Compute Engine: Qwik Start - Windows

40 minutes1 Credit
Rate Lab

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 will learn how to launch a Windows Server instance in Compute Engine, and connect to it using the Remote Desktop Protocol.

If you aren't using Windows on your local machine, install a third-party RDP client such as Chrome RDP by FusionLabs.

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:

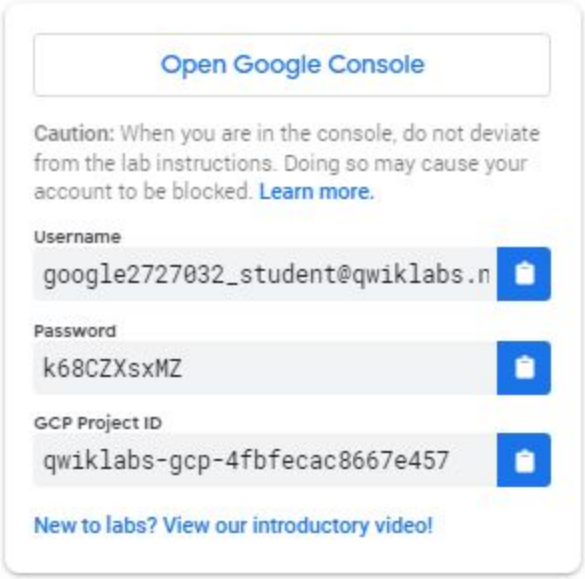
- Access to a standard internet browser (Chrome browser recommended).
- Time to complete the lab.

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

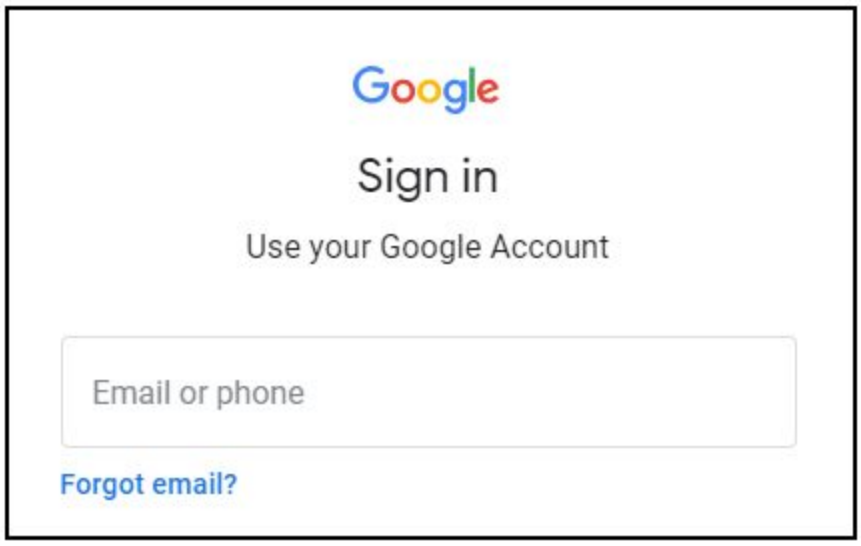
Note: If you are using a Pixelbook, open an Incognito window to run this lab.

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.

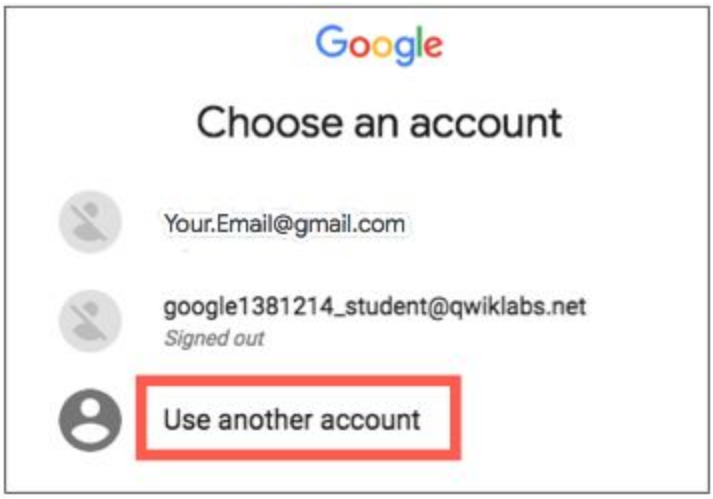


2. Copy the username, and then click **Open Google Console**. The lab spins up resources, and then opens another tab that shows the **Sign in** page.



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

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

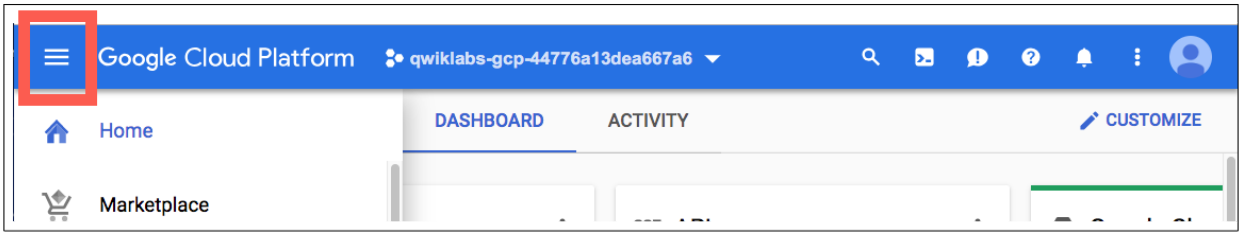


3. In the **Sign in** page, paste the username that you copied from the Connection Details panel. Then copy and paste the password.
   Important: You must use the credentials from the Connection Details panel. Do not use your Qwiklabs credentials. If you have your own Google Cloud account, do not use 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.

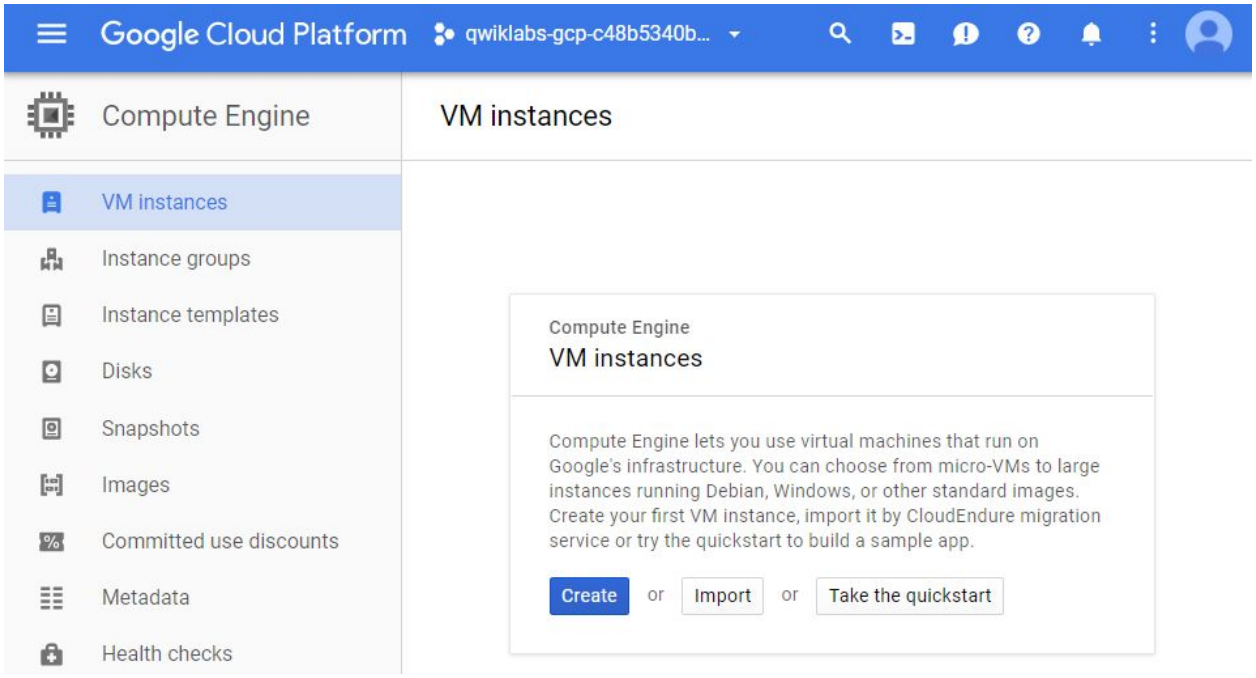
After a few moments, the Cloud Console opens in this tab.

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



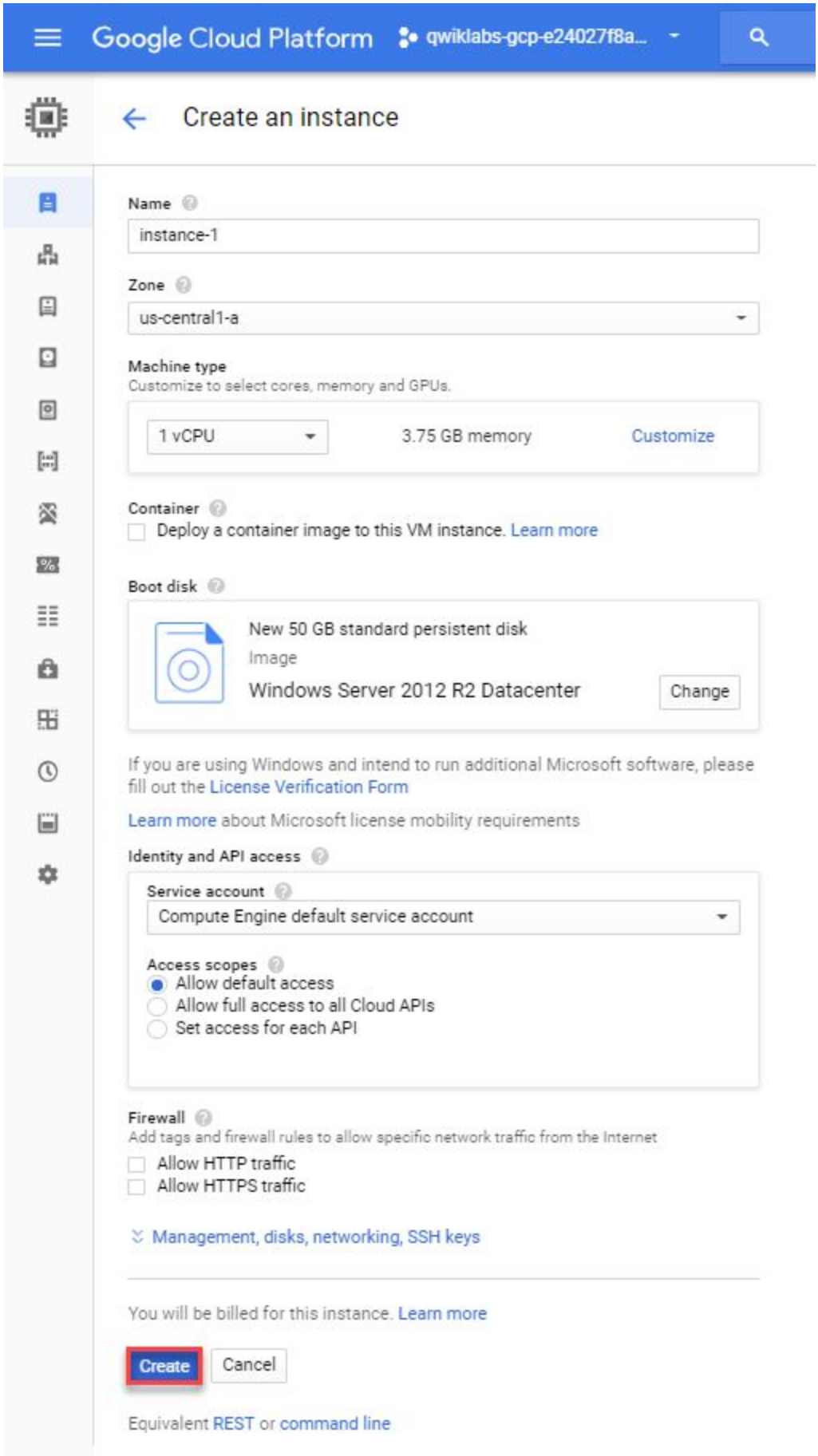
Create a virtual machine instance

In the Cloud Console, go to **Compute Engine** > **VM instances**, then click **Create**.



In the **Boot disk** section, click **Change** to begin configuring your boot disk.

Choose **Windows Server 2012 R2 Datacenter**, then **Select**. Leave all other settings at their defaults.


Google Cloud Platform
qwiklabs-gcp-e24027f8a...
Create an instance
Name
instance-1
Zone
us-central1-a
Machine type
Customize to select cores, memory and GPUs.
1 vCPU
3.75 GB memory
Customize
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, disks, networking, SSH keys
You will be billed for this instance. Learn more
Create
Cancel
Equivalent REST or command line

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

Test Completed Task

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

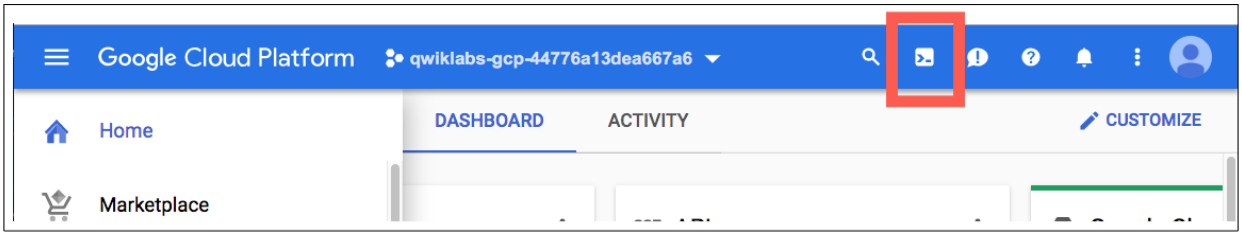
Create a virtual machine instance (zone: us-central1-a).

Check my progress

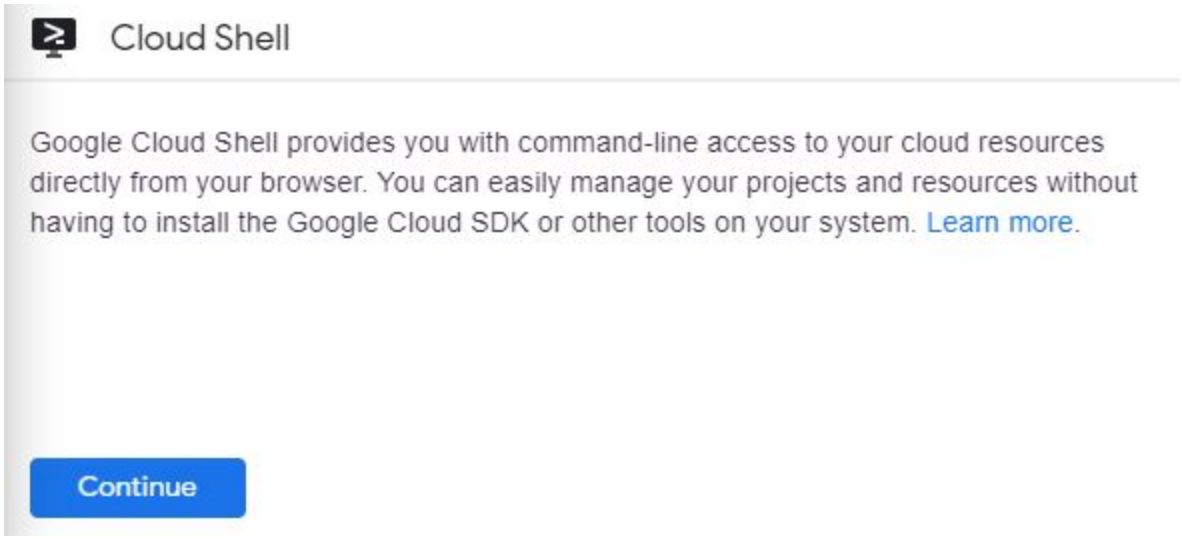
Activate Cloud Shell

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.

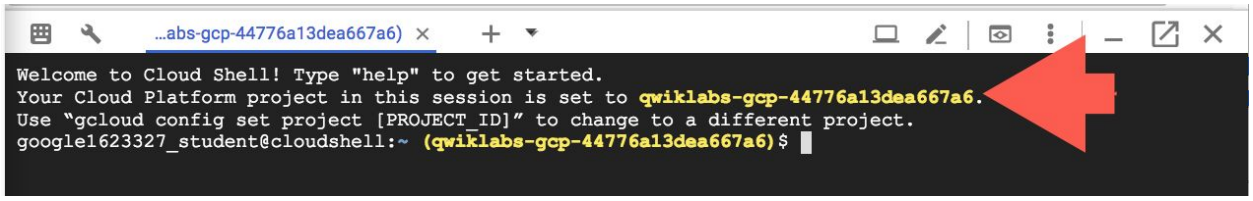
In the Cloud Console, in the top right toolbar, click the **Activate Cloud Shell** button.



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:



`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.

Test the status of Windows Startup

Allow a short time for the Windows Server instance to start up. Once it has been provisioned, it will be listed on the VM Instances page with a green status icon.

However it 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 is ready for an RDP connection, run the following command at your Cloud Shell terminal command line:

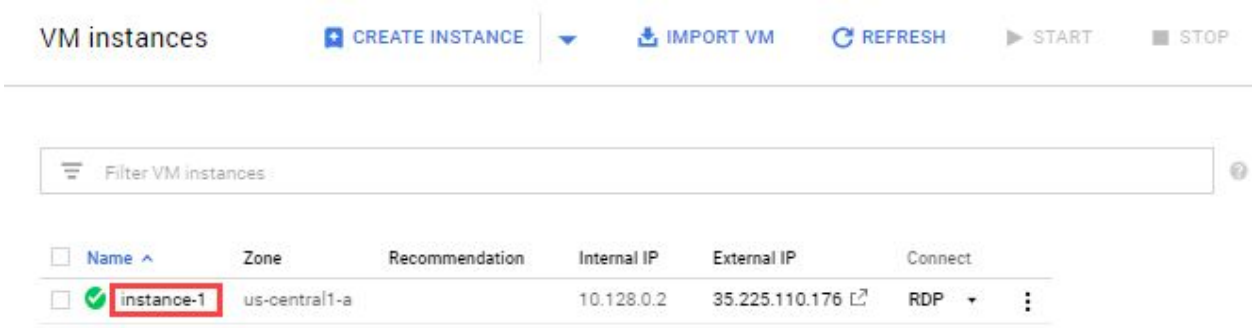
```
gcloud compute instances get-serial-port-output instance-1 --zone us-central1-a
```

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).

```
Activation successful.
```

Connect to your instance

Click the name of your virtual machine:

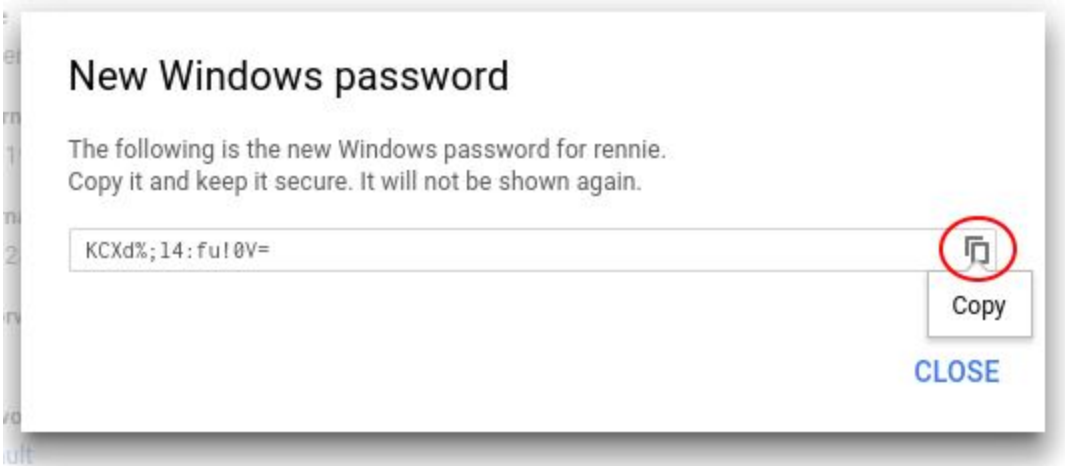


Under the **Remote Access** section, click the **Set Windows Password** button.

A username will be generated.

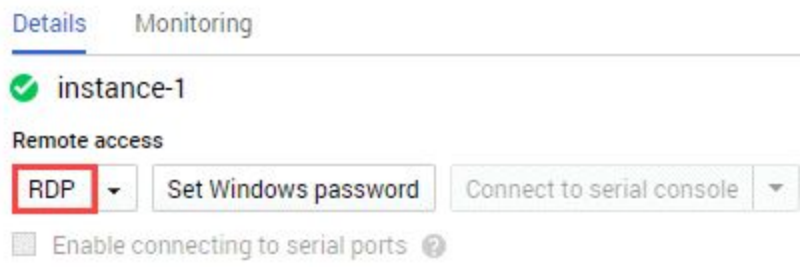
Click **Set** to generate a password for this Windows instance. This may take several minutes to complete.

Copy the password and save it so you can log into the instance.

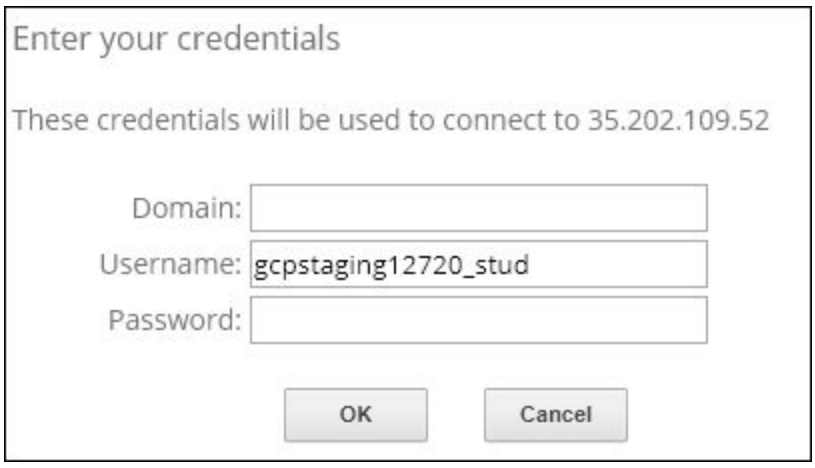


Remote desktop (RDP) into the Windows Server

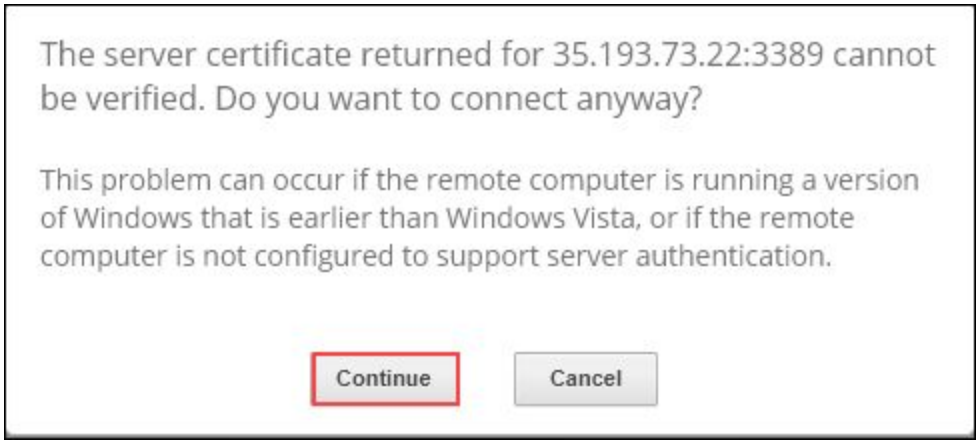
It's time to RDP into the Windows Server. You can RDP directly from the browser using the Chrome RDP for Google Cloud extension. Click on **RDP** to connect.



This prompts you to install the RDP Extension. Once installed, Google Cloud opens up a login page where you use your Windows user and password to log in. Paste in the password you saved earlier.



Click **Continue** to confirm you want to connect.



When Server Manager opens you are connected to instance-1, the VM instance on the Windows Server.

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

Below are a multiple choice questions to reinforce your understanding of this lab's concepts. Answer them to the best of your abilities.

We can create Windows instance in Google Cloud by changing its ____ in VM instance console.

Machine Type

Boot disk to Windows image

API Access

Firewall rules

Submit

Which command is used to check whether the server is ready for an RDP connection?

gcloud compute instances get-serial-port-output

gcloud compute ssh

gcloud compute instances list

gcloud compute instances create

Submit

Congratulations!