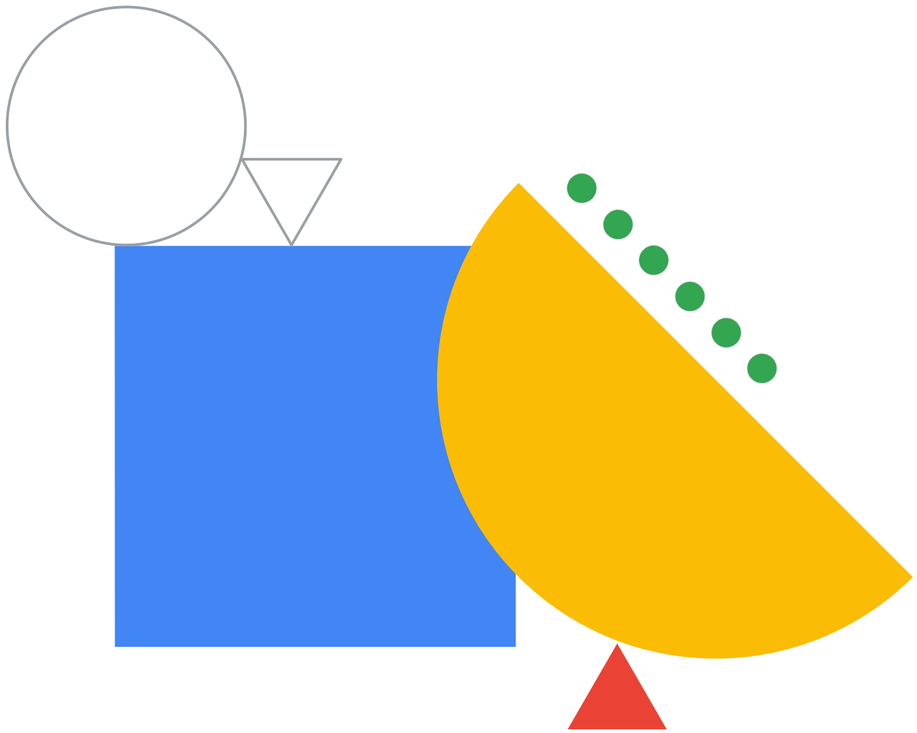
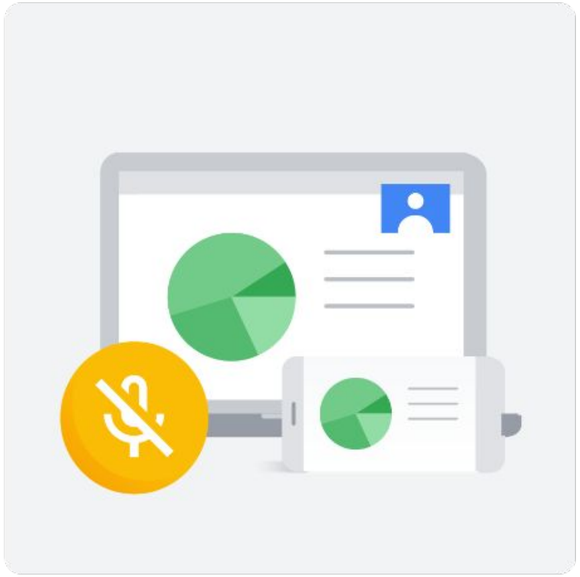
Google Cloud

Building Generative AI Applications with Vertex AI for Partners



Etiquette



Mute microphone

No recording

Ask questions

Objectives

01 Design, program, and deploy applications that take advantage of Google's powerful generative AI tools

02 Generate text, code, and Images using Google foundational models

03 Solve complex text generation problems using advance prompt engineering methods

04 Program applications that integrate GenAI features using the REST APIs and Python client library

05 Simplify GenAI code using LangChain models, parsers, chains, and components

06 Make search and classification use cases easier and more efficient using Text Embeddings

Objectives (cont'd)

07 Improve programmer productivity and code quality with Codey and Duet AI

08 Fine-tune models using supervised training and reinforcement learning from human feedback (RLHF)

09 Test and evaluate generative AI applications

10 Follow responsible AI and security best practices when implementing generative AI solutions

11 Architect real-world generative AI case studies

Agenda

01 Diving Deeper into Generative AI

02 Advanced Prompt Engineering

03 Programming Generative AI Applications

04 Leveraging LangChain with PaLM

05 Text Embeddings for Classification and Search

06 Building RAG solutions

Agenda (Cont'd)

07 Creating Pipelines to Enhance Product Catalog

08 PDF Summarization Pipeline

09 Code Generation

10 Model Fine Tuning

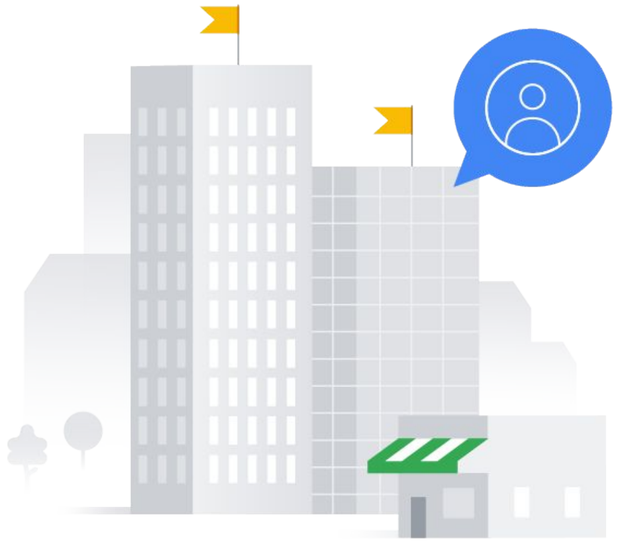
11 Evaluating and Testing Generative AI Models

12 Responsible AI, Security, and Best Practices

13 Final Generative AI Architecture Case Study

Target audience

- Those developing apps using generative AI features on Google Cloud's Vertex AI platform



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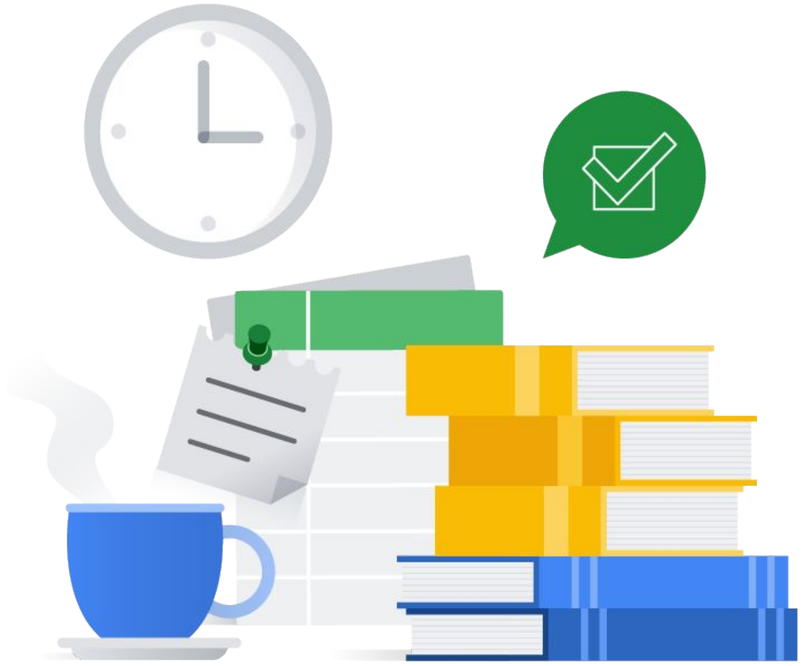
- ML researchers
- Programmers
- App developers
- Data engineers

Helpful knowledge



- Google Cloud basics
- Python programming
- Machine learning basics
- Leveraging APIs in applications

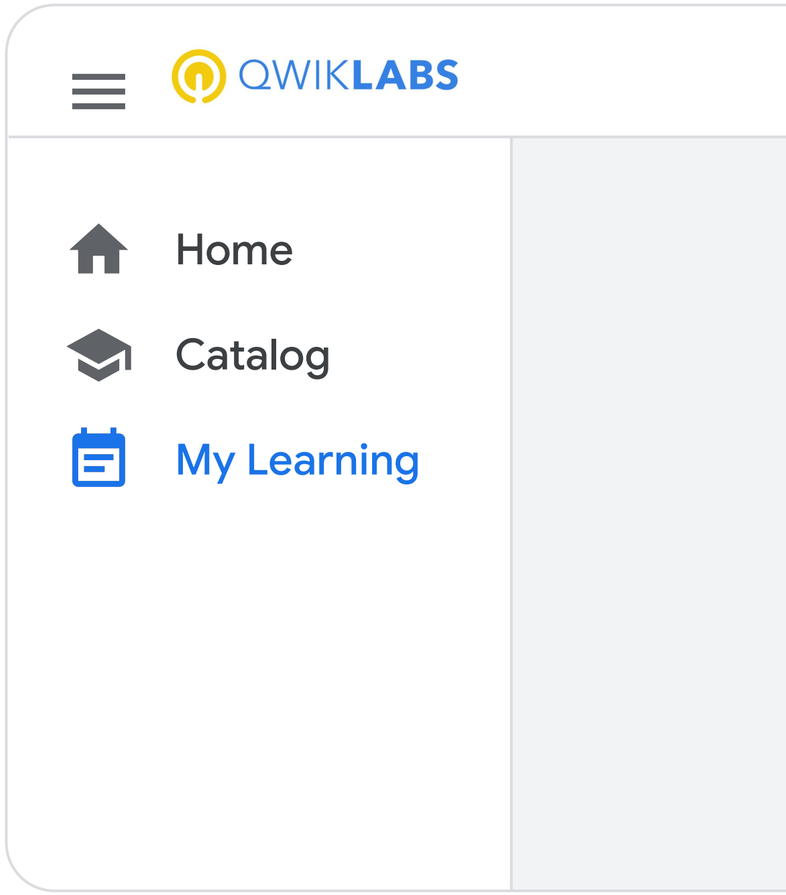
Lab environment

For each lab, Qwiklabs offers:

- A free set of resources for a fixed amount of time
- A clean environment with permissions

Open Qwiklabs

1. **Open an incognito window** (or private/anonymous window).
2. **Go** to the Qwiklabs URL your instructor provides.
3. **Sign In** with existing account or **Join** with new account (with email you used to register for the course).
4. Launch the course from **My Learning**.



Access issues

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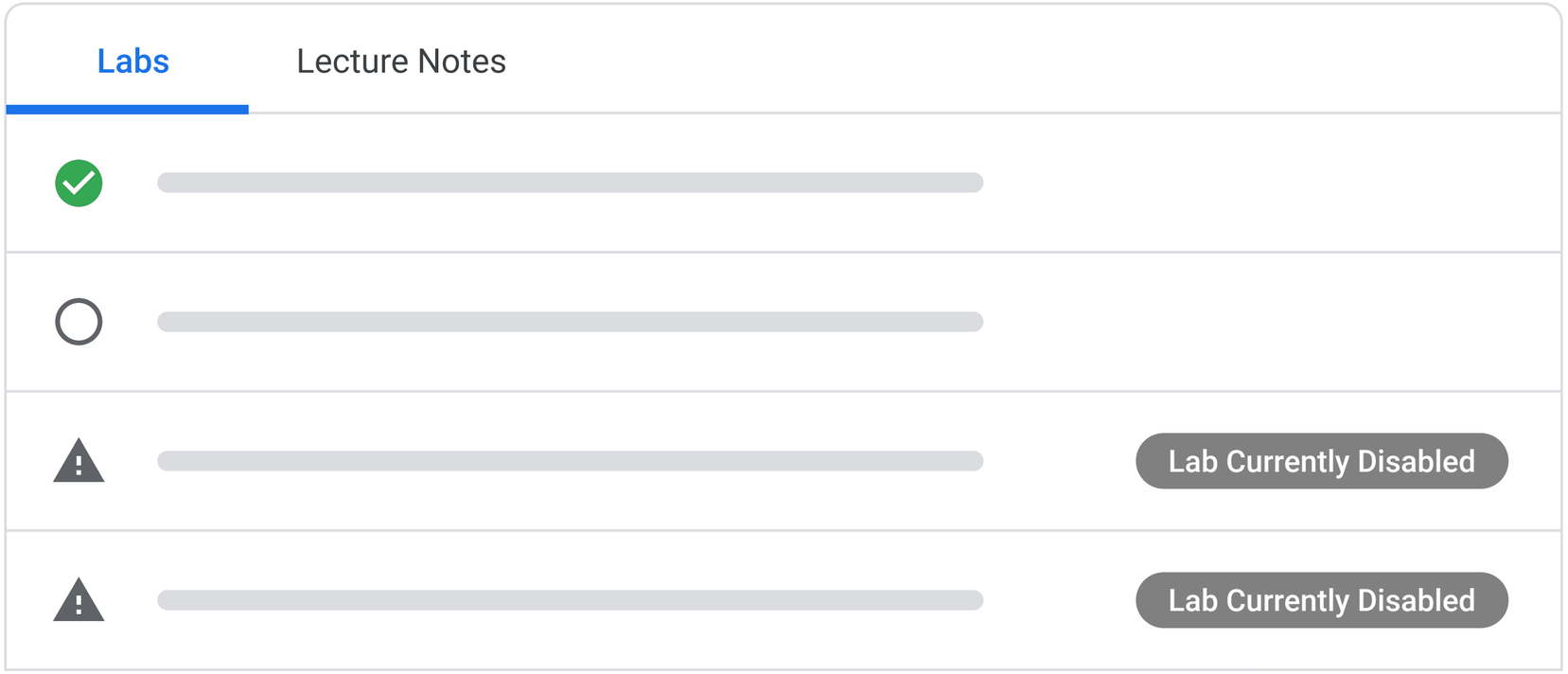
View your labs

Do NOT launch a lab until instructed to do so!

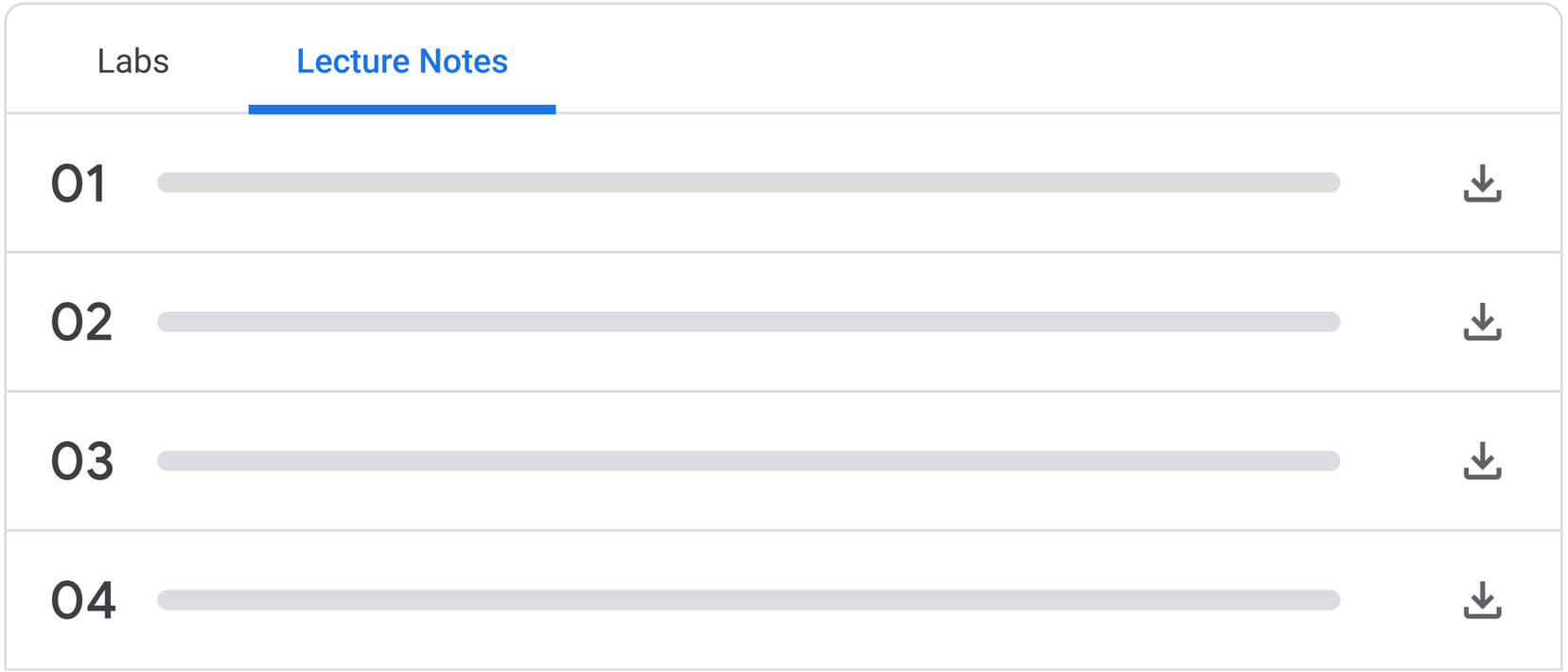


Lab completed

To be completed

Not yet available

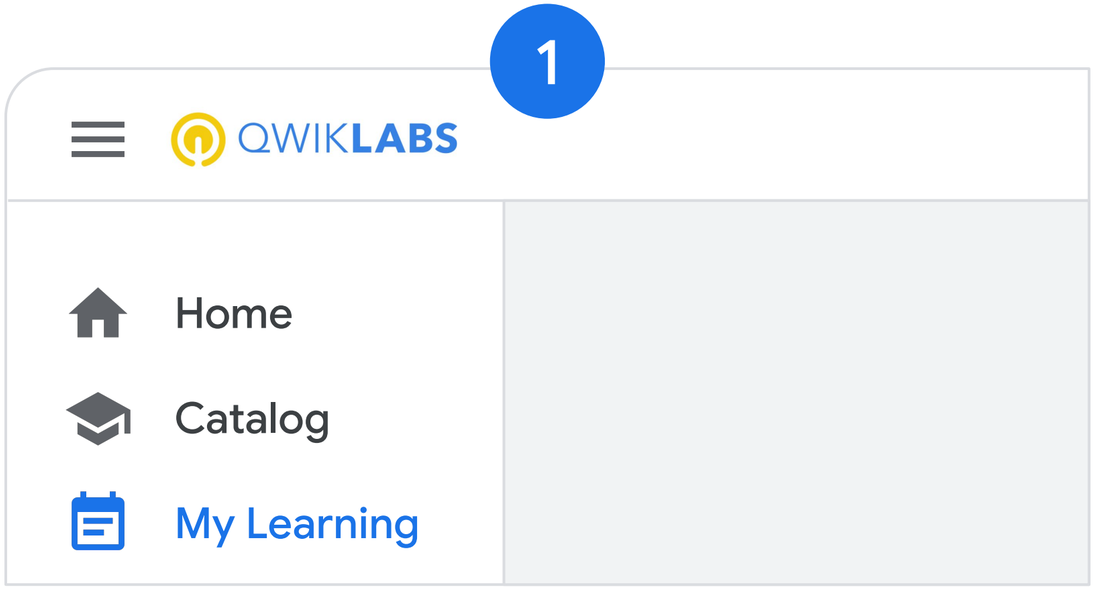
View lecture notes



You can download these as PDF files

End of class - Materials

Materials are available for 2 years



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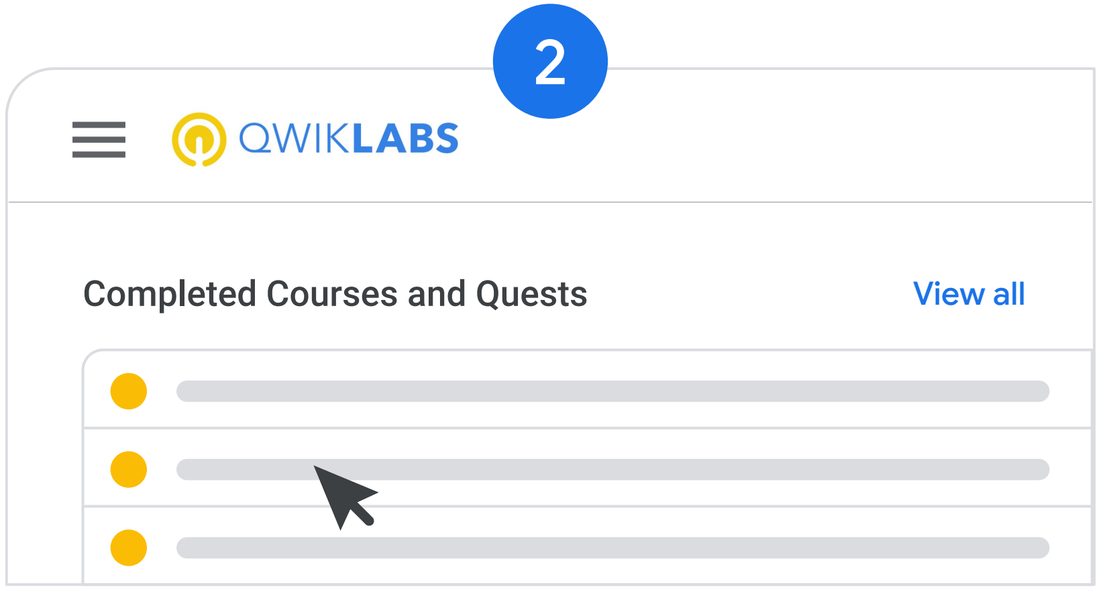

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