**Linux df Command Examples**

df command in Linux provides disk space usage information of your file systems. Even if you already know about this command, probably one of the examples mentioned below might be new to you.  
  
A sample output from df command is as follows:

$ df

Filesystem 1K-blocks Used Available Use% Mounted on

/dev/sda1 132239776 6210884 119311504 5% /

tmpfs 4021876 0 4021876 0% /dev/shm

/dev/sdb2 30969600 117740 29278696 1% /home/oracle

/dev/sdc1 576310180 71232 546964104 1% /home/data

So we see that df gives some valuable information on the file systems, their mount points, their memory usage etc.

**1. Display Information of all the File Systems**

If the disk usage of all the file systems is required then use ‘-a’ option:

$ df -a

Filesystem 1K-blocks Used Available Use% Mounted on

/dev/sda1 132239776 6210892 119311496 5% /

proc 0 0 0 - /proc

sysfs 0 0 0 - /sys

devpts 0 0 0 - /dev/pts

tmpfs 4021876 0 4021876 0% /dev/shm

none 0 0 0 - /proc/sys/fs/binfmt\_misc

/dev/sdb2 30969600 117740 29278696 1% /home/oracle

/dev/sdc1 576310180 71232 546964104 1% /home/data

So we see that in the output, details of all the file systems and their memory usage is there.

**2. Specify the Memory Block Size**

If you see the output in point 1 above, the second column gives the memory of file system in memory blocks of 1k. df command provides an option through which we can change the size of memory block in the output. Use option -B for this:

$ df -B 100

Filesystem 100B-blocks Used Available Use% Mounted on

/dev/sda1 1354135307 63599535 1221749720 5% /

tmpfs 41184011 0 41184011 0% /dev/shm

/dev/sdb2 317128704 1205658 299813848 1% /home/oracle

/dev/sdc1 5901416244 729416 5600912425 1% /home/data

So you see that we specified a block size of 100 and in the output (second column) block size of 100 is displayed.

**3. Print Human Readable Sizes**

We are used to reading the memory in terms of gigabytes, megabytes, etc as its easy to read and remember. df command also provides an option ‘-h’ to print the memory statistics in human readable format.

Option -h stands for “human” readable format. As shown in the output below, G is used for gigabytes and M is used for megabytes.

$ df -h

Filesystem Size Used Avail Use% Mounted on

/dev/sda1 127G 6.0G 114G 5% /

tmpfs 3.9G 0 3.9G 0% /dev/shm

/dev/sdb2 30G 115M 28G 1% /home/oracle

/dev/sdc1 550G 70M 522G 1% /home/data

**4. Display Grand Total in the Output**

Till now we have seen that only disk usage statistics of individual file systems is produced. If we want to display a grand total of every column then we can use the ‘–total’ flag. Here is an example:

$ df -h --total

Filesystem Size Used Avail Use% Mounted on

/dev/sda1 127G 6.0G 114G 5% /

tmpfs 3.9G 0 3.9G 0% /dev/shm

/dev/sdb2 30G 115M 28G 1% /home/oracle

/dev/sdc1 550G 70M 522G 1% /home/data

total 710G 6.2G 668G 1%

So we see that a new row ‘total’ at the end of the output was produced.

**5. List Inodes (Instead of Block Usage)**

Till now we have seen that df prints the second column as total memory blocks. If information in terms of inode is desired then df provides an option ‘-i’ for this.

$ df -i

Filesystem Inodes IUsed IFree IUse% Mounted on

/dev/sda1 8396800 65397 8331403 1% /

tmpfs 1005469 1 1005468 1% /dev/shm

/dev/sdb2 1966560 2517 1964043 1% /home/oracle

/dev/sdc1 36593664 11 36593653 1% /home/data

So we see that information in terms of inodes is displayed.

**6. Print File System Type**

If you wish to print the type of file system in the output, use option ‘-T’.

$ df -T

Filesystem Type 1K-blocks Used Available Use% Mounted on

/dev/sda1 ext4 132239776 6210892 119311496 5% /

tmpfs tmpfs 4021876 0 4021876 0% /dev/shm

/dev/sdb2 ext2 30969600 117740 29278696 1% /home/oracle

/dev/sdc1 ext2 576310180 71232 546964104 1% /home/data

In the above output, we can see all the file systems along with their type is displayed. Apart from using df -T to identify file system, there are 4 other methods to [identify the file system types](http://www.thegeekstuff.com/2011/04/identify-file-system-type/).

**7. Include/Exclude Certain File System Type**

You can also display file systems that belongs to certain type. For example, the following command displays only ext2 file systems. types.

$ df -t ext2

Filesystem 1K-blocks Used Available Use% Mounted on

/dev/sdb2 30969600 117740 29278696 1% /home/oracle

/dev/sdc1 576310180 71232 546964104 1% /home/data

You can also display file systems that doesn’t belongs to certain type. For example, the following command displays all other file systems except ext2. This is exactly opposite to the above -t option.

$ df -x ext2

Filesystem 1K-blocks Used Available Use% Mounted on

/dev/sda1 132239776 6210896 119311492 5% /

tmpfs 4021876 0 4021876 0% /dev/shm

### How much GB of disk space is free on my system?

Use df -h as shown below. Option -h displays the values in human readable format (for example: K for Kb, M for Mb and G for Gb). In the sample output below, / filesystem has 17GB of disk space available and /home/user filesystem has 70GB available.

# df –h

Filesystem Size Used Avail Use% Mounted on

/dev/sda1 64G 44G 17G 73% /

/dev/sdb1 137G 67G 70G 49% /home/user

### What type of filesystem do I have on my system?

Option -T will display the information about the filesystem Type. In this example / and /home/user filesystems are ext2. Option -a will display all the filesystems, including the 0 size special filesystem used by the system.

# df -Tha

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda1 ext2 64G 44G 17G 73% /

/dev/sdb1 ext2 137G 67G 70G 49% /home/user

none proc 0 0 0 - /proc

none sysfs 0 0 0 - /sys

none devpts 0 0 0 - /dev/pts

none tmpfs 2.0G 0 2.0G 0% /dev/shm