Software Production Environment Install

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0.1	2022/07/14	Yuzne	Initial Documents

Introduction

Purpose

Introduce install Production Environment.

Scope

Only for Production Environment. However, this document does not apply to development environment.

Make startup disk

use rufus, ventoy or ubuntu startup disk creator make a startup disk.

Install Ubuntu 18.04

check minimal install and third drivers when installing system.

Config system

- change soft update source to China source.

- install cmake

  `sudo snap install cmake`

Install NVIDIA driver

driver install

install nvidia driver 470, use GUI `Software & update` or `sudo ubuntu-drivers install`.

cuda cudnn install

- cuda

  https://developer.nvidia.com/cuda-10.2-download-archive

- cudnn

  dpkg install file `cudnn-local-repo-ubuntu1804-8.4.1.50_1.0-1_amd64` download, or go to nvidia cudnn homepage download it(need account tolog in).

then,

```
sudo cp /var/cudnn-local-repo-ubuntu1804-8.4.1.50/cudnn-local-B2E73D77-keyring.gpg /usr/share/keyrings/

sudo apt update && sudo apt install libcudnn8-dev
```

set cuda path in .bashrc file.

```
echo 'export PATH=/usr/local/cuda/bin:$PATH' >> .bashrc
```

Install camera driver(Realsense SDK)

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-key F6E65AC044F831AC80A06380C8B3A55A6F3EFCDE || sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-key F6E65AC044F831AC80A06380C8B3A55A6F3EFCDE

sudo add-apt-repository "deb https://librealsense.intel.com/Debian/apt-repo $(lsb_release -cs) main" -u

sudo apt-get install librealsense2-dkms librealsense2-utils
```

Install identification module(Torch Torchvision)

use file or go to pytorch homepage download.

```
/media/sy/new/data/libtorch-cxx11-abi-shared-with-deps-1.12.0+cu102.zip
/media/sy/new/data/vision-0.13.0.tar.gz
```

`libtorch-cxx11-abi-shared-with-deps-1.12.0+cu102.zip` `vision-0.13.0.tar.gz`

pay attention to version **strictly correspondence**(list on vision github homepage readme).

`sudo apt install libjpeg-dev`

- For turing architecture GPU.
  `cmake .. -DCMAKE_PREFIX_PATH=${your_libtorch_path} -DWITH_CUDA=on -DCMAKE_CUDA_ARCHITECTURES=75`

ignore warning, then

`make && sudo make install`

Install SY-3 GUI clinet

copy packaged appdir

Create a start.sh for start with system.

`echo 'export LD_LIBRARY_PATH=/usr/local/lib:$LD_LIBRARY_PATH\n cd ${/path/to/Appdir/usr/bin};\n./qtDemo\n' > ~/start.sh`

`chmod 777 ~/start.sh`

then,

add this script in Ubuntu GUI software `Startup Applications Preferences`.

Install other tools.

Install todesk, ssh.