

MESA Installation Guide in nutshell (On Linux Debian)

May work on similar platforms like Ubuntu

1- System requirements:

- Mac or Linux operating system (I am using Linux Debian)
- 64-bit processor (32 bit is not supported)
- 4 GB RAM
- 10 GB free disk space

2- Download latest version and extract in final destination:

This is current download link:

<http://sourceforge.net/projects/ mesa/files/releases/ mesa-r9793.zip/download>

But this may change according to new updates. For updated version and more information visit:

<http://mesa.sourceforge.net/prereqs.html>

Extract compressed folder in final destination. Note that You need this address for setup in next steps. For example, I extracted to desktop, so this is final address:

```
/home/shahram/Desktop/ mesa-r9793
```

3- Download MESA SDK:

Download MESA SDK (required packages such as gcc, pgstar, hd5,.. are inside sdk) and extract it to final destination (I put SDK beside MESA and now I have mesa-r9793 and mesasdk as two separate folders). For more information visit link below, please note that you don't need to setup environmental variables in this step. I will configure it combined with MESA in step 6.

<http://www.astro.wisc.edu/~townsend/static.php?ref=mesasdk>

I extracted SDk to my desktop, so this is SDK address:

```
/home/shahram/Desktop/ mesasdk
```

4- Find appropriate shell you are working with:

Use echo in terminal to find shell version:

```
$echo $0
```

I had this output:

```
bash
```

It means my default shell is bash. You may get different result (bash is more common). Visit this page

for more information:

<https://askubuntu.com/questions/590899/how-to-check-which-shell-am-i-using>

5- Find startup parameters file

Find appropriate files to edit environmental variables. If you don't set these parameters you may need to set them up every time you are running MESA.

In link below you will find appropriate files for different shells:

<https://kb.iu.edu/d/abdy>

My shell was bash and I have Debian, so I simply edited "bash.bashrc" inside "/etc". Don't confuse yourself with a lot of file names.

6- Add parameters to startup file (bash.bashrc in my case)

You simply need to add addresses to this file. Again it will depend on your shell version. For bash we can use "export" and for csh it will be "setenv".

I added these line at the end of file (first line is comment and addresses refer to my extracted folders of MESA and MESA SDK):

```
#MESA parameters setup
export MESA_DIR=/home/shahram/Desktop/mesa-r9793
export OMP_NUM_THREADS=2
export MESASDK_ROOT=/home/shahram/Desktop/mesasdk
source $MESASDK_ROOT/bin/mesasdk_init.sh
```

7- Install MESA:

Now you have all requirement. Go to MESA folder and open new terminal and run:

```
./install
```

It will take some time to finish setup. If everything was correct you will see "mesa installation was successful". Mesa is ready!

8- Run a test

After installation accomplished you can run a test. First part of this page is very easy to run:

<http://mesa.sourceforge.net/starting.html>

9- References and useful links:

Mesa Home page: <http://mesa.sourceforge.net/index.html>

<http://mesa.sourceforge.net/prereqs.html>

<http://www.astro.wisc.edu/~townsend/static.php?ref=mesasdk>