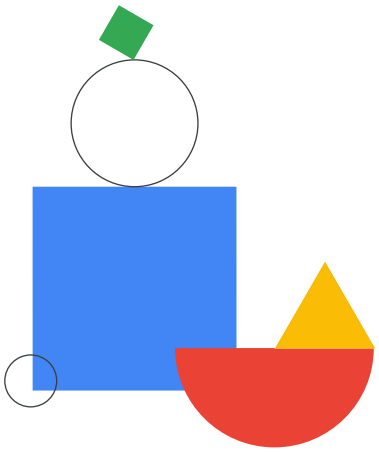
Google Cloud

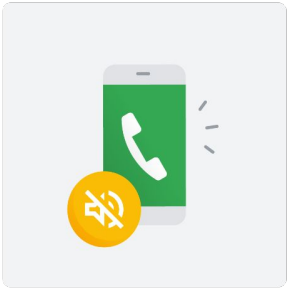
Developing Applications with Google Cloud



Full name

Role, organization

Etiquette



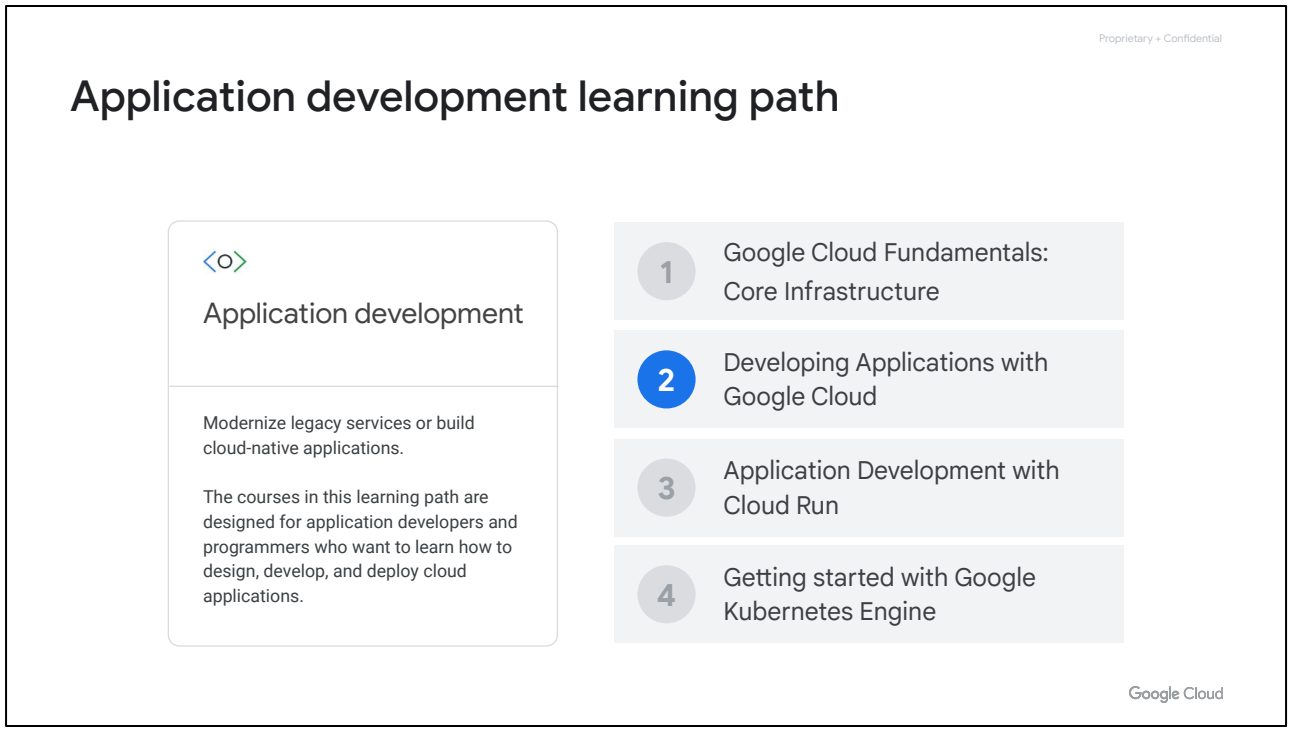
No calls

No recording

Ask questions

To ensure an effective and respectful learning environment for everyone here today:

- Please silence your phone and take calls outside the classroom.
- Refrain from recording this class. It's prohibited.
- Ask questions when you have them.



The **Developing Applications with Google Cloud** course is part of the **Application development** learning path. This path is designed for IT professionals, such as Cloud Developers and Cloud DevOps Engineers, who are responsible for designing, developing, deploying, and maintaining applications in the cloud.

The prerequisite for this course is the Google Cloud Fundamentals: Core Infrastructure course.

Target audience and prerequisites

Application developers who want to build cloud-native applications or redesign existing applications that will run on Google Cloud.

- Completed **Google Cloud Fundamentals: Core Infrastructure** or have equivalent experience
- Working knowledge of Node.js
- Basic proficiency with command-line tools and Linux operating system environments

This course is targeted at application developers who want to build cloud native applications or redesign existing applications to run on Google Cloud.

Ideally, you've completed the **Google Cloud Fundamentals: Core Infrastructure** course, or have equivalent Google Cloud experience. While a working knowledge of Node.js, Java, or Python will be helpful when working on the hands-on labs, don't worry if you're not proficient in those programming languages. The lab instructions have all the code that you need to complete the lab. A basic knowledge of the Linux operating system and command line tools will also be helpful.

Objectives

01 Learn best practices for application development

02 Learn how to implement applications that use Google Cloud services for: data storage, integration between application components, security, and reliability

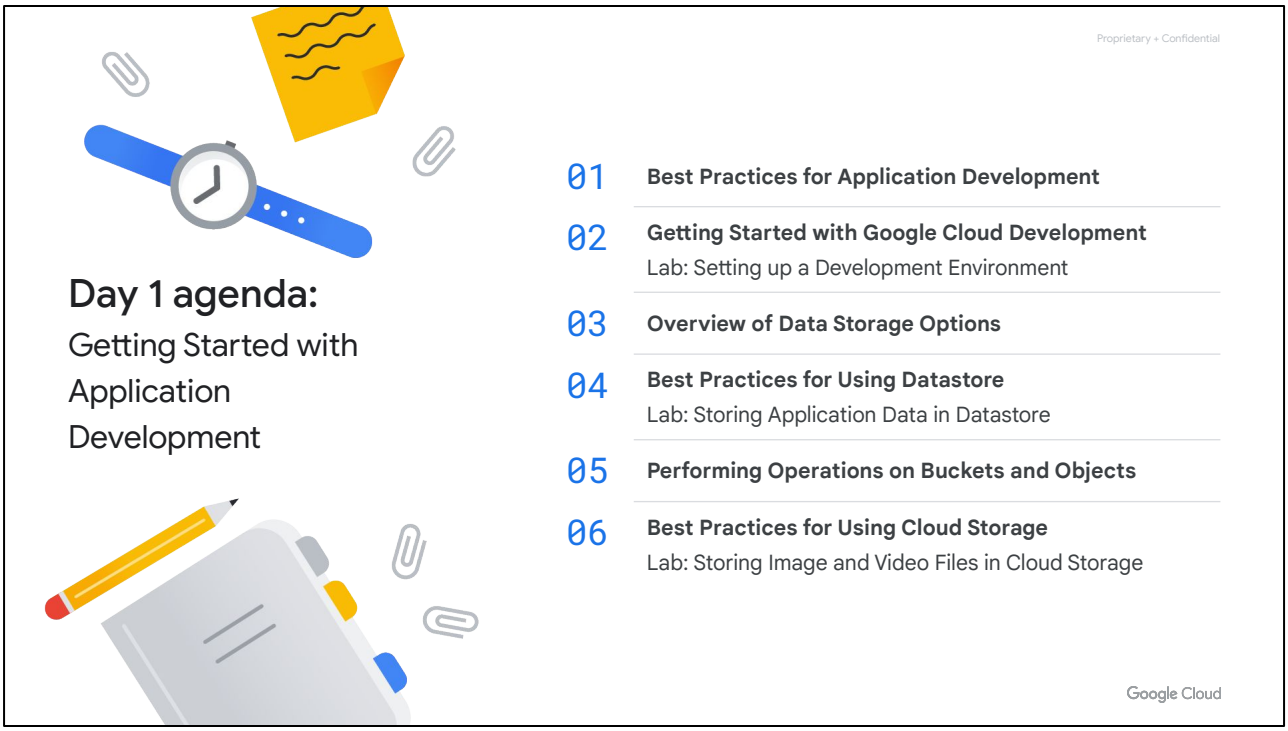
03 Learn how to choose the appropriate application runtime environment

Let's take a look at the overall objectives of the course.

To build a strong foundation, you'll start by learning some best practices for application development.

Then you'll learn how to implement applications that use Google Cloud services for: data storage, integration between application components, security, and reliability. If you're unsure whether to run your application in Compute Engine, Google Kubernetes Engine (GKE), Cloud Run, or another environment, we have just the right information to help you make a choice.

To solidify your learning, the course design enables you to learn concepts and then apply them in immersive hands-on labs.



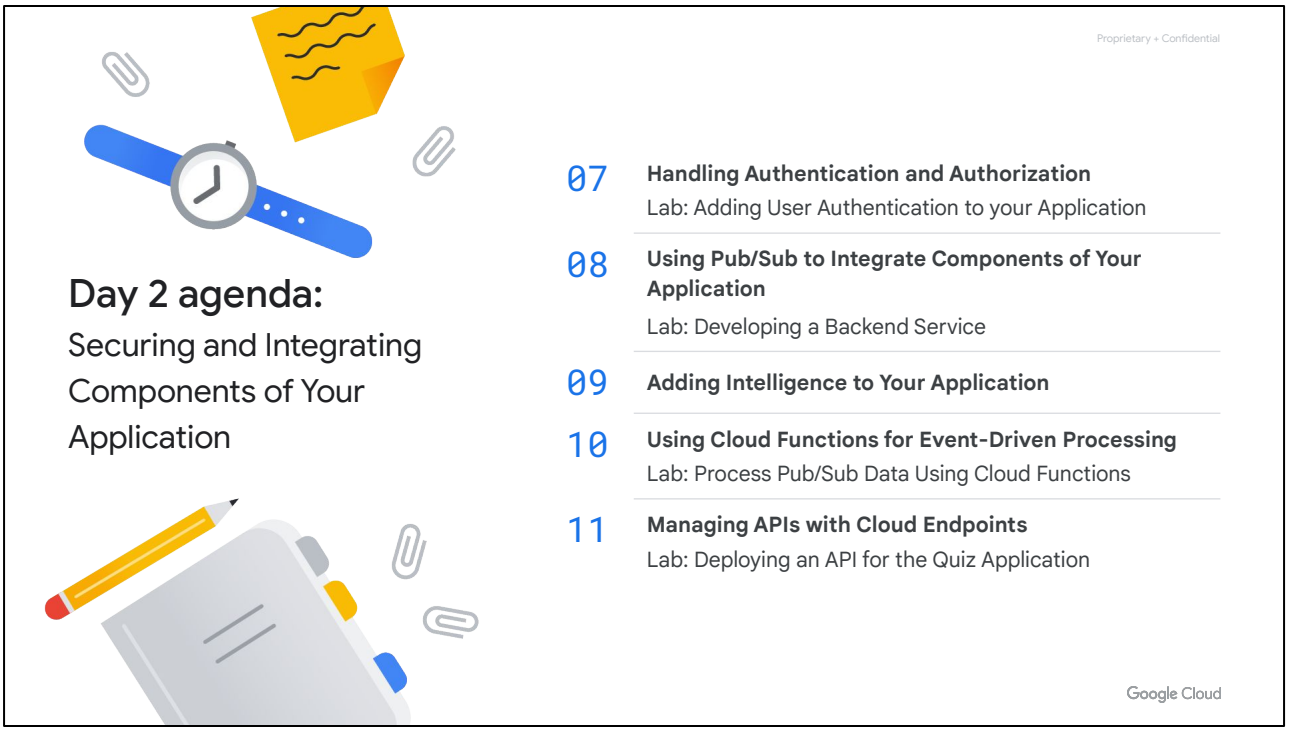
This course is broken into three parts that are roughly distributed over the three days of this course.

Getting Started with Application Development is the first part of the course.

You'll begin with Best Practices for Application Development.

You'll learn how Cloud APIs, the Google Cloud SDK, Cloud Client Libraries, and Cloud Code can benefit your apps and scripts.

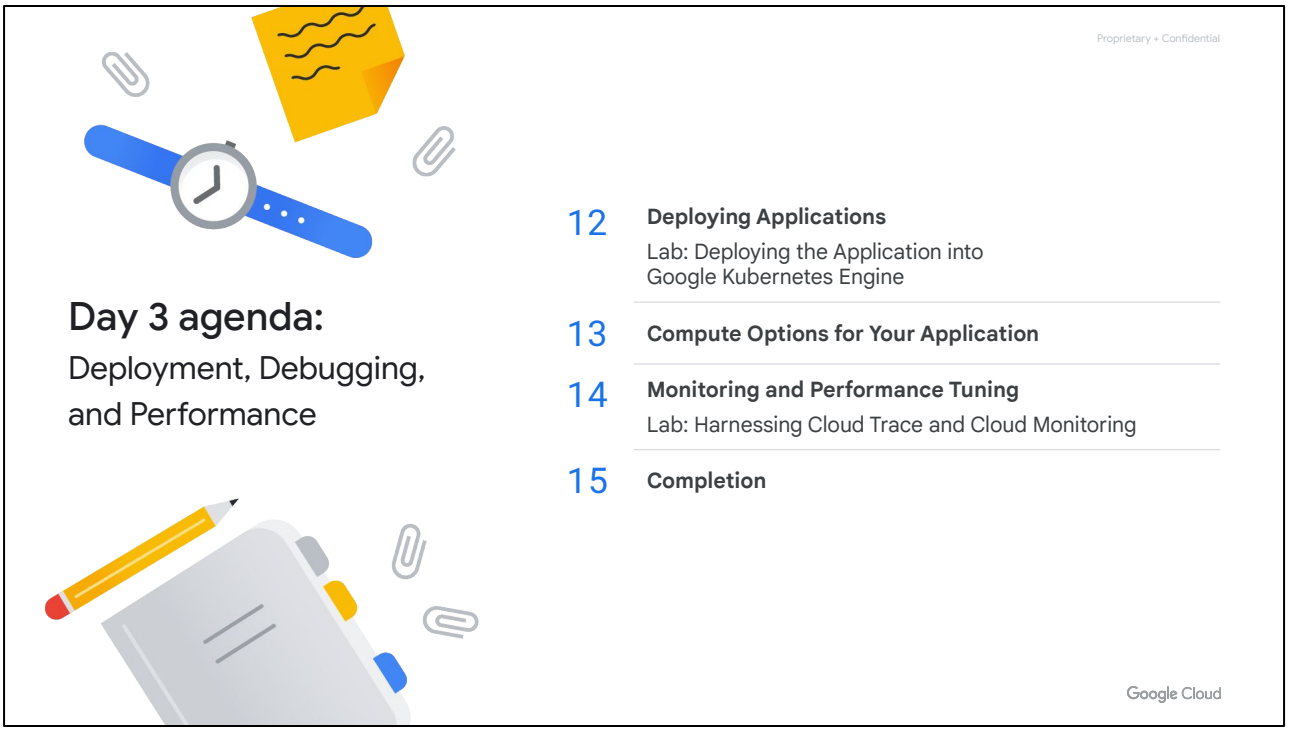
Next, you'll dive into Firestore, Cloud Bigtable, Cloud Storage, Cloud SQL, Cloud Spanner, and other managed services to store your application data.



In day 2, **Securing and Integrating Components of Your Application**, we explain how to handle user authentication and authorization.

You'll learn how to build loosely coupled applications and integrate components of your application using Pub/Sub, Cloud Functions and Cloud Endpoints.

Then, you'll explore the exciting possibilities for adding intelligence to your application using Google's machine learning APIs, and pre-trained models.



Finally, day 3 is **App Deployment, Debugging, and Performance**.

In the module Deploying Applications, you learn how to create repeatable deployments and develop strong build and release systems by treating infrastructure as code.

We explain ideal use cases and factors to consider when choosing a platform to run your applications. For example, when should you run your application on Compute Engine, GKE, Cloud Run, or Cloud Functions?

Debugging, monitoring and performance tuning are crucial to running robust applications. In this module, you'll learn how to use the features of Google Cloud's operations suite to debug and monitor applications in development and production environments.

By the end of the course, you will have learned and applied the skills to build highly scalable and reliable Cloud native applications.

Lab environment

For each lab, Qwiklabs offers:

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

Qwiklabs provisions you with Google account credentials, so you can access the Cloud Console for each lab at no cost. Specifically, for each lab, Qwiklabs offers:

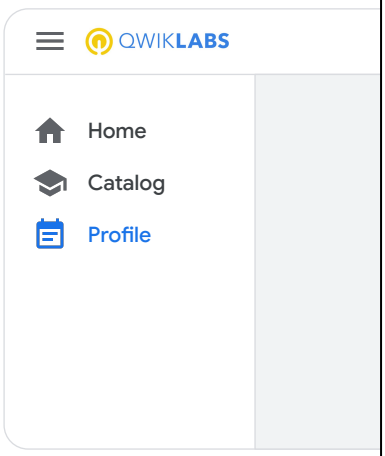
- A free set of resources for a fixed amount of time
- A clean environment with permissions

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 **Profile**.

Access issues

The process to open Qwiklabs can differ based on credentials used. Please reach out to your trainer if you have any access issues.



Let's go ahead an open Qwiklabs:

1. **Open an incognito window** (or private/anonymous window). Use of an incognito browser window reduces the risk that you will accidentally do the labs using your own Google Cloud account rather than Qwiklabs'.
2. **Go** to the Qwiklabs URL your instructor provides.
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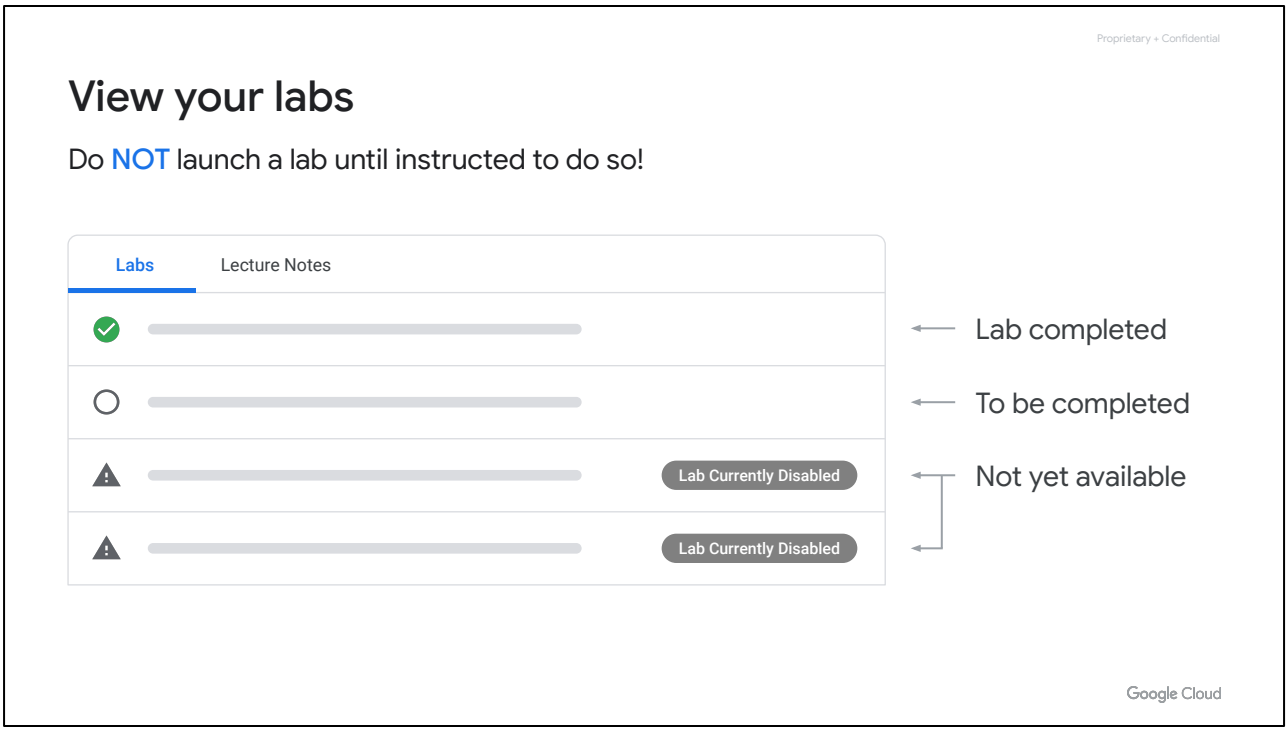
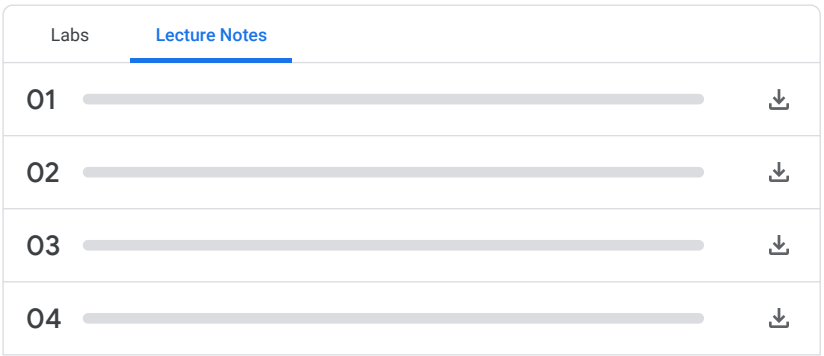


After you launch the course, you can view your labs. The lab list will indicate if a lab is:

- Completed (by you)
- Active
- Or not yet available

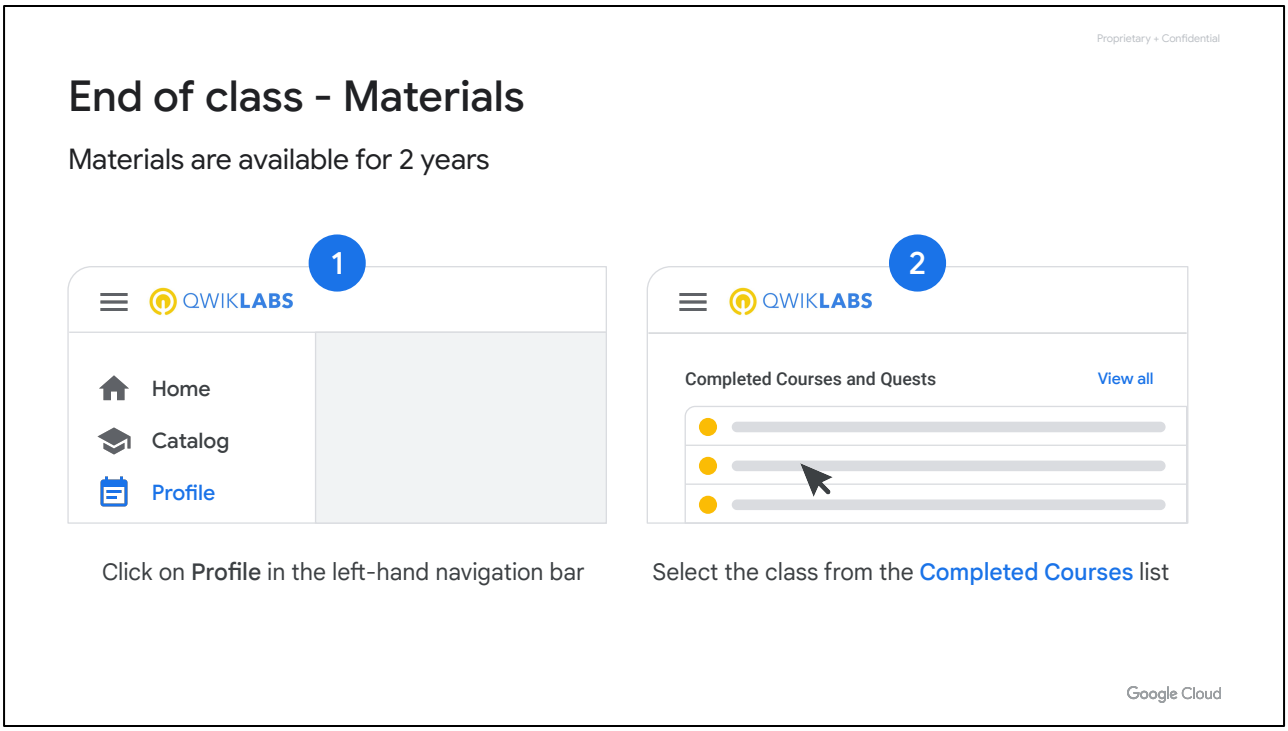
Your instructor will let you know when it’s time to launch a lab. Once you start a lab, you won't be able to pause and restart it, so you'll need a continuous block of time to complete the work.

View lecture notes



You can download these as PDF files

Within the course, you can also view the lecture notes. You can download these as PDF files.



You can view the course materials within Qwiklabs as follows:

1. Click on ***Profile*** in the left-hand navigation bar.
2. Scroll down to the ***Completed Courses*** section.
3. Select the class from the ***Completed Courses*** list.

Materials are available for 2 years following the completion of a course.