

Tutorial Number: 01

TITLE: Study Of Unix Commands

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ROLLNO: 01

CLASS: C

BRANCH: Computer

BATCH: C1

DATE OF PERFORMANCE: 06/01/2015

1. Change your password to a password you would like to use for the remainder of the semester.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ passwd
Changing password for bhushan.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
(changing password from 0811 to bhushan8)
```

2. Display the system's date.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ date +%D
01/10/15
{bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ date +%F
2015-01-10 }
```

3. Count the number of lines in the /etc/passwd file.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ wc /etc/passwd
37   61 1829 /etc/passwd
```

4. Find out who else is on the system.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ who
bhushan  tty7          2015-01-10 19:42 (:0)
bhushan  pts/0          2015-01-10 20:00 (:0.0)
bhushan  pts/1          2015-01-10 20:01 (:0.0)
```

5. Direct the output of the man pages for the date command to a file named mydate.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ man date >mydate .
```

6. Create a subdirectory called mydir.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ mkdir mydir
```

7. Move the file mydate into the new subdirectory.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ mv mydate mydir/
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ ls
mydate
```

8. Go to the subdirectory mydir and copy the file mydate to a new file called ourdate

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cd mydir/
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ cp mydate ourdate
```

9. List the contents of mydir.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ ls
mydate  ourdate
```

10. Do a long listing on the file ourdate and note the permissions.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ ls -l
total 16
```

```
-rw-rw-r-- 1 bhushan bhushan 6473 Jan 10 20:04 mydate
-rw-rw-r-- 1 bhushan bhushan 6473 Jan 10 20:17 ourdate
```

11. Display the name of the current directory starting from the root.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ pwd
/home/bhushan/mydir
```

12. Move the files in the directory mydir back to the HOME directory.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~/mydir$ mv mydate ourdate ..
```

13. List all the files in your HOME directory.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ ls -a
.                resume.dat.old
..               rss.dat
02_intro_to_emacs  rss.dat.old
127.0.0.1:8000    settings.dat
.adobe           settings.dat.old
.android         share
.appletviewer    .smex-items
.armagetronad    .speech-dispatcher
a.sh             .sqlite_history
a.sh~           .ssh
.aspell.en.prepl .swp
.aspell.en.pws   Templates
backup.emacs.d   .thunderbird
.bash_history    .tor
.bash_logout     Ubuntu One
.bashrc          .vidalia
.BillardGL.conf.v7 Videos
.bloppy          wallpapers
.bluefish        workspace
.cache           .Xauthority
Calibre Library  .Xauthority.0I541W
.cellwriter      .Xauthority.1Q1K4W
.codeblocks      .Xauthority.2GUX2W
.compiz          .Xauthority.20PF3W
.config          .Xauthority.2UYM4W
cookies.txt      .Xauthority.35CN3W
.dbus            .Xauthority.3B492W
Desktop          .Xauthority.3RF21W
dht.dat          .Xauthority.50L01W
dht.dat.old      .Xauthority.5JRG3W
dht_feed.dat     .Xauthority.6CJI4W
dht_feed.dat.old .Xauthority.7ELB3W
.dmrc            .Xauthority.7LJ43W
Documents        .Xauthority.86661W
Downloads        .Xauthority.8V6L2W
.dreamchess      .Xauthority.97B21W
.easystroke      .Xauthority.983J2W
.emacs.d         .Xauthority.9Y0C3W
examples.desktop .Xauthority.ATWL4W
.gconf           .Xauthority.BGTY3W
gedit-3.9.9      .Xauthority.BXBY4W
.git             .Xauthority.CTTG2W
.gitconfig       .Xauthority.D4C41W
.gksu.lock       .Xauthority.D55C2W
.gnome2          .Xauthority.EK5Y4W
.gnome2_private  .Xauthority.EW1H4W
.gnupg           .Xauthority.F39A2W
.gphoto          .Xauthority.FER52W
.gstreamer-0.10 .Xauthority.FJPD3W
.gvfs            .Xauthority.H91B2W
```

hts-cache	.Xauthority.HIUG2W
hts-in_progress.lock	.Xauthority.HMNT4W
hts-log.txt	.Xauthority.KVIR2W
.ICEauthority	.Xauthority.L0EF4W
.icedtea	.Xauthority.LJYL2W
.icons	.Xauthority.NFOP3W
.ido.last	.Xauthority.NN5X2W
install_flash_player_11_linux.x86_64	.Xauthority.055C2W
.IntelliJIdeal3	.Xauthority.OUYK2W
.java	.Xauthority.P0KU2W
.lessht	.Xauthority.QGH23W
libgraph-1.0.2	.Xauthority.RJOW3W
.local	.Xauthority.T0FQ3W
.macromedia	.Xauthority.TIC03W
.mozilla	.Xauthority.T0TZ1W
Music	.Xauthority.TQR02W
mydate	.Xauthority.TXTB3W
mydir	.Xauthority.V67I4W
.nemiver	.Xauthority.VQF73W
NEW	.Xauthority.W7TF4W
.onboard	.Xauthority.WPEJ1W
ourdate	.Xauthority.WTZX3W
Pictures	.Xauthority.XRD51W
.pki	.Xauthority.XW051W
.profile	.Xauthority.Y8JW3W
Public	.xsession-errors
resume.dat	.xsession-errors.old

14. Display the first 5 lines of mydate.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ head mydate -n 5
```

DATE(1)

User Commands

DATE(1)

NAME

15. Display the last 8 lines of mydate.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ tail mydate -n 8
```

info coreutils 'date invocation'

should give you access to the complete manual.

GNU coreutils 8.20

October 2012

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16. Remove the directory mydir.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ rmdir mydir/
```

17. Redirect the output of the long listing of files to a file named list.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ ls -l >list
```

18. Select any 5 capitals of states in India and enter them in a file named capitals1.

Choose 5 more capitals and enter them in a file named capitals2. Choose 5 more capitals and enter them in a file named capitals3. Concatenate all 3 files and redirect the output to a file named capitals.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > capitals1
```

Mumbai

Delhi

Hyderabad

Jaipur

Chennai

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > capitals2
Srinagar
Guwahati
Kolkata
Patna
Chandigarh
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > capitals3
Panaji
Gandhinagar
Shimla
Ranchi
Bengaluru
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat capitals1 capitals2 capitals3
>> capitals
```

19. Concatenate the file capitals2 at the end of file capitals.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat capitals2 >> capitals
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat capitals
```

Mumbai
Delhi
Hyderabad
Jaipur
Chennai
Srinagar
Guwahati
Kolkata
Patna
Chandigarh
Panaji
Gandhinagar
Shimla
Ranchi
Bengaluru
Srinagar
Guwahati
Kolkata
Patna
Chandigarh

20. Redirect the file capitals as an input to the command "wc -l".

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ wc -l < capitals
20
```

21. Give read and write permissions to all users for the file capitals.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ ls -l capitals
-rw-rw-r-- 1 bhushan bhushan 167 Jan 10 23:51 capitals
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ chmod 666 capitals
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ ls -l capitals
-rw-rw-rw- 1 bhushan bhushan 167 Jan 10 23:51 capitals
```

22. Give read permissions only to the owner of the file capitals. Open the file, make

some changes and try to save it. What happens ?

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ chmod 400 capitals
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ ls -l capitals
-r----- 1 bhushan bhushan 167 Jan 10 23:51 capitals
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > capitals
bash: capitals: Permission denied
```

23. Create an alias to concatenate the 3 files capitals1, capitals2, capitals3 and redirect the output to a file named capitals. Activate the alias and make it run.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ alias "bka=cat capitals1 capitals2 capitals3 > capitals"
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ bka
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat capitals
```

Mumbai

Delhi

Hyderabad

Jaipur

Chennai

Srinagar

Guwahati

Kolkata

Patna

Chandigarh

Panaji

Gandhinagar

Shimla

Ranchi

Bengaluru

24. What are the environment variables PATH, HOME and TERM set to on your terminal ?

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ echo $PATH
```

```
/
```

```
usr/lib/lightdm/lightdm:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:
```

```
/bin:/usr/games:/usr/local/games
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ echo $HOME
```

```
/home/bhushan
```

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ echo $TERM
```

```
xterm
```

25. Find out the number of times the string "the" appears in the file mydate.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ grep -c "the" mydate
```

```
20
```

26. Find out the line numbers on which the string "date" exists in mydate.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ grep -n "date" mydate
```

```
6: date - print or set the system date and time
```

```
9: date [OPTION]... [+FORMAT]
```

```
10: date [-u|--utc|--universal] [MMDDhhmm[[CC]YY][.ss]]
```

```
13: Display the current time in the given FORMAT, or set the system date.
```

```
15: -d, --date=STRING
```

```
19: like --date once for each line of DATEFILE
```

```
22: output date/time in ISO 8601 format. TIMESPEC='date' for
```

```
date
```

```
24: date and time to the indicated precision.
```

```
30: output date and time in RFC 2822 format. Example: Mon, 07
```

```
Aug
```

```
34: output date and time in RFC 3339 format. TIMESPEC='date',
```

```
'sec-
```

```
35: onds', or 'ns' for date and time to the indicated
```

```
precision.
```

```
62: %C locale's date and time (e.g., Thu Mar 3 23:05:25 2005)
```

```
68: %D date; same as %m/%d/%y
```

```
72: %F full date; same as %Y-%m-%d
```

```
124: %x locale's date representation (e.g., 12/31/99)
```

```
143: By default, date pads numeric fields with zeroes. The following
```

```

162:      Convert seconds since the epoch (1970-01-01 UTC) to a date
164:      $ date --date='@2147483647'
168:      $ TZ='America/Los_Angeles' date
172:      $ date --date='TZ="America/Los_Angeles" 09:00 next Fri'
175:      The --date=STRING is a mostly free format human readable date
string
177:      even "next Thursday". A date string may contain items indicating
cal-
178:      endar date, time of day, time zone, day of week, relative time,
rela-
179:      tive date, and numbers. An empty string indicates the beginning of
the
180:      day. The date string format is more complex than is easily
documented
187:      Report date bugs to bug-coreutils@gnu.org
190:      Report date translation bugs to <http://translationproject.org/team/>
199:      The full documentation for date is maintained as a Texinfo manual.
If
200:      the info and date programs are properly installed at your site,
the
203:      info coreutils 'date invocation'

```

27. Print all lines of mydate except those that have the letter "i" in them.

```

=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ grep -v "i" mydate
DATE(1)                                User Commands                                DATE(1)

```

NAME

SYNOPSIS

```
date [OPTION]... [+FORMAT]
```

DESCRIPTION

-d, --date=STRING

-r, --reference=FILE

-R, --rfc-2822
2006 12:34:56 -0600

--rfc-3339=TIMESPEC
2006-08-07 12:34:56-06:00

-s, --set=STRING

FORMAT controls the output. Interpreted sequences are:

%A locale's full weekday name (e.g., Sunday)

%B locale's full month name (e.g., January)

%d	day of month (e.g., 01)
%D	date; same as %m/%d/%y
%e	day of month, space padded; same as %_d
%F	full date; same as %Y-%m-%d
%h	same as %b
%H	hour (00..23)
%I	hour (01..12)
%j	day of year (001..366)
%k	hour, space padded (0..23); same as %_H
%l	hour, space padded (1..12); same as %_I
%m	month (01..12)
%N	nanoseconds (000000000..999999999)
%S	second (00..60)
%t	a tab
%Y	year
	+05:30)

EXAMPLES

```
$ date --date='@2147483647'
```

DATE STRING

such as "Sun, 29 Feb 2004 16:21:42 -0800" or "2004-02-29 16:21:42" or

AUTHOR

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SEE ALSO

command

28. List 5 states in north east India in a file mystates. List their corresponding capitals in a file mycapitals. Use the paste command to join the 2 files.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > mystates
```

Assam

Tripura

Mizoram

Sikkim

Nagaland

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cat > mycapitals
```

Guwahati

Agartala

Aizawl

Gangtok

Kohima

```
bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ paste mystates mycapitals
```

Assam Guwahati

Tripura Agartala

Mizoram Aizawl

Sikkim Gangtok

Nagaland Kohima

29. Use the cut command to print the 1st and 3rd columns of the /etc/passwd file for all students in this class.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ cut -c 1,3 /etc/passwd
```

ro

de

bn

ss

sn

gm

mn

l:

mi

nw

uc

po
ww
bc
ls
ic
ga
nb
lb
ss
ms
aa
ub
ds
wo
kr
rk
se
lg
aa
cl
pl
hl
sn
bu
tj
db

30. Count the number of people logged in and also trap the users in a file using the tee command.

```
=> bhushan@bhushan-HP-Pavilion-g6-Notebook-PC:~$ who | wc -l | tee count
3
```