Course Preparation

In this course, we will work with **Ubuntu 16.04** and **ROS Kinetic Kame**. We highly recommend having **Ubuntu 16.04** dual booted on your system. If you have Ubuntu 16.04 on your laptop / Desktop already then follow the instructions on this website to install ROS Kinetic Kame:

http://wiki.ros.org/kinetic/Installation/Ubuntu

Along with these it is recommended to install:

Terminator(a different command line tool)

Git

If you face any issues feel free to contact us.

If you don't want to dual boot your laptop we recommend you to follow these instructions:

Install Virtual Machine To run the provided image you need the VMware Workstation 15 Pro (Windows, Linux) or VMware Fusion 11 (macOS).
We Recommend you to have at least 20GB of available disk space on your computer to run the virtual machine. Download the zipped folder "Ubuntu_ROS_Course.zip" (~ 7.0 GB) from polybox and extract it.

- To start Up Virtual Machine open VMware Workstation
- Open file Ubuntu_ROS_Course.vmx in the downloaded folder Ubuntu_ROS_Course
- Start the virtual machine with "Power on this virtual machine" or "Start up this guest operating system". Important! If it is the first time you are using an virtual machine on your laptop, there might be an error message that tells you that "This host supports Intel VT-x, but Intel VT-x is disabled". The Intel Virtual Technology (Intel VT) has to be enabled in your BIOS (or UEFI). You will have to restart the computer and press either Enter, F1, F10, or DEL to go to BIOS settings (depending on your PC manufacturer).Under Security->System Security you will find the option to enable VT. Some more explanations can be found here.

- To login under Ubuntu use the provided account ROS Course:
  User: student
  Password: student
- To test Virtual Machine:You will need to work with the Gazebo simulation from the first day on of the ROS Course.Therefore, please make sure in advance that everything is running in your virtual machine.To check that your virtual machine is running as expected start the Gazebo simulation as explained below:
  Open a terminal (Terminator) by clicking on the terminal Icon on the left side(alternatively press Ctrl+T). Type ‘gazebo’ in the terminator.
- Close gazebo after tinkering by Ctrl+C.

Some common Problems faced during installation:

1. Don’t forget to source any package you create. Add following in your terminal echo “source ~/<pwd>/<workspace_name>/devel/setup.bash” >> ~/.bashrc”
2. Anaconda and ROS cannot be used in the same environment because they have conflicting python path. To deal with this edit your bashrc file by commenting the anaconda python path. export PATH="/home/<machine_name>/anaconda3/bin:$PATH"
3. Use python pip to install python dependencies. Anaconda should be avoided.