

Shell Scripting 2020: Week 1

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1. Directory setup

```
mkdir ShellScripting2019
cd ShellScripting2019
mkdir Week1
cd Week1
```

2. Identity shift

- alias for ls:

```
alias show-files-here=ls
```

- for the definition of cman command I wrote a simple script that opens firefox and a website that contains the manual of linux commands:

```
url='https://man.cx/'
firefox $url$1
```

I set the alias with this command:

```
alias cman=./task2.sh
```

3. (NON)-logins

```
stefvoin@melkki:~/Desktop$ echo $SHELL
/bin/bash
```

4. Enter RSYNC I executed these commands in ssh.

```
# At first the directory is empty
stefvoin@melkki:~/Desktop$ ls ShellScripting2020/Week1/

# When I execute rsync without --stats there is no output, the
  target directory is just populated
stefvoin@melkki:~/Desktop$ rsync --archive /cs/home/tkt_cam/
  public_html/2018/12/01/ ShellScripting2020/Week1/
# The contents show all the files in the given folder to sync
stefvoin@melkki:~/Desktop$ ls ShellScripting2020/Week1/
201812010000.jpg 201812010300.jpg 201812010600.jpg 201812010900.
  jpg 201812011200.jpg 201812011500.jpg 201812011800.jpg
  201812012100.jpg
201812010100.jpg 201812010400.jpg 201812010700.jpg 201812011000.
  jpg 201812011300.jpg 201812011600.jpg 201812011900.jpg
  201812012200.jpg
```

```

201812010200.jpg 201812010500.jpg 201812010800.jpg 201812011100.
jpg 201812011400.jpg 201812011700.jpg 201812012000.jpg
201812012300.jpg

# If I remove one file and execute rsync again, there will be no
# output, the missing file will just be restored
stefvoin@melkki:~/Desktop$ rm ShellScripting2020/Week1/201812010000.
jpg
stefvoin@melkki:~/Desktop$ rsync --archive /cs/home/tkt_cam/
public_html/2018/12/01/ ShellScripting2020/Week1/

# When I execute rsync with --stats it gives me the information on
# the difference between the two directories
stefvoin@melkki:~/Desktop$ rsync --archive /cs/home/tkt_cam/
public_html/2018/12/01/ ShellScripting2020/Week1/ --stats

Number of files: 25 (reg: 24, dir: 1)
Number of created files: 0
Number of deleted files: 0
Number of regular files transferred: 0
Total file size: 9,712,499 bytes
Total transferred file size: 0 bytes
Literal data: 0 bytes
Matched data: 0 bytes
File list size: 0
File list generation time: 0.001 seconds
File list transfer time: 0.000 seconds
Total bytes sent: 555
Total bytes received: 88

sent 555 bytes received 88 bytes 1,286.00 bytes/sec
total size is 9,712,499 speedup is 15,104.98

# If I delete one file and then I restore it with rsync --stats, I
# can see that it tells me the information about the operation
stefvoin@melkki:~/Desktop$ rm ShellScripting2020/Week1/201812010000.
jpg
stefvoin@melkki:~/Desktop$ rsync --archive /cs/home/tkt_cam/
public_html/2018/12/01/ ShellScripting2020/Week1/ --stats

Number of files: 25 (reg: 24, dir: 1)
Number of created files: 1 (reg: 1)
Number of deleted files: 0
Number of regular files transferred: 1
Total file size: 9,712,499 bytes
Total transferred file size: 369,426 bytes
Literal data: 369,426 bytes
Matched data: 0 bytes
File list size: 0
File list generation time: 0.005 seconds
File list transfer time: 0.000 seconds
Total bytes sent: 370,108
Total bytes received: 107

```

```
sent 370,108 bytes   received 107 bytes   740,430.00 bytes/sec
total size is 9,712,499   speedup is 26.23
```

5. Time and Date

This is the command:

```
date +%A.%Y.%m.%d
```

And this is the output:

```
Friday.2020.10.30
```

6. Inserting date

The command that is contained in the file `task6.sh`:

```
echo "rsync --archive /cs/home/tkt_cam/public_html/$(date +%Y/%m/%d)
~/ShellScripting2019/Week1/$(date +%A.%Y.%m.%d)"
```

7. Two at once

By using command `>out 2>error` I can direct the `stdout` to the file `out` and the `stderr` to the file `error`.

This command works, does not show any output because it is written in the `out` file.

```
ls >out 2>error
```

This command doesn't work because the `ghost_directory` does not exist. There is no output because it is written in the `error` file.

```
ls ghost_directoy >out 2>error
```

Content on error file:

```
ls: cannot access 'ghost_directory': No such file or directory
```

8. Hey! What about STDIN?

As explained by the command `man cat`: `cat` - concatenate files and print on the standard output. This means that if I type `cat string`, it will print my string when I press enter, while if I type `cat filename`, it will print the contents of the file.