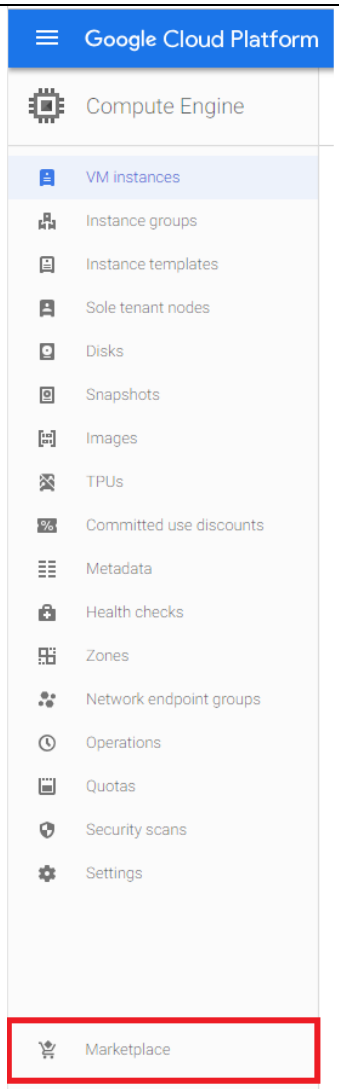
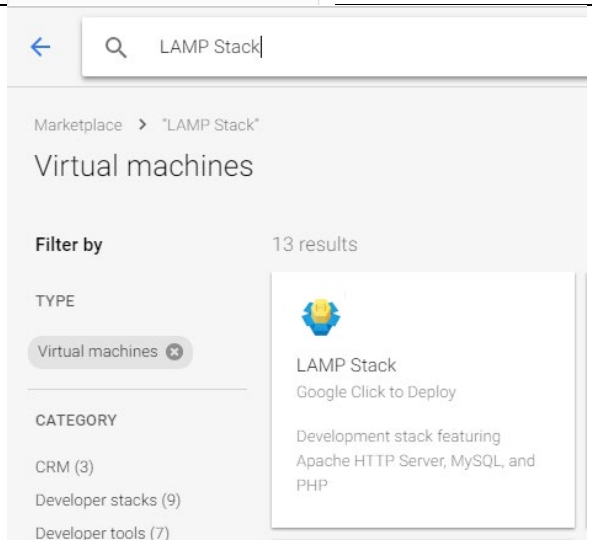
Google Server Stack Setup

The purpose of this document is to help set up your LAMP stack on your Google Cloud Server.
Once you have your credits set up, navigate to https://console.cloud.google.com

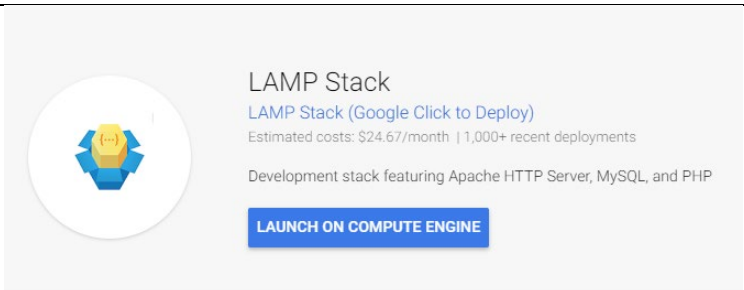
1. From the Google Cloud Platform hamburger menu in the top left, find and select Marketplace



2. Search for LAMP Stack. Click the LAMP Stack result that looks like the following to deploy.

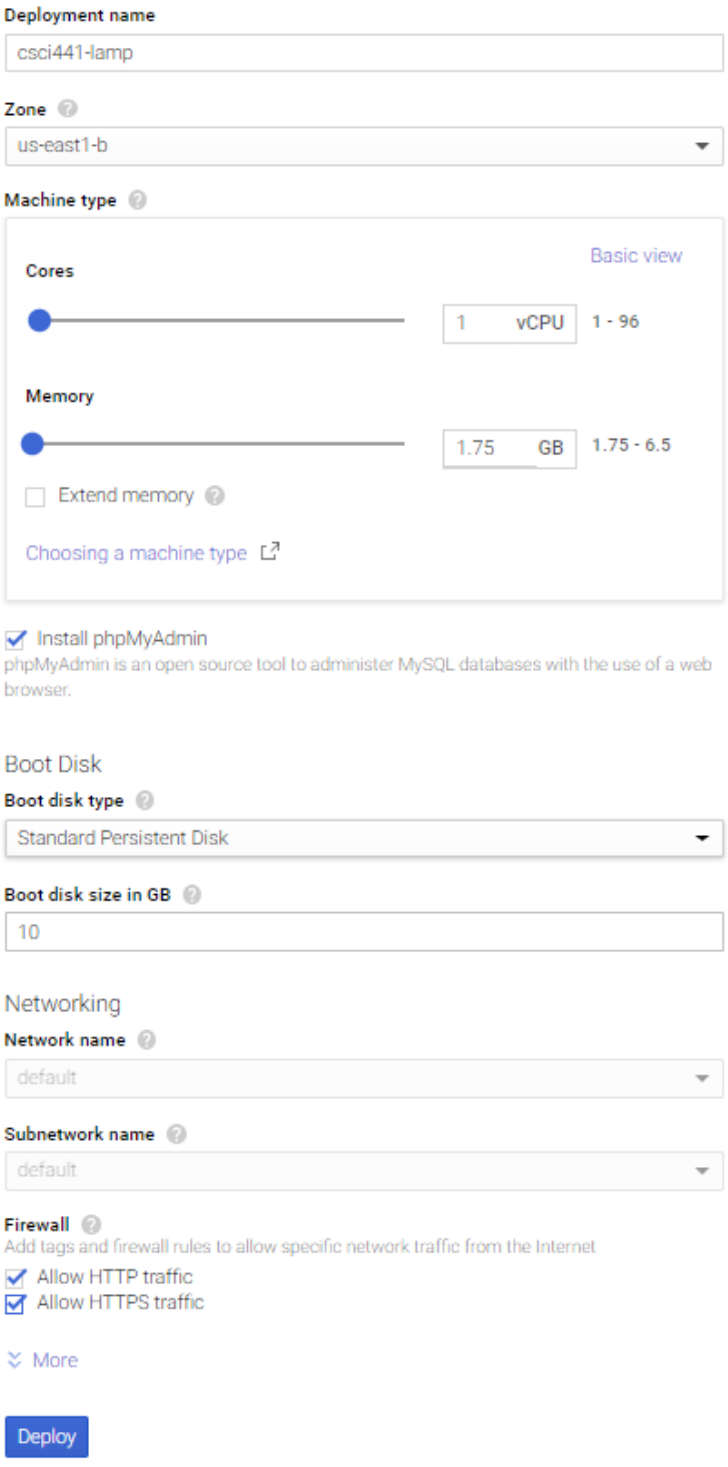


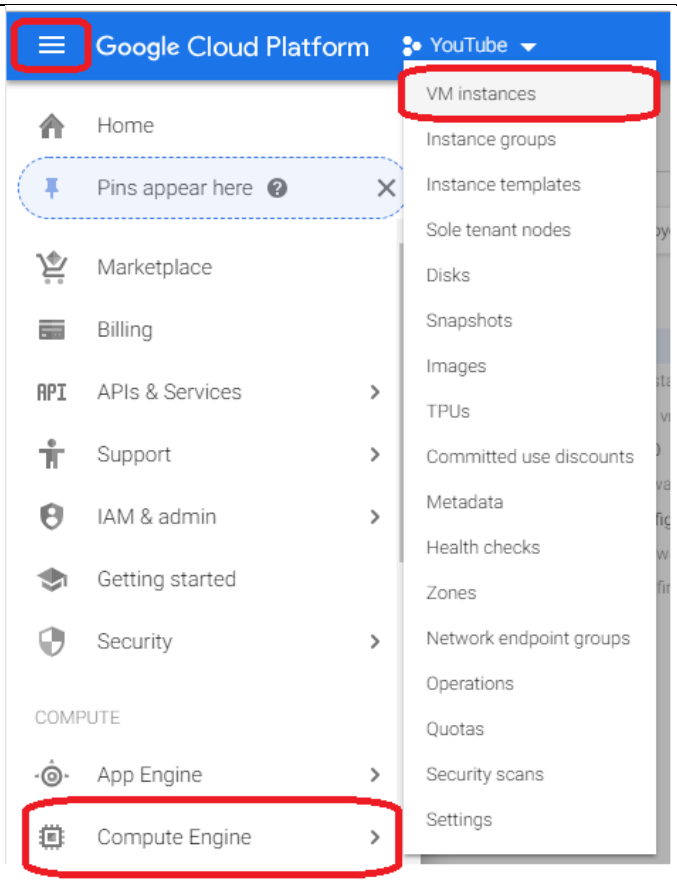
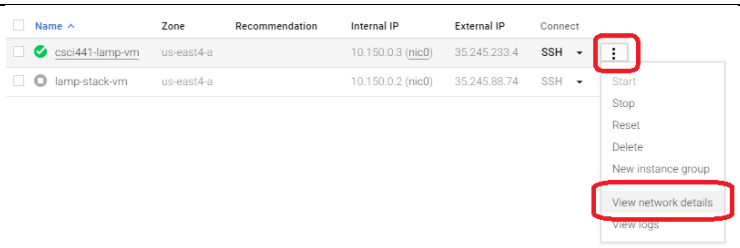
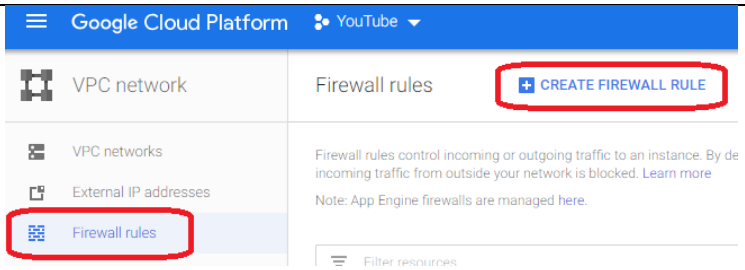
3. Click on LAUNCH ON COMPUTE ENGINE



4. Provide the following
   - Deployment Name – csci441-lamp
   - Zone – us-east4-a
   - Machine type – click customize – select - 1 vCPU & 1.17 GB memory – this is the cheapest option
   - Install phpMyAdmin
   - Boot – Standard Persistent Disk
   - Boot disk size in GB – 10
   - Networking name – default
   - Subnetwork name – default
   - Firewall – Allow HTTP and HTTPS traffic

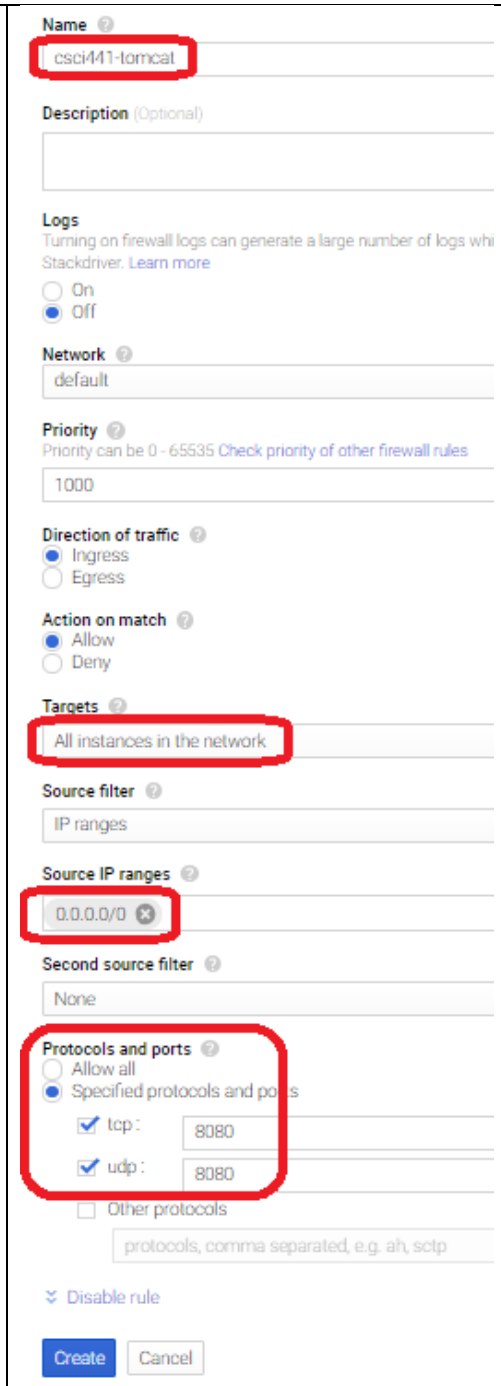
5. Click Deploy



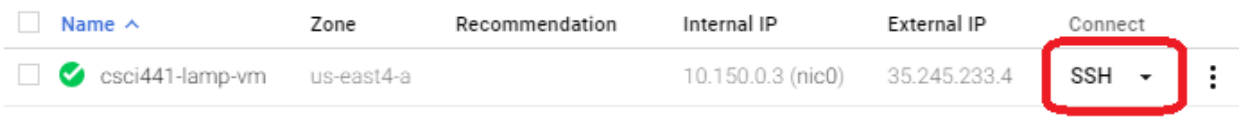
6. From the Google Cloud Platform hamburger menu in the top left, navigate to Compute Engine > VM instances	
7. Selecte the instance you just created (i.e., csci441-lamp) > click the three dotted dropdown > select View network details	
8. Select Firewall rules on the left then click CREATE FIREWALL RULE	

9. Provide the following
    - Name – csci441-tomcat
    - Targets – Al instances in the network
    - Source IP ranges – 0.0.0.0/0
    - Protocols and Ports – Specify tcp: 8080 and udp: 8080

10. Once everything matches, click Create
11. Repeat Steps 8-10 with the following changes:
    - Name – meteor-3000
    - Targets – Al instances in the network
    - Source IP ranges – 0.0.0.0/0
    - Protocols and ports – Specify tcp: 3000 and udp: 3000
12. Once everything is updated/matches, click Create



13. From the Google Cloud Platform hamburger menu in the top left, navigate to Compute Enging > VM instances
14. Click SSH for your VM instance



Time to set up the Innards of your cloud computer

Much of this is a copy and paste in the cmd window you opened in the previous step.

Set up root password

- sudo passwd (don't forget as you will be using it later)

```
witny23@csci441-lamp-vm:/var/www$ sudo passwd
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

Set up Java

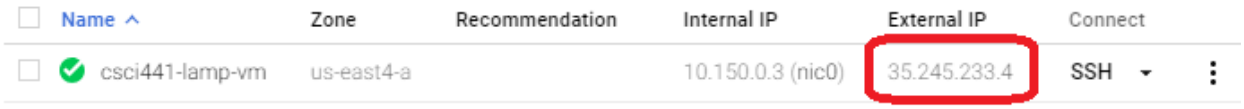
sudo apt-get update
sudo apt-get install default-jdk

Set up tomcat8

- sudo apt-get install **tomcat8**
- sudo apt-get install tomcat8-admin
- sudo nano /etc/tomcat8/tomcat-users.xml
- Enter the following between the <tomcat-users> tags (change username / pw)

  <role rolename="admin-gui"/>
  <role rolename="manager-gui"/>
  <user username="foo" password="foo" roles="manager-gui,admin-gui"/>
  // the above allows you to use a gui for app deployment and monitoring
  // replace foo as needed
- Ctrl o then press enter to save
- Ctrl x to exit
- sudo /etc/init.d/tomcat8 restart

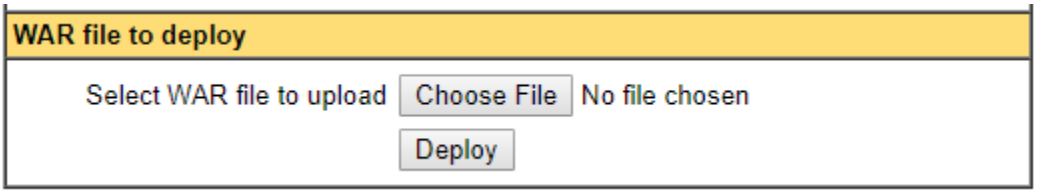
- ss -tln check to see if tomcat is up and running on 8080 (:::8080 should be listed)



- http://35.245.233.4:8080
- http://35.237.82.165:8080/manager/html
- Log in with credentials set up earlier

Deploy a .war file

- Download the assgn00.war file from blackboard
- In the Tomcat Web Application Manager that you just logged into find WAR file to deploy > Choose file > navigate to the assgn00.war file (or just drag it to the Choose File button) > Click deploy



- In the Applications section you should now see /assgn00 listed as a link. Click the link. You should see the following:

Glorious Success!!

Applications	
Path	
/	
/assgn00	
/host-manager	
/manager	

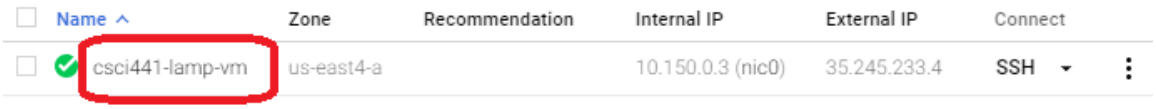
The following are good tools for your apache and tomcat deployment, but you don't need to run them

Restart
sudo service apache2 restart
sudo /etc/init.d/tomcat8 restart

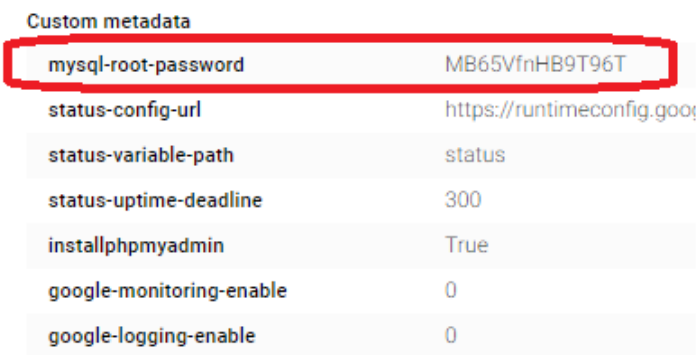
logs
sudo su
cd /var/lib/tomcat8/logs
tail -f catalina.out
Ctrl z to stop logs

phpMyAdmin

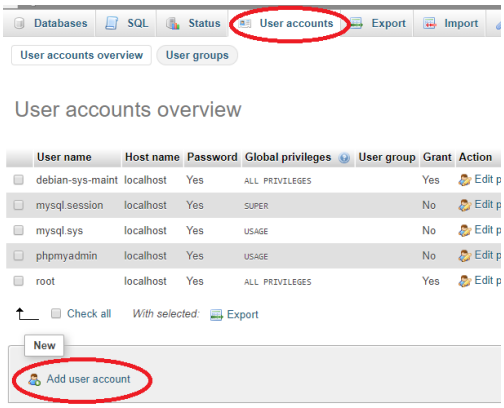
- Navigate to your VM instance (hamburger menu > Compute Engine > VM instances)
- Click on your instance



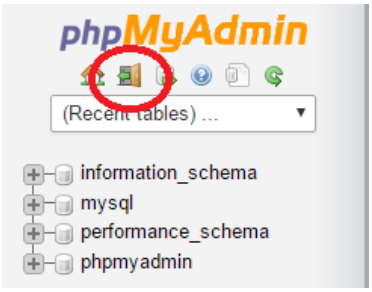
- Scroll down to Custom metadata to find your mysql root password



- Navigate to IPaddress/**phpmyadmin/**
  - login – root – password found above
  - Click the Users accounts tab then the add user link below the table



  - add self as user (e.g., whitneym – newPassword) > Under Global privileges > check All > way down on the bottom right click Go
  - Log out the log back in with newly created user



  - Go back to the Users tab > click edit privileges for root user > uncheck all global privileges > click Go on the far bottom right.

Promote ephemeral external IP address to a permanent IP address

- From the hamburger, select VPC network (in NETWORKING section) > Select External IP addresses
- In the **Type** column, change the address type to Static for the IP address you want to promote.

- Name it csci441 and click RESERVE.
- To release the IP, stop your VM instance, then come back to this page, click the box next to the IP address to release > Click Release IP address (blue button up near top). https://cloud.google.com/compute/docs/ip-addresses/reserve-static-external-ip-address#unassign_ip