An introduction for making the virtual environment of MathLibre

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MathLibre is a live Linux, it's bootable from DVD. But, you may think it's inconvenient for the slow speed of DVD. When you use virtual machine on your host operating system(Windows or Mac OS) and putting the ISO image file on your hard disk, you can boot MathLibre computer environment with your operating system at the same time. You can use persistent home directory and install your favorite Debian packages with this environment.

We use an open source virtual machine, VirtualBox[1]. VirtualBox is an application on your operating system, you can use your favorite operating systems on it. Now, it's developed by Oracle Corporation. We prepare setting files for making virtual environment in *vbox* folder of MathLibre DVD.

1 Windows case

1.1 Installing VirtualBox

We introduce how to boot MathLibre on Windows.

1. Download the current version of VirtualBox for Windows from the website and install with administration mode.

2. Please unzip the file *mathlibre2019-en-vm*.zip to your favorite place, for example in your *Documents* folder. We set the name of extracted folder *mathlibre2019-en-vm*.

1.2 Getting MathLibre ISO image file

You have two choices for getting MathLibre ISO image, "Download" and "Making from DVD".

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[1]http://www.virtualbox.org/

1.2.1 Download ISO image file

If you can use the Internet connection, please download the current ISO image from ftp site[2]. It has around 4GB, it takes some minutes or hours. When you finish downloading the ISO file, move it in the folder *mathlibre2019-en-vm* and rename this ISO file to *mathlibre.iso*.

1.2.2 Making ISO image file from DVD

When you have MathLibre DVD, you do not need the Internet connection for getting ISO image. MathLibre DVD is including the Windows application, InfraRecorder[3]. We can make ISO image file with MathLibre DVD.

1. Unzip the file ir053_portable.zip in MathLibre DVD.

2. Execute infrarecorder.exe in the folder ir053_portable.

3. Select Read Disc.

4. You can find DVD drive as Source:.

5. Select ISO image file *mathlibre.iso* in the folder *mathlibre2019-en-vm* for Image file:.

6. Clicking OK button, it will start to copy DVD in your hard disk.

7. It takes about 15 minutes for making 4GB ISO image.

1.3 Booting virtual machine

When you finish every procedures, execute VirtualBox with double clicking *mathlibre2019-en-vm.vbox* in *mathlibre2019-en-vm* folder. Click the Start icon and push Enter key, you can enjoy mathematical software.

2 Mac OS X case

2.1 How to install VirtualBox

We introduce how to boot MathLibre on Mac OS. You need to use the Internet connection.

1. Download the current version of VirtualBox for Mac OS from the website and install with administration mode.

2. Download *mathlibre2019-en-vm.*zip from `ftp://ftp.mathlibre.org/pub/mathlibre/` and extract it to your favorite place, for example home directory, we set this directory's name *mathlibre2019-en-vm*.

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[2]`ftp://ftp.mathlibre.org/pub/mathlibre/`
[3]`http://infrarecorder.org/`

2.2   Getting MathLibre DVD ISO image

Download the current ISO image from `ftp://ftp.mathlibre.org/pub/mathlibre/` and move it to the folder *mathlibre2019-en-vm*. You need to rename ISO file to *mathlibre.iso*.

2.3   Booting virtual machine

1. When you finish your every procedures, execute VirtualBox.

2. Select *mathlibre2019-en-vm* in *mathlibre2019-en-vm.vbox* with the menu of "Virtual Machine" > "Add".

3. Click the Start icon and push Enter key, you can enjoy mathematical software.

3   How to make Shared Folders

1. Click the Settings icon of VirtualBox, and select Shared Folders, you can find "+ folder" icon, click this icon and set Folder Path and Folder Name, for example, the folder name is `X`, you should keep in mind, check Automount box and push OK button.

2. In virtual machine, this shared folder is mounted with `/media/sf_X`. We will create a symbolic link to this folder with the name `Y`. It is similar to shortcut in Windows. You can make it with the following command:

```
ln -s /media/sf_X Y
```

3. Logout and login with username:<u>user</u> and password:<u>live</u>. You can access to the shared folder with this command in a terminal.

```
ls Y
```

Of course, you are able to use a file manager PCManFM, so you can share files with this shared folder between host operating system and MathLibre virtual machine.

4   Some tips

If you have some troubles for booting MathLibre with VirtualBox, please check the BIOS menu of "Intel Virtualization Technology" is valid or not.