

# Operating Systems

Project #0

# What is Xv6?

- A simple Unix-like teaching operating system developed by MIT
  - Port of the sixth edition Unix (v6) in ANSI C
  - Runs on multi-core x86 systems

# Project Plan

- 5 projects
  0. Install xv6
  1. System call
  2. Scheduling
  3. Virtual memory
  4. Concurrency
  5. File system
- Individual projects

# Setting Up Xv6

## 1. Setting up environments

1. Install Ubuntu 14.04.3 LTS
2. `sudo apt-get upgrade`
3. `sudo apt-get install build-essential`
4. `sudo apt-get install gcc-multilib`
5. `sudo apt-get install git`

## 2. Install xv6

1. `git clone git://github.com/mit-pdos/xv6-public.git`
2. `cd xv6-public`
3. `make`

# Setting Up Xv6 (Cont'd)

## 3. Install qemu (patched version)

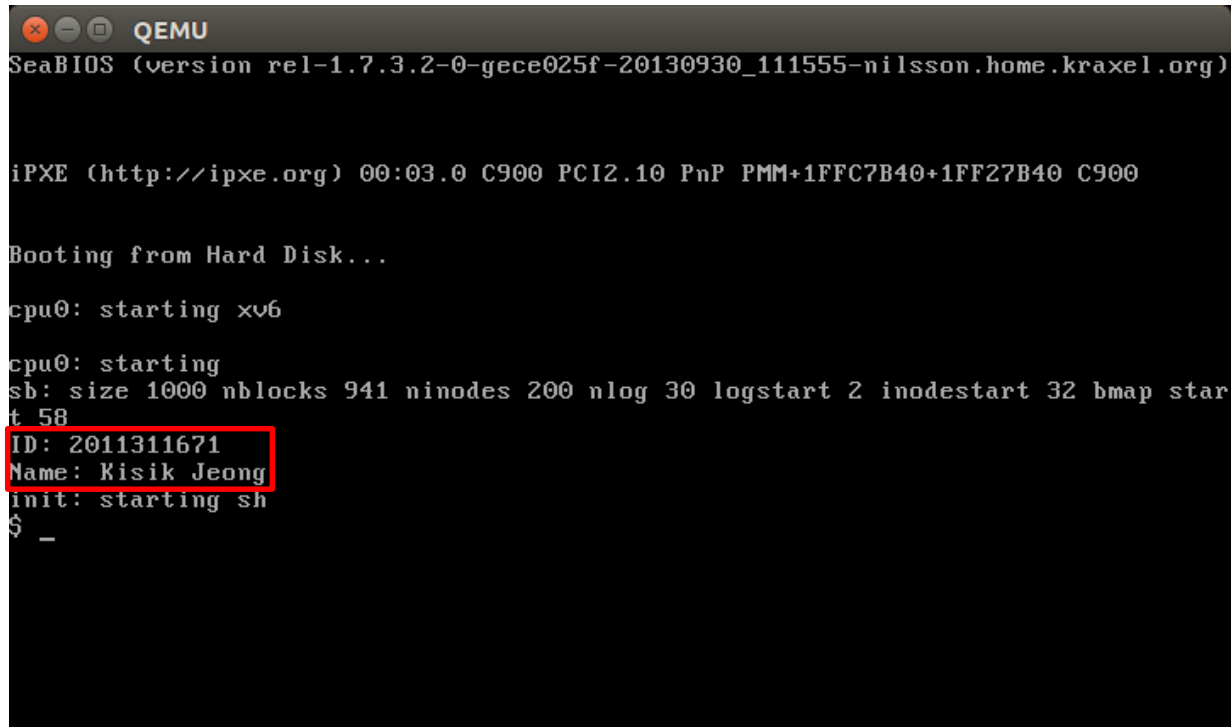
1. `git clone https://github.com/geofft/qemu.git -b 6.828-1.7.0`
2. `sudo apt-get install libsdl1.2-dev`
3. `sudo apt-get install autoconf`
4. `sudo apt-get install libtool`
5. `cd qemu`
6. `git submodule update --init pixman`
7. `./configure --disable-kvm --target-list="i386-softmmu x86_64-softmmu"`
8. `make`
9. `sudo make install`

## 4. Run xv6

1. `cd xv6-public`
2. `/usr/local/bin/qemu-system-i386 -serial mon:stdio -hdb fs.img xv6.img -smp 1 -m 512`

# Project #0 – Install Xv6

- Follow the instructions above
- Print your id & name on starting xv6



```
QEMU
SeaBIOS (version rel-1.7.3.2-0-gece025f-20130930_111555-nilsson.home.kraxel.org)

iPXE (http://ipxe.org) 00:03.0 C900 PCI2.10 PnP PMM+1FFC7B40+1FF27B40 C900

Booting from Hard Disk...

cpu0: starting xv6

cpu0: starting
sb: size 1000 nblocks 941 ninodes 200 nlog 30 logstart 2 inodestart 32 bmap star
t 58
ID: 2011311671
Name: Kisik Jeong
init: starting sh
$ _
```

# Project #0 – Install Xv6 (Cont'd)

- Submit a screenshot of qemu emulator
- Send email with title of “[SWE3004]Project#0-YOURID-YOURNAME”
  - E.g. “[SWE3004]Project#0-2011311671-정기식”
  - **Wrong title is not allowed**
  - Email address: [ertw9622@gmail.com](mailto:ertw9622@gmail.com)
- Due date
  - 2016-03-13 23:59
  - Get **no point** for late submission