Cloud Management

California State University, San Marcos

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# Homework #1: Getting Started with Cloud Infrastructure

## Prerequisites

In order to complete this assignment, you must already have your Google Cloud Platform and Amazon Web Services accounts setup. If you haven't done this yet, refer to the instructions located in Cougar Courses.

## Objective

Upon the completion of this assignment, you should be able to create simple cloud infrastructure in Google Cloud Platform and Amazon Web Services using the web-based Graphical User Interfaces (GUI).

## Instructions

There are two parts to this assignment. You must complete both parts to receive full credit. In the first part, you will provision a Linux virtual machine (VM) into Google Cloud Platform (GCP) and then connect to it from your web browser. In the second part, you will provision a Linux virtual machine (VM) into Amazon Web Services (AWS) and then connect to it from your web browser. You will document your progress in a brief report that meets the requirements below:

* MS Word or PDF document
* 12-point font
* Single-spaced
* Minimum of 8 total screenshots of your progress (4 screenshots for GCP and 4 screenshots for AWS)
* Minimum of 500 Words combined for both parts
* Organized using an Introduction, Analysis, and Conclusion style
* Your analysis will be a discussion of your progress as you complete the homework, including describing any challenges, how you overcame any challenges, and what you learned on this assignment.

**Please be sure to review the explanatory, "walk-through" videos on my YouTube channel if you encounter issues.**

## Part 1: Google Cloud Platform (GCP)

Adapted for our classroom from [GCP's Tutorial](https://cloud.google.com/compute/docs/instances/create-start-instance) to ensure that the documentation is accessible to everybody and to clarify ambiguities.

1. In the Google Cloud Console, go to the [VM instances](https://console.cloud.google.com/compute/instances) page.
2. Select the project that you created when you redeemed your GCP Coupon Code and click **Continue**.
3. Click **Create instance**.
4. Specify a **Name** for your instance. For this assignment, please use this name: **Homework1** 
   1. **Optional:** For your project, you may wish to review Google's [Resource naming convention](https://cloud.google.com/compute/docs/naming-resources#resource-name-format) recommendations.
5. Select a **Machine configuration** for your instance.
6. In the **Boot disk** section, click **Change** to configure your boot disk. Unless you explicitly choose a different boot disk, if the name of the new instance matches the name of an existing persistent disk, then the existing persistent disk automatically attaches to the new instance as the boot disk.
7. In the **Public images** tab, choose a Linux-based operating system and version. This is very much a matter of personal preference, but if you expect to need my assistance, then you should choose Ubuntu or Debian. If you are comfortable with searching for answers on Google, then you may choose whichever flavor of Linux interests you (i.e. CentOS, RedHat, Ubuntu, Debian, etc.).
8. Click **Save** to confirm your boot disk options.
9. Click the **Create** button to create and start the instance.
10. Connect to the instance using the Google web console interface (Insert the instructions)
11. Power off your VM, until you are ready to begin Homework #2. If you plan to immediately begin Homework #2, then you may leave your VM running. **You will need your VM for Homework #2, so do not terminate it.**

## Part 2: Amazon Web Services (AWS)

1. Follow the [AWS EC2 Linux Tutorial](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EC2_GetStarted.html). If desired, you may optionally open and print a PDF version of the tutorial using the PDF link at the top. There is also a Kindle version available. **Be sure to use either Amazon Linux 2 2.0.20190618 or later or Ubuntu Linux 20.04 or later. Failure to use these distributions of Linux may result in issues connecting to your VM from your web browser.** When you are finished, you may terminate this VM (EC2 instance).