ROS Tutorial 1 – ROS Workspaces

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Extracted from the web pages listed below

Prerequisites:

- You have installed Ubuntu and ROS and know how to do the Ubuntu things listed in the *How to install ROS* document.
- You are connected to the Internet. (Wired may be best.)

The following instructions are extracted from:

http://wiki.ros.org/ROS/Tutorials/InstallingandConfiguringROSEnvironment

1. Understand what a Catkin Workspace is

From http://wiki.ros.org/catkin/workspaces:

A ***catkin workspace*** is a folder where you modify, build, and install ***catkin*** packages. The following is the recommended and typical ***catkin*** workspace layout:

```
workspace_folder/          -- WORKSPACE
  src/                     -- SOURCE SPACE
    CMakeLists.txt         -- The 'toplevel'
                               CMake file

    package_1/
      CMakeLists.txt
      package.xml
      ...
    package_n/
      CMakeLists.txt
      package.xml
      ...
  build/                   -- BUILD SPACE
    CATKIN_IGNORE          -- Keeps catkin from
                               walking this directory
  devel/                   -- DEVELOPMENT SPACE
    bin/
    etc/
    include/
    lib/
    share/
    .catkin
    env.bash
    setup.bash
    setup.sh
    ...
  install/                 -- INSTALL SPACE
    bin/
    etc/
    include/
    lib/
    share/
    .catkin
    env.bash
    setup.bash
    setup.sh
    ...
```

2. Create a Catkin Workspace for ROS

In a Terminal window, type the following to make a workspace in your home folder, with a ***src*** subfolder in it.

```
cd ~
mkdir -p ros_workspace/src
```

Examine what is in the folders now. Understand NOW what each of the above commands does. Understand what the commands **cd** and **mkdir** do in general. Ask questions as needed!

Then, in the same Terminal window, type:

```
cd ros_workspace
catkin_make
```

Again examine what is in the folders. Understand NOW what **catkin_make** does.