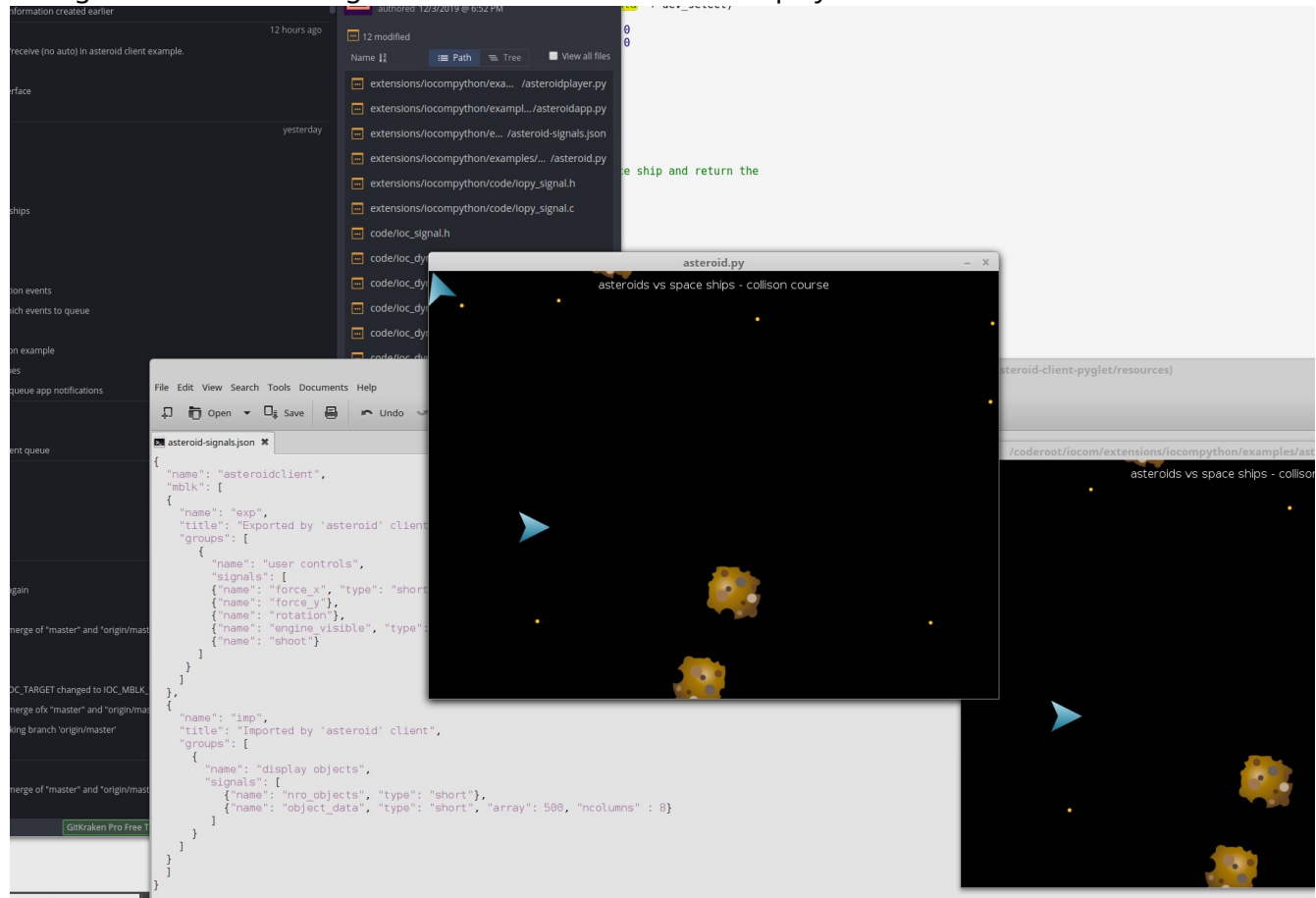


## IOCOM in simple multi player game?

191202, updated 2.12.2019/pekka

This test code/example is for IOCOM network topology using Python API (iocompython) and Pyglet game UI library. Network topology for a multi player game can be very similar to IO device network: I run server side app (also python/iocompython) in Amazon's AWS and client side in my computers. The "game arena" is analogous to "IO device network" and "player" to "IO device".



### On server side

It is was easy. Amazon EC2 is like Linux computer (virtual one tough) to which I connect with putty terminal. Necessary software like git, cmake, python3-dev, etc. can be just installed to AWS machine by typing "sudo yum install git..." to pytty terminal. Then I use "git clone.." to get "/coderoot/iocom" and "/coderoot/eosal" source code. The iocompython C code /coderoot/iocom/extensions/iocompython builds with cmake to "/coderoot/bin/linux/iocompython.so" on linux (or bin/win32/iocompython.pyd" on windows).

To run the Asteroid game server, use in "iocompython/examples/asteroid-service/asteroidservice.sh".

## On client side.

The `"/coderoot/iocom/extensions/iocompython"` C code needs to be compiled for client environment, this makes the Python module. Asteroid game's client side Python code is in `"iocompython/examples/asteroid-client-pyglet"`.

## Linux notes:

Note 1: Build and run dependencies (already in dev. virtual machine)

- `sudo apt-get install cmake`
- `python` (3.5 or newer preferred)
- `pyglet`

Note 2: Build iocompython from C code

- `cd /coderoot/iocom/extensions/iocompython`
- `mkdir tmp`
- `cd tmp`
- `rm -R *`
- `cmake -DCMAKE_BUILD_TYPE=Release ..`
- `make`

Note 3: Check build result

- `ls -la /coderoot/bin/linux/iocomp*`
- `==> -rwxr-xr-x 1 pekka pekka 244056 Dec 26 22:12 /coderoot/bin/linux/iocompython.so`

Note 4: Start asteroid test service

- open new terminal
- `cd /coderoot/iocom/extensions/iocompython/examples/asteroid-service`
- `./asteroidservice.sh`

Note 5: Start asteroid test client

- open new terminal
- `cd /coderoot/iocom/extensions/iocompython/examples/asteroid-client-pyglet`
- `gedit asteroid.py`
- modify line `connection = Connection(root, "127.0.0.1", "tls,up")` to have numeric IP address of computer running the asteroid service. 127.0.0.1 is in same computer. Save the file and close gedit.
- `./asteroid.sh`

Note 6: General

- Line `"import pyglet"` or `"import kivy"` in .py file causes python to load Pyglet, or Kivy, if the library is installed.
- Python starts with command `python3 Python`.
- Often several different Python 3 versions are installed in same computer, so sometimes we use `"/usr/bin/python3"` and sometimes just `"python3"` to start Python.
- Python needs to find `/coderoot/bin/linux/iocompython.so`. To make this happen environment variable `"export PYTHONPATH=/coderoot/bin/linux"` is set.
- Startup script ending with `".sh"` sets `PYTHONPATH` and starts asteroid test application `"/usr/bin/python3 asteroid.py"`