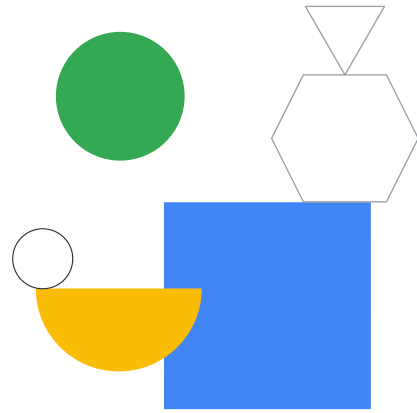# Architecting Hybrid Infrastructure with Anthos

Welcome to Architecting Hybrid Infrastructure with Anthos. This instructor-led course provides you with a broad study of the Anthos technology stack.

Facilities:
- Parking
- Facilities
- Food

Course etiquette

Please silence your phone if in person, and mute your microphone when attending virtually.

Recording this class is prohibited.

Ask questions! Do not suffer in silence.

Google Cloud

Course etiquette:
- Recording this class is prohibited.
- Please silence your phone and take calls outside.
- Ask questions interactively or via chat (online).

Cloud Infrastructure learning path

Cloud Infrastructure

These tracks are designed for IT professionals who are responsible for implementing, deploying, migrating, and maintaining applications in the cloud.

1 Architecting with Google Kubernetes Engine

2 Architecting Hybrid Infrastructure with Anthos

The Architething Hybrid Infrastructure with Anthos course is part of the Cloud Infrastructure learning path. It follows the Architecting with Google Kubernetes Engine course.

The Architecting Hybrid Infrastructure with Anthos course shows you how to work with containerized applications even when split between multiple clusters, hosted by multiple cloud providers or on-premises. This course is a continuation of Architecting with Google Kubernetes Engine course and assumes direct experience with the technologies covered in that course.

Through presentations and hands-on labs, you explore Google Kubernetes Engine (GKE), Connect Agent, Anthos Service Mesh and Anthos Config Management features.

Audience and prerequisites

Target audiences

- Cloud architects, administrators, and SysOps/DevOps personnel of Google Cloud customer companies

- Individuals using Google Cloud to manage and operate hybrid and cloud-agnostic infrastructure

Prerequisites

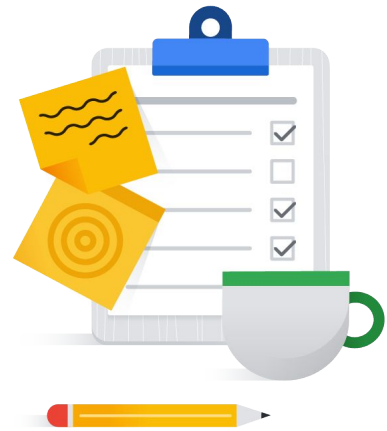- [Architecting with Google Kubernetes Engine](#) or equivalent experience

In this course, you ...

- Architect and plan an Anthos installation in the cloud.

- Perform multi-cluster routing.

- Set up configuration management across clusters and environments.

- Describe automating policy and security at scale with Config Management.

- Create multi-cluster networking architectures with Anthos Service Mesh.

In this course, you ...

- Deploy and run applications on an Anthos on-premises solution
- Monitor and troubleshoot applications running on an Anthos on-premises solution.
- Install workloads on Cloud Run and Cloud Run for Anthos.
- Configure and review logging, metrics, and monitoring for serverless computing solutions on Anthos.
- Install and use Migrate for Anthos to migrate workloads.

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Agenda - Day 1

	Module	Lab
1	The need for Anthos	
2	Anthos Environments	
3	Fleet Networking	● North-south routing with Multi-Cluster Gateways
4	Managing configuration with Anthos	● Configuring Clusters with Anthos Config Management ● Enforcing policy with Anthos Config Management Policy Controller

Google Cloud

Agenda - Day 2

	Module	Lab
5	Introducing Anthos Service Mesh	● Anthos Service Mesh walkthrough ● Install and Observe an Anthos Service Mesh
6	Anthos Service Mesh Routing	● Managing traffic flow with Anthos Service Mesh
7	Securing Network Traffic with Anthos Service Mesh	● Securing Traffic with Anthos Service Mesh
8	Multi-cluster Networking with Anthos Service Mesh	● Configuring a multi-cluster mesh

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Agenda - Day 3

	Module	Lab
9	The need for Anthos bare metal	
10	Planning and building the Anthos admin cluster	● Creating infrastructure and deploying Anthos clusters on bare metal
11	Adding and configuring user clusters	● Deploying workloads on Anthos clusters on bare metal
12	Operating and managing clusters	● Observing Anthos clusters on bare metal

Agenda - Day 4

	Module	Lab
13	Application migration with Anthos	• Migrating workloads to containers with Migrate for Anthos
14	Modern CI / CD	• Creating CI/CD Pipelines in Google Cloud for Anthos clusters
15	Serverless on Anthos	• Deploy to Cloud Run • Receive Pub/Sub events with Eventarc and Cloud Run

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Lab environment

For each lab, Qwiklabs offers:

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

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Qwiklabs provisions you with Google account credentials, so you can access the Google 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 an existing account or **Join** with a new account (with email you used to register for the course).

④ Launch the course from **My Learning**.

Access issues

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

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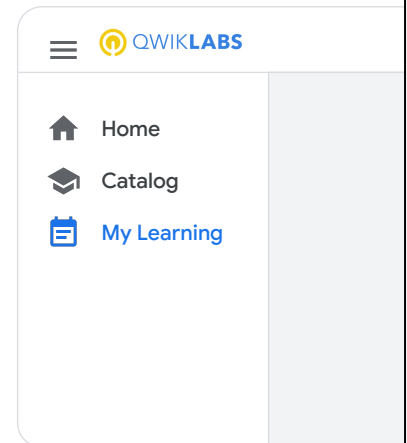
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Go ahead and open Qwiklabs:
1. **Open an incognito window** (or private/anonymous window). Use of an incognito browser window reduces the risk that you will accidentally do the labs using your own Google Cloud account instead of Qwiklabs.
2. **Go** to the Qwiklabs URL your instructor provides.
3. **Sign** in with an existing account or **Join** with a new account (with email you used to register for the course).
4. Launch the course from **My Learning**.

View your labs

Do NOT launch a lab until instructed to do so!

Labs	Lecture Notes	
✅	▬▬▬▬▬▬▬▬▬▬	← Lab completed
⭕	▬▬▬▬▬▬▬▬▬▬	← To be completed
⚠️	▬▬▬▬▬▬▬▬ Lab Currently Disabled	← ⌐ Not yet available
⚠️	▬▬▬▬▬▬▬▬ Lab Currently Disabled	← ⌐

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After you launch the course, you can view your labs. The lab list will indicate whether a lab is:
- Completed (by you)
- To be completed
- Not yet available

Your instructor will let you know when it's time to launch a lab. After 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

Labs	**Lecture Notes**

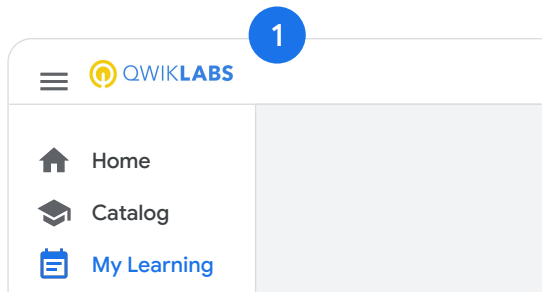| 01 | ————————————————————— | ⬇ |
02	—————————————————————	⬇
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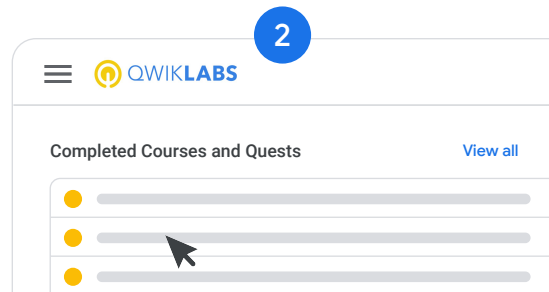You can download these as PDF files

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

End of class: Materials

Materials are available for 2 years.

Click **My Learning** in the navigation pane.

Select the class from the Completed Courses list.

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To view the course materials within Qwiklabs:
1.   Click *My Learning* in the navigation pane.
2.   Select the class from the *Completed Courses* list.

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