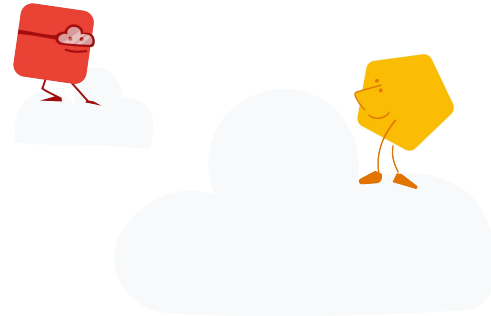


The Digital Event will start momentarily.
Respect your fellow listeners, please mute your microphone.

If you are experiencing poor connectivity, please turn off your camera.

While we are waiting, if you don't already have a Qwiklabs account under your **Corporate** @commerzbank.com **Email**, please visit: <https://google.qwiklabs.com/> click "Join" and create one.



Welcome to Cloud Hero!

Infra Skills for



COMMERZBANK

July 30, 2021



Introductions

Cloud Hero



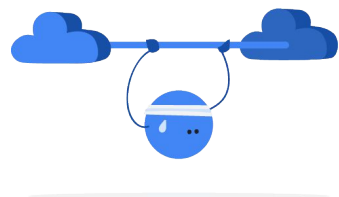
Eduardo Diaz
Customer Success
Manager



Jo Hellwig
Technical Account
Manager

Event Agenda

Cloud Hero



- 1 2 min Welcome + Introductions
- 2 2 min What is Cloud Hero?
- 3 15-20 min Solution Overview
- 4 20 min Let's Practice (Lab Walkthrough + Live Q&A)
- 5 5 min Next Steps
- 6

Housekeeping

- Please keep your microphone muted.
- You are welcome to share your video, or not.
- If you need assistance or have questions, please take advantage of the meeting's moderated chat.
- “Sign In” to Qwiklabs using your **Corporate** email address. If you don't have a Qwiklabs account “Join” and create a free one <https://google.qwiklabs.com>



What is Cloud Hero



What is Cloud Hero?

Cloud Hero

Cloud Hero is a program designed for developer hands-on engagement. Cloud Hero events bring developers together to **learn** and then engage in friendly **competition** against one another in **gamified labs** by using their Google Cloud skills. At its core, a Cloud Hero game is made up of hands-on labs (Qwiklabs) layered with activity-tracking and scoring.

The objective of Cloud Hero is to deliver hands-on training, upskill in Google Cloud solutions, and have fun along the learning journey.

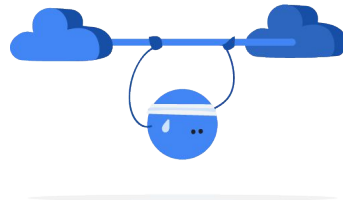


Overview of Hands-on Labs in **Infra Skills**

Cloud Hero

Labs in this game

- A Tour of Qwiklabs and Google Cloud
- Creating a Virtual Machine
- Getting Started with Cloud Shell and gcloud
- Kubernetes Engine: Qwik Start



Infra Skills Overview



Dictionary

cloud



cloud

/klaʊd/ 

noun

1. **Getting things done using someone else's computers**, especially where someone else worries about maintenance, provisioning, system administration, security, networking, failure recover, etc.

What is Google Cloud Platform?

Google Cloud Platform lets you build and host applications and websites, store data, and analyze data, all on Google's highly scalable and reliable computing infrastructure.

“Organize the world’s information
and make it universally accessible
and useful.”





Google Cloud Platform Products

Compute



Compute Engine



App Engine



Kubernetes Engine



GPU



Cloud Functions



Container-Optimized OS

Big Data



BigQuery



Cloud Dataflow



Cloud Dataproc



Cloud Dataprep



Cloud Datalab



Cloud Pub/Sub



Genomics



Data Studio

Identity & Security



Cloud IAM



Cloud Resource Manager



Cloud Security Scanner



Key Management Service



BeyondCorp



Data Loss Prevention API



Identity-Aware Proxy



Security Key Enforcement

Internet of Things



Cloud IoT Core

Machine Learning



Cloud Machine Learning



Cloud Vision API



Cloud Speech API



Cloud Video Intelligence API



Cloud Natural Language API



Cloud Translation API



Cloud Jobs API



Advanced Solutions Lab

Storage & Databases



Cloud Storage



Cloud Bigtable



Cloud Datastore



Transfer Appliance



Cloud SQL



Cloud Spanner



Persistent Disk



Cloud Firestore



Google Cloud

App Engine

- **Deploy web apps** and mobile backends to the Cloud
- “Platform as a service(PaaS)” product
- Managed application platform that lets you focus on your code
- Autoscaling, load balancing, traffic splitting for A/B testing, error reporting, and more!



App Engine

- 7 programming languages fully supported: Python, Node.js, Java, Go, PHP, .NET, and Ruby
- Can use a Custom Runtime for other programming languages



App Engine - Example Python Flask App (main.py)

```
from flask import Flask
```

Import the Flask web framework library

```
app = Flask(__name__)
```

Initializes our Flask web application

```
@app.route('/')  
def hello():
```

```
    return 'Hello World!'
```

This route handler defines what happens when a user visits the root URL of the website (i/e google.com)

```
if __name__ == '__main__':
```

```
    app.run(host='127.0.0.1', port=8080, debug=True)
```

This code allows us to run our application locally using python main.py

App Engine - Example Python Flask App (app.yaml)

```
runtime: python37
```

← Specifies that we want Python version 3.7 for our App Engine runtime

App Engine - Example Python Flask App (requirements.txt)

```
Flask==1.1.1
```

List out different Python libraries / dependencies we need for our application.

We can specify the desired library version (if we don't, it gives us the latest version).

Here we ask for the Flask library.

App Engine - Example Python Flask App (Deployment)

```
gcloud app deploy
```

We use the *gcloud* command line tool to deploy to App Engine.

We run this command from our command-line interface (like Terminal) to package up the files in our current directory and deploy them to App Engine.

App is deployed to a www.YOUR_PROJECT_ID.appspot.com URL.

Cloud Storage

- Store file objects in the Cloud
- Designed for unstructured data (i/e images, text files, audio files, video files)
- Accessible through Google Cloud Console, gsutil command line tool, and programmatically with client libraries



Cloud Storage - Google Cloud Console

Google Cloud Platform

cloud-hero-storage

Storage

Browser

Transfer

Transfer for on-premises

Transfer Appliance

Settings

Storage browser

CREATE BUCKET


DELETE

REFRESH

SHOW INFO PANEL

Filter by name prefix

<input type="checkbox"/>	Name	Location type	Location	Default storage class ?	Public access ?	Access control ?	Lifecycle rules ?	Labels ?	Retention policy ?
No rows to display									



Store and retrieve your data

Get started by creating a bucket — a container where you can organize and control access to your data and files in Cloud Storage.

CREATE BUCKET

TAKE QUICKSTART

Cloud Storage - Creating a Bucket

Google Cloud Platformcloud-hero-storage

Storage

Create a bucket

Name your bucket

Pick a globally unique, permanent name. [Naming guidelines](#)

Ex. 'example', 'example_bucket-1', or 'example.com'

Tip: Don't include any sensitive information

CONTINUE

Choose where to store your data

Choose a default storage class for your data

Choose how to control access to objects

Advanced settings (optional)

CREATE

CANCEL

Monthly cost estimate

Enter values below to check this bucket's monthly cost. For guidance only. [Pricing details](#)

Storage and retrieval

Storage size

GB

\$0.026 per GB-month

Data retrieval size

GB

Free

Operations

Class A operations

per-month

\$0.005 per 1,000 ops

Class B operations

per-month

\$0.0004 per 1,000 ops

Availability SLA: 99.95%

Monthly cost: \$0.00

Currency: US Dollar (\$) ▼

Cloud Storage - View of a Bucket

Google Cloud Platform

cloud-hero-storage

Storage

Browser

Transfer

Transfer for on-premises

Transfer Appliance

Settings

Bucket details

EDIT BUCKET

REFRESH BUCKET

cloud-hero-storage

Objects

Overview

Permissions

Bucket Lock

Upload files

Upload folder

Create folder


Manage holds

Delete

Filter by prefix...

Buckets

cloud-hero-storage

<input type="checkbox"/>	Name	Size	Type	Storage class	Last modified	Public access	Encryption	Retention expiration date	Holds
<input type="checkbox"/>	 oakland.jpg	172.28 KB	image/jpeg	Standard	1/6/20, 4:50:16 PM UTC-8	Not public	Google-managed key	-	None



Google has been developing
and using containers to
manage our applications for
over 12 years.

Everything at Google runs in containers:

- Gmail, Web Search, Maps, ...
- MapReduce, batch, ...
- GFS, Colossus, ...
- Even **Google's Cloud Platform**:
our VMs run in containers!

We launch several **billion**
containers **per week**



Shipping Containers At Clyde, by Steve Gibson

Kubernetes

Greek for “*Helmsman*”; also the root of the words “*governor*” and “*cybernetic*”

- Manages container clusters
- Inspired and informed by Google’s experiences and internal systems
- Supports multiple cloud and bare-metal environments
- Supports multiple container runtimes
- **100% Open source**, written in Go

Manage applications, not machines



Kubernetes Engine

- Managed environment for deploying containerized applications
- Builds on Google's experience running services like Gmail and YouTube in containers for 12+ years
- Kubernetes Engine environment: multiple machines (Google Compute Engine instances) grouped as container clusters



Kubernetes the Easy Way

Start a cluster with one-click

View your clusters and workloads in a single pane of glass

Google keeps your cluster up and running



The screenshot shows the Google Cloud Platform console interface. At the top, the navigation bar includes the Google Cloud Platform logo, a 'K8S Garage' dropdown, and a search icon. The left sidebar displays the 'Kubernetes Engine' menu with options: 'Kubernetes clusters' (selected), 'Workloads', 'Discovery & load balancing', 'Configuration', and 'Storage'. The main content area is titled 'Create a Kubernetes cluster'. It contains a description of a Kubernetes cluster, a 'Name' field with the value 'cluster-1', a 'Description' field, a 'Location' section with 'Zonal' selected, a 'Zone' field with the value 'us-central1-a', a 'Cluster Version' field with the value '1.8.7-gke.1 (default)', and a 'Machine type' section with a dropdown set to '1 vCPU' and '3.75 GB mem'.

Google Cloud Platform K8S Garage

Kubernetes Engine

Kubernetes clusters

Workloads

Discovery & load balancing

Configuration

Storage

Create a Kubernetes cluster

A Kubernetes cluster is a managed group of uniform Kubernetes. [Learn more](#)

Name ?

cluster-1

Description (Optional)

Location ?

☒ Zonal

☐ Regional (beta)

Zone ?

us-central1-a

Cluster Version ?

1.8.7-gke.1 (default)

Machine type

Customize to select cores, memory and GPUs.

1 vCPU 3.75 GB mem

Why do customers choose GKE?



Quick Up and
Running



Simplified
Management



Optimized
workloads



Scale to any
work load



Open

Google remains the **largest contributor to Kubernetes** and is seen as the industry leader due to our investment and launch of ongoing new features leveraging Google infrastructure

Let's Practice

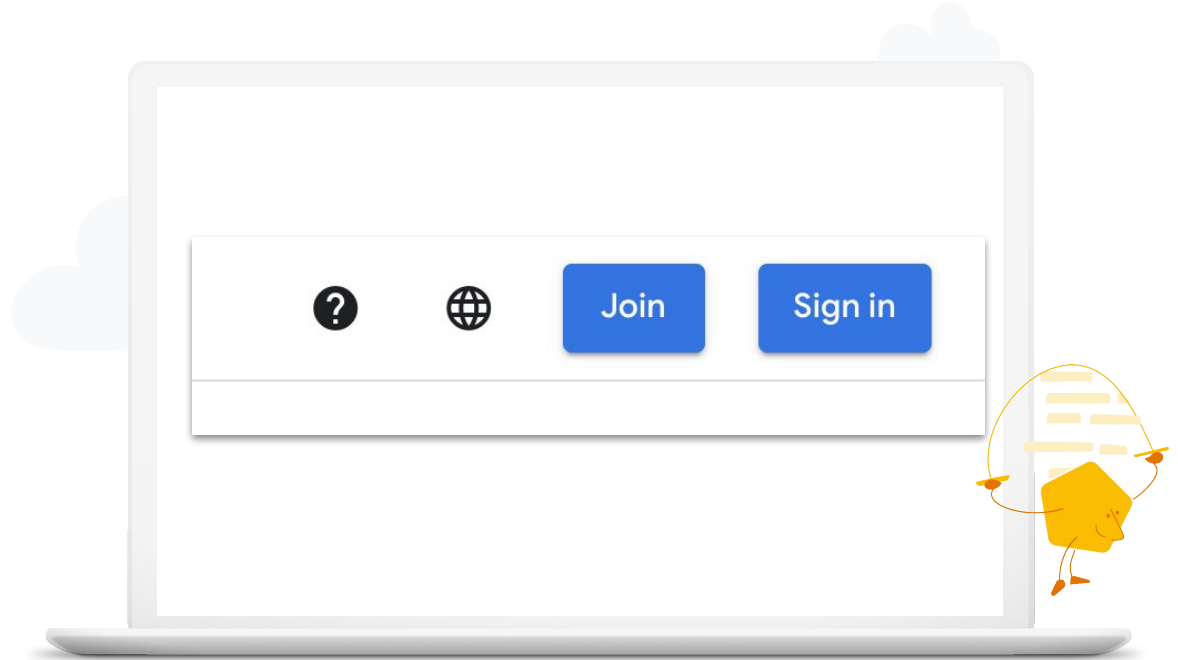


Join or Sign into Qwiklabs

<https://google.qwiklabs.com/>.

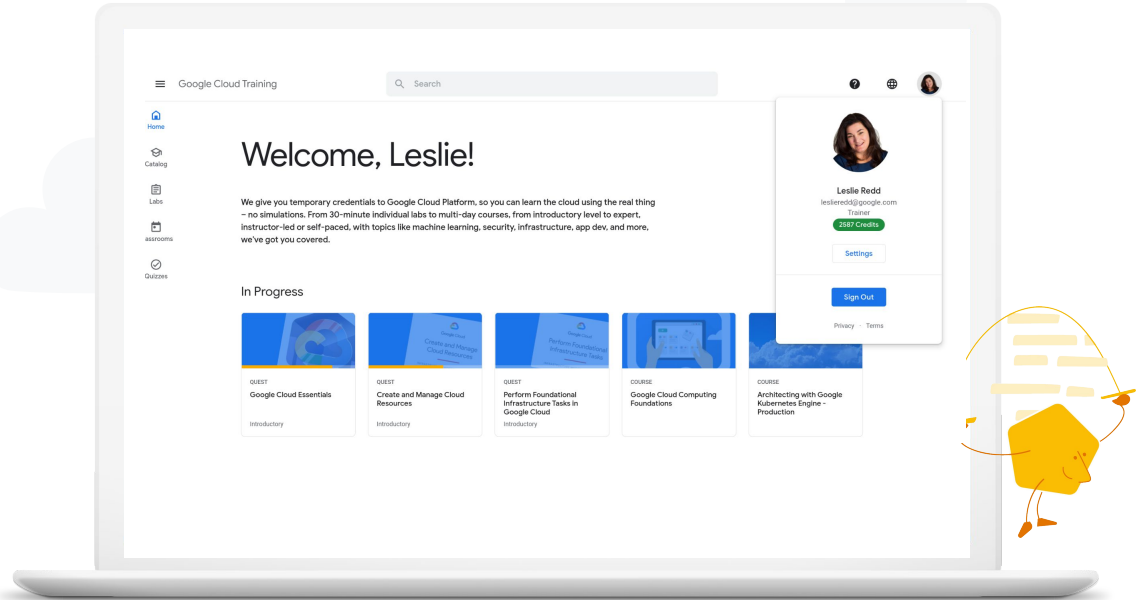
Then click Join to create a new account or Sign in to an existing account.

**Please use your Corporate
Email.**



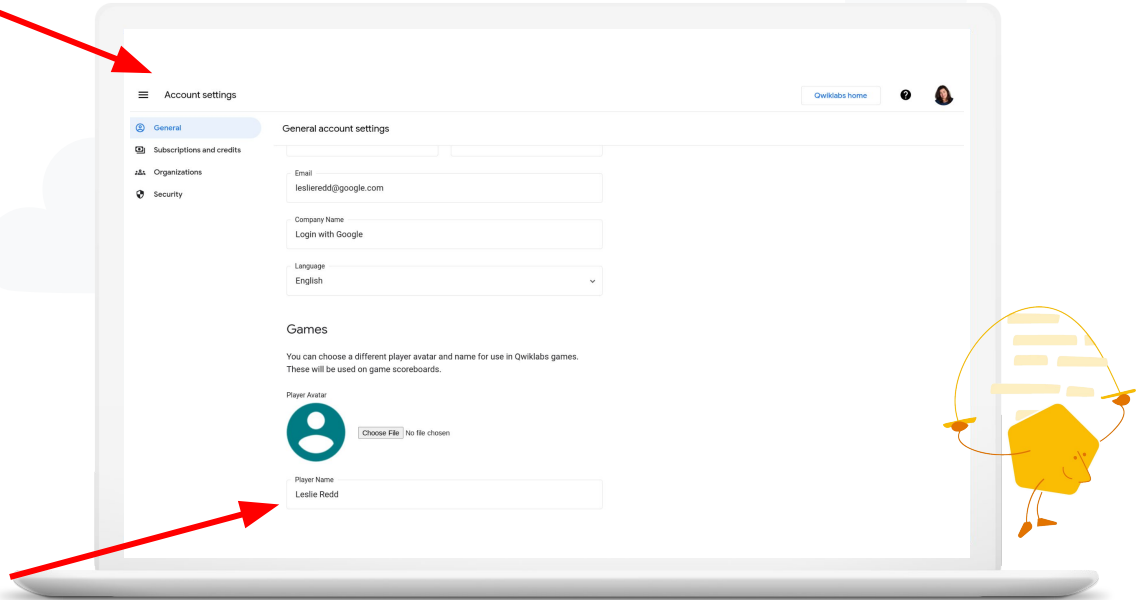
Changing Player Name

Now, that you are logged in.
click the player icon in top right
corner then click **Settings**



Changing Player Name

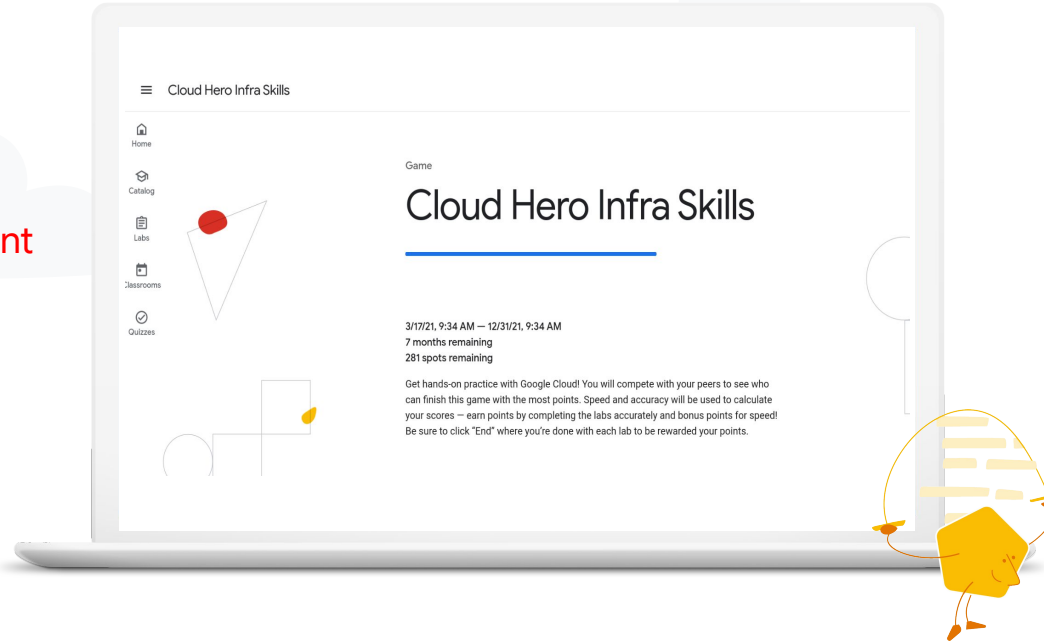
In **Account settings** page, go to **Game - Player Name**. Enter your first and last name, if you want, and click **Update Settings** at the bottom of the page.



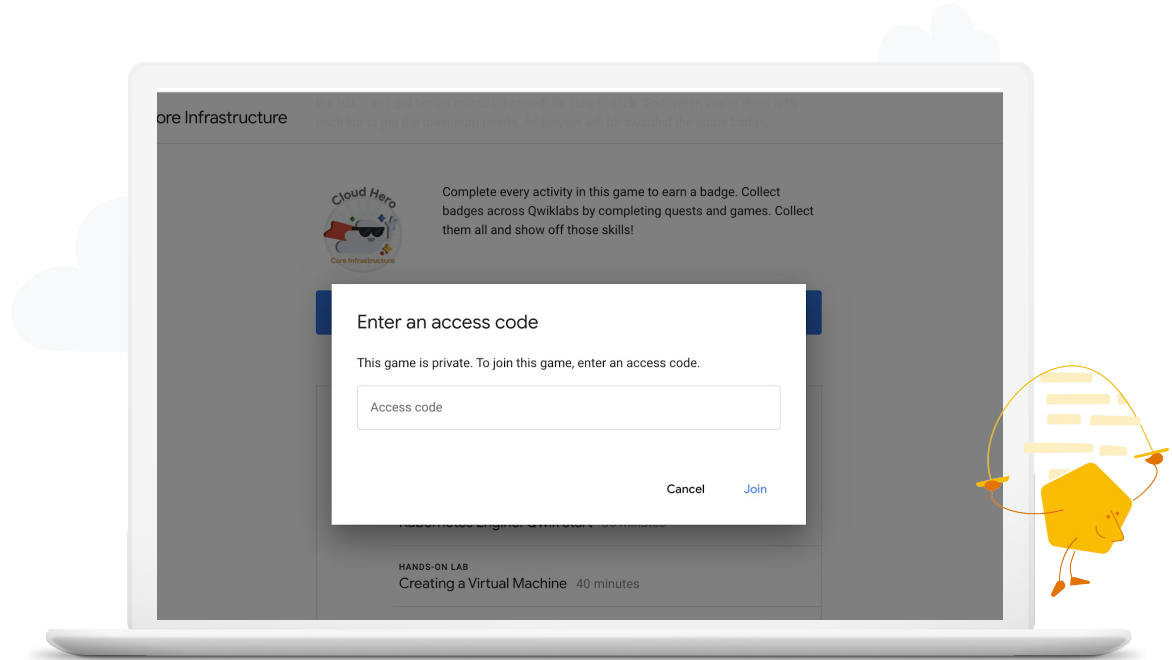
Let's get started!

Once you're logged into your **Qwiklabs account**
please re-enter the link in browser:

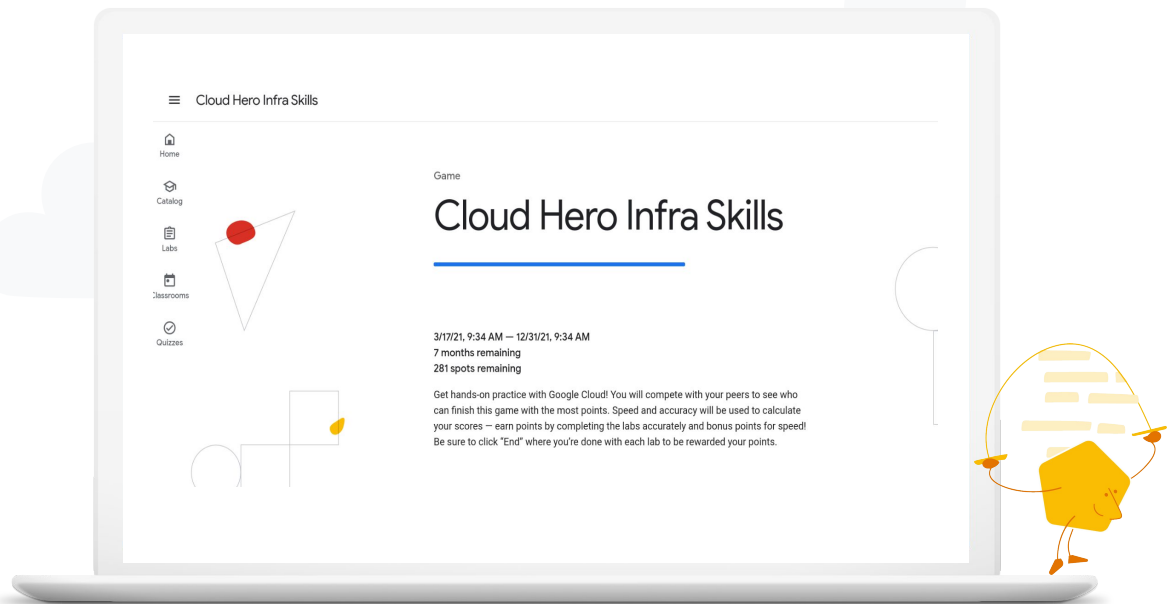
bit.ly/Commerz



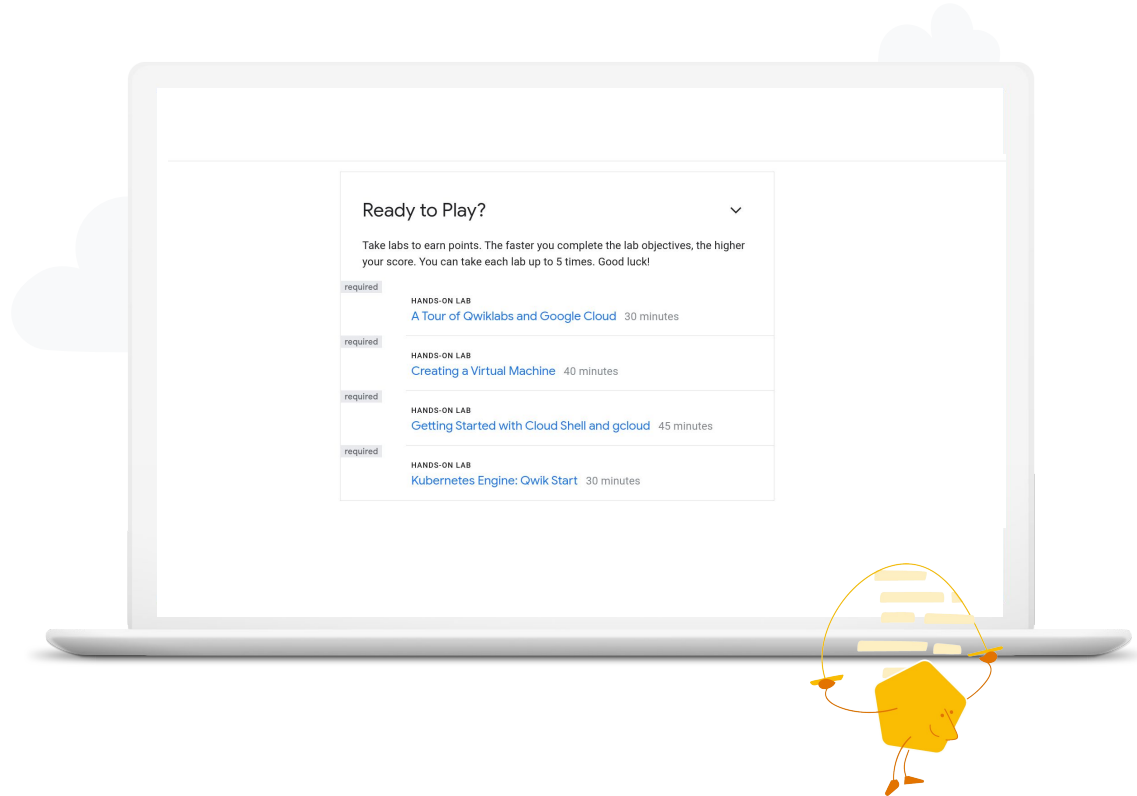
Your access code is:
ch1-comminfra-019
Enter it to join!



We will go through
part of the first lab.

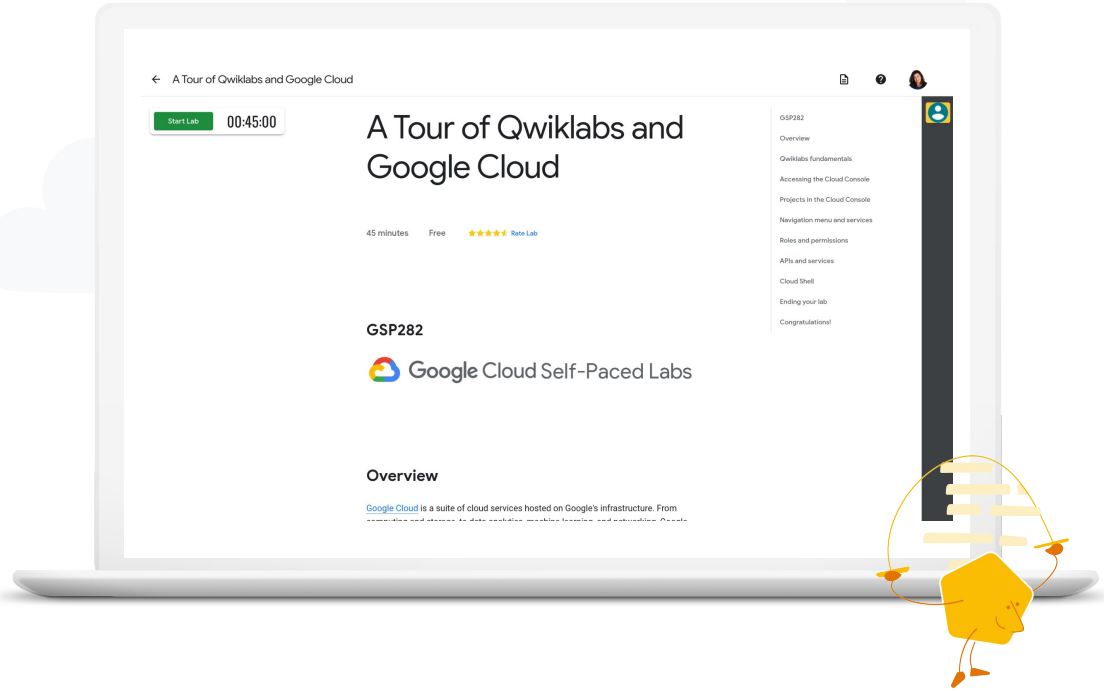


Click on the first lab.



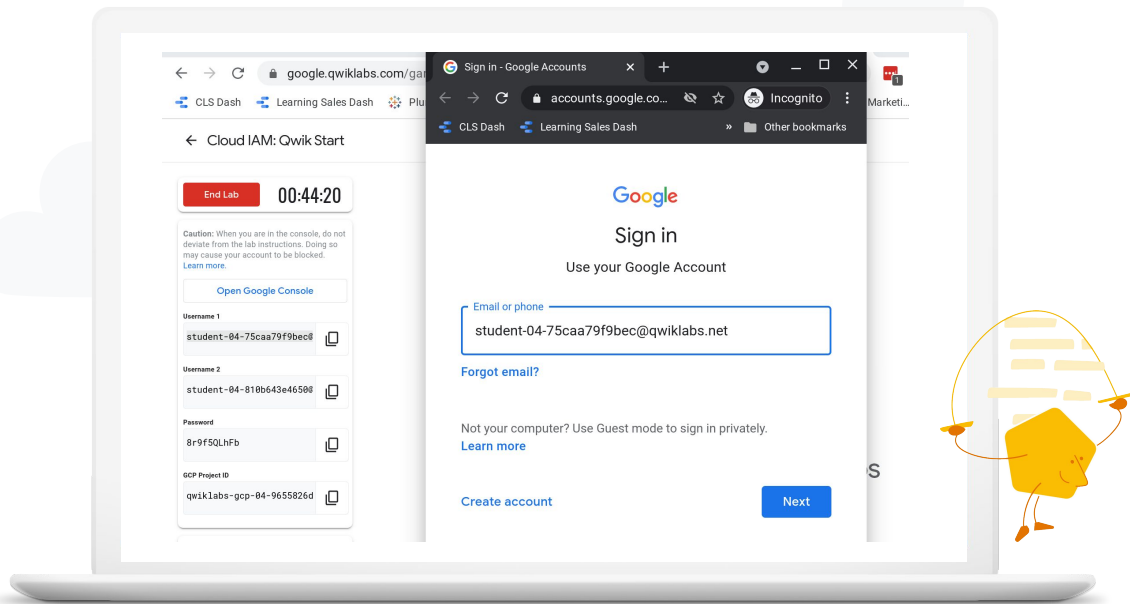
Pro Tip!

Read through lab
before pressing Start.

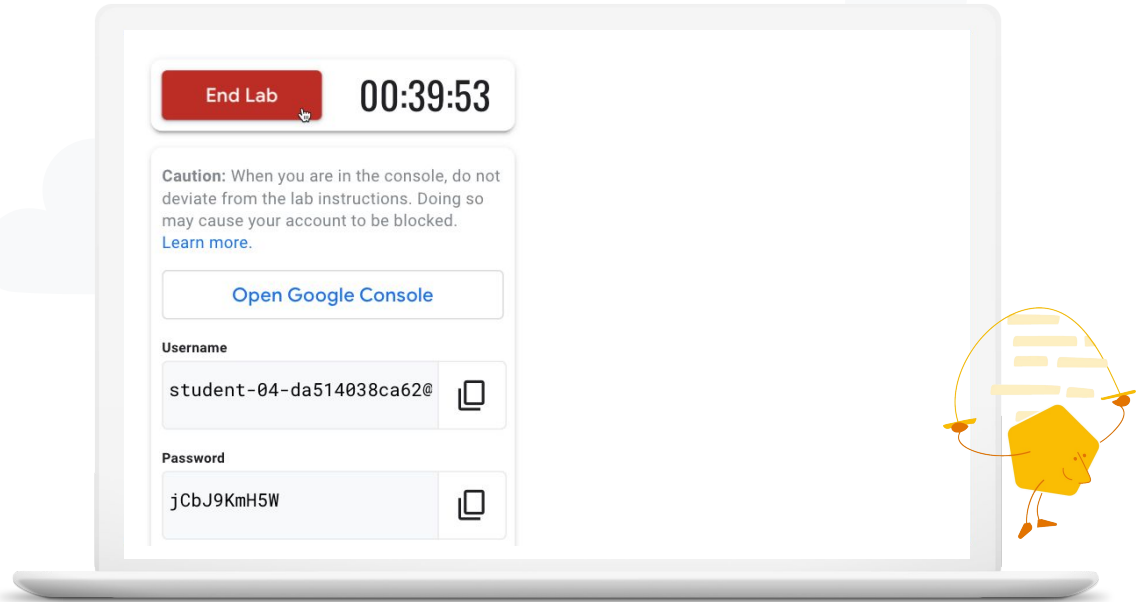


Once you press **Start**,
Open Google Console in
an Incognito or Privacy
Window.

For each lab, remember
to use the new
username, password,
and project ID that
Qwiklabs assigns you.



Make sure to press
End Lab once you're
done with a lab



Let's Play and Compete



Timing and Scoring

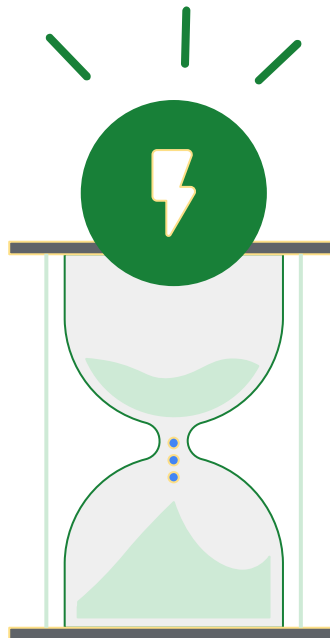
Cloud Hero

Points are earned by completing the steps in the lab.... and bonus points are earned for speed!

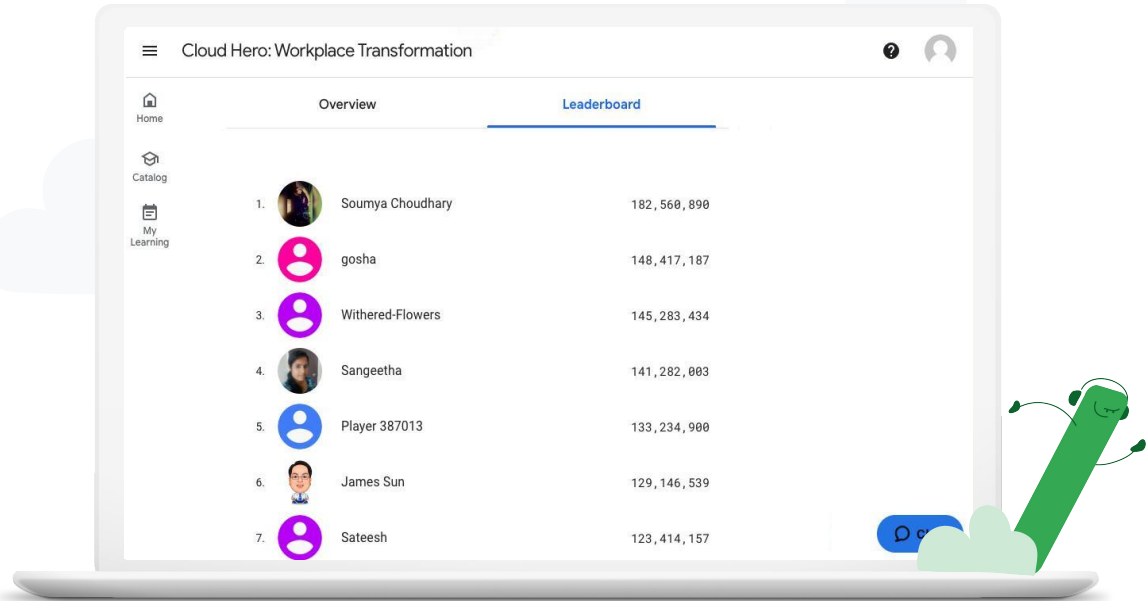
You can redo each of the labs up to 5 times. **Your best score will count.**

Be sure to complete each lab by selecting the **END** option to get the maximum points.

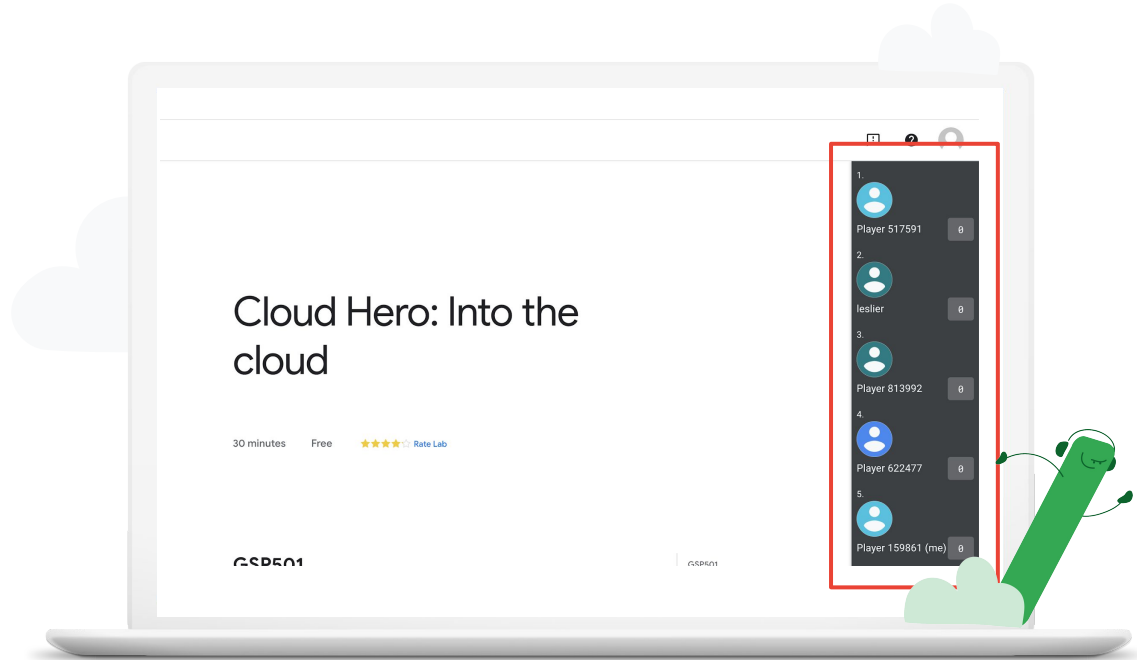
Labs usually have checkpoints. To get maximum points you need to have all the checkpoints **green**



See where you rank
on the Leaderboard!

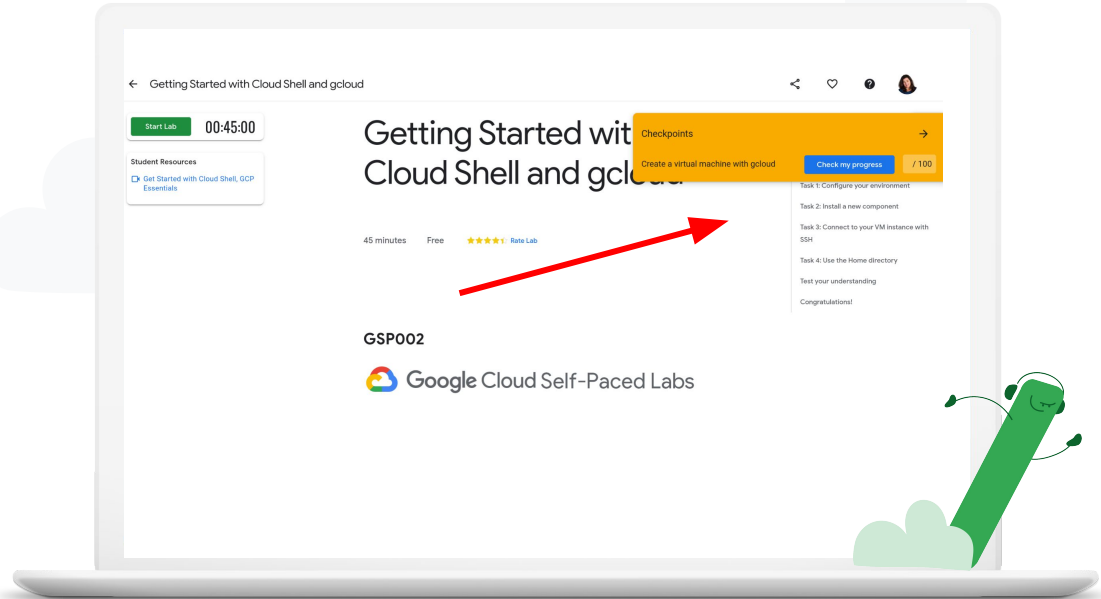


Track your progress and your score



Pro Tip!

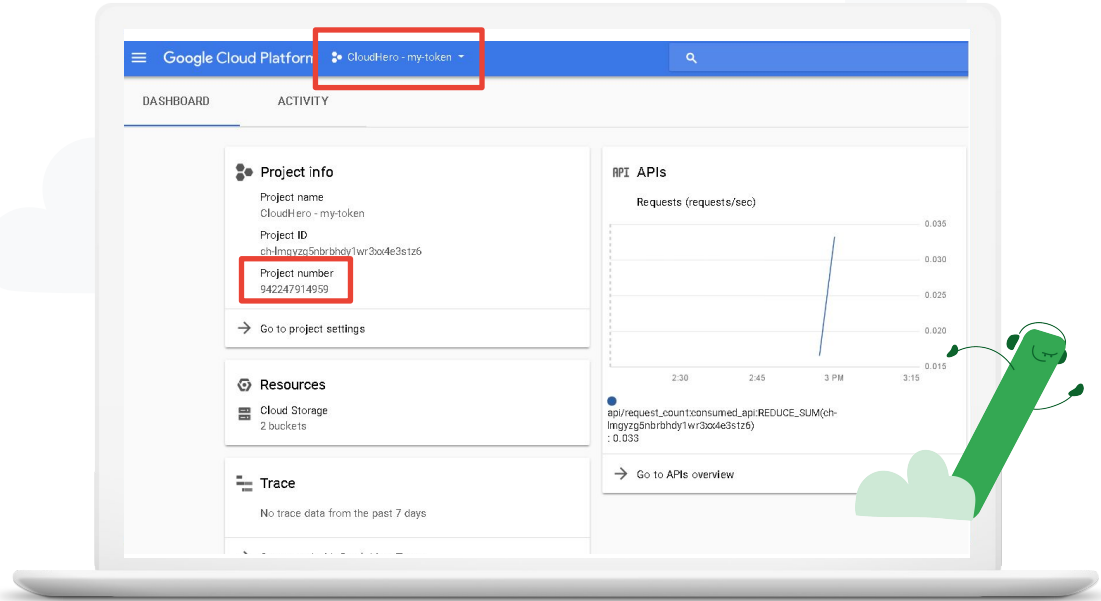
Checking Progress:
Click on the score
box in the upper right



Project Number:
12-digit number

Pro Tip!

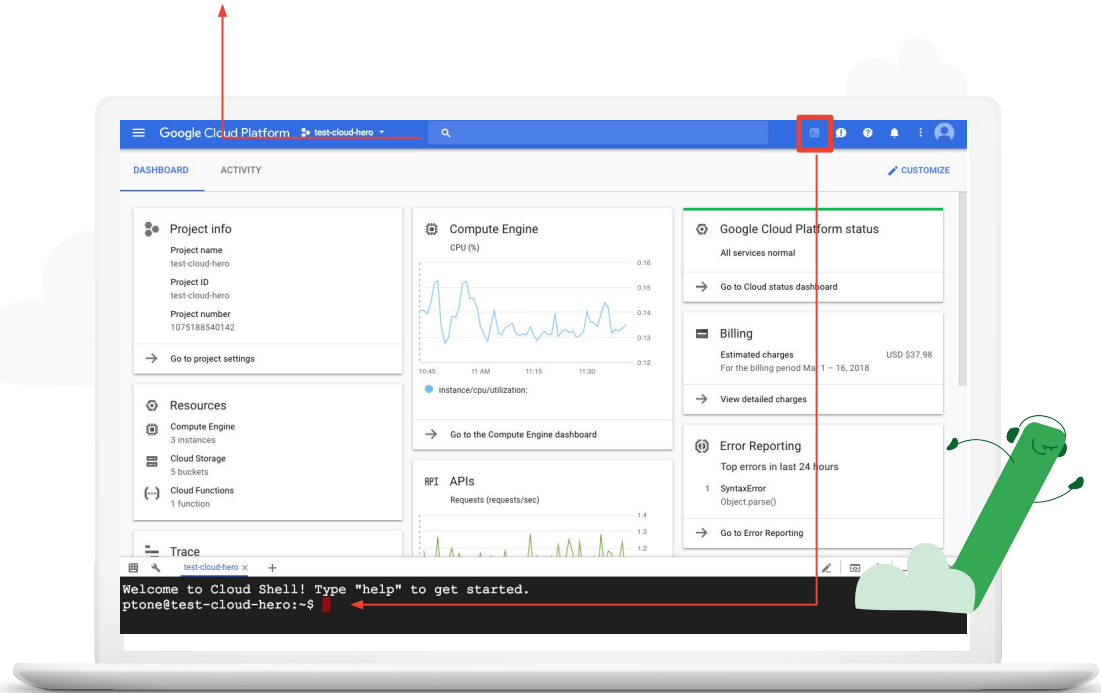
Cloud Project Challenge



Quickly jump to products and services

Pro Tip!

Cloud Products and Services

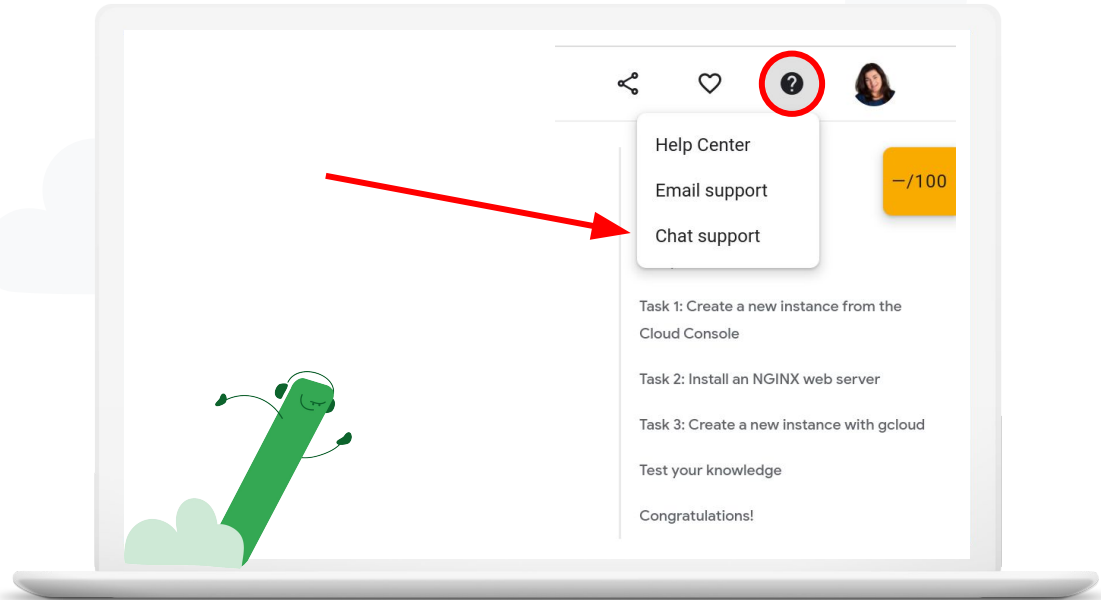


Need Help?

1) There is online support available 24/7 for Qwiklabs through Chat

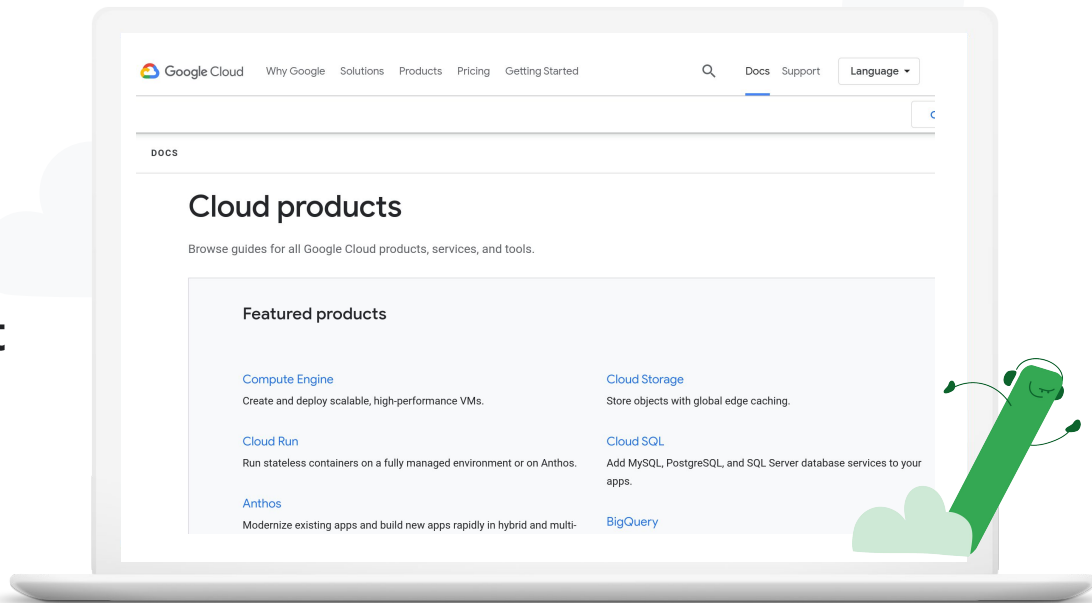
2) Email
[eddi@z@google.com,
johellwig@google.com]
directly if you have any
more questions

Look at the top right corner of your screen



Need Help?

3) Google it! Review
support documentation at
cloud.google.com/docs



Event **Wrap-up**

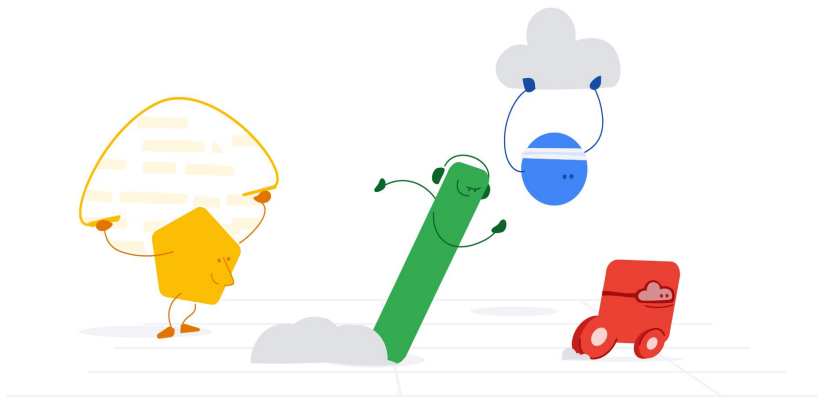


Let's Play!
Put your skills
to the test!

Here is the link:
bit.ly/Commerz

The access code is
[ch1-comminfra-019](#)

Game ends at [midnight August 5 BST](#). Winners will be
announced August 6!



Winners!
Top 3 on the
leaderboard.



**Thank you for
participating in our
Cloud Hero Event!**

So, how was it? Please fill
out the survey when you
receive it.



Cloud Hero

Thank You.

