WARNING: If you are using WINDOWS 7 or 8, Windows subsystem for Linux is not available. In that case you will need to install ubuntu on a virtual machine. You may download UBUNTU and install it into Virtualbox. You will have an actual Ubuntu system running on Virtualbox.

If you try to install MAGIC on an actual UBUNTU machine intead of Windows Subsystem for Linux, you can follow the same installation steps. The only difference may be the MAGIC location in step 4.Make sure you locate the actual MAGIC installation folder in step 4.

Following instructions are for Windows Subsystem for Linux:

After installing Ubuntu and VcXsrv and updating ubuntu you can install MAGIC.

1) Open Ubuntu terminal.

Important: After installing VCXSRV, make sure you have configured bash for X server.

If you have not done that already, you may do it typing:

echo "export DISPLAY=localhost:0.0" >> ~/.bashrc

```
cevik@LAPTOP-MG95LFIV:~$ echo "export DISPLAY=localhost:0.0" >> ~/.bashrc
```

After installing Vcxsrv and configuring Bash, you should also run VCXSRV fort he first time. When you start VCXSRV, go through the Windows popping up.
Select Multiple Windows in first window, select start no client in the second window. You will not see any program starting, Vcxsrv will run in the background. It is a good idea to have Vcxsrv startup when Windows starts. If you don't want to do that, start Vcxsrv every time you want to use Linux applications.

2) You should update ubuntu before installing magic.

```
cevik@LAPTOP-MG95LFIV:~$ sudo apt-get update
[sudo] password for cevik:
Hit:1 http://archive.ubuntu.com/ubuntu bionic InRelease
Get:2 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:3 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
```

You will be asked for your UBUNTU password, enter the password you created while installing UBUNTU.

3) İnstall Magic using the command:

sudopt-get install magic

```
Get:24 http://archive.ubuntu.com/ubuntu bionic-backports/universe Translation-en [1604 B]
Fetched 16.2 MB in 33s (493 kB/s)
Reading package lists... Done
cevik@LAPTOP-MG95LFIV:~$ sudo apt-get install magic
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libfontconfig1
  libfontenc1 libgl1 libgl1-mesa-dri libgl1-mesa-glx libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libice6 libllvm6.0
  libpciaccess0 libsensors4 libsm6 libtcl8.6 libtk8.6 libx11-xcb1 libxaw7 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0
```

This will automatically install magic. If you are asked for your UBUNTU password, enter the password. If you are asked for approval for proceeding to use additional disk space, just type y to accept.

4) Go to the Magic installation directory:

cd /usr/lib/x86_64-linux-gnu/magic/sys

5) You should switch to root user typing:
    sudo bash
you will be asked for root password. Just type the password you created while installing Ubuntu.

6) Download Technology files for Magic:

wget ftp://ftp.mosis.edu/pub/sondeen/magic/new/beta/current.tar.gz

```
cevik@LAPTOP-MG95LFIV:~$ cd /usr/lib/x86_64-linux-gnu/magic/sys
cevik@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys$ sudo bash
[sudo] password for cevik:
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys# wget ftp://ftp.mosis.edu/pub/sondeen/magic/new/beta/current.tar.gz

--2019-01-31 15:53:41--  ftp://ftp.mosis.edu/pub/sondeen/magic/new/beta/current.tar.gz
           => 'current.tar.gz'
Resolving ftp.mosis.edu (ftp.mosis.edu)... 128.9.176.20
```

7) Unzip technology files
    gunzip current.tar.gz
    tar -xvf current.tar

Remove current.tar file:

rm -rf current.tar

```
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys# gunzip current.tar.gz
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys# tar -xvf current.tar
2001a/
2001a/NO_DRC.00.cifcheck.tech27
2001a/NO_DRC.00.light.tech27
2001a/NO_DRC.00.tech27
```

8) Rename the new library top-level directory to "current":
    mv 2001a current

```
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys# rm -rf current.tar
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys# mv 2001a current
root@LAPTOP-MG95LFIV:/usr/lib/x86_64-linux-gnu/magic/sys#
```

9) Close Ubuntu terminal and start a new one
    Type
    ```
    magic -T SCN3ME_SUBM.30
    ```

```
cevik@LAPTOP-MG95LFIV:~$ magic -T SCN3ME_SUBM.30
```