Check compatibility first!

- Ubuntu 14.04 in your computer (no virtual machines please)

- Good RAM and disk memory (log files can get gigantic, visualization and simulation uses RAM)

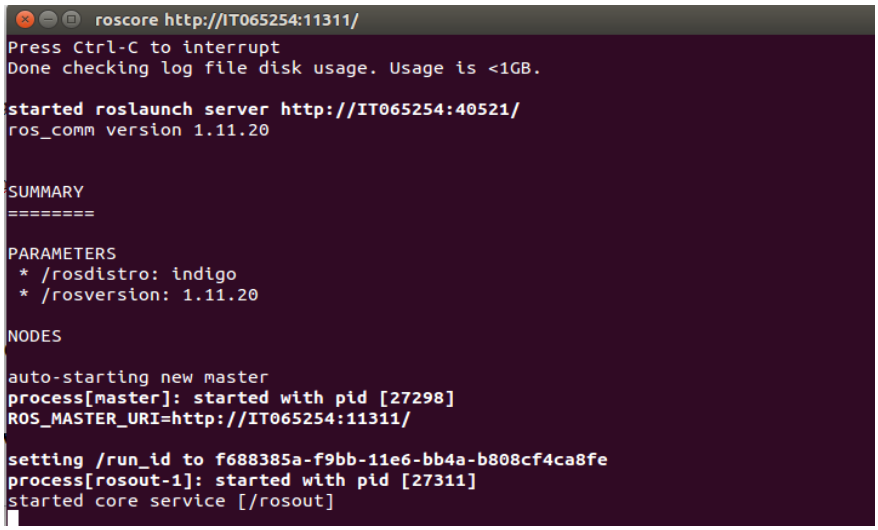
Install ROS Indigo

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

sudo apt-key adv --keyserver hkp://pool.sks-keyservers.net --recv-
key 0xB01FA116

sudo apt-get update

sudo apt-get install ros-indigo-desktop-full

sudo rosdep init

rosdep update

echo "source /opt/ros/indigo/setup.bash" >> ~/.bashrc

source ~/.bashrc

sudo apt-get install python-rosinstall
```

Check this installation

```
roscore
```

(Should give you a screen saying that ROS' master is running)



Then install Gazebo v. 2 (compatible with ROS Indigo, needed for many robots)

```
sudo sh -c 'echo "deb
http://packages.osrfoundation.org/gazebo/ubuntu trusty main" >
/etc/apt/sources.list.d/gazebo-latest.list'
```

```
wget http://packages.osrfoundation.org/gazebo.key -O - | sudo apt-key add -
```

```
sudo apt-get update
```

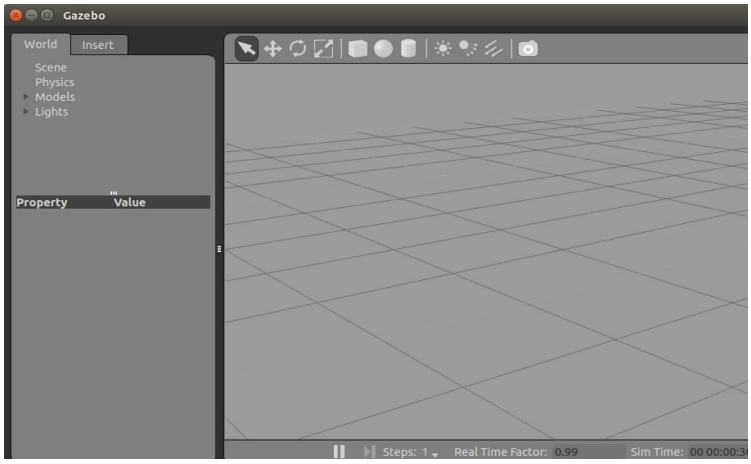
```
sudo apt-get install gazebo2
```

```
sudo apt-get install ros-indigo-gazebo-ros-pkgs ros-indigo-gazebo-ros-control
```

Check the installation of Gazebo

gazebo

(Should produce a new screen)



Then install MoveIt! (useful for most robots)

```
sudo apt-get install ros-indigo-moveit-full
```

```
sudo apt-get install ros-indigo-ros-control ros-indigo-ros-controllers
```

Create a workspace (e.g. with a name such as catkin_ws)

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

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

```
catkin_init_workspace
```

```
cd ~/catkin_ws
```

```
catkin_make
```

```
echo "source ~/catkin_ws/devel/setup.bash" >> ~/.bashrc
```

Install the TIAGo robot 's dependencies, just in case they have not been already installed with MoveIt!

```
sudo add-apt-repository --yes ppa:xqms/opencv-nonfree
```

```
sudo apt-get update
sudo apt-get install libopencv-nonfree-dev git python-catkin-tools
ros-indigo-joint-state-controller ros-indigo-twist-mux ros-indigo-
ompl ros-indigo-controller-manager ros-indigo-moveit-ros-move-
group ros-indigo-moveit-ros-planning-interface ros-indigo-moveit-
simple-controller-manager ros-indigo-moveit-planners-ompl ros-
indigo-joy ros-indigo-joy-teleop ros-indigo-teleop-tools ros-
indigo-control-toolbox ros-indigo-sound-play ros-indigo-navigation
ros-indigo-eband-local-planner ros-indigo-depthimage-to-laserscan
ros-indigo-ddynamic-reconfigure-python ros-indigo-openslam-
gmapping ros-indigo-gmapping
```

Download the file, put it in your workspace (e.g. catkin_ws), run it, install remaining dependencies, and compile

http://wiki.ros.org/Robots/TIAGo/indigo_install?action=AttachFile&do=view&target=tiago_public.rosinstall

```
rosinstall src /opt/ros/indigo tiago_public.rosinstall
```

```
sudo rosdep init
```

```
rosdep update
```

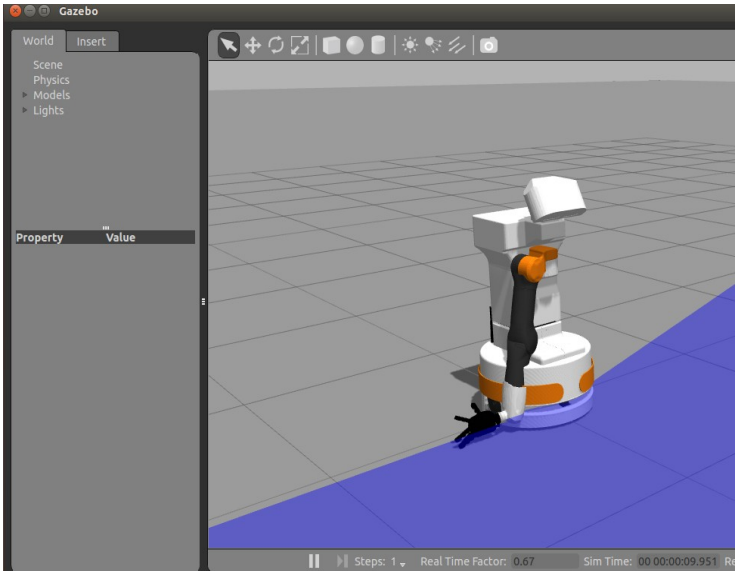
```
rosdep install --from-paths src --ignore-src --rosdistro indigo
--skip-keys="opencv2 opencv2-nonfree pal_laser_filters speed_limit
sensor_to_cloud"
```

```
catkin_make
```

Test the TIAGo installation

```
roslaunch tiago_gazebo tiago_gazebo.launch public_sim:=true
robot:=titanium
```

(If you get a robot in Gazebo, and it moves, you've succeded!)



Download a zip file containing the AR10 robot into your workspace's src folder (e.g. catkin_ws/src, and compile

https://github.com/Active8Robots/AR10 → click on the green button and then Download ZIP

```
catkin_make
```

Test your AR10 installation

```
roslaunch ar10_moveit demo.launch
```

(If you see a screen with a robotic hand and many other buttons, you've succeded!)