

21. You want to know some information about the status of the system every ten minutes today between the hours of 8:00 AM and 5:00 PM. to help investigate some performance issues you have been having. You suspect it might be memory related and want to keep an eye on those resources.

```
* /10 8-17 08 12 4 "systemctl status"
```

22. Use mail as the root user to check for e-mail from the cron jobs you have scheduled.

```
[root@localhost ~]# mailx
Heirloom Mail version 12.5 7/5/10. Type ? for help.
"/var/spool/mail/root": 6 messages 2 new
 1 mahmoud hassan      Wed Dec  7 14:19 19/657  "hello"
 2 mahmoud hassan      Wed Dec  7 14:45 19/733
 3 Eng.mahmoud@localhos Thu Dec  8 08:10 17/735  "**** SECURITY information for localhost.localdomain ****"
 4 Eng.mahmoud@localhos Thu Dec  8 13:00 17/741  "**** SECURITY information for localhost.localdomain ****"
>N 5 (Cron Daemon)      Thu Dec  8 14:10 27/976  "Cron <root@localhost> "systemctl status""
N 6 (Cron Daemon)      Thu Dec  8 14:20 27/976  "Cron <root@localhost> "systemctl status""
```

23. How could you send the output from these cron jobs to another e-mail address (the manager user)?

```
MAILTO=islam
* /10 1-10 11 12 0 "systemctl status"
```

24. Use mail as the manager user to check for e-mail from the cron jobs you have scheduled.

```
[islam@localhost ~]$ mailx
Heirloom Mail version 12.5 7/5/10. Type ? for help.
"/var/spool/mail/islam": 5 messages 3 new 4 unread
 1 Mail Delivery System Sat Dec 10 02:37 77/2597 "Undelivered Ma"
U 2 Mail Delivery System Sat Dec 10 02:38 77/2677 "Undelivered Ma"
>N 3 Mail Delivery System Sat Dec 10 02:39 77/2654 "Undelivered Ma"
N 4 Mail Delivery System Sat Dec 10 02:39 75/2502 "Undelivered Ma"
N 5 (Cron Daemon)       Sun Dec 11 02:40 28/1069 "Cron <Eng.mahm"
```

Using yum

20. Attempt to run the command `gnuplot`. You should find that it is not installed.

```
[Eng.mahmoud@localhost ~]$ gnuplot
bash: gnuplot: command not found...
Install package 'gnuplot' to provide command 'gnuplot'? [N/y]
```

21. Search for the plotting packages.

```
[root@localhost ~]# yum search plotting
Updating Subscription Management repositories.
Last metadata expiration check: 11:03:38 ago on Thu 08 Dec 2022 03:33:31 AM EET.
===== Name & Summary Matched: plotting =====
kf5-kplotting.x86_64 : KDE Frameworks 5 Tier 1 addon for plotting
kf5-kplotting-devel.x86_64 : Development files for kf5-kplotting
===== Summary Matched: plotting =====
gnuplot.x86_64 : A program for plotting mathematical expressions and data
ocaml-plplot.x86_64 : Functions for scientific plotting with OCaml
plplot-java.x86_64 : Functions for scientific plotting with Java
plplot-lua.x86_64 : Functions for scientific plotting with Lua
```

22. Find out more information about the `gnuplot` package.

```
[root@localhost ~]# yum info gnuplot
Updating Subscription Management repositories.
Last metadata expiration check: 17:34:07 ago on Thu 08 Dec 2022 03:33:31 AM EET.
Available Packages
Name           : gnuplot
Version        : 5.2.4
Release        : 1.el8
Architecture   : x86_64
Size           : 892 k
Source         : gnuplot-5.2.4-1.el8.src.rpm
Repository     : rhel-8-for-x86_64-appstream-rpms
Summary        : A program for plotting mathematical expressions and data
URL            : http://www.gnuplot.info/
License        : gnuplot and MIT
Description    : Gnuplot is a command-line driven, interactive function plotting
                : program especially suited for scientific data representation. Gnuplot
                : can be used to plot functions and data points in both two and three
                : dimensions and in many different formats.
                :
                : Install gnuplot if you need a graphics package for scientific data
                : representation.
                :
                : This package provides a Qt based terminal version of gnuplot.
```

23. Install the `gnuplot` package.

```
[root@localhost ~]# yum -i gnuplot
Updating Subscription Management repositories.
No such command: gnuplot. Please use /usr/bin/yum --help
It could be a YUM plugin command, try: "yum install 'dnf-command:'
[root@localhost ~]# yum install gnuplot
Updating Subscription Management repositories.
Last metadata expiration check: 17:41:29 ago on Thu 08 Dec 2022 03:33:31 AM EET.
Dependencies resolved.
=====
Package                Architecture Version      Repository
=====
Installing:
gnuplot                 x86_64      5.2.4-1.el8 rhel-8-for-x86_64-appstream-rpms
Installing dependencies:
gnuplot-common          x86_64      5.2.4-1.el8 rhel-8-for-x86_64-appstream-rpms
```

24. Attempt to remove the gnuplot package, but say no How many packages would be removed

```
[root@localhost ~]# yum remove gnuplot
Updating Subscription Management repositories.
Dependencies resolved.
=====
Package                Architecture Version
=====
Removing:
gnuplot                 x86_64    5.2.4-1.el8
Removing unused dependencies:
gnuplot-common          x86_64    5.2.4-1.el8
Transaction Summary
=====
Remove  2 Packages

Freed space: 3.8 M
Is this ok [y/N]: y
Running transaction check
Transaction check succeeded.
```

25. Attempt to remove the gunplot-common package but say no
How many packages would be removed

```
[root@localhost ~]# yum remove gunplot-common
Updating Subscription Management repositories.
No match for argument: gunplot-common
No packages marked for removal.
Dependencies resolved.
Nothing to do.
Complete!
```

Using rpm

26. List all installed packages in your system.

```
[root@localhost ~]# rpm -aq
harfbuzz-icu-1.7.5-3.el8.x86_64
libcurl-7.61.1-25.el8.x86_64
kf5-kconfig-core-5.96.0-1.el8.x86_64
udisks2-lvm2-2.9.0-9.el8.x86_64
yelp-xsl-3.28.0-2.el8.noarch
libfdisk-2.32.1-38.el8.x86_64
python3-gobject-base-3.28.3-2.el8.x86_64
kf5-kglobalaccel-5.96.0-1.el8.x86_64
```

27. View the files in the initscripts package

```
[root@localhost ~]# rpm -ql initscripts
/etc/rc.d
/etc/rc.d/init.d
/etc/rc.d/init.d/functions
/etc/rc.d/rc0.d
/etc/rc.d/rc1.d
/etc/rc.d/rc2.d
```

28. Get general information about bash rpm.

```
[root@localhost ~]# rpm -qi bash
Name           : bash
Version        : 4.4.20
Release        : 4.el8_6
Architecture   : x86_64
Install Date   : Sun 27 Nov 2022 01:41:37 AM EET
```

29. Have the files from the pam package changed since it was installed.

```
[root@localhost ~]# rpm -V pam
....L.... c /etc/pam.d/fingerprint-auth
....L.... c /etc/pam.d/password-auth
....L.... c /etc/pam.d/postlogin
....L.... c /etc/pam.d/smartcard-auth
....L.... c /etc/pam.d/system-auth
[root@localhost ~]#
```

30. Which installed packages have gnome in their names?

```
[Eng.mahmoud@localhost ~]$ yum list installed|cut -f1 -d" "|grep gnome
chrome-gnome-shell.x86_64
gnome-autoar.x86_64
gnome-bluetooth.x86_64
gnome-bluetooth-libs.x86_64
gnome-boxes.x86_64
gnome-calculator.x86_64
gnome-characters.x86_64
gnome-classic-session.noarch
gnome-color-manager.x86_64
gnome-control-center.x86_64
gnome-control-center-filesystem.noarch
gnome-desktop3.x86_64
gnome-disk-utility.x86_64
gnome-font-viewer.x86_64
gnome-getting-started-docs.noarch
gnome-initial-setup.x86_64
```

31. Install any uninstalled package from RH Enterprise Linux cds

32. Search for software resemble the Photoshop software other than Gimp and install it.

```
[root@localhost ~]# yum install inkscape.x86_64
Updating Subscription Management repositories.
Last metadata expiration check: 1:24:23 ago on Thu 08 Dec 2022 09:18:13 PM EET.
Dependencies resolved.
```

Package	Arch	Version	Repository
Installing:			

33. Create the file /etc/yum.repos.d/cdrom.repo to enable install from the iso from the iso of Red Hat.

```
[root@localhost ~]# mount -o loop rhel-server-8.0-x86_64-dvd.iso /media/rheldvd
# cat /etc/yum.repos.d/my.repo
[dvd-BaseOS]
name=DVD
baseurl=file:///media/rheldvd/BaseOS
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
[dvd-AppStream]
name=DVD
baseurl=file:///media/rheldvd/AppStream
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

34. Try to install any package from the new repository
I don,t have cdrom or DVD