

Introduction to

Linux Commands

Unlock the Power of Big Data: A brief introduction to commonly used Linux commands



pwd

Syntax: pwd

Description: *pwd* can be read as "print working directory". It writes the full path name of the current working directory to the standard output.

More info: https://linuxcommand.org/lc3_man_pages/pwdh.html

Output:

[itv006907@g02 ~]\$ pwd /home/itv006907

Note: Linux commands are case sensitive. It's **pwd**, and not Pwd or PWD.



info

Syntax: info <command>

Description: It prints the detailed information about a command.

Output:

[itv006907@g02 ~]\$ info pwd

Note – Press 'Q' to exit the information window



whoami

Syntax: whoami

Description: whoami can be read as "Who am I?" . It shows the current logged in user name.

More info: https://linuxcommand.org/lc3_man_pages/whoami1.html

Output:

[itv006907@g02 ~]\$ whoami itv006907



clear

Syntax: clear

Description: It clears the content of the terminal . We can also use `CTRL + L' to clear the terminal.

Output:

[itv006907@g02 ~]\$ clear



history

Syntax: history

Description: It displays or manipulates the history of the commands executed by the user.

More info - https://linuxcommand.org/lc3_man_pages/historyh.html

Output: 'history n' : It display last n history lines

```
[itv006907@g02 ~]$ history 5

77 pwd

78 hadoop fs -ls "/users" | grep itv006907

79 cat > orders.txt

80 cat orders.txt

81 history 5
```



date

Syntax: date

Description: It prints or sets the system date and time.

More info - https://linuxcommand.org/lc3_man_pages/date1.html

Output:

[itv006907@g02 ~]\$ date Wed Dec 20 09:25:56 EST 2023



cal

Syntax: cal

Description: It displays a calendar.

More info - https://linuxcommand.org/lc3_man_pages/cal1.html

```
[itv006907@g02 ~]$ cal

December 2023

Su Mo Tu We Th Fr Sa

1 2

3 4 5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21 22 23

24 25 26 27 28 29 30

31
```



wc

Syntax: wc

Description: It prints the number of bytes, words and lines in a file

More info - https://linuxcommand.org/lc3_man_pages/wc1.html

Output:

[itv006907@g02 ~]\$ wc orders.txt 2 3 12 orders.txt



ls

Syntax: Is

Description: It displays or lists the content of the current directory

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

```
[itv006907@g02 ~]$ ls
file2
                                   Practice
                                                                            Understanding-dataframes.ipynb
                                                                                                                W6-Read-modes.ipynb
file8
                                   spark-core-101.ipynb
                                                                            Untitled.ipynb
                                                                                                                W6-Schema-enforcement.ipynb
Introducing-spark-sql.ipynb
                                   spark-core-102.ipynb
                                                                            Use-case-dataframes-sparkSql.ipynb
                                                                                                                w6-spark-session.ipynb
LendingClub 14 S1.ipynb
                                   spark-core-103.ipynb
                                                                            W12-Internals-of-groupBy.ipynb
                                                                                                                W7-Cache-persist.ipynb
LendingClub 14 S2 DP.ipynb
                                   spark-core-104.ipynb
                                                                            W6-assignment.ipynb
                                                                                                                W8-Accessing-columns.ipynb
LendingClub 14 S3.ipynb
                                   spark-core-105.ipynb
                                                                            W6-convert-RDD-to-Dataframe.ipynb
                                                                                                                W8-Analysing-log-files.ipynb
LendingClub 14 S5 S6.ipynb
                                   spark-core-106.ipynb
                                                                            W6-Creating-dataframes.ipynb
                                                                                                                W8-Caching.ipynb
LendingClub 14 S7.ipynb
                                   spark-core-107.ipynb
                                                                            W6-Dataframe-transformation.ipynb
                                                                                                                W9.ipynb
Managed-External.ipynb
                                   spark-core-108.ipynb
                                                                            W6-How-to-deal-with-datatype.ipynb
                                                                                                                week4-revision.ipynb
More-about-dataframe-reader.ipynb
                                  spark-core-111.ipynb
                                                                            W6-Nested-schema.ipvnb
                                                                                                                week-5-assignment.ipvnb
                                   Spark SQL-Managed-External-tables.ipynb W6-practice.ipynb
orders.txt
```



1s -1

Syntax: Is-I

Description: It uses a long listing format to display the content of the current directory. It shows information about file type and permissions, file size, number of link, owner and group etc.

More info: https://linuxcommand.org/lc3_man_pages/ls1.html



ls -lr

Syntax: Is -Ir

Description: It uses a long listing format to display the content of the current directory, arranged in descending alphabetical order.

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

```
[itv006907@g02 ~]$ ls -lr
total 1668
rw-r--r-- 1 itv006907 students 26109 May 29 2023 week-5-assignment.ipynb-
rw-r--r-- 1 itv006907 students 38338 May 16 2023 week4-revision.ipynb-
-rw-r--r-- 1 itv006907 students 56467 Jun 28 05:50 W9.ipynb
    --r-- 1 itv006907 students 40163 Jun 9 2023 W8-Caching.ipynb
rw-r--r-- 1 itv006907 students 19447 Jun 15 2023 W8-Analysing-log-files.ipynb-
-rw-r--r-- 1 itv006907 students 11555 Jun 15 2023 W8-Accessing-columns.ipynb
    --r-- 1 itv006907 students 8271 Jun 30 01:36 W6-Schema-enforcement.ipynb
rw-r--r-- 1 itv006907 students 26869 May 23 2023 W6-Read-modes.ipynb-
    --r-- 1 itv006907 students 6652 Jul 3 01:08 W6-practice.ipynb
rw-r--r-- 1 itv006907 students 4665 May 24 2023 W6-Nested-schema.ipynb-
rw-r--r- 1 itv006907 students 40005 May 23 2023 W6-How-to-deal-with-datatype.ipynb-
rw-r--r-- 1 itv006907 students 41205 May 25 2023 W6-Dataframe-transformation.ipynb-
```



ls -lt

Syntax: Is-It

Description: It uses a long listing format to display the files of the current directory, sorted by modification time in descending order (newest files first).

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

```
[itv006907@g02 ~]$ ls -lt
total 1668
-rw-r--r-- 1 itv006907 students
                                   12 Dec 15 08:23 orders.txt
-rw-r--r-- 1 itv006907 students
                                   48 Dec 15 06:19 file8
-rw-r--r-- 1 itv006907 students
                                    0 Dec 15 04:08 file2
drwxr-xr-x 3 itv006907 students 4096 Dec 14 08:01 Practice
-rw-r-- 1 itv006907 students 20474 Dec 12 00:14 W12-Internals-of-groupBy.ipynb
-rw-r--r-- 1 itv006907 students 61515 Nov 10 01:39 LendingClub_14_S2_DP.ipynb
-rw-r--r- 1 itv006907 students 38136 Nov 10 01:39 LendingClub_14_S7.ipynb
-rw-r--r 1 itv006907 students 36371 Nov 10 01:39 LendingClub_14_S1.ipynb
-rw-r--r-- 1 itv006907 students 31742 Nov 10 01:39 LendingClub 14 S3.ipynb
-rw-r--r-- 1 itv006907 students 34157 Nov 10 01:39 LendingClub 14 S5 S6.ipynb
-rw-r--r-- 1 itv006907 students 4854 Jul 14 22:58 Untitled.ipynb
```



ls -ltr

Syntax: Is -ltr

Description: It uses a long listing format to display the content of the current directory, sorted by modification time in ascending order (oldest files first).

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

```
[itv006907@g02 ~]$ ls -ltr
total 1668
-rw-r--r- 1 itv006907 students 36123 May 5 2023 spark-core-101.ipynb
-rw-r--r- 1 itv006907 students 3676 May 5 2023 spark-core-102.ipynb
-rw-r--r-- 1 itv006907 students 111276 May 5 2023 spark-core-103.ipynb
-rw-r--r- 1 itv006907 students 3833 May 5 2023 spark-core-104.ipynb
-rw-r--r- 1 itv006907 students 492658 May 5 2023 spark-core-105.ipynb
-rw-r--r-- 1 itv006907 students 39985 May 5 2023 spark-core-106.ipynb
-rw-r--r-- 1 itv006907 students 46861 May 5 2023 spark-core-107.ipynb
-rw-r--r-- 1 itv006907 students 3497 May 5 2023 spark-core-108.ipynb
-rw-r--r-- 1 itv006907 students 5967 May 5 2023 spark-core-111.ipynb
-rw-r--r-- 1 itv006907 students 10281 May 8 2023 Understanding-dataframes.ipynb
-rw-r--r-- 1 itv006907 students 23427 May 8 2023 More-about-dataframe-reader.ipynb
-rw-r--r-- 1 itv006907 students 228983 May 8 2023 Introducing-spark-sql.ipynb
-rw-r--r-- 1 itv006907 students 1223 May 8 2023 Spark SQL-Managed-External-tables.ipynb
-rw-r--r- 1 itv006907 students 16261 May 8 2023 Managed-External.ipynb
-rw-r--r-- 1 itv006907 students 14057 May 9 2023 Use-case-dataframes-sparkSql.ipynb
```



ls -a

Syntax: Is -a

Description: It uses a long listing format to display the content of the current directory, including the hidden ones.

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

Output:

```
[itv006907@g02 ~]$ ls -a
                             LendingClub 14 S2 DP.ipynb
                             LendingClub 14 S3.ipynb
                             LendingClub 14 S5 S6.ipynb
.bash history
                             LendingClub 14 S7.ipynb
.bash logout
.bash profile
                             .local
.bashrc
                             Managed-External.ipynb
                             More-about-dataframe-reader.
.cache
.config
                             .mozilla
file2
                             orders.txt
file8
                             Practice
Introducing-spark-sql.ipynb spark-core-101.ipynb
.ipynb checkpoints
                             spark-core-102.ipynb
.ipython
                             spark-core-103.ipynb
                             spark-core-104.ipynb
.jupyter
```

Note – note the files starting with (.) character, these are hidden files



ls -R

Syntax: Is -R

Description: It prints the files and directories recursively, that means it shows the contents of the current directory, also includes the contents of all subdirectories and their subdirectories, and so on.

More info: https://linuxcommand.org/lc3_man_pages/ls1.html

Output:

```
[itv006907@g02 ~]$ ls -R
. :
file2
                                   Practice
                                                                            Understanding-dataframes.ipynb
                                                                                                                W6-Read-modes.ipynb
                                                                                                                W6-Schema-enforcement.ipynb
file8
                                   spark-core-101.ipynb
                                                                            Untitled.ipynb
Introducing-spark-sql.ipynb
                                                                            Use-case-dataframes-sparkSql.ipynb
                                                                                                                w6-spark-session.ipynb
                                   spark-core-102.ipynb
                                                                            W12-Internals-of-groupBy.ipynb
                                                                                                                W7-Cache-persist.ipynb
LendingClub 14 S1.ipynb
                                   spark-core-103.ipynb
                                                                                                                W8-Accessing-columns.ipynb
LendingClub 14 S2 DP.ipynb
                                                                            W6-assignment.ipynb
                                   spark-core-104.ipynb
LendingClub 14 S3.ipynb
                                                                            W6-convert-RDD-to-Dataframe.ipynb
                                                                                                                W8-Analysing-log-files.ipynb
                                   spark-core-105.ipynb
LendingClub 14 S5 S6.ipynb
                                   spark-core-106.ipynb
                                                                            W6-Creating-dataframes.ipynb
                                                                                                                W8-Caching.ipynb
LendingClub 14 S7.ipynb
                                   spark-core-107.ipynb
                                                                            W6-Dataframe-transformation.ipynb
                                                                                                                W9.ipynb
Managed-External.ipynb
                                   spark-core-108.ipynb
                                                                            W6-How-to-deal-with-datatype.ipynb
                                                                                                                week4-revision.ipynb
                                                                                                                week-5-assignment.ipynb
More-about-dataframe-reader.ipynb
                                  spark-core-111.ipynb
                                                                            W6-Nested-schema.ipvnb
                                   Spark SQL-Managed-External-tables.ipynb W6-practice.ipynb
orders.txt
./Practice:
Customer wise total purchase.ipynb Spark-core.ipynb Spark-join.ipynb Untitled.ipynb
```

Note – note the files within 'Practice' folder, practice folder content are shown recursively



touch

Syntax: touch <filename>

Description: It is used to update the access and modification timestamps of a file or create an empty file if it does not exist.

More info: https://linuxcommand.org/lc3_man_pages/touch1.html

Output:

first time 'touch myfile' command creates a new blank file 'myfile'

Second time onwards 'touch myfile' updates the timestamp of the file 'myfile'



chmod

Syntax: chmod <permission_set> <filename>

Description: It changes the permissions of a file or directory.

More info: https://linuxcommand.org/lc3_man_pages/chmod1.html

Output:

'myfile' file has read and write permission for owner, but only read permission for groups and others

Lets change the owner permission to read-write-execute, and group's and others' permission to read-write

```
[itv006907@g02 ~]$ chmod 766 myfile
```

Note - read (4), write(2), execute(1)



mkdir

Syntax: mkdir <folder1> <folder2>...

Description: It creates a directory.

More info: https://linuxcommand.org/lc3_man_pages/mkdir1.html

Output:

[itv006907@g02 ~]\$ mkdir my_folder1

```
[itv006907@g02 ~]$ ls -lt
total 1672
drwxr-xr-x 2 itv006907 students 4096 Dec 17 04:45 my_folder1
```



rmdir

Syntax : rmdir <folder name>

Description: It deletes empty directories.

More info: https://linuxcommand.org/lc3_man_pages/rmdir1.html

Output:

[itv006907@g02 ~]\$ rmdir my_folder1



rm

Syntax : rm <filename>

Description: It deletes or removes files.

More info: https://linuxcommand.org/lc3_man_pages/rmdir1.html

Output:

Lets delete the 'test_file'

```
[itv006907@g02 ~]$ rm test_file
```

'test_file' got deleted

Note - By default, rm does not remove directories. Use the --recursive (-r or -R) option to remove each listed directory, too, along with all of its contents.



du

Syntax: du

Description: It shows disk usage on file systems

More info: https://linuxcommand.org/lc3_man_pages/du1.html

Output:

```
[itv006907@g02 ~]$ du -h
156K
        ./.local/share/jupyter/runtime
        ./.local/share/jupyter/nbconvert/templates
4.0K
        ./.local/share/jupyter/nbconvert
8.0K
        ./.local/share/jupyter
364K
        ./.local/share
368K
372K
        ./.local
        ./.ipynb_checkpoints
628K
        ./my_folder3
4.0K
        ./.config/abrt
4.0K
8.0K
        ./.config
        ./my_folder2/di11
8.0K
        ./my folder2/folder 90
4.0K
        ./my_folder2/di22
4.0K
        ./my_folder2
```

Note: -h, --human-readable print sizes in human readable format (e.g., 1K 234M 2G)



Syntax:

vi <filename> — Open or edit a file.

i — Switch to Insert mode.

Esc — Switch to Command mode.

SHIFT +:

:w — Save and continue editing.

:wq or ZZ — Save and quit/exit vi.

Output:

1. Type vi my_file

[itv006907@g02 ~]\$ vi my_file

```
~
~
~
~
~
~
~
~
"my_file" [New File]
```



vi (continues..)

2. Press 'I' and switch to insert mode

3. Press 'Esc'

5. Press 'wq'



cat

Syntax: cat

Description: cat word comes from the word concatenate. This command concatenates all files and prints the output to the standard output

More info: https://linuxcommand.org/lc3_man_pages/cat1.html

Output:

```
[itv006907@g02 ~]$ cat my_file
Hey
There
How are you doing?
```

The above command shows the content of the file 'my_file'

```
[itv006907@g02 ~]$ cat my_file file8 >> merged_data
```

The above command merges the content of the files 'my_file' and 'file8' and creates a new file 'merged_data'



head

Syntax: head

Description: It prints the first part (10 lines by default) of FILE

More info: https://linuxcommand.org/lc3_man_pages/head1.html

Output:

You can print first n lines of a file



tail

Syntax: tail

Description: It prints the last part (10 lines by default) of FILE

More info: https://linuxcommand.org/lc3_man_pages/tail1.html

```
[itv006907@g02 ~]$ tail customer_data
     (107, "Chris Evans", "System Administrator", "IT", 85000),
     (108, "Melissa Miller", "Sales Representative", "Sales", 90000),
     (109, "David Wilson", "Graphic Designer", "Creative", 80000),
     (110, "Laura Taylor", "Customer Support Specialist", "Customer Support", 75000),
     (111, "Brian Lee", "Network Engineer", "IT", 95000),
     (112, "Kimberly Turner", "Quality Assurance Analyst", "Quality Assurance", 90000),
     (113, "Daniel Clark", "Product Manager", "Product Management", 110000),
     (114, "Olivia Davis", "Research Scientist", "Research and Development", 100000),
     (115, "William Moore", "Operations Manager", "Operations", 105000)
```



cp

Syntax: cp

Description: It copies a file or directory

More info: https://linuxcommand.org/lc3_man_pages/cp1.html

Output:

[itv006907@g02 ~]\$ cp my_file my_file_copy

Above command creates a copy 'my_file_copy' of file 'my_file '

[itv006907@g02 ~]\$ cp my_file_copy my_directory

Above command copies the file 'my_file_copy' to the directory 'my_directory'

[itv006907@g02 ~]\$ cp -R my_directory dir4

Above command recursively copies the content of the directory 'my_directory' to the directory 'dir4'



mv

Syntax: mv

Description: It moves files or rename files

More info: https://linuxcommand.org/lc3_man_pages/mv1.html

Output:

[itv006907@g02 ~]\$ mv my_file_copy data1

The above command renames the file 'my_file_copy' to 'data1'

[itv006907@g02 ~]\$ mv data1 dir4

The above command moves (cut+paste) the file 'data1' to the folder 'dir4'



cd

Syntax: cd

Description: It changes the shell working directory

More info: https://linuxcommand.org/lc3_man_pages/cdh.html

Output:

```
[itv006907@g02 ~]$ cd dir4/dir2
```

The above command changes the present working directory to dir2 which is inside dir4

```
[itv006907@g02 ~]$ pwd
/home/itv006907
[itv006907@g02 ~]$ cd dir4/dir2
[itv006907@g02 dir2]$ pwd
/home/itv006907/dir4/dir2
```



cd /

Syntax: cd /

Description: It changes the shell working directory to the *root* directory

More info: https://linuxcommand.org/lc3_man_pages/cdh.html

Output:

```
[itv006907@g02 ~]$ cd /
```

Above command changes the shell working directory to the *root* directory

```
[itv006907@g02 ~]$ pwd
/home/itv006907
[itv006907@g02 ~]$ cd /
[itv006907@g02 /]$ pwd
/
```



cd ~

Syntax: cd ~

Description: It changes the shell working directory to the *home* directory

More info: https://linuxcommand.org/lc3_man_pages/cdh.html

Output:

```
[itv006907@g02 /]$ cd ~
```

Above command changes the shell working directory to the *home* directory

```
[itv006907@g02 /]$ pwd
/
[itv006907@g02 /]$ cd ~
[itv006907@g02 ~]$ pwd
/home/itv006907
```



cd..

Syntax: cd ..

Description: It changes the shell working directory to the *parent* directory

More info: https://linuxcommand.org/lc3_man_pages/cdh.html

Output:

```
[itv006907@g02 ~]$ cd ..
```

Above command changes the shell working directory to the parent directory

```
[itv006907@g02 /]$ pwd
/
[itv006907@g02 /]$ cd ~
[itv006907@g02 ~]$ pwd
/home/itv006907
```

cd ../.. It will move up two levels in the directory hierarchy



cd -

Syntax: cd -

Description: It changes the shell working directory to the *previous* directory

More info: https://linuxcommand.org/lc3_man_pages/cdh.html

Output:

```
[itv006907@g02 home]$ cd -
```

Above command changes the shell working directory to the *previous* directory

```
.
[itv006907@g02 home]$ cd -
/home/itv006907
[itv006907@g02 ~]$ pwd
/home/itv006907
```



cd.

Syntax: cd.

Description: The . (dot) is a reference to the current directory. Therefore, the command cd . doesn't actually change the directory; it simply serves as a no-op (no operation). It's essentially saying "change to the current directory," which has no effect on your current location.

More info : https://linuxcommand.org/lc3_man_pages/cdh.html

```
[itv006907@g02 ~]$ pwd

/home/itv006907

[itv006907@g02 ~]$ cd .

[itv006907@g02 ~]$ pwd

/home/itv006907
```



grep

Syntax: grep

Description: It print lines matching a pattern , or we can simply say , it is used to search texts

More info: https://linuxcommand.org/lc3_man_pages/grep1.html

Output: Say, in the directory '/home/itvoo6907/dir4/dir2', I have a file called 'mycustomers' which has some data including the word 'Ronit'

I will run grep command to do a complete directory search recursively to find the pattern or word, 'Ronit'

grep -r 'Ronit'

```
[itv006907@g02 ~]$ pwd
/home/itv006907
[itv006907@g02 ~]$ grep -r 'Ronit' .
./dir4/dir2/mycustomers:Ronit
```

The above command shows the file where we have the pattern 'Ronit'



exit

Syntax: exit

Description: It is used to exit the shell.

More info: https://linuxcommand.org/lc3_man_pages/exith.html

Output:

[itv006907@g02 ~]\$ exit





Thank You

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