

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:

- Storage partition and logical volume configurations.
- User accounts.
- Networking configurations.
- Connectivity with other classroom computers.
- Internet connectivity.
- Additional software packages.

- When you're done, from the **VM** window, select **Virtual Machine→Shut Down→Shut Down**.
- Close the VM window.