

C2110 *UNIX and programming*

Lesson 2 / Module 4

PS / 2020 Distance form of teaching: Rev1

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Remote File Transfer

- **scp (rsync)**
- **wget (curl)**
- **Data Transfer Between Unix/macOS OS and MS Windows (WinSCP)**

Remote Copying

Use the command **scp** for remote copying.

Syntax:

[] - can be omitted

```
$ scp [-r] source target
```

Source and target can be a file or a directory. When copying directories, the option **-r** (recursive) must be used.

The remote destination or host is identified by the machine name separated from the file or directory name by a colon.

```
[user@] hostname : [/path/] file
```

Examples of use:

```
$ scp test.txt wolf01.ncbr.muni.cz:/scratch/kulhanek
```

```
$ scp wolf01.ncbr.muni.cz:/scratch/kulhanek/test.txt .
```



The command more convenient for copying a larger amount of data (directory synchronization) is **rsync** (C2115).

Exercise 1

1. Make a copy of the directory `~/Documents/ C2110` to the directory `/scratch/username` (make sure you have some files in the directory `~/Documents/C2110`, e.g., a presentations for exercises).
2. Copy the contents of the directory `/scratch/username/Documents` to the remote machine of your choice into the directory `/scratch/username/wolfXX`, where `wolfXX` is the number of the source machine. Use the command to `scp`.
3. Delete directories `/scratch/username/Documents` and `/scratch/username/wolfXX`

`username` - your username

use two terminals

Downloading Files from the Web

You can use the command **wget** to download files from the web. Remote machines must provide files using a **ftp**, **http** or **https** protocol.

```
$ wget [-O output_name] url
```

big O

url (uniform resource locator)
www file identifier

Examples of use:

```
$ wget http://www.rcsb.org/pdb/files/1SS9.pdb
```

PDB code structure



A similar command is **curl**. However, it allows two-way communication with a remote machine.

Exercise 2

1. Use the `wget` command to download the 1SS9 PDB structure to a file named `structure.pdb` and save it to a directory `~/Documents/C2110`
2. Download the installation image using the `wget` command (iso file) for Ubuntu Server 18.04 to the directory `/scratch/username`. Verify its checksum by command `md5sum` or `sha256sum`.
3. Delete the installation image.

`username - your username`

Data Transfer MS Windows <> UNIX

Text files created under MS Windows and Linux (macOS) **are not** completely **compatible** because each operating system uses a different encoding for **end of line**.

Linux (macOS):	<code>\n</code>	(line feed 0x0A)
MS Windows:	<code>\r+\n</code>	(carriage return 0x0D, line feed 0x0A)

For coding conversion, see [C2110-CZ-MSWindows-M01.pdf](#)

Homework



Homework

1. Download the presentation from the directory **/home/kulhanek/Documents/C2110/Presentations** to your computer with WinSCP or scp commands. Presentations are available in the format pdf and commented presentations in mkv format (video).