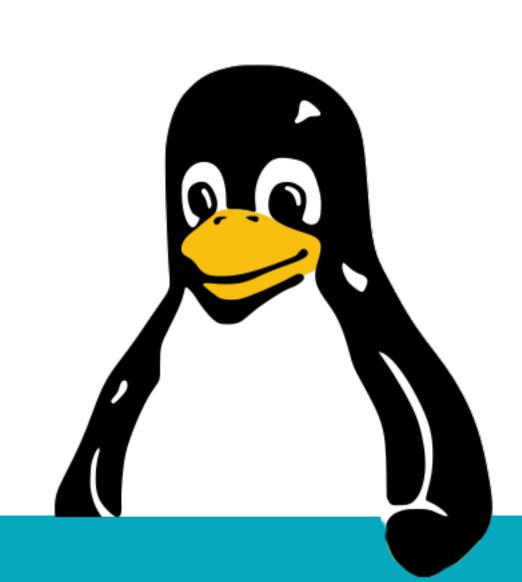
Linux, day 12

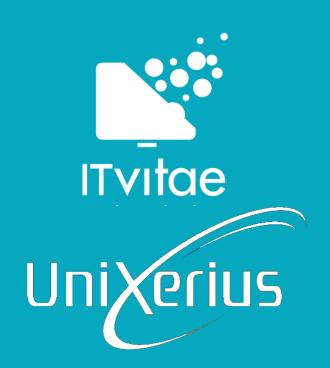


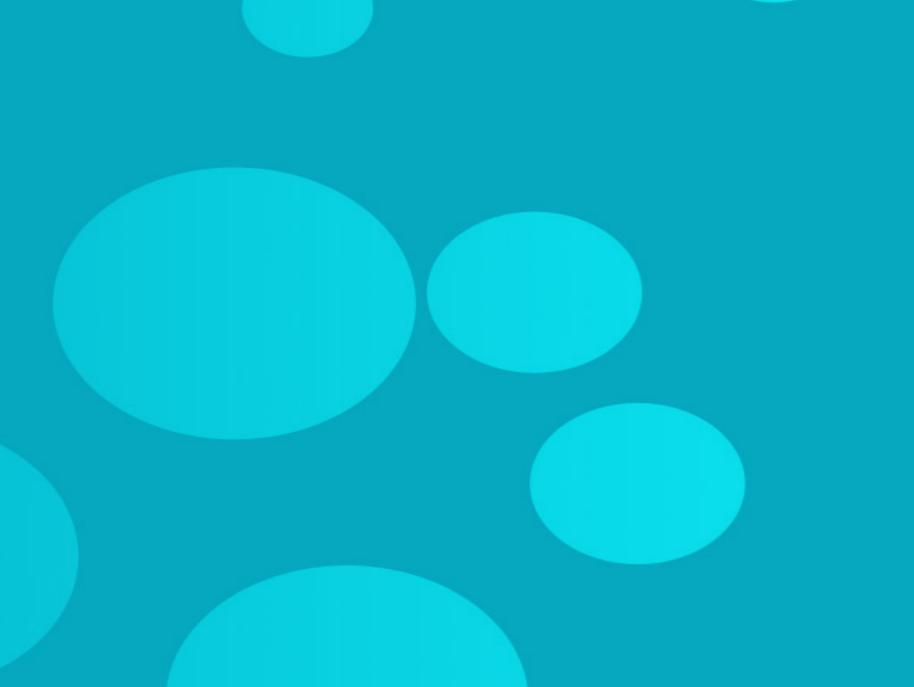


Objectives covered

Objective	Summary	Boek
1.1	Compiling software	13
1.6	Package management, updates	13
1.7	Localization	9
4.5	Logging, journald / systemd	6, 17

LAB: Managing software





Let's do this

```
$ sudo yum install -y flex bison make g++
$ sudo yum install -y openssl-devel
$ cd ~/Downloads
$ wget https://nmap.org/dist/nmap-7.94.tar.bz2
$ bzip2 -cd nmap-7.94.tar.bz2 | tar xvf -
$ cd nmap-7.94
```

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-7.94/nmap

The alternative?

On Fedora:

```
$ cd ~/Downloads
$ wget https://nmap.org/dist/nmap-7.94-1.x86_64.rpm
$ sudo rpm -i ./nmap-7.94-1.x86_64.rpm
```

The alternative?

On Fedora:

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

LAB: Managing locales





- Make sure you have a test/dummy user on your VM.
 - I will simply re-use dummy from before.
 - Make sure this user has Bash as their shell!

- This account will be reconfigured to use:
 - Another locale and timezone.

- 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".
 - This is intentionally broken!
 - You will need to set TZ, LANG, LC_ALL, LC_CTYPE.

Assignment 1 - tips

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

```
export TZ=Asia/Tokyo
export LANG=ja_JP.eucjp
export LC_CTYPE=ja_JP.eucjp
export LC_ALL=ja_JP.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.

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

- If you're working on Fedora Workstation,
 - You may notice a lot of translations.

• nmtui, error messages, vi and more.

LAB: Logging services





- 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?

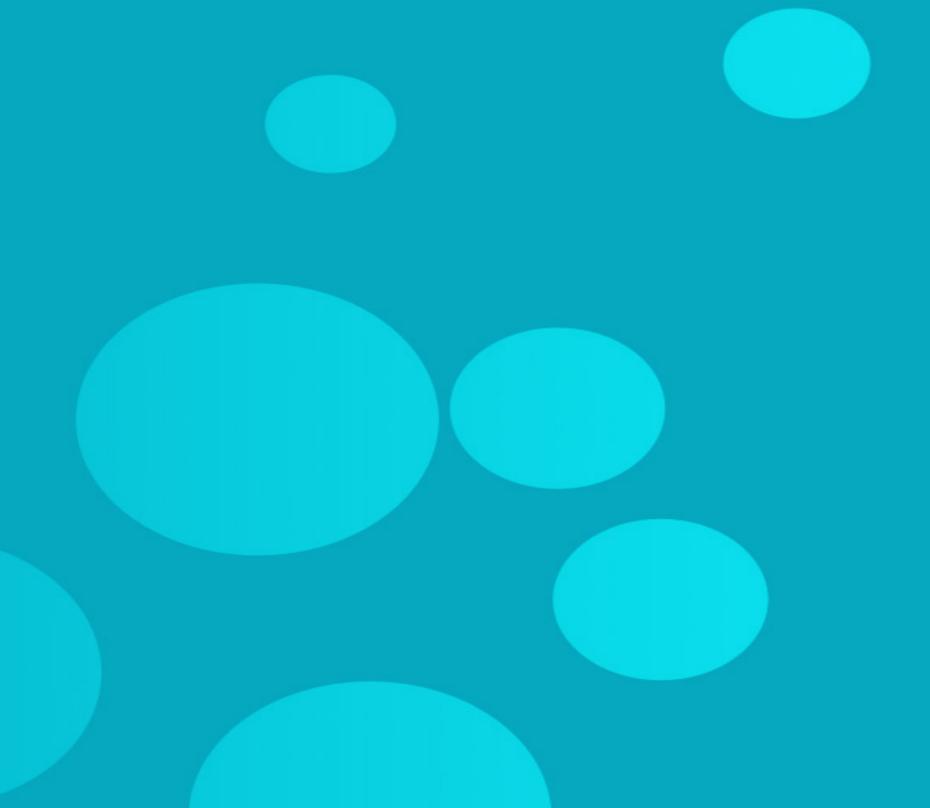
- Make a shell script, ~/check-root.sh.
 - Check if the root user is active.
 - e.g. "ps -fC bash | grep ^root"
 - Yes, you will need to write a test with IF. :)
 - If root IS logged in, send a warning to journald.
- Use cron to run this script every minute.

What will we do today?

- Recap
- Software / package management
- Locale configuration
- Configuring logging services
- Kahoot quiz
- Closing: homework and Q&A

Closing





Homework

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

- Practice exam
 - Link will be shared in Teams.

Homework

- Assignment 1:
 - 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.

Homework

- Assignment 2:
 - Use your Ubuntu VM.
 - Go to the VirtualBox downloads page.
 - Read the "Debian-based Linux distributions" section.
 - Setup the Virtualbox APT repository.
 - Prove that "apt search" finds three options to install.

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