



# User Manual

**SATO CUPS Driver for Linux**

Read this User Manual before using this product.  
Keep this document available for future reference.



# Software License Agreement

**PLEASE READ THE FOLLOWING TERMS AND CONDITIONS BEFORE USING THIS PRODUCT. BY INSTALLING THE PRODUCT YOU THEREBY INDICATE YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. SHOULD YOU DISAGREE WITH ANY OF THE TERMS OR CONDITIONS LISTED BELOW, PROMPTLY REMOVE ALL FILES RELATED TO THIS PRODUCT FROM YOUR HOST PLATFORM AND RETURN THE PRODUCT TO SATO CORPORATION.**

1. You explicitly agree to accept a non-exclusive license to use the Software identified on the distribution media solely for your own customary business or personal purposes. Your local and national laws govern this Agreement.
2. Henceforth, "Software" shall refer to the digitally encoded, machine-readable data and program. The term "Software Product" includes the Software identified on the distribution media, including any accompanying documentation. The term "Distribution Media" refers to any method by which the Software Product is delivered to the end user, including but not limited to Floppy Disks, CD-ROM, Magnetic Tape and On-Line distribution via the Internet. The Software Product is licensed (not sold) to you, and SATO® either owns or licenses from other vendors who own all copyright, trade secret, patent and other proprietary rights in the Software Product.
3. To protect the proprietary rights of SATO Corporation, you agree to maintain the Software Product and other proprietary information concerning the Software Product in strict confidence and to establish reasonable procedures regulating access to and use of the software.
4. You agree not to duplicate or copy the Software except that you may make one backup copy. You agree that any such copy shall contain the same proprietary notices as those appearing on the original.
5. You shall not sub-license, sell, lease, or otherwise transfer all or any portion of the Software Product separate from the printer(s), without the prior written consent of SATO Corporation.
6. You may not modify or prepare derivative works of the Software Product. You may not transmit the Software Product over a network, by telephone, or electronically using any means; or reverse engineer, decompile or disassemble the Software.
7. You may transfer the Software Product with the printer(s), but only if the recipient agrees to accept the terms and conditions of this Agreement. Your license is automatically terminated if you transfer the Software Product and printer(s).
8. This License remains in force until terminated, and may be terminated by agreement between you and SATO Corporation, or by SATO Corporation, if you fail to comply with the terms of this License if such failure is not corrected within thirty (30) days after notice. When this License is terminated, you shall either return to the place you obtained them from, or destroy, the printer and all copies of the Software and documentation.

9. SATO Corporation warrants that for ninety (90) days after delivery, the Software will perform in accordance with specifications published by SATO Corporation, and that the distribution media will be free from defects in material and workmanship. SATO Corporation does not warrant that the Software is free from all bugs, errors and omissions.
10. Your exclusive remedy and the sole liability of SATO Corporation in connection with the Software is replacement of defective distribution media upon their return to SATO Corporation. SATO Corporation will not be liable for any loss or damage caused by delays in furnishing a Software Product or any other performance under this Agreement.

SATO Corporation does not warrant that the functions contained in the Software will meet your requirements or that the operation of the Software will be uninterrupted or error free.

11. Use, duplication or disclosure by the Government is subject to restrictions as set forth in the relevant guidelines of your country, such as the Rights in Technical Data and Computer Software clause at FAR 242.227- 7013, subdivision (b) (3) (ii) or subparagraph (c) (1) (ii), as appropriate. Further use, duplication or disclosure is subject to restrictions applicable to restricted rights software as set forth in FAR 52.227-19 (c) (2) or equivalent rules.

THE PARTIES AGREE THAT ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY ARE EXCLUDED.

SATO Corporation reserves the right to make changes and/or improvements in the Software without notice at any time.

IN NO EVENT WILL SATO CORPORATION BE LIABLE FOR LOST PROFITS, LOST DATA, BUSINESS INTERRUPTIONS OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF SATO CORPORATION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR ANY DAMAGES CAUSED BY ABUSE OR MANIPULATION OF THE SOFTWARE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

YOU ACKNOWLEDGE THAT YOU HAVE READ THIS AGREEMENT, UNDERSTAND IT, AND AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. NEITHER PARTY SHALL BE BOUND BY ANY STATEMENT OR REPRESENTATION NOT CONTAINED IN THIS AGREEMENT. NO CHANGE IN THIS AGREEMENT IS EFFECTIVE UNLESS WRITTEN AND SIGNED BY PROPERLY AUTHORIZED REPRESENTATIVES OF EACH PARTY. BY INSTALLING THIS SOFTWARE PRODUCT, YOU AGREE TO ACCEPT THE TERMS AND-CONDITIONS OF THIS AGREEMENT.

---

## Copyrights

---

The contents of this document are proprietary information of SATO Corporation and/or its subsidiaries in Japan, the U.S and other countries. No part of this document may be reproduced, copied, translated or incorporated in any other material in any form or by any means, whether manual, graphic, electronic, mechanical or otherwise, without the prior written consent of SATO Corporation.

SATO Corporation and/or 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. SATO Corporation reserves the right to make changes and/or improvements in this product and document without notice at any time.

---

## Trademarks

---

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

Linux is a registered trademark of Linus Torvalds.

CUPS, CUPS Logo, Mac and Mac OS are trademarks of Apple Inc., registered in the U.S. 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.

All other trademarks are the property of their respective owners.

---

## Software updating disclaimer

---

**While all efforts have been taken to ensure 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 SATO worldwide websites ([www.satoworldwide.com](http://www.satoworldwide.com)) to check whether an updated document has been made available for your reference.**

### **Version 2.19.0**

© 2017 SATO Corporation. All rights reserved.

---

## ***Table of Contents***

Table of Contents .....	4
1. Overview .....	5
2. System Requirements .....	7
3. Setup .....	8
4. Managing the SATO Printer .....	10

## Overview

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

This driver is based on CUPS printing system for Linux. All the device communications are handled by CUPS (backend). The raster filter converts the CUPS raster graphic into SBPL which the printer can understand. For an instance, if the user prints a label, the raster filter converts the graphic into SBPL command which will be send 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
GZ4e Series	GZ408e GZ412e
M84 Pro Series	M84 Pro 2 M84 Pro 3 M84 Pro 6
CL6e Series	CL608e CL612e
CL4e Series	CL408e CL412e
M84xxSe Series	M8485Se M8490Se M8459Se M8460Se M8465Se
CT4i Series	CT408i CT412i
LM4e Series	LM408e LM412e
S84 Series	S8408 S8412 S8424
M10e Series	M10e
GL4e Series	GL408e GL412e
MB2i Series	MB200i
MB4i Series	MB400i MB410i
TG3e Series	TG308e TG312e
CL4NX	CL4NX 203 dpi CL4NX 305 dpi CL4NX 609 dpi

S84ex/S86ex	S84ex 203 dpi S84ex 305 dpi S84ex 609 dpi S86ex 203 dpi S86ex 305 dpi
CL6NX	CL6NX 203 dpi CL6NX 305 dpi
CL4NX-J	CL4NX-J 203 dpi CL4NX-J 305 dpi CL4NX-J 609 dpi
CL6NX-J	CL6NX-J 203 dpi CL6NX-J 305 dpi
WS4	WS408 DT/TT WS412 DT/TT

## 1.2 Printer Properties/Options

The driver supports printer's the following settings below. Please take note that the setting varies 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
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 in 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 mode such as Continuous, Tear Off, Cutter and Dispenser Operation
Cutter	Sets the cutter options. This is only applicable for printer units with cutter. 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

# 2

## System Requirements

The minimum system requirements for the SATO Driver are:

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

DEB	Ubuntu 11.10 or higher
RPM	Fedora 16 or higher

- ◆ CUPS printing system for Linux (1.5 or higher)
- ◆ At least one supported model of SATO printer that can connect to the machine

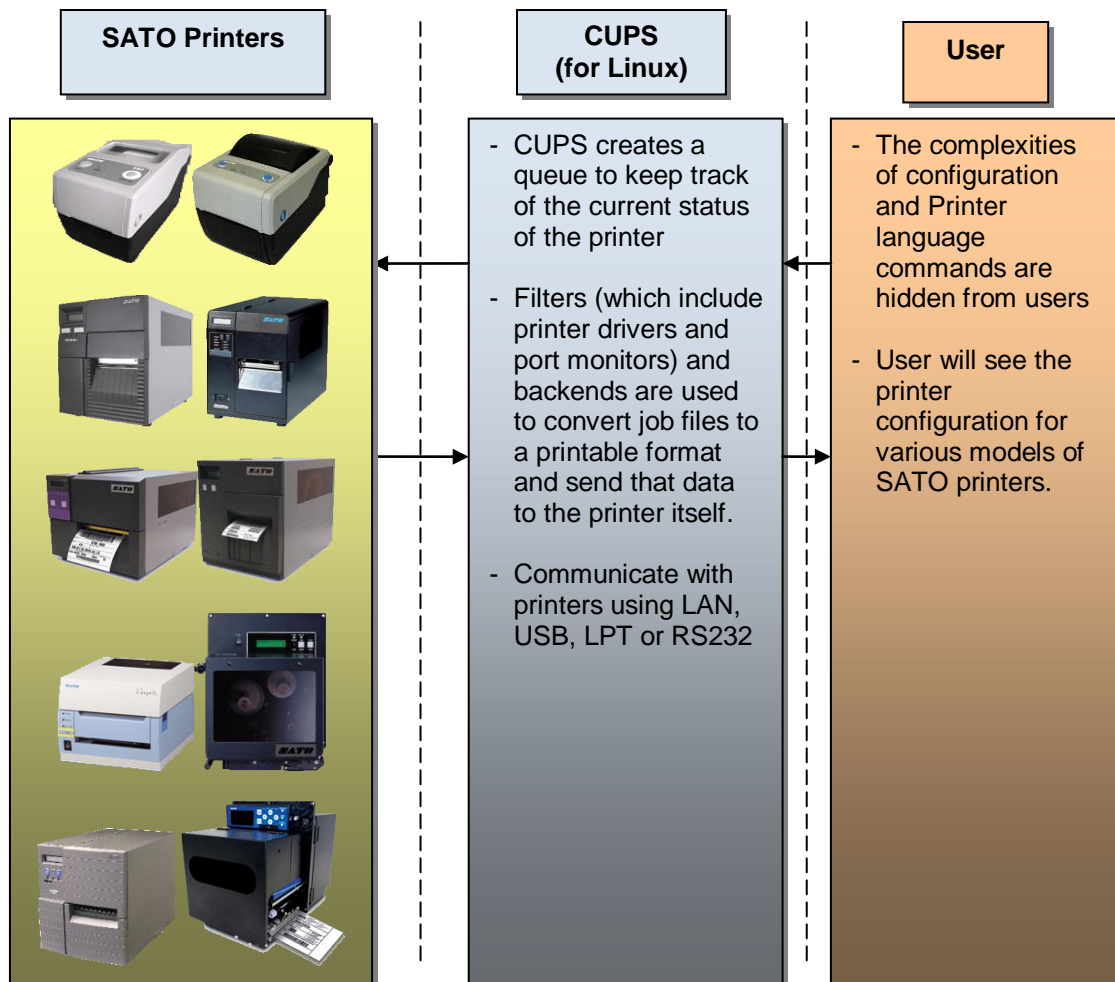


Figure 1 Overview

## Setup

### 3.1 Installing the Driver

After obtaining the packages perform the following actions below.

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

- 1) Login as root user. Otherwise, add the “sudo” or “su” command to obtain root permissions in front of each command you type in.
- 2) Launch the Terminal.

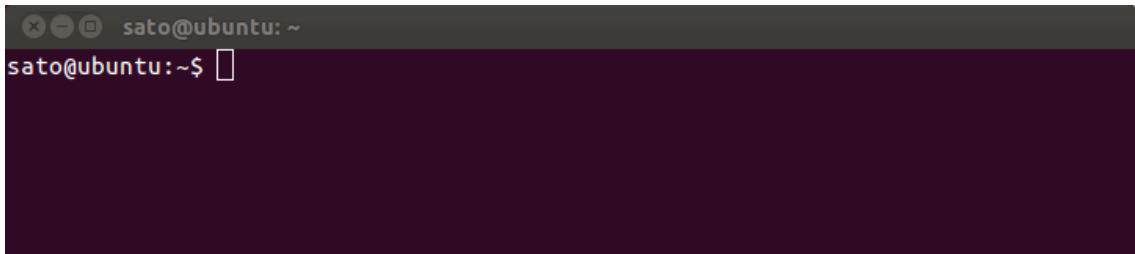


Figure 2 Terminal screen

- 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 below:

**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 actions below:**

- 1) Extract the package [insert package name].tar.gz into your local folder
- 2) Run the satodriver.install

In the occasion that the driver is already installed, an error will occur. To overwrite it, specify the “--force” option

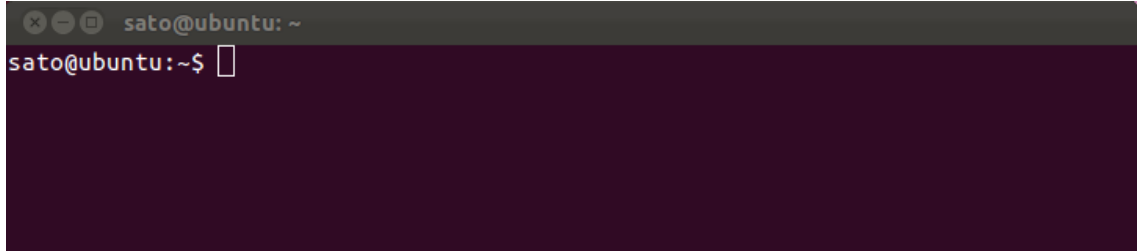
`dpkg -i --force [insert package name].deb [ENTER]`

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



## 3.2 Uninstalling the Driver

- 1) Login as root user. Otherwise, add the “sudo” or “su” command to obtain root permissions in front of each command you type in.
- 2) Launch the Terminal.

A screenshot of a terminal window with a dark purple background. The title bar shows 'sato@ubuntu: ~'. The terminal content shows the prompt 'sato@ubuntu: ~\$' followed by a cursor. The window has standard Linux window controls (close, maximize, minimize) in the top left corner.

```
sato@ubuntu: ~$
```

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

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

# Managing the SATO Printer

# 4

## 4.1 Overview

Printers can be managed using the CUPS web interface, Printer Administration and by the use of the command-line program. The easiest way to manage the printer is through the OS Printer Settings because it provides a step by step wizard screen for you to follow.

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

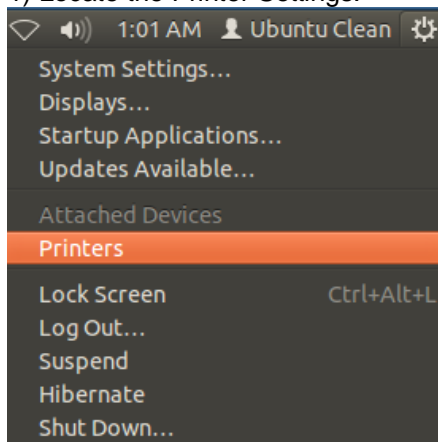
**Note:** The screenshots may look different depending on the Linux Distribution you are using.

## 4.2 Managing Printers from the Printer Administration

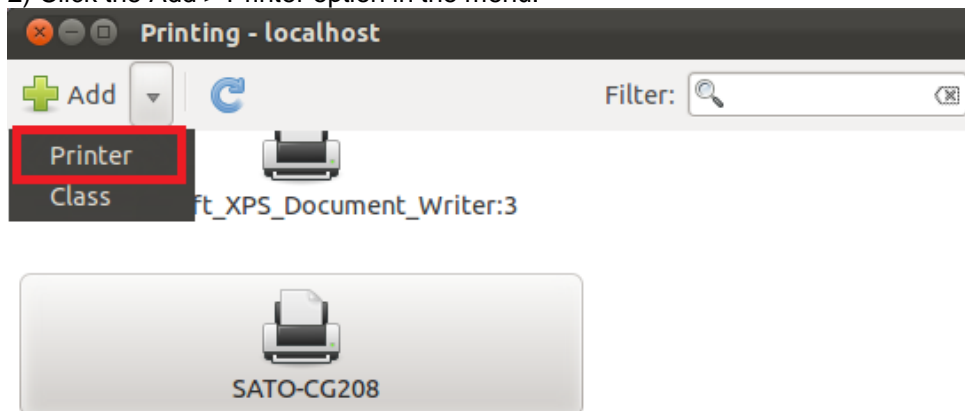
### 4.2.1 Adding a New Printer

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

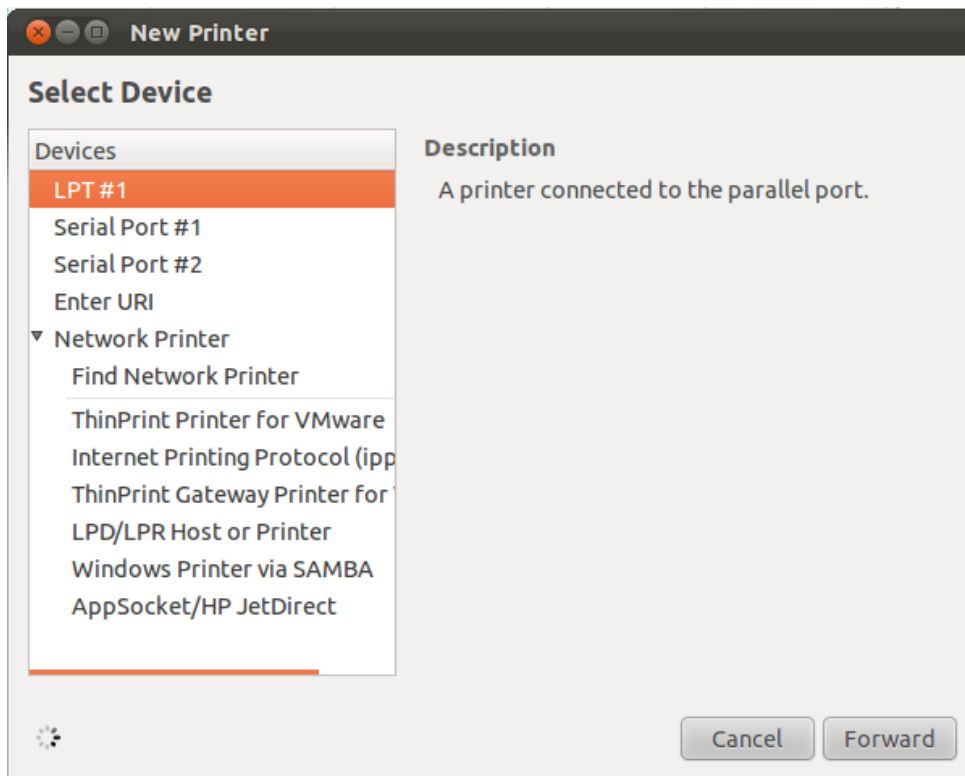
1) Locate the Printer Settings.



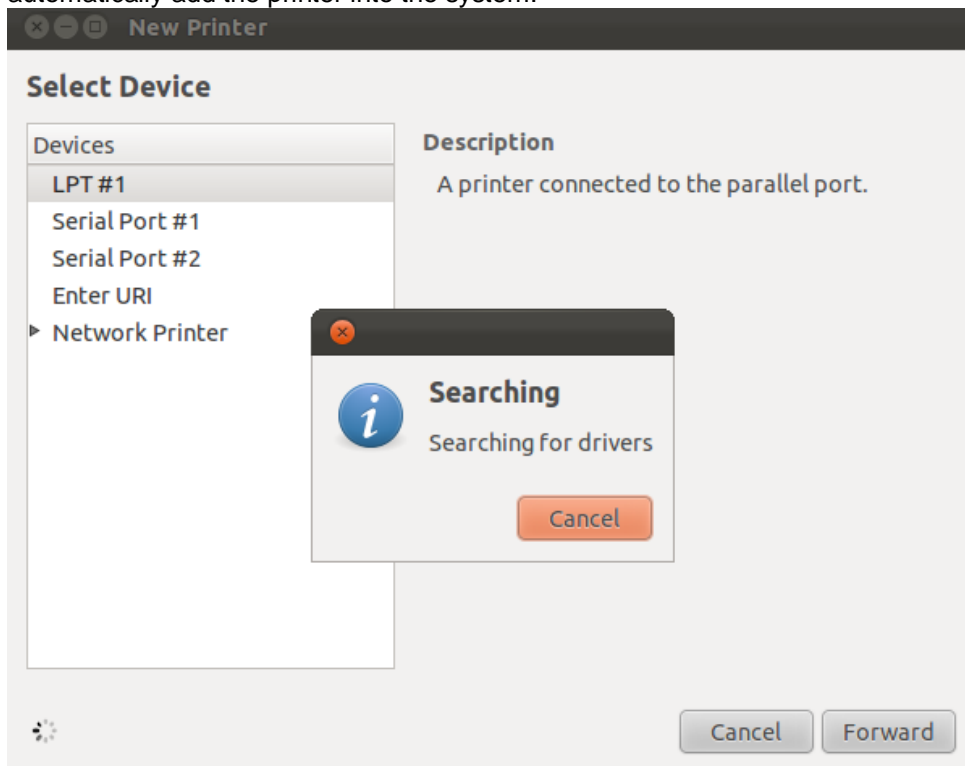
2) Click the Add > Printer option in the menu.



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

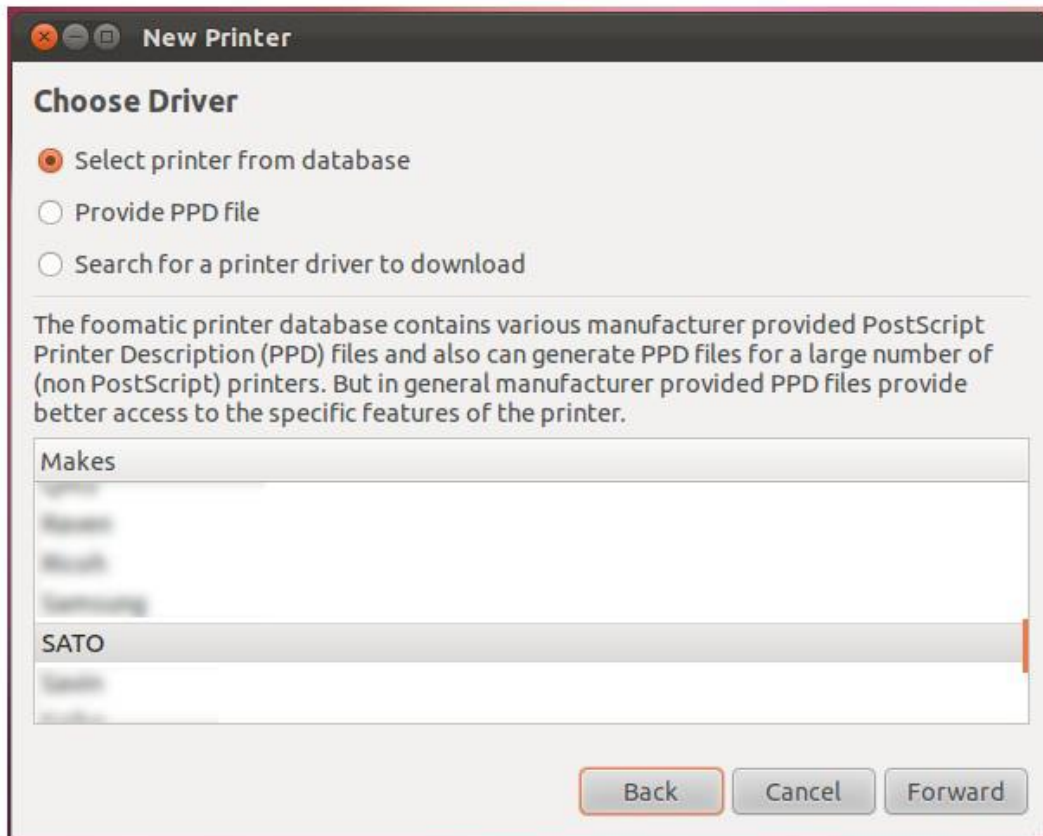


4) The system will start searching for existing drivers. If the printer information is found, it will automatically add the printer into the system.



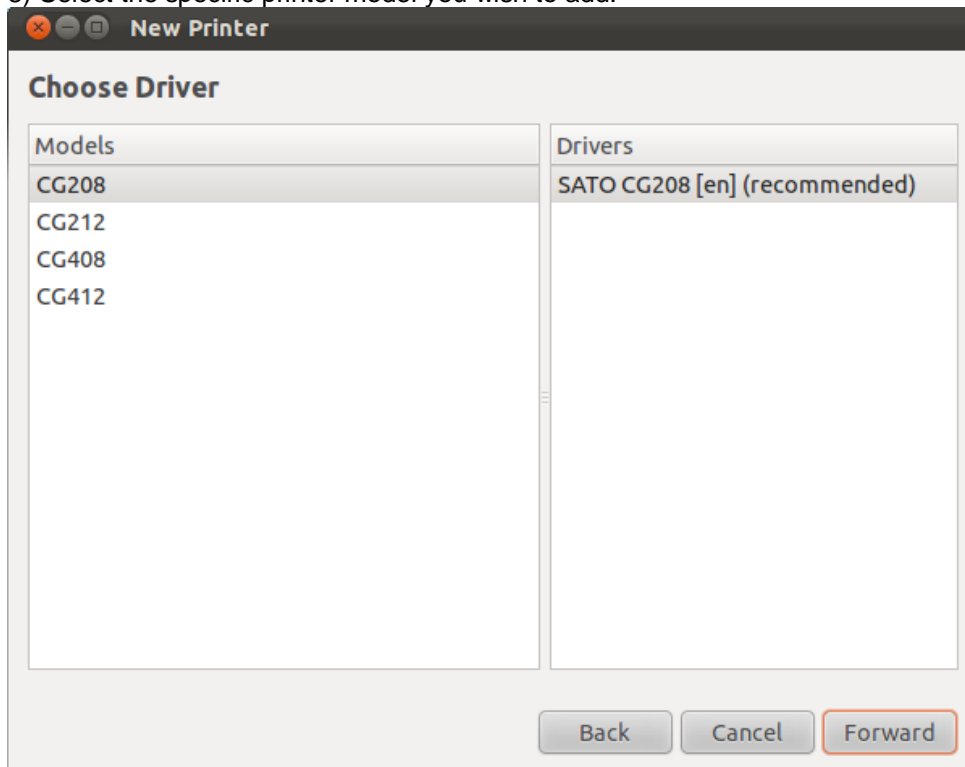
5) In case system couldn't find the printer information, you will be asked to manual select the printer you wish to add.

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

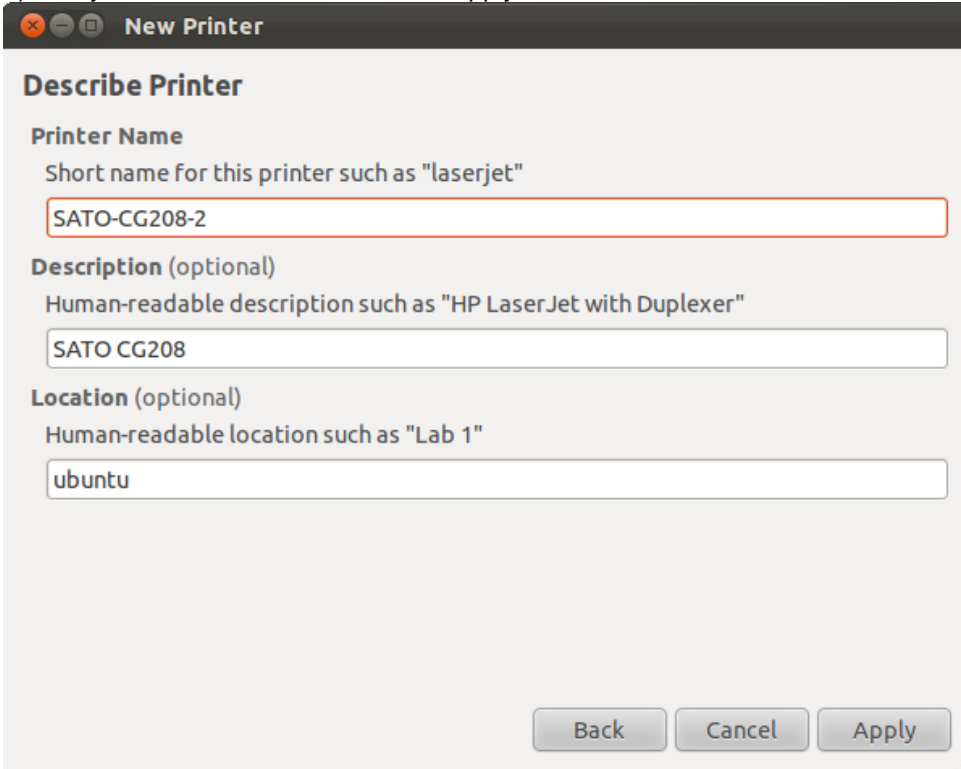


7) Select "SATO" in the Makes/Manufacturer selection and click the Forward button.

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

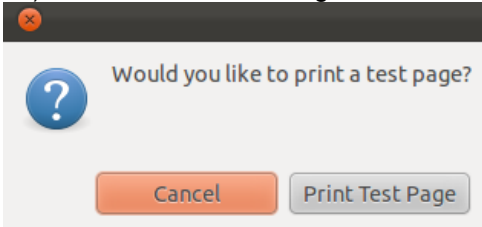


9) Verify the information and click the Apply button.



The screenshot shows a window titled "New Printer" with a "Describe Printer" section. It contains three text input fields: "Printer Name" with the value "SATO-CG208-2", "Description (optional)" with the value "SATO CG208", and "Location (optional)" with the value "ubuntu". At the bottom right, there are three buttons: "Back", "Cancel", and "Apply".

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



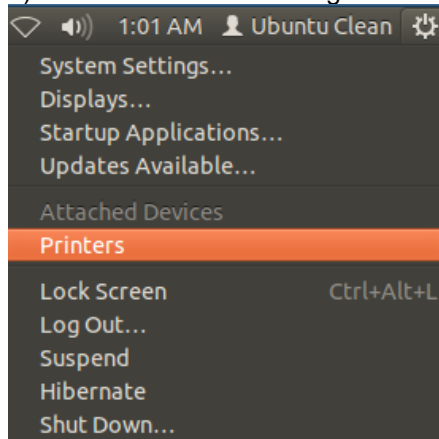
The screenshot shows a dialog box with a question mark icon and the text "Would you like to print a test page?". At the bottom, there are two buttons: "Cancel" and "Print Test Page".

11) Check your test print.

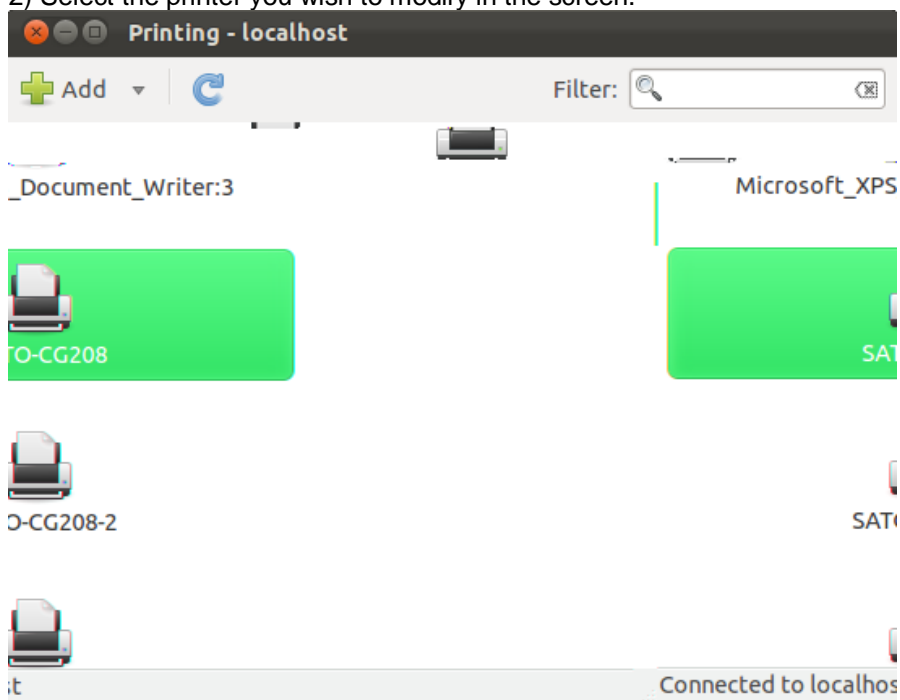
## 4.2.2 Modifying the Printer Properties

To modify the printer properties perform the following actions below:

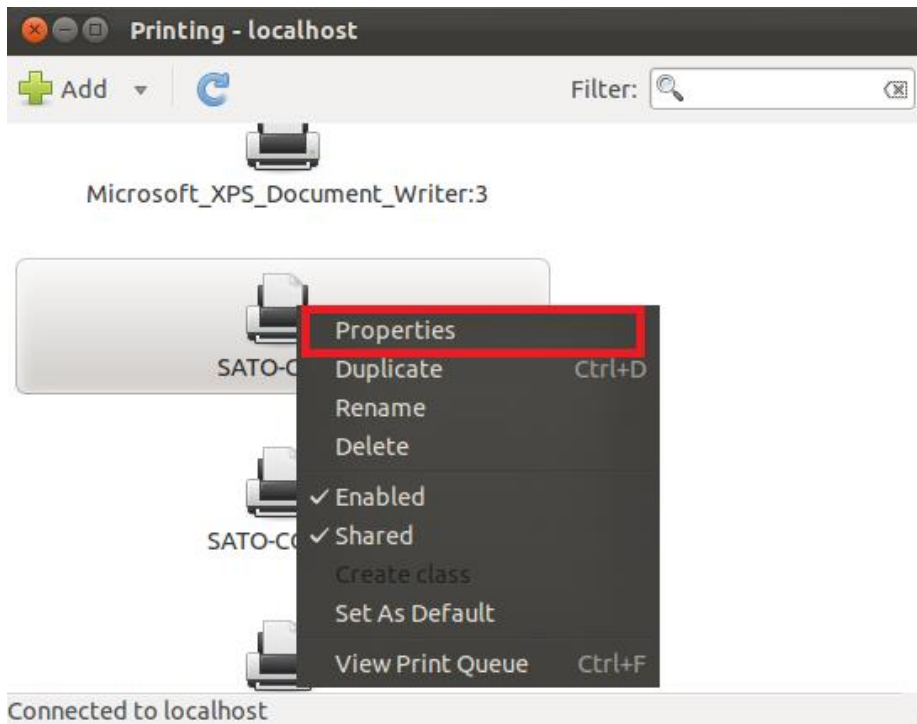
1) Locate the Printer Settings.



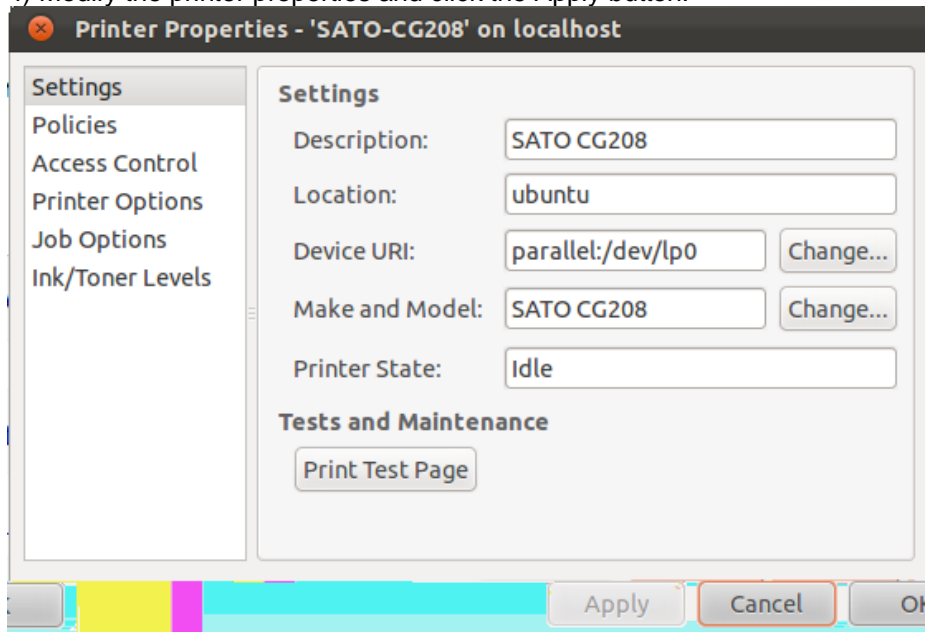
2) Select the printer you wish to modify in the screen.



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



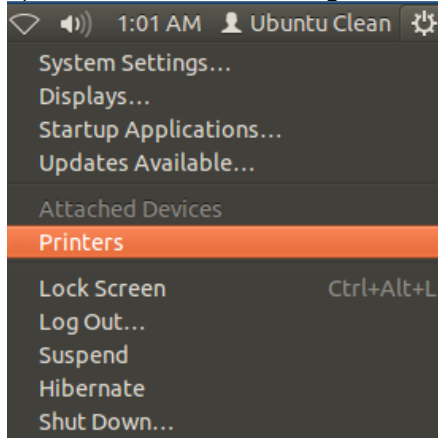
4) Modify the printer properties and click the Apply button.



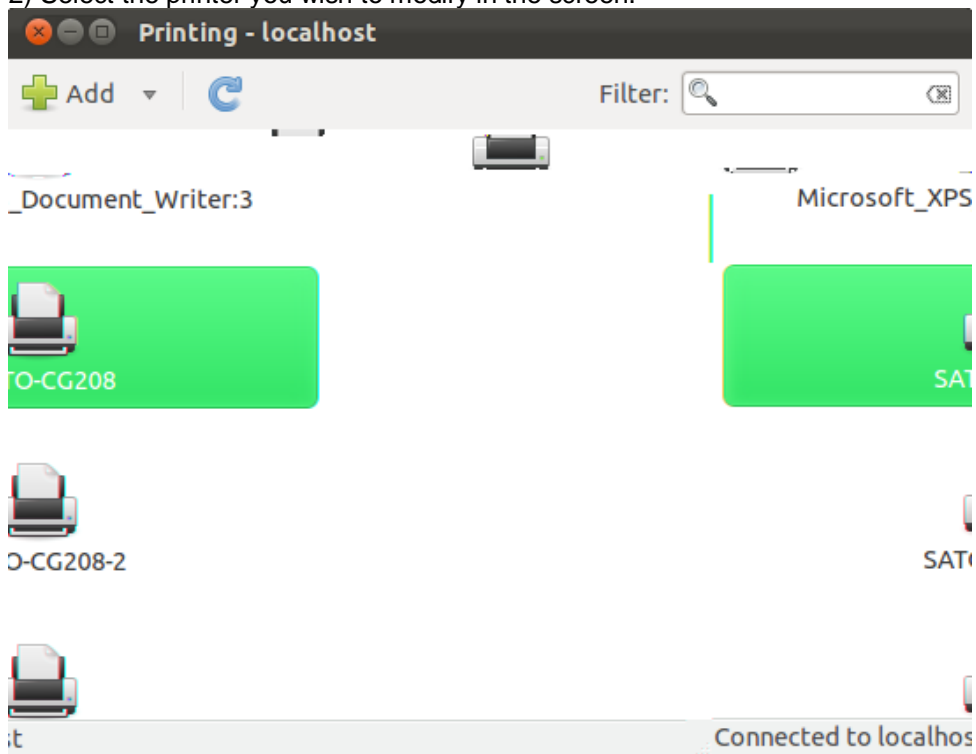
### 4.2.3 Removing the Printer

To remove an existing printer properties perform the following actions below:

1) Locate the Printer Settings.

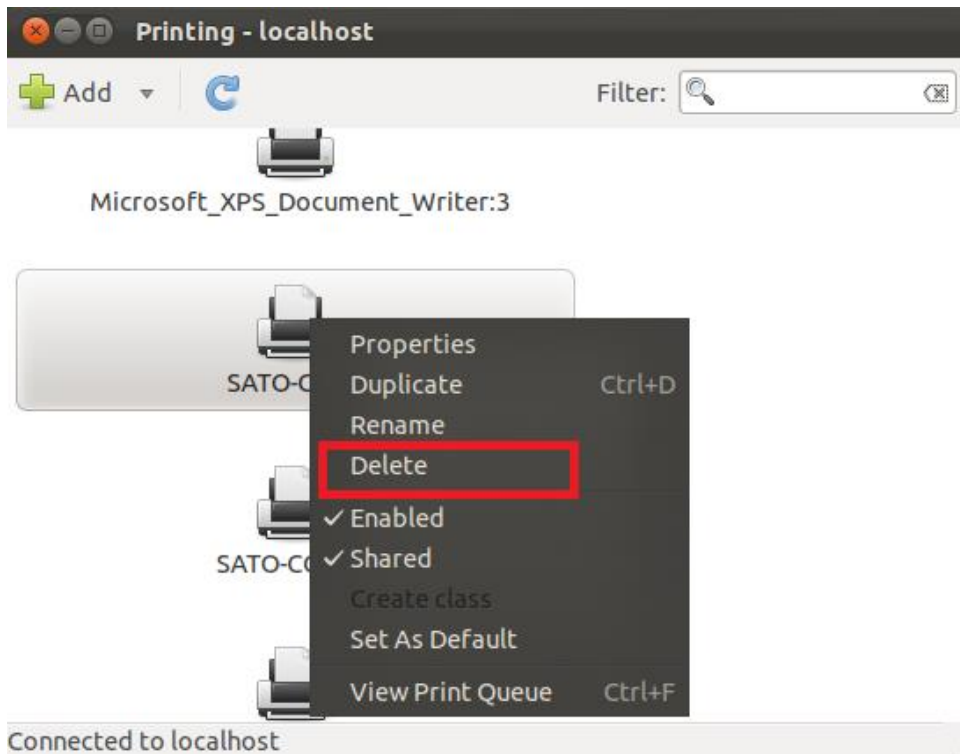


2) Select the printer you wish to modify in the screen.

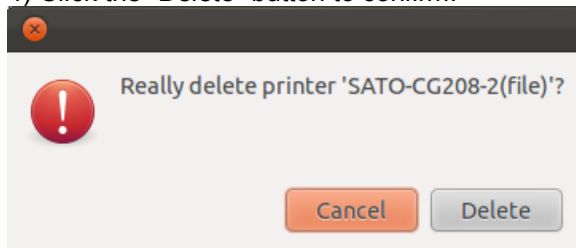


3) Right click on the selected printer and click "Delete".





4) Click the "Delete" button to confirm.



### ***4.3 Managing Printers from the CUPS Web Interface***

To find out more information on how to manage printers from the CUPS Web interface please refer to the CUPS documentation in the address below:

<http://www.cups.org/articles.php?L274>

### ***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 in the address below:

<http://www.cups.org/documentation.php/doc-1.6/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 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 on */var/log/cups/error\_log* directory of your machine.
- 5) Open the logs generated. This will give you the idea what caused the problem.

**Note:** Alternatively, you can also do it using the CUPS web interface.

To find out more on how to troubleshoot the driver, please refer to the CUPS documentation URL address below:

<http://www.cups.org/documentation.php/doc-other/cups-help.html>



Extensive contact information of worldwide SATO operations can be found on the Internet at [www.satoworldwide.com](http://www.satoworldwide.com)

**SATO**