

Exercises

Misc. file tools

1. Which tool can be used to determine the type of a file?
 2. Use it on the following files/directories and compare the results:
 - a) `/usr/bin/tail`
 - b) `~`
 - c) `/exercises/SRC_HUMAN.fasta`
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Searching

1. Which tool can be used to search for files or directories?
 2. Use it to find all directories in the `/exercises` directory
 3. Search for the file `date` in the `/bin` directory
 4. List those entries in the directory `/bin` that are bigger than 400kBytes
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Misc. terminal

1. Which two tools can be used to redraw/empty the screen?
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Permissions

1. Create a directory called `testpermissions`
2. Change your working directory to `testpermissions`
3. Create a directory called `adir`.
4. Use the command "`which date`" to find out where the `date` program is located.
5. Copy this `date` program into the directory `adir`.
6. Check the permissions of the copied program `date`
7. Change the permissions on `date` to remove the executable permissions.
8. Check the permissions of the program `date`
9. Try running it as `./date` or `adir/date` (depending on your current working directory)
10. Change the permissions back so that the file is executable.
11. Try running it as `./date` or `adir/date` (depending on your current working directory)
12. Copy a textfile from a previous exercise into `adir`, then change the permissions, so you are not allowed to write to it.
13. Then change the permissions so you can't read/cat it either.
14. Change your working directory to `testpermissions`, and then try changing the permissions on `adir`.
15. What are the minimum permissions (on the directory) necessary for you to be able to execute `adir/date`?

Remote access

1. Login to machine `sub-master.embl.de` (using your own username)
 2. Use `exit` to quit the remote shell (Beware to not exit your local shell)
 3. Use `clear` to empty the screen after logout from the remote server
 4. Use the following commands locally as well as on the remote machine to get a feeling for the different machines:
 - a) `hostname`
 - b) `whoami`
 - c) `cat /etc/hostname`
 - d) `ls -la ~/`
 5. Copy the file `/etc/motd` from machine `sub-master.embl.de` into your local home directory
 6. Determine the filetype and the permissions of the file that you just copied
 7. Login to your neighbor's machine (ask him for the hostname) using the username `teach01` and password `teach2007`
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IO and Redirections

1. Use `date` in conjunction with the redirection to insert the current date into the (new) file `current_date` (in your homedirectory).
 2. Inspect the file to make sure it contains (only a single line with) the date.
 3. Use `date` again to append the current date into the same file.
 4. Again, check that this file now contains two lines with dates.
 5. Use `grep` to filter out lines containing the term "TITLE" from all PDB files in the `exercises` directory and use redirection to insert them into a new file `pdb_titles.txt`.
 6. (OPTIONAL) Upon inspection of the file `pdb_titles.txt`, you see that it also contains the names of the files in which the term was found. Use either the `grep` *manpage* or `grep --help` to find out how you can suppress this behaviour. Redo the previous exercise such that the output file `pdb_titles.txt` only contains lines starting with TITLE.
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