

REST-for-Physics Framework

0.1 Installing Windows Subsystem for Linux

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Outline

- Introduction to WSL
- Installation of WSL Ubuntu-22.04
- Set-up your environment
- MobaXterm terminal

- Windows Subsystem for Linux (WSL) allows developers to run a Linux environment in Windows
- Available on Windows 10, Windows 11, Windows Server 2019 and Windows Server 2022.
- In May 2019, WSL2 was released introducing important changes such as a real Linux kernel

<https://linuxconfig.org/ubuntu-22-04-on-wsl-windows-subsystem-for-linux>

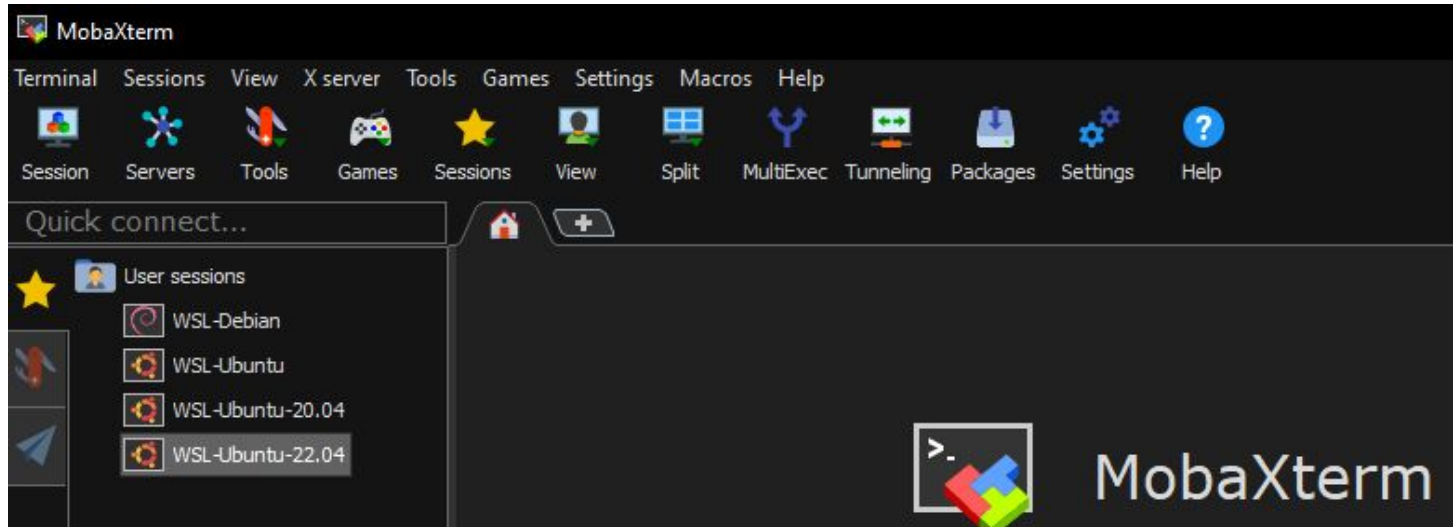
- Turn on Windows features
- Install Ubuntu-22.04 from Microsoft Store

- Provide username and password

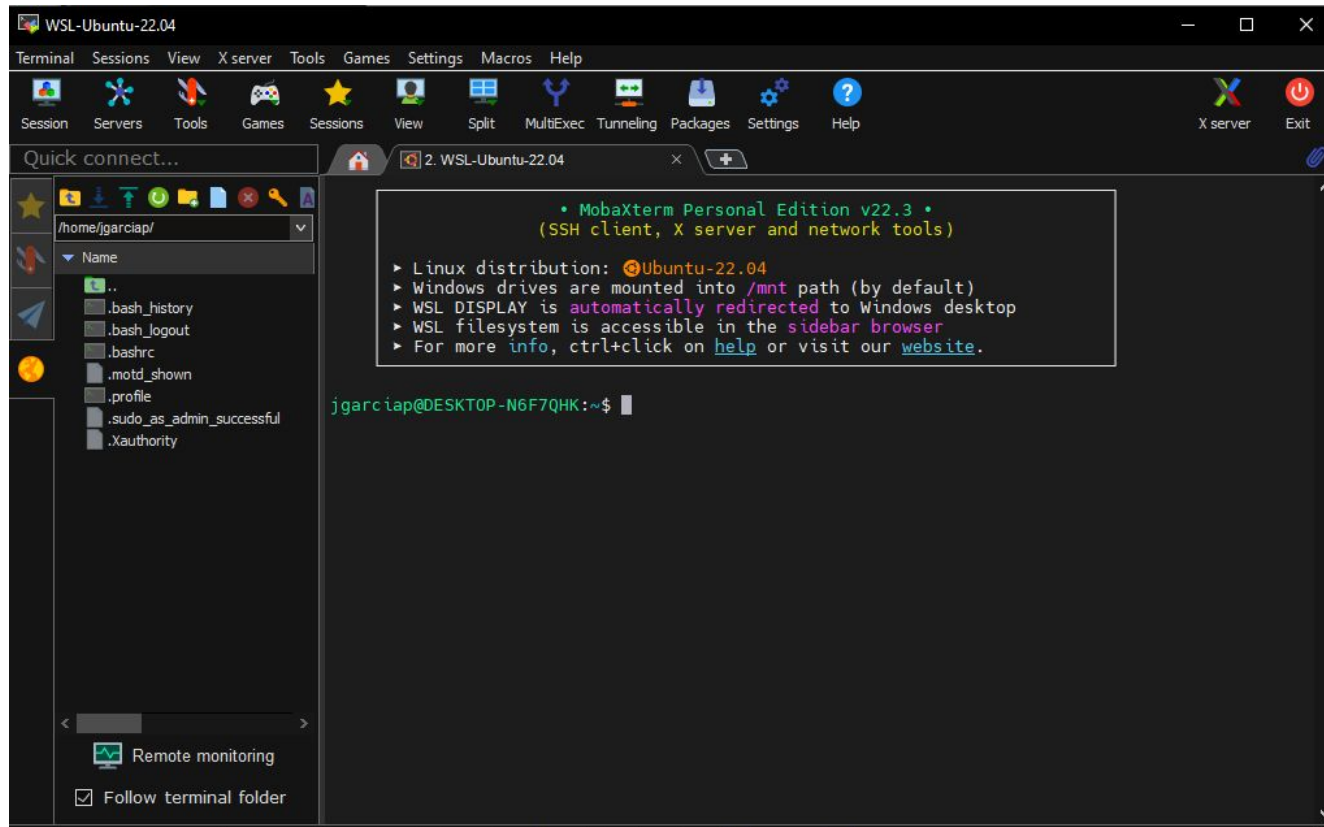
```
jgarciap@DESKTOP-N6F7QHK: ~  
Installing, this may take a few minutes...  
Please create a default UNIX user account. The username does not need to match your Windows username.  
For more information visit: https://aka.ms/wslusers  
Enter new UNIX username: jgarciap  
New password:  
Retype new password:  
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 22.04.1 LTS (GNU/Linux 5.10.102.1-microsoft-standard-WSL2 x86_64)  
  
* Documentation: https://help.ubuntu.com  
* Management: https://landscape.canonical.com  
* Support: https://ubuntu.com/advantage  
  
This message is shown once a day. To disable it please create the  
/home/jgarciap/.hushlogin file.  
jgarciap@DESKTOP-N6F7QHK:~$
```

- Update linux packages “sudo apt-get update”
- Upgrade linux packages “sudo apt-get upgrade” (takes few minutes)
- Install common developer packages:
“sudo apt-get install dpkg-dev cmake g++ gcc \
binutils libx11-dev libxpm-dev git \
libxft-dev libxext-dev python3 libssl-dev gedit”
- Install required packages for ROOT compilation
“sudo apt-get install gfortran libpcre3-dev xlibmesa-glu-dev \
libglew-dev libftgl-dev libmysqlclient-dev libfftw3-dev \
libcfitsio-dev graphviz-dev libavahi-compat-libdnssd-dev \
libldap2-dev python3-dev libxml2-dev libkrb5-dev \
libgsf0-dev qtwebengine5-dev”
- Install required packages for REST and Geant4
“sudo apt-get install libmpfr-dev libxerces-c-dev”
- **Congratulations, you have successfully installed WSL**

- Although you can use native Windows terminal it is highly recommended to use MobaXterm terminal to access your WSL <https://mobaxterm.mobatek.net/download-home-edition.html>
- Double click on “WSL-Ubuntu-22.04”



- Your terminal should look like this:



BACK-UP

Installation of WSL Ubuntu-20.04

- Open “Command Prompt” as administrator
- List available distributions using “wsl --list --online”
- Install Ubuntu-20.04 distro “wsl --install -d Ubuntu-20.04”
- Restart your computer if needed

```
C:\windows\system32>wsl --list --online
The following is a list of valid distributions that can be installed.
Install using 'wsl --install -d <Distro>'.

```

NAME	FRIENDLY NAME
Ubuntu	Ubuntu
Debian	Debian GNU/Linux
kali-linux	Kali Linux Rolling
SLES-12	SUSE Linux Enterprise Server v12
SLES-15	SUSE Linux Enterprise Server v15
Ubuntu-18.04	Ubuntu 18.04 LTS
Ubuntu-20.04	Ubuntu 20.04 LTS
Oraclelinux_8_5	Oracle Linux 8.5
Oraclelinux_7_9	Oracle Linux 7.9

```
C:\windows\system32>wsl --install -d Ubuntu-20.04
Installing: Ubuntu 20.04 LTS
Ubuntu 20.04 LTS has been installed.
Launching Ubuntu 20.04 LTS...
```

Ubuntu-20.04 required packages:

- Update linux packages “sudo apt-get update”
- Upgrade linux packages “sudo apt-get upgrade” (takes few minutes)
- Install common developer packages:
“sudo apt-get install dpkg-dev cmake g++ gcc \
binutils libx11-dev libxpm-dev git gedit\
libxft-dev libxext-dev python libssl-dev “
- Install required packages for ROOT compilation
“sudo apt-get install gfortran libpcre3-dev xlibmesa-glu-dev \
libglew1.5-dev libftgl-dev libmysqlclient-dev libfftw3-dev \
libcfitsio-dev graphviz-dev libavahi-compat-libdnssd-dev \
libldap2-dev python-dev libxml2-dev libkrb5-dev \
libgsl0-dev qtwebengine5-dev”
- Install required packages for REST and Geant4
“sudo apt-get install libmpfr-dev libxerces-c-dev”