TP N°2: Software Management in Linux (Ubuntu)

Objectives

By the end of this lab session, students will be able to:

- To become familiar with the main Linux commands used to manage files and directories via the Terminal.
- Use the APT package manager
- Install, update, and remove software
- Configure software repositories
- Understand dependency management

Instructions:

Open the Terminal and move to your home directory:

```
cd ~
```

Create a directory named:

```
mkdir TP_Linux
```

Enter this directory:

```
cd TP_Linux
```

Create three empty files named:

```
touch fichier1.txt fichier2.txt fichier3.txt
```

List the contents of the directory to verify file creation:

```
ls
```

Copy fichier1.txt to a new file named copie1.txt:

```
cp fichier1.txt copie1.txt
```

Rename fichier2.txt to ancien.txt:

```
mv fichier2.txt ancien.txt
```

Create a subdirectory named Backup:

```
mkdir Backup
```

Move copie1.txt into the Backup directory:

```
mv copie1.txt Backup/
```

Display the content of fichier3.txt
(First, add a message inside the file)
Add text to the file:

```
echo "Bonjour Linux" > fichier3.txt
```

Then display its content:

```
cat fichier3.txt
```

Delete the file ancien.txt:

```
rm ancien.txt
```

Part 2: Updating the System

Open the Terminal
Run:

```
sudo apt update
```

Question:
What is the purpose of this command?
Then run:

```
sudo apt upgrade
```

Question:
What is the difference between update and upgrade?

Installing Software with APT

We will install VLC Media Player.Installation:

```
sudo apt install vlc
```

Verify installation:

```
vlc --version
```

Questions:
What version is installed?
Where is VLC installed on the system?

Removing Software

Remove VLC:

```
sudo apt remove vlc
```

Remove completely (including configuration files):

```
sudo apt purge vlc
```

Question:
What is the difference between remove and purge?

Part 3: Managing Repositories

Display the list of repositories:

```
cat /etc/apt/sources.list
```

Questions:
What is a repository?
Why do we need to run sudo apt update after adding a new repository?
Adding a Repository (Example)

```
sudo add-apt-repository ppa:graphics-drivers/ppa
sudo apt update
```

Question:
What is a PPA?

les réponses complètes du TP N°2 : Software Management in Linux (Ubuntu).

Part 1: Updating the System

Command:

```
sudo apt update
```

Answer:
This command refreshes the local package index.
It downloads the latest list of available packages from repositories.
It does NOT install updates.
Command:

```
sudo apt upgrade
```

Answer:
This command installs available updates for already installed packages.
It upgrades software to newer versions.
Difference between update and upgrade

Command	Function
apt update	Updates the package list
apt upgrade	Installs available updates

Part 2: Installing Software (VLC)

VLC media player
Command:

```
sudo apt install vlc
```

Expected result:
VLC and its dependencies are installed.
The system may download several MB of data.
Version check:

```
vlc --version
```

Answer:
Displays installed VLC version (example: 3.0.x).
Shows build information.
Where is VLC installed?
Answer:
Executable: /usr/bin/vlc
Configuration files: /etc/
User configuration: /.config/vlc

Part 3: Removing Software

```
sudo apt remove vlc
```

Answer:
Removes VLC but keeps configuration files.

```
sudo apt purge vlc
```

Answer:
Removes VLC AND configuration files.
Difference between remove and purge

Command	Effect
remove	Removes program only
purge	Removes program + configuration files

Part 5: Repositories

```
cat /etc/apt/sources.list
```

What is a repository?
Answer:
A repository is a remote server that stores software packages and updates.
Why run apt update after adding a repository?
Answer:
Because the system must refresh the package list to detect new available software.
What is a PPA?
Answer:
PPA = Personal Package Archive
It is a third-party repository allowing developers to distribute software.