

Compute Engine: Qwik Start – Windows

GSP093



Compute Engine lets you create and run virtual machines on Google infrastructure. Compute Engine offers scale, performance, and value that allows you to easily launch large compute clusters on Google's infrastructure.

You can run your Windows applications on Compute Engine and take advantage of many benefits available to virtual machine instances, such as reliable [storage options](#), the speed of the [Google network](#), and [Autoscaling](#).

In this hands-on lab, you learn how to launch a Windows Server instance in Compute Engine and use Remote Desktop Protocol (RDP) to connect to it.

Setup and requirements

Before you click the Start Lab button

Read these instructions. Labs are timed and you cannot pause them. The timer, which starts when you click **Start Lab**, shows how long Google Cloud resources will be made available to you.

This Qwiklabs hands-on lab lets you do the lab activities yourself in a real cloud environment, not in a simulation or demo environment. It does so by giving you new, temporary credentials that you use to sign in and access Google Cloud for the duration of the lab.

What you need

To complete this lab, you need:

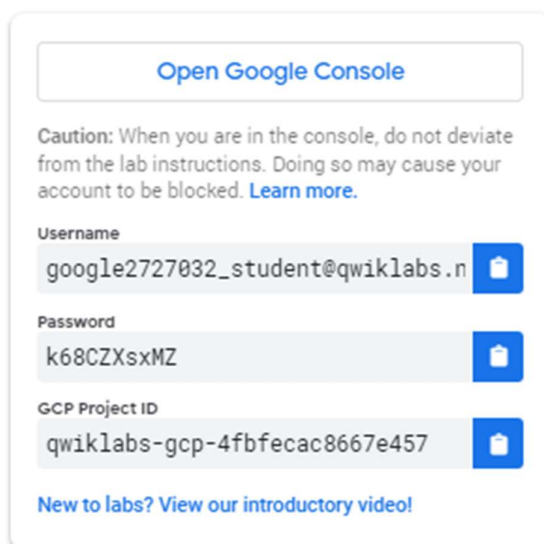
- Access to a standard internet browser (Chrome browser recommended).
- Time to complete the lab.

Note: If you already have your own personal Google Cloud account or project, do not use it for this lab.

Note: If you are using a Pixelbook, open an Incognito window to run this lab.

How to start your lab and sign in to the Google Cloud Console

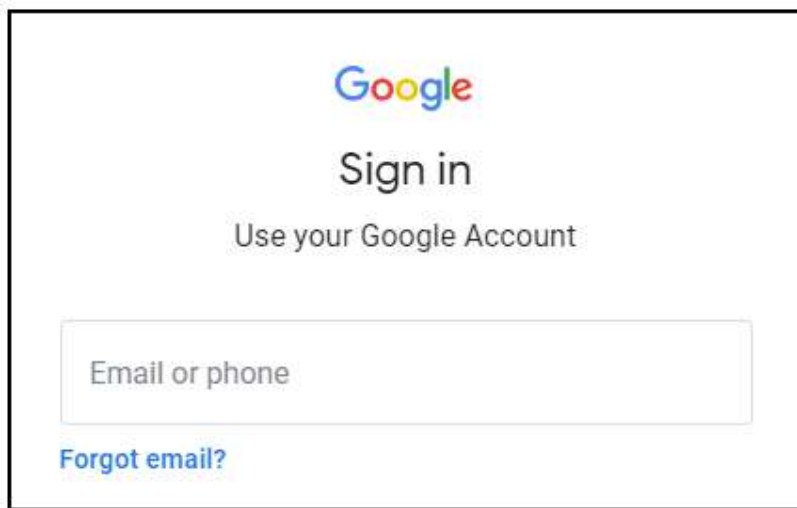
1. Click the **Start Lab** button. If you need to pay for the lab, a pop-up opens for you to select your payment method. On the left is a panel populated with the temporary credentials that you must use for this lab.



The screenshot shows a sign-in panel with the following elements:

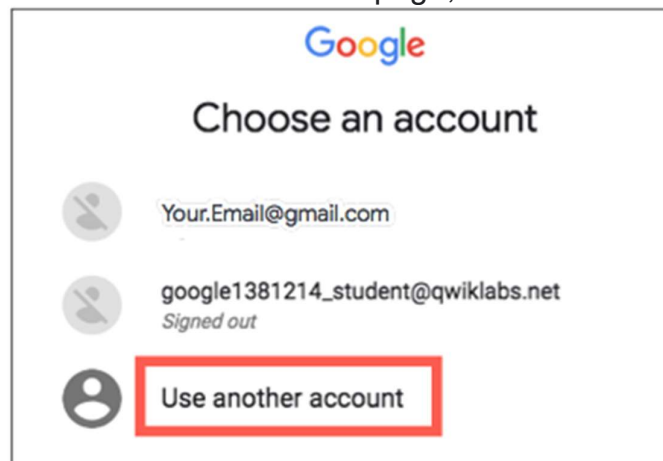
- A button at the top labeled "Open Google Console".
- A caution message: "Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. [Learn more.](#)"
- A "Username" field containing "google2727032_student@qwiklabs.n" with a copy icon.
- A "Password" field containing "k68CZXsxMZ" with a copy icon.
- A "GCP Project ID" field containing "qwiklabs-gcp-4fbfecac8667e457" with a copy icon.
- A link at the bottom: "New to labs? View our introductory video!"

2. Copy the username, and then click **Open Google Console**. The lab spins up resources, and then opens another tab that shows the **Sign in** page.



Tip: Open the tabs in separate windows, side-by-side.

If you see the **Choose an account** page, click **Use Another**



Account.

3. In the **Sign in** page, paste the username that you copied from the Connection Details panel. Then copy and paste the password.

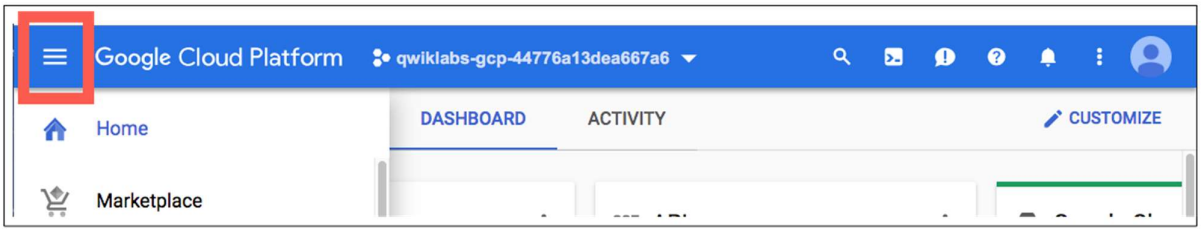
Important: You must use the credentials from the Connection Details panel. Do not use your Qwiklabs credentials. If you have your own Google Cloud account, do not use it for this lab (avoids incurring charges).

4. Click through the subsequent pages:

- Accept the terms and conditions.
- Do not add recovery options or two-factor authentication (because this is a temporary account).
- Do not sign up for free trials.

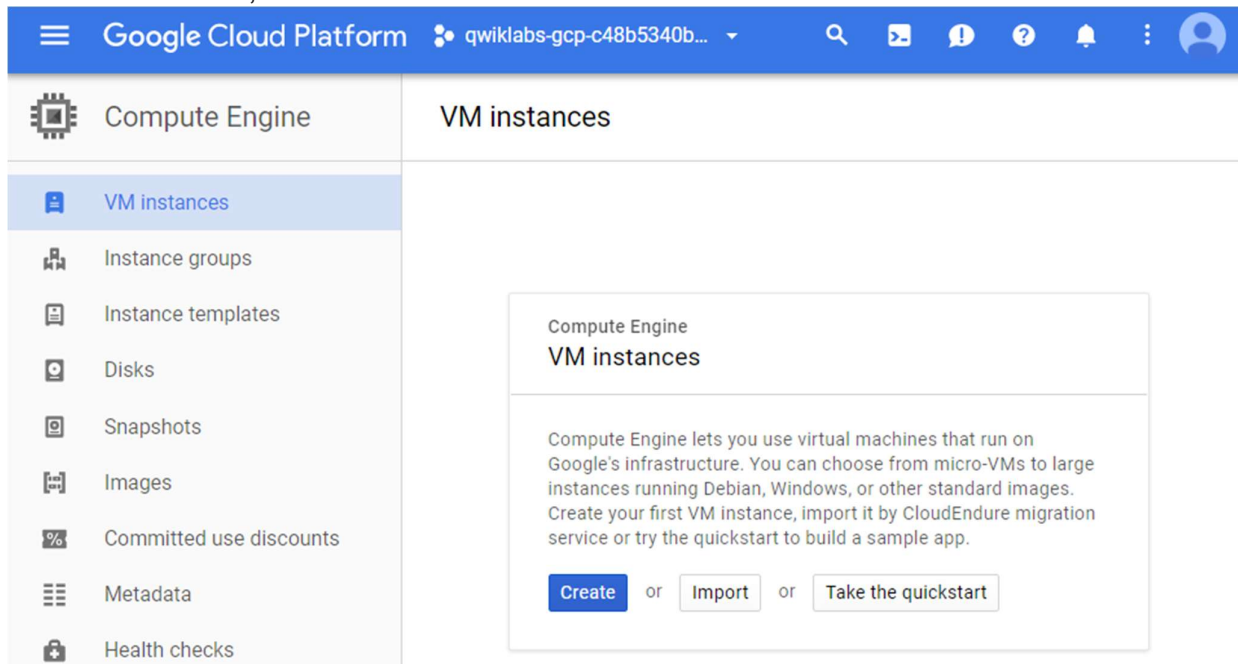
After a few moments, the Cloud Console opens in this tab.

Note: You can view the menu with a list of Google Cloud Products and Services by clicking the **Navigation menu** at the top-left.

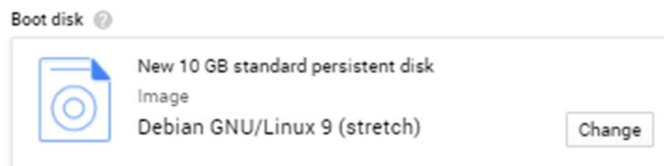


Create a virtual machine instance

1. In the Cloud Console, on the **Navigation menu** ≡, click **Compute Engine > VM instances**, and then click **Create**.



2. In the **Machine configuration** section, for **Series** select **N1**.
3. In the **Boot disk** section, click **Change** to begin configuring your boot disk.



4. Choose **Windows Server 2012 R2 Datacenter**, and then click **Select**. Leave all other settings as their defaults.

Name ?

Name is permanent

instance-1

Labels ? (Optional)[+ Add label](#)**Region** ?

Region is permanent

us-central1 (Iowa)

Zone ?

Zone is permanent

us-central1-a

Machine configuration**Machine family**

General-purpose

Compute-optimized

Memory-optimized

GPU

Machine types for common workloads, optimized for cost and flexibility

Series

N1

Powered by Intel Skylake CPU platform or one of its predecessors

Machine type

n1-standard-1 (1 vCPU, 3.75 GB memory)



vCPU

1

Memory

3.75 GB

GPUs

-

[CPU platform and GPU](#)**Confidential VM service** ?☐ Enable the Confidential Computing service on this VM instance.**Container** ?☐ Deploy a container image to this VM instance. [Learn more](#)**Boot disk** ?

New 50 GB standard persistent disk

Image

Windows Server 2012 R2 Datacenter

[Change](#)

If you are using Windows and intend to run additional Microsoft software, please fill out the [License Verification Form](#)

[Learn more](#) about Microsoft license mobility requirements**Identity and API access** ?**Service account** ?

Compute Engine default service account

Access scopes ?☒ Allow default access☐ Allow full access to all Cloud APIs☐ Set access for each API**Firewall** ?

Add tags and firewall rules to allow specific network traffic from the Internet

☐ Allow HTTP traffic☐ Allow HTTPS traffic[Management, security, disks, networking, sole tenancy](#)You will be billed for this instance. [Compute Engine pricing](#)[Create](#)[Cancel](#)Equivalent [REST](#) or [command line](#)

5. Click **Create** to create the instance.

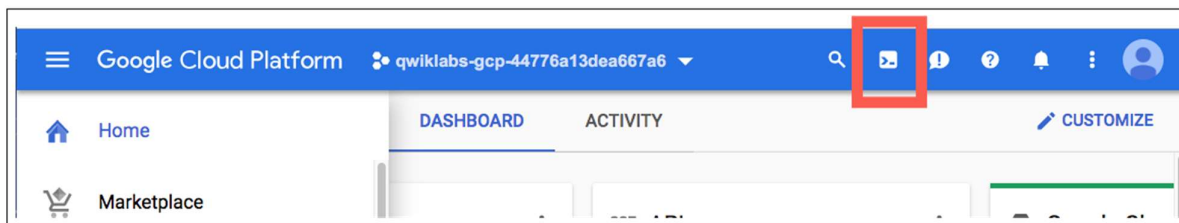
Test completed task

Click **Check my progress** to verify your performed task.

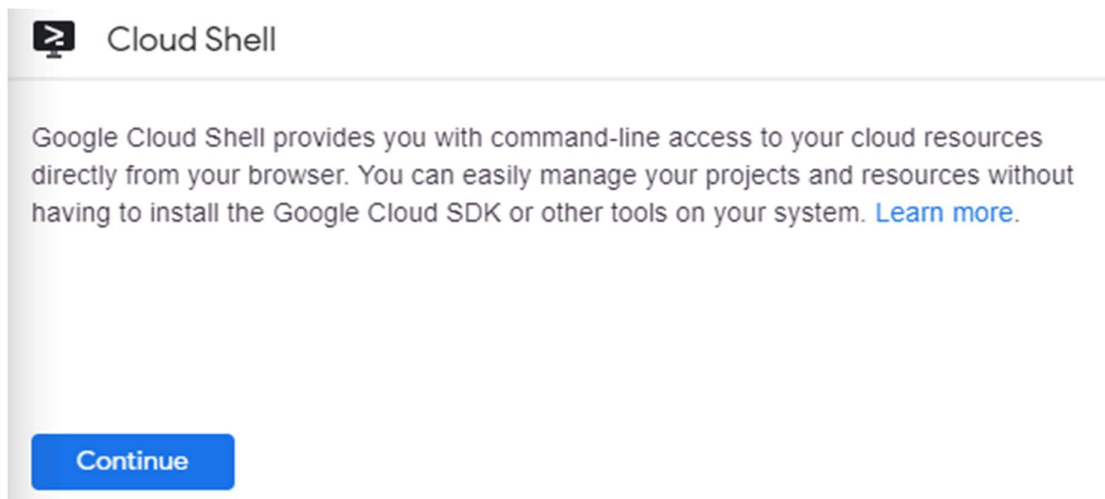
Activate Cloud Shell

Cloud Shell is a virtual machine that is loaded with development tools. It offers a persistent 5GB home directory and runs on the Google Cloud. Cloud Shell provides command-line access to your Google Cloud resources.

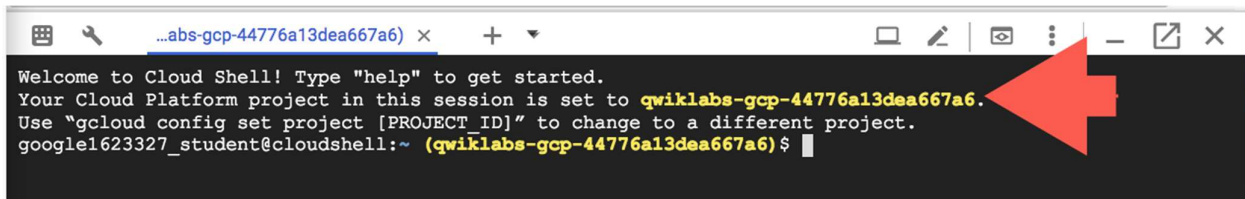
In the Cloud Console, in the top right toolbar, click the **Activate Cloud Shell** button.



Click **Continue**.



It takes a few moments to provision and connect to the environment. When you are connected, you are already authenticated, and the project is set to your *PROJECT_ID*. For example:



```
...abs-gcp-44776a13dea667a6) x + v
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to qwiklabs-gcp-44776a13dea667a6.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
google1623327_student@cloudshell:~ (qwiklabs-gcp-44776a13dea667a6) $
```

`gcloud` is the command-line tool for Google Cloud. It comes pre-installed on Cloud Shell and supports tab-completion.

You can list the active account name with this command:

```
gcloud auth list
```

(Output)

```
Credentialed accounts:
- <myaccount>@<mydomain>.com (active)
```

(Example output)

```
Credentialed accounts:
- google1623327_student@qwiklabs.net
```

You can list the project ID with this command:

```
gcloud config list project
```

(Output)

```
[core]
project = <project_ID>
```


(Example output)

```
[core]
project = qwiklabs-gcp-44776a13dea667a6
```

For full documentation of `gcloud` see the [gcloud command-line tool overview](#).

Remote Desktop (RDP) into the Windows Server

Test the status of Windows Startup

After a short time, the Windows Server instance will be provisioned and listed on the VM Instances page with a green status icon .

However the server instance may not yet be ready to accept RDP connections, as it takes a while for all the OS components to initialize.

To see whether the server instance is ready for an RDP connection, run the following command at your Cloud Shell terminal command line:

```
gcloud compute instances get-serial-port-output instance-1
```

If prompted, type **n** and press **Enter**.

Repeat the command until you see the following in the command output, which tells you that the OS components have initialized and the Windows Server is ready to accept your RDP connection (attempt in the next step).

```
-----  
Instance setup finished. instance-1 is ready to use.  
-----
```

RDP into the Windows Server

To set a password for logging into the RDP, run the following command in Cloud Shell terminal and replace `[instance]` with the VM Instance that you have created and set `[username]` as **admin**.

```
gcloud compute reset-windows-password [instance] --zone us-central1-a --user [username]
```

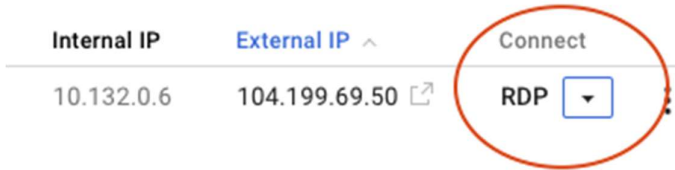
If asked `Would you like to set or reset the password for [admin] (Y/n)?`, enter **Y**.

There are different ways to connect to your server through RDP, depending on whether you are on Windows or not:

If you are using a Chromebook or other machine at a Google Cloud event there is likely an RDP app already installed on the computer. Click the icon as below, if it is present, in the lower left corner of the screen and enter the external IP of your VM.



If you are not on Windows but using Chrome, you can connect to your server through RDP directly from the browser using the [Chrome RDP for Google Cloud Platform](#) extension. Click on RDP.



This will prompt you to install Chrome RDP Extension. Once it is installed, it will open up a login page where you can specify Windows username **admin** and password from the output of above mentioned command to log in (ignore the Domain: field).

Enter your credentials

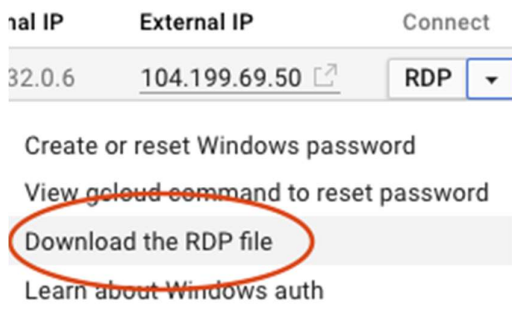
These credentials will be used to connect to 104.196.253.181

Domain:

Username:

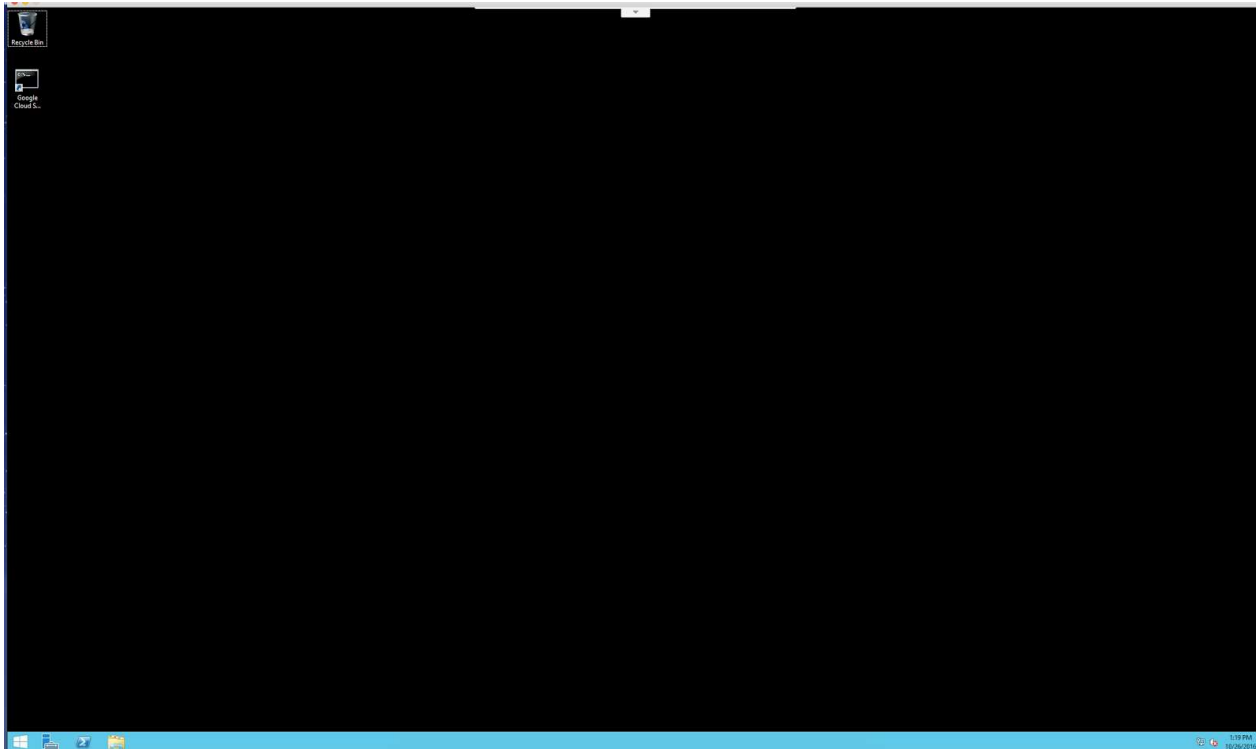
Password:

Alternatively, if you are on a Windows machine, you can download the RDP file by selecting it from the RDP menu.



On Windows, you can simply double click on the RDP file and login using the Windows user and password.

If you are on a Macintosh, there are several freely accessible RDP Client packages available to install, such as [CoRD](#). After installing, connect as above to the External IP address of the Windows server. Once it has connected, it will open up a login page where you can specify Windows username **admin** and password from the output of above mentioned command to log in (ignore the Domain: field). Once logged in, you should see the Windows desktop!



Copy and pasting with the RDP client

Once you are securely logged in to your instance, you may find yourself copying and pasting commands from the lab manual.

To paste, hold the **CTRL-V** keys (if you are a Mac user, using **CMND-V** will not work.) If you are in a Powershell window, be sure that you have clicked in to the window or else the paste shortcut won't work.

If you are pasting into putty, **right click**.

Test your understanding

The following multiple-choice questions can reinforce your understanding of this lab's concepts.

We can create a Windows instance in Google Cloud by changing its ____ in the VM instance console.
Boot disk to Windows image

Which command is used to check whether the server is ready for an RDP connection?
gcloud compute instances get-serial-port-output

Congratulations!



Finish your quest

Continue with the [Google Cloud Essentials](#) Quest. A Quest is a series of related labs that form a learning path. Completing this Quest earns you the badge above to recognize your achievement. You can make your badge (or badges) public and link to them in your online resume or social media account. Enroll in a Quest and get immediate completion credit for taking this lab. [See other available Qwiklabs Quests](#).

Next steps/Learn more

This lab is also part of a series of labs called Qwik Starts. These labs are designed to give you a little taste of some experience with the many features available with Google Cloud. Search for "Qwik Starts" in the [lab catalog](#) to find the next lab you'd like to take!

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Lab Last Tested December 14, 2020

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