AINUX

— TASTE OF LINUX —

WELCOME TO THE WORLD OF LINUX

DAY - 13

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RPM Software Package and YUM

RPM (Redhat Packet Manager): RMP provides a standard way to package software for distribution.
The executable files end with .rpm extension.
RPM packages are two types.
1. RPM – Contains compiled code.
2. SRPM – Contains the source code for a particular application.

RPM package names are constructed like below
"Name-version-release.architecture.rpm"
"openssh-6.6.1p1-31.el7.x86_64.rpm"

Architecture comes in three types
1.   i386   -   for 32 bit system
2.   x86_64 -   for 64 bit system
3.   noarch-   platform independent.

Package installation is tracked and stored in rpm database which are located at /var/lib/rpm" directory.

RPM Software Package and YUM

RPM Parameters:
-i   = Install
-v = Verbose
-h = Hash Mode
-e = Erase
-q = Query
-U = Upgrade (Capital U)
-- percent
-a = All Packages
-d = Documentation (Should be used with -qa)
-c = Configuration Files.
-i   = Info {but it should be used with -q}
-p = Package
-l   = List
-V = Verify (Capital V)

To install a RPM package.
rpm –i "package-name"
i.e, # rpm –i openssh-6.6.1p1-31.el7.x86_64.rpm

RPM Software Package and YUM

To install a RPM package.
rpm –i "package-name"
i.e, # rpm –i *openssh-6.6.1p1-31.el7.x86_64.rpm*

To display all installed package.
rpm –qa"

To search particular installed package.
rpm –qa | grep "package-name"
i.e, # rpm –qa | grep openssh

To erase installed package.
rpm –e "package-name"
i.e, # rpm –e openssh

To install a RPM package with verbose and hash mode.
rpm –ivh "package-name"
i.e, # rpm –ivh openssh-6.6.1p1-31.el7.x86_64.rpm

To see the documentation of a installed package.
rpm –qd "package-name"
i.e, # rpm –qd openssh

RPM Software Package and YUM

To update a package.
rpm –Uvh "package-name"
i.e, # rpm –Uvh *openssh-6.6.1p1-31.el7.x86_64.rpm {Maximum System Admin use this command to install}*

To display the information of installed package.
rpm –qi "package-Name"
i.e, # rpm –qi "lftp"

To display the information of package before installation.
rpm –qip "package-Name"
i.e, # rpm –qip "lftp-4.4.8-8.el7.x86_64.rpm"

To display the installable path of a package before installation.
rpm –qlp "package-name"
i.e, # rpm –qlp vsftpd-3.0.2-21.el7.x86_64.rpm

To display a installed package path.
rpm –ql "package-name"
i.e, # rpm –ql openssh-6.6.1p1-31.el7.x86_64.rpm

To verify the installed package is corrupted or not .
rpm –V "package-name"

RPM Software Package and YUM

To verify all the installed package.
rpm –Va

To verify the rpm name for the missing package.
rpm –qf "path"
i.e, # rpm –qf "/etc/vsftpd"

To install a rpm forcefully.
rpm –ivh "package-Name" --force
i.e, # rpm –ivh "lftp-4.4.8-8.el7.x86_64.rpm" –-force

To extract files from rpm packages.
rpm2cpio "package-Name" | cpio -id "*need to mention file types"
i.e, # rpm2cpio vsftpd-3.0.2-21.el7.x86_64.rpm | cpio -id "*txt"

To extract a configation file from rpm packages.
rpm2cpio "package-Name" | cpio -id "*conf"
i.e, # rpm2cpio /mnt/Packages/vsftpd-3.0.2-21.el7.x86_64.rpm | cpio –id "*conf"

Configuring YUM Repository

YUM (**Yellowdog Updater, Modified**) Repositories are warehouses of Linux software. YUM repository resolve the dependencies problem. YUM Repositories hold a number of RPM package files and enable download and installation of new software on our system. YUM Repositories can hold RPM package files locally (local disk) or remotely (FTP, HTTP or HTTPS).

Advantages of installing software from YUM Repositories are: -
1. Easy Software Management:- installing, updating, and deleting packages is simple.
2. Software Dependency Resolution: - software dependencies are automatically resolved and installed.

YUM Repository configuration files must: -
1. be located in "*/etc/yum.repos.d/*" directory
2. Have "*.repo*" extension, to be recognized by YUM

You can Configure two types of YUM Server.
1. *Standalone Based*
2. *Network based (FTP, HTTP or HTTPs)*

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Configuring YUM Repository
Standalone YUM Server

Configure the Following Steps:-

All your packages are stored into the RHEL & DVD.

1. Mount your DVD
    # mount /dev/cdrom /mnt
2. Create a directory under '/' Directory
    # mkdir '/*RHEL7*'
3. Copy entire directory to '/RHEL7' folder
    # cp –rv '/mnt/*' '/RHEL7/'
4. Create a ".repo" file under "/etc/yum.repos.d/" [here I create '*server.repo*']
    # touch '*/etc/yum.repos.d/server.repo*'
5. Edit ".repo" file like below.
    [IANT-YUM-SERVER] {You can define any name without space}
    name=IANT's First YUM Server
    baseurl=file:///RHEL7
    enable=1
    gpgcheck=1   {It may 0 (zero) value, if you don't want to check the key. For
    that case   you don't required 'gpgkey' to mention.}
    gpgkey=file:///RHEL7/RPM-GPG-KEY-redhat-release

Note:- Save the file and Exit

Configuring YUM Repository

6. Go to /'RHEL7' Folder to install '*createrepo*' command. '*createrepo' command is*   required to configure the repository.
   # cd /RHEL7
7. Install '*createrepo*' rpm
   # rpm -ivh createrepo-0.9.9-26.el7.noarch.rpm
8. To clean yum previous Cache
   # yum clean all
9. To create YUM repository
   # createrepo '/RHEL7/Packages'
10. To check yum repository
    # yum repolist
11. To test your yum repository
    # yum install httpd*

Configuring YUM Repository

FTP based YUM Server

In this case you required an FTP server.

Configure the Following Steps:-

All your packages are stored into the RHEL & DVD.

1. Mount your DVD
   # mount /dev/cdrom /mnt
2. Install 'vsftp' rpm to create 'FTP' server
   # rpm –ivh /mnt/Packages/vsftpd-3.0.2-21.el7.x86_64.rpm
3. Create a directory under '/var/ftp/pub' Directory
   # mkdir /var/ftp/pub/*RHEL7*'
4. Copy entire directory to '/RHEL7' folder
   # cp –rv '/mnt/Packages/*' '/var/ftp/pub/RHEL7/'
5. Copy 'gpgkey' to 'RHEL7' folder
   # cp –rv '/mnt/RPM-GPG-KEY-redhat-releas' '/var/ftp/pub/RHEL7/'
6. Start vsftpd service.
   # systemctl start vsftpd
7. To set the service as start up service.
   # systemctl enable vsftpd

Configuring YUM Repository

To allow the port into the firewall
firewall-cmd   - -permanent   - - add-service=ftp

9. To reload Firewall configuration
firewall-cmd –- reload

10. Create a ".repo" file under "/etc/yum.repos.d/" [here I create 'server.repo']
touch '/etc/yum.repos.d/server.repo'

11. Edit ".repo" file like below.
vim '/etc/yum.repos.d/server.repo'
[IANT-YUM-SERVER] {You can define any name without space}
name=IANT's First YUM Server
baseurl=ftp://192.168.250.1/pub/RHEL7
enable=1
gpgcheck=1   {It may 0 (zero) value, if you don't want to check the key. For
that case   you don't required 'gpgkey' to mention.}
gpgkey=ftp://192.168.250.1/pub/RHEL7/RPM-GPG-KEY-redhat-release
Note:- Save the file and Exit

Configuring YUM Repository

createrepo -v /var/ftp/pub/RHEL7

12. To Check repolist
yum repolist

13. To update existing YUM Repository
createrepo -v –update /var/ftp/pub/RHEL7
[Before run this command you need to clear cache]

Configuring YUM Repository

YUM Client Configuration

Create a ".repo" file under "/etc/yum.repos.d/" [here I create 'client.repo']
touch '/etc/yum.repos.d/client.repo'
2. Edit "client.repo" file like below.
 # vim '/etc/yum.repos.d/client.repo'
[IANT-YUM-CLIENT] {You can define any name without space}
name=IANT's YUM Client-1
baseurl=ftp://192.168.250.1/pub/RHEL7
enable=1
gpgcheck=1   {It may 0 (zero) value, if you don't want to check the key. For
that case   you don't required 'gpgkey' to mention.}
gpgkey=ftp://192.168.250.1/pub/RHEL7/RPM-GPG-KEY-redhat-release
Note:- Save the file and Exit

THANK YOU