

Linux Server Administration (First level full-time studies)

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LAB 8:

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Linux server administration

System upgrade, installation, upgrade and uninstallation of additional software using installation packages and software repositories

Prerequisites

1. Before using command line to software installation, you need to increase your permissions. We can do it in two ways:

- a. Login as a root:

```
su -l root  
ROOT_ONLY_COMMAND
```

- b. Add current user to sudoers group and use a *sudo* command after reboot:

```
su -l root  
usermod -aG sudo USERNAME  
reboot  
...  
sudo ROOT_ONLY_COMMAND
```

2. You have to remember to update repositories content before installing any software.

This will ensure you're always installing latest versions:

```
apt-get update
```

System updates

Apt-get update command only checks if there are any updates in software repositories. To install these new versions, you need to do the *upgrade*:

```
apt-get upgrade
```

Although this only installs new versions of already installed packages. It will not install any dependencies neither remove unused ones. To perform full upgrade with dependencies resolving and so on, you need to use command:

```
apt-get dist-upgrade
```

TASK 1. APT package manager :

Part1. Working with APT package manager to install softwares

To install new software from a command line, you need to use *apt-get install* command, after performing repositories update by *apt-get update*.

- Log in into your Linux system and open a new command prompt (Terminal)
- Display all packages currently install into your system.
- If it is not already installed on your system, with admin right install the **zsh** shell package. If the zsh package is already installed, try installing the **tcsh** package, which is an open-source version of the C shell found in many Unix systems.
- Display all packages currently install into your system again to see if the newly installed package appears.
- Using one command, search for available packages of vlc player software in the system.
- Install the vlc software package and launch the application.
- Install and launch as well:
 - Google Chrome
 - Adobe Acrobat Reader
- Display all packages currently install into your system again to see if the newly installed package appears.

NB: After showing to the lecturer the first part of task 1 proceed to the next part

Part2. Working with APT package manager to remove softwares

There are two commands for removing a software in Linux system using APT package manager – *remove* and *purge*

Example: Remove default Totem player using APT

Using *apt-get remove totem* we'll remove Totem package from the system, although leaving its configuration files. After potential Totem reinstallation, previous program settings should remain.

Using *apt-get purge totem* we'll remove Totem completely.

- Now remove completely in the system the installed packages in the previous part of task 1 including:
 - Zsh or tcsh
 - Vlc player
 - Google Chrome
 - Adobe Acrobat

Task 2 Install softwares directly from package or other sources

1. Installing Skype from a package

Although some software is not included in APT repositories, we can also install it easily.

You need to download installation package using *curl* or *wget*

And just install it using already known command:

```
wget https://go.skype.com/skypeforlinux-64.deb
```

```
apt-get install ./skypeforlinux-64.deb
```

2. Installing PHP 7.4 from sources

1. Using APT install version control system GIT:

```
sudo apt-get install git
```

2. Using GIT download PHP 7.4 code:

```
git clone http://git.php.net/repository/php-src.git  
cd php-src  
git checkout PHP-7.4
```

3. Perform traditional installation, without any package manager:

```
sudo apt-get install build-essential autoconf libtool bison  
re2c ./buildconf  
./configure --disable-all  
make test  
make  
make install
```

4. Verify if installed correctly

```
by: php -version
```

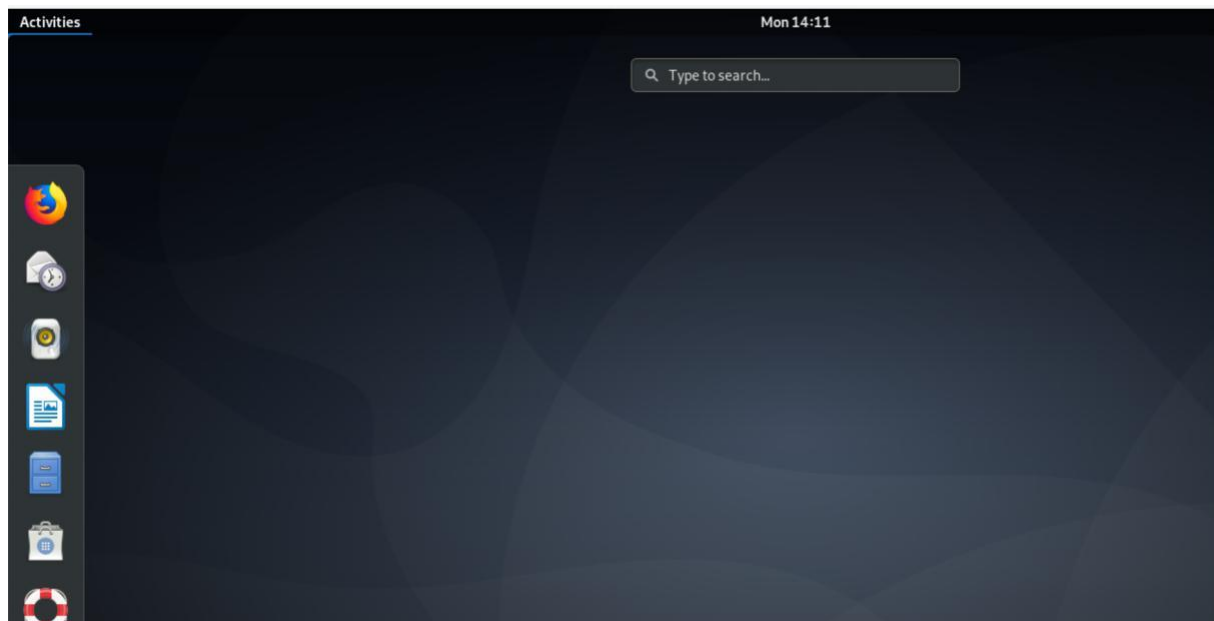
Source instruction with some additional explanations:

http://www.phpinternalsbook.com/php7/build_system/building_php.html

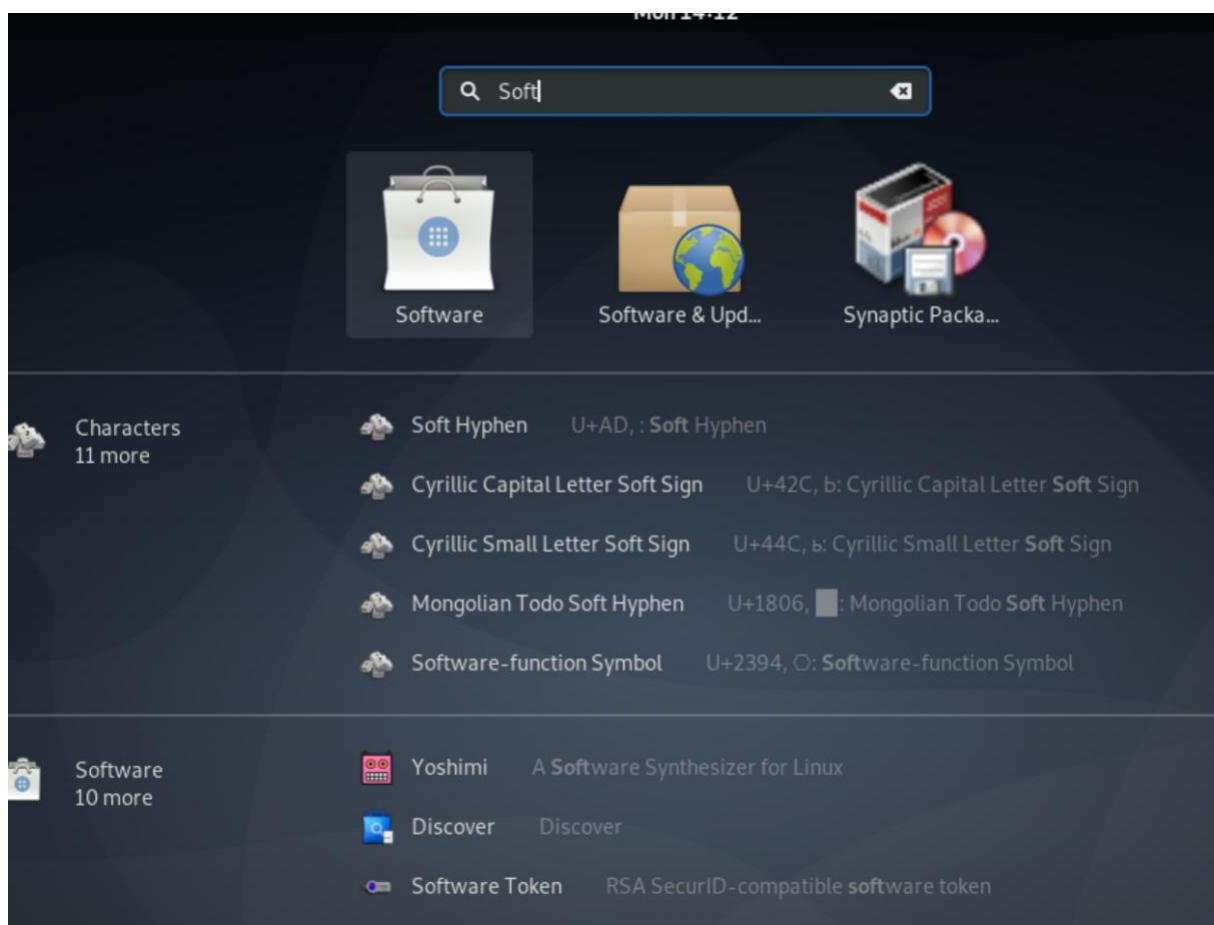
NB: After showing to the lecturer the task 2 Remove completely skype and php

Task 3. Install softwares using the Graphical User Interface

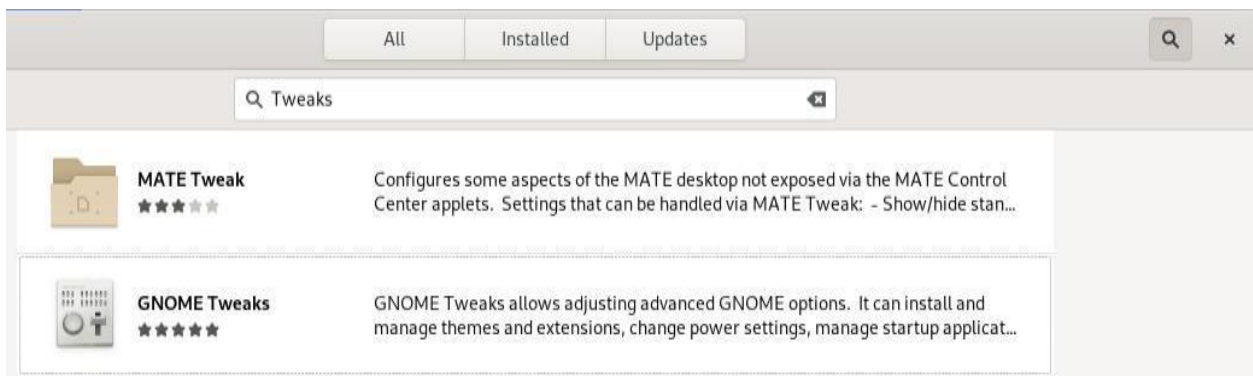
Go to the Activities:



And look for default Debian package manager called *Software*:



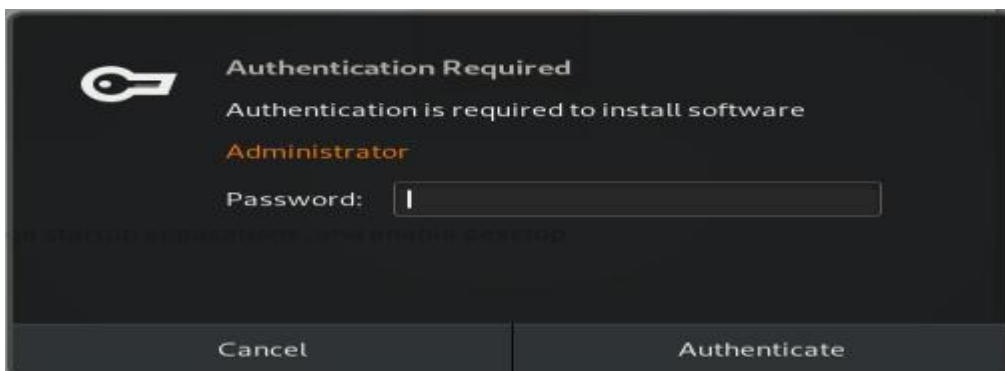
Look for GNOMET Tweaks package:



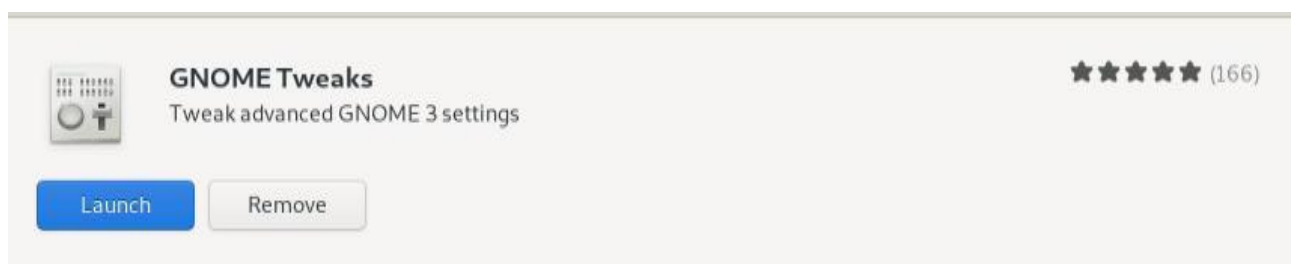
And install it:



Authenticate:



And launch



- [Now choose 3 other softwares of your choice and install and launch them in the debian system using the GUI.](#)