

Lecture: Package management

Practice

1.RPM

- Check an RPM Signature Package

```
#rpm --checksig tcptrack-1.4.0-1.el6.rf.x86_64.rpm
```

- check dependencies of RPM Package before Installing

```
#rpm -qpR tcptrack-1.4.0-1.el6.rf.x86_64.rpm
```

- o basically, all the listed packages (with the specified versions, need to be installed, prior the installation of the desired package)
- o RPM options:
 - **-q** : Query a package
 - **-p** : List capabilities this package provides.
 - **-R**: List capabilities on which this package depends

- Install an RPM Package

```
#rpm -ivh tcptrack-1.4.0-1.el6.rf.x86_64.rpm
```

- o RPM options:
 - **-i** : install a package
 - **-v** : verbose for a nicer display
 - **-h**: print hash marks as the package archive is unpacked.

- Remove a RPM Package

```
# rpm -evv tcptrack-1.4.0-1.el6.rf.x86_64.rpm
```

- o RPM options:
 - **-e** : install a package
 - **-vv** : detailed verbose

2. YUM

- Install a Package

```
# yum install firefox
```

- o The above command will ask confirmation before installing any package on your system. If you want to install packages automatically without asking any confirmation, use option **-y** as shown in below example.

```
#yum -y install firefox
```

- Removing a Package

```
# yum remove firefox
```

- Same way the above command will ask confirmation before removing a package. To disable confirmation prompt just add option -y as shown in below.

```
# yum -y remove firefox
```

- Updating a Package

```
# yum update java
```

- List a Package

```
#yum list openssh
Loaded plugins: fastestmirror, refresh-packagekit, security
Loading mirror speeds from cached hostfile
* base: ftp.ines.lug.ro
* epel: fedora.mirrors.telekom.ro
* extras: ftp.ines.lug.ro
* updates: ftp.ines.lug.ro
Installed Packages
openssh.x86_64                5.3p1-112.el6_7                @updates
```

- In this case, the openssh package is installed, as you can see marked with italic.
- Also you can check the repository where the sources are located (@updates), and the version of the installed package (5.3p1-112.el6_7)
- Considering that we uninstalled already the firefox packages, you'll find in the example below the packages are not installed, and available for installation in the repository.

```
[root@centos ~]# yum list firefox
Loaded plugins: fastestmirror, refresh-packagekit, security
Loading mirror speeds from cached hostfile
* base: mirrors.biztelecom.ro
* epel: fedora.mirrors.telekom.ro
* extras: mirrors.biztelecom.ro
* updates: mirrors.biztelecom.ro
Available Packages
firefox.x86_64                38.3.0-2.el6.centos            @updates
Available Packages
firefox.i686                 38.3.0-2.el6.centos            updates
```

- Search for a Package

```
# yum search vsftpd
```

- Get Information of a Package

```
# yum info firefox
```

- List all Available Packages

```
# yum list | less
```

- List all Installed Packages

```
# yum list installed | less
```

- For example, if you want to know if a specific program is installed on your system you can simply query it in the listed database.

```
# yum list installed | grep gcc
```

- It finds the gcc compiler installed in the system

- Yum *Provides* function

- Yum *provides* function is used to find which package a specific file belongs to. For example, if you would like to know the name of the package that has the `/etc/syslog.conf`:

```
[root@centos ~]# yum provides /etc/sysctl.conf
Loaded plugins: fastestmirror, refresh-packagekit, security
Loading mirror speeds from cached hostfile
* base: ftp.ines.lug.ro
* epel: fedora.mirrors.telekom.ro
* extras: ftp.ines.lug.ro
* updates: ftp.ines.lug.ro
initscripts-9.03.49-1.el6.centos.x86_64 : The inittab file and the
/etc/init.d scripts
Repo      : base
Matched from:
Filename  : /etc/sysctl.conf
```

```
initscripts-9.03.49-1.el6.centos.1.x86_64 : The inittab file and the
/etc/init.d scripts
Repo      : updates
Matched from:
Filename  : /etc/sysctl.conf
```

```
initscripts-9.03.49-1.el6.centos.1.x86_64 : The inittab file and the
/etc/init.d scripts
Repo      : installed
Matched from:
Other     : Provides-match: /etc/sysctl.conf
```

- List all available Group Packages

- In Linux, packages are bundled to particular group.
- Instead of installing individual packages with yum, you can install particular group that will install all the related packages that belongs to the group.
- For example to list all the available groups, just issue following command.

```
# yum grouplist
```

- Install a Group Packages

```
[root@centos ~]# yum groupinstall 'MySQL Database'
```

- Update a Group Packages

```
[root@centos ~]# yum groupupdate 'Debugging Tools'
```

- Remove a Group Packages

```
# yum groupremove 'MySQL Database'
```

- List Enabled Yum Repositories

```
# yum repolist
```

- List all Enabled and Disabled Yum Repositories

```
# yum repolist all
```

- Add a new repository in yum database
 - o For this exercise we'll install a popular repository for Centos, named EPEL.
 - o To test how this it's working, check first some info about a package that is not in the Centos Base repository

```
# yum info nginx
```

```
Loaded plugins: fastestmirror, refresh-packagekit, security
```

```
Loading mirror speeds from cached hostfile
```

```
* base: ftp.ines.lug.ro
```

```
* extras: ftp.ines.lug.ro
```

```
* updates: ftp.ines.lug.ro
```

```
Error: No matching Packages to list
```

- o You should get nothing. Let's continue to activate the repository, where we can find the packages we want to install
- o Go to your home directory and download the required file using **wget** command:

```
#wget http://download.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-8.noarch.rpm
```

- o This will download an rpm package in to your home directory; you can check if it's there with **ls**
- o install it using **RPM** command

```
#rpm -ivh epel-release-6-8.noarch.rpm
```

- o verify that the EPEL repository is installed successfully and ready to use

```
# yum repolist
```

- o check again with:

```
# yum info nginx
```

```
Loaded plugins: fastestmirror, refresh-packagekit, security
```

```
Loading mirror speeds from cached hostfile
```

```
epel/metalink
```

```
| 25 kB 00:00
```

```
* base: ftp.ines.lug.ro
```

```
* epel: fedora.mirrors.telekom.ro
```

```
* extras: ftp.ines.lug.ro
```

```
* updates: ftp.ines.lug.ro
```

Available Packages

```

Name       : nginx
Arch       : x86_64
Version    : 1.0.15
Release    : 12.el6
Size       : 404 k
Repo       : epel
Summary    : A high performance web server and reverse proxy server
URL        : http://nginx.org/
License    : BSD
Description : Nginx is a web server and a reverse proxy server for HTTP,
SMTP, POP3 and
            : IMAP protocols, with a strong focus on high concurrency,
performance and low
            : memory usage.

```

- Check for Available Updates

```
# yum check-update
```

- Update System using Yum

```
# yum update
```

Install Virtualbox

1. Get virtualbox repository

```

#cd /etc/yum.repos.d
#wget http://download.virtualbox.org/virtualbox/rpm/rhel/virtualbox.repo

```

2. In order to install dkms packages, you need to install RPMFORGE repository

```

#wget http://packages.sw.be/rpmforge-release/rpmforge-release-0.5.2-
2.el6.rf.x86_64.rpm
# rpm -Uvh rpmforge-release-0.5.2-2.el6.rf.x86_64.rpm

```

3. Install dkms packages and all the required tools for to compile virtualbox modules

```
#yum --enablerepo rpmforge install dkms
```

```

#yum groupinstall "Development Tools"
#yum install kernel-devel

```

4. Install virtualbox

```
#yum install VirtualBox-5.0
```

5. Add your user to vboxusers group

```
#usermod -a -G vboxusers username
```