

RedHat Certified System Administrator (RHEL 9)

SUMMARY

Manipulate Files

- Create directory:
 `mkdir <directory_name>`
 [-p: parent]
 Ex: `mkdir -p a/b/c`
- Create file:
 `touch <file>` or `vim <file>`
- Create link:
 `ln (-s) <absolute_path> <destination>`
 [-s: symbolic]
- Remove directory:
 `rm -r <directory>` or `rmdir` (for empty directory)
- Remove file:
 `rm <file>`
- Copy file:
 `cp <src_file> <dest_path>`
 [-r: recursive copy]
- Move file:
 `mv <file> <dest_path>`
 [-r: recursive copy]

PS: Hard Links:

- Cannot be created for directory.
- Cannot be created from other Devices.
- The inode keeps a hard link counter.

Input / Output Redirections

- Standard output (STDOUT): > , >>
Ex: `ls -lsh > sizeSorted.txt`
- Standard input (STDIN): < , <<
Ex: `cat < file << EOF`
- Standard error (STDERR): 2> , 2>>
Ex: `ls notAfile 2> /dev/null`
- Pipes: |

View & Analyze Text

- View with text editor:
`vim <file>`
- Print file contents to STDOUT: `cat`, `tac`
- Show file content in pager: `less`, `more`
- Print lines matching a pattern: **`grep`**

Text File Manipulation

- Head, tail, wc, sort, cut, tr, sed
`tail -n 6 /etc/passwd | head -5`
[Res: from the last six users, shows the first five]
[PS: (-n = -), default n=10]
`wc -c -w -l <filename>`
[-c: bytes, -w: words, -l: lines, -m: characters]
`sort -r -d <filename>`
[-r: reverse, -d: dictionary sort]
`grep sshd /etc/passwd | cut -d : -f 6`
[Res: Get the home dir of user sshd]
`ps aux | tr -s [:blank:]`
[Res: Shrink the vertical spaces in output of ps]
`sed -i "s/old_text/new_text/g" <filename>`
[Res: Swap text in the file (-i: in place)]

Archiving & Compression

- Compression options: gzip, bzip2
- Create archive:
`tar -cvzf <archive_name> file1 file2`
[-c: create, -v: verbose, -z: gzip, -f: file]
- Extract archive:
`tar -xvzf <archive_name>`
[-c: extract, -v: verbose, -z: gzip, -f: file]

Privilege Management

- Switch user:
`su - <user>`
[-/-l/--login: initializes a login shell for the user]
- Open an interactive sudo prompt:
`sudo -i`
- Show list of commands possible with sudo:
`sudo -l`
- Give a user sudo privilege:
 - Add him to wheel group:
`sudo usermod -aG wheel <user>`
 - Change sudoers file:
`sudo vim /etc/sudoers`
add: <username> ALL=(ALL) ALL
Or : <username> ALL=(ALL) ALL NOPASSWD
Or you can specify what commands the user can run:
<username> ALL=/usr/bin/useradd,
/usr/bin/passwd, !
/usr/bin/passwd root
 - Create a file with the user's name in /etc/sudoers.d/ with the exact same conf as the last option.

Local and Remote Terminals

- Terminals are found in /dev :pseudo terminals in /dev/pts)
- Old legacy terminals: TTY[n]
To access tty, chvt n ; n>3
You can see tty info with the commands:
'w' or 'who'
- Pseudo Terminals:
You can see pts info with the command: 'ps'
You can send text to pseudo terminals:
echo "text" > /dev/pts/[pts_num]
- SSH access:
 - By default ssh servers are running
 - You can access a remote system using:
ssh username@IP_Address