ros_tutorial Documentation

Release 0.0.1

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CHAPTER 1

Install ROS in Ubuntu

1.1 1.

1.1. sources.list

deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main /etc/apt/sources.list.d/ros-latest.list packages.ros.org.

```
$ sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -
↪sc) main" >/etc/apt/sources.list.d/ros-latest.list'
```

1.2. Key

```
$ sudo apt-key adv --keyserver hkp://ha.pool.sks-keyservers.net:80 --recv-
↪key 421C365BD9FF1F717815A3895523BAEEB01FA116
```

1.3. Debian package

```
$ sudo apt-get update
```

1.4. ROS-Kinetic package

```
$ sudo apt-get install ros-kinetic-<package >
```

```
$ sudo apt-get install ros-kinetic-desktop-full
```

Reference: http://wiki.ros.org/kinetic/Installation/Ubuntu

1.2 2. rosdep

rosdep dependencies

```
$ sudo rosdep init
$ rosdep update
```

CHAPTER 2

Set up environment

2.1 1. ROS environment Bash session

source /opt/ros/kinetic/setup.bash .bashrc .bash_aliases (: .bash_aliases)

ROS environment Bash session Terminal

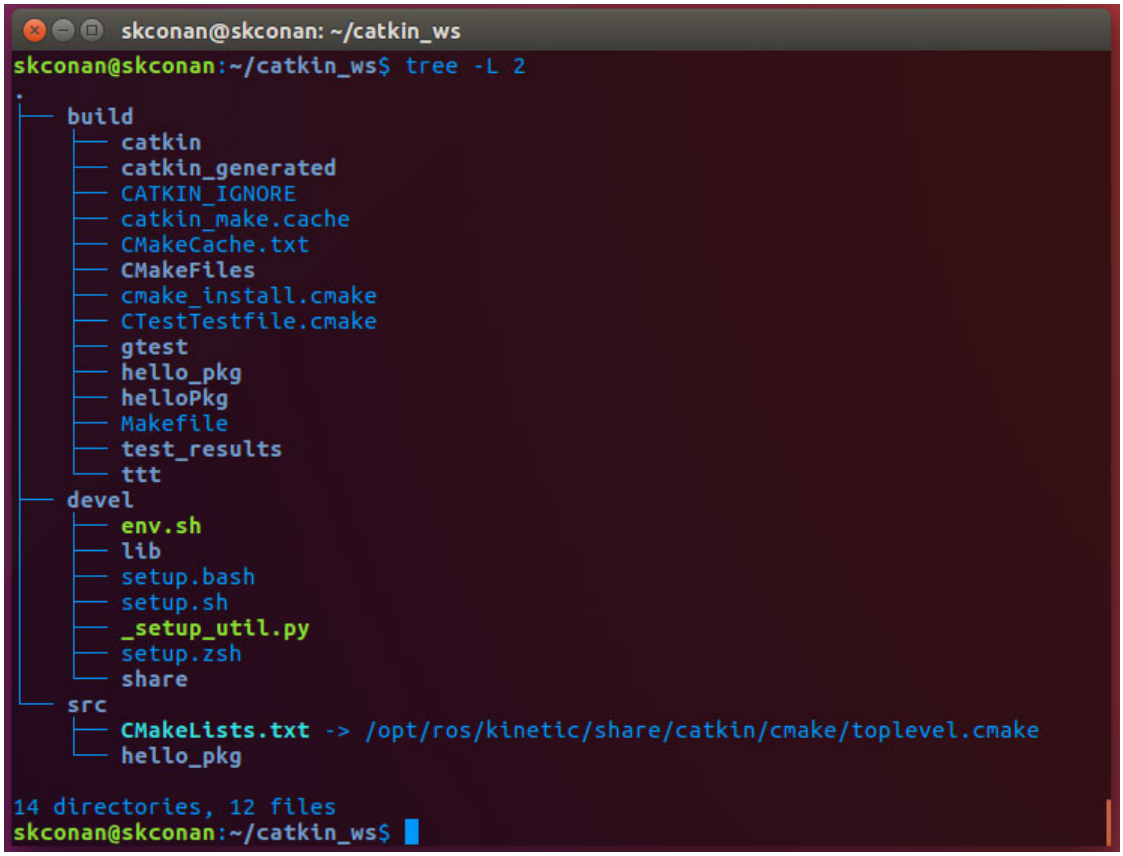
```
$ echo "source /opt/ros/kinetic/setup.bash" >> ~/.bash_aliases
```

echo show double quote (“ ”)

>>

CHAPTER 3

Create Workspace



3.1 1. directory workspace

directory catkin_ws directory **home** directory **src** **catkin_ws**

```
$ cd ~/
$ mkdir catkin_ws
$ cd ~/catkin_ws
$ mkdir src
```

3.2 2. catkin_init_workspace

catkin_init_workspace directory **catkin_ws/src**

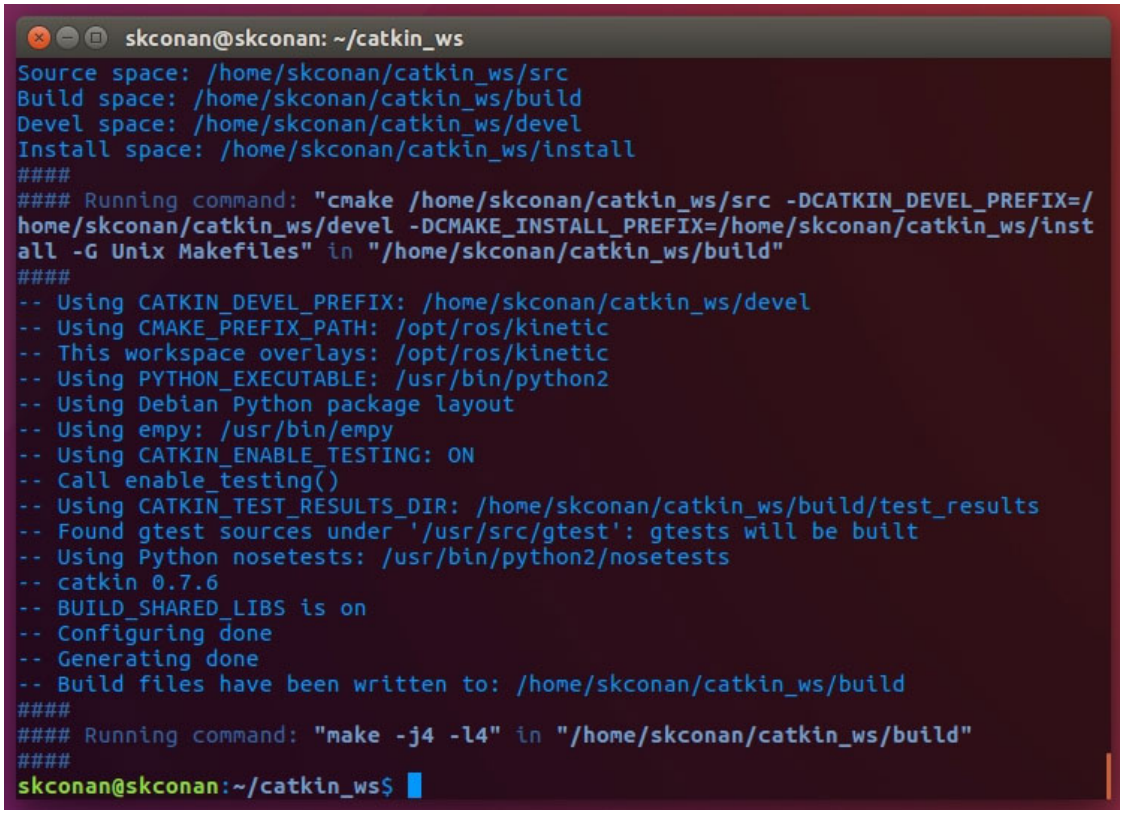
workspace CMakeList.txt

```
$ cd ~/catkin_ws/src
$ catkin_init_workspace
```

3.3 3. catkin_make

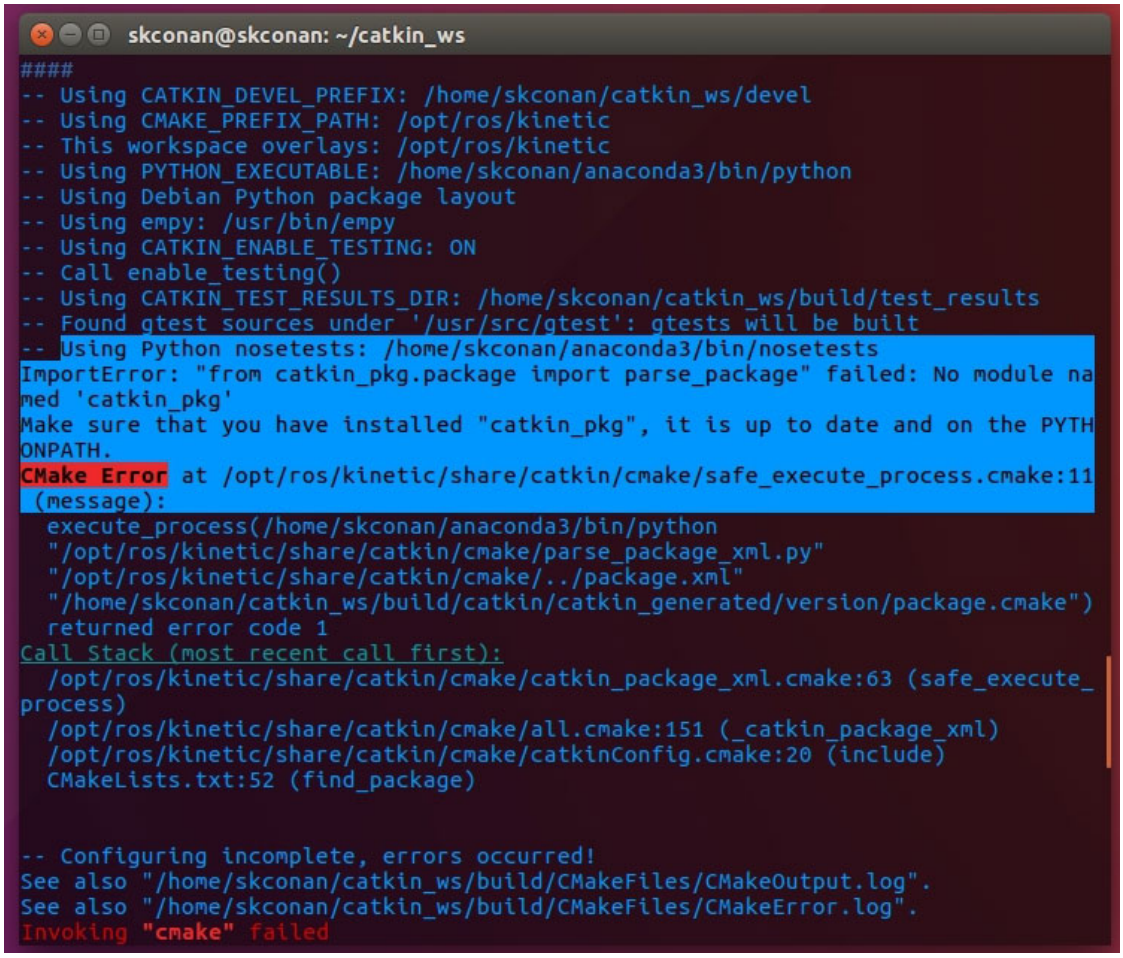
catkain_ws catkin_make run

```
$ cd src
$ catkin_init_workspace
$ cd ..
$ mkdir build
$ cd build
$ cmake ../src -DCMAKE_INSTALL_PREFIX=../install -DCATKIN_DEVEL_PREFIX=../
↪devel
$ make
```



reference: http://wiki.ros.org/catkin/commands/catkin_make

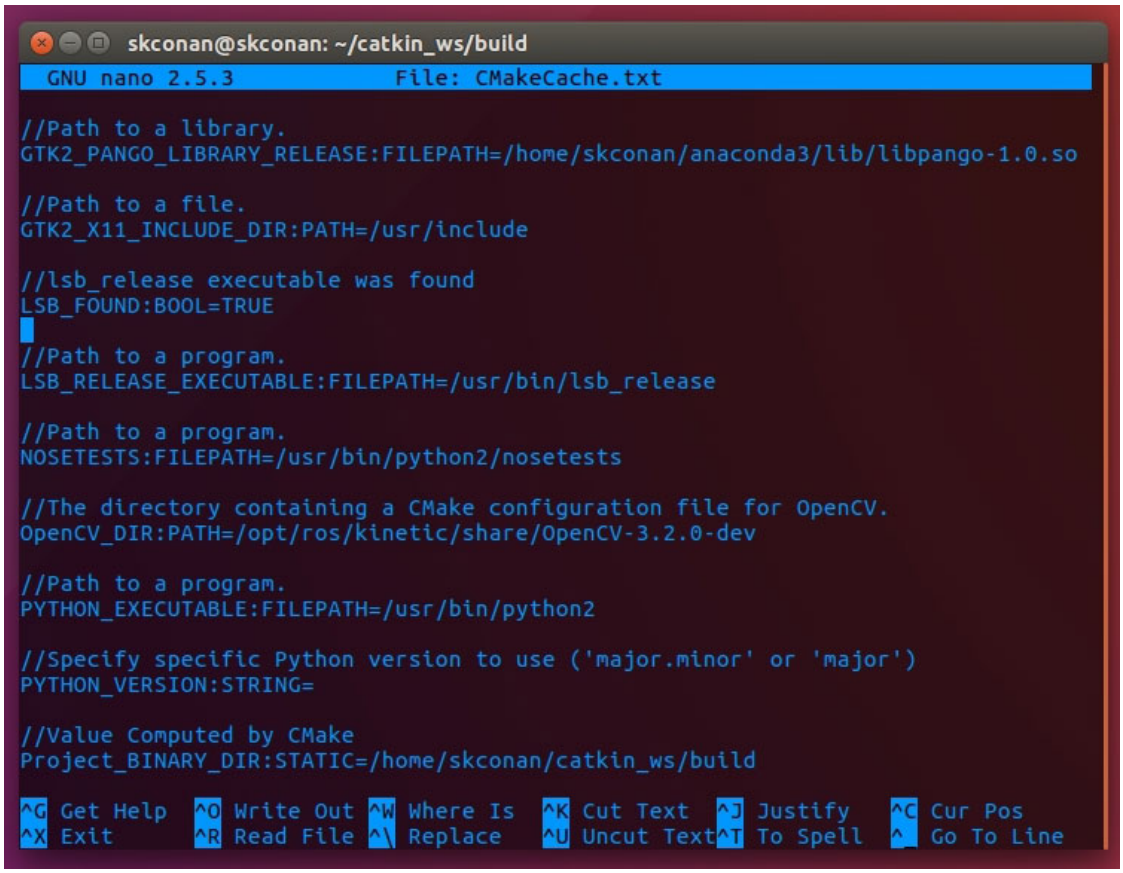
3.4 4. NOTE



error version Python default python version Python2 anaconda3

catkin_ws/build/CMakeCache.txt path python2

```
...
//Path to a program.
NOSETESTS:FILEPATH=/usr/bin/python2/nosetests
...
//Path to a program.
PYTHON_EXECUTABLE:FILEPATH=/usr/bin/python2
...
```


skconan@skconan: ~/catkin_ws/build
GNU nano 2.5.3 File: CMakeCache.txt
//Path to a library.
GTK2_PANGO_LIBRARY_RELEASE:FILEPATH=/home/skconan/anaconda3/lib/libpango-1.0.so
//Path to a file.
GTK2_X11_INCLUDE_DIR:PATH=/usr/include
//lsb_release executable was found
LSB_FOUND:BOOL=TRUE
//Path to a program.
LSB_RELEASE_EXECUTABLE:FILEPATH=/usr/bin/lsb_release
//Path to a program.
NOSETESTS:FILEPATH=/usr/bin/python2/nosetests
//The directory containing a CMake configuration file for OpenCV.
OpenCV_DIR:PATH=/opt/ros/kinetic/share/OpenCV-3.2.0-dev
//Path to a program.
PYTHON_EXECUTABLE:FILEPATH=/usr/bin/python2
//Specify specific Python version to use ('major.minor' or 'major')
PYTHON_VERSION:STRING=
//Value Computed by CMake
Project_BINARY_DIR:STATIC=/home/skconan/catkin_ws/build
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line

CHAPTER 4

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