Day 2: Building Generative AI Applications with Vertex AI Challenge Labs

Overview

This set of case studies is to test your understanding of what was covered in class today. They have limited instructions, and you are expected to use the course materials and your experience to complete them. This sandbox project environment will allow you to work on the case studies without the need for your own project. If you prefer, you can use a Google project that you own, so you do not lose your work when this Qwiklab project ends.

The case studies today build on the ones from yesterday.

Warning: This Qwiklabs environment will run for day 2 of this training class. Then it will be shut down. Make sure you save your work outside of the environment. You can either save your code to an external Git repository, or download the code to your computer. The case studies on day 3 build on the work you do today, so make sure you don't lose your work!

Day 2 Case Studies Objectives

You will learn how to:

- Deploy generative AI apps to production
- Build a custom document summarization and search application using embeddings

Warning: Resources that you create in this Qwiklabs project are not free and are limited. Please, do not use resources that are not required to complete the case studies.

Case Study 5: Deploying the Social Media Posts Example

Your boss was impressed by all your new social media activity. They came to your desk to thank you for all your efforts, and you showed him the app you wrote that creates the articles for you. They decided you should deploy it so anyone in the company could use it.

Deploy the application to Cloud Run. You must ensure that it is production ready. You should:

- Force users to log in using Identity Aware Proxy for authentication.

- Log all user requests.
- Make sure the Cloud Run application runs under a service account with minimal privileges.

The boss also asked for the following new feature:

- The user should vote on the article that is best. Whenever the user specifies their preferred example, save the prompt, along with both examples and the one that they preferred. You can save this data anywhere you like (BigQuery might be the easiest and cheapest). The thought is eventually this data could be used for quality control and tuning.

Case Study 6: Document Summarization and Search

The boss is so happy with all the articles on social media, they came to you for help with another problem. They often give presentations to customers, upper management, and the board of directors. This requires a lot of research, and he wants that to go faster. They asked you to create a document summarization program that allows him to specify one or more documents and generate an executive summary. There can be one or more documents. Sometimes, the documents are quite large.

Write a program that does this for him. You can work on the code in a Jupyter Notebook or you can write it as a Python application.

They also want a search function that allows him to find documents by using natural language. This second feature is subordinate to summarization though.

Reminder: This project will be shut down after class. Make sure to save your work from today either to an external Git repo, or download it to your computer.