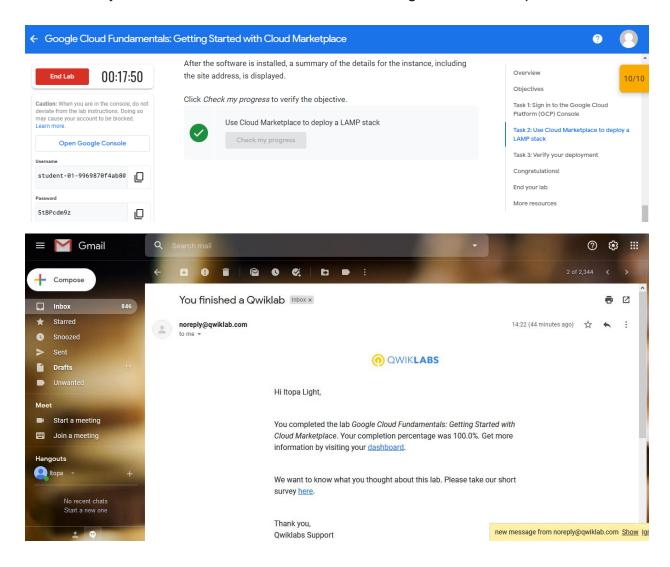# Google Cloud Fundamentals: Getting Started with Cloud Marketplace
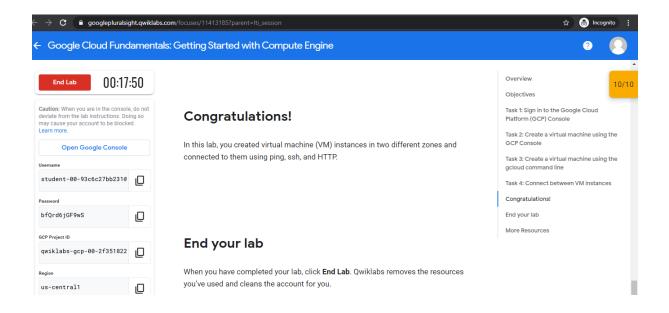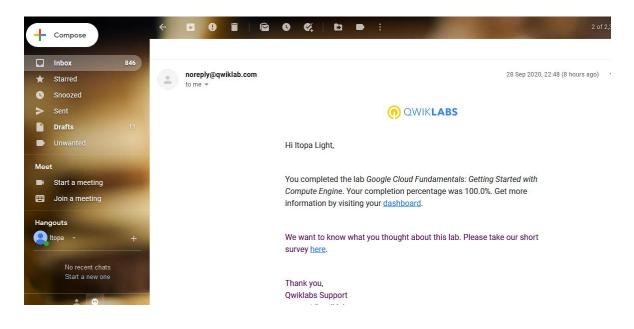
Objectives

In this lab, you learn how to launch a solution using Cloud Marketplace.

Google Cloud Fundamentals: Getting Started with Compute Engine

Objectives

In this lab, you will learn how to perform the following tasks:
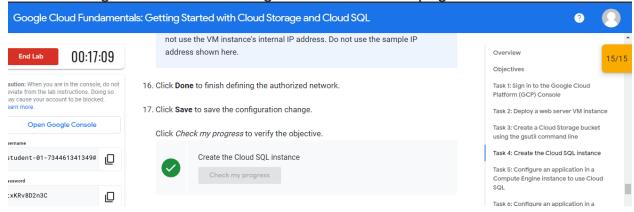
- Create a Compute Engine virtual machine using the Google Cloud Platform (GCP) Console.
- Create a Compute Engine virtual machine using the gcloud command-line interface.
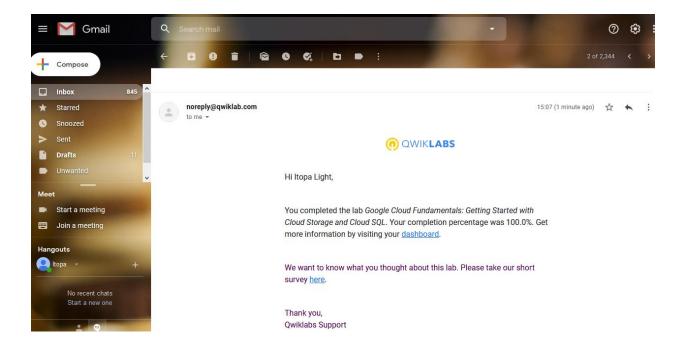- Connect between the two instances.

Google Cloud Fundamentals: Getting Started with Cloud Storage and Cloud SQL

Objectives
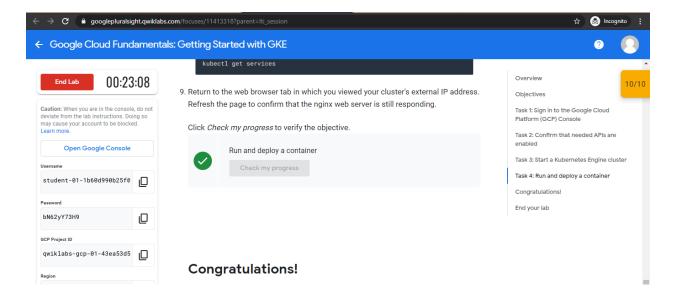
In this lab, you learn how to perform the following tasks:

- Create a Cloud Storage bucket and place an image into it.
- Create a Cloud SQL instance and configure it.
- Connect to the Cloud SQL instance from a web server.
- Use the image in the Cloud Storage bucket on a web page.

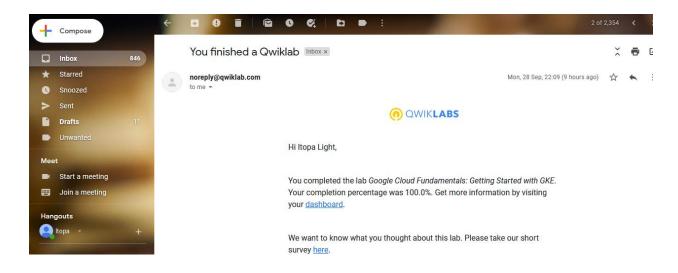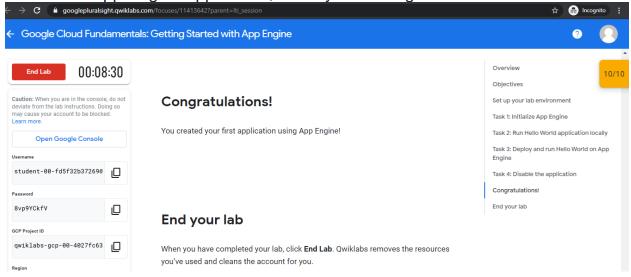# Google Cloud Fundamentals: Getting Started with GKE

Objectives

In this lab, you learn how to perform the following tasks:

- Provision a [Kubernetes](#) cluster using [Kubernetes Engine.](#)
- Deploy and manage Docker containers using `kubectl`.

Google Cloud Fundamentals: Getting Started with App Engine

Objectives

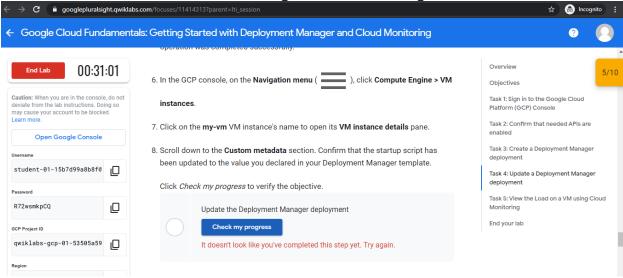In this lab, you learn how to perform the following tasks:

- Initialize App Engine.
- Preview an App Engine application running locally in Cloud Shell.
- Deploy an App Engine application, so that others can reach it.
- Disable an App Engine application, when you no longer want it to be visible.

Google Cloud Fundamentals: Getting Started with Deployment Manager and Cloud Monitoring

Objectives

In this lab, you will learn how to perform the following tasks:

- Create a Deployment Manager deployment.
- Update a Deployment Manager deployment.
- View the load on a VM instance using Cloud Monitoring.

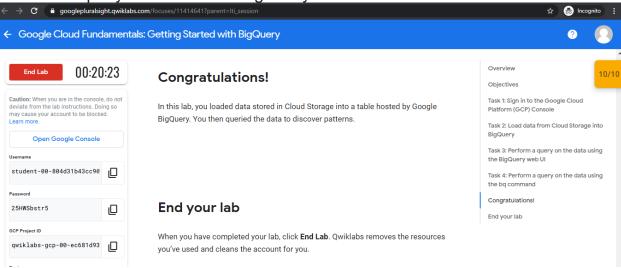# Google Cloud Fundamentals: Getting Started with BigQuery

Objectives

In this lab, you learn how to perform the following tasks:

- Load data from Cloud Storage into BigQuery.
- Perform a query on the data in BigQuery.

Section 2
Working with GCP Cloud Console and Cloud Shell
Objectives

- Get access to Google Cloud.
- Create a Cloud Storage bucket using the Cloud Console.
- Create a Cloud Storage bucket using Cloud Shell.
- Become familiar with Cloud Shell features.

Infrastructure Preview
Objectives

- Use Marketplace to build a Jenkins Continuous Integration environment.
- Verify that you can manage the service from the Jenkins UI.
- Administer the service from the Virtual Machine host through SSH.

VPC Networking
Objectives

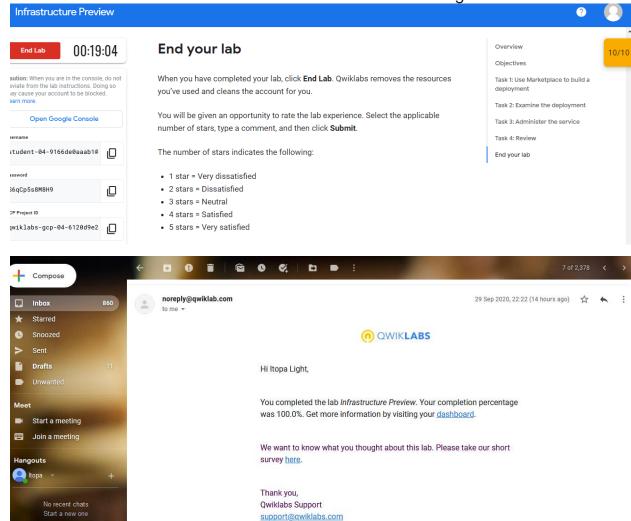- Explore the default VPC network
- Create an auto mode network with firewall rules
- Convert an auto mode network to a custom mode network
- Create custom mode VPC networks with firewall rules
- Create VM instances using Compute Engine
- Explore the connectivity for VM instances across VPC networks

Implement Private Google Access and Cloud NAT
Objectives

- Configure a VM instance that doesn't have an external IP address
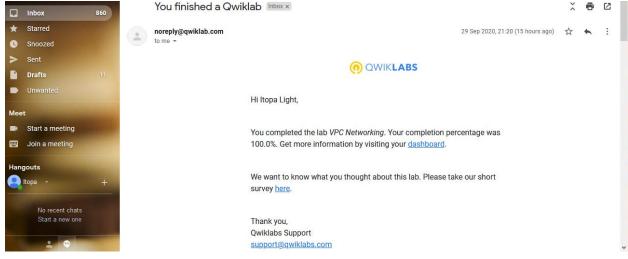- Connect to a VM instance using an Identity-Aware Proxy (IAP) tunnel
- Enable Private Google Access on a subnet
- Configure a Cloud NAT gateway
- Verify access to public IP addresses of Google APIs and services and other connections to the internet.

Creating Virtual Machines
Objectives

- Create several standard VMs
- Create advanced VMs

Creating Virtual Machines

End Lab 00:43:25

End your lab
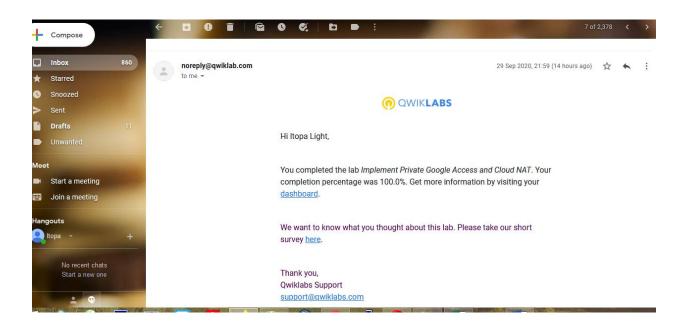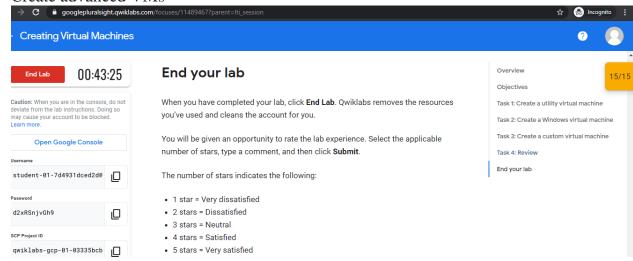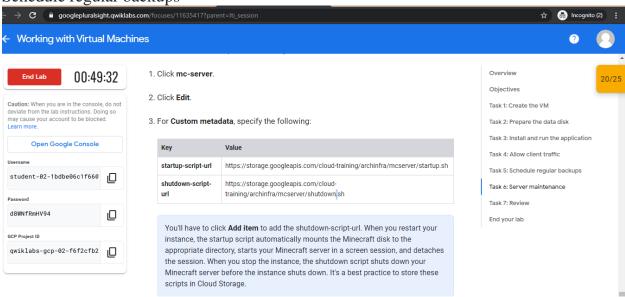
When you have completed your lab, click **End Lab**. Qwiklabs removes the resources you've used and cleans the account for you.

You will be given an opportunity to rate the lab experience. Select the applicable number of stars, type a comment, and then click **Submit**.

The number of stars indicates the following:

- 1 star = Very dissatisfied
- 2 stars = Dissatisfied
- 3 stars = Neutral
- 4 stars = Satisfied
- 5 stars = Very satisfied

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Open Google Console

Username
student-01-7d4931dced2d@

Password
d2xRSnjvGh9

GCP Project ID
qwiklabs-gcp-01-03335bcb

Overview
Objectives
Task 1: Create a utility virtual machine
Task 2: Create a Windows virtual machine
Task 3: Create a custom virtual machine
Task 4: Review
End your lab

15/15

Working with Virtual Machines
Objectives

- Customize an application server
- Install and configure necessary software
- Configure network access
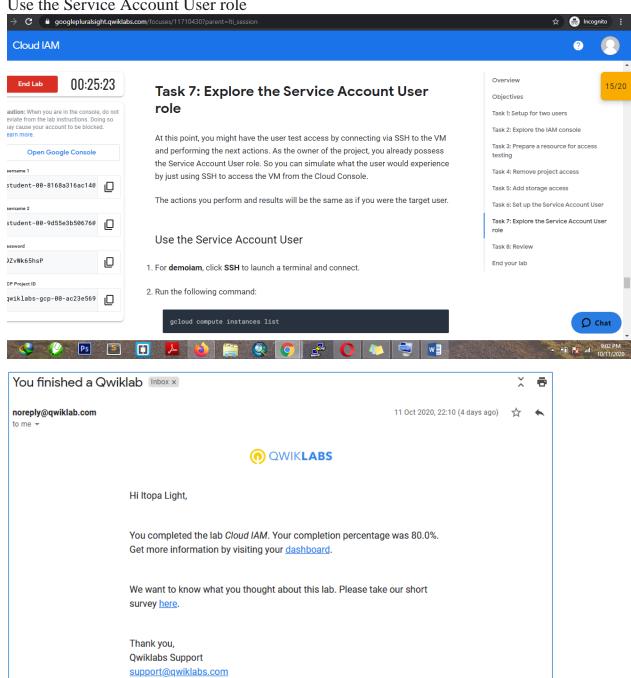- Schedule regular backups
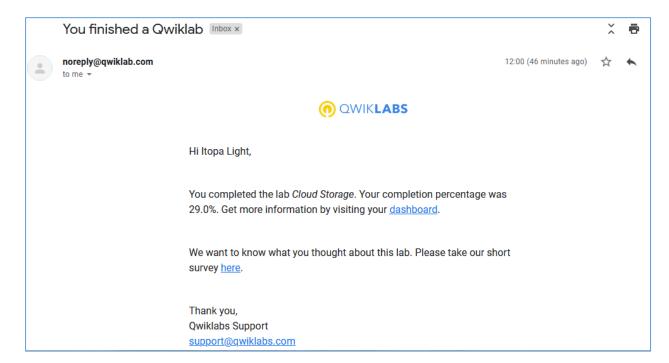
Section 3

Cloud IAM

Objectives

In this lab, you learn how to perform the following tasks:

- Use Cloud IAM to implement access control
- Restrict access to specific features or resources
- Use the Service Account User role

Cloud Storage

Objectives

- Create and use buckets
- Set access control lists to restrict access
- Use your own encryption keys
- Implement version controls
- Use directory synchronization
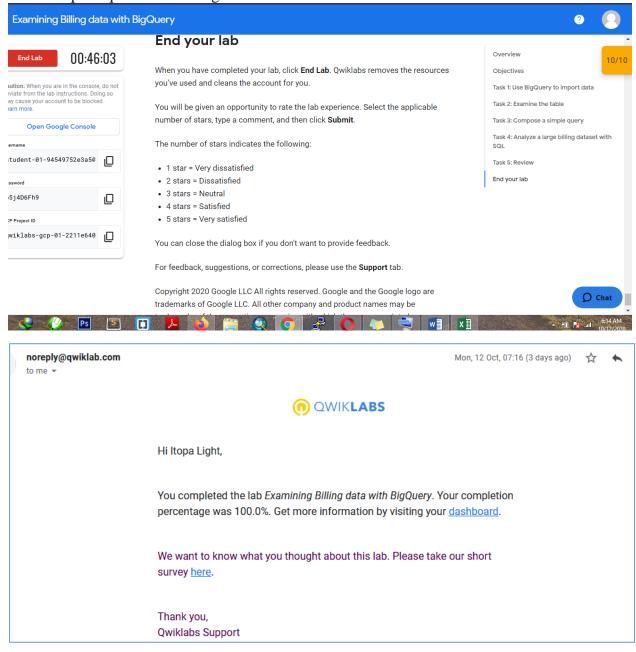- Share a bucket across projects using IAM

Implementing Cloud SQL
Objectives

- Create a Cloud SQL database
- Configure a virtual machine to run a proxy
- Create a connection between an application and Cloud SQL
- Connect an application to Cloud SQL using Private IP address

Examining Billing data with BigQuery
Objectives

- Sign in to BigQuery from the Cloud Console
- Create a dataset
- Create a table
- Import data from a billing CSV file stored in a bucket
- Run complex queries on a larger dataset

Resource Monitoring

Objectives

- Explore Cloud Monitoring
- Add charts to dashboards
- Create alerts with multiple conditions
- Create resource groups
- Create uptime checks

Error Reporting and Debugging

Objectives

- Launch a simple Google App Engine application
- Introduce an error into the application
- Explore Cloud Error Reporting
- Use Cloud Debugger to identify the error in the code
- Fix the bug and monitor in Cloud Operations

Virtual Private Networks (VPN)

Objectives

- Create VPN gateways in each network
- Create VPN tunnels between the gateways
- Verify VPN connectivity

Automating the Deployment of Infrastructure Using Deployment Manager

Objectives

- Create a configuration for an auto mode network
- Create a configuration for a firewall rule
- Create a template for VM instances
- Create and deploy a configuration
- Verify the deployment of a configuration

Automating the Deployment of Infrastructure Using Deployment Manager

End Lab 00:27:54

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Open Google Console

Username
student-00-168186720d7d@

Password
KQdwQJ628

GCP Project ID
qwiklabs-gcp-00-ddc46fd2

Click Check my progress to verify the objective.

✓ Create network, firewall rules and VM instances

Check my progress

Overview
Task 1. Configure the network
Task 2. Configure the firewall rule
Task 3. Create a template for VM instances
Task 4. Deploy the configuration
Task 5. Verify your deployment
Task 6. Review
End your lab

40/40

Task 5. Verify your deployment

Verify your network in the Cloud Console

noreply@qwiklab.com   13:21 (1 hour ago)
to me

QWIKLABS

Hi Itopa Light,

You completed the lab *Automating the Deployment of Infrastructure Using Deployment Manager*. Your completion percentage was 100.0%. Get more information by visiting your dashboard.

We want to know what you thought about this lab. Please take our short survey here.
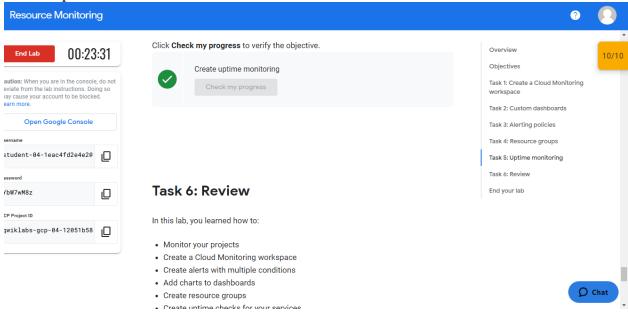
Thank you,
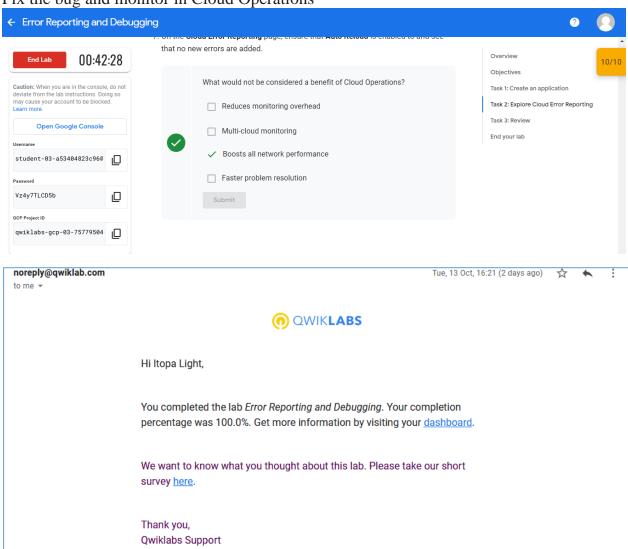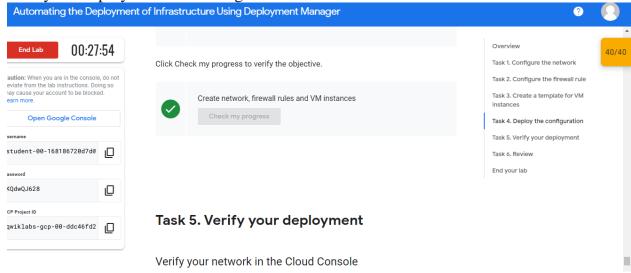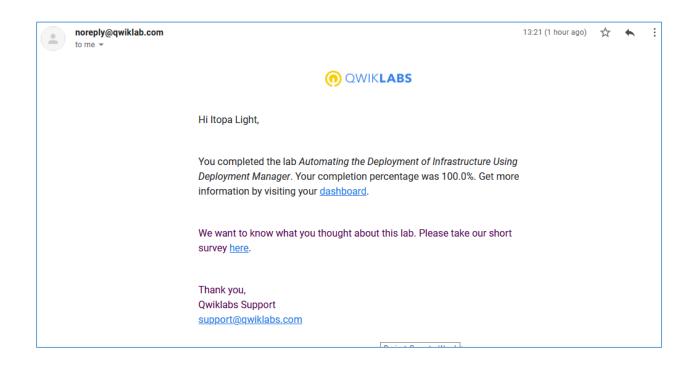Qwiklabs Support
support@qwiklabs.com

Automating the Deployment of Infrastructure Using Terraform

Objectives

- Create a configuration for an auto mode network
- Create a configuration for a firewall rule
- Create a module for VM instances
- Create and deploy a configuration
- Verify the deployment of a configuration