

1. ls - List Directory Contents:

The `ls` command in Linux is used to list files and directories.

```
ls
```

Common Options:

- `ls -l` → Long format (shows permissions, owner, size, and modification date).
- `ls -a` → Show hidden files (files starting with `.`).
- `ls -lh` → Human-readable sizes (e.g., KB, MB instead of bytes).
- `ls -la` → Combination of `l` and `a`.
- `ls -R` → Recursive listing (includes subdirectories).
- `ls -t` → Sort by modification time (newest first).
- `ls -r` → Reverse sorting order.

Use case of each type:

`ls` :

```
(penny@pennywise) - [~]  
$ ls  
Aliens          Downloads      Templates      neofetch  
'Alive '        FreeStyle     Tor-IP-Changer sshd_config_centos  
Coding          'Kali distro notes' Videos        vmware  
Computer_Network Pictures       'VirtualBox VMs' wallpaper  
Desktop         Public        dark_web  
Documents       Radio_Active  discord.deb
```

`ls -l` :

```

(penny@pennywise) - [~]
$ ls -l
total 99612
drwxrwxr-x 2 penny penny 4096 Feb 13 20:04 Aliens
drwxr-xr-x 2 penny penny 4096 Feb 3 17:39 'Alive '
drwxrwxr-x 6 penny penny 4096 Feb 27 21:20 Coding
drwxrwxr-x 4 penny penny 4096 Feb 7 16:22 Computer_Network
drwxr-xr-x 2 penny penny 4096 Mar 2 12:19 Desktop
drwxr-xr-x 2 penny penny 4096 Feb 3 17:39 Documents
drwxr-xr-x 4 penny penny 4096 Mar 3 19:11 Downloads
drwxrwxr-x 3 penny penny 4096 Feb 19 16:35 FreeStyle
drwxrwxr-x 2 penny penny 4096 Feb 14 20:40 'Kali distro notes'
drwxr-xr-x 4 penny penny 4096 Mar 2 14:03 Pictures
drwxr-xr-x 2 penny penny 4096 Feb 3 17:39 Public
drwxrwxr-x 2 penny penny 4096 Feb 14 20:37 Radio_Active
drwxr-xr-x 2 penny penny 4096 Feb 20 09:50 Templates
drwxrwxr-x 4 penny penny 4096 Feb 27 08:56 Tor-IP-Changer
drwxr-xr-x 2 penny penny 4096 Feb 3 17:39 Videos
drwxrwxr-x 3 penny penny 4096 Mar 2 09:17 'VirtualBox VMs'
drwxr-xr-x 2 root root 4096 Feb 8 20:29 dark_web
-rw-rw-r-- 1 penny penny 101910160 Feb 18 23:38 discord.deb
drwxrwxr-x 4 penny penny 4096 Feb 18 13:53 neofetch
-rw-rw-r-- 1 penny penny 3650 Mar 2 09:59 sshd_config_centos
drwxrwxr-x 3 penny penny 4096 Mar 2 09:17 vmware
drwxrwxr-x 2 penny penny 4096 Feb 17 16:28 wallpaper

```

ls -a :

```
(penny@pennywise) - [~]
$ ls -a
```

.	.profile	Aliens
..	.python_history	'Alive '
.BurpSuite	.redhat	Coding
.ICEauthority	.rustup	Computer_Network
.bash_logout	.ssh	Desktop
.bashrc	.sudo_as_admin_successful	Documents
.bashrc.original	.swp	Downloads
.cache	.swt	FreeStyle
.cargo	.themes	'Kali distro notes'
.config	.viminfo	Pictures
.dotnet	.vmware	Public
.face	.vscode	Radio_Active
.face.icon	.wget-hsts	Templates
.gnome	.zcompdump-pennywise-5.9	Tor-IP-Changer
.gnupg	.zcompdump-pennywise-5.9.zwc	Videos
.gtkrc-2.0	.zenmap	'VirtualBox VMs'
.icons	.zprofile	dark_web
.java	.zprofile-backup	discord.deb
.local	.zsh_history	neofetch
.mozilla	.zshenv	sshd_config_centos
.npm	.zshrc	vmware
.oh-my-zsh	.zshrc-backup	wallpaper
.pki	.zshrc.pre-oh-my-zsh	

ls -lh

```

(penny@pennywise) - [~]
$ ls -lh
total 98M
drwxrwxr-x 2 penny penny 4.0K Feb 13 20:04 Aliens
drwxr-xr-x 2 penny penny 4.0K Feb  3 17:39 'Alive '
drwxrwxr-x 6 penny penny 4.0K Feb 27 21:20 Coding
drwxrwxr-x 4 penny penny 4.0K Feb  7 16:22 Computer_Network
drwxr-xr-x 2 penny penny 4.0K Mar  2 12:19 Desktop
drwxr-xr-x 2 penny penny 4.0K Feb  3 17:39 Documents
drwxr-xr-x 4 penny penny 4.0K Mar  3 19:11 Downloads
drwxrwxr-x 3 penny penny 4.0K Feb 19 16:35 FreeStyle
drwxrwxr-x 2 penny penny 4.0K Feb 14 20:40 'Kali distro notes'
drwxr-xr-x 4 penny penny 4.0K Mar  2 14:03 Pictures
drwxr-xr-x 2 penny penny 4.0K Feb  3 17:39 Public
drwxrwxr-x 2 penny penny 4.0K Feb 14 20:37 Radio_Active
drwxr-xr-x 2 penny penny 4.0K Feb 20 09:50 Templates
drwxrwxr-x 4 penny penny 4.0K Feb 27 08:56 Tor-IP-Changer
drwxr-xr-x 2 penny penny 4.0K Feb  3 17:39 Videos
drwxrwxr-x 3 penny penny 4.0K Mar  2 09:17 'VirtualBox VMs'
drwxr-xr-x 2 root root 4.0K Feb  8 20:29 dark_web
-rw-rw-r-- 1 penny penny 98M Feb 18 23:38 discord.deb
drwxrwxr-x 4 penny penny 4.0K Feb 18 13:53 neofetch
-rw-rw-r-- 1 penny penny 3.6K Mar  2 09:59 sshd_config_centos
drwxrwxr-x 3 penny penny 4.0K Mar  2 09:17 vmware
drwxrwxr-x 2 penny penny 4.0K Feb 17 16:28 wallpaper

```

ls -la

```

(penny@pennywise) - [~]
$ ls -la
total 100016
drwx----- 44 penny penny 4096 Mar  3 20:34 .
drwxr-xr-x  3 root  root  4096 Feb 23 18:19 ..
drwx-----  8 penny penny 4096 Feb 19 19:57 .BurpSuite
-rw-----  1 penny penny   0 Feb 13 18:09 .ICEauthority
-rw-r--r--  1 penny penny  220 Feb  3 17:37 .bash_logout
-rw-r--r--  1 penny penny 5551 Feb 22 22:19 .bashrc
-rw-r--r--  1 penny penny 3526 Feb  3 17:37 .bashrc.original
drwx----- 29 penny penny 4096 Mar  3 19:13 .cache
drwxrwxr-x  5 penny penny 4096 Feb 22 21:23 .cargo
drwx----- 31 penny penny 4096 Mar  2 18:11 .config
drwxrwxr-x  3 penny penny 4096 Feb  9 00:32 .dotnet
-rw-r--r--  1 penny penny 11759 Feb  3 17:37 .face
lrwxrwxrwx  1 penny penny    5 Feb  3 17:37 .face.icon -> .face
drwx-----  3 penny penny 4096 Feb  4 18:40 .gnome
drwx-----  3 penny penny 4096 Feb 13 18:09 .gnupg
-rw-rw-r--  1 penny penny  294 Feb 21 19:45 .gtkrc-2.0
drwxrwxr-x  5 penny penny 4096 Feb 22 21:36 .icons
drwxr-xr-x  4 penny penny 4096 Feb  3 17:58 .java
drwx-----  5 penny penny 4096 Feb 22 22:19 .local
drwx-----  4 penny penny 4096 Feb  3 17:47 .mozilla
drwxrwxr-x  4 penny penny 4096 Feb 22 21:44 .npm
drwxr-xr-x 13 penny penny 4096 Feb 22 19:16 .oh-my-zsh
drwx-----  3 penny penny 4096 Feb  4 10:52 .pki
-rw-r--r--  1 penny penny  807 Feb 22 22:19 .profile
-rw-----  1 penny penny  304 Feb 17 14:32 .python_history
drwxrwxr-x  2 penny penny 4096 Feb 25 19:18 .redhat
drwxrwxr-x  6 penny penny 4096 Feb 22 21:18 .rustup
drwx-----  2 penny penny 4096 Feb 20 14:54 .ssh
-rw-r--r--  1 penny penny   0 Feb  3 17:59 .sudo_as_admin_successful
-rw-----  1 penny penny 12288 Feb 22 11:53 .swp
drwxrwxr-x  3 penny penny 4096 Feb 28 20:36 .swt
drwxrwxr-x  4 penny penny 4096 Feb 22 21:36 .themes
-rw-----  1 penny penny 10893 Mar  1 21:07 .viminfo
drwxr-xr-x  2 penny penny 4096 Mar  2 09:16 .vmware
drwxrwxr-x  4 penny penny 4096 Feb  9 00:02 .vscode

```

ls -R

```

(penny@pennywise) - [~]
$ ls -R
.:
Aliens          Downloads      Templates      neofetch
'Alive '        FreeStyle     Tor-IP-Changer sshd_config_centos
Coding          'Kali distro notes' Videos        vmware
Computer_Network Pictures       'VirtualBox VMs' wallpaper
Desktop         Public        dark_web
Documents       Radio_Active  discord.deb

./Aliens:
VMware-Workstation-Full-17.6.2-24409262.x86_64.bundle
code_1.97.0-1738713410_amd64.deb
discord-0.0.84.deb
google-chrome-stable_current_amd64.deb
virtualbox-7.1_7.1.6-167084~Debian~bullseye_amd64.deb

'./Alive ':

./Coding:
Bash Java Python cpp

./Coding/Bash:
auto_exe ifStatements inpt input_output loops myscript.sh

./Coding/Java:
Array1.java          Funciton1.java      SecondLargest.java
Array2.java          Function2.java      UserInputArray.java
Array2D.java         Function3.java      comparions_operator.java
Array3.java          Function4.java      input.java
Array4.java          Function5.java      loopsExercise.java
ArrayFill.java       Function6.java      p1.java
ArraySearching.java  Function7.java      p2.java
ArraySorting.java    Functions.java      p3.java
Arrays.java          Hello.java          p4.java
ConditionalStatement.java Loop.java           p5.java

```

this is the command used for all directory and subdirectories.

ls -t

```

(penny@pennywise) - [~]
$ ls -t
Downloads          Coding            wallpaper        'Alive '
Pictures           Tor-IP-Changer  'Kali distro notes' Documents
Desktop           Templates       Radio_Active     Public
sshd_config_centos FreeStyle        Aliens           Videos
vmware            discord.deb     dark_web
'VirtualBox VMs'  neofetch       Computer_Network

```

ls -r

```
(penny@pennywise) - [~]  
$ ls -r  
wallpaper      'VirtualBox VMs'  Pictures          Computer_Network  
vmware         Videos           'Kali distro notes' Coding  
sshd_config_centos Tor-IP-Changer    FreeStyle         'Alive '  
neofetch       Templates         Downloads         Aliens  
discord.deb    Radio_Active      Documents  
dark_web       Public            Desktop
```

ls -F

- For a more detailed explanation :

https://youtu.be/43hcVCt_GMc?si=eUUtlRHl3ucXPLk

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