Installing a Virtual Box with Ubuntu/Linux on Windows

To install Ubuntu/Linux inside Windows (or macOS X) you must proceed with the following steps:

Step 1:
Download and install [Virtual Box](http://www.virtualbox.org/wiki/Downloads) for Windows hosts from
http://www.virtualbox.org/wiki/Downloads and follow the installation instructions

Step 2:
Download from https://ubuntu.com/#download . It is strongly recommended to use the most recent Ubuntu **LTS** version (22.04 LTS).

Step 3:
Set up the Virtual Machine for Linux in Windows

- Open Oracle VM VirtualBox Manager (installed in step 2)
- Go to "New"
- Type the name of the new virtual machine. Any name is possible like e.g. "Ubuntu Linux"
- For ISO Image, select the Ubuntu ISO image you have downloaded in step 2.
- Select Linux operational system and the downloaded version, e.g. "Ubuntu 64-bit"
- Check "Skip unattended installation"
- Press next
- In the next window: Select the RAM memory for the new Virtual machine. To run MPMAS, you should choose at least 1000 Mb, ideally 4000. (But not more than half of the available RAM on your Windows system). You can also allocate more than one CPUs if available.
- Press "Next"
- In the next window, choose "Create a virtual hard disk now" option and select the size of the virtual hard disk. In order to avoid potential errors, allocate at least 15 GB, better 25 GB and press "Next".
- Check chosen options and press "Finish"

Step 4:
Install Ubuntu Inside Virtual Machine

- Open Oracle VM VirtualBox Manager.
- Double-click the Virtual Machine you created.
- Click the folder-shaped icon, then locate the Ubuntu ISO that you downloaded in step 2.
- Click Open and then Start.
- Choose "Install Ubuntu", the installation process will begin.
- Choose English language and continue
- Choose the keyboard layout that fits your computer (English, German, Spanish, etc.)
- Follow the installation instructions (Provide and memorize username and password.)
- Choose the Option "Erase disk and Install Ubuntu" (only refers to the specific virtual machine you are working in)
- Click "Install now" after you have followed all installation instructions
- "Restart now" (it will only restart the virtual machine)

Note: This link is a bit outdated but might help you with its pictures.

Step 5: Install virtual box guest additions:

- Start your virtual machine and login to Ubuntu, once it has started.
- Allow installing all software updates if suggested.
- Then go to Devices in the top menu and choose Insert Guest Additions ISO image ...
- Now you should see the disk icon on the desktop, double-click on that, then choose Run to let the installation begins. After finishing, restart your machine (click the Power symbol on the top-right corner of the desktop); then right-click on the disk symbol and choose Eject.
- To check whether the installation is successful, press Ctrl + F (use the right Ctrl, not the left Ctrl). You should see a full screen now.
- Now you have two Operation Systems (OS) running on your computer with Windows as the host OS and Ubuntu as the guest OS.

Please note: In some cases (especially when installing the VirtualBox as a portable app) it is not possible to automatically re-size to fullscreen (monitor resolution is very low). This is because you need to install Linux Guest Additions for the virtual machine. Please follow the link to the HowTo forum post.

Create Shared Folder between the host OS and guest OS:

- This will allow you to copy and move files easily between two systems
- In your virtual machine, go to Devices and then Shared Folder -> Shared Folder Settings
- Click the blue icon (with the + symbol) to add a new shared folder
- Select the folder path dropdown and choose Other. Choose the folder you want to share in Windows; if it's not yet available, you can create a new one. Then, press Select Folder. Click Auto-mount, then Ok in the next steps.
- Now you should see a shared folder icon on the desktop of your virtual machine (its name is same as the name of the shared folder that you chose or created)
- Open the terminal (Ctrl+Alt+T), then type the command `sudo adduser <your username> vboxsf`
  E.g. `sudo adduser mrx vboxsf`
- Enter your Ubuntu user password.
- Reboot your virtual machine.
- Test the functionality of the shared folder by placing a random file into the folder in Windows, then double-click on the shared folder icon on your virtual machine.

Now you can treat your Ubuntu in the Virtualbox as if it was a computer inside your computer and you can e.g. install MPMAS on it following the instructions for installing MPMAS on Linux.