**Develop an App with Vertex AI Gemini 1.0 Pro**

**Overview**

Gemini is a family of generative AI models that is designed for multimodal use cases. It comes in three sizes: Ultra, Pro and Nano. Gemini 1.0 Pro is available for developers and enterprises to build for your own use cases. Gemini 1.0 Pro accepts text as input and generates text as output. There is also a dedicated Gemini 1.0 Pro Vision multimodal endpoint that accepts text and imagery as input, and generates text as output. SDKs are available to help you build apps in Python, Android (Kotlin), Node.js, Swift and JavaScript.

On Google Cloud, the **Vertex AI Gemini API** provides a unified interface for interacting with Gemini models. The API supports multimodal prompts as input and output text or code. There are currently two models available in the Gemini API:

* **Gemini 1.0 Pro** model (gemini-pro): Designed to handle natural language tasks, multiturn text and code chat, and code generation.
* **Gemini 1.0 Pro Vision** model (gemini-pro-vision): Supports multimodal prompts. You can include text, images, and video in your prompt requests and get text or code responses.

Vertex AI is a machine learning (ML) platform that lets you train and deploy ML models and AI applications, and customize large language models (LLMs) for use in your AI-powered applications. Vertex AI allows for customization of Gemini with full data control and benefits from additional Google Cloud features for enterprise security, safety, privacy and data governance and compliance. To learn more about Vertex AI, view the link in the **Next Steps** section at the end of the lab.

In this lab, you use the Vertex AI SDK for Python to call the Vertex AI Gemini API.

**Objectives**

In this lab, you learn how to perform the following tasks:

* Develop a Python app using the Streamlit framework.
* Install the Vertex AI SDK for Python.
* Develop code to interact with the Gemini 1.0 Pro model (gemini-pro) using the Vertex AI Gemini API.
* Develop code to interact with the Gemini 1.0 Pro Vision (gemini-pro-vision) model using the Vertex AI Gemini API.
* Containerize your application, and deploy and test it on Cloud Run.