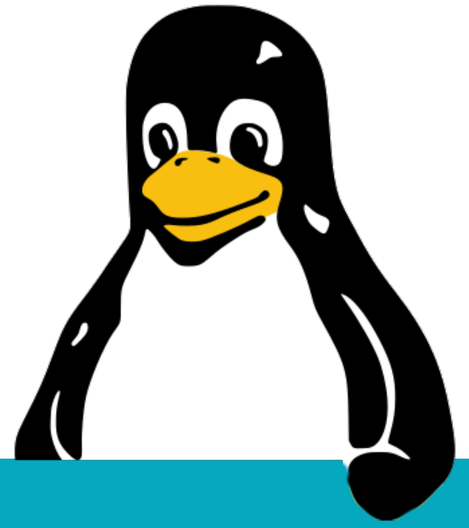
Linux, day 12



Objectives covered

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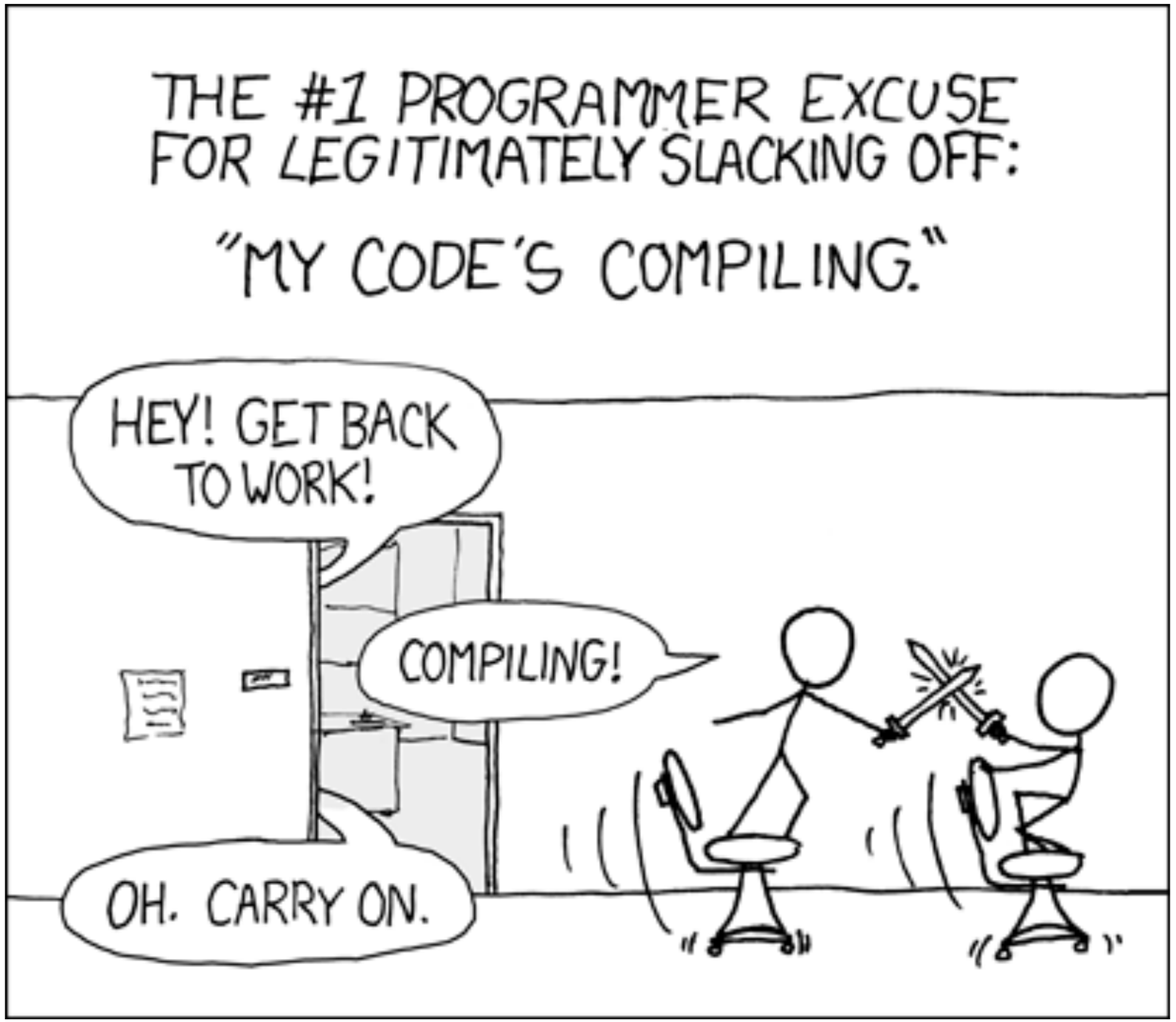
LAB: Managing software



See - [XKCD "Compiling"]

Let's build from source!

- NMap and NCat are beloved tools!
  - Most of us have them installed already.
  - But let's try build it from source!

- Instructions here -> https://nmap.org/download.html
  - Under "*source code distribution*".

Let's do this

```
$ sudo yum install flex bison make g++

$ cd ~/Downloads
$ wget https://nmap.org/dist/nmap-7.80.tar.bz2
$ bzip2 -cd nmap-7.80.tar.bz2 | tar xvf -
$ cd nmap-7.80
```

Let's do this - compiling

```
$ ./configure

$ make

#### Only do the next on your throw-away VM
$ sudo make install
```

This takes a lot of time

- We needed to get dependencies first.
- We downloaded NMap source using wget.
- The "*configure*" script sets up the *Makefile*.
- Using "*make*" we run the full compilation.
- End results are for example:
  - *~/Downloads/nmap-7.80/nmap*

The alternative?

- On Fedora:

```
$ cd ~/Downloads
$ wget https://nmap.org/dist/nmap-7.90-1.x86_64.rpm
$ sudo rpm -i ./nmap-7.90-1.x86_64.rpm
```

The alternative?

- On Fedora:

```
$ sudo yum install -y nmap
```

LAB: Managing locales

Assignment 1

- Make sure you have a test/dummy user on your VM.
  - I will simply re-use *dummy* from before.
- This account will be reconfigured to use:
  - Another locale.
  - Another timezone.

Assignment 1

- Login to the *dummy* account and edit their *.bashrc*.
  - Set their timezone to Moscow.
  - Set their language and country,
    - To Russian and Russia, with charset "*koi8r*".
  - You will need to adjust *TZ*, *LANG*, *LC_CALL*, *LC_CTYPE*.
  - Don't forget to export the variables!

Assignment 1 - tips

- What you're looking for, is something like this:

```
TZ=Asia/Tokyo
LANG=ja_JA.eucjp
LC_CTYPE=ja_JA.eucjp
LC_ALL=ja_JA.eucjp
```

Assignment 1 - tips

- How to find settings for Russia?
  - *locale -a | grep -i ^ru*
  - *timedatectl list-timezones | grep -i Moscow*

- Try what happens if you don't use UTF-8!

Assignment 1 - Ubuntu

- Cannot find locales on Ubuntu?
  - *sudo vi /etc/locale.gen*
    - Uncomment the lines for ru_RU.koi8r
  - *sudo locale-gen*

- Now you should be able to switch locales.

Assignment 1

- Re-login as *dummy* (or reload their *.bashrc*).
- Go check what breaks!
- Run things like:
  - *date, ls -al, cat /etc/shadow*

LAB: Logging services

Assignment 1

- You could use the explanations here [serverfault.com].
- In one terminal, follow the journal logs.
- In another terminal send a message to journald.
  - Does it arrive in the other terminal?

Assignment 2

- Make a shell script, *~/check-root.sh*.
  - Check if the root user is active.
    - e.g. *"ps -fC bash | grep ^root"*
    - Yes, you will need to write a test with IF. :)
  - If root IS logged in, send a warning to *journald*.
- Use *cron* to run this script every minute.

Closing

Homework

- Reading:
  - Chapter 10 (re-read)
  - Chapter 15
  - Chapter 16

Homework

- Assignment:
  - You will need two VMs, both running *rsyslog*.
  - Verify that you can manually enter texts with *logger*.
  - Reconfigure VM 1 to also send its logs to VM 2.
    - This should use *rsyslog*, not SCP. ;)
  - Here's a walkthrough on how to build this.

Reference materials

Resources

- The evolution of package managers
- Compiling Netcat to run on Windows
- The absolute minimum [you] should know about [character sets].
- The ultimate guide (unicode, utf-8, etc.)

Resources

- Linux logging guide
- Rsyslog, journal or both?
- Logging with journald tutorial
- Guide to using Journalctl