**CSI 3670**

**Winter 2021**

**Lab 1: Windows Server 2019 / Ubuntu Installation**

**Due date: January 21st @ 11:59pm**

**Synopsis:**

This lab will have you set up your installs for the VM environments that we’ll be using for the rest of the semester on the school VMs. The actual homework questions will be posted separately.

**Steps:**

**0) Ensure that you can access your virtual machine.**

You will need access to the school’s VPN in order to connect to vcenter. Ensure that you’ve installed the appropriate tools from CTO (https://oakland.edu/secs/student-resources/).

VPN: <http://secs.oakland.edu/docs/pdf/vpn.pdf>

VPN (Windows 10): <http://www.secs.oakland.edu/docs/pdf/win10Vpn.pdf>

Make sure you also have an SECS account. If you have not set this up already, you can request one here (or if you have one but forgot your password): https://www.oakland.edu/secs/technology-office/.

Go to <https://vcenter6.secs.oakland.edu> in your browser. Click “LAUNCH VSPHERE CLIENT (HTML 5)”. You can click LAUNCH VSPHERE WEB CLIENT but will need Flash installed. Log in with your SECS account name, followed by “@secs”, and your password.

For example:

User name: yourSECSname@secs

Password: \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**1) Login to your virtual machine via vcenter and update the administrator password**

You’ll see yoru VSphere client page load. You should have **two** VMs in your account.

A screenshot of a cell phone

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Navigate to your virtual machine (vCenter Inventory Lists -> Virtual Machines). You're going to install Ubuntu on the first, and Windows Server 2019 on the second. Let's start with Windows.

The Windows Server 2019 disc is pre-loaded for you, but you have to install it yourself.

One thing you may notice is that your mouse cursor doesn’t work. This means that we're going to be stuck using the keyboard. So, get used to using the Tab and Enter keys for the installation process.

Use English for the three options on the first screen. Hit Enter when the Install now option is selected on the second screen (may need to hit tab a couple of times to see it highlighted with a box border).

When you get to the Product Key screen, tab over until you get to 'I don't have a product key' and select that. We'll have a small watermark on the screen telling us to register Windows, but it will be fine.

Now I'll just list out specific options you need to pick as you go. Pick **Windows Server 2019 Datacenter (Desktop Experience).**

Accept the license agreement. Since you can’t check the box using the mouse, you’ll need to use the space bar. Select **Custom: Install Windows Only.**

Select Drive 0 Unallocated Space and tab over until Next is highlighted, and hit Enter.

Let it install. This may take a little bit of time. While you're waiting, play Pokémon or Skyrim or whatever makes you happy. I’m a big fan of RDR2 lately.

Time to create an Administrator password. Make sure you remember it, as nobody but you and I will have access to these machines. Note you will need at least one letter to be capitalized. After that, login!

**VMWare Tools**

This step is important, as it will give mouse access. Leave your Windows Server running and go back to vcenter. You will probably see a yellow dialog box like this:

Graphical user interface, application

Description automatically generated

Click “Install VMware Tools” when it pops up.

Graphical user interface, text, application, email

Description automatically generated

If prompted with this dialog box, click “Mount.” This will load the tools to the CD of the server, so you'll still need to install it. Open the Start Menu and launch PowerShell (this might be the Command key if you're on MacOS). You might get 2 start menus popping up, alt+tab to give the browser the focus so you can work with Windows. Type powershell to launch a powershell terminal.

Then:

cd D:\

.\setup64.exe

If you lose tab focus, type 'exit' in PowerShell or use Alt + Tab, then Tab again while holding Alt, to switch windows. VMWare Tools should be front and center. Select 'Typical' for VMWare tools and let it install, and then allow it to reboot the machine.

You should now have mouse support! See how important VMWare Tools are?

For now, we are just going to leave it as is. Once we get our domain setup, accounts for myself and the TA will be automagically created.

Last thing. Rename your PC to something more related to you. Search for 'This PC.' Then right click on This PC and select Properties. Next to the Computer Name item select 'Change Settings.' Then click 'Change' again. Change the computer name to whatever your last name is.

**Ubuntu**

Open up your other VM and Ubuntu’s installer should load. Follow along with the install process. If prompted to enable SSH, enable it, but it’s okay if you don’t (we’ll enable it later). If prompted with this screen, leave the default eth connection.

Text

Description automatically generated

For the mirror address, leave it as default once again.

Graphical user interface, text, website

Description automatically generated

Here, check “Use an entire disk” and “Set up this disk as an LVM group.”

Text

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You should see a file system summary similar to the one below.

Text

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When you get to the profile setup, enter your full name under “Your name”, your last name under the server’s name, your first name under the username, and enter a password that you will remember.

**Text

Description automatically generated with medium confidence**

**The username and password that you choose will be associated with your Ubuntu VM.**

**Text

Description automatically generated**

You can Install OpenSSH server, but we’ll also enable the SSH service manually. For now you can skip it.

Text

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For the Featured Server Snaps, just skip it. We can install these packages later. Installation should run smoothly now. Reboot and load up Ubuntu. Open up a terminal and run:

**$ sudo apt-get update && sudo apt-get upgrade**

Set your root password. In a terminal, type **sudo passwd** to set your super user’spassword**.**

Create a user account for myself and the TA, and give us sudo access. The password should be **temp12345** for both of us.

**$ sudo adduser bowers**

**$ sudo adduser kakarala**

**$ sudo usermod -aG sudo bowers**

**$ sudo usermod -aG sudo kakarala**

5.5) Fourth, enable the SSH service:

**$ sudo apt-get update**

**$ sudo apt-get upgrade**

**$ sudo apt-get install openssh-server**

**$ sudo ufw allow 22**

That’s it for now! On to the homework!