



SATO CUPS Driver for Mac OS X

User Manual

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Contact Information

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

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Overview

1

The SATO Driver for Mac OS X system was developed to allow users to print on the SATO printer.

This driver is based on the CUPS printing system for Mac OS X. 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.
B&W Conversion	Allows users to select Dither options for improved printing image quality. The choices are: <ul style="list-style-type: none">- 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%.
Sensor Type	Specifies the selection of the transparent sensor or the reflection sensor.
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 Mac OS X are:

- ◆ A Mac running Mac OS X with CUPS version 1.5 or later
- ◆ At least one supported model of SATO printer that can connect to the Mac

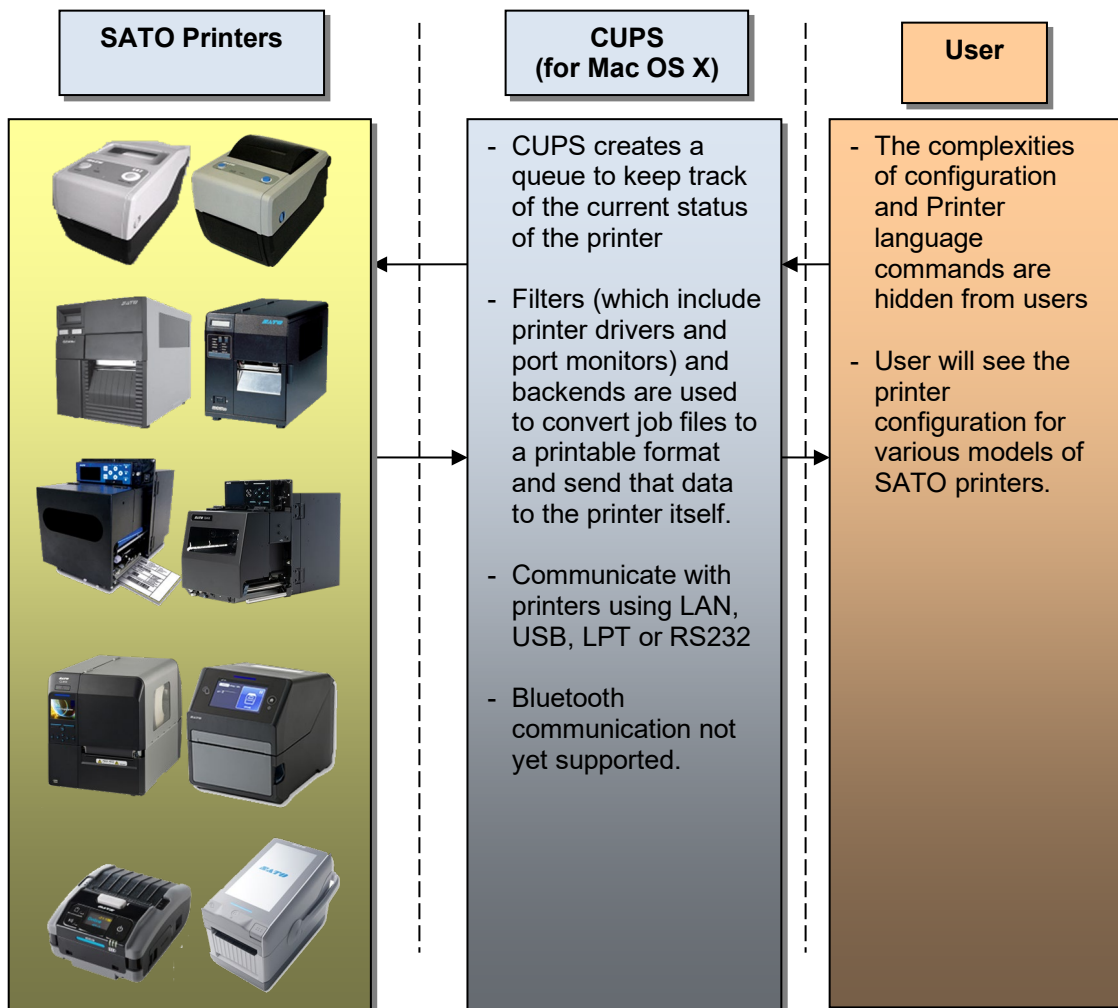


Figure 1 Overview

Setup

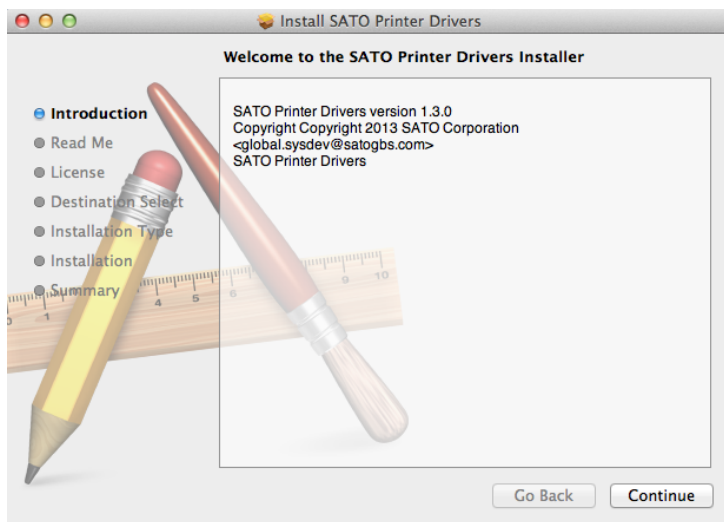
3

3.1 Installing the Driver

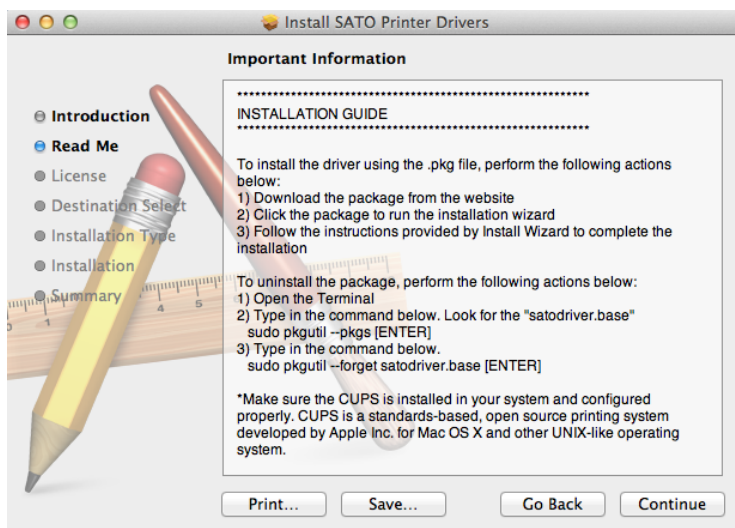
After obtaining the packages, perform the following instructions:

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

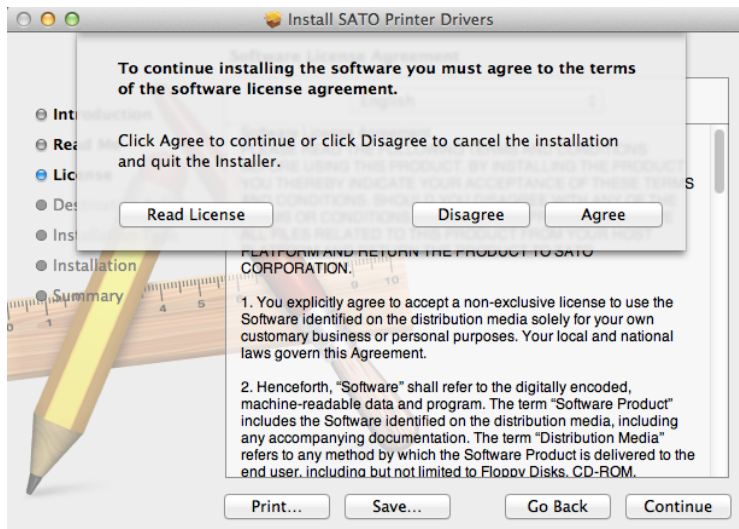
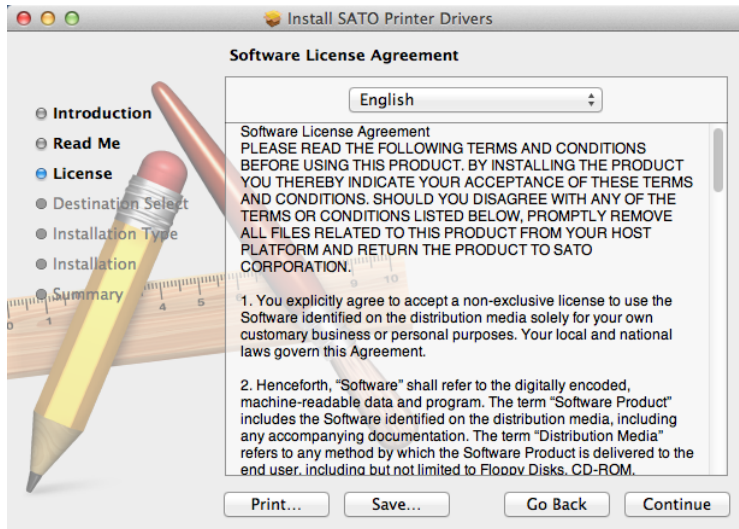
- 1) Locate the package file (.pkg) and run it.
- 2) The Installation wizard will appear on the screen. Click the **Continue** button to proceed to the next step.



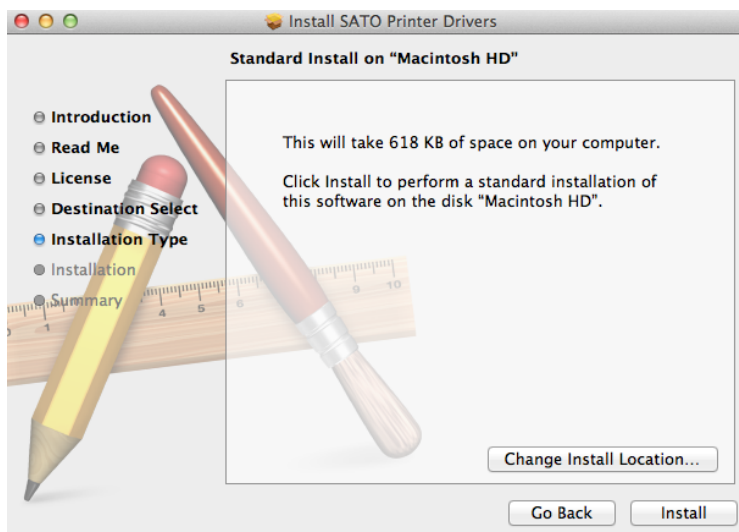
- 3) Click the **Continue** button after reading the **Read Me** text.

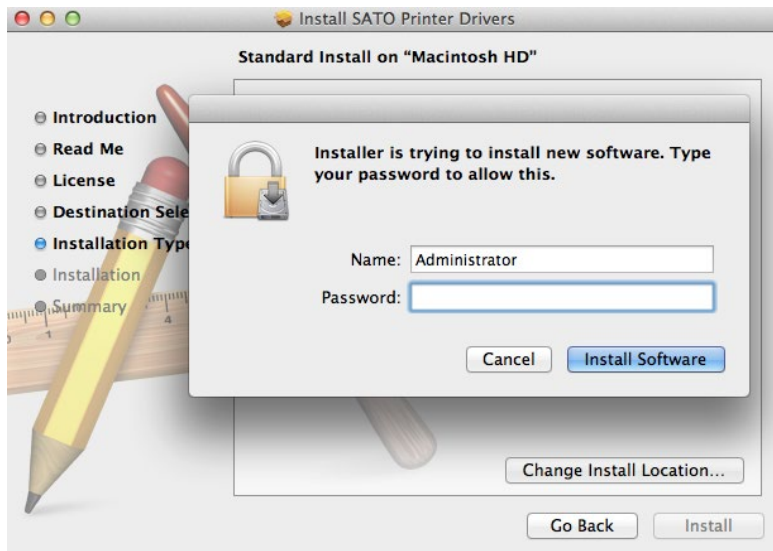


- 4) Click **Continue** and **Agree** to proceed to the next step.



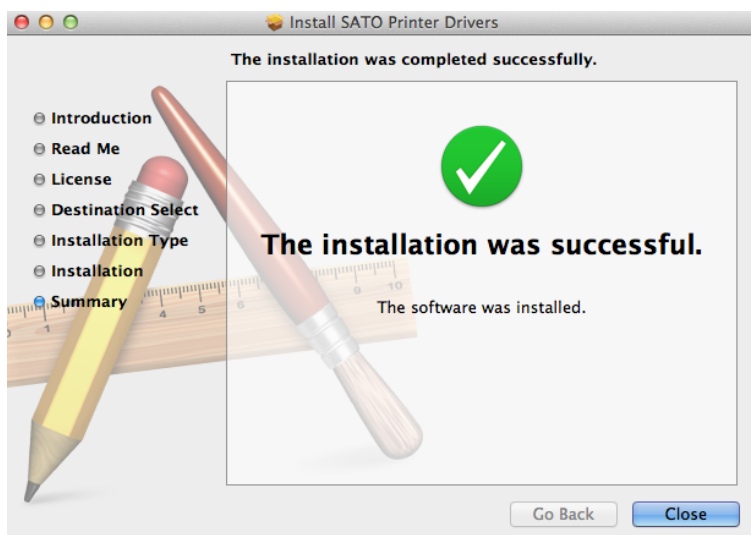
- 5) On the installation wizard screen, click **Install** to confirm the installation.





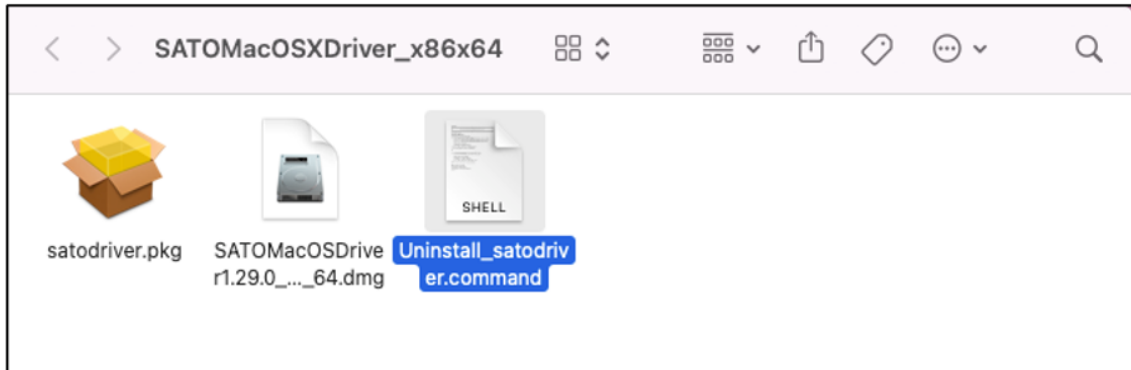
Note: If you are required to enter your username and password, please enter them and click **Install Software**.

- 6) Click the **Close** button to close the dialog.



3.2 Uninstalling the Driver

- 1) Locate the package folder.
- 2) Double-click the [Uninstall_satodriver.command](#) file to run the command.

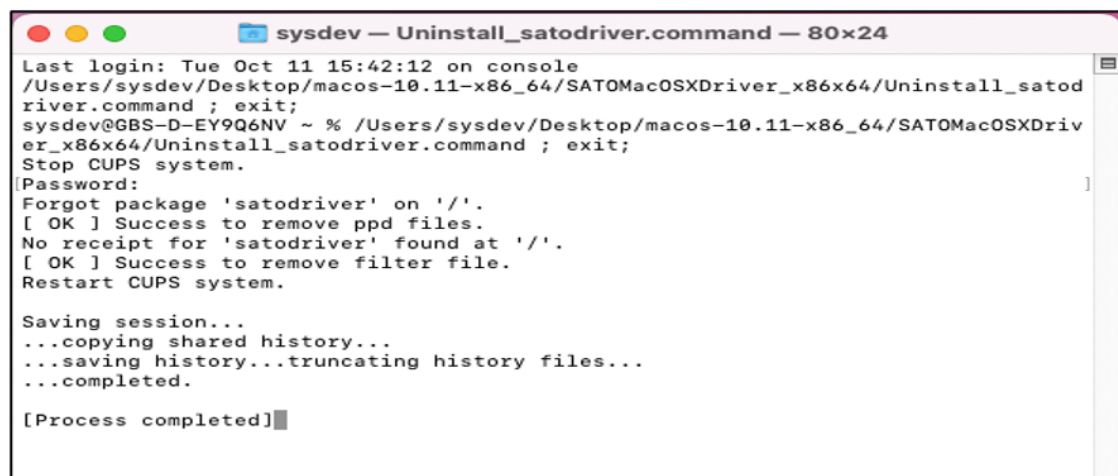


- 3) Enter your password when prompted. Press the **ENTER** key to continue.

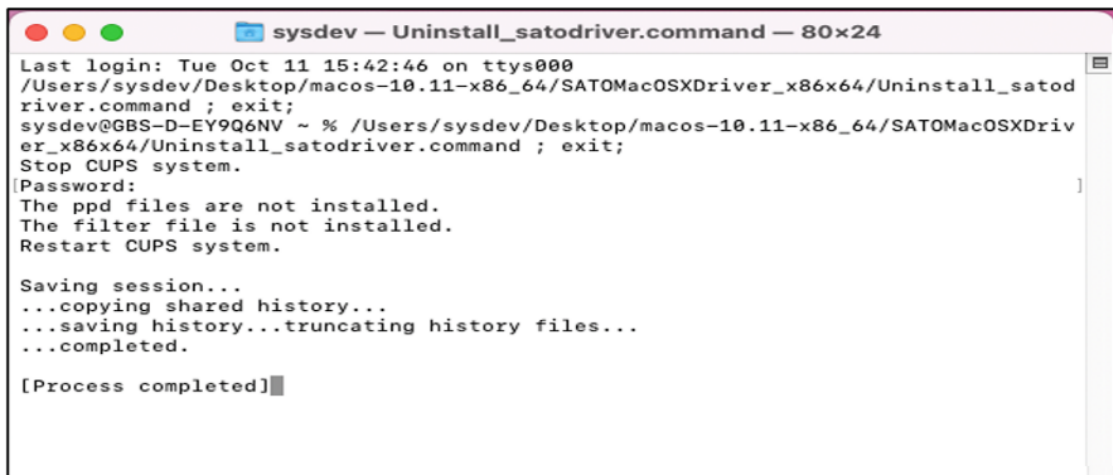


Note: Password will not be shown.

- 4) Upon entering the correct password, the following message strings are shown.



- 5) To confirm if the driver has been deleted, you can run the command again. The following message strings indicate the driver files are no longer in this Mac machine.



```
sysdev — Uninstall_satodriver.command — 80x24
Last login: Tue Oct 11 15:42:46 on ttys000
/Users/sysdev/Desktop/macos-10.11-x86_64/SATOMacOSXDriver_x86x64/Uninstall_satodriver.command ; exit;
sysdev@GBS-D-EY9Q6NV ~ % /Users/sysdev/Desktop/macos-10.11-x86_64/SATOMacOSXDriver_x86x64/Uninstall_satodriver.command ; exit;
Stop CUPS system.
[Password: ]
The ppd files are not installed.
The filter file is not installed.
Restart CUPS system.

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

- 6) Once the driver is uninstalled, the related installed printer cannot be used. Please refer to [4.2.2 Removing the Printer](#) to complete the process.

Managing the SATO Printer

4

4.1 Overview

Printers can be managed using the **CUPS Web Interface**, **Print & Scan (System Preferences)**, and the **command-line program**. The easiest way to manage a printer is through Print & Scan and CUPS web administration, 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 Mac OS X Distribution that you are using.

4.2 Managing Printers from the Print & Scan (System Preferences)

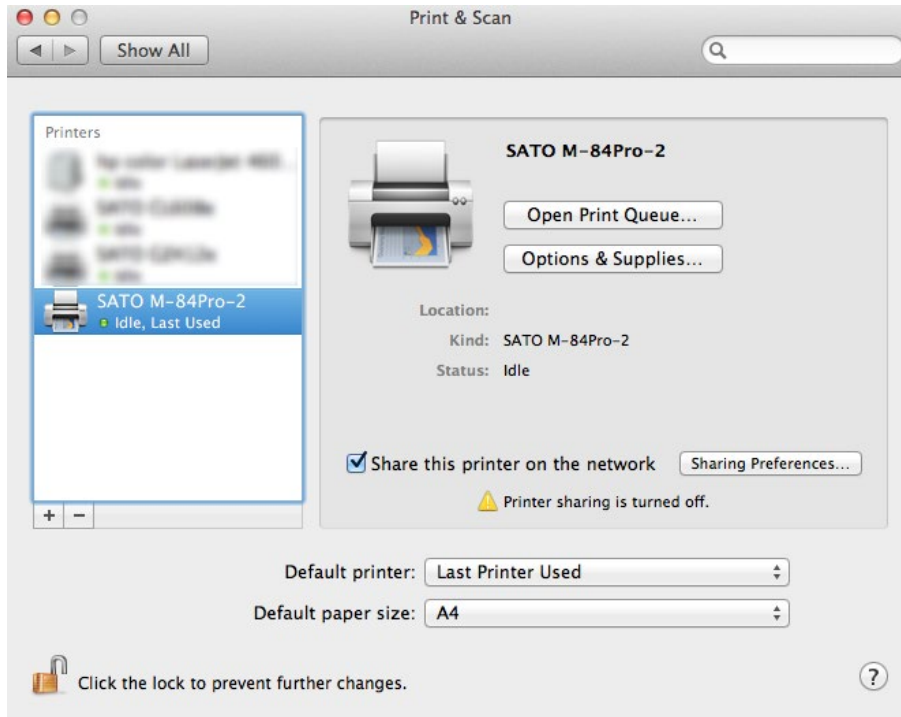
4.2.1 Adding a New Printer

To add a new printer from the **Print & Scan**, perform the following instructions:

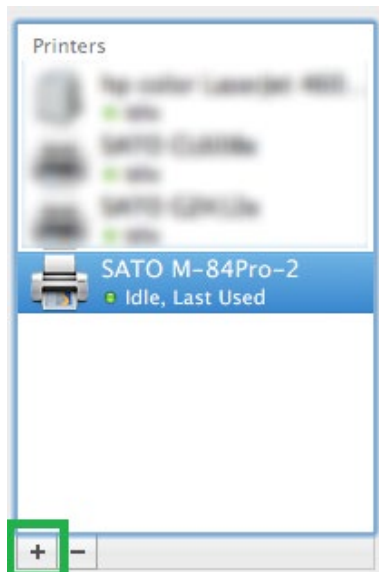
- 1) Go to the **System Preferences**.
- 2) On the **System Preferences**, click **Print & Scan**.



- 3) The system will auto-detect the printer if your printer is connected through **USB**.

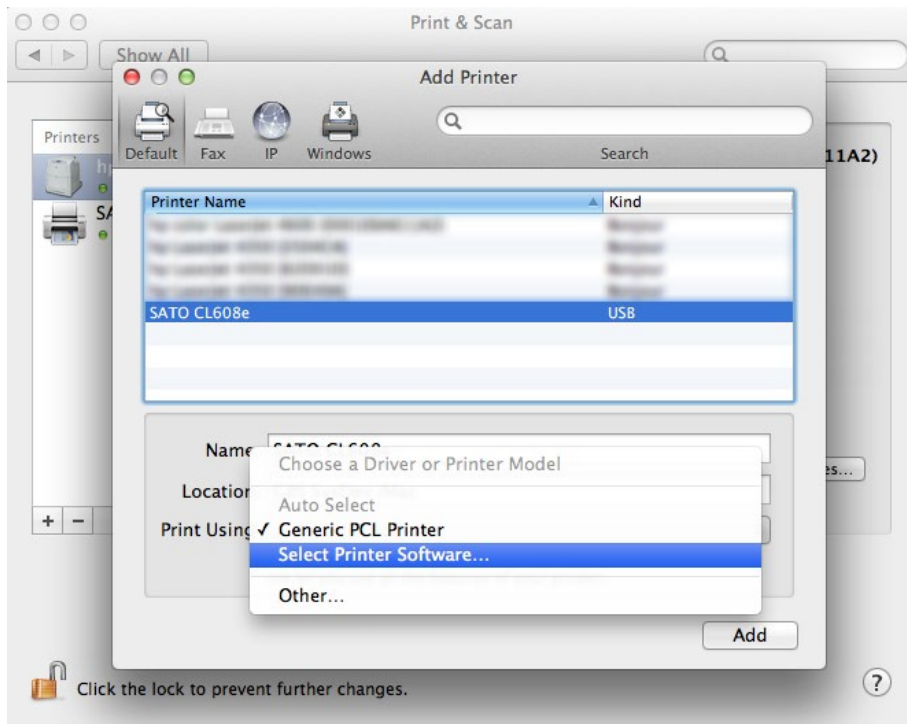


- 4) If the system has not automatically detected or added the printer to the list, you can click the **+** button below the printer icons.

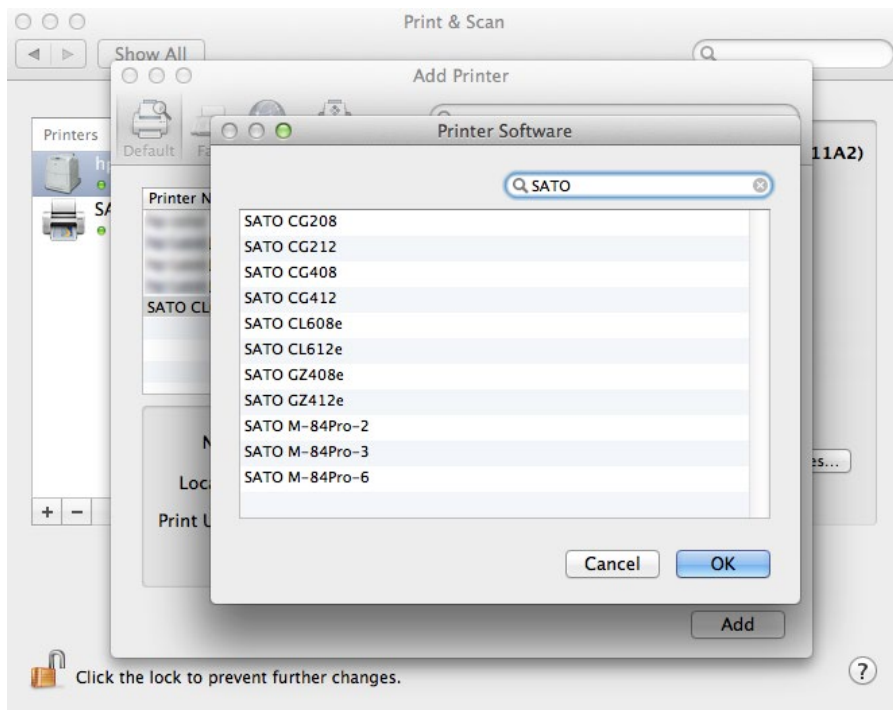


- 5) Select **Default** in the **Add Printer** dialog and select the printer in the list.

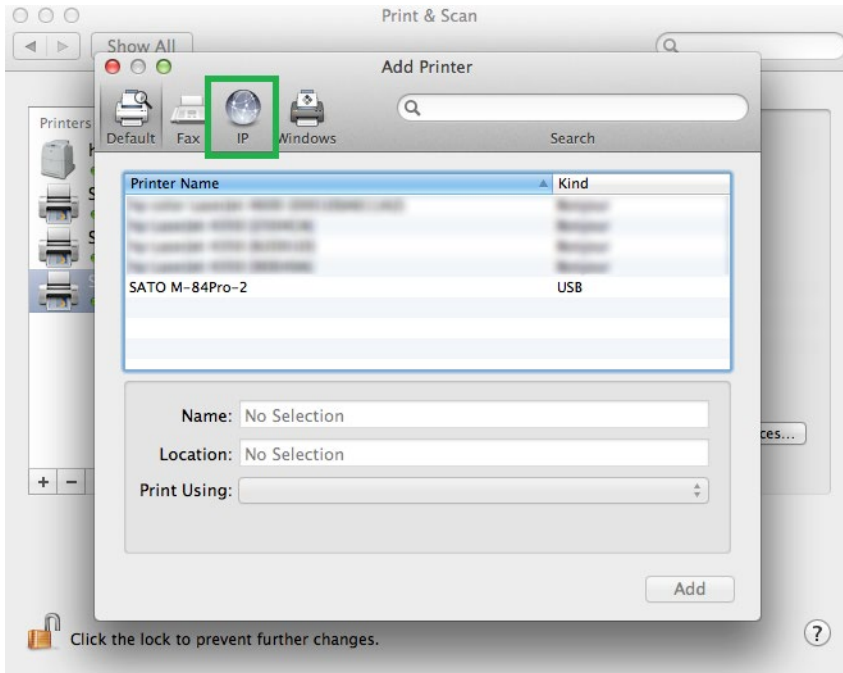
- 6) Please select the **Select Printer Software** option in the **Print Using** dropdown list. This will allow you to choose the printer's drivers.



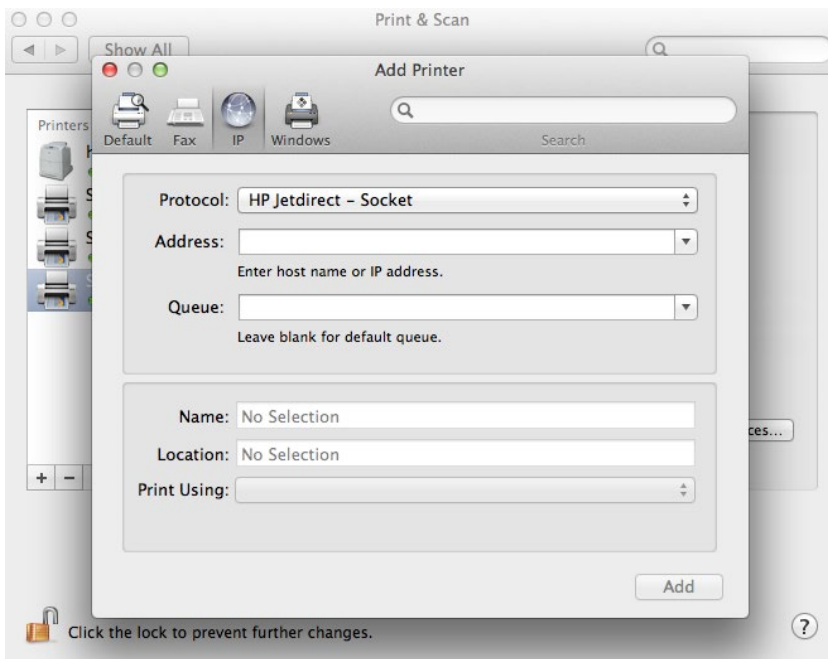
- 7) Click **OK** after you have selected the correct printer model on the list.



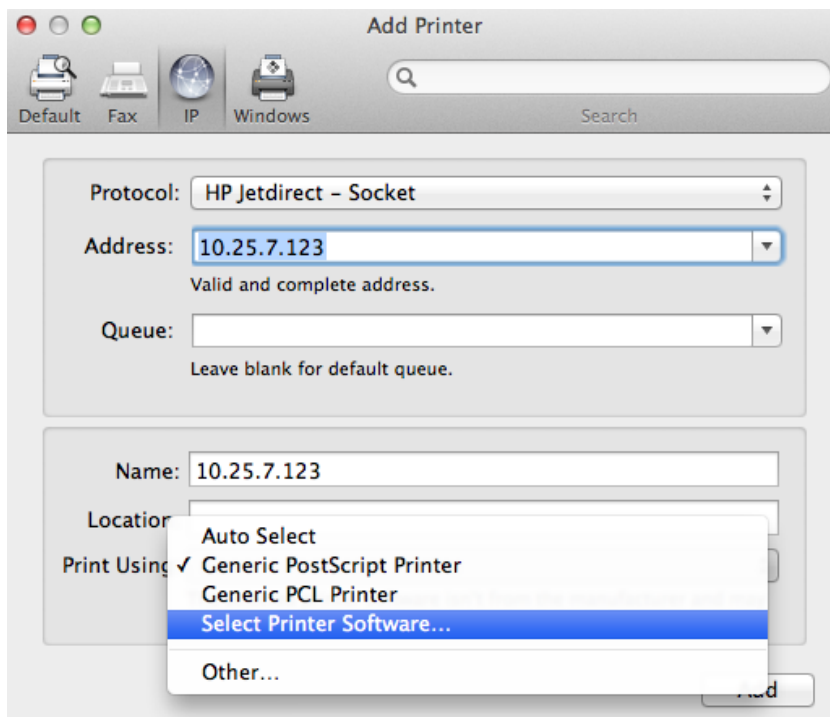
- 8) If you add a printer using the **LAN** interface, click **IP** instead of **Default** on the **Add Printer** dialog.



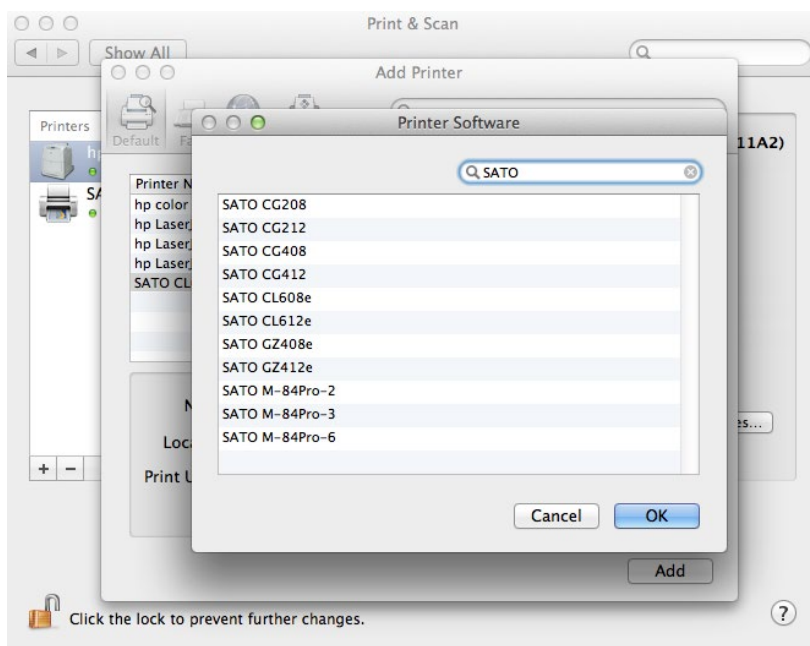
- 9) Enter the necessary information in the entry boxes.



- 10) Please select the **Select Printer Software** option in the **Print Using** dropdown list. This will allow you to choose the printer's drivers.



- 11) Click **OK** after you have selected the correct printer model on the list.



- 12) Finally, click the **Add** button.

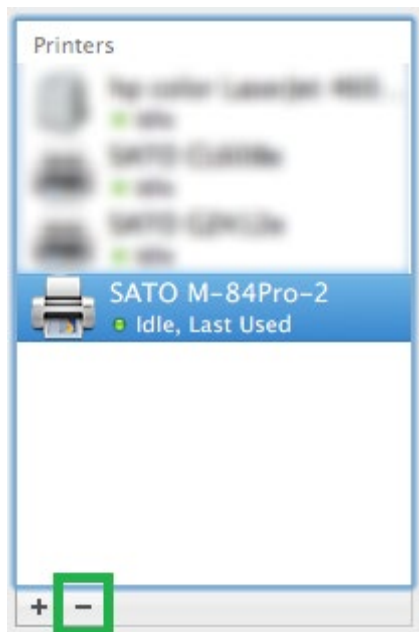
4.2.2 Removing the Printer

To remove existing printer properties, perform the following instructions:

- 1) Go to **System Preferences**.
- 2) On the **System Preferences**, click **Print & Scan**.



- 3) Select the printer on the list and click the - button below the printer icons.



4.3 Managing Printers from the CUPS Web Interface

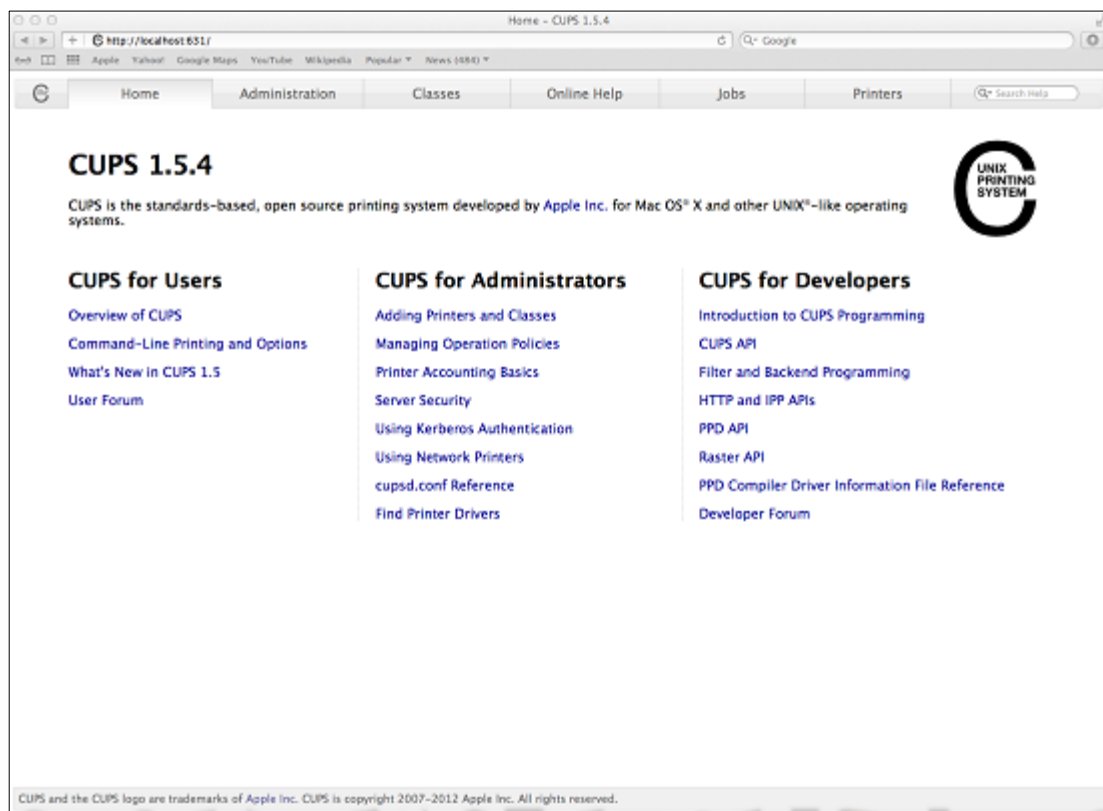
All Mac OS X systems with CUPS installed have a **CUPS Web Interface** where users can manage printers.

Note: You may receive a “Web Interface is Disabled” warning when you access the CUPS Web Interface (“<http://localhost:631/>”). This is a security feature Apple introduced from OS 10.7 onwards. You can turn on the local Mac OS X CUPS web interface by going into Terminal. Enter in the command **`sudo cupsctl WebInterface=yes`**.

4.3.1 Adding a New Printer

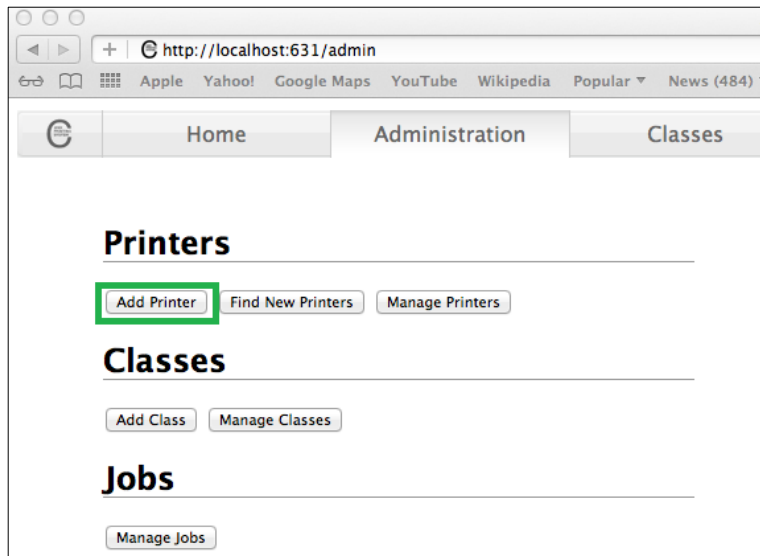
To add a new printer from the **CUPS Web Interface**, perform the following instructions:

- 1) Open a web browser (example: Safari) and type in “<http://localhost:631/>” in the address bar.

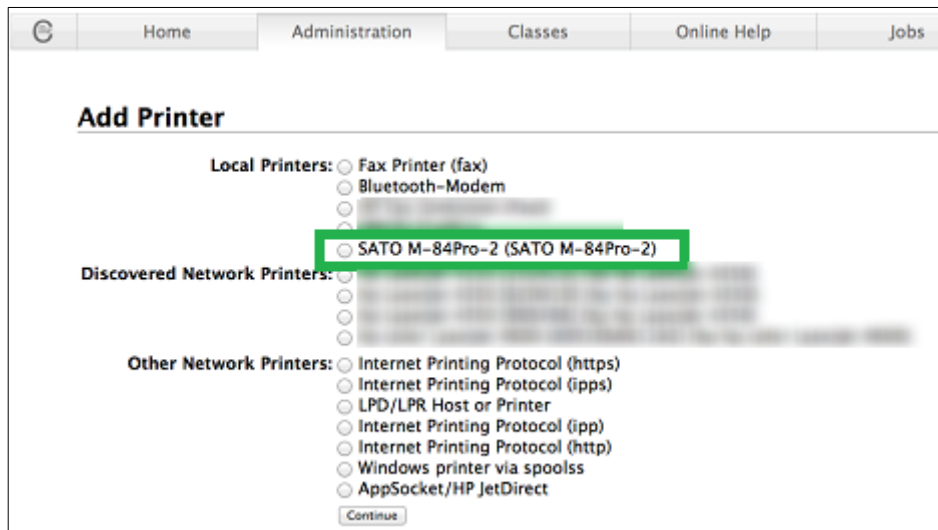


- 2) On the **Home** page, click **Administration** at the top of the menu.

3) Click **Add Printer**.



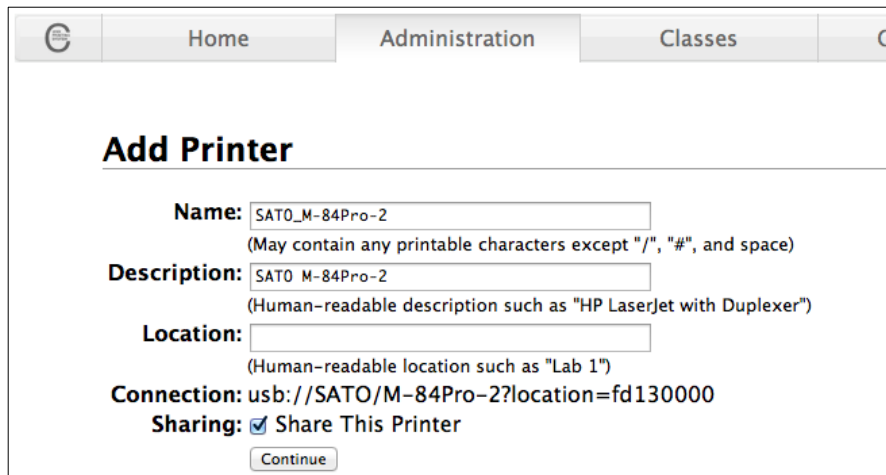
4) Select the printer you wish to add and click **Continue**.



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.



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

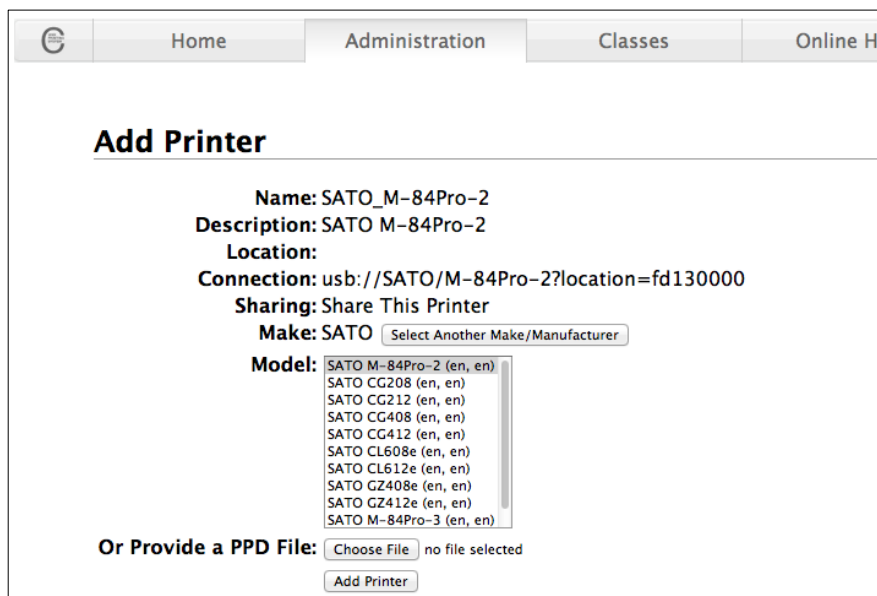


The screenshot shows a web interface with a navigation bar containing 'Home', 'Administration', 'Classes', and 'Online H'. The main heading is 'Add Printer'. Below it, there are several input fields and labels:

- Name:** SATO_M-84Pro-2
(May contain any printable characters except "/", "#", and space)
- Description:** SATO M-84Pro-2
(Human-readable description such as "HP LaserJet with Duplexer")
- Location:**
(Human-readable location such as "Lab 1")
- Connection:** usb://SATO/M-84Pro-2?location=fd130000
- Sharing:** ☒ Share This Printer

At the bottom, there is a 'Continue' button.

- 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.



The screenshot shows the same 'Add Printer' web interface, but with additional fields and a dropdown menu:

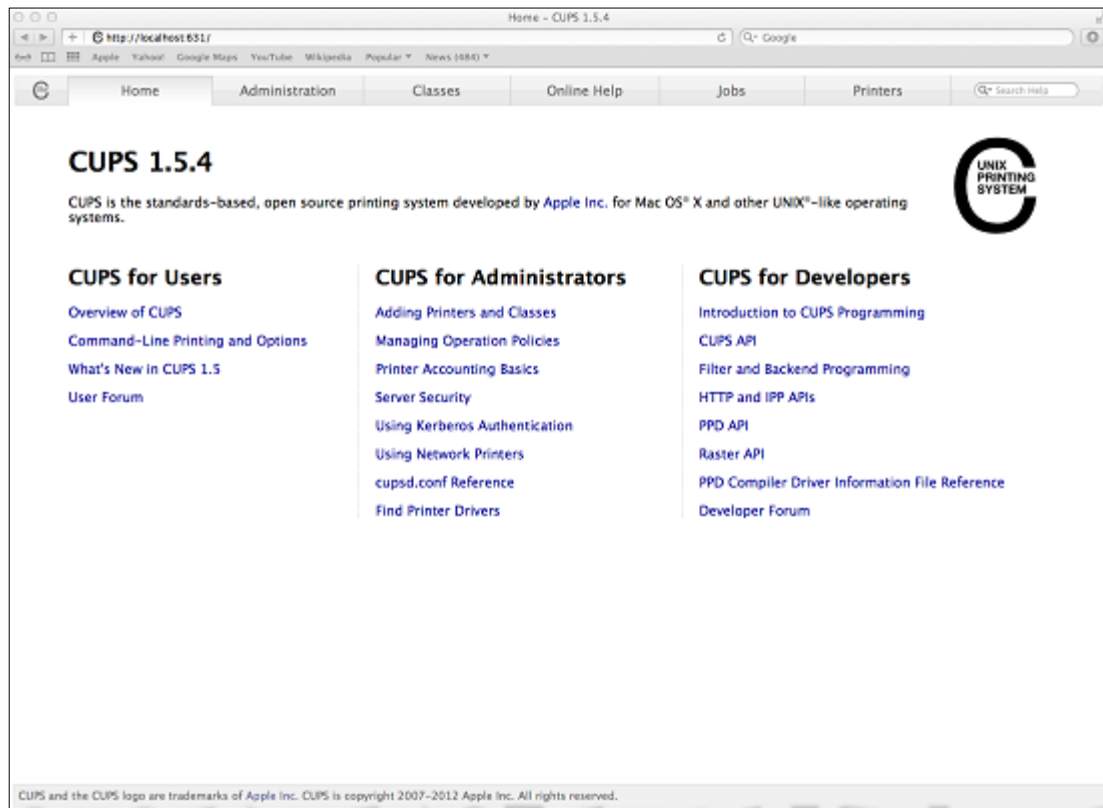
- Name:** SATO_M-84Pro-2
- Description:** SATO M-84Pro-2
- Location:**
- Connection:** usb://SATO/M-84Pro-2?location=fd130000
- Sharing:** Share This Printer
- Make:** SATO
- Model:** A dropdown menu is open, showing a list of printer models: SATO M-84Pro-2 (en, en), SATO CG208 (en, en), SATO CG212 (en, en), SATO CG408 (en, en), SATO CG412 (en, en), SATO CL608e (en, en), SATO CL612e (en, en), SATO GZ408e (en, en), SATO GZ412e (en, en), and SATO M-84Pro-3 (en, en).

At the bottom, there is a section 'Or Provide a PPD File:' with a 'Choose File' button and the text 'no file selected'. Below this is an 'Add Printer' button.

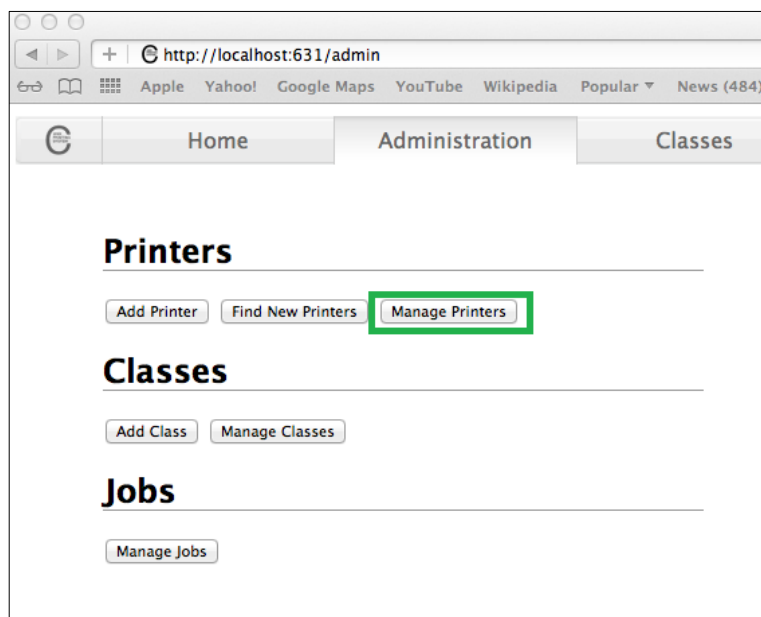
4.3.2 Modify Printers

To modify an existing printer, perform the following instructions:

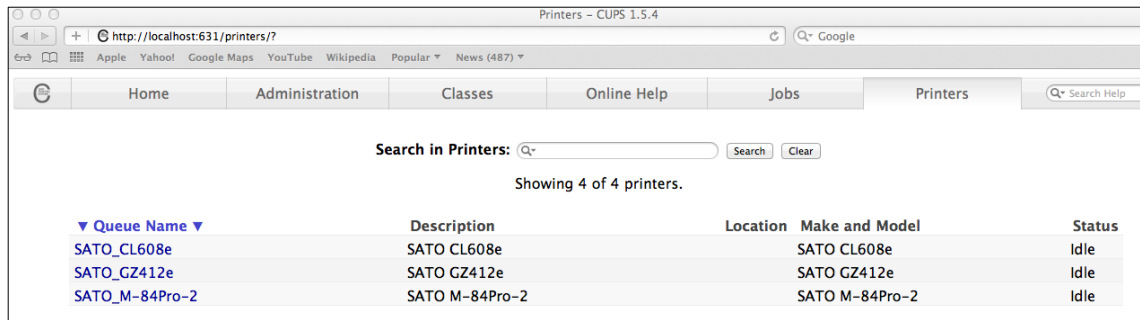
- 1) Open a web browser (example: Safari) and type in “<http://localhost:631/>” in the address bar.



- 2) On the **Home** page, click **Administration** at the top of the menu.
- 3) Click **Manage Printers**.



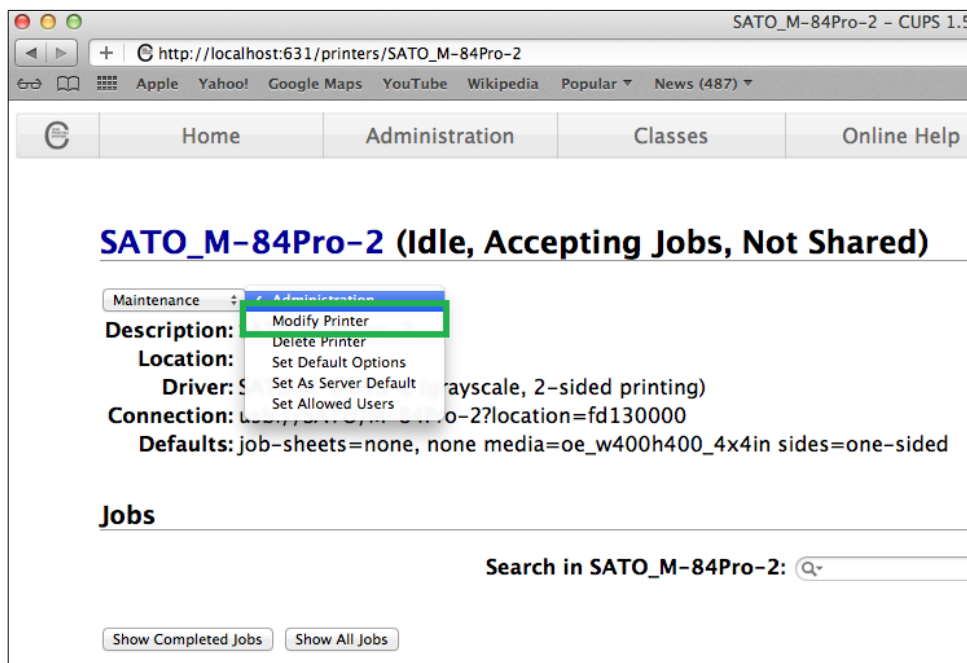
- 4) Select the printer you wish to modify on the list.



The screenshot shows the CUPS Printers page in a web browser. The address bar shows `http://localhost:631/printers/`. The page has a navigation bar with links: Home, Administration, Classes, Online Help, Jobs, and Printers. Below the navigation bar is a search bar labeled "Search in Printers:". Below the search bar, it says "Showing 4 of 4 printers." A table lists the printers with columns: Queue Name, Description, Location, Make and Model, and Status.

Queue Name	Description	Location	Make and Model	Status
SATO_CL608e	SATO CL608e		SATO CL608e	Idle
SATO_GZ412e	SATO GZ412e		SATO GZ412e	Idle
SATO_M-84Pro-2	SATO M-84Pro-2		SATO M-84Pro-2	Idle

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



The screenshot shows the CUPS printer configuration page for the printer "SATO_M-84Pro-2". The address bar shows `http://localhost:631/printers/SATO_M-84Pro-2`. The page has a navigation bar with links: Home, Administration, Classes, and Online Help. Below the navigation bar, the printer name "SATO_M-84Pro-2 (Idle, Accepting Jobs, Not Shared)" is displayed. A dropdown menu is open under the "Administration" link, showing options: Maintenance, Modify Printer (highlighted), Delete Printer, Set Default Options, Set As Server Default, and Set Allowed Users. Below the dropdown menu, the printer's configuration details are shown: Description, Location, Driver, Connection, and Defaults. The "Jobs" section is also visible at the bottom.

SATO_M-84Pro-2 (Idle, Accepting Jobs, Not Shared)

Maintenance: **Administration**

- Modify Printer
- Delete Printer
- Set Default Options
- Set As Server Default
- Set Allowed Users

Description: SATO M-84Pro-2 (Idle, Accepting Jobs, Not Shared)

Location: SATO M-84Pro-2

Driver: SATO M-84Pro-2 (Idle, Accepting Jobs, Not Shared)

Connection: SATO M-84Pro-2?location=fd130000

Defaults: job-sheets=none, none media=oe_w400h400_4x4in sides=one-sided

Jobs

Search in SATO_M-84Pro-2:

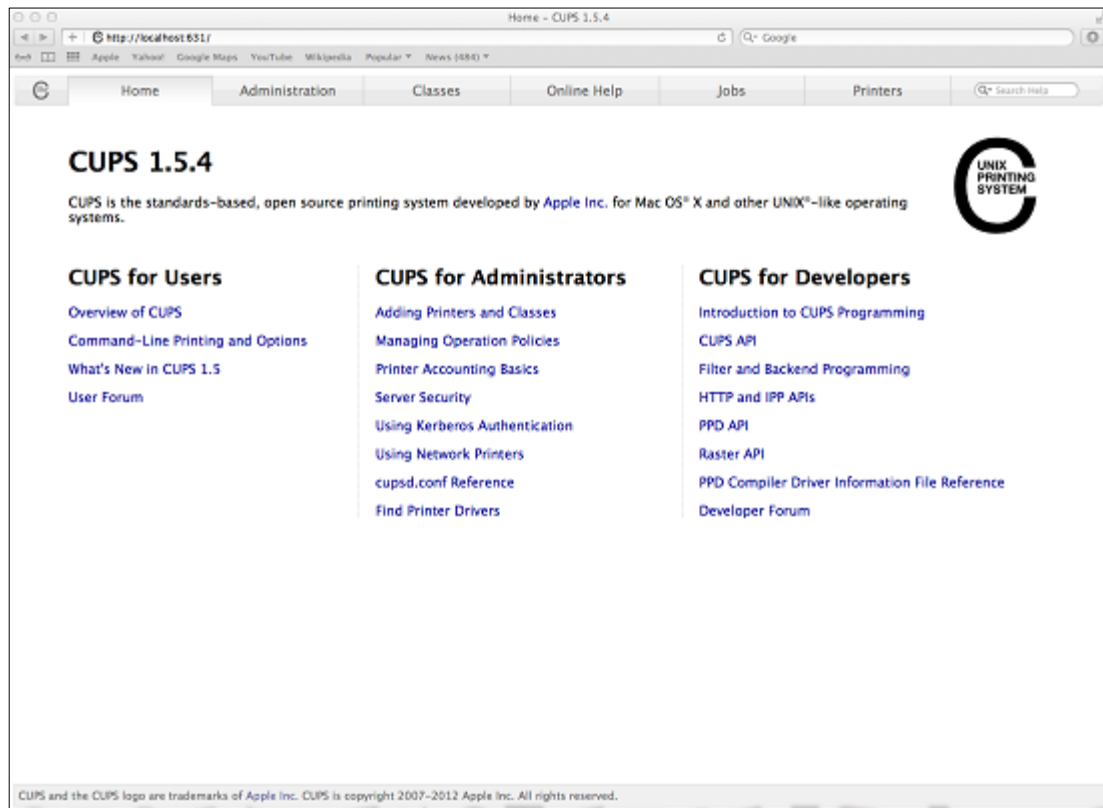
Show Completed Jobs Show All Jobs

- 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.

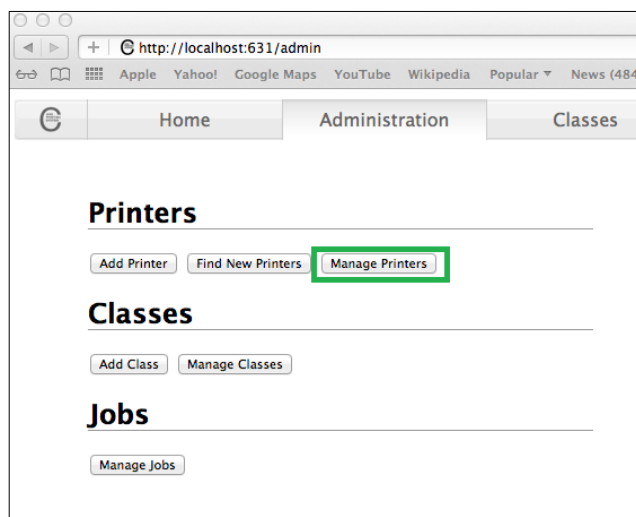
4.3.3 Removing the Printer

To remove existing printer properties, perform the following instructions:

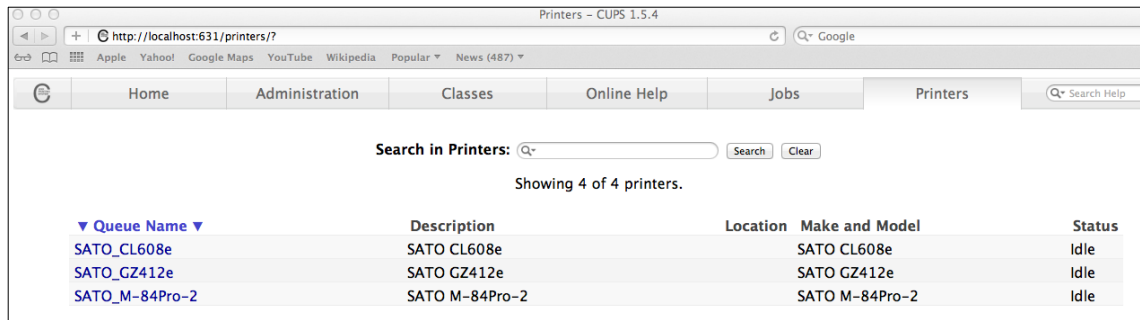
- 1) Open a web browser (example: Safari) and type in “<http://localhost:631/>” in the address bar.



- 2) On the **Home** page, click **Administration** at the top of the menu.
- 3) Click **Manage Printers**.



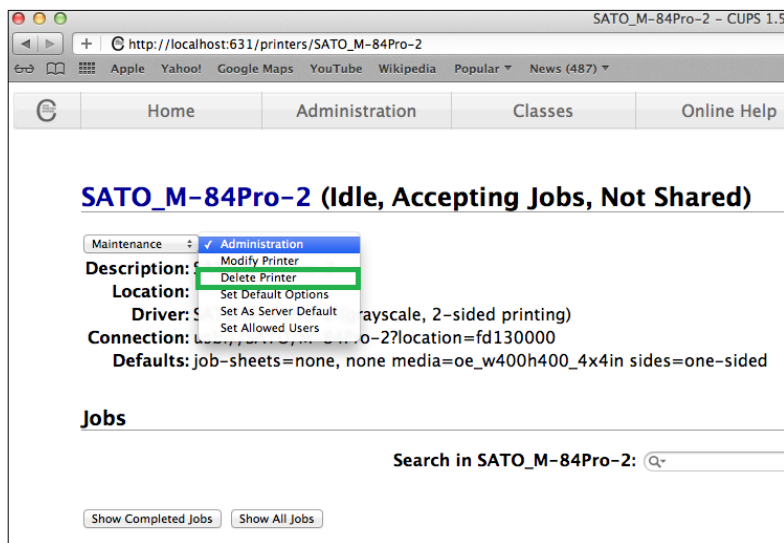
- 4) Select the printer you wish to modify on the list.



The screenshot shows the CUPS Printers page in a web browser. The address bar shows `http://localhost:631/printers/`. The page has a navigation bar with links: Home, Administration, Classes, Online Help, Jobs, and Printers. Below the navigation bar is a search bar labeled "Search in Printers:". Below the search bar, it says "Showing 4 of 4 printers." A table lists the printers with columns: Queue Name, Description, Location, Make and Model, and Status.

Queue Name	Description	Location	Make and Model	Status
SATO_CL608e	SATO CL608e		SATO CL608e	Idle
SATO_GZ412e	SATO GZ412e		SATO GZ412e	Idle
SATO_M-84Pro-2	SATO M-84Pro-2		SATO M-84Pro-2	Idle

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



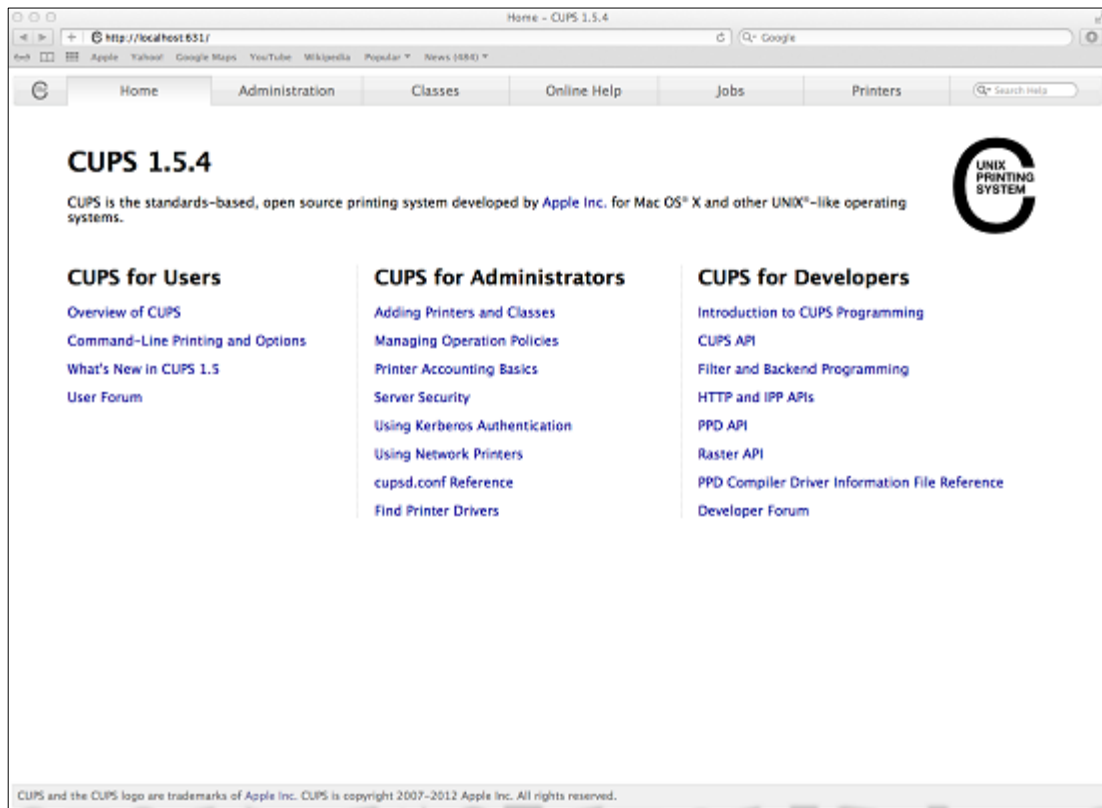
The screenshot shows the CUPS Administration page for the printer `SATO_M-84Pro-2`. The address bar shows `http://localhost:631/printers/SATO_M-84Pro-2`. The page has a navigation bar with links: Home, Administration, Classes, and Online Help. The main content area shows the printer name `SATO_M-84Pro-2` followed by the status `(Idle, Accepting Jobs, Not Shared)`. Below this, there is a dropdown menu for "Maintenance" and "Administration". The "Administration" menu is open, showing options: "Modify Printer" and "Delete Printer". The "Delete Printer" option is highlighted. Below the menu, there are fields for "Description:", "Location:", "Driver:", and "Connection:". The "Driver:" field shows "SATO_M-84Pro-2" and "raster" (scaled, 2-sided printing). The "Connection:" field shows "SATO_M-84Pro-2?location=fd130000". Below these fields, there is a "Defaults:" line showing "job-sheets=none, none media=oe_w400h400_4x4in sides=one-sided". Below the defaults, there is a "Jobs" section with a search bar labeled "Search in SATO_M-84Pro-2:". At the bottom, there are two buttons: "Show Completed Jobs" and "Show All Jobs".

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

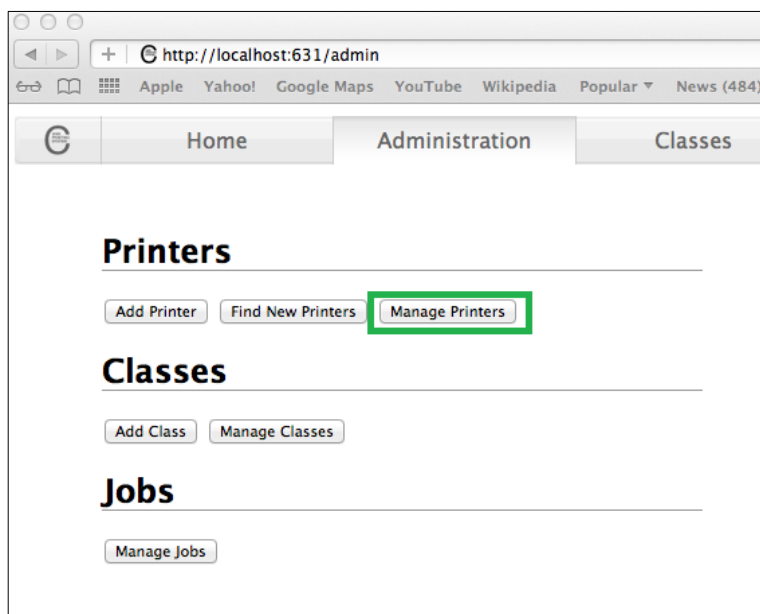
4.3.4 Setting Default Printer Options

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

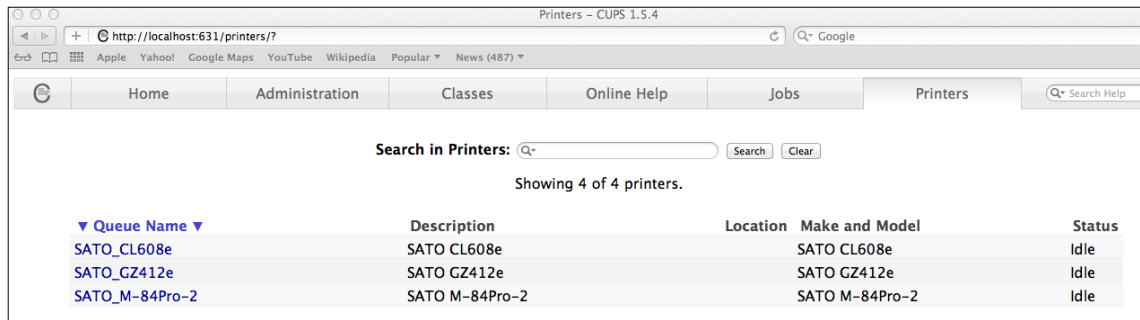
- 1) Open a web browser (example: Safari) and type in “<http://localhost:631/>” in the address bar.



- 2) On the **Home** page, click **Administration** at the top of the menu.
- 3) Click **Manage Printers**.



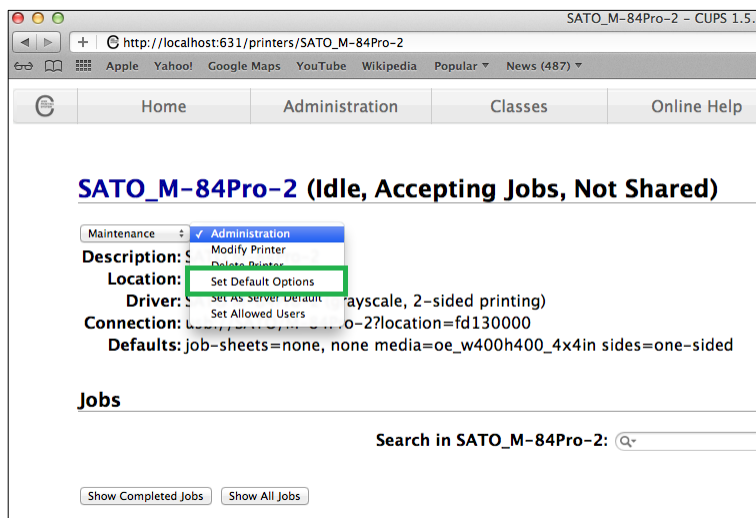
- 4) Select the printer you wish to modify on the list.



The screenshot shows the CUPS Printers page in a web browser. The page title is "Printers - CUPS 1.5.4". The URL is "http://localhost:631/printers?". The page has a navigation bar with links: Home, Administration, Classes, Online Help, Jobs, and Printers. Below the navigation bar is a search bar labeled "Search in Printers:". Below the search bar, it says "Showing 4 of 4 printers." There is a table with the following columns: Queue Name, Description, Location, Make and Model, and Status. The table contains three rows of printer information.

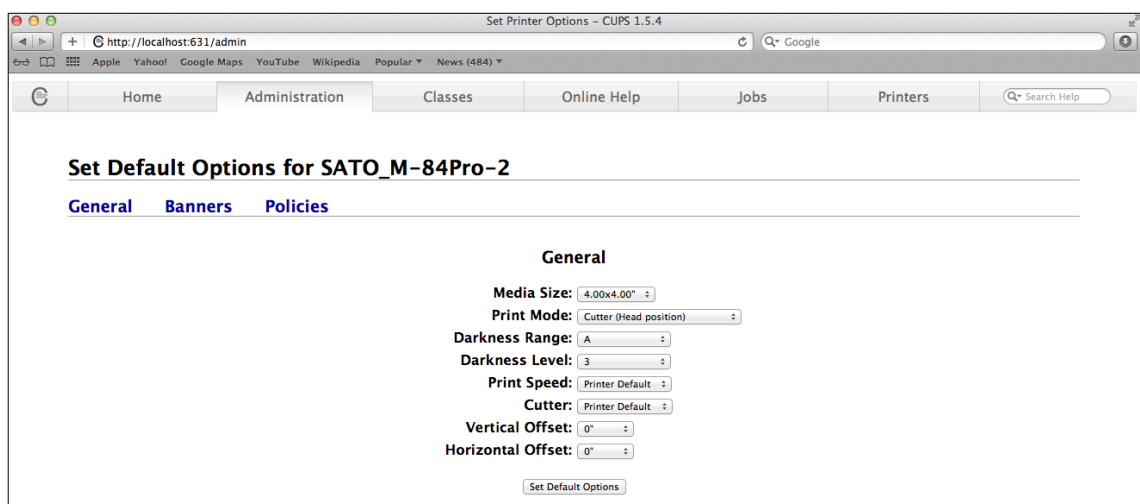
Queue Name	Description	Location	Make and Model	Status
SATO_CL608e	SATO CL608e		SATO CL608e	Idle
SATO_GZ412e	SATO GZ412e		SATO GZ412e	Idle
SATO_M-84Pro-2	SATO M-84Pro-2		SATO M-84Pro-2	Idle

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



The screenshot shows the CUPS printer configuration page for "SATO_M-84Pro-2". The page title is "SATO_M-84Pro-2 - CUPS 1.5.4". The URL is "http://localhost:631/printers/SATO_M-84Pro-2". The page has a navigation bar with links: Home, Administration, Classes, and Online Help. Below the navigation bar is a section titled "SATO_M-84Pro-2 (Idle, Accepting Jobs, Not Shared)". There is a dropdown menu for "Administration" with a green box around the "Set Default Options" option. Below the dropdown menu, there are fields for "Description:", "Location:", "Driver:", and "Connection:". Below these fields is a "Jobs" section with a search bar labeled "Search in SATO_M-84Pro-2:". At the bottom of the page, there are two buttons: "Show Completed Jobs" and "Show All Jobs".

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



The screenshot shows the CUPS "Set Default Options" page for "SATO_M-84Pro-2". The page title is "Set Printer Options - CUPS 1.5.4". The URL is "http://localhost:631/admin". The page has a navigation bar with links: Home, Administration, Classes, Online Help, Jobs, and Printers. Below the navigation bar is a section titled "Set Default Options for SATO_M-84Pro-2". There are three tabs: "General", "Banners", and "Policies". The "General" tab is selected. Below the tabs, there are several settings with input fields and dropdown menus: "Media Size" (4.00x4.00"), "Print Mode" (Cutter (Head position)), "Darkness Range" (A), "Darkness Level" (3), "Print Speed" (Printer Default), "Cutter" (Printer Default), "Vertical Offset" (0"), and "Horizontal Offset" (0"). At the bottom of the page, there is a button labeled "Set Default Options".

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 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