

**Vanier College**  
**Faculty of Careers and Technical Programs**  
**Department of Computer Science Technology**

# **Advanced UNIX**

**Lab #1**

**Title: Windows and Linux Fedora Installation**

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**Submitted to Florin Pilat**

**August 28, 2020**

1. Please install the Operating System Windows 7 or 10 on your hard-disk (if you do not have any of these OS on your laptop/desktop). After installing one of these OSs (preferable Windows 10), try to connect to the Internet and your printer. Insert the successful outcomes of these two operations in your Lab\_#1 report. Using the Computer Management application from the Administrative Tools icon of the Control Panel, verify how much space is used by your installed OS. Please capture the result and insert it in your Lab\_#1 report.

View basic information about your computer

Windows edition

Windows 10 Home  
© 2019 Microsoft Corporation. All rights reserved.

System

Processor:

Intel(R) Pentium(R) CPU N3530 @ 2.16GHz 2.16 GHz

Installed memory (RAM):

8.00 GB (7.89 GB usable)

System type:

64-bit Operating System, x64-based processor

Pen and Touch:

No Pen or Touch Input is available for this Display

Computer name, domain and workgroup settings

Computer name:

Marissa

Full computer name:

Marissa

Computer description:

Workgroup:

WORKGROUP

Windows activation

Windows is activated [Read the Microsoft Software Licence Terms](#)

Product ID: 00326-10000-00000-AA493

Support Information

Change settings

Change product key

VIRGIN552

Connected, secured

Properties


Disconnect

View your active networks

VIRGIN552

Public network

Access type: Internet

Connections:  Wi-Fi (VIRGIN552)

## Printers & scanners



Brother MFC-7860DW

Open queue

Manage

Remove device



Fax



Microsoft Print to PDF



Microsoft XPS Document Writer



OneNote for Windows 10

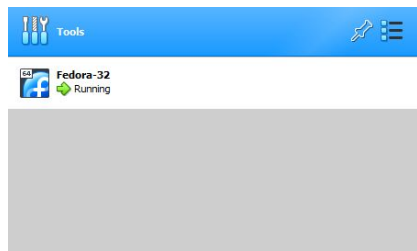
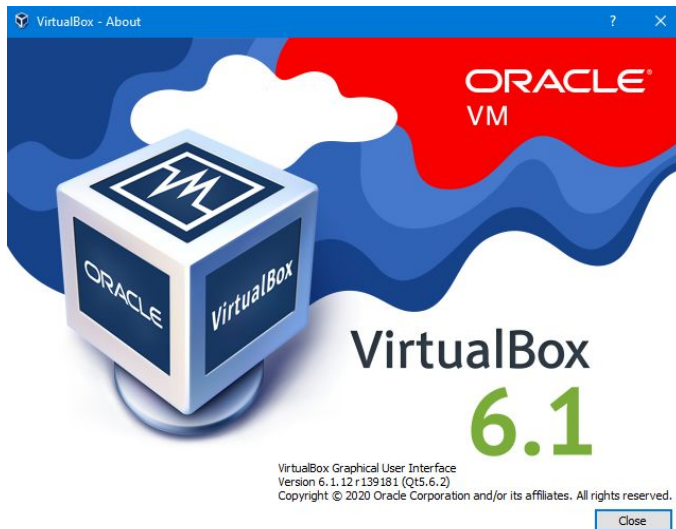


Brother PC-FAX  
v.2.2

Volume	Layout	Type	File System	Status	Capacity	Free Space	% Free
(Disk 0 partition 1)	Simple	Basic		Healthy (Recovery Partition)	600 MB	600 MB	100 %
(Disk 0 partition 2)	Simple	Basic		Healthy (EFI System Partition)	300 MB	300 MB	100 %
(Disk 0 partition 5)	Simple	Basic		Healthy (Recovery Partition)	16.18 GB	16.18 GB	100 %
Acer (C:)	Simple	Basic	NTFS	Healthy (Boot, Page File, Crash Dump, Primary Partition)	448.57 GB	198.68 GB	44 %

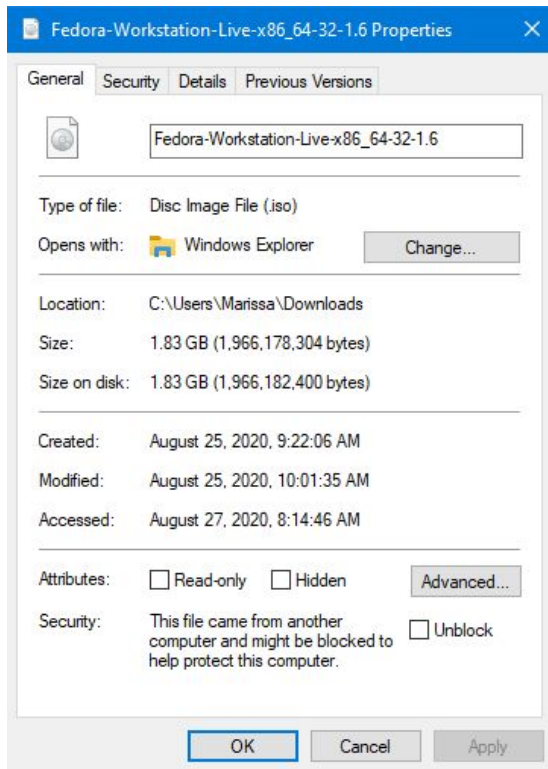
<b>Disk 0</b> Basic 465.64 GB Online	600 MB Healthy (Recovery P	300 MB Healthy (EFI Syste	<b>Acer (C:)</b> 448.57 GB NTFS Healthy (Boot, Page File, Crash Dump, Prim	16.18 GB Healthy (Recovery Partition)
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2. *Inside the OS you have installed (Windows 7 or Windows 10), download and install a VMWare player or a VMWare workstation that you will find on the Internet. (You may also use VBox as an open-source hosted hypervisor for x86 virtualization, instead of a VMWare product).*



3. *After installing the hosted hypervisor (VMWare or VBox), using Windows 7 or 10, continue by downloading from Internet the .iso file of the version of Fedora you found (Fedora 20/ or 26/ or a newer version, 32 bits or 64 bits depending on your machine). Take a notice of the place where you saved that .iso file.*

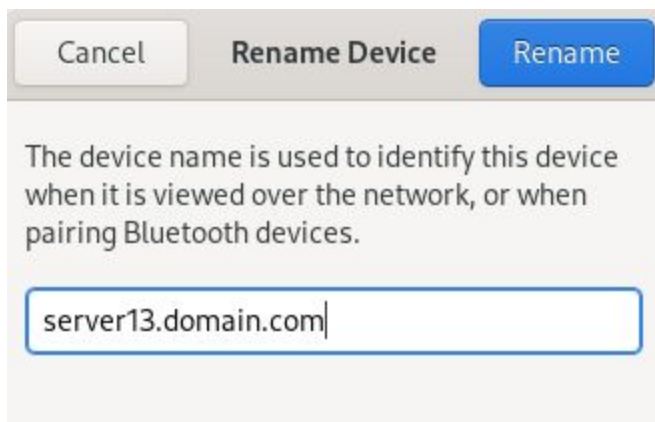




4. *Install the chosen version of Fedora on the hosted hypervisor you have just installed.*



5. During the installation enter the name (serverxx.domain.com) for your Fedora and click on next.

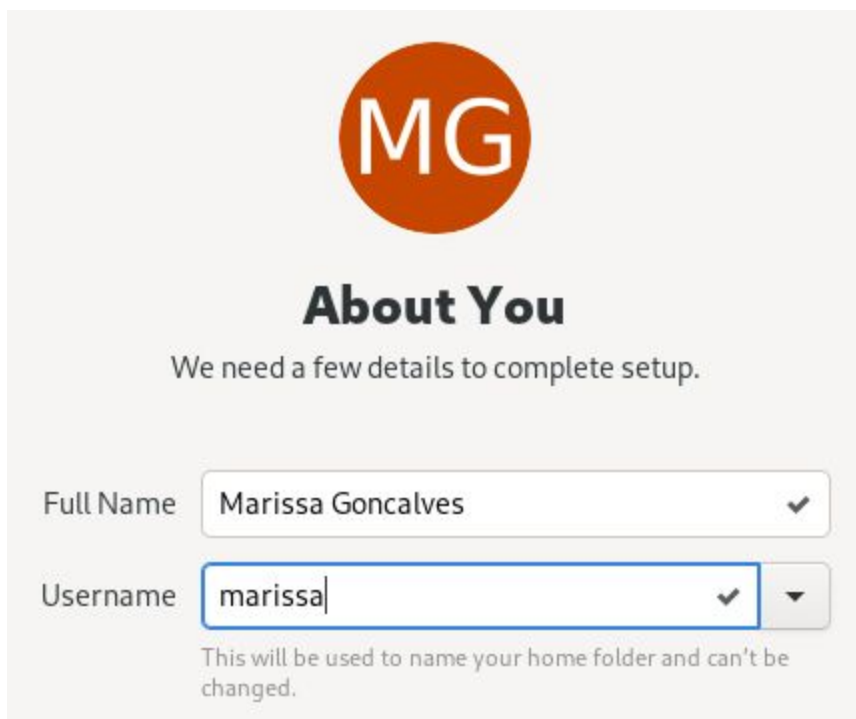


Cancel    **Rename Device**    Rename

The device name is used to identify this device when it is viewed over the network, or when pairing Bluetooth devices.

server13.domain.com

6. Fedora by default creates a user named 'root' who has complete control over the system. You can call him the system administrator. For this account, a password is mandatory and must enter it at the above screen. Make a note of the password somewhere so you do not forget.



**MG**

## About You

We need a few details to complete setup.

Full Name    Marissa Goncalves ✓

Username    marissa ✓ ▼

This will be used to name your home folder and can't be changed.

## Set a Password

Be careful not to lose your password.

Password

Adding more letters, numbers and punctuation will make the password stronger.

Confirm

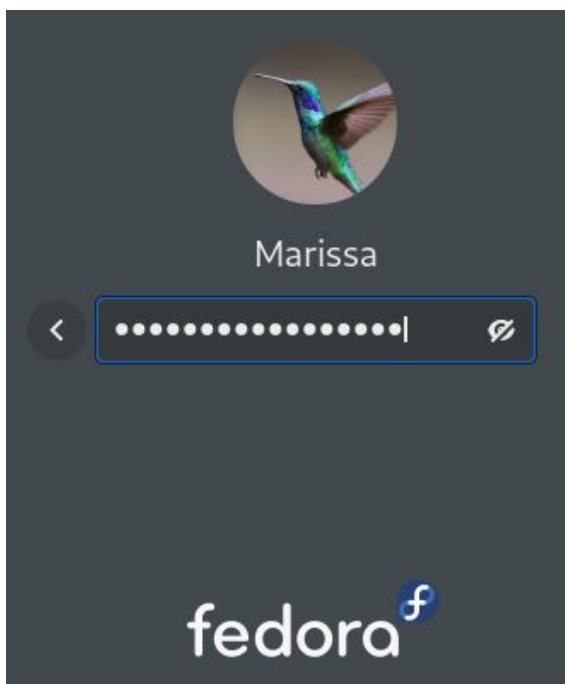
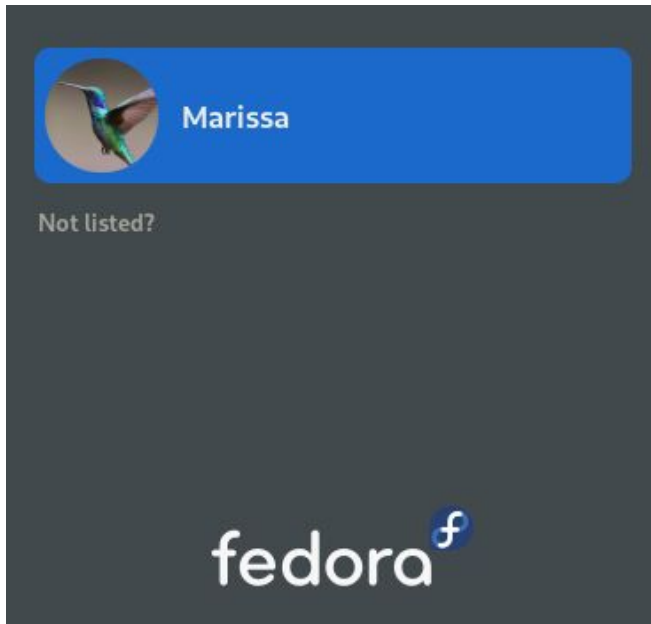
7. *The final screen states the successful installation of Fedora 20/ 26/ or newer on your computer. Click on 'Close' and then go to System>Reboot. Reboot the PC and you will be able to boot into that version of Fedora after answering a few simple post-installation screens.*

## Power Off

The system will power off automatically in 60 seconds.

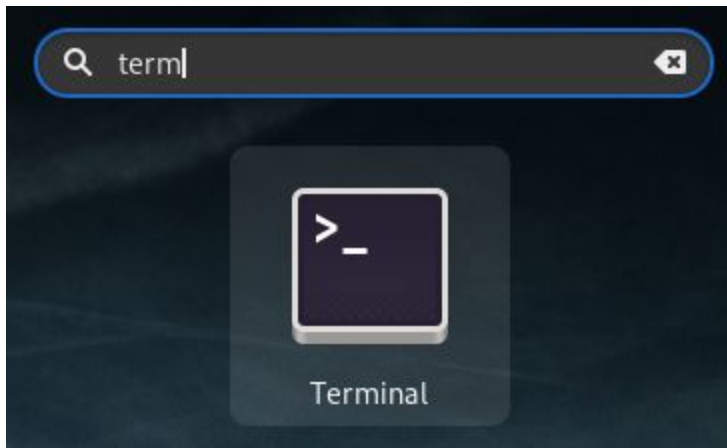
Cancel	Restart	Power Off
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8. After rebooting, Welcome → forward, License Info → forward, create a user having the <username> → “your first name”, enter the full name, password and then forward (search for Settings and the Users icon): Hardware profile. Do not send a profile, Finish. Capture a screen proofing that you have created a user called “your first name” and insert the capture in your Lab\_#1 report.





9. After rebooting again, login as <username>, open a terminal window (**term**), and type in there **ifconfig**. You normally should see *eth0*, *eth1*, *l/O* interfaces with some IP addresses already assigned. Capture and display that screen with IP addresses of interfaces.



```
marissa@localhost:~  
[marissa@server13-domain-com ~]$ ifconfig  
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255  
    inet6 fe80::5ff4:3fd6:6a7:b043 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:45:8c:15 txqueuelen 1000 (Ethernet)  
    RX packets 775116 bytes 979959864 (934.5 MiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 107984 bytes 6675756 (6.3 MiB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1 netmask 255.0.0.0  
    inet6 ::1 prefixlen 128 scopeid 0x10<host>  
    loop txqueuelen 1000 (Local Loopback)  
    RX packets 36 bytes 3365 (3.2 KiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 36 bytes 3365 (3.2 KiB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

10. Setup the homepage of your Internet browser to [www.vaniercollege.qc.ca](http://www.vaniercollege.qc.ca). Capture and display the outcome.

**New Windows and Tabs**

Choose what you see when you open your homepage, new windows, and new tabs.

Homepage and new windows

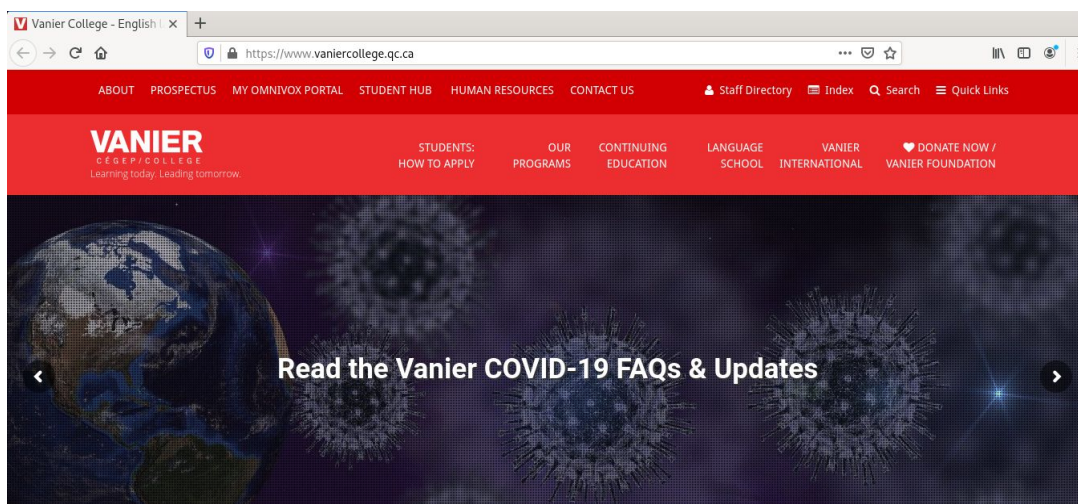
Custom URLs... ▼

[www.vaniercollege.qc.ca](http://www.vaniercollege.qc.ca)

Use Current Page    Use Bookmark...

New tabs

Firefox Home (Default) ▼



11. Setup a printer. Ping the IP address of your printer to see if there is a connectivity between your laptop/desktop and the printer. Go to Settings, Admin, Printers, new Printer, select AppSocket / HP Direct. Enter as IP address - the IP address of your home printer (e.g.192.168.50.238) click on forward, select the model of the printer, and print a test page that will be attached to the Lab\_#1 report. Send this report to your instructor using MIO, or LEA, or Vanier's email.

To recognize my Brother MFC-7860DW printer, I had to install the "Driver's Install Tool" from Brother's website on Fedora.

at your side

Home > Canada > MFC-7860DW > Downloads

**Support & Downloads**

**MFC-7860DW**

Not your product?

Downloads

FAQs & Troubleshooting

Manuals

**Downloads**

OS: Linux (rpm)

Language: English

**Utilities**

Title	Description	Release Date (Version)	Size
Driver Install Tool	The tool will install LPR, CUPSwrapper driver and scanner driver (for scanner ...more	06/04/2020 (2.2.2-1)	0.02 MB

**Opening linux-brprinter-installer-2.2.2-1.gz**

You have chosen to open:

**linux-brprinter-installer-2.2.2-1.gz**  
which is: Gzip archive (23.9 kB)  
from: https://download.brother.com

What should Firefox do with this file?

☐ Open with Files (default)

☒ Save File

☐ Do this automatically for files like this from now on.

Cancel OK

Once the program has been downloaded in the Downloads section of my system, I go to my Fedora terminal to execute some commands.

```
marissa@server13-domain-com:~/Downloads
[marissa@server13-domain-com ~]$ cd Downloads
[marissa@server13-domain-com Downloads]$ gunzip linux-brprinter-installer-2.2.2-1.gz

[marissa@server13-domain-com Downloads]$ sudo su
[root@server13-domain-com Downloads]# bash linux-brprinter-installer-2.2.2-1 MFC-7860DW
You are going to install following packages.
  mfc7860dwlpr-2.1.0-1.i386.rpm
  cupswrapperMFC7860DW-2.0.4-2.i386.rpm
  brscan4-0.4.9-1.x86_64.rpm
  brscan-skey-0.3.1-1.x86_64.rpm
OK? [y/N] ->y

rpm -ihv --nodeps --replacefiles --replacepkgs mfc7860dwlpr-2.1.0-1.i386.rpm
Verifying...                               ##### [100%]
Preparing...                               ##### [100%]
Updating / installing...
  1:mfc7860dwlpr-2.1.0-1                     ##### [100%]
rpm -ihv --nodeps --replacefiles --replacepkgs cupswrapperMFC7860DW-2.0.4-2.i386.rpm
Verifying...                               #####
Preparing...                               #####
Updating / installing...
  cupswrapperMFC7860DW-2.0.4-2               #####
lpadmin: Printer drivers are deprecated and will stop working in a future version of CUPS.
```

Since my printer has a USB connection, I input “N” when being asked for a Device URI.

```
Will you specify the Device URI? [Y/n] ->n

Test Print? [y/N] ->y

wait 5s.
lpr -P MFC7860DW /usr/share/cups/data/testprint
You are going to install following packages.
  brscan4-0.4.9-1.x86_64.rpm
rpm -ihv --nodeps --replacefiles --replacepkgs brscan4-0.4.9-1.x86_64.rpm
Verifying...                               ##### [100%]
Preparing...                               ##### [100%]
Updating / installing...
  1:brscan4-0.4.9-1                         ##### [100%]
This software is based in part on the work of the Independent JPEG Group.
You are going to install following packages.
  brscan-skey-0.3.1-1.x86_64.rpm
rpm -ihv --nodeps --replacefiles --replacepkgs brscan-skey-0.3.1-1.x86_64.rpm
Verifying...                               ##### [100%]
Preparing...                               ##### [100%]
Updating / installing...
  1:brscan-skey-0.3.1-1                     ##### [100%]
```



```
[root@server13-domain-com Downloads]# su -c "chmod +x linux-brprinter-installer-2.2.2-1"
[root@server13-domain-com Downloads]# su -c ./linux-brprinter-installer-2.2.2-1
Input model name ->MFC-7860DW
```

You are going to install following packages.

```
mfc7860dwlpr-2.1.0-1.i386.rpm
cupswrapperMFC7860DW-2.0.4-2.i386.rpm
brscan4-0.4.9-1.x86_64.rpm
brscan-skey-0.3.1-1.x86_64.rpm
```

OK? [y/N] ->y

```
rpm -ihv --nodeps --replacefiles --replacepkgs mfc7860dwlpr-2.1.0-1.i386.rpm
```

```
Verifying... ##### [100%]
```

```
Preparing... ##### [100%]
```

```
Updating / installing...
```

```
1:mfc7860dwlpr-2.1.0-1 ##### [100%]
```

```
rpm -ihv --nodeps --replacefiles --replacepkgs cupswrapperMFC7860DW-2.0.4-2.i386.rpm
```

```
Verifying... #####
```

```
Preparing... #####
```

```
Updating / installing...
```

```
cupswrapperMFC7860DW-2.0.4-2 #####
```

```
lpadmin: Printer drivers are deprecated and will stop working in a future version of CUPS.
```

Will you specify the Device URI? [Y/n] ->n

Test Print? [y/N] ->y

wait 5s.

```
lpr -P MFC7860DW /usr/share/cups/data/testprint
```

You are going to install following packages.

```
brscan4-0.4.9-1.x86_64.rpm
```

```
rpm -ihv --nodeps --replacefiles --replacepkgs brscan4-0.4.9-1.x86_64.rpm
```

```
Verifying... ##### [100%]
```

```
Preparing... ##### [100%]
```

```
Updating / installing...
```

```
1:brscan4-0.4.9-1 ##### [100%]
```

This software is based in part on the work of the Independent JPEG Group.

You are going to install following packages.

```
brscan-skey-0.3.1-1.x86_64.rpm
```

```
rpm -ihv --nodeps --replacefiles --replacepkgs brscan-skey-0.3.1-1.x86_64.rpm
```

```
Verifying... ##### [100%]
```

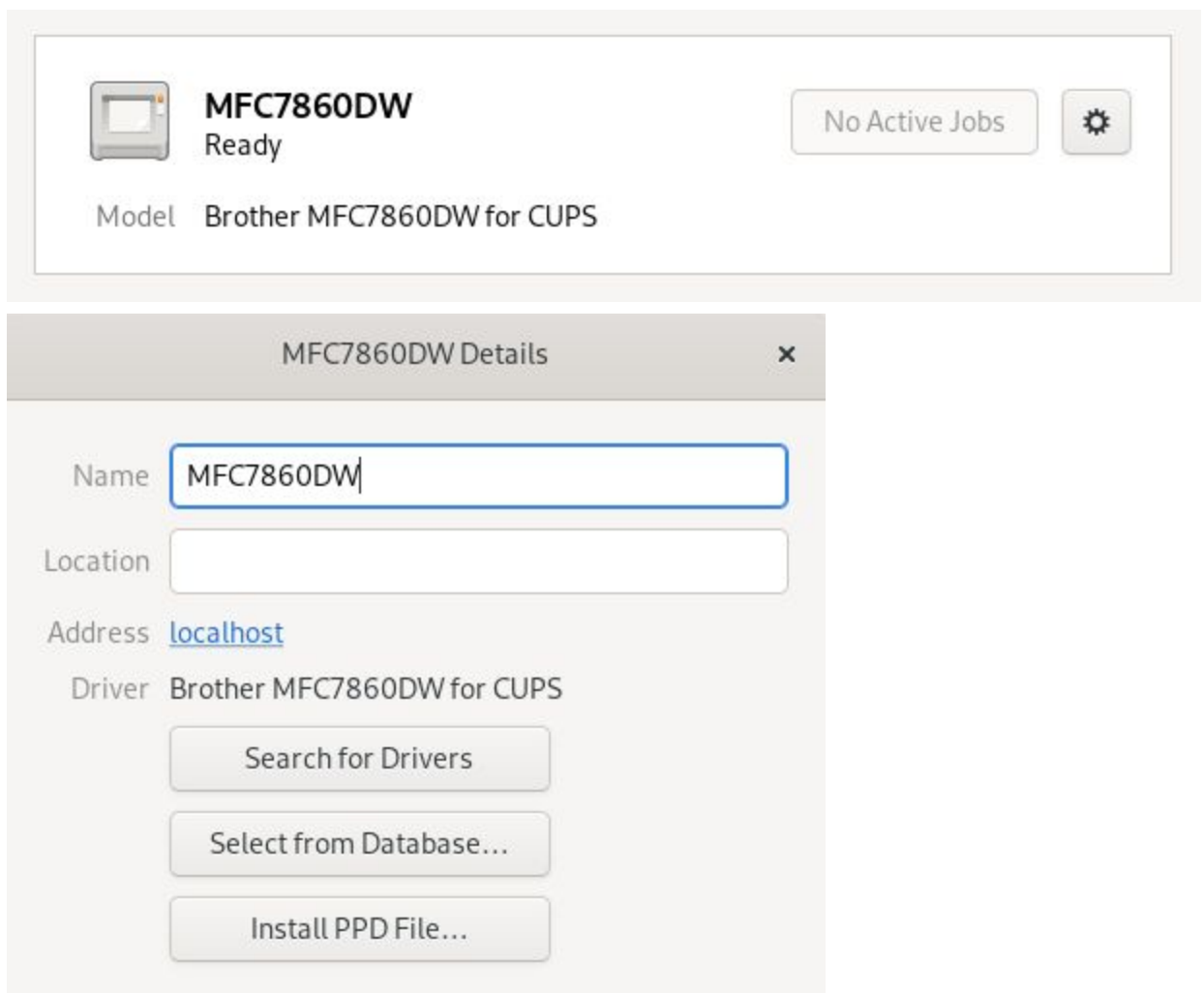
```
Preparing... ##### [100%]
```

```
Updating / installing...
```

```
1:brscan-skey-0.3.1-1 ##### [100%]
```

```
[root@server13-domain-com Downloads]# dnf install glibc.i686
Last metadata expiration check: 0:54:43 ago on Fri 28 Aug 2020 02:40:07 PM.
Package glibc-2.31-4.fc32.i686 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@server13-domain-com Downloads]# dnf install psutils
Last metadata expiration check: 0:55:08 ago on Fri 28 Aug 2020 02:40:07 PM.
Package psutils-1.23-17.fc32.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@server13-domain-com Downloads]# setsebool -P cups_execmem 1
```

As you can see in this screenshot, my printer is finally recognized. I can easily add printing jobs to the queue. However, nothing is printed out even though I installed LPR and CUPSwrapper.



The screenshot displays the CUPS printer configuration interface. At the top, a card for the **MFC7860DW** printer is shown, indicating it is **Ready**. To the right of the card are two buttons: **No Active Jobs** and a settings gear icon. Below the card, the model is listed as **Brother MFC7860DW for CUPS**.

Below the printer card, a window titled **MFC7860DW Details** is open. This window contains the following fields and buttons:

- Name:** A text box containing **MFC7860DW**.
- Location:** An empty text box.
- Address:** A text box containing **localhost**.
- Driver:** A text box containing **Brother MFC7860DW for CUPS**.
- Buttons:** Three buttons are located at the bottom of the details window: **Search for Drivers**, **Select from Database...**, and **Install PPD File...**.



**MFC7860DW**

Processing

No Active Jobs



Model Brother MFC7860DW for CUPS

Clear All

MFC7860DW — Active Jobs



Test Page

Processing

