

# Creating a ROS Workspace

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Before starting please complete installation as described in the [ROS installation instructions](#)

## Managing Your Environment

1. Type (or copy and paste) the following command then click enter.

```
rosversion -d
```

```
hind@hind-virtual-machine: ~  
hind@hind-virtual-machine:~$ rosversion -d  
kinetic
```

2. Now type the following command then click enter.

```
printenv | grep ROS
```

```
hind@hind-virtual-machine:~$ printenv | grep ROS  
ROS_ROOT=/opt/ros/kinetic/share/ros  
ROS_PACKAGE_PATH=/opt/ros/kinetic/share  
ROS_MASTER_URI=http://localhost:11311  
ROS_PYTHON_VERSION=2  
ROS_VERSION=1  
ROSLISP_PACKAGE_DIRECTORIES=  
ROS_DISTRO=kinetic  
ROS_ETC_DIR=/opt/ros/kinetic/etc/ros  
hind@hind-virtual-machine:~$
```

## Create a ROS Workspace

1. First, type (or copy and paste) the following command then click enter.

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

```
hind@hind-virtual-machine:~$ mkdir -p ~/catkin_ws/src  
hind@hind-virtual-machine:~$
```

2. After that, type the following command then click enter.

```
cd ~/catkin_ws/
```

```
hind@hind-virtual-machine:~$ cd ~/catkin_ws/  
hind@hind-virtual-machine:~/catkin_ws$
```

3. Then, type the following command then click enter.

```
catkin_make
```

```
hind@hind-virtual-machine:~/catkin_ws$ catkin_make
Base path: /home/hind/catkin_ws
Source space: /home/hind/catkin_ws/src
Build space: /home/hind/catkin_ws/build
Devel space: /home/hind/catkin_ws/devel
Install space: /home/hind/catkin_ws/install
Creating symlink "/home/hind/catkin_ws/src/CMakeLists.txt" pointing to "/opt/ros
/kinetic/share/catkin/cmake/toplevel.cmake"
####
#### Running command: "cmake /home/hind/catkin_ws/src -DCATKIN_DEVEL_PREFIX=/hom
e/hind/catkin_ws/devel -DCMAKE_INSTALL_PREFIX=/home/hind/catkin_ws/install -G Un
ix Makefiles" in "/home/hind/catkin_ws/build"
####
-- The C compiler identification is GNU 5.4.0
-- The CXX compiler identification is GNU 5.4.0
-- Check for working C compiler: /usr/bin/cc
-- Check for working C compiler: /usr/bin/cc -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Detecting C compile features
-- Detecting C compile features - done
-- Check for working CXX compiler: /usr/bin/c++
```

4. Next, type the following command then click enter.

```
source devel/setup.bash
```

```
hind@hind-virtual-machine:~/catkin_ws$ source devel/setup.bash
hind@hind-virtual-machine:~/catkin_ws$
```

5. Finally, type the following command then click enter.

```
echo $ROS_PACKAGE_PATH /home/youruser/catkin_ws/src:/opt/ros/kinetic/share
```

**Hint:** Don't forget to replace the word "youruser" in the previous command with youruser.

```
hind@hind-virtual-machine:~/catkin_ws$ echo $ROS_PACKAGE_PATH /home/hind/catkin_ws/src:/opt/ros/kinetic/share
/home/hind/catkin_ws/src:/opt/ros/kinetic/share /home/hind/catkin_ws/src:/opt/ros/kinetic/share
hind@hind-virtual-machine:~/catkin_ws$
```

## References

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

<https://www.youtube.com/watch?v=DMw6XbpGXsl>