**Managing Software /**

**Package Management**

1. **In Linux (packages) software is available in the form of packages (packages are the collection of programs)**
2. **And installing packages means simply extracting the files from the archive and put it on the system.**
3. **Package management is the method of installing and maintaining the software.**
4. **Some packages require shared library or another package called dependency.**
5. **Since there are many families of Linux different distribution family use a different packaging system.**

**Red Hat Family(CentOs , RHEL , Fedora)**

**Red Hat Packages (.\*rpm) :- bundles of packages.**

**Install, managing, maintenance , remove, configuring. Repository consists packages.(like playstore)**

1. **Low level tool :- rpm(redhat package manager)**

**Syntax :- rpm <options> <full package name>**

* **-i :- install**
* **-v :- verbose (shows detail information)**
* **-h :- hashing (###########)**
* **-u :- update an existing soft package**
* **-e :- uninstall a software package**
* **-q :- package is installed or not(queries the rpm database)**
* **-qa :- how many package are present in the system.(all packages)**
* **-qi :- information.**
* **-ql :- list content of package.**
* **-evh :- remove package.**
* **-ivh :- install package.**

1. **rpm -evh tree(only command name) :- to uninstall package.**
2. **rpm -qi tree (0nly command name) :- detailed information of installed package.**
3. **rpm -qi <full package name> :- detail information of downloaded package.**
4. **rpm -ql tree ( only command name) :- lists contents of the data files where it is extracted.**
5. **rpm -e <package name>:- forcefully delete package.**

**we can download url by wget or curl -O**

1. **High level tool(Red hat family) :- yum (yellowdog update manager)**

**What is repository ?**

**a place or container in which something is stored in large quantities.**

**Or**

**A software repository (“repo” in short) is a central file storage location to keep and maintain software packages, from which users can retrieve packages and install them on their computers.**

1. **When you install any package using yum its dependencies also get installed.**
2. **On the other hand when you remove using “ yum remove < package name>” It only removes that package not all its dependencies.**
3. **To overcome this we have two options.**
4. **Yum autoremove\* <package name> :- removes packages as well as dependencies.**
5. **Edit vim /etc/yum.conf**

**Add a line in that file**

**Clean\_requirements\_ on\_remove=1**

**(this is permanent setup to remove package with dependencies )**

**Syntax :- yum <option> <package name>**

**Options :-**

* **install :- install package.**
* **remove :- remove package only.**
* **list :- lists all installed package.**
* **yumdownloader :- download package.**
* **provides :- to check exact package name of the command.**
* **info :- package information.**
* **update :- update package.**
* **search :- general information of package.**
* **list | grep :- lists specific package.**
* **repolist :- to check repository package.**
* **repolist all :- shows all installed package.**
* **list installed :- lists installed packages**
* **list all :- lists all packages.**
* **clean all :- clear cache memory**
* **history :- shows history**
* **dnf command in Linux**

**The DNF command (Dandified (sophisticated) yum) is the next-generation version of the traditional YUM package manager for RedHat based systems. It is the default package manager for Fedora 22, CentOS8, and RHEL8. It is intended to be a replacement for YUM. It does Package Management using RPM and libsolv (maintained by OpenSUSE).**

**Dnf config file :- /etc/dnf/dnf.conf**

## **dnf command Basic Usage**

**The general syntax of dnf command is**

* **dnf [options] <command> [<args>...]**
* **dnf install package-name :- to install packages**
* **dnf install <package-name-1> < package-name-2> :- to install multiple packages simultaneously**
* **dnf check-update :- check updates**
* **dnf upgrade package-name :- to upgrade single package .**
* **dnf upgrade --security :- To upgrade to the latest available e**

[Managing software with the DNF tool Red Hat Enterprise Linux 9 | Red Hat Customer Portal](https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9/html-single/managing_software_with_the_dnf_tool/index)

**Low level tool (Debian Family) :- dpkg(de bian package manager)**

**High level tool (Debian Family) :- apt-get**

## **What Is apt-get and What Is It Used For?**

**apt-get is a command line tool for interacting with the Advanced Package Tool (APT) library (a package management system for Linux distributions). It allows you to search for, install, manage, update, and remove software.**

**The tool does not build software from the source code. Instead, it compiles the source code or uses precompiled files to install software packages.**

## **apt-get Syntax**

**apt-get [option] [command]**

* **apt-get install [package\_name1] [package\_name2] [package\_name3] :- to install multiple packages .**
* **apt-get remove [package\_name] :- remove package.**