

Dear Students,

Please pay attention to the highlight notes.

- Do not use your own credit card or any other payment to sign up.
- Use the code we give you.
- You need **two email addresses** to set up your VM using Google Cloud Platform (GCP).

Summary of this document

You need to follow these three steps:

Step 1. Get GCP coupon code: You will need your **Binghamton University email id** for this.

Step 2. Redeem your coupon code: For this, you will need **an another email id on gmail** which is different from your Binghamton University email id.

Step 3. Set up your virtual machine (VM): Create your VM and proceed with assignment.

Detailed version of above three steps

Step 1. Get GCP coupon code

You will need your Binghamton University email id for this.

Here is the URL:

<https://google.secure.force.com/GCPEDU?cid=edPD8%2FLz2Z2UfjEulx4HLR1r5UZskUzIV03Fx9hdtbBh5Jf6xcbq%2BTRh%2FvRXC9yH>

You will need to access in order to request a Google Cloud Platform coupon. Click on it and enter your details. This step is to verify your “**university email**”. You will be asked to provide your school email

address and name. An email will be sent to you to confirm these details before a coupon is sent to you.

- You will be asked for a name and email address, which needs to match the domain. A confirmation email will be sent to you with a coupon code.
- Once you receive the coupon in your Binghamton University email, please **DO NOT click on** the link that says “Click [here] to redeem”. **You won’t be able to use your coupon if you click on it.** To redeem the coupon, see “ Step 2”.
- You can only request **ONE code per unique Binghamton email address**.

Step 2. Redeem your coupon code

For this, you will need **an another email id on gmail** which is different from your Binghamton University email id. If you don’t have an email account on gmail other than Binghamton University, then you will have to create one in order to redeem the coupon.

Once you have set up a new gmail account, then sign in to this new gmail account and follow the steps given below:

1. Make sure you are signed into your other GMAIL account (**NOT Binghamton university Gmail account**).
2. Go to the <https://console.cloud.google.com/education> link.
3. Double check the current login account is your other GMAIL account through the upper right corner of the page.
4. Enter the Google Cloud Platform Coupon code you got in the email and follow the instructions on the page.
5. Once the coupon is applied, you can see in the Billing panel your \$50 credit.

Step 3. Set up your virtual machine (VM)

Use the following guidelines to

- create your VM,
- connect to your VM (e.g. using ssh) and
- stop your VM.

3(a) Create a virtual machine instance

This page: <https://cloud.google.com/compute/docs/instances/create-start-instance> describes various ways that you can create a VM instance on Google Cloud Platform. Below is a simpler version of these instructions that would suffice for this course.

1. In the Cloud Platform Console, go to the VM instances page. (If the Project is not created create the Project and then create instance under the newly created project).
2. Click the Create instance button.
3. In the Machine type section, select 1 vCPU in the drop-down list. Click “Customize” and reduce the memory size from 3.75 GB to 2 GB. Why reduce the memory? You might notice that the cost of using your VM per hour is shown in the top right of the console. More vCPUs and memory cost more money. You don’t want to exhaust your GCP credits before the end of the semester.
4. In the Boot disk section, click Change to begin configuring your boot disk.
5. In the OS images tab, choose the UBUNTU 16.04 LTS image and click Select.
 - In the beginning, DON’T select images with large disk sizes. It will cost you more and you’ll exhaust your GCP credits before the semester ends. But if you need large disk sizes for your project, you can select as needed.
 - Select only Ubuntu image for this course. That way, the TAs can help you with the configuration if you need help. With other Linux images, they may or may not be able to help you.
6. Click the Create button to create the instance of your VM.

3(b) Remotely connect to your instance

This page: <https://cloud.google.com/compute/docs/instances/connecting-to-instance> describes three ways to connect remotely to your VM instance -- using a browser, using gcloud command line tool, and using ssh. We strongly suggest using either gcloud or ssh commands. That way you will learn a few more tricks and gain a deeper understanding of how public-private keys are used for ssh.

3(c) Clean up after your are done

To avoid unnecessary charges to your Google Cloud Platform account, always STOP your VM after you finish your work.

This page: <https://cloud.google.com/compute/docs/instances/stopping-or-deleting-an-instance> explains how to STOP your VM instance.

1. In the Cloud Platform Console, go to the VM instances page.
2. Click the name of the instance you created.
3. At the top of the instance's details page, click STOP. Alternatively, you can also shut-down your VM normally from within the SSH terminal using the command

```
$ sudo halt
```

When you want to reuse your VM, come back to the VM instances page, select the instance you created earlier, and click **START**.

P.S: No need to DELETE your VM instance every time. Just STOPping it should be good enough to prevent depleting your GCP credits.

Please make sure your VMs are really stopped (not just press the stop button, but ***wait till its status changes to "stop"***)