<Name Here>

CSC 2500: Unix Programming Lab

Lab 00 – Your First GCP VM

General Instructions

For this class you will need to setup the following if you do not already have them:

- A Google account
- A Google Cloud Platform (GCP) account

Submission Instructions

To submit, how the VM and the setup to the instructor or TA.

Lab Instructions

Setting Up A GCP Account

1. Here is the URL you will need to access in order to request a Google Cloud Platform coupon. 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.
2. Fill out the form on the Student Coupon Retrieval Link. 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.
    - You can request a coupon from the URL and redeem it until: 5/21/2020
    - Coupon valid through: 1/21/2021
    - You can only request ONE code per unique email address.
3. Go to https://cloud.google.com/ and login to your Google Account. To redeem your code, go to https://console.cloud.google.com/education.

Creating a Project

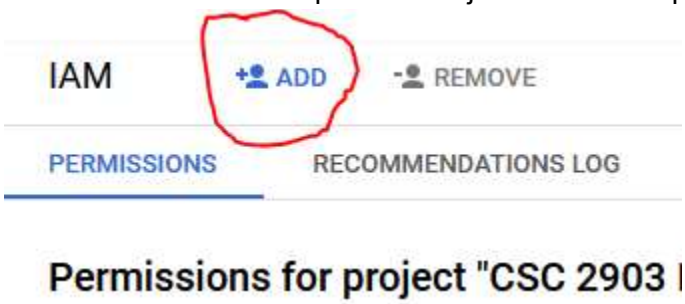
1. **After** redeeming your GCP coupon, access your GCP console at https://console.cloud.google.com.
2. Click “Select a project” and “New Project”.
3. Fill out the form with the following:
    - Your project name should be `username-csc2500-spr20`, where `username` is your Tennessee Tech username (what you login to iLearn with).
    - Ensure the “Billing Account” is the account associated with this course.

Adding your TA and Instructor

1. After creating your project, go to the “IAM & Admin” menu item for your project.
2. Click “Add” at the top menu bar. See image below.

<Name Here>

3. Fill out the form for each TA or Instructure (`mgm.mehedihasan@gmail.com`) you need to add using their provided email addresses. *This may not be the same as their TNTech affiliated emails.* Give each person “Project” > “Owner” permissions.



Setting up Your first VM

4. On the left side bar menu, locate and click “Compute Engine”. You will likely need to wait for
5. Click “VM Instances” and then “Create”.
    - Name your VM `csc-2500`.
    - Under “Machine configuration” change “Machine type” to `f1-micro`.
    - Change “Boot disk” to `Ubuntu 18.04 LTS`. See image below.

<Name Here>


Boot disk
Select an image or snapshot to create a boot disk; or attach an existing disk
OS images
Application images
Custom images
Snapshots
Existing disks
Show images with Shielded VM features
Debian GNU/Linux 10 (buster)
amd64 built on 20191210
Debian GNU/Linux 9 (stretch)
amd64 built on 20191210
CentOS 6
x86_64 built on 20191210
CentOS 7
x86_64 built on 20191210
CentOS 8
x86_64 built on 20191210
CoreOS alpha 2387.0.0
amd64-usr published on 2020-01-14
CoreOS beta 2345.1.0
amd64-usr published on 2020-01-14
CoreOS stable 2303.3.0
amd64-usr published on 2019-12-03
Ubuntu 16.04 LTS
amd64 xenial image built on 2020-01-08
Ubuntu 18.04 LTS
amd64 bionic image built on 2020-01-08
Ubuntu 19.04
amd64 disco image built on 2020-01-08
Ubuntu 19.10
amd64 eoan image built on 2020-01-07
Ubuntu 16.04 LTS Minimal
amd64 xenial minimal image built on 2020-01-06
Ubuntu 18.04 LTS Minimal
amd64 bionic minimal image built on 2020-01-08
Ubuntu 19.04 Minimal
amd64 disco minimal image built on 2020-01-08
Ubuntu 19.10 Minimal
amd64 eoan minimal image built on 2020-01-07
Container-Optimized OS 69-10895.385.0 stable
Kernel: ChromiumOS-4.14.145 Kubernetes: 1.11.8 Docker: 17.03.2 Family: cos-69-lts
Container-Optimized OS 73-11647.415.0 stable
Kernel: ChromiumOS-4.14.160 Kubernetes: 1.13.3 Docker: 18.09.7 Family: cos-73-lts
Container-Optimized OS 77-12371.141.0 stable
Kernel: ChromiumOS-4.19.91 Kubernetes: 1.15.3 Docker: 19.03.1 Family: cos-77-lts,
Secure Boot ready
Can't find what you're looking for? Explore hundreds of VM solutions in Marketplace
Boot disk type
Standard persistent disk
Size (GB)
10
Select
Cancel

<Name Here>

- Leave other settings at default.
- Click “Create”.

6. Connect to your VM. You can do this in two ways:
   - If you know what `SSH` clients are and have used them before, click the drop down next to SSH in the “Connect” column on your instance on the VM instances page. Then click “Use another SSH Client” and follow the on-screen instructions.
   - Otherwise, click `SSH`. A pop-up browser window will appear with your console.
7. After connecting to your VM, type `ls` in your console. Then type `ls -a`. Note the differences in output. The `ls` command lists the files at your current location in the console, `ls -a` does the same but also lists hidden files (such as files that begin with a dot).
8. Show your setup to your instructor or TA for credit.
9. Finally, shut down the VM when it is not in use. This will help to conserve your funds granted by the coupon code.
   - Close your connection window.
   - On the VM instances page, locate your instance and click the 3 dots menu on the right-hand side.

   - Click “Stop”.
   - When you need to use your instance again, go to the same page, and using the same menu click “Start”.
10. Explore the command line with various commands found in chapters 2-4 of your textbook.