

# How to debug the game engine with emacs/gdb

- these are very brief notes on how you can debug your dhewm3 engine with emacs and gdb
  - this game engine will also have had python bots capability added
- firstly it is a good idea to ensure that you have no python bots running on your machine
- ```
$ ps aux | grep python
```
- use the Unix command line `kill` command to kill any process running python and doom

## Build a test map including python bot

```
$ cd Sandpit/chisel/python  
$ ./developer-txt2map ../maps/python.txt
```

## Build a test map including python bot

- now run gdb from within emacs
  - start emacs and press F5, which will compile dhewm3 and start gdb
  
- now exit from dhewm3
  
- in the .gdbinit emacs buffer add the line `break idPlayer::RegisterPython` before the line `run`
  - we are informing gdb that we wish to add a breakpoint in the `RegisterPython` method
  
- now press F5 again
  - this will run gdb and set the breakpoint as requested

# Build a test map including python bot

- from a command line terminal run the python bot

```
$ Sandpit/git-doom3/pybot-dhewm3/python-bot  
$ python python_doommarine_1.py
```

## Build a test map including python bot

- dhewm3 should start, now tell dhewm3 to load in `tiny.map`
  - it should now connect to your python doom marine
  - and then it should stop at the break point in `RegisterPython`
- in emacs press `M-x gdb-many-windows`
  - ie `<ALT> x gdb-many-windows`
- you can now single step and inspect the game engine using the gui/mouse interface of emacs or the command line in the `gdb` window