

- You can store up to some limit - currently 8GB and 40000 files for UGs and MScs - in your DoC home directory. Limits enforced by the Unix **quota** system.
- Check your quota via: `quota -Q` in a Linux terminal.
- Check your quota at least once a week. When over quota, start freeing up space immediately!
- After a **week over quota**, all writes into your home directory **will fail** until you get under quota. This stops you logging into Linux via the X-Windows GUI - giving the error message `Could not update .ICEauthority`. In this situation, you can still login non-graphically and get under quota:
 - Type Ctrl-Alt-F1 to get a text-mode login prompt.
 - Log in, find where you're using the space (using the commands from the following sections), then clear some space by removing or compressing files until your quota comes under the soft limit.
 - Then log out of the text-mode login (**do not forget this**), press Ctrl-Alt-F8 to return the machine to X-Windows, and login in graphically.

- You may not realise where you are using the space. Many applications store data in files you don't even realise are there - Gnome, web browsers and pulseaudio are notorious culprits. Empty your Gnome trashcan and clear up all the junk on your desktop for a start!
- Then use the following commands to discover which directories or files are taking up most space:

```
cd
/vol/linux/bin/usage
```

The largest files or directories will appear at the end of the list.

- When you found a suspiciously large directory, "drill down" - i.e. repeat the process at lower levels:

```
cd BIGDIR
usage
```

```
cd BIGGEST_SUBDIR_OF_THAT
usage
```

- Drill down until you find a flat directory using an unexpectedly large amount of space - then you might consider deleting some/all of the contents (once you understand what they are).

- Checking which directories contain the most number of files requires using another convenient utility we've written for you:

```
cd
/vol/linux/bin/nfiles
```

This produces a list of sub-directories sorted by number of files contained. The directories with the largest number of files appear at the bottom of the list.

- As with usage, use nfiles to drill down:

```
cd
/vol/linux/bin/nfiles

cd DIR_WITH_MOST_FILES
/vol/linux/bin/nfiles

cd SUBDIR_OF_THAT_WITH_MOST_FILES
/vol/linux/bin/nfiles
```

until you find a flat directory containing an unexpectedly large number of files - then you might consider deleting some/all of the contents (once you understand what the directory and it's files are).

- Other ways of reducing your quota involve removing object files and executables, compressing large files via `bzip`, and tarring up and compressing entire directories via `/vol/linux/bin/tarsetup SUBDIRECTORY`.
- You can store data in a **10TB shared volume** `/vol/bitbucket`. `mkdir /vol/bitbucket/$USER` and work in there - CSG reserve the right to delete any material stored anywhere else in bitbucket. **Note:** bitbucket is **not backed up**.
- Storing your **Dropbox** folder in your home directory is a waste of space. Store such information in bitbucket instead.
- `/data` **on each PC** is another place you may write data temporarily, like bitbucket it is **not backed up**. Unlike bitbucket, `/data` is private to each PC.
- If you really need extra quota to do your individual project (for example), email `help@doc.ic.ac.uk`, estimating **how much** extra you need, **why** you need it, and **how long** you need it for!
- Read `www.doc.ic.ac.uk/csg/guides/file-storage/quota` for even more quota-related tips and tricks.