

INTRO

Actual State

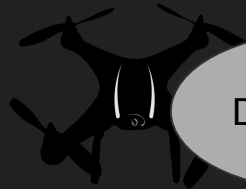
Pedro Arias

Infraestructura

- ROS + MAVLink → MAVROS

ROS

- Drone



Drone ¿?

PX4 (SITL)

+



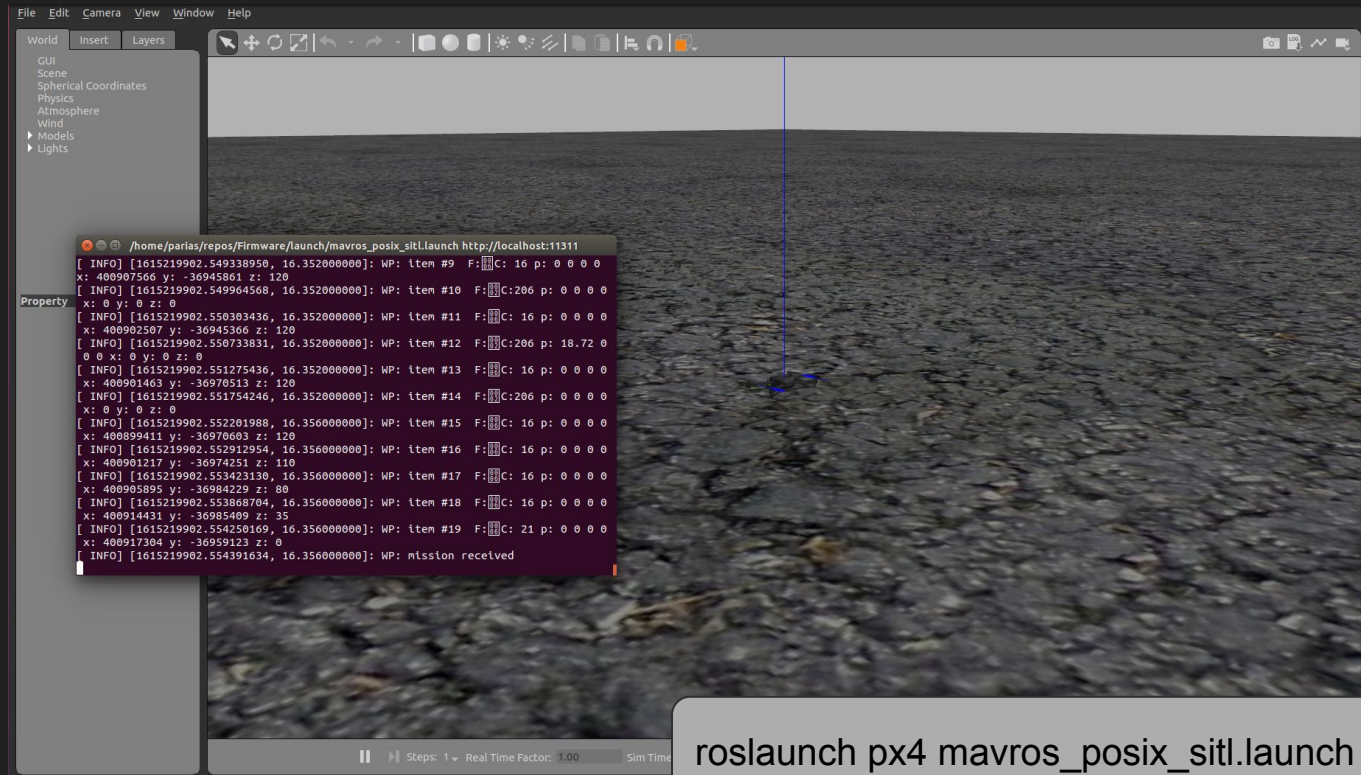
ROS + PX4 + Gazebo

- Ubuntu 18.06
- ROS Melodic
- Gazebo 9

ROS Melodic
EOL 2023



ROS Noetic ¿?



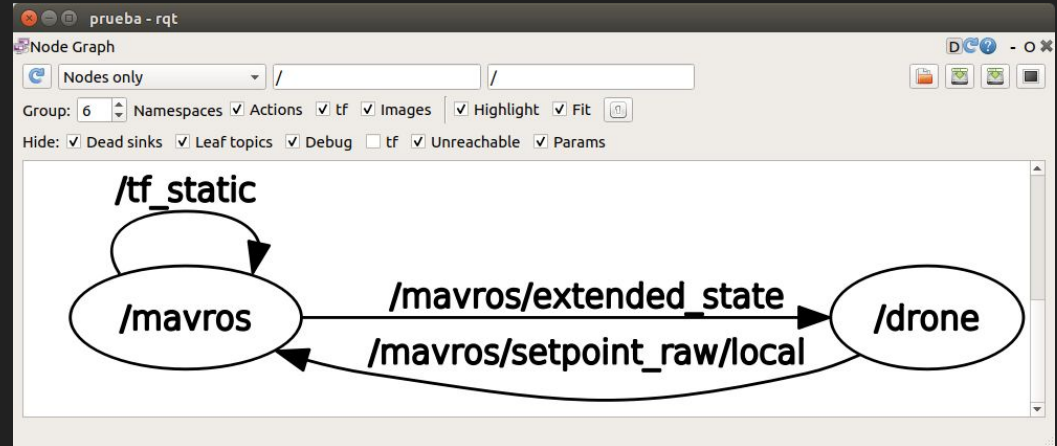
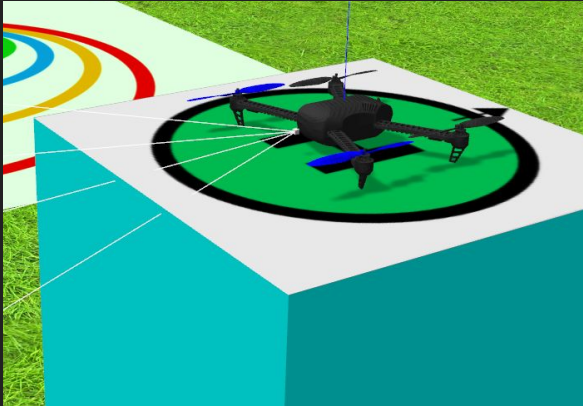
roslaunch px4 mavros_posix_sitl.launch

Drone Wrapper

- Paquete ROS: Melodic y Kinetic (deprecated)
- Python 2.7



[/JdeRobot/drones](https://github.com/JdeRobot/drones)



Services

mavros/cmd/arming
mavros/set_mode
mavros/cmd/land
mavros/param/set
mavros/param/get

Topics
subs

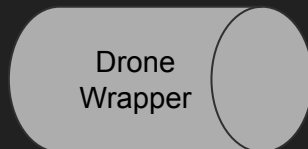
mavros/state
mavros/extended_state
mavros/local_position/pose
mavros/local_position/velocity_body
mavros/global_position/global

/iris/cam_frontal/image_raw
/iris/cam_ventral/image_raw

Topics
pubs

drone_wrapper/extended_state
drone_wrapper/local_position/pose
drone_wrapper/local_position/velocity_body
drone_wrapper/cam_frontal/image_raw
drone_wrapper/cam_ventral/image_raw

mavros/setpoint_raw/local



API

drone.get_position()
drone.get_velocity()
drone.get_yaw_rate()
drone.get_orientation()
drone.get_roll()
drone.get_pitch()
drone.get_yaw()
drone.get_landed_state()

drone.set_cmd_pos(x, y, z, yaw)
drone.set_cmd_vel(vx, vy, vz, yaw_rate)
drone.set_cmd_mix(vx, vy, z, yaw_rate)

drone.takeoff(height)
drone.land()

drone.param_get(param)
drone.param_set(param, value)

drone.get_frontal_image()
drone.get_ventral_image()

Aplicaciones

- Python Interpreter
- CLW
- RQT Drone Teleop
- Academy

```
parias@parias-msi:~$ python2
```

```
Python 2.7.17 (default, Feb 25 2021, 14:02:55)
```

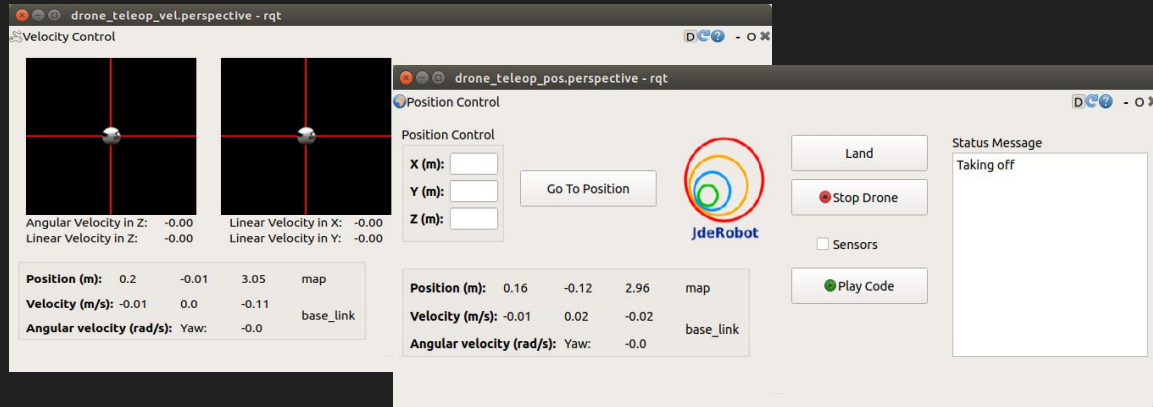
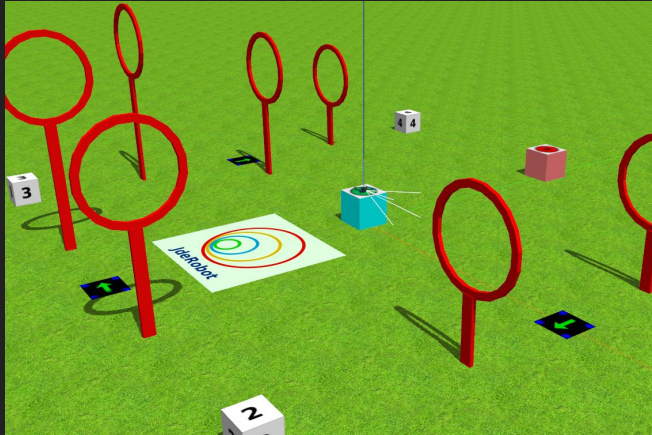
```
[GCC 7.5.0] on linux2
```

```
>>> import rospy
```

```
>>> from drone_wrapper import DroneWrapper
```

```
>>> drone = DroneWrapper()
```

```
>>> drone.takeoff()
```

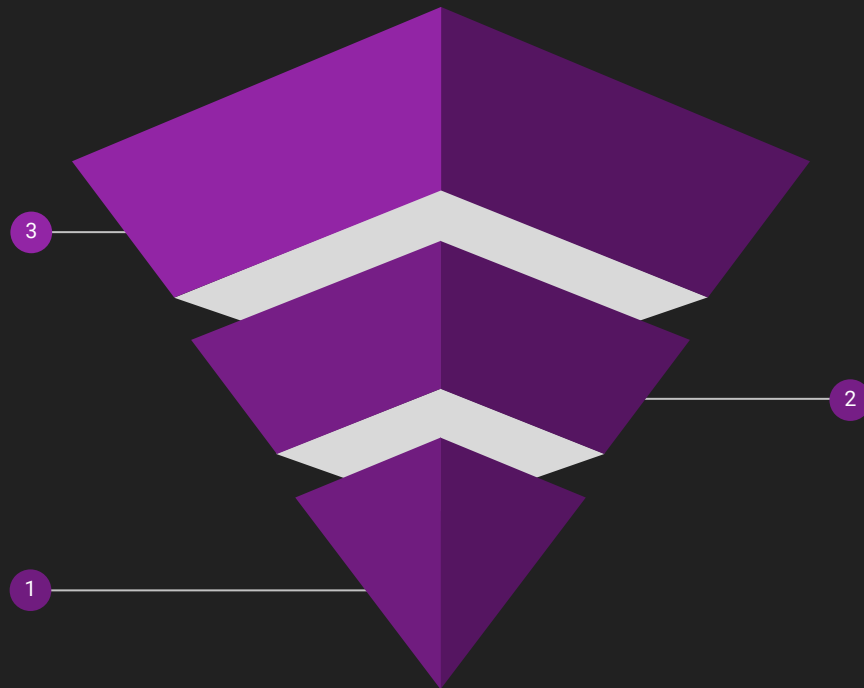


Aplicaciones

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Vehículo

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Drone Wrapper

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