

PRINTING FROM LINUX TO PHAROS SHARED PRINTERS at the University of Plymouth

This method has been tested on the main campus site using Ubuntu 18.04 on a 2018-issue university laptop with its connection box. It has not yet been tested at other University of Plymouth sites nor for VPN connections.

The method for setting up wireless printing from Linux to shared Pharos printers is identical, except that then you have to be connected wirelessly to Eduroam.

Preparation

Ensure you have installed the following packages:

- samba
- samba-client (AKA: sambaclient)
- smbnetfs
- CUPS
- system-config-printer
- python3-smbc

Make sure that your PC / laptop is connected by wire to the PU network (UOPNET).

You will need to know the model number of your chosen printer. The standard issue model seems to be a Ricoh MP C3504ex but if in doubt you can go and look at the printer itself.

To Install

Note: From time to time, and especially when altering the settings for a printer you've already installed, you might get an error message: "Option 'finishings' has value '3' and cannot be edited". This seems to be just for information and makes no practical difference. Just click 'OK'.

1. Start system-config-printer: Settings → Devices → Printers → Additional Printer Settings
2. Click the down-arrow beside the '+Add' button and select 'Printer'.
3. Click the black triangle to the left of 'Network Printer' to open that sub-menu.
4. Click 'Windows Printer via SAMBA'.
5. Fill in the [smb://](#) address box to give:

[smb://UOPNET/myprint/print](#)

NB Without the 'UOPNET' prefix it won't work. (This may be different from the W10 and Apple set-up.)

6. Under 'Authentication', click 'Set authentication details now'. Your username will be your main PU log-on. Do not include the '@plymouth.ac.uk'. So something like:

DrSomebody

The password is your usual PU password. No need to click 'Verify'. It seems to do nothing or gives an erroneous 'Printer share not available' message or even wipes the details you just entered. If that happened, re-enter them. Click 'Apply'.

7. When the 'Choose Driver' menu appears, follow the usual steps for adding a printer. Leave 'select printer from database' as is (unless you've obtained your own driver elsewhere). Select 'Ricoh' (obviously) and click 'forward'.
8. Choose the relevant driver. For the Ricoh MP C3504ex choose the recommended 'PS{en}' driver (or, obviously, the equivalent alternative for the model you'll actually use, if different). Click 'Forward'.
9. Under 'Installable Options' the main thing to check is that under 'Postscript:', the option 'PostScript Emulation' is chosen (by default it already is). The others can be left as is (i.e. 'Not Installed'). You can come back to change them later if you want. Click 'Forward'.
10. On 'Describe Printer', describe it however you like. This page is for use by your PC/laptop only. Click 'Apply'.
11. Next comes an error message 'Option 'finishings has value '3' and cannot be edited.' This seems to make no practical difference – just click 'OK'.
12. To check all is well, accept the option to print a test page.
13. For 'Submitted', click 'OK' and go to the printer to check that it really is. At the printer you will need to log in again and/or swipe your PU card to get your print-out but this is Ricoh and/or Pharos and/or PU security palaver, nothing to do what you just did or with Linux. If you decide to log in to the printer via the touch-screen instead of swiping your card, please note that your user name is the serial number on your staff card, *not* anything like: `drsomebody@plymouth.ac.uk`

Print in Reverse Order

When Ricoh MP C3504ex printers print two or more sheets, the last page comes out of the printer first, face down. So for long documents you might want to select or set '**Print in reverse order**' when printing from LibreOffice or other software packages.

Pharos wants Authentication Details

When you use the printer, especially for the first time, your PC/laptop may get an error message 'Held for Authentication. Credentials required in order to print'. There are two ways you can supply these credentials.

1. The easy, quick way (but it has to be repeated for each document):
 - (a) Right-click on the printer icon, select 'View Print Queue'.
 - (b) Right-click on the job you want to authenticate, click on 'Authenticate'
 - (c) Insert username and password as at point 6 of 'Install' above.
2. The more permanent way:
 - (a) Right-click on the printer icon. Click 'Properties'.

- (b) You might get an error message: 'Option 'finishings has value '3' and cannot be edited.' Ignore that, just click 'OK'.
- (c) Click the 'Change...' button to the right of the 'Device URI:' box.
- (d) In top half of the menu that appears, select 'Current device (Current)'. This option sometimes takes a little while to pop up into the menu list.
- (e) Repeat (or do the first time) step 6 of the install routine above i.e. under 'Authentication', click 'Set authentication details now'. Your username will be your main PU log-on. Do not include the '@plymouth.ac.uk' so something like:

DrSomebody

The password is your usual PU password. Don't click 'Verify'. Do click 'Apply'.

- (f) Print a test page if you want to test it's OK now.

Options and Variants

To alter the printer options,

1. Right-click on the printer icon. Click 'Properties'. As often happens you get the error message: "Option 'finishings has value '3' and cannot be edited." Ignore it, just click 'OK'.
2. This gives lots of options of which the 'Printer Options' looks the most useful (change the print quality, paper size, switch off duplex/double-sided printing etc.).
3. Some printers offer more than one driver. The PXL one doesn't give the above error message (which therefore looks to be a bug in the PostScript driver).

Other Linux distributions

In any form of Linux that has CUPS installed (i.e. nearly all of them) you can alternatively install and manage the shared Pharos printing like this:

1. Open a browser. (The following has been tested with Firefox.) In the address bar, type 'localhost:631' (without 'http://' or 'https://'). This opens the CUPS printer administration page.
2. Administration → Add Printer.
3. You will be asked to log in. This means your laptop or PC login (may be as user or as root, depending on your PC/laptop's setup) not your University log-in.
4. Then install a new Network SMB printer, using the above settings except that the [smb://](#) entry should now be like this:

[smb://username:password@UOPNET/myprint/print](#)

This time your username is now your *University* log-on name without the '@plymouth.ac.uk' so something like:

DrSomebody

Don't forget the colon (':'), then the password bit is your usual *University* password. In other words the Pharos authentication credentials are so to speak built into the SMB address.

5. Once the printer is installed you can adjust the options by
 - (a) Open the browser as above.
 - (b) Click 'Printers'.
 - (c) Click on the one you want to adjust.
 - i. Administration → Modify Printer lets you change the printer driver, model, name, etc.
 - ii. Administration → Set Default Options lets you change the paper size, print quality etc. Lots of options here.