Lab - Working with Systemd & Dnf Package Management in Linux

Overview:

In this lab, the student will work with the most commonly used Linux command concepts. Starting with Fedora 15, Fedora introduced a piece of core software called systemd. systemd is a collection of tools for a range of different tasks. Its primary purpose is initializing, managing and tracking system services and daemons in Fedora, both during startup and while the system is running. In previous versions of Fedora, these jobs were handled by SysVinit (System V init, or just init).

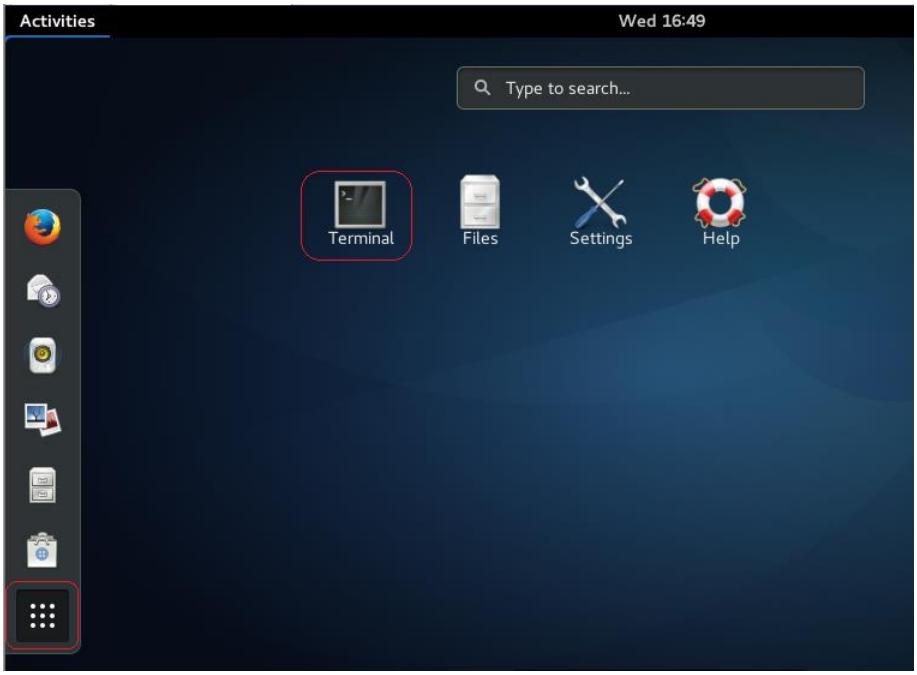
Lab Procedure

Determining How to Install Linux Packages

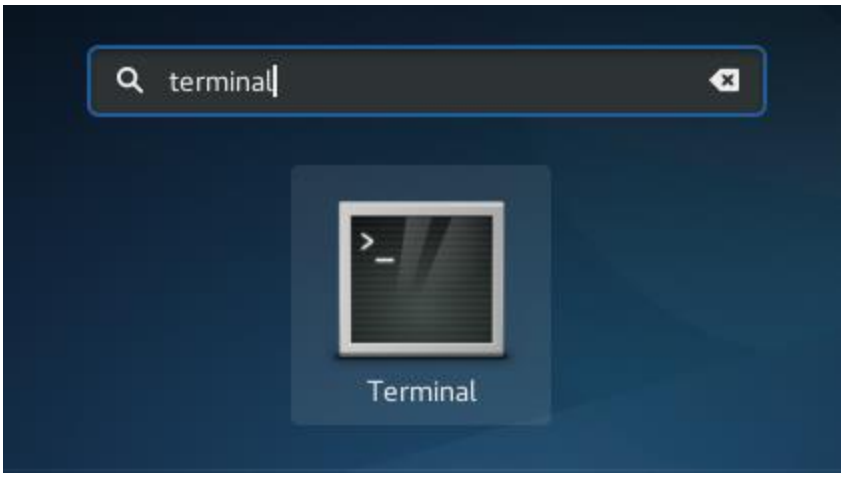
1. Logon to your virtual install of Linux server.
2. Login as superuser (su)
3. Open a terminal shell:

On Server1, click on **Activities > Utilities >Terminal.**

Click on the Show Applications icon.

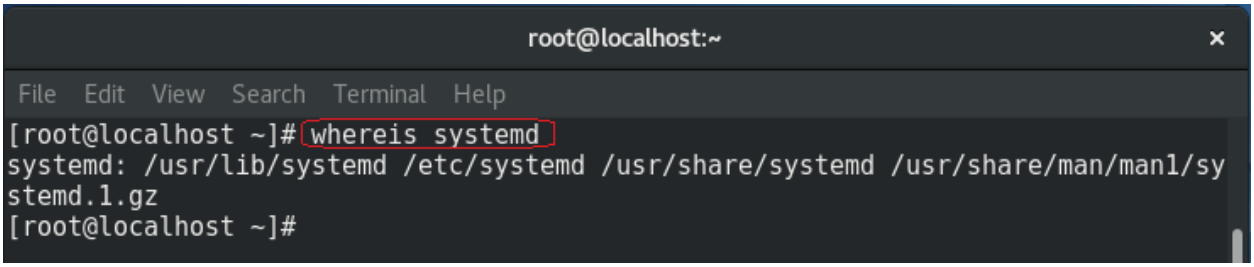


You can also type **terminal** in the search window and click on the terminal icon**.**



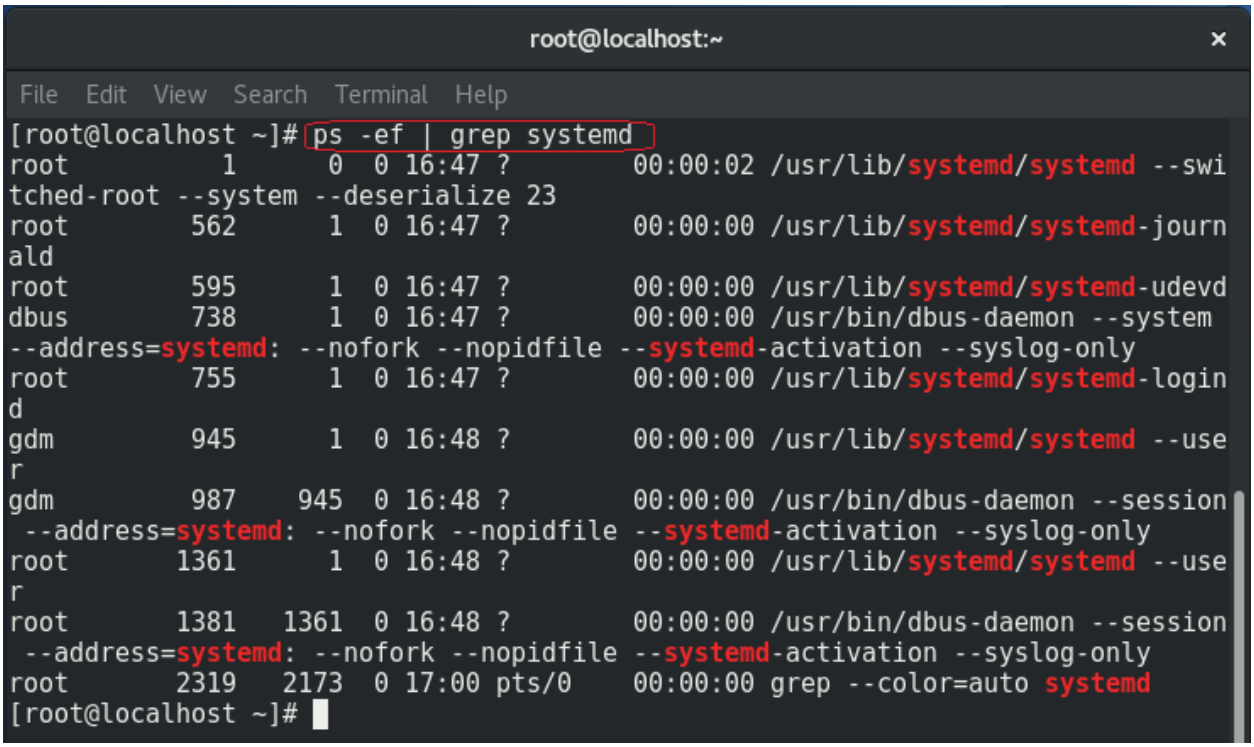
Type the following in the terminal to see where systemd is installed:

```
whereis systemd
```



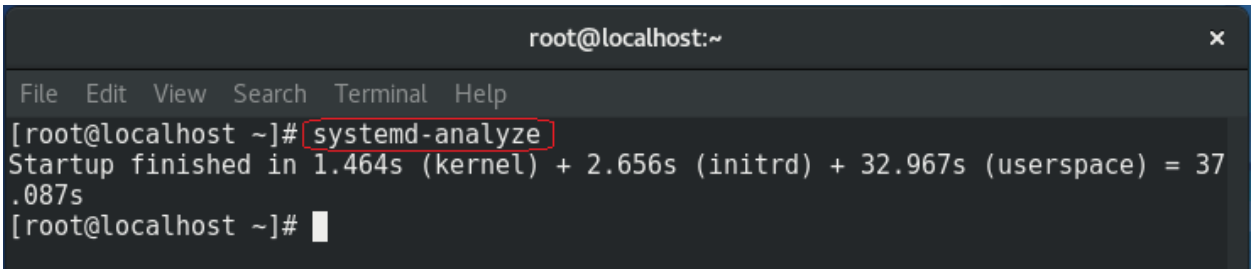
Type the following in the terminal to see if systemd is running:

```
ps -ef | grep systemd
```



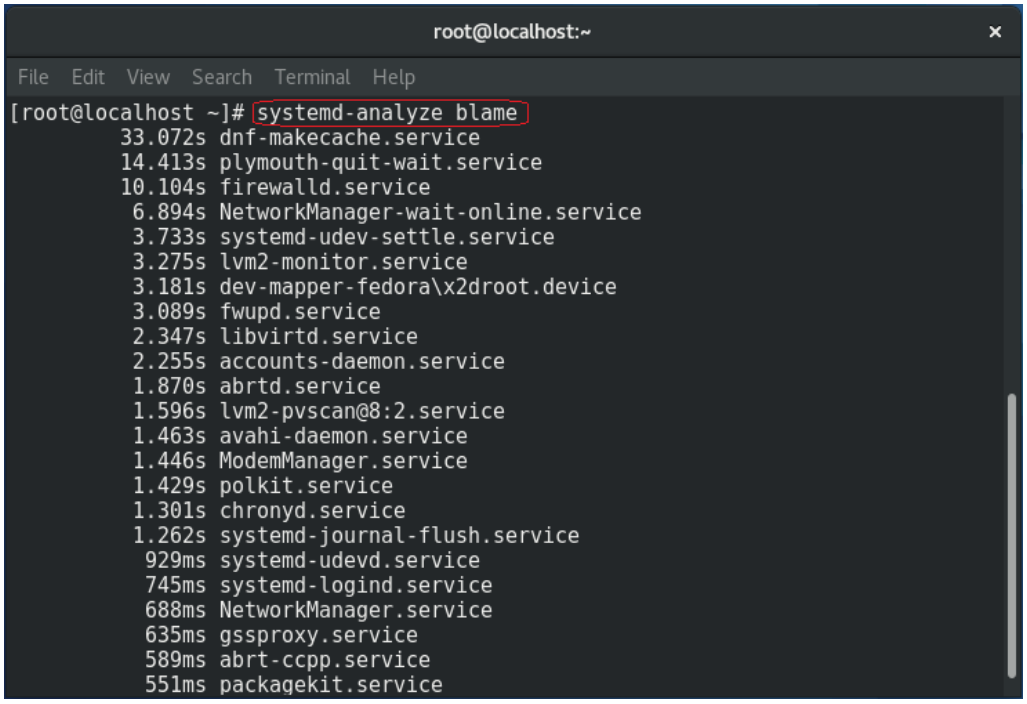
Type the following to view the system bootup process:

`systemd-analyze`



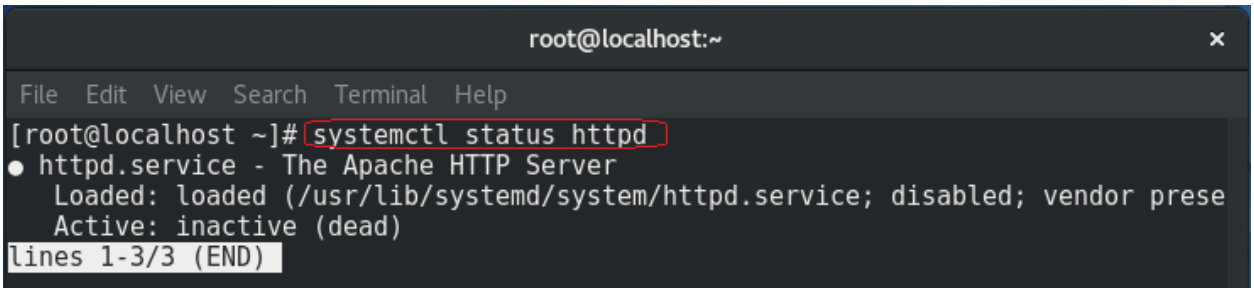
Type the following to view the time each process took during bootup:

`systemd-analyze blame`



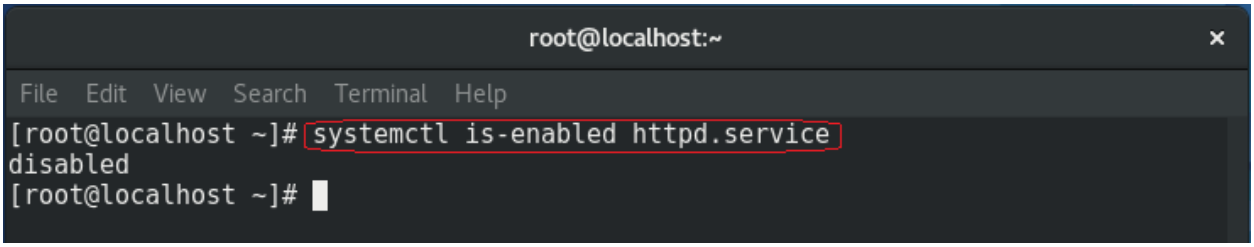
Type **Ctrl^C** to exit display.

Type the following to see if a service is running: **`systemctl status httpd`** **(**look under Active)



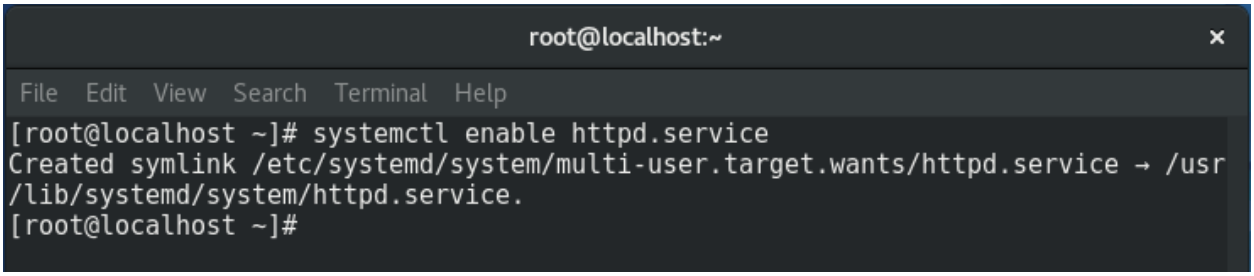
Type the following to see if a service is enabled to start automatically when the OS starts:

`systemctl is-enabled httpd.service`



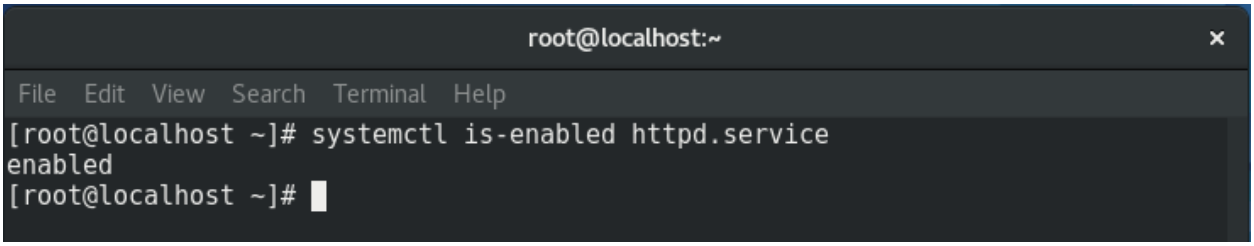
If a service is not enabled, type the following to enable it at bootup:

`systemctl enable httpd.service`



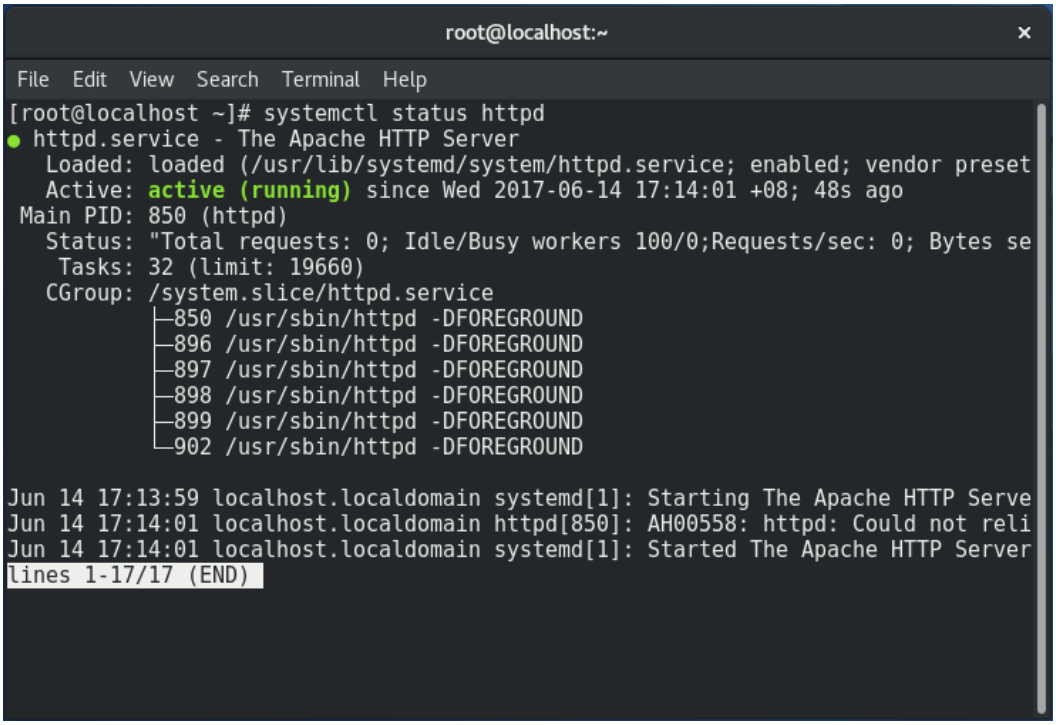
Type the following to see if a service is enabled to start automatically when the OS starts:

`systemctl is-enabled httpd.service`



`Reboot after enabling the httpd.service.`

Type the following to see if a service is running: **`systemctl status httpd`**
(look under Active)

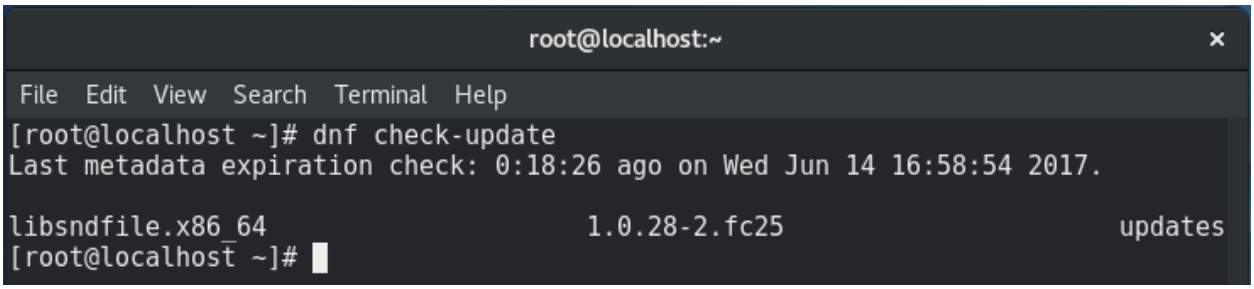


DNF or Dandified Yum

DNF or Dandified yum is the next generation version of yum. DNF is a software package manager that installs, updates, and removes packages on RPM-based Linux distributions. It automatically computes dependencies and determines the actions required to install packages. DNF also makes it easier to maintain groups of machines, eliminating the need to manually update each one using rpm. Introduced in Fedora 18, it has been the default package manager since Fedora 22.

Type the following command to check to see if there are any updates

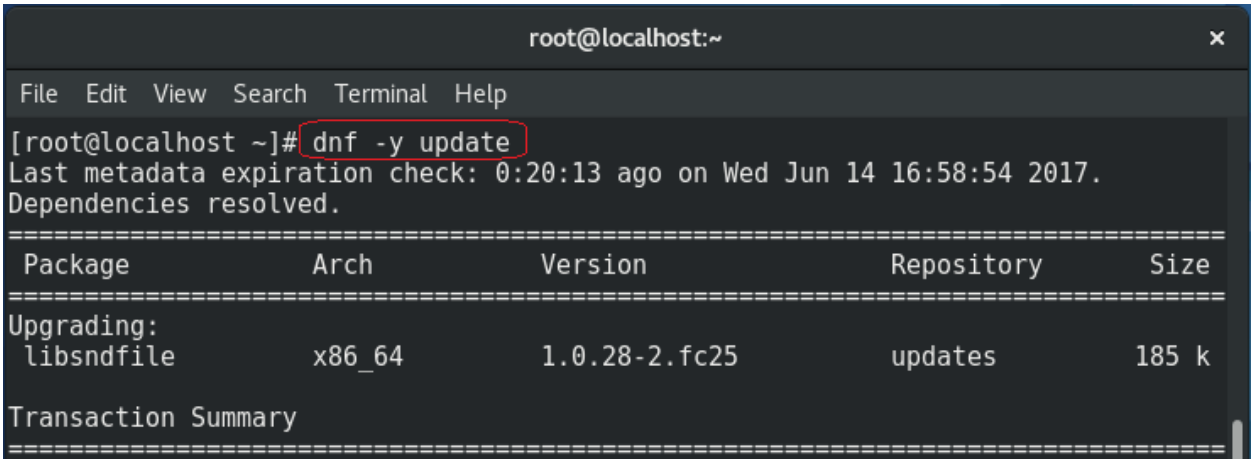
`dnf check-update`



Type the following to update your system with the latest updates:

`dnf -y update` or **`dnf -y upgrade`**

(If you leave the –y out, you must indicate yes to the question after issuing the command)

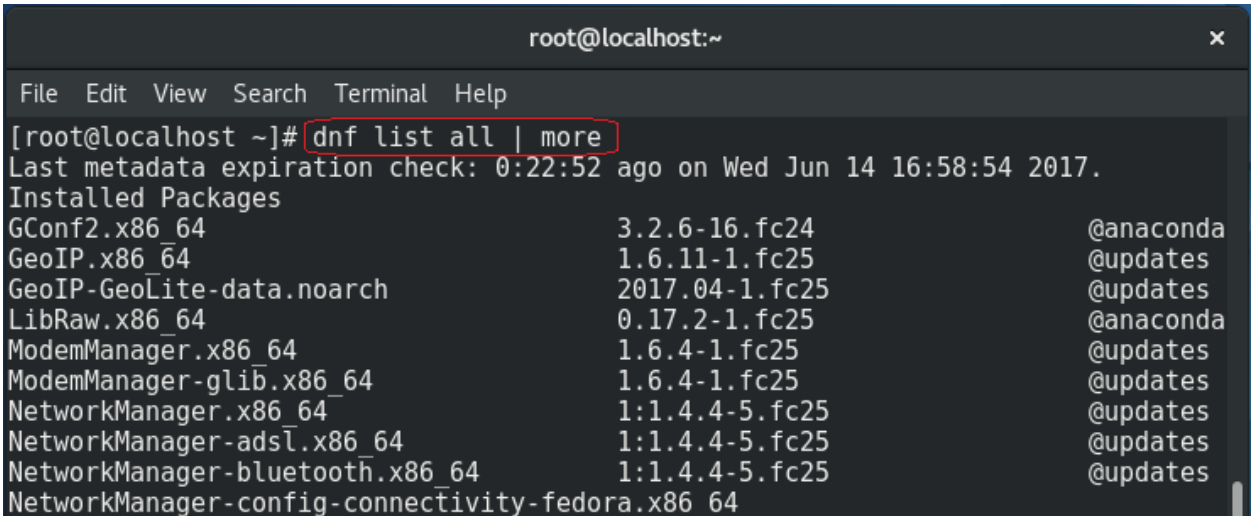


Type the following to see a listing of all packages:

`dnf list` or **`dnf list all`**

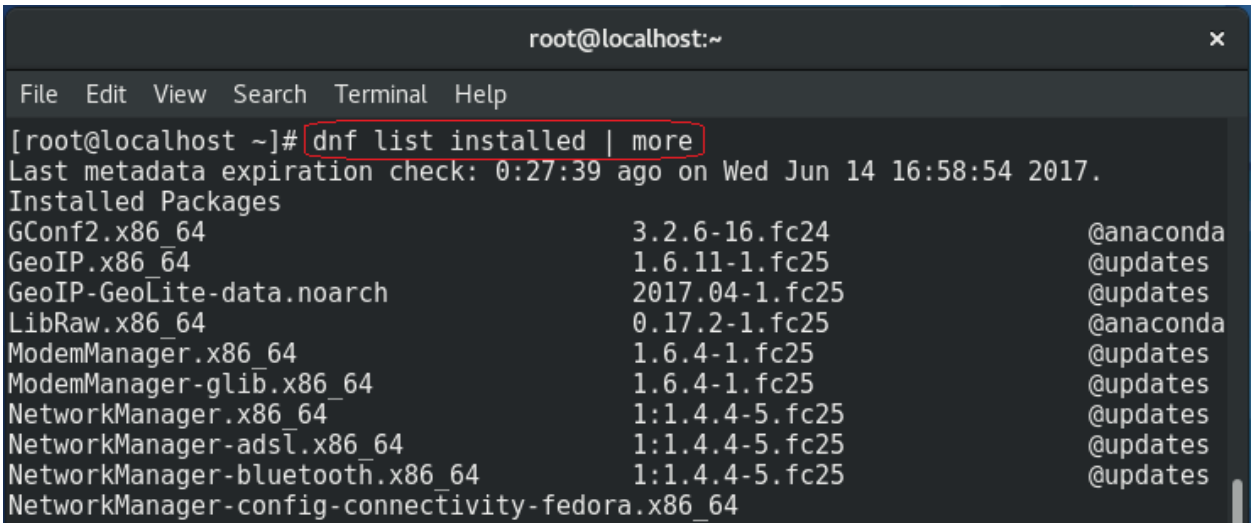
You can parse through the result by using a pipe (|) and the more command.

`dnf list all | more`



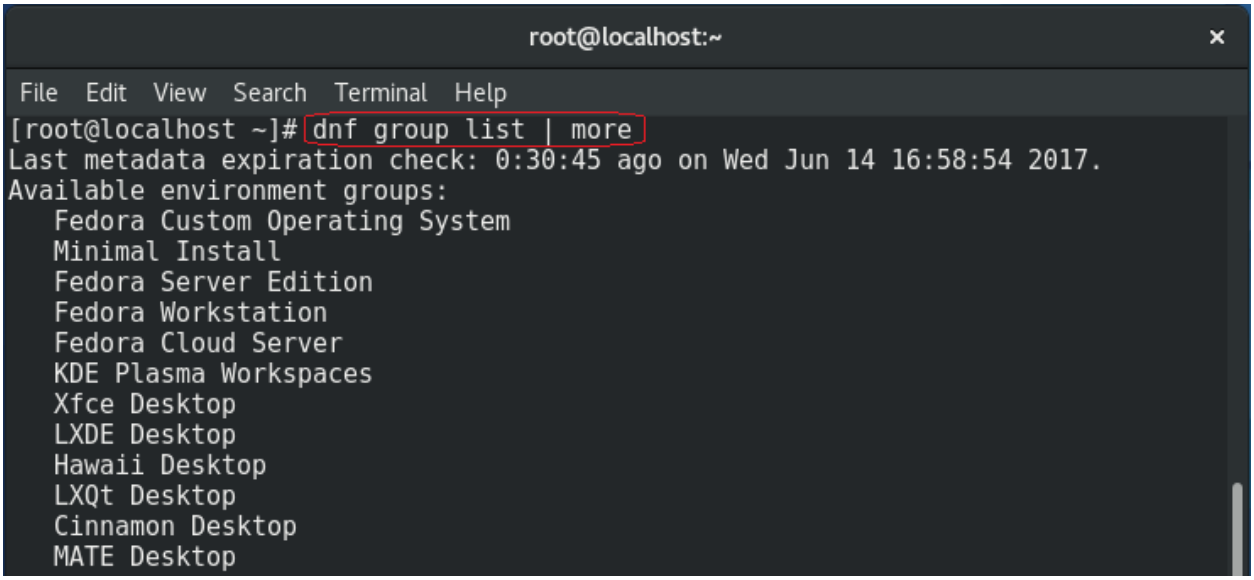
Type the following to see packages installed one page at a time:

`dnf list installed | more`



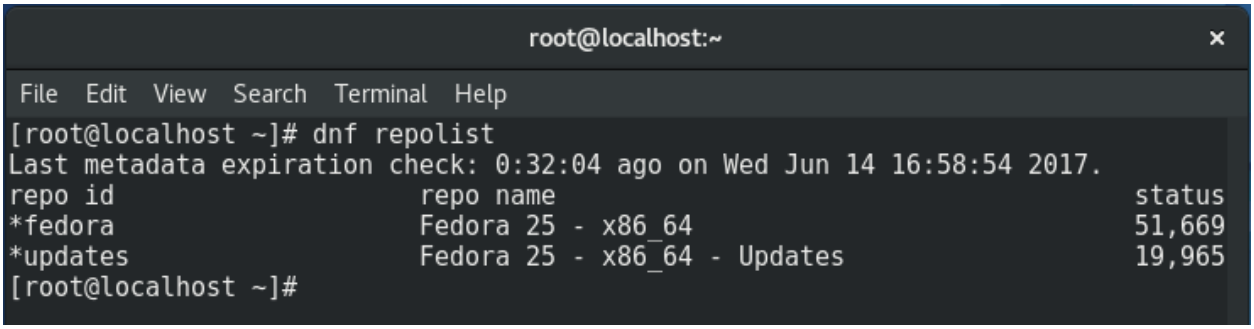
Type the following to see groups of packages:

dnf group list | more



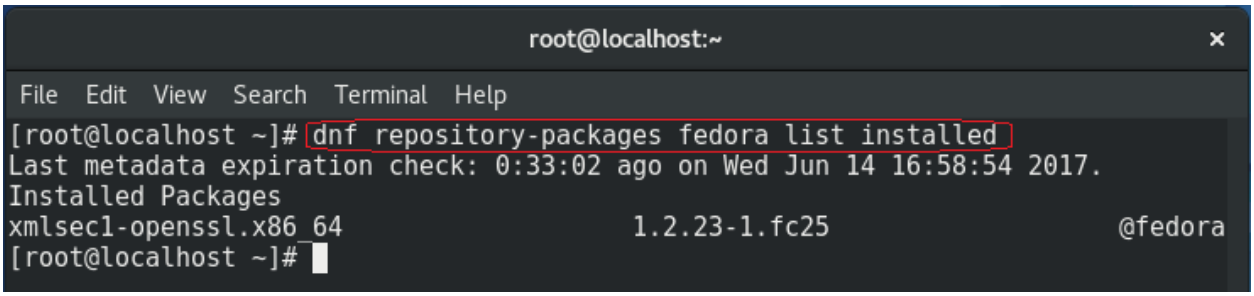
Type the following to view enabled repositories:

dnf repolist



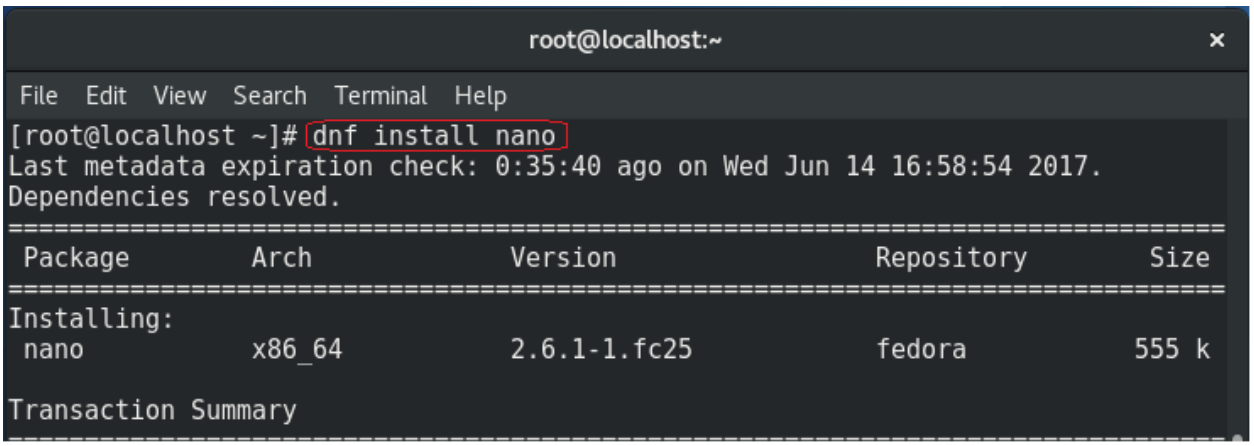
Type the following in the terminal:

dnf repository-packages fedora list installed



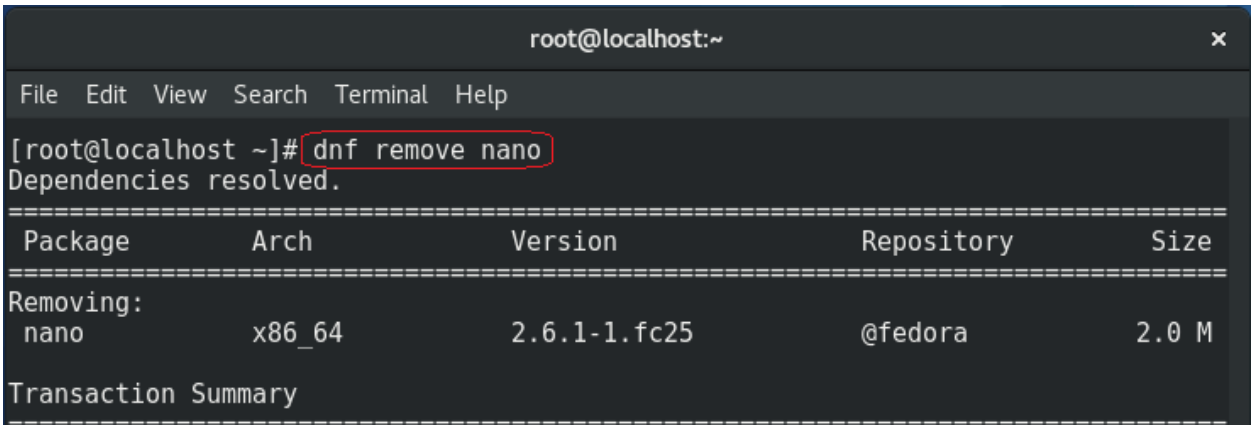
Type the following in the terminal to install a package: **dnf install** {package name}

Example: dnf install nano



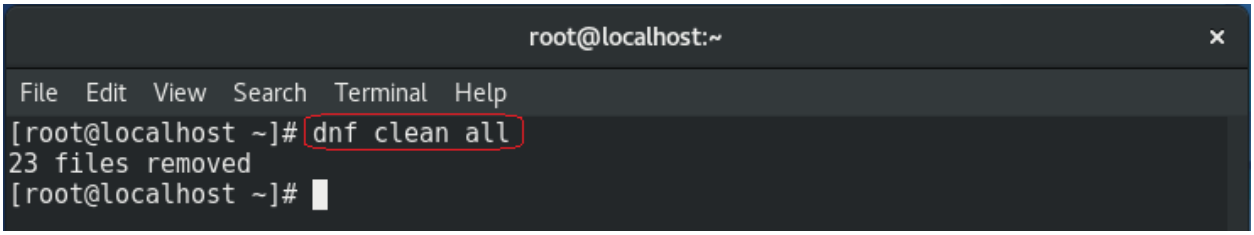
Type the following to remove a package: **dnf remove** {package name}

Example: dnf remove nano

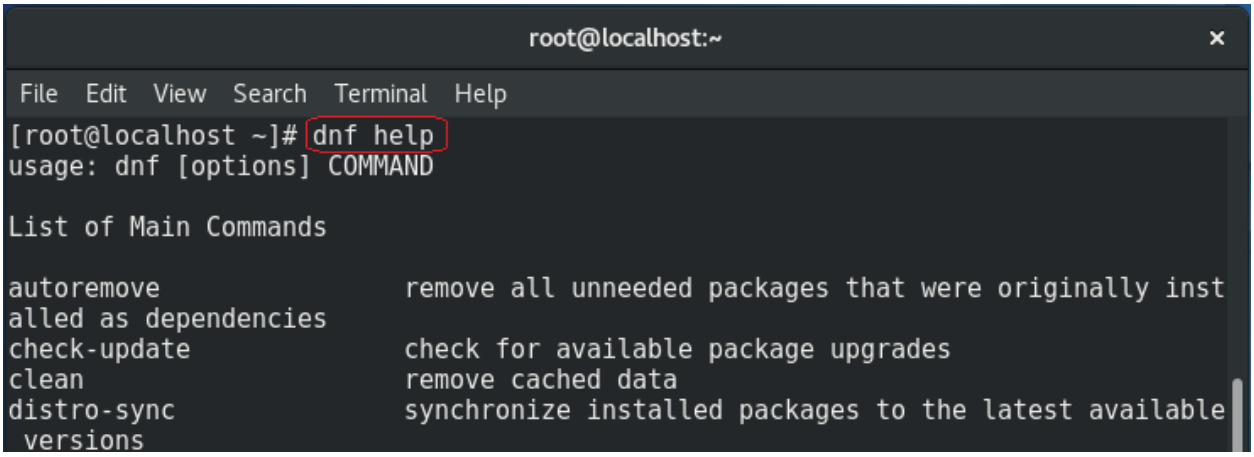


Type the following to clean up and remove cached packages:

`dnf clean all`

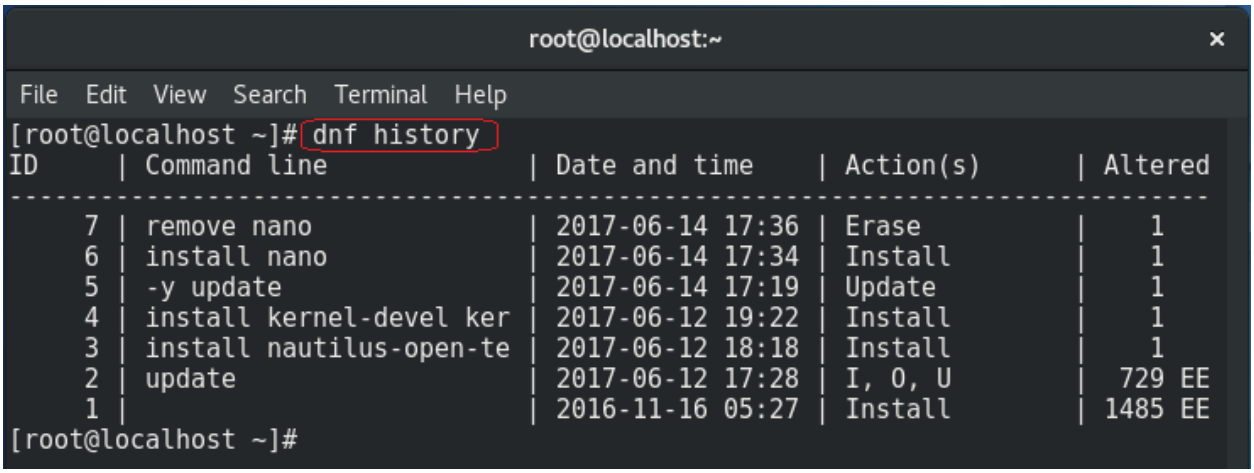


Type the following for help with dnf: `or` **`man dnf`**



Type the following to view the history of dnf usage:

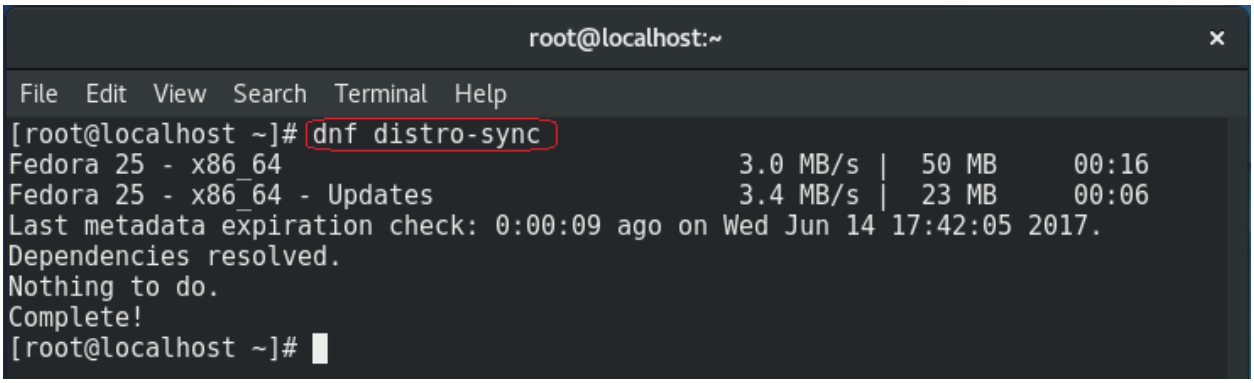
`dnf history`



Type the following to sync the distros repos to a stable release:

`dnf distro-sync`

(reboot maybe required for this command to run. Command must me run as root (su))



Type the following to view information about a specific package:

`dnf info` `{Package Name}`


root@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# dnf info nano
Last metadata expiration check: 0:01:23 ago on Wed Jun 14 17:42:05 2017.
Available Packages
Name : nano
Arch : x86_64
Epoch : 0
Version : 2.6.1
Release : 1.fc25
Size : 555 k
Repo : fedora
Summary : A small text editor
URL : http://www.nano-editor.org
License : GPLv3+
Description : GNU nano is a small and friendly text editor.
[root@localhost ~]#

End of Lab!