**Pype 2 installation guide for 64bit Linux Machine**

* Tested under Ubuntu 16.04 64bit

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1. Download Ubuntu 16.04 64bit desktop image, and install

<http://releases.ubuntu.com/16.04/>

* Install available system update

2. Install Nvidia driver

* Remove old version of Nvidia if your graphic is supported

*$ sudo apt-get purge nvidia\**

* First, add the ppa:graphics-drivers/ppa repository into the system

*$ sudo add-apt-repository ppa:graphics-drivers/ppa*

*$ sudo apt update*

* Next, identify your graphic card model and recommended driver:

*$ ubuntu-drivers devices*

*### Following is an example output*

== /sys/devices/pci0000:00/0000:00:01.0/0000:01:00.0 ==

modalias : pci:v000010DEd00001C03sv00001043sd000085ABbc03sc00i00

vendor : NVIDIA Corporation

model : GP106 [**GeForce GTX 1060** 6GB]

driver : nvidia-driver-390 - third-party free

driver : **nvidia-driver-410** - third-party free recommended

driver : nvidia-driver-396 - third-party free

driver : xserver-xorg-video-nouveau - distro free builtin

* Install all recommended drivers automatically:

*$ sudo ubuntu-drivers autoinstall*

* Or selectively using the apt command

*### nvidia-410, nvidia-390,....*

*$ sudo apt install nvidia-410*

* Reboot the system

*$ sudo reboot*

3. Add eyelink repository and install dev kit

*$ sudo sh ./eyelink-install.sh*

4. Install eth32 dev kit

* Original source of ETH32 API

<https://www.winford.com/products/eth32-downloads.php>

* Unzip the file → move to linux directory → Install

*$ cd eth32api-2.01/linux*

*$ make*

*$ sudo sh ./install.sh*

*$ cd ~*

5. Install libezV24 (needed for access to serial port):

* Original source of “fixed-libezV24-0.1.3.tar.gz”

<https://github.com/mazerj/pype3/tree/master/Notes>

*$ sudo sh ./ez-install.sh*

6. Install pype packages

* 64bit\_Pype\_2019-05-18-working-copy.tar.gz is not compatible with 32 bit ubuntu
* Several source files related to dacq3 were changed

*$ chmod +x build\_install\_pype\_shapelab\_64bit.sh*

*$ ./build\_install\_pype\_shapelab\_64bit.sh 64bit\_Pype\_2019-05-18-working-copy.tar.gz*

7. Define PYPEDIR and other pype-specific environment variables in ~/.bashrc

*$ sudo gedit ~/.bashrc*

* Add the following lines at the end of the .bashrc file

export PYPEDIR = /usr/local/pype2

export PATH = $PYPEDIR/bin:$PYPEDIR/p2m:$PATH

8. Copy and paste Config.rig#-pype file and task files in the .pyperc folder

* Make sure that the Config file has the same name as the computer
* Make sure that display params are correct.
* Check ip address for **Eyelink**, and change it if needed

: in a new version of Eyelink, ip address was preset at 100.1.1.1

9. After you set the IP address (e.g., 172.16.0.103), you will try to ssh from pype controller.

* In new machines, ssh -X 172.16.0.103 may show you the following error message
* No matchine cipher found: client blowfish-cbc,arcfour server ???????????????
* blowfish-cbc,archfour are ciphers that are disabled by default for security reasons
* You can enable them through the following steps

*$ ssh -Q cipher:* This will show the available cipher in the machine

*$ cd /etc/ssh/*

*$ sudo gedit sshd\_lconfig*

*Then type the following lines at the top of the text file*

*# enabled all available ciphers. Your name, Date of change*

*Ciphers 3des-cbc,blowfish-cbc,arcfour,... (all available ciphers from ssh-Q cipher)*

### IP settings ###

**Router**: 172.16.0.1 **Pype controller**: 172.16.0.102 **Pype machine**: 172.16.0.103

**Eth32 box**: 172.16.0.104