LinuxCNC installation using MX Linux 19.4

Created on August 7, 2021 by Greg Carl (snowgoer540) with input from Phill Carter (phillc54) and borrowed information from a post by Tommy Berisha (tommylight)

This installation guide:

- Assumes the user is coming from a Windows background
- Will take the user to the point where they are ready to run pncconf or stepconf to make a working configuration, OR to the point where the user copies over a pre-existing configuration
- Assumes installation on a 64 bit PC
- Is written using QtPlasmaC examples though it will work for other GUIs
- Will put the user on the Master branch (2.9)

- **For the Required Sections, it is imperative that the user complete them in order, and does not move on until the previous section is complete!**

IMPORTANT: This process will reformat the existing hard drive. The user needs to back up any important configurations/files on a pre-existing machine before proceeding.

Linux Tips

Linux tips for new users:

- Sometimes the commands do not copy-paste correctly from this guide. It may be best to type them out manually.
- ctrl+alt+T ← Opens a new terminal window (if it doesn't work, try clicking on the desktop first)
- ctrl+shift+V ← Will paste copied text inside a terminal window (ctrl+V will not work)
- ctrl+C will not work in a terminal window. The user must highlight the text they wish to copy, right click and choose "Copy"
- **LINUX IS CASE SENSITIVE.** Each command MUST be entered in the exact case shown, or it will not work! This can be difficult for those with Windows experience as Windows is *not* case sensitive by default.

For example, in Linux having folders named "Plasma", "plasma", "pLasma", "PlAsMa" in the same folder is perfectly acceptable. See below:
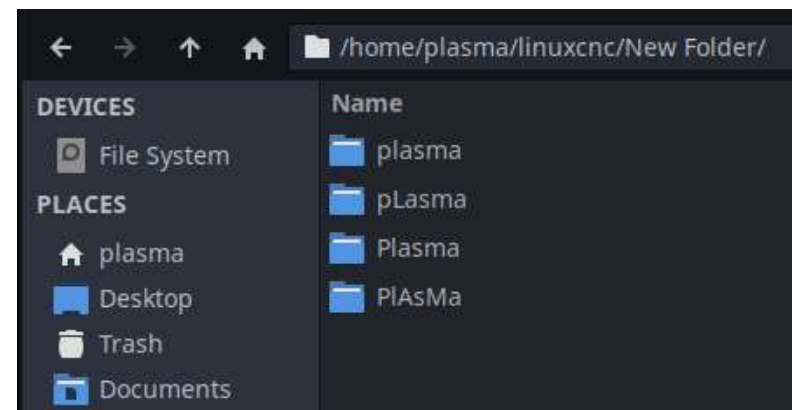
Section 1 - Required - Download the ISO

To get the **MX Linux 19.4** ISO:

1. For 64-bit Navigate to https://sourceforge.net/projects/mx-linux/files/Old/MX-19.4/MX-19.4_x64.iso/download

2. For other versions:
    a. https://sourceforge.net/projects/mx-linux/files/Old/MX-19.4/
    b. **DO NOT CHOOSE MX-19.4.1x64 "ahs" as it will not support the Realtime Kernel needed for LinuxCNC**

This guide is for MX Linux 19.4 above All other ISOs are not supported!

Section 2 - Required - Create a bootable USB thumb drive
(This section assumes the user will use Windows to create the bootable thumb drive)

To get the imaging software (ImageUSB):
1. Navigate to https://www.osforensics.com/downloads/imageusb.v1.3.1006.zip
If the link does not work:
a. Navigate to https://www.osforensics.com/tools/write-usb-images.html
b. Click "ImageUSB v1.3.1006". Do not be tempted to use the newest software as it will not write the image as "bootable".

Download

The current version of ImageUSB is v1.5.1003(*) (2449 KB).

⊙ Download ImageUSB software for free!

Previous versions

Previous Version: ⊙ ImageUSB v1.4.1003 ⊙ ImageUSB v1.3.1006 ⟵

After downloading the software:
2. Find the downloaded file and extract it to its own folder
3. Insert the USB thumb drive the user wishes to use into the PC, the thumb drive should be large enough to contain the written image (4Gb minimum)
4. Double click "imageUSB" or "imageUSB.exe" if the user has extensions shown

| Name	Date modified	Type	Size
Help	8/7/2021 2:12 PM	File folder	
imageUSB.exe	8/7/2021 2:12 PM	Application	1,165 KB
ReadMe.txt	8/7/2021 2:12 PM	TXT File	11 KB

Section 2 - Required - Create a bootable USB thumb drive (cont.)

5. If "Do you want to allow this app to make changes to your device?" pops up, Click "Yes"
6. In the "Step 1" section, check the box next to the thumb drive that was inserted in the previous steps
7. The "Step 2" section requires no changes
8. In the "Step 3" section, click "Browse"
   a. Navigate to the location the ISO was downloaded to in Step 2 and select the MX-19.4 ISO
9. In the "Step 4" section, click "Write"
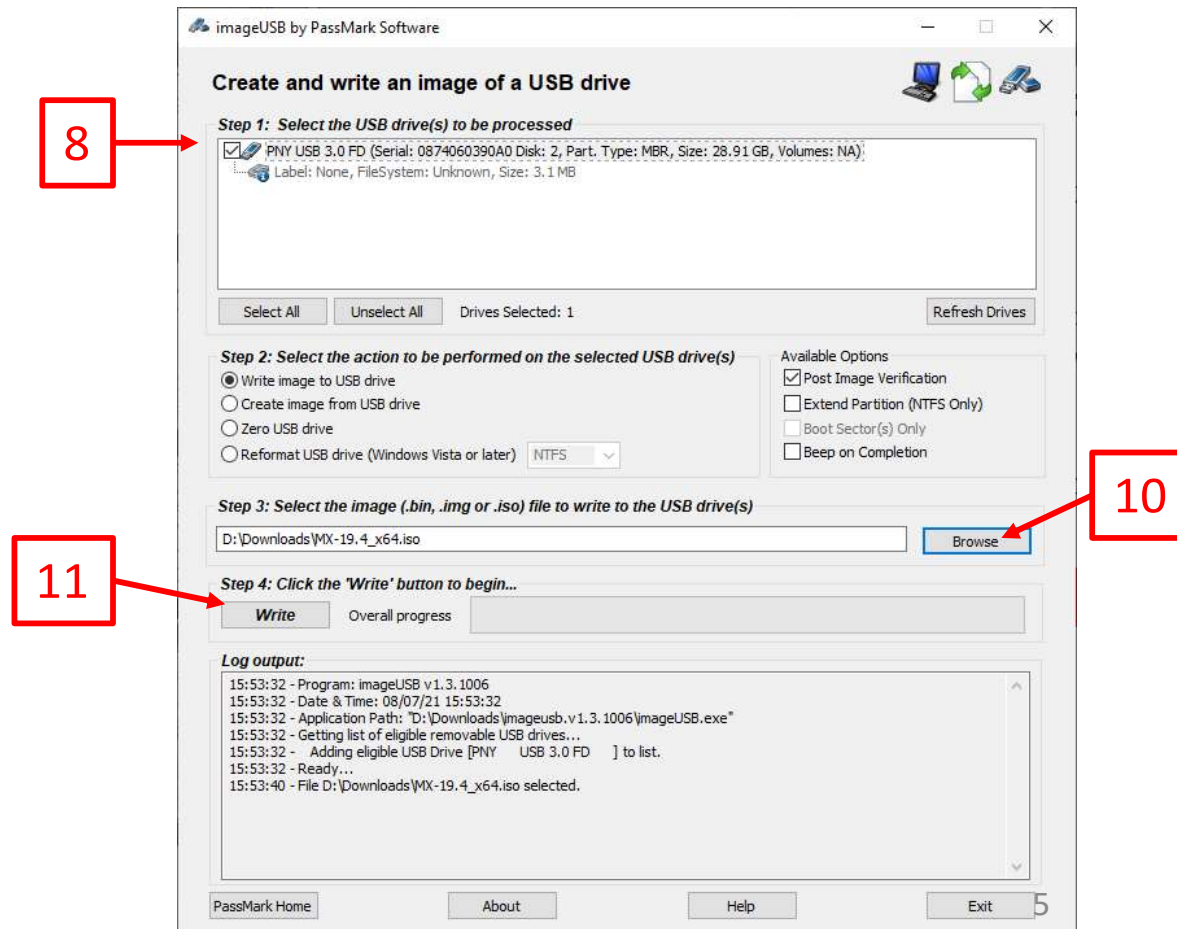
Section 2 - Required - Create a bootable USB thumb drive (cont.)

10. Click "Yes"
11. Click "Yes"
12. Click "OK"
13. Remove Thumb Drive from Windows PC
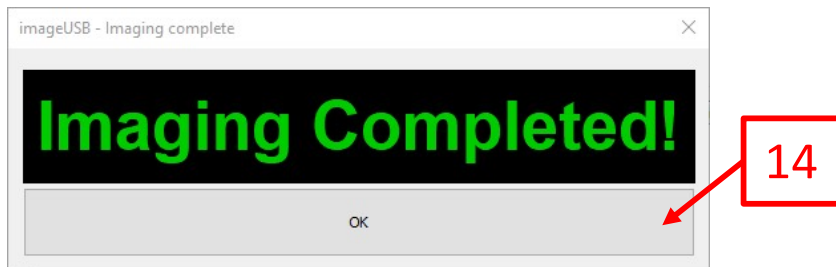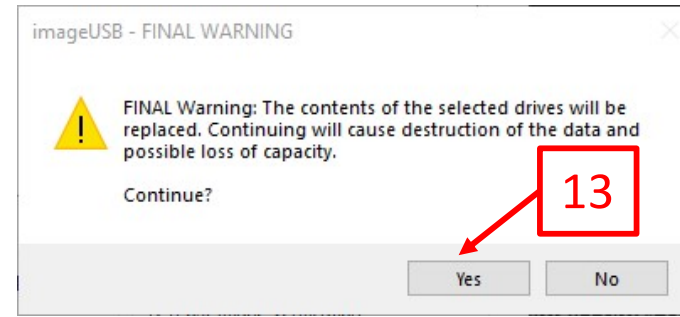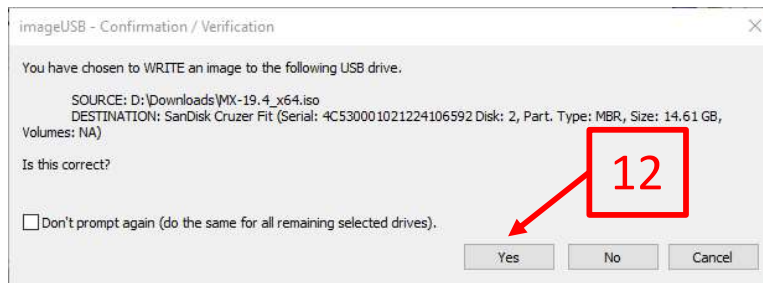
Section 3 - Required - Install MX Linux 19.4 OS

1. With the to-be Linux machine powered off, insert the USB thumb drive into the PC and turn it on
   a. The PC should automatically boot to the thumb drive, if it does not, it will be necessary to boot into BIOS, or a Boot Menu (if present) to select the USB drive as the bootable disk. The exact steps for this process are outside of the scope of this guide as it is different for every motherboard.
2. With the shown option highlighted, press Enter

3. Click "Close"

4. Single click "Installer"
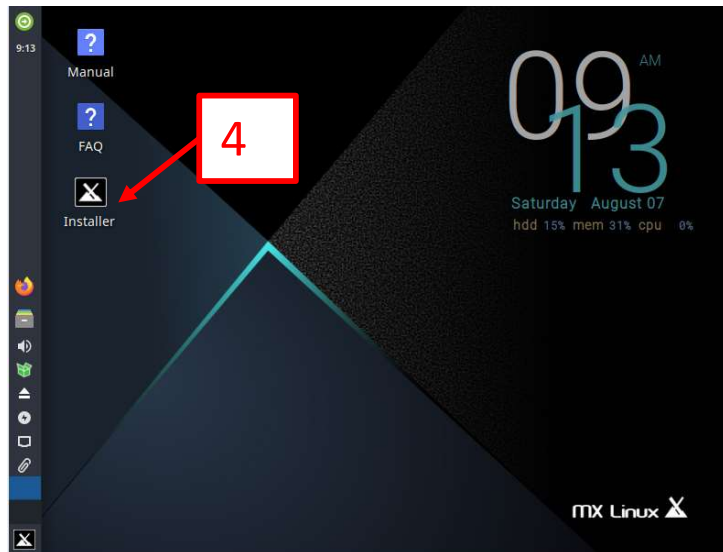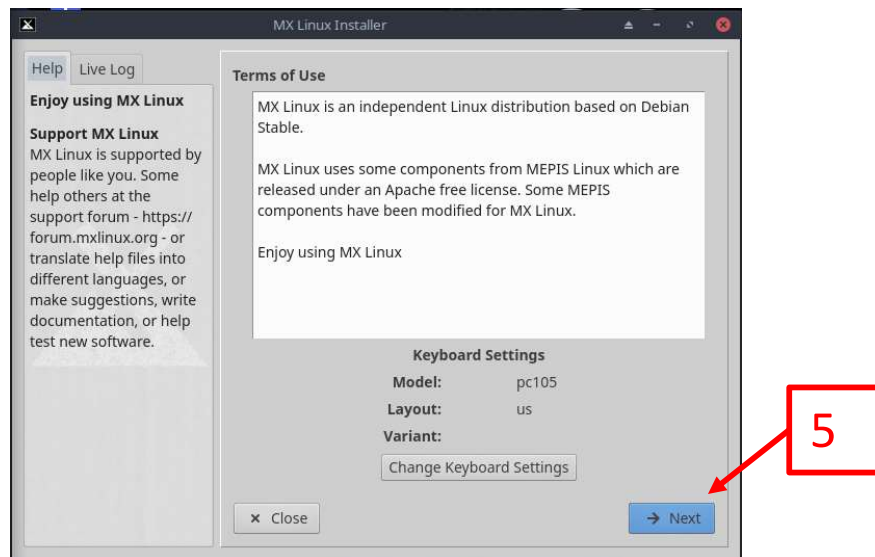
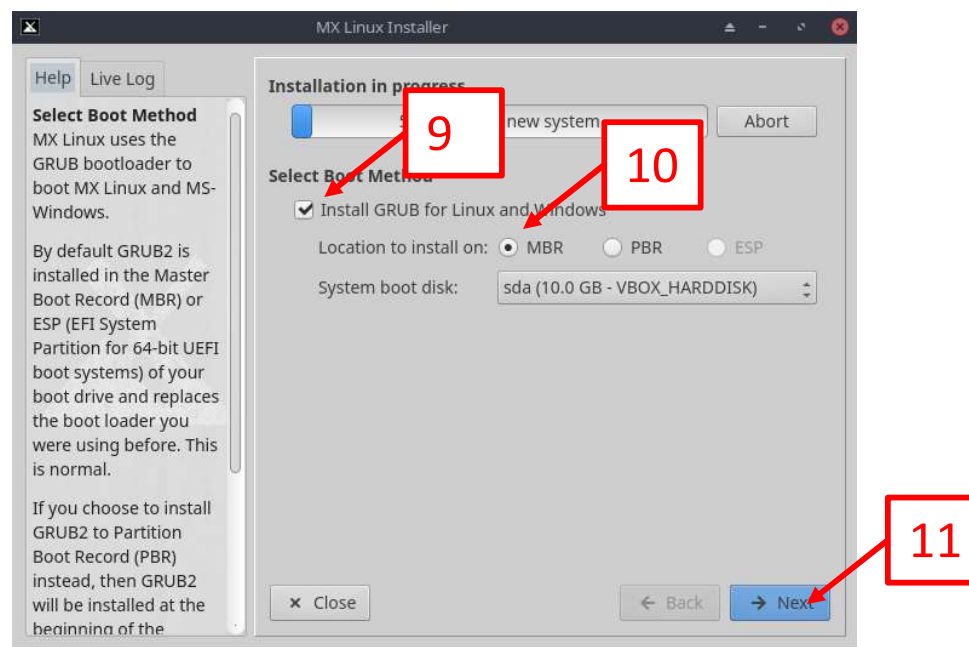5. Click "Next"

6. Select "Auto-install using entire disk"
7. Click "Next"
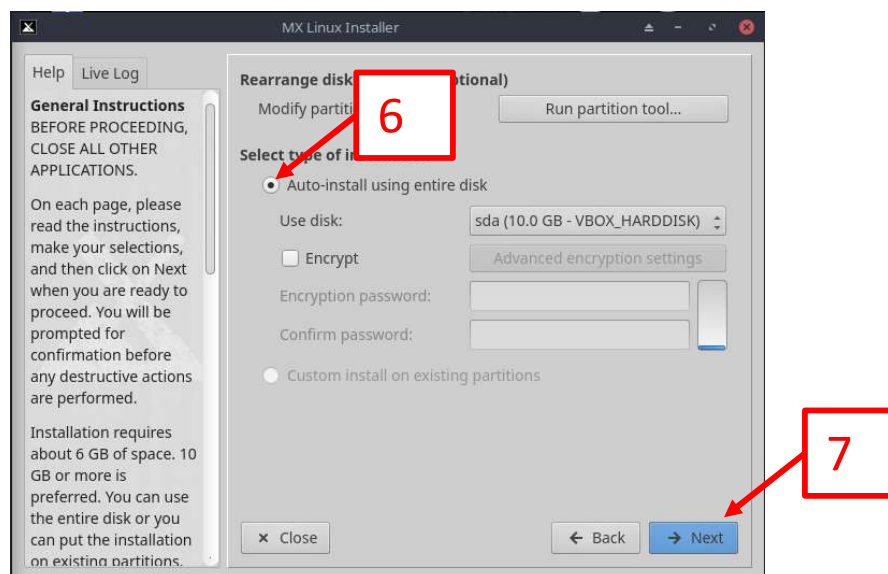
8. Click "Next"

9. Ensure "Install GRUB for Linux and Windows is checked
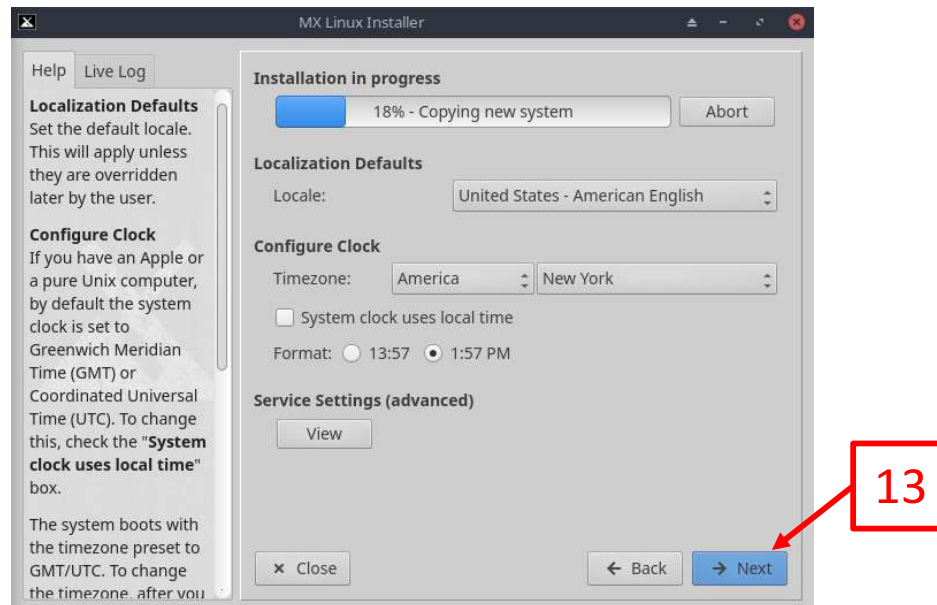10. Click the radio button next to "MBR"
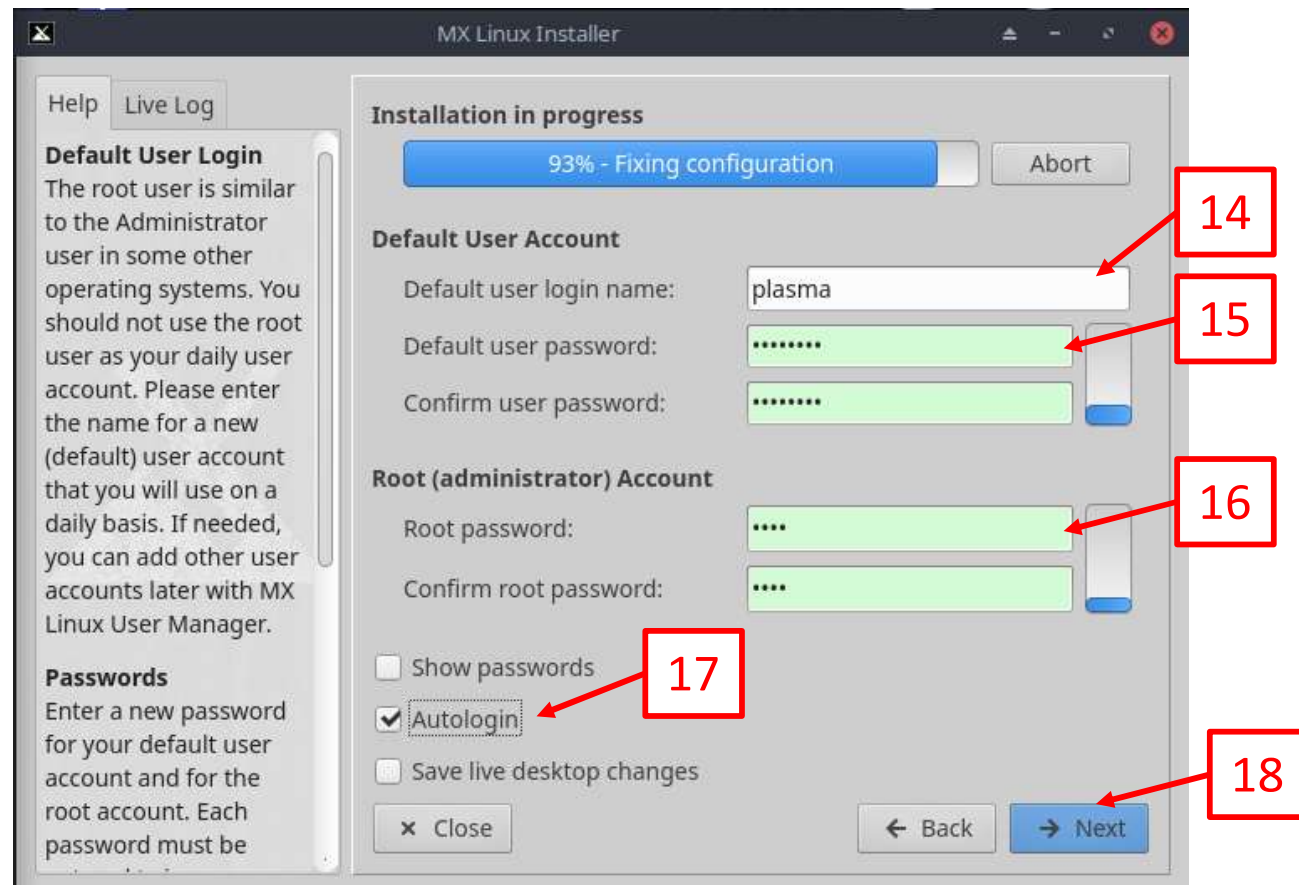11. Click "Next"
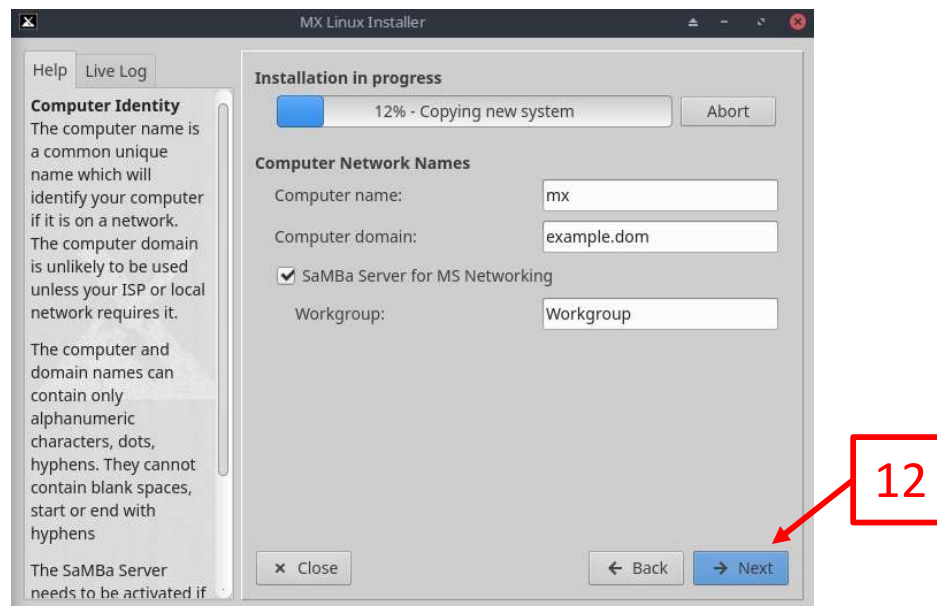
12. Click "Next"

13. Set user preferences and Click "Next:

Section 3 - Required - Install MX Linux 19.4 OS (cont.)

14. Set desired user name
15. Set desired user password
16. Set desired root password (root in Linux is similar to administrator in Windows)
17. If the user wishes to avoid
login screens at each power-up
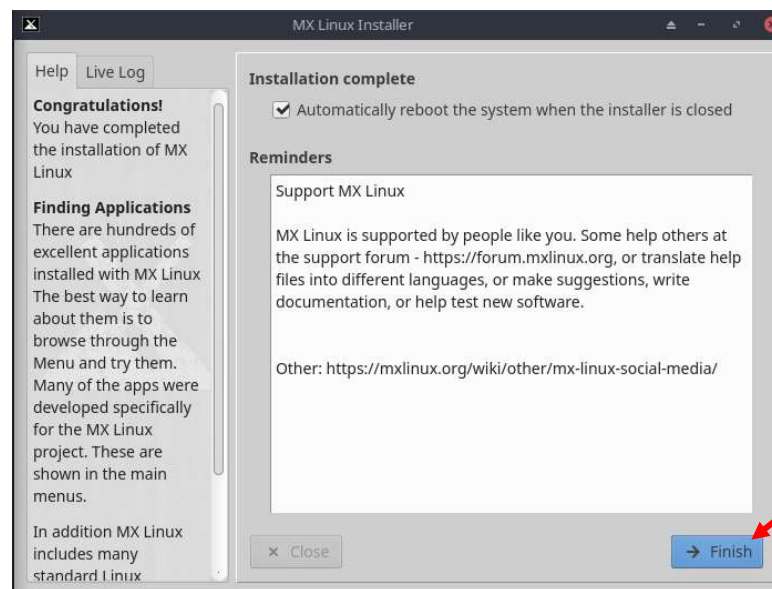then check "Autologin"
18. Click "Next"

Section 3 - Required - Install MX Linux 19.4 OS (cont.)

19. When "Finish" appears, remove the USB Thumb drive from the PC
20. Click "Finish", system will reboot

Note: During the reboot, there is no need to select any options on the GRUB boot screen, just let it time out or choose the default.