Section 1: Set-up & Lab 1

CSE 451 18sp

TAs & Office Hours

John

Friday 10:30 - 11:20
CSE 021

Megan

Monday 10:00 - 11:00
CSE 021

Office hours don’t work for you?
Send us an email and we’ll work something out!

Upcoming Deadlines

- Exercise 1: Booting xv6
  - Due Friday, March 30th (Tomorrow!)
- Lab 1
  - Due Tuesday, April 3rd 11pm

Set-up

How to work on OS labs?

Four options:

- Attu
- Lab machines*
- Personal Machine (Mac or Linux)
- Virtual Machine

*Not recommended as only set-up unless you like spending lots and lots of time in the labs

Attu/Lab Machine Set-up

Add the following line to your .bashrc file

```
export PATH=/cse/courses/cse451/18sp/bin:$PATH
```

For the changes to take effect you will either need to

a) Log out and back in

or

b) Run “`source .bashrc`”

Attu

When using attu, you either need to connect using

```
ssh -x attu.cs.washington.edu
```

Or

Always run `make qemu-nox`

`make qemu` opens up a separate window, while `make qemu-nox` uses the existing terminal window (press ctrl A + x to exit).

Personal Machine: Mac

If you have previous versions of gdb or qemu, you should uninstall them (or take actions to ensure you use the correct version when working on the labs).

Run the following brew commands to install the toolchain:

```
$ brew tap xiw/jos
$ brew install --HEAD i386-jos-elf-qemu
$ brew install i386-jos-elf-binutils i386-jos-elf-gcc i386-jos-elf-gdb
```

You need to add the i386-jos-elf- prefix to the ELF toolchain commands, such as `i386-jos-elf-nm` and `i386-jos-elf-gdb`

Personal Machine: Linux

If you have a previous version of qemu, you should uninstall it (or take actions to ensure you use the correct version when working on the labs).

Build the toolchain as described in the tools guide.

https://courses.cs.washington.edu/courses/cse451/18sp/labs/tools.html

Using a Virtual Machine

Instructions can be found here:

https://docs.google.com/document/d/1LPs-VnLJhEB1arXuClE0tnl0cXedpVH-V0JlPXaPOCs/edit

Instructions walk you through setting up an emulator, downloading a Ubuntu image, creating a VM and installing the tool chain.

Labs Overview

Late Days

- 4 late days for labs 1-5
- No late days can be used for lab X

Lab Turn In

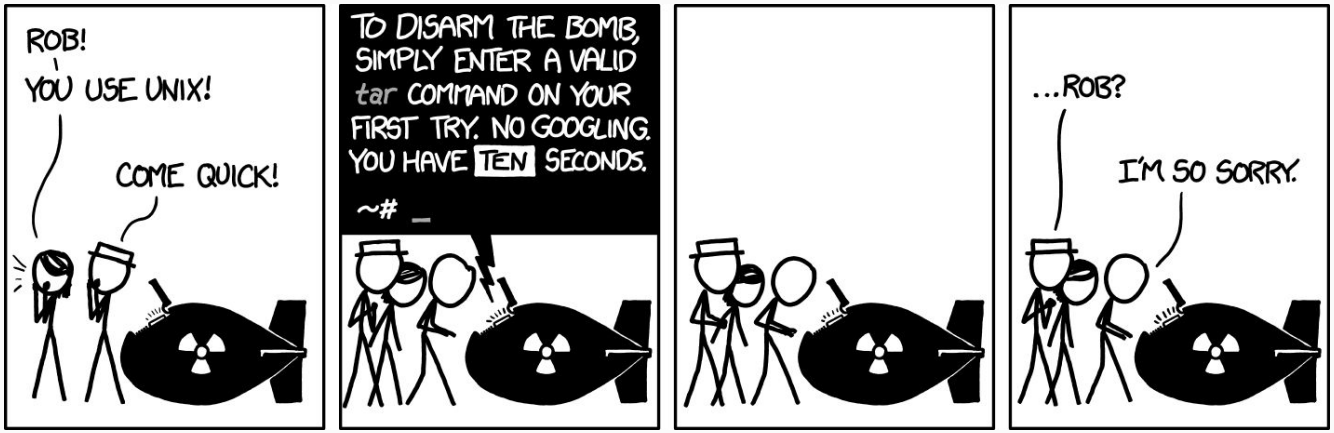
Everyone needs to turn in the labs!

If you're working in a pair, both you and your partner must submit the lab (even if you both turn in the exact same solution, which is expected for partners).

We will grade each turn in individually, so you can change partners at any time without having to tell us.

How to turn in the lab?

Create a tar file by following the instructions at the end of the lab specification and submit it on canvas.



JOS repo overview

Parts of JOS

- conf
  - Configuration files for JOS labs, you don’t need to worry about this directory
- boot
  - Contains the bootloader
- lib
  - Library programs
- inc
  - All the .h files. Interesting files include types.h, memlayout.h, mmu.h
- kern
  - Kernel code, you’ll work with this in later projects