Data & AI Boot-Kon Event

Title: Agent Builder and Gemini

Goal of the lab

- Build a Search Agent App
  - Using Agent Builder
  - Query your Datastore with Vertex AI Chat with the LLM of your choice

Author: Christine Schulze **Date**: 2024-11-12 **Estimated Completion Time**: 30 Minutes

CAUTION:
This lab is for educational purposes only and should be used with caution in production environments. Google Cloud Platform (GCP) products are changing frequently, and screenshots and instructions might become inaccurate over time. Always refer to the latest GCP documentation for the most up-to-date information.

Create a Search Agent App and use Gemini with your Datastore

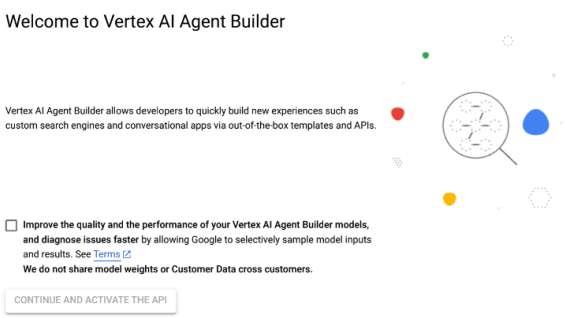
In this guide you will build and test a simple **search agent app** with Vertex AI Agent Builder. Find more information about Agent Builder.

This lab is not using the fraud data from the previous labs. Here we cover a simple and completely different use case.

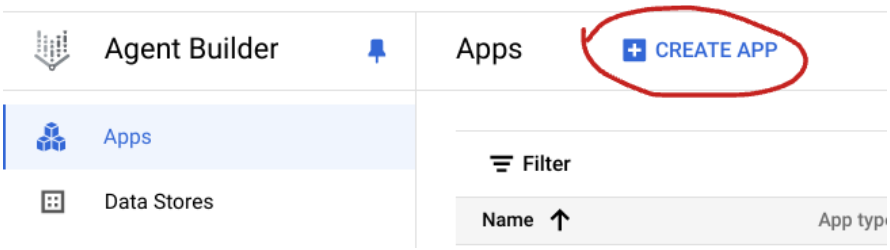
We create a search app that will help users to search in public documents from the Technical University Munich (TUM). These pdfs are stored already in a public available Google Cloud Storage Bucket.

1. Create the Search Agent Application using Agent Builder

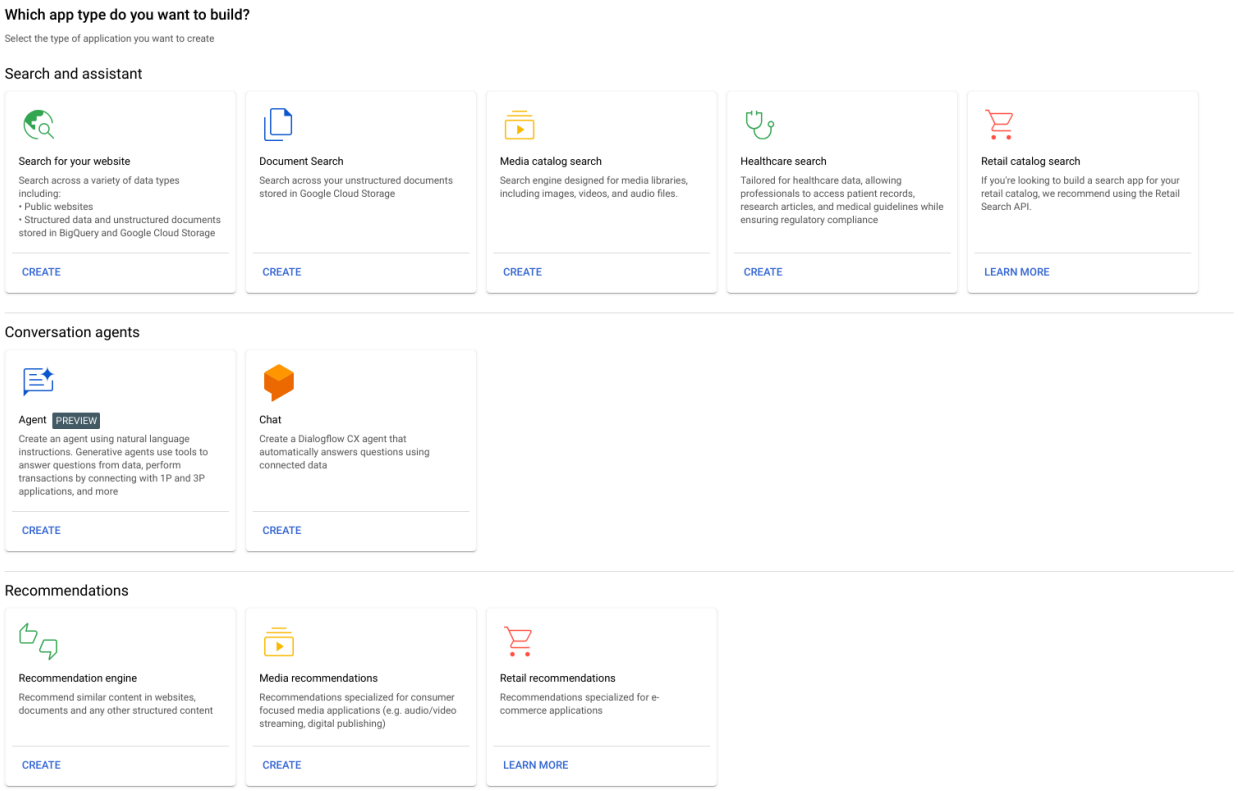
- In your Google Cloud UI, type Agent Builder in the search bar or open the “Agent Builder” via the menu on the left.
- In the new window, click “**Continue and activate**” to enable required APIs (more information: Enable and disable APIs - API Console Help)



- Create a new App



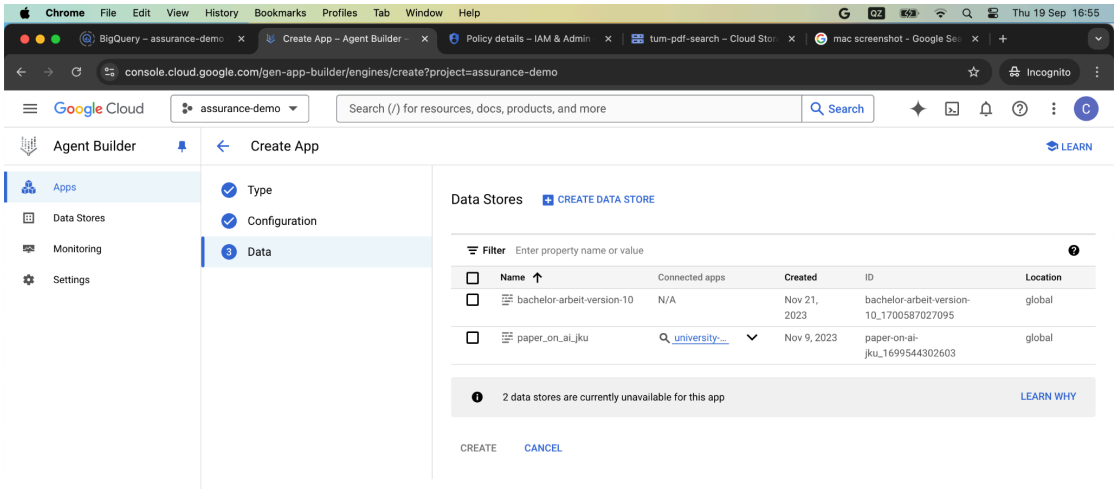
Select app type -> select the second box: **Document Search** and click on **CREATE**



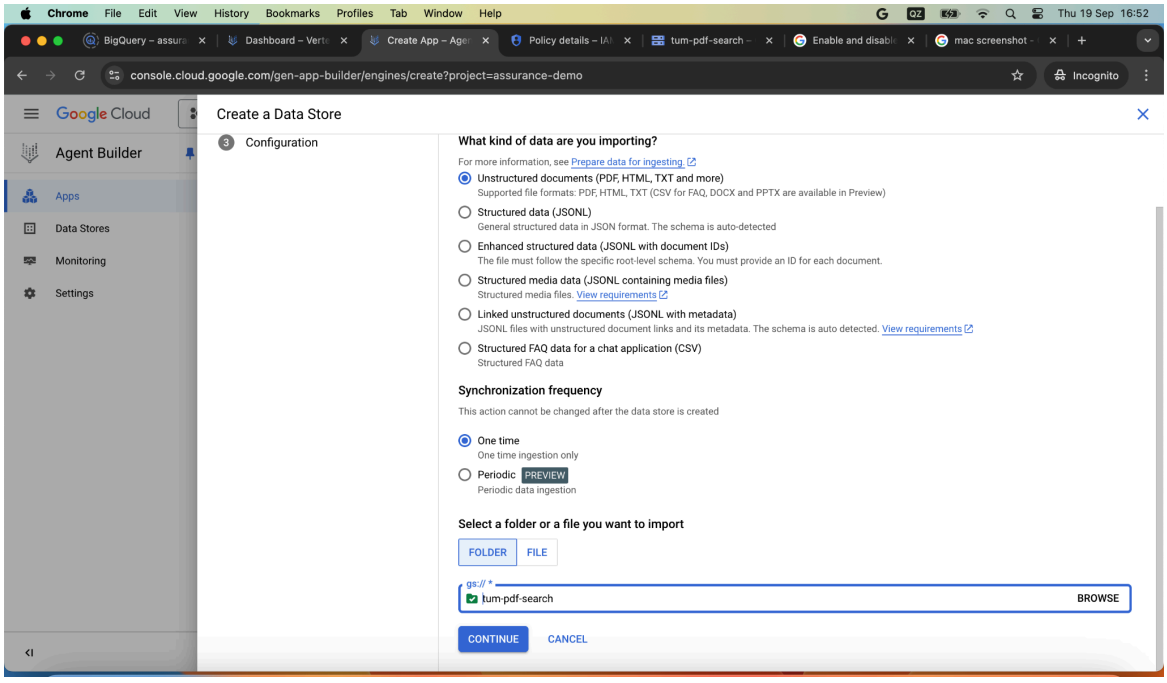
In the configuration step, keep all checked boxes.
Choose a name for your app: “tum-search” and company name: “TUM”
Multi-region: global.
Click **continue**

In the next window Data click **CREATE DATA STORE**,
Select a data source -> **Cloud Storage,** click **select**
Choose unstructured documents. One time as a frequency (all default values)

More information on Datastore can be found here

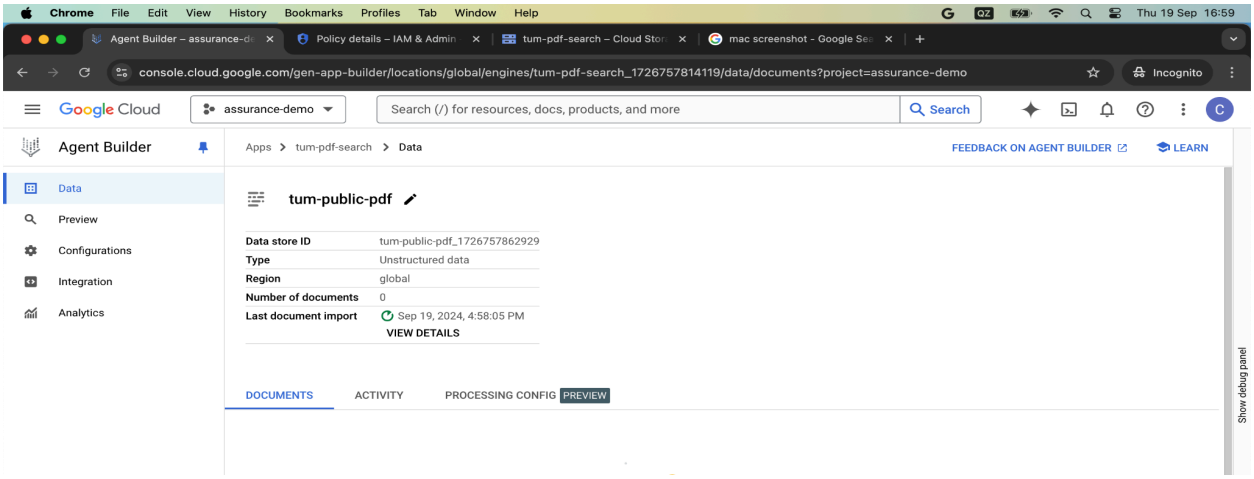


Like shown in the screenprint below, copy the bucket name **tum-pdf-search** in the field gs://*
This bucket contains TUM pdf files that are publicly available.
The bucket is not visible in your own project, it resides in a different project, but it is publicly available.



Choose a data store name (for example “tum-search-pdf”) and click **Create**.
After the data store is created you have to click **Create** again to create the app itself!

It takes a while, until the datastore is filled with the respective documents from the specified bucket.



Click refresh and check, if the import is successful (green check)
Click on **Preview** in the menu on the left page. If Preview is not visible, go back to the Agent Builder, click on your newly created agent “tum-search” in the list of apps and click on **Preview** in the menu on the left page.
When the App is ready to use, **you can try your own questions via the prompt!**

What are the guidelines for a bachelor thesis? What topics for the bachelor thesis are available?

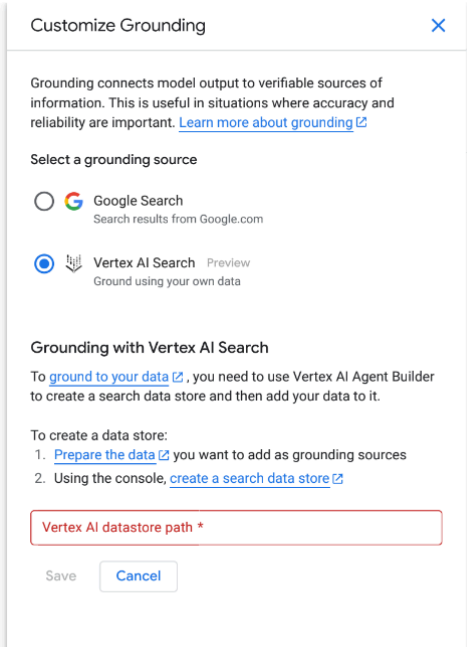
As the documents are in English, you can ask only in English. The agent is able to answer questions, which are available in some of the provided documents in Google Cloud Storage.

Documentation: https://cloud.google.com/dialogflow/vertex/docs/concept/agents

2. Use Gemini and other LLMs grounded with your data store

Now, let’s move on to Vertex AI and use your own created data store here with a LLM of your choice!

Type Vertex AI in the search bar at the top of the page and in the menu on the left, choose **Chat.** On the right, choose **Grounding** and **customize**. In the menu, which will open, choose **Vertex AI Search** (preview).



Now, you have to enter your own new created data store path in this format:

projects/**PROJECT_ID**/locations/global/collections/default_collection/dataStores/**DATA_STORE_ID**

Note: It is project_ID not project_NAME. You should be able to switch between projects by clicking on your current project name in the top left corner, it'll also show you the project ID.

Locations are the settings you have chosen for your datastore and collections should just be default_collection unless you specify.

You need to use the data store id (go back to the menu Agent Builder -> Datastore).

For example the data store path has this format, where bootkon-2test24mun-8314 is your project id, which we handed out for your sandbox environment. Tum-search-pdf_1731438080049 is the id of your data store. Example:

projects/bootkon-2test24mun-8314/locations/global/collections/default_collection/dataStores/tum-search-pdf_1731438080049

Documentation Grounding overview | Generative AI on Vertex AI | Google Cloud

Please feel free to play around with Vertex AI Studio and try other features as well!

🥳🥳**Congratulations on completing Lab 5!**