SATO CUPS Driver for Linux

User Manual

Edition 2.30.0
April 2025

Copyrights

Any unauthorized reproduction of the contents of this document, in part or whole, is strictly prohibited.
© 2025 SATO Corporation. All rights reserved.

Limitation of Liability

SATO Corporation and its subsidiaries in Japan, the U.S., and other countries make no representations or warranties of any kind regarding this material, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. SATO Corporation shall not be held responsible for errors contained herein or any omissions from this material or for any damages, whether direct, indirect, incidental, or consequential, in connection with the furnishing, distribution, performance, or use of this material.

Specifications and contents of this document are subject to change without notice.

Trademarks

SATO is a registered trademark of SATO Holdings Corporation and its subsidiaries in Japan, the U.S. and other countries.

Linux is a registered trademark of Linus Torvalds in the United States and other countries.

Ubuntu and Canonical are registered trademarks of Canonical Ltd.

Fedora and the Infinity design logo are trademarks of Red Hat, Inc. in the U.S. and other countries.

Firefox is a trademark of the Mozilla Foundation in the U.S. and other countries.

Bluetooth is a trademark of Bluetooth SIG, Inc., U.S.A.

All other trademarks are the property of their respective owners.

Software Updating Disclaimer

While all efforts have been taken to ensure the accuracy and currency of the information contained herein, there are instances where the contents of this document may be outdated. In that case, proceed to your local SATO regional website (https://www.sato-global.com/drivers/redirect.html) to check whether an updated document has been made available for your reference.

Contact Information

Access the following site and select the region/country nearest to you.
https://www.sato-global.com/about/locations.html

Table of Contents

Table of Contents **3**

1. Overview **4**

1.1 Supported Models of SATO Printer 4

1.2 Printer Properties/Options 6

2. System Requirements **7**

3. Setup **8**

3.1 Installing the Driver (x86/x64) 8

3.2 Uninstalling the Driver (x86/x64) 9

3.3 Installing the Driver (ARMv7/ARMv8) 9

4. Managing the SATO Printer **10**

4.1 Overview 10

4.2 Managing Printers from the Printer Administration 10

4.2.1 Adding a New Printer 10

4.2.2 Modifying the Printer Properties 15

4.2.3 Removing the Printer 17

4.3 Managing Printers from the CUPS Web Interface 19

4.3.1 Adding a New Printer 19

4.3.2 Modify Printers 22

4.3.3 Removing the Printer 24

4.3.4 Setting Default Printer Options 26

4.4 Managing Printers from the Command Line 28

4.5 Troubleshooting 28

Overview 1

The SATO Driver for Linux system was developed to allow users to print on the SATO printer.

This driver is based on the CUPS printing system for Linux. All device communications are handled by CUPS (backend). The raster filter converts the CUPS raster graphic into SBPL, which the printer can understand. For instance, if the user prints a label, the raster filter converts the graphic into an SBPL command, which will be sent to the printer together with the printer options.

1.1 Supported Models of SATO Printer

Currently, only the following models of printers are supported by the current version of the driver:

Series Name	Models
CG2 Series	CG208 DT/TT CG212 DT/TT
CG4 Series	CG408 DT/TT CG412 DT/TT
CL4e Series	CL408e CL412e
CL6e Series	CL608e CL612e
CL4NX Series	CL4NX 203 dpi CL4NX 305 dpi CL4NX 609 dpi
CL4NX Plus Series	CL4NX Plus 203 dpi CL4NX Plus 305 dpi CL4NX Plus 609 dpi
CL4NX-J Series	CL4NX-J 203 dpi CL4NX-J 305 dpi CL4NX-J 609 dpi
CL4NX-J Plus Series	CL4NX-J Plus 203 dpi CL4NX-J Plus 305 dpi CL4NX-J Plus 609 dpi
CL6NX Series	CL6NX 203 dpi CL6NX 305 dpi
CL6NX Plus Series	CL6NX Plus 203 dpi CL6NX Plus 305 dpi
CL6NX-J Series	CL6NX-J 203 dpi CL6NX-J 305 dpi
CL6NX-J Plus Series	CL6NX-J Plus 203 dpi CL6NX-J Plus 305 dpi
CT4i Series	CT408i CT412i
CT4-LX Series	CT4-LX 203 dpi CT4-LX 305 dpi
HC4-LX Series	HC4-LX 203 dpi HC4-LX 305 dpi
CT4-LX-J Series	CT4-LX-J 203 dpi CT4-LX-J 305 dpi
HC4-LX-J Series	HC4-LX-J 203 dpi HC4-LX-J 305 dpi

Series Name	Models
FX3-LX	FX3-LX DT305-Ln
GL4e Series	GL408e GL412e
GZ4e Series	GZ408e GZ412e
LM4e Series	LM408e LM412e
M10e	M10e
M84 Pro Series	M84 Pro 2 M84 Pro 3 M84 Pro 6
M84xxSe Series	M8485Se M8490Se M8459Se M8460Se M8465Se
MB2i Series	MB200i
MB4i Series	MB400i MB410i
PW208 Series	PW208NX PW208mNX
PW4NX Series	PW4NX 203 dpi PW4NX-J 203 dpi
S84 Series	S8408 S8412 S8424
S84-ex/S86-ex Series	S84-ex 203 dpi S84-ex 305 dpi S84-ex 609 dpi S86-ex 203 dpi S86-ex 305 dpi
S84NX Series	S84NX 203 dpi S84NX 305 dpi S84NX 609 dpi
S86NX Series	S86NX 203 dpi S86NX 305 dpi
SG112-ex	SG112-ex 305 dpi
TG3e Series	TG308e TG312e
WS4 Series	WS408 DT/TT WS412 DT/TT
WT4-AXB Series	WT4-AXB TT203 WT4-AXB TT300

1.2 Printer Properties/Options

The driver supports the following printer settings. Please note that the settings vary depending on the printer model. For more information, refer to the printer specifications.

Property	Description
Media Size	Sets the media size. Units in inches.
Sensor Type	Specifies the selection of the transparent sensor or the reflection sensor.
B&W Conversion	Allows users to select Dither options for improved printing image quality. The choices are: - Dither (default) will be used for images. - Threshold (50%) will give sharp edges for text and bar codes. - Threshold (75%) will give sharp edges for text and bar codes, darker than 50%. - Threshold (25%) will give sharp edges for text and bar codes, lighter than 50%.
Print Method	Sets the Print method/type, such as Thermal Type and Direct Thermal Type.
Resolution	Sets the print density.
Print Speed	Sets the print speed.
Darkness Range	Sets the print darkness. The print density parameter can be specified with six options, from “A” to “F.”
Darkness Level	Sets the print darkness level. The print density level parameter can be specified in five options, from “1” to “5.”
Print Mode	Sets the operation modes, such as Continuous, Tear-off, Cutter, and Dispenser.
Cutter	Sets the cutter options. This is only applicable to printers with cutters. Cutter Operation Mode should also be selected to make it work.
Vertical Offset	Sets the start position coordinate. Specifies the vertical start position correction signal. Units in inches.
Horizontal Offset	Sets the start position coordinate. Specifies the horizontal start position correction signal. Units in inches.

System Requirements 2

The minimum system requirements for the SATO CUPS Driver for Linux are:

- IBM-compatible PC (CPU architecture: x86 and x64)
- Linux distributions such as RPM and DEB

DEB	Ubuntu 11.10 or later
RPM	Fedora 16 or later

- CUPS printing system for Linux (1.5 or later)
- At least one supported model of SATO printer that can connect to the machine
- *For Bluetooth communication, it is necessary to install the "**blue-cupz**" package. This package contains a driver that lets CUPS print on Bluetooth-connected printers. BlueZ is the official Linux Bluetooth protocol stack. Please check your Operating system documentation for compatibility.

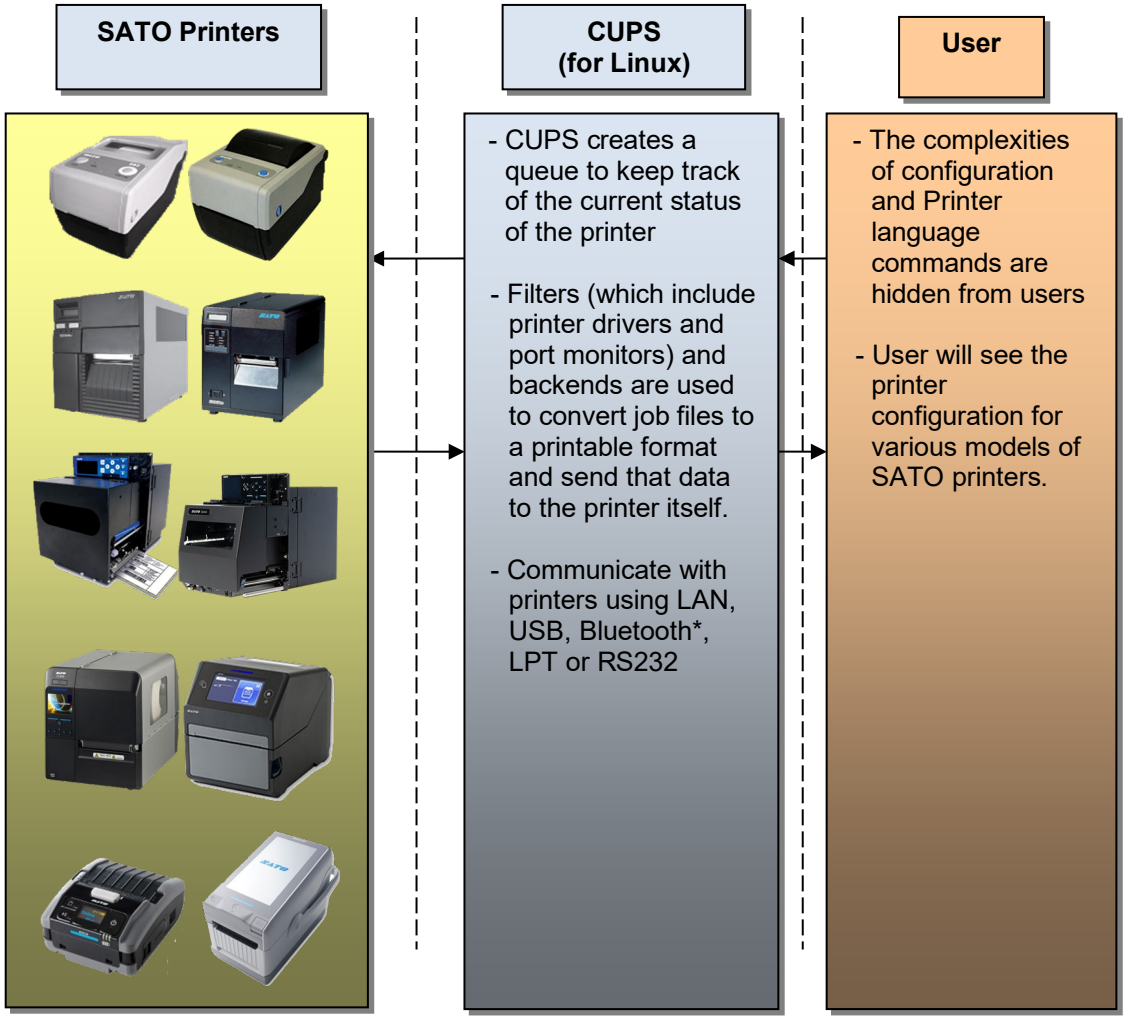


Figure 1 Overview

Setup 3

3.1 Installing the Driver (x86/x64)

After obtaining the packages, perform the following instructions:

Note: The screenshots may look different depending on the Linux Distribution that you are using.

1) Log in as the root user. Otherwise, add the “sudo” or “su” command to obtain root permissions before you type in each command.

2) Launch the Terminal.

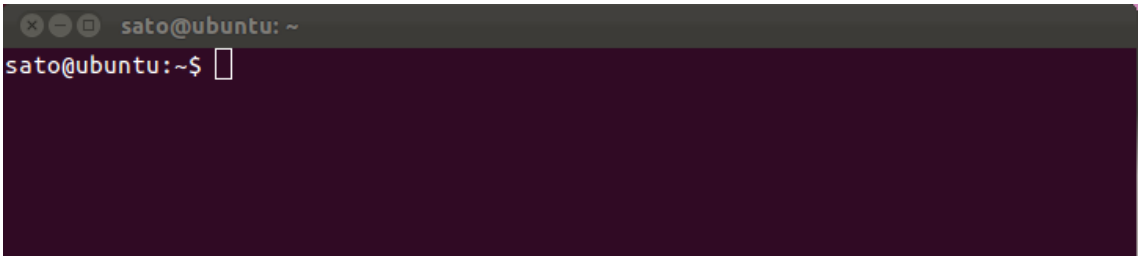


Figure 2 Terminal screen

3) Locate the package file. For example, if you saved the packages in the “Documents/SATO” folder, you can type in:
cd ~/Documents/SATO [ENTER]

4) To install the package, use the corresponding commands as follows:

For .deb files, you can type in:
dpkg -i [insert package name].deb [ENTER]

For .rpm files, you can type in:
rpm -i [insert package name].rpm [ENTER]

For .gz files, perform the following instructions:
1) Extract the package [insert package name].tar.gz into your local folder.
2) Run the satodriver.install.

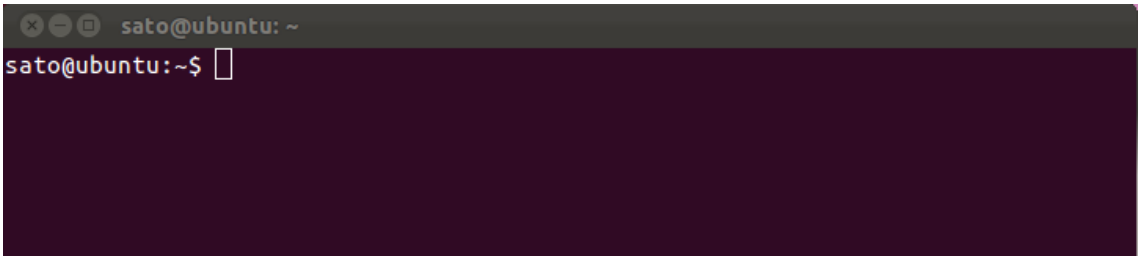
An error will occur if the driver is already installed. To overwrite it, specify the “—force” option.
dpkg –I --force [insert package name].deb [ENTER]

5) After a short delay, the driver will be installed automatically into your system.

3.2 Uninstalling the Driver (x86/x64)

1) Log in as the root user. Otherwise, add the “sudo” or “su” command to obtain root permissions before you type in each command.

2) Launch the Terminal.



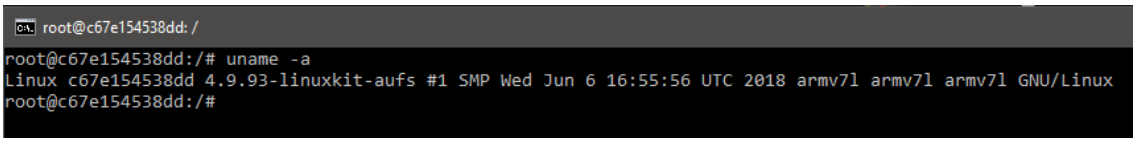
3) To delete the package, you can type in:

   x86: dpkg -r satodriver
   x64: dpkg -r satodriver:amd64

3.3 Installing the Driver (ARMv7/ARMv8)

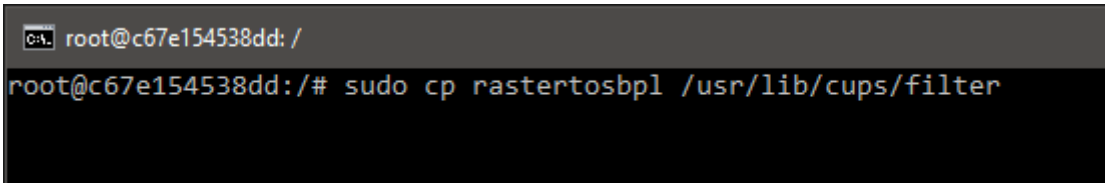
1) Download the Driver and PostScript Printer Description (PPD) zip files from your local SATO regional website (https://www.sato-global.com/drivers/redirect.html).

2) To determine the correct driver to download, run the uname –a command. This command will return the processor architecture; in the following example, it is ARMv7.

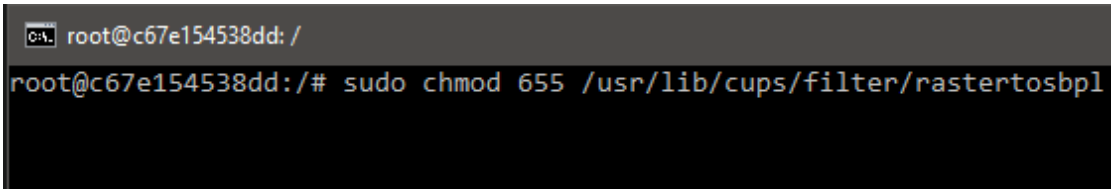


3) Extract the file in your local folder. (ex. Documents)

4) Locate and copy the downloaded rastertosbpl file into the Cups filters folder. If there is an existing rastertosbpl file in the filter folder, make sure to delete it first.



5) Give the correct permission to the rastertosbpl file.



6) Since there are no installers for this package, you must use the PPD approach when adding the printer (refer to 4.2.1 or 4.3.1, Adding a New Printer section).

Managing the SATO Printer

4

4.1 Overview

Printers can be managed using the **CUPS Web Interface**, **Printer Administration**, and the **command-line program**. The easiest way to manage a printer is through the OS Printer Settings, which provides a step-by-step wizard screen to follow.

CUPS supports devices such as Serial, USB, LAN, and LPT.

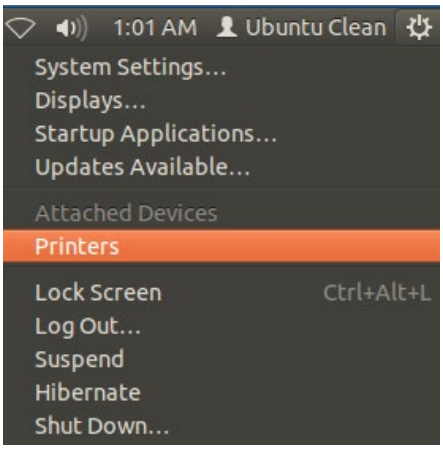
Note: The screenshots may look different depending on the Linux Distribution that you are using.

4.2 Managing Printers from the Printer Administration

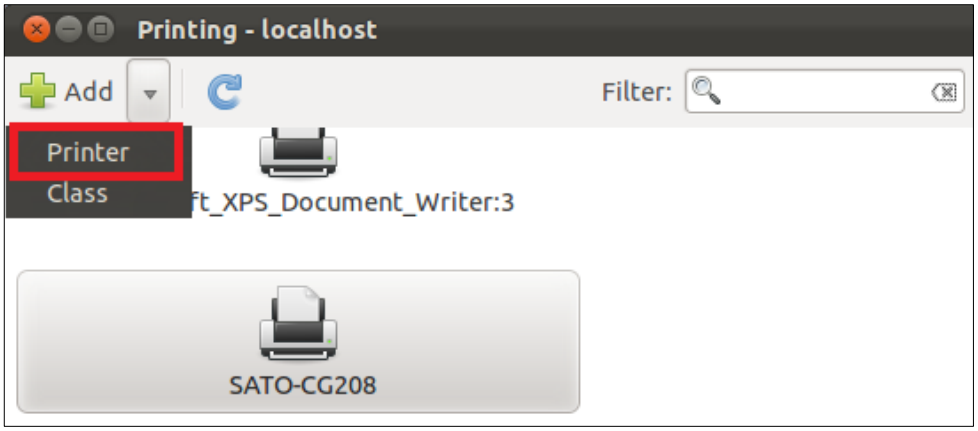
4.2.1 Adding a New Printer

To add a new printer from the Printer Administration, perform the following instructions:

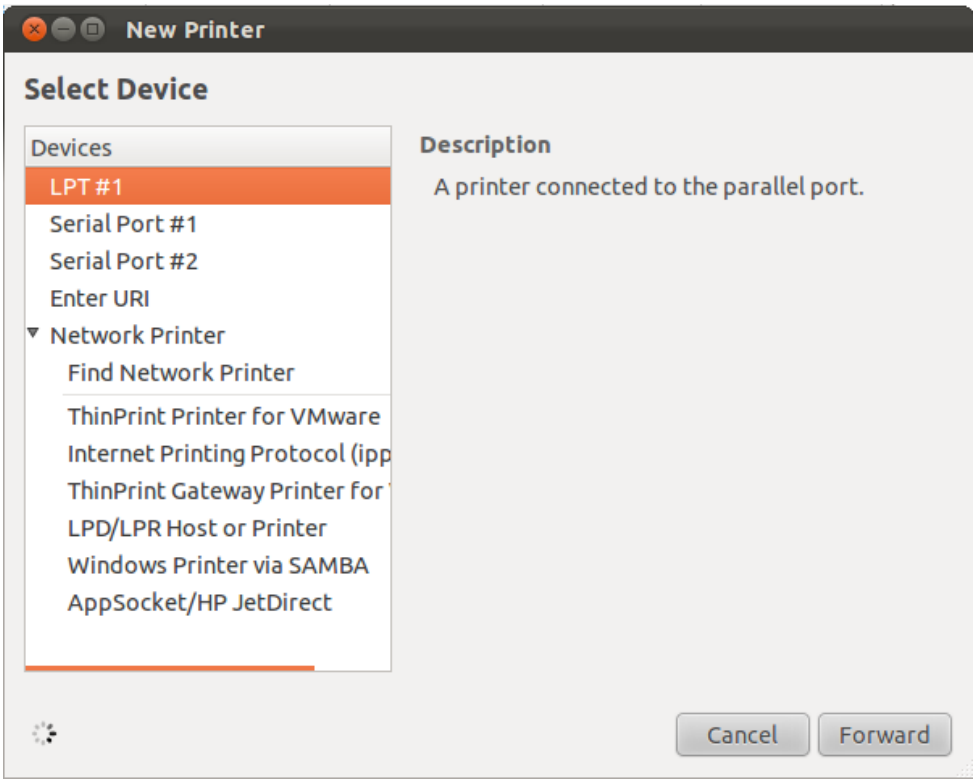
1) Locate the Printer Settings.



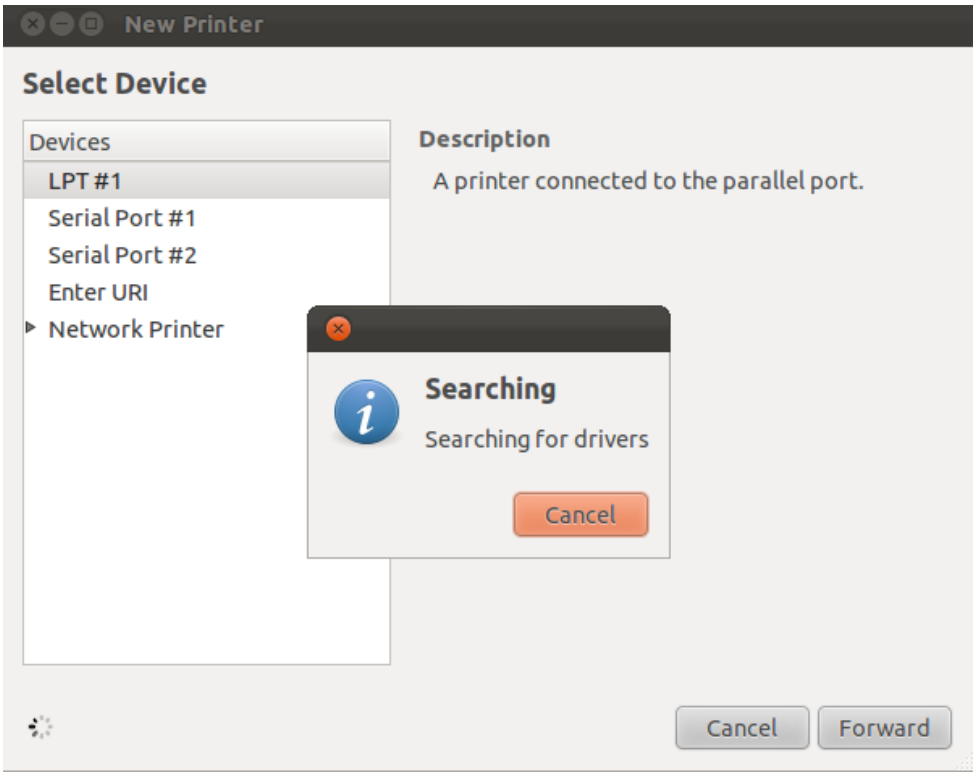
2) Click the **Add** > **Printer** option in the menu.



3) Select the device from the selection and click the **Forward** button.



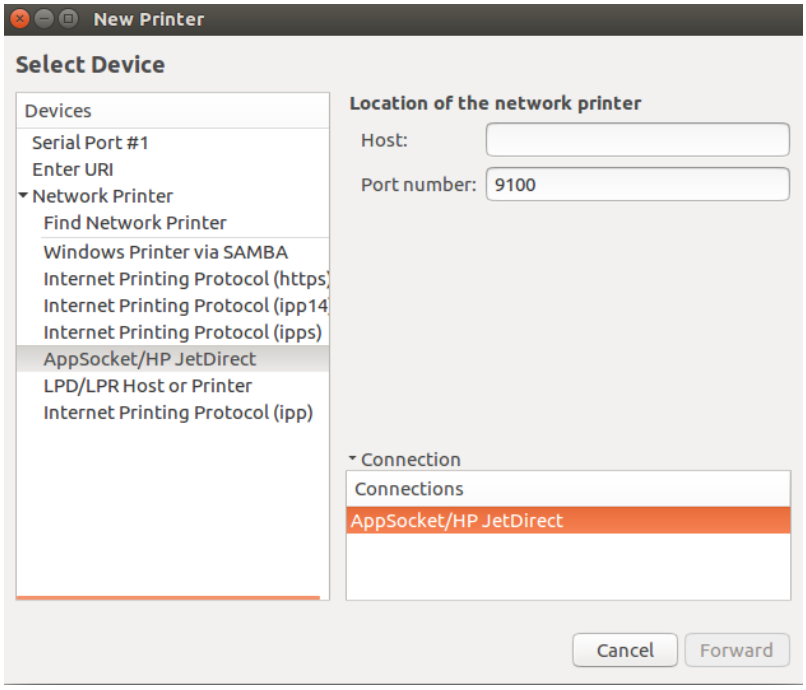
4) The system will start searching for existing drivers. If the printer information is found, it automatically adds the printer to the system.



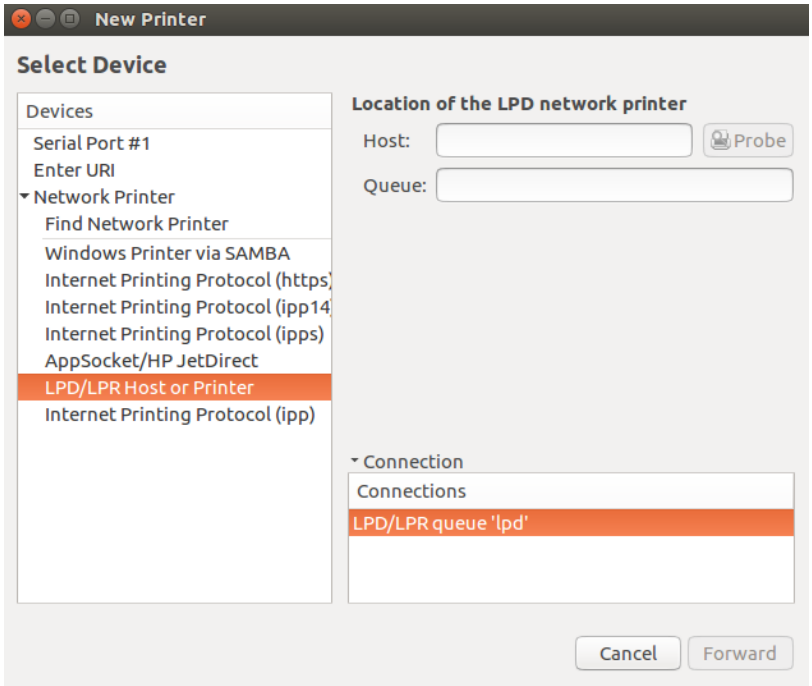
5) If the system cannot find the printer information, you will be asked to manually select the printer you wish to add.

You can choose any of the “Network Printer” options. Then, you will be asked to enter the printer’s Device URI/Host.

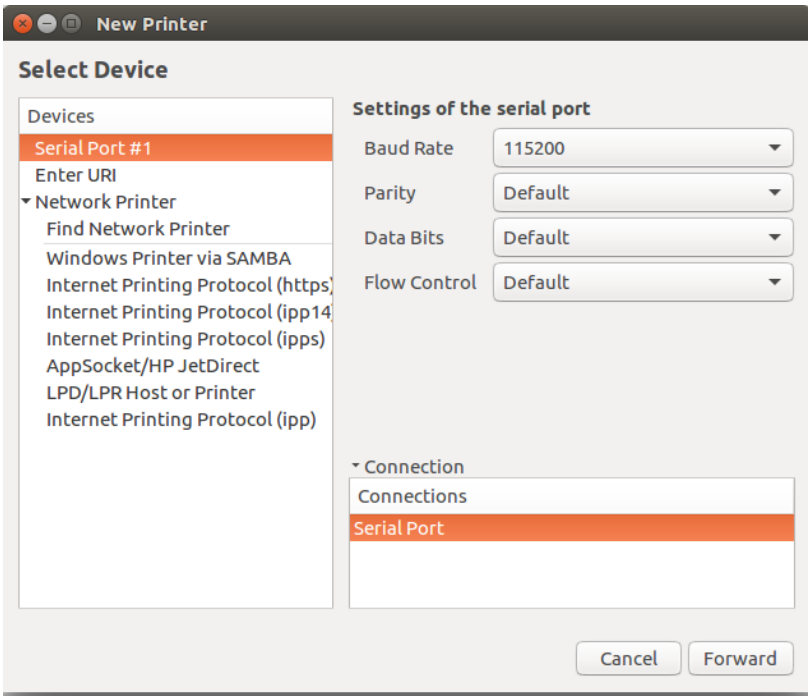
For LAN/WLAN:



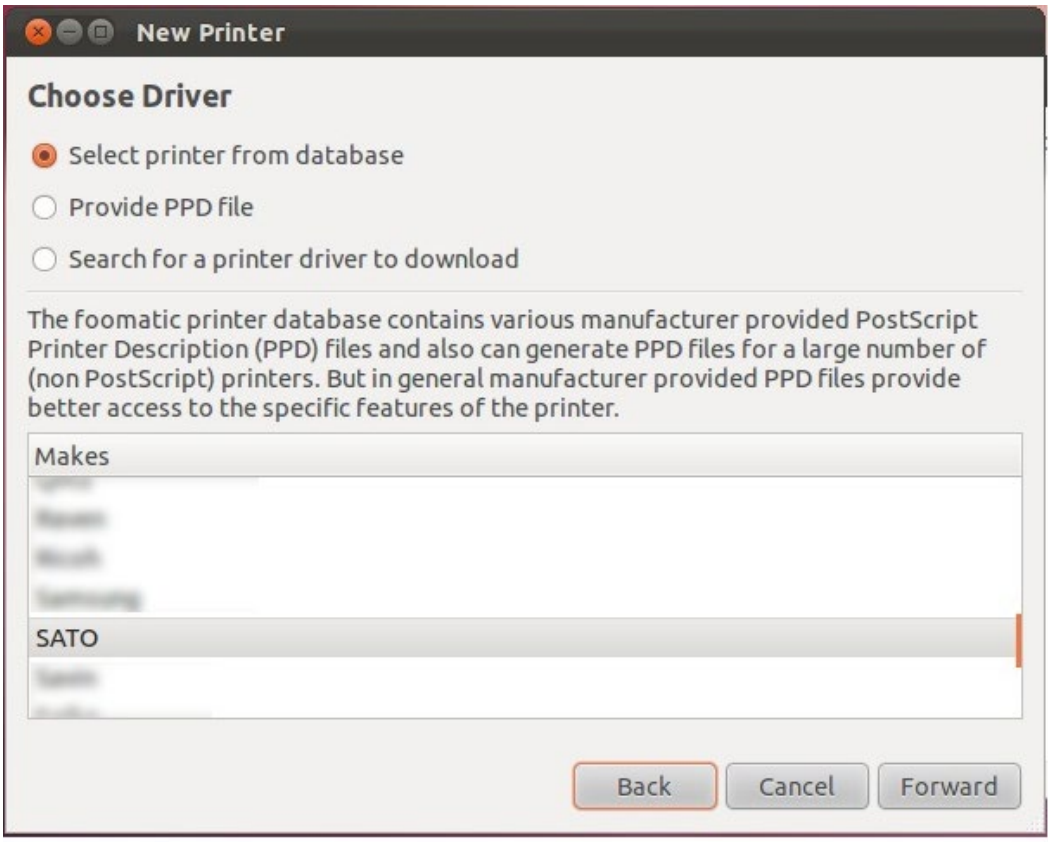
For Bluetooth (pairing the device with the PC/Laptop first is necessary):



For Serial:

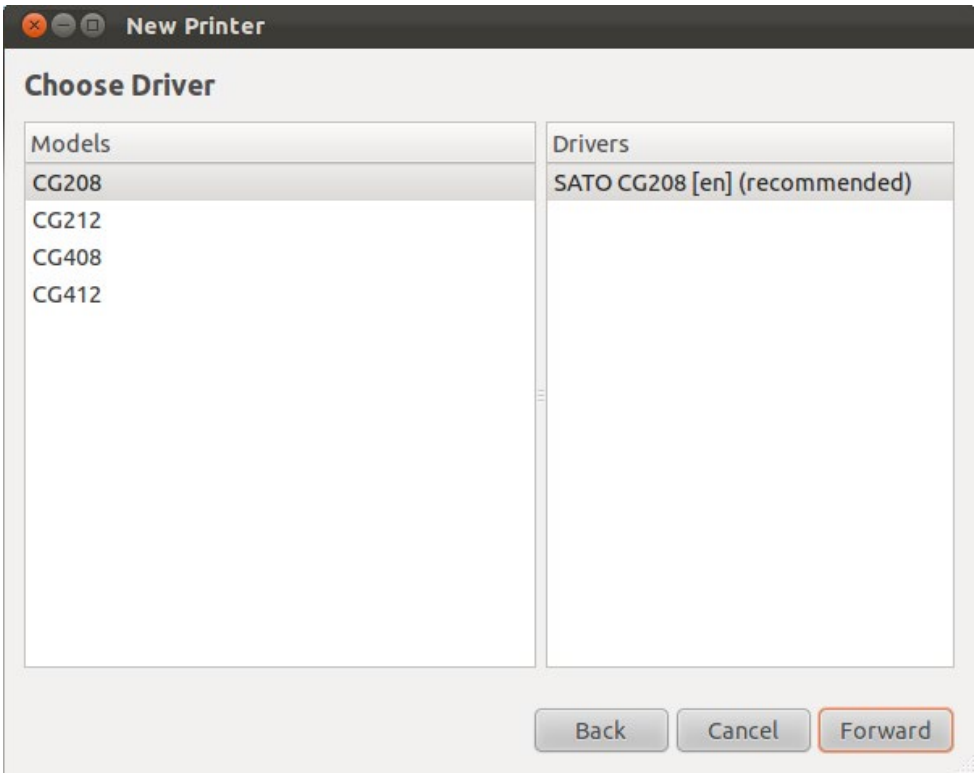


6) Select the "**Select printer from the database**" option from the **Choose Driver** selection screen.



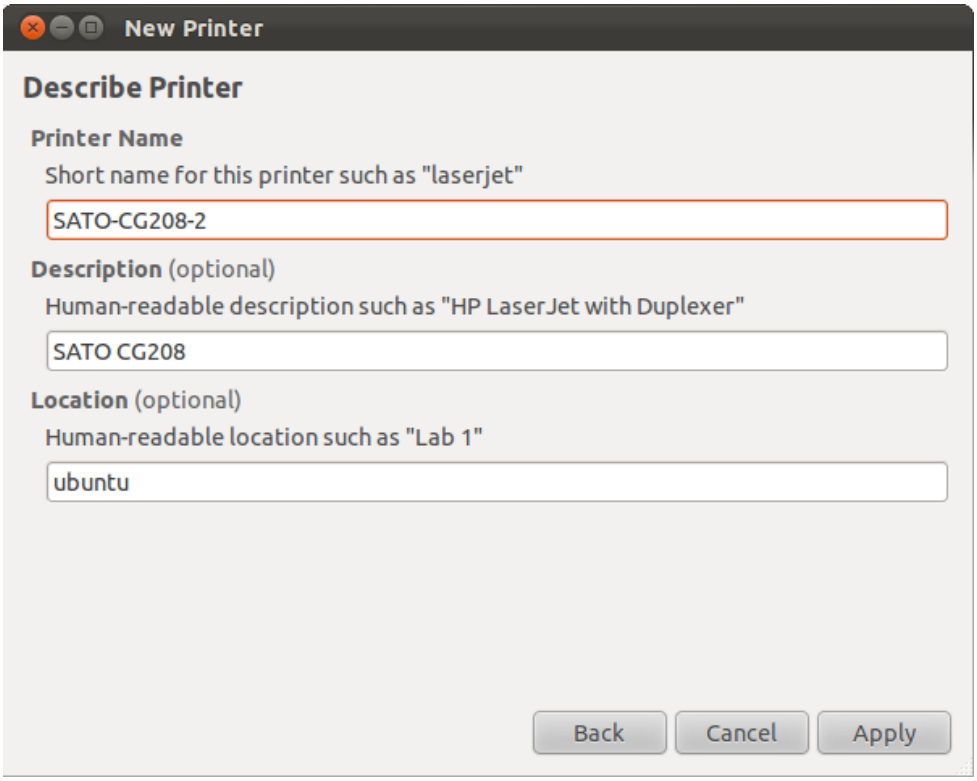
7) Select "**SATO**" in the Makes/Manufacturer selection and click the **Forward** button.

8) Select the specific printer model you wish to add.

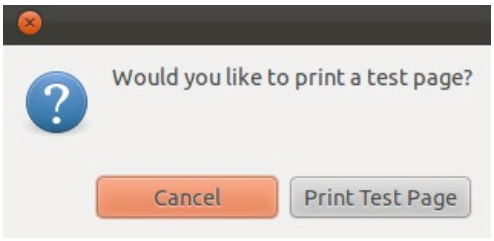


9) Alternatively, you can select the printer PPD if you have the file or manually install the driver (ex. Using the ARMv7 driver).

10) Verify the information and click the **Apply** button.



11) Click the **Print Test Page** button to test the printer. Make sure your printer is online.

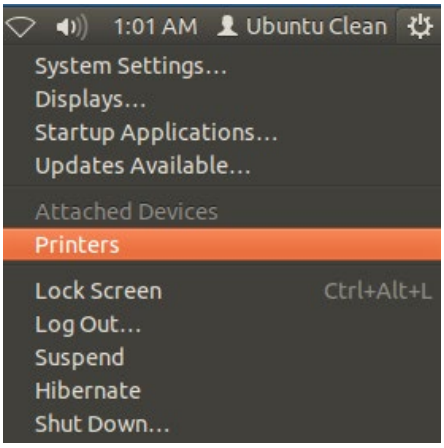


12) Check your test print.

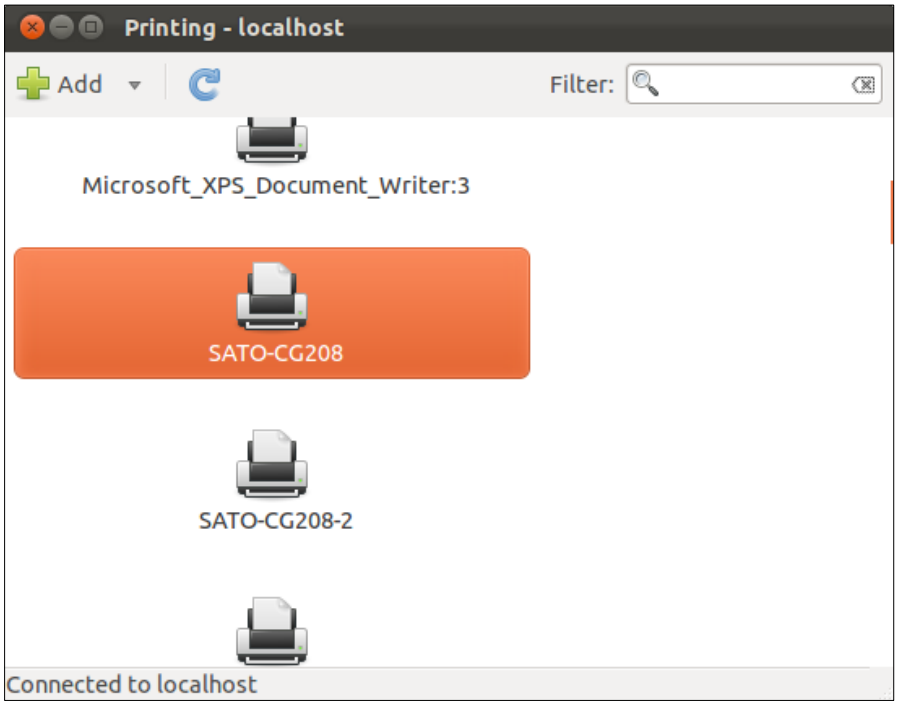
4.2.2 Modifying the Printer Properties

To modify the printer properties, perform the following instructions:

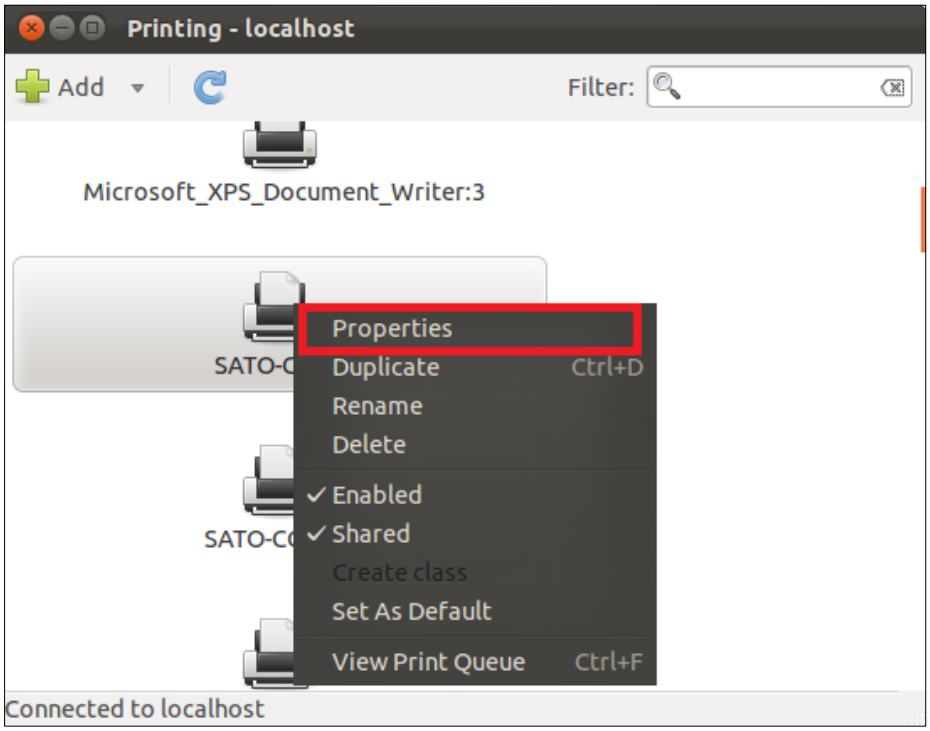
1) Locate the Printer Settings.



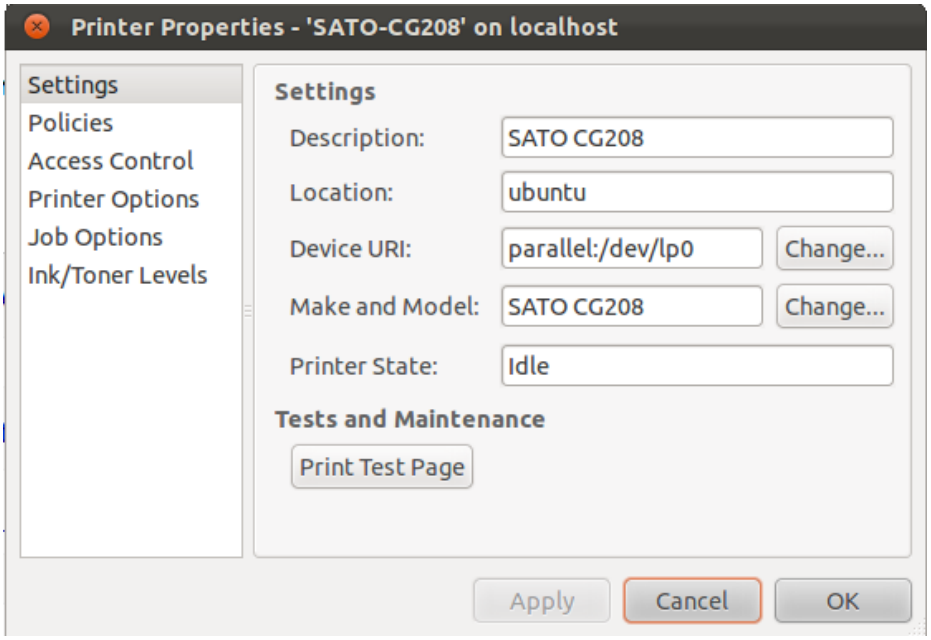
2) Select the printer you wish to modify on the screen.



3) Right-click on the selected printer and click **Properties**.



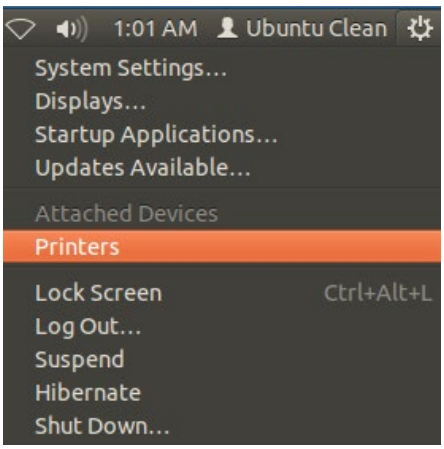
4) Modify the printer properties and click the **Apply** button.



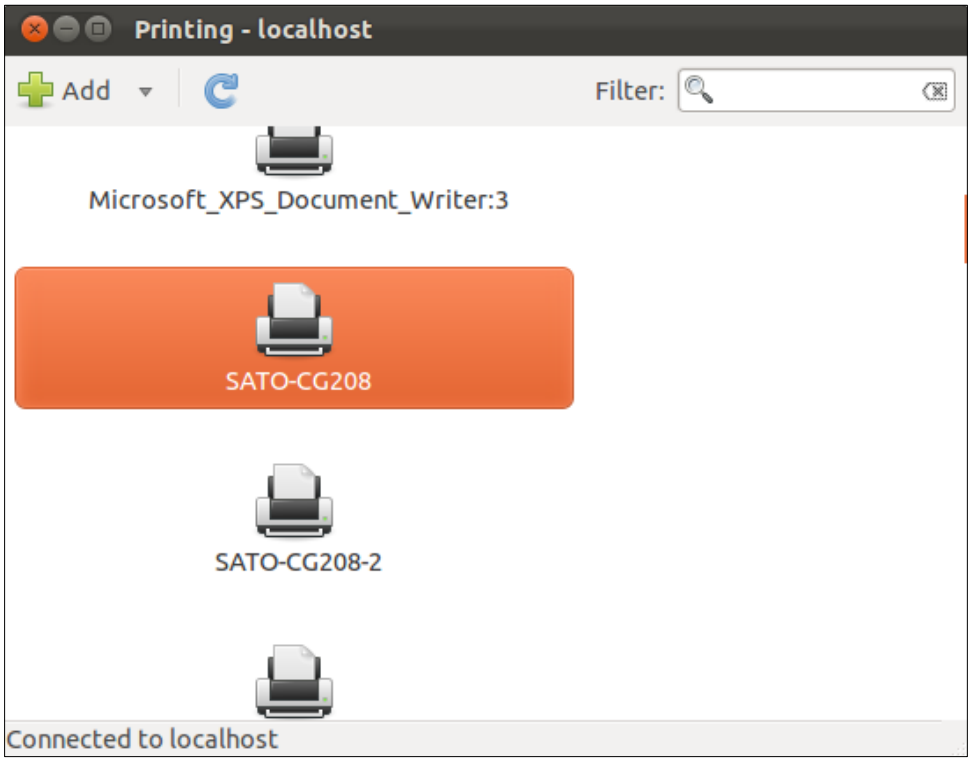
4.2.3 Removing the Printer

To remove the existing printer properties, perform the following instructions:

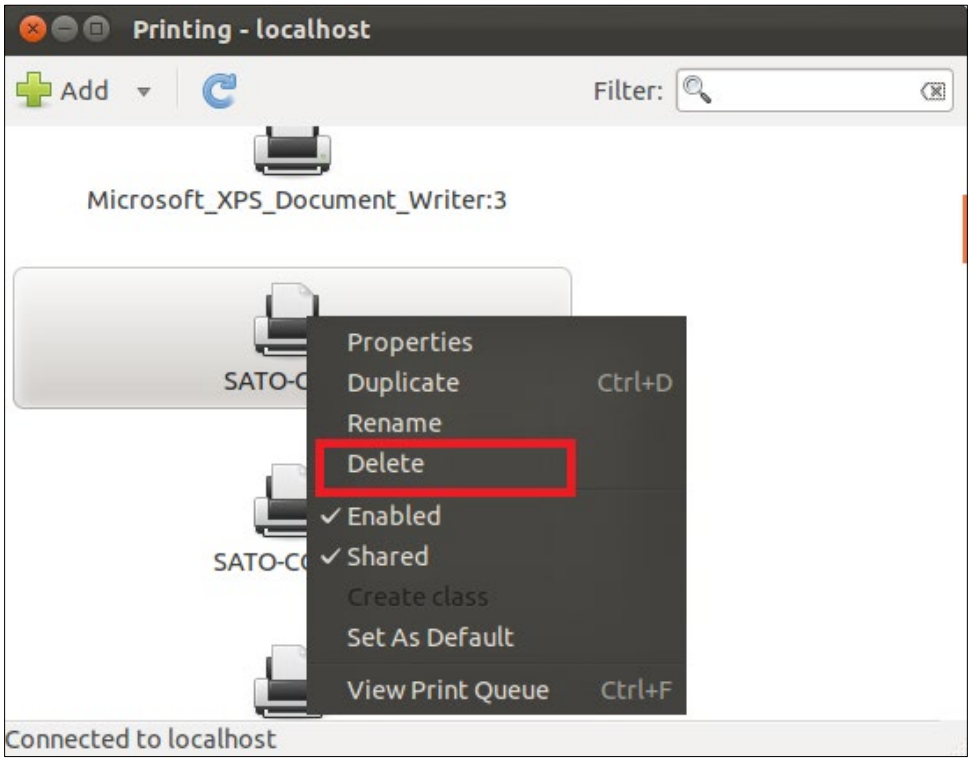
1) Locate the Printer Settings.



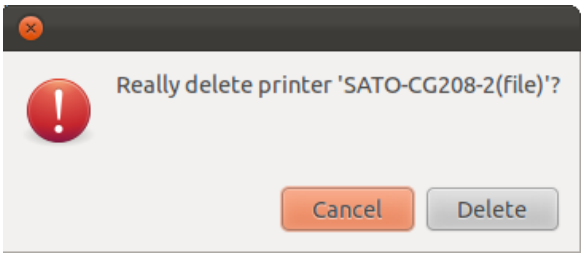
2) Select the printer you wish to modify on the screen.



3) Right-click on the selected printer and click **Delete**.



4) Click the **Delete** button to confirm.



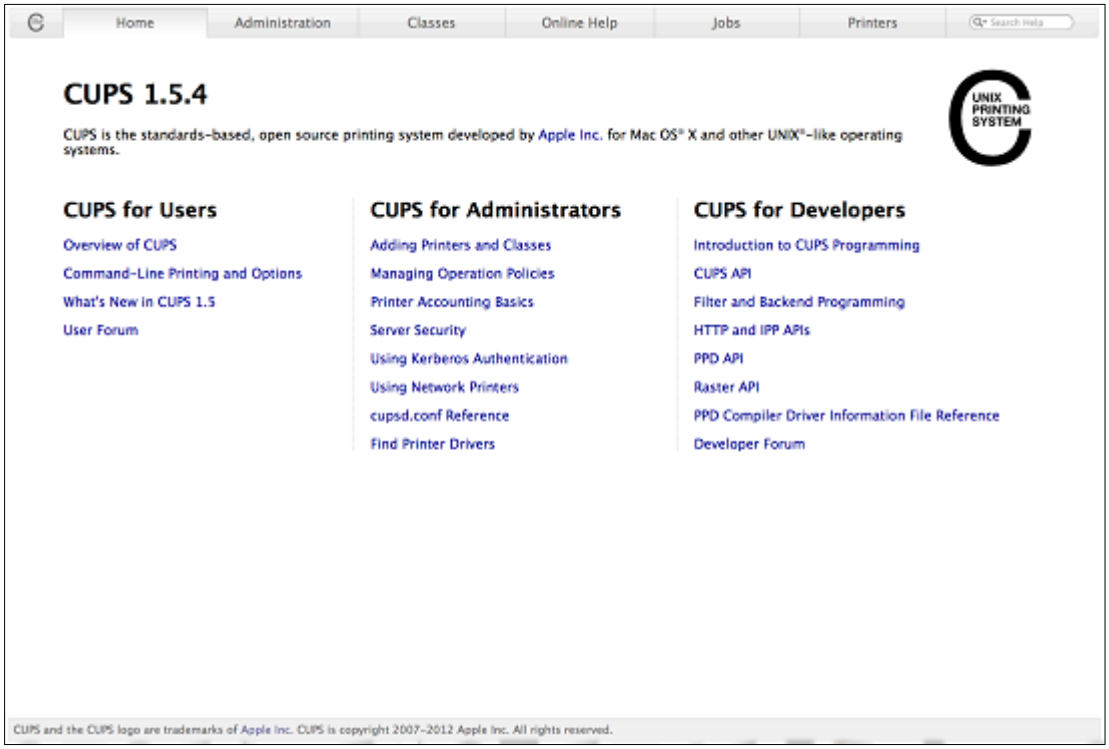
4.3 Managing Printers from the CUPS Web Interface

Most Linux systems with CUPS installed have a **CUPS Web Interface** where users can manage printers.

4.3.1 Adding a New Printer

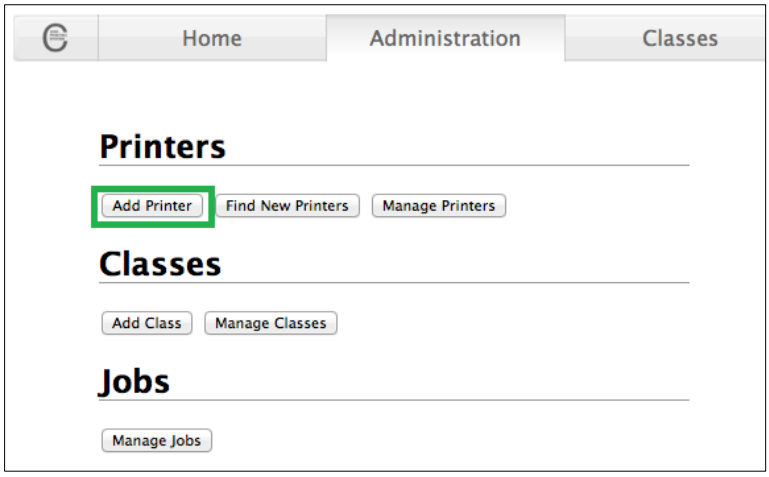
To add a new printer from the **CUPS Web Interface**, perform the following instructions:

1) Open a web browser (example: Firefox web browser) and type in "http://localhost:631/" in the address bar.

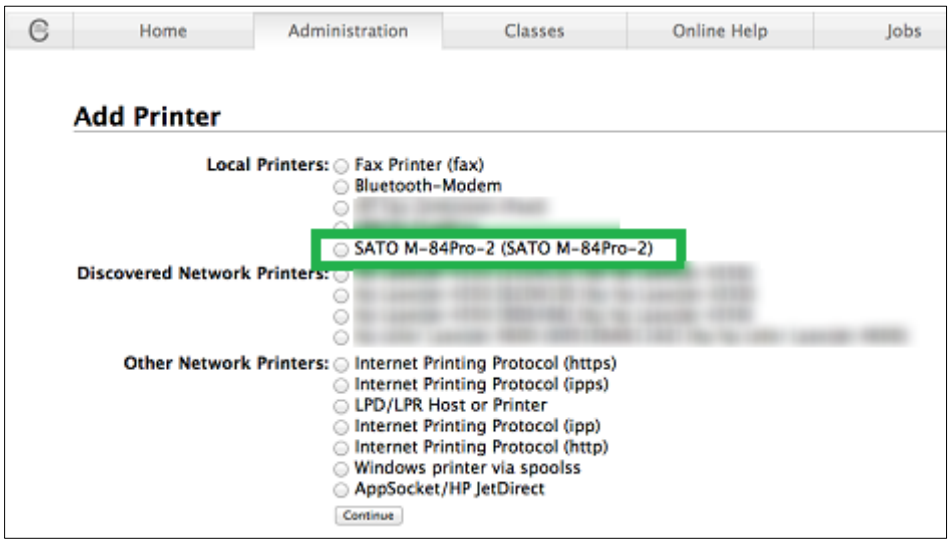


2) On the **Home** page, click **Administration** at the top of the menu.

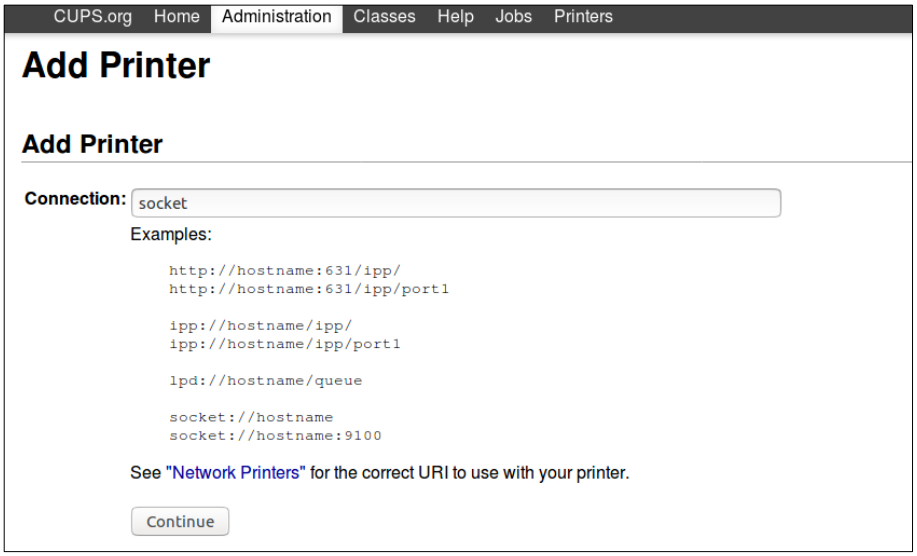
3) Click **Add Printer**.



4) Select the printer you wish to add and click **Continue**.

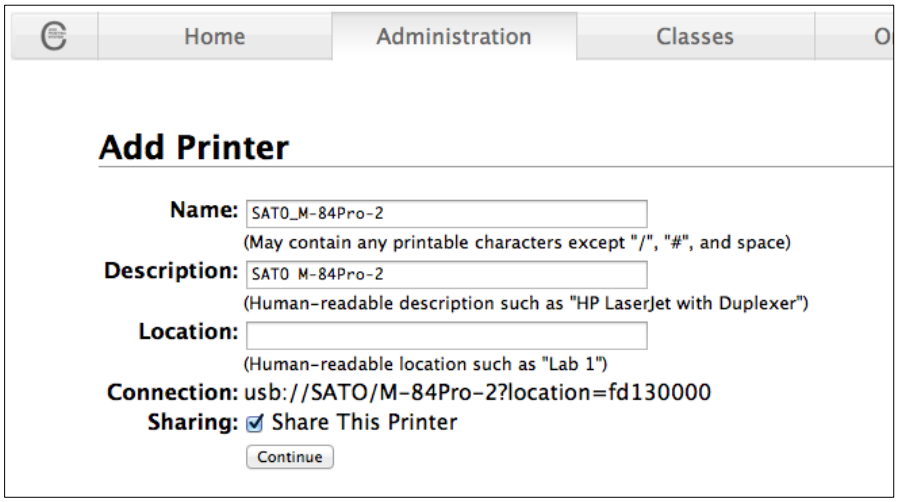


Alternatively, if the system cannot detect a printer, you can choose any **Other Network Printers** option. After that, you will be asked to enter the printer's Device URI/Host.

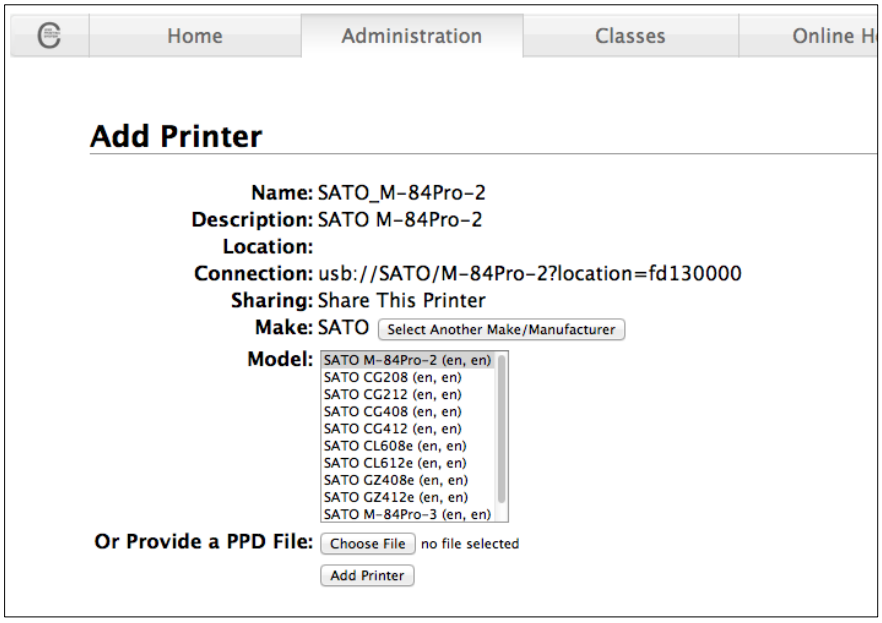


Note: For Bluetooth, you can use "bluetooth://<device mac address>"; make sure to pair the device with the PC/Laptop first.

5) Printer information will be loaded on the page. Modify the information depending on your needs.



6) CUPS will detect the printer model that best describes the printer. Click **Add** to complete the process. If the selected model is incorrect, you can manually select the printer from the list.

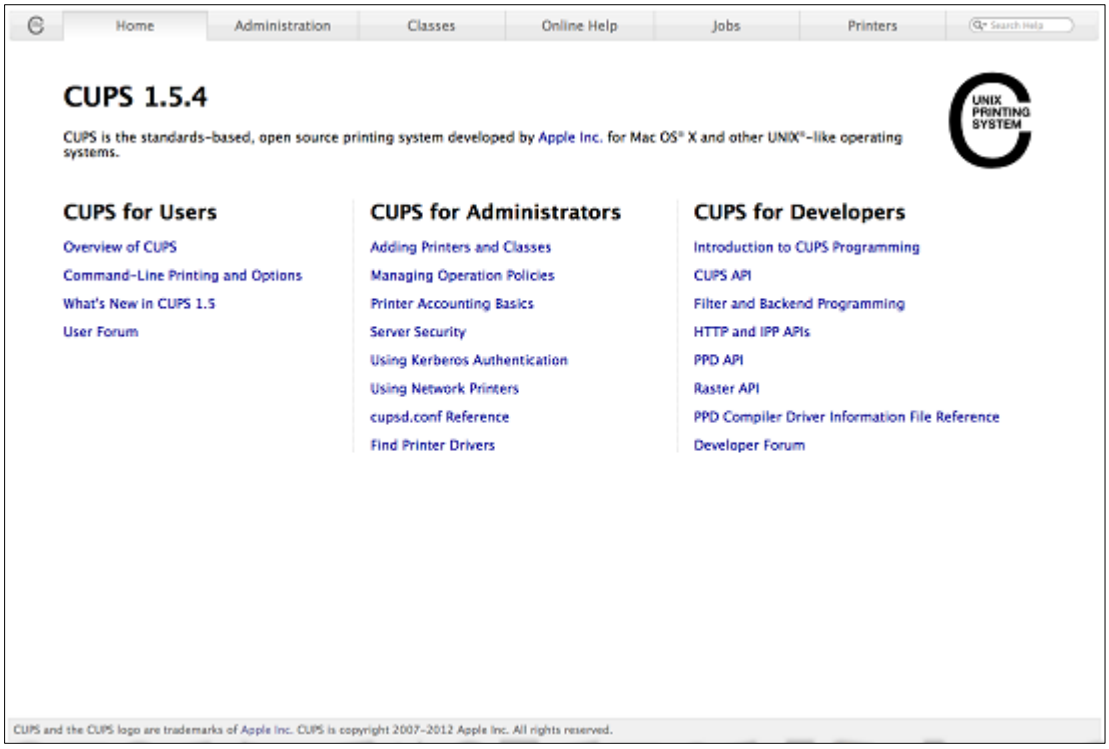


7) Alternatively, you can select the printer PPD if you have the file or manually install the driver (ex. Using the ARMv7 driver).

4.3.2 Modify Printers

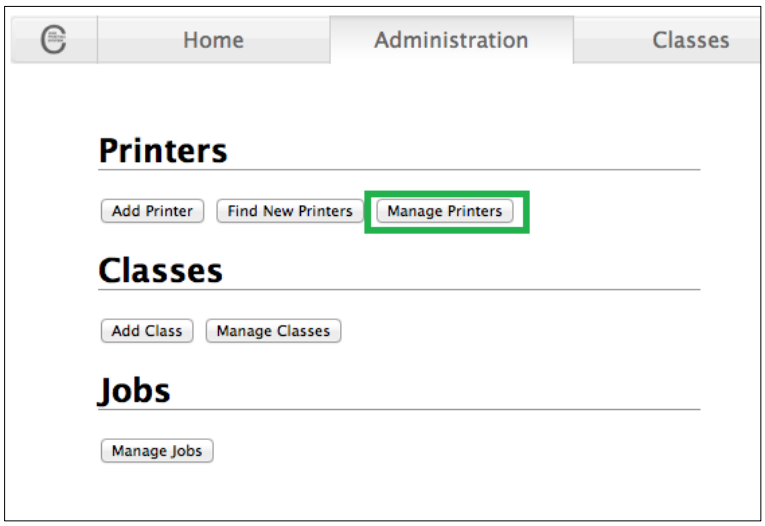
To modify an existing printer, perform the following instructions:

1) Open a web browser (example: Firefox web browser) and type in "http://localhost:631/" in the address bar.

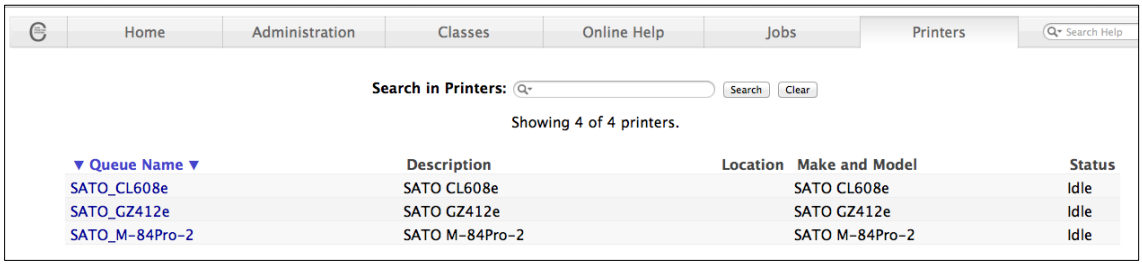


2) On the **Home** page, click **Administration** at the top of the menu.

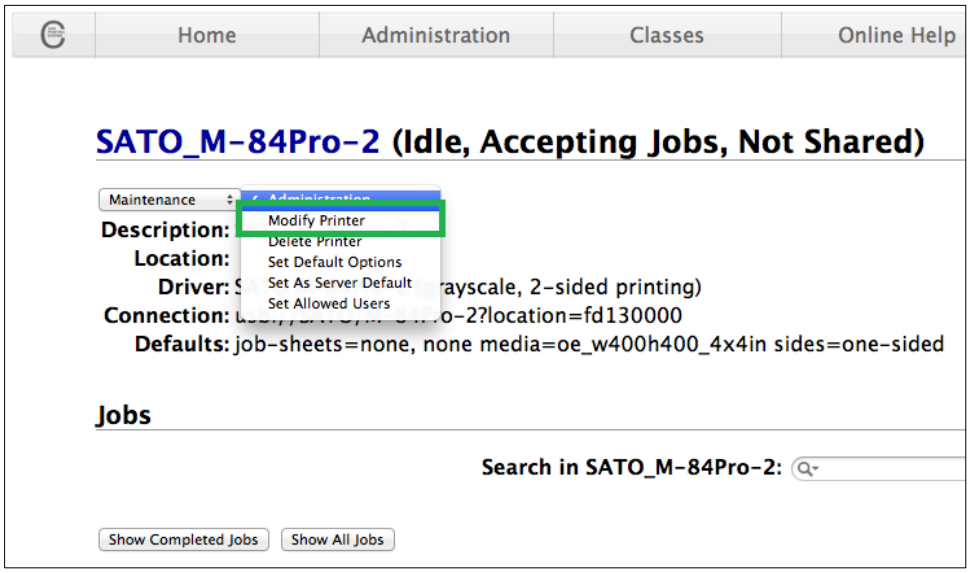
3) Click **Manage Printers**.



4) Select the printer you wish to modify on the list.



5) On the **Administration** dropdown list, select **Modify Printer**.



6) Select the printer you wish to modify and click **Continue**.

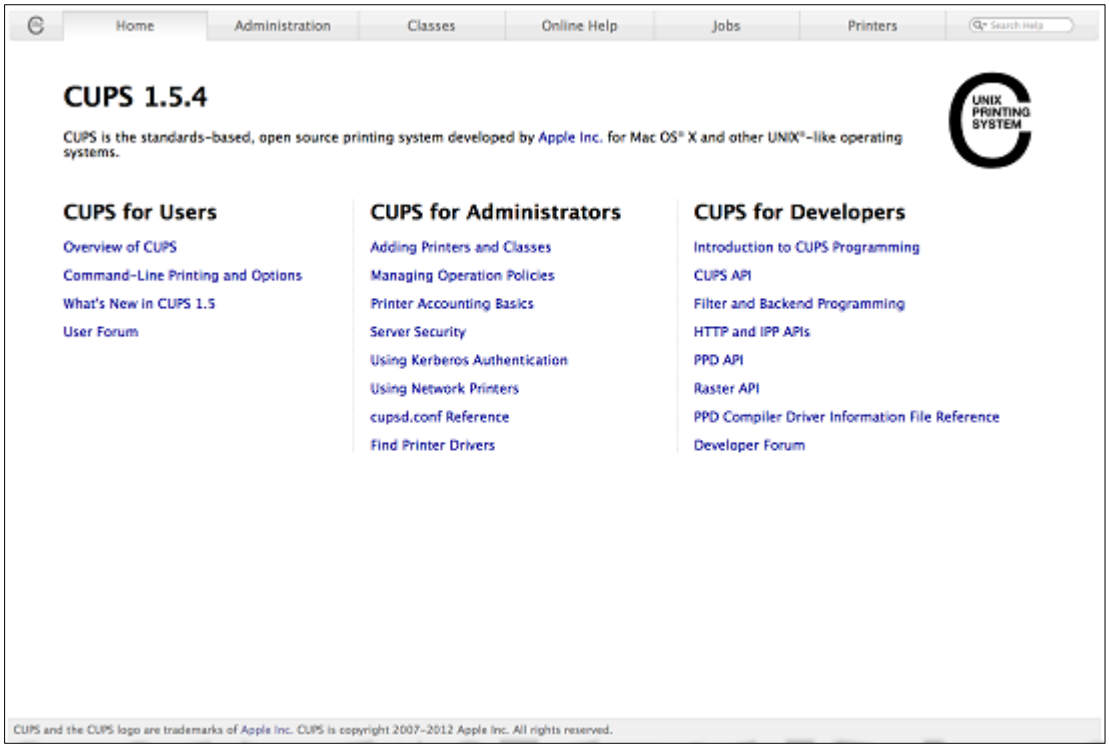
7) Printer information will be loaded on the page. Modify the information depending on your needs.

8) CUPS will detect the printer model that best describes the printer. Click **Modify Printer** to complete the process.

4.3.3 Removing the Printer

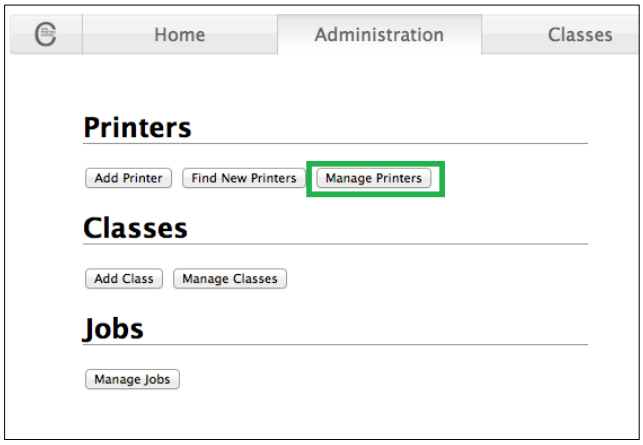
To remove existing printer properties, perform the following instructions:

1) Open a web browser (example: Firefox web browser) and type in "http://localhost:631/" in the address bar.

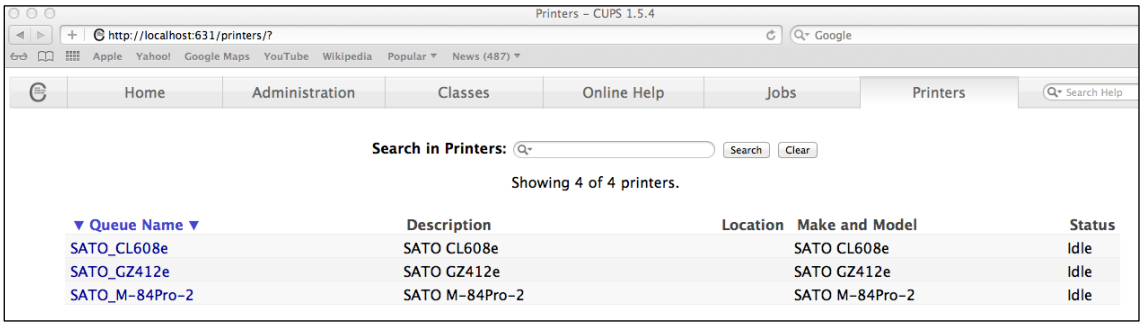


2) On the **Home** page, click **Administration** at the top of the menu.

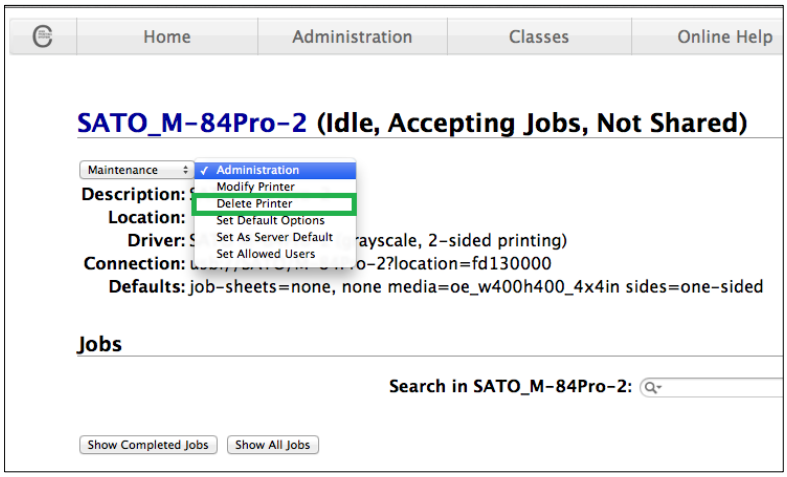
3) Click **Manage Printers**.



4) Select the printer you wish to modify on the list.



5) On the **Administration** dropdown list, select **Delete Printer**.

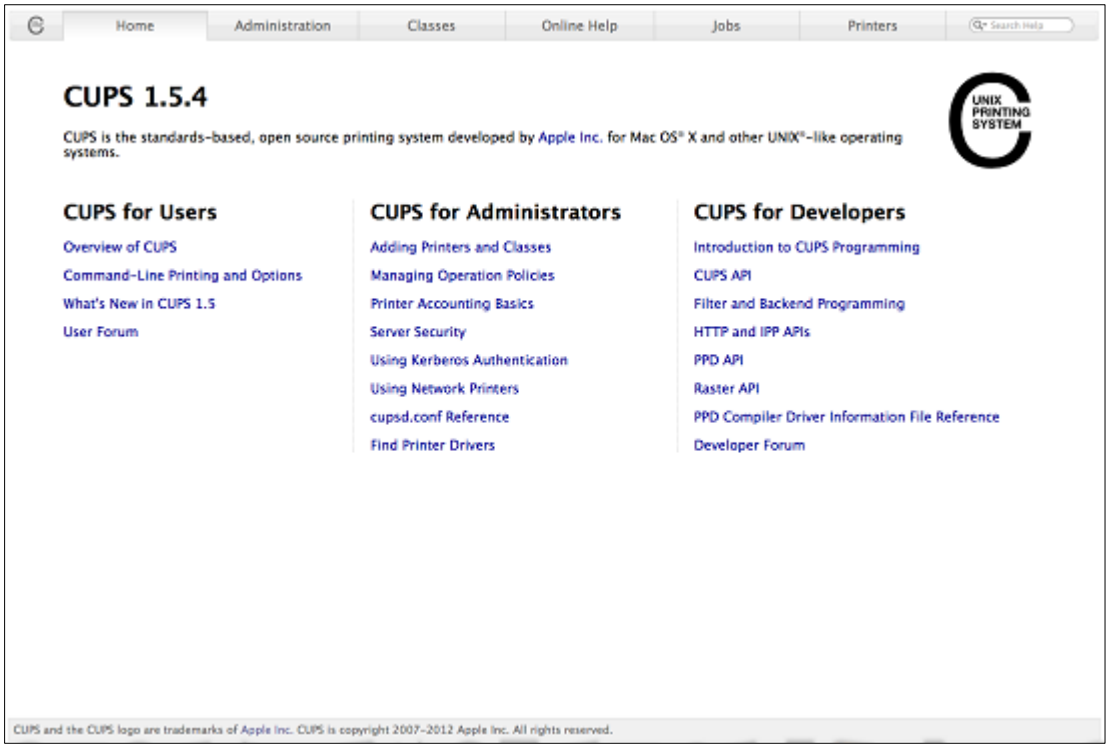


6) Click **Delete Printer** to confirm.

4.3.4 Setting Default Printer Options

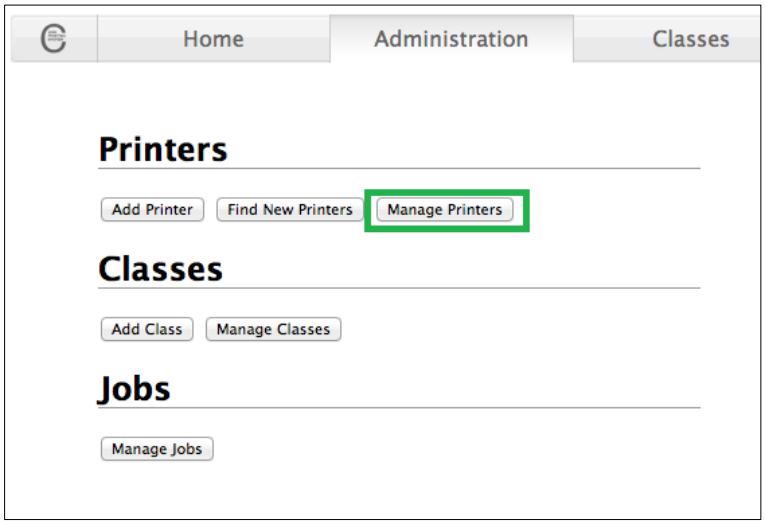
To set the default printing options, perform the following instructions:

1) Open a web browser (example: Firefox web browser) and type in "http://localhost:631/" in the address bar.

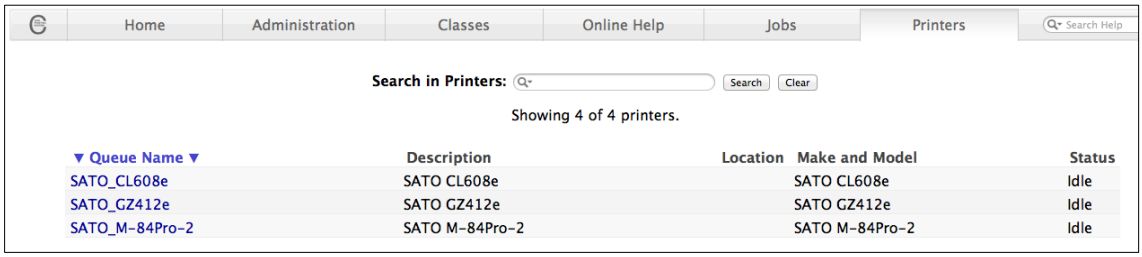


2) On the **Home** page, click **Administration** at the top of the menu.

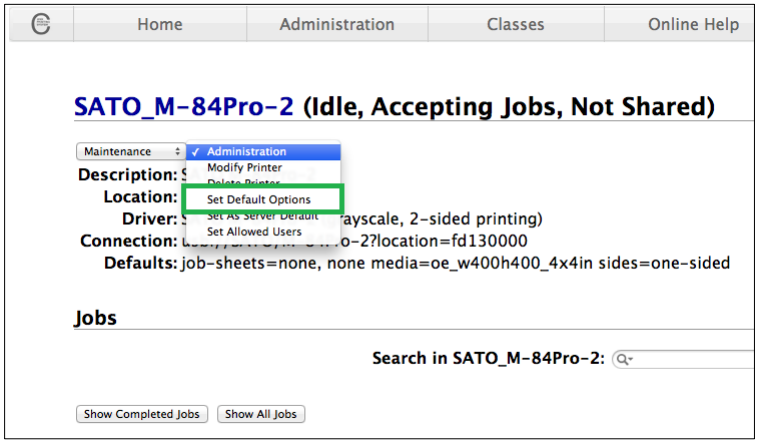
3) Click **Manage Printers**.



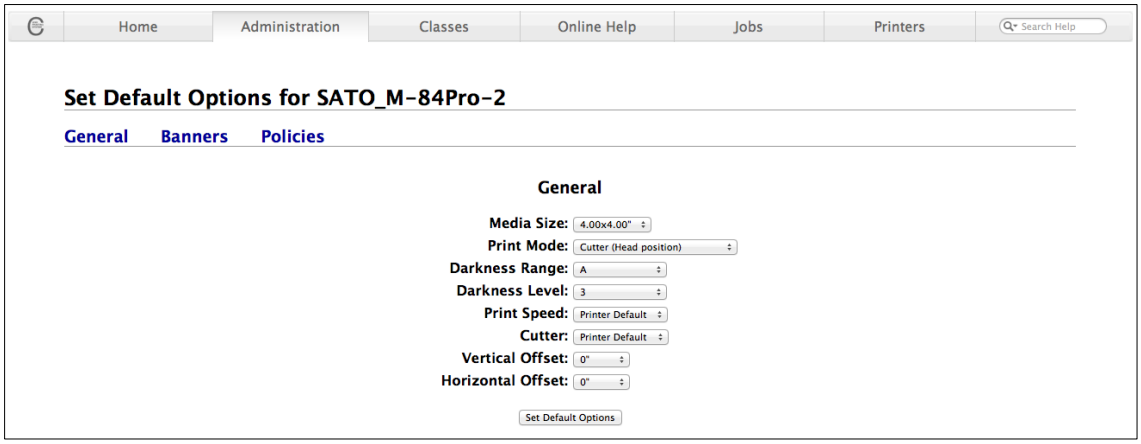
4) Select the printer you wish to modify on the list.



5) On the **Administration** dropdown list, select **Set Default Options**.



6) Change the default option values and click the **Set Default Options** button to save changes.



4.4 Managing Printers from the Command Line

To find out more information on how to manage printers from the command line, please refer to the CUPS documentation (ex. Raw SBPL, Image, and PDF printing) at the address as follows: https://www.cups.org/doc/options.html

4.5 Troubleshooting

The best way to troubleshoot the problem is to check the log file. The procedures are as follows:

1) Switch on the “debug” mode in the LogLevel directive for your CUPS daemon.

2) Edit */etc/cups/cupsd.conf* to have the line “LogLevel debug”.

3) After changing the setting, restart the CUPS daemon by typing *“ /etc/software/init.d/cups start”* on the command line.

4) Once the “LogLevel” has been modified, print a document and locate the log file generated. It can be found in the */var/log/cups/error_log* directory of your machine.

5) Open the generated logs. This will give you an idea of what are the causes of the problems.

Note: Alternatively, you can use the CUPS web interface.

SATO