Create a Catkin Workspace

1. Open up a terminal.

Shortcut: Press `CTRL+ALT+T`

2. Create the root workspace directory. You can name your directory anything but by ROS convention we will use `catkin_ws` as the name.

```
mkdir -p ~/catkin_ws/src
```

   - Move to the newly created workspace

```
cd ~/catkin_ws/src
```

3. Initialize the catkin workspace.

```
catkin_init_workspace
```

> Look for the statement "**Workspace configuration appears valid**", showing that your catkin workspace was created successfully. If you forgot to create the `src` directory, or did not run `catkin init` from the workspace root (both common mistakes), you'll get an error message like "**WARNING: Source space does not yet exist**".

4. Build the workspace.

   - Move back to `catkin_ws` directory either by...

```
cd ..
```

OR

```
cd ~/catkin_ws
```

   - Finish the creation of workspace by building it. Note: Build your workspace after every changes in C++ scripts, python script changes don't need rebuilding.

```
catkin_make
```

5. Now your catkin workspace will have additional directories `build, devel`.

```
ls
```

6. Now to make your workspace visible to ROS. Source the setup file in the devel directory.

```
source ~/catkin_ws/devel/setup.bash
```

   By doing this, all the packages that you create inside the `src` folder will be visible to ROS.

7. This `setup.bash` file of your workspace must be source everytime when you want to use ROS packages created inside this workspace.

   To save typing, add this to your `.bashrc`,

1. `gedit ~/.bashrc`
2. Add to the end: `source ~/catkin_ws/devel/setup.bash`
3. Save and close the editor.
