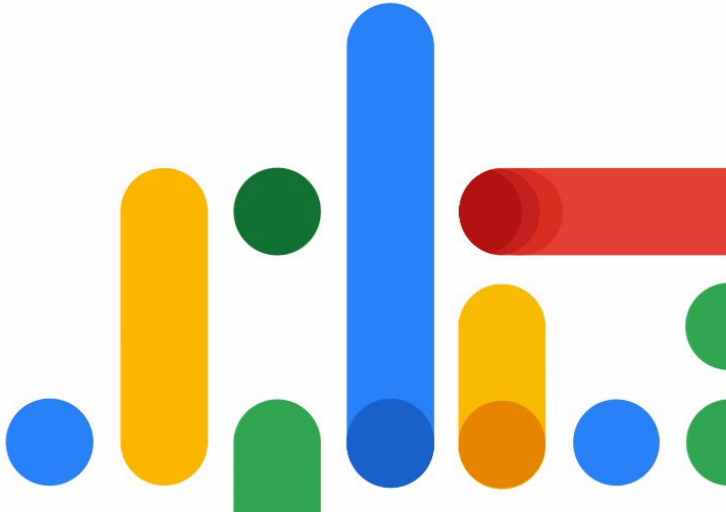
Google Cloud
Summit

Generative AI Hands On

Advanced Lab

김태범
AI Consultant, Google Cloud



김 태 범

AI Consultant, Google Cloud

Google Cloud

WIFI 안내

ID :summit_seoul_23_Track5
PW : GoogleCloud5

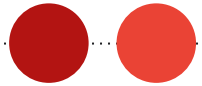
Hands On 가이드

Advanced Lab

https://shorturl.at/nEMR5

오늘의 실습 순서

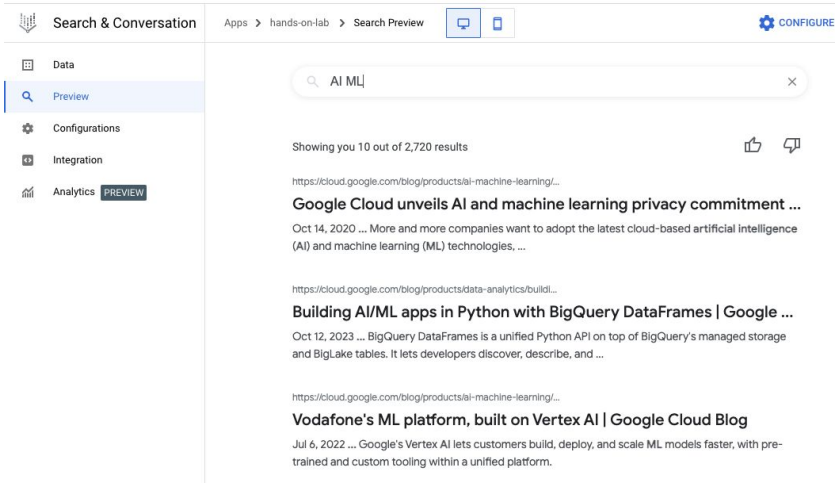
- Vertex AI Search & Vertex AI Workbench 소개
- Lab 시나리오 소개
- 실습 가이드
  - Qwiklab 시작하기
  - Vertex AI Search 생성하기
  - Vertex AI Workbench 에서 노트북 실행하기
  - Notebook 소개

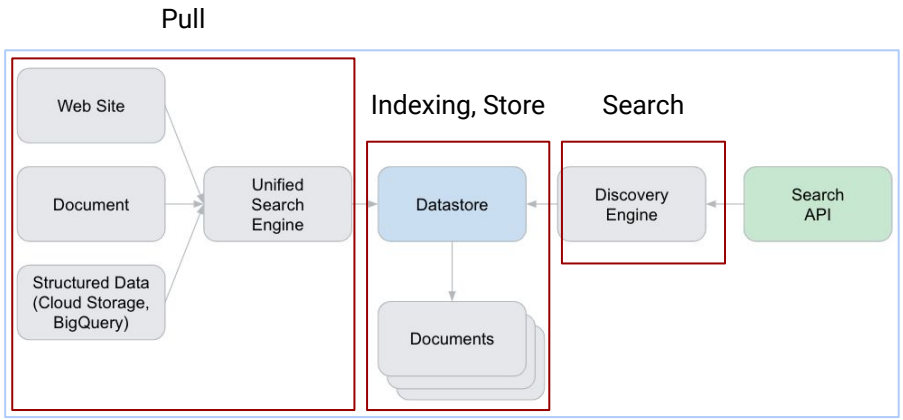



Vertex AI Search
& Vertex AI Workbench 소개

Vertex AI Search

나만의 검색엔진을 단 몇분만에 만들 수 있습니다.

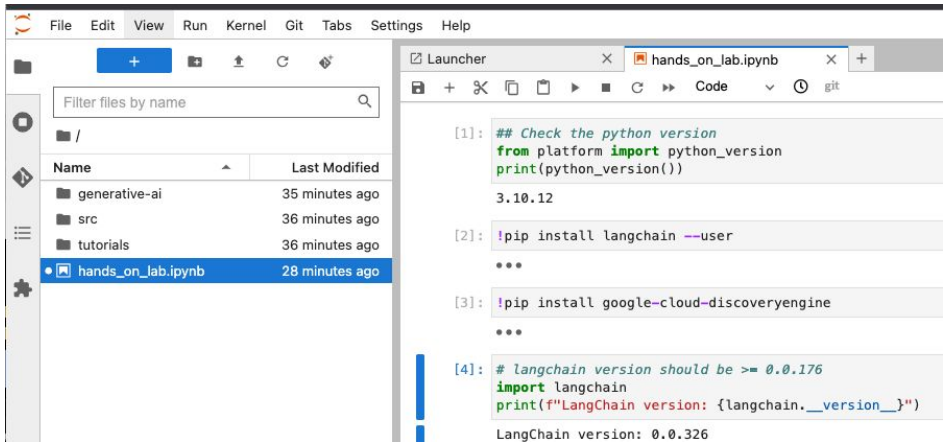


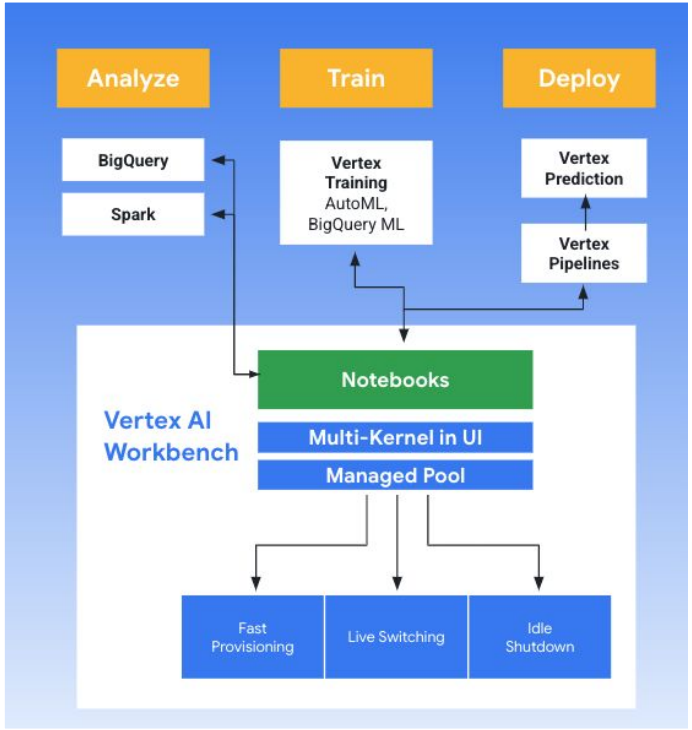


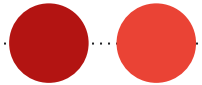
Google Cloud

Vertex AI Workbench

데이터 분석 및 AI 개발을 위한 통합 인터페이스를 제공합니다.



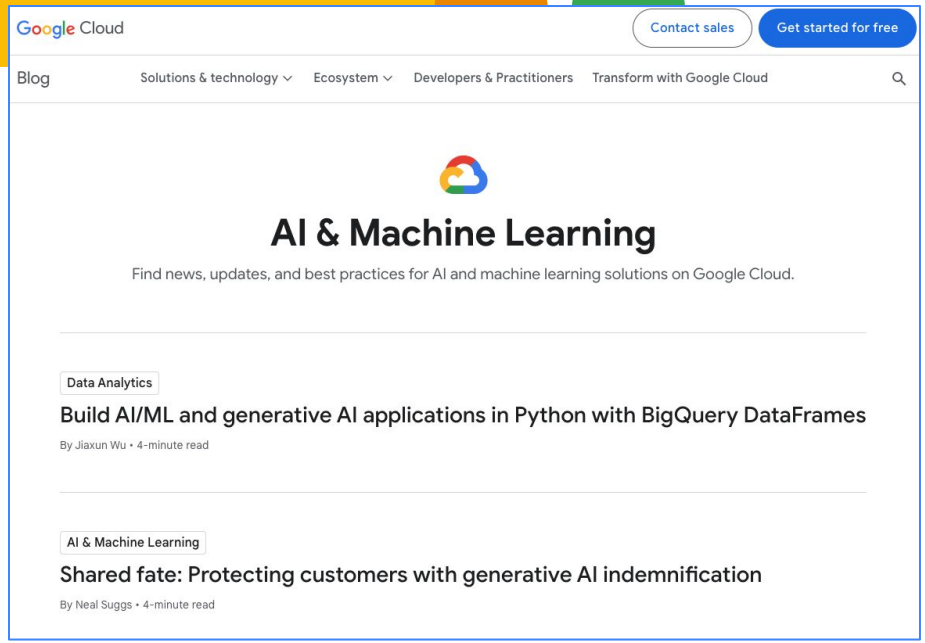


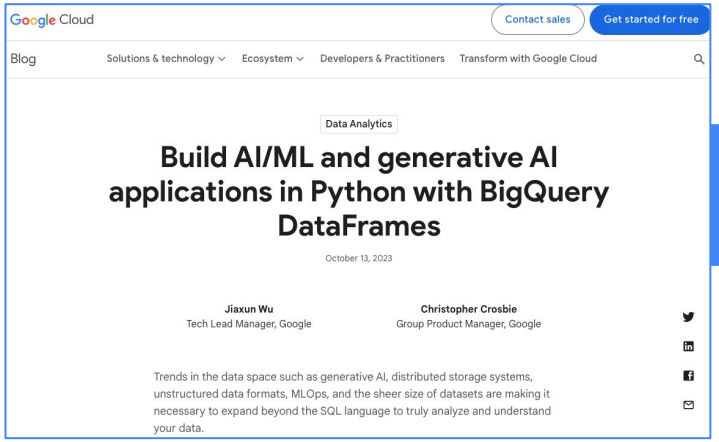


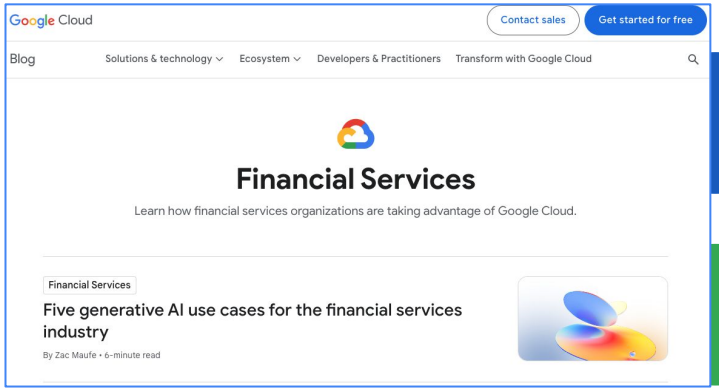

Lab 시나리오 소개

Cloud Blog Newsletter Creator

https://cloud.google.com/blog/

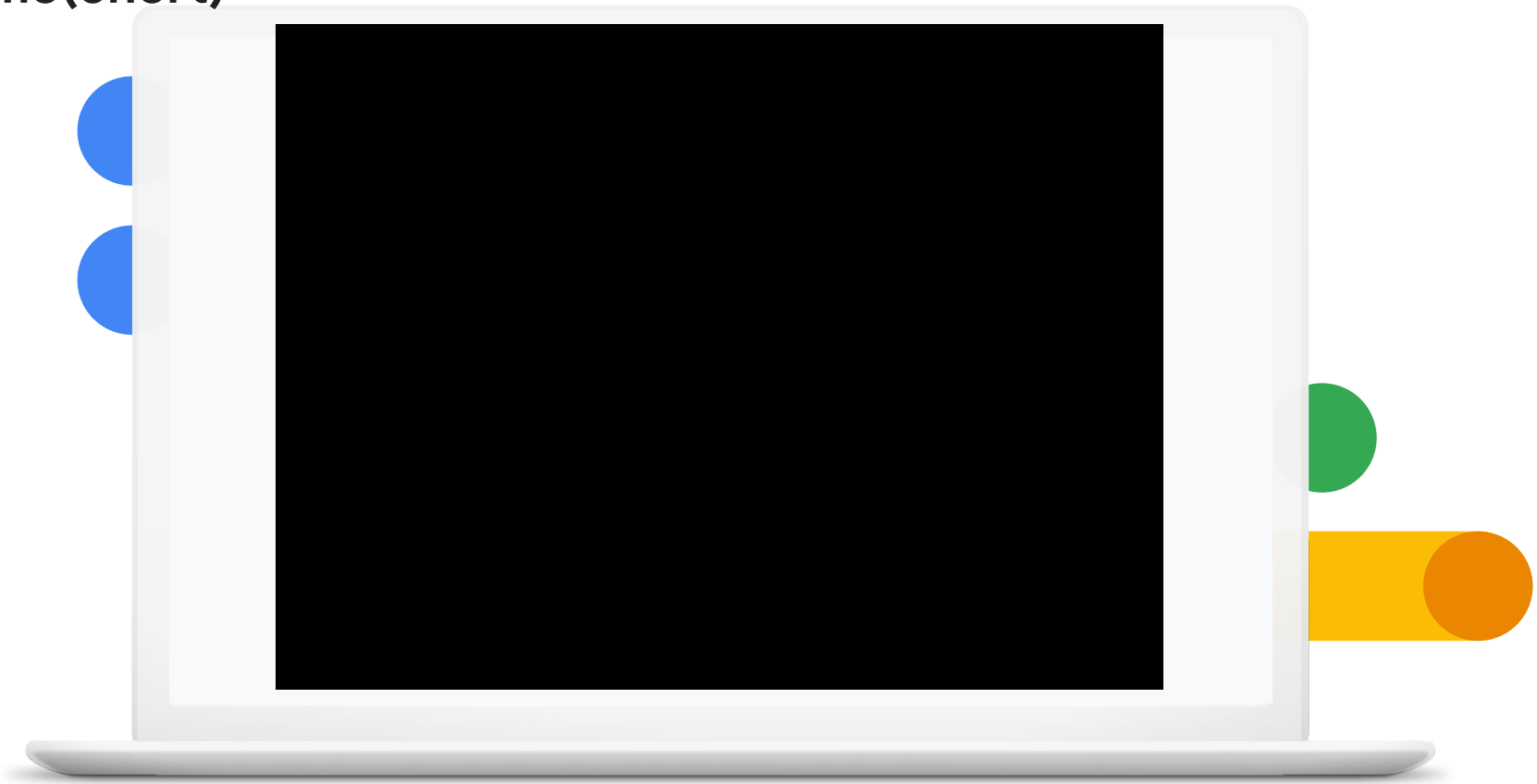


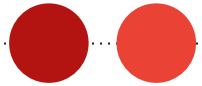




Demo

Demo(Short)






Qwiklab 시작하기

Qwiklabs 체험 시작하기는 아주 쉽습니다!

01

브라우저를 열고 **시크릿 모드**(또는 **프라이빗** 모드)에서 탭을 시작한 후 다음 URL을 입력합니다:

https://explore.qwiklabs.com

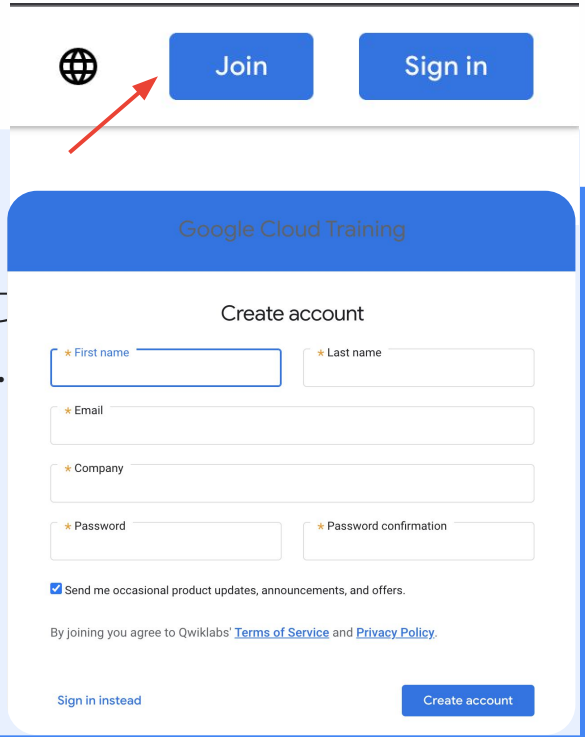
Qwiklabs 체험 시작하기는 아주 쉽습니다!

02

Qwiklabs 사전 가입하지 않은 분들에 한해

우측 상단의 “Join(가입)”을 클릭하여 포털에 가입합니다.

가입 후 아래 QR코드로 가입한 이메일을 기입해주세요.



Qwiklabs 체험 시작하기는 아주 쉽습니다!

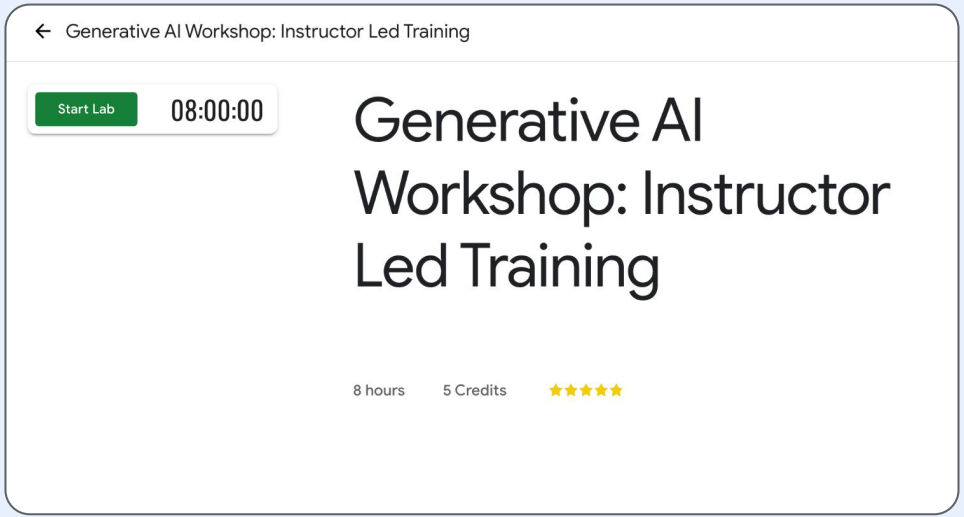
03

페이지를 아래로 스크롤하여 Generative AI Explorer 라고 적힌 랩(Lab)을 클릭합니다.
Lab이 보이지 않는다면 아래 QR코드로 로그인한 이메일을 기입해주세요.

Qwiklabs 체험 시작하기는 아주 쉽습니다!

04

Start Lab 버튼 클릭 후
몇 분 기다리십시오.



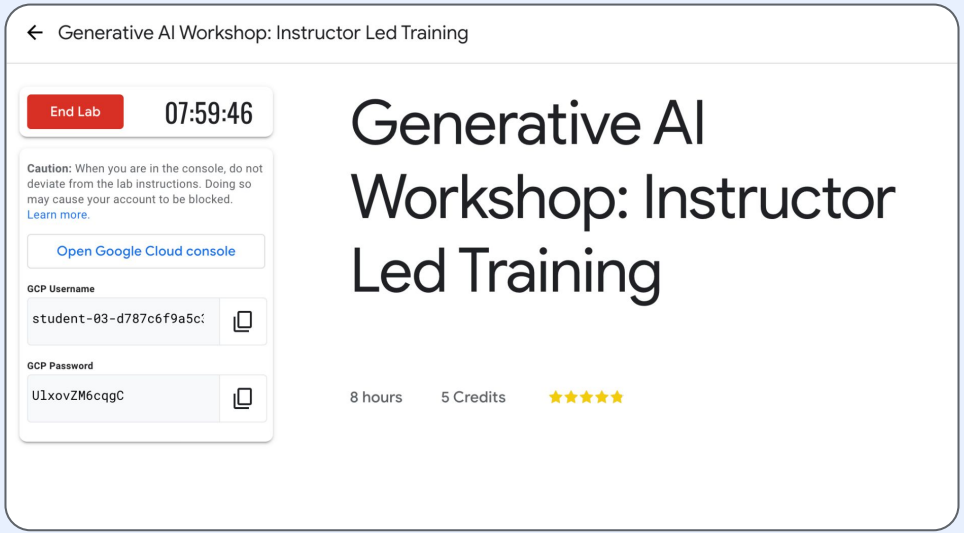
Qwiklabs 체험 시작하기는 아주 쉽습니다!

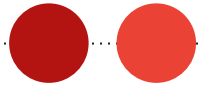
05

"Open Google Cloud console"을 **우클릭**하여 **Incognito 창**으로 열어주세요.

임시 사용자 ID와 비밀번호를 복사한 후,

다음에 나타나는 구글 클라우드 콘솔에서 사용합니다.



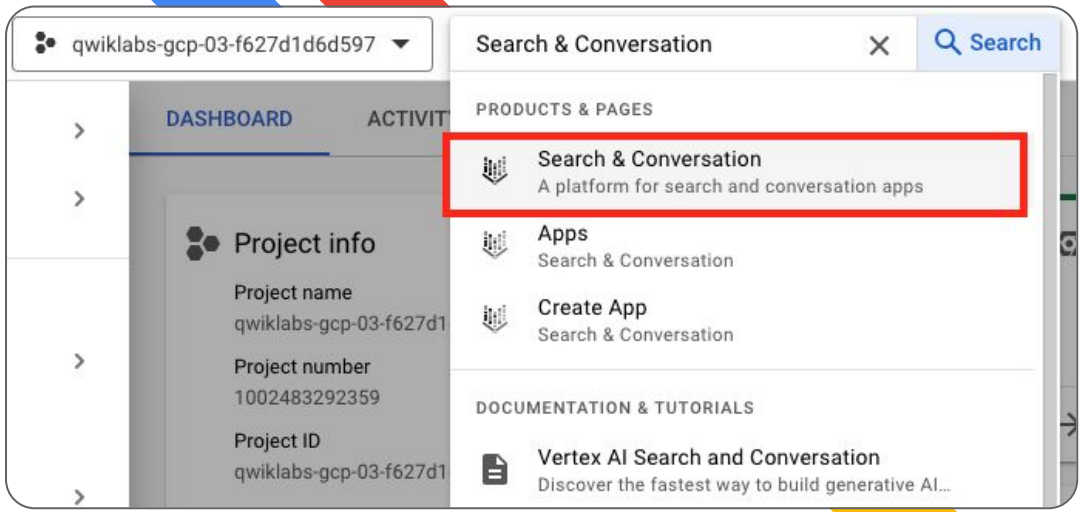



Vertex AI Search
생성하기

Vertex AI Search 시작하기

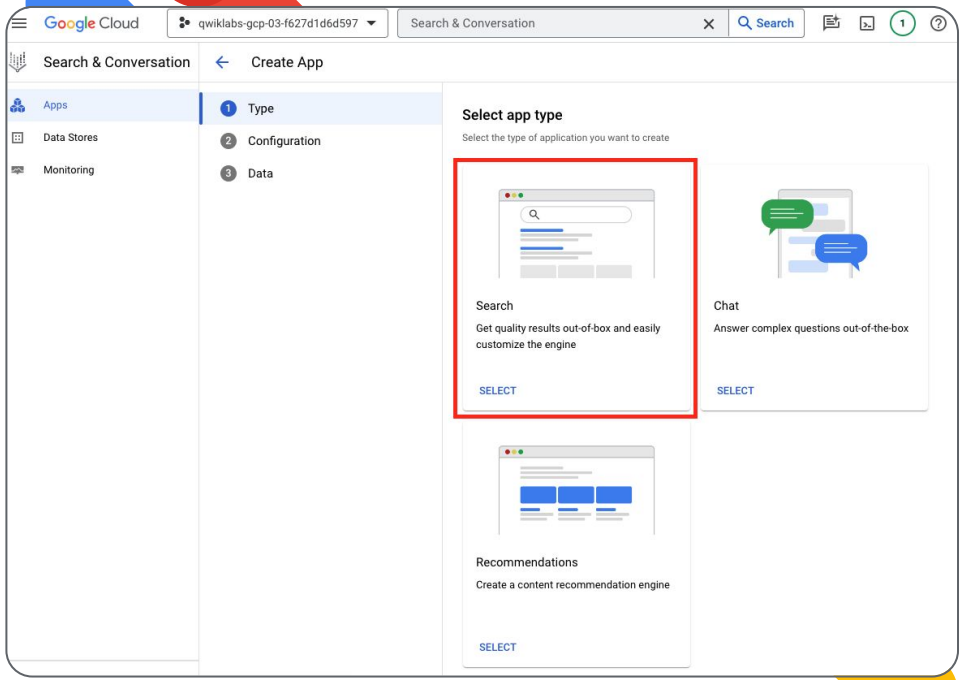
Cloud Console 상단의

검색창에서 Search & Conversation 을 검색해주세요.



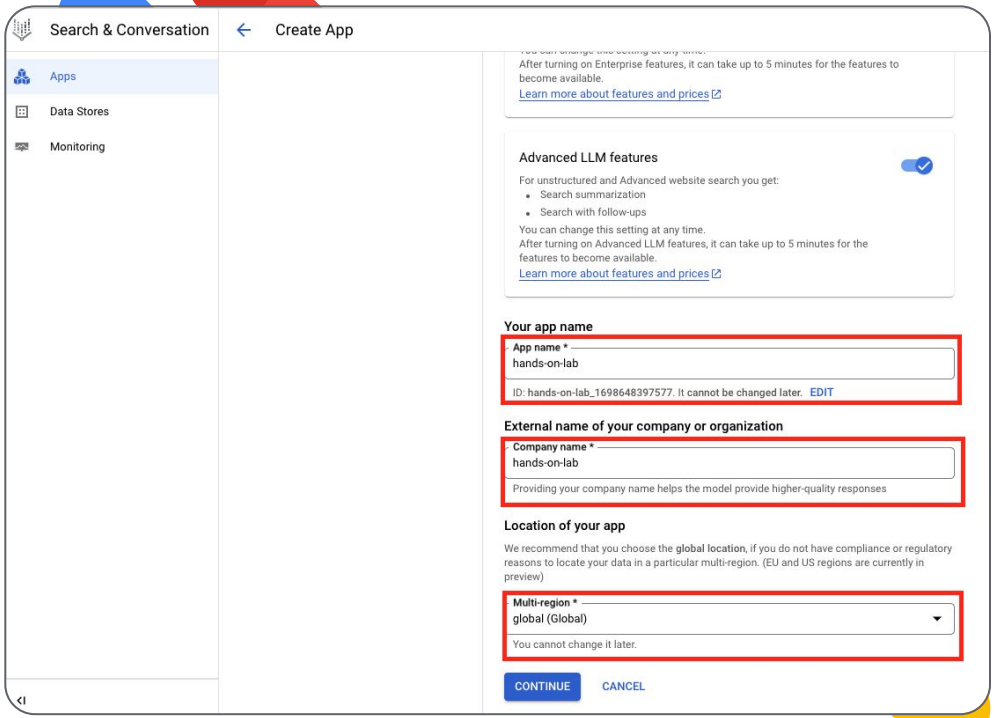
Vertex AI Search 시작하기

App 생성 화면에서 App Type으로 Search 를 선택해주세요.



Vertex AI Search 시작하기

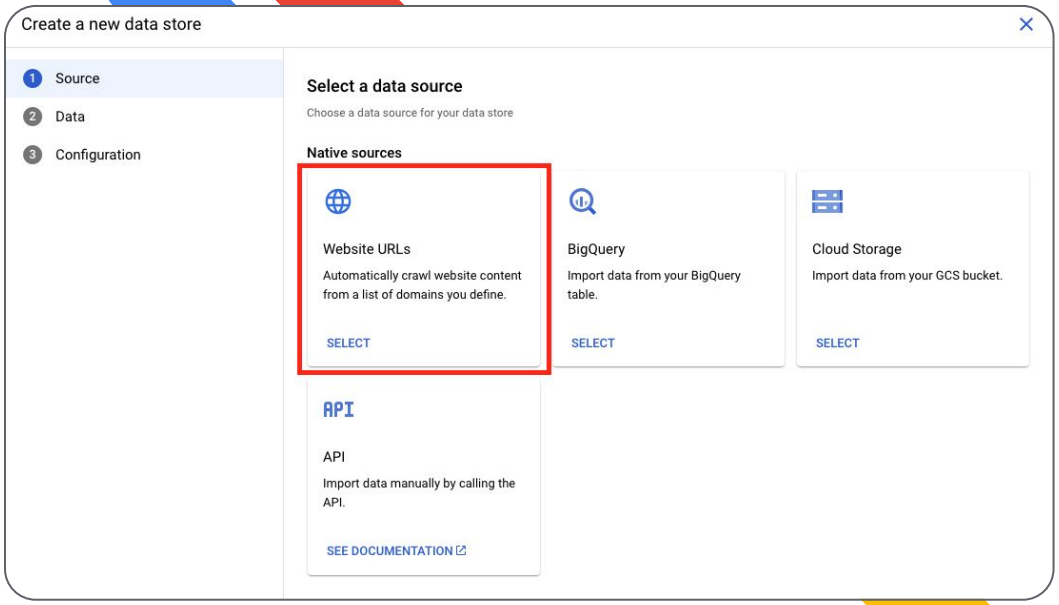
App 이름(가상의 이름), Company Name을 기입하시고, Multi-region에 global 선택을 확인한 뒤 Continue 버튼을 눌러주세요.



Google Cloud

Vertex AI Search 시작하기

Create New Datasource 버튼 클릭 후 Data source를 Website URLs로 선택해주세요.

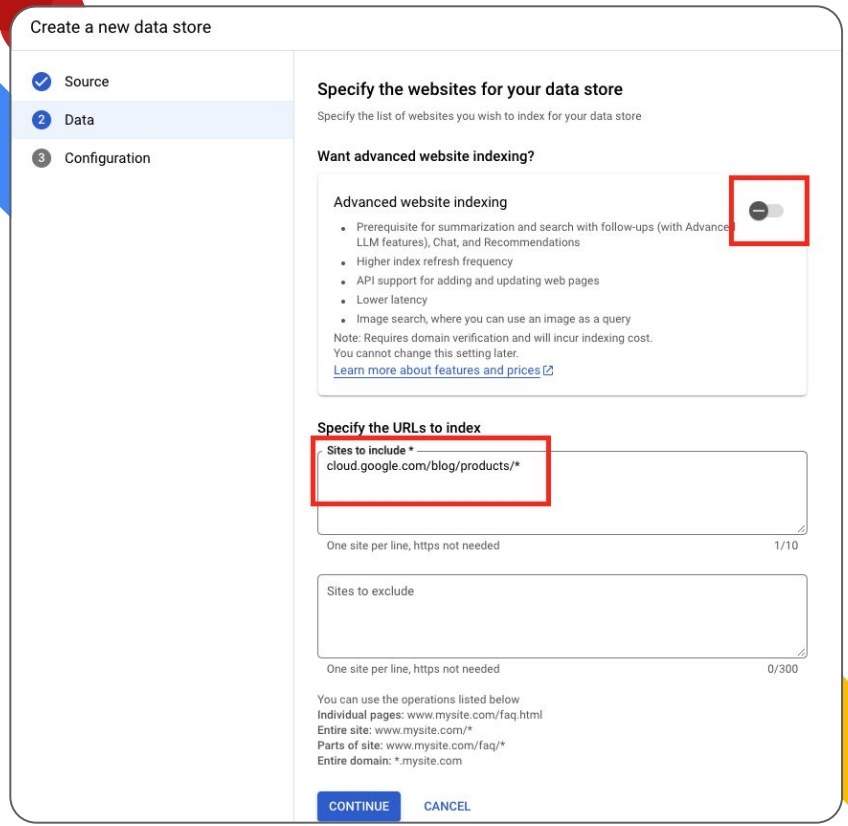


Vertex AI Search 시작하기

Advanced website indexing 옵션 체크 해제를 확인해주시고 Index 대상 사이트에

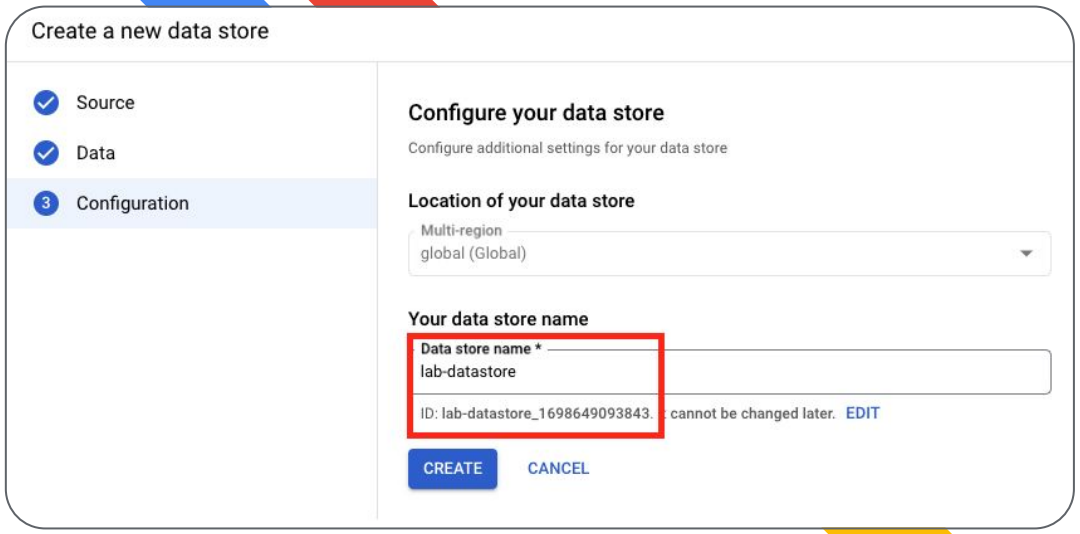
cloud.google.com/blog/products/*

를 추가해주세요.



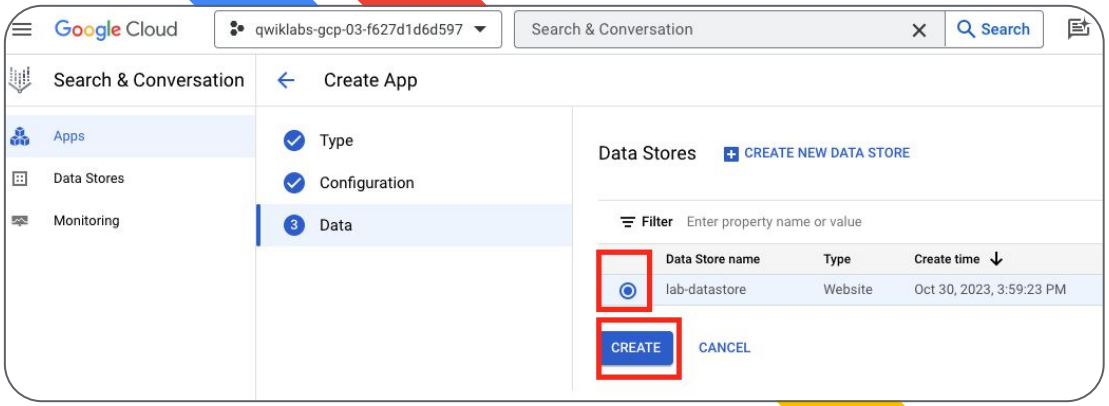
Vertex AI Search 시작하기

Datastore 이름을 지정해주세요.



Vertex AI Search 시작하기

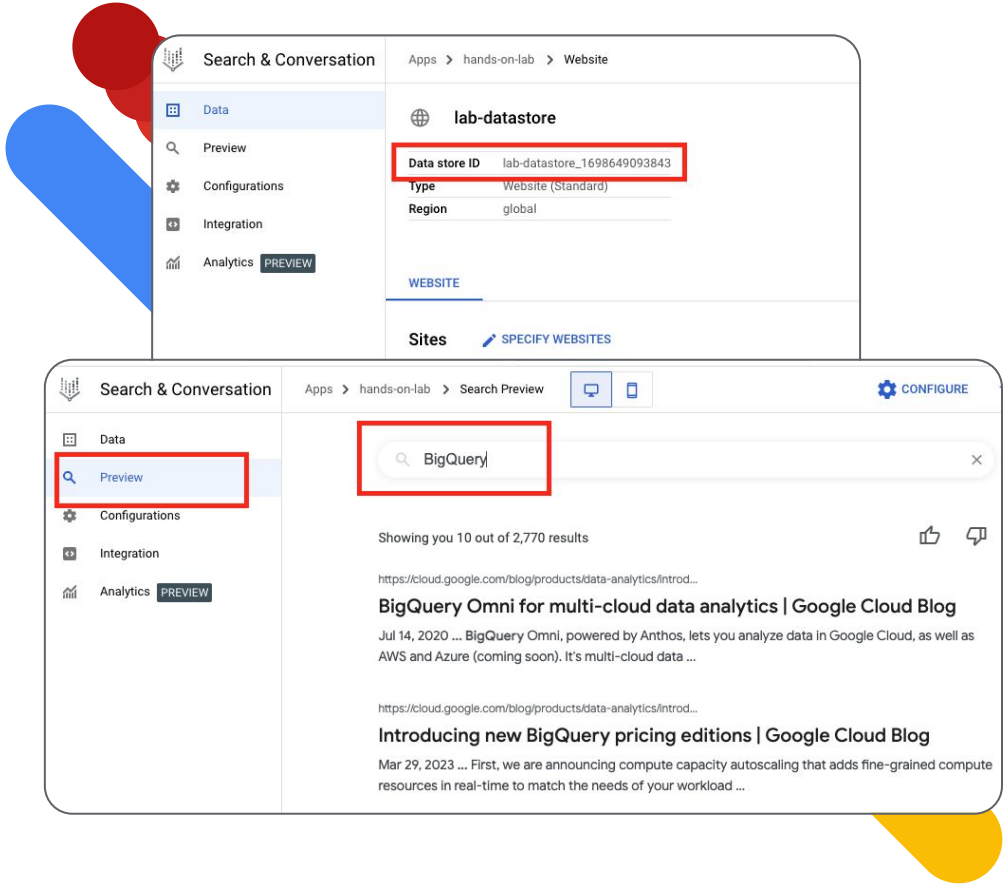
Data Store 라디오버튼 체크 후 Create을 하면 App이 생성됩니다.



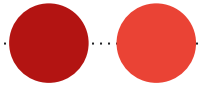
Vertex AI Search 시작하기

생성된 App의 Data Store ID를 확인해주세요.(추후 Notebook에서 사용)

Preview 탭에서 BigQuery 라고 검색하시면 페이지 검색 결과를 보실 수 있습니다.



Google Cloud



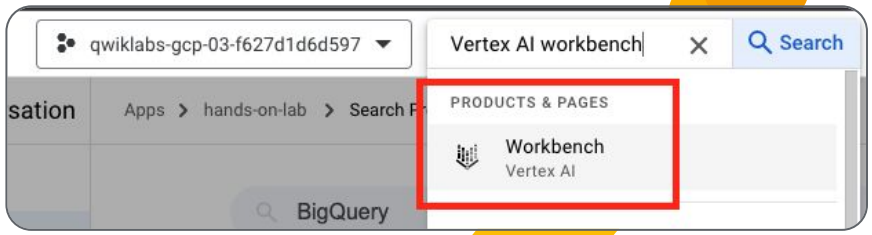

Vertex AI Workbench
에서 노트북 실행하기

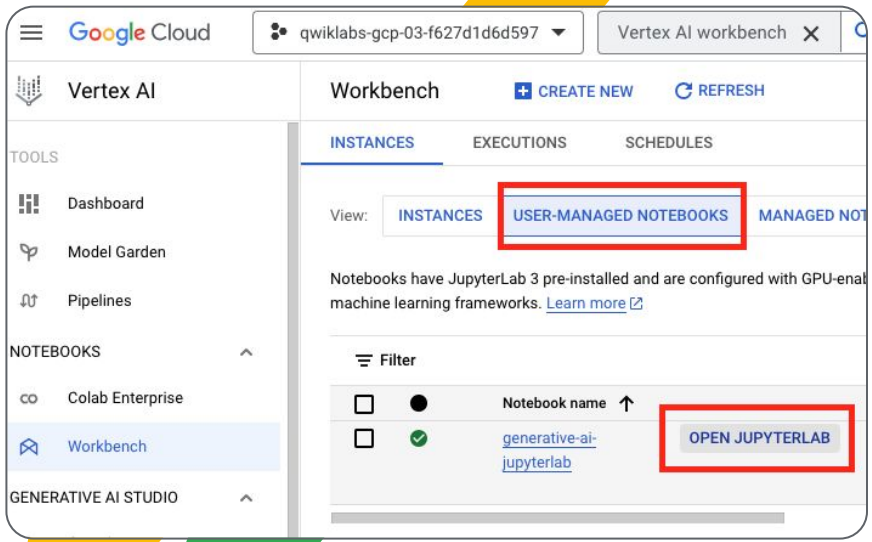
Vertex AI Workbench 시작하기

Console 검색창에 Vertex AI Workbench 검색 후 Workbench로 접속하세요.

이후 USER-MANAGED NOTEBOOKS 메뉴를 클릭하시면 생성된 VM을 확인하실 수 있습니다.

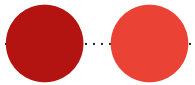
OPEN JUPYTERLAB을 클릭해주세요.





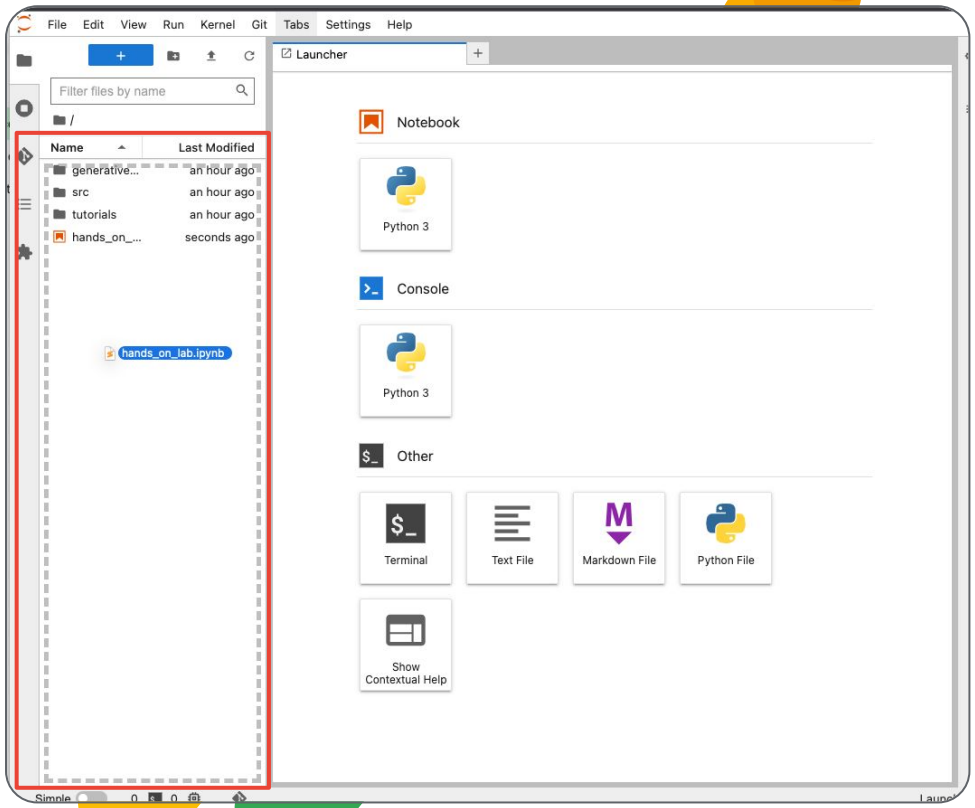
Vertex AI Workbench 시작하기

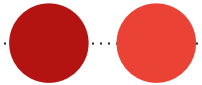
아래 URL에 접속하여 이번 실습에 사용할 노트북 파일을 받아주세요.
https://storage.googleapis.com/hackathon-seoul/hands_on_lab.ipynb
또는
https://shorturl.at/lopX1



Vertex AI Workbench 시작하기

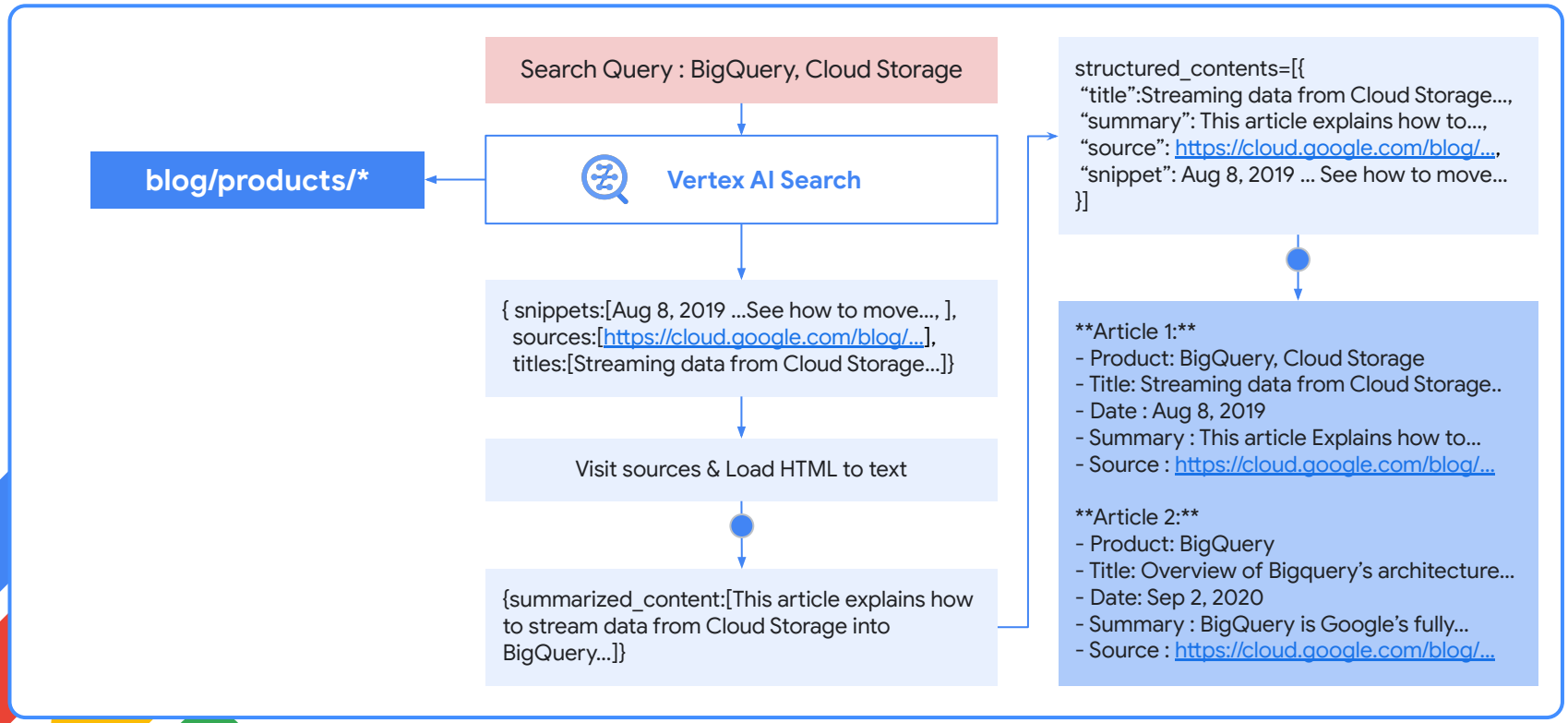
다운로드 받은 노트북 파일을
노트북의 파일 브라우저로
드래그앤드로우 하시면 노트북
파일이 업로드 됩니다.






Notebook 소개

Notebook Workflow



Searching & Retrieving

BigQuery, Cloud Storage → Vertex AI Search

{ snippets:[Aug 8, 2019 ...See how to move...,],
sources:[https://cloud.google.com/blog/...],
titles:[Streaming data from Cloud Storage...]}

```python
def get_relevant_snippets(self, query: str) -> List[str]:
    """Retrieve snippets from a search query"""
    res = self._search(query)
    snippets = []
    sources = []
    titles = []

    for result in res.results:
        data = MessageToDict(result.document._pb, preserving_proto_field_name=True)
        # structured
        if data.get('derived_struct_data', {}) == {}:
            snippets.append(data.get('struct_data', {}))
        else:
            # web
            if data.get('derived_struct_data', {}).get('snippets', {}):
                for d in data.get('derived_struct_data', {}).get('snippets', []):
                    if d.get('snippet') is not None:
                        snippets.append(d.get('snippet'))
                        sources.append(data.get('derived_struct_data', {}).get('link', ''))
                        titles.append(data.get('derived_struct_data', {}).get('title', ''))
            else:
                # unstructured
                derived_struct_data = data.get('derived_struct_data',{})
                if derived_struct_data.get('extractive_answers') is not None:
                    snippets.append(derived_struct_data.get('extractive_answers')[0].get('content'))
                    sources.append(derived_struct_data.get('link'))

    return snippets, sources, titles
```

Reference : Discovery Engine > SearchRequest, Discovery Engine > SearchResponse

Search Query : BigQuery, Cloud Storage

↓

Vertex AI Search

↓

{ snippets:[Aug 8, 2019 ...See how to move...,],
sources:[https://cloud.google.com/blog/...],
titles:[Streaming data from Cloud Storage...]}

↓

Visit sources & Load HTML to text

↓

{summarized_content:[This article explains how to stream data from Cloud Storage into BigQuery...]}

Code : Reference : langchain-google-cloud-es-search

Visit url & Get Contents

https://cloud.google.com/blog/...

WebBaseLoader
(from Langchain)

[Document(page_content='Streaming data from Cloud Storage into BigQuery using Cloud Functions | Google Cloud BlogJump to ContentCloudBlogContact ...]

```
def page_contents(self, urls: str) -> List[str]:

    contents = []

    for url in urls:
        loader = WebBaseLoader(url)
        docs = loader.load()
        contents.append(docs)
    return contents
```

Search Query : BigQuery, Cloud Storage

Vertex AI Search

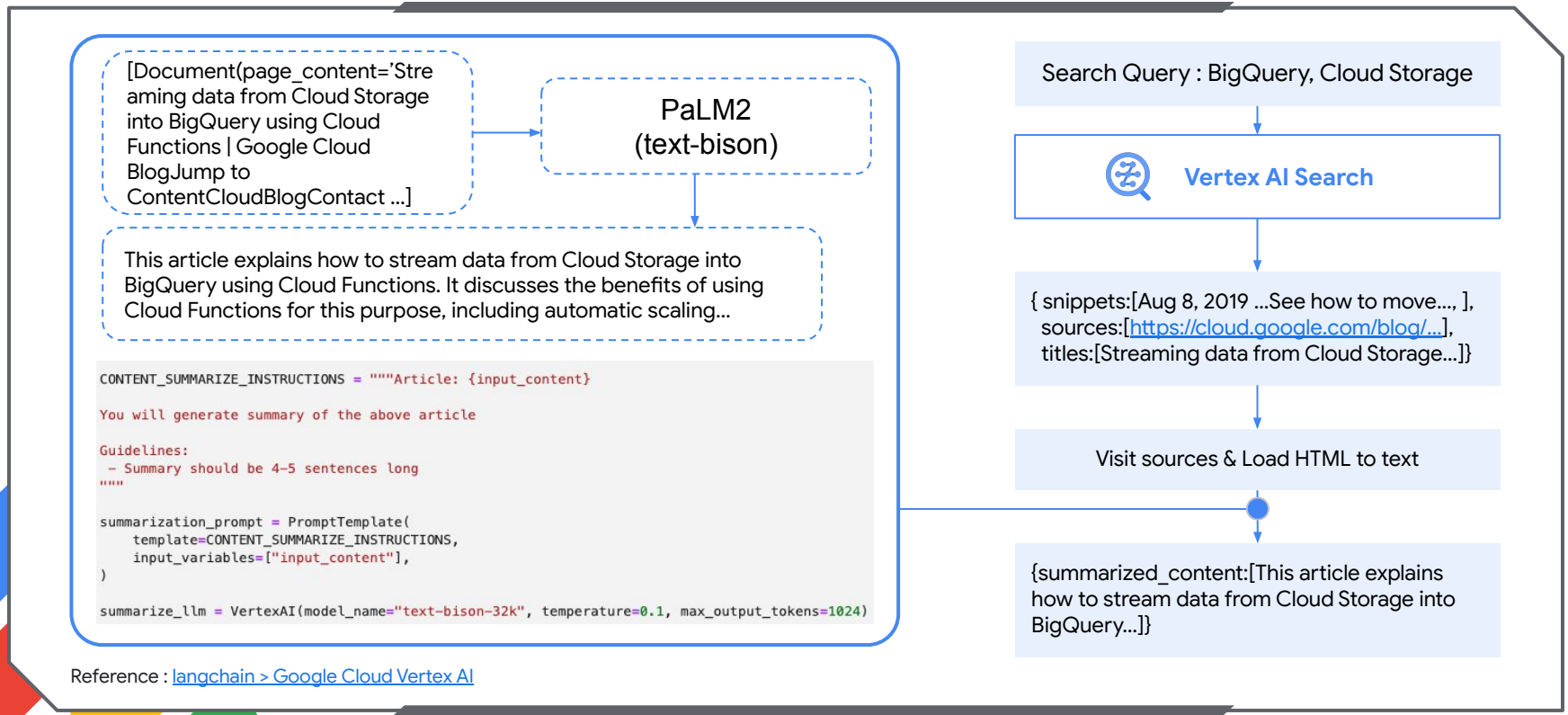
{ snippets:[Aug 8, 2019 ...See how to move...,],
sources:[https://cloud.google.com/blog/...],
titles:[Streaming data from Cloud Storage...]}

Visit sources & Load HTML to text

{summarized_content:[This article explains how to stream data from Cloud Storage into BigQuery...]}

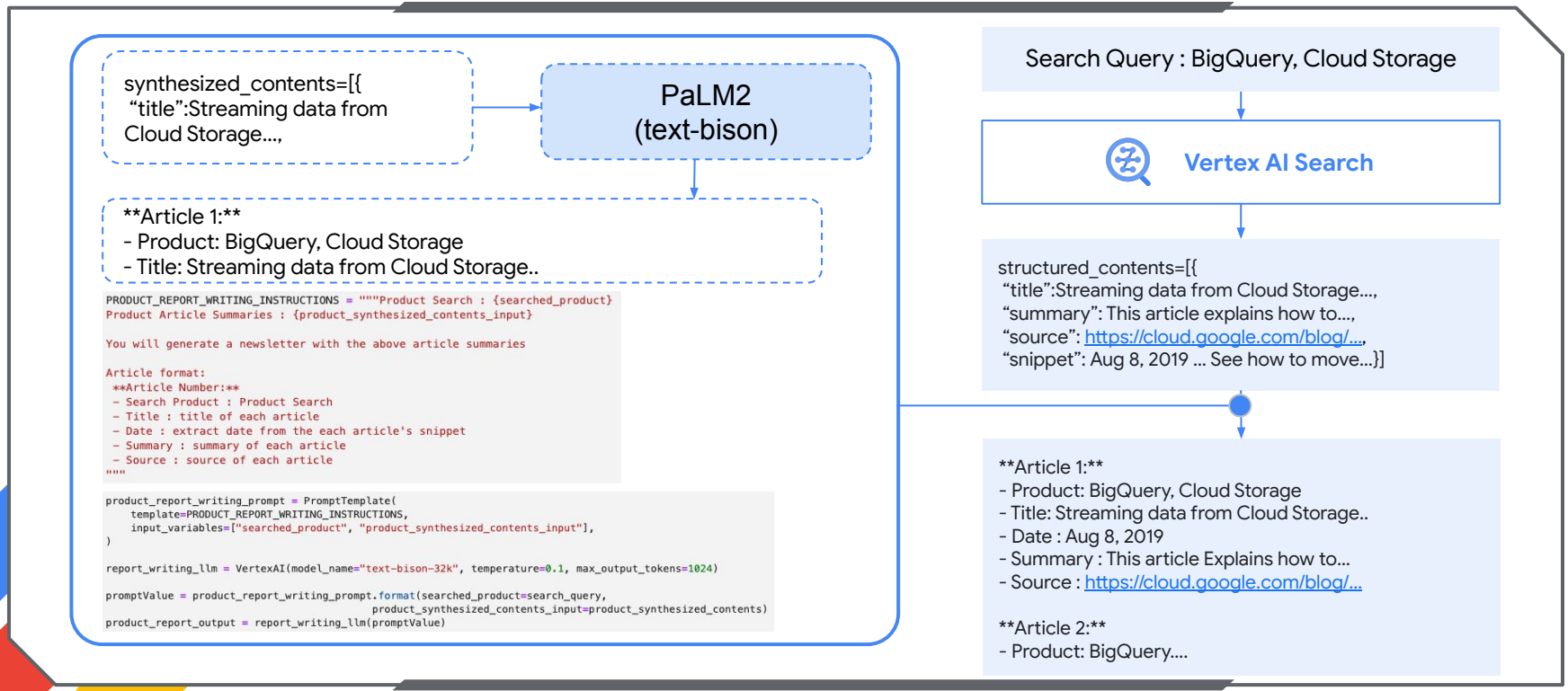
Reference : langchain > WebBaseLoader

Prompt Engineering



Reference : langchain > Google Cloud Vertex AI

Prompt Engineering



추가 과제

01 더 많은 블로그 포스트를 **Newsletter**에 담아보기 **(현재 3개의 Post)**

02 **Instruction Prompt**로 **Newsletter** 포맷 변경해보기

03 다른 웹사이트로 실험해보기 **(cloud.google.com/blog/topics/*)**

04 다른 **Data Type**으로 실험해보기 **(PDF)**

지금부터 약 60분 동안 실습을
진행해주세요. (16:20 까지)

Closing + Kahoot

오후 4:20 - 오후 4:30

Quiz 접속하기

휴대폰으로 다음
QR Code를 이용해서
퀴즈 페이지에
접속해주세요.

Gen AI 컨설팅
서비스 등록하기

Google Cloud와 함께 생성형 AI 여정을 시작하세요!

https://bit.ly/GenAILabs

Google Cloud Summit Seoul 2023
Hands On Session에 참여해주셔서
감사합니다!