

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
- 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