

WidowX Arm Controller User Guide

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Walking through the installation of Arbotix WidowX Arm Controller

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Install Arduino IDE

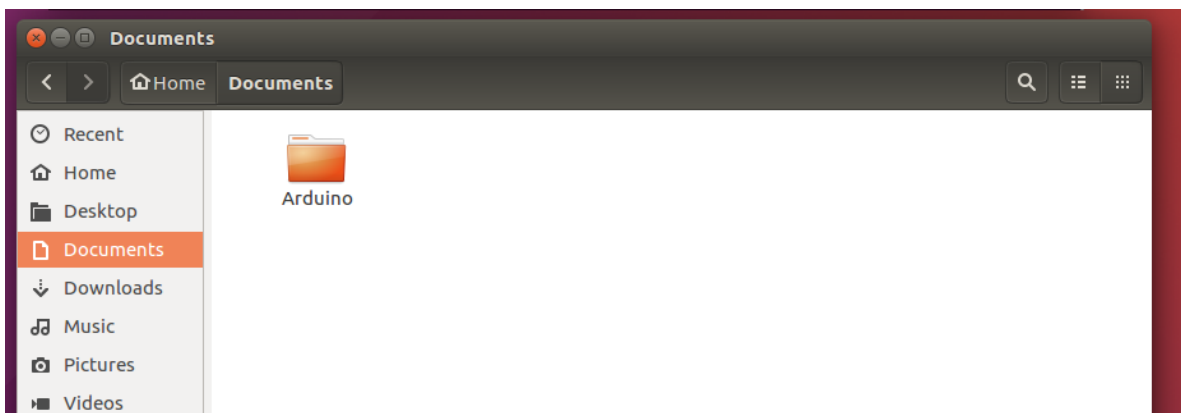
- The first step is to install the Arduino IDE. Open a terminal and write:

```
sudo apt-get install Arduino
```

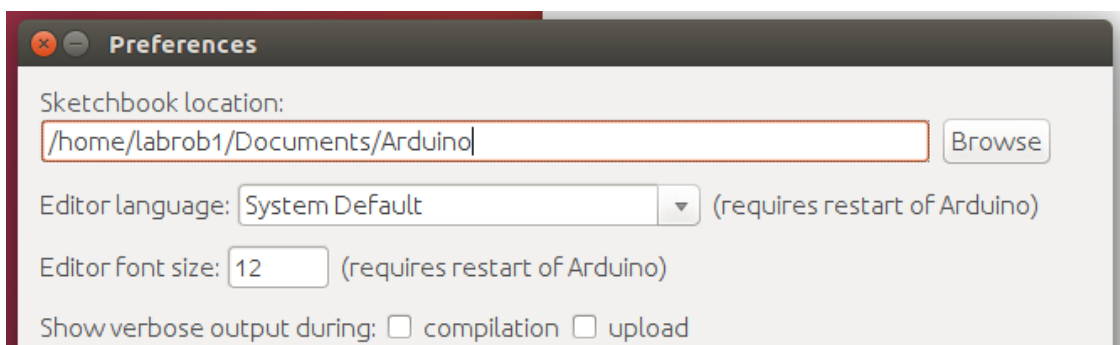
- Then you have to get the permissions, in order to do so launch the following command.

```
sudo usermode -aG dialout $user
```

- Now, create a new folder named “*Arduino*” in *Documents*.



- Open Arduino IDE, and go to *File > Preferences* and set as *Sketchbook location* the folder you’ve created in the previous step.



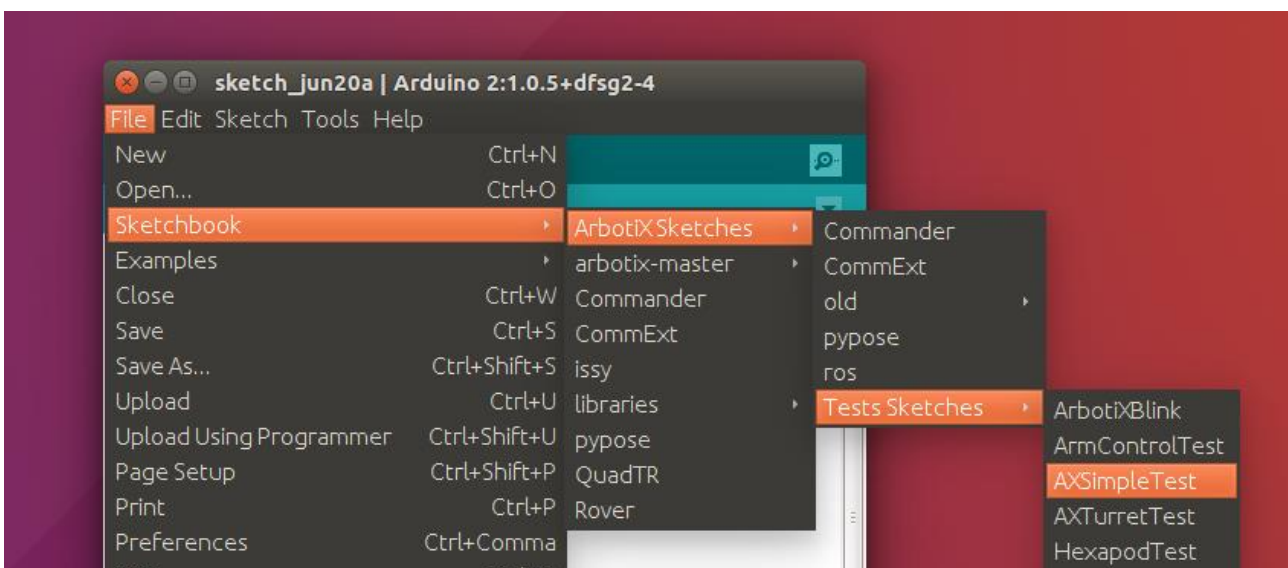
- Download the file *arbotix-master.zip* at this link:

<https://mega.nz/#!7dkIESrA!W3AeUG8ZT037R2S5avyImEtmVonwuDYdAdUZNri8Ypk>

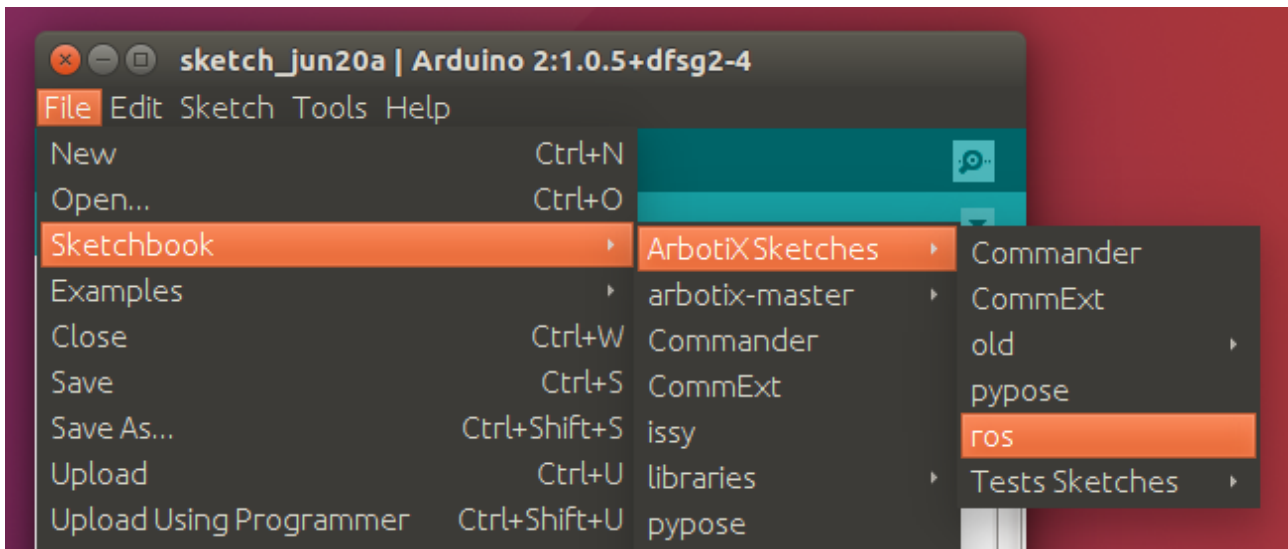
- Open the file, there will be 3 folders:
 - *ArbotiX Scketches*
 - hardware
 - libraries
- Copy these folders in */Documents/Arduino*
-



- Verify in the Arduino IDE, under *Sketch > Import > Library* if you can see *Biolooid* and *Commander*.
- You can now try to run a simple sketch, from Arduino IDE go to *File > Sketchbook > ArbotiX Sketches > Tests Sketches > AXSimpleTest*



- You are now ready to run the *ros* sketch. Go to *File > Sketchbook > ArbotiX Sketches > ros*



WidowX ROS installation

- Create the directory *widowx_arm*

```
mkdir -p ~/widowx_arm/src
```

- Move to the */widowx_arm/src*

```
cd ~/widowx_arm/src
```

- Download from github the firmware

```
git clone https://github.com/Interbotix/widowx_arm.git
```

- Move to */widowx_arm*

```
cd ~/widowx_arm
```

- Execute the command

```
catkin_make
```

- In a new Terminal open the file *bashrc* with gedit or some other editor

```
gedit .bashrc
```

- Copy the following strings at the bottom of the *bashrc* file.

```
# enable running of ros master for WidowX Arm Controller  
source ~/widow_arm/devel/setup.bash
```



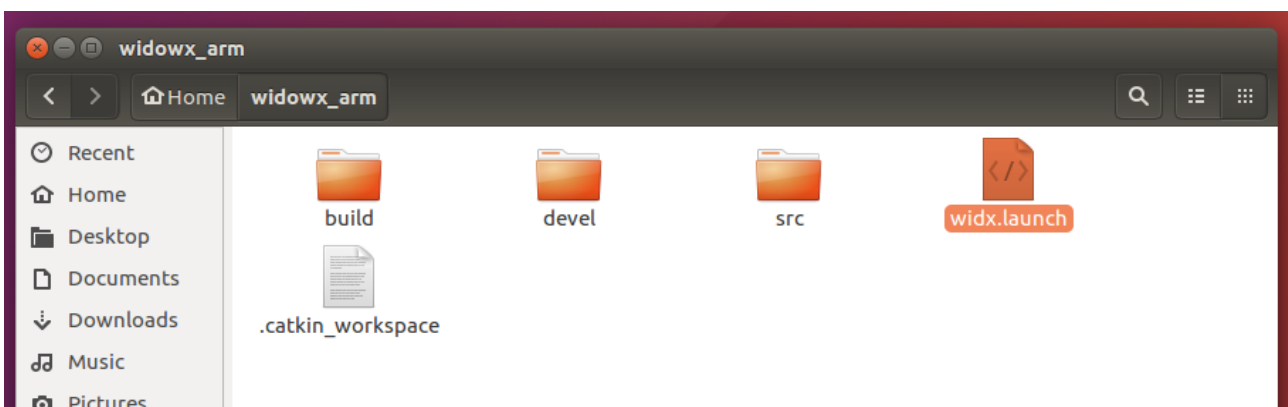
The screenshot shows a gedit window titled `*.bashrc (~/) - gedit`. The window contains the following text:

```
120  
121 PATH=$PATH:/home/labrob1/bin/gcc-arm-none-eabi/bin  
122  
123 PATH=$PATH:/opt/pycharm-community-4.0.2/bin  
124  
125 # enable running of rosmaster for WidowX Arm Controller  
126 source ~/widow_arm/devel/setup.bash  
127  
128  
129  
130 |
```

The status bar at the bottom indicates `sh Tab Width: 8 Ln 130, Col 1 INS`.

- Download the file *widx.launch* from this link and copy it in the *widowx_arm* folder, you should have it in */home/widowx_arm*

<https://mega.nz/#!3M9UzaRZ!BcJe5QPVIFRzNRAUujNwfpHH9i3uentU6EdhVCTNOI>



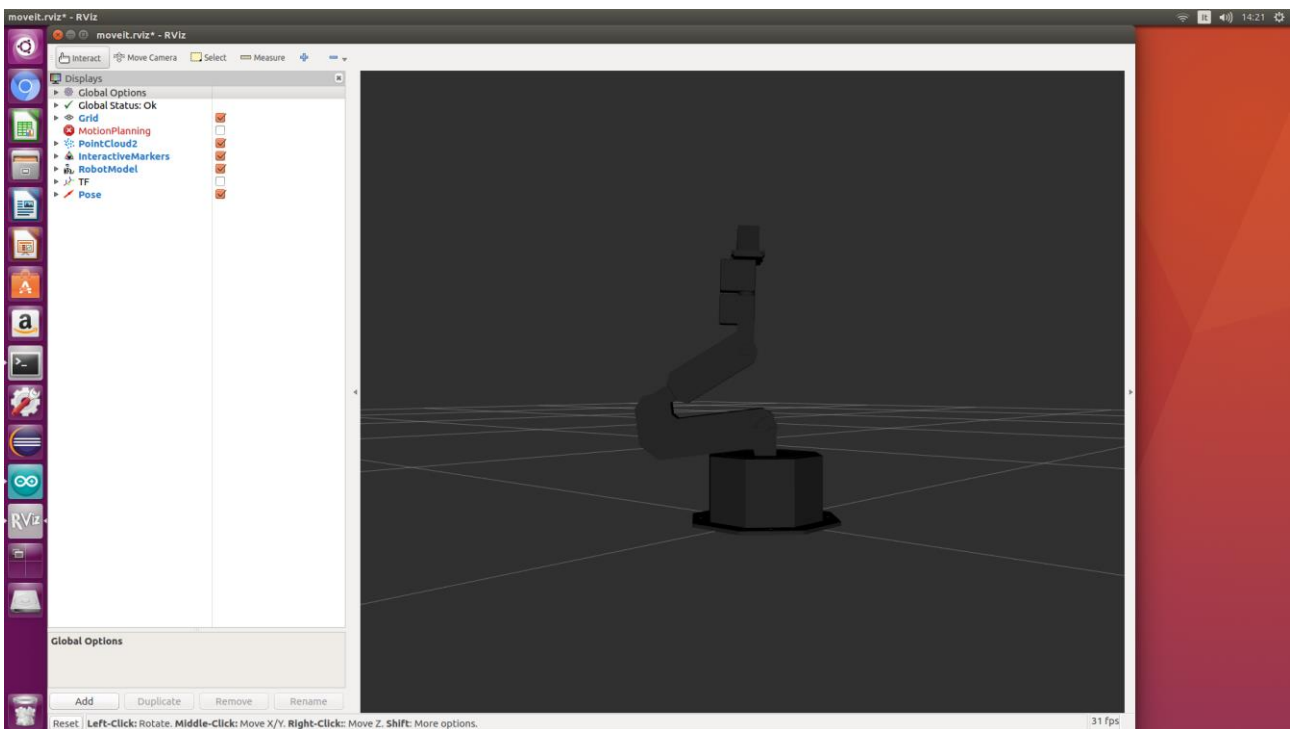
- Now you are ready to work with the Arbotix WidowX. Move to /widowx_arm

```
cd widowx_arm
```

- Plug the USB cable to your PC and power up the manipulator with a 12v power supply. And run the ros master with the following command

```
roslaunch widx.launch
```

- After a while you should see the RVIZ interface with the manipulator model.



- You are now able to work with the matlab GUI.