

# Simulator

## Setup

The simulator is completely modular and fits into the existing software system as subrepo with virtualized hardware modules. In order to run the simulator you simply need to clone simulator within the robosub repo.

Ex.

- `git clone https://www.github.com/PalouseRobosub/robosub.git`
- `cd robosub`
- `git clone https://www.github.com/PalouseRobosub/simulator.git`

The project must be opened using the experimental [Linux Unity Editor](#)

Once installed and you have an account setup, you need to open the folder containing `/Assets` and `/ProjectSettings` as a project. The project will generate all of the meta files needed to run the simulator. Once generated, you will have a list of scenes that you can open in the directory view. Opening `Competition` will pull up the competition scene.

Once the scene is loaded you can dynamically move the submarine around and edit scripts within the project. The software will run normally with `Sensor`, `Thruster`, and `Camera` being run within the engine. Make sure to have the correct IP address set in the broker settings file. `localhost (127.0.0.1)` should be used for running isolated personal machines. To verify that the software is talking normally you can run `helm` and view sensor data or view the broker log to make sure data is being sent.

The control system is currently loaded from the control file within the parent repo. Thrusters currently need to be in order (front, back, left, right, top, bot) for the control system to output correctly. It's best to checkout the simulator branch in robosub to grab a test control system layout where the sub is balanced. Once you run control, the broker, and the simulator you can use messenger to test movement and thruster outputs.

## Gazebo Install

To install gazebo 7 please follow these steps:

```
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 ros-indigo-gazebo7-*
```

From:

<http://robosub-vm.eecs.wsu.edu/wiki/> - **Palouse RoboSub Technical Documentation**

Permanent link:

<http://robosub-vm.eecs.wsu.edu/wiki/cs/simulator/start?rev=1475446678>



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