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## CAT Vehicle Testbed

CPS-VO » CAT VEHICLE TESTBED

Installation



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Submitted by [sprinkle](#) on Mon, 05/30/2016 - 12:53pm

### Installing ROS in a new virtual machine

Current release uses ROS Indigo, so you should install Ubuntu 14.04 and follow the tutorials found on the ROS installation page. When installing Ubuntu, note that:

- **We *only* support ROS Indigo on Ubuntu 14.04 (Trusty Tahr) on VMWare (or bare metal).**
  - *We have had trouble with network connectivity using Virtual Box*
  - *ROS Kinetic and Jade will have compile failures with our software*
  - *Newer versions of Ubuntu may not run ROS Indigo from apt binaries*
- you should ensure you are using 14.04 (Trusty Tahr) and not a newer version
- we recommend 80GB of storage (permits you to also install MATLAB/Simulink and store large logfiles)

The ROS installation page is at <http://wiki.ros.org/indigo/Installation/Ubuntu>

### Additional ROS package installation

After installing ROS, we require the additional packages to be installed:

#### Controller manager (allows the car to move around with ROS messages)

```
sudo apt-get install ros-indigo-controller-manager
sudo apt-get install ros-indigo-ros-control ros-indigo-ros-controllers
sudo apt-get install ros-indigo-gazebo-ros-control
```

#### Velodyne

```
sudo apt-get install ros-indigo-velodyne
```

#### SICK Laser

```
sudo apt-get install ros-indigo-sicktoolbox ros-indigo-sicktoolbox-wrapper
```

#### Joystick control

```
sudo apt-get install ros-indigo-joystick-drivers
```

#### Localization packages

These enable SLAM-based localization.

```
sudo apt-get install ros-indigo-hector-slam ros-indigo-hector-mapping
```

#### Hardware installation

##### NovAtel GPS

Unless you plan on decode GPS data on your laptop directly from hardware, this package is optional.

```
sudo apt-get install ros-indigo-novatel-span-driver
```

#### Downloading the release

Head over to the [Compile the release](#) tutorial to get it downloaded and build, and ready to run!

#### Backlinks:

- [Driving with a ps joystick](#)
- [Running hector\\_slam with the CAT Vehicle](#)
- [Main Wiki Page](#)

