10.4.3 Configuring a CUPS Printer

Click one of the buttons to take you to that part of the video.

Configuring a CUPS Printer 0:00-0:43

In this demo, we're going to configure the CUPS printing service that's running on this Linux system. The purpose is to provide a local printer that we can send print jobs to and then to also share that printer on the network so other computers can send print jobs to the printer over a network connection.

We may need root access to perform some of the CUPS tasks. Let's first check that the CUPS package has been installed on this system using the ‘rpm -qi' command. Yes, it's installed. Now let's check to make sure that CUPS is running using the ‘systemctl status' command. And yes, it's up and running.

Configuring the CUPS Daemon 0:44-2:17

The CUPS service is configured using a file in the /etc/cups directory. Let's edit this file named cupsd.conf. Notice that CUPS has browsing turned on, which allows it to share any printer we define on our local network so other computers can send print jobs to it.

That's great, but we do have one problem up here that we need to change. This is the listen directive that specifies localhost 631. This configuration only listens for connections that are coming from the local machine. To allow other computers to send print jobs to this machine, we add an additional ‘Listen' directive for the IP address of the Ethernet interface in this system, which is 192.168.254.105. Just like the localhost line, we specify the IPP port, 631.

A word of caution here. For CUPS to listen to the Ethernet interface, port 631 must be opened in the firewall of this system. We've already done that, so we don't have to worry about it here. Let's save our changes. Let's restart the CUPS daemon to make these changes take effect using the ‘systemctl restart' command. Let's do a quick status just to make sure everything's working the way it's supposed to. Good. No error messages and the status is active.

Add a CUPS Printer 2:18-4:01

With CUPS running, we can add a printer. When you add a printer, you essentially define a print queue that print jobs can be sent to. You can do this manually by editing the printers.conf file.

In this demonstration, let's go the easy route and use the web-based interface that CUPS provides. Let's launch Firefox and browse to ‘http://localhost:631' This is the CUPS configuration interface. To add a print queue, use the Administration tab, and click 'Add Printer'. We're going to add a printer that's located in my building, but on another subnet. It's a fairly new printer, so we can communicate with it using the Internet Printing Protocol (ipp). The connection URI is ipp:// followed by the IP address, 192.168.7.50.

We need to define a name for the printer. This is important, because it defines the print queue where the print jobs are going to be saved. We'll give it the name, HPLJ. Let's add the description, ‘HP Laser Jet Printer'.

We'll define the printer's manufacturer, so the appropriate driver will be used. This is an HP printer. When we select it, we can specify the make and model of the printer. We'll use the generic PCL 6 driver provided by CUPS. Otherwise, we could provide PPD driver file. Let's finish and click 'Add Printer'.

Here, we could specify the printer's default options. Since it's a network printer, let's query the printer for these options. And the printer along with the printer queue has been added.

Create a Print Job 4:02-4:22

You can see the printer is defined, it's idle, it's ready to accept jobs, and it's currently not shared on the network. As print jobs are created, they'll appear under the jobs heading. Let's go ahead and create a print job. We'll send it a test page. The page automatically updates, and we see the job added then removed as it completes.

Configure a Printer for Network Users 4:23-5:09

At this point, we can send print jobs to the printer from this local system. But we also want network users to be able to send print jobs to this printer as well. To do this, we need to enable sharing. There's two different configurations we make to enable sharing.

First, we share the printer itself. Under Administration, we select 'Modify Printer', and then ‘Continue'. We mark 'Share This Printer', click 'Continue' and then 'Modify Printer'. The printer has been successfully modified. Notice that its status has changed to 'Shared'.

To complete the sharing, we also need to visit the ‘Administration' tab. Under ‘Server Settings', we mark ‘Allow printing from the Internet' and click ‘Change Settings'. Now users can send jobs to this printer.

Start the CUPS-Browsed Daemon 5:10-6:16

There's one other thing we need to do. If we return to our terminal window, we see a configuration file for another CUPS daemon called 'cups-browsed'. Currently, users can send jobs to this printer if they know the IP address of the printer or DNS name, and they know the name of the queue. To make things easier, we'd like our users to be able to browse the network and discover the printer.

To do this, we turn on browsing. The default configuration here in cups-browsed should work just fine, but we do need to load the daemon. To do so, we use the 'systemctl start' command. The ‘systemctl status' command let's see that it's loaded properly. Everything looks good.

With all of this configured, we should be able to go to another Linux system on the network and connect to the HPLJ printer we defined.

Print to a Remote Printer 6:17-6:49

This is a different Linux distribution. Let's open ‘Settings', ‘Devices', and ‘Printers'. As we hoped, the HPLJ printer is already added. This is because CUPS on the other Linux computer announced on the network that this printer is available. So we didn't need to manually try to find it. The CUPS browsing daemon found the printer automatically. Let's open the ‘Printing Options' and print a test page.

Summary 6:50-7:01

That's CUPS printing. In this demo we talked about configuring the CUPS service on a Linux system. We configured CUPS to support local print jobs, and then we reconfigured the printer to share it on the network so that network users could also send print jobs to the printer.

Copyright © 2022 TestOut Corporation All rights reserved.