ComS 252 Homework 5: Installing Packages

Group assignment (check syllabus for group penalty details)

Due October 10, 2023

1 Objectives

For this assignment, you will install packages using the package managers `dnf` and `rpm`.

2 Build a virtual machine

1. Download the ISO file to initialize the virtual machine for homework.
2. In VirtualBox, create a new virtual machine for this assignment. The default disk size (a few GB) should be sufficient, but a little more RAM than previous VMs may be necessary for `dnf`.
3. Set the ISO file as the optical disk, and boot up the VM.
4. Select "Build Hw05 virtual machine" from the boot menu.
5. After installation completes, remove the homework initialization ISO from the Optical Drive. You are encouraged to take a snapshot of the VM at this point, in case you need to roll back to a fresh install.
6. At first boot, the VM initializes itself by fetching and running a script from the server. This requires Internet access, and VPN access if you are off campus. The script will, among other things, create a user account with your ISU username. All user accounts will initially have passwords that are the account name, followed by "`pw`".
7. When the VM shuts down after initialization, you are again encouraged to take a snapshot of the VM. That way, if you make a mistake and accidentally trash the user files, you can easily roll back to a freshly initialized VM.

3 Install packages

All of these steps must be done as `root`, i.e., using `sudo`.

3.1 Using `dnf`

Use the `dnf` utility to install the `gcc` package, and all required dependencies.

3.2 Using `rpm`

Download `RPMS.iso` from the homework page in Canvas. This is an ISO image containing several custom packages for ComS 252, as RPM files. Attach the ISO image to the optical drive (in the virtual machine storage settings). Mount the optical drive (it should be device `/dev/cdrom`) to a convenient mount point of your choice. Install the `252_main` RPM, and any required dependencies, from the optical drive. Do not install any unnecessary packages from the optical drive.

4 Submitting your work

From your user account, run "`sudo Turnin`" to submit your work. Again, this requires Internet access (and VPN access, from off campus), as this will collect and upload your work to the homework server.

Feedback on your submission is collected in a text file, that you can view later using "`cat submit.log`" or "`less submit.log`".

To shutdown the VM cleanly, run "`poweroff`".