B2 - Networks and Systems Administration

B-NSA-200

my_web

Bootstrap

1.0

+ Objectives and prerequisites

In order to understand what's going on behind the OS installation's graphic interface, this bootstrap will make you install and configure the Archlinux operating system, as well as a Web server. You will also set up an website.
If it's not already done:

- install a virtualization software (VirtualBox ou VMware)
- download Archlinux's ISO
- create a virtual machine named, `B2_Boot1` with 1 Go of memory and a 10-Go hard drive

+ Preparing the Archlinux installation

General informations

Insert the Archlinux's ISO in your VM's drive and restart it.
Select `Boot Arch Linux (x86 x64)`.
Verify your internet connection.
Identify present peripheries.

Partitioning a hard drive

Partition the hard drive.
Create a new, empty DOS partition table.
Create the four following partitions:

size	format
5 Go	ext4
500 Mo	swap
500 Mo	ext2
4 Go	ext4

`man fdisk`, `man mkfs`, `man mkswap`

+ Installing Archlinux

Assembling the partitions

The 5-Go partition will be the "root" partition.
The 4-Go partition will be the "home" partition.
The 500-Mo partition will be the "boot" partition.

The “root” partition is always the first to be started.

Installation

Edit the list of mirrored repositories in order to put the one from your region first.
Install the basic system.
Generate an “fstab” file and check the information.
Configure the “chroot”.

mirrorlist file, `pacstrap`, `genfstab`, `arch-chroot`.

Personalization

Edit and generate the locales by choosing the one that corresponds to your region.
Create the “/etc/locale.conf” file and configure it with the chosen locale.
Export the locale.
Define your time zone.
Adjust the clock hardware.

`man hwclock`

Finalization

Configure the network in DHCP.
Set a password for the “root” user.
Install and generate a Grub.

`man pacman`, `man grub-install`, `man grub-mkconfig`.

+ Installing a Web Server

Presentation

A Web server is an IT server that enables websites to be published on the internet or on an intranet.
A Web server is composed of:

- an HTTP server (Apache)
- database server (MySQL)
- a PHP module

Installation

After having duplicated your VM, you should install (in the new VM) the necessary packages to set up an HTTP server.
In order to make the database management easier, you will also install a Web application that handles these databases (PhpMyAdmin).
From your physical machine, verify that you're accessing your Web server (Apache) and your database management application (PhpMyAdmin).

+ CREATING A WEBSITE

Configure the website's name to be `lab.asrlab.lan`, in your Web server.

`hosts` file.

Create the file where your website's files will be stocked and create your website's welcome page, as well as the virtual host's configuration file.

Virtual Host

Finally, from your physical machine, open a navigator and verify that you can access your website.

On your physical machine, remember to give your website's IP address.