Lab 1 - SQL Setup

CompSci 316
Fall 2020
Virtual Machine instruction

https://www2.cs.duke.edu/courses/fall20/compsci316/instructions/vm/

Step 1: Reserve a VM: https://vcms.duke.edu/
Welcome to Virtual Computing Manager!

Virtual Computing Manager is a service providing the Duke community with easy access to virtual software packages, and semester-long virtual machine (VM) reservations. Access specialized software without installing it on your own computer, host your own server for development projects and coursework, or customize your own environment to use for the semester.

My Reservations

VIRTUAL MACHINES

| vcm- | vm.duke.edu |

check the vm

Virtual Machines (aka VMs)

Your Duke VM is like having a second computer that lives in OIT. You can log into and use your VM from your own machine.
- Run Windows or Linux
- Install zero, one or multiple apps for free

Reserve a VM

Virtual Software (aka Containers)

A Container lets you use a desktop software application in your browser without installing it on your machine or your VM.
- Simple to use
- Launch an app in a click!
- Use anywhere you can run a browser

Reserve a Container
**THIS VM WILL POWER DOWN AUTOMATICALLY**

To make efficient use of the shared VCM resources and reduce our carbon footprint, this VM will be powered down every morning at 6:00 AM. Click the Power on button to turn your VM back on before you log into it. If your VM is being used as server or runs very long computations and must remain on continuously, you can un-check the **Automatic power down** check box above to opt out of automatic shutdowns.

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**General Information**

- **Hostname:** vcm-15837.vm.duke.edu
- **Operating System:** Ubuntu18 Server
- **Base memory:** 2 GB
- **Processors:** 2
- **Extra info:** Request: https://clockworks.oit.duke.edu/vm_request/119995 Deployed from OVF packer-ubuntu-18.04-server-amd64(content version 13) on content library FE-VM-Manage @ 2020-08-05 09:04:59-0400 ClockworksUrl: https://clockworks.oit.duke.edu/vms/31578
- **VM Status:** complete

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**Users**

- **User:**
  - i
- **Admin user:**
  - vcm
- **Admin password:**
  - View password
Step 2: Access to the Machine

Mac/Linux:

In terminal, type “ssh vcm@vcm-xxxx.vm.duke.edu”

Enter password
If Windows OS: MobaXterm

Click session
Click SSH
1. vcm@vcm-xxx.vm.duke.edu

2. OK
VM Setup - download & run setup script

1. Download the setup script:
   a. `wget -N https://www2.cs.duke.edu/courses/spring20/compsci316/static/init.sh`

2. Run the script:
   a. `bash init.sh`
VM Setup - add SSH Key to your GitLab

1. Pause at this screen
2. Copy your public key (everything starting from “ssh-rsa” to your duke email address)
3. Open a browser, go to gitlab.oit.duke.edu, login with your Duke credentials
4. Click on the icon on upper right corner, Go to setting → SSH Keys
5. Paste the public key under Key, give it a title, doesn’t matter what the title is, don’t have to set expiration date
6. Add Key
7. Go back to your terminal and hit [Enter]
8. Answer yes if asked to continue to connect
VM Setup - Install necessary tools

1. init.sh downloads a repository from GitLab
   a. They are under path /opt/dbcourse on your VM
2. Run the following command:
   a. /opt/dbcourse/sync.sh
   b. This would install necessary tools for setup
3. Just wait for the command to finish (it takes a while)
4. Once it is finished, reboot to adopt the changes:
   a. sudo reboot now
   b. This would terminate SSH connection, just wait for the reboot and re-ssh
5. 
VM Setup - Final Step

1. Run the command:
   a. `/opt/dbcourse/examples/db-beers/setup.sh`

2. Once done, you should see output similar to the screenshot

3. Go to the following URL:
   a. `vcm-XXXXX.vm.duke.edu:8081`
   b. `XXXXX` is the number of your VM
   c. Must include the port number at the end
Pgweb

In web browser, enter vcm-xxx.vm.duke.edu:8081
# Pgweb

## Database Objects

**public**
- **Tables** 6
  - bar
  - beer
  - drinker
  - frequents
  - likes
  - serves
- **Views** 0
- **Materialized Views** 0
- **Sequences** 0

## Query Panel

Current Query: 1

### Run Query

### Explain Query

**Options**
- JSON
- CSV
- XML