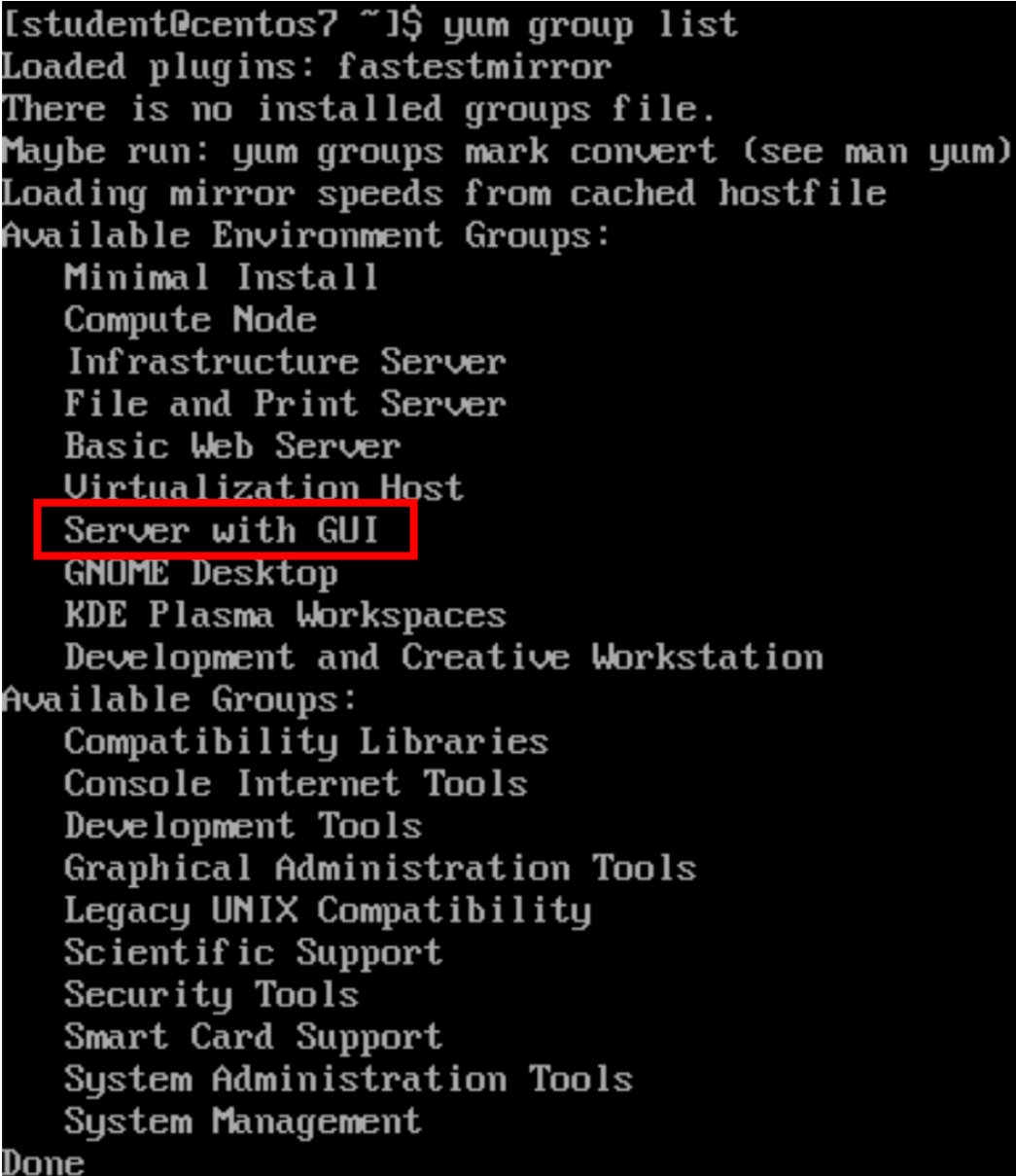


Exercise 14: Installing the Graphical User Interface in Linux

Install GUI in CentOS

1. Log in to the CentOS with user student
2. List the group installation available in the repositories

\$ yum group list



```
[student@centos7 ~]$ yum group list
Loaded plugins: fastestmirror
There is no installed groups file.
Maybe run: yum groups mark convert (see man yum)
Loading mirror speeds from cached hostfile
Available Environment Groups:
  Minimal Install
  Compute Node
  Infrastructure Server
  File and Print Server
  Basic Web Server
  Virtualization Host
  Server with GUI
  GNOME Desktop
  KDE Plasma Workspaces
  Development and Creative Workstation
Available Groups:
  Compatibility Libraries
  Console Internet Tools
  Development Tools
  Graphical Administration Tools
  Legacy UNIX Compatibility
  Scientific Support
  Security Tools
  Smart Card Support
  System Administration Tools
  System Management
Done
```

3. Install "Server with GUI" group

\$ sudo yum group install "Server with GUI"

```
[student@centos7 ~]$ sudo yum group install "Server with GUI"
[sudo] password for student:
```

```
xdg-user-dirs           x86_64      0.15-5.el7                DVD      59 k
xdg-utils               noarch      1.1.0-0.17.20120809git.el7 DVD      70 k
xml-common              noarch      0.6.3-39.el7              DVD      26 k
xmlrpc-c                x86_64      1.32.5-1905.svn2451.el7   DVD      130 k
xmlrpc-c-client         x86_64      1.32.5-1905.svn2451.el7   DVD      32 k
xmlsec1                 x86_64      1.2.20-7.el7_4            DVD      177 k
xmlsec1-openssl         x86_64      1.2.20-7.el7_4            DVD      76 k
xorg-x11-drv-ati        x86_64      19.0.1-2.el7              DVD      166 k
xorg-x11-drv-dummy      x86_64      0.3.7-1.el7.1             DVD      18 k
xorg-x11-drv-evdev      x86_64      2.10.6-1.el7              DVD      48 k
xorg-x11-drv-fbdev      x86_64      0.5.0-1.el7               DVD      21 k
xorg-x11-drv-intel      x86_64      2.99.917-28.20180530.el7  DVD      676 k
xorg-x11-drv-nouveau   x86_64      1:1.0.15-1.el7            DVD      96 k
xorg-x11-drv-qxl        x86_64      0.1.5-5.el7               DVD      92 k
xorg-x11-drv-synaptics  x86_64      1.9.0-2.el7               DVD      82 k
xorg-x11-drv-v4l        x86_64      0.2.0-49.el7              DVD      21 k
xorg-x11-drv-vesa       x86_64      2.4.0-3.el7               DVD      25 k
xorg-x11-drv-vmouse     x86_64      13.1.0-1.el7.1            DVD      24 k
xorg-x11-drv-vmware     x86_64      13.2.1-1.el7.1            DVD      83 k
xorg-x11-drv-void       x86_64      1.4.1-2.el7.1             DVD      14 k
xorg-x11-drv-wacom      x86_64      0.36.1-3.el7              DVD      315 k
xorg-x11-fonts-Type1    noarch      7.5-9.el7                 DVD      521 k
xorg-x11-proto-devel    noarch      2018.4-1.el7              DVD      280 k
xorg-x11-server-common  x86_64      1.20.4-7.el7              DVD      55 k
xorg-x11-xkb-utils      x86_64      7.7-14.el7                DVD      103 k
yajl                    x86_64      2.0.4-4.el7               DVD      39 k
yelp-libs               x86_64      2:3.28.1-1.el7            DVD      101 k
yelp-xsl                noarch      3.28.0-1.el7              DVD      204 k
zenity                  x86_64      3.28.1-1.el7              DVD      4.0 M
```

Transaction Summary

```
=====
Install 256 Packages (+639 Dependent packages)
```

```
Total download size: 671 M
```

```
Installed size: 2.0 G
```

```
Is this ok [y/d/N]:
```

```
xcb-util-image.x86_64 0:0.4.0-2.el7
xcb-util-keysyms.x86_64 0:0.4.0-1.el7
xcb-util-renderutil.x86_64 0:0.3.9-3.el7
xcb-util-wm.x86_64 0:0.4.1-5.el7
xdg-desktop-portal.x86_64 0:1.0.2-1.el7
xdg-user-dirs.x86_64 0:0.15-5.el7
xdg-utils.noarch 0:1.1.0-0.17.20120809git.el7
xml-common.noarch 0:0.6.3-39.el7
xmlrpc-c.x86_64 0:1.32.5-1905.svn2451.el7
xmlrpc-c-client.x86_64 0:1.32.5-1905.svn2451.el7
xmlsec1.x86_64 0:1.2.20-7.el7_4
xmlsec1-openssl.x86_64 0:1.2.20-7.el7_4
xorg-x11-drv-ati.x86_64 0:19.0.1-2.el7
xorg-x11-drv-dummy.x86_64 0:0.3.7-1.el7.1
xorg-x11-drv-evdev.x86_64 0:2.10.6-1.el7
xorg-x11-drv-fbdev.x86_64 0:0.5.0-1.el7
xorg-x11-drv-intel.x86_64 0:2.99.917-28.20180530.el7
xorg-x11-drv-nouveau.x86_64 1:1.0.15-1.el7
xorg-x11-drv-qxl.x86_64 0:0.1.5-5.el7
xorg-x11-drv-synaptics.x86_64 0:1.9.0-2.el7
xorg-x11-drv-v4l.x86_64 0:0.2.0-49.el7
xorg-x11-drv-vesa.x86_64 0:2.4.0-3.el7
xorg-x11-drv-vmouse.x86_64 0:13.1.0-1.el7.1
xorg-x11-drv-vmware.x86_64 0:13.2.1-1.el7.1
xorg-x11-drv-void.x86_64 0:1.4.1-2.el7.1
xorg-x11-drv-wacom.x86_64 0:0.36.1-3.el7
xorg-x11-fonts-Type1.noarch 0:7.5-9.el7
xorg-x11-proto-devel.noarch 0:2018.4-1.el7
xorg-x11-server-common.x86_64 0:1.20.4-7.el7
xorg-x11-xkb-utils.x86_64 0:7.7-14.el7
yajl.x86_64 0:2.0.4-4.el7
yelp-libs.x86_64 2:3.28.1-1.el7
yelp-xsl.noarch 0:3.28.0-1.el7
zenity.x86_64 0:3.28.1-1.el7
```

```
Complete!
```

4. Set default target to graphical target

```
$ systemctl list-unit-files --type target |grep graphic
```

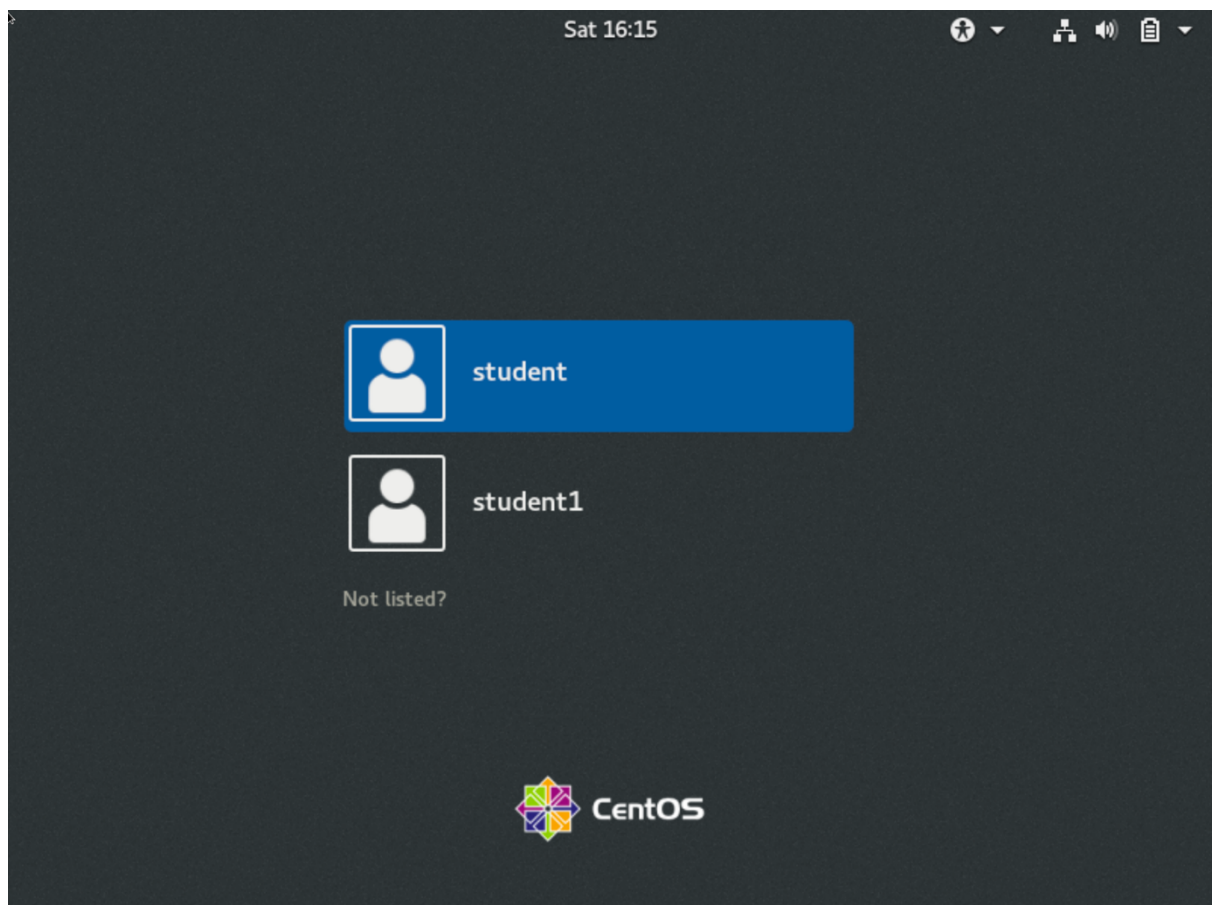
```
[student@centos7 ~]$ systemctl list-unit-files --type target |grep graphic
graphical.target          static
```

```
$ sudo systemctl set-default graphical.target
```

```
[student@centos7 ~]$ sudo systemctl set-default graphical.target
[sudo] password for student:
Removed symlink /etc/systemd/system/default.target.
Created symlink from /etc/systemd/system/default.target to /usr/lib/systemd/system/graphical.target.
```

5. Restart the system to boot to graphical target

```
$ sudo shutdown -fr now
```



Install GUI in Ubuntu

1. Update the packages that installed on the system

```
$ sudo apt-get update
```

```

student@ubuntu:~$ sudo apt-get update
[sudo] password for student:
Ign:1 cdrom://Ubuntu 18.04.4 LTS _Bionic Beaver_ - Release amd64 (20200203.1) bionic InRelease
Hit:2 cdrom://Ubuntu 18.04.4 LTS _Bionic Beaver_ - Release amd64 (20200203.1) bionic Release
Hit:4 http://archive.ubuntu.com/ubuntu bionic InRelease
Get:5 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:6 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:7 http://archive.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Reading package lists... Done
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-updates/InRelease is not valid yet
  (invalid for another 21d 17h 46min 37s). Updates for this repository will not be applied.
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-backports/InRelease is not valid y
  et (invalid for another 21d 17h 48min 3s). Updates for this repository will not be applied.
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-security/InRelease is not valid ye
  t (invalid for another 21d 17h 45min 27s). Updates for this repository will not be applied.
student@ubuntu:~$ _

```

\$ sudo apt-get upgrade

```

student@ubuntu:~$ apt-get update
Reading package lists... Done
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
student@ubuntu:~$ sudo apt-get update
[sudo] password for student:
Ign:1 cdrom://Ubuntu 18.04.4 LTS _Bionic Beaver_ - Release amd64 (20200203.1) bionic InRelease
Hit:2 cdrom://Ubuntu 18.04.4 LTS _Bionic Beaver_ - Release amd64 (20200203.1) bionic Release
Hit:4 http://archive.ubuntu.com/ubuntu bionic InRelease
Get:5 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:6 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:7 http://archive.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Reading package lists... Done
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-updates/InRelease is not valid yet
  (invalid for another 21d 17h 46min 37s). Updates for this repository will not be applied.
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-backports/InRelease is not valid y
  et (invalid for another 21d 17h 48min 3s). Updates for this repository will not be applied.
E: Release file for http://archive.ubuntu.com/ubuntu/dists/bionic-security/InRelease is not valid ye
  t (invalid for another 21d 17h 45min 27s). Updates for this repository will not be applied.
student@ubuntu:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  netplan.io
The following packages will be upgraded:
  bsduutils distro-info-data dmidecode fdisk kmod landscape-common libblkid1 libfdisk1 libkmod2
  libmount1 libnss-systemd libpam-systemd libsmartcols1 libsystemd0 libudev1 libuuid1 lxcfs mount
  nplan open-iscsi open-vm-tools python3-update-manager sosreport systemd systemd-sysv udev
  unattended-upgrades update-manager-core util-linux uuid-runtime
30 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
Need to get 7,628 kB of archives.
After this operation, 253 kB of additional disk space will be used.
Do you want to continue? [Y/n]

```

2. Install the tasksel package

\$ sudo apt-get install tasksel

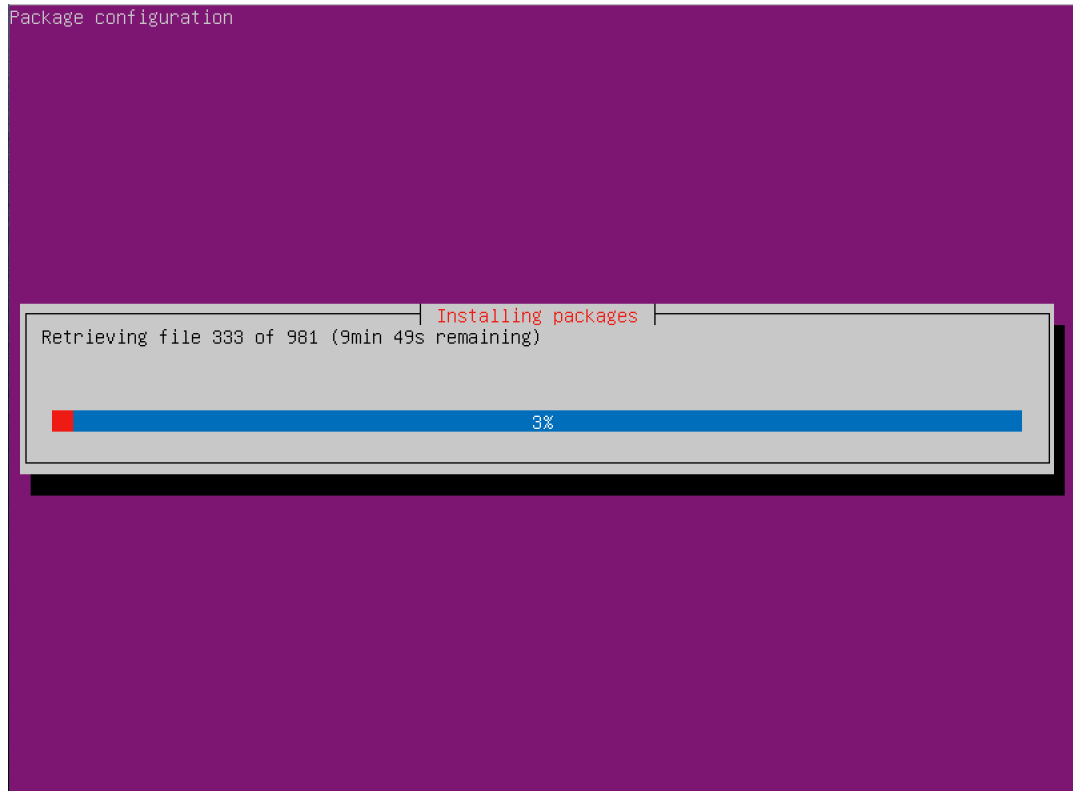
```

student@ubuntu:~$ sudo apt-get install tasksel
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  laptop-detect tasksel-data
The following NEW packages will be installed:
  laptop-detect tasksel tasksel-data
0 upgraded, 3 newly installed, 0 to remove and 31 not upgraded.
Need to get 40.2 kB of archives.
After this operation, 312 kB of additional disk space will be used.
Do you want to continue? [Y/n] _

```

3. Instal the gnome desktop with tasksel

\$ sudo tasksel install ubuntu-desktop



4. Check if the default target is set to graphical target
\$ systemctl get-default

If not, set graphical target to default

\$ sudo systemctl set-default graphical.target

5. Restart the system to boot to GUI
\$ sudo shutdown -fr now

Notice: If you get error on connection to repository with IPv6, you could disable IPv6 on your system with the following commands

\$ sudo sysctl -w net.ipv6.conf.all.disable_ipv6=1

\$ sudo sysctl -w net.ipv6.conf.default.disable_ipv6=1