

# *Windows Subsystem for Linux*

Dr. Saad Laouadi

Econometrics and Data Science Academy

# Outline

① Introduction

② Enable Virtualization

③ Installing WSL

④ WSL Status and Help

⑤ Setting Default WSL

⑥ Choose Your Distro

⑦ Installing Ubuntu

⑧ Installing Debian

⑨ Listing installed linux distros

⑩ Setting a Default Linux Distro

⑪ WSL Version

⑫ Uninstalling Linux Distro

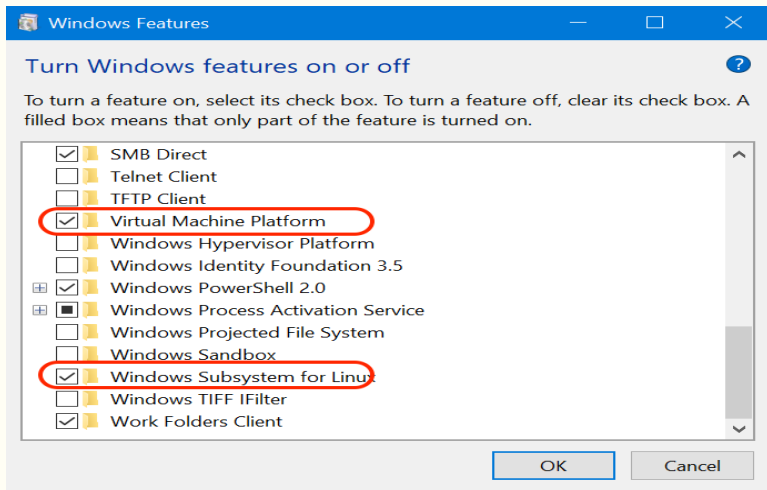
⑬ Common Commands to run

# Introduction

*If you used to run Linux using dual boot or **Virtual Box tools**. Microsoft added new functionality starting from Windows version 10, **the windows subsystem for Linux**. Through this functionality you run Linux environment including most command line tools, utilities and applications right from windows.*

**Enabling Virtualization:** You need to set your machine properly in order to run Linux from windows:

➤ Enabling **Virtual Machine Platform** in **Windows Features**:



➤ Virtualization must be enabled in **BIOS**.

## *Installing Windows Subsystem for Linux*

- Launch **PowerShell** as administrator.
- Write the following command:

```
C:\Users\Name> wsl --install
```

- The previous commands download the latest Linux kernel, sets **WSL 2** as the default.
- **Ubuntu Linux** in the default distribution.

## WSL Status and Help

- After installing **WSL**, it is a good idea to check its status. To do that, run this command in **PowerShell**:

```
C:\Users\Name> wsl --status
```

- Whenever using command line, **the help** is your best friend, because you don't need to memorize all commands and their options.

```
C:\Users\Name> wsl --help
```

## Setting the Default WSL for Installing Linux Distros

- Setting the default version of **WSL** to 1 or 2 when installing a new Linux distribution can be achieved using the next command in **PowerShell**:

### ① Setting **WSL** to 1:

```
C:\Users\Name> wsl --set-default-version 1
```

### ② Setting **WSL** to 2:

```
C:\Users\Name> wsl --set-default-version 2
```

## Choose Your Distro

- In order to see the available distros you can type the following command:

```
C:\Users\Name> wsl --list --online
```

or

```
C:\Users\Name> wsl -l -o
```

- After choosing the distro, you can install it using the **-d flag** followed by the distro name like this:

```
C:\Users\Name> wsl --install -d <DistroName>
```



# Installing Ubuntu

- **Ubuntu** Linux is very convenient for beginners and it is widely used.
- To install Ubuntu Linux (which is the default) run this command:

```
C:\Users\Name> wsl --install -d ubuntu
```

- Installing a specific version of Ubuntu needs setting the version you like after listing the available ones.
- Example: installing Ubuntu 20.04 by this command:

```
C:\Users\Name> wsl --install -d ubuntu-20.04
```

- After download is complete you need to set up the Linux distro by providing your **username** and a password.

## installing Debian

- Installing available versions using **PowerShell** is an easy task.
  - ➊ List the available distros using the command ***wsl --list --online***
  - ➋ Choose the Linux distribution you want **Debian** in our case.
  - ➌ Run the following command in **PowerShell**:

```
C:\Users\Name> wsl --install -d debian
```

- After the download is complete, provide a **username** and a **password**.
- Start Using **Debian**.

### Note

Not all Linux distros are available in Microsoft store. You may want to use another distro such as **Linux Mint**. You will have to follow the instructions how to install it. Here is the [github repo](#) for Linux Mint if you'd like to give it try.

## Listing Installed Linux Distro

- You can list the installed Linux distros on your system with the WSL version by using this command in PowerShell or Windows Command Line:

```
C:\Users\Name> wsl -l -v
```

- The results will something like this

Name	STATE	VERSION
*Ubuntu	Stooped	1
Debian	Stopped	1
Ubuntu-20.04	Running	1

## Setting a Default Linux Distro

- If you installed different Linux distros, you can set a default by running the next command in PowerShell:

```
C:\Users\Name> wsl --setdefault <DistroName>
```

- Example: Setting Debian as your default distro:

```
C:\Users\Name> wsl --setdefault Debian
```

- Run the command **wsl --list** to see that **Debian** is the default now.

```
Windows Subsystem for Linux Distributions:  
Debian (Default)  
Ubuntu
```

## Setting the WSL Version

- To check which **WSL** your Linux distribution is set to, you can use this command in **PowerShell**:

```
C:\Users\Name> wsl -l -v
```

- You can also change which version of **WSL** to use with Linux distributions using the next command in **PowerShell**:

```
C:\Users\Name> wsl --set-version <DistroName> 2
```

- Example: setting ubuntu 20.04 to WSL 2.

```
C:\Users\Name> wsl --set-version ubuntu-20.04 2
```

## Uninstalling Linux Distro

- Installing and uninstalling are common tasks when dealing with computers.
- To uninstall a Linux distribution, you can use **PowerShell** and run this command, **wsl --unregister <DistroName>**
- Example: Uninstalling Debian:

```
C:\Users\Name> wsl --unregister debian
```

- Run the command **wsl --list** to make sure the distro has been removed

```
C:\Users\Name> wsl --list
```

# Commands To Run after Installing Linux

Assuming that you are running **Ubuntu**, few commands you have to run after installing it from the **Linux terminal**:

- 1 Updating the system

```
root$ sudo apt-get update
```

- 2 Installing **neofetch**: this will show information about the system.

```
root$ sudo add-apt-repository ppa:dawidd0811/neofetch  
root$ sudo apt update  
root$ sudo apt install neofetch
```

- 3 Installing **htop** if not installed to monitor your system.

```
root$ sudo apt install htop
```

## *Copyright Information*

This slide show was prepared by **Dr. Saad Laouadi**. Independent Researcher . It is licensed under a **Creative Commons Attribution-ShareAlike 4.0 International License**. Use any part of it as you like and share the result freely.