DIRECTORY CREATION

command: mkdir

mkdir command is used to create directories.
you can also create multiple directories, sequence directories.
and you can also create collaborative path(parent child directories).

SYNTAX:

 # mkdir <directory name/path>

mkdir <directory1> <directory2> <directory3>   → Use to create multiple directories

mkdir <directory name>{start..stop}   → Use to create sequence directories

#mkdir <option>   <directory name & path>

OPTIONS:

-p → parent directory/ collaborative path

-v → verbose (view/ acknowledgement)

-m → mode of permission

EG:

 [root@server ~]# ls

anaconda-ks.cfg Documents echofile Music   Public   Videos

Desktop   Downloads file1   Pictures Templates

 [root@server ~]# ls /

afs boot dev   etc   home lib   media opt   red   root sbin sys   tmp var

bin data dhparams.pem grras kali lib64 mnt   proc redhat run srv test1 usr web.sh

 [root@server ~]# **mkdir   data**

[root@server ~]# **ls**

anaconda-ks.cfg Desktop   Downloads file1 Pictures Templates

data   Documents echofile Music Public   Videos

 [root@server ~]# **mkdir -v   sample**

<mark>mkdir: created directory 'sample'</mark>

[root@server ~]# ls

anaconda-ks.cfg Desktop   Downloads file1 Pictures <mark>**sample**</mark>   Videos

data   Documents echofile Music Public   Templates

----

if directory exists on system/location cmd prompt the message

but if we are creating file and if is existing on system it will change the time stamp of file. Ther will be no promt for **file exists**

[root@server ~]# **mkdir sample** → <mark>mkdir: cannot create directory 'sample': File exists</mark>

[root@server ~]# ls

anaconda-ks.cfg Desktop   Downloads file1 Pictures <mark>sample</mark>   Videos

data   Documents echofile Music Public   Templates

[root@server ~]# **stat   file1**

 File: file1

 Size: 0   Blocks: 0   IO Block: 4096   regular empty file

Device: fd00h/64768d   Inode: 18661955   Links: 1

Access: (0644/-rw-r--r--) Uid: (0/   root) Gid: (0/   root)

Context: unconfined_u:object_r:admin_home_t:s0

<mark>Access: 2025-07-02 18:41:49.200508041 +0530</mark>

<mark>Modify: 2025-07-02 18:41:49.200508041 +0530</mark>

<mark>Change: 2025-07-02 18:41:49.200508041 +0530</mark>

<mark>Birth: 2025-07-02 18:41:49.200508041 +0530</mark>

[root@server ~]# **cat > file1**

hello

```
[root@server ~]# stat  file1

 File: file1

 Size: 6          Blocks: 8       IO Block: 4096   regular file

Device: fd00h/64768d   Inode: 18661955    Links: 1

Access: (0644/-rw-r--r--) Uid: (   0/   root)  Gid: (   0/   root)

Context: unconfined_u:object_r:admin_home_t:s0
```

Access: 2025-07-02 18:41:49.200508041 +0530

Modify: 2025-07-02 19:05:34.906584460 +0530

Change: 2025-07-02 19:05:34.906584460 +0530

 Birth: 2025-07-02 18:41:49.200508041 +0530

```
 [root@server ~]# touch  file1      → creating existing file, so it will change the time stamp
[root@server ~]# stat  file1

 File: file1

 Size: 6          Blocks: 8       IO Block: 4096   regular file

Device: fd00h/64768d   Inode: 18661955    Links: 1

Access: (0644/-rw-r--r--) Uid: (   0/   root)  Gid: (   0/   root)

Context: unconfined_u:object_r:admin_home_t:s0
```

Access: 2025-07-02 19:06:29.891587407 +0530

Modify: 2025-07-02 19:06:29.891587407 +0530

Change: 2025-07-02 19:06:29.891587407 +0530

 Birth: 2025-07-02 18:41:49.200508041 +0530

```
[root@server ~]# cat  file1

hello
                 --------------------------------------------------------------------------
 [root@server ~]# mkdir    dir1     /dir2    /tmp/class    /dir3        → creating multiple directories
```

OR

```
 [root@server ~]# mkdir   dir1    /{dir2,dir3}   /tmp/class


[root@server ~]# ls /
```

```
afs  data      dir2    home lib64 opt  redhat sbin test1 var

bin  dev       dir3    etc  kali media proc root  srv tmp  web.sh

boot dhparams.pem grras lib  mnt  red  run  sys usr
```

[root@server ~]# **ls /tmp/**

class

systemd-private-92d20c519b224589a3c53172e3f136f7-bluetooth.service-GBmFep

systemd-private-92d20c519b224589a3c53172e3f136f7-chronyd.service-A6CflV

systemd-private-92d20c519b224589a3c53172e3f136f7-colord.service-34xdnS

[root@server ~]# **ls**

anaconda-ks.cfg Desktop Documents echofile Music   Public Templates

data   dir1   Downloads file1   Pictures sample Videos

[root@server ~]# **mkdir redhat{1..2}**

[root@server ~]# ls

anaconda-ks.cfg Desktop Documents echofile Music   Public redhat2 Templates

data   dir1   Downloads file1   Pictures redhat1 sample Videos

----

[root@server ~]# **mkdir   /systemdata/rhel/rhcsa**

mkdir: cannot create directory '/systemdata/rhel/rhcsa': No such file or directory

[root@server ~]# **mkdir -pv   /systemdata/rhel/rhcsa**   → *creating parent child directory in single cmd. Using option -p*

mkdir: created directory '/systemdata'

mkdir: created directory '/systemdata/rhel'

mkdir: created directory '/systemdata/rhel/rhcsa'

[root@server ~]# **ls /**

afs data   dir2 dir5 home lib64 opt redhat sbin <mark>systemdata</mark> usr

bin dev   dir3 etc kali media proc root   srv test1   var

boot dhparams.pem dir4 grras lib mnt red run   sys tmp   web.sh

[root@server ~]# ls /systemdata/

rhel

[root@server ~]# ls /systemdata/rhel/

rhcsa

[root@server ~]# **ls -R /systemdata/**

/systemdata/:

rhel

/systemdata/rhel:

rhcsa

/systemdata/rhel/rhcsa:

[root@server ~]# **tree /systemdata/**

/systemdata/

└── **rhel**

   └── **rhcsa**

2 directories, 0 files

----

create file1 and file2 in /systemdata/rhel

[root@server ~]# **touch   /systemdata/rhel/{file1,file2}**

[root@server ~]# **tree   /systemdata/**

/systemdata/

└── rhel

   ├── file1

   ├── file2

   └── rhcsa

2 directories, 2 files

 [root@server ~]# **mkdir /data1**

[root@server ~]# **ls -ld /data1**

d<mark>**rwxr-xr-x**</mark>. 2 root root 6 Jul 2 19:31 /data1

       -m → mode of permission

 [root@server ~]# **mkdir -m 777   /centos**   **→ *Creating directory with 777 permission***

[root@server ~]# **ls /**

afs <mark>centos</mark> dev   dir3 etc kali media proc root srv   test1 var

bin data dhparams.pem dir4 grras lib mnt red run sys   tmp web.sh

boot data1 dir2   dir5 home lib64 opt redhat sbin systemdata usr

 [root@server ~]# **ls -ld /centos/**

d<mark>**rwxrwxrwx**</mark>. 2 root root 6 Jul 2 19:33 /centos/

[root@server ~]# **mkdir   .linux**   → **Creating hidden file**

[root@server ~]# **ls**

anaconda-ks.cfg Desktop Documents echofile Music   Public redhat2 Templates

data   dir1   Downloads file1   Pictures redhat1 sample Videos

 [root@server ~]# **ls -a**

.   .bash_logout .config dir1   file1   .mozilla redhat1 .tcshrc

..   .bash_profile .cshrc Documents .lesshst Music   redhat2 Templates

anaconda-ks.cfg .bashrc   data   Downloads ==.linux==   Pictures sample Videos

.bash_history .cache   Desktop echofile .local   Public   .ssh   .viminfo

                ----

 [root@server ~]# **mkdir   "rhcsa rhce"**   → **Creating directory with space**

[root@server ~]# ls

anaconda-ks.cfg dir1   echofile Pictures redhat2   Templates

data   Documents file1   Public   ==**'rhcsa rhce'**== Videos

                ----

rmdir   command

rmdir command is use to remove only empty directories.

SYNTAX:

#rmdir   <directory name>

EG:

 [root@server ~]# ls

anaconda-ks.cfg dir1   echofile Pictures redhat2   Templates

data   Documents file1   Public   'rhcsa rhce' Videos

Desktop   Downloads Music   redhat1   sample

[root@server ~]# ls data/

[root@server ~]# **rmdir   data**

[root@server ~]# ls

```
anaconda-ks.cfg  dir1      Downloads  file1  Pictures  redhat1 'rhcsa rhce'  Templates

Desktop          Documents echofile   Music  Public    redhat2  sample       Videos

             ------------------------------------------------------------------------

[root@server ~]# rmdir  -v  dir1
rmdir: removing directory, 'dir1'

[root@server ~]# ls

anaconda-ks.cfg  Documents  echofile  Music   Public   redhat2   sample   Videos

Desktop          Downloads  file1     Pictures  redhat1 'rhcsa rhce'  Templates

             ------------------------------------------------------------------------

[root@server ~]# mkdir  redhat2/system

[root@server ~]# ls  redhat2

system

[root@server ~]# rmdir  redhat2
rmdir: failed to remove 'redhat2': Directory not empty


[root@server ~]# rmdir -v   redhat2/system
rmdir: removing directory, 'redhat2/system'


[root@server ~]# ls  redhat2


[root@server ~]# rmdir -v   redhat2
rmdir: removing directory, 'redhat2'


[root@server ~]# ls

anaconda-ks.cfg  Documents  echofile  Music    Public   'rhcsa rhce'  Templates

Desktop          Downloads  file1     Pictures  redhat1  sample       Videos

             ------------------------------------------------------------------------

[root@server ~]# tree   /systemdata/

/systemdata/

└── rhel

    ├── file1
```

```
├── file2
└── rhcsa


2 directories, 2 files


[root@server ~]# rmdir  -v  /systemdata/rhel/rhcsa/
```
<mark>rmdir: removing directory, '/systemdata/rhel/rhcsa/'</mark>
```
[root@server ~]# tree  /systemdata/
/systemdata/
└── rhel
    ├── file1
    └── file2


1 directory, 2 files
```

```
[root@server ~]# mkdir  -pv  /class/red/green/blue
mkdir: created directory '/class'
mkdir: created directory '/class/red'
mkdir: created directory '/class/red/green'
mkdir: created directory '/class/red/green/blue'


[root@server ~]# tree  /class/
/class/
└── red
    └── green
        └── blue


3 directories, 0 files


[root@server ~]# rmdir  -v  /class/red/green/blue
```

rmdir: removing directory, '/class/red/green/blue'

rmdir: removing directory, '/class/red/green'

rmdir: removing directory, '/class/red'

rmdir: removing directory, '/class'

rmdir: removing directory, '/'

rmdir: failed to remove directory '/': Device or resource busy

----

rm command

rm command is used to remove files and directories

SYNTAX:

#rm   <file name/path>

#rm   <option> <file name/path>

OPTION:

v → verbose

-f → forcefully without prompt

-i → prompt before every removal

-I → prompt once before removing more than 3 files

-d → remove empty directories

-r → remove directories with their contents recursively

EG:

[root@server ~]# ls

anaconda-ks.cfg Documents echofile Music   Public 'rhcsa rhce' Templates

Desktop   Downloads file1   Pictures redhat1 sample   Videos

[root@server ~]# **touch test{1..10}**

[root@server ~]# **ls**

anaconda-ks.cfg Downloads Music   redhat1   Templates test2 test5 test8

Desktop   echofile Pictures 'rhcsa rhce' test1   test3 test6 test9

Documents   file1   Public   sample   test10   test4 test7 Videos

[root@server ~]# **rm test1**

rm: remove regular empty file 'test1'? y

[root@server ~]# **ls**

anaconda-ks.cfg Downloads Music   redhat1   Templates test3 test6 test9

Desktop   echofile Pictures 'rhcsa rhce' test10   test4 test7 Videos

Documents   file1   Public   sample   test2   test5 test8

-v → verbose (view acknowlwdgement)

[root@server ~]# **rm -v test2**

rm: remove regular empty file 'test2'? y

removed 'test2'

[root@server ~]# **ls**

anaconda-ks.cfg Downloads Music   redhat1   Templates test4 test7 Videos

Desktop   echofile Pictures 'rhcsa rhce' test10   test5 test8

Documents   file1   Public   sample   test3   test6 test9

[root@server ~]# ls   /   /var/tmp/

/:

afs centos dev   dir3 etc kali media proc root srv   test1 var

bin data dhparams.pem dir4 grras lib mnt red run sys   tmp web.sh

boot data1 dir2   dir5 home lib64 opt redhat sbin systemdata usr

/var/tmp/:

abc

abc.txt

apple1

apple2

apple3

testdata

xyz

[root@server ~]# **rm -v file1 /test1   /var/tmp/abc.txt** → *Deleting files from different location*

rm: remove regular file 'file1'? <mark>y</mark>

removed 'file1'

rm: remove regular empty file '/test1'? <mark>y</mark>

removed '/test1'

rm: remove regular file '/var/tmp/abc.txt'? <mark>y</mark>

removed '/var/tmp/abc.txt'

[root@server ~]# **ls . /   /var/tmp/**

.:

anaconda-ks.cfg Downloads Pictures 'rhcsa rhce' test10 test5 test8

Desktop   echofile Public   sample   test3 test6 test9

Documents   Music   redhat1 Templates   test4 test7 Videos

/:

afs centos dev   dir3 etc kali media proc root srv   tmp web.sh

bin data dhparams.pem dir4 grras lib mnt red   run sys   usr

boot data1 dir2   dir5 home lib64 opt redhat sbin systemdata var

/var/tmp/:

abc

apple1

apple2

apple3

testdata

xyz

[root@server ~]# **rm   test{3..5}**

rm: remove regular empty file 'test3'? <mark>y</mark>

rm: remove regular empty file 'test4'? <mark>y</mark>

rm: remove regular empty file 'test5'? <mark>y</mark>

[root@server ~]# **ls**

anaconda-ks.cfg   Downloads   Pictures   'rhcsa rhce'   test10   test8

Desktop   echofile   Public   sample   test6   test9

Documents   Music   redhat1   Templates   test7   Videos

-I → prompt before every removal

[root@server ~]# **rm -iv   echofile**

rm: remove regular file 'echofile'? <mark>y</mark>

removed 'echofile'

-f -→ remove forcefully without any prompt

[root@server ~]# **rm -f   test6**

[root@server ~]# **ls**

anaconda-ks.cfg   Documents Music   Public 'rhcsa rhce' Templates test7 test9

Desktop   Downloads Pictures redhat1 sample   test10   test8 Videos

[root@server ~]# **rm -fv test7**

removed 'test7'

[root@server ~]# ls

anaconda-ks.cfg   Documents Music   Public 'rhcsa rhce' Templates test8 Videos

Desktop   Downloads Pictures redhat1 sample   test10   test9

[root@server ~]# **rm -fv test{8..10}**   → *Removing Sequence files without prompt*

removed 'test8'

removed 'test9'

removed 'test10'

[root@server ~]# **ls**

anaconda-ks.cfg Documents Music   Public 'rhcsa rhce' Templates

Desktop   Downloads Pictures redhat1 sample   Videos

-I → Gives single prompt if removing more than 3 files

[root@server ~]# touch apple{1..10}

[root@server ~]# ls

anaconda-ks.cfg apple2 apple5 apple8 Documents Pictures 'rhcsa rhce' Videos

apple1   apple3 apple6 apple9 Downloads Public   sample

apple10   apple4 apple7 Desktop Music   redhat1 Templates

[root@server ~]# **rm -Iv apple{1..3}**   → *no prompt if removing 3 or less than 3 files*

<mark>removed 'apple1'</mark>

<mark>removed 'apple2'</mark>

<mark>removed 'apple3'</mark>

[root@server ~]# **rm -Iv apple{4..10}**

rm: remove 7 arguments? <mark>y</mark>

removed 'apple4'

removed 'apple5'

removed 'apple6'

removed 'apple7'

removed 'apple8'

removed 'apple9'

removed 'apple10'

[root@server ~]# ls

anaconda-ks.cfg Documents Music   Public 'rhcsa rhce' Templates

Desktop   Downloads Pictures redhat1 sample   Videos

[root@server ~]# ls /

afs **centos** dev   dir3 etc kali media proc root srv   tmp web.sh

bin data dhparams.pem dir4 grras lib mnt red   run sys   usr

boot data1 dir2   dir5 home lib64 opt redhat sbin systemdata var

 [root@server ~]# **ls /centos/**

 [root@server ~]# touch   /centos/{abc{1..3}.txt,apple{1..3},class.txt,sample,red,rhel}

[root@server ~]# ls /centos/

abc1.txt abc2.txt abc3.txt apple1 apple2 apple3 class.txt red rhel sample

Remove .txt   files

 [root@server ~]# **rm   -v   /centos/*.txt**

rm: remove regular empty file '/centos/abc1.txt'? y

removed '/centos/abc1.txt'

rm: remove regular empty file '/centos/abc2.txt'? y

removed '/centos/abc2.txt'

rm: remove regular empty file '/centos/abc3.txt'? y

removed '/centos/abc3.txt'

rm: remove regular empty file '/centos/class.txt'? y

removed '/centos/class.txt'

 [root@server ~]# ls /centos/

apple1 apple2 apple3 red rhel sample

---

remove   files   stating   with   "app"

[root@server ~]# **rm -vf /centos/app***

removed '/centos/apple1'

removed '/centos/apple2'

removed '/centos/apple3'

 [root@server ~]# ls /centos/

red rhel sample

----

remove multiple file from   single   location

 [root@server ~]# **rm   -v   /centos/{red,rhel}**

rm: remove regular empty file '/centos/red'? y

removed '/centos/red'

rm: remove regular empty file '/centos/rhel'? y

removed '/centos/rhel'

 [root@server ~]# ls /centos/

sample

Remove all   files from   /centos   dir

 [root@server ~]# ls /centos/

sample

 [root@server ~]# touch   /centos/test{1..10}

[root@server ~]# ls /centos/

sample test1 test10 test2 test3 test4 test5 test6 test7 test8 test9

 [root@server ~]# **rm   -vf /centos/***

removed '/centos/sample'

removed '/centos/test1'

removed '/centos/test10'

removed '/centos/test2'

removed '/centos/test3'

removed '/centos/test4'

removed '/centos/test5'

removed '/centos/test6'

removed '/centos/test7'

removed '/centos/test8'

removed '/centos/test9'

[root@server ~]# **ls /centos/**

-d → remove empty directory

[root@server ~]# **rm /centos**

<mark>rm: cannot remove '/centos': Is a directory</mark>

[root@server ~]# **rm -d /centos/**

rm: remove directory '/centos/'? <mark>y</mark>

[root@server ~]# **ls /**

afs data dhparams.pem dir4 grras lib   mnt red   run sys   usr

bin data1 dir2   dir5 home lib64 opt redhat sbin systemdata var

boot dev dir3   etc kali media proc root srv tmp   web.sh

[root@server ~]# ls /systemdata/

rhel

[root@server ~]# **tree /systemdata/**

/systemdata/

└── rhel

   ├── file1

   └── file2

1 directory, 2 files

[root@server ~]# **rm /systemdata/**

[root@server ~]# **rm -dv   /systemdata/**

[root@server ~]# **rm -dv   /systemdata/rhel/**

[root@server ~]# ls /systemdata/rhel/

file1 file2

-r → remove recursively

[root@server ~]# **ls   -rv   /systemdata/rhel/**

file2 file1

[root@server ~]# **rm   -rv   /systemdata/rhel/**

rm: descend into directory '/systemdata/rhel/'? y

rm: remove regular empty file '/systemdata/rhel/file1'? y

removed '/systemdata/rhel/file1'

rm: remove regular empty file '/systemdata/rhel/file2'? y

removed '/systemdata/rhel/file2'

rm: remove directory '/systemdata/rhel/'? y

removed directory '/systemdata/rhel/'

[root@server ~]# **ls   /systemdata/**

[root@server ~]#

[root@server ~]# **tree /systemdata/**

/systemdata/

0 directories, 0 files

[root@server ~]# **mkdir /systemdata/data{1..5}**

```
[root@server ~]# touch   /systemdata/sample{1..5}

[root@server ~]# ls /systemdata/

data1 data2 data3 data4 data5 sample1 sample2 sample3 sample4 sample5


[root@server ~]# rm  -rfv  /systemdata

removed directory '/systemdata/data1'

removed directory '/systemdata/data2'

removed directory '/systemdata/data3'

removed directory '/systemdata/data4'

removed directory '/systemdata/data5'

removed '/systemdata/sample1'

removed '/systemdata/sample2'

removed '/systemdata/sample3'

removed '/systemdata/sample4'

removed '/systemdata/sample5'

removed directory '/systemdata'


[root@server ~]# ls /

afs  data  dhparams.pem dir4  grras lib   mnt  red   run  sys var

bin  data1 dir2      dir5 home  lib64 opt  redhat sbin tmp web.sh

boot dev   dir3      etc  kali  media proc root  srv  usr

               --------------------------------------------------------------------------


[root@server ~]# ls -a

.            .bash_logout   .config    Downloads   .mozilla redhat1     .tcshrc

..           .bash_profile  .cshrc     .lesshst    Music   'rhcsa rhce' Templates

anaconda-ks.cfg .bashrc      Desktop   .linux     Pictures sample      Videos

.bash_history  .cache       Documents .local     Public  .ssh        .viminfo


[root@server ~]# rm  -rv  .linux    → Remove empty  directory

rm: remove directory '.linux'? y
```

removed directory '.linux'

[root@server ~]# **ls -a**

.   .bash_logout   .config   Downloads Music   'rhcsa rhce' Templates

..   .bash_profile .cshrc   .lesshst   Pictures sample   Videos

anaconda-ks.cfg .bashrc   Desktop   .local   Public   .ssh   .viminfo

.bash_history   .cache   Documents .mozilla   redhat1 .tcshrc

                ----

[root@server ~]# **rm   –rv   'rhcsa rhce'**

rm: remove directory 'rhcsa rhce'? y

removed directory 'rhcsa rhce'

[root@server ~]# **ls**

anaconda-ks.cfg Documents Music   Public   sample   Videos

Desktop   Downloads Pictures redhat1 Templates