
PrinterLogic

Technical Training Guide

PrinterCloud

Version 1.2 Partner Edition



PrinterCloud™ Technical Training Guide

Released December 2017

Version 1.2 Partner Edition

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WELCOME!

Welcome to the PrinterLogic Technical Training for PrinterCloud™.

By now, you have earned the prerequisite PrinterCloud Demonstration Certification that provided the product overview, features and benefits. In this technical training, you will learn the authorization process, configuration procedures, and common troubleshooting tips. Each chapter builds upon the next, therefore the student will need to complete the content in one chapter before proceeding to the next

What You Need

- a Workstation with internet access, its local name and IP address.
- a nearby Printer, its local name and IP address.
- If you have access to a working print server, we will need the local name of that server. You should be logged into your device as the Domain Admin to connect to this server.
- the Domain Name and the full name of the Primary LDAP server. Often this is the same address as your Primary Domain Controller.
- A Firewall rule should be setup by your administrator allowing requests by the PrinterCloud servers at (35.160.78.54) over 636 to the External IP address of your LDAP Server.

What the Icons Mean



The apple icon indicates a note to the trainer. Although this content is designed to be transferable, PrinterLogic understands your organization might use different technology or training formats.



The computer icon indicates information that is available online. A website address will be supplied.



The light bulb icon indicates an important tip.



We use caution icons in sections that require specific syntax and dependency configuration.

Contents

WELCOME!	3
What You Need	3
What the Icons Mean	3
PrinterCloud Requirements and Supported Environments	8
PrinterCloud supports the following Mobile OS:	8
PrinterCloud supports the following Client OS and Hardware:	8
PrinterCloud uses the following network connection ports:	9
The following are browsers supported by PrinterCloud:	10
PrinterCloud Supported Languages	10
PrinterLogic Web Site	10
PrinterCloud	10
Chapter 1: PrinterCloud Architectural Overview	11
Amazon Web Services Security	11
PrinterCloud Instance and Client Communications	11
Print Job Traffic	12
Optional Active Directory Integration	12
Chapter 2: Customer Management Portal (CMP)	13
Logging In To the Customer Management Portal	14
Adding a Folder to the Tree	15
Add a Customer's PrinterCloud Instance to the Customer Management Portal	16
Log in to a PrinterCloud Instance from the Customer Management Portal	17
Add a New User Account	18
Enable a User Account to Manage Other Users	19
Apply User Access to Folders or PrinterCloud Instances	20
Calculate License Usage	21
Current Billing Cycle	22
Last Billing Cycle	22
Current Usage	22
Disable a Customer's PrinterCloud Instance	23
Chapter 3: Configuring PrinterCloud	24
Creating Folders in Printer Tree View	24
Migrating from Print Servers to Managed Direct IP Printing	24
Migrating from Unmanaged Direct IP to Managed Direct IP Printing Using a CSV File	26
Download and Install the Applications	26
Using the Network Scanner	26
Manually Adding TCP/IP Printers	27
Create a Print Server Link	28
Chapter 4: Administrative Configuration	29
Role-Based Access Control Using Active Directory Accounts	29
Administrator Type Users	29
Non-Administrator Type Users	29
Configuring PrinterCloud for Active Directory	29
Adding Active Directory Users to the Administrative Users List	30
Manage Drivers/Profiles	30
Driver Management: Individual Printers	30
Driver Management: From Driver/Profile Repository	31
You can choose to replace it with a driver you already have in the repository	31
SNMP Status Monitoring	31

SNMP Alerts	31
PrinterCloud Client Settings Configuration	32
If you are installing the client with a Group Policy Software Package	33
Chapter 5: PrinterCloud Client	34
Install the Client on a Windows Workstation	34
Install the Client with a Third-party Application	34
Install the Client with a Group Policy Software Package.....	34
Install the Client on a Mac Workstation	34
Install the Client on a Linux Workstation.....	35
Chapter 6: Device Authentication	36
Setting up an Authorized Device.....	36
Step 1 - Generating an Authorization Code.....	37
Step 2 – Securely Authorize the Client on a Workstation	38
Deploy the Authorization Code Automatically.....	38
End -User Authorization	38
Auto-Authorize via Admin Console Access	38
Resetting a Password.....	39
Disabled Account.....	40
Chapter 7: Set up Printers for Auto-Deployment.....	41
Auto-Deploy: Active Directory	41
Auto-Deploy: IP Address Range.....	41
Auto-Deploy: Hostname and MAC Address	42
Auto-Deploy: Advanced Group	43
Auto-Deploy: Multiple Deployments.....	43
Chapter 8: Set up Self-Service Installation Portal	44
Self-Service: Set Portal Security	44
Self-Service: Add a Map	44
Self-Service: Resize Print Icons on Map.....	44
Self-Service: Customize Company Logo	45
Install a Printer	45
Chapter 9: Reports.....	46
Print Job Record.....	46
View Print Job Records.....	46
Schedule Print Job Records.....	46
Print Cost Associating.....	47
Other Report Types	47
Administrative Audit Report	47
Workstations	48
Printer Status.....	48
Chapter 10: Setup Cache Location.....	49
Chapter 11: Pull Printing Setup.....	51
Add LDAP Bind User and Bind Password	51
Create a Pull Printer Queue	51
Turn on Release Print (Secure/Pull) Settings.....	51
Create a Pull Printer in the Tree Structure.....	52
Allow Pull Print jobs to Be Released to Printers by Doing One of the Following:.....	52
Test the Pull Printing Queue	52
Verify the Job Was Held Using One of the following methods	53
Turn on Secure Release Printing.....	54
Test Secure Release Printing.....	54

Chapter 12: Embedded Control Panel Application	55
Control Panel Application	55
Setup	56
Set LDAP Settings.....	56
Configure the Administration Credentials for the Printer's Web Interface	56
Using Default Settings:	56
Using Printer-Specific Settings:	56
Install the Control Panel Application:	57
Uninstall the Application	59
Badge Management (Currently Only for Ricoh and Lexmark Printers with PrinterCloud)	59
Badge Registration and Release	60
Install the Control Panel Application On The Printer	60
Registering Badges	61
Using Active Directory to Register Badges	61
Release the Print Job	62
Chapter 13: Mobile Printing Setup	63
iOS Print Setup.....	63
Set up the Service Host Computer	63
Step 1 - Create the Service Host Object in the Admin Console	63
6. Click Add Service Host.....	64
7. The new service host will appear in the tree view.	64
Step 2 - Set up a Pull Print Queue Object in the Admin Console	64
Step 3 - Configure your LDAP Domain	64
If you have not already configured your LDAP settings, set it up as shown in Chapter 11 for Pull Printing in the Add LDAP Bind User and Bind Password section.	64
Step 4 - Install the Client on the Service Host Computer	64
Step 5 - Enable a Printer Object to Release Pull Print Jobs	64
Step - 6 Enable and configure iOS Mobile Printing	65
Step 7 - Refresh the Client on the Service Host Computer.....	65
Step 8 - Verify the Processes Running on the Service Host Computer	66
Server Firewall Configuration	66
Network Firewall Configuration	66
Step 11 - Configure DHCP.....	66
Step 12 - Configure DNS.....	66
Step 13 - Conclusion: Release a Print Job to the Mobile Printer.....	67
Troubleshooting: iOS Printing	67
Google Cloud Printing	68
Step 1 - Set Up the Service Host Computer	68
Step 2 - Create the Service Host Object in the Admin Console	68
6. Click Add Service Host.....	68
7. The new service host will appear in the tree view.	68
Step 3 - Set up a Pull Print Queue Object in the Admin Console	68
Step 4 - Configure your LDAP Domain	69
Step 5 - Install the Client on the Service Host Computer	69
Step 6 - Enable a Printer Object to Release Pull Print Jobs	69
Step 7 - Enable and Configure Google Cloud Print.....	70
Step 8 - Log in to Your Google Cloud Print Account and Register the Printer with Google Cloud Print	71
Step 9 - Share The Registered Printer With The End- Users.....	71
Step 10 - Conclusion: Send a Print Job from the Device to the Pull Print Queue	71
Chapter 14: Email Print Setup	72

Prerequisite Steps	72
Step 1 – Set up the Service Host Computer	73
<p>The service host computer can be a simple workstation or a server. Before you can proceed with setting up iOS printing, just set up the computer you would like to use as the service host. When you set up the service host object in the Admin Console, you will enter the IP address or hostname of the workstation or server you set up.</p>	
Step 2 – Create a Service Host Object in the Admin Console	73
Step 3 – Create a Pull Print Queue Object in the Admin Console	74
Step 4 – Configure the LDAP Email Attribute.....	74
Step 5 – Install the Client and the Pull Printer Queue on the Service Host Computer	74
Step 6 – Configure the Service Host for Email Printing	75
Step 7 (OPTIONAL) – Configure a Service Host and Printer Object for Direct Email Printing.....	76
Step 8 (OPTIONAL) Configure the Service Host for Direct Email Guest Printing.....	76
Step 9 – Refresh the Client on the Service Host Computer.....	77
<p>On the service host computer, navigate to the task bar and right-click the PrinterCloud icon. Then select Refresh Configurations.</p>	
Step 10 – Verify the processes Running on the Service Host Computer.....	77
Step 11 – Test Email printing and Release the Print Job	77

PrinterCloud Requirements and Supported Environments

PrinterCloud supports the following Mobile OS:

iOS 9+

Android (4.4+)

Chrome OS (All)

PrinterCloud supports the following Client OS and Hardware:

x86	x64
Windows 7	Windows 7 & 2008R2
Windows 8/8.1/10	Windows 8/10/2012/2016
Linux 32-bit	Mac OSX 10.9+
	Linux 64-bit



NOTE: PrinterCloud also supports customized driver selections for Citrix servers running on any supported OS.

The PrinterCloud Admin Console interface shows a list of the supported operating systems in **Tools > Settings > General**. The list is available in the [Operating Systems Supported](#) section as shown below.

The screenshot shows the 'General' settings page in the PrinterCloud Admin Console. The page has a dark header with the 'PrinterCloud' logo and navigation links. The main content area is divided into several sections:

- Operating Systems Supported:** A table with three columns: x86, x64, and Citrix. It lists supported operating systems and their bit versions.
- Cache:** A section with a checkbox to 'Enable end-user redirections to cache' and a text field for 'Cache Manager'.
- Tree Management:** A section with a checkbox to 'Require Unique TCP/IP Printer Names' and a description of the feature.
- LDAP Authentication Settings:** A section with a table for LDAP settings, including 'Domain Name', 'NETBIOS Domain Name', and 'Primary Server'. It also includes a dropdown for 'Default domain when logging in' and a checkbox for 'Enable advanced LDAP administrative authentication'.
- Custom Printer Fields:** A section with a checkbox to 'Enabled' and a text field for 'Name'.
- SNMP Status Monitoring:** A section with a checkbox to 'Enable SNMP Status Monitoring' and a dropdown for 'By default, SNMP monitoring for each printer is:'.

NOTE: Client workstations must have hardware capable of running the operating system with 30MB free hard disk space for the client installation. Additional space for print drivers being installed may be required as well.

PrinterCloud uses the following network connection ports:

- TCP port 443 for client communication
- TCP port 9100 for direct printing to printers
- TCP ports 161 and 162 for SNMP communication with print devices
- TCP port 7627 for HP console-based print job release
- TCP ports 443, 5222, and 5269 for Google Cloud Print integration
- TCP port 631 for Internet Printing Protocol
- TCP port 389 for Active Directory communication (636 for secure connection)

The following are browsers supported by PrinterCloud:

- Internet Explorer 9, 10, and 11
- Firefox 3+ and current release
- Google Chrome 45+
- Safari 6.28, 9.x, and 10.x

PrinterCloud Supported Languages

PrinterCloud displays the portal and the client options in the following languages.

- Dutch
- English
- French
- German
- Japanese
- Portuguese
- Simplified Chin
- Spanish
- Thai
- Turkish

PrinterLogic Web Site

The language displayed is chosen by the “accepts language” header sent by the browser.

PrinterCloud

The choice of language in PrinterCloud is made using the following criteria:

- If the operating system supports language packs, then PrinterCloud uses the first supported display language that the user selects.
- If the operating system does not support language packs (or none are installed) then PrinterCloud uses the “locale” setting.
- If PrinterCloud does not support any of the languages found, it will default to English.

Chapter 1: PrinterCloud Architectural Overview

PrinterLogic provides PrinterCloud, an enterprise print management solution for IT organizations who want a better, more efficient way to manage printers and drivers throughout the enterprise. PrinterCloud consists of a server component that is hosted in the cloud on Amazon Web Services (AWS) and a client installed on each workstation. This method of print management converts the environment to centrally-managed direct IP printing, eliminating the need for print servers in the environment. Because print jobs go to the printer via direct IP and do not go through the PrinterCloud instance, there is no single point of failure and no additional WAN traffic. Also, there is no need for Group Policy Objects (GPOs) or scripting to deploy and manage printers and printer drivers on end-user workstations.

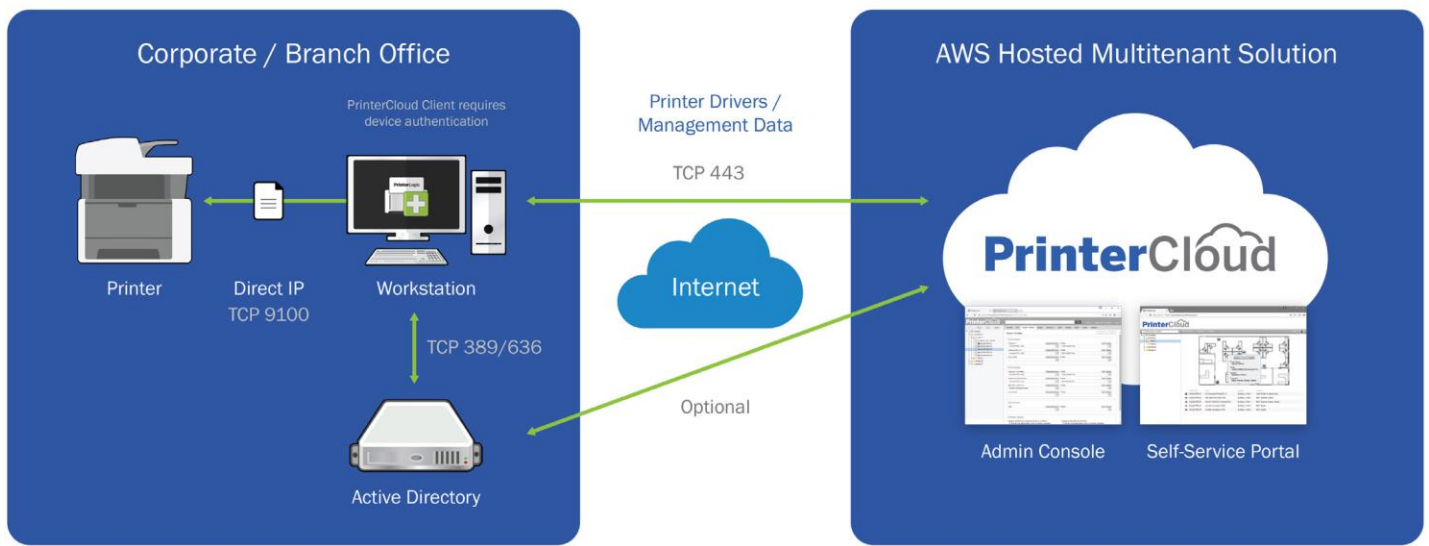


Figure 1

Amazon Web Services Security

Amazon Web Services (AWS) employs extensive [security](#) measures for the data stored in its cloud infrastructure. AWS provides an [ISO 27001](#) certificate for their service infrastructure, which is a widely recognized international security management standard.

PrinterCloud Instance and Client Communications

PrinterCloud is a SaaS-based application that is hosted in the cloud on AWS. The software manages and deploys printers in the organization and is built to use the secure web protocol HTTPS and a security token for communication between the client and the PrinterCloud instance.

PrinterCloud uses a client/server model to manage printer drivers and profiles. The client is a small piece of software installed on individual end-user workstations and is designed to communicate with the PrinterCloud instance using a security token created by the PrinterCloud admin. Upon logging into the workstation and on a scheduled interval, the client sends an HTTPS request to the PrinterCloud instance using its [security token](#) to discover if there are any activities assigned to the system or the active logged-in user. If the client does not have a security token, it will be denied communication. Upon receiving a security token that the PrinterCloud admin generates, future client updates and communication to the server are done through HTTPS on port 443, keeping all interactions secure over an encrypted port. It also has the advantage of not needing to open additional ports in the firewall. Expiration lengths can be

assigned to any security tokens created by the PrinterCloud admin thus, any tokens not used to authorize a newly installed client within the allotted time frame become invalid, and a new one will need to be generated.

Printer drivers are uploaded into the PrinterCloud instance using either a manual upload or automatic method via a printer import tool. A security token is required for both the workstation and the print server to function properly.

The administrator defines in the interface if a printer driver needs to be installed by the client. When an authorized client checks in, and if a printer needs to be installed, the client will first scan the local workstation for the driver needed. If the driver is not available locally, it will automatically download the driver from the PrinterCloud instance (or optional designated driver cache) and install it using system service privileges on the workstation. The client then configures the driver according to the profile defined in the PrinterCloud Admin Console.

When printer drivers are downloaded from the PrinterCloud instance they are sent over an encrypted port (443) using HTTPS. Optionally the printer drivers can be stored in a local cache on a file server. In this model, the client that is installed on the file server must first receive a security token allowing communication, once a security token has been received the printer drivers are transferred from the PrinterCloud instance over port 443 to a Windows file share on the specified file server. Other clients retrieve the printer driver from the file share using port 445.

Print Job Traffic

Print jobs are sent from the client workstation directly to the printer via direct IP using port 9100 by default and the installed printer driver. Since the print job does not travel to the PrinterCloud instance, it is restricted to the local area network segment created by the IT admin. Metadata from the successful print jobs is sent via HTTPS to the PrinterCloud instance for reporting purposes. Again, a valid security token is required for client to PrinterCloud instance communication.

Optional Active Directory Integration

PrinterCloud employs Active Directory to authenticate and authorize users, groups, and computers for a variety of optional features including AD user account creation, AD login access, pull printing and mobile printing.

With the PrinterCloud instance residing on Amazon Web Services and outside the firewall, IT Admins need to ensure that their firewall rules allow access to their Active Directory port (typically 389 for non-secure or 636 for secure) from the PrinterCloud IP address. The IP address of your PrinterCloud instance can be obtained from PrinterCloud support by sending an email to support@printerlogic.com.

The PrinterCloud instance uses read-only access to the Active Directory server. As a result, PrinterCloud does not write any data to Active Directory. Each time an authentication or Active Directory membership is required, PrinterCloud will request the Active Directory using a BIND service account. The BIND service account information will be encrypted and stored in the PrinterCloud database.



NOTE: For added security, you can use a BIND service account with read-only permissions. The client installed on the end-user workstation does not connect directly to the PrinterCloud server for authorizing end-users. Instead, the client authenticates directly against Active Directory.

Chapter 2: Customer Management Portal (CMP)

Some companies use in-house IT departments to manage and replace printer hardware, to monitor printing supplies, to handle security and analytics, and other tasks. For organizations such as this, the administrator is generally in-house as well. If this organization wants to use PrinterCloud, then the administrator must set up a PrinterCloud instance by following a simple process of opening a web browser to www.printercloud.com, clicking **Start Trial**, and then following the setup steps. With the new PrinterCloud instance, the administrator can use the Admin Console to configure PrinterCloud, and the end-users can access the Self-service Portal and the Release Portal to install printers and to release print jobs, respectively.

Other companies opt to pay another organization, a Managed Service Provider (MSP) provider, to manage their print hardware, environment, and supplies. The MSP provider can use PrinterCloud to manage the print environment for each of their customers. However, the administrator at the MSP provider cannot follow the same process as the in-house IT department to set up the PrinterCloud instance for each of their customer. Rather, they need a tool to manage multiple PrinterCloud instances in one place. This tool is called the Customer Management Portal.

Figure 49 below, shows the Customer Management Portal as it appears when the MSP provider administrator logs in for the first time. The login credentials that provide access for the administrator will be provided by a PrinterLogic representative.



Figure 49

Take note of the tree that appears on the left side of the Customer Management Portal. Upon first login, the MSP administrator will see one item in the tree view, or more specifically the name of the MSP provider. For example, the image shows one item, ABC Managed Service Providers, which is the name of the MSP provider. Hover over the name of the MSP provider for options to add new folders or new PrinterCloud instances. Setting up each PrinterCloud instance is a simple process of filling out a short form that enables you to customize, in part, the URL used to access the PrinterCloud instance.

In addition to setting up the folders and PrinterCloud instances in the tree, the MSP provider can also add new [user accounts](#) to the Customer Management Portal. These new accounts give other people in the MSP organization access to the Customer Management Portal. The following sections provide steps for configuring the Customer Management Portal and setting up PrinterCloud instances for the MSP's customers.

Logging In To the Customer Management Portal

PrinterLogic will send the initial Customer Management Portal login credentials to the MSP administrator, who can then log in to the Customer Management Portal by opening a browser window and typing www.customermanagementportal.printerlogic.com, which appears as shown in Figure 50 Below.

Also take notice of the **Request Access** field, which any administrator can click to request access to the Customer Management Portal.

Logging in to the Customer Management Portal enables the MSP administrator to set up user accounts for other users to be able to log in to the Customer Management Portal and to set up PrinterCloud instances for MPS's customers.

The screenshot shows the login page for the Customer Management Portal. At the top is a blue header with the 'PrinterLogic' logo. Below the header, there are two input fields: 'Email Address:' and 'Password:'. To the right of the 'Password:' field is a button labeled 'Click here to validate your login credentials.' Below the input fields is a 'Log In' button. Underneath the 'Log In' button are two links: 'Don't have an account? Request Access' and 'Reset Password'. There are four callout boxes with arrows pointing to specific elements: 1. A blue box pointing to the 'Email Address:' field with the text 'PrinterLogic will send these credentials to the MPS administrator.' 2. A grey box pointing to the 'Request Access' link with the text 'If you do not yet have credentials to log in to the Customer Management Portal, then click here to open the MSP Registration Request page, which enables you to enter the required information for CMP access and submit them to PrinterLogic.' 3. A blue box pointing to the 'Reset Password' link with the text 'Click here to submit a request to reset your password in the event you have forgotten it. You will be required to enter an email address that PrinterLogic can use to validate your identity. If you can be validated, then PrinterLogic will send a temporary password to the email address you provide.' 4. A grey box pointing to the 'Click here to validate your login credentials.' button with the text 'Click here to validate your login credentials.'

Figure 50



NOTE: The Customer Management Portal login page provides a Reset Password link in the event you have forgotten your password. You will be provided with a temporary password to log in after which you will be required to enter a new password.

Adding a Folder to the Tree

1. Log in to the Customer Management Portal.
2. Hover over the name of the Managed Service Provider organization.
3. Click **Add Folder** (Figure 51).

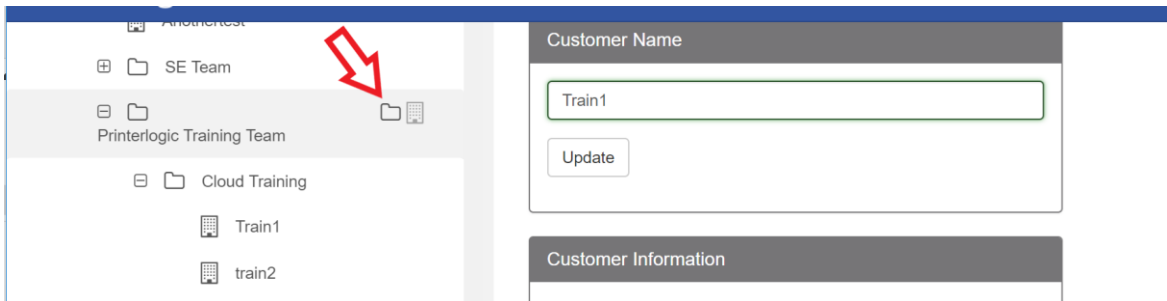


Figure 51

4. In the Folder Name field, type the name of the folder (Figure 52).

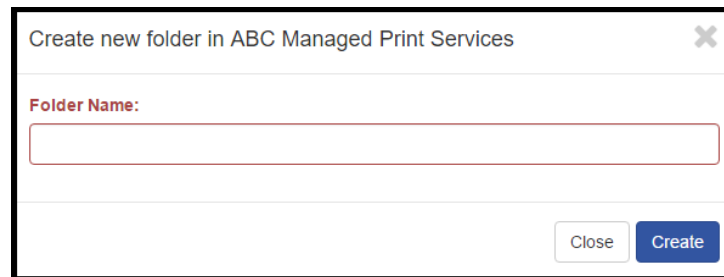
The image shows a modal dialog box titled 'Create new folder in ABC Managed Print Services'. Inside the dialog, there is a label 'Folder Name:' followed by a text input field. At the bottom right of the dialog, there are two buttons: 'Close' and 'Create'.

Figure 52

5. Click **Create**.

The new folder will appear in the Customer Management Portal tree.

Add a Customer's PrinterCloud Instance to the Customer Management Portal

1. Log in to the Customer Management Portal.
2. Hover over the name of the Managed Service Provider organization.

You can also hover over any folder in the tree.

3. Click **Add Customer**.

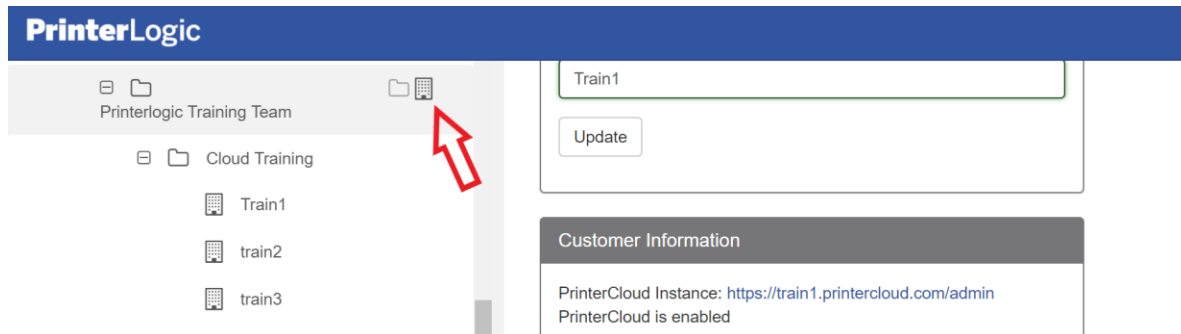


Figure 53

4. When Name window appears, type the name of the customer. In the Customer Vanity URL field, type the friendly name your customers will use to access the PrinterCloud Admin Console, Self-service Portal, and Release Portal (Figure 54).

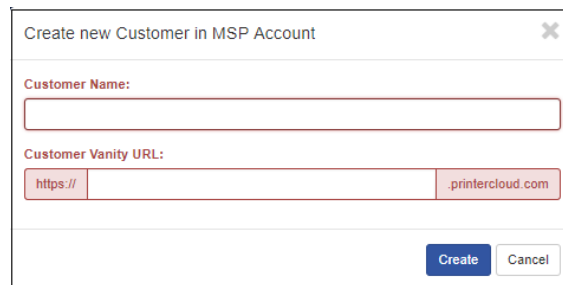


Figure 54

6. Click **Create**.

After you create a PrinterCloud instance to the Customer Management Portal, the name of the instance appears in the [Customer Name field](#).

Log in to a PrinterCloud Instance from the Customer Management Portal

1. Log in to the Customer Management Portal.
2. In the tree, select the customer's instance.

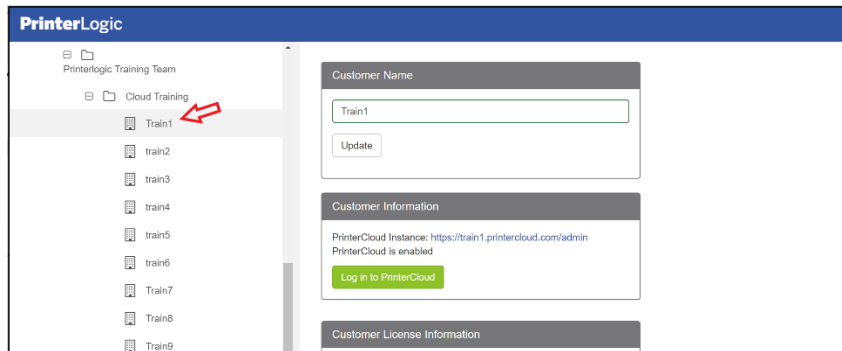


Figure 55

3. In the Customer Information section, click **Log in to PrinterCloud**.

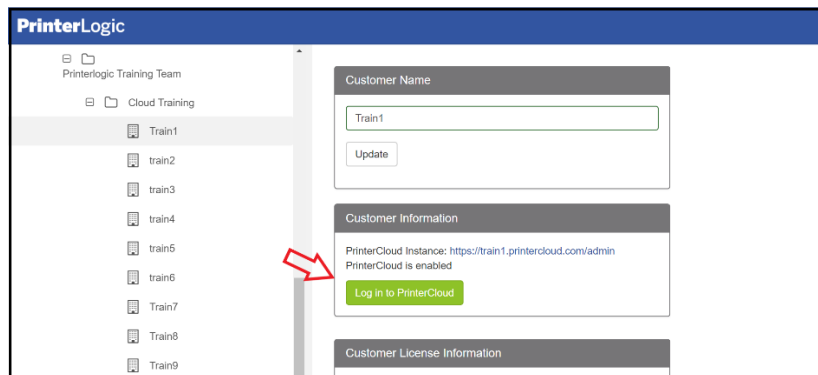


Figure 56

! NOTE: The MSP will be required to accept the SaaS agreement the first time the log in to the interface for the first time. Additionally, when you enter the URL in the browser to sign in to the instance directly, the sign-in information required is the credentials you set when you created the instance rather than the Customer Management Portal login information.

4. Click **Accept** for the SAAS Service Agreement.
5. Set up your login credentials for your PrinterCloud access to the Admin Console.

The next time you log in to the Admin Console, you can just enter the URL in your browser's Address bar rather than accessing it through the Customer Management Portal.

Add a New User Account

! NOTE: Adding users in this section is meant for other MSP admin users instead of customers. If you would like to give access to customers, open the PrinterCloud instance and create the user login for that customer.

1. Log in to the Customer Management Portal.
2. Click the Users icon (Figure 57)

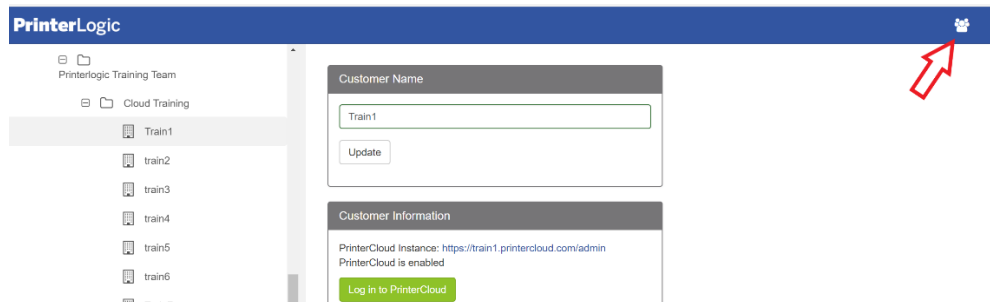


Figure 57

3. When the **List Users** appears, click **Add New User**.



Figure 58

4. In the New User form, fill in all the fields.

The screenshot shows the 'New User' form in the PrinterLogic portal. The header includes the PrinterLogic logo and a user profile icon. Below the header is a toolbar with a back arrow and the text 'New User add a new account'. The form consists of several input fields: 'First Name', 'Last Name', 'Email', 'Password', and 'Confirm Password'. Each field has a red border. At the bottom of the form is a blue 'Add User' button.

Figure 59

5. Click **Add User**.

The new user will appear in the list of users. You can click the user to edit it at any time.

Enable a User Account to Manage Other Users

1. Log in to the Customer Management Portal.
2. Click the Users icon.

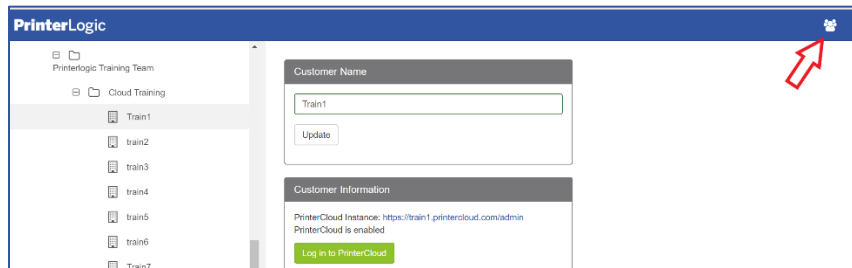


Figure 60

3. Click the user account to which you would like to apply admin rights.

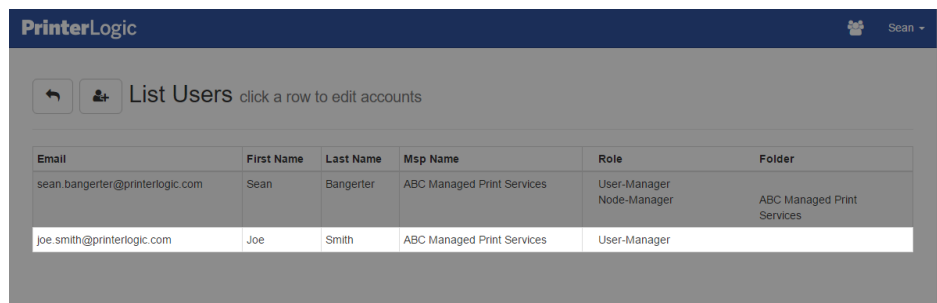


Figure 61

4. Click **Edit User Rights**.

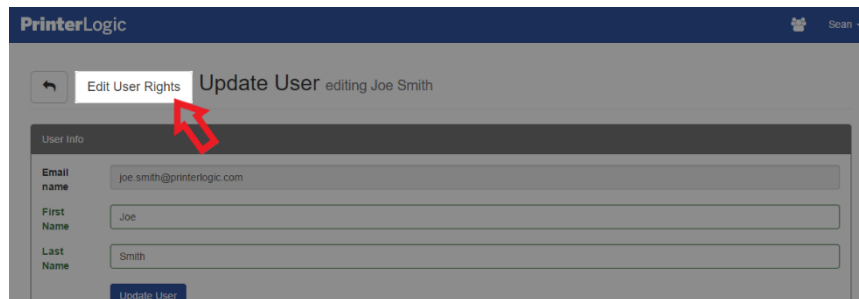


Figure 62

5. Click **This user is allowed to create, edit, and delete other users.**

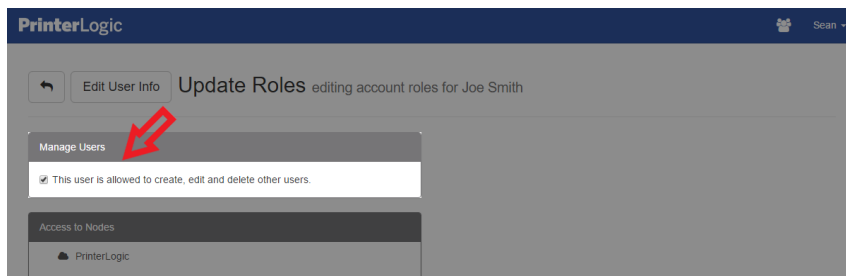


Figure 63

6. Click **Save.**

Apply User Access to Folders or PrinterCloud Instances

1. Log in to the Customer Management Portal.
2. Click the Users icon.

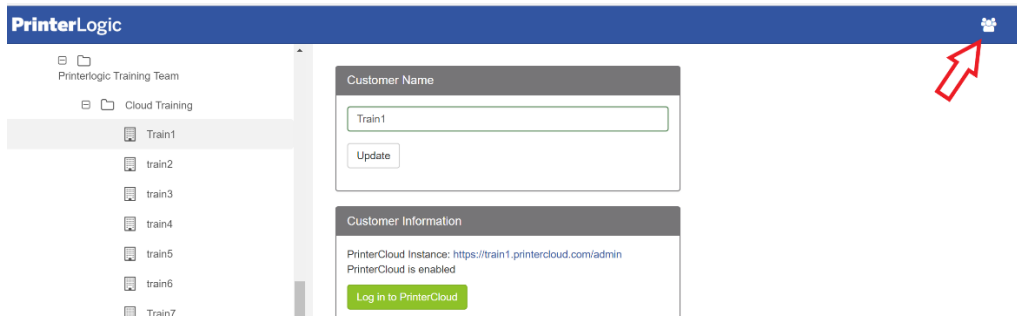


Figure 64

3. Click the user account for which you would like to apply access.
4. Click **Edit User Rights.**

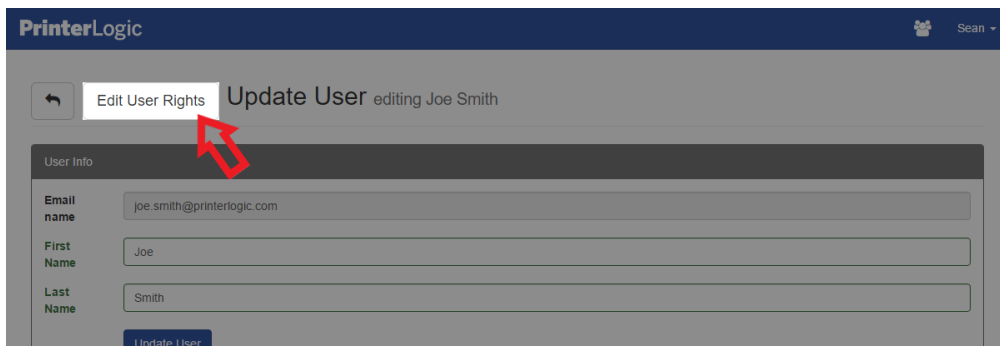


Figure 65

5. In the Access to Nodes section, enable the folders for which you would like to provide access.

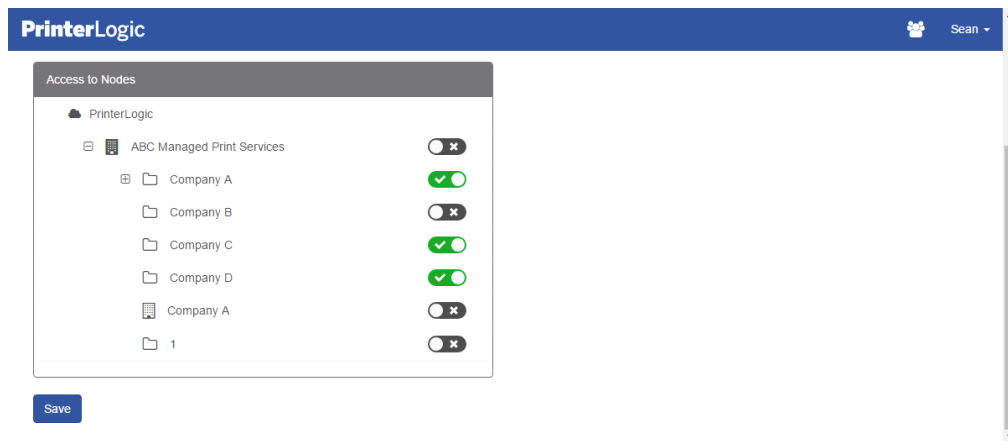


Figure 66

Enabling a parent folder automatically enables all the folders and PrinterCloud instances contained within that folder.

6. Click **Save**.

Calculate License Usage

The Customer Management Portal provides a table that display licenses usage in three different categories. This table is displayed on the landing page of the Customer Management Portal as shown In figure 67 below.

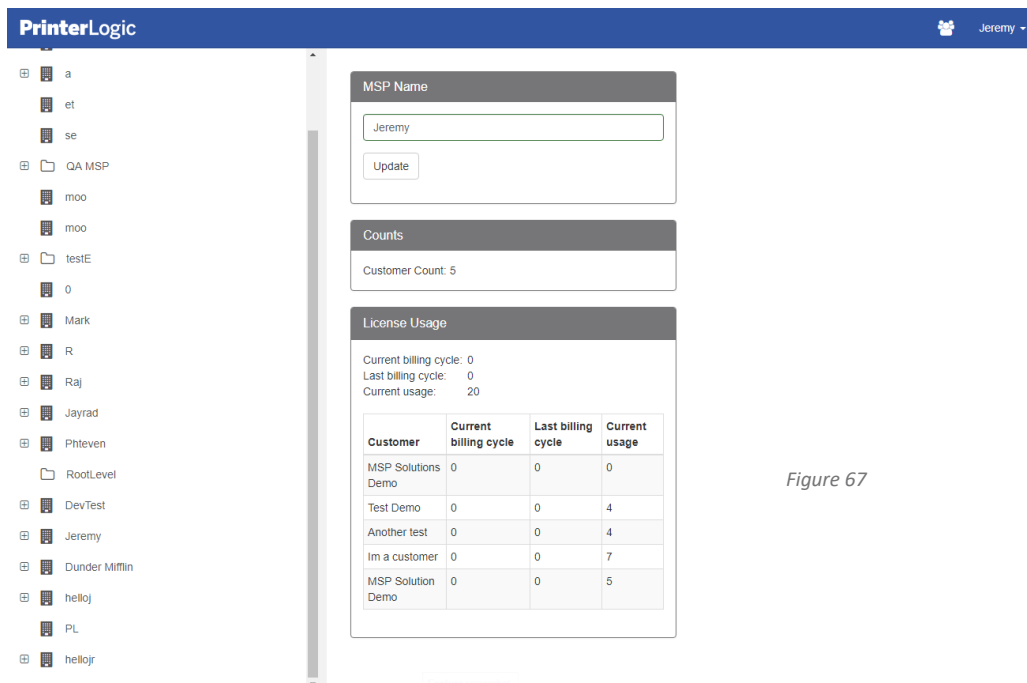


Figure 67

The license data is reported by the date the licenses are utilized rather than from the first to the last date of the month. In other words, if you start using licenses May 5, then the License Usage table will report

from May 5 to June 4 rather than from May 1 to June 1. The following sections identify the three sections of the License Usage table and the way in which billing for each is calculated.

Current Billing Cycle

The Current Billing Cycle captures the highest number of printers used in a single day for each instance and counts that number as your daily usage. The Customer Management Portal takes the daily usage for each day in the month and divides that number by the number of days thus far in the billing cycle to calculate the current billing cycle numbers. For example, let's say that Day 1 has a daily usage of 9, Day 2 has a daily usage of 10, Day 3 has a daily usage of 14, and day 4 has a daily usage of 7. Add 9, 10, 15, and 7, which equals 40. Divide this number by 4, and your current billing cycle would be 10.

Last Billing Cycle

The Last Billing Cycle is the average number of licenses used in the last billing cycle. Let's say, for example, your billing cycle runs between the 15th and 14th of each month, and the current date is June 25. The data that appears in this section will be for May 15 to June 14.

Current Usage

The Current Usage is a snapshot of the current number of licenses under management. This number is not an average.

Disable a Customer's PrinterCloud Instance

1. Log in to the Customer Management Portal.
2. In the tree, select a PrinterCloud instance.
3. In the Enable/Disable field, click **Disable**.

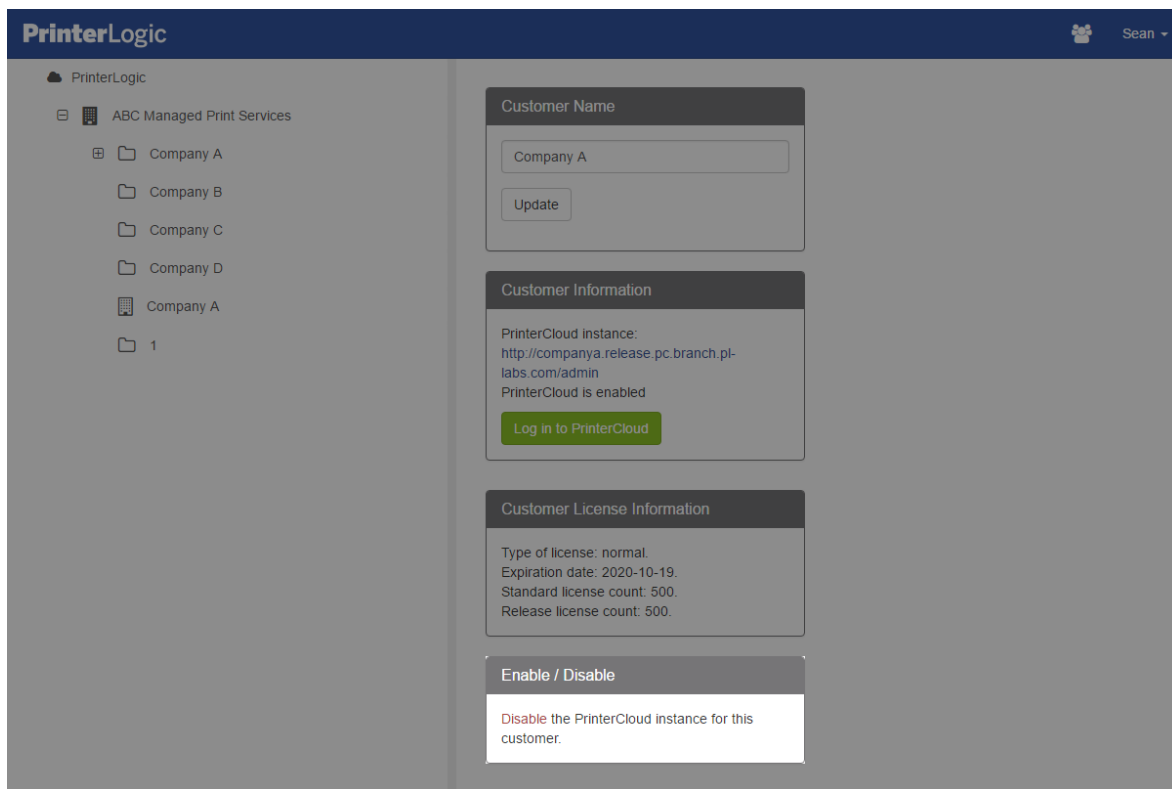



Figure 68

The Disable link will change to show **Enable**, which you can use to re-enable the PrinterCloud instance at any time.

 **NOTE:** Disabling an instance will not prevent the customer from printing but will disable the ability to log into and manage the environment. Billing usage will still be captured for billing purposes even if the

Chapter 3: Configuring PrinterCloud

This chapter presents the actions completed during trial installations. Printer objects are added into PrinterCloud either through an import option or they are manually created. We will outline three common methods for importing printers. First, we will complete an import of printers from a print server. Next, we will use PrinterCloud's network scanning tool to detect printers and export them into a CSV document. The finally We will then use this CSV document to import the printers into PrinterCloud. Finally, we will create a print server link.

The PrinterCloud administration console is web-based and enables administrators to manage printers across an organization from a single screen. After you log into the administration console, you will see that the left side of the administrator screen presents an empty area where the tree view will be created. The tree view should represent the organization and be logical to its topography. Larger organizations might have a tree structure that is ordered by country, state or region, building, and floor number.



If you are training individuals who are involved in design or statements of work, make a quick reference that this section might be part of the design and deliverables.

Creating Folders in Printer Tree View

The printer tree appears on the left side of the administration console and provides an organizational structure of the printers in your network. When you install PrinterCloud and log into the administration console, the printer hierarchy appears with the default root level folder named “My Company”.



All changes that require the “Save” or “Apply” button to be pressed are recorded in the administrative audit reports. These reports are covered in Chapter 8: Reports.

1. Open an instance of PrinterCloud with the root set of credentials.
2. Replace “My Company” with your company name. You can rename this later.
3. Click “Save” in the right corner of the webpage and then
4. Right-click the new “Company Name” folder on the left side of the screen.

Select New > Folder and add locations, floors, departments, and so forth.

Migrating from Print Servers to Managed Direct IP Printing

At PrinterLogic, our mantra is, “Eliminate print servers.” To achieve this, we will import printers from existing print servers into PrinterCloud. The ability to import printers from Windows print servers requires administrator rights to the print server and the ability to connect to administrative shares (Admin\$) on the print server. Network ports that must be open between the print server and the computer running the import tool include: TCP ports 135, 445, 443 and UDP ports 137, 138.

There are four possible options when importing printers. They are listed under Tools > Import/Export.

1. Select the first option: “Import Microsoft printers into PrinterCloud as Direct IP Printers”.
2. On the left side of the Microsoft Printer Importer tool there are three different methods to locate the printers contained on your print server.
3. Select the third option, “Double-Click Here to Specify a Host” (Figure 17).
 - a. In the pop-up screen, type the IP address or hostname of the print server (For the training class, your instructor will provide this to you).
4. Click the [+] sign next to the print server, which will then list all print queues set up on the print server.
5. Select the desired printers by using the CTRL or SHIFT keys, or click and drag over multiple printers.
6. To import the printers into a folder, select the folder on the right side and click the green import arrow located in the column between the two panes.
7. A notice window will pop up asking if you would like to start the queue. This is a PrinterLogic import queue and does not reference the actual printer queue on the print server.
8. After importing, you will see the printers queued in the bottom “Movement Details” pane. Each printer queue will undergo a nine-step import process. Depending on network speed and the size of the drivers, this can take between one to seven minutes per printer.

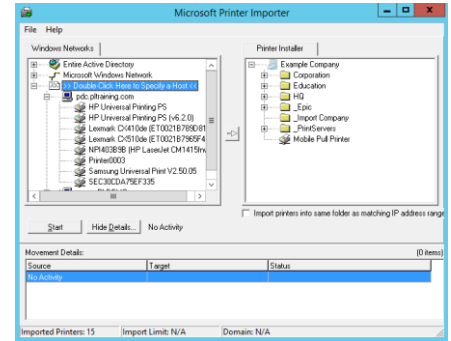


FIGURE 17

As each printer finishes copying, it will automatically be removed from the bottom queue. A green check mark will appear next to it in the left pane, and the printer will appear as a printer object in the destination tree view folder on the right with a green check mark next to it. If there is an error, it will be listed in the “Movement Details”.



If you are trying to import from a printer server that does not have TCP port 443 open; or you are not an administrator with read/write access to the print server; or you are trying to import a printer that is not on a standard TCP/IP port or has a Type 4 driver, the import will fail.

Migrating from Unmanaged Direct IP to Managed Direct IP Printing Using a CSV File

In this section, you will learn how to locate direct IP printers, generate a CSV file, and import that information into PrinterCloud. Not all customers will know the IP address of every printer. PrinterLogic has created a scanner tool for this purpose.



This option is normally used by those who do not have print servers and are using direct IP printing.

Download and Install the Applications

1. Download and then install LibreOffice onto the machine you are using. This will assist you with using the network scanner and the server scanner tool. This application will be used to edit the CSV file that is generated by the tools.

Using the Network Scanner

When using either of the scanning tools, PrinterCloud will run a utility on your local workstation or server that scans either a specific IP range if using the Network Scanning tool or a Server if using the Server Scanning tool. If using a workstation, It is important that the workstation you run these tools on is logged into with domain admin rights in order for the server scanner to work properly.

1. Open the PrinterCloud administration console and log in with your root account.
2. Select Tools > Import/Export > **Network Scanner**.
3. In the “Parameters” section, specify the discovery IP scopes. The discovery scope is the means by which discovery is configured to scan or exclude certain area(s) of the network.
4. Example Scope
Single: 192.168.1.2–192.168.1.2: public
Range: 192.168.1.1–192.168.1.255: public
5. Click “Scan” and the “Found Printers” pane will display any discovered printers that match the parameters.

a. Select “Export to CSV...”.

6. Open the exported printers CSV file using LibreOffice.

a. Press “OK” to accept the text import (Figure 18).

b. In Column A, fill out the folder path where the printers should be added. This path will be the name of the folder created in previous steps.

	A	B	C	
1	Printer Folder	Printer Name	Port Address	Mod
2		NPIC01E79	192.168.3.202	HP
3		Printer0003	192.168.3.203	Xero
4		NPI769BC2	192.168.3.204	HP
5		NPIA361D6	192.168.3.205	HP

c. Save the CSV file.



If you do not match the folder path exactly as you have it in

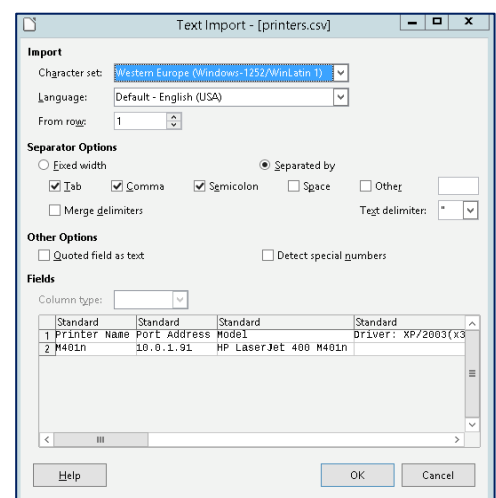


FIGURE 18

PrinterCloud (including all the spaces and upper-/lowercase letters), you will create new folders.

7. Open the PrinterCloud administration console.
 - a. Navigate to Tools > Import/Export > Data Manager.
 - b. Select the “Insert” radio button, the “CSV” format button, and the “TCP/IP Printer” data type. Click “Go” and on the next window upload your saved CSV file (see *Figure 19*).
 - c. Leave all the settings as they appear before you import. Then click “Import”.
 - d. A message will indicate whether the import completed successfully or with errors. If there are errors, you will be able to download the results along with an explanation of what was incorrect (see *Figure 20*).
 - e. The folder and printer object are viewable in the tree view. The rest of the configuration is covered in Chapter 4.

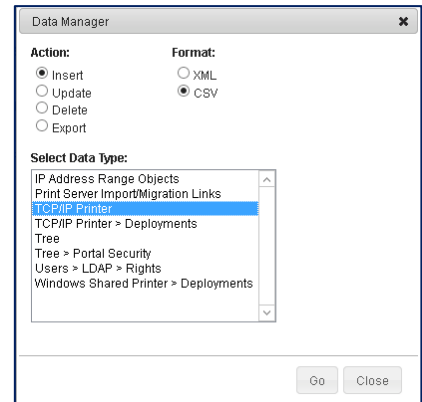


FIGURE 19

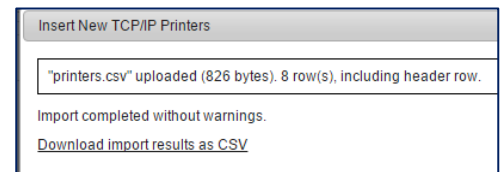



FIGURE 20

Manually Adding TCP/IP Printers


In this section, you will learn how to manually create TCP/IP printers in your tree view. This may be a necessary practice if you need to add or change out a single printer at a specific location.

1. Log into the Admin Console
2. In the tree view, select the parent folder for the printer object you are adding.
3. In the tree view menu, select **New > TCP/IP Printer**.
4. When the Add TCP/IP Printer window appears, type the name of the printer object in the Printer Name field.
5. Type the IP address or hostname of the printer.

 **NOTE:** While the printer name and the IP address/hostname are the only required fields to add a printer to the tree, the recommended best practice is to provide as much information as possible; i.e., location, comment, and driver(s). If you do not have drivers, you can upload them at a later time.

6. Click **Add**.

Create a Print Server Link

 **NOTE:** Use Windows Print Server Links if you are using software that requires the print queues on the print server to use a non-standard port. The standard TCP/IP port (9100) is the port PrinterCloud uses for installation. With PrinterCloud, you can use a standard TCP/IP port that will be RAW (default port 9100) or LPR (non-standard).

Although our ideal at PrinterLogic is to eliminate print servers, we realize that not every organization can do so immediately. The most common reasons for retaining the print server include the use of a software that leverages the print server, or a corporate policy that requires one. If the print server is required in your print environment, that does not mean that the other benefits of PrinterCloud cannot also be a part of your print environment. Windows Print Server Links are used for this very purpose.

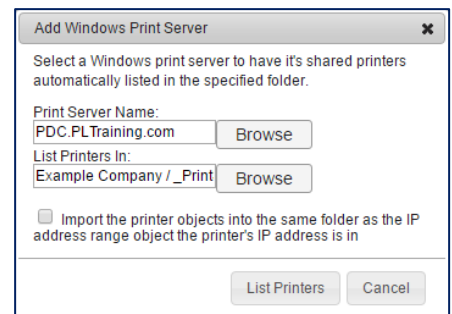
Windows Print Server Links enable you to manage a print queue so that another software can interact with the print job before it goes to the printer. In short, PrinterCloud is managing a print server as opposed to managing the share queue. Furthermore, a special port is not required, and you get the benefit of having PrinterCloud manage the drivers and installing the printers on workstation while having the print job go through the print server.


PrinterCloud cannot manage security, namely user access to a printer through a Windows Print Server Link. You can configure security settings in the Admin Console so to show or hide different printers for different users. In other words, use Portal Security to restrict who can see and install a printer from the portal. However, the end-user would be able to log in to the server to see and install the printers directly from the server. As such, security is something you will have to manage manually, outside of PrinterCloud. If security is a big issue, then you may reconsider having the print server and reevaluate using PrinterCloud to manage your print queue as well as your printer deployment.

 This will install the PrinterCloud client agent on the print server you are linking with.

Windows Print Server Links are set up in the Admin Console under **Tools > Windows Print Server Links**. Log into the administration console.

1. Go to Tools > Windows Print Server Links and click “Add”.
2. Click “Browse” in the “Print Server Name:” section. In the following pop-up window, type the print server name and click “OK”.
3. Click “Browse” in the “List Printers in:” section and select the folder in which the printers should be listed. We recommend you create a new folder specifically for your printers linked to Windows Print Server.
4. Click “List Printers”. This will create the link so that you can manage those printers.



 The management tools will be different when using the Windows Print Server links. You will be able to view the general information, manage queues, automatically deploy printers, gather SNMP status, set up email SNMP error alerts, and have the printers published on the self-service portal page. This will allow you to easily add the shared printer to your devices and printers. You will not be given the ability to manage the drivers and profiles of those printers.

Chapter 4: Administrative Configuration

In this chapter, you will configure PrinterCloud with the most common configurations of its core functionality. This information will be used again later for advanced modules.

Role-Based Access Control Using Active Directory Accounts

Role-based administration allows you to assign both pre-packaged (standard) and user-defined (custom) permissions. When you add a user to the Administrative Users list (Tools > Users page), the user will only have read access to the PrinterCloud administration console. To assign permissions to users, specify the user role type (administrator or non-administrator).

Administrator Type Users

Administrators can do anything anywhere in the tree. They can add/remove other users and configure any website settings. They can reset passwords of other users (including administrators) but cannot reset the password of the root PrinterCloud account. Administrator type users are granted administrator rights to all objects in the tree.

Non-Administrator Type Users

Non-administrator type users only have read rights to the PrinterCloud administration console. When assigning the role assignment type, you can click “Add” to specify folders the users have permission to access and then specify either a standard or custom role to assign them. You can also allow users to have standard or custom permissions to objects by adding the user to the “Administrative Security” tab of an object.

Configuring PrinterCloud for Active Directory

1. Open the administration console and log in.
2. In the upper right select Tools > Settings > General.
 - a. Scroll down to the “LDAP Authentication” section and click “Add”.
 - b. Type your domain name and press the TAB key on your keyboard to autofill the next two lines.
 - c. Add your Primary LDAP Server
 - d. Click “Test Settings” (see *Figure 22*) You should see a success message pop up. We are looking for a green check in the first section. The other sections are not relevant until we set up Pull Print or Mobile Print features.
 - e. Click “Apply” and then “Save” at the top right corner of the webpage.
3. Return to the LDAP setting in Step 2.
 - a. Choose “Default domain when logging in:” and list your newly created domain.
 - b. Click “Save”.

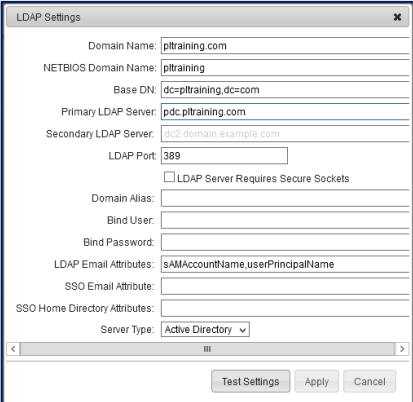


FIGURE 22

Adding Active Directory Users to the Administrative Users List

To add AD users or groups to the administrative users list and allow administrative access to the PrinterCloud administration console, follow these steps:

1. Click on Tools > Users.
2. Click “Add User” and then click “AD Group/User”.
3. In the “Select Users or Groups” window, do the following:
 - a. Type your AD username
 - b. Press “Check Names” and “OK”.
 - c. Select the Administrator radio button and click “OK”.
4. Select the “root” account name in the top right corner of the webpage and select “Logout”.



For the remainder of the training, use the Active Directory login.

5. Login with your username and password

Manage Drivers/Profiles

Driver Management: Individual Printers

In Chapter 3 you learned how to find direct IP printers, generate a CSV, and import that information into PrinterCloud by creating a folder and printer without any printer drivers. In this exercise, you will learn how to manage drivers and profiles on an individual printer.

1. In the administration console, navigate to the imported printer object.
 - a. Select the “Drivers/Profiles” tab.
 - i. It is grouped by operating systems so that you can customize the driver/profile deployment.
 - b. Click the drop-down arrow for the Windows 8/10/2012/2016 64-bit driver. It will list the drivers you currently have in the repository.
 - c. Select the driver you want to apply to the printer.
 - d. If you need to add a new driver, just click “Upload New Driver”.
 - e. Browse to the location of the INF file on the machine or in your network and follow the instructions in PrinterCloud to add the driver.
 - f. Press “Save”.

Driver Management: From Driver/Profile Repository

1. Select Tools > Driver/Profile Repository.
2. Click “Upload” to upload a new driver.
3. To replace a driver in use by printers, select the driver and click “Replace” below “Tools”.

You can choose to replace it with a driver you already have in the repository.

SNMP Status Monitoring

1. Click on Tools > Settings > General.
2. Ensure that “Enable SNMP Status Monitoring” is checked.
3. Leave all other defaults as they are.

SNMP Alerts

1. Stay in Tools > Settings > General.
2. Go to “SNMP Alerts” and check the box to enable email alerts.
3. In the “Email (SMTP) Settings” section, fill out the following (see *Figure 23*):
 - a. “From” Address: (Use a service account for this)
 - b. Server Host: (The address of your email server)
 - c. Server Port: 25
 - d. Username is blank and so is the password.
 - e. Use “None” for the security settings and click “Test SMTP Connection”.
 - f. Click “Save”.

The screenshot shows the 'SNMP Alerts' and 'Email (SMTP) Settings' configuration interface. The 'SNMP Alerts' section is at the top, followed by the 'Email (SMTP) Settings' section.

SNMP Alerts

- ☒ Enable e-mail alerts
Use the "Alerts" tab on folders/printers to control alerts.
- By default, SNMP alerts for each printer:
☒ On ☐ Off
- When a potential problem is detected:
Do not send an alert until seeing the error (*see "SNMP Status Monitoring" settings)

Email (SMTP) Settings

Outgoing Mail (SMTP) Settings

"From" Address:

Server Host:

Server Port:

Username:

Password:

Security:

FIGURE 23

PrinterCloud Client Settings Configuration

Prior to deploying the client, which will be discussed in chapter 5, you must configure the PrinterCloud client settings. These settings give you options to determine important things such as how often the client checks in with administrative console, what shortcut options are displayed in the start menu and the when you click on the client agent icon, and how client updates are performed to mention just a few. The most common settings will be discussed here:

1. Open the administration console and log in.
2. Click Tools > Settings > Client.
 - a. Client Check-in section.
 - i. Enable “Client Check-in at Startup” and log on.
 - ii. For this class, enable client check-in every [1] minute. Default setting is 240 minutes.
 - iii. Click “Save”.
 - b. Windows Shared Printer Settings section
 - i. These options determine how printers are added and removed from the workstation. No further setting changes will be made, but this is very important behavior for the client.
 - c. Shortcut Options
 - i. the Windows System Tray may or may not be populated with a [Printer Installer icon](#). The appearance of the icon in the Windows System tray are also dependent on whether they are made available through the Admin Console [Shortcut Options](#). If the icon does appear, the end-user can click it to open the Self-service Portal, which the end-user can use to install printer drivers on their workstation. The end-user can also right-click the icon in the System Tray and then select from a number of different options to [add printers](#), delete printers, select a default printer, open the Release Portal, and others.
 - d. Client Update
 - i. The PrinterCloud client is updated regularly for improvements. As such, you can update the client both manually and automatically. The manual update enables you to download the latest update (.exe, .msi, .pkg and .deb), which you can email to end-users or place in a location on your network that they can use to update the client on their workstations. Another update option is to update the client on the server, so the next time the end-user logs into the client or refreshes their browser, the client will automatically update. The third option is to update the client via command prompt, GPO, etc.
 - e. Microsoft Printer Conversions
 - i. For a smooth roll out and conversion from shared printers into managed direct IP, the box labeled “Enable PrinterCloud Client to convert end user’s...” should be checked.

3. Click "Return to Tree View".

If you are installing the client with a Group Policy Software Package

1. Open File Explorer and navigate to `c:\inetpub\wwwroot\public\client\setup` folder on the web server. In the folder is a `config.ini` that is used to specify the home directory of the client, so that the client knows what page to open to when users click the Start, programs, PrinterCloud, "Add Printer" item or the system tray icon. Only the home directory value is required. Example:
`HomeURL=http://printers.domain.com`
2. Edit the `config.ini` file to reflect your webserver url, then place `C:\inetpub\wwwroot\public\client\setup.msi` and the `config.ini` file (`c:\inetpub\wwwroot\client\setup.msi`) in a distribution folder. Click "File" and "Save".
3. For more information reference the steps in this article <http://support.microsoft.com/kb/816102> to setup the Group Policy Software Installation Package

Chapter 5: PrinterCloud Client

Install the Client on a Windows Workstation

- To manually install the client visit the portal and click on the Install Client link in the top right corner. Run the installation file that is downloaded.

Install the Client with a Third-party Application

Run the PrinterInstallerClient.msi with the following command line parameters:

```
\\servershare\PrinterInstallerClient.msi /qn HOMEURL=https://PrinterCloudPortalURL  
AUTHORIZATION_CODE=code
```

or

```
msiexec.exe /i PrinterInstallerClient.msi /qn HOMEURL=https://PrinterCloudPortalURL  
AUTHORIZATION_CODE=code
```

- PrinterInstallerClient.msi can be retrieved from the Admin Portal in **Tools > Settings > Client** under the Deployable Client Packages section.
- The /qn command runs the install silently
- You can copy the PrinterInstallerClient.msi to a different distribution point.
- If installing on a multi-user environment such as Terminal Services or Citrix XenApp, you will need to configure the client for Remote Desktop Services mode.
- For more information on the authorization code, see [Device Authorization](#).

Install the Client with a Group Policy Software Package

1. Open the C:\inetpub\wwwroot\public\client\setup folder on the web server. In the folder is a config.ini that is used to specify the home directory of the client, so that the client knows what page to open to when users click the Start, programs, PrinterCloud, "Add Printer" item or the system tray icon. Only the home directory value is required. Example: HomeURL=http://printers.domain.com
2. Edit the config.ini file to reflect your webserver url, then place C:\inetpub\wwwroot\public\client\setup.msi and the config.ini file (c:\inetpub\wwwroot\client\setup.msi) in a distribution folder.
3. Follow the steps in this article <http://support.microsoft.com/kb/816102> to setup the Group Policy Software Installation Package

Install the Client on a Mac Workstation

The following script downloads the PrinterCloud client and installs it on a MAC. Additionally, the script authorizes the device with an authorization code included in the script as shown below.

```
curl -o /tmp/PrinterInstallerClientSetup.pkg  
"https://[yourDomain].printercloud.com/client/setup/PrinterInstallerClientSetup.pkg" && sudo installer -  
allowUntrusted -pkg /tmp/PrinterInstallerClientSetup.pkg -target / && sudo  
/opt/PrinterInstallerClient/bin/set_home_url.sh https [yourDomain].printercloud.com && sudo  
/opt/PrinterInstallerClient/bin/use_authorization_code.sh [yourAuthCode]
```

Install the Client on a Linux Workstation

NOTE: Pull print jobs cannot be released on Linux machines that are not currently using Cups 2 or newer.

Get the client install .deb file from the server:

- (32-bit) `wget http://HOME_URL_PATH/public/client/setup/printerinstallerclient_i386.deb`
- (64-bit) `wget http://HOME_URL_PATH/public/client/setup/printerinstallerclient_amd64.deb`

In place of HOME_URL_SCHEME enter either http or https as appropriate.

In place of HOME_URL_PATH enter the home path to the server (such as printers.domain.com)

Install the Client and set the home url with the following command:

- (32-bit) `sudo dpkg -i printerinstallerclient_i386.deb || sudo apt-get -f install && sudo /opt/PrinterInstallerClient/bin/./set_home_url.sh HOME_URL_SCHEME HOME_URL_PATH`
- (64-bit) `sudo dpkg -i printerinstallerclient_amd64.deb || sudo apt-get -f install && sudo /opt/PrinterInstallerClient/bin/./set_home_url.sh HOME_URL_SCHEME HOME_URL_PATH`

If you are on a 64bit HP ThinPro device you will install the Client with the following command: `sudo dpkg -i printerinstallerclient_amd64.deb || sudo apt-get -f install && sudo /writable/opt/PrinterInstallerClient/bin/./set_home_url.sh HOME_URL_SCHEME HOME_URL_PATH.`

If you are on a 32bit HP ThinPro device you will install the Client with the following command: `sudo dpkg -i printerinstallerclient_i386.deb || sudo apt-get -f install && sudo /writable/opt/PrinterInstallerClient/bin/./set_home_url.sh HOME_URL_SCHEME HOME_URL_PATH.`



PrinterCloud Client install methods [Documentation](#)

Chapter 6: Device Authentication

Setting up an Authorized Device

A cloud-based server needs a way of securely communicating with the client on an end-user's workstation. In other words, a client installed on an end-user's workstation needs to be "authorized" to communicate with the server. PrinterCloud uses the Authorized Devices feature to create a specialized code that provides a token that the client uses to be authorized. Figure 8 below, shows the Generate Authorization Code feature in the Admin Console.

Each code is authorized for a specific period of time. Expiration lengths include 30 minutes, 60 minutes, 2 hours, 24 hours, 48 hours, and No Expiration. If you want the code to be used quickly, then you will select the shorter time period. If it does not need to be used right away, you can set it for a longer time period. After the code is generated, it is displayed in the Active Authorization Codes section, where you can see the actual code, the expiration length, and the date and time the code will expire. If the code is not used by the date and time in the Expiration Date column, then it will be removed from the list of codes in the Active Authorization Codes section. When a code is used, it displays in the Active Devices section.

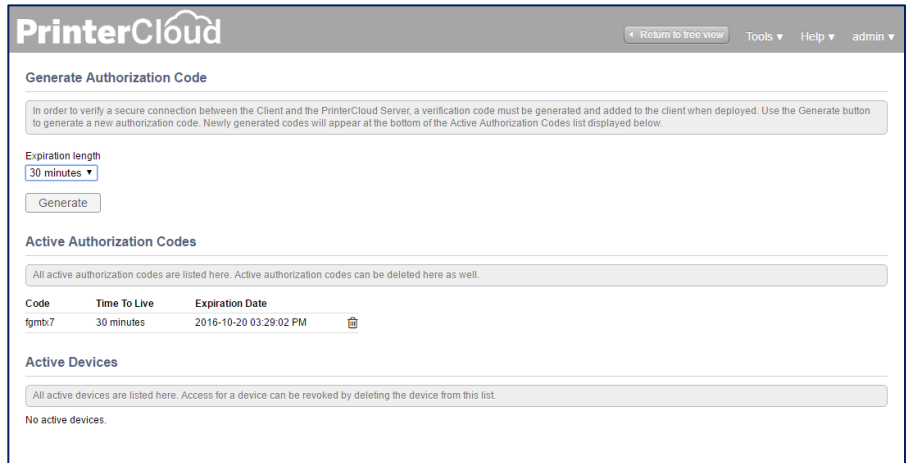


Figure 8

NOTE: A code can be used by multiple end-users because it provides the workstation with a token for authorization. Think of the code as a coupon. Many end-users can turn it in for a product or service up to a specific date/time.

There are three ways in which a client can be validated with the server. First, if the end-user has administrator access to the Admin Console, then they are recognized as having an acceptable level of access and will be authorized. The second option is configuring the authorization by Group Policy Object (GPO) or deployment product. The third line authorizes end-users from the Self-service Portal. When an end-user clicks the link to install a new printer, then a window will appear, requesting the code from them. For more information on the deployment, see Authorize the Client on a Workstation. The Figure 9 shown on the right is the authorization code request that will appear in the Self-service Portal. All these options authorize the client on the end-user's workstation to communicate with the PrinterCloud server.

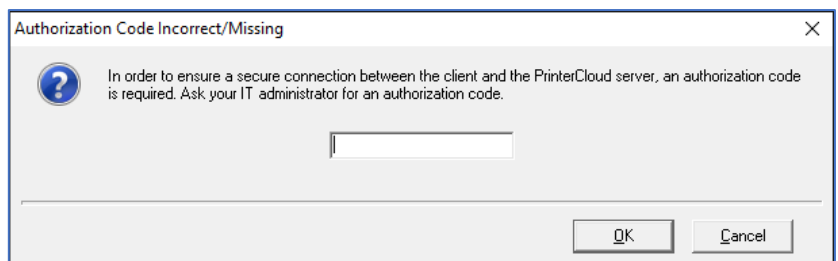
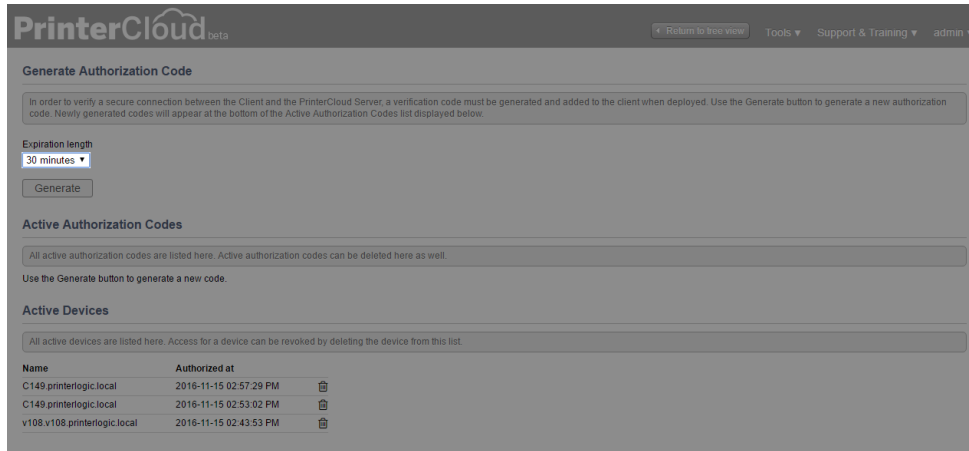


Figure 9

Step 1 - Generating an Authorization Code

! NOTE: Device Authorization does not require any additional configuration steps such as setting up SNMP, SMTP, or LDAP to function properly.

1. Log in to the Admin Console.
2. Click **Tools > Authorized Devices**
3. In the Expiration Length Field, select the amount of time the code will be valid before it expires.



PrinterCloud beta

Return to free view Tools Support & Training admin

Generate Authorization Code

In order to verify a secure connection between the Client and the PrinterCloud Server, a verification code must be generated and added to the client when deployed. Use the Generate button to generate a new authorization code. Newly generated codes will appear at the bottom of the Active Authorization Codes list displayed below.

Expiration length
30 minutes ▼

Generate

Active Authorization Codes

All active authorization codes are listed here. Active authorization codes can be deleted here as well.

Use the Generate button to generate a new code.

Active Devices

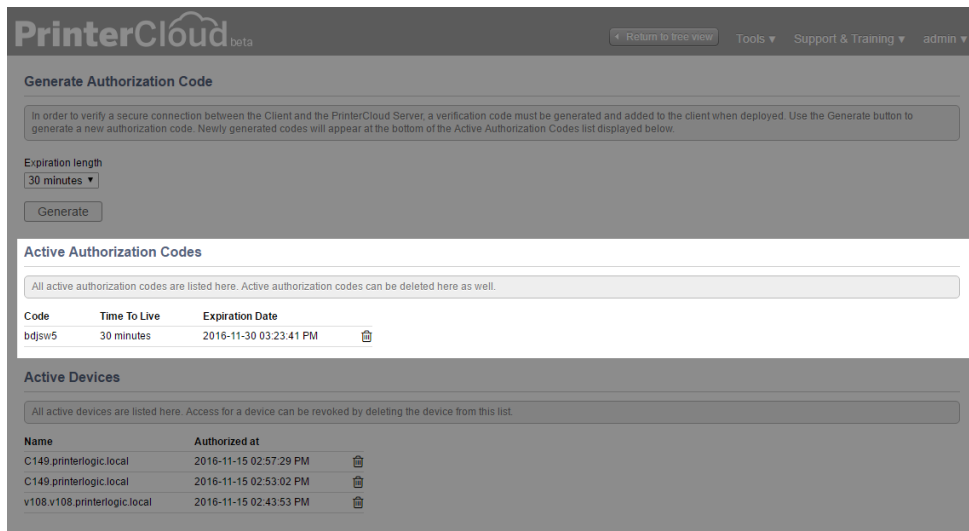
All active devices are listed here. Access for a device can be revoked by deleting the device from this list.

Name	Authorized at	
C149.printerlogic.local	2016-11-15 02:57:29 PM	
C149.printerlogic.local	2016-11-15 02:53:02 PM	
v108.v108.printerlogic.local	2016-11-15 02:43:53 PM	

Figure 10

4. Click **Generate**.

The code will appear in the Active Authorization Codes field as shown below.



PrinterCloud beta

Return to free view Tools Support & Training admin

Generate Authorization Code

In order to verify a secure connection between the Client and the PrinterCloud Server, a verification code must be generated and added to the client when deployed. Use the Generate button to generate a new authorization code. Newly generated codes will appear at the bottom of the Active Authorization Codes list displayed below.

Expiration length
30 minutes ▼

Generate

Active Authorization Codes

All active authorization codes are listed here. Active authorization codes can be deleted here as well.

Code	Time To Live	Expiration Date	
bdjsw5	30 minutes	2016-11-30 03:23:41 PM	

Active Devices

All active devices are listed here. Access for a device can be revoked by deleting the device from this list.

Name	Authorized at	
C149.printerlogic.local	2016-11-15 02:57:29 PM	
C149.printerlogic.local	2016-11-15 02:53:02 PM	
v108.v108.printerlogic.local	2016-11-15 02:43:53 PM	

Figure 11

Step 2 – Securely Authorize the Client on a Workstation

Authorization codes enable the client on an end-user's workstation to securely communicate with the PrinterCloud server. The first two options apply the code to the client, while the third process automatically authorizes the client by virtue of their administrator access to the Admin Console.

Deploy the Authorization Code Automatically

Use the following command to deploy to one or more workstations:

```
msiexec /i PrinterInstallerClient.msi HOMEURL=http://PrinterInstallerPortalURL REINSTALLMODE=vomus REBOOT=ReallySupress REINSTALL=ALL AUTHORIZATION_CODE=add the generated code here /norestart
```

End -User Authorization

End-user authorization occurs from the Self-service Portal when the end-user attempts to install a printer. In this case, the following image appears, requesting the code from the administrator. By entering the correct code, a token will be placed on the end-user's workstation, and the name of the workstation will appear in the Admin Console, specifically in the Active Devices section. When the administrator removes the code from the Active Authorization Codes field, then the client will no longer be able to connect to the server.

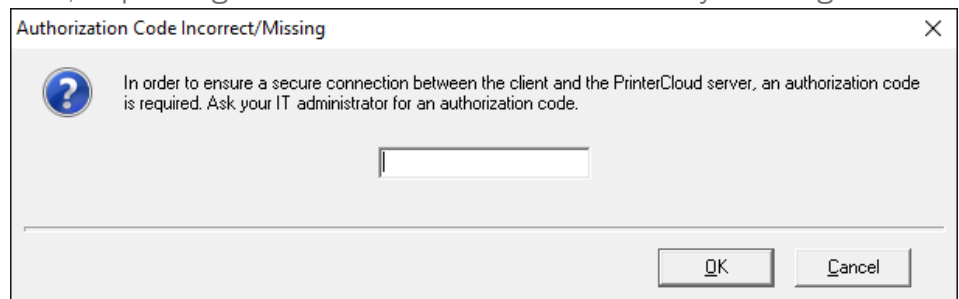


Figure 12

Auto-Authorize via Admin Console Access

If the end-user is logged into the Admin Console with administrator-level permissions, then the PrinterCloud server will automatically assign a token to their client to provide secure communication between the client and PrinterCloud.

After a device has been authorized with a code, the name of the device will appear in the Generate Authorization Code window under the Active Devices section as shown below.

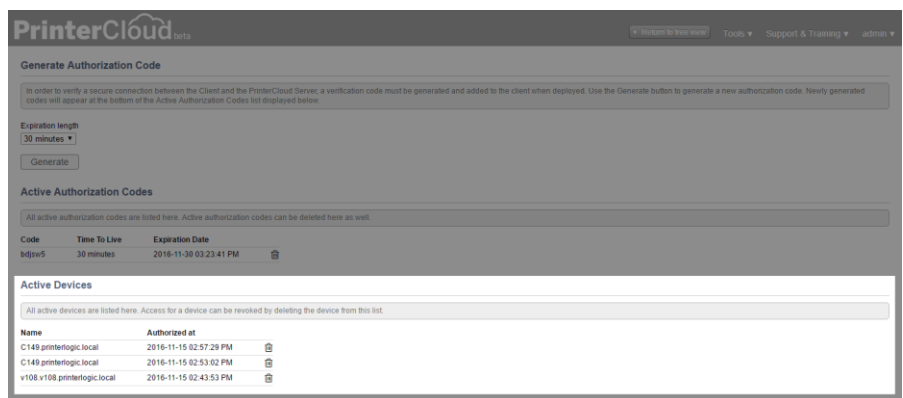


Figure 13

Any workstations connected to the device will remain in the list and be connected to the server until you remove them manually. In other words, even if the code expires, the workstations connected to the PrinterCloud server will remain connected until you remove the workstation name from the Active devices list. Furthermore, after the code expires, no additional workstations can use the code to connect to the sever.

Resetting a Password

In the event you have forgotten your Admin Console password, you can request a password reset link, which the system will send to you via email. The figure 14 to the right shows the login credentials window. Take notice of the Lost Password link in the lower left corner. Keep in mind that you do not need to enter any information in the Username or Password fields. Just click the link to begin the password reset process.

When you click the Lost Password link, you will be redirected to the [Forgot Password window](#) that enables you to enter the email account associated with the user account you are attempting to use to log in to the Admin Console.

Clicking **Reset Password** enables the system to search for a matching email address. If one is found, a password reset link is sent in an email to the email address. Click the link in the [email](#) to enter the new password. Any login attempt thereafter will require the new password instead of the old one.

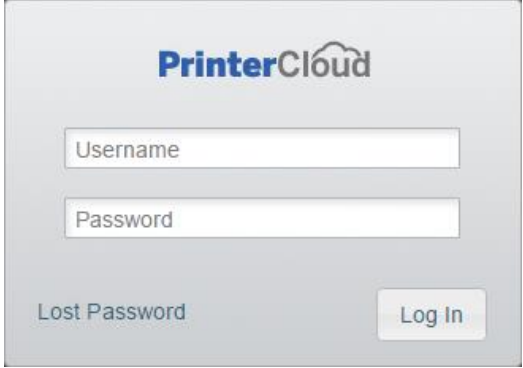
The image shows a login window for PrinterCloud. At the top center is the "PrinterCloud" logo. Below it are two input fields: "Username" and "Password". In the bottom left corner, there is a link labeled "Lost Password". In the bottom right corner, there is a button labeled "Log In".

Figure 14

Disabled Account

If your account is disabled for any reason, the message you receive varies depending on whether you attempt to log in to the Admin Console, Self-service Portal, or the Release Portal. The message that appears when you attempt to log in to the Admin Console provides direct access to [options](#) to contact your PrinterLogic support representative to resolve the issue as shown in figure 15 below.

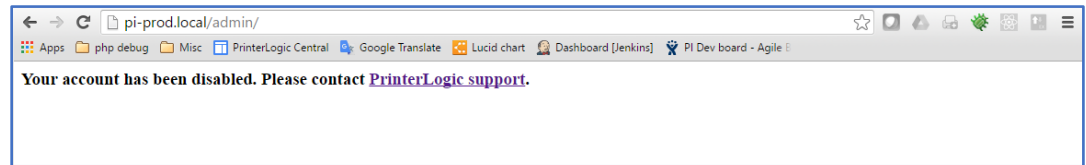


Figure 15

While the account is disabled, any end-users attempting to log in to the Self-service Portal or the Release Portal will also receive a message explaining that the portal is disabled and to contact the IT team for your organization as shown in figure 16 below.

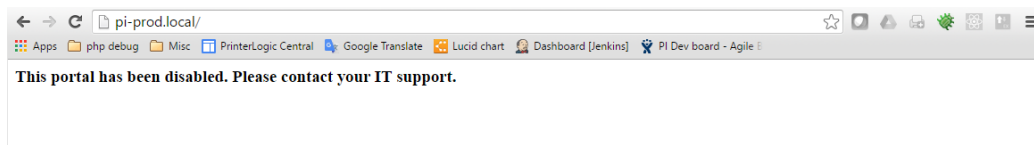


Figure 16

A resolution of the account issue will prevent the account issue notification from displaying further in the Admin Console and in both portals.

Chapter 7: Set up Printers for Auto-Deployment

At this point, you are ready to either direct end users to the self-service portal or to auto-deploy printers. Every organization has its own preferences, so we will go through each of the methods of how this can be set up.

Auto-Deploy: Active Directory

You can automatically push out printers using your own Active Directory settings. Click on the printer object in the tree structure, go to the “Deploy” tab, and click “Add” (Figure 24). The first option will allow you to select anyone from your AD User, Computer, Group, Container or OU. Those you add into this list will receive this printer automatically in the background. If you want, you can select the “Set Default” drop-down and make this printer their permanent default or just the first time it is pushed out. This does not require a reboot of the computer receiving the printer.

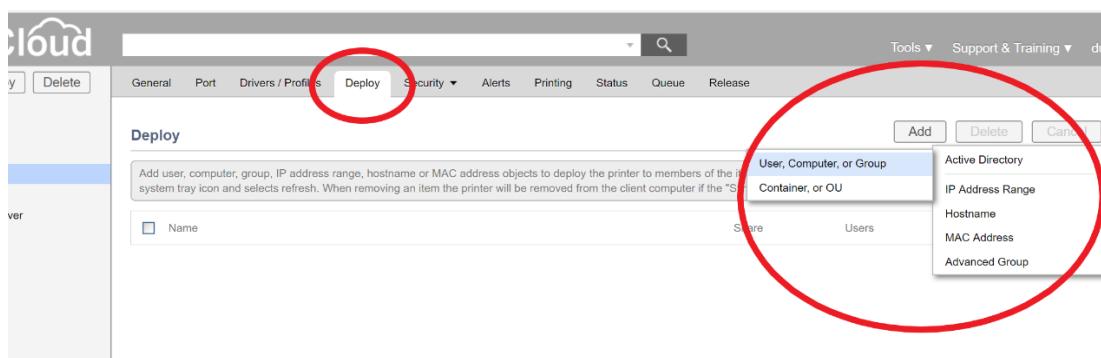


Figure 24

Auto-Deploy: IP Address Range

To make it easier for your IT staff to accommodate traveling employees, you can select an IP address range whereby any computer that enters that range will automatically receive a set of printers. First you need to create a range object in your tree structure, then you can deploy to that range.

When you are ready to set up IP ranges, go to the tree structure in the PrinterCloud administration console. Right-click the folder that the IP range covers and select New > IP Address Range. Name it and then specify the range (see Figure 25)

A screenshot of the 'IP Address Range' dialog box. It has a title bar with a close button. Inside, there is a text field for 'IP Address Range Name:' with the value 'Corporate Range'. Below that is a section for 'IP Address Range:' with two sets of input boxes. The first set contains '192', '168', '6', and '1'. The second set contains '192', '168', '6', and '254'. There is a 'to' label between the two sets. At the bottom right are 'Add' and 'Cancel' buttons.

FIGURE 25

Go to the IP address range object you just created, select the “Deploy” tab, then click “Add Printer” to see the list of printers to deploy to those computers in that range. You can also go into the printer object, go to the “Deploy” tab, and click Add > IP Address Range. Select “Search”, then select the IP range to which the printer should be auto-deployed (see *Figure 26*).

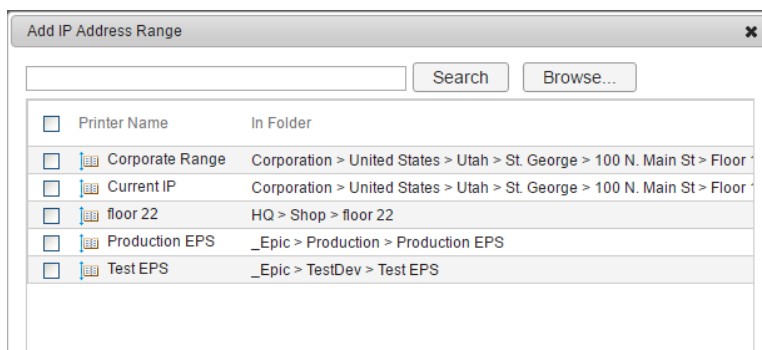


FIGURE 26

Auto-Deploy: Hostname and MAC Address

You can specify the hostname or even the MAC address of the computer to which you want to deploy a printer. Go to the printer you want to auto-deploy, select the “Deploy” tab, click “Add”, and then select either hostname (Figure 27) or MAC address (Figure 28) and fill out the applicable information.

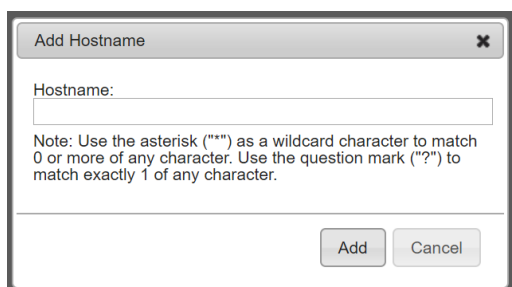


Figure 27

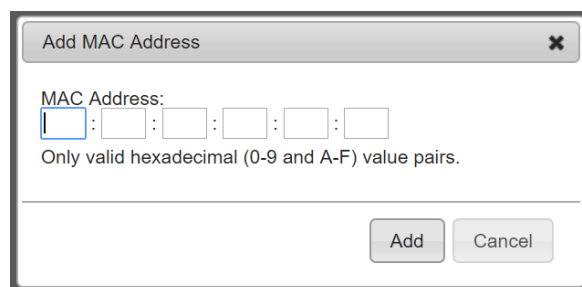


Figure 28

Auto-Deploy: Advanced Group

An Advanced Group deployment is a combination of multiple deployment rules to create one dynamic deployment rule. The end-user must meet the requirements of the rule for installation to occur. You can include or/and exclude certain deployment methods as part of the Advanced Group deployment.

You must create an Advanced Group first and then you will be able to use it for auto deployment through the deploy tab. To create one, go to **Tools > Advanced Groups** and select “Add” at the top right of the screen. Give the group a name and description and click “Save”. Select a rule type from the Value drop down menu and select whether the criteria should be included or excluded as part of the deployment. After saving the Advanced Group, you can go to a printer object, select the “Deploy” tab and the Advanced Group option is at the bottom to specify the newly created group.

Auto-Deploy: Multiple Deployments

If you have multiple deployments, the computer or user will only receive one copy of the printer and not one printer per deployment.

Chapter 8: Set up Self-Service Installation Portal

When using the self-service portal, there are a few things we can do to make the experience pleasant for the end users as well as the IT administrators. We will explain how to set up security so only authorized users can access printers or folders, how to allow end users to be directed to the applicable folder automatically when visiting the self-service portal, as well as how to add the floorplan maps and adjust the icons. The easiest way to invoke the self-service portal is to click the client agent running in the system tray. This will open the self-service webpage in your default browser. It can also be accessed by typing the correct URL into the address line of your web browser or placing a shortcut on the desktop of the client workstation.

Self-Service: Set Portal Security

Setting portal security will allow IT administrators to limit access to folders and printers.

1. Select a printer object or folder.
2. Go to the “Security” tab and hover the mouse over it.
3. Select “Portal Security” (by default the “Everyone” category is listed).
4. To limit access to the object, un-check the “Include Inherited Security” box.
5. Next click “Add” in the right corner and select the category of end user that should have permission to view the folder or printer.
6. Click “Save”.

Self-Service: Add a Map

The floorplan maps are displayed on a webpage, so the required image type is JPG, PNG, or GIF. Maps will need to be created before upload is possible. Printer icons can be placed on the maps within the Administrator Console. After following the steps to upload the map, Select the folder with which the map will be associated.

1. Click the “Map” tab.
2. Click “Upload Background Image”.
3. Follow the prompts to upload the image.
4. In the box to the left the printer objects of that folder are listed. Click and drag those icons onto the map to show them on the self-service page.
5. Click “Save”.

Self-Service: Resize Print Icons on Map

1. Right-click a printer icon that has been placed on the map.
2. Select the size (small, medium, or large).

Self-Service: Customize Company Logo

Supported image types are PNG and JPEG. The max file size is 1 MB. The logo will automatically be resized to fit a width of 340px and a height of 66px.

1. Sign into the PrinterCloud Admin Console.
2. Select Tools > Settings > Portal
3. Go to “Header” section and click on “Choose File”
4. Browse to location of file you want to upload and select it and then select “Open”
5. Click on “Upload”

Install a Printer

1. Open the Windows 10 workstation.
2. Click on the PrinterCloud agent in the system tray.
3. Select a printer on the map and click “Install Printer” (see *Figure 29*).

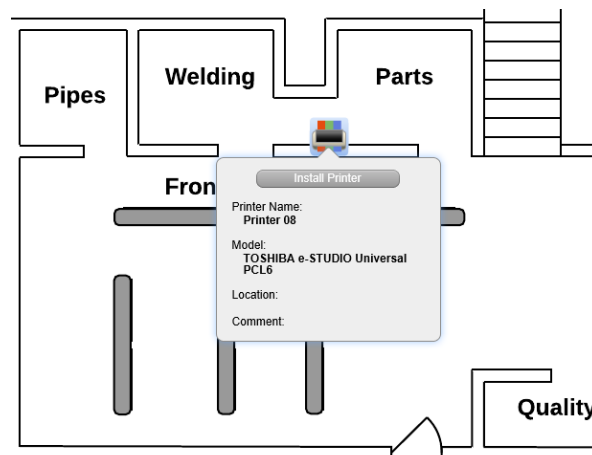


FIGURE 29

4. Verify that the printer has successfully installed.

Chapter 9: Reports

For this section you will want to find a document to print out. To see the best results, it is best if the document has color items in it and multiple pages in length. Once you have found a document, print it out to one of the existing color printers. This will provide data for the Print Job Record reports.

Print Job Record

A print job record report will show the print statistics (e.g., pages printed, black and white, duplex, simplex). The reports will start to be generated as soon as the client agent is deployed to the workstations.

View Print Job Records

1. Go to Tools > Reports > Print Job Records.
2. Select the desired report type and fill out the desired date range.
3. Click “Run Report”.
4. To export any report (except the Overview – All) as a CSV, click “Export”.

Schedule Print Job Records

1. Go to Tools > Reports > Print Job Records.
2. Select the desired report type and fill out the desired date range.
3. Click “Schedule Report”.
4. Give it an appropriate name, fill out the recipients, and set the time schedule for when it should run. Finish by selecting the “Run initial report now” and clicking “Schedule Report”.
5. You can see each scheduled report in the “Scheduled Reports” tab in Tools > Reports > Print Job Records. Here you can edit and delete reports or simply view their details.

Print Cost Associating

1. Navigate to Tools > Print Job Costs.
2. In the “Default Costs” template, select the [+] button and choose “Letter” paper size.
3. Give the cost per page you want and click the “Save” icon to the right of the “Color Duplex” field.
4. To create a custom template, select “Add New Template” and fill out the information as in previous steps.
5. Select “Return to Tree View” to the left of Tools and select a printer object.
6. In the “General” tab at the bottom is a section titled “Print Job Costing”. Here you can adjust the default template for an individual printer.
7. To adjust the global cost template, go back to the “Default Costs” in Tools > Print Job Costs and make the necessary changes.

Other Report Types

Administrative Audit Report

Administrative audit reports show the IT administrators which authorized users have made what changes in the administration console and when.

1. In the administration console, navigate to Tools > Reports > Administrative Audit Records.
2. Fill out any fields needed to filter the results of the search.
3. Click “Search”.

Workstations

A workstation report will show which computers have the client agent installed and will list the first check-in time and the most recent check-in time.

1. Go to Tools > Reports > Workstations.
2. Fill out any fields needed to filter the results of the search.
3. Click “Search”.
4. If further analysis is needed, click “Export” and use the CSV file created.



If the fields are left in the default state, it will perform a full search instead of a filtered search.

Printer Status

1. The printer status report offers two views, A printers with errors and All printers. These reports are a total list view of all printers in the environment as well as the SNMP statistics and information.
2. Go to Tools > Reports > Printer Status.
3. Select either “Printers w/ Errors Only” or “All Printers”.
4. Both types of lists can be exported to a CSV by clicking the “Export” button.

Chapter 10: Setup Cache Location

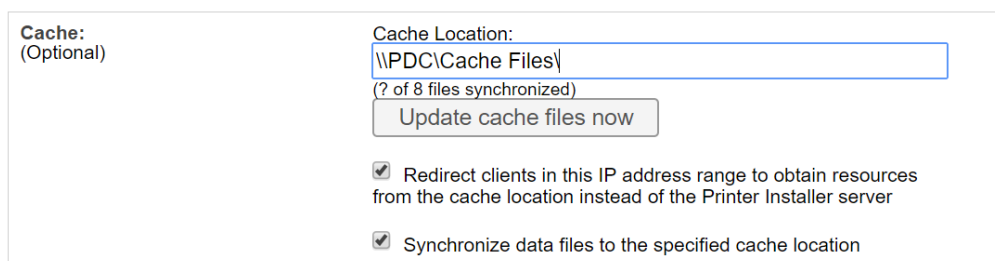


Chapter 10 uses Server 1: PDC, Server 3: PrinterCloud

To help reduce WAN traffic when downloading printers, a local cache location for drivers can be created. Once a computer is designated as the cache manager (most often it is the PrinterCloud web server), it will copy the cache files to its local file system, then copy the cache to the cache locations specified in each of the IP address range objects. When end users make a request to the PrinterCloud web server for a file that is in the cache, the web server will redirect the client to the cache location specified in the IP address range object of the client. The client will then obtain the file from the cache location. The files that are copied to the cache are Driver Files, Driver Profile Files, PrinterCloudClient.msi, and PrinterCloudClientUpdater.exe.

1. In the administration console, go to **Tools > Settings > General**.
2. In the Cache Section, Click **Enable End-User Redirections to Cache**
3. In the “Cache Manager” field, enter the URL of your PrinterCloud instance, which will be used as the source location that distributes the drivers to the caching locations.
4. Click “Save”.
5. On the server or workstation that is serving as the Cache manager, Open the Windows Explorer and navigate to the location where you would like to add your caching folder.
 - a. Right-Click and Select **New > Folder** and name it “**Cache Files**”
 - b. Right-click the “Cache Files” folder and go to **Share With > Specific People**
 - c. When the File Sharing window appears, type **Everyone**
 - d. Click **Add**
 - e. Click **Share**
 - f. Right Click the folder you just created in Windows Explorer
 - g. Select **Properties**
 - h. Click the **Security** tab
 - i. Select **Everyone**
 - j. Click on **Edit**
 - k. In the modify line item, click **Allow**
 - l. Click on **OK** and then Click on **OK** again
6. In the PrinterCloud administration console, browse in the tree structure until you find the location that you want to associate a caching location with. Select the IP address range object associated with it. If one is not created yet, you will have to create one prior to finishing this step. (See Chapter 7)

7. Select the **General** tab.



Cache:
(Optional)

Cache Location:
\\PDC\Cache Files\
(? of 8 files synchronized)

Update cache files now

☒ Redirect clients in this IP address range to obtain resources from the cache location instead of the Printer Installer server


☒ Synchronize data files to the specified cache location

FIGURE 31

8. In the cache location field, put the network path to the shared folder you created.
9. Click **Save**.
10. Click **Update cache files now** and let it run (you may need to refresh the browser to see the status of the files synchronized).

After you have designated a computer as the cache manager, PrinterCloud copies the cache files to the computer's local file system and then copy the cache to all the cache locations specified in each of the IP address range objects.

When end-users request a file in the cache, the PrinterCloud web server redirects the client to the location specified in the client's IP address range. The client will then obtain the file from the cache location.

 When first setting up the caching feature, it is recommended to only set up a single cache location and test it before configuring additional cache locations. Having many incorrectly configured cache locations can cause the cache manager log file on the cache manager server to grow extremely rapidly. The error log file for the cache manager is found at C:\Program Files (x86)\Printer Properties Pro\PrinterCloud Client\PrinterInstallerCacheManager.log

Chapter 11: Pull Printing Setup

Pull printing allows you to install a printer (a pull printer) to a workstation that you can print to, and it will hold the job on your workstation to be released later. It is a printer that has a driver assigned to it but does not have an IP Address assigned to it and is marked as a “Pull Printer”. The held print job can be released to any network printer you are managing in PrinterCloud. The ways to release the job are explained in this section. Pull print jobs initiated from a workstation will remain on the workstation until the end-user releases the print jobs using one of the available release mechanisms, including the Release Portal, a Release Station, or the Control Panel Application.

Add LDAP Bind User and Bind Password

1. In the PrinterCloud administration console, select **Tools > Settings > General**.
2. In “LDAP Authentication Settings”, select the added domain and click **Modify**
 - a. If you have not yet added your LDAP settings, click **Add**
 - b. Fill out the correct domain name and press the TAB key on the keyboard.
 - c. Fill out the Primary LDAP Server settings as well as Secondary LDAP Server settings (if available).
3. Add a **Bind User** and **Bind Password**. For Training use the printer.installer account information.
4. Click **Test Settings** and make sure all fields are correct (except for the Secondary LDAP server if it was not specified).
5. Select **Apply**
6. **Save** the settings.

Create a Pull Printer Queue

Turn on Release Print (Secure/Pull) Settings

1. Go to **Tools > Settings > Printing**
2. In the “Pull Printing” section check the box labeled **Enable Workstation Pull Printing/Secure Printing**
3. Check the box that says **Allow Pull Print Jobs To Be Released To This Printer**
4. **Save** the settings.
5. Return to the tree view

Create a Pull Printer in the Tree Structure

1. In the Tree View, Right-click the desired folder and select **New > TCP/IP Printer**
2. Name it **Pull Printer**
3. Check the **Make Pull Printer** box just below the IP address field.
4. For driver selection, it is best to select or upload a universal print driver. A universal driver must be selected for each operating system that you plan to support with this pull printer. This can be done by **Uploading a New Driver** or selecting one from the drop-down list you already have installed.
5. Click “Add”.

Allow Pull Print jobs to Be Released to Printers by Doing One of the Following:

1. Printer-specific:
 - a. Select the “Printing” tab of the printer you want to allow.
 - b. In the “Pull Printing” section select **Use printer-specific Pull Print settings**
 - c. Check the box next to **Allow Pull Print jobs to be released to this printer**
 - d. Click **Save**
2. Global:
 - a. Go to **Tools > Settings > Printing**
 - b. In “Pull Printing” section, under “Default per-printer Pull Print setting” check **Allow Pull Print jobs to be released to this printer.**
 - c. **Save** the settings.

Test the Pull Printing Queue

1. Install the pull printer on the Server or workstation you are working on using one of the following options:
 - a. Via the self-service portal.
 - b. Via deployment assignment.
2. Send a test print job to the pull printer.
 - a. Right-click the PrinterCloud client agent in the system tray and select “**View Installed Printers...**”
 - b. Right-click the pull printer and select **Properties**
 - c. Select **Print Test Page**

Verify the Job Was Held Using One of the following methods

1. In the administration console, select the pull printer and go to the “**Release**” tab.
2. You can go to the end-user portal by typing <http://trainingteam.printercloud.com/release>
3. Right-click the PrinterCloud icon in the system tray, select **Pull Printing**, and then select **Print Job Management**

You can release the print job by selecting the check box next to the held print job, selecting **Release**, and clicking **Search** in the window that opens. Then select your designated printer to release the print job.

The methods of releasing a pull printing job are varied. It comes down to finding a device that can access the self-service webpage. This can be done using mobile devices such as cell phones provided they can access the internal network and reach the server that is hosting PrinterCloud. Many customers opt to set up a kiosk device such as a low-cost Android tablet next to the printers to release pull printing jobs. Another common method is to release the job at the printer using the console view and a badge swipe.

Turn on Secure Release Printing

Secure release printing is a way to hold a print job for a specific printer, and then release the job later to be printed. It will only be allowed to print to the printer it was sent to unlike pull printing. It is possible to set any network printer that is being managed by PrinterCloud to be a secure printer.

1. The back-end settings to enable Secure Printing is already complete because of the previous pull printing setup.
2. Allow secure print jobs to be released to printers by doing one of the following:
 - a. Printer-specific:
 - i. Select the **Printing** tab of the printer you want to hold print jobs.
 - ii. In the **Pull Printing** section, select **Use printer-specific Secure Release settings**
 - iii. By selecting **Yes (Prompt)**, you can choose to allow the computer to prompt to determine whether a user really wants to hold the job and release it later. Or you can make the user always have to secure the release job by selecting **Yes (Always)**.
 - b. Global:
 - i. **Tools > Settings > Printing**.
 - ii. In **Pull Printing** section, go to the **Default per-printer Secure Release settings** section and select the **default per-printer setting** (i.e., always or prompt).
 - iii. **Save** the settings.

Test Secure Release Printing

1. Install the printer that has been designated in the previous steps as a Secure Release Printer on the PrinterCloud server by using one of the following options:
 - a. Via the self-service portal.
 - b. Via deployment assignment
2. Send a test print job to the printer using the same steps as above in the Pull Printing Section
3. Check the **Release** tab on the printer in the administration page to verify that the test print is being held.
4. You can release the print job by selecting the check box next to the held print job, selecting **Release**, and clicking **Search** in the window that opens. Then select your designated printer to release the print job.

Chapter 12: Embedded Control Panel Application

PrinterLogic supports select makes and models of printers for an embedded control panel application implementation of secure release printing. A PrinterLogic representative can give you the comprehensive list before you decide to use this option. Information can also be found on the Support page at: <https://goo.gl/pCGdtQ>

Control Panel Application

The Embedded Control Panel Application is a feature that can be installed on a printer from PrinterCloud. The purpose of the Embedded Control Panel is to enable end-users to release pull printing and release printing jobs directly from the printer's digital console. Specifically, you enable the Embedded Control Panel on a printer object in the tree view, and then you install the application on the printer.

Figure 32 below shows the PrinterLogic Release Portal as it appears in the printer's digital console following a successful login. This interface is used for all printer manufacturers with the exception of HP, which has its own **interface**. The print jobs that appear in the application are only the ones sent to queue by the person who logged in to the application. The print jobs in queue can be updated by clicking the Refresh button. Notice the options to release a single print job or all jobs in queue. Similarly, you can delete a single print job or delete all documents in queue.

Before you install the Embedded Control Panel application, you must first enable SNMP Status Monitoring and Enable LDAP Authentication on the printer object associated with the printer object in the tree view. If you do not have LDAP enabled, you will receive an **error**.



FIGURE 32

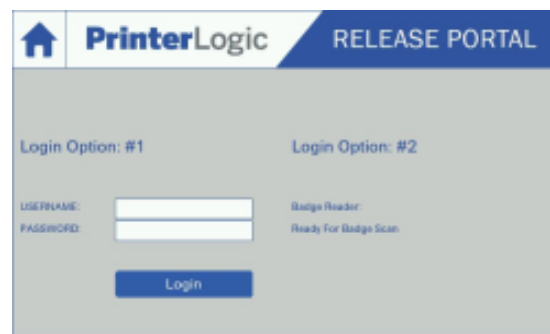



FIGURE 33

The Embedded Control Panel uses two login options in the printer's digital display. Figure 33 shows both options. Login Option #1 is available by default. With this option, the end-user logs in to the Embedded Control Panel using their Active Directory credentials. The Embedded Control Panel application provides a [built-in keyboard](#) for data entry. Login Option #2 is for badge swipe access to the application. This access type does not appear in the interface unless you have enabled badge swipe in the Admin Console.

If you install the Embedded Control Panel without the badge reader option enabled, you cannot just enable badge authorization on the printer object and automatically expect the Badge Authorization to appear on the application interface. Instead, you must uninstall the application from the printer, enable badge authorization on the printer object, and then re-install the Embedded Control Panel on the printer object.

Registering badges scenario. If an organization is using multiple types of badge readers on their MFPs or have multiple manufacturer (Konica Minolta, Ricoh, HP, Samsung, etc.) printers in their environment, there is a chance

that one configured badge reader will read a badge slightly different than another. This means a user would need to register their badge for each type of configuration/manufacture.

-  A couple of things need to be configured before the application will install:
- SNMP needs to be turned on (see Chapter 5)
 - Pull Printing in Tools > Settings > Printing > Pull Printing needs to be enabled (see Chapter 11)

Setup

Set LDAP Settings

1. In the PrinterCloud Admin Console Select **Tools > Settings > General** and go to the “**LDAP Authentication Settings**” section.
2. Select the LDAP domain and click **Modify**. In the training class, this will be: pltraining.com
3. In the “**SSO Email Attribute:**” field, type **mail**
4. Click **Test Settings**
5. If the test is successful, Select **Apply** and **save** the changes.

Configure the Administration Credentials for the Printer’s Web Interface

Using Default Settings:

1. Click **Return to tree view** if you are not already in tree view mode.
2. Select the printer object you set up.
3. Click the Printing tab.
4. Click **Use default printer administration credentials**.
5. Click **Save**.
6. Click **Tools > Settings > General**.
7. In the Control Panel Application section, enter the username and password credentials used to access your printer's web interface.
8. Click **Save**.

Using Printer-Specific Settings:

1. Click **Return to tree view** if you are not already in tree view mode.
2. Select the Pull Printer object you set up in the Pull Printing Chapter, or create a pull printer (Chapter 11).
3. Click the **Printing** tab.
4. Click **Use printer-specific administration credentials**.
5. Enter the username and password credentials used to access your printer's web interface.
6. Click **Save**.

Install the Control Panel Application:

1. Click Return to tree view if you are not already in tree view mode.
2. In the tree view, select the Pull Printer object you set up.
3. Click the **Printing** tab.
4. In the **Pull Printing: Control Panel Application** Section Click **Install CPA Application on Printer**.
5. PrinterCloud will download the program to install the Control Panel Application.

If you have previously downloaded the Control Panel Application installation program, and you click Install the CPA Application on the Printer, then the system will perform a simple check on the current version of the program versus the version you have downloaded. If there is a difference between the two, then the current version will be downloaded.

6. When the program has been successfully downloaded, the CPA Installer window will open as shown below in Figure 34

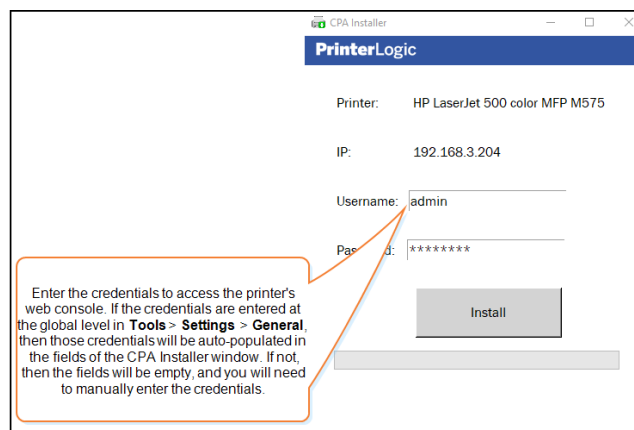


Figure 34

7. Click Install to begin the installation process.

If the installation is successful, the installation will proceed and then the CPA Installer window will close automatically. Additionally, the Printing tab will present installation details as shown below in figure 35.

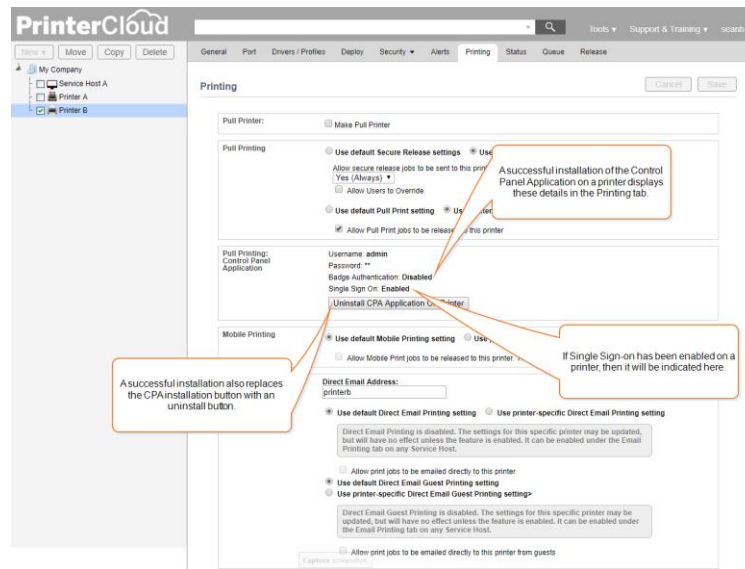


Figure 35

8. Manually Refresh the Client on your workstation or server you are working on by right-clicking the Client Icon in the system tray and clicking on **Refresh Configurations**.

For all other workstations, the next time the client is installed or the client checks in with PrinterCloud, then the client will be refreshed. The client refresh is optional but recommended for initiating status updates between the printer, the clients, and the PrinterCloud webservice.

When you finish installing the application on your printer, the PrinterCloud interface will appear on the printers control panel.

9. Print and Release a test document.

After you have finished setting up the Control Panel Application on the printer, then your end-users should be able to send print jobs to the pull print queue you set up, walk over to the printer, log in to the Control Panel Application with their Active Directory credentials, and release print jobs sent to the pull print queue you set up.

Uninstall the Application

1. In the PrinterCloud Admin Console, select the printer you want the application removed from
2. Go to the **Printing** tab and scroll to the **Control Panel Application** section
3. Select the button **Uninstall Application** as seen in figure 36 below

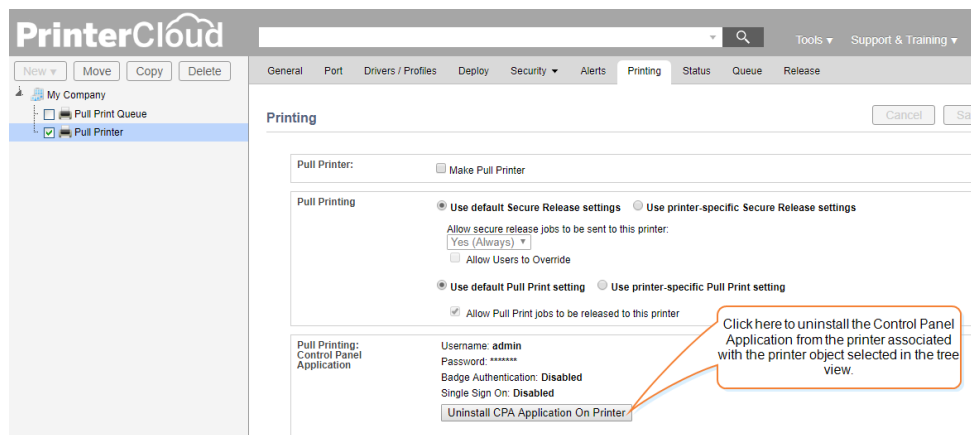


Figure 36

4. Click **Save**
5. **For Lexmark Printers Only**, see addition instructions on this link: <https://goo.gl/o1Lhna>

NOTE: On Xerox printers, uninstalling the Control Panel Application will remove the application, but the icon will still appear. If this issue occurs, just restart the printer, and the icon will no longer appear.

Badge Management (Currently Only for Ricoh and Lexmark Printers with PrinterCloud)

Badge Authentication is the ability of a user to release a print job by swiping a badge, card, or widget over a badge reader. Enabling badge authentication is used for printers with an LCD readout. When you install the Control Panel Application on a printer, you can select whether to include badge authentication with the installation, or you can leave it out. **Badge Authentication for PrinterCloud is currently available for Ricoh and Lexmark printers only.**

NOTE: If you install the Embedded Control Panel application without enabling badge authentication, then you will need to uninstall the application before enabling badge authentication, and then you can re-install the application.

Badge Registration and Release

PrinterCloud currently provides only end-user badge swipe over the badge scanner to register badges. In other words, when the end-user swipes their badge over the badge scanner, the badge ID will automatically appear in the Badge Management window. PrinterCloud does not currently support manual badge entry through the Badge Management window. As such, the following steps describe the process for uninstalling the Control Panel Application, enabling badge management for the printing, and reinstalling the Control Panel Application. At that point, badge registration is just a matter of the end-users swiping their badges over the badge scanner, and the badge ID and associated information will be registered with PrinterCloud.

Install the Control Panel Application On The Printer

1. Log in to the Admin Console.
2. Set up your LDAP settings (if you have not yet done so).
3. In the tree view, select the printer object associated with the printer for which you would like to enable badge management.
4. Click the **Printing** tab.
5. (Optional) If the Control Panel Application has already been installed without badge management enabled on the printer, then you will need to uninstall the Control Panel Application by clicking **Uninstall CPA Application on Printer**.
6. If you have uninstalled the Control Panel Application, the Admin Console will revert to its home page. Click the **Printing Tab** again.
7. Click **Install CPA Application On Printer**.
8. When the Install CPA window appears, enter the proper credentials to access the printer's web interface.
9. Select **Enable Badge Authentication**. (See Figure 37 Below)

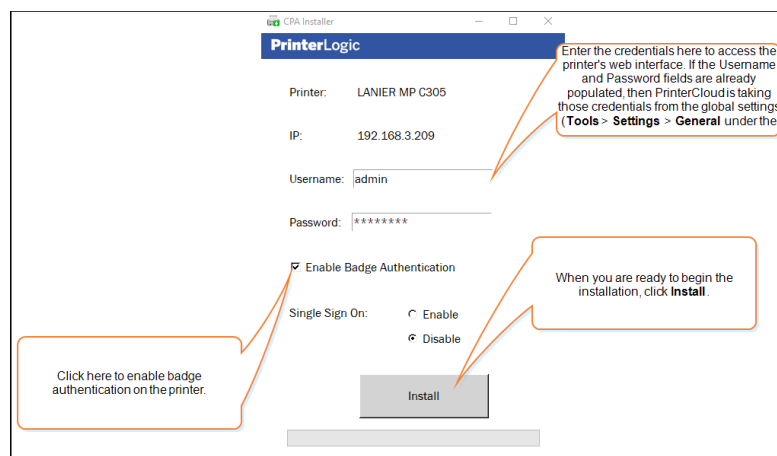
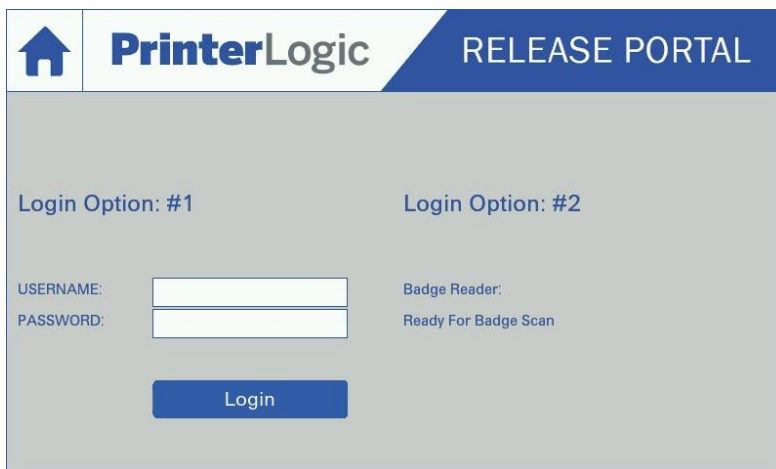


Figure 37

10. Click **Install**.

When the installation process is complete, you can click the Printing tab again, and you will see the Control Panel Application settings showing as installed with Badge Management enabled.

Notice the two different types of login options in the Embedded Control Panel application interface below (Figure 38). The option on the left appears in the Control Panel Application by default, and the option on the right appears if you select **Enable Badge Authentication** from the General Tab, as shown on the the left.



The screenshot shows the PrinterLogic RELEASE PORTAL interface. At the top, there is a navigation bar with a home icon, the 'PrinterLogic' logo, and the text 'RELEASE PORTAL'. Below this, the interface is divided into two sections: 'Login Option: #1' and 'Login Option: #2'. 'Login Option: #1' includes fields for 'USERNAME:' and 'PASSWORD:', and a 'Login' button. 'Login Option: #2' includes a 'Badge Reader:' field and the text 'Ready For Badge Scan'.

Figure 38

Registering Badges

1. Swipe the badge at the printer
2. Enter Active Directory credentials
3. Go to the Administrator Console in PrinterCloud and select **Tools > Badge Management**
4. You can see the registered badges listed and you can unregister a badge by selecting the badge in the list and clicking “Unregister” in the top right corner of the webpage

The “Register Badge” is a feature that works with a different hardware piece provided by RFIdeas (more information can be found on our website <https://goo.gl/StBb2q>)


Using Active Directory to Register Badges

1. In the Administrator Console go to **Tools > Settings > General**
2. In the “Control Panel Application” section fill out the text box under “**Active Directory user object attribute containing the badge ID for Console Release Badge Authentication**” with the correct attribute

Release the Print Job

1. Print a document to the printer with the Control Panel Application installed.
2. Physically go to the printer and swipe the authentication badge or type in the Active Directory credentials.
3. The “Release” webpage will be shown and you can select any held job and press the “Release” button to have the job print out
4. To log out of the application you can select the “Access” key on the printer or simply select the home icon on the top left of the application screen.

Chapter 13: Mobile Printing Setup

 **Note:** PrinterCloud includes iOS printing, Google Cloud Print, and all supported types of email printing (Email Printing, Direct Email Printing, and Direct Email Guest Printing) under the Mobile Printing umbrella. To set up iOS printing, Pull Printing functionality needs to have been at least tested and its setup completed.

Mobile printing is the release of a print job from a mobile device such as a smartphone with the iOS or Android operating system, or a tablet with either mobile or WiFi connectivity. From the mobile device, you can open a browser and view the available print jobs in the Release Portal. Mobile devices use the PrinterCloud mobile print feature to print to print devices that are marked as "mobile print" enabled.

For PrinterCloud, you will need to add a service host to the tree view in the Admin Console and then click the iOS Printing or Google Cloud Printing tab, respectively, to configure the mobile print settings.

iOS Print Setup

Set up the Service Host Computer

The service host computer can be a simple workstation or a server. Before you can proceed with setting up iOS printing, just set up the computer you would like to use as the service host. When you set up the service host object in the Admin Console, you will enter the IP address or hostname of the workstation or server you set up.

Step 1 - Create the Service Host Object in the Admin Console

1. Log in to the Admin Console.
2. In the tree view, select the parent folder for the service host.
3. Click **New > Service Host**.

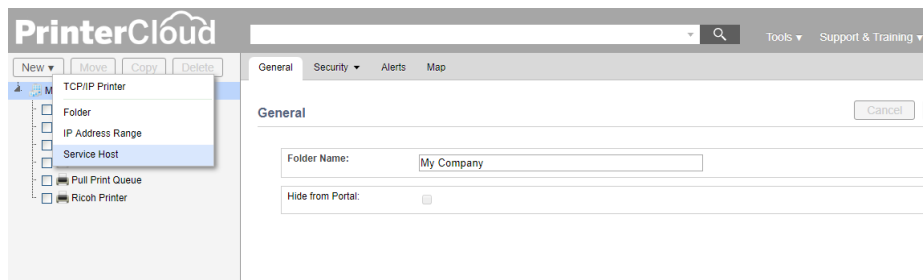


Figure 39

4. Type the service host name
5. Enter the IP address or hostname of the computer

The screenshot shows a 'Service Host' dialog box. It contains two text input fields. The first field is labeled 'Service Host Name:' and contains the text 'Test_Service_Host'. The second field is labeled 'IP Address or Hostname:' and contains the text '172.17.41.4'. Below the input fields are two buttons: 'Add Service Host' and 'Cancel'.

Figure 40

6. Click **Add Service Host**.

Step 2 - Set up a Pull Print Queue Object in the Admin Console

7. The new service host will appear in the tree view.

1. If you have not already setup a pull printer then follow the steps laid out in Chapter 11.

Step 3 - Configure your LDAP Domain

If you have not already configured your LDAP settings, set it up as shown in Chapter 11 for Pull Printing in the

Add LDAP Bind User and Bind Password section.

Step 4 - Install the Client on the Service Host Computer

1. On the service host computer, open a browser window.
2. Log in to the Self-service Portal.
3. If the client has not been installed on the service host computer, then you will need to install the client. Depending on the browser you are using, the steps to install the client will vary. Chrome and Firefox use extensions, whereas Internet Explorer uses a plug-in.

Step 5 - Enable a Printer Object to Release Pull Print Jobs

1. Using Default Options
 1. Click **Return to tree view** (if needed).
 2. In the tree view, select the printer object you set up as the pull print-enabled printer.
 3. Click the Printing tab.
 4. In the Pull Printing section, click **Use Default Pull Print setting**.
 5. Click **Save**.
 6. Click **Tools > Settings > Printing**.
 7. Click **Enable Workstation Pull Printing/Secure Printing** to enable it.
 8. Click **Allow Pull Print jobs to be released to this printer**.
 9. Click **Save**
2. Using Printer-Specific Settings

1. Click **Return to tree view** (if needed).
2. In the tree view, select the printer object you set up as the pull print-enabled printer.
3. Click the Printing tab.
4. In the Pull Printing section, click **Use Printer-Specific Pull Print Setting**.
5. Click **Allow Pull Print jobs to be released to this printer**.
6. Click **Save**

Step – 6 Enable and configure iOS Mobile Printing

1. In the tree view, select the service host object.
2. Click the iOS Printing tab.
3. Click **Enable iOS Printing** (Figure 41)

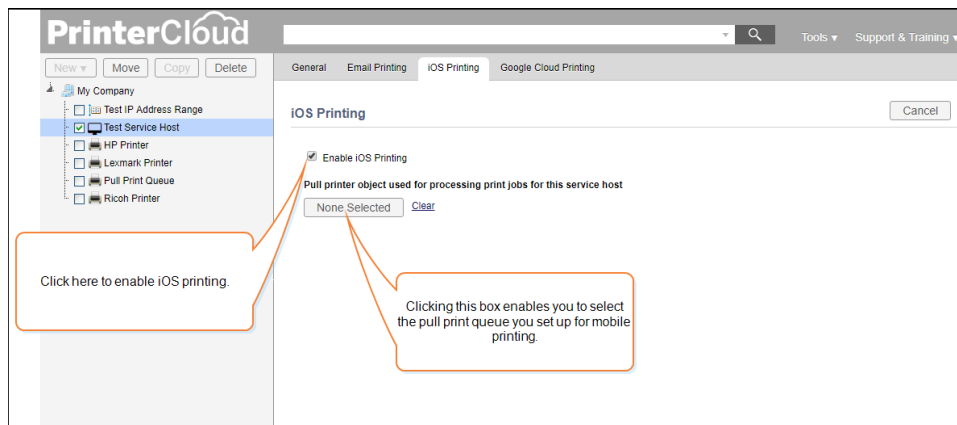


Figure 41

4. Click **None Selected**.
5. Select the printer object you set up as the pull print queue.
6. Click **Select**.
7. Click **Save**.

Step 7 - Refresh the Client on the Service Host Computer

1. On the service host computer, Right-Click the PrinterCloud Client icon in the taskbar, and select **Refresh Configurations**.
 1. Another option to refresh the client is to click the Start menu, select **Printer Installer**, and then click **Refresh Configurations**.

Step 8 - Verify the Processes Running on the Service Host Computer

After refreshing the client on the service host, the following processes should be running depending on the service host settings in the Admin Console.

- PrinterLogicServiceHostManager (will always be running regardless of the mobile printing options you enable)
- PrinterLogicServiceEmail (only appears if email printing is enabled)
- PrinterLogicServiceAirprint (only appears if iOS printing is enabled)
- PrinterLogicServiceGoogleCloudPrint (only appears if Google Cloud Print is enabled)

Step 10 - (Optional) Configure Your Firewall

Server Firewall Configuration

Windows Firewall allows the required port communication (53 and 631) by default but if required, opening firewall ports can be completed through the user interface or by command line as shown below.

User Interface

Click **Control Panel > System and Security > Windows Firewall**.

Click Allow a program or feature through Windows Firewall > Allow another program: C:\Program Files (x86)\Printer Properties Pro\Printer Installer Client\AirPrint\PrinterInstallerVirtualAirPrintPrinter.exe. The program uses DNS (port 53) and IPP (port 631), so these ports will be opened by allowing the program through the firewall.

Command Line

```
rem Allow PrinterLogic PrinterInstallerVirtualAirPrintPrinter netsh advfirewall firewall add rule name= "Allow
AirPrint" dir=in action=allow program="C:\Program Files (x86)\Printer Properties Pro\Printer Installer
Client\AirPrint\PrinterInstallerVirtualAirPrintPrinter.exe" rem Open TCP DNS 53 Inbound Outbound netsh
advfirewall firewall add rule name="DNS53PrinterLogic" protocol=TCP dir=out localport=53 action=allow
netsh advfirewall firewall add rule name="DNS53PrinterLogic" protocol=TCP dir=in localport=53
action=allow rem Open TCP IPP 631 Inbound Outbound netsh advfirewall firewall add rule
name="IPP631PrinterLogic" protocol=TCP dir=out localport=631 action=allow netsh advfirewall firewall
add rule name="IPP631PrinterLogic" protocol=TCP dir=in localport=631 action=allow
```

Network Firewall Configuration

If DNS Inspection is enabled for DNS requests that cross VLANs, that setting may block certain necessary and valid DNS requests generated by the iOS device. If this is the case, then the printer will not show up on the device.

Step 11 - Configure DHCP

1. Login to your DHCP server that distributes the wireless DHCP addresses and set the DHCP option 15 (may be referred to as search domain, domain name, or router domain name) to yourdomain.com.
2. Make sure your DNS server is hosted on the server that yourdomain.com resolves to and you can ping yourdomain.com and it returns the IP address of the node of the DNS server that manages that domain.
3. Confirm that the search domain value is set correctly on an iOS device by going to Settings > Wi-Fi and looking at the properties of the wireless connection, then viewing the Search Domain attribute. If the value is empty you can manually add a value, or override the existing value if desired.

Step 12 - Configure DNS

Set up wide area Bonjour to create the required DNS records.

1. Open your DNS server configuration application.

2. Under Forward Lookup Zones, select your domain.
3. Right-click the domain.
4. Select **Other New Records**.
5. Select **Pointer (PTR)**.
6. In the Host IP Address: field, type **lb._dns-sd._udp**.
7. In the Host Name: field, type **airprint.yourdomain.com**.
8. Click **OK**.
9. Click **Done** Under Forward Lookup Zones, and select your domain.
10. Right-click the domain.
11. Select **New Delegation**.
12. In the Delegated domain: field, type **airprint**.
13. Click **Next**.
14. Click **Add**.
15. In the Server fully qualified domain name field, enter the FQDN of the service host and click **Resolve**; if you know the service host IP address, click the **Click here to add an IP address** field and then enter the service host IP address.
16. Click **OK**.
17. Click **Next**.
18. Click **Finish**.

When these settings are properly configured, an iOS device on the wireless network should be able to see and to print to the pull printer.

Step 13 - Conclusion: Release a Print Job to the Mobile Printer

To send a print job from an iOS device to the pull printer that has been designated to release mobile print jobs, follow the steps below.

1. On the iOS device, open the document that you would like to print.
2. Press **Print** and then select the PrinterLogic printer.
3. Enter the user's Active Directory username and password to send the print job to the pull print queue.
4. Press **Print**.
5. Release the print job at a pull printer-enabled printer.

Troubleshooting: iOS Printing

If the PrinterLogic printer does not appear on the iOS device, check the following items.

- Make sure the iOS device has the correct DNS server and search domain options configured. If these options need to be reconfigured, restart the iOS device after reconfiguring the options.
- From a computer on the same subnet as the iOS device open a command prompt, type `nslookup -type=PTR lb._dns-sd._udp.yourdomain.com` and press Enter. (Replace yourdomain with the actual search domain). The reply should be `airprint.yourdomain.com`.
- From a computer on the same subnet as the iOS device open a command prompt, type `ping airprint.yourdomain.com` and press Enter. (Replace yourdomain with the actual search domain). A reply should be received.

Google Cloud Printing

Step 1 – Set Up the Service Host Computer

The service host computer can be a simple workstation or a server. Before you can proceed with setting up iOS printing, just set up the computer you would like to use as the service host. When you set up the service host object in the Admin Console, you will enter the IP address or hostname of the workstation or server you set up.

Step 2 - Create the Service Host Object in the Admin Console

1. Log in to the Admin Console.
2. In the tree view, select the parent folder for the service host.
3. Click **New > Service Host**.

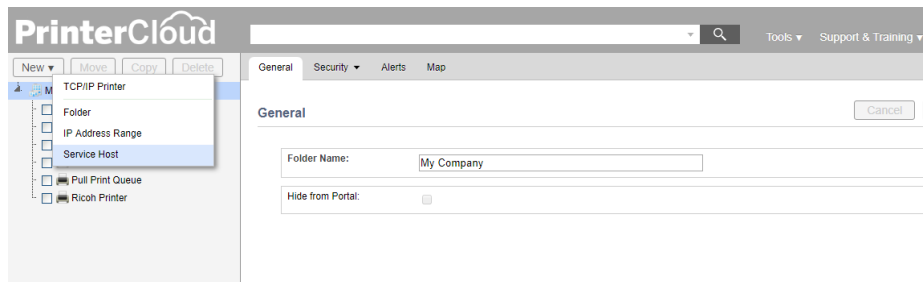


Figure 42

4. Type the service host name
5. Enter the IP address or hostname of the computer you set up as the service host computer.

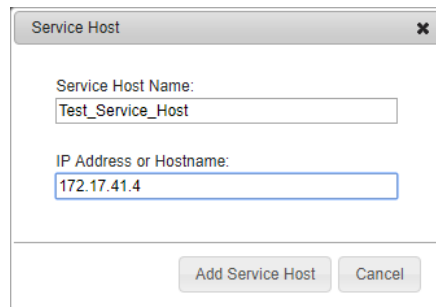


Figure 43

6. Click **Add Service Host**.
7. The new service host will appear in the tree view.

Step 3 - Set up a Pull Print Queue Object in the Admin Console

If you have not already setup a pull printer then follow the steps laid out in Chapter 11.

Step 4 - Configure your LDAP Domain

1. Go to Tools > Settings > General.
2. Select the default domain and click “Modify”.
3. In the “**Domain Alias:**” section add and domain aliases that you have for your domain. For training put in print.pltraining.com” (if there are multiple entries then separate them by a comma)
4. In the “**Mail Attribute**” section, type **mail**
 - a. To verify which attribute contains the email address, do the following:
 - i. Log into the AD server.
 - ii. Open “Active Directory Users and Computers”.
 - iii. Select “View” on the menu bar and confirm that “Advanced Features” is checked.
 - iv. Right-click a user object and select “Properties”.
 - v. Select the “Attribute Editor” tab.
 - vi. Look for the attribute that has the value containing the email address. In our case, it will be the “Mail” attribute.
5. Click “**Apply**” and **save** the settings.

Step 5 - Install the Client on the Service Host Computer

1. On the service host computer, open a browser window.
2. Log in to the Self-service Portal.
3. If the client has not been installed on the service host computer, then you will need to install the client. Depending on the browser you are using, the steps to install the client will vary. Chrome and Firefox use extensions, whereas Internet Explorer uses a plug-in.

Step 6 - Enable a Printer Object to Release Pull Print Jobs

1. Using Default Options
 1. Click **Return to tree view** (if needed).
 2. In the tree view, select the printer object you set up as the pull print-enabled printer.
 3. Click the Printing tab.
 4. In the Pull Printing section, click **Use Default Pull Print setting**.
 5. Click **Save**.
 6. Click **Tools > Settings > Printing**.
 7. Click **Enable Workstation Pull Printing/Secure Printing** to enable it.
 8. Click **Allow Pull Print jobs to be released to this printer**.

9. Click **Save**
8. Using Printer-Specific Settings
 1. Click **Return to tree view** (if needed).
 2. In the tree view, select the printer object you set up as the pull print-enabled printer.
 3. Click the **Printing** tab.
 4. In the Pull Printing section, click **Use Printer-Specific Pull Print Setting**.
 5. Click **Allow Pull Print jobs to be released to this printer**.
 6. Click **Save**

Step 7 - Enable and Configure Google Cloud Print

1. In the tree view, select the service host object.
2. Select the Google Cloud Printing tab.
3. Click **Enable Google Cloud Printing**.

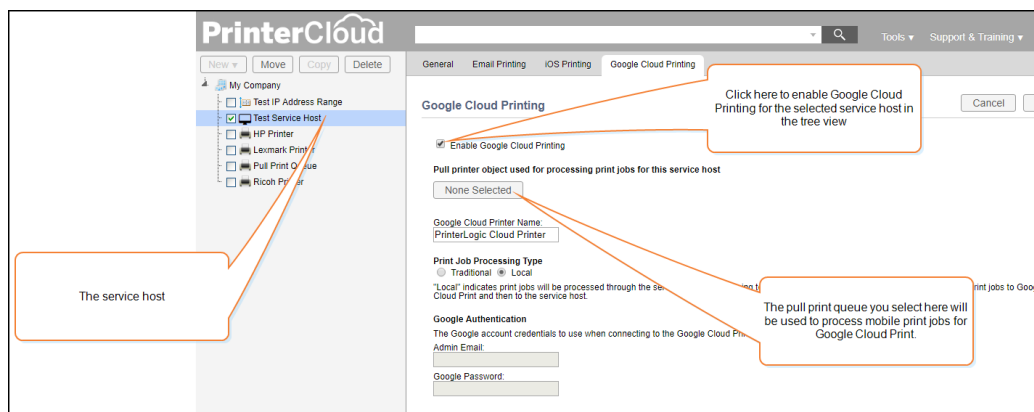


Figure 44

4. Click **None Selected**.
5. Select the printer object you set up as the pull print queue.
6. Click **Select**.
7. Select Traditional or Local depending on the way in which you would like the print jobs to be processed.
8. Enter the Google account credentials that will be used to log in to the Google Cloud Printer.
9. Click **Save**.

Step 8 - Log in to Your Google Cloud Print Account and Register the Printer with Google Cloud Print

At this point, you must open a browser and log in to your the Google Cloud Print that will be used with the service host. You cannot register the printer without being logged in to Google Cloud Print. When you are logged in, go back to the Google Cloud Printing tab and click **Register Printer**. Follow the steps to continue the printer activation.

Step 9 – Share The Registered Printer With The End- Users

1. Open a browser window to <http://www.google.com/cloudprint>.
2. Click **Printers**.
3. Click **Google Cloud Printer (Owned by PrinterLogic)**.
4. Click **Share**.
5. Select the users who will have access to the printer.

Step 10 – Conclusion: Send a Print Job from the Device to the Pull Print Queue

On the Android or Chromebook device, submit the print job to the Google Cloud Print account you have set up for PrinterCloud. When the print job appears in the pull print queue, then you can release the job on any pull print-enabled printer.

Chapter 14: Email Print Setup

Email to Print enables an end-user to forward an email (from a smartphone, tablet, or laptop) to a printer that has been designated specifically for printing from email. "Email Print" is used as an umbrella term to identify all three email printing types (Email to Print, Direct Email to Print, and Direct Email Guest to Print) as described below.

Email to Print forwards an email to a specific email address using Active Directory to validate the end-user. The forwarded email is sent to a universal print queue that enables the user to release the print job the same way as if they were releasing a pull print job. The end-user would open the Release Portal or the Embedded Control Panel application (if it is installed on the printer) to release the print job. Email to Print is the only option that works in this way. The other two options do not wait for the end-user to release the print job. Rather, the printer immediately releases the print job.

Direct Email to Print forwards an email to a specific email address, and Active Directory determines if the end-user's email address is authorized to release to the printer. If Active Directory approves the end-user's email address, then the print job is immediately released to the printer.

Direct Email Guest to Print is an option offered if Direct Email to Print is enabled but Active Directory does not authorize the end-user to release the print job to the designated printer. In this case, the end-user is considered a "guest" and can release a print job to the printer, but they are limited to a specific number of pages that can be released per day or to black and white printing only.



NOTE: Direct Email to Print and Direct Email Guest to Print both require LDAP settings to connect to Active Directory.



NOTE: To set up email printing, Pull Printing functionality needs to have been at least tested and its setup completed.



In the Windows Services on Server 2: Exchange, please make sure Microsoft Exchange IMAP4 and Microsoft Exchange IMAP4 Backend are running.

Prerequisite Steps

These are Configuration steps NOT completed in the Admin Console.

1. Set up a new email account.
 - IMAP must be enabled for the mailbox.
 - To configure the feature, you must know the mailbox username, password, and IMAP/SMTP connection information.
 - **POP3 is currently NOT supported.**
2. Install LibreOffice on the PrinterCloud service host computer.
3. Store each user's email address as an attribute of the user's Active Directory user object.

Step 1 – Set up the Service Host Computer

The service host computer can be a simple workstation or a server. Before you can proceed with setting up iOS printing, just set up the computer you would like to use as the service host. When you set up the service host object in the Admin Console, you will enter the IP address or hostname of the workstation or server you set up.

Step 2 – Create a Service Host Object in the Admin Console

1. Log in to the Admin Console.
2. In the tree view, select the parent folder for the service host.
3. Click **New > Service Host**.

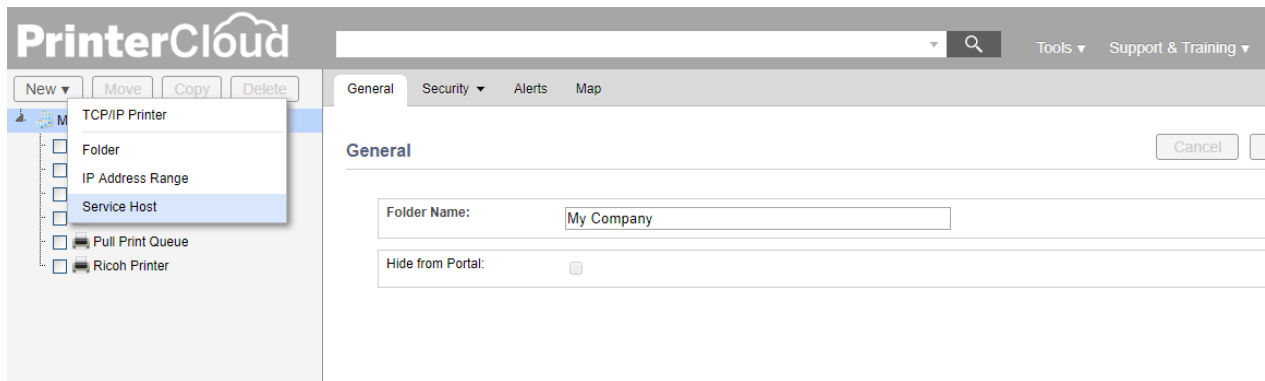


Figure 45

4. Type the service host name
5. Enter the IP address or hostname of the computer you set up as the service host computer.

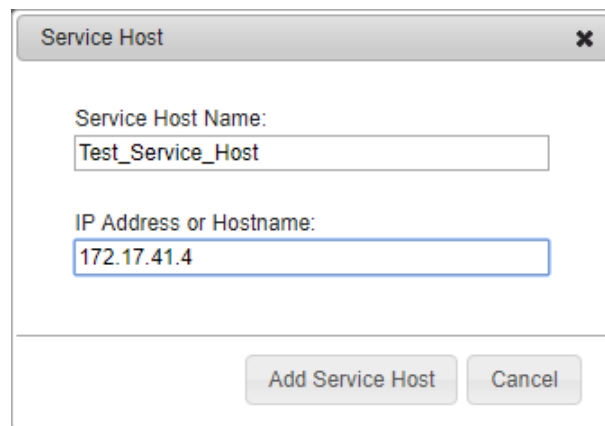


Figure 46

6. Click **Add Service Host**.

The new service host will appear in the tree view.

Step 3 – Create a Pull Print Queue Object in the Admin Console

If you have not already setup a pull printer then follow the steps laid out in Chapter 11.

Step 4 – Configure the LDAP Email Attribute

6. Go to Tools > Settings > General.
7. Select the default domain and click “Modify”.
8. In the “**Domain Alias:**” section add and domain aliases that you have for your domain. For training put in print.pltraining.com” (if there are multiple entries then separate them by a comma)
9. In the “**Mail Attribute**” section, type **mail**
 - a. To verify which attribute contains the email address, do the following:
 - i. Log into the AD server.
 - ii. Open “Active Directory Users and Computers”.
 - iii. Select “View” on the menu bar and confirm that “Advanced Features” is checked.
 - iv. Right-click a user object and select “Properties”.
 - v. Select the “Attribute Editor” tab.
 - vi. Look for the attribute that has the value containing the email address. In our case, it will be the “Mail” attribute.
10. Click “**Apply**” and **save** the settings.

Step 5 – Install the Client and the Pull Printer Queue on the Service Host Computer

1. On the service host computer, open a browser window.
2. Log in to the Self-service Portal.
3. If the client has not been installed on the service host computer, then you will need to install the client. Depending on the browser you are using, the steps to install the client will vary. Chrome and Firefox use extensions, whereas Internet Explorer uses a plug-in.

Step 6 – Configure the Service Host for Email Printing

1. In the tree view, select the service host.
2. Click the Email Printing tab.
3. Click **Enable Email Printing**.
4. Click **None Selected**.

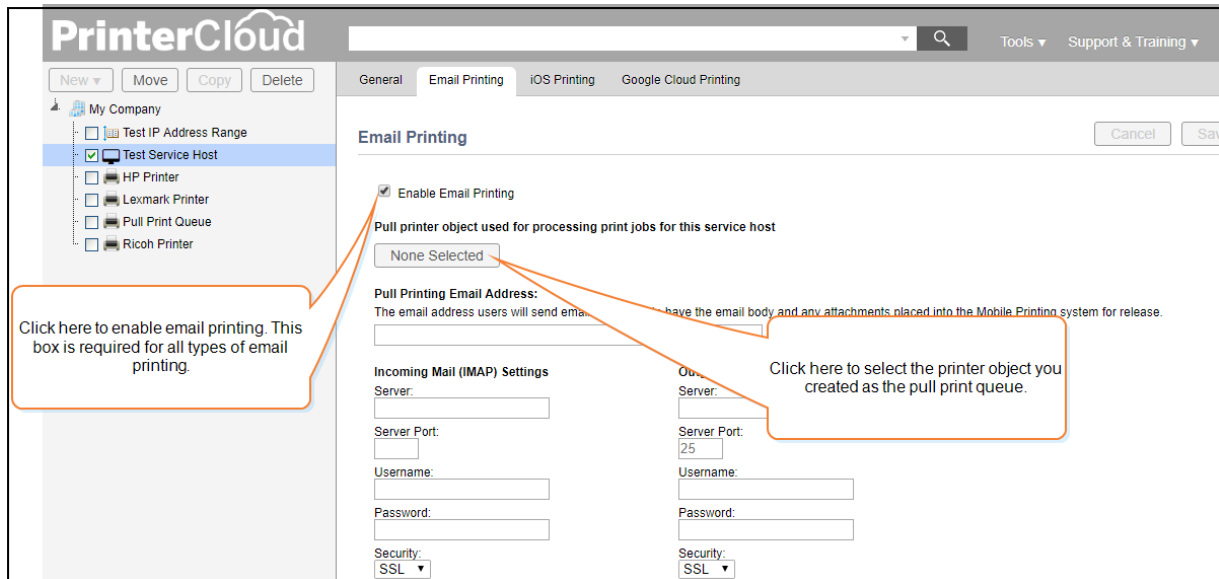


Figure 47

5. Select the pull printing queue you set up in Step 3.

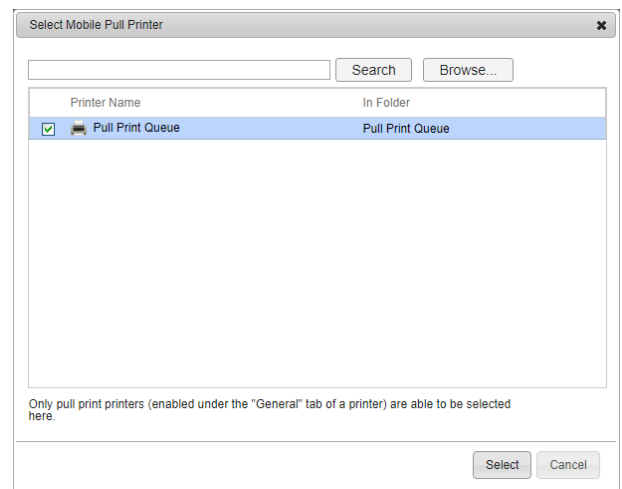


Figure 48

6. Click **Select**.
7. Enter the email address that you set up in the Prerequisite Steps.
8. Configure the IMAP and SMTP Settings.

[For more information, see Email to Print.](#)

9. Click **Enable Office-type File Attachment Printing** if you want to enable end-users to print attachments.
10. Type the path required to access the LibreOffice executable you downloaded in the Prerequisite steps.

Step 7 (OPTIONAL) – Configure a Service Host and Printer Object for Direct Email Printing

1. In the tree view, select the service host on which you enabled Email Printing.
2. Click the Email Printing tab.
3. Click **Enable Direct Email Printing**.
4. Click **Save**.
5. In the tree view, select the printer object associated with the printer you want to configure to release the print job.
6. Click the **Printing** tab. type the email address that will be used for emailing to a printer.
7. Click **Use default Direct Email Printing setting** or **Use printer-specific Direct Email Printing setting**.

If you use the printer-specific setting, click **Allow print jobs to be emailed directly to this printer**.

8. Click **Save**.
9. If you used **Default Direct Email Printing** setting, click **Tools > Settings > Printing** and then navigate to Direct Email Printing.
10. Enter the direct email address domain.
11. Click **Allow print jobs to be emailed directly to this printer**.
12. Click **Save**.

Step 8 (OPTIONAL) Configure the Service Host for Direct Email Guest Printing

1. If you want to use Direct Email Guest Printing, then you must follow steps to set up Direct Email Guest Printing.
2. When you have finished setting up Direct Email Guest Printing, click the Email Printing tab.
3. Click **Enable Direct Email Guest Printing**.
4. Click **Save**.
5. In the tree view, select the printer object associated with the printer you want to configure to release the print job.
6. Click the **Printing** tab.
7. Click **Use default Direct Email Guest Printing setting** or **Use printer-specific Direct Email Guest Printing setting**.

If you selected **Use printer-specific Direct Email Guest Printing setting**, then click **Allow print jobs to be emailed directed to this printer from guest**.

8. Click **Save**.
9. If you clicked **Use default Direct Email Guest Printing setting**, then click **Tools > Settings > Printing**.
10. In the Direct Email Printing section, click **Allow print jobs to be emailed directly to this printer from guests**.
11. Click **Save**.

Step 9 – Refresh the Client on the Service Host Computer

On the service host computer, navigate to the task bar and right-click the PrinterCloud icon. Then select **Refresh Configurations**.

Step 10 – Verify the processes Running on the Service Host Computer

After refreshing the client on the service host, the following processes should be running depending on the service host settings in the Admin Console.

- PrinterLogicServiceHostManager (will always be running regardless of the mobile printing options you enable)
- PrinterLogicServiceEmail (only appears if email printing is enabled)
- PrinterLogicServiceAirprint (only appears if iOS printing is enabled)
- PrinterLogicServiceGoogleCloudPrint (only appears if Google Cloud Print is enabled)

Step 11 – Test Email printing and Release the Print Job

Email to Print uses the pull printing mechanism to release a print job. The differences between pull printing and Email to Print are:

- For pull printing, the print job remains on the workstation until released for printing.
- For Email to Print, the print job remains on the server until released for printing.

After the Email to Print job is sent for printing, you can choose from several options to release the print job. These options include the Release Portal, Simple Badge Release, a Release Station, or the Embedded Control Panel application.