6.2.4 YUM and DNF Facts

The Yellowdog Updater Modified (YUM) is a robust utility that manages Red Hat Package Manager (RPM) packages.

This lesson covers the following topics:

- YUM functions
- Dandified YUM (DNF)
- Zypper
- Common commands

YUM Functions

YUM is the primary utility for getting, installing, deleting, querying, and managing Red Hat Enterprise Linux RPM software packages. YUM:

- Is used on Red Hat, Fedora, and other compatible distributions.
- Checks the dependencies of an RPM package being installed, and then automatically installs or updates any dependencies as needed.
- Keeps and updates a file that lists all packages available in the Internet repositories that it has been configured to use.
- Uses **/etc/yum.conf** as its configuration file. The configuration file contains:
  - URLs of RPM repositories.
  - Directories where it saves downloaded packages.
  - Locations of logs.
- Uses a .repo file in **/etc/yum.repos.d/** to identify each Internet repository that will be used to install packages. To change where YUM looks for new or updated packages, add .repo files to this directory.
- Uses **/var/usr/yum.log** as a log file to track when packages are installed, removed, or downloaded.

Dandified YUM (DNF)

The Dandified YUM (DNF) is a utility-based YUM that performs the same task of solving dependencies when installing RPM packages. DNF uses an updated algorithm for solving dependencies while utilizing the same YUM command options. Additional facts about DNF include the following:

- DNF uses **/etc/dnf/dnf.conf** as its configuration file. The configuration file contains:

- URLs of RPM repositories.
  - Directories where it saves downloaded packages.
  - Locations of logs.
- DNF uses a repository file in the same location as YUM. The **/etc/yum.repos.d/** directory contains .repo files to identify each Internet repository that will be used to install packages. To change where DNF looks for new or updated packages, add .repo files to this directory.
- DNF uses **/var/log/dnf.log** as a log file to track when packages are installed, removed, or downloaded.

Zypper

Zypper is the command-line interface for the graphical package manager ZYpp. It downloads RPM type packages from an online repository, resolves dependencies, and installs the packages.

Common Commands

The following table lists and describes several common commands used by YUM and DNF for managing RPM packages:

Command	Function	Example
yum	Installs RPM packages, including their dependencies. Be aware of the following actions and options: - **list** displays lists of packages. - **install** installs a package. Use the entire package file name when installing. - **list updates** displays whether updates are available for packages. - **update** updates RPM packages. - **list available** lists packages that are available to install. - **search** searches all packages for a specified term.	**yum list all** shows all packages in the repository and installed on the computer. **yum list javahelp2** searches for the javahelp2 package in the repository. **yum list *help*** lists all packages in the repository that have the string help somewhere in the name. **yum list installed mtools** shows whether the mtools package is installed on the computer. **yum install BackupPC-3.1.0-3.fc9.rpm** installs the BackupPC package and any package dependencies. **yum install http://rpm.sh-linux.org/rpm-fc9/target/BackupPC-3.1.0-3.fc9.rpm** installs the specified package directly from the Internet. **yum list update mtools** looks for an update for the mtools package and updates it if one is available. **yum update sssd** updates the sssd package. **yum update** updates all installed packages.

	info displays detailed package information. **provides, whatprovides** displays what packages are associated with a specific file. **remove, erase** uninstalls a package. **-y** bypasses confirmation prompts.	**yum list available** shows the available packages. **yum search Java** searches all package information and descriptions for the term *Java*. **yum info zuff** shows information about the zuff package. **yum whatprovides /etc/updatedb.conf** shows what packages are associated with the updatedb.conf file. **yum remove kdegames** uninstalls the kdegames package from your computer. **yum -y update** updates all packages without requesting confirmation prompts.
yumdownloader	Downloads a package without installing it.	**yumdownloader zuff** downloads the zuff package, but does not install it.
createrepo	Creates a repository list of RPM packages stored locally or on a network. Be aware of the following options: **-g** specifies an xml file for the repository. **-x** excludes specific file globs.	**createrepo -g packagefile.xml** creates a list of packages using the .xml file.
dnf	Installs RPM packages, including their dependencies. Be aware of the following actions and options: **list** displays lists of packages. **install** installs a package. Use the entire package file name when installing. **list updates** displays whether updates are available for packages. **update** updates RPM packages. **list available** lists packages that are available to install. **search** searches all packages for a specified term. **info** displays detailed package information.	**dnf list all** shows all packages in the repository and installed on the computer. **dnf list javahelp2** searches for the javahelp2 package in the repository. **dnf list *help*** lists all packages in the repository that have the string help somewhere in the name. **dnf list installed mtools** shows whether the mtools package is installed on the computer. **dnf install BackupPC-3.1.0-3.fc9.rpm** installs the BackupPC package and any package dependencies. **dnf install http://rpm.sh-linux.org/rpm-fc9/target/BackupPC-3.1.0-3.fc9.rpm** installs the specified package directly from the Internet. **dnf list update mtools** looks for an update for the mtools package and updates it if one is available. **dnf update sssd** updates the sssd package. **dnf update** updates all installed packages.

- **provides, whatprovides** displays what packages are associated with a specific file.
- **remove, erase** uninstalls a package.
- **-y** bypasses confirmation prompts.

dnf list available shows the available packages.

dnf search Java searches all package information and descriptions for the term *Java*.

dnf info zuff shows information about the zuff package.

dnf whatprovides /etc/updatedb.conf shows what packages are associated with the updatedb.conf file.

dnf remove kdegames uninstalls the kdegames package from your computer.

dnf -y update updates all packages without requesting confirmation prompts.