-Out Management Procedure
15	KB-1015	Procedure	Technical	Device blacklist removal	Technical Procedure: Device Blacklist Removal
16	KB-1016	Guide	Account	Switching plans	User Guide: How to Switch Your Telecom Plan
17	KB-1017	FAQ	Technical	5g connection troubleshooting	5G Connection Troubleshooting

You should also be able to see any vector search index that has been created on top of that table in the table lineage:

Catalog

agent\_XS Serverless XS

Type to search...

For you All

- My organization
- dbacademy
- information\_schema
- labuser12747981\_1764849440
- Tables(11)
  - billing
  - cust\_service\_data
  - customers
  - kbi
  - knowledge\_base
  - knowledge\_base\_index
  - policies
  - product\_docs
  - product\_docs\_index
  - support\_tickets
  - support\_tickets\_index
- Volumes(2)
- Functions(4)
- ops

Catalog Explorer > dbacademy > labuser12747981\_1764849440 > knowledge\_base

Open in a dashboard Share Create

Overview Sample Data Details Permissions Policies History Lineage Insights Quality

Filter lineage All assets Up and Downstream Last 3 months C See lineage graph

Name	Direction	Type	Last activity
4.2L - KA + GENIE + MAS	↑ Upstream	Notebook	2 days ago
4bb52203-5b14-445d-85c8-dd1dde27dc24	↓ Downstream	Pipeline	2 days ago
kbi	↓ Downstream	Table	2 days ago
4.2L - KA + GENIE + MAS	↑ Upstream	Notebook	2 days ago
4.1L - Build a Knowledge Assistant with Agent Bricks	↑ Upstream	Notebook	2 days ago
1454680d-a3fa-4778-83c2-a1da59adc8aa	↓ Downstream	Pipeline	2 days ago
knowledge_base_index	↓ Downstream	Table	2 days ago
bricks_setup	↑ Upstream	Notebook	2 days ago

< Previous Next >

Vector search index

kb_id	string
content_type	string
category	string
subcategory	string
title	string
content	string
tags	string
last_updated	string
formatted_content	string
__db_formatted_cont...	array

Table

dbacademy.labuser12747981\_1764  
849440.knowledge\_base  
labuser12747981\_1764849440@vocare  
um.com

kb_id	string
content_type	string
category	string
subcategory	string
title	string
content	string
tags	string
last_updated	string
formatted_content	string

Hide columns

Vector search index

kb_id	string
content_type	string
category	string
subcategory	string
title	string
content	string
tags	string
last_updated	string
formatted_content	string
__db_formatted_cont...	array

dbacademy.labuser12747981\_1764  
849440.knowledge\_base\_index  
labuser12747981\_1764849440@vocare  
um.com

Hide columns

Follow the instructions in the notebook

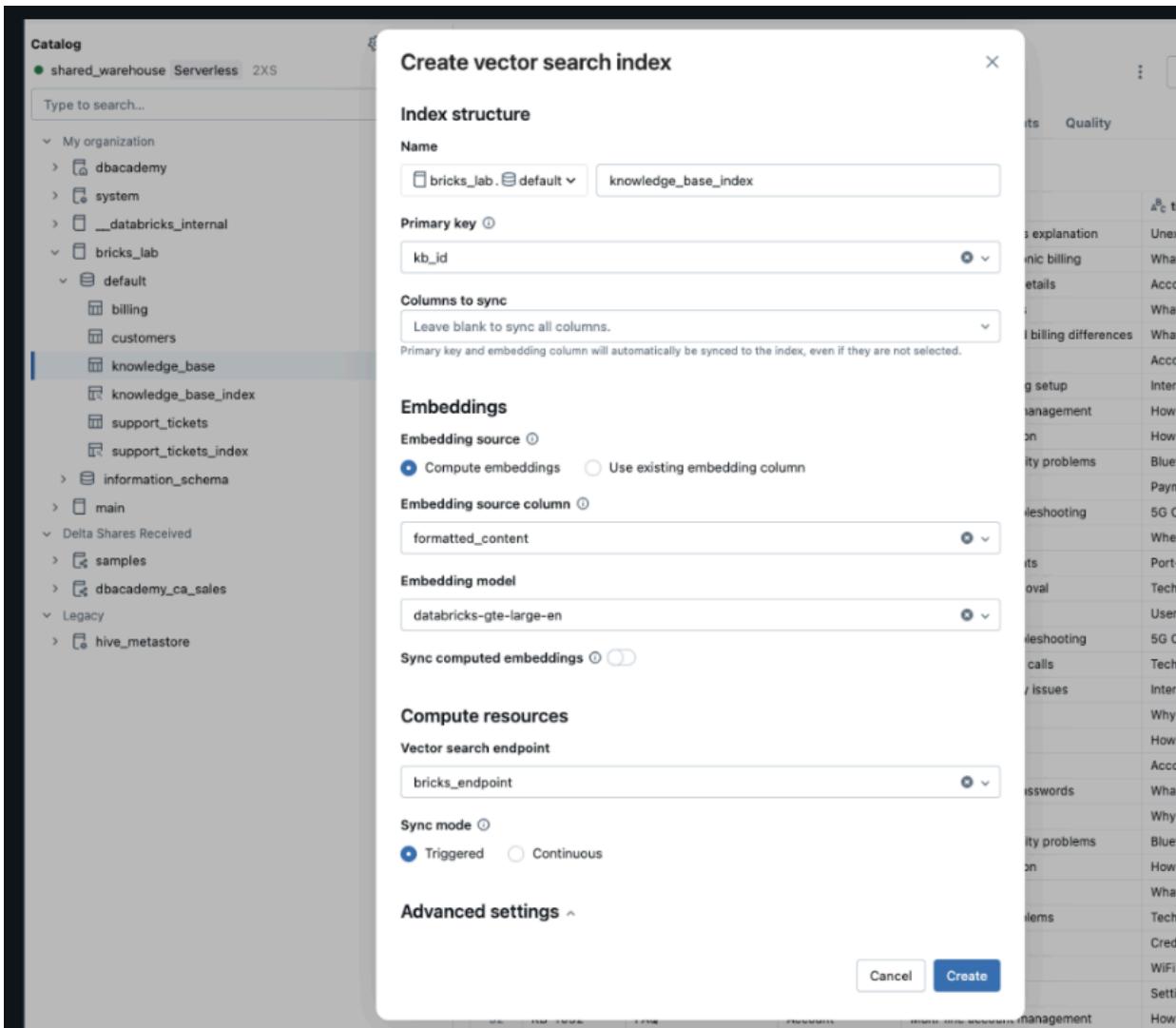
## Part 1: Build Your First Knowledge Assistant

### 1.1 Create a Vector Search Index

- **Why Vector Search?**
  - Provides efficient retrieval of relevant chunks of data for grounding LLM responses.
  - Two common types:
    - **Triggered updates** (for static knowledge bases like FAQs/policies).
    - **Continuous updates** (for dynamic sources like support tickets).
- **Demo:** Indexes are pre-built for this lab, but you'll see how easy it is to create one.

For the Knowledge Assistant sections, you may want to use this text:

- **Overview:** Knowledge Assistant turns your documents - like PDFs, word files, and more-into a high-quality Q&A chatbot. It uses advanced AI to deliver accurate, reliable answers from your content with no coding or complex setup required. Ideal for product documentation, customer support knowledge bases, regulatory documents, and more. Agent Bricks may use endpoints hosted on Databricks Inc.
- **Basic Info:**
  - **Name:** BricksLab-TechnicalSupport
  - **Description:** This agent provides customer support for a Telecommunications company and references multiple knowledge sources.



## 1.2 Build the Knowledge Assistant Agent

- Navigate to "Agents" in the UI.
- Create a new Knowledge Assistant using the two pre-built vector search indices:
  - Knowledge Base – Company details, FAQs, policies, and procedures.
  - Support Tickets – Historical tickets and their resolutions.
- Example setup:
  - Name: [your\_initials]-BricksLab-TechnicalSupport
  - Description: Provides telco product support using company docs and historical tickets.

The screenshot shows the 'Configure Knowledge Sources' dialog for the 'BricksLab-TechnicalSupport' agent. It lists two sources: 'knowledge\_base\_index' (Type: Vector Search Index, Doc Uri Column: 'kb\_id', Text Column: 'formatted\_content') and 'support\_tickets\_index' (Type: Vector Search Index, Doc Uri Column: 'ticket\_id', Text Column: 'formatted\_content'). Below the dialog, the 'Basic Info' section of the agent configuration is visible, showing the agent's name, endpoint, and a note about providing customer support for a telecommunications company.

## 1.2 Build the Knowledge Assistant Agent

- Navigate to "Agents" in the UI.
- Create a new Knowledge Assistant using the two pre-built vector search indices:
  - Knowledge Base – Company details, FAQs, policies, and procedures.
  - Support Tickets – Historical tickets and their resolutions.
- Example setup:
  - Name: [your\_initials]-BricksLab-TechnicalSupport
  - Description: Provides telco product support using company docs and historical tickets.

BricksLab-TechnicalSupport

Endpoint: MLflow experiment: ~

**Overview**  
Knowledge Assistant turns your documents—like PDFs, Word files, and more—into a high-quality Q&A chatbot. It uses advanced AI to deliver accurate, reliable answers from your content with no coding or complex setup required. Ideal for product documentation, customer support knowledge bases, regulatory documents, and more. Agent Bricks may use endpoints hosted on Databricks ML. Documentation & License

**Basic Info**

Name: BricksLab-TechnicalSupport  
Description: This agent provides customer support for a Telecommunications company and references multiple knowledge sources.

**Configure Knowledge Sources**

Select up to 10 different knowledge sources to use in your knowledge assistant.

**knowledge\_base\_index**

Type: Vector Search Index  
Source: databricks default:knowledge\_base\_index  
Text Column: formatted\_content

Base URL Column: knowledge\_base containing company details such as policies, frequently asked questions, and procedures.

**support\_tickets\_index**

Type: Vector Search Index  
Source: databricks default:support\_tickets\_index  
Text Column: formatted\_content

Base URL Column: support\_tickets containing historical tickets and resolutions of past customer issues.

+ Add

Optional >

Create Agent

## 1.3 Test the Knowledge Assistant

- Sample Question: *How do I know if my 5G is working?*
- Observe the verbose answer with citations and traces.
- Explore how the assistant grounds responses in living company data.

BricksLab-TechnicalSupport

Endpoint: ka-820db4fb-endpoint MLflow experiment: ka-820db4fb-dev-experiment

**Basic Info**

Name: BricksLab-TechnicalSupport  
Description: This agent provides customer support for a Telecommunications company and references multiple knowledge sources.

**Configure Knowledge Sources**

Select up to 10 different knowledge sources to use in your knowledge assistant.

**knowledge\_base\_index**  
Vector Search Index: knowledge\_base\_index  
Last sync: Sep 12, 2025, 02:43:02 PM  
Description: Knowledge base containing company details such as policies, frequently asked questions, and procedures.

**support\_tickets\_index**  
Vector Search Index: support\_tickets\_index  
Last sync: Sep 12, 2025, 02:43:02 PM  
Description: Knowledge base containing historical tickets and resolutions of past customer issues.

**Test your Agent**

ka-820db4fb-endpoint

View thoughts

To check if your 5G is working, follow these steps:

1. Look for the 5G icon:
  - On your phone's status bar (usually at the top of the screen), you should see a "5G", "5G UW", "5G UC", or similar icon when your device is connected to a 5G network.[\[1\]](#)[\[2\]](#)
2. Check Your Device Settings:
  - iPhone: Go to Settings > Cellular > Cellular Data Options > Voice & Data.[\[3\]](#)[\[4\]](#)  
Android: Go to Settings > Connections > Mobile Networks > Network Mode (or similar).[\[5\]](#)[\[6\]](#)[\[7\]](#) Ensure a mode including 5G is selected (e.g., "5G/LTE/3G/2G").[\[8\]](#)[\[9\]](#)[\[10\]](#)[\[11\]](#)
3. Verify 5G Coverage:
  - Use your carrier's app or coverage map to confirm that 5G service is available in your current location.[\[12\]](#)[\[13\]](#)[\[14\]](#)[\[15\]](#)[\[16\]](#) 5G coverage can vary, especially indoors.[\[17\]](#)[\[18\]](#)[\[19\]](#)
4. Check Your Plan and Device Compatibility:
  - Make sure your mobile plan includes 5G access and your device supports 5G.[\[19\]](#)[\[20\]](#) For iPhones, models 12 and newer support 5G.[\[4\]](#)[\[4\]](#)[\[21\]](#) For Android, check your device specifications.[\[8\]](#)[\[9\]](#)[\[22\]](#)
5. Test Your Connection:
  - Try using data-heavy apps or run a speed test.[\[23\]](#)[\[24\]](#) If you see fast speeds and the 5G icon, your 5G is working.
6. Troubleshooting if 5G Isn't Working:
  - Check for software updates on your device and carrier.[\[25\]](#)[\[26\]](#)

Start typing ...

## Part 2: Expand with Genie for Structured Data

### 2.1 Query Structured Data with Genie

- **Genie spaces** allow natural language queries over structured data (SQL tables).
- Genie is pre-configured to access **billing** and **customer** tables.
- **Try It Out:**
  - Ask “*What is the average total bill?*”
  - Guide Genie with examples/instructions to better align with your data structures.

	<code>billing_id</code>	<code>subscription_id</code>	<code>customer_id</code>	<code>billing_date</code>	<code>due_date</code>	Genie space
1	BILL-1234589394	SUB-10001608	CUS-11094	2025-04-01	2025-04-1	Vector search index
2	BILL-1234589395	SUB-10001608	CUS-11094	2025-05-01	2025-05-1	Synced table
3	BILL-1234589396	SUB-10001608	CUS-11094	2025-06-01	2025-06-1	Online table
4	BILL-1234589397	SUB-10001609	CUS-11095	2024-05-01	2024-05-1	Metric view
5	BILL-1234589398	SUB-10001609	CUS-11095	2024-06-01	2024-06-1	
6	BILL-1234589399	SUB-10001609	CUS-11095	2024-07-01	2024-07-1	
7	BILL-1234589400	SUB-10001609	CUS-11095	2024-08-01	2024-08-15	26.37
8	BILL-1234589401	SUB-10001609	CUS-11095	2024-09-01	2024-09-15	26.37
9	BILL-1234589402	SUB-10001609	CUS-11095	2024-10-01	2024-10-15	26.37
10	BILL-1234589403	SUB-10001609	CUS-11095	2024-11-01	2024-11-15	26.37
11	BILL-1234589404	SUB-10001609	CUS-11095	2024-12-01	2024-12-15	26.37
12	BILL-1234589405	SUB-10001609	CUS-11095	2025-01-01	2025-01-15	26.37
13	BILL-1234589406	SUB-10001609	CUS-11095	2025-02-01	2025-02-15	26.37
14	BILL-1234589407	SUB-10001609	CUS-11095	2025-03-01	2025-03-15	26.37
15	BILL-1234589408	SUB-10001609	CUS-11095	2025-04-01	2025-04-15	26.37
16	BILL-1234589409	SUB-10001609	CUS-11095	2025-05-01	2025-05-15	26.37
17	BILL-1234589410	SUB-10001609	CUS-11095	2025-06-01	2025-06-15	26.37
18	BILL-1234589411	SUB-10001610	CUS-11096	2025-03-01	2025-03-15	84.5
19	BILL-1234589412	SUB-10001610	CUS-11096	2025-04-01	2025-04-15	84.5

The screenshot shows the Genie interface. At the top left, it says "Genie" and "Ask questions about your data in natural language". Below this is a search bar labeled "Filter spaces" and a dropdown menu with "All" selected. A red box highlights the "BricksLab" room, which has a small icon and the name "BricksLab" below it. To the right of the room list is a sidebar with tabs for "Data" and "Instructions". Under "Data", there are two tables: "billing" (BricksLab.default) and "customers" (BricksLab.default). In the center, under "Instructions", there is a list of generated questions:

- Explain the data set
- What are the distinct payment methods used by customers?
- What is the average total amount billed to customers?
- How many new customers have registered each month?

## 2.2 Treat Genie as an Agent

- Genie rooms can be registered as agents, enabling them to participate in multi-agent workflows.
- Use Genie when customer-specific or billing data is required.

The screenshot shows the Genie interface. On the left, a room named "BricksLab" is open. Inside, a question "What is the average total amount billed to customers?" is asked. Below it, an analysis result states: "Analysis complete" and "The user wants to know the average total amount that has been billed to customers, excluding any null values." It shows a single row of data: "1.2 avg\_total\_amount" with a value of "131.31". At the bottom, there are buttons for "Is this correct? (radio buttons for Yes, Fix it, Request review)". On the right, there is an "Instructions" sidebar with tabs for "Text", "Joins", and "SQL Queries". The "Text" tab is selected. It contains a section titled "SQL queries & functions" with the subtext "Example queries that Genie can learn from." Below this is a table:

Name	Type
answers questions related to user's account information	Query
billing history questions	Query

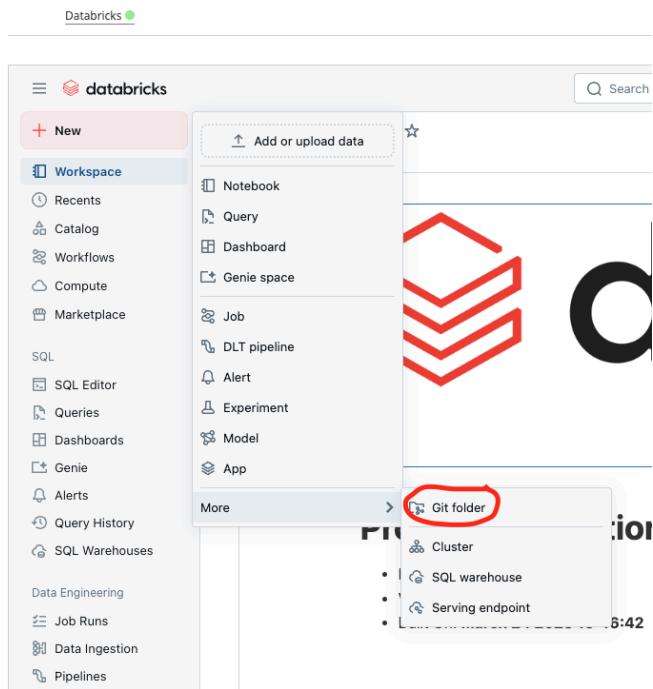
Continue with the rest of the sections, following the instructions.

# Backup environment and lab (if Vocareum doesn't work): Databricks Free Edition

Create an Databricks Free Edition account with your corporate account (or personal email if your corporate account gets blocked): <https://www.databricks.com/learn/free-edition>

## Create the Repo in your workspace

In your workspace, navigate to **+ New -> Git Folder** as below.



Once you click Git Folder, you will be directed to the screen below, simply input the **Git repository URL** <https://github.com/databricks/tmm>, and click **Create Git Folder**.

### Create Git folder

Git repository URL      Git provider

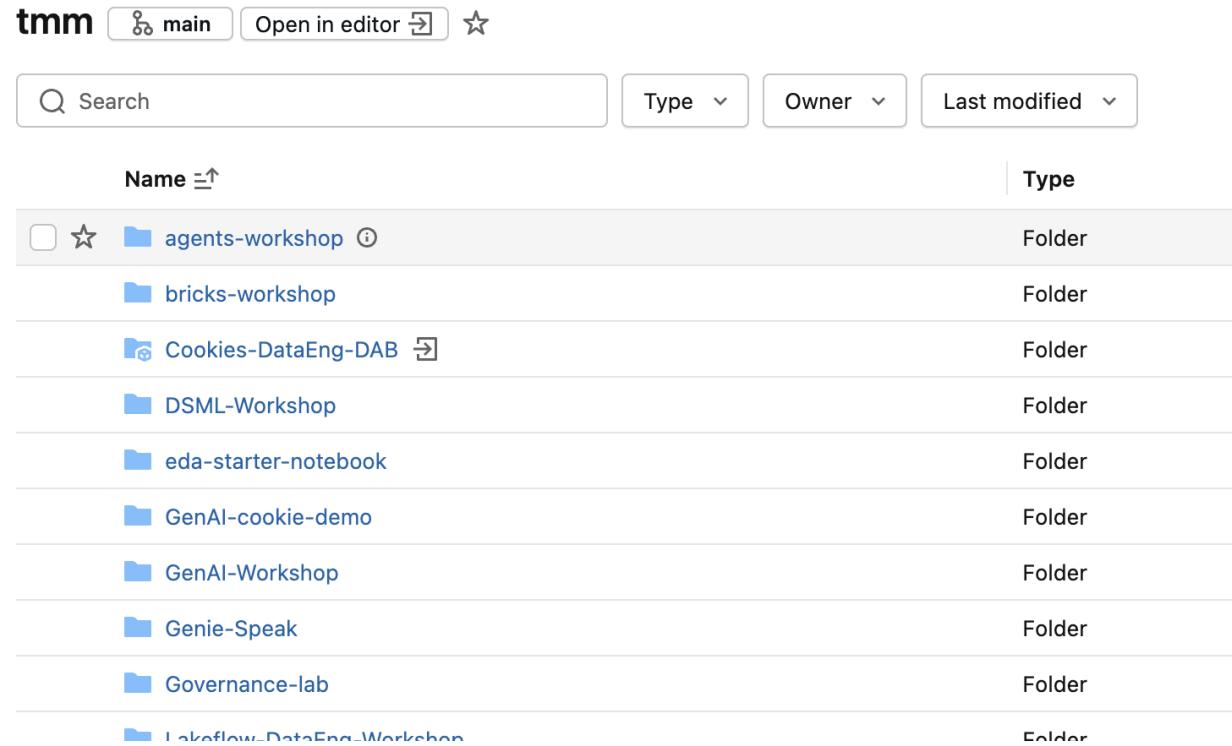
GitHub

Git folder name

Sparse checkout mode

## Start the Lab

Once the repo is created, navigate to the repo **tmm**:

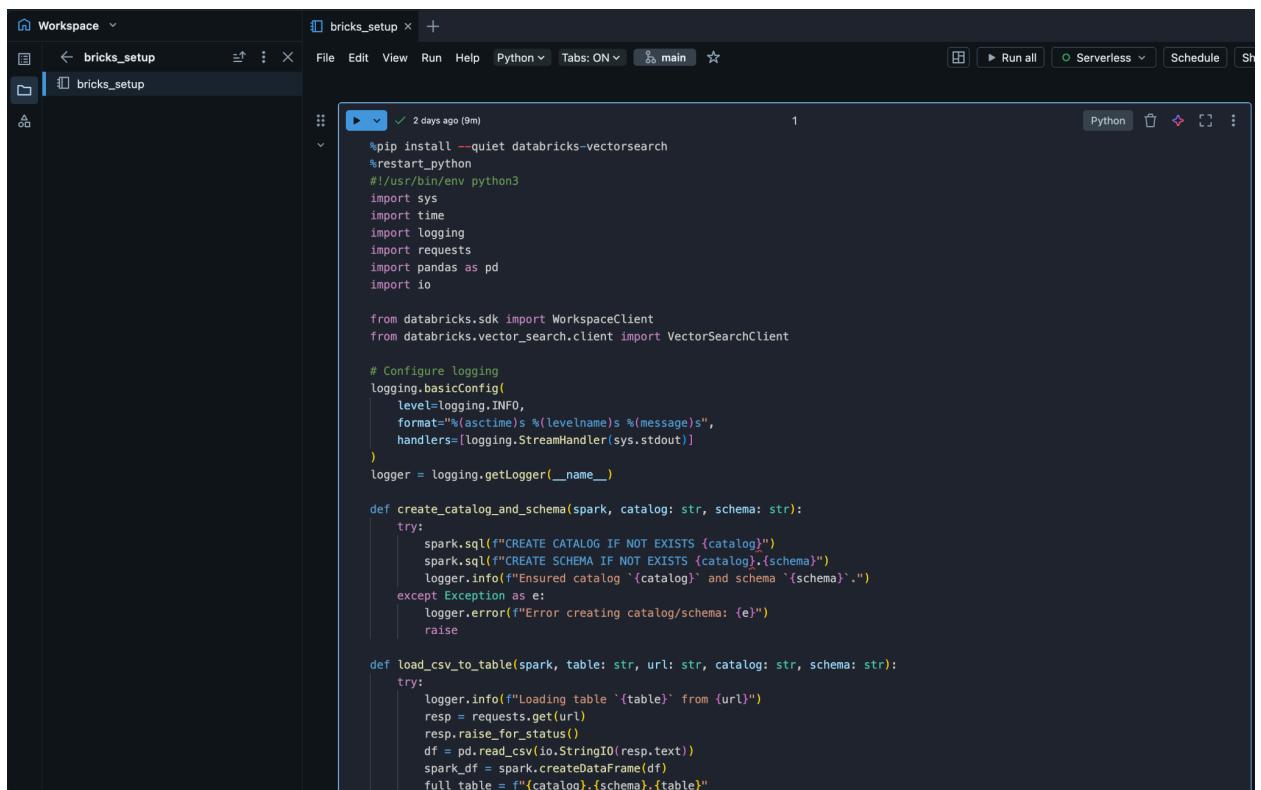


Name	Type
<input type="checkbox"/>  agents-workshop	Folder
 bricks-workshop	Folder
 Cookies-DataEng-DAB	Folder
 DSML-Workshop	Folder
 eda-starter-notebook	Folder
 GenAI-cookie-demo	Folder
 GenAI-Workshop	Folder
 Genie-Speak	Folder
 Governance-lab	Folder
 Lakeflow-DataEng-Workshop	Folder

## Agents Workshop

Navigate to **agents-workshop/README.md** and follow the instructions

Navigate to **bricks-workshop/bricks\_setup/bricks\_setup**:



```
#pip install --quiet databricks-vectorsearch
$restart_python
#!/usr/bin/env python3
import sys
import time
import logging
import requests
import pandas as pd
import io

from databricks.sdk import WorkspaceClient
from databricks.vector_search.client import VectorSearchClient

# Configure logging
logging.basicConfig(
    level=logging.INFO,
    format="%(asctime)s %(levelname)s %(message)s",
    handlers=[logging.StreamHandler(sys.stdout)]
)
logger = logging.getLogger(__name__)

def create_catalog_and_schema(spark, catalog: str, schema: str):
    try:
        spark.sql(f"CREATE CATALOG IF NOT EXISTS {catalog}")
        spark.sql(f"CREATE SCHEMA IF NOT EXISTS {catalog}.{schema}")
        logger.info(f"Ensured catalog '{catalog}' and schema '{schema}'")
    except Exception as e:
        logger.error(f"Error creating catalog/schema: {e}")
        raise

def load_csv_to_table(spark, table: str, url: str, catalog: str, schema: str):
    try:
        logger.info(f"Loading table '{table}' from {url}")
        resp = requests.get(url)
        resp.raise_for_status()
        df = pd.read_csv(io.StringIO(resp.text))
        spark_df = spark.createDataFrame(df)
        full_table = f"{catalog}.{schema}.{table}"
    
```

Now run it.

And go back to **bricks-workshop/README.md**, following the instructions:

The screenshot shows a Databricks workspace interface. On the left, there's a sidebar with a 'Workspace' dropdown and a tree view of a folder structure under 'bricks-workshop'. The tree includes 'bricks\_lab', 'bricks\_setup', 'data', 'README.md', and 'setup.py'. The main area has tabs for 'bricks\_setup' and 'README.md'. The 'README.md' tab is active, showing a preview of the content. The content starts with a header: '# Agent Bricks Lab: Build, Orchestrate, and Improve Multi-Agent Systems'. It then describes the lab's purpose: 'In this lab, you'll learn how to create and refine AI agents using \*\*Databricks Agent Bricks\*\*. You'll start by building a \*\*Knowledge Assistant\*\* grounded in company product docs and historical support tickets, then expand it with a \*\*Genie-powered structured data agent\*\*. Finally, you'll orchestrate them together with a \*\*Multi-Agent Supervisor\*\* and guide the system to produce better, user-friendly responses.' Below this, there's a section titled 'Part 1: Build Your First Knowledge Assistant' with a sub-section '1.1 Create a Vector Search Index' containing a bulleted list of steps and details about vector search.

## Agent Bricks Lab: Build, Orchestrate, and Improve Multi-Agent Systems

In this lab, you'll learn how to create and refine AI agents using **Databricks Agent Bricks**. You'll start by building a **Knowledge Assistant** grounded in company product docs and historical support tickets, then expand it with a **Genie-powered structured data agent**. Finally, you'll orchestrate them together with a **Multi-Agent Supervisor** and guide the system to produce better, user-friendly responses.

### Part 1: Build Your First Knowledge Assistant

#### 1.1 Create a Vector Search Index

- Why Vector Search?
  - Provides efficient retrieval of relevant chunks of data for grounding LLM responses.
  - Two common types:
    - Triggered updates (for static knowledge bases like FAQs/policies).
    - Continuous updates (for dynamic sources like support tickets).
- Demo: Indexes are pre-built for this lab, but you'll see how easy it is to create one.

#### 1.2 Build the Knowledge Assistant Agent

- Navigate to "Agents" in the UI.
- Create a new **Knowledge Assistant** using the two pre-built vector search indices:
  - Knowledge Base – Company details, FAQs, policies, and procedures.
  - Support Tickets – Historical tickets and their resolutions.
- Example setup:

This notebook with pictures can help you out:

<https://github.com/drcaiomoreno/agentbricks-workshop/blob/main/Get%20Started%20with%20AgentBricks%20KA%20on%20Databricks/M04%20-%20Production-Ready%20agents%20with%20Agent%20Bricks/4.2L%20-%20KA%20%2B%20GENIE%20%2B%20MAs.ipynb>

# Part 1: Build Your First Knowledge Assistant

## 1.1 Create a Vector Search Index

- **Why Vector Search?**
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    - **Continuous updates** (for dynamic sources like support tickets).
- **Demo:** Indexes are pre-built for this lab, but you'll see how easy it is to create one.

The screenshot shows the Databricks Catalog interface. On the left, there's a sidebar with a tree view of databases and tables. A specific table named 'knowledge\_base' under the 'bricks\_lab' database is selected. The main area is a modal window titled 'Create vector search index'. The modal is divided into several sections: 'Index structure' (Name: 'bricks\_lab.knowledge\_base\_index', Primary key: 'kb\_id'), 'Columns to sync' (Leave blank to sync all columns), 'Embeddings' (Embedding source: 'Compute embeddings', Embedding source column: 'formatted\_content', Embedding model: 'databricks-gte-large-en'), 'Compute resources' (Vector search endpoint: 'bricks\_endpoint', Sync mode: 'Triggered'), and 'Advanced settings'. At the bottom right of the modal are 'Cancel' and 'Create' buttons. To the right of the modal, a portion of the catalog table is visible, showing various rows of data.