CIT 371 Lab 13: Linux Installation and Initial User Account Creation

This lab must be done using the Web Console. See the Student VM Access document for more information on accessing your VMs.

Read chapter 8.3 before starting this lab. Log into Coivcenter. Select the install VM (cit371VM2). Power it on. In this lab, you will install CentOS 7. While doing so, you will also set up the password for root and create the first user account. As always, do the steps in **courier bold font** and answer questions in *italics*. There are no questions for steps 1 and 2 below. Note that in some steps, you will not be able to obtain your mouse cursor outside of the VM unless you type **cntl+alt** and to access inside the VM, you will need to click the mouse button.

1. Upon booting, you are asked whether you to install or test the media, choose the **CentOS 7 installation** (it should be the default), press **<enter>** (do not select test media). At the next screen, you will be asked to press **<enter>** again. A couple of screens of text scroll by. Once the GUI appears, make sure you click inside your VM to gain access. If needed, enlarge your VM’s screen to see the entire window. English should already be selected in both panes (if not, select it) and select the **Continue** button. This step has no questions to answer.
2. Next, you see the Installation Summary window. Some items may appear in orange initially but will change to black font. A thin scroll bar appears on the right. Scroll down and then back up to see the selections. We will work on Installation Destination, Network & Host Name, and Software Selection. Select **Installation Destination** to select where to install the OS and how to partition it. From the Installation Destination window, scroll down until you see the option **I will configure partitioning**, select this and then **VMware Virtual disk** (normally, this would be your internal hard disk denoted as sda), twice (the first time highlights it, the second time adds a check mark). Once the item is selected and has a check mark, at the top of the window select **Done**.
3. This takes you to a Manual Partitioning window. Select the drop down menu that says “LVM” and select **Standard Partition**. Below the pane with the drop down menu are two buttons, a “+” and a “-”. Select the “**+**”. Here, you will specify your partitions. We will use 5 of them. So repeat this next step 4 additional times. From the pop-up window, select as a mount point **/** and under Desired Capacity, enter **6G** and then click on the **Add Mount Point** button. Repeat this (click on “+”) to create the following 4 additional partitions:

/var, 2G /home, 1G /boot, 250M swap, 250M

Notice there is no / before swap. View the resulting partitions, make sure they are correct. All of these mount points should use xfs as the file system except for swap (which uses swap type swap). If you need to make corrections, select the partition’s mount point and edit the **Desired Capacity**. The change is made after you select any other partition or the **Done** button at the top. When done, select **Done**. A Summary of Changes window appears. Select **Accept Changes**. *From what you know of the top-level directories, explain what each of /, /var, /home, /boot are. What is swap (you may need to research this)?*

**The / is a root. A root is the very start of the file directory levels. /var means variable files and is used when the system writes data while you are using it. /home is a home directory where your personal files of a user. /boot is a booting up system, these files are used during the booting an operating system. Swap space in Linux is used when the RAM is full, when full inactive pages are moved to memory for the time being.**

1. Upon completion, you are returned to the Installation Summary. Select **Network & Host Name**. You should have an Ethernet device available, named ens33. However, by default, it is disconnected. Toggle the OFF tab to **ON** (click on the button next to OFF). You will see that the Ethernet device will be given an IP address, a default router and DNS information (your domain name server IP addresses). Select Done. *What is your IP address? What is the IP address of your router? What IP address(es) are you given for your DNS servers?*
   1. **IP address – 10.2.57.53**
   2. **IP address of router – 10.2.56.1**
   3. **DNS server – 172.28.102.11 , 172.28.102.13 , 10.11.0.51 , 10.14.1.10**
2. You are again returned to the Installation Summary. Select **Software Selection**. By default, “Minimal install” is selected. *Other than the minimal installation, what choices are available?* Select **GNOME Desktop**. Selecting this provides you options of software to install in the right pane. Select the following: **GNOME Applications, Internet Applications**, **Office Suite Productivity**, and **System Administration Tools**. *What other choices are available?* You can add these or other software titles in the future. Select **Done**. You will be back at the Installation Summary. Both Installation Source and Software Selection appear in yellow font momentarily. The installation process is testing to see if it has access to the proper files. After a short while, the black font will reappears.

**Some of the choices that are available are compute node, infrastructure server, file and print server, basic web server, virtualization host, server with GUI, KDE Plasma workspace, development and creative workstation. The other choices available in the GNOME Desktop is backup client, legacy X window system compatibility, smart card support, compatibility libraries, development tools, security tools.**

1. Select **Begin Installation**. The installation will run but while it is running, you are presented a User Settings window that you can use while installation takes place. From the User Settings window, select **Root Password**. Enter the password **cit371** and in the confirmation window, selecting **Done** when done. Ignore the strength of the password. Next, select **Create user**. Here, you are allowed to create an initial user account. This is similar to Windows where you set up the first user during installation. If you skip this step, you will have to log in as root to create user accounts. *Why is it preferably to create the first user now rather than later?* For the new user, **enter your first and last name**. Linux will automatically generate a user name of your first name initial followed by your last name (such as fzappa). Change this to be last name first initial (as in zappaf). Use **cit371** as your initial password, again ignoring its strength. **Do not select** “Make this user administrator” as we want to force users to su to root to gain administrator privileges. Select **Done** to complete this step.

**It is preferable to create a first user now then later so you don’t log in as the root user and so you don’t have to login as root to create an account.**

1. Installation continues during step 6, taking perhaps 20-30 minutes depending on system load. During installation, notice messages about software packages being installed in the lower left. *List 5 names of packages of what is being installed (you might stick with shorter names as they will be easier to remember and type as most of these messages stream by quickly).* Upon completion of the installation, you will be asked to reboot. Select **Reboot**. While rebooting, your mouse cursor will disappear, if you need it, type cntl+alt. Upon rebooting, you are taken to the Initial Setup window. From here, select **License Information**. The license is minimally written (for a change, an easy one to read!), select **I accept the license agreement** and then select **Done**. Lastly, select the **Finish Configuration** button.
   1. **Post installation setup task**
   2. **Generating initramfs**
   3. **Running post installation scripts**

(I was only able to get three of them, they did stream by really quickly and missed some).

1. At this point, you are taken to the CentOS login page. Select your user account and log in. Each time a new user logs in for the first time, they are presented with the Gnome Initial Setup window. From here, make sure the proper language is selected and select **Next**. Do the same for the next screen (typing). The next screen asks about privacy, you may select **On** or **Off** and **Next**. If you select On, you will be warned about granting or denying access to Color. You may select either **Deny** or **Grant**. You can skip the step on establishing connection to various accounts. Select the **Start using CentOS Linux button**. A Getting Started Gnome Help application opens. Close it. You are now presented with the Gnome desktop.

**Done**

When done, shut down your VM if desired and disconnect from the VPN if you are using it. Submit your lab report.w