Installing Linux

Scenario

Now that your preparations are complete, you're ready to install Linux on the various systems you selected. You'll start by installing CentOS 7 on the VM you created earlier. As you go through the installation, you'll configure various options so that the base environment will be automatically set up to your specifications.

Objectives

- Completing this activity will help you to use content examples from the following syllabus objectives:
  - 1.3 Given a scenario, configure and verify network connection parameters
  - 1.4 Given a scenario, manage storage in a Linux environment
  - 1.5 Compare and contrast cloud and virtualization concepts and technologies
  - 1.6 Given a scenario, configure localization options

1. Load the previously created VM
   - You will work with the VM you created in the previous exercise.
   - Log in as `student01` with `Pa22w0rd` as the password.
   - At a terminal, enter `sudo virsh restore saved-vm`
   - This restores the VM you created earlier from its saved state. This may impact the performance of your lab computer for a few minutes.
   - From the desktop menu, select `Applications→System Tools→Virtual Machine Manager`.
   - Enter the `root` password.
   - Right-click the `devtech-install VM` and select `Open`.
   - Wait for the installation media to finish its check. You can press `Esc` to skip the check, but it's wise to check the media at least once when setting up production systems.

2. Configure localization settings
   - If necessary, expand the virtual machine window so it's easier to see.
     - You can also select the `Switch to fullscreen view button`.
   - On the `WELCOME TO CENTOS 7` page, select `Continue` to accept the default language settings.
   - On the INSTALLATION SUMMARY page, under the `LOCALIZATION` section, select `DATE & TIME`.
   - Select your time zone, then select Done.

3. Select the software components and base environment to install
   - Under the `SOFTWARE` section, select `SOFTWARE SELECTION`.
   - From the Base Environment list, select `Server with GUI`.
   - From the Add-Ons for Selected Environment list, check the `KDE` check box.
   - By default, the Server with GUI selection will install most tools necessary for the configuration and maintenance of general server infrastructure, along with `GNOME` as the default GUI. You're

also installing KDE alongside that for users to have a choice of desktop environment.
- Select Done.

4. Wipe the storage device to start fresh

- Under the SYSTEM section, select INSTALLATION DESTINATION.
- On the Device Selection page, observe the Virtio Block Device.
- This is the 12 GB virtual storage device that was created when you first installed the VM.
- Under Other Storage Options, ensure Automatically configure partitioning is selected.
- Check the I would like to make additional space available check box.
- Select Done.
- In the RECLAIM DISK SPACE dialog box, verify that the vda device is selected, and that it has 12 GB of free space. This is because the virtual storage device you created is currently empty. Still, it's useful to practice wiping a storage device in order to start fresh.
- Select Delete all.
- Select Reclaim space.

5. Configure the partitioning scheme to use

- On the INSTALLATION SUMMARY page, select INSTALLATION DESTINATION again.
- Under Other Storage Options, select I will configure partitioning.
- Select Done.
- Under New CentOS 7 Installation, verify that no mount points have been created yet, and that the default partitioning scheme will use LVM.
- Select Click here to create them automatically.
- Verify that three partitions/volumes were created: /boot, / (root), and swap. Notice that there is no separate /home volume. This is because the CentOS 7 installer only creates a separate /home volume by default when the storage device is 50 GB or more. In this case, the /home directory will be located within the root volume.
- Select the /boot partition and note its default capacity, device type (partitioning scheme), and file system type.
- Select the / (root) volume and the swap volume and note their defaults as well.
- These will be created as logical volumes within the centos volume group.
- At the bottom-left of the page, note the total space of the storage device as well its available space.
- This reflects the intended partitioning scheme; no changes will be made to the drive until installation begins in earnest.
- Select Done.
- In the SUMMARY OF CHANGES dialog box, select Accept Changes.

6. Configure networking

- On the INSTALLATION SUMMARY page, select NETWORK & HOST NAME.
- In the Host name text box at the bottom-left, type devtech-vm01 then select Apply.
- In the list of devices on the left, verify that Ethernet (eth0) is selected.
- This is the virtual network interface that was created for the VM to use.
- Select Configure at the bottom-right of the page.
- In the Editing eth0 dialog box, select the IPv4 Settings tab.

- From the Method drop-down list, select `Manual.`
- To the right of the Addresses list, select the `Add` button.
- For the Address, type `10.50.1.201`
  - Your lab environment might require different addresses than those listed in these steps.
- Press `Tab`, then for the Netmask, type `255.255.255.0`
- Press `Tab`, then for the Gateway, type `10.50.1.1` and press Enter.
- In the `DNS Servers` text box, type `8.8.8.8`
- Select `Save.`
- Select the slider at the top-right to turn the interface On.
- Verify that the interface details are as you expect, then select`Done`.

7. Begin installation and configure user accounts

- Select Begin Installation.
- Observe the progress bar at the bottom, indicating that `CentOS` is in the process of being installed.
- Under `USER SETTINGS,` select `ROOT PASSWORD`.
- In the Root Password text box, type `Pa22w0rd`
- In the Confirm text box, type`Pa22w0rd`
- Select `Done`, then, at the bottom of the screen, verify that`CentOS` points out that this password is weak because it's based on a dictionary word. In a production environment, you'd want to choose a much stronger password.
- Select `Done` again to agree to use the password.
- Select `USER CREATION`.
- In the User name text box, type `student01`
- Check the `Make this user administrator` check box.
- In the `Password` and `Confirm password` text boxes, type `Pa22w0rd`
- Select Done twice to confirm the password.
- In addition to creating a stronger password, you'd also want to make your user password different than the root password in a production environment.
- Wait for the system to finish installing.
  - The remainder of the installation process may take up to 30 minutes.

8. Complete the installation process

- When installation finishes, select `Reboot`.
- From the `VM` window, select `Virtual Machine→Run` to restart the `VM`.
- On the `INITIAL SETUP` page, select `LICENSING INFORMATION`.
- Check I accept the license agreement and select Done.
- Select `FINISH CONFIGURATION`.
- Verify that you are greeted with the sign in screen, indicating that `CentOS 7` was successfully installed.

9. Verify your new system's configurations

- Sign in as your student account.
- Using what you've learned, check the `VM` for the following:

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        - Storage partition and logical volume configurations.
        - User accounts.
        - Networking configurations.
        - Connectivity with other classroom computers.
        - Internet connectivity.
        - Additional software packages.
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- When you're done, from the `VM` window, select `Virtual Machine→Shut Down→Shut Down`.
- Close the VM window.