Linux Server Administration (First level full-time studies)

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LAB 8:

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Configuring printing in the Linux environment.

Graphic environment - X Window.

Prerequisites

- 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
   ```

TASK1: CUPS installation (2 points)

1. Install software

```
apt-get install cups cups-client
```

2. CUPS Open the CUPS web frontend using a web browser like Firefox:
   http://localhost:631

3. Take a closer look at its interface.

CUPS PDf printer installation

To install cups pdf printer, use one of the following commands:

```
apt-get install cups-pdf apt-get
install printer-driver-cups-pdf
```

If you had problems with above commands, try to use:

```
wget http://ftp.pl.debian.org/debian/pool/main/c/cups-pdf/printer-driver-cups-pdf_3.0.1-5_amd64.deb
```

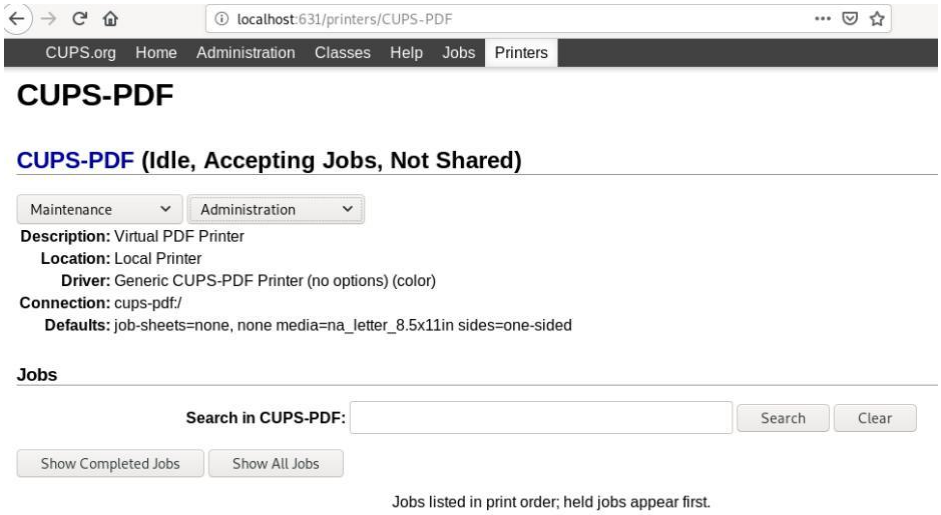
```
apt-get install ./printer-driver-cups-pdf_3.0.1-5_amd64.deb
```

Adding new PDF printer

1. Open the CUPS web frontend http://localhost:631 using a web browser like Firefox.
2. Use the *root* username and password (or any username with CUPS admin rights) when prompted for authentication.
3. Select the Administration tab and click *Find New Printers*.
4. You should see *Virtual PDF Printer (CUPS-PDF)*, click *Add This Printer* and then *Continue*
5. In the next screen *MAKE/MANUFACTURER FOR CUPS-PDF*, select *Generic* and click *Continue*.

6. Then select *Generic CUPS-PDF Printer (no options)* and click *Add Printer*.

7. In *Administration* tab select Manage printers and check if your new printer exists.



Printer testing.

1. Use CUPS web frontend http://localhost:631/admin to print out test page

Your file will be in new PDF directory created in localization used to install CUPS packages.

2. Open any text editor (save the file under your first name), add some text (including your name, surname, student number and home town) and print out your document using added printer.

3. Search for any graphic file in your web browser and print it to pdf. Then rename the printed file (under your second name), check the queue (*Show All Jobs*, http://localhost:631/printers/) and repeat the last printout. Remember to rename the original file (under your second name2), otherwise it will be overwritten.

4. Stop the printer. Run the printouts of three different files (text document, saved image, and browser page). Check the queue in Show *Active jobs*. Then restart the printer and watch what happens to the list. Check whether all documents have been printed out in the home/pdf directory.

5. After successful testing, remove the printer with the *Delete printer option.*

TASK2: Fluxbox graphic environment installation (2 points)

1. You need to install open source implementation of the X Window System, first: `apt-get install xorg`

2. Then add new graphical environment fluxbox with:

```
apt-get install fluxbox
```

3. Reboot your virtual machine.

Launching the installed graphical environment

In the login window select the user and click the icon next to the *Sign in* button. Then select fluxbox from the drop-down list and sign in.

Successful login will result in loading the installed graphical environment. It is definitely less complex than the Gnome used so far.

Testing the environment

1. Test some menu options:
    a) Run a text editor.
    b) See the games offer. Test the Xeyes game and the maximize window function.
    c) Change style of the menu and then return to the orginal.
    d) Check available development tools.
2. Run system help and terminal.

Show the result to the lecturer

3. Restart the machine. Find out which graphical environment will run.

NB: After verification from the lecturer, remove the installed X Window System `xorg and` new graphical environment fluxbox