

# MOZLib Installation procedure for Windows 10 v2.4

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This install procedure has been tested successfully on Windows 10 and 11. It will not work for any previous version of Windows, since it relies on the installation of **WSL** (« Windows subsystem for Linux »).

You will need to operate a few commands in the **PowerShell** terminal. If you are new to this don't worry ! :) Simply follow all the instructions carefully and it should all work. If you really cannot get it to work after reading this whole document, please be in touch at this [email](#).

Also if you didn't install them yet, please make sure you already have [Max \(version 8\)](#) on your machine, as well as the **bach**, **cage** and **dada** packages (via Max's Package Manager, the [bach website](#) or [bach Patreon](#)) correctly located in the **C:\Users\your\_name\Documents\Max 8\Packages** folder.

## Part I — Install WSL - Windows subsystem for Linux :

1 ) Go to this website <https://docs.microsoft.com/en-us/windows/wsl/install>

2 ) Follow instructions under **Install**, that is roughly :

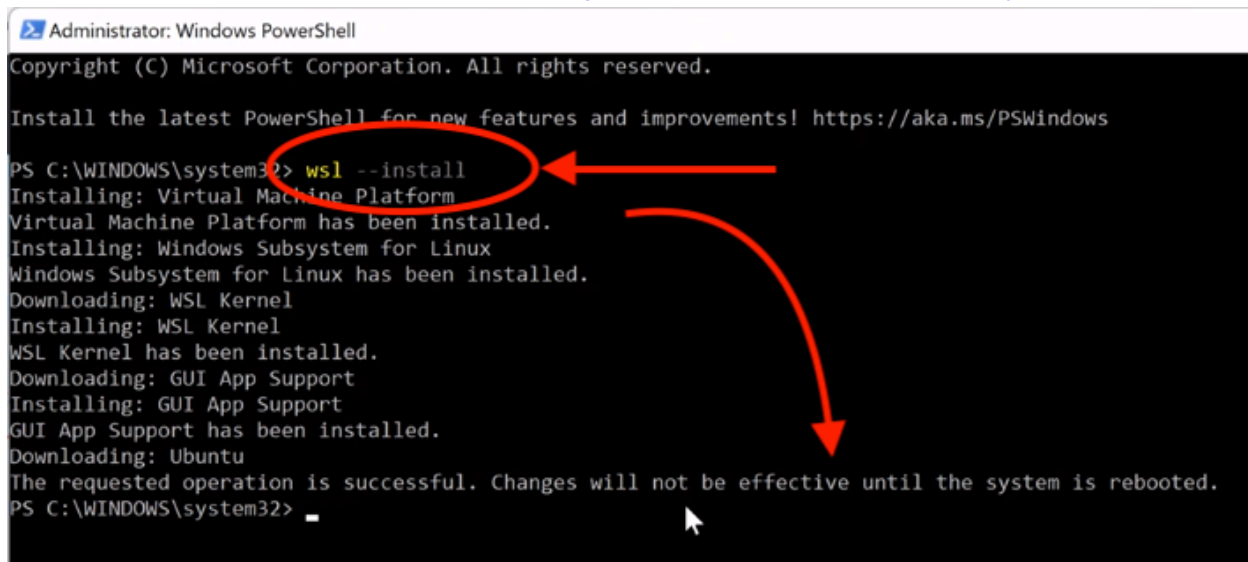
- run a PowerShell as administrator
- enter or copy this short command

**wsl --install**

then type enter. If that is not enough, you should read that page more carefully.

3 ) Wait until you get the following message

*"The requested operation is successful. Changes will not be effective until the system is rebooted"*



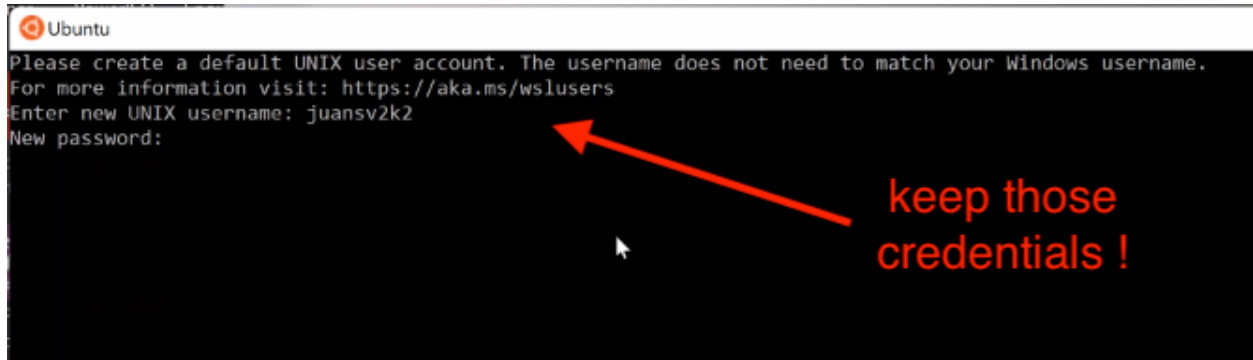
```
Administrator: Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> wsl --install
Installing: Virtual Machine Platform
Virtual Machine Platform has been installed.
Installing: Windows Subsystem for Linux
Windows Subsystem for Linux has been installed.
Downloading: WSL Kernel
Installing: WSL Kernel
WSL Kernel has been installed.
Downloading: GUI App Support
Installing: GUI App Support
GUI App Support has been installed.
Downloading: Ubuntu
The requested operation is successful. Changes will not be effective until the system is rebooted.
PS C:\WINDOWS\system32>
```

4 ) Now just restart your computer, as required by the installer.

5 ) After restarting, a terminal window will open automatically and ask you to wait a bit longer. After a moment, you will be ask to set your username and password.

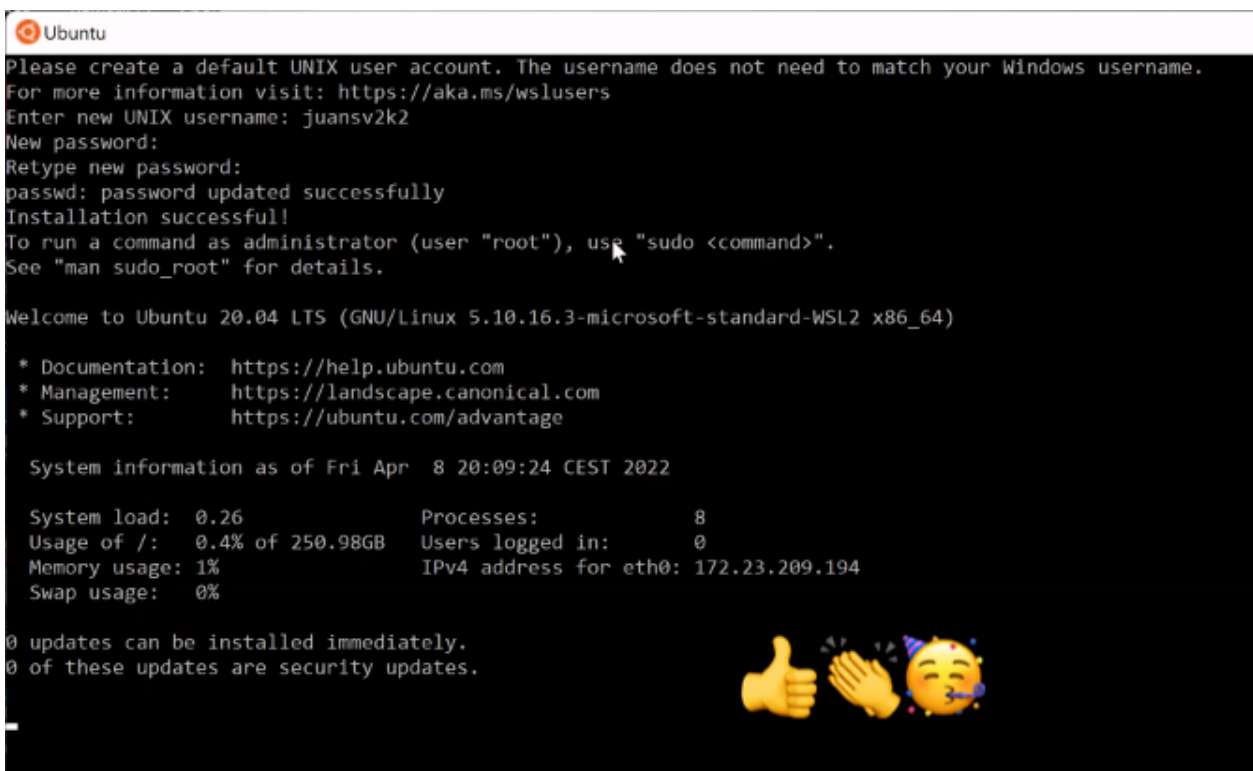


```
Ubuntu
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: juansv2k2
New password:
```

keep those credentials !

**ATTENTION** : These username and password are not for Windows but for the Linux distribution installed on WSL (Ubuntu by default). Imagine you have a second operating system on your machine, just like Windows it doesn't joke with security ;) Please keep those informations somewhere safe, in case you need them !

Then WSL should be successfully installed on your PC ! :)



```
Ubuntu
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: juansv2k2
New password:
Retype new password:
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 20.04 LTS (GNU/Linux 5.10.16.3-microsoft-standard-WSL2 x86_64)

* Documentation: https://help.ubuntu.com
* Management:   https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

System information as of Fri Apr  8 20:09:24 CEST 2022

System load:  0.26           Processes:            8
Usage of /:   0.4% of 250.98GB Users logged in:          0
Memory usage: 1%            IPv4 address for eth0: 172.23.209.194
Swap usage:   0%

0 updates can be installed immediately.
0 of these updates are security updates.
```

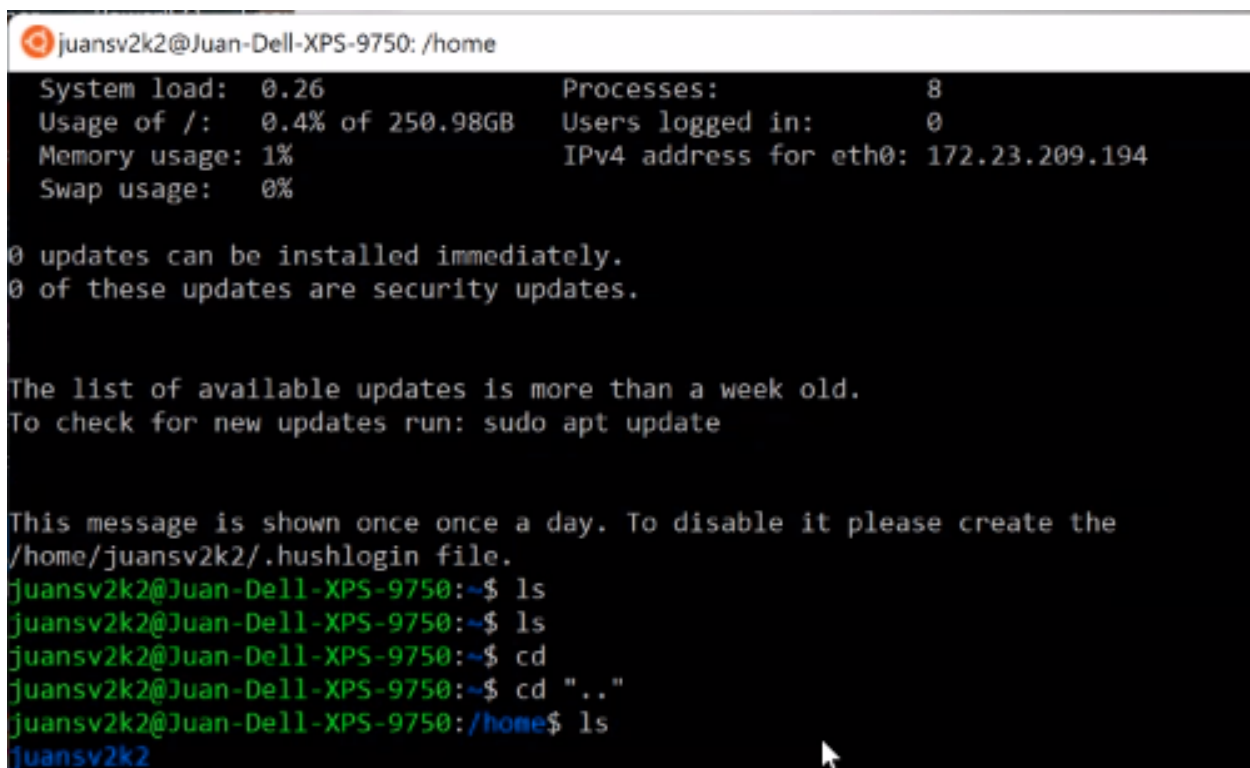
👍 🎉 🥳

You can check the install by opening a new PowerShell window and typing this command

**wsl -l -v**

which should tell you which version of WSL is installed (should be version 2).

You can also play with UNIX commands at this point. As a matter of fact, when opening a new PowerShell window, you can just type the **wsl** command + enter to shift into Linux mode.



```
juansv2k2@Juan-Dell-XPS-9750: /home
System load:  0.26          Processes:      8
Usage of /:   0.4% of 250.98GB Users logged in: 0
Memory usage: 1%          IPv4 address for eth0: 172.23.209.194
Swap usage:   0%

0 updates can be installed immediately.
0 of these updates are security updates.

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

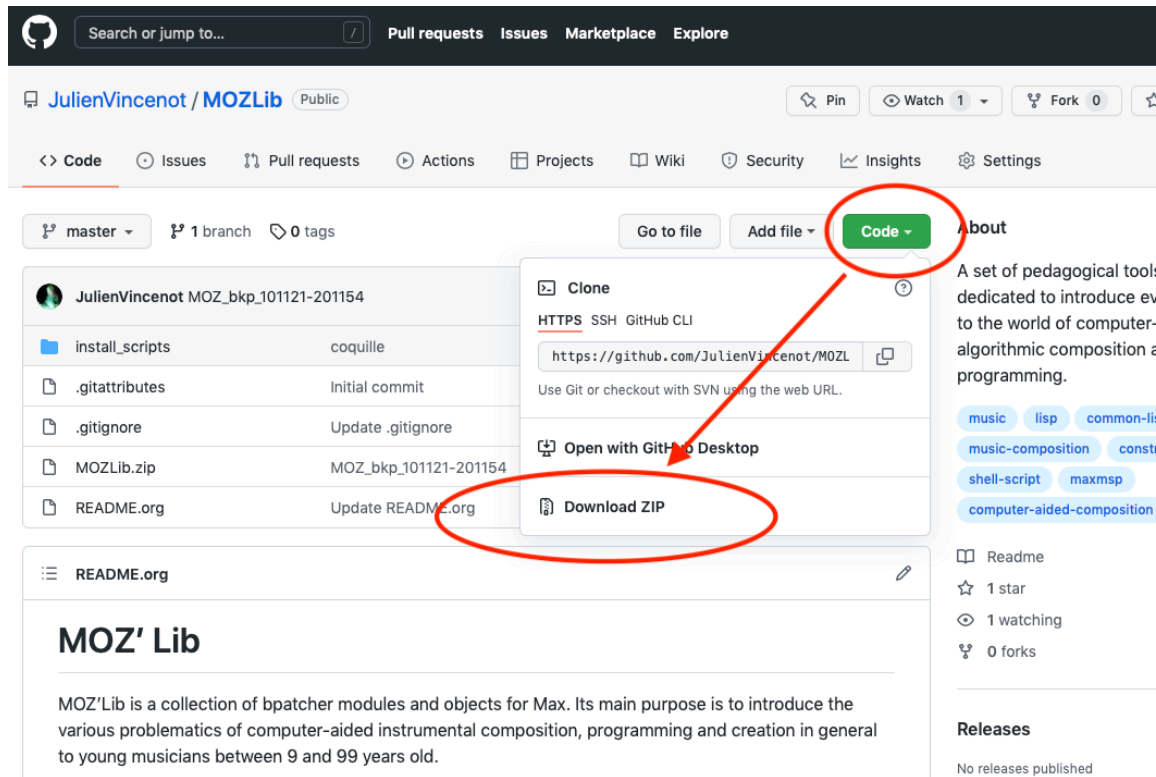
This message is shown once once a day. To disable it please create the
/home/juansv2k2/.hushlogin file.
juansv2k2@Juan-Dell-XPS-9750:~$ ls
juansv2k2@Juan-Dell-XPS-9750:~$ ls
juansv2k2@Juan-Dell-XPS-9750:~$ cd
juansv2k2@Juan-Dell-XPS-9750:~$ cd ".."
juansv2k2@Juan-Dell-XPS-9750:/home$ ls
juansv2k2
```

**Note :** If you ever wanted to uninstall WSL, you can do so by following instructions on [this page](#). It is slightly more complicated but is possible if you need to free some space for instance. Keep in mind some elements will remain since it is now a core functionality of Windows.

## Part II — Install MOZLib :

Now we need to get the MOZLib files and install them very carefully. Putting the package in the wrong place has a 100% chance to break its functionalities !

6 ) First download the last **MOZLib master** distribution from [Github](#).



7 ) **Important** : Now please do install the free Bandizip program from [this website](#). It will fix important issues of special characters in folder names and file names unzipped incorrectly by WinRAR or default Windows unzipper cannot handle properly. This will preserve some important design choices made initially for the Mac version.

8 ) With Bandizip, unzip first the **MOZLib-master.zip** itself, then again unzip the **MOZLib.zip** that is inside. Now be very careful, it is this very last resulting folder, simply called **MOZLib**, which you should move inside your packages folder. The correct path should be something like this :

**C:\Users\your\_name\Documents\Max 8\Packages\**

**Note** : it is possible that your Max packages are located not at this address but somewhere inside your OneDrive. That is fine BUT you should follow instructions below accordingly !

## Part III — Install SBCL :

9 ) Now download the last version of SBCL - Steal Bank Common Lisp (here version 2.2.3) on [this page](#). Be careful, this has to be the **precompiled Linux version**, NOT the sources, NOT the Windows or Mac version :) It doesn't matter if your processor is not AMD, it has been tested successfully on Intel as well.

### Steel Bank Common Lisp

#### Download

The most recent version of SBCL is 2.2.3, released March 28, 2022. [Release notes](#).

**Source:** [sbcl-2.2.3-source.tar.bz2](#)

The development version is available from git:

```
git clone git://git.code.sf.net/p/sbcl/sbcl
```

#### Binaries:



After downloading SBCL, refer to the [getting started](#) page for instructions on how to install the release.

Not all platforms have the latest binaries, but SBCL is still supported and working on these platforms. An older binary (or provided by an OS repository / homebrew / macports) or even a different CL implementation can be used to build the [latest source](#) by following the directions for [compiling it](#).

The Linux binaries might require a recent glibc, but building from source isn't dependent on a particular glibc version

	X86	AMD64	PPC	PPC64	PPC64le	SPARC	MIPSbe	MIPSle	ARMel	ARMhf	ARM64	RISC-V 32	RISC-V 64
Linux	1.4.3	2.2.3 newest	2.7		1.5.8	1.0.28	1.0.23	1.0.28	1.2.7	1.4.11	1.4.2		
macOS (Darwin)	1.1.6	1.2.11	1.0.47								2.1.2		

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10 ) Again with Bandizip (optional but it cannot hurt :), now unzip the SBCL archive somewhere on your machine, for instance your desktop. You can delete it when the whole install is complete.

11 ) Now open a new Powershell window. First enter :

**wsl**

to switch into Linux mode, then :

**sudo apt-get install make**

The sudo command might ask you to enter your **Linux password** (see above). This will install **MAKE** which is necessary to install other Linux programs like SBCL.

**12 )** Now copy the following command in a text editor. Before entering it into PowerShell (**do not leave WSL**) you need to edit it slightly so that the command knows where to find the **uncompressed SBCL folder** correctly.

For that purpose, navigate to where the uncompressed SBCL folder is located, and right click on it. Then click on "Copy as path" in the contextual menu. You can then copy this after the command :

```
wslpath -a <paste_your_path_here>  
example : wslpath -a "C:\Users\User_Name\Desktop\sbcl-2.2.3-x86-64-linux"
```

The command will return another path as a result, but this time in Linux format, which WSL can understand ! It should look like this :

```
/mnt/c/Users/User_Name/ OneDrive/ Desktop/sbcl-2.2.3-x86-64-linux
```

**13 )** Now **still in WSL** enter the command

```
cd <copy_the_path_we_just_obtained>  
example : cd /mnt/c/Users/User_Name/ OneDrive/ Desktop/sbcl-2.2.3-x86-64-linux
```

This will take us inside the SBCL folder, but from the point of view of WSL...

**14 )** Then **still in WSL** enter the command

```
sudo sh install.sh
```

This should install SBCL on WSL as expected. Now you can run the command :

```
sbcl
```

in WSL and try playing with some Lisp commands ! :)

Finally, you can quite SBCL by typing the (quit) command and enter.

```
SBCL has been installed:  
binary /usr/local/bin/sbcl  
core and contribs in /usr/local/lib/sbcl/  
  
Documentation:  
man /usr/local/share/man/man1/sbcl.1  
juansv2k2@Juan-Dell-XPS-9750:/mnt/c/Users/Juan/OneDrive/Esitorio/sbcl-2.2.3-x86-64-linux$ sbcl  
This is SBCL 2.2.3, an implementation of ANSI Common Lisp.  
More information about SBCL is available at <http://www.sbcl.org/>.  
  
SBCL is free software, provided as is, with absolutely no warranty.  
It is mostly in the public domain; some portions are provided under  
BSD-style licenses. See the CREDITS and COPYING files in the  
distribution for more information.  
* ( + 1 2 )  
3  
*
```

## Last bits :

**ATTENTION** : If you use **OneDrive** on your machine and your Documents are inside of it, it is possible the following parts will cause an issue. There is not a single solution to this problem... You can decide to simply move all you "Max 8" folder inside **/Users/your\_name/Documents/** instead of **/Users/your\_name/OneDrive/Documents/**. Or you can just keep it as is. In any case, be careful about the following instructions, you might need to adjust the paths slightly for these commands to work !

Be also aware that, for systems set in languages other than English, Window may not always translate their names as expected in the PowerShell... For instance, on Juan's computer, set in Spanish, the **Desktop** was called **Escritorio**, which had to be used in every paths for the following commands ! In doubt, try both solutions...

We are almost there ! Now we have a functioning Lisp on WSL, we need to connect it to Max somehow.

**Before trying the following steps**, in the Powershell window **again still in WSL** enter the following three commands :

```
sudo add-apt-repository ppa:wslutilities/wslu
sudo apt update
sudo apt install wslu
```

This will make sure that WSL is able to locate your Windows' personal user folder.

**15 )** Now you will need to move the newly installed **sbcl** executable inside the MOZLib package so it can work properly with it. To do so, you have 2 options :

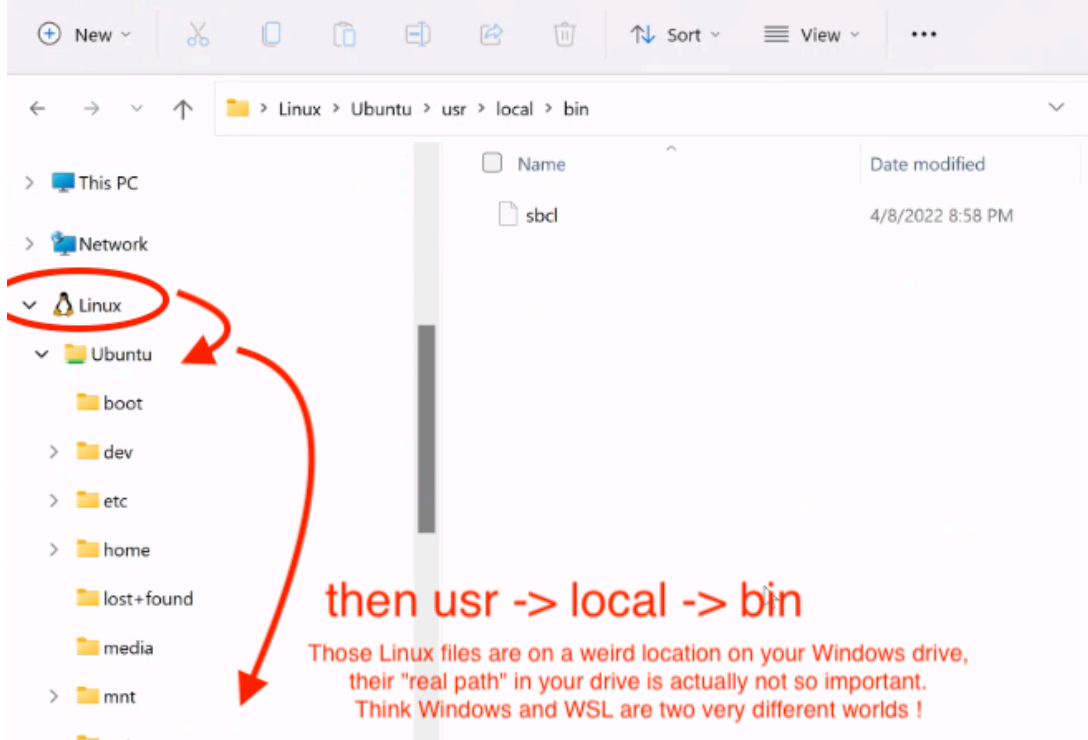
**Option 1** — If you happen to have a **Linux -> Ubuntu** section in the left-side bar of your Windows explorer (see fig. next page) just go inside, then navigate to **usr/local/bin** and copy the sbcl executable.

Then simply paste it inside this folder:

[ wherever are your ] **/Documents/Max 8/Packages/MOZLib/sbcl/**

Note that when pasting this new sbcl executable, you ***must*** also delete the version provided by MOZ'Lib — so click "Replace the file" without regret ;)





**Option 2** — Otherwise here is a little script to automate the procedure. You should first copy the whole block of commands in a text editor and check the paths to you **/Documents/Max 8/...** is correct. **Note that \$WINHOME represents the beginning of a classic Windows path, without OneDrive !**

Then, all at once, copy it into the Powershell **again still in WSL** :

```
export WINHOME=$(wslpath "$(wslvar USERPROFILE 2> /dev/null)")
&& rm "$WINHOME/Documents/Max 8/Packages/MOZLib/sbcl/sbcl"
&& cp /usr/local/bin/sbcl
"$WINHOME/Documents/Max 8/Packages/MOZLib/sbcl/"
```

**BEWARE** : after copying the whole block from this pdf to a text editor you need to turn it into a single line before copying it again into Powershell / WSL. Otherwise, the code will be broken in multiple lines and create errors. Same for the following piece of code !



**16 )** Finally, we want to generate, from MOZLib's **Lisp sources**, the **.core file** that SBCL will rely on to use Lisp code and PatchWork knowledge in Max. To do so, **the same way (see option 2)**, run this command :

```
export WINHOME=$(wslpath "$(wslvar USERPROFILE 2> /dev/null)")
&& /usr/local/bin/sbcl --script
"$WINHOME/Documents/Max 8/Packages/MOZLib/sources/_LOAD_ASDF.lisp"
```

*(see "**BEWARE**" above to enter this command properly !)*

If everything went well... you can start Max, then go to the Extras menu —> MOZ'Lib —> PWforMax LISPTest and click the button. If you get 42 you're all set :)

**17 )** We encourage you to install the **two fonts** (Andale Mono and Menlo Regular) located in the **MOZLib-master/windows/fonts/** folder you downloaded from Github. This way we ensure all MOZ documentation is displayed correctly.