



# Celiveo 8

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Celiveo

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# 1. Welcome to the Celiveo Technical Documentation!

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## Introduction

This manual will help you get the best out of the Celiveo solution as quickly as possible!

It covers the functionalities of Celiveo to provide you with information about installing, configuring and using our solution.

## Terms and Acronyms













This section lists the standard terminology used in Celiveo.

Acronym	Full Form	Definition
CSS	Celiveo Server Services	The central authentication and print server.
CRL	Certificate Revocation List	An access control method to a server in a public network. It contains a list of subscribers with their digital certificate status. Includes the list of revoked certificates, reason for revocation, date of certificate issue, who issued them. The server allows or denies access based on the CRL entry for the particular user. Source: <a href="http://searchsecurity.techtarget.com/definition/Certificate-Revocation-List">http://searchsecurity.techtarget.com/definition/Certificate-Revocation-List</a>
CSV	Comma Separated Values	This file stores tabular data in plain-text form.
DHCP	Dynamic Host Communication Protocol	A networking protocol to automatically distribute IP address to computers from a server
MAC	Media Access Control	Provides address and access for communication among terminals and network nodes
TCP-IP	Transmission Control Protocol-Internet Protocol	The core protocol of the Internet protocol suite.
LAN	Local Area Network	A computer network within a limited area, such as, a small office building.
SNMP	Simple Network Management Protocol	A protocol to manage devices on IP networks, usually supported by devices, such as, printers, routers, switches, and so on.
EWS	Embedded Web	Web portal to access a HP printing device.

	Service	
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## Special Text Icons





This section lists the icons used in the document to indicate that the information corresponds to a particular Celiveo edition or is related to a special feature.

Icon	Meaning
	Print-Direct Edition
	Business Edition
	Business + Edition
	Enterprise Edition
	Premium Edition
	Public Sector Connector
	Financial Services Industry Connector
	Oil & Gas Connector
	SAP Connector
	Stealth Mode Feature
	Large Format Printers (LFP)
	Cloud

## Let's begin!

**QUICK START WORKFLOW**


[Installation Topics](#)



<a href="#">Configuration Topics</a>


<a href="#">Using Celiveo</a>

*Last modified: 14 September 2020*

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## 3. Downloads Celiveo 8 – Version 8.8.14.2

### Installers

CORE PACKAGE			
COMPONENT	RELEASE NOTES	INSTALLER VERSION	COMPONENT DESCRIPTION
CELIVEO WEB ADMIN	<a href="#">PDF</a>	<a href="#">8.8.14.2</a>	This installer comprises of Web Admin, CVP, DA and Printer Embedded Agent (for HP FutureSmart and Ricoh SOP models). This product installer is 64-bit compatible and should only be installed on Windows Server systems running on 64-bit OS. It is not recommended to install WA on Windows Client systems, except for demonstrative purposes. For more information, refer to <a href="#">System Requirements for Celiveo 8</a> .
TRACK-GREENSAVER (TGS 10)	<a href="#">PDF</a>	<a href="#">10.0.8.2</a>	Unique reporting tool for Celiveo 8. The Celiveo Web Admin (Celiveo 8) application must be installed on the same Server and successfully launched prior to the installation of TGS 10.
SUBPACKAGE UPDATES			
COMPONENT	RELEASE NOTES	INSTALLER VERSION	COMPONENT DESCRIPTION
CELIVEO VIRTUAL PRINTER	<a href="#">PDF</a>	<a href="#">8.8.13.2</a>	This installer can be released along with Web Admin (major release) or as a hot fix. CVP is compatible for both 32-bit and 64-bit operating systems. The appropriate version will be automatically deployed based on the OS running on the client/ server systems.
CELIVEO SMART APPLIANCE AGENT	<a href="#">PDF</a>	<a href="#">8.7.020.0703</a>	Celiveo firmware that runs on Celiveo Smart Appliance (CSA). This installer can be deployed to CSA-based printers via Web Admin.
RICOH EMBEDDED AGENT (BUSINESS EDITION)	<a href="#">PDF</a>	<a href="#">8.8.1</a>	Celiveo firmware that runs on Ricoh SOP Android G2.0 and G2.5 printers. This installer can be deployed to such printer via Web Admin
HP PRINTERS EMBEDDED AGENT	<a href="#">PDF</a>	<a href="#">8.8.020.0928</a>	Celiveo firmware that runs on certain HP Future Smart printers. This installer can be deployed to such printer via Web Admin
CELIVEO STANDALONE POPUP NOTIFIER (FOR SHARED SERVER-BASED PULL PRINTING)		<a href="#">Standalone Popup Notifier</a>	The Celiveo Shared Print Queue standalone popup notifier is a windows software installed on client machines to get notifications from the Print Server when printing through a Server-based print queue where the CSVP is installed. The popup notifies the user of any print-rule related information, cost of the print, quota status and remaining quota available.
CELIVEO SERVER SERVICES FOR MacOS	<a href="#">PDF</a>	<a href="#">8.6.020.0116</a>	Deployment package for Celiveo Server Services for MacOS.

CELIVEO-PRINT-WEB	<a href="#">README</a>	<a href="#">4.3.0.1103</a>	Celiveo® Print-Web is mobile print software solution that installs inside the customers private network, and lets users print from any smartphone, tablet, or computer.
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## Upgrade Process

### [“Upgrade to Celiveo 8”](#)

Explains how to upgrade from existing Celiveo solution to the latest release.

## Hot Fixes

### [Printer Discovery Agent Hot Fix](#)

#### [README](#)

Fix for Printer Discovery Agent in identifying HP FutureSmart devices.

## Tools & Miscellaneous

COMPONENT	RELEASE NOTES	INSTALLER VERSION
CELIVEO MIGRATION TOOL FOR SECUREJET 7.0.6/ CELIVEO 8.0.1/2 TO CELIVEO 8 VERSIONS	This tool allows the migration of SecureJet 7.0.6 or Celiveo 8.0.1/2 installation to the new Celiveo 8 versions.	<a href="#">Migration Tool</a>
BATCH IMPORT PRINTERS TOOL (WA BatchUpload) <b>NOTE: this tool is not compatible with WA 8.6.19.808 and earlier versions.</b>	<a href="#">README</a>	<a href="#">V5.0</a>
SAMPLE OFFICE FLOOR MAPS 800 × 800		<a href="#">Sample Office Floor Maps</a>
SECURE PUSH PRINTING DRIVER PLUGIN	<b>For HP FutureSmart Printers only</b>	<a href="#">Push Printing Driver Plugin</a>

*Last modified: 1 December 2020*

## 4. Compatibility

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Before installing the Celiveo solution and the Celiveo Hardware, please make sure you have all the requirements to ensure a clean and efficient installation.

[System Requirements for Celiveo 8](#)

[Requirements for Hardware](#)

[Role Based Access Control for Celiveo](#)

[Ports and Communication](#)

[SNMP Settings](#)

[Celiveo Versions Compatibility with Windows 10](#)

*Last modified: 8 September 2020*

## 4.1. System Requirements for Celiveo 8

Before you start installing Celiveo product, make sure the hardware and software requirements for the servers and client machines are met.

	Celiveo Web Admin <a href="#">[1]</a> /TGS 10 (Applicable for Track-Green Saver 10)	Celiveo Virtual Printer <a href="#">[2]</a>	Celiveo Server Services for macOS <a href="#">[3]</a>
<b>Minimum Hardware Requirements</b>			
RAM	4 GB	4 GB	2 GB
Free hard disk space <a href="#">[4]</a>	4 GB	4 GB	4 GB <a href="#">[5]</a>
<b>Server Operating System</b>			
Windows Server 2016 (64-bit edition) Windows Server 2012 R2 (64-bit edition) Windows Server 2012 (64-bit edition) Windows Server 2008 R2 SP1 (64-bit edition) <a href="#">[6]</a>	√	√ <a href="#">[10]</a>	
SQL Server 2017 SQL Server 2016 SQL Server 2014 SQL Server 2012	√	√	
.NET Framework 4.5 <a href="#">[7]</a>	√	√	
Internet Information Services (IIS) Manager versions 10/ 8.5/ 8.0/ 7.5	√	√	
Windows Powershell <a href="#">[8]</a>	√	√	
<b>Workstation/ Client Operating Systems</b>			
Windows 10 Home Edition (32-bit and 64-bit)	X	√	
Windows 10 Pro, Enterprise, Education Edition (32-bit and 64-bit) To learn more about Celiveo Editions compatibility with Windows 10, please see <a href="#">this article</a> . Windows 8.1 (32-bit and 64-bit) Windows 8 (32-bit and 64-bit) Windows 7 SP1 (32-bit and 64-bit)	√ <a href="#">[9]</a>	√ <a href="#">[10]</a>	
macOS Sierra <a href="#">[11]</a> <a href="#">[12]</a> macOS High Sierra macOS Mojave			√
.NET Framework 3.5		√	
.NET Framework 4.5	√	√	
<b>Web Browsers</b>			
Internet Explorer 10 and above	√	√	

(Use Internet Explorer 11 for an optimal viewing experience) Microsoft Edge Chromium with Click-Once enabled ( <a href="#">learn more</a> ).			
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[1] Servers or client machines running Celiveo Enterprise Solution deployed using the Celiveo Web Admin Installer.

[2] MSI package with capabilities of Print-Direct and Celiveo Server Services.

[3] Client machine running Celiveo Server Services.

[4] Excludes the requirement of additional hard disk space for the installation and storage of SQL Server Express. Depending your organization's network setup, ensure there is additional space or access to a network storage appliance to store the users' print jobs. Ensure OS is installed with latest updates.

[5] Celiveo Server Services requires lesser than 100 MB of storage space.

[6] Ensure the OS is installed with the latest updates.

[7] .NET Framework 4.5 is required by Celiveo and is enabled by the Celiveo installer itself. For older version of Windows where installation by enabling features is not possible, the installer installs it with pre-packaged bundles.

[8] Ensure Windows Powershell is allowed on the servers where Celiveo solution is installed, and on client machines where Celiveo Virtual Printer (CVP) is deployed.

[9] It is not recommended to install Celiveo Web Admin product installer on client machines (unless for demonstration purposes). CeliveoWeb Admin product installer is 64-bit compatible and should be installed only on systems running 64-bit OS.

[10] Celiveo Virtual Printer is compatible for both 32-bit and 64-bit operating systems. Appropriate Virtual Printer (32-bit or 64-bit installer) will be deployed based on the OS in the client/ server machine.

[11] Supports Sierra version 10.12 and higher.

[12] Requires sudo rights for installation purposes.

*Last modified: 8 September 2020*

## 4.2. Requirements for Hardware

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### For Celiveo Smart Appliance:

- Fixed IP or DHCP-reserved IPv4
- MAC address (as printed on Celiveo Smart Appliance)

### For printers connected with Celiveo Smart Appliance:

- Active TCP-IP 100BT LAN connection
- Active Simple Network Management Protocol (SNMP) v1/v2
- A printer with either fixed IP or DHCP-reserved IP address
- Printer specific settings before Celiveo solution installation (See the respective sections on Printer specific requirements).
- The Celiveo Smart Appliance (CSA) aligns with the latest high security standards and FIPS compliance.

Therefore the following ciphers shall be available on PC and printers to allow a TLS encrypted communication to be established with the CSA:

ECDHE-ECDSA-AES256-GCM-SHA384, ECDHE-ECDSA-AES128-GCM-SHA256,  
ECDHE-RSA-AES256-GCM-SHA384, ECDHE-RSA-AES128-GCM-SHA256,  
DHE-RSA-AES256-GCM-SHA384, DHE-RSA-AES128-GCM-SHA256,  
ECDHE-ECDSA-AES256-SHA384, ECDHE-ECDSA-AES128-SHA256,  
ECDHE-RSA-AES256-SHA384, ECDHE-RSA-AES128-SHA256, AES256-GCM-SHA384,  
AES128-GCM-SHA256, AES256-SHA256, AES128-SHA256, AES256-SHA, AES128-SHA

Furthermore, the CSA is compliant with the Microsoft Server FIPS mode.

<https://docs.microsoft.com/en-us/windows/win32/secauthn/tls-cipher-suites-in-windows-10-v1903>

*Last modified: 8 September 2020*

## 4.3. OS and SQL rights to install and use Celiveo

### OS Rights

Component	Installation			Operations		
	Account	Privileges	Password change / Account expiry	Accounts	Privileges	Password change / Account expiry
<b>Celiveo Web Admin (WA)</b>						
<b>Celiveo Smart Appliance (CSA)</b>	Registered user on WA as Admins	<b>WA</b> – No additional privileges required	N/A	N/A	<b>OS/ DB</b> – No privileges required	N/A
<b>Embedded Solution (HP FutureSmart)</b>	Registered user on WA as Admins	<b>WA</b> – No additional privileges required	N/A	N/A	<b>OS/ DB</b> – No privileges required	N/A
<b>Celiveo Virtual Printer (CVP)</b>	Windows Account	<b>OS</b> – Local Administrator privileges	NO	Local System	<b>OS</b> – No additional privileges required.	<b>Password change</b> – Required <b>Not to Change</b> . If password is changed, it needs to be updated in WA.Configuration settings file <i>config.ini</i> should be updated in all workstations.
	N/A	<b>DB</b> – N/A	NO	CeliveoDB User (credentials set in encrypted connection string)	<b>DB</b> – Require <i>dbreader</i> , <i>dbwriter</i> and <i>ddladmin</i> roles and <i>EXEC</i> permission to execute stored procedures on databases (SJPS/ CeliveoDB/ PrintManager90)	<b>Password change</b> – Required <b>Not to Change</b> . If password is changed, it needs to be updated in WA. Configuration settings file <i>config.ini</i> should be updated in all workstations.
<b>Celiveo Server Services (CSS)</b>	Windows Account	<b>OS</b> – Local Administrator privileges	N/A	Local System	<b>OS</b> – No additional privileges required.	N/A
<b>Celiveo Shared Virtual</b>	Windows Account	<b>OS</b> – Local Administrator privileges	N/A	Local System	<b>OS</b> – No additional privileges	N/A



<b>Printer (CSVP)</b>					required.	
	N/A	<b>DB – N/A</b>	NO	CeliveoDB User (credentials set in encrypted connection string)	<b>DB – Require</b> <i>dbreader</i> , <i>dbwriter</i> and <i>ddladmin</i> roles and <i>EXEC</i> permission to execute stored procedures on databases (SJPS/ CeliveoDB/ PrintManager90)	<b>Password change – Required Not to Change.</b> If password is changed, it needs to be updated in WA. Configuration settings file <i>config.ini</i> should be updated in all workstations.
<b>For older versions of Celiveo</b>						
<b>Celiveo Secure Services (CSS)</b>	Windows Account	<b>OS – Local Administrator privileges</b>	NO	Local System	<b>OS – No additional privileges required</b>	<b>Password change – Required Not to Change.</b> If password is changed, it needs to be updated in CSS.
	N/A	<b>DB – N/A</b>	NO	System Admin	<b>DB – Require</b> <i>dbcreator</i> , <i>dbowner</i> privileges for databases	<b>Password change – Required Not to Change.</b> If password is changed, it needs to be updated in CSS.

## SQL service account rights

There are 2 ways to install and run Celiveo Web Admin based on database user privileges that can be provided:

- Using any user, who has privilege to create database on SQL Server. Typically default roles sysadmin, dbcreator have these privileges. And any role/user with “CREATE ANY DATABASE”, “VIEW ANY DATABASE”, “CONNECT” server level permissions will also qualify.  
When this option for service user is chosen, enter user with above roles/permissions on the Celiveo WA installer and it will take care of creating both databases (CeliveoDB, SJPS) and install Web Admin keeping the entered user as service account for Celiveo with respect to database server.
- Another way to specify the DB service user for Celiveo when this service user must not be able to create databases. In this case, before installing Celiveo Web Admin:
  - Manually create 2 databases on SQL Server i.e. CeliveoDB and SJPS.
  - Create login on SQL server with SQL Authentication.
  - Create user in CeliveoDB and SJPS for created login and then give appropriate permissions to that user. There are 2 ways to give permission to user: built roles and explicit permissions. The following table describes permissions/roles required by Celiveo:

Database Name	Role	Permissions
CeliveoDB	db_datareader, db_datawriter, db_ddladmin	<b>SERVER</b> – VIEW SERVER STATE <b>DATABASE</b> – “CREATE TABLE”, “CREATE VIEW”, “CREATE PROCEDURE”, “CREATE FUNCTION”, “CREATE RULE”, “CREATE DEFAULT”, “CREATE TYPE”, “CREATE ASSEMBLY”, “CREATE XML SCHEMA COLLECTION”, “CREATE SCHEMA”, “CREATE SYNONYM”, “CREATE AGGREGATE”, “CREATE SYMMETRIC KEY”, “CREATE ASYMMETRIC KEY”, “CREATE FULLTEXT CATALOG”, “CREATE CERTIFICATE”, “CONNECT”, “ALTER ANY SCHEMA”, “ALTER ANY ASSEMBLY”, “ALTER ANY FULLTEXT CATALOG”, “ALTER ANY SYMMETRIC KEY”, “ALTER ANY ASYMMETRIC KEY”, “ALTER ANY CERTIFICATE”, “SELECT”, “INSERT”, “UPDATE”, “DELETE”, “REFERENCES”, “ALTER ANY DATABASE DDL TRIGGER”, “VIEW DATABASE STATE”, “EXECUTE”
SJPS	db_datareader, db_datawriter, db_ddladmin	<b>SERVER</b> – VIEW SERVER STATE <b>DATABASE</b> – “CREATE TABLE”, “CREATE VIEW”, “CREATE PROCEDURE”, “CREATE FUNCTION”, “CREATE RULE”, “CREATE DEFAULT”, “CREATE TYPE”, “CREATE ASSEMBLY”, “CREATE XML SCHEMA COLLECTION”, “CREATE SCHEMA”, “CREATE SYNONYM”, “CREATE AGGREGATE”, “CREATE SYMMETRIC KEY”, “CREATE ASYMMETRIC KEY”, “CREATE FULLTEXT CATALOG”, “CREATE CERTIFICATE”, “CONNECT”, “ALTER ANY SCHEMA”, “ALTER ANY ASSEMBLY”, “ALTER ANY FULLTEXT CATALOG”, “ALTER ANY SYMMETRIC KEY”, “ALTER ANY ASYMMETRIC KEY”, “ALTER ANY CERTIFICATE”, “SELECT”, “INSERT”, “UPDATE”, “DELETE”, “REFERENCES”, “ALTER ANY DATABASE DDL TRIGGER”, “VIEW DATABASE STATE”, “EXECUTE”

✿ **NOTE** – Please note that you can either set role or permissions. When you have set roles for the user, you don't need to explicitly set any permissions, because roles specified above contain all those permissions.

You can also use the following scripts to create login, user and set permissions for service account –

1. [Create Service Account with roles.sql](#) – This file creates login, user and assigns db\_datareader, db\_datawriter and db\_ddladmin roles to that user in SJPS and CeliveoDB databases.
2. [Create Service User with permissions.sql](#) – This file creates login, user and then adds all minimum required permissions for the user.

✿ **NOTE** – Please remember to rename username and provide your own password in script. Command line in SQL script denote the place where username and password needs to be changed.

## TGS 10

For TGS 10, the service user that you enter needs to have db\_datareader, db\_datawrite, db\_ddladmin roles or same permissions as that of Web Admin. Therefore you can use same service user as that of WA in TGS 10. TGS 10 always needs to be installed after Web Admin.

**Note:**

Tags applied decide the level of authority for the user in WA. To know more about Tags and System Administrator Management, refer to:

[Tag Printers and Users](#)

[Managing System Administrators](#)

*Last modified: 16 February 2021*

## 4.4. Ports and Communication

The table below provides a comprehensive list of all the ports used by Celiveo solutions, and describes the ports and applications used for communication between the Celiveo components that consist of the Celiveo Server Services, Web Admin Server, Active Directory, Database (SQL) server, the device, and the PC/laptop/workstation.

Origin	Origin Service Name	Destination	Destination Service Name	Destination Port	Protocol	Content
Celiveo Web Admin Software	Celiveo Web Admin Code	Active Directory	slapd	636 or 389	TCP	Admin se for clear TLS communic
Celiveo Authentication Gateway	Celiveo Server Services Code	Active Directory	slapd	636 or 389	TCP	Admin se for clear TLS communic
Serverless Pull Printing Client	Celiveo Embedded Code	Active Directory	slapd	636 or 389	TCP	Admin se for clear TLS communic
Printing Device / Celiveo Smart Appliance	Celiveo Embedded Code	Active Directory	slapd	636 or 389	TCP	Admin se for clear TLS communic
Celiveo Server Services/ Celiveo Web Admin Software	Celiveo Embedded Code	Celiveo Hardware	Celiveo Embedded Code	9100	TCP / Raw Data	Clear o AES12 encrypt (admin se
Celiveo Printer Discovery Agent Client		CeliveoPrinterDiscovery AgentService	CeliveoPrinterDiscovery AgentService.exe	22201	TCP	TLS 1.3
AirPrint	iOS Mobile app	Celiveo Print-Web Mobile Gateway		7910	TCP	
Celiveo Print-Web Mobile app		Celiveo Print-Web Mobile Gateway		9444	HTTPS TLS	TLS 1.3
		Multicast DNS		5353	UDP	

Celiveo Print-Web Mobile Gateway		Celiveo Print-Web Server		7290 / 9443	HTTP / HTTPS	Clear/TLS
Celiveo Smart Appliance	Celiveo Embedded Code in Printer	Celiveo Server Services (for legacy systems)	Celiveo Embedded Code	22000	TCP	Encrypte XTEA12 AES12
Celiveo Web Admin Software	HTTP Client	Celiveo Smart Appliance	Celiveo Embedded Code	80	TCP/HTTP	Clear da
Google Cloud Print	Celiveo® Print-Web server	Google Cloud Print services		80 / 443	TCP	Clear/TLS
				5222	XMPP	TLS 1.3
Print-Web	Web interfaces and Web Print			7290	HTTP	Clear (ad choice
				9443	HTTPS	TLS 1.3
Email Print	Celiveo® Print-Web server	Mail Server	POP3 non-TLS	110	TCP	Clear (ad choice
			POP3 TLS	995	TCP	TLS 1.3
			IMAP non-TLS	143	TCP	Clear (ad choice
			IMAP TLS	993	TCP	TLS 1.3
			SMTP non-TLS	25	TCP	Clear (ad choice
			SMTP TLS	465	TCP	TLS 1.3
			Exchange MAPI	135	TCP and Windows RPC	TLS 1.3
			Exchange WS	80 / 443	HTTP TCP / HTTPS TCP	Clear/TLS
Celiveo Web Admin Software	HTTPS Client	Printing Device	Celiveo Smart Appliance	9400 / 443 / 9100	TCP	Encrypte TLS 1.3
			HP Celiveo Embedded Code			AES12
Celiveo Web Admin Software		Printing Device	Celiveo Smart Appliance	8181	TCP	TLS 1.3
			HP Celiveo Embedded Code			

Celiveo Printer Discovery Agent Client	Discovery Agent	Printing Device		161	UDP	SNMP v 1
Celiveo Web Admin Software		SMTP Server	Any	25	TCP	Clear (ad choice
Celiveo Web Admin Software		SMTP Server	Any	587	TCP	TLS 1.2
Web Admin/ Celiveo Discovery Agent/CSS/ CSA/Virtual Printer		SQL Server	sqlservr.exe	Any/1433	TCP	TLS 1.2
CVP	Celiveo Virtual Printer	SQL Server	N/A	1433	ICMP	TLS 1.2
Web Admin/ Celiveo Discovery Agent/CSS/ CSA/Virtual Printer		SQL Server Browser	Any	1434/1433	UDP	TLS 1.2

## Dynamic Ports

To allow the database connection with dynamic ports, it is necessary to allow connection through firewall to both SQL Server process (any port) and SQL Browser (port 1434).

*Last modified: 8 September 2020*

## 4.5. SNMP Settings

SNMP (Simple Network Management Protocol) is a standard network management protocol (based on TCP/IP) to monitor and map network availability, performance, and error rates when a printer is added in Celiveo Web Admin. To identify the different printer types after the printer is contacted, the SNMP protocol retrieves information such as the system description, system type, printer serial number, and printer model name.

### Set SNMP v1/v2 settings

Setting	Activity
<b>[Enable SNMP v1/v2]</b>	Enabled by default.
<b>[Community Name]</b>	Enter the community name of the printer type required during the communication between Celiveo Web Admin and the printer. The request messages are accepted only if the community name in the message matches the community name of the printer type specified on the printer web page.

### Set SNMP v3 settings

Setting	Activity
<b>[Enable SNMP v3]</b>	Enable SNMP v3 settings.
<b>[User Name]</b>	Enter the user name required during authentication while contacting the printer.
<b>[Context Name]</b>	Enter the context name of the printer type required during the communication between Celiveo Web Admin and the printer. The request messages are accepted only if the context name in the message matches the context name of the printer type specified on the printer web page.
<b>[Authentication Protocol (Hash)]</b>	The authentication protocol is used for proper authentication by ensuring the identity of the users, and the correct and appropriate encryption mechanism for security purposes. Select one of the options: <ul style="list-style-type: none"> <li>• <b>[None]</b></li> <li>• <b>[MD5]</b>: a message digest algorithm</li> <li>• <b>[SHA1]</b>: an optional alternative algorithm</li> </ul>
<b>[Authentication Password]</b>	Enter an alphanumeric password of 8 to 12 characters that is required for the authentication mechanism.
<b>[Privacy Protocol (Encryption)]</b>	Privacy protocols allow for encryption of SNMP v3 messages to ensure confidentiality of data. It is a secondary security constraint for SNMP v3 to ensure privacy of the request for the proper channeling of a response. Select one of the options: <ul style="list-style-type: none"> <li>• <b>[None]</b>: No Privacy Protocol</li> <li>• <b>[DES]</b>: Data Encryption Standard (DES) mode of encryption</li> <li>• <b>[AES128]</b>: 128-bit Advanced Encryption Standard (AES) mode of encryption</li> <li>• <b>[AES192]</b>: 192-bit Advanced Encryption Standard (AES) mode of encryption</li> <li>• <b>[AES256]</b>: 256-bit Advanced Encryption Standard (AES) mode of encryption</li> </ul>

- **[TripleDES]**: Triple Data Encryption Standard mode of encryption

*Last modified: 8 September 2020*



## 4.6. Celiveo Versions Compatibility with Windows 10

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Windows 10 Release Version	SecureJet 7.0.6 Serverless Pull Print Client	Celiveo 8.0.2 Serverless Pull Print Client	Celiveo 8 Celiveo Virtual Printer 8.6.x and 8.7.x
Version 1909	√	√	√
Version 1903	√	√	√
Version 1809	√	√	√

*Last modified: 8 September 2020*

## 5. Celiveo Smart Appliance

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Celiveo adds its intelligence to the printers other than HP FutureSmart and Ricoh SOP through a tiny Celiveo Smart Appliance connected to the network port behind the printer.



Celiveo provides the following services on those printers:

- User authentication for pull printing
- Pull printing with instant print jobs release upon badge or PIN authentication
- Tracking and reporting of pull print jobs

[Celiveo Smart Appliance](#)

[Setup Celiveo Authentication Hardware](#)

[How to upgrade the Celiveo Version on CSA and Embedded Agents](#)

[Understanding CSA LED Flashing Behaviors](#)

*Last modified: 14 September 2020*

## 5.1. Celiveo Smart Appliance (CSA)

### Connectors



Connector		Description
Power switch		Power ON/OFF. <b>Needs to be pressed continuously until the CSA switches On or Off.</b>
USB port		(Optional) Connect a Celiveo authentication hardware such as a card reader to the USB port.
Reset Button (Pinhole)		Re-initialize the CSA
Printer port		Connect the supplied network cable from the CSA to the printer.
Network port		Connect a network cable from the CSA to the local network.
Power supply		Connect the supplied USB power cable from the CSA to the USB port on the printer.

### Specifications

MEASUREMENTS	
Size	25 mm x 77 mm x 118 mm / 0.98" x 3.03" x 3.98"
Weight	160g / 0.35lbs
Case	Aluminum

Color	Silver/Black
Power Source	DC Jack
Ethernet port	2 x RJ45
Power	5V / 9V / 12DC
Certification	CE, FCC, IC, EAC
Compliance	REACH, RoHS

**Note:** Electrostatic Discharges (ESD) will not damage the Celiveo Smart Appliance but may reboot in case of very high intensity.



**Important:** To switch on/off the CSA, press the Power button until the CSA switches on/off.

## Powering the CSA

### Powered by the Printer USB Connector

- Short cable to power from Printer USB.
- 5v USB power is necessary.
- No need for external power supply.
- No extra wall plug required.
- CSA is OFF when printer is OFF.
- CSA needs up to 120s to boot.

### Powered by an external power supply

- 5 to 12v 2A external power supply.
- C14 output, wall cable (supplied upon demand based on geography)
- CSA is not OFF when printer is OFF.
- Spare wall plug required.

## Network Settings

By default, the CSA is set in DHCP mode. You can also opt for fixed IP network settings.

### Configure DHCP IP network settings through USB

1. Create a configuration file with the entry below. Save the file as ***ipsetup.conf*** file.

Remove any spaces in the configuration entries or the configuration file will not work.

DHCP Fixed IP

MASK=x.x.x.x Subnet Mask

2. Format the USB flash drive to FAT32.
3. Copy the ipsetup.conf file to the USB flash drive.
4. Switch off the Celiveo Smart Appliance (CSA).
5. Connect the USB flash drive with the **ipsetup.conf** file to the CSA.
6. Switch on the CSA. The configuration file is automatically installed on the CSA.
7. Once the configuration completes, the LED on the CSA changes to a steady green light.
8. Remove the USB flash drive.

## Configure Fixed IP network settings through USB

The fixed IP network settings are configured by providing the details in the ipsetup.conf configuration file.

1. Create a configuration file with the entries below. Save the file as **ipsetup.conf** file.

Remove any spaces in the configuration entries or the configuration file will not work.

FIP=x.x.x.x Fixed IP

MASK=x.x.x.x Subnet mask

GATEWAY=x.x.x.x Gateway

PRI\_DNS=x.x.x.x Primary DNS server IP

SEC\_DNS=x.x.x.x Secondary DNS server IP

NTP\_SERVER=x.x.x.x IP or hostname

SEARCH\_DOMAIN=< value >

2. Format the USB flash drive to FAT32.
3. Copy the ipsetup.conf file to the USB flash drive.
4. Switch off the Celiveo Smart Appliance (CSA).
5. Connect the USB flash drive with the **ipsetup.conf** file to the CSA.
6. Switch on the CSA. The configuration file is automatically installed on the CSA.
7. Once the configuration completes, the LED on the CSA changes to a steady green light.
8. Remove the USB flash drive.


*Last modified: 9 September 2020*

## 5.2. Setup Celiveo Authentication Hardware

Celiveo Authentication Hardware refers to the card readers that are used to authenticate users at the device.

These card readers are supported:

- Proximity card reader
- Smart card reader
- Swipe card reader

 **Note:** For up-to-date information on supported devices, visit <https://www.celiveo.com>

### Connecting Celiveo Authentication Hardware to the printer device

Celiveo Authentication Hardware, such as card readers, can be connected to the devices in two ways:

- Connect to the Celiveo Smart Appliance, or
- Connect directly to the device.

#### Connect to Celiveo Smart Appliance

1. Connect a crossover fast Ethernet cable from the Celiveo Smart Appliance to the device.
2. Connect a USB cable from the Celiveo Smart Appliance to the Celiveo Authentication Hardware (external card reader).

 For installation of the Celiveo Smart Appliance, see the article [How to install the Celiveo Hardware](#).

#### Connect to device

The Celiveo Authentication Hardware can be connected to a device as an external card reader using the USB port. If the device has only one USB port, a USB hub can be used to connect both the smart card and proximity card reader. Before you Switch on the device, make sure both the Celiveo Authentication Hardware and reader are connected to the device.

#### Connect the external Celiveo Authentication Hardware through USB

Connect the Celiveo Authentication Hardware (external) to a device using the following ways:

1. Attach the back of the Celiveo Authentication to the device with a double-sided adhesive label.



**Note:** Make sure the adhesive label does not cover the barcode on the back of the Celiveo Authentication Hardware. This information is required for technical support.

2. Use the two supplied adhesive cable brackets to guide the reader's cable from the back of the device to the front.

#### **To connect Celiveo Authentication Hardware**

1. Switch off the device and disconnect the power cable.
2. Connect a USB cable from the Celiveo Authentication Hardware to the USB port on the device.
3. Connect the device to the power cable.
4. Switch on the device.

## **Connecting Celiveo Authentication Hardware (Embedded) using Hardware Integration Pocket (HIP)**

HP devices, such as HP FutureSmart devices and Ricoh devices, such as Ricoh SOP G2.x Android printer devices support embedded authentication hardware. The Celiveo Embedded Authentication Hardware is connected to the device in the HIP (Hardware Integration Pocket).

#### **To connect the Celiveo Embedded Authentication Hardware to HP FutureSmart devices:**

1. Switch off the device, and detach its power cable.
2. Remove the HIP Cover.
3. Locate the mini-USB slot connector.
4. Attach the Celiveo Embedded Authentication Hardware (mini-USB reader) to the HIP cover.
5. Plug the mini-USB Reader into the mini-USB plug.
6. Mount the HIP cover with the mini-USB reader onto the device.
7. Plug in the device and switch it on.

*Last modified: 8 September 2020*

## 5.3. How to upgrade the Celiveo Version on CSA and Embedded Agents

The Celiveo Version refers to the Celiveo firmware that runs as embedded on certain printers such as HP FutureSmart or Ricoh Android SOP 2.x MFP or as deployed in Celiveo Smart Appliance (CSA). Typically, the CSA Agent comes pre-loaded with the correct firmware. For printers that run on Embedded Agents, you must explicitly upload the Celiveo Version.



**The primary and recommended method of upgrading Celiveo Version is through the Web Admin.**

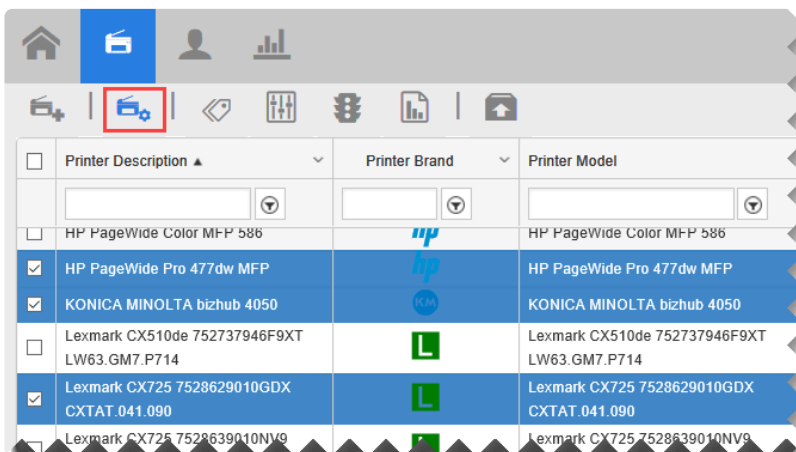
In case of CSA Agent, it can also be upgraded by flashing the firmware files directly to CSA Agent using USB memory stick.

### Upgrade Celiveo Version through Web Admin

If you have a new version of the Celiveo firmware and you wish to upgrade it:

#### Step 1. Select the printer

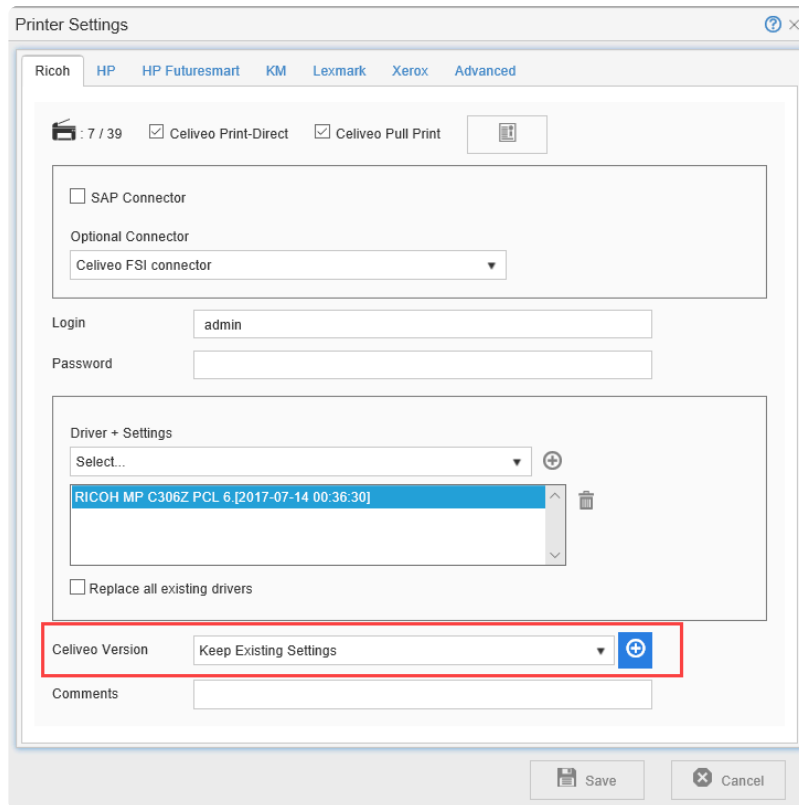
1. At the Main menu in Web Admin, click .
2. Select the printer(s) for which you wish to upgrade the Celiveo Version. You may also select different printer types for this purpose.
3. At the Printer menu, click .



#### Step 2. Upload the Celiveo Version

A tabbed dialog box is displayed, where each printer type has a separate tab. Repeat the instructions below for each tab.





4. Click the **[+]** icon adjacent to the **[Celiveo Version]** drop-down. The Upload Embedded Solution File dialog displays.
5. Click **[Select Files]**.
6. Pick the \*.mh/ \*.mr/ \*.mc/ \*.bmc file provided for the printer.

You can download the latest Celiveo Version files from [Downloads](#) in the Celiveo Partner Portal.



**Note:**

For HP FutureSmart printers, choose the \*.mh file.  
 For Ricoh Android SOP G2.0 and G2.5 printers, choose the \*.mr file.  
 For other printers types, you can choose either \*.mc or \*.bmc file.

### Step 3. Finalize

7. Once file is uploaded successfully, Click **[Save]**.
8. Synchronize the printer to upgrade the Celiveo Version on CSA.



**Important: DO NOT** power off or disconnect the Celiveo Smart Appliance from power when its firmware is being upgraded.

## Upgrade Celiveo Version through USB



**Note:** This method is not applicable for HP FutureSmart printers and Ricoh Android SOP

## 2.x printers

There are two types of CSA firmware files. You need to flash in the order listed below:

1. OS Image (for example: 8.0.016.0329-SIA8.1\_OSI.fw)
2. Celiveo Application file. (for example: 8.0.117.0919-SIA.fw)

To flash the CSA, copy the OSI.fw file to the USB Stick. This contains the OS Image and the Celiveo Application. However, if you only want to flash the Celiveo Application, please only copy the SIA.fw file to the USB Stick.

**Follow the below steps for flashing:**

1. Format the USB memory stick to FAT32.
2. Copy the firmware files to the root directory of the blank USB memory stick.
3. Switch off the CSA.
4. Insert that memory stick in the USB host port of the CSA.
5. Switch on the CSA. The update begins automatically.
6. LED will blink (around 15-20 minutes for OSI, 5 minutes for Firmware file).
7. Once the update is complete, the LED indicator on the CSA changes to a steady green light.
8. Remove the USB memory stick.

*Last modified: 8 September 2020*

## 5.4. Understanding CSA LED Flashing Behaviors

The table below describes the different CSA LED Flashing Behaviors to help you understand the meaning of the flashing and identify the potential errors.

Scenario	LED Behavior/Beep Activity
<b>Normal Behavior</b>	
Power on with network	Continuous Green LED blinking followed by Red LED blinking and stable. Green LED once the network is established
Celiveo ready state	Steady Green LED
<b>Error</b>	
Power on without network or Network Failure	Continuous Green LED blinking followed by Red LED blinking with Beeps
Celiveo Application boot up failure	Continuous Green LED Blinking
<b>Other Cases</b>	
Factory Reset Response	Red LED flashing
Synchronization in progress	Green LED blinking followed by stable Green LED

Video

Video

Video

Video

*Last modified: 8 September 2020*

## 6. Installation

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This section details the installation process for all Celineo components.

[How to install the Celineo Hardware](#)

[Installing the Celineo Web Admin](#)

[Installing TGS 10](#)

[After Installation](#)

[Web Admin First Run](#)

[Viewing and Updating Your Celineo License](#)

[Multicard Reader – Specifications for Type A](#)

[Multicard Reader – Specifications for Type B](#)

*Last modified: 9 October 2020*

## 6.1. How to install the Celiveo Hardware

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### Installing Celiveo Hardware

#### \* IMPORTANT NOTES:

##### **Printer time and date:**

- Celiveo uses the date and time from the printer for jobs tracking, automatic updates, rules, scheduled tasks etc. Therefore make sure the date and local time are correctly set on the printers, with the correct time zone defined and the time should ideally be synced with a time server.

##### **Network connections on CSA:**

- Ensure CSA has both Ethernet (Printer and LAN) ports connected, in order to work properly.
- Do not connect the CSA to a POE-powered network cable.
- When the Ethernet cable between the CSA and the printer is re-plugged there is a delay of 20 seconds before the printer can be used, due to an internal network verification process.

### CSA Manual Configuration

To learn more about manually configuring the CSA, please refer to the following [article](#).

*Last modified: 8 September 2020*

## 6.2. Installing the Celiveo Web Admin

**! IMPORTANT NOTE:** SQL Server® 2016 SP1 is not supported on Windows 7 and Windows 2008 R2 Operating systems. For Windows Servers running on Windows Server 2008 R2 OS, it is recommended to install a lower version of SQL Server (preferably SQL Server® 2012 Express) and then follow the instructions.

The Celiveo 8 Web Admin installer package comprises of the following components:

- Printer Discovery Agent
- Celiveo Virtual Printer deployment package

The new tracking and reporting tool Track- Green Saver (TGS 10) is a stand-alone installer package. This should be installed in the Server right after Web Admin installation. The instructions for installing TGS 10 can be found in [here](#).

**Before you start, ensure the following:**

- Both the application and database servers are in the same domain.
- IIS is installed on the secondary database if there is any, with version 5.1 minimum.
- SQL Authentication is set to Mixed Mode.
- The SQL Server database is configured to allow remote connection:
  - The SQL Server Browser Service is running.
  - TCP/IP protocol for the SQL Server is enabled.
  - The firewall allows remote connection

**Follow these steps to install Celiveo Web Admin on Windows Server.**

1. [Start Installation](#)
2. [Install SQL Server Express](#)
3. [Install Celiveo 8](#)
4. [Finalize Installation](#)
5. [Change Database Password After Installation](#)

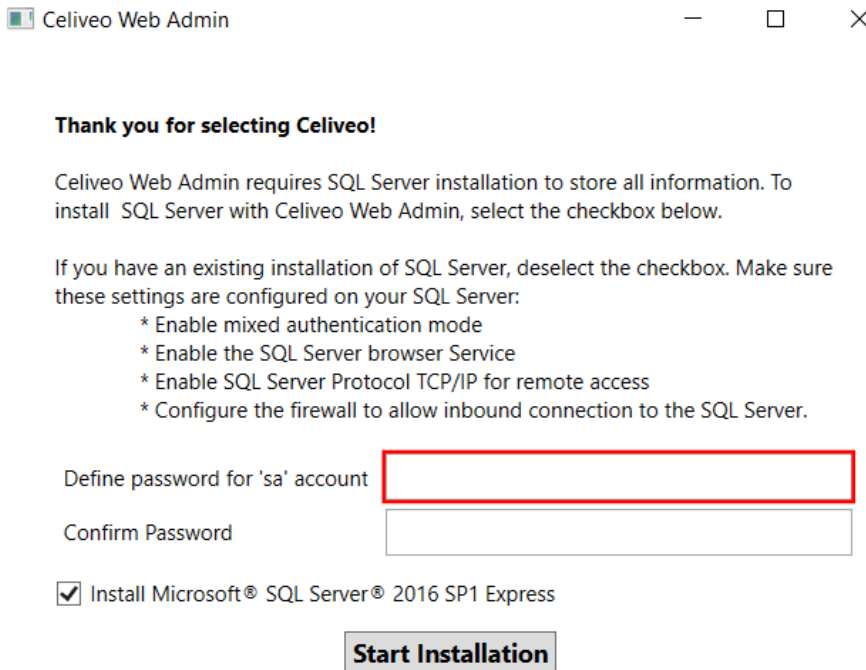
### 1. Start Installation

1. Copy the Celiveo Web Admin installer package to the desktop. You can download the latest version from [Downloads](#).
2. Select the installer and right-click on **[Run as administrator]**.

### 2. Install SQL Server Express

1. In the welcome window, select **[Install Microsoft SQL Server® 2016 SP1 Express]**. If SQL Server already exists in your machine, do not select this option.
2. Define the password for the account with System Administrator (role) access on the SQL server.

### 3. Click **[Start Installation]**.



**Thank you for selecting Celiveo!**

Celiveo Web Admin requires SQL Server installation to store all information. To install SQL Server with Celiveo Web Admin, select the checkbox below.

If you have an existing installation of SQL Server, deselect the checkbox. Make sure these settings are configured on your SQL Server:

- \* Enable mixed authentication mode
- \* Enable the SQL Server browser Service
- \* Enable SQL Server Protocol TCP/IP for remote access
- \* Configure the firewall to allow inbound connection to the SQL Server.

Define password for 'sa' account

Confirm Password

☒ Install Microsoft® SQL Server® 2016 SP1 Express

**Start Installation**

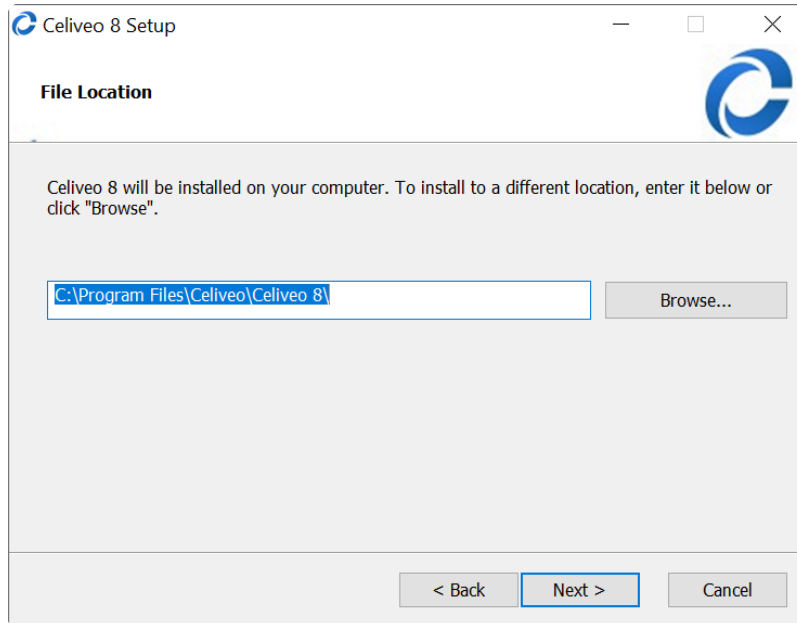
4. Follow on-screen instructions to install **SQL Server® 2016 SP1 Express**.
5. When prompted to reboot the machine, click **[Yes]**.

## 3. Install Celiveo 8

1. To continue the installation after the machine reboots, click **[Next]**.



2. Be informed of the license terms and conditions. To continue installation, select the checkbox to accept and click **[Next]**. To cancel, click **[Cancel]**.
3. If required, edit the file location and click **[Next]**.



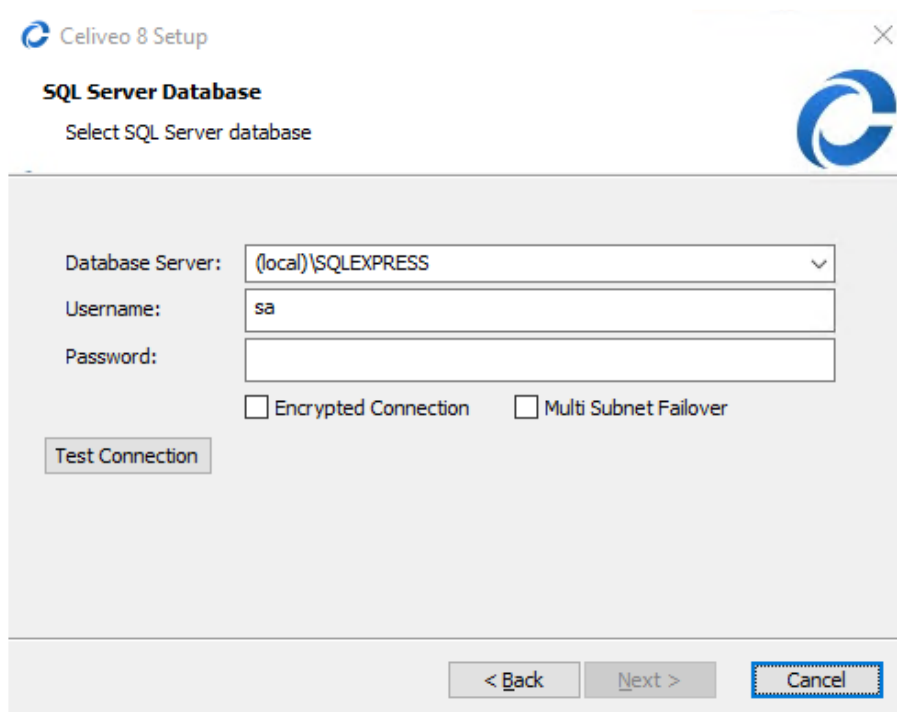
The screenshot shows the 'File Location' step of the Celiveo 8 Setup wizard. The window title is 'Celiveo 8 Setup'. Below the title bar, there is a Celiveo logo. The main text says: 'Celiveo 8 will be installed on your computer. To install to a different location, enter it below or click "Browse".' Below this text is a text box containing 'C:\Program Files\Celiveo\Celiveo 8\'. To the right of the text box is a 'Browse...' button. At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

4. Select the SQL Server IP address/hostname in the **[Database Server]** list.

**!** **Important:** If you are intending to use Multi-SQL configuration, it is **highly recommended** to provide an IP address/hostname at the **[Database Server]**.

5. The default database is (local)\SQLEXPRESS.

**\* Note:** System Administrator account is required only at the time of installation. You may delete/disable this account after installation. See RBAC to view permissions used for TGS Service account and Celiveo database accounts.

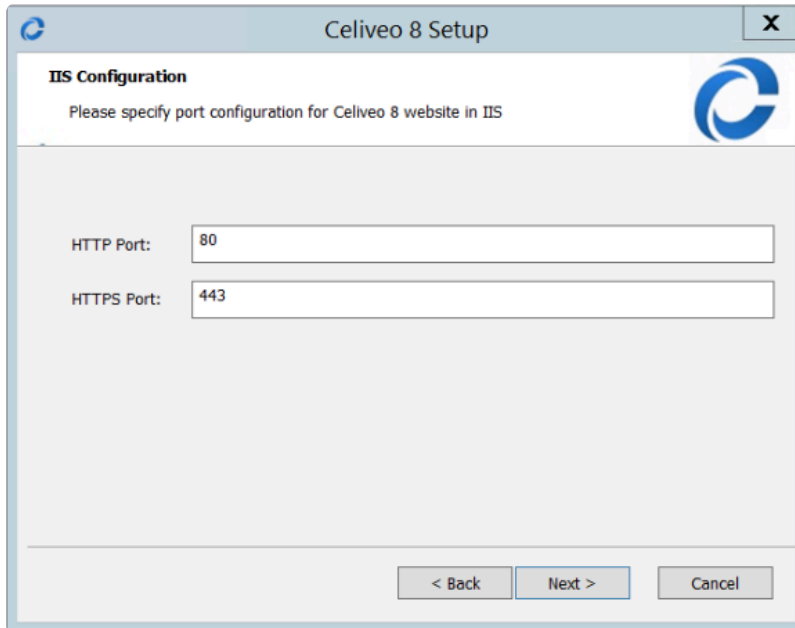


The screenshot shows the 'SQL Server Database' step of the Celiveo 8 Setup wizard. The window title is 'Celiveo 8 Setup'. Below the title bar, there is a Celiveo logo. The main text says: 'Select SQL Server database'. Below this text are three input fields: 'Database Server:' with a dropdown menu showing '(local)\SQLEXPRESS', 'Username:' with a text box containing 'sa', and 'Password:' with an empty text box. Below these fields are two checkboxes: 'Encrypted Connection' and 'Multi Subnet Failover', both of which are unchecked. At the bottom left is a 'Test Connection' button. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

**Options:**

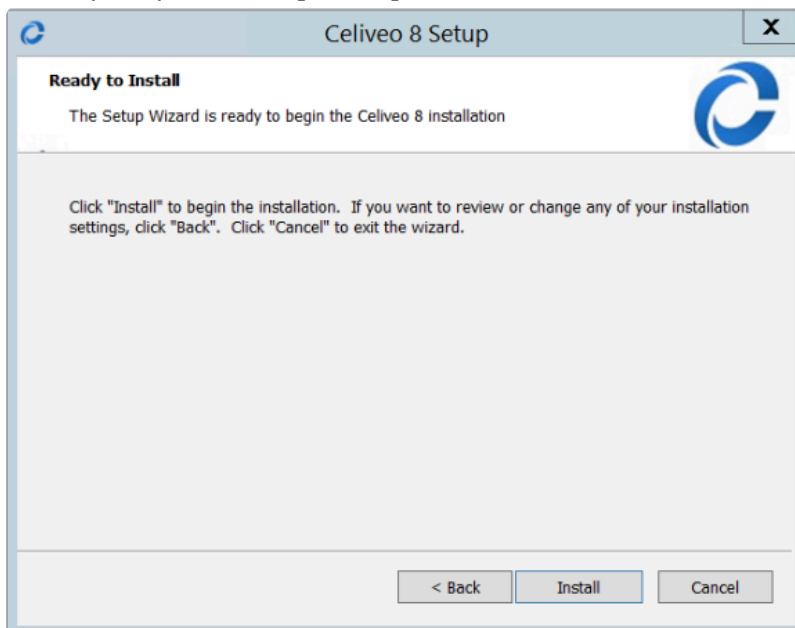


- Select [Encrypted Connection] checkbox to enable secured communication with SQL Server.
  - Select [Multi Subnet Failover] checkbox to enable connection to (Always On) Availability Groups in case of a failover in a multi-subnet environment.
6. Click **[Test Connection]**.
  7. Once the connection test is successful, click **[Next]**.
  8. In the IIS Configuration window, enter the **[HTTP Port]** and **[HTTPS Port]** details. The default values are provided as 80 and 443 respectively. If required, change the port details and click **[Next]**.

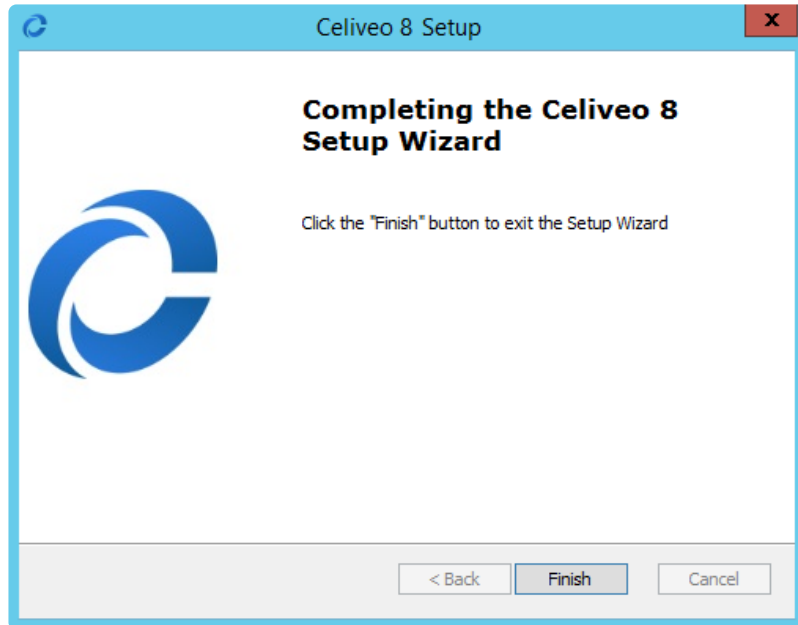


## 4. Finalize installation

9. When prompted, click **[Install]**.



10. When prompted to exit the Setup Wizard, click **[Finish]**.



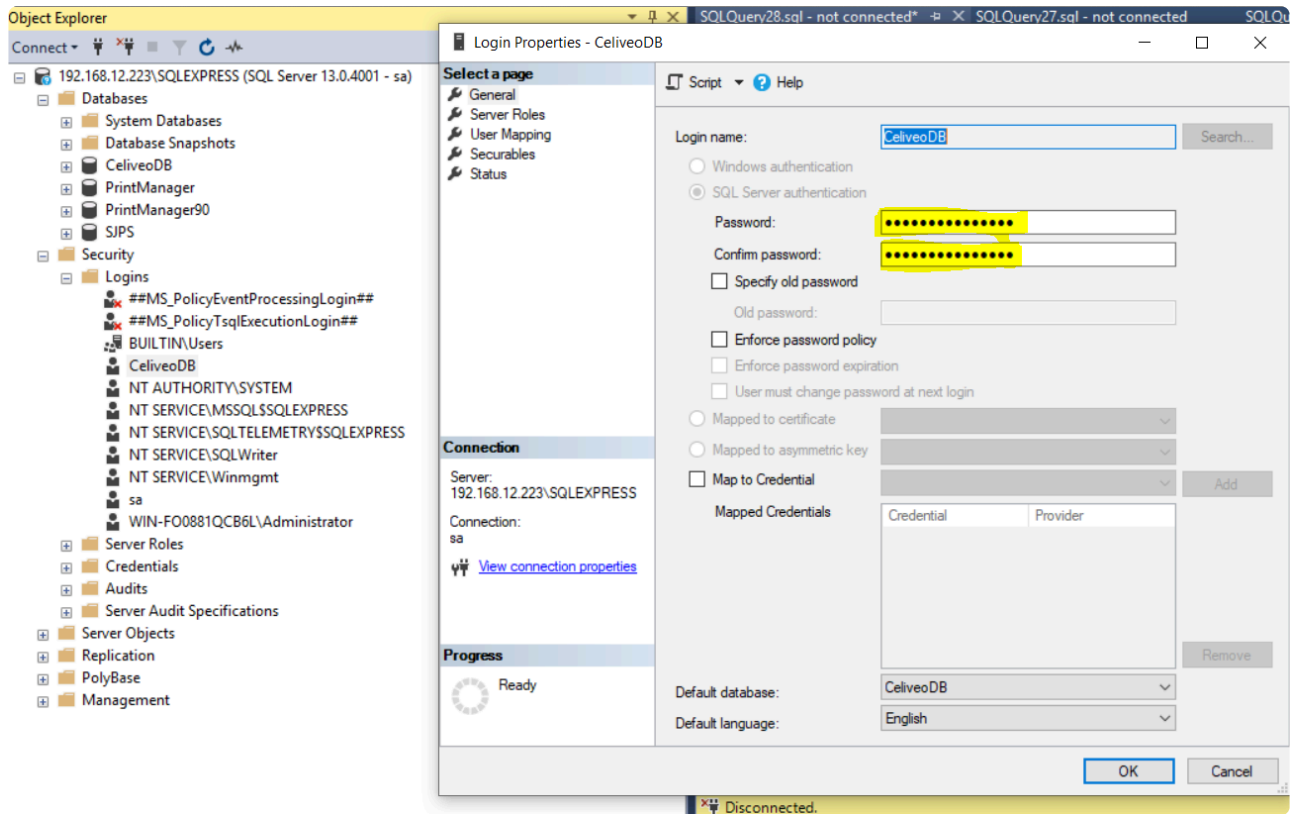
The Celiveo Web Admin icon is added to the desktop.

## 5. Change database password after installation




For security purposes, it is recommended to change the default password of SQL Server right after installation. You can update the password on the SQL server for Celiveo database (CeliveoDB) account and then update the same password for the database profile in Web Admin.

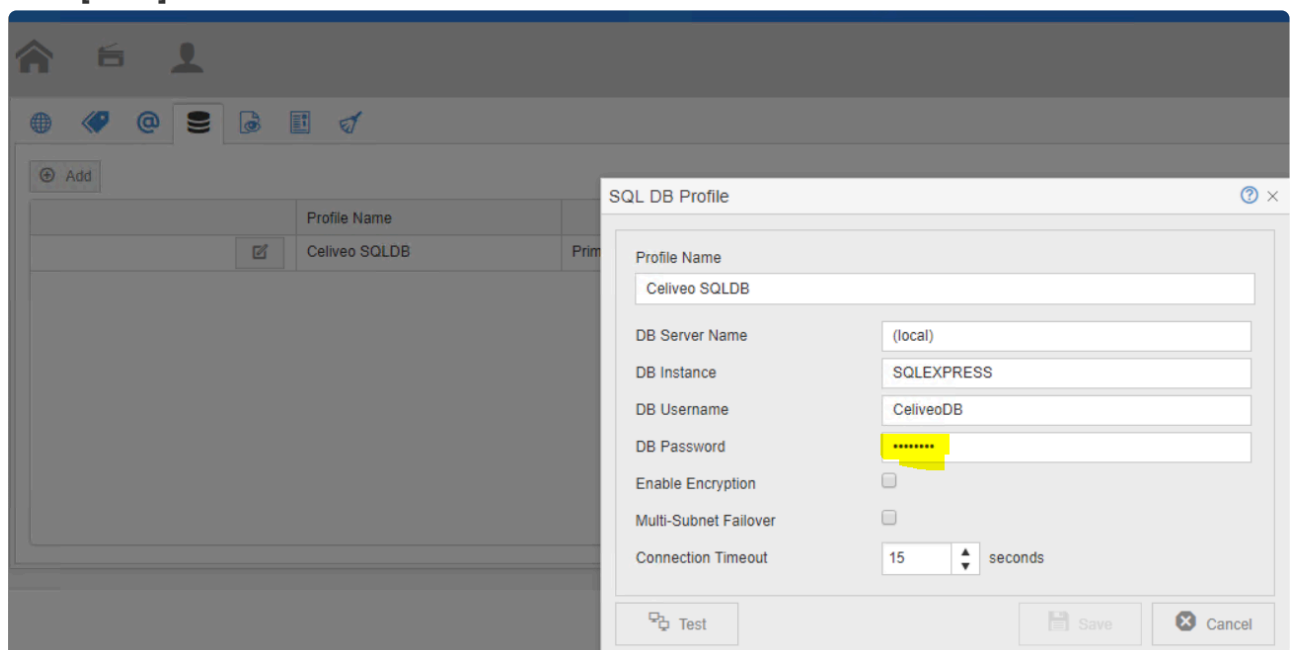
### On SQL Server:

1. Go to **Security > Login**.
2. Right-click on **CeliveoDB** account and choose **Properties**.
3. Go to **General** page.
4. Set a new password for CeliveoDB in **[Password]** field
5. Re-enter the password in **[Confirm Password]** field.
6. Click **[OK]**.



## On Web Admin

1. On Celiveo Web Admin Home page, click the  **Setup** icon.
2. Choose  **DB settings** tab.
3. On the SQL DB profile row, click the  **Edit** icon.
4. Update the **[DB password]** with the new password set for CeliveoDB account.
5. Click **[Save]**.

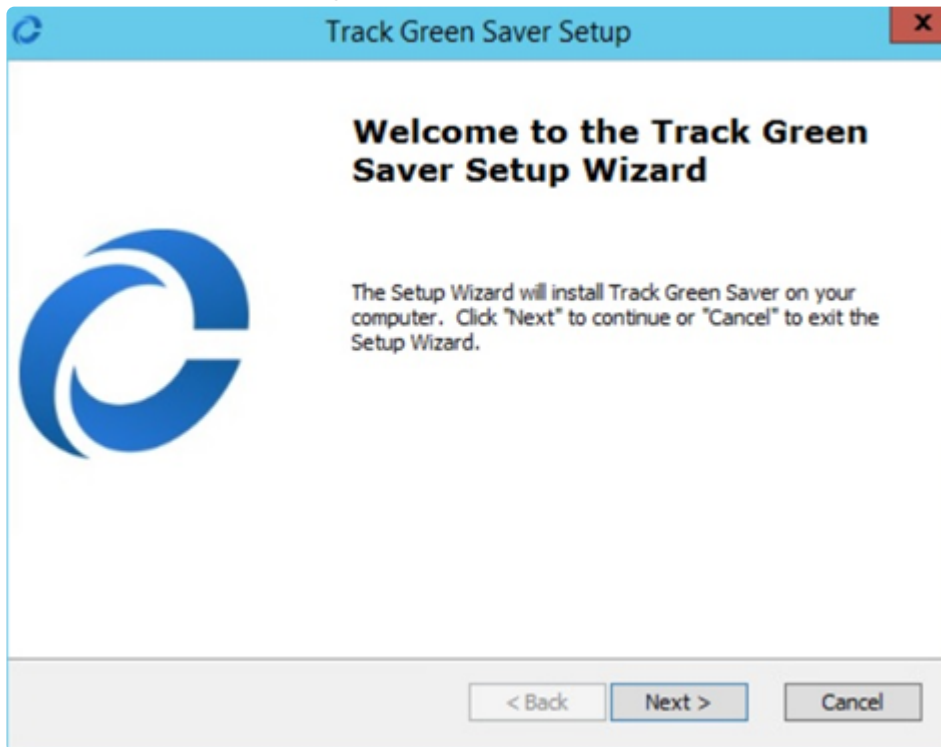


*Last modified: 8 September 2020*

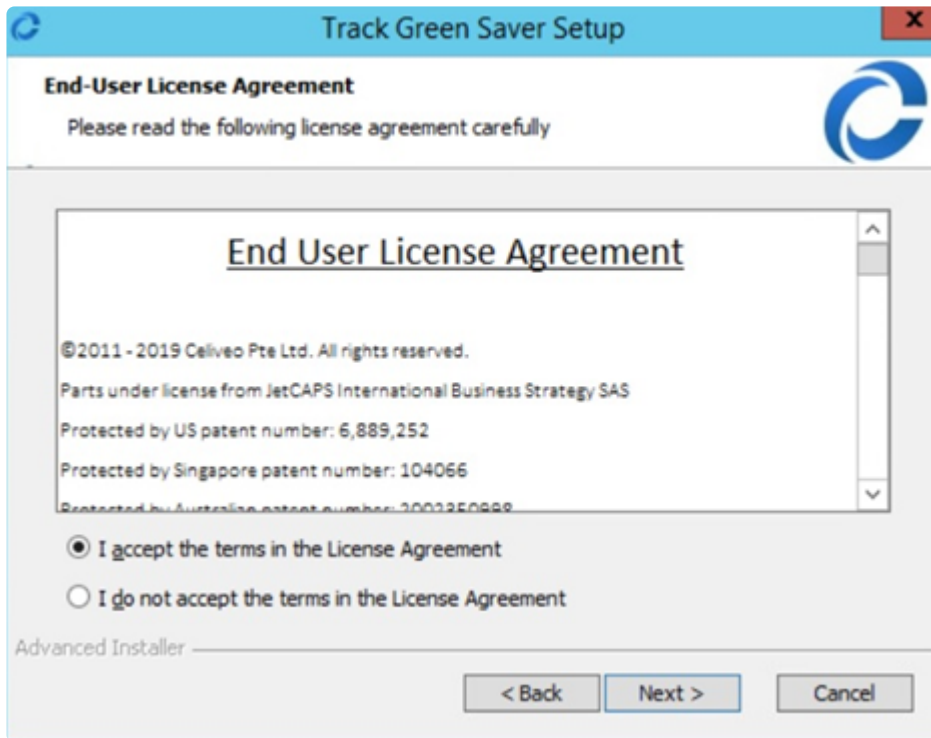
## 6.3. Installing TGS 10

**!** **IMPORTANT:** Celiveo Web Admin application **MUST** be installed and successfully launched prior to the installation of TGS 10. Ensure that TGS 10 and Web Admin are installed in the same system.

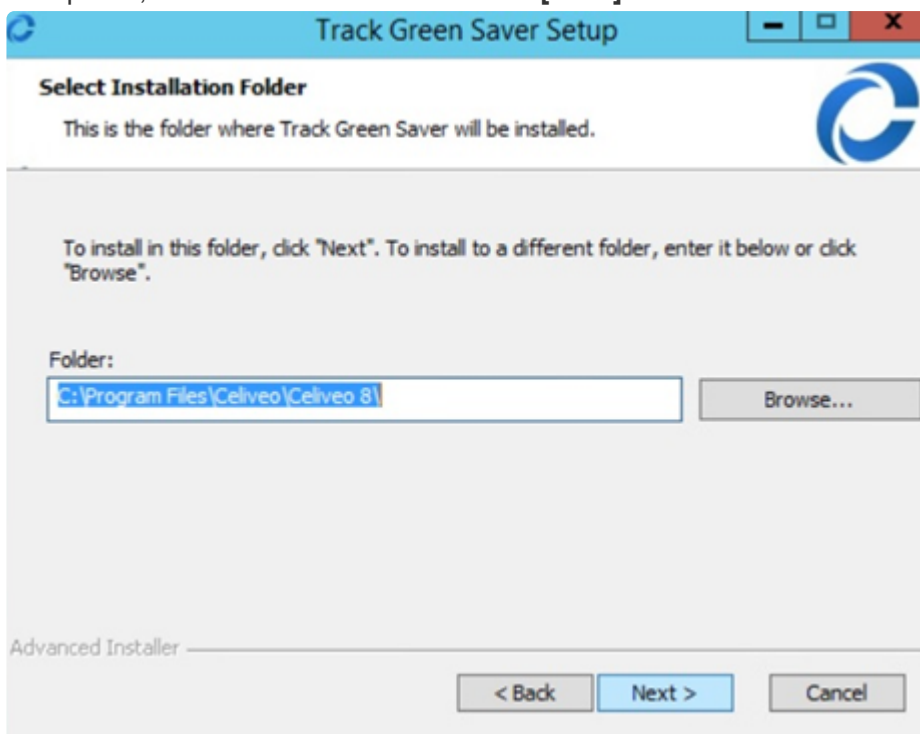
1. Copy the Track-Green Saver Installer package to the desktop.
2. Select the installer and right click on **[Run as Administrator]**.



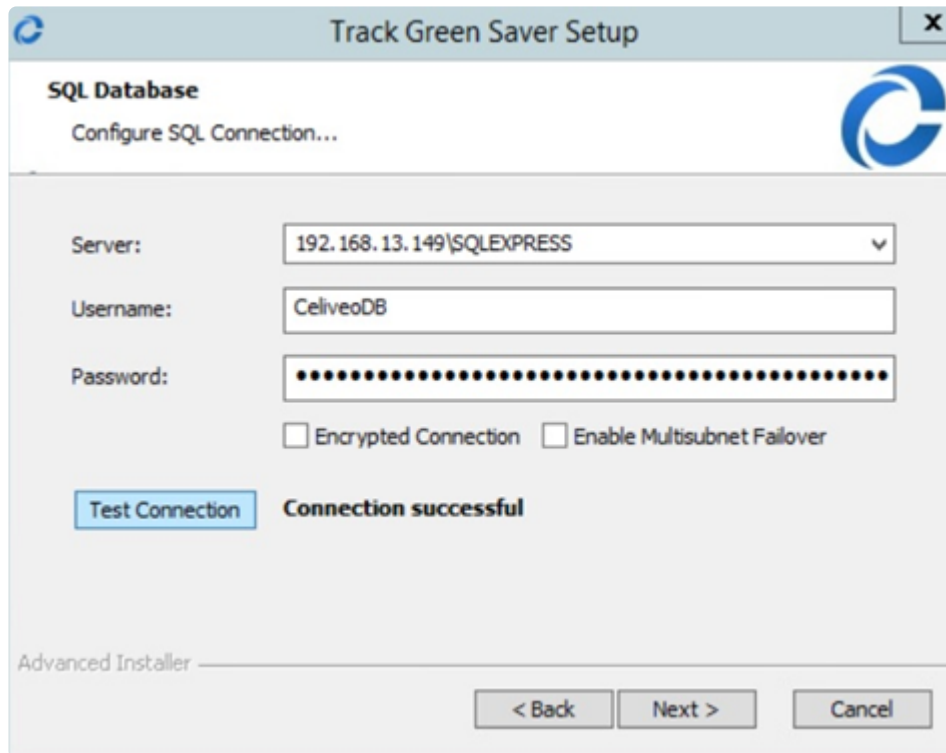
3. Click **[Next]**.
4. Be informed of the license terms and conditions. To continue installation, accept and click **[Next]**. To cancel, click **[Cancel]**.



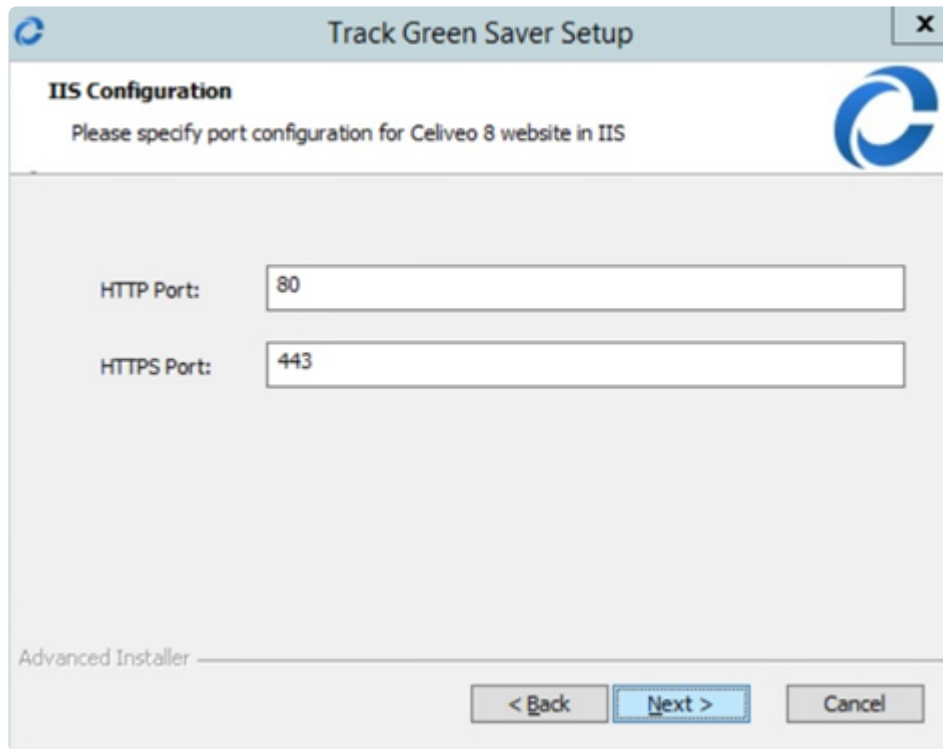
5. If required, edit the file location and click **[Next]**.



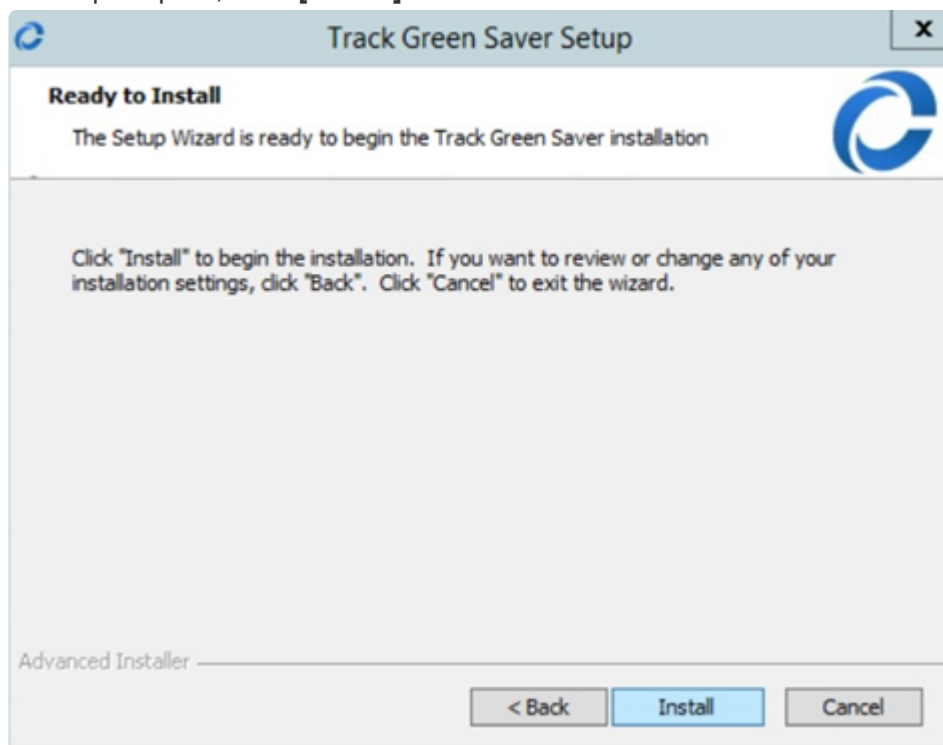
6. Enter the user name and password for an account with System Administrator (role) access on the SQL server. The default database is (local)\SQLEXPRESS.

**Options:**

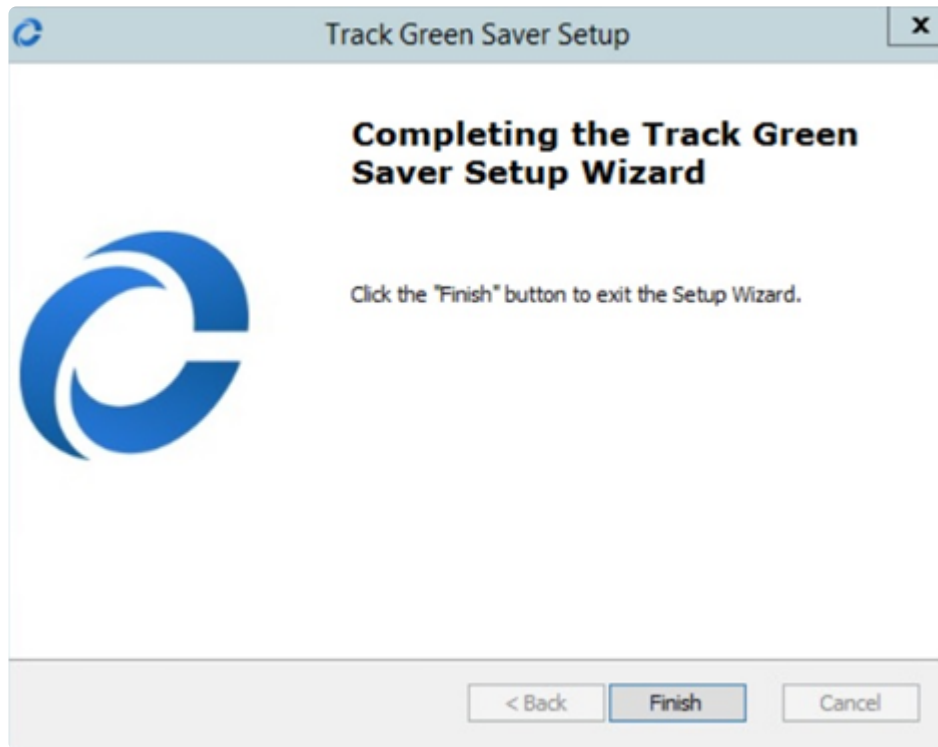
- Select **[Encrypted Connection]** checkbox to enable secured communication with SQL Server.
  - Select **[Multi Subnet Failover]** checkbox to enable connection to (Always On) Availability Groups in case of failover in a multi-subnet environment.
7. Click **[Test Connection]**.
  8. Once the connection test is successful, click **[Next]**.
  9. In the IIS Configuration window, enter the **[HTTP Port]** and **[HTTPS Port]** details. The default values are provided as 80 and 443 respectively. If required, change the port details and click **[Next]**.



10. When prompted, click **[Install]**.



11. When prompted to exit the Setup Wizard, click **[Finish]**.



The Celiveo Reporting icon is added to the desktop.

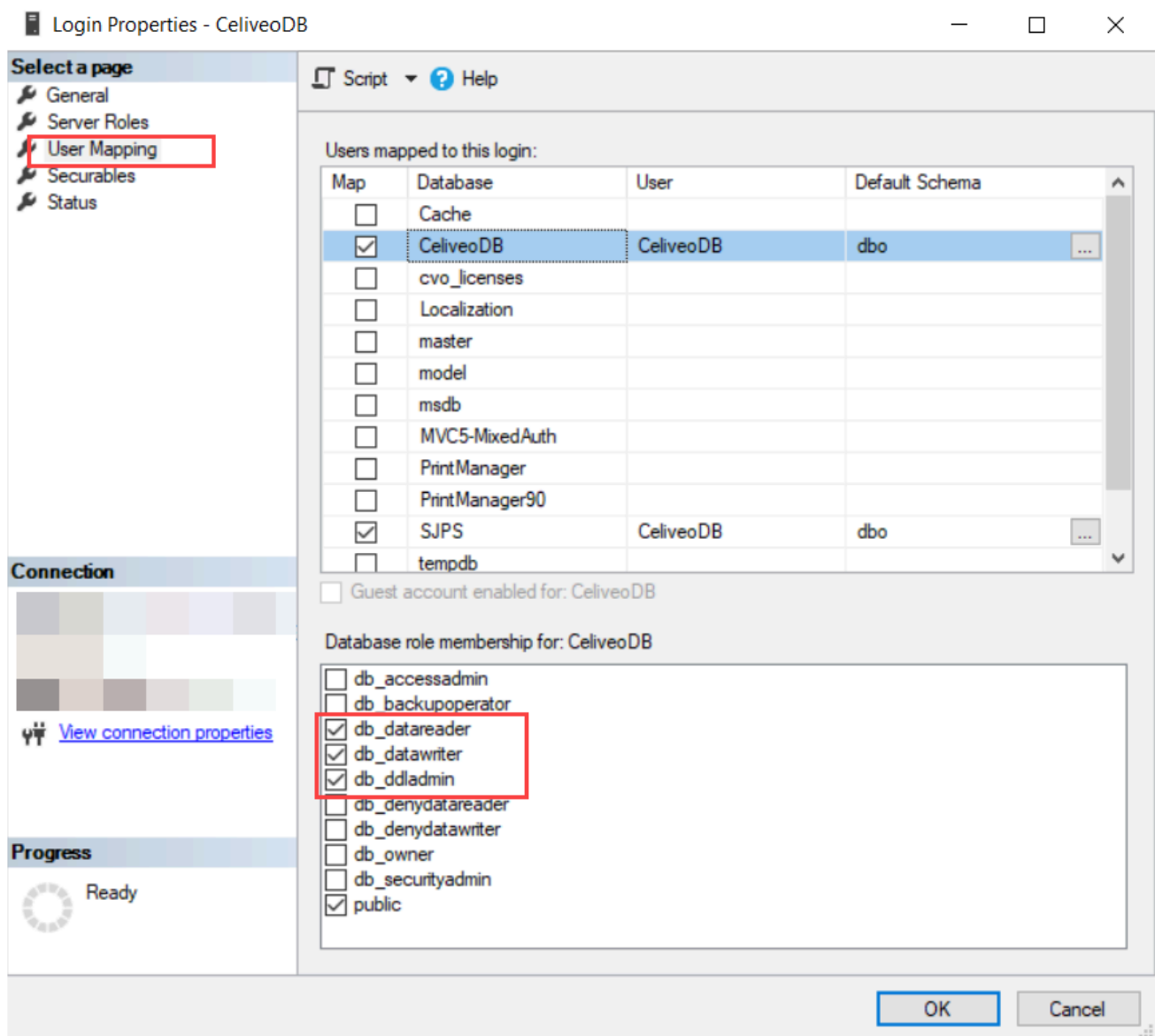
*Last modified: 8 September 2020*



## 6.4. After Installation


After installation it is recommended to downgrade the rights for both set of SQL account credentials (TGS Service account and Celiveo database account) to their minimal level which are:

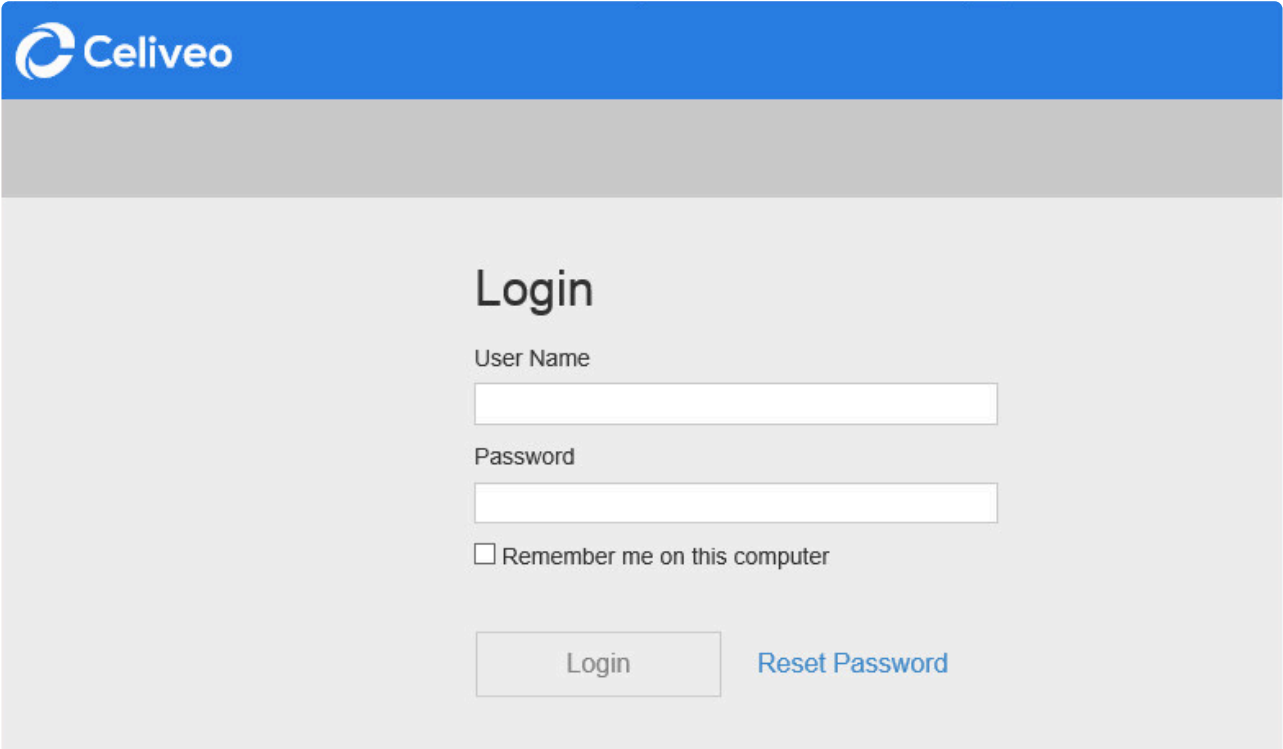
- dbdatareader
- dbdatawriter
- ddladmin



Last modified: 8 September 2020

## 6.5. Web Admin First Run

1. Double click the Celiveo Web-Admin icon on the desktop (  ). The initial logon screen of the Web Admin displays.



The screenshot shows the initial login screen of the Celiveo Web Admin. It features a blue header with the Celiveo logo. Below the header is a grey bar. The main content area is light grey and contains the title "Login". Underneath the title are two input fields: "User Name" and "Password". Below the "Password" field is a checkbox labeled "Remember me on this computer". At the bottom of the form are two buttons: "Login" and "Reset Password".

2. Specify admin as both the **[User Name]** and **[Password]**.
3. Click **[Login]**. The User Information Update screen displays.

## User Information Update

Please provide the valid email address and reset the default password for Admin.

**Name**

**Display Name**

**Email Address**

**New Password**

**Re-type New Password**

[Back to login](#)

4. At **[Email Address]**, specify a valid email address.
5. Specify a new password for the Default Admin user account.
6. Click **[Login]**. The License screen is displayed.

### License

**Generate 30-day trial license:**

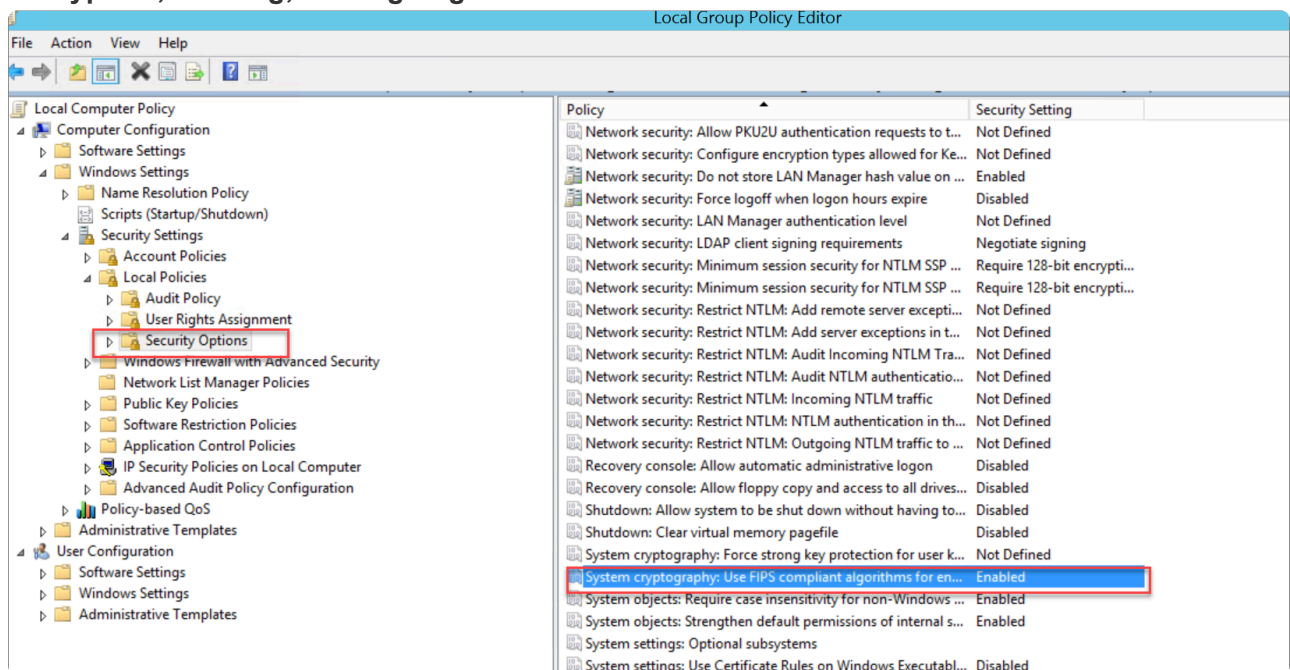
**Upload license:**

**!** **IMPORTANT:** If your Windows Server is FIPS compliant (FIPS mode is enabled), make sure to disable FIPS mode before uploading the license. Once the license is successfully uploaded, you can enable FIPS mode again.

Click **[Select File]** to upload the license file provided, or click **[Generate Trial License]** to run as Celiveo Print-Direct for 30 days.

## To disable/enable FIPS:

1. Log on to Windows Server as a Windows system administrator.
2. Click **Start**.
3. Click **Control Panel**.
4. Click **Administrative Tools**. (You may have to switch to large Icons for the next step.)
5. Click **Local Security Policy**. The **Local Security Settings** window appears.
6. In the navigation pane, click **Local Policies**, and then click **Security Options**.
7. In the pane on the right, double-click **System cryptography: Use FIPS compliant algorithms for encryption, hashing, and signing**.



8. In the dialog box that appears, click **Disabled** to disable FIPS or **Enabled** to enable it again, and then click **Apply**.
9. Click **OK**.
10. Close the **Local Security Settings** window.
11. Open the command prompt terminal, enter **gpupdate /force**, and then reboot the system to apply the modifications. This ensures that policy settings change is applied successfully.

*Last modified: 14 September 2020*







## 6.6. Viewing and Updating Your Celiveo License

The license defines what features you are authorized to use, and how many printers you can use them on. When you install the Web Admin on a Server for the very first time, you receive a trial. The trial license provides the features of Celiveo Business for 10 printers for a period of 30 days. You can upgrade your trial license to a full license by uploading a license file, which your Celiveo representative will provide.

If you upgrade your license to have more features or to support more printers, you will be provided with another license file. You upload the license file on top of your existing license and your license upgrades.

### To check details of your license

1. Start and Login to the Web Admin.
2. On the Home tab, click . The License details display.



Current License:

License

82c6f1d6-8768-4897-80d7-8a33ac66863a

Server Name

celiveo81demo

Company Details

Celiveo 81 Demo  
@celiveo.com

License Type

Not For Resale license

License Region

APJ

Maintenance Period

2017-09-04 to 2018-09-03

Main Product

5

	License	Applied	Credit	Expiration
Celiveo Enterprise	30	9	21	Perpetual

Connectors

6

	License	Applied	Credit	Expiration
Celiveo Print-Direct	20	0	20	
Celiveo FSI connector	10	2	8	
Celiveo HealthCare connector	10	0	10	
Celiveo Premium connector	10	0	10	
Celiveo SAP connector	10	0	10	

1

2

3


4

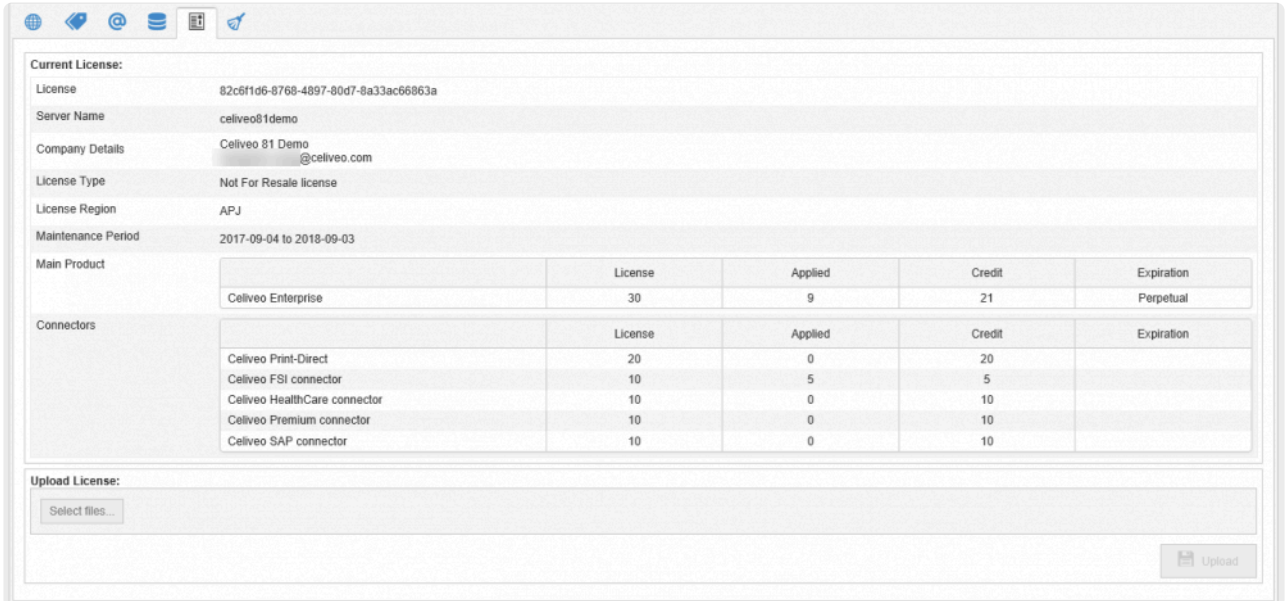
### Legend

- 1 - Indicates how many licenses have been purchased
- 2 - Indicates how many licenses are in use. Each Celiveo enabled printer consumes one license.
- 3 - Indicates how many licenses are remaining.
- 4 - Identifies the edition of Celiveo you have purchased.
- 5 - Identifies the optional add-ons you have purchased (on top of the main product).

### To Upload a License File

1. Start and Login to the Web Admin.

- On the Home tab, click . The License details display.
- Click the **[Upload License]** button.



**Current License:**


License	82c6f1d6-8768-4897-80d7-8a33ac66863a				
Server Name	celiveo81demo				
Company Details	Celiveo 81 Demo @celiveo.com				
License Type	Not For Resale license				
License Region	APJ				
Maintenance Period	2017-09-04 to 2018-09-03				
Main Product		License	Applied	Credit	Expiration
	Celiveo Enterprise	30	9	21	Perpetual
Connectors		License	Applied	Credit	Expiration
	Celiveo Print-Direct	20	0	20	
	Celiveo FSI connector	10	5	5	
	Celiveo HealthCare connector	10	0	10	
	Celiveo Premium connector	10	0	10	
	Celiveo SAP connector	10	0	10	

**Upload License:**

Select files...


Upload

- Click **[Select Files]** and select the license file (\*.lic) provided by your Celiveo Representative.
- Click **[Upload]**. The file uploads, and the license details update.

 **Note:** If you upgraded your license, you must sync all physical printers for the upgrade to take effect.

## What if I purchase a Connector License later?

If you purchase an optional connector after you have installed and licensed your main Celiveo Product, Celiveo will provide you another license file. You can upload the new license file on top of your existing license. This license will unlock the feature you purchased, on top of your existing list of features.

 **Note:** Before purchasing an optional connector, check with your Celiveo representative if the Celiveo edition you are using supports the desired connector.

## What information must I provide Celiveo to generate a license file for me?

Your Celiveo representative may ask for details pertaining to your account. Additionally, you must provide the host name of the server that Web Admin runs on.

## Automatic License Update

The Celiveo Web Admin can automatically get updated from Azure, where the licenses are kept, so that it never stops, without any administrator work. Clients without Internet access will not benefit from that feature.

## Configure Automatic License Update

**Current License**

License	cbb4b79d-620d-456c-9004-90d13431c5e5
Server Name	CPEWA
Company Details	Celiveo DZ @celiveo.com
License Type	<b>Asset</b> - Not For Resale license
License Region	APJ
Maintenance Period	2018-10-11 to 2019-10-10
Current license:	2019-05-10 12:50:44

**Auto Update**

: < 7 days 1 Credit

**Notify Administrator:** @gmail.com

**Celiveo License information**  
 This email to informat that today : %today\*/  
 - the Celiveo license expires %expdate%  
 - there is %credit% licenses remaining  
 - %appliedcredit% are used from a maximum of %license% main licenses

Main Product	License	Applied	Credit	Expiration
Celiveo Enterprise	20	19	1	Perpetual

Connectors	License	Applied	Credit	Expiration
Celiveo FSI connector	20	13	7	
Celiveo Premium connector	20	3	17	

**Upload License File**

Select license file...

Refresh
 Save

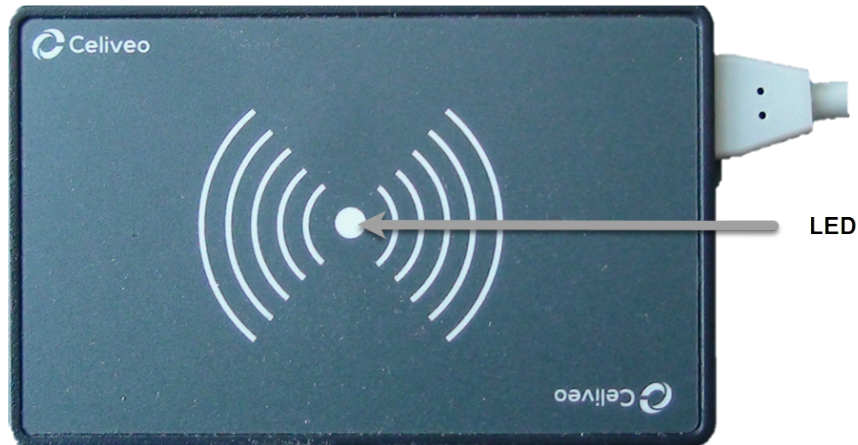
- Using the arrows, define the number of days or credits that will trigger the warning email to the administrator.  
If the license type is RENTAL, the number of days cannot be changed.
- Enter the administrator's email address.
- (Optional) Customize the text that will be sent to administrator. Please do not change the variables.

## Manual Update

To manually update your license, click the **Refresh** button.

*Last modified: 5 November 2020*

## 6.7. Multicard Reader – Specifications for Type A



### LED Behavior

- LED Flashes 3 times: The user does not have any pending job.
- LED Flashes 6 Times: The user is not found\authenticated.

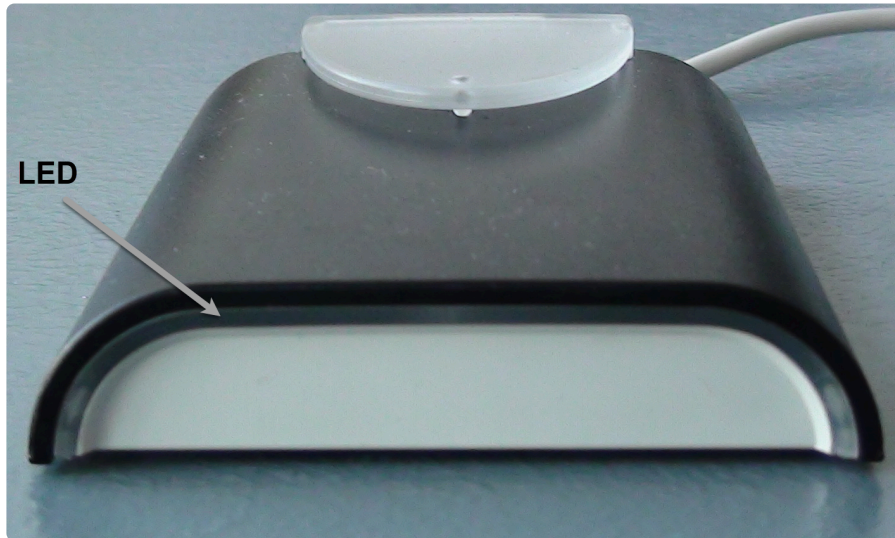
Card Type		
125 Khz	Casi Rusco, EM-Marin, HID Prox, HiTag, Indala, Keri, Nex Watch	
13.56Mhz	HID iCLASS, ISO1569, ISO14443A, Legic, Mifare DesFire	
General Specifications		
Supply Voltage	25°C	
Recommended USB Operating Voltage	4.35–5.25 VDC	
Operating and Storage Environments		
Operating Temperature Range	–20°C to +70°C	
Storage Temperature Range	–30°C to +80°C	
Relative Humidity, non-condensing 25°C:	95%	
Reader Interface Connection	USB Type-A standard / Type-A Mini	
USB Compliance	1.0, 1.0a, 1.1	
Interface		



Visual	Tri Color (LED) – Red, Green & Amber	
Audible	Frequency: 2800 Hz	
<b>Mechanical</b>		
Dimension	53mm x 83mm x 12mm / 2.09" × 3.27" × 0.47"	
Weight	120 grams / 0.265 lbs	
Color	Gray (RAL 7016)	
<b>Electrical Specifications</b>		
	Current Drain (mA @5VDC)	
	<b>Typical Average</b>	<b>Max</b>
Standby Current	1.5 mA	2.5 mA
Configured Current	45 mA	95 mA
Typical Read Height	25.4 mm Typical; Up to 76.2 mm Dependent on Proximity Card type and Environmental Conditions	
<b>Certifications</b>		
Australia & New Zealand	C-Tick	
Canada	ICES	
European Union	CE, RoHS	
USA	FCC	

*Last modified: 8 September 2020*

## 6.8. Multicard Reader – Specifications for Type B



### LED Behavior

- LED Flashes 3 times: The user does not have any pending job.
- LED Flashes 6 Times: The user is not found\authenticated.

Card Type	
125 Khz	Casi Rusco, HID Prox, Indala Prox
13.56Mhz	HID iCLASS, ISO1569, ISO14443A, Legic, Mifare DesFire,
General Specifications	
Supply Voltage	25°C
Recommended USB Operating Voltage	4.35 – 5.00 VDC
Operating and Storage Environments	
Operating Temperature Range	0° – 50° C (32° – 122° F)
Storage Temperature Range	20° – 65° C (-4° – 149° F)
Relative Humidity, non-condensing 25°C:	10 – 90% Relative Humidity
Reader Interface Connection	USB Type-A standard
USB Compliance	1.1, 2.0
Interface	

Visual	Status indicators: Dual color LED Embedded: Green = Ready, Red = Busy External: White = Ready, Blue = Busy
Audible	Frequency: 2800 Hz
<b>Mechanical</b>	
Dimension	66 mm x 55 mm x 9 mm / 2.59" × 2.17" × 0.35"
Weight	14 grams / 0.03 lbs
Color	Black
<b>Electrical Specifications</b>	
Typical Read Height	25.4 mm Typical; Up to 76.2 mm Dependent on Proximity Card type and Environmental Conditions
<b>Certifications</b>	
Canada	ICES
European Union	CE, RoHS (REACH), WEEE
USA	FCC, UL

*Last modified: 8 September 2020*

## 7. Configuration

---



This sections details all configuration procedures for the Celiveo modules.

[Add Printers in Web Admin](#)

[ZeroConfig](#)

[Multi- SQL Configuration](#)

[Configuring SQL Database for AlwaysOn Availability feature](#)

[Deploy a Celiveo Shared Virtual Printer Package on a Print Server](#)

[Deploy a Celiveo Virtual Printer on a User's Work Station](#)

[Deploy a Celiveo Virtual Printer on a User's Work Station](#)

[Set up Access](#)

[Synchronize Printers](#)

[Set the Session Timeout](#)

[Configuration to be done at the Printer](#)

*Last modified: 9 October 2020*




## 7.1. Add Printers in Web Admin

Celiveo Printers Discovery Agent helps you to import printers from an existing Print Server or find printers on the network.

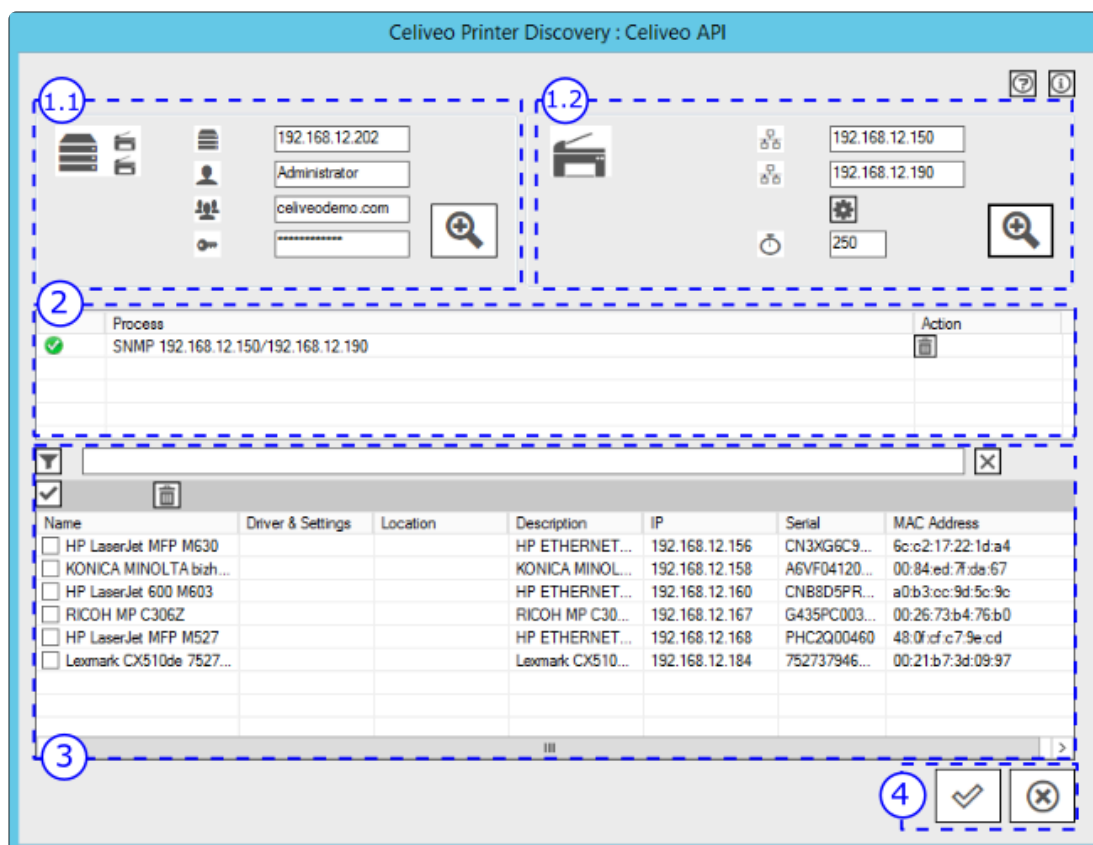
### Workflow

Follow the below instructions to add printers to Web Admin:

### Stage 1: Start Printer Discovery Agent

1. At the Main menu, click .
2. At the Printer menu, click .
3. At the Add Printer menu, click .

**Note:** If the Discovery Agent has not been installed earlier, the system downloads the installer and prompts you to install the Discovery Agent. Once installed the Discovery Agent starts.



### Stage 2: Discover Printers

You can use one or both of the available options to search for printers in the network.

## 2.1 Discover printers from a print server


In the area marked 1.1 in the illustration above, enter the information and click on the  Search icon.

- hostname or IP address of domain server,
- domain server administrator login,
- domain name and
- domain password.

## 2.2 Discover printers by scanning the network


In the area marked 1.2 in the illustration above, enter the information and click on the  search icon.

- start range of the IP address to scan
- end range of the IP address to scan
- the timeout period for the scan duration (seconds)

Discovery is performed by executing an SNMP query. To change the [SNMP settings](#), click on the  settings icon.

## Stage 3: Add Printer from Search Results

Search results are shown in the section marked 3 in the illustration above.

1. From the search results, select the printers you want to add.
2. Click  at the bottom-right (see 4 in illustration above).  
You are returned to the Add Printer wizard. The printers that are reachable are displayed on the top half of the screen, while the printers that are unreachable are displayed on the bottom half of the screen.
3. Click **[Next]**.


## Stage 4: Configure Printer Specific Information

The next stage displays a tabbed dialog box, where each printer type has a separate tab. The information you specify for each printer differs from one printer to another.


- [Common Settings](#)
- [HP and HP Futuresmart Settings](#)
- [Ricoh Settings](#)
- [Konica Minolta Settings](#)
- [Lexmark Settings](#)
- [Xerox Settings](#)
- [Advanced Settings](#)

## Stage 4.1: Common Settings

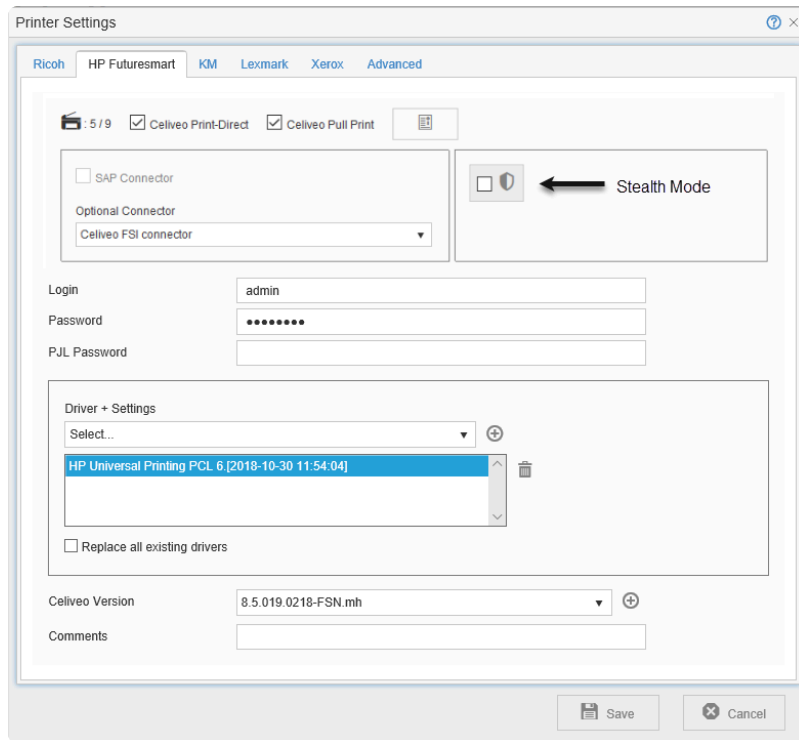
1. You may choose **[Celiveo Pull Print]** or **[Celiveo Print Direct]** based on your configuration requirements.

 **Note:** The Pull Printing feature is not available for Print Direct edition. Ability to select both Direct IP printing (Print-Direct) and Pull printing options is available only in Business and Enterprise editions.

2. Click the **[License]** icon to view the information of product licenses that are available, applied, and/or expired.
3. **SAP Connector / Optional Connector:**
  - With Celiveo connectors, you benefit from a print solution tailor-made for the company's special needs while maintaining tight control over security, compliance, and costs. It enables you to release pull print jobs generated by the specified vertical connectors. You can choose the optional connector from the drop-down if you have a license acquired for the connector.
4. **Stealth Mode:**
  - This feature allows you to securely print confidential documents. While performing a pull print event, all your print jobs are displayed under the Print job list when you authenticate at the printer. The information is also tracked in tracking reports. Enabling this option for the printer, masks the document name. The document name will be replaced with four asterisks symbols prefixed and suffixed respectively with the first and last character of its original name. In the tracking reports, the document name will appear as "[first character]\*\*\*\*[last character]".

 **Note:** An Optional Connector with Stealth Mode (license) should be active to use this option.

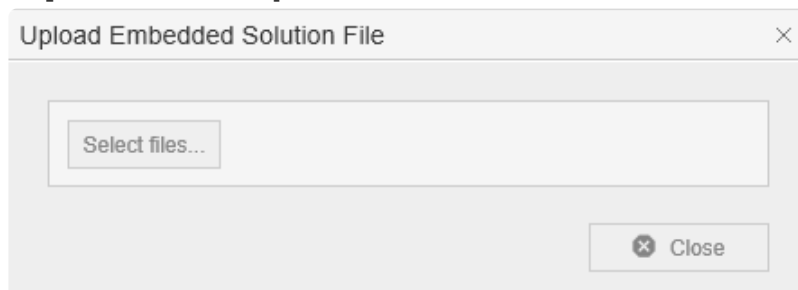
## Stage 4.2: Settings for HP FutureSmart Printers



1. At **[Login]**, specify an account name with administrator privileges.
2. At **[Password]** specify the corresponding password.
3. At **[PJL Password]**, specify the password that authorizes Print Job Language (PJP) command strings.
4. At **[Driver+Settings]**, select the printer driver from the list. To add a new printer driver through Celiveo Printer Discovery Agent, click **+**.

**Note:** If HP Universal Print Driver (PCL5, PCL6 and PostScript emulation) is used to create the target print queue, it is **mandatory** to set it up in **Traditional Mode** and not Dynamic Mode.  
For further information on the differences between these two modes, see [https://en.wikipedia.org/wiki/HP\\_Universal\\_Print\\_Driver](https://en.wikipedia.org/wiki/HP_Universal_Print_Driver)

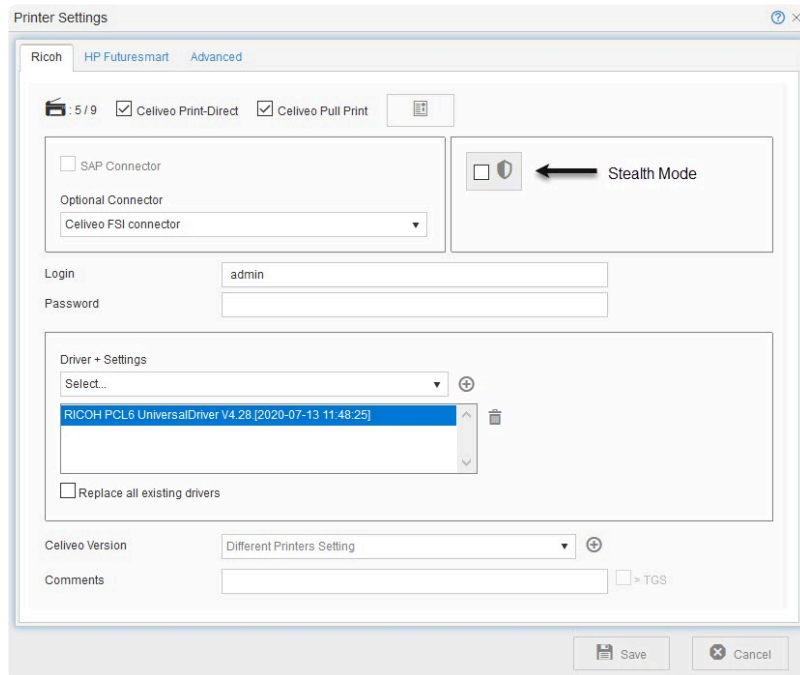
5. At **[Celiveo Version]**, click **+**. The Add Celiveo Version dialog displays.



6. Select the firmware file provided by Celiveo to “Celiveo-enable” HP FutureSmart printers (\*.mh).
7. For non-FutureSmart (Celiveo Smart Appliance agent enabled printers), choose the (\*.mc/\*.bmc) file.

## Stage 4.3: Settings for Ricoh Printers





1. At **[Login]**, specify a user name with administrator privileges.
2. At **[Password]** specify the corresponding password.
3. At **[Driver+Settings]**, select the printer driver from the list. To add a new printer driver through Celiveo Printer Discovery Agent, click **+**.

**Note:** If you are using a Ricoh printer, please make sure you only use PCL6 drivers.

4. At **[Celiveo Version]**, for Ricoh Android SOP 2.x printers, choose the **.mr file to install the Business Edition Embedded agent for Ricoh. For CSA agent enabled printers, choose the \*.mc/.bmc file.**

## Stage 4.4: Settings for Konica Minolta Printers

Printer Settings

Ricoh HP Futuresmart KM Lexmark Xerox Advanced

5 / 23 ☒ Celiveo Print-Direct ☒ Celiveo Pull Print

☐ SAP Connector  
Optional Connector  
Select...

☐ Stealth Mode


Login: admin  
Password: .....  
OpenAPI Login: admin  
OpenAPI Password: .....

Driver + Settings  
Select...  
KONICA MINOLTA Universal PCL [2019-02-21 13:52:05]  
☐ Replace all existing drivers

Celiveo Version: Select...  
Comments:

Save Cancel

1. At **[Login]**, specify the administrator user name.
2. At **[Password]** specify the administrator password.
3. At **[OpenAPI Login]** specify the login name for the Open API authentication layer.

 **Note:** You need to specify the Open API settings only if the Konica Minolta printer uses the authentication layer.

4. At **[OpenAPI Password]** specify the password for the Open API authentication layer.

## Stage 4.5: Settings for Lexmark Printers

The screenshot shows the 'Printer Settings' window with the 'Lexmark' tab selected. The window has a top navigation bar with tabs for Ricoh, HP Futuresmart, KM, Lexmark, Xerox, and Advanced. Below the tabs, there are checkboxes for 'Celiveo Print-Direct' and 'Celiveo Pull Print', both of which are checked. A 'Stealth Mode' section is visible with a checkbox and a label. The 'Login' field contains 'admin' and the 'Password' field is masked with dots. The 'Driver + Settings' section has a dropdown menu with 'Select...' and a list of drivers, including 'HP Universal Printing PCL 6 [2018-10-30 11:54:04]'. There is a checkbox for 'Replace all existing drivers'. At the bottom, there is a 'Celiveo Version' dropdown and a 'Comments' text area. The window ends with 'Save' and 'Cancel' buttons.

At **[Login]**, specify an account name with administrator privileges.

At **[Password]** specify the corresponding password.

At **[Driver+Settings]**, select the printer driver from the list. To add a new printer driver through Celiveo Printer Discovery Agent, click **+**.



**Note:** Recommended drivers for Lexmark printers are PCL6/PS. In some cases, the PCL6 driver processes the jobs as B/W but the spool is marked as color which generates errors in the tracking reports.

## Stage 4.6: Settings for Xerox Printers

The screenshot shows the 'Printer Settings' window with the 'Advanced' tab selected. At the top, there are tabs for 'Ricoch', 'HP Futuresmart', 'KM', 'Lexmark', 'Xerox', and 'Advanced'. Below these, there are checkboxes for 'Celiveo Print-Direct' and 'Celiveo Pull Print', both of which are checked. To the right of these checkboxes is a 'Stealth Mode' section with a checkbox and a label 'Stealth Mode' with an arrow pointing to it. Below this, there is a 'Login' field with 'admin' entered and a 'Password' field with masked characters. Underneath is a 'Driver + Settings' section with a 'Select...' dropdown menu. A list of drivers is shown below the dropdown, with 'HP Universal Printing PCL 5 [2019-02-25 15:45:04]' selected. There is a checkbox for 'Replace all existing drivers' which is unchecked. At the bottom, there is a 'Celiveo Version' dropdown menu and a 'Comments' text field. The window has 'Save' and 'Cancel' buttons at the bottom right.

At **[Login]**, specify the System Administrator login name.

At **[Password]** specify the corresponding password.

At **[Driver+Settings]**, select the printer driver from the list. To add a new printer driver through Celiveo Printer Discovery Agent, click **+**.



**Note:** If you are using **Celiveo Enterprise** edition, you can assign up to five drivers per printer. Thereby, you can have five different sets of printing preferences for the same printer, which translate into five print queues for the user. By renaming the driver+settings meaningfully, users can perceive each print queue as a preset for the same printer.

## Stage 4.7: Advanced Settings

Printer Settings

Ricoh HP Futuresmart KM Lexmark Xerox Advanced

**Time Zone Configuration**

Time Zone: (GMT+08:00) Kuala Lumpur, Singapore

NTP Server Name: pool.ntp.org

Primary DNS: 192.168.12.228

Secondary DNS:

**Security**

Lock Count: 3

Lock Countdown: 30

**User Interface**

☐ Login progress

**Troubleshooting**

☒ Enable logs

☐ Flush High-Availability Cache

Save Cancel

These settings help you to:

- Configure the time zone settings for tracking of information by the printer.

\* This option is not available for non-CSA agent based printers, i.e. printers where Celiveo Smart Appliance agent is not installed.

Menu option	Description
Time Zone	Select the preferred time zone.
NTP Server Name	The Network Time Protocol (NTP) is typically used by hundreds of millions of computers and devices to synchronize their clocks over the Internet. Edit the IP address or domain name of the NTP server if required.
DNS Primary	Automatically pre-filled with the IP address of the primary domain server from Web Admin. Edit the address if required.
DNS Secondary	Automatically pre-filled with the IP address of the backup domain server from Web Admin. Edit the address if required.

- Configure Security settings on Printer screen for failed authentication.

Menu option	Description
Lock Count	Defines the number of failed authentications before the printer screen locks. Lock Count default value is 3 but can be modified to a value between 1 and 9.
Lock Countdown	Defines the time in seconds the printer screen locks after the number of failed authentications defined by <b>[Lock Count]</b> is reached. Lock Countdown default value is 30 but can be modified to a value between 15 and 180.

- Configure settings for troubleshooting.

Menu option	Description
Enable Logs	Logs provide information on the activities of Celiveo and the connected printers. Select <b>[Enable logs]</b> to enable collection of logs.  <b>IMPORTANT NOTE: This option should only be set at the request of Celiveo and for the indicated duration. It produces an encrypted file that is not usable by end-users.</b>

**If you are adding a printer with the Add Printer wizard,**  
Click **[Next >]** to go to the next step of the Add Printer wizard.

**If you are editing the settings of a connected printer,**  
Click **[Save]** to continue.  
To apply the setting on the printer, click the **Download Print Queue Installer** icon.

## Stage 5: Finalize

1. Click **[Next]**. until you arrive at the Save Confirmation dialog.
2. Click **[Save]**.

*Last modified: 8 September 2020*

## 7.1.1. Add Printers Manually

### Before you begin...

While adding a printer, you may need to upload its driver to the Celiveo database. The Add Printer wizard launches the Discovery Agent to enable you to import the driver from the workstation you are running the wizard on. So before you start, make sure that the workstation you are working on has all the required printer drivers installed on it.

**Note:** Celiveo cannot import class drivers, so ensure that the drivers installed on the workstation is not a class drivers.

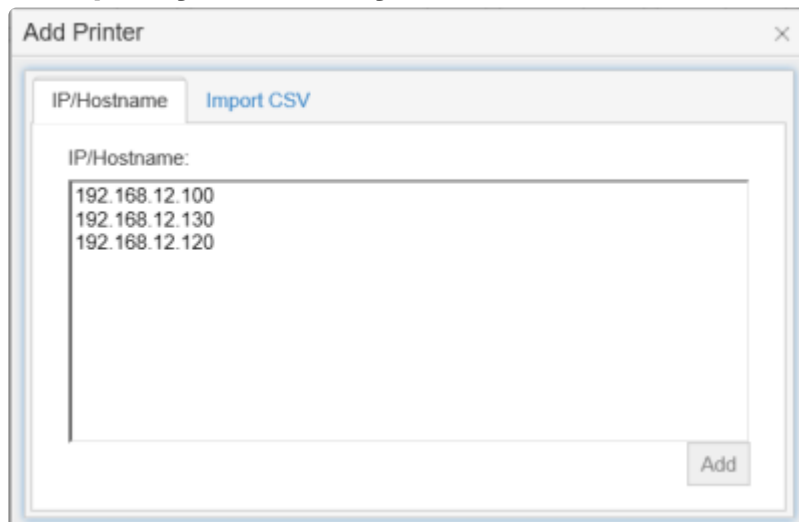
### Stage 1: Start Add Printer Wizard

1. At the Main menu , click Display Printers.
2. At the Printer menu, click .
3. At the Add Printer menu, click . The Add Printer dialog displays.

### Stage 2: Specify Printers

You can specify IP addresses of printers, by directly entering them to the Web Admin, or importing them from a comma separated values (CSV) file.

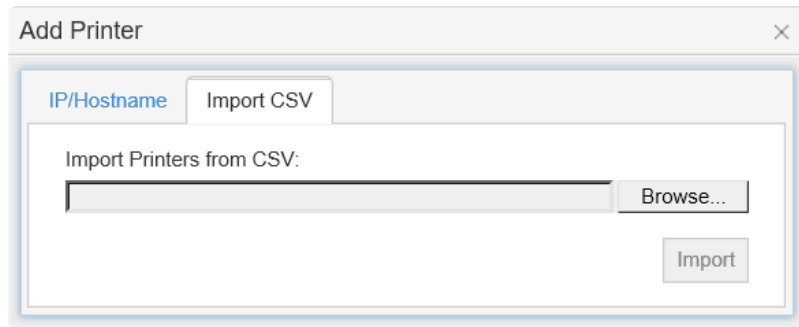
#### 2.1 Specify Printers by IP Address or Hostname



1. At **[IP/Hostname]**, enter the IP address or host names of the printers.
2. Click **[Add]**.
3. When prompted to start the Discovery Agent, click **[Open]**.

**Note:** If the Discovery Agent has not been installed earlier, the system downloads the installer and prompts you to install the Discovery Agent. Once installed, the Discovery Agent starts.

#### 2.2 Specify Printers by Importing their IP Addresses from a CSV File





1. Click the **[Import CSV]** tab.
2. Click **[Browse]**.
3. Select the CSV file to upload and click **[Open]**.
4. Click **[Import]**.
5. When prompted to start the Discovery Agent, click **[Open]**.

**Note:** If the Discovery Agent has not been installed earlier, the system downloads the installer and prompts you to install the Discovery Agent. Once installed, the Discovery Agent starts.

## Stage 3: Select Printers

The Discovery Agent validates the IP Addresses / Hostnames you provided. If any of them are not reachable, a message is displayed to inform you what IP Addresses / Hostnames are invalid.

**Note:** Validation is performed by executing an SNMP query. To change the [SNMP settings](#), click on the  settings icon.

1. From the list of valid printers, select the printers you want to add.
2. Click  at the bottom-right.  
You are returned to the Add Printer wizard.
3. Click **[Next]**.

## Stage 4: Configure Printer Specific Information

The next stage displays a tabbed dialog box, where each printer type has a separate tab. Repeat the instructions below for each tab.

### Stage: 4.1: Basic Information

1. Ensure that the **[Celiveo Print Direct]** check box is selected.
2. If the printer you are adding is an HP printer, and a PjL password had been set in the HP Embedded Web Services, in the **[PjL Password]** box, specify the password.

### Stage 4.2: Specify Driver



Typically, when you import printers from a Print Server, it imports the required drivers and default preferences as well. However, if you add printers by scanning IP addresses, you must import the printer



drivers from the workstation you are running the Add Printer wizard from.

1. From the [Driver + Settings] drop-down, select a printer driver.

If the driver that matches the printer is not on the list:

1. Click the **[+]** icon adjacent to the **[Driver + Settings]** drop-down . The Discovery Agent displays.
2. In the area marked 1, click on the  Search icon. The search results are displayed in the area marked 3.
3. Select the driver to use.
4. Click  at the bottom-right (see 4 in illustration above).
5. From the **[Driver + Settings]** drop-down, select the printer driver you just added.

You are returned to the Add Printer wizard.

### Stage 4.3: Specify Celiveo Version

The Celiveo Version refers to the Celiveo firmware that runs on a printer or Celiveo Smart Appliance agent (CSA). Typically, the CSA agent comes pre-loaded with the correct firmware. However, if you are adding a printer that does not require a CSA (for example, a HP FutureSmart printer or Ricoh Android SOP 2.x printer) you must explicitly upload the Celiveo Version.

If the printer you are adding requires a CSA:

1. At **[Celiveo Version]**, select [Keep Existing Settings].

If the printer you are adding does not require a CSA:

1. Click the **[+]** icon adjacent to the **[Celiveo Version]** drop-down. The Add Celiveo Version dialog displays.
2. Click **[Select Files]**.
3. Pick the **.mc / .mh / \*.bmc / \*.mr** file provided for the printer.

**Note:** If not already provided, you can download the Celiveo Version files from the Downloads section.

### Stage 5: Finalize

The remaining steps on the Add Printer wizard can be specified later, and not essential for Celiveo to be functional. For the purpose of this tutorial, we will skip these steps.

1. Click **[Next]**. until you arrive at the Save Confirmation dialog.
2. Click **[Save]**.

*Last modified: 8 September 2020*

## 7.2. Celineo Virtual Printer for Windows

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*Last modified: 5 November 2020*



## 7.2.1. Antivirus False Positive cases

In some cases, the Windows Defender or Symantec Endpoint antivirus identifies Celiveo Virtual Printer as a threat.

We have submitted the file to Microsoft for a malware analysis who confirmed this was a **false positive** as proven by the reports below:


Search by file name  Filter by determination

Showing 2 of 2 entries

File name	Final determination	Protection	Current detection	Definition version
 dp_x86_celiveo virtual printer_setup.msi cypnew.zip /	Not malware	✓ Cloud ✓ Client	No malware detected No malware detected	Online 1.263.536.0
 dp_x64_celiveo virtual printer_setup.msi cypnew.zip /	Not malware	⊘ Cloud ✓ Client	Trojan:Win32/Critet.BS No malware detected	Online 1.263.536.0

Search by file name  Filter by determination

Showing 1 of 1 entries

File name	Final determination	Protection	Current detection	Definition version
 installer.exe cypnew.zip /	Not malware	✓ Cloud ✓ Client	No malware detected No malware detected	Online 1.263.536.0

To avoid this problem, make sure that you add Celiveo to the antivirus exclusion list. To do so

- For Windows Defender, add the "C:\Program Files\Celiveo" folder to the exclusion list : <https://support.microsoft.com/en-ie/help/4028485/windows-10-add-an-exclusion-to-windows-defender-antivirus>.
- For Symantec Endpoint, follow the procedure described [here](#).

Celiveo software executable files are verified virus/malware using eSET Nod32, then digitally signed, and therefore can't be patched at a later stage by a virus without triggering a signature failure alert. If you receive an invalid signature alert, do you run the application as it means a software has modified the binary file.

Recent versions of Windows Defender wrongly reports some clean obfuscated .Net assemblies as a threat, this is a false positive.

Would you face that issue, we strongly recommend you try other anti-virus to get a confirmation before considering that detection as accurate.

*Last modified: 5 November 2020*

## 7.2.2. Add a Celiveo Virtual Printer to Web Admin

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### What is a Celiveo Virtual Printer (CVP)?



The CVP is a module that is deployed on a user's workstation, so that they can print to and



release print jobs on Celiveo enabled-printers. On the Web Admin, you add a Celiveo Virtual Printer (CVP), set it up for serverless pull printing or server based pull printing, and generate a deployment package. Later on, you use the deployment package to install the CVP on a Workstation.

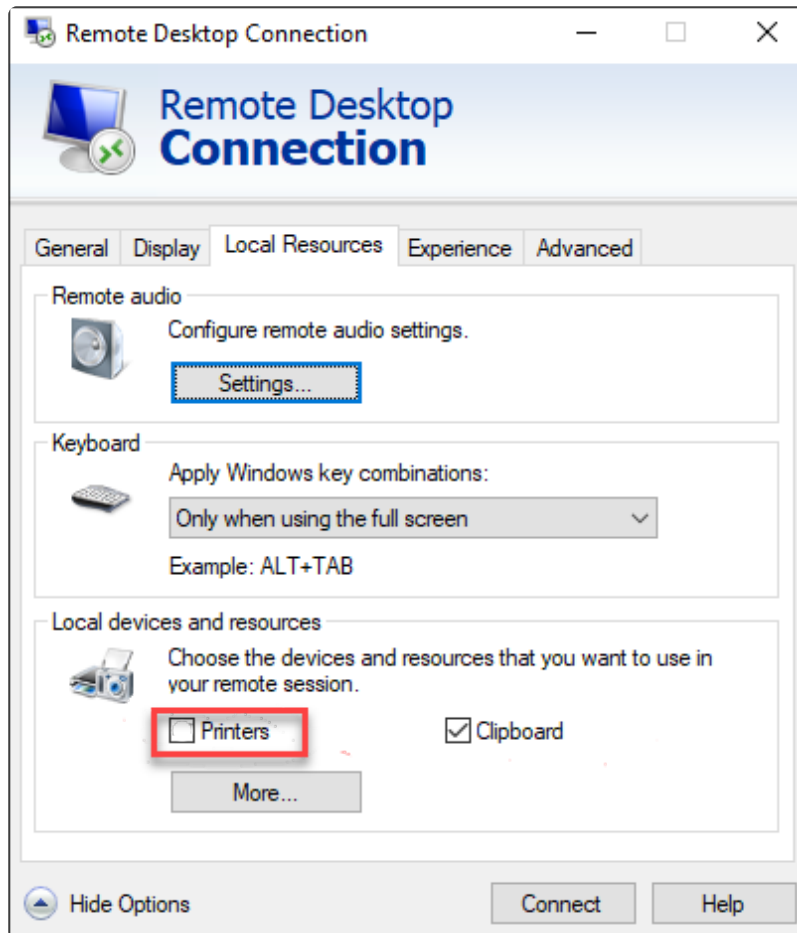
### Before you begin...

Typically, a different printer driver is required for each printer. In order to make the most of pull printing, you need universal printer drivers that can support a fleet of printers. While adding the virtual printer, you may need to upload such a universal printer driver to the Celiveo Virtual Printer. The Add Printer wizard launches the Discovery Agent to enable you to import the driver from the workstation you are running the wizard on. So before you start, make sure that the workstation you are working on has the required printer drivers installed on it.

#### 1. Start the Add Printer Wizard


1. At the Main menu, click .
2. At the Printer menu, click .
3. At the Add Printer menu, click  . The Add Printer Wizard starts.

**Important:** If you are using a Remote Desktop Connection, in order for your Celiveo Virtual Printer to be the Default printer, make sure you uncheck the **Printers** option in the **Local Resources** tab of the Remote Desktop Connection settings.



## 2. Specify Virtual Printer Options

1. Specify a name for the CVP deployment package. After you add the Printer, you can download the deployment package and install it on a workstation.

 **Note:** Please use underscores instead of spaces in the name given to the virtual printer. Spaces cannot be used when printers are shared.

1. Click **[Next>]**. The next page displays.
2. Click **[Auto Update]** to enable automatic update of Virtual printer settings.

## Auto Update

The table below describes which actions are performed when Auto Update is enabled and when it is not.

Nb	CVP Action	Auto-Update OFF	Auto-Update ON
1	If switch “-nodpq” is not in effect:		X
	Update the CSS settings		X
	Delete stall queues drivers and reinstall the current queues		X

2	Update Cost profile for each print queue		X
3	Get Groups and OU information of current user	X	X
4	If the database cannot be reached, try to update the primary connection string from Web Admin	X	X
5	If opening a connection to the primary database fails, monitor the connection and when it is available restart from step 3	X	X
6	Check the CVP configuration file and update it if needed	X	X
7	Get the tags and their names	X	X
8	Get the tags applying to this user (User tags, Groups tags, OU tags, IP tags)	X	X
9	Set CVP capabilities (PD, PP or both)	X	X
10	Store CVP local settings	X	X
11	Store CSS settings to registry	X	X
12	Get the tags combination that will be used for the user based on priorities	X	X
13	Update primary and secondary DB connections strings for CVP and CSS if applicable	X	X
14	Get the tags available for the user	X	X
15	Load the local print drivers	X	X
16	If any queue needs to be installed and switch “-nodpq” is not in effect:		X
	Update the CSS settings		X
	Delete stall queues drivers and reinstall the current queues		X



**Note:** For a virtual printer (CVP), the update occurs for Print Queues, Cost Profile and Print Rules on Login event.

3. Select **[Pull Printing]** and clear **[Print-Direct]**.

Virtual Printer Configuration Auto-Update Auto Update

Driver + Settings

Select... +

HP Universal Printing PCL 6 (v6.9.0) [2020-03-30 14:40:45] ^ v 🗑

Celiveo Version + Celiveo-8.7.25.1-20200330.144637.zip

Revision + 1.0

Revision Comment

☐ Shared Virtual Printer 🛡

---

☐ Print-Direct


☒ Pull Printing

☐ Push to NAS Settings

Pull Print jobs expiration 2 Day(s)

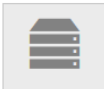
Pull Print jobs encryption None

☐ Custom Job Ticket Hostname



Path

C:\Program Files\Celiveo\Celiveo Server Services\Jobs



Quota per User/Department(MB)

4000

Quota per User/Department(Jobs)


50

Temporary folder storage path

C:\Program Files\Celiveo\Celiveo Server Services\Temp


4. You can choose either the Local (HDD of user workstation) or Remote server to store the print jobs.

#### 4.1 To store print jobs on local drive:

1. Click  icon to store print jobs on local (user workstation) hard disk.
2. **Path** – Enter the directory location in which the user jobs are to be stored, if you need to change the default storage location set.
3. **Quota per User/ Department (MB)** – indicates the quota for a user or department on the basis of print job size.
4. **Quota per User/ Department (Jobs)** – indicates the quota for a user or department on the basis of print job count.
5. **Temporary folder storage path** – Enter the directory location where the jobs are to be stored on a temporary basis.

 **Note:** The maximum limit for **Quota per User/ Department (Jobs)** is 150.

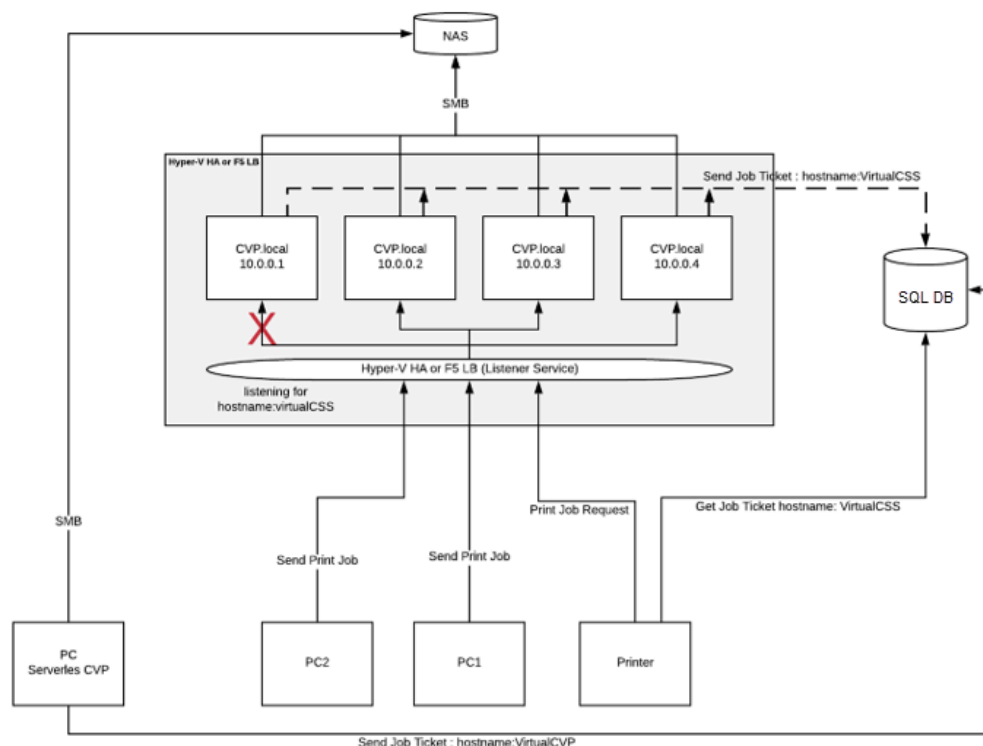
#### 4.2 To store print jobs on a network drive:

1. Click  icon to store on remote server.
2. At **[Domain]**, enter the domain name of the network drive to store the print jobs.
3. At **[User name]** and **[Password]**, enter the login credentials to the network drive to store the print jobs.

4. At **[Retry Count]**, enter the number of attempts to reach the network drive to store the jobs.
5. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the network drive.
6. **Path** -Enter the directory location in which the user jobs are to be stored. Ensure that the user has read/write access permissions on the shared network folder.

### Custom Job Ticket Hostname

Custom Job Ticket Hostname allows the CVP to replace its own IP/Hostname with a custom CVP IP/Hostname to all the spooled jobs. This information is then stored on the SJPS DB Job Ticket. This configuration is useful when using Clusters/Load Balancers with Virtual IP/Hostname.



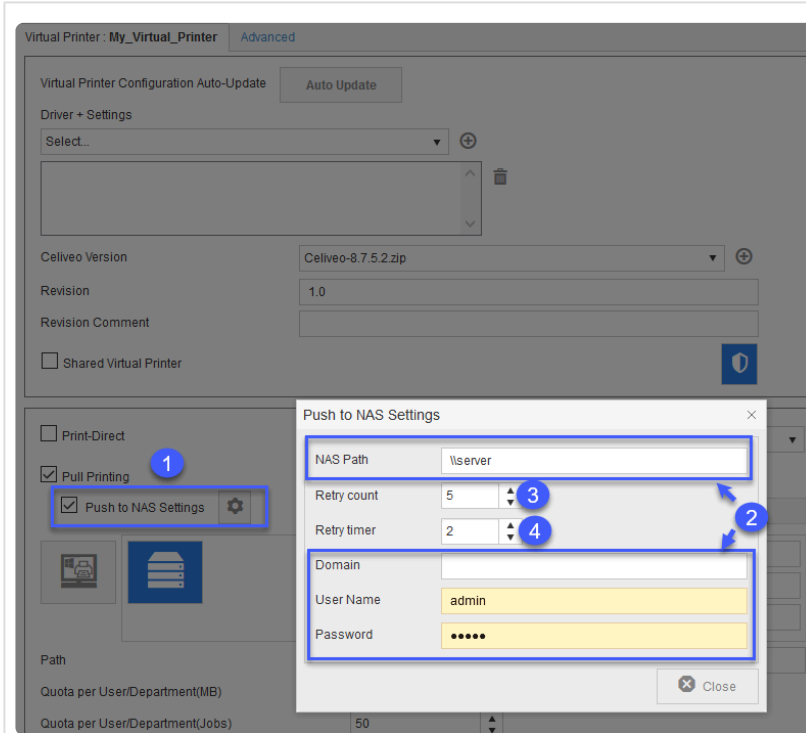
### To enable Custom Job Ticket Hostname:


1. Tick the Custom Job Ticket Hostname.
2. Enter the Hostname in the corresponding field.

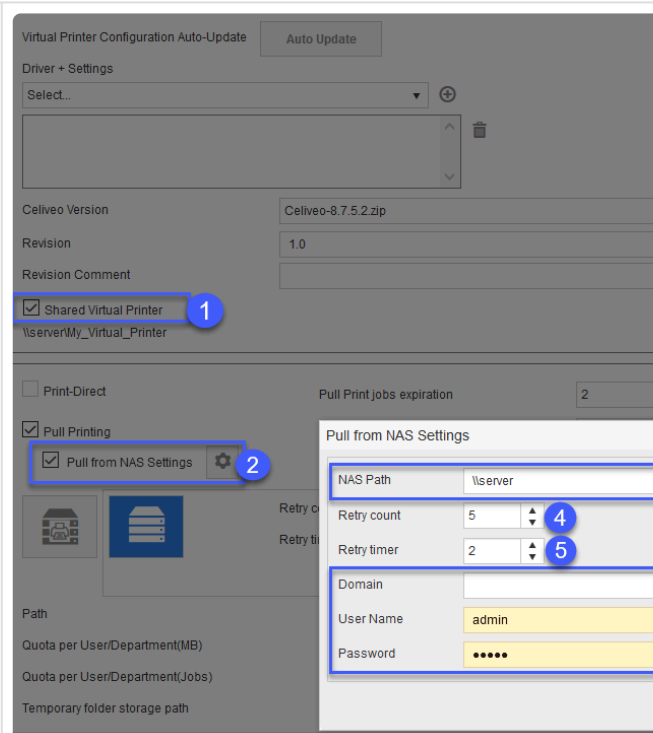
## 4.3 To store print jobs on Network Attached Storage (NAS) unit:


You can configure the print jobs to be transferred to a NAS unit connected in the same domain network. The Celiveo Virtual Printer pushes the print files to NAS unit when user initiates Shutdown of his/her PC. The Celiveo Virtual Printer can push the print files to a temporary storage (NAS unit) which is connected in the same domain network.





1. Select the **[Push to NAS Settings]** option and click the  button.
2. Enter **[User name]**, **[Password]**, **[Domain]** and **[NAS Path]**.
3. At **[Retry count]**, enter the number of attempts to reach the NAS to store the jobs.
4. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the NAS.



1. Select the **[Shared Virtual Printer]** option.
2. Select the **[Pull from NAS Settings]** option and click the  button.
3. Enter **[User name]**, **[Password]**, **[Domain]** and **[NAS Path]**.
4. At **[Retry count]**, enter the number of attempts to reach the NAS to store the jobs.
5. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the NAS.

**NOTE:** When the NAS is not reachable upon Shutdown of the client PC, the print jobs are retained on client machine's default jobs location.

### 3. Import Printer Driver

Virtual Printer Configuration Auto-Update

Auto-Update

Driver + Settings

Select...

Select...

HP Universal Printing PCL 6.[49796806]

HP Universal Printing PCL 6.[83442673]

HP Universal Printing PCL 6.[99537716]

KONICA MINOLTA 4750 Series PCL6.[60513674]

KONICA MINOLTA 4750 Series PCL6.[96132620]

KONICA MINOLTA Universal PCL v3.2a.[43677211]

KONICA MINOLTA Universal PS v3.2a.[08265558]

Switched to Postscript in v1.1

☐ Shared Virtual Printer

☐ Print-Direct
 Pull Print jobs expiration
 

2

Days


☒ Pull Printing
 Pull Print jobs encryption
 

None

1. From the **[Driver + Settings]** drop-down, select the printer driver to use for pull printing.  
If the driver you want to use is not available on the list:

1. Click , next to the **[Driver + Settings]** drop-down. The Discovery Agent displays.

The screenshot shows the 'Celiveo Printer Discovery : Celiveo API' window. It features a top navigation bar, a left sidebar with icons for various functions, and a main content area. The main content area includes a search bar with a magnifying glass icon (labeled 1), a table with columns for Name, Driver & Settings, Location, Description, IP, Serial, and MAC Address (labeled 2), and a bottom status bar with a checkmark and a close button (labeled 4). A dashed blue box highlights the search bar and the table area (labeled 3).

2. In the area marked 1, click on the Search icon (  ).  
The Discovery Agent searches the workstation the Web Admin is running on for printer drivers.  
The printer drivers installed on the workstation are displayed in the area marked 3 in the illustration above.

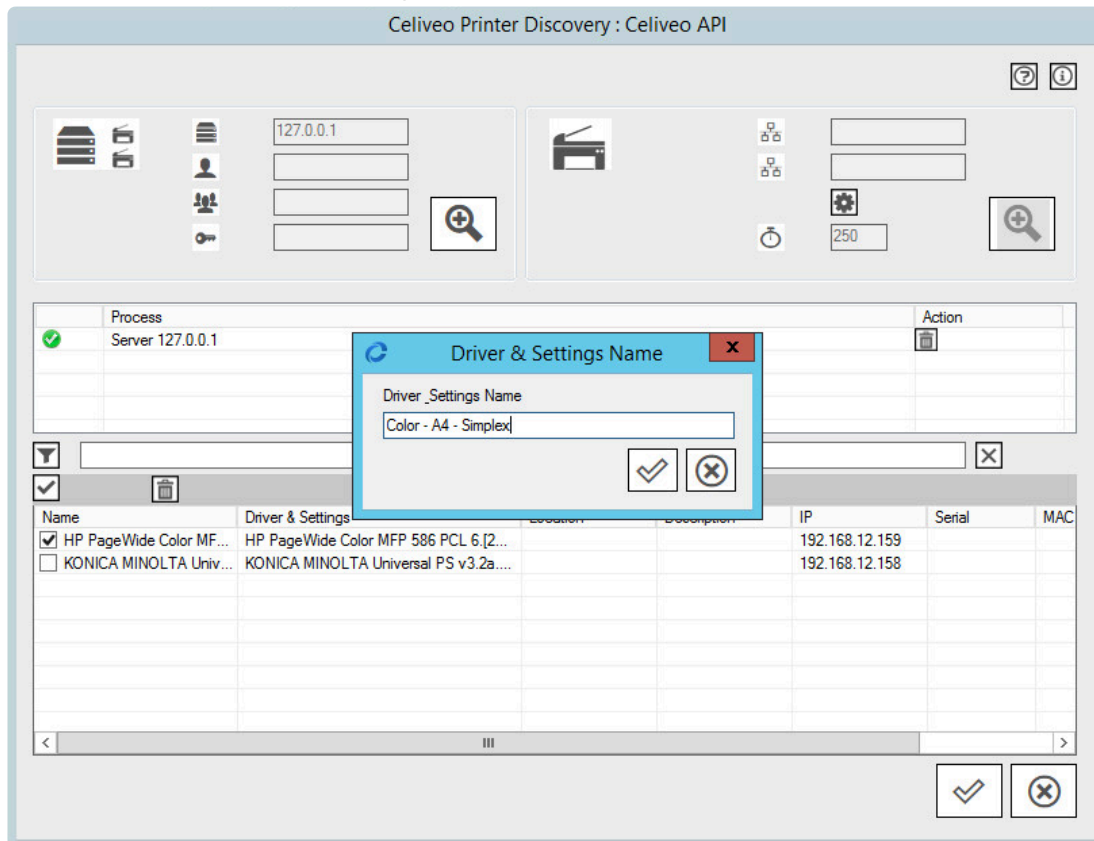
**Note:** The Discovery Agent is unable to import class drivers.

### 3. Select the driver to import.


When you import the driver, the default printing preferences are also imported with the driver. With Celiveo Enterprise, you can assign up to five drivers per printer. This translates into five print queues for the user. By renaming the driver+settings meaningfully, users can perceive each print queue as a preset for the same printer.

To rename the driver+settings to something more meaningful:

- a. Double-click the row containing the driver.



- b. At [Driver+Settings Name], specify the new name.

4. Click  until all dialogs close.
5. From the **[Driver + Settings]** drop-down, select the printer driver you just added.  
You are returned to the Add Printer wizard.

2. Click **[Next]**.

## 4. Finalize

1. Accept the defaults for the next few steps and click **[Next>]** until the Save Confirmation dialog displays.
2. Ensure that the option for downloading the deployment package is selected, and click **[Save]**.  
Preserve the downloaded file so that you can expand it and deploy it on a Print Server.

**Note:** CVPs created by Admins can be unavailable for edition to other users. However, they can still be selected to be downloaded.

<input type="checkbox"/>		Printer Description ▲ ▼	Printer Brand ▼	Printer Model ▼
		<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>		CVPhp527B8697		Celiveo Virtual Printer (Windows) v8.6.97.1
<input checked="" type="checkbox"/>		CVPhp527dev		Celiveo Virtual Printer (Windows) v8.6.100.1
<input type="checkbox"/>		CVPhp785B6104		Celiveo Virtual Printer (Windows) v8.6.104.1
<input type="checkbox"/>		CVPhp785B6106		Celiveo Virtual Printer (Windows) v8.6.106.1
<input type="checkbox"/>		CVPhp785B6107		Celiveo Virtual Printer (Windows) v8.6.107.1
<input type="checkbox"/>		CVPHP785B86105		Celiveo Virtual Printer (Windows) v8.6.105.1
<input type="checkbox"/>		CVPhp785B86108		Celiveo Virtual Printer (Windows) v8.6.108.1

*Last modified: 8 September 2020*

## 7.2.3. Add a Celiveo Shared Virtual Printer to Web Admin

### What is a Celiveo Shared Virtual Printer (CSVP)?




The CSVP is a module that is deployed and shared on a Print Server so that users can print to and release print jobs on Celiveo enabled-printers. On the Web Admin, you add a Celiveo Virtual Printer (CVP), set it up as a CSVP, and generate a deployment package. Later on, you use the deployment package to install the CSVP on a Print Server.

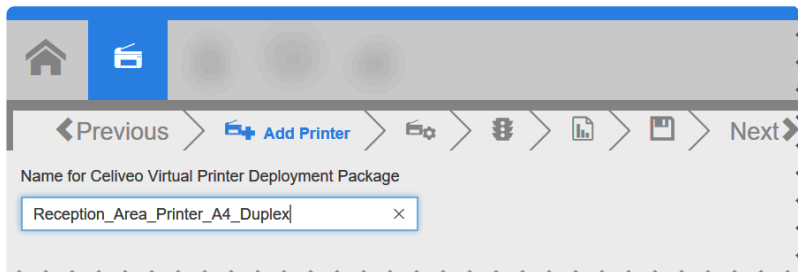
**Tip:** It is recommended to follow the [Microsoft's Print Server Scalability and Capacity planning guide](#) to dimension appropriately the Windows Print Server hosting the Celiveo Shared Virtual Printer (CSVP). The CSVP provides the Server-based Pull Print service and is equivalent to 50 physical printers in terms of resources. The actual number of physical printers in your setup that benefit from the pull print service is irrelevant when defining the Print server specifications.

### Before you begin...

Typically, a different printer driver is required for each printer. In order to make the most of pull printing, you need universal printer drivers that can support a fleet of printers. While adding the virtual printer, you may need to upload such a universal printer driver to the Celiveo Virtual Printer. The Add Printer wizard launches the Discovery Agent to enable you to import the driver from the workstation you are running the wizard on. So before you start, make sure that the workstation you are working on has the required printer drivers installed on it.

### 1. Start the Add Printer Wizard

1. At the Main menu, click .
2. At the Printer menu, click .
3. At the Add Printer menu, click  to create a virtual printer. The Add Printer Wizard starts.



### 2. Specify Virtual Printer Options

1. Specify a name for the CSVP deployment package. After you add the Printer, you can download the deployment package and install it on a Print Server.



**Note:** Make sure you use underscores instead of spaces in the name given to the virtual printer.

- Click **[Next>]**. The next page displays.

Virtual Printer : Reception\_Area\_Printer\_A4\_Duplex\_Color [Advanced](#)

Virtual Printer Configuration Auto-Update [Auto Update](#)

Driver + Settings  
Select...

Celiveo Version  
Celiveo8.6-20190731.000001.zip

Revision  
1.0

Revision Comment

☒ Shared Virtual Printer  
\\server\Reception\_Area\_Printer\_A4\_Duplex\_Color [Stealth mode](#)

☐ Print-Direct

☒ Pull Printing

Pull Print jobs expiration  
2 Day(s)

Pull Print jobs encryption  
None

☐ Custom Job Ticket Hostname

☐ Shutdown to NAS

Path  
C:\Program Files\Celiveo\Celiveo Server Services\Jobs

Quota per User/Department(MB)  
4000

Quota per User/Department(Jobs)  
50

Temporary folder storage path  
C:\Program Files\Celiveo\Celiveo Server Services\Temp

Virtual Printer : Reception\_Area\_Printer\_A4\_Duplex\_Color [Advanced](#)

Virtual Printer Configuration Auto-Update [Auto Update](#)

Driver + Settings  
Select...

Celiveo Version  
Celiveo8.6-20190731.000001.zip

Revision  
1.0

Revision Comment

☒ Shared Virtual Printer  
\\server\Reception\_Area\_Printer\_A4\_Duplex\_Color [Stealth mode](#)

☐ Print-Direct

☒ Pull Printing

Pull Print jobs expiration  
2 Day(s)

Pull Print jobs encryption  
None

☐ Custom Job Ticket Hostname

Retry count  
5 Domain

Retry timer  
2 User Name

Password

Path  
C:\Program Files\Celiveo\Celiveo Server Services\Jobs

Quota per User/Department(MB)  
4000

Quota per User/Department(Jobs)  
50

Temporary folder storage path  
C:\Program Files\Celiveo\Celiveo Server Services\Temp

- Select **[Shared Virtual Printer]**.
- Verify that **[Pull Printing]** is selected. **[Print-Direct]** is disabled when you select **[Shared Virtual Printer]** option. Additional options are enabled for configuration, when you select **[Pull Printing]** option.

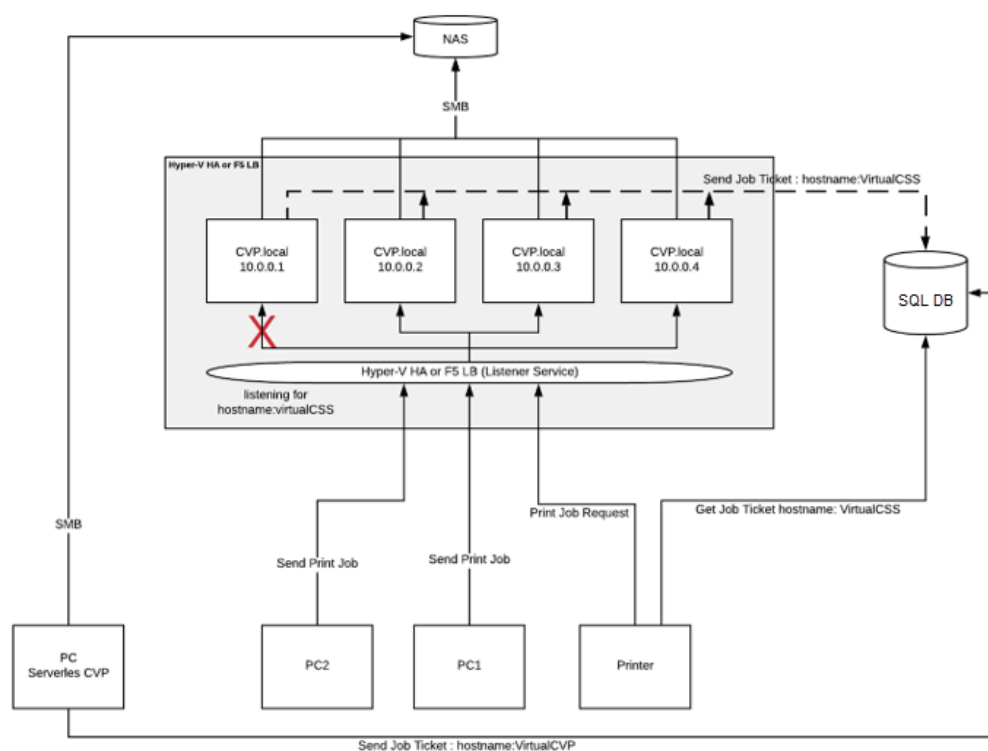
## 2.1 Options

- **Stealth Mode** – Enabling this option for the virtual printer encrypts the user data (user login name and print job information) on both shared and non-shared print queues. The document name will be replaced with asterisks symbols prefixed and suffixed respectively with first and last character of the original document name, in the Tracking Reports.

✿ **NOTE:** Stealth mode feature is available only on Optional connectors with active license.

- **Custom Job Ticket Hostname**

Custom Job Ticket Hostname allows the CVP to replace its own IP/Hostname with a custom CVP IP/Hostname to all the spooled jobs. This information is then stored on the SJPS DB Job Ticket. This configuration is useful when using Clusters/Load Balancers with Virtual IP/Hostname.



### To enable Custom Job Ticket Hostname:

1. In the Domain, User Name and Password fields, enter the information of the service account that has access to the remote storage/share.
2. In the Path and Temp fields, enter the share location: eg \\servername\sharename.

✿ **NOTE:** This feature is available only for Pull Printing. The custom server should also have a CVP/CSVP installed.


- **Pull Print jobs expiration** – indicates the number of days/ hours after which the print jobs shall

expire.

- **Pull Print jobs encryption** – indicates the encryption to be used on print jobs.


You can choose either the **Local** (HDD of the Print-Server where CSVP is installed) or **Remote server** to store the print jobs.


## 2.2 To store print jobs on local server

1. Click  icon to store print jobs on hard disk.
2. **Path** – Enter the directory location in which the user jobs are to be stored. For custom server (Custom Job Ticket Hostname), enter the directory location to the custom server.
3. **Quota per User/ Department (MB)** – indicates the quota for a user or department on the basis of print job size.
4. **Quota per User/ Department (Jobs)** – indicates the quota for a user or department on the basis of print job count.
5. **Temporary folder storage path** – Enter the directory location where the jobs are to be stored on a temporary basis.

 **Note:** The maximum limit for **Quota per User/ Department (Jobs)** is 150.

## 2.3 To store print jobs on a network drive:

1. Click  to store on remote server.
2. At **[Domain]**, enter the domain name of the network drive to store the print jobs.
3. At **[User name]** and **[Password]**, enter the login credentials to the network drive to store the print jobs.
4. At **[Retry Count]**, enter the number of attempts to reach the network drive to store the jobs.
5. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the network drive.
6. Enter the directory location in which the user jobs are to be stored. Ensure that the user has read/write access permissions on the shared network folder.
7. Define the quota to be set for the user/ department.
8. Enter the directory location where the jobs are to be stored on a temporary basis.

 **Note:** If the **Custom Job Ticket Hostname** option is selected, the Domain, Path and login credentials should be configured for the custom server.

## 2.4 To store print jobs on Network Attached Storage (NAS) unit:

You can configure the print jobs to be transferred to a NAS unit connected in the same domain network. The Celiveo Virtual Printer pushes the print files to NAS unit when user initiates Shutdown of his/her PC.



Virtual Printer : Reception\_Area\_Printer\_A4\_Duplex\_Color Advanced

---

Virtual Printer Configuration Auto-Update Auto Update

Driver + Settings  
 Select... +

Celiveo Version Celiveo8.6-20190731.000001.zip +

Revision 1.0

Revision Comment

☒ Shared Virtual Printer Stealth mode



\\server\Reception\_Area\_Printer\_A4\_Duplex\_Color

---

☐ Print-Direct Pull Print jobs expiration 2 Day(s)

☒ Pull Printing Pull Print jobs encryption None

☐ Custom Job Ticket Hostname

  Retry count 5 Domain

Retry timer 2 User Name

☒ Shutdown to NAS Password

NAS Path \\server

Path C:\Program Files\Celiveo\Celiveo Server Services\Jobs

Quota per User/Department(MB) 4000

Quota per User/Department(Jobs) 50

Temporary folder storage path C:\Program Files\Celiveo\Celiveo Server Services\Temp

1. Select the **[Shutdown to NAS]** option.
2. Enter **[User name]**, **[Password]**, **[Domain]** and **[NAS Path]**.
3. At **[Retry Count]**, enter the number of attempts to reach the NAS to store the jobs.
4. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the NAS.

✿ **NOTE:** When the NAS is not reachable upon Shutdown of the client PC, the print jobs are retained on client machine's default jobs location. Learn more about [pushing print jobs to NAS](#).

### 3. Import Printer Driver

Virtual Printer Configuration Auto-Update

Auto Update

Driver + Settings

Select... 



1. Click **[Auto Update]** to enable automatic update of Virtual printer settings. This will synchronize the Driver, Cost Definition Profile, and Access and Rules Profile settings for the virtual printer. For example, if a printer driver was already installed in the workstation by Celiveo Virtual Printer, then the **[Auto-update]** option updates the driver settings configuration (if it had been modified); rather than downloading and installing the driver again.



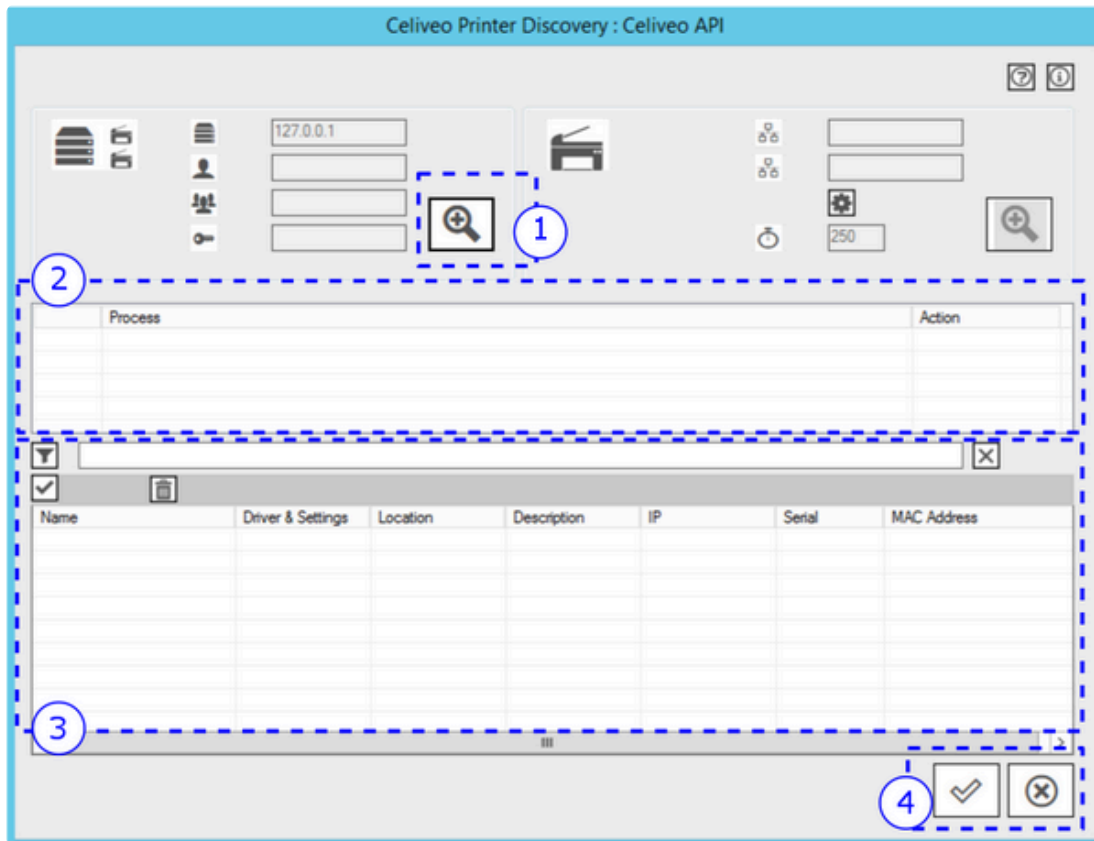
**Note:**

For a virtual printer (CVP), the update occurs for Print Queues, Cost Profile and Print Rules on Login event.

For shared virtual printer (CSVP), the update is scheduled to occur every night at 01:00 AM.


2. From the **[Driver + Settings]** drop-down, select the printer driver to use for pull printing. If the driver you want to use is not available on the list:

1. Click , next to the **[Driver + Settings]** drop-down. The Discovery Agent displays.



2. In the area marked 1, click on the Search icon (  ).

The Discovery Agent searches the workstation the Web Admin is running on for printer drivers. The printer drivers installed on the workstation are displayed in the area marked 3 in the illustration above.

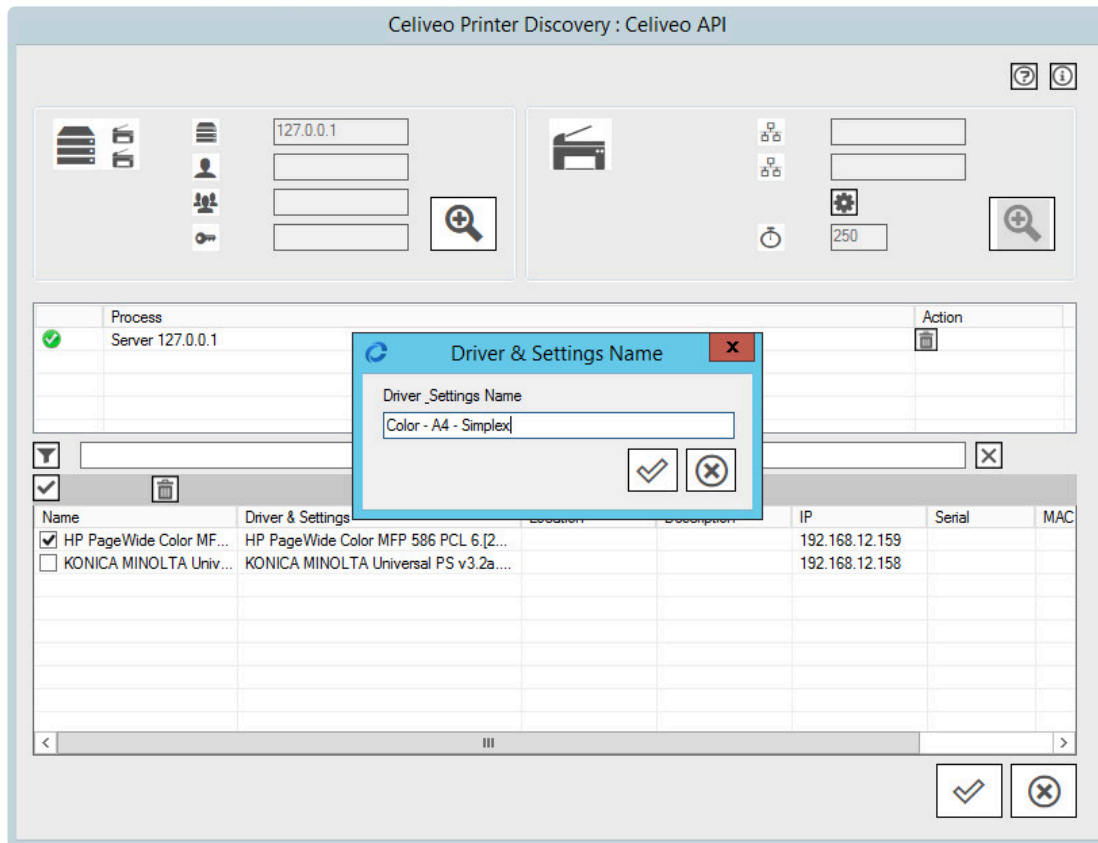
 **Note:** The Discovery Agent is unable to import class drivers.

3. Select the driver to import.

When you import the driver, the default printing preferences are also imported with the driver. With Celiveo Enterprise, you can assign up to five drivers per printer. Thereby, you can have five different sets of printing preferences for the same driver, which translate into five print queues for the user. By renaming the driver+settings meaningfully, users can perceive each print queue as a preset for the same printer.

To rename the driver+settings to something more meaningful:

- a. Double-click the row containing the driver.



b. At **[Driver+Settings Name]**, specify the new name.

4. Click ✓ until all dialogs close.
5. From the **[Driver + Settings]** drop-down, select the printer driver you just added.  
You are returned to the Add Printer wizard.
3. Click **[Next]**.

 **IMPORTANT:** Rules for a Celiveo Shared Virtual Printer must not have **USER OU** as a criteria.

## 4. Finalize

1. Accept the defaults for the next few steps and click **[Next>]** until the Save Confirmation dialog displays.
2. Ensure that the option for downloading the deployment package is selected, and click **[Save]**.  
Preserve the downloaded file so that you can expand it and deploy it on a Print Server.

*Last modified: 8 September 2020*

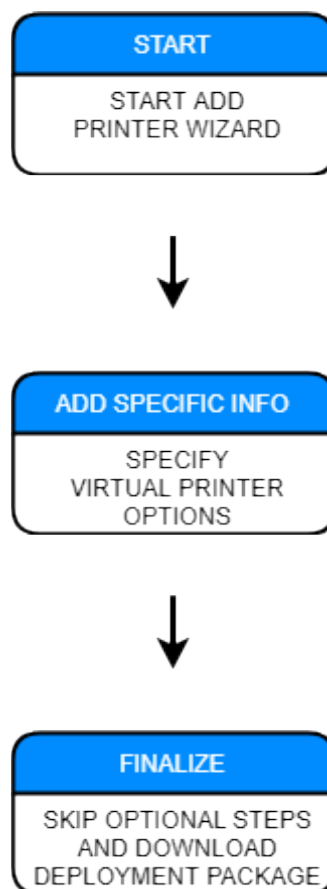
## 7.2.4. Add a Celiveo Virtual Printer for Print-Direct

---

### What is a Celiveo Virtual Printer (CVP)?

The CVP is a module that is deployed on a user's workstation, which enables a user to print directly to a printer, subject to rules based printing and usage reporting. On the Web Admin, you add a Celiveo Virtual Printer (CVP), and generate a deployment package. Later on, you install deployment package on the user's workstation.

### Workflow



### Video: Configuring Virtual printer for Direct IP printing


#### Start the Add Printer Wizard

1. At the Main menu, click .
2. At the Printer menu, click .
3. At the Add Printer menu, click . The Add Printer Wizard starts.

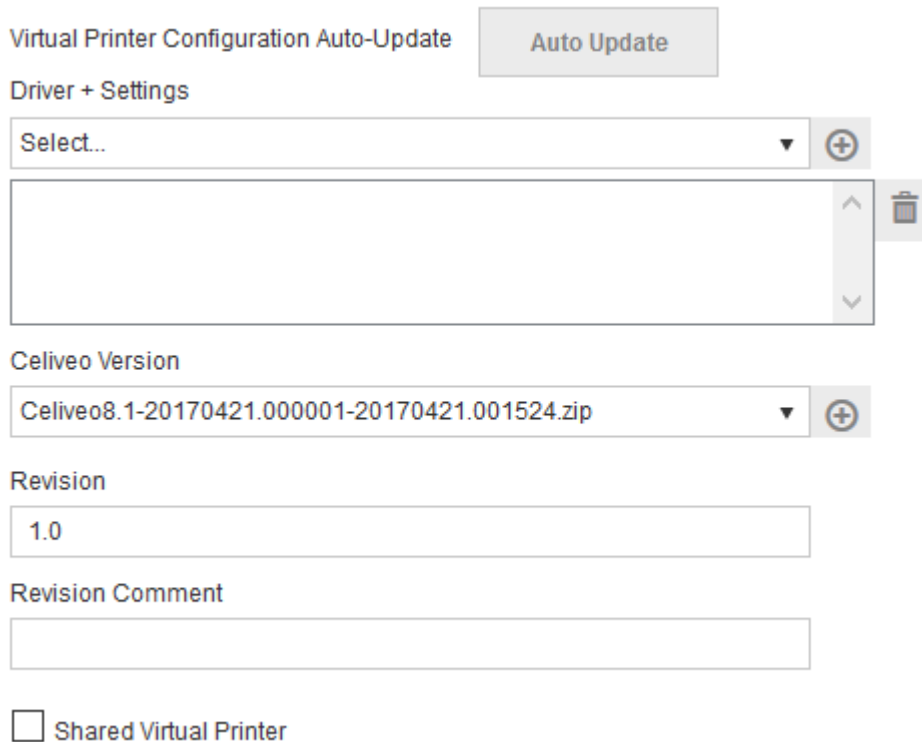
## Specify Virtual Printer Options

1. Specify a name for the CVP deployment package.

During the final stage, the Add Printer wizard generates and downloads a deployment package using the name you provide. Subsequently, you can install the deployment package on a user's workstation.


 **Note:** Please use underscores instead of spaces in the name given to the virtual printer. Spaces cannot be used when printers are shared.

2. Click **[Next>]**. The next page displays.



The screenshot shows the 'Virtual Printer Configuration Auto-Update' dialog box. It has a title bar with 'Virtual Printer Configuration Auto-Update' and an 'Auto Update' button. Below the title bar is a section labeled 'Driver + Settings' containing a dropdown menu with 'Select...' and a plus icon, and a list box with a trash icon. Below this is a section labeled 'Celiveo Version' with a dropdown menu showing 'Celiveo8.1-20170421.000001-20170421.001524.zip' and a plus icon. Below that is a section labeled 'Revision' with a text box containing '1.0'. Below that is a section labeled 'Revision Comment' with a text box. At the bottom is a checkbox labeled 'Shared Virtual Printer'.

3. Click **[Auto Update]** to enable automatic update of Virtual printer settings. This will synchronize the Driver, Cost Definition Profile, and Access and Rules Profile settings for the virtual printer. For example, if a printer driver was already installed in the workstation by Celiveo Virtual Printer, then the **[Auto-update]** option updates the driver settings configuration (if it had been modified); rather than downloading and installing the driver again.

 For a virtual printer (CVP), the update occurs for Print Queues, Cost Profile and Print Rules on Login event.

4. Choose the Celiveo Version. The latest version will be the listed first by default.
5. Select **[Print-Direct]** and clear **[Pull Printing]**.

☒ Print-Direct☐ Pull Printing

Path

C:\Program Files\Celiveo\Celiveo Server Services\Jobs

Quota per User/Department(MB)

Quota per User/Department(Jobs)


Temporary folder storage path

C:\Program Files\Celiveo\Celiveo Server Services\Temp

6. Click **[Next>]**

## Finalize

1. Accept the defaults for the next few steps and click **[Next>]** until the Save Confirmation dialog displays.
2. Ensure that the option for downloading the deployment package is selected, and click [Save]. Preserve the downloaded file so that you can expand it and deploy it on a Print Server.
3. **Please Logout/Login or reboot the machine to complete the installation.**

**Tip:** You can download the deployment package later, by selecting the CVP in Web Admin, and clicking .

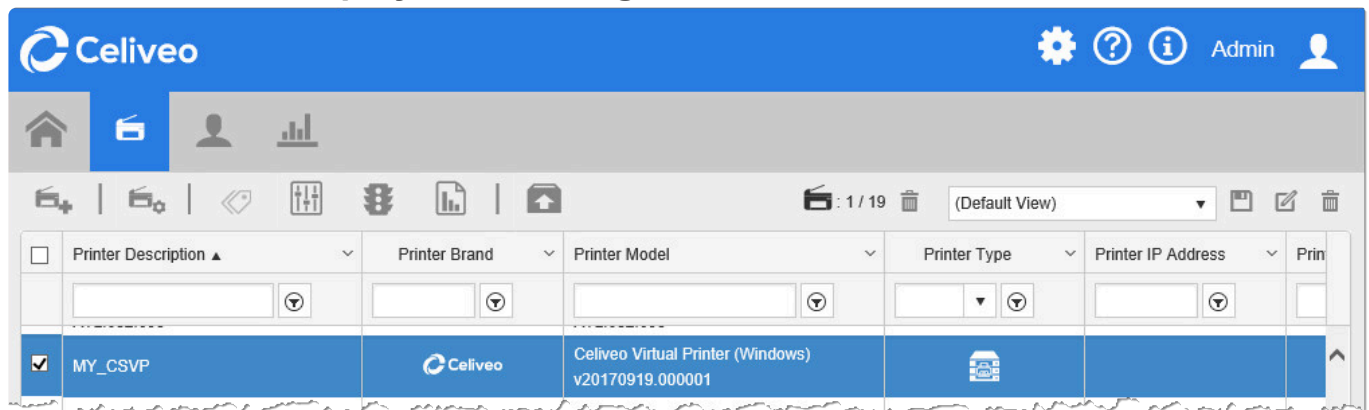
*Last modified: 8 September 2020*


## 7.2.5. Deploy a Celiveo Shared Virtual Printer Package on a Print Server

Follow the steps listed below to deploy a Celiveo Shared Virtual Printer (CSVP) on a Print Server:

1. [Download the Deployment Package](#)
2. [Install the CSVP on Print Server](#)
3. [Verify CSVP on Print Server](#)
4. [Connect to a CSVP from a User's Workstation](#)

### 1. Download the Deployment Package

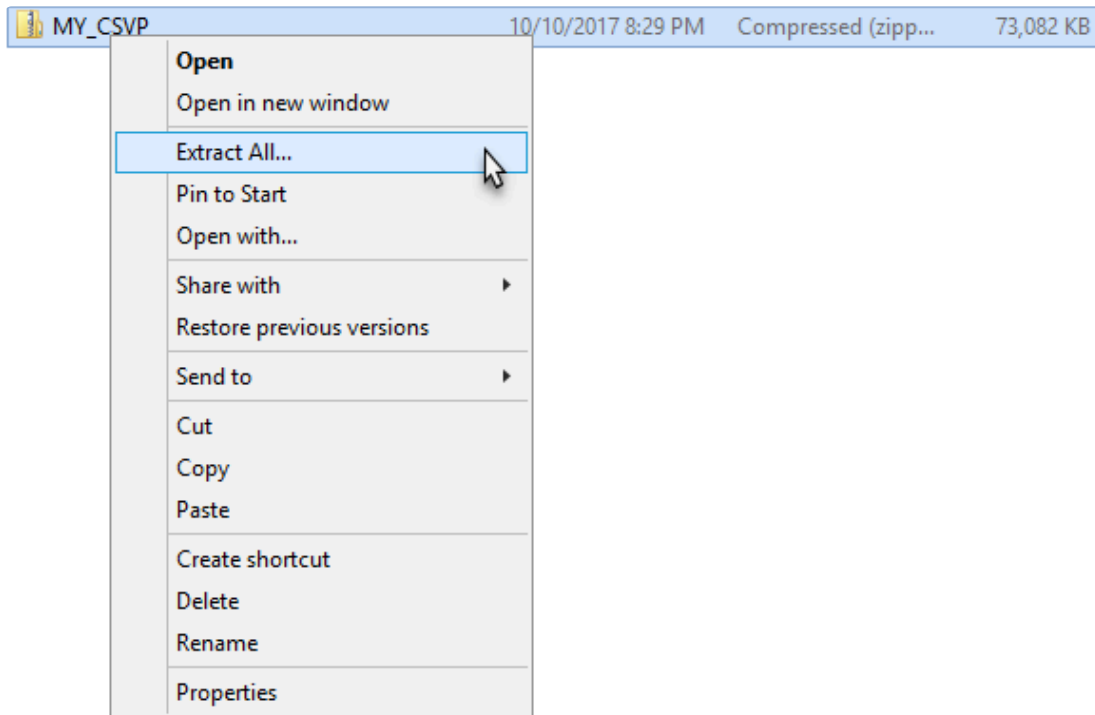


1. In the Web Admin, select the CSVP.
  2. Click .
- The Shared Virtual Printer Deployment Package downloads.

### 2. Install the CSVP on Print Server


1. Log in to the server as its administrator.
2. Copy the Virtual Printer Deployment Package to a temporary folder on the print server.
3. Right-click the Deployment Package. A menu displays.






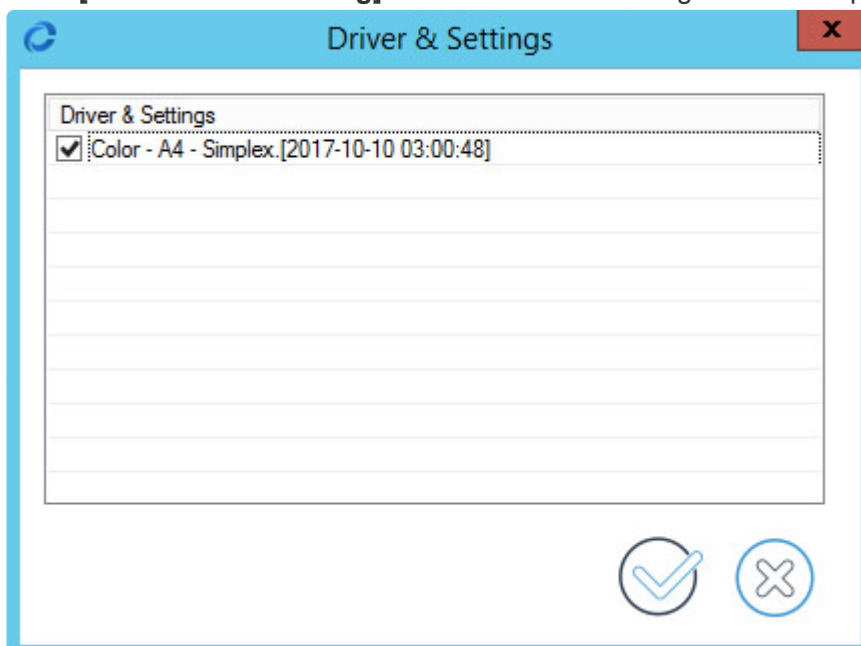
4. Click **[Extract All]**.
5. Select a temporary folder to extract the files to, and click **[Extract]**.


Name	Date modified	Type	Size
CSS	10/4/2017 12:42 AM	File folder	
DP	10/4/2017 12:42 AM	File folder	
Installer	10/4/2017 12:42 AM	Application	778 KB

6. Double-click **[Installer]** and start the installation. Upon installation, a Celiveo Virtual Printer icon (  ) is placed on the Desktop and the System Tray.

### 3. Verify CSVP on Print Server

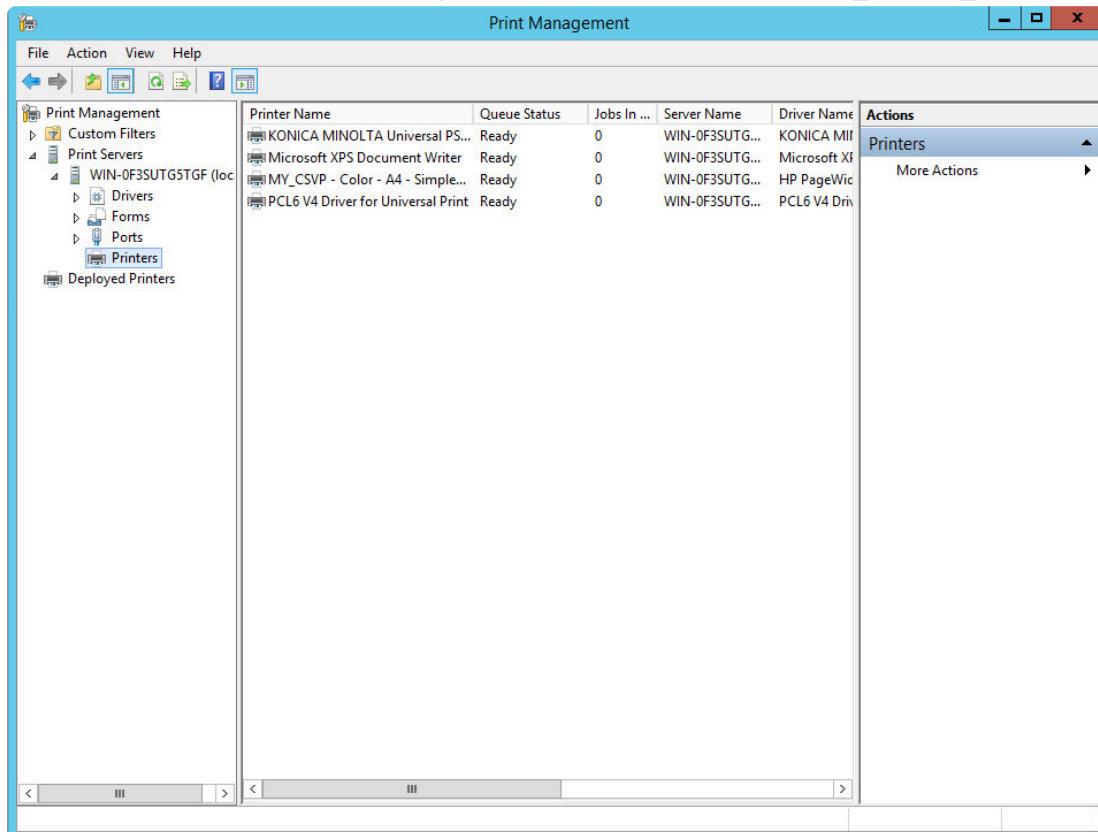
1. Right-click  on the system tray. A menu displays.
2. Click **[Celiveo Pull Printing]**. The Driver and Settings screen displays.



3. Select the printers to use and click .

A vertical yellow bar starts running on the Celiveo Virtual Printer system tray icon while the printer drivers are installed.

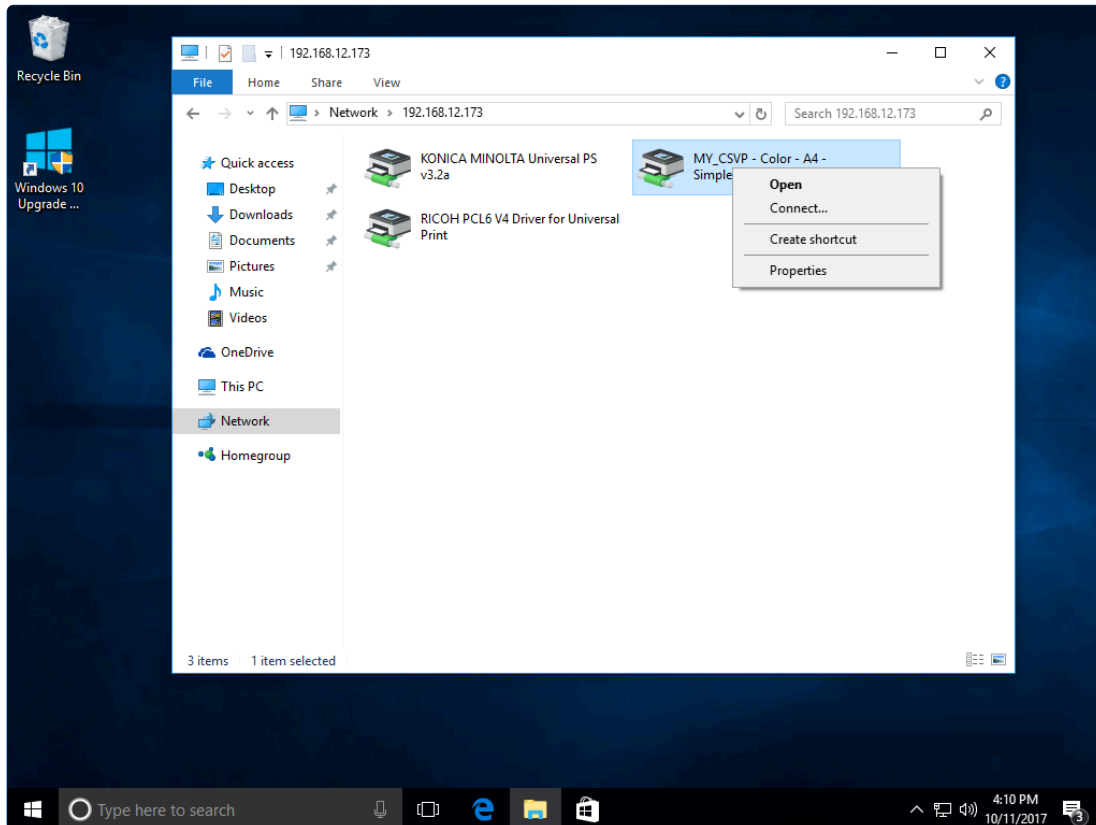
4. Verify that the Celiveo Shared Virtual Printer is added to the Print Server
- In Server Manager, click **Tools > Print Management**. The Print Management console displays.
  - In the left pane, click **Print Management > Print Servers > Your\_Server\_Name > Printers**.



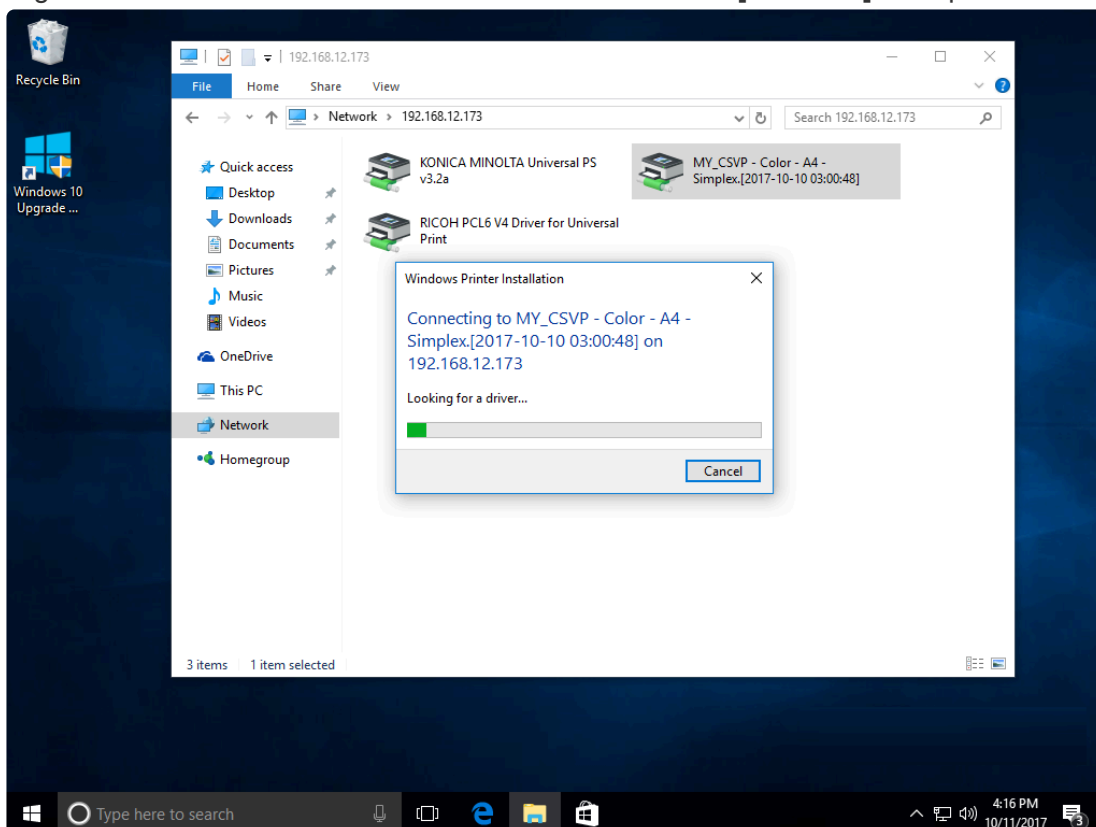
- Verify that the Celiveo Shared Virtual Printer is listed.

## 4. Connect to a CSVP from a User's Workstation

- From the Workstation, use Windows Explorer to Navigate to the print server.



2. Right-click the Celiveo Shared Virtual Printer and select **[Connect]**. The printer installation starts.



3. In Devices and Printers, verify that the Celiveo Shared Virtual Printer was installed.

*Last modified: 5 November 2020*

## 7.2.6. Deploy a Celiveo Virtual Printer on a User's Work Station (For Pull Printing)

Follow the steps below to deploy a Celiveo Virtual Printer on a user's workstation:



1. [Download the Virtual Printer deployment package.](#)



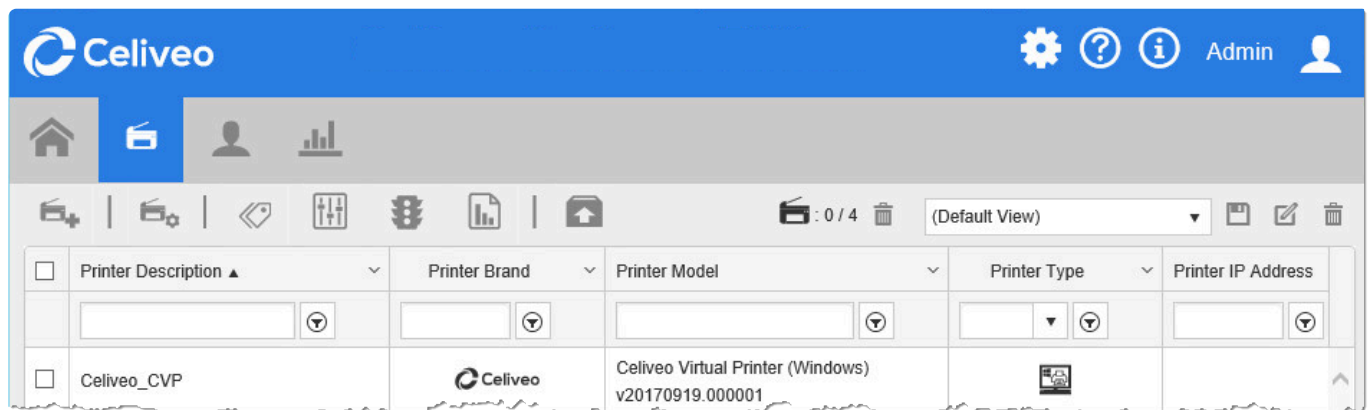
2. [Install the Virtual Printer on a user's workstation.](#)

- [Silent installation](#)
- [Uninstallation](#)

3. [Install Printer Queues for pull printing.](#)

4. [Multi-SQL Configuration.](#)

### 1. Download Virtual Printer Deployment Package



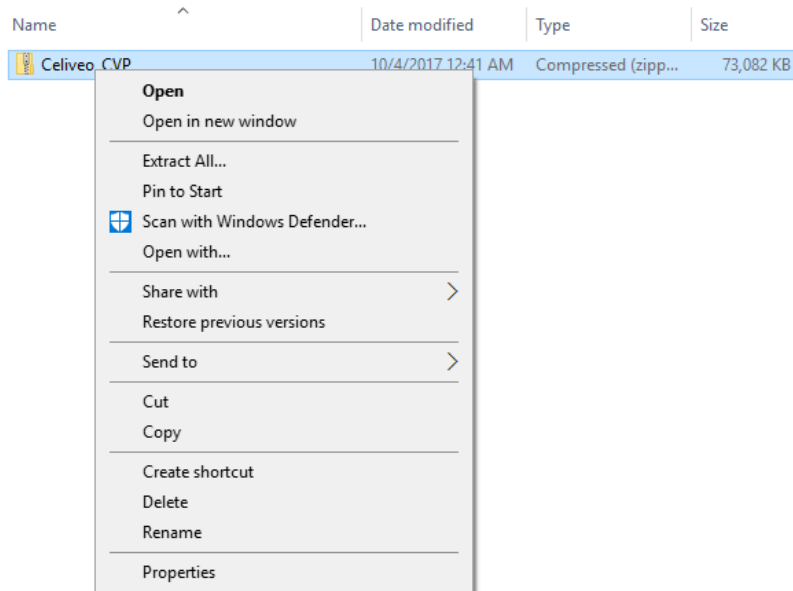
1. In the Web Admin, select the Celiveo Virtual Printer.
2. Click

The Virtual Printer Deployment Package downloads.

### 2. Install Virtual Printer on User's Workstation.

**Note:** Before installing the Virtual Printer, make sure that .Net Framework 3.5 is installed on the workstation.

1. Copy the Virtual Printer Deployment Package to a temporary folder on the user's workstation.
2. Right-click the Deployment Package. A menu displays.



3. Click **[Extract All]**.
4. Select a temporary folder to extract the files to, and click **[Extract]**.

Name	Date modified	Type	Size
CSS	10/4/2017 12:42 AM	File folder	
DP	10/4/2017 12:42 AM	File folder	
Installer	10/4/2017 12:42 AM	Application	778 KB

5. Right-click the **[Installer]** and select **[Run as administrator]** to start the installation.
6. Upon installation, a Celiveo Virtual Printer icon is placed on the Desktop and the System Tray.



**NOTE 1:** Users need to log out and log in again in order to have all rules and quotas applied.

**NOTE 2:** Please ensure that set the appropriate Permission according to your company policy for all the EXE/DLL in the Celiveo Virtual Printers installation folders which, by default are **C:\Program Files\Celiveo\Celiveo Virtual Printer\** for the application files and **C:\ProgramData\Celiveo\Celiveo virtual Printer\** for data files. There is no need to have Write permission for those EXE/DLL. You may refer the [Security Recommendation](#) (login is required)

## 2.a. Silent Installation

### Silent installation:

This option is useful, to silently install Celiveo Virtual Printer on user workstation without requesting any user interaction.

To do this:

1. Launch the command prompt dialog as Administrator.
2. Run the following command: **installer.exe -s**

### Define a custom path:

You can also define a custom path to extract the files and install Celiveo Virtual Printer. To do this:

1. Enter the following command: **installer.exe -t"[folder path]"**.

E.g: *installer -t"D:\Program Files\Celiveo"*

Upon installation, a Celiveo Virtual Printer icon is placed on the Desktop and the System Tray.

#### **Desktop shortcut:**

If you do not wish to create a shortcut on the Desktop, run the following command: **installer.exe -nosc**

#### **With additional storage support (NAS):**

You can install Celiveo Virtual Printer with an option to push print job tickets to a Network Attached Storage (NAS). This increases accessibility to the print jobs when CVP is offline (user workstation is shutdown).

To enable this feature during installation, run the following command: **installer.exe -ccp -s**

**Note: -s prevents display of any notification popups to users during silent installation.**

#### **Install the CSS with a specific port:**

If you wish to install the CSS using a specific port, use the following command: **installer.exe-pxxxx** (xxxx being the port number).


## **2.b. Silent Uninstallation**

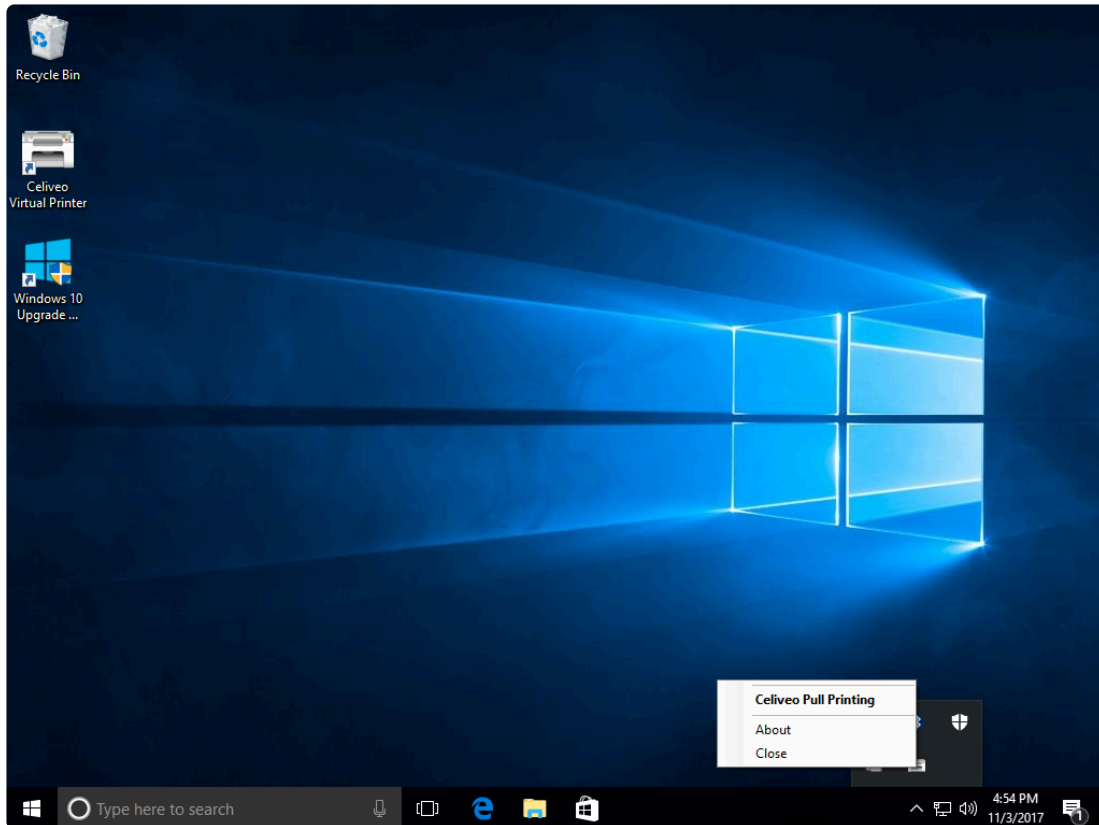
Celiveo Virtual Printer can also be removed from user workstations without requesting any user interaction.

1. Launch the command prompt dialog as Administrator.
2. Run the following command: **installer.exe -u**


All binaries are removed from the Install folder.

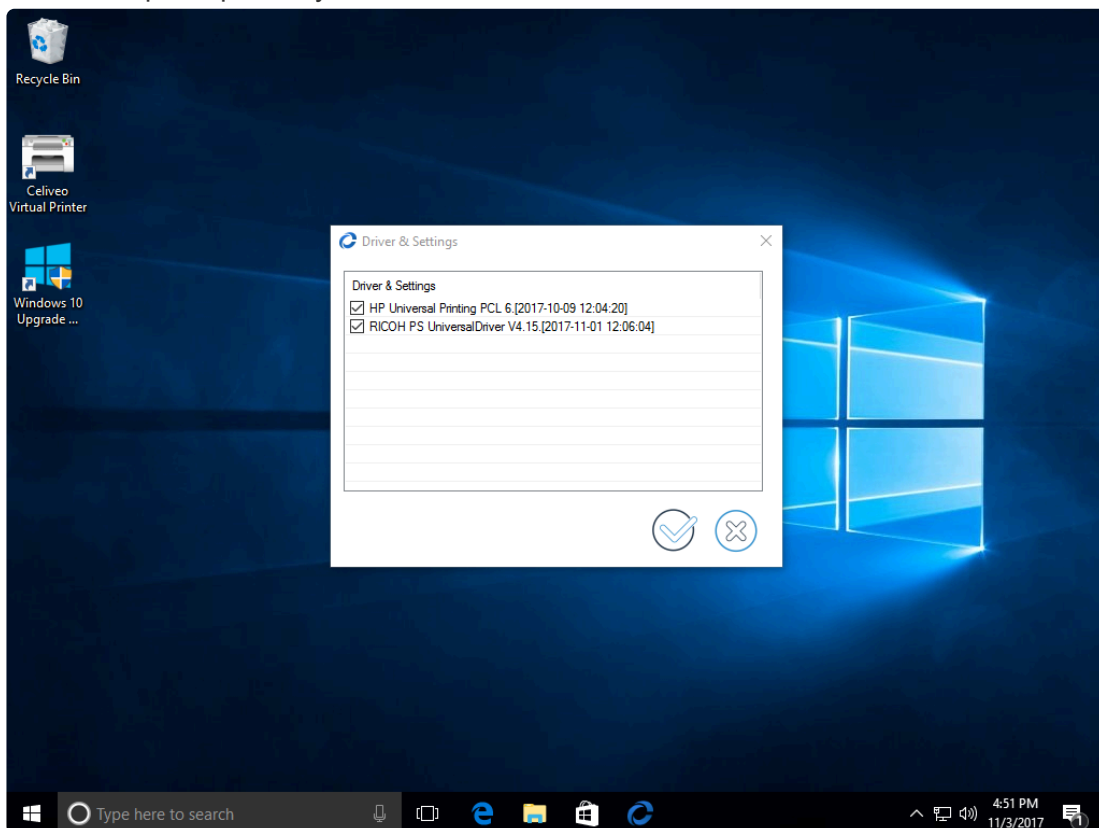
## **3. Install Printer Queues for Pull Printing**


1. Right-click  on the system tray. A menu displays.
2. Click **[Celiveo Pull Printing]**.



The Driver and Settings dialog displays.

3. Select the print queues you want to use on this workstation, and click .



 **Note:** The default name + time-date suffix can be edited in the WebAdmin.

A vertical yellow bar starts running on the Celiveo Virtual Printer system tray icon while the printer is

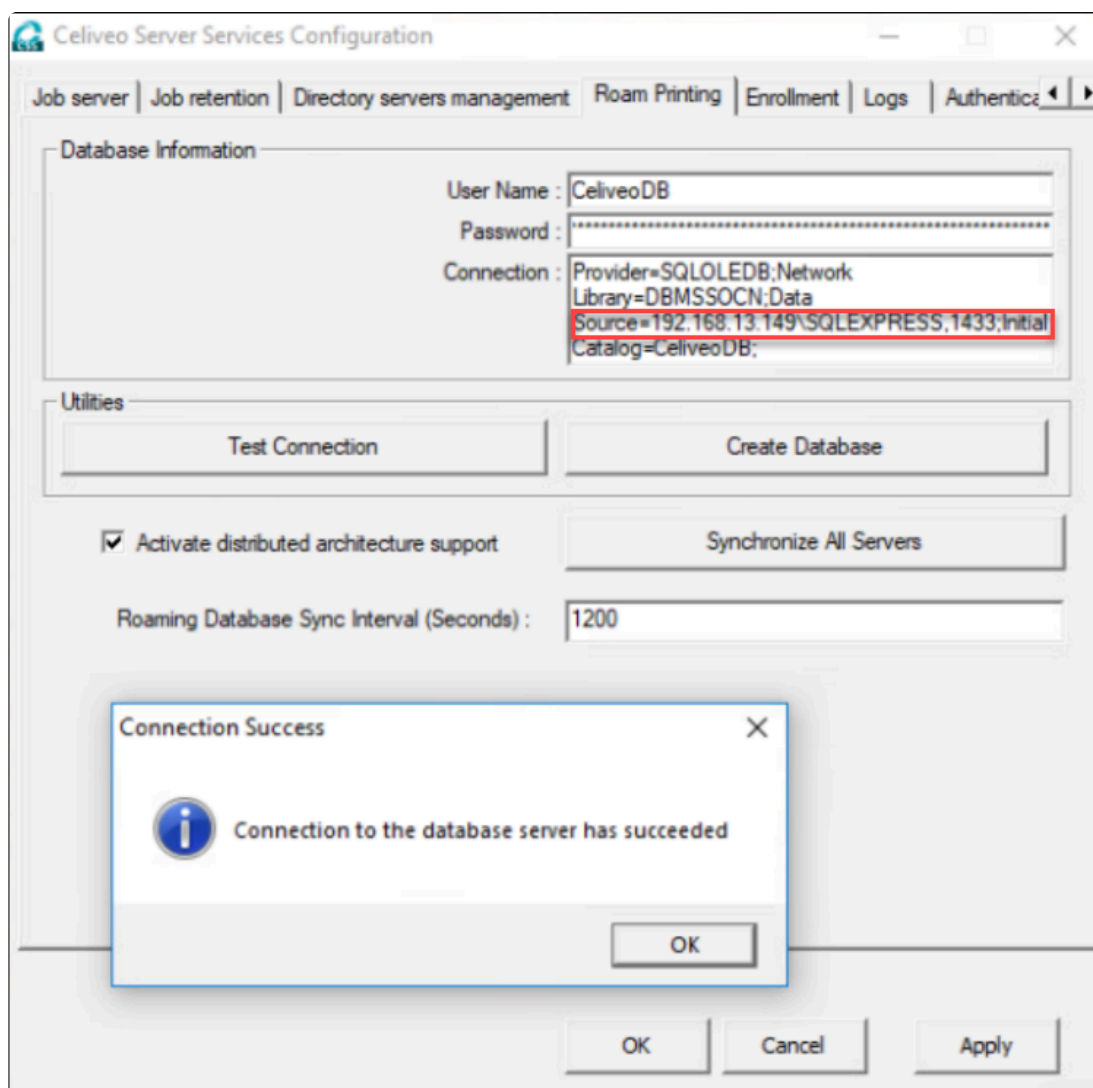
installed on the workstation. The drivers are installed on your workstation. Now when you attempt to print, the print queues are available for selection.

## 4. Multi-SQL Configuration

If you are intending to use additional SQL databases, make sure that the CVP is using the same Database IP address or hostname as the one set up in the Web Admin, with valid credentials.

This can be verified in the CSS configuration tool. To do so:

1. Go to CSS directory and then launch the configuration UI (Run as administrator)
2. In the **Roam Printing** tab, in the **Database Information** section, check the **Source** field.
3. Test the connection to the Database by clicking the **Test Connection** button.



*Last modified: 8 September 2020*

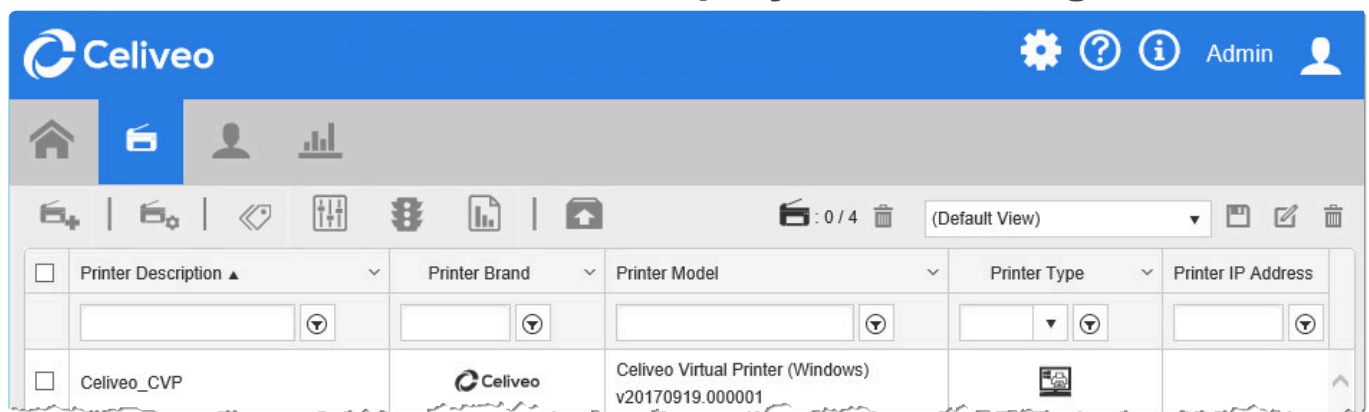



## 7.2.7. Deploy a Celiveo Virtual Printer on a User's Work Station (For Direct IP Printing)

Follow the steps below to deploy a Celiveo Virtual Printer on a user's workstation:

1. [Download the Virtual Printer deployment package.](#)
2. [Install the Virtual Printer on a user's workstation.](#)
  - [Silent installation](#)
  - [Uninstallation](#)
3. [Install Physical Printers for direct print.](#)

### 1. Download Virtual Printer Deployment Package



1. In the Web Admin, select the Celiveo Virtual Printer.
2. Click .

The Virtual Printer Deployment Package downloads.

## BEFORE YOU INSTALL CELIVEO VIRTUAL PRINTER:

In some cases, the Windows Defender antivirus identifies Celiveo Virtual Printer as a threat.

We have submitted the file to Microsoft for a malware analysis who confirmed this was a **false positive** as proven by the reports below:







Search by file name

virtual

Filter by determination

All

Showing 2 of 2 entries

File name	Final determination	Protection	Current detection	Definition version
 dp_x86_celiveo virtual printer_setup.msi cypnew.zip /	Not malware	 Cloud  Client	No malware detected No malware detected	Online 1.263.536.0
 dp_x64_celiveo virtual printer_setup.msi cypnew.zip /	Not malware	 Cloud  Client	Trojan:Win32/Critet.BS No malware detected	Online 1.263.536.0

Search by file name

Filter by determination

Showing 1 of 1 entries

File name	Final determination	Protection	Current detection	Definition version
installer.exe cvpnew.zip /	Not malware	✓ Cloud ✓ Client	No malware detected No malware detected	Online 1.263.536.0

To avoid this problem, make sure that you add Celiveo to the Windows Defender antivirus exclusion list. To do so, add the “C:\Program Files\Celiveo” folder to the exclusion list : <https://support.microsoft.com/en-ie/help/4028485/windows-10-add-an-exclusion-to-windows-defender-antivirus>.

Celiveo software executable files are verified virus/malware using eSET Nod32, then digitally signed, and therefore can't be patched at a later stage by a virus without triggering a signature failure alert.

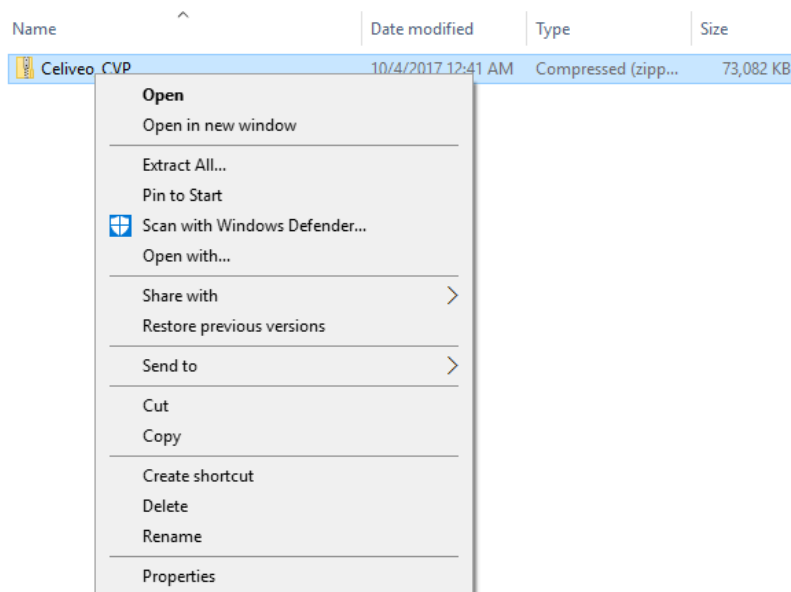
If you receive an invalid signature alert, do you run the application as it means a software has modified the binary file.

Recent versions of Windows Defender wrongly reports some clean obfuscated .Net assemblies as a threat, this is a false positive.




Would you face that issue, we strongly recommend you try other anti-virus to get a confirmation before considering that detection as accurate.

## 2. Install Virtual Printer on User's Workstation.

1. Copy the Virtual Printer Deployment Package to a temporary folder on the user's workstation.
2. Right-click the Deployment Package. A menu displays.



3. Click **[Extract All]**.
4. Select a temporary folder to extract the files to, and click **[Extract]**.

Name	Date modified	Type	Size
 CSS	10/4/2017 12:42 AM	File folder	
 DP	10/4/2017 12:42 AM	File folder	
 Installer	10/4/2017 12:42 AM	Application	778 KB

5. Right-click [**Installer**] and Run as Administrator to start the installation.

## 2.a. Silent Installation

This option is useful, to silently install Celiveo Virtual Printer on user workstation without requesting any user interaction.

To do this:

1. Launch the command prompt dialog as Administrator.
2. Run the following command: **installer.exe -s**

### Define a custom path:

You can also define a custom path to extract the files and install Celiveo Virtual Printer. To do this:

1. Enter the following command: **installer.exe -t"[folder path]"**.  
E.g: *installer -t"D:\Program Files\Celiveo"*

Upon installation, a Celiveo Virtual Printer icon is placed on the Desktop and the System Tray.

### Desktop shortcut:

If you do not wish to create a shortcut on the Desktop, run the following command: **installer.exe -nosc**

## 2.b. Silent Uninstallation

Celiveo Virtual Printer can also removed from user workstations without requesting any user interaction.

1. Launch the command prompt dialog as Administrator.
2. Run the following command: **installer.exe -u**

All binaries are removed from the Install folder.


### Alternate Option for Silent Installation:

You can also define a custom path to extract the files and install Celiveo Virtual Printer. To do this:


1. Run the command prompt.
2. Enter the following command:

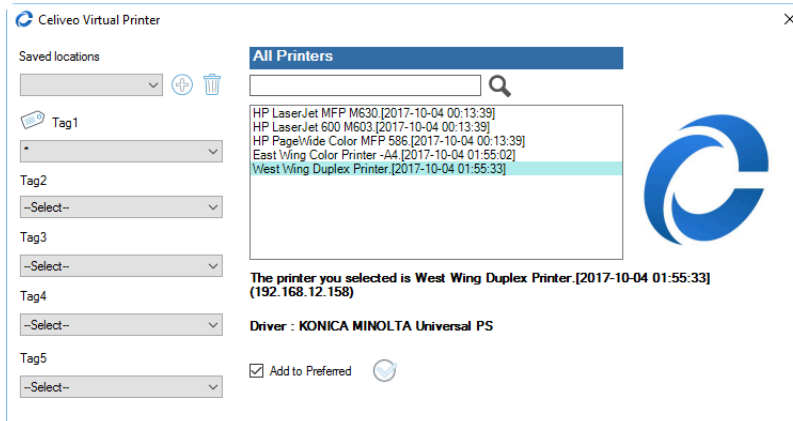
*installer -t"[folder path]". For e.g: installer -t"D:\Program Files\Celiveo"*


- Upon installation, a Celiveo Virtual Printer icon is placed on the Desktop and the System Tray.

 **NOTE:** Users need to log out and log in again in order to have all rules and quotas applied.

### 3. Install Physical Printers for Direct Print

1. Right-click  on the system tray. A menu displays.
2. Click **[Choose another printer]**. The Celiveo Virtual Printer screen displays.

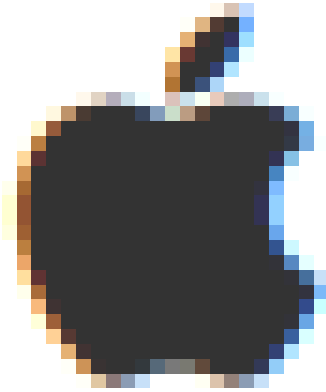


3. Select the printer to use on this workstation, and click . A vertical yellow bar starts running on the Celiveo Virtual Printer system tray icon while the printer is installed on the workstation.
4. Repeat steps 1 – 3 until you have added all the printers you need.

*Last modified: 8 September 2020*

## 7.3. Celiveo Virtual Printer for macOS

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The Celiveo solution is also available on macOS!

[Install Celiveo Virtual Printer on multiple macOS workstations – Silent Install Procedure](#)

[Add a Celiveo Virtual Printer on macOS machine – Interactive Install Procedure](#)

[Connect to a Windows Celiveo Shared Virtual Printer from macOS machine](#)

[Upgrade Celiveo Secure Services for macOS](#)

[Configure Celiveo macOS NAS Job Transfer with Job Delegation](#)

[Upgrade Celiveo Server Services for Windows](#)

*Last modified: 5 November 2020*

## 7.3.1. Install Celiveo Virtual Printer on multiple macOS workstations – Silent Install Procedure

---

### Before you begin...

#### 1. Pre-installation requirements

On the macOS client machine, make sure the [minimum system requirements](#) for installation are met.

#### 2. Export the settings configuration file

The CVP Installer package for macOS contains the following folder and files:

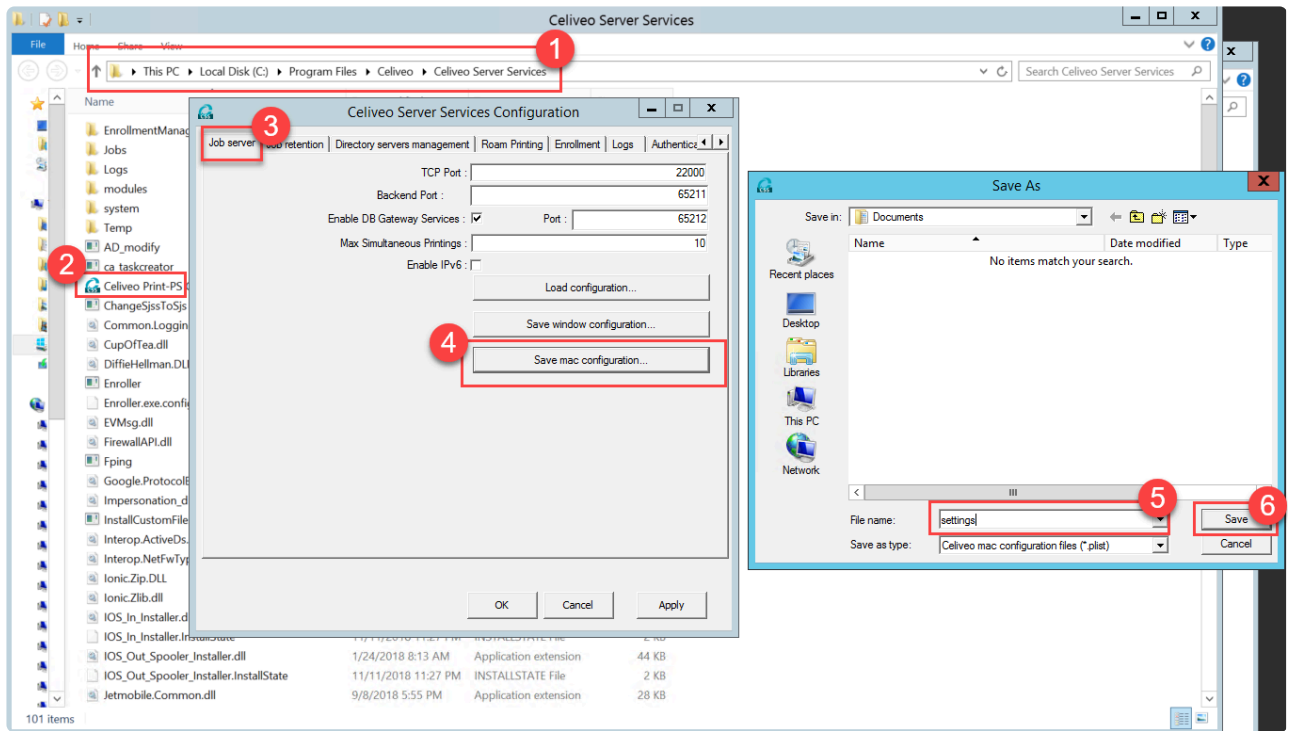
- *Printer Setup* – Folder containing configuration files and Print Queue creation scripts
- *Celiveo Server Services-8.4.pkg* – Install file
- *Celiveo Server Services-8.4-uninstall.pkg* – Uninstall file
- *installer.sh* – Silent install script
- *settings.plist* – Configuration file for logging and database

Before you install the Celiveo Virtual Printer on the macOS machine, the database and other configuration details have to be setup in the Settings file present in the deployment package. You have to generate a Settings file which will automatically retrieve the database configuration, and then export this file onto the deployment package.



**Prerequisite:** Make sure you have the latest CSS – Celiveo Server Services – installed on the Server. You can refer to [this article](#) on how to upgrade CSS.

1. Log into Windows Server.
2. Go to Celiveo Server Services directory and then launch the configuration UI (Run as administrator).
3. On the **[Job Server]** tab, click **[Save mac configuration]** button.
4. A popup appears for saving the configuration file. Type file name as “settings” and click **[Save]**. This retrieves the database configuration automatically and creates **settings.plist** file on the given path.



5. Export this Settings file onto the macOS machine, where the CVP is to be installed.
6. Replace with the existing “settings.plist” file in the deployment package.

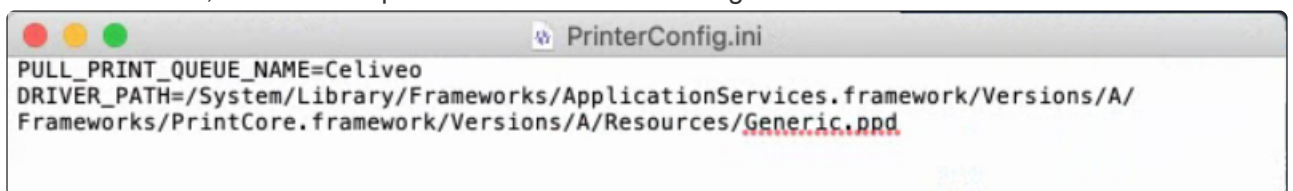
### 3. Additional configuration

Two settings need to be configured before starting the install process:

1. In the **Printer Setup** folder, open the PrinterConfig.ini file and define a Print Queue name.

✿ **Note:** Do not use any space for the Print Queue name

2. In the same file, indicate the path to the folder containing the driver to use.

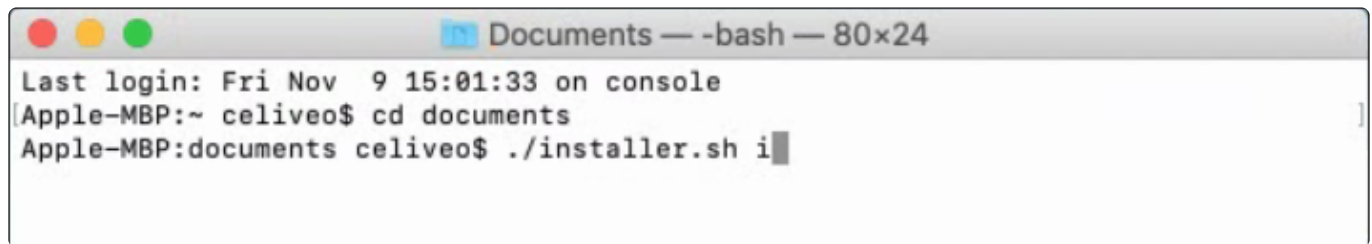


✿ **Note:** By default, the script uses the macOS generic PostScript driver. In case a different driver is required: Download and install it prior to this step, and then indicate its location (file with .ppd extension) in the ini file.

## Launching Silent Install Process

1. On the admin machine, launch the command prompt dialog.
2. Call the silent installer by typing the following command: `./installer.sh i`

✿ *Note: First make sure you are in the right folder. To do so, type `cd < path to the folder >`*



```
Documents — -bash — 80x24
Last login: Fri Nov  9 15:01:33 on console
[Apple-MBP:~ celiveo$ cd documents
Apple-MBP:documents celiveo$ ./installer.sh i
```

A Pull Print queue is automatically created.

## Uninstalling a Celiveo Virtual Printer silently

Celiveo Virtual Printer can also be removed silently from macOS machine, ie without requesting any user interaction.

1. On the admin machine, launch the command prompt dialog.
2. Call the silent uninstaller by typing the following command: `./installer.sh u`

All binaries are removed from the Install folder.

✿ *Note: Although the solution files have been removed, Print jobs remain for migration purposes.*

*Last modified: 8 September 2020*



## 7.3.2. Add a Celiveo Virtual Printer on macOS machine – Interactive Install Procedure

---

The Celiveo macOS CVP is an independent module used to deploy on a user machine using MacOS X that enables the user to print on a Celiveo-enabled printer. This stand-alone deployment package comprises of:

- Install executable file
- Uninstall executable file
- Settings configuration file
- Printer Setup directory (configuration to create pull-print queue name and retrieve printer driver path – this is applicable while performing Silent installation. See [this article](#) for instructions on silent installation procedure.)
- Silent Installation script (applicable for silent installation)

**! IMPORTANT NOTE: The CVP installable is applicable ONLY for Celiveo 8.**

### Before you begin...

On the macOS client machine, make sure the [minimum system requirements](#) for installation are met.

Follow the steps below to deploy a Celiveo Virtual Printer on macOS machine.

1. [Export the settings configuration file.](#)
2. [Manually install the CVP on macOS machine.](#)
3. [Create a pull print queue on macOS machine.](#)

## 1. Export the settings configuration file

Before you install the Celiveo Virtual Printer on the macOS (client) machine, the database and other configuration details have to be setup in the Settings file present in the deployment package. You have to generate a Settings file which will automatically retrieve the database configuration, and then export this file onto the deployment package.

The Setting file can be generated by following these steps:

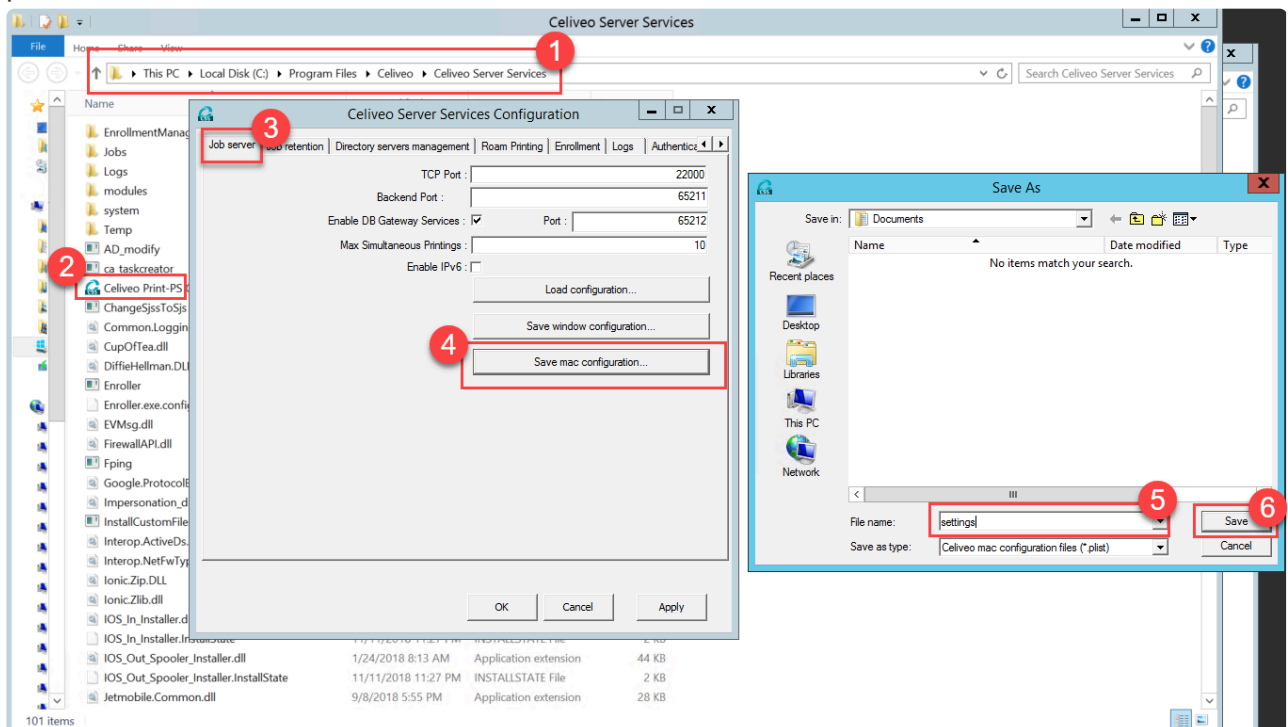
### Step 1: In Web Admin (Celiveo 8.0.1/ 8.0.2)

1. Install the latest version of Celiveo Server Services (CSS). You can refer to [this article](#) on how to upgrade CSS.
2. Once successfully installed, go to Web Admin application.
3. Select the new CSS in the Web Admin and synchronize.

- Now, go to the new CSS Configuration Console and export the macOS settings file.

## Step 2 : In Windows CSS/CVP on Client or Server:

- Log into the target machine with Celiveo CSS/CVP.
- Go to CSS directory and then launch the configuration UI (Run as administrator).
- On the **[Job Server]** tab, click **[Save mac configuration]** button.
- Validate that Roam Printing contains SQL information, Server connection string, Username/Password (This is the information that will be exported to the file **settings.plist** that is then used by the macOS CVP installer).
- A popup appears for saving the configuration file. Type file name as “settings” and click **[Save]**. This retrieves the database configuration automatically and creates **settings.plist** file on the given path.

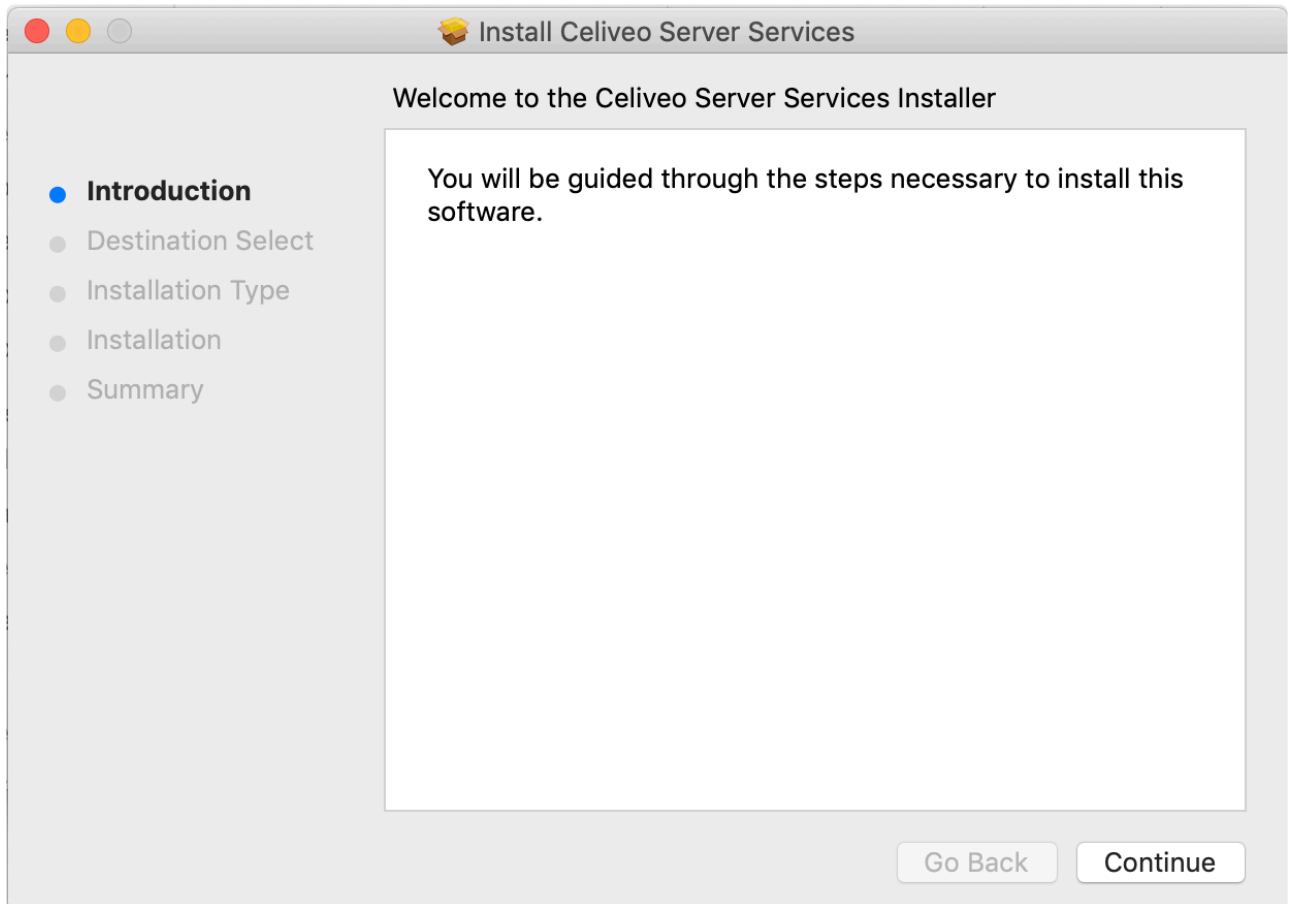


- Export this Settings file onto the macOS machine, where the CVP is to be installed.
- Replace with the existing “settings.plist” file in the deployment package.

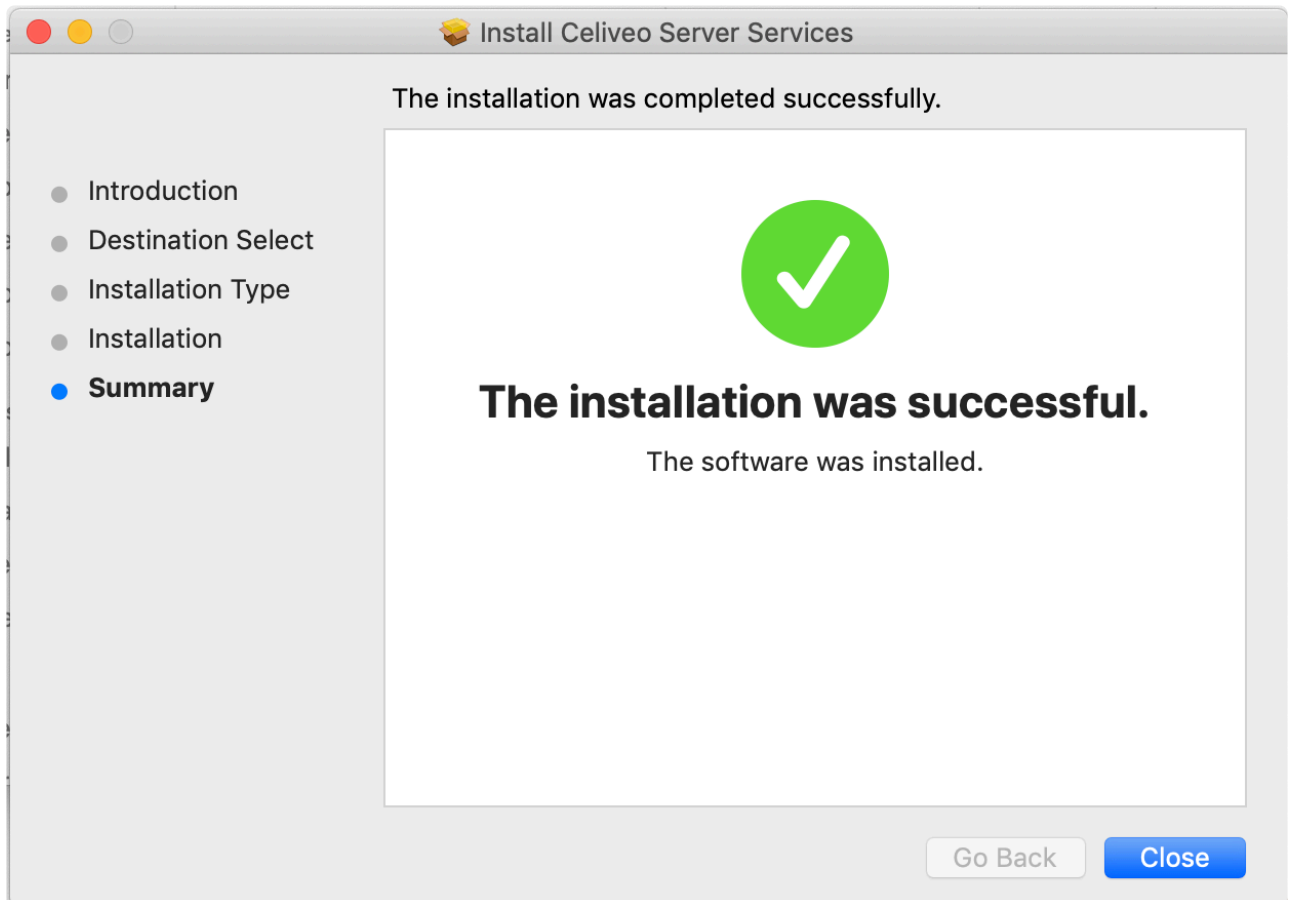
## 2. Manually install the Virtual Printer on macOS machine

### To install :

- Copy the Celiveo Virtual Printer Deployment Package to a temporary folder on the user's machine.
- Right-click the Deployment Package. A menu displays.
- Click **[Extract All]**.
- Select a temporary folder to extract the files to, and click **[Extract]**.
- Replace the existing Settings file with the exported one onto this folder.
- Double-click **[Installer]** to start the installation wizard.



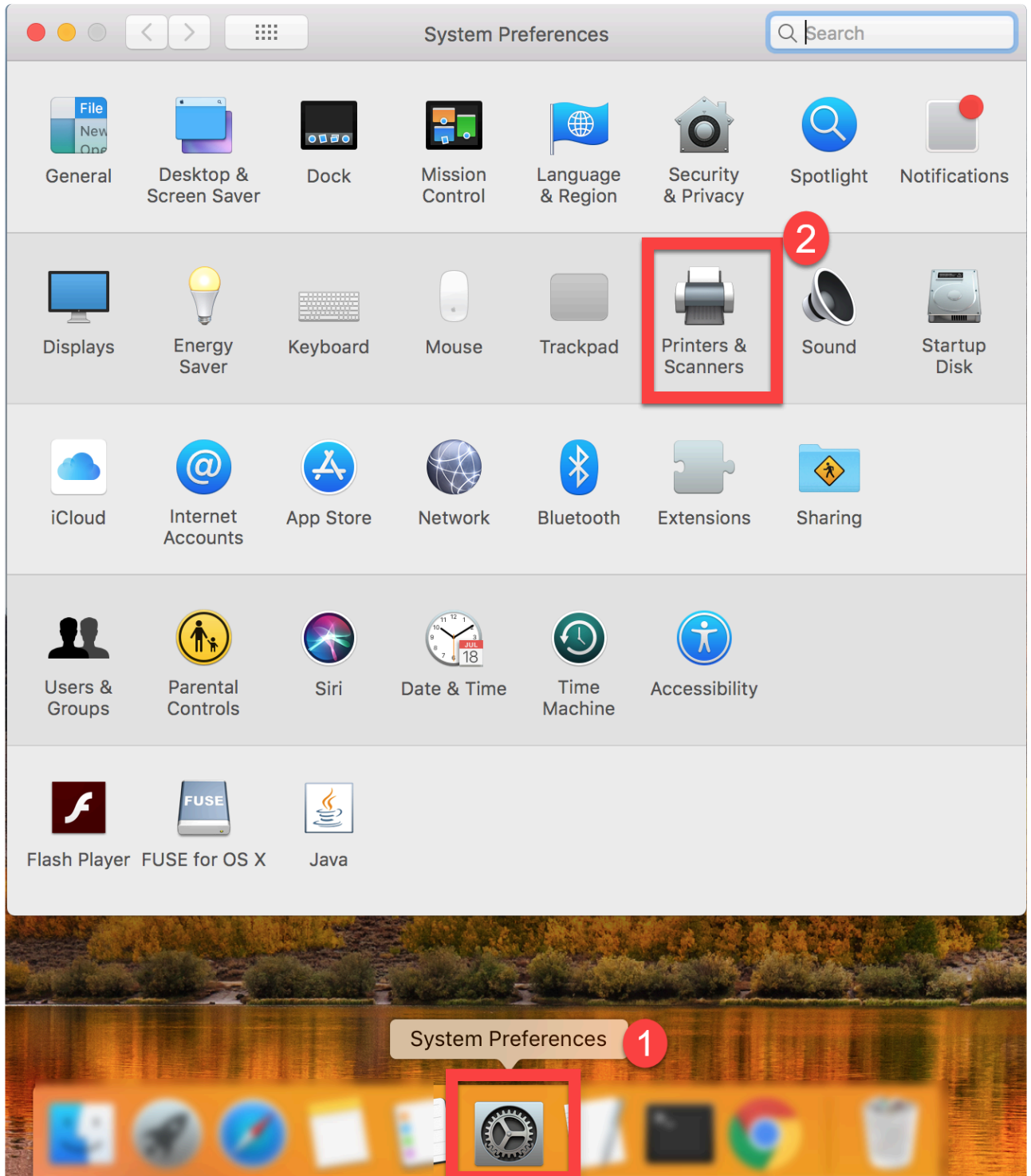
7. Continue with the instructions given on the installation wizard till the installation is successful.



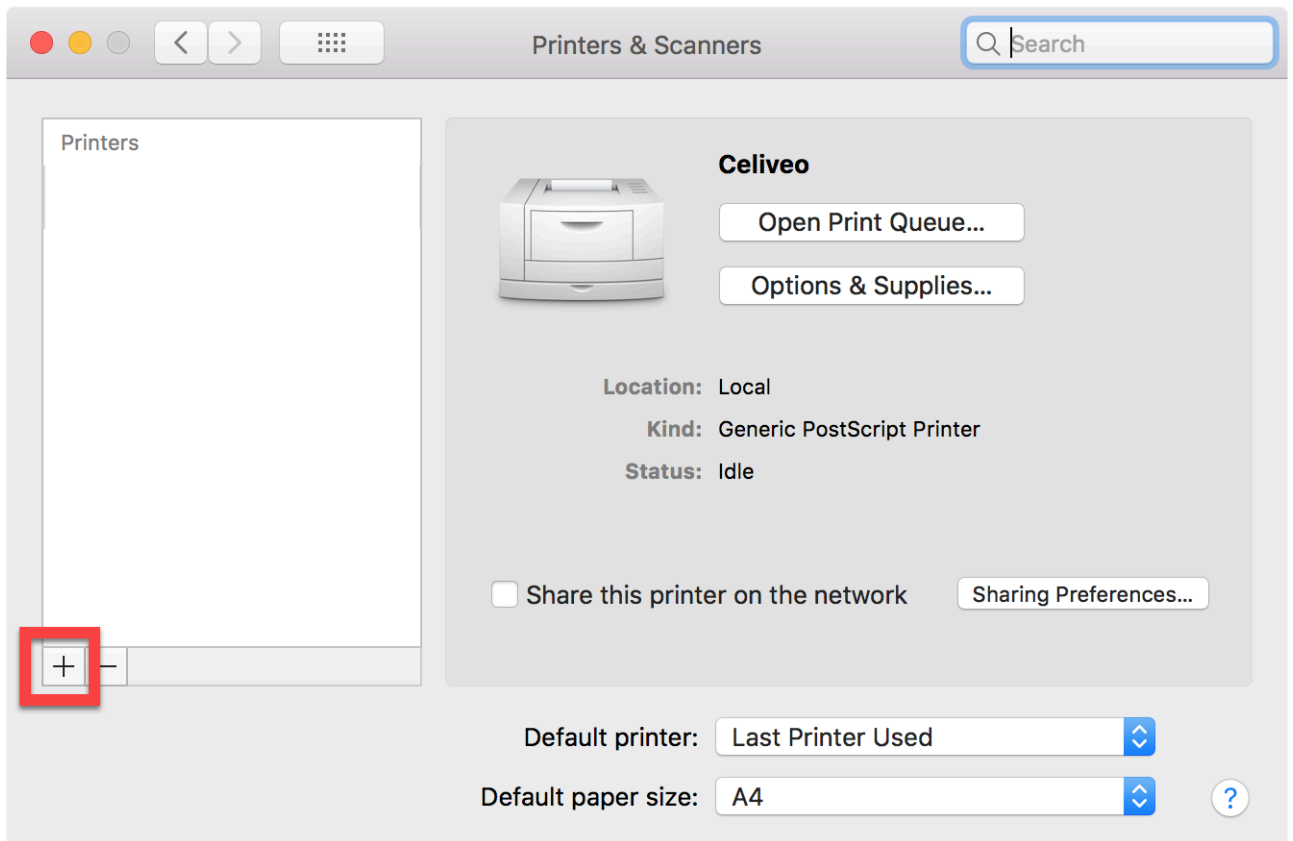
### 3. Create a pull print queue on macOS machine

Follow the below steps to add a print queue to macOS machine:

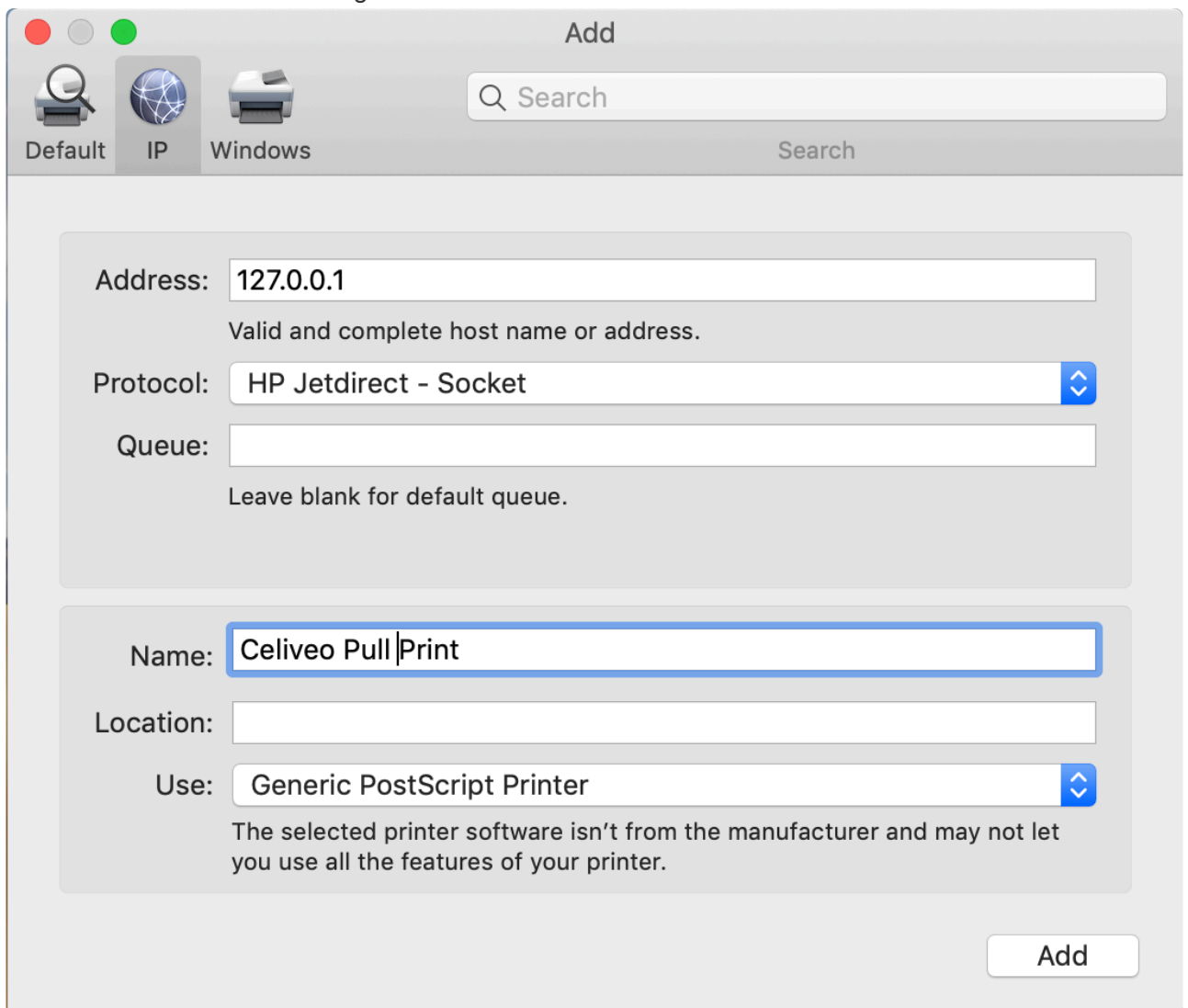
1. In your Mac machine, go to **System Preference**.
2. Click **Printers and Scanners**.



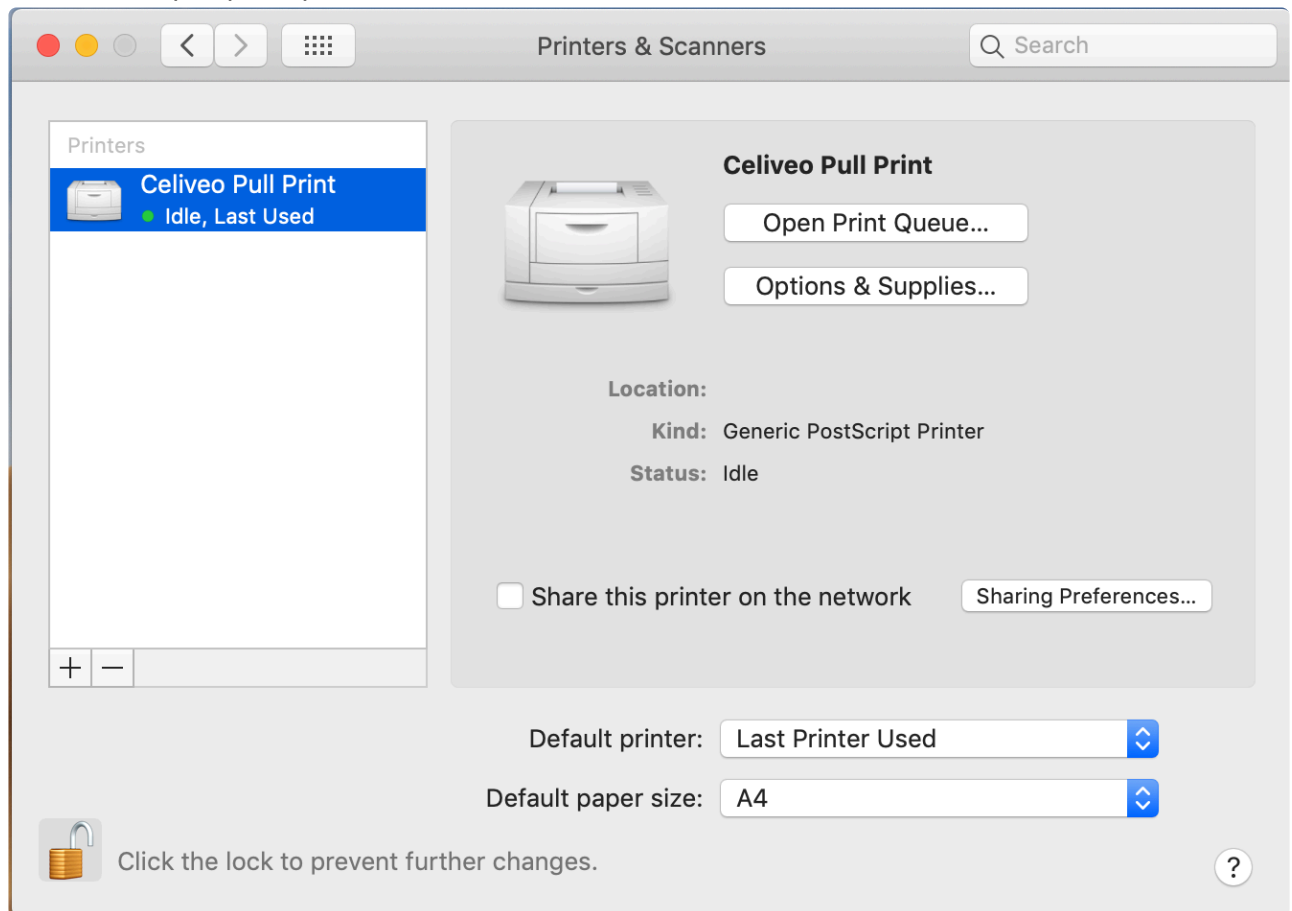
3. Click the [+] sign to add new printer.



4. Go to **IP** tab and fill the settings as shown in the screenshot below.



- Then, click **Add**.
- The Celiveo pull print queue is now added.



## Uninstall the Celiveo Virtual Printer from macOS machine

Celiveo Virtual Printer can be removed using the Uninstall executable file provided in the deployment package.

- On the user machine, launch the **[Uninstall]**. The installation wizard opens up.
- Continue with the instructions given on the installation wizard till the un-installation is successful.

All binaries will be removed from the Install folder.



**Note:** Although the solution files are removed, Print jobs remain for migration purposes.

*Last modified: 8 September 2020*

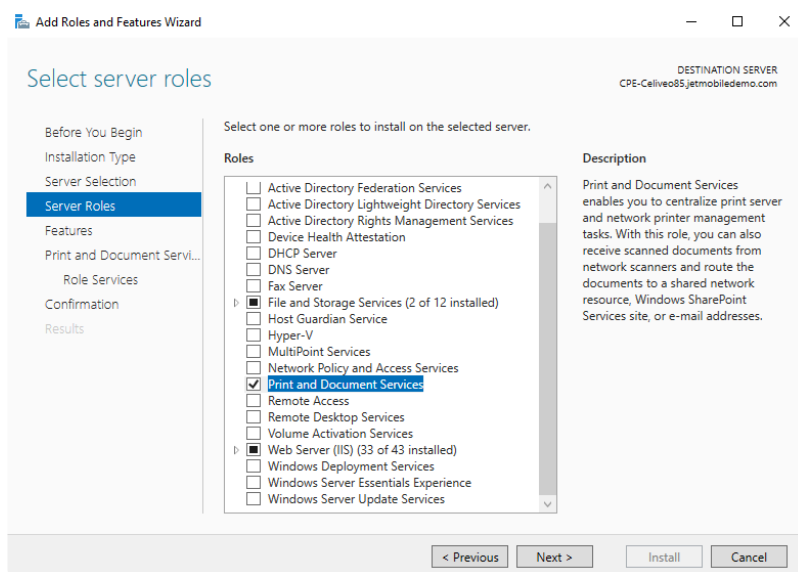
## 7.3.3. Connect to a Windows Celiveo Shared Virtual Printer from macOS machine

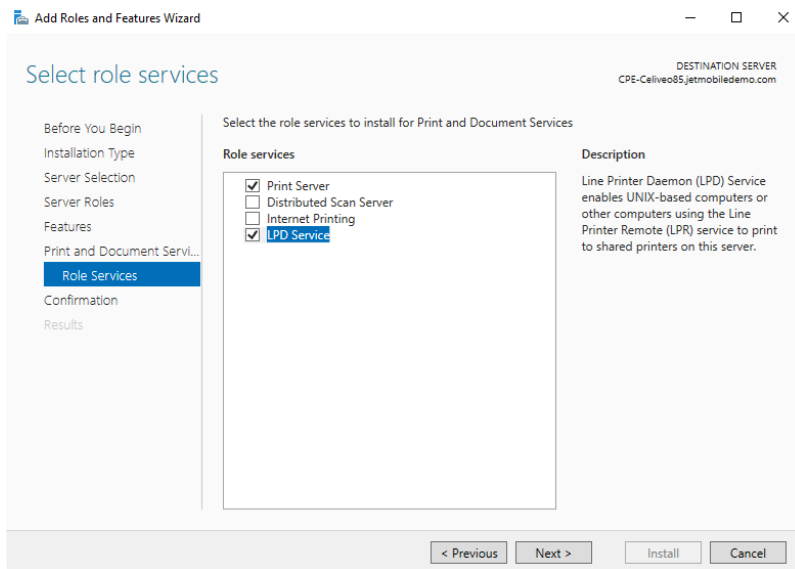
Creating a Celiveo Shared Virtual Printer (server based pull printing) follows a different procedure for macOS with respect to Windows OS.

### Before you begin...

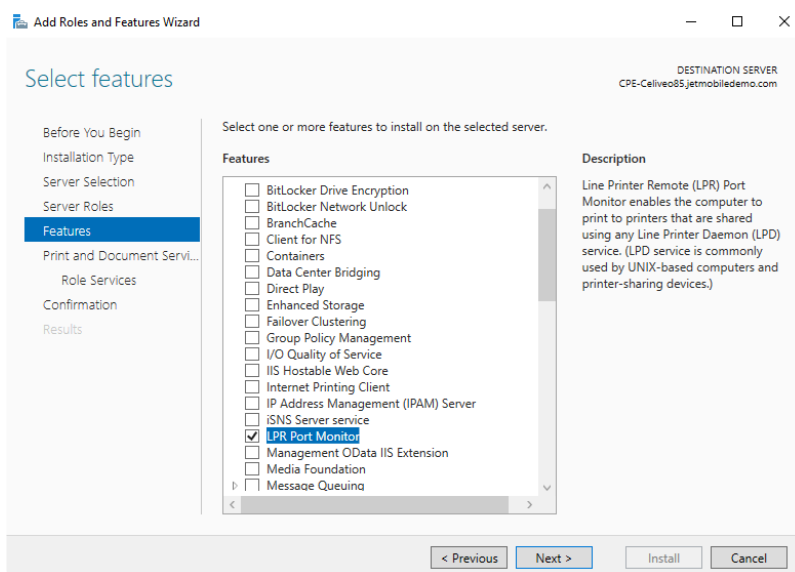
The shared print queue must be created in the Windows Print Server to support macOS printing. For this setting, the print queue on the server must have the pre-processing filter configured.

1. On the Print Server, enable **LPD Service and LPR Port Monitor**. (Enabling these features allows printing to shared printers on this server).
2. To do this:
  - a. Go to **Add Roles and Features > Server Roles**
  - b. Locate and select the **Print and Document Services** checkbox. Click to display **Role Services** sub menu.
  - c. Select **LPD Service** checkbox.

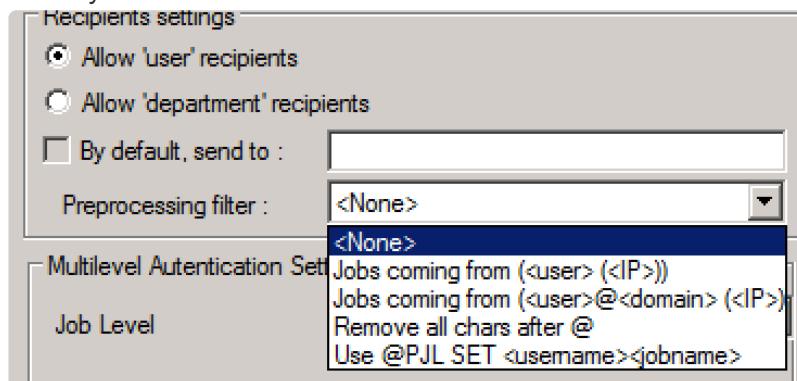




d. Click **Next**. Select **LPR Port Monitor** under **Features**.



3. Create a Celiveo Shared Virtual Printer (CSVP) on the Print Server. Refer to the article [here](#) on how to deploy and create CSVP on Print Server.
4. Go to Printer Properties option of the CSVP.
5. Under **Celiveo Pull Printing** tab, set the **Preprocessing filter** depending on the Username format sent by the host machine.

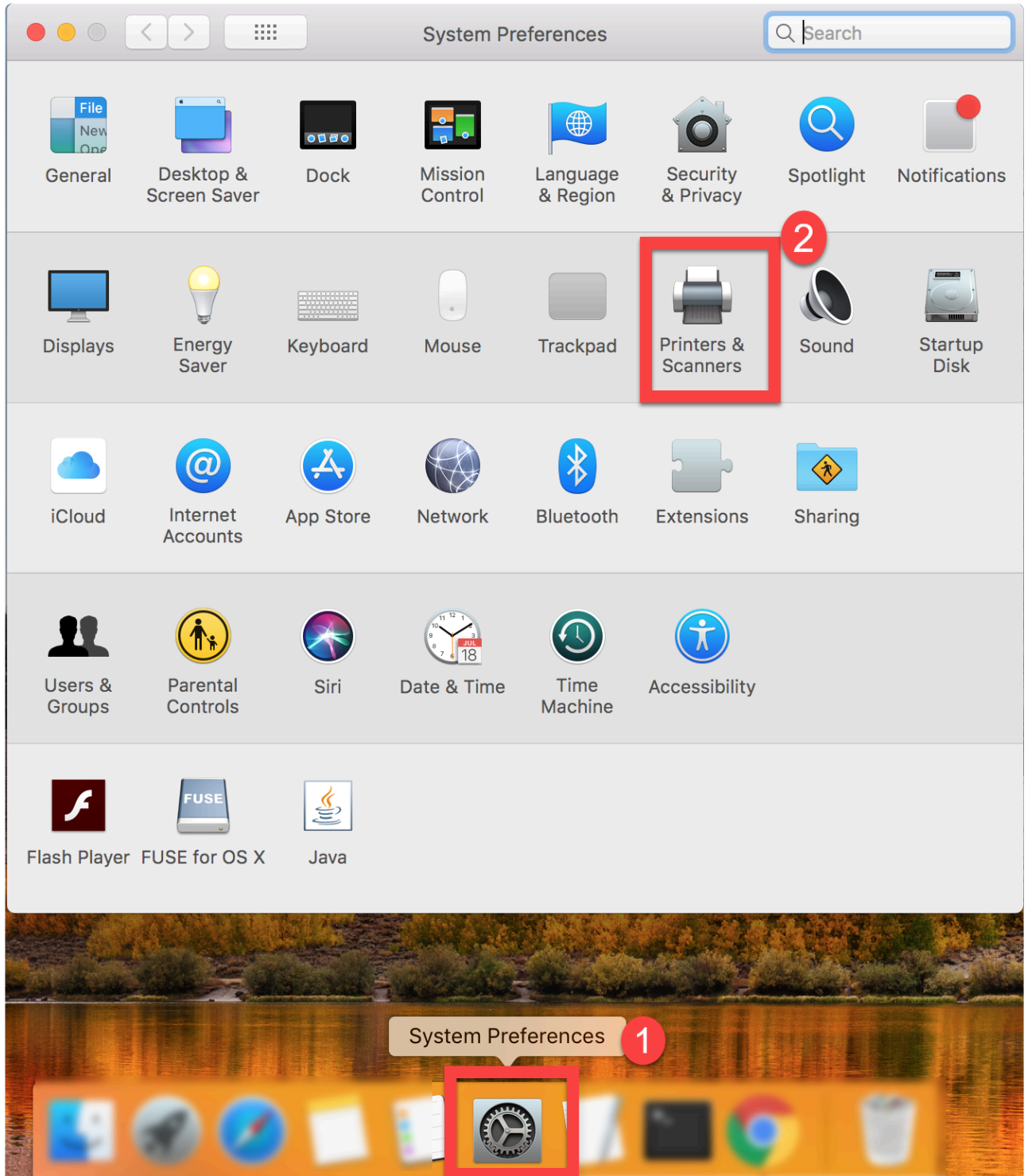


## Connect to CSVP from macOS machine

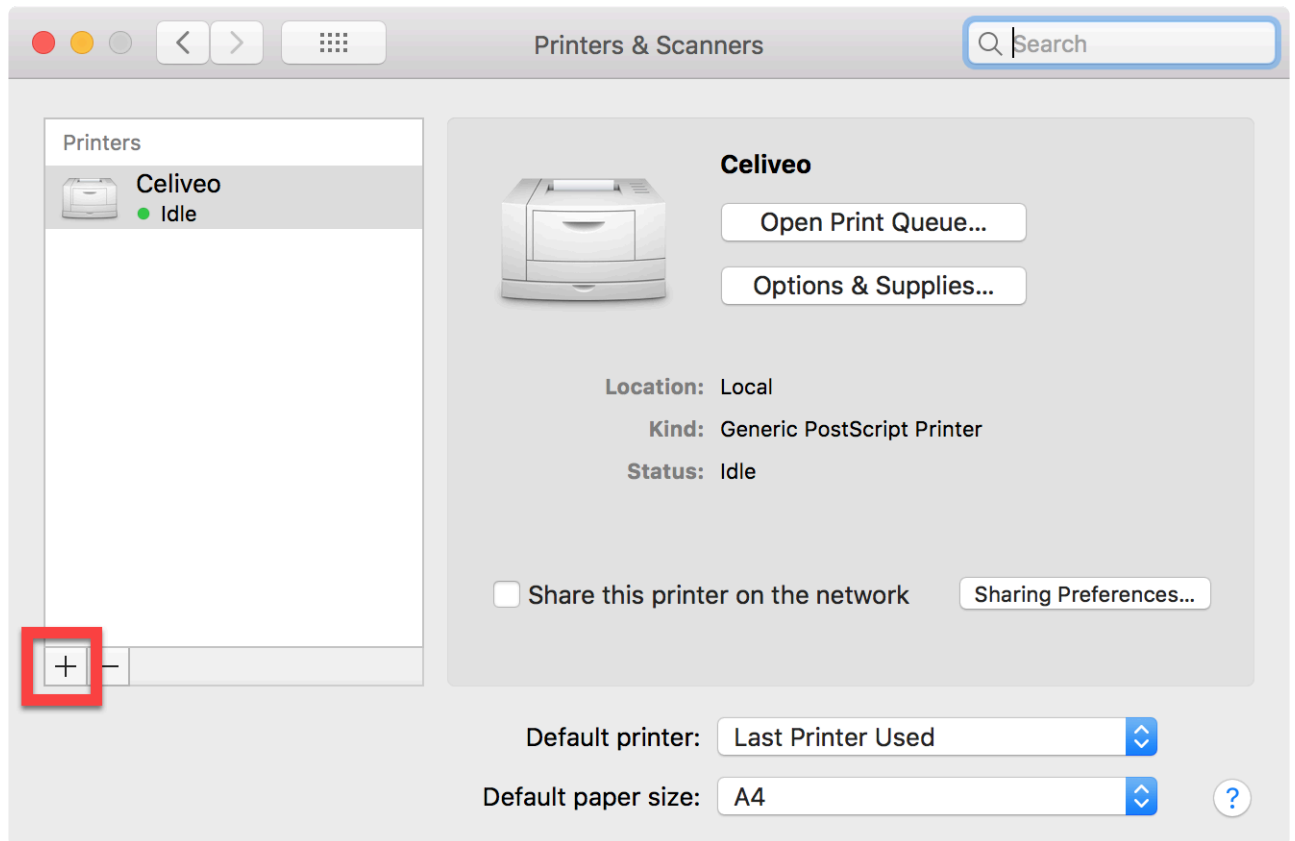
Follow the below steps to add a server based Celiveo print queue on macOS machine:



1. In your macOS device, go to **System Preference**.
2. Click **Printers and Scanners**.

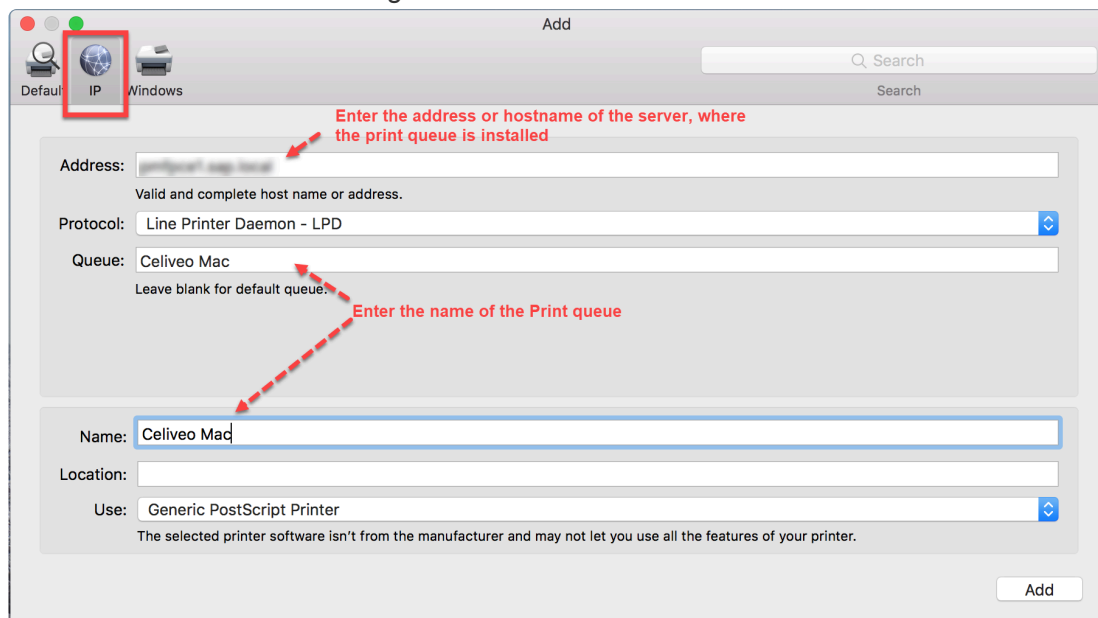


3. Click the [+] sign to add new printer.

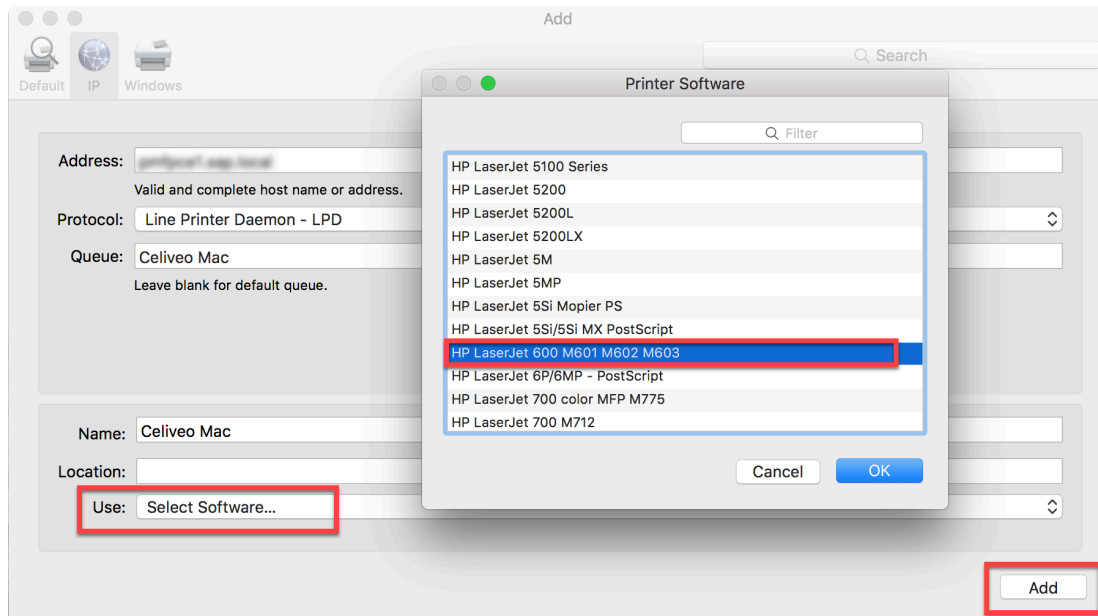


### Using IP tab:

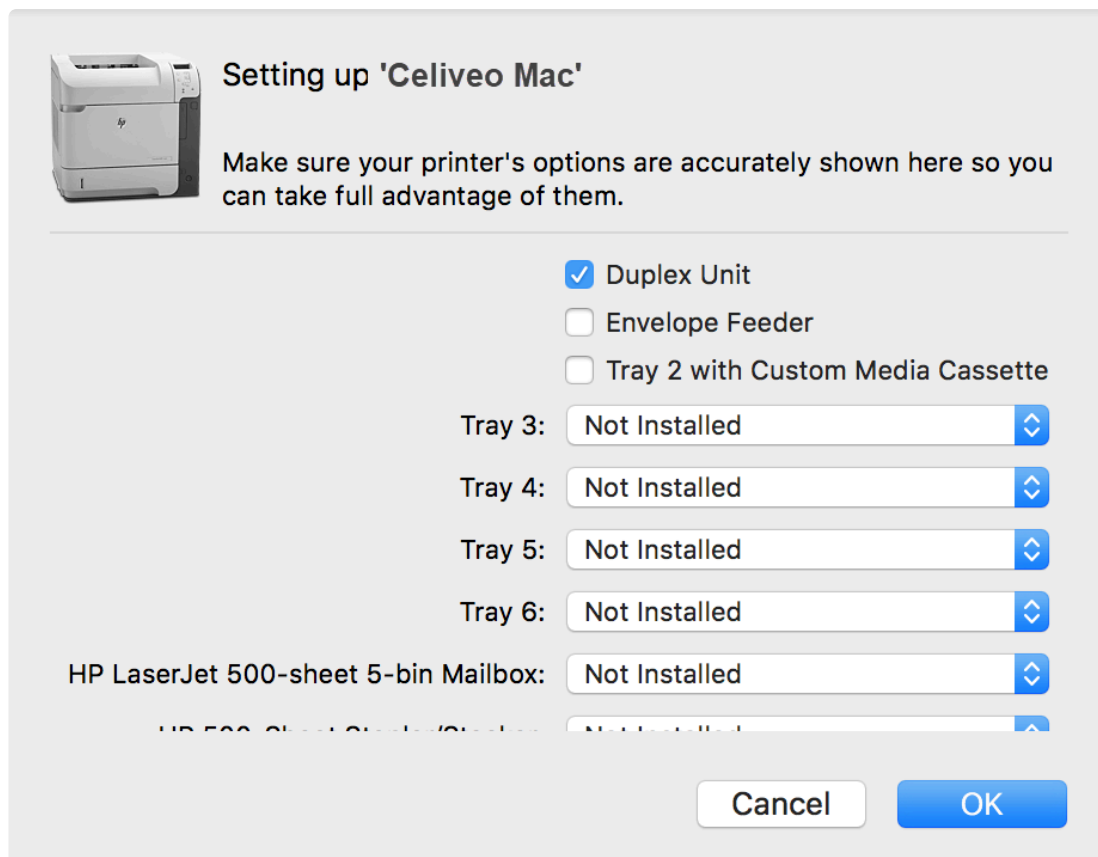
1. Go to **IP** tab and fill the settings as mentioned in the screenshot below.



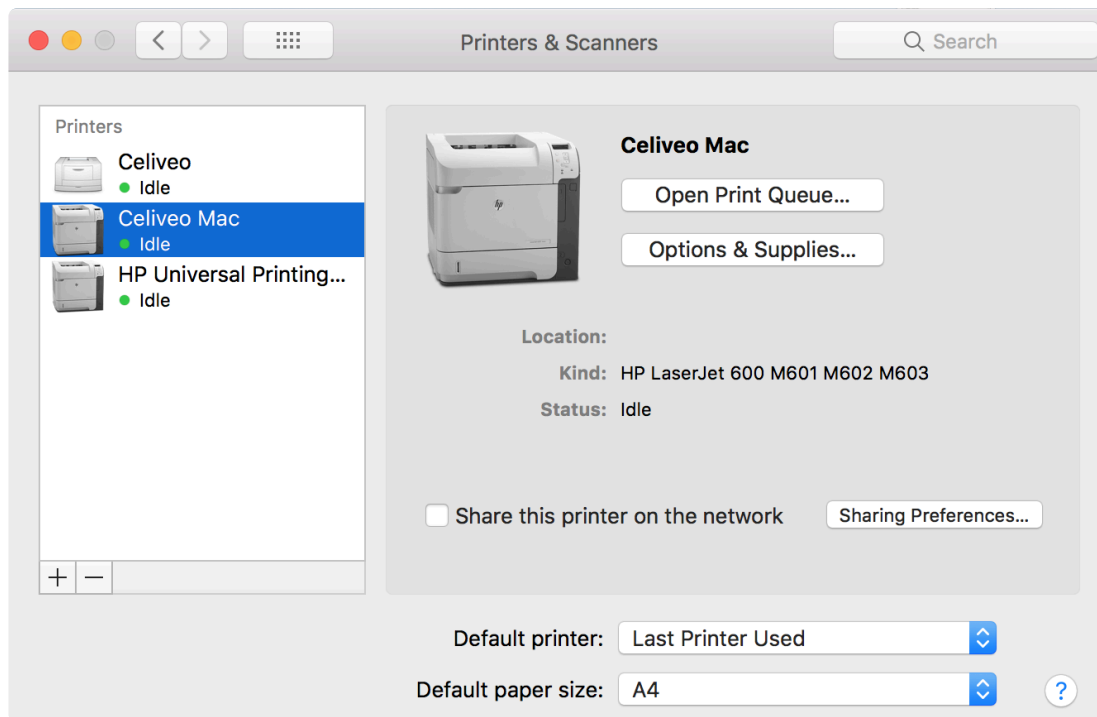
2. Click **Use** and choose **Select Software**.
3. Choose the desired printer driver, and click **OK**.
4. Then, click **Add**.



5. Check the Duplex Unit and any Trays if one or more printers have additional trays.
6. Click **OK**.

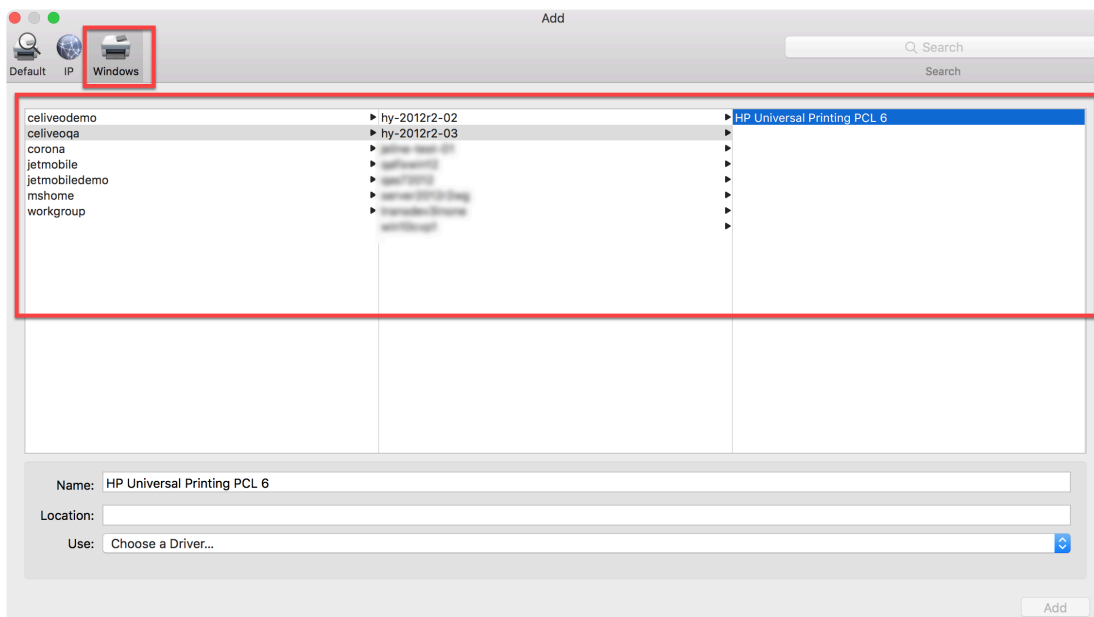


The Celiveo print queue is now added.

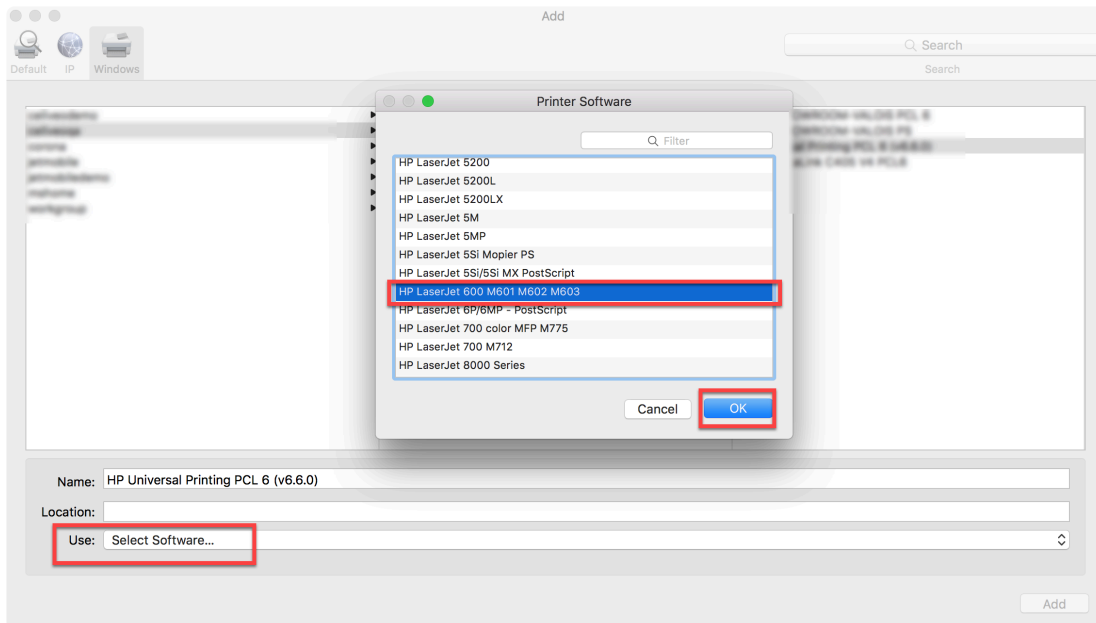


## Using Windows tab:

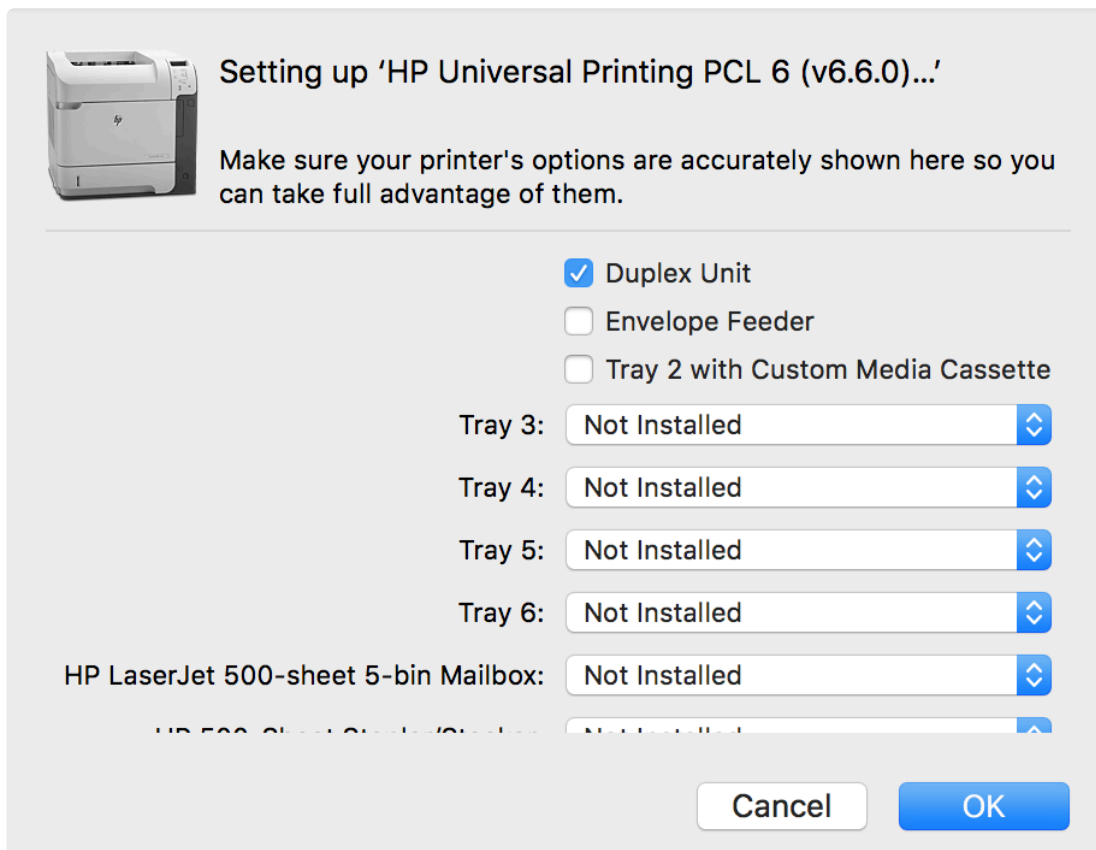
1. Select **Windows** tab.



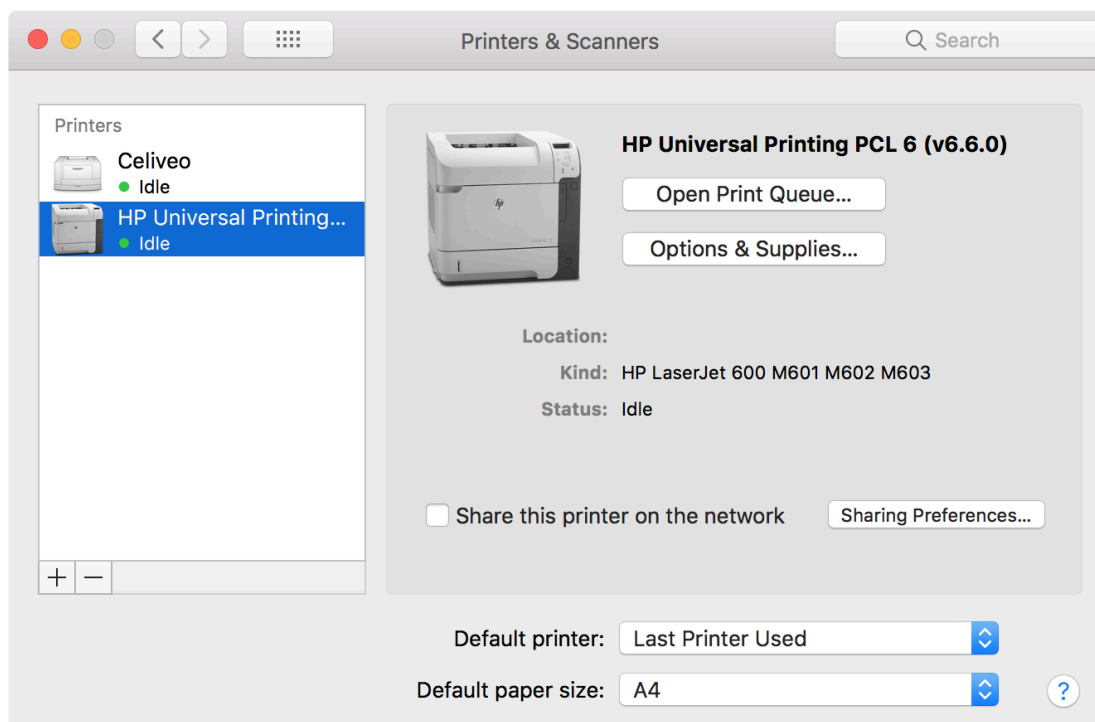
2. Select the **Domain name > Print Server name > Celiveo Shared Virtual Printer** as shown in the screen above.
3. Click **Use** and choose **Select Software**.
4. Select the desired Printer Driver and click **OK**.



5. Then, click **Add**.
6. Check Duplex Unit and any Trays if one or more printers have additional trays.
7. Click **OK**.



The Celiveo pull print queue is now added.

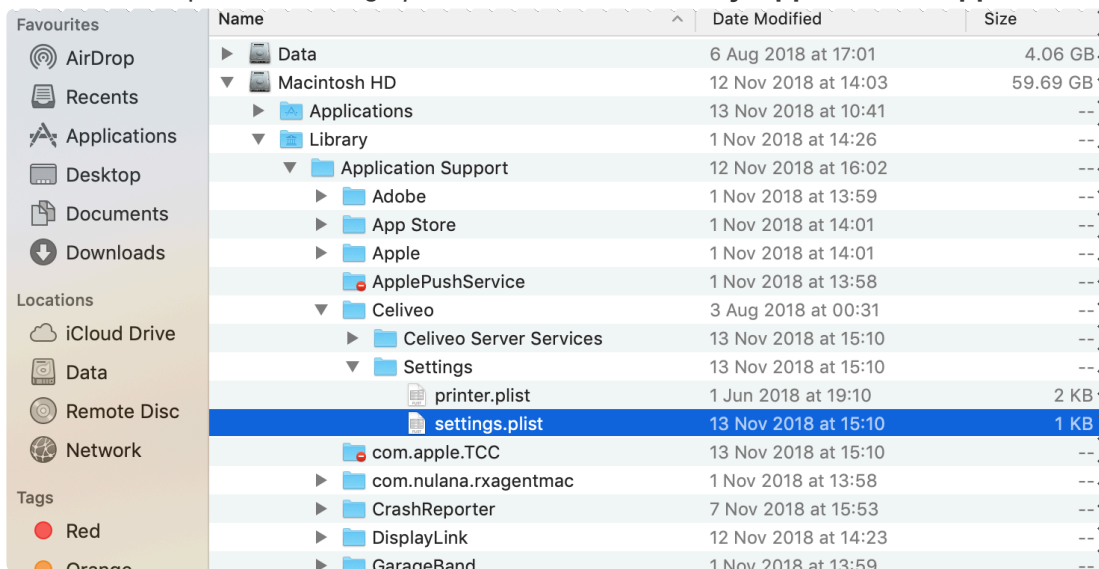


*Last modified: 8 September 2020*

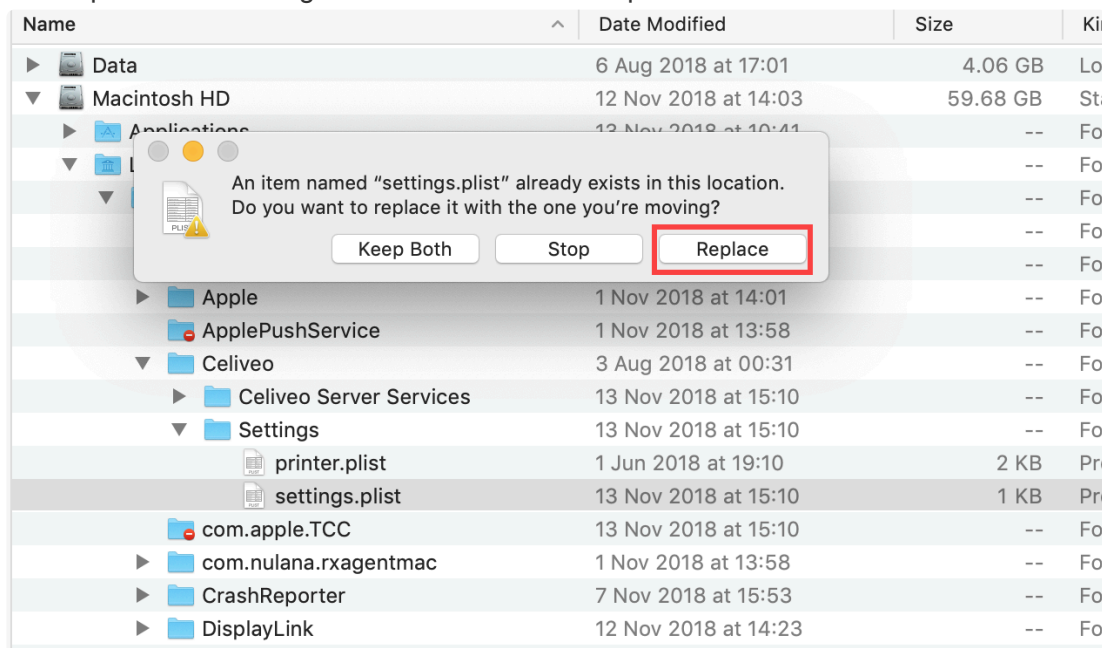
## 7.3.4. Upgrade Celiveo Secure Services for macOS

### On the macOS machine:

1. Make a backup of the *settings.plist* file located in **Library/Application Support/Celiveo/settings/**.



2. Uninstall the existing CSS version using either the [interactive](#) or [silent](#) uninstall method.
3. Copy the *settings.plist* previously saved into the new macOS CSS install package, then run the install process following the interactive or silent procedure.

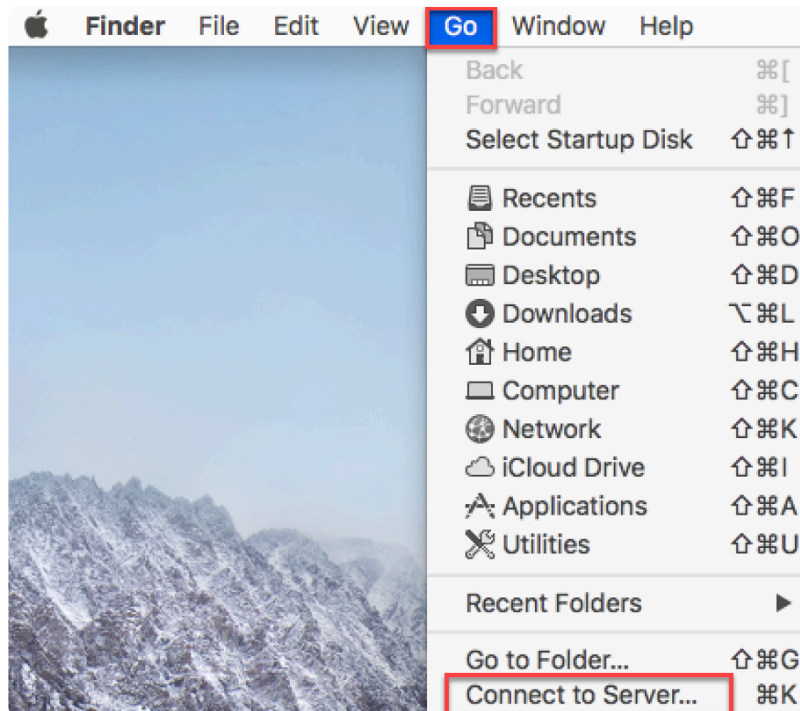


*Last modified: 8 September 2020*

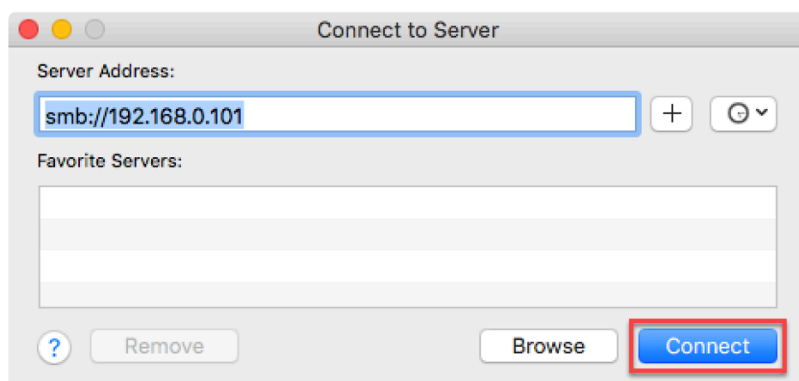
## 7.3.5. Configure Celiveo macOS NAS Job Transfer with Job Delegation

### Configure the Windows NAS location on your Mac client workstation.

In the Finder, click the **Go** option and select **Connect to server**.

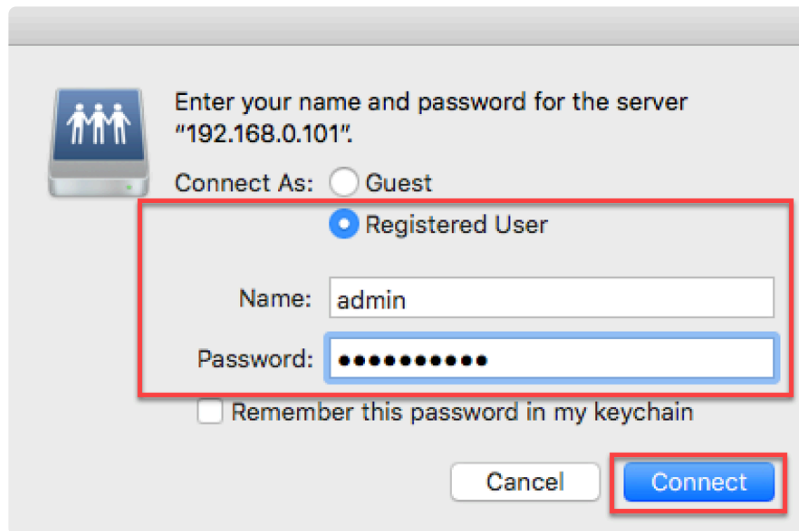


Provide the Windows NAS address and click the **Connect** button.

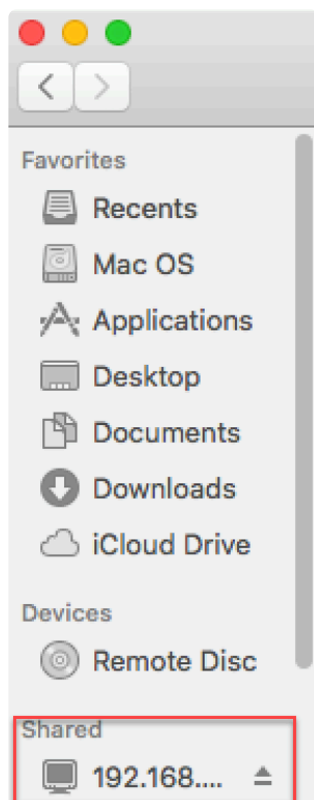


Provide the credentials to connect to the NAS location and click the **Connect** button.





The NAS folder is now available in your location list.



You can locate the actual location using the following command prompt:

```
Admins-MacBook-Pro:Jobs admin$ pwd  
/Volumes/Users/Administrator/Desktop/Jobs  
Admins-MacBook-Pro:Jobs admin$
```

Please note that the connection to the NAS location is lost every time the computer is restarted. To avoid having to reconnect it manually, follow one of the procedures below:

### Method 1\*

1. Open **System Preferences** and click on **Users & Groups**.
2. Select your user name from the list and then click the **Login Items** tab.

3. Drag & drop a mounted network drive into the login items list.
4. *Optional:* check the **Hide** box to keep the drives window from opening on each login and boot.  
This can be used to automatically connect to and mount drives to share files with a Windows PC, though it is necessary to enable SAMBA beforehand within **File Sharing** preferences.

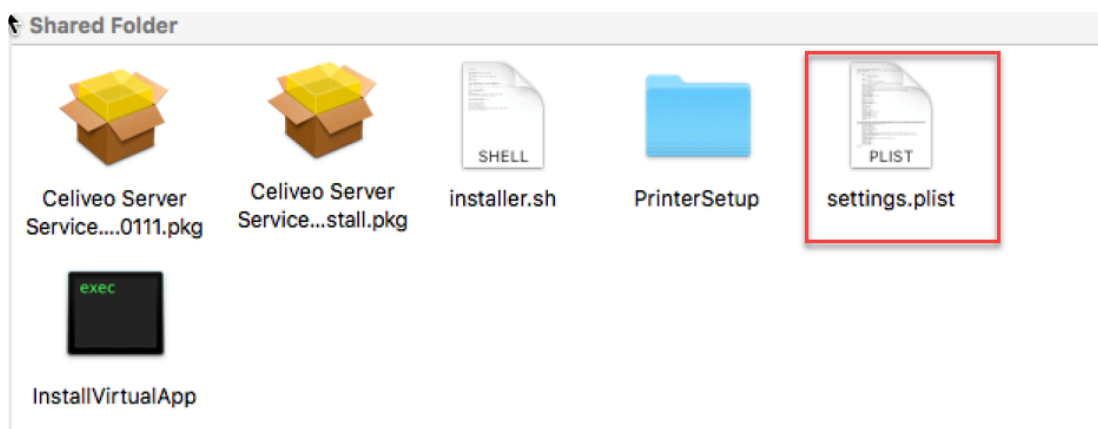
## Method 2\*

1. Launch Automator in OS X and create a new **Application**.
2. Drag **Get Specified Server** into the workflow, click **Add** and place the network drive network location address into the field.
3. Drag **Connect to Server** into the workflow.
4. Click on **Run** then log in to the network drive as usual to verify that it works, choosing to save the login credentials.
5. Save the Automator application.

\*Source: <http://osxdaily.com/2012/05/04/automatically-connect-to-network-drive-mac-os-x/>

## Configure the NAS location and Default user in the Mac package before installation

In the Mac package, open the settings.plist file.



Update the string corresponding to the NAS location as indicated on the picture below.

```
<key>ProcessDLL_FileName</key>
<string>/Library/Application Support/Celiveo/Celiveo Server Services/Logs/
_jobProcess.log</string>
<key>NASLocation</key>
<string>/Volumes/Users/Administrator/desktop/jobs</string>
<key>DBDatabase</key>
<string>SJPS</string>
```

You can also define the predefined Active Directory user in the settings.plist file.

```
<key>ADUser</key>
<string></string>
<key>DelegateTo</key>
<string></string>
```

**Note:** database details also have to be updated in the *settings.plist* file.

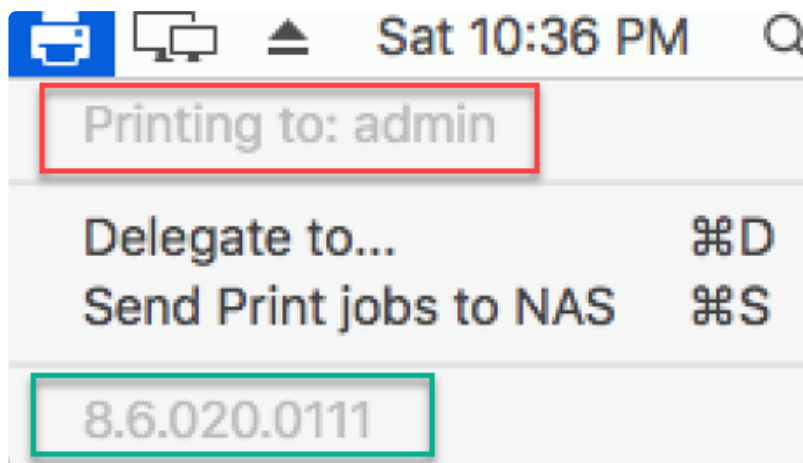
## Install the Mac Package

Install the package using the command line as shown below.

```
Admins-MacBook-Pro:installer admin$ ./installer.sh i
Password:
installer: Package name is Celiveo Server Services
installer: Installing at base path /
installer: The install was successful.
driver ppd file path = /System/Library/Frameworks/ApplicationServices.framework
/Versions/A/Frameworks/PrintCore.framework/Versions/A/Resources/Generic.ppd and
Queue name = Celiveo
Admins-MacBook-Pro:installer admin$
```

For more information on the installation process, please refer to [this article](#).

After installation, the application UI is available in the Mac tray:

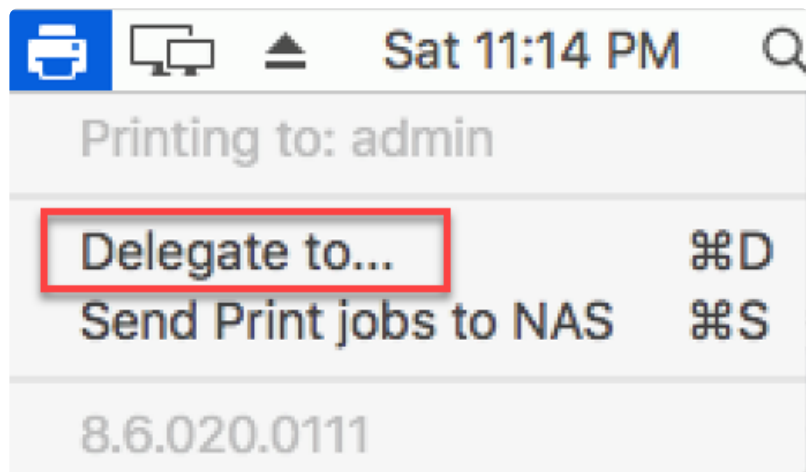


The section highlighted in red displays the Celiveo Pull Print User Name and the one highlighted in green indicates the version of the CVP.

## User Delegation

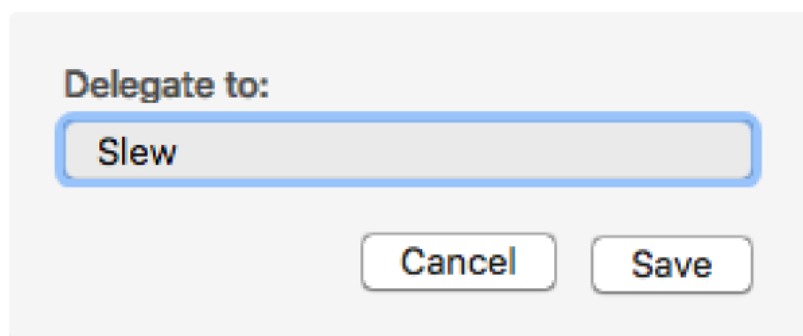
By default, Pull Print jobs are generated for the logged-in user and they are stored under the CSS jobs directory. However, it is possible to delegate jobs to another user.

Click on **Delegate to** to choose the user to delegate to.

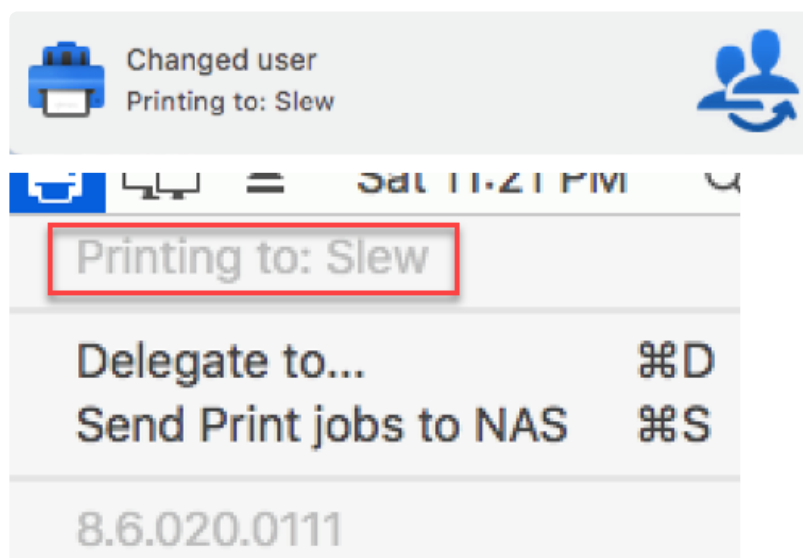


Enter the user you wish to delegate to and click **Save**.

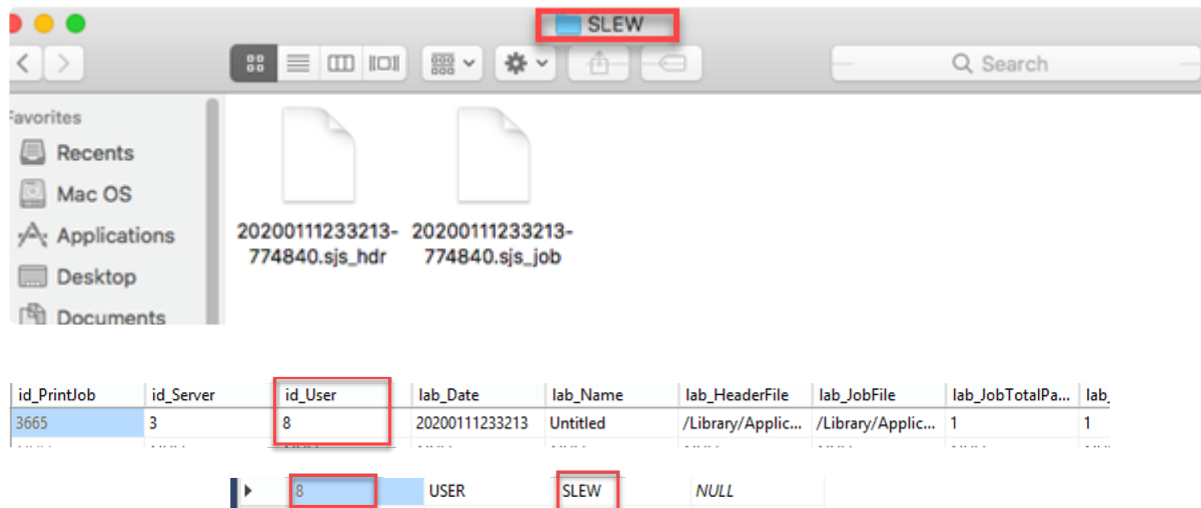
**Note:** Only the following special characters are allowed in the **Delegate to** field: ~ ` ! # \$ % ^ & ( ) - \_ { }



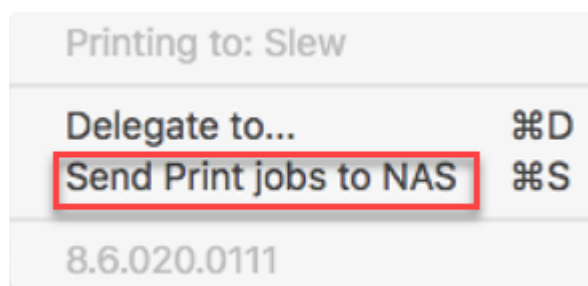
A notification is displayed and the status of the virtual printer in the tray is updated:



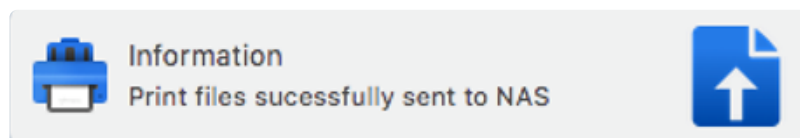
Pull Print jobs are now released for the delegated user. Jobs will be stored in the delegated user folder after print and appear in the database under the delegated user ID.



Pull Print can now be transferred to the configured NAS location by selecting the **Send Print job to NAS** option which is now available.



A notification indicates the job transfer to NAS has been successful.



Users are able to print after the jobs have been transferred to NAS even if the client workstation is powered off.

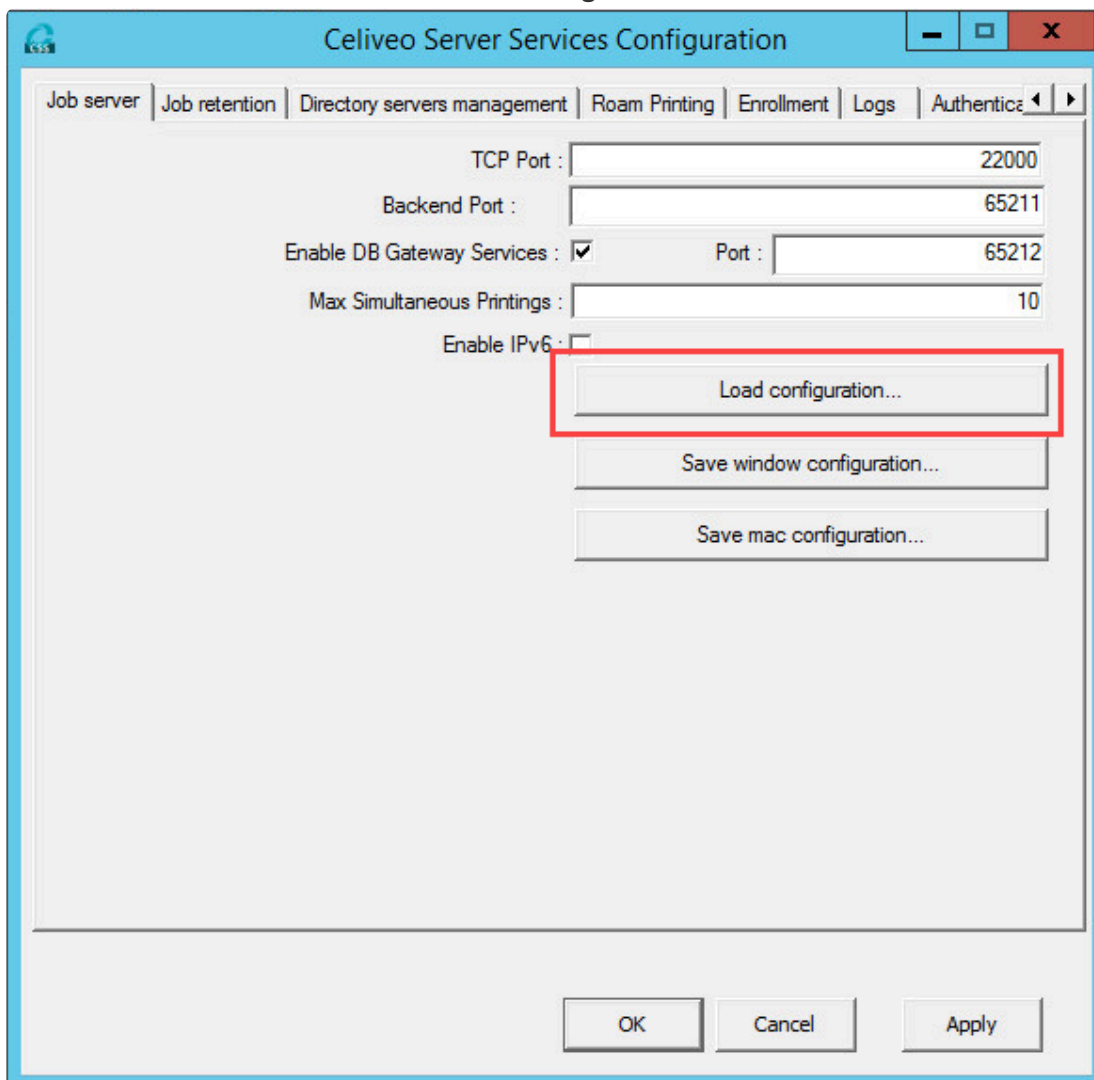
*Last modified: 8 September 2020*

## 7.3.6. Upgrade Celiveo Server Services for Windows

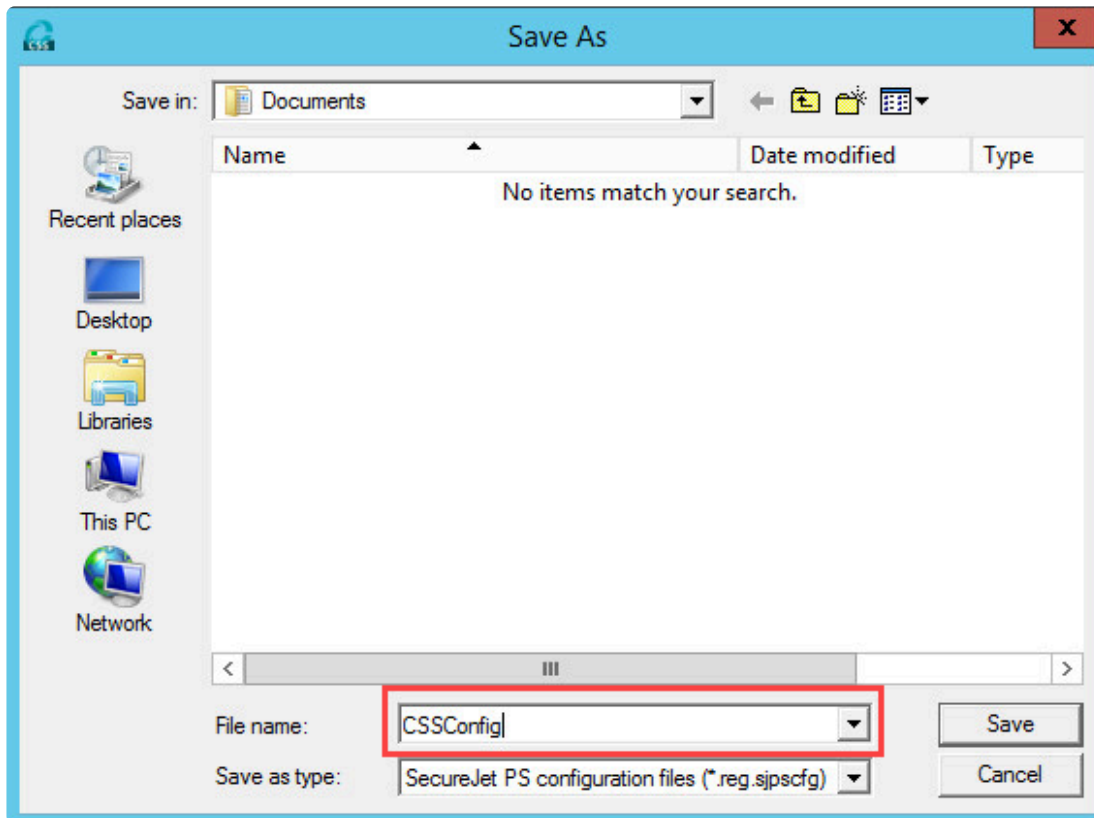
### Before you begin...

Before migrating your database to a new version of Celiveo Server Services, you need to save the existing CSS configuration.

1. On the Server, go to the install directory of your existing version of Celiveo Server Services
2. Click **[Celiveo Print-PS Configuration]** to open the Celiveo Server Services configuration UI.
3. On the **Job Server** tab, click the **Save configuration** button.



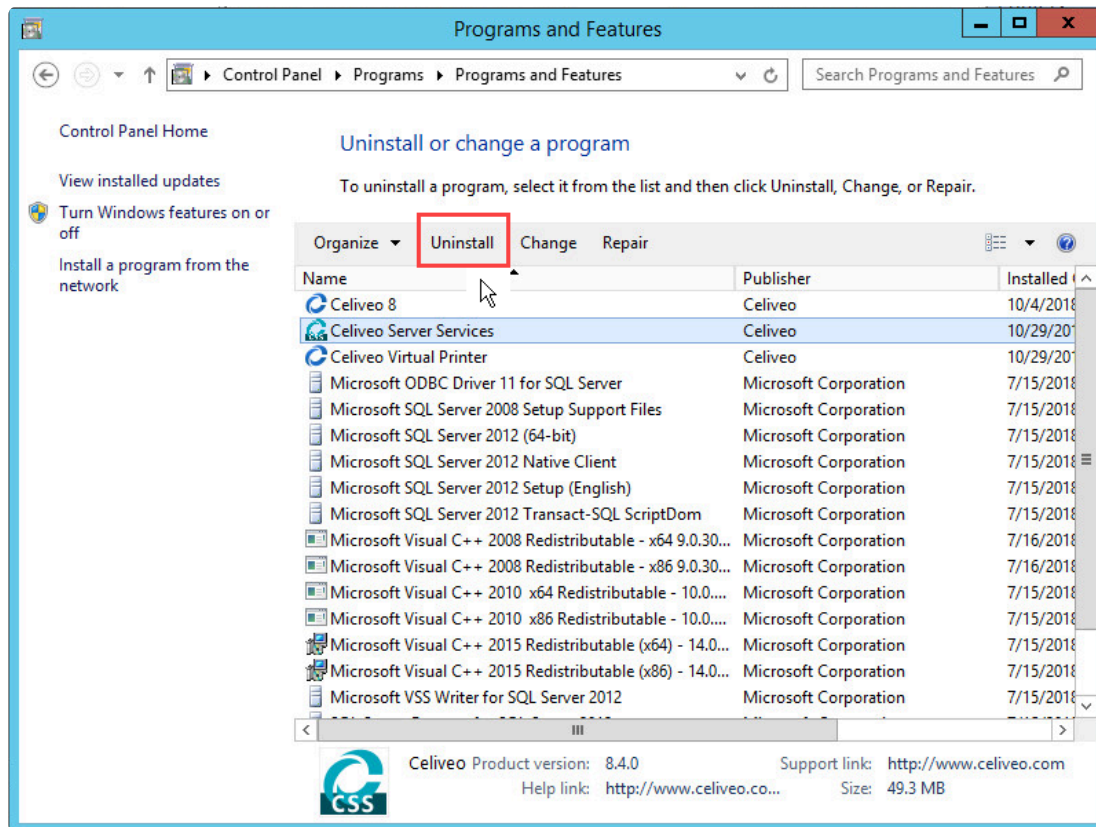
4. Save the configuration file at the location of your choice.



## Uninstalling the previous version

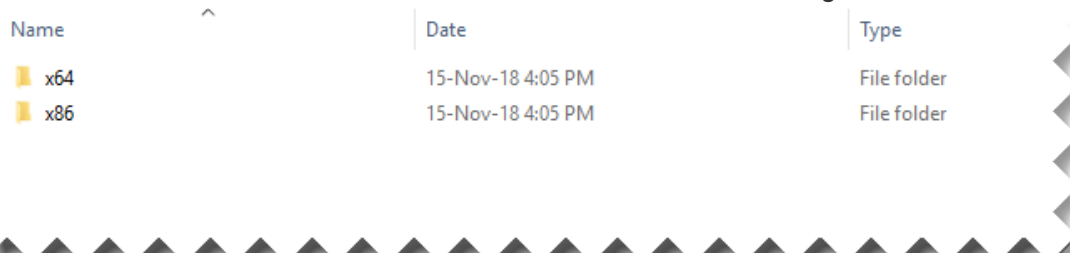
Use the Windows Server Control Panel to uninstall your current version of Celiveo Server Services

1. Go to **Control Panel > Programs and Features > Uninstall or change a program.**
2. Select **Celiveo Server Services** and click **[Uninstall]**.
3. When prompted, select **Yes**.



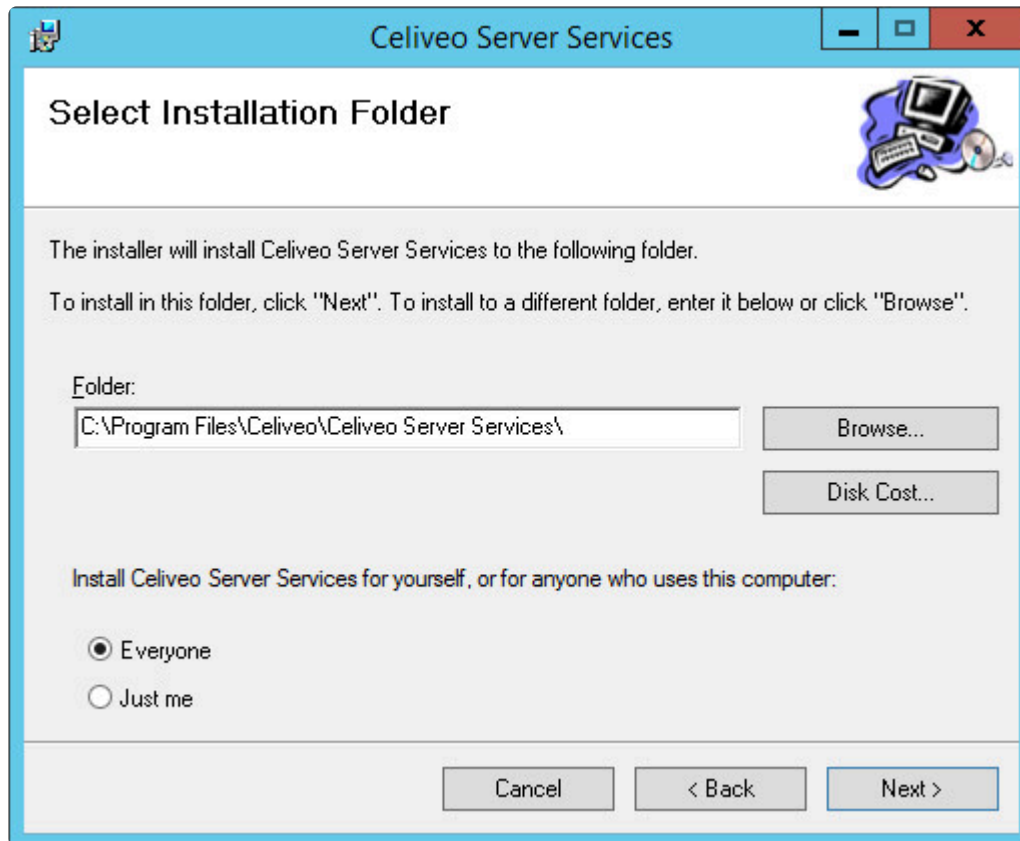
## Installing the new version

1. The latest CSS deployment package can be downloaded from [here](#).
2. Download the deployment package and extract the files to a temporary folder.
3. Double-click the CSS directory.
4. Choose the installer based on the OS version of Windows running on the Server.



5. The Celiveo Server Services Installation Wizard opens. Click **Next** and accept the License Agreement.
6. Select the Installation Folder and the users for whom you wish to install the program and click **Next**.





7. When the *Installation Successful* message displays, click **Close**.
8. Open the Celiveo Server Services configuration tool.
9. On the **Job Server** tab, click the **Load configuration** button.

Celiveo Server Services Configuration

Job server | Job retention | Directory servers management | Roam Printing | Enrollment | Logs | Authentication

TCP Port : 22000

Backend Port : 65211

Enable DB Gateway Services : ☒ Port : 65212

Max Simultaneous Printings : 10

Enable IPv6 : ☐

Load configuration...

Save configuration...

OK Cancel Apply

10. Select the configuration file you had previously saved and click **Open**.
11. You are now prompted to update the database. Select **Yes**.

Migration Required

Celiveo Server Services Configuration has detected an old enrollment database. It is recommended to change database to support new version. Do you want to update database now?

Yes No

*Last modified: 8 September 2020*

## 7.4. ZeroConfig

### What is ZeroConfig?

Celiveo ZeroConfig allows you to create Printer Configuration Profiles to deploy on multiple printers without having to synchronize them.

### ZeroConfig installation for Celiveo Smart Appliance

#### Add a ZeroConfig Profile in Web Admin

1. Click the **Add** button.


The screenshot shows the 'Add ZeroConfig Profile' page in the Celiveo Enterprise Edition web admin. The interface includes a top navigation bar with the Celiveo logo and 'Enterprise Edition' text. Below the navigation bar, there's a 'Profile Name' input field (2). To the right of the input field is a 'Status Page Language' dropdown menu (3) currently set to 'English (United States)'. Below these is a table titled 'Printers to clone' (4) with columns for Printer Description, Printer IP Address, Printer Serial, Printer Mac Address, and five Tag columns (Tag1 to Tag5). The table lists several HP printer models. Below the table, there are sections for 'CSA IPv4 Address' and 'CSA IPv6 Address' configuration, including fields for IP address, subnet mask, gateway, and DNS servers. At the bottom right, there is a 'Save' button (6) and a 'Cancel' button.

2. Enter a profile name.
3. In the **Status Page Language** drop down-list, select the language of the CSA Status Page to display.
4. In **Printers to clone**, select the master printers to use as a reference.
5. Add or import IP Profiles.
6. Click **Save** to save the configuration profile.

### Create or import an IP Profile


#### Create a new Profile

To create a new profile, click the + button

1. Select the type of CSA IPv4 Address.
2. Enter the details.
3. Click the **Add**  button to save the new profile.

## Import IP Profiles

It is possible to import a CSV file containing a list of IP Profiles. To do so:

1. Click the **Import**  button.
2. Select your CSV file and click **Open**.




The imported profiles appear on the left.

## Download the Configuration Profile

1. Select the profile.
2. Click the **Download ZeroConfig Package** icon .

## Deploy the Configuration Package

1. Unzip the downloaded package. It contains the following files:

Name	Type
 <b>cvo_zeroconfig.db1</b>	DB1 File
 <b>ipsetup.conf</b>	CONF File
 <b>ZCSETUPv1.00.CVO</b>	CVO File

2. Copy the files to a USB drive.
3. Power off the CSA and connect the USB drive.
4. Power on the CSA. Once the process is successful:
  - A print out from the printer saying that the zero config is successful is sent.
  - The Web Admin now contains a new record for the printer with synchronization successful status.

**Note:** if the CSA is not listed in the Update directory on the USB drive, then it will be updated, even if the CSA firmware is the same as the one on the USB drive.

## ZeroConfig installation for HP FutureSmart Printers.


### Prerequisites

#### Important Note:

- The new printer must have the **same EWS username and password as the master printer.**
- The supported HP firmware is FutureSmart **4.7.3.1 or later.**

If you are using **HP firmware FutureSmart 4.10 or later**, please enable the below setting via EWS:

Navigate to **Security** and enable the **Allow firmware upgrade sent as print job (port 9100).**

 **HP LaserJet MFP M527**  
HP LaserJet MFP M527 192.168.1.150

Information	General	Copy/Print	Scan/Digital Send	Fax	Supplies	Troubleshooting	Security	HP Web Services	Networking
<b>General Security</b>									
<input type="checkbox"/> <b>Enable Remote User Auto Capture</b> When enabled, a remote user could receive scanned pages from the product without permission.									
<b>PJL Security</b> Setting a numeric PJL password prevents PJL command processing unless the correct password is specified. The following commands are protected: PJL File System commands, PJL Device environment. Old Password: Password is not set.      New Password: (1-2147483647)      Verify Password:									
<input type="checkbox"/> <b>Enable PJL Device Access Commands</b> Use this feature to enable PJL device attendance commands, SNMP passthrough commands, and environment commands that affect persistent settings on the product.									
<b>PostScript Security</b> <input type="checkbox"/> <b>Enable PS privileged operators</b> Use this feature to enable special PostScript operations. Permission is controlled by a password.									
<b>Firmware Upgrade Security</b> <input checked="" type="checkbox"/> <b>Allow firmware upgrades sent as print jobs (port 9100)</b> <input checked="" type="checkbox"/> Allow installation of legacy packages signed with SHA-1 Hashing algorithm									

## Preparing a master printer for ZeroConfig installation

Define an HP Future Smart printer as master printer in the Web Admin. The master printer model should match the printer which will be installed by ZeroConfig.

E.g. the master printer for an HP Color LaserJet MFP **M553** should be an HP LaserJet **M553**.

1. In the printer settings of the master printer, enable the **Celiveo Pull Print** checkbox and select the latest .mh file.

Printer Settings

HP Futuresmart Advanced

1 / 7 ☒ Celiveo Print-Direct ☒ Celiveo Pull Print

☒ SAP Connector

Optional Connector  
Celiveo FSI connector

Login: admin

Password: .....

PJP Password:

Driver + Settings

Select... +

HP LaserJet 5200 Series PCL 5 [2019-07-17 15:53:22] ✕

☐ Replace all existing drivers

Celiveo Version: 8.7.020.0217-FSN.mh +

Comments:

Save Cancel

## Add a ZeroConfig Profile in Web Admin

1. Click the **Add**  Add button.

**Celiveo Enterprise Edition**

Profile Name:

Status Page Language: English (United States)

Printer Description	Printer IP Address	Printer Serial	Printer Mac Address	Tag1	Tag2	Tag3	Tag4	Tag5	Initial	Celiveo IP	Celiveo Version
HP LaserJet MFP M630	192.168.12.21	CN3V6C8QD	6c:c2:17:22:1d:a4	*	*	*	*	*			
HP Officejet Pro X575dw MFP	192.168.12.54	CN598KU04X	5c:b9:01:ec:e2:88	*	*	*	*	*			
HP PageWide Color Flow MFP 785	192.168.12.157	MX8CKDL06L	48:ba:4e:dd:41:e3	Asia	Singapore	Bukit Merah	Tower 3	Level 4			
HP Officejet Color X555	192.168.12.150	CN4244Y02D	fc:15:b4:30:51:f	*	*	*	*	*			
HP LaserJet MFP M527	192.168.12.77	PHC2000460	48:9f:cd:c7:9e:cd	Asia	Singapore	Bukit Merah	Tower 3	Level 4			
HP PageWide Color MFP 585	192.168.12.159	CN81C5Z0K0	dc:4a:3e:b5:b5:2b	*	*	*	*	*			

CSA IPv4 Address:  ☐ DHCP ☐ Fixed-IP

CSA IPv6 Address:

CSA IPv6 subnet prefix length:

IPv4 Gateway:

CSA IPv6 DNS1:

CSA IPv6 DNS2:

IPv4 mask:

IPv4 Gateway:

CSA IPv4 DNS1:

CSA IPv4 DNS2:

Comments:

**Save** **Cancel**

- Enter a profile name.
- In the **Status Page Language** drop down-list, select the language of the Status Page to display.
- In **Printers to clone**, select the master printers to use as a reference.
- Add or import IP Profiles. To learn more about IP Profiles, see [above](#).
- Click **Save** to save the configuration profile.

## Download the Configuration Profile

- Select the profile.
- Click the **Download ZeroConfig Package** icon .

## Install the Celiveo Solution by ZeroConfig

- Turn off the printer and insert the USB drive to the printer USB port.
- Turn on the printer to install Celiveo Solution by ZeroConfig. The process for installing the solution can take up to 15 minutes.

### Important Note:

Please make sure that new printers have the same EWS username and password as the master printer.

- Once the process is done, a print out from the printer saying that the zero config is successful is sent. It might take some time (up to 1 minute) to have the Celiveo Solution on the Printer Panel. If it is synchronized successfully, the new printer appears in the Web Admin.

*Last modified: 8 September 2020*

## 7.5. Multi- SQL Configuration

### What is Multi-SQL configuration?

When being part of a large company with its offices distributed across the globe, and you have to travel from one site office to another, the need arises to switch to the appropriate regional database settings to connect and store print jobs locally. The Multi-SQL feature allows you to automatically change the database connection settings in a Serverless Pull Printing client configuration (CVP), to a region-specific database when you travel from one region to another.

**The switch to applicable SQL database is based on the tag combinations and priority value.**

Celiveo is able to map together the printers, database profiles, and IP Address ranges used in each geography so that they will belong to the same community. It is also able to map users to a community based on AD/LDAP attributes such as Name, Organizational Unit (OU), and Group. Thus, when a user attempts to print using Print Direct/ Pull Print, the tags filter the available printer list to display only those printers that are within the community.



**NOTE:** A community is a group of users, workstations, printers, and administrators that have a common characteristic. For example, a group of users, workstations, printers, and administrators, located in the same building. The community that a user or device belongs to is determined by the tags assigned to them. Learn more about Tags/ Communities [here](#).

When a user plugs into the network from within a specified community, the user is assigned an IP Address tied to that community.

Now, if the user is a member of a Group/OU, the community setting (tag combination) of the Group or OU or IP Address range with the highest priority value is assigned to the user. Those tag combinations will then be used to search and connect to the SQL server database with same tag combinations. All communications of the user will then be performed through this database.

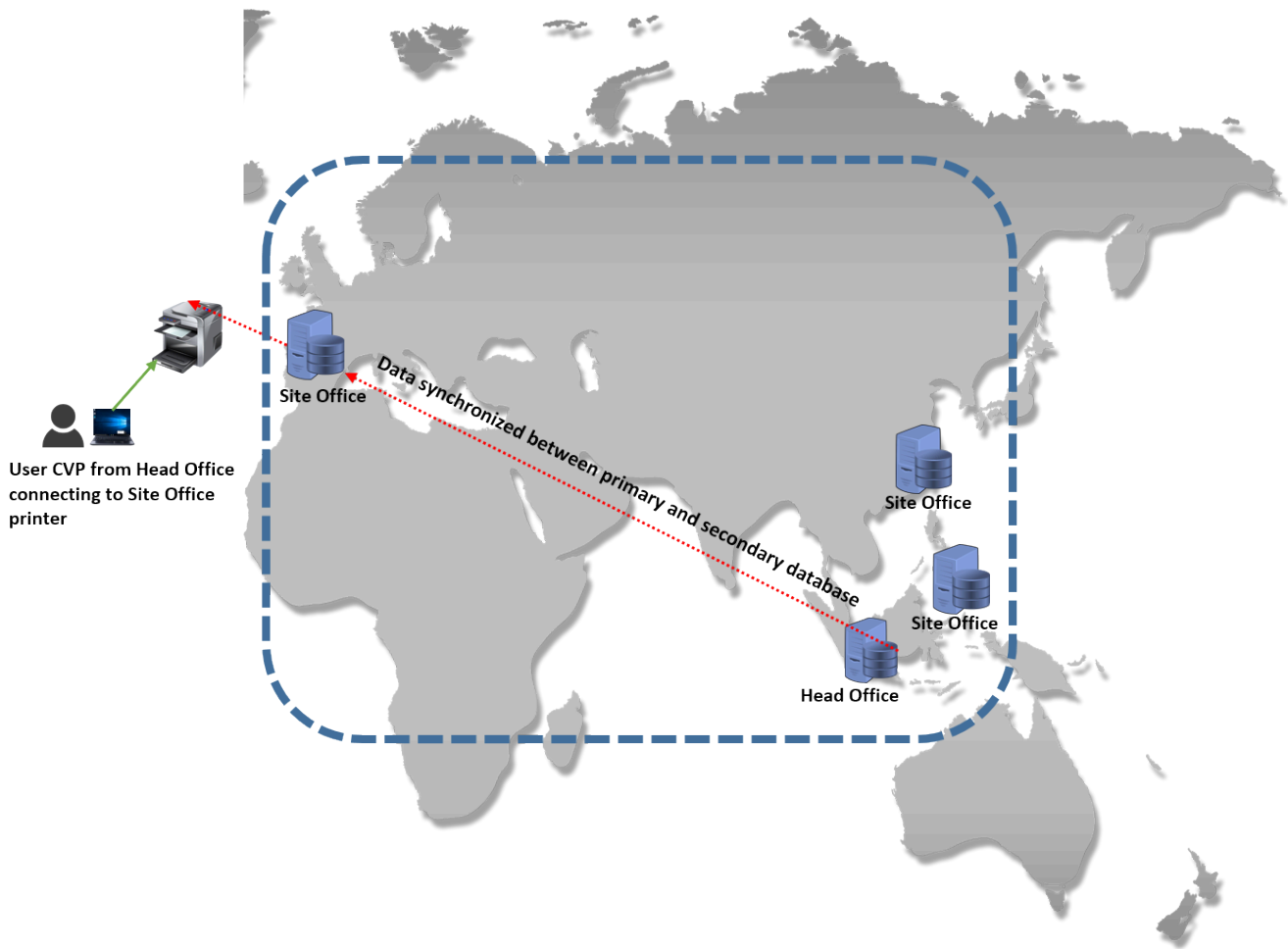
#### Example:

- A large company Azone.Inc has its headquarters in Singapore and regional offices distributed in Malaysia, Hong Kong and Spain.
- The company uses tags to identify places. Each regional office is organized into a community on the basis of five tags set (Country, State, City, Building, Floor). The printers, database servers, and IP Address ranges are tagged so that the printers, and IP Addresses used in a geography will belong to the same community.
- Azone employee Simon Phil, who belongs to Singapore Office, travels to Spain Office for a meeting. Now Simon needs to print some important documents before the meeting. Simon uses Celiveo Virtual Printer for Serverless Pull printing in his laptop. He connects his laptop to the Spain Office network.
- Normally, Simon has to switch regions and sub regions in his CVP application to connect to



region-specific database. With Multi-SQL feature, the database connection settings will be automatically updated during CVP application boot up.

- The tag settings for the IP Address Range in Spain Office is defined as (Spain, Madrid,,\*) with priority value: 75.
- Now, Simon is also a member of OU=SingaporeUnit (with tag combinations: Singapore, ,, and priority value: 50) and Group=Managers (with tag combinations: Singapore,\*,Orchard,Tower One,5 and priority value: 20)
- The tag combinations with the highest priority value takes effect. In this case, the tag combination of IP Address Range in Spain Office is chosen for connecting to the SQL Server database.
- The CVP notes these tag combinations and then proceed to connect to the SQL server database with same tag combinations.
- The CVP on Simon's laptop will now search for SQL server profiles among the various other profiles for the same tag combination. Once it is successfully connected to the correct Database server profile, all Simon's pending print jobs, even those that were stored in Singapore (primary) database will be moved to the now connected SQL server in Spain.
- Simon also receives a notification of this database change in his laptop.
- Simon can now proceed to submit the print jobs to the already existing Pull print queue configured in his CVP, and then release the print jobs at the printer.
- In case of Print Direct, the CVP searches for the printer to connect in the Spain Office. Because this IP address is tied to the Spain Community, CVP filters the list of printers to show only the Spain printers. Simon can also use floor map to choose the printer (Choose another printer).



### To summarize:

When a user CVP moves its connection from SQL server A to SQL server B due to tag combination:

- The CVP synchronizes with the new SQL server profile.
- It moves all pending print jobs of the user from Server A to server B.
- A popup notification is displayed to user informing of the database change.
- All communications from user CVP is now done through SQL server B.
- Tracking information of print jobs are however stored on Server A (primary server)

## How tag settings work?

### What if I am a Member of Several Groups/OUs?

If you are a member of more than one Group/OU, and each Group/OU is mapped to a different community (tag assignments), the community setting of the Group or OU with the highest priority value is assigned to you. The same principle applies if your user name is assigned to a community and you inherit a community from the groups you belong to. It is the community with the highest priority that is assigned to you. To know more about priority settings, click [here](#).

## What if matching tag combination is missing for SQL server profile?

If a SQL server profile does not exist with the same tag combinations, the CVP will connect to the primary SQL server profile.

## Tracking information on Primary SQL Server

Print tracking information are always stored in primary database, irrespective of its location of printing (for example, secondary server sites). This is due to the fact that print quota settings are configured on the primary database and cannot be mirrored across SQL databases.




## Creating a Secondary database in Web Admin

A Super Admin can create a primary SQL server profile and define up to five additional secondary SQL server profiles in the Web Admin application.

**!** **Important note:** The printers, SQL server profiles, User Groups/ OUs, and IP Address ranges are identified with nickname and tags combination. While connecting, if there is no matching tag combination found, the user CVP will connect to the primary SQL server profile. So it is important that tags and priority values are properly configured, for the CVP to automatically determine the Regional SQL Database to which print jobs have to be sent.

## How to create a secondary SQL server profiles in Web Admin?

**\* Note:** Before adding a secondary database, make sure that your database is enabled and working.

1. In the Web Admin, click  icon Setup icon at the top right hand corner of the screen.
2. Select the  Database Configuration tab.
3. Click the  **Add** icon.

**SQL DB Profile**

Profile Name  
Celiveo SQL

DB Server Name  
1

DB Instance

DB Port  
1433


DB Username

DB Password  
••••••••

Enable Encryption ☐

Multi-Subnet Failover ☐

Connection Timeout  
10 seconds

 Test

**SQL DB Profile**

Profile Name  
Celiveo SQL

DB Server Name  
1

DB Instance  
SQLEXPRESS

DB Port  
0


DB Username

DB Password  
••••••••

Enable Encryption ☐

Multi-Subnet Failover ☐

Connection Timeout  
10 seconds

 Test

4. Enter the following information for creating secondary DB profile:

Field	Description
<b>Profile Name</b>	Name of the secondary database profile.
<b>DB Server Name</b>	For the default instance of SQL Server, the server name is the [computer name] or [IP address].E.g. CELIVEO SRVR, 192.68.3.211 For a named instance of SQL Server, the server name is the [computer name] or [IP address]\[instance name].E.g: CELIVEO SRVR\SQLEXPRESS, 192.68.3.211\SQLEXPRESS.
<b>DB Instance</b>	If default instance of SQL Server is used, leave this field empty. If named instance of SQL Server is used, provide the instance name. If SQL Server is installed using the Celiveo installer, the instance name is "SQLEXPRESS".
<b>DB Port</b>	By default, the SQL server listens on TCP port number 1433. Select the port number configured for this database instance.
<b>DB Username</b>	Type the user name with admin access privileges for this database.

<b>DB Password</b>	Type the corresponding password.
<b>Enable Encryption</b>	Select this option to secure the connection between Web Admin application and the specified SQL server. This encrypts all the communication occurring between them.
<b>Multi-Subnet Failover</b>	<p>MultiSubnetFailover is a Microsoft configuration introduced in an update for Microsoft SQL Server 2012 and later versions to support the AlwaysOn features.</p> <p>When MultiSubnetFailover is enabled, Web Admin attempts parallel connections to the failover IP addresses of an (Always On) Availability Group during a multi-subnet failover. A multi-subnet failover cluster provides disaster recovery solution in addition to high availability. For further reference about MultiSubnetFailover, please refer to the following Microsoft articles:</p> <ul style="list-style-type: none"> <li>• <b>Microsoft SQL Always On availability groups: a high-availability and disaster-recovery solution</b>  <a href="https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/always-on-availability-groups-sql-server?view=sql-server-ver15">https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/always-on-availability-groups-sql-server?view=sql-server-ver15</a></li> <li>• <b>Overview of Always On Availability Groups (SQL Server)</b>  <a href="https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/overview-of-always-on-availability-groups-sql-server?view=sql-server-ver15">https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/overview-of-always-on-availability-groups-sql-server?view=sql-server-ver15</a></li> <li>• <b>SQL Server Multi-Subnet Clustering (SQL Server)</b>  <a href="https://docs.microsoft.com/en-us/sql/sql-server/failover-clusters/windows/sql-server-multi-subnet-clustering-sql-server?view=sql-server-ver15">https://docs.microsoft.com/en-us/sql/sql-server/failover-clusters/windows/sql-server-multi-subnet-clustering-sql-server?view=sql-server-ver15</a></li> </ul>
<b>Connection Timeout</b>	This denotes the time limit (in seconds), within which the connection to the specified SQL server must be made before terminating the attempt.



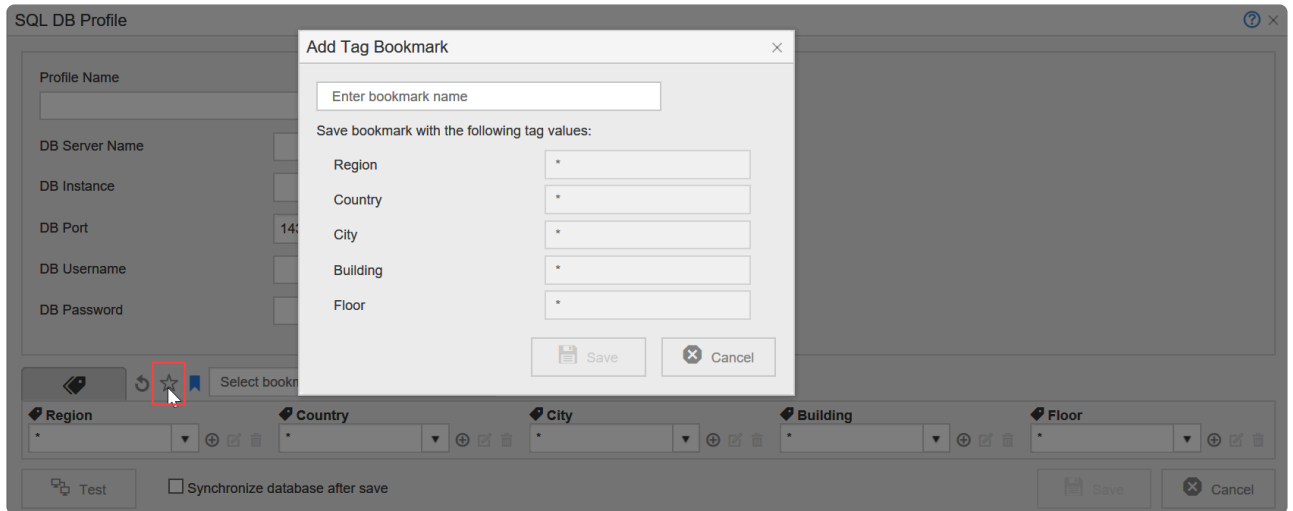
It is necessary to set **EITHER** a DB instance **OR** a port for the synchronization to be successful.

- To use an API, enable the **Web service API** checkbox. Enter the IP/Hostname of the server on which the API will be installed. The **Key**, **Port** and **URL** fields are automatically filled. You can then download the API package and install it manually.

You can disable the installed API by unchecking the **Web service API** box without having to uninstall the API package.

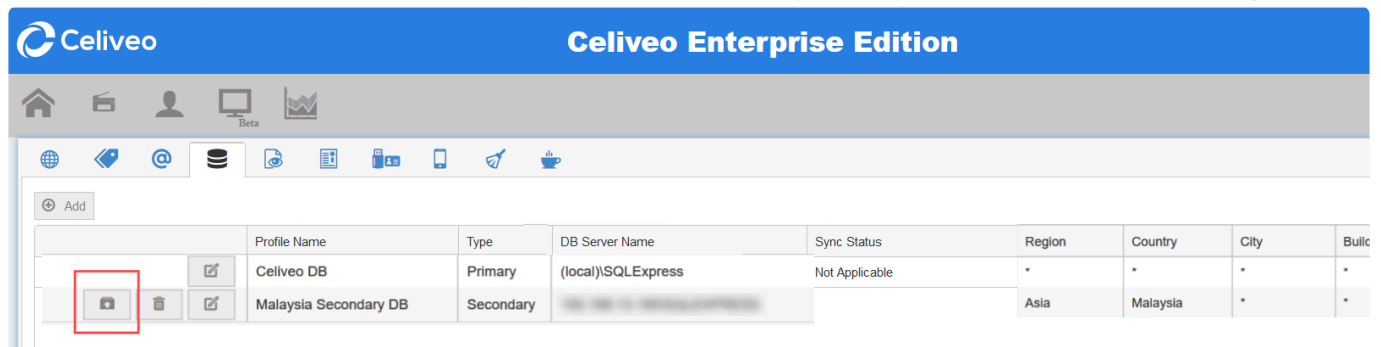
- Define tags for your database profile:

- For each tag category, select a value in the drop-down list or click the **Add** icon next to the drop-down list. To edit a value, click the **Edit** icon. To delete a value, click the **Delete** icon.
- You can also save your tags in a bookmark to reuse it later. To do so, click the **Add Tag Bookmark** icon after entering tag values.

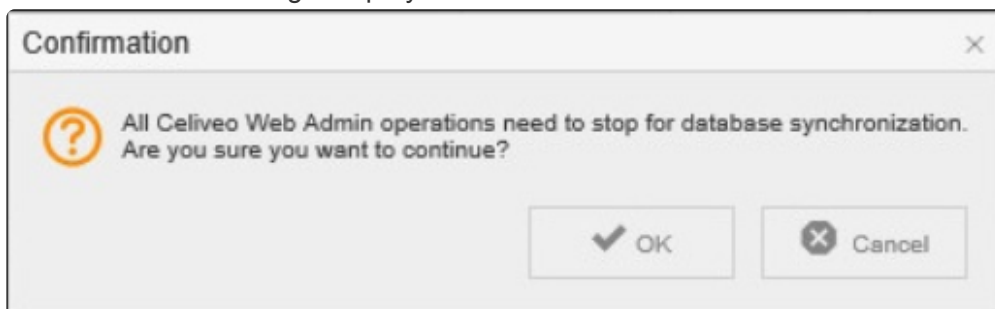


7. Click the **Test** button to perform a connection test on the database. A confirmation message displays if connection to database is successful. The **Save** button becomes available.
8. Select **Synchronize database after save** checkbox to synchronize with the primary database when you click **[Save]**.  
This will synchronize and replicate the primary database as the secondary database is created.

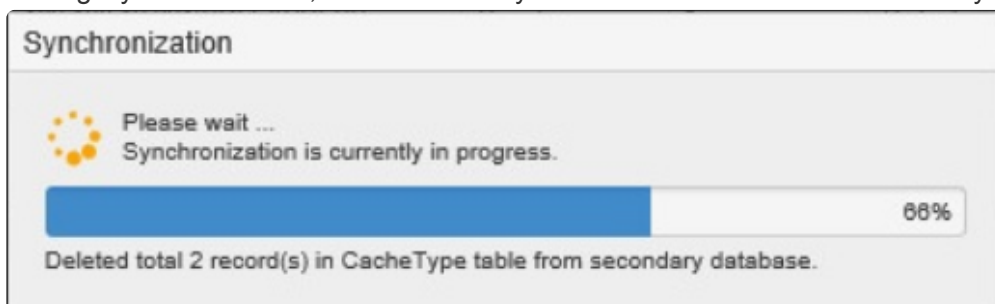
You can also synchronize the secondary database later using the **[Sync]** icon in the **[DB Settings]**.



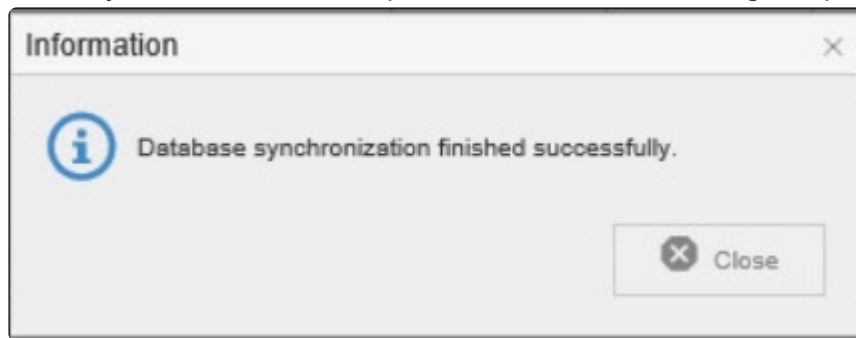
9. A confirmation message displays. Click **OK**.



10. During Synchronization, all unnecessary data is deleted from the secondary database.



11. Once Synchronization is complete, a confirmation message displays.



*Last modified: 9 November 2020*

## 7.6. Configuring SQL Database for AlwaysOn Availability feature

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### Contents

- What is AlwaysOn Availability Group?
- How Celiveo supports AlwaysOn availability?
- Enabling multi-subnet failover during Celiveo installation
- Enabling multi-subnet failover and other options during database configuration

### What is AlwaysOn Availability Group?

Microsoft SQL Server's AlwaysOn feature was developed to as solution to support “always” availability of databases during back-end failure or any other disaster, in a corporate (multi-network) environment.

An AlwaysOn Availability Group comprises of the following components:

- **Availability Group** — Collection of user databases that is being protected against failover.
- **Primary replica** —This is an instance of the primary SQL Server that hosts the databases that needs to be protected. In case of Celiveo, the databases to be protected from failover are Celiveo database and Track-Green Saver databases. This node will have read and write permissions on a regular day.
- **Secondary replica(s)** —These are instances (one or more replicas) of the primary SQL Server, which host a set of replicated databases, updated consistently so as to take-over if the primary replica fails. These nodes will have only read permission on a regular day.
- **Listener** —This provides access for client applications to the primary and secondary databases in AG and enables automatic client re-connection in the event of a failover.

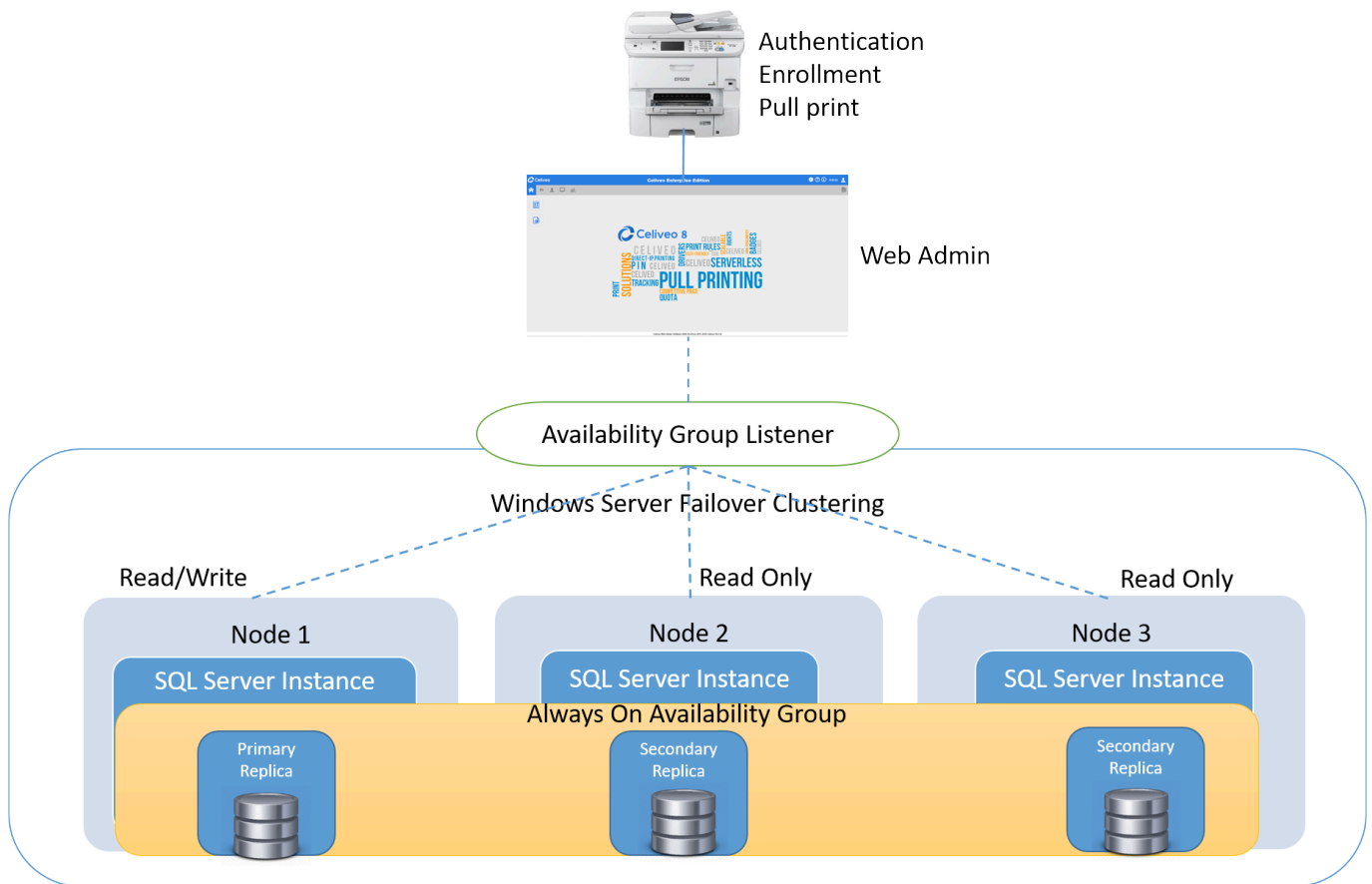
### Methods of synchronizing database nodes

- **Asynchronous-commit mode** — In this method, updates from the primary node are sent asynchronously to the secondary nodes.
- **Synchronous-commit mode** — In this method, secondary nodes are updated consistently with the primary node. This mode of synchronization is high availability.

An Availability Group consists of independent SQL Server instances residing on distinct Windows Server instances (nodes) within a Windows clustering environment; working together to protect a set of user databases (primary database) known as Availability databases. These Availability databases can support up to five secondary replicas of the primary database. The primary replica having read/write privileges consistently updates the secondary replicas (with read-only access) either via synchronous or asynchronous mode.

In the event of a failure on the primary database, all of the databases within an Availability Group will fail over together and become active on the designated failover (secondary) replica. This secondary SQL Server instance will now become the primary replica with read/write privileges.





## Enabling Multi-Subnet Failover option during Celiveo installation

Thanks to the Microsoft technology, Celiveo has enhanced its features to support **AlwaysOn Availability Groups** in a multi-subnet environment. If you already have an AlwaysOn Availability Group configured, then enable the **Multi-Subnet Failover** option during installation to enable the Microsoft SQL Server MultiSubnetFailover configuration:



The screenshot shows the 'SQL Server Database' configuration window in the Celiveo 8 Setup. The window has a title bar with the Celiveo logo and the text 'Celiveo 8 Setup'. Below the title bar, there is a section titled 'SQL Server Database' with the instruction 'Select SQL Server database'. There are two radio button options: 'Local SQL Server Express' (selected) and 'Detected SQL Servers'. Below these options, there are fields for 'Username:' (containing 'sa') and 'Password:' (masked with dots). There are also two checkboxes: 'Encrypted Connection' and 'Multi Subnet Failover'. The 'Multi Subnet Failover' checkbox is highlighted with a red box. At the bottom left, there is a 'Test Connection' button.

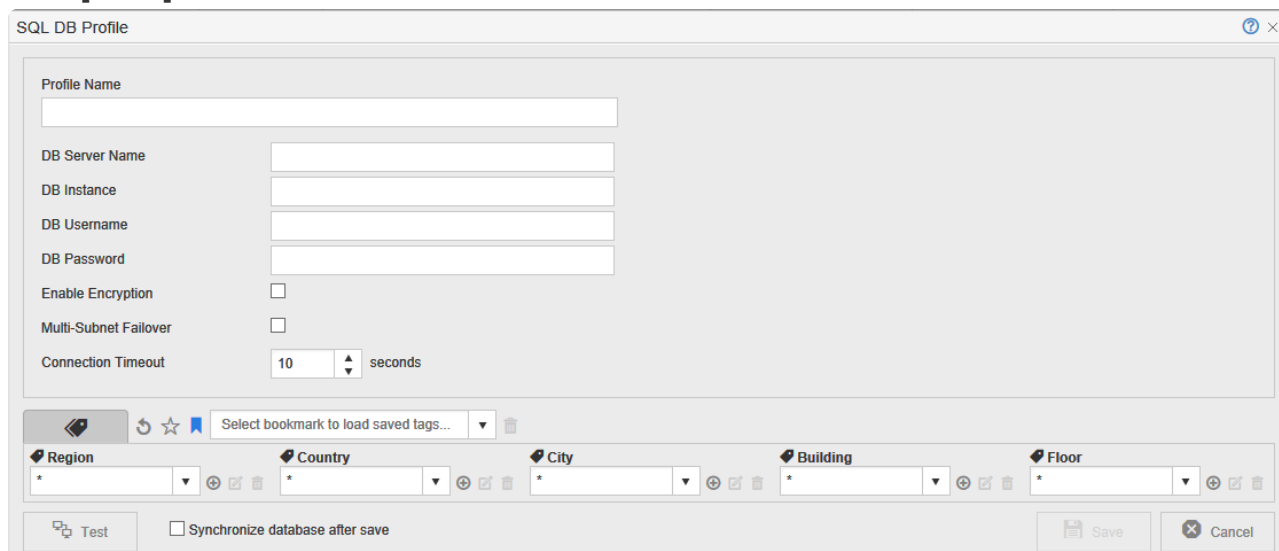
Follow the installation instructions provided [here](#).

## Enabling multi-subnet failover in a multi-SQL environment

After Celiveo installation, if you wish to create a database profile (primary or secondary) to support AlwaysOn Availability groups, follow the instructions given below:

### In Web Admin:

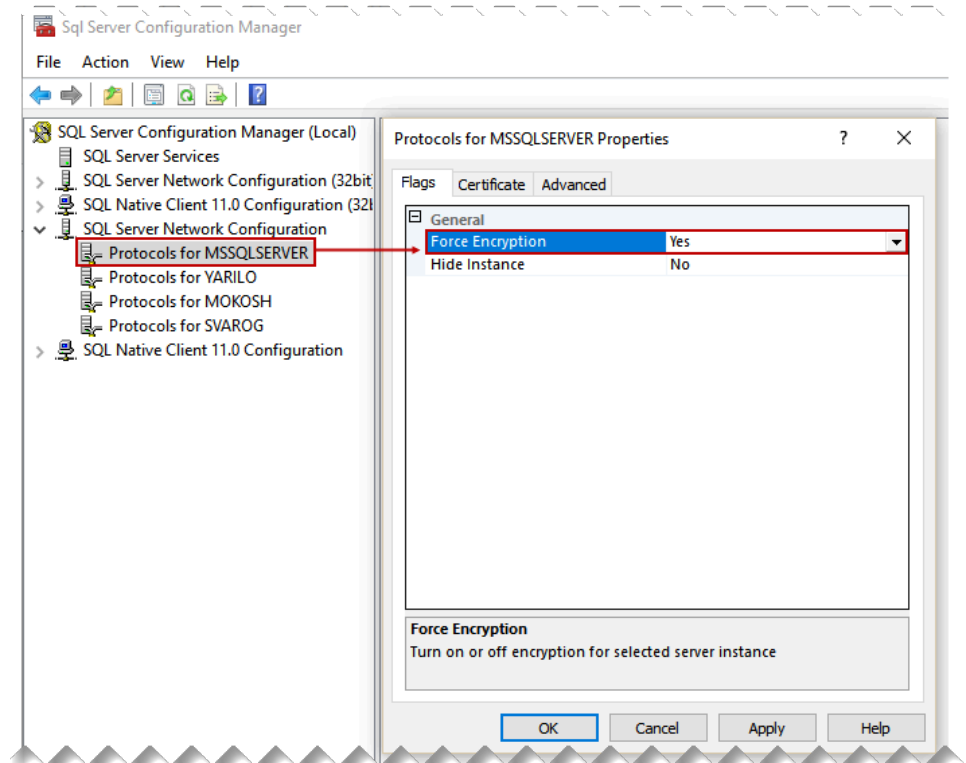
1. Click  Setup icon at the top right-hand corner of the screen.
2. Select the  Database Configuration tab.
3. Click **[+Add]** button.



4. Enter the following information for creating the database profile:
  - Profile Name: This is the name of the database profile
  - DB Server Name: The server name is either the [computer name] or [IP address]. E.g. CELIVEO SRVR, 192.68.3.211
  - DB Instance: For default instance of SQL Server, leave this field empty. For a named instance of SQL Server, provide the instance name.  
Note: If SQL Server is installed using the Celiveo installer (during installation), the instance name is "SQLEXPRESS".
  - DB Username: Type the user name with admin access privileges for this database.
  - DB Password: Type the corresponding password.

### 5. Options

- **SQL Encryption (SSL over SQL)**
  - Enable Encryption: Select this option to secure the connection between Web Admin application and the specified SQL server. This allows authorized communication to occur between them. The SSL security layer prevents unwanted sensitive data leak, and/or excludes the possibility for any SQL injection attack.
    - Make sure encryption is enabled on the Server. To do this:
      1. Open SQL Server Configuration Manager, go to SQL Server Network configuration.
      2. Choose **Protocols** properties for the SQL Server instance and enable **ForceEncryption** option in **Flags** tab.



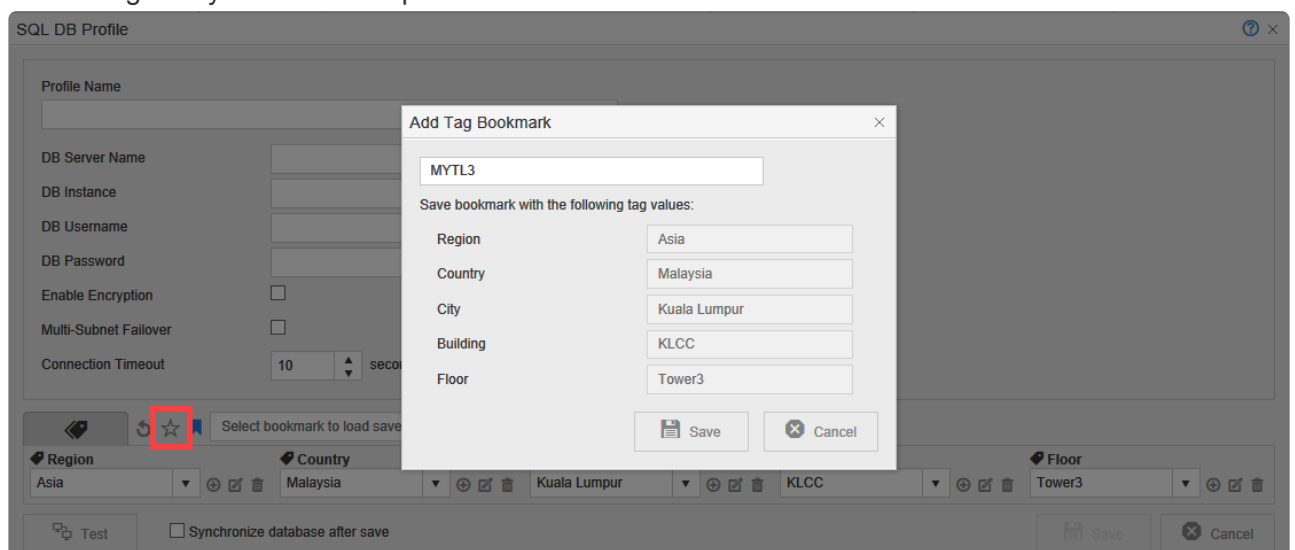
- **AlwaysOn Availability Groups**

- Multi-Subnet Failover: When enabled, Web Admin attempts parallel connections to the failover IP addresses of an (Always On) Availability Group during a multi-subnet failover.

- **Connection Timeout:**

- This denotes the time limit (in seconds), within which the connection to the specified SQL server must be made before terminating the attempt.

6. Define tags for your database profile:



7. Click the **Test** button to perform a test on the database.

A confirmation message displays if the test is successful. The **Save** button becomes available.

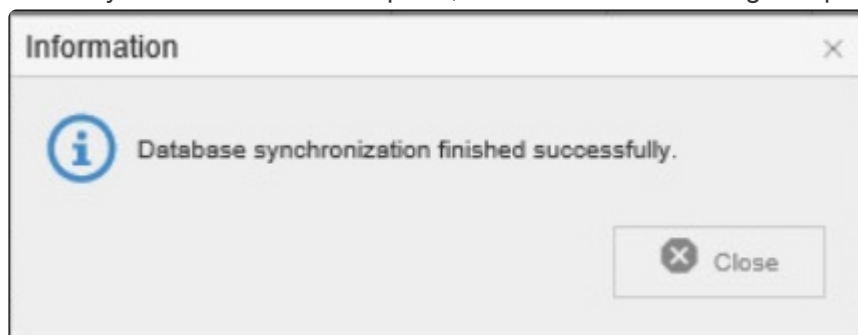
8. Select **Synchronize database after save** checkbox to synchronize with the primary database when you click **[Save]**.

This will synchronize and create a replica of primary database as the secondary database.

9. You can also synchronize the secondary database later using the **[Sync]** icon in the **[DB]**

**Settings].**

10. A confirmation prompt displays. Click **OK**.
11. During Synchronization, all unnecessary data is deleted from the secondary database.
12. Once Synchronization is complete, a confirmation message displays.



*Last modified: 8 September 2020*

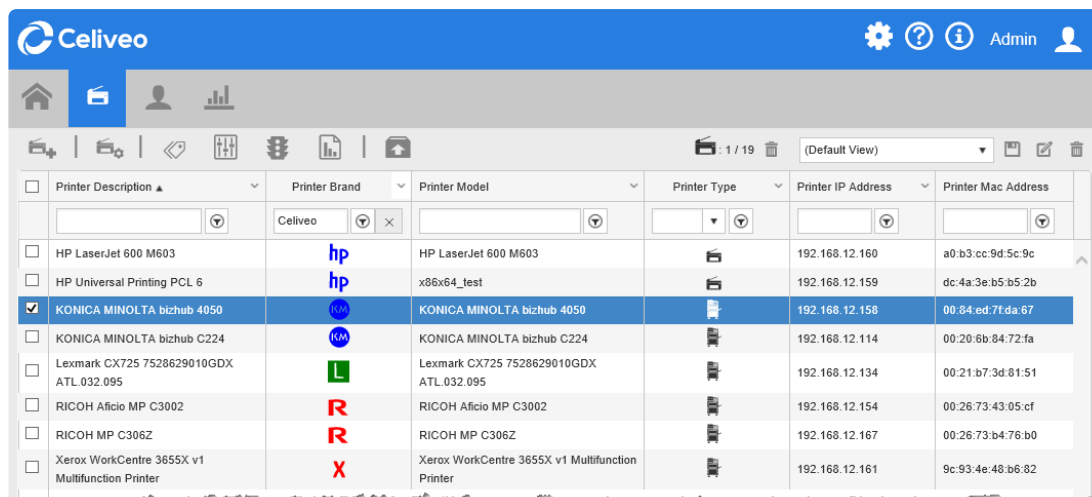
## 7.7. Set up Access

### Enable Card Authentication for Printers


You enable proximity card authentication by creating an Access Control Rule and assigning the rule to a printer. You however cannot assign an Access Control Rule directly to a printer. Instead, you create an Access & Rules Profile for a printer and add the Access Control Rule to the Access & Rules Profile.

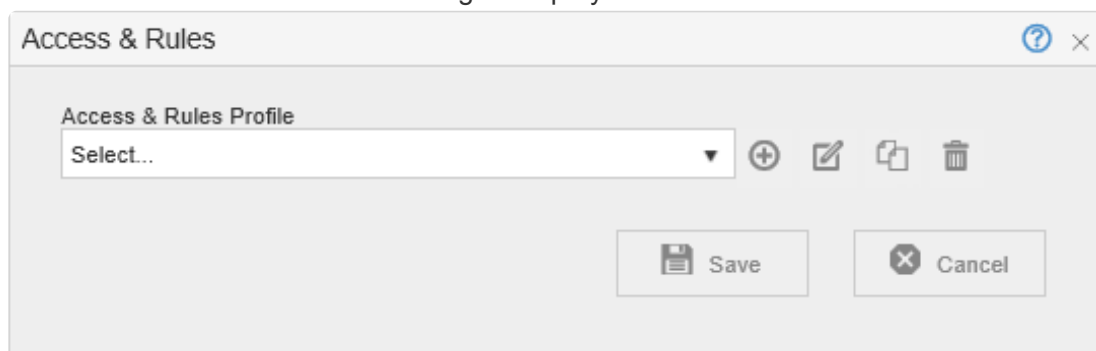
**!** Combination of Card and Username/Password Authentication is not supported on HP Pro Printers.

### 1. Add a New Access & Rules Profile to a Printer



Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address
<input type="checkbox"/> HP LaserJet 600 M603	hp	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c
<input type="checkbox"/> HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b
<input checked="" type="checkbox"/> KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67
<input type="checkbox"/> KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa
<input type="checkbox"/> Lexmark CX725 7528629010GDx ATL 032.095	L	Lexmark CX725 7528629010GDx ATL 032.095		192.168.12.134	00:21:b7:3d:81:51
<input type="checkbox"/> RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf
<input type="checkbox"/> RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0
<input type="checkbox"/> Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82

1. Select the printer to add the Access and Rules Profile to.
2. Click . The Access & Rules dialog is displayed.




**Access & Rules**

Access & Rules Profile


Select...

Save Cancel

3. Click . The Access and Rules profile is displayed.

- At **[Profile Name]**, specify a unique name for the Access & Rules Profile.

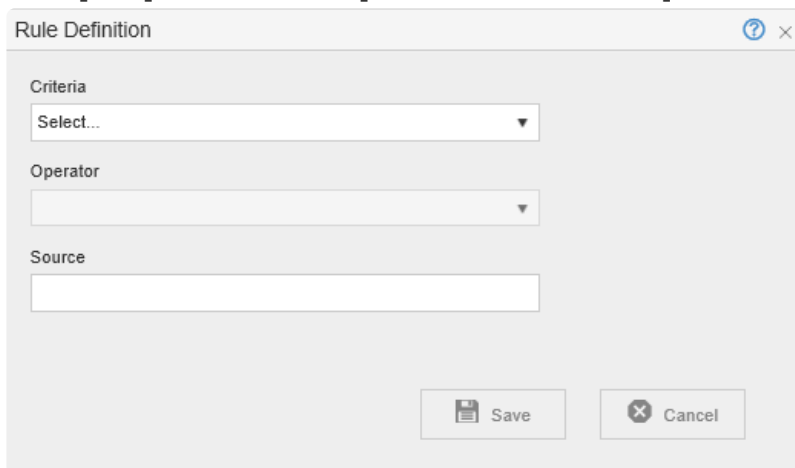
## 2. Add a New Access Control Rule to the Access and Rules Profile

- Click , located in the same row as the **[Access Control Rules]** drop-down. The Access & Rules Profile displays.

- At **[Rule Name]**, specify a unique name for the Access Control Rule.

### 3. Add Card Authentication as the Identification Method

1. Click **[Add]**, located below **[Identification Method]**. The Rule Definition displays.

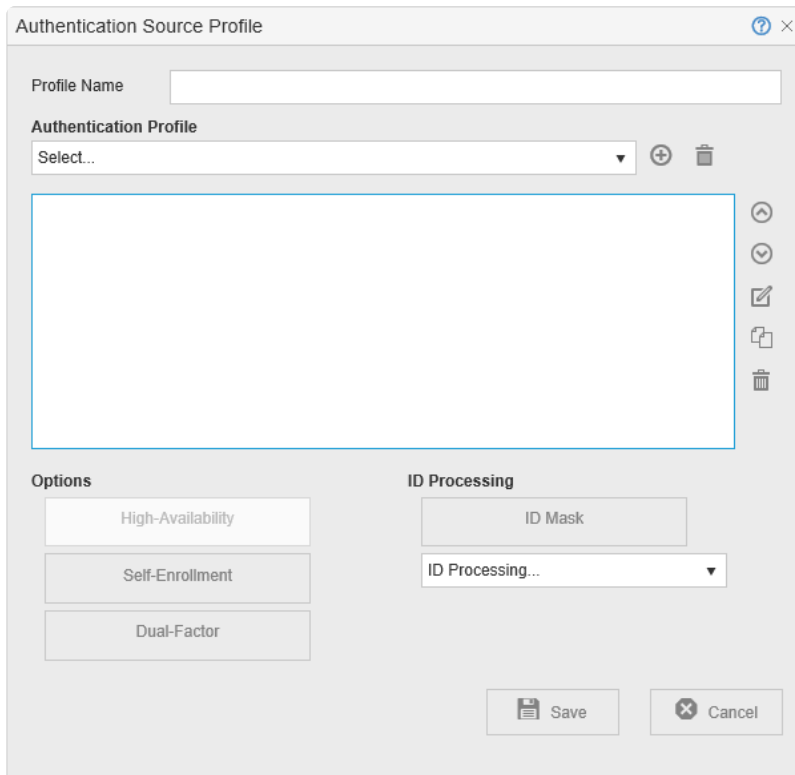


The Rule Definition dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains three fields: 'Criteria' with a dropdown menu showing 'Select...', 'Operator' with a dropdown menu, and 'Source' with a text input field. At the bottom right, there are two buttons: 'Save' (with a floppy disk icon) and 'Cancel' (with an 'X' icon).

2. From the **[Criteria]** drop-down, select **[Card Number]**.
3. From the **[Operator]** drop-down, select **[Is In]**.

### 4. Build the Authentication Profile to Validate the Card Number


1. Click **+**, located next to the **[Source]** drop-down. The Authentication Profile displays.




The Authentication Source Profile dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains a 'Profile Name' text input field, an 'Authentication Profile' dropdown menu showing 'Select...', and a large empty text area. To the right of the text area is a vertical toolbar with icons for undo, redo, edit, copy, and delete. Below the text area, there are two sections: 'Options' with three buttons ('High-Availability', 'Self-Enrollment', 'Dual-Factor') and 'ID Processing' with an 'ID Mask' button and an 'ID Processing...' dropdown menu. At the bottom right, there are two buttons: 'Save' (with a floppy disk icon) and 'Cancel' (with an 'X' icon).

2. In the **[Profile Name]** box, specify a unique name to identify the profile.
3. Click **+**, located in the same row as the **[Authentication Profile]** drop-down. The Authentication Profile is displayed.
4. Specify the AD/LDAP query (similar to that of the screen capture shown below) that returns the list of users who are authorized to use the printer.

5. Click **[Test]**.  
If log in to the Authentication Server is successful, a message is displayed below the [Test] button.
6. Click **[Save]**. You are returned to the Authentication Source Profile.

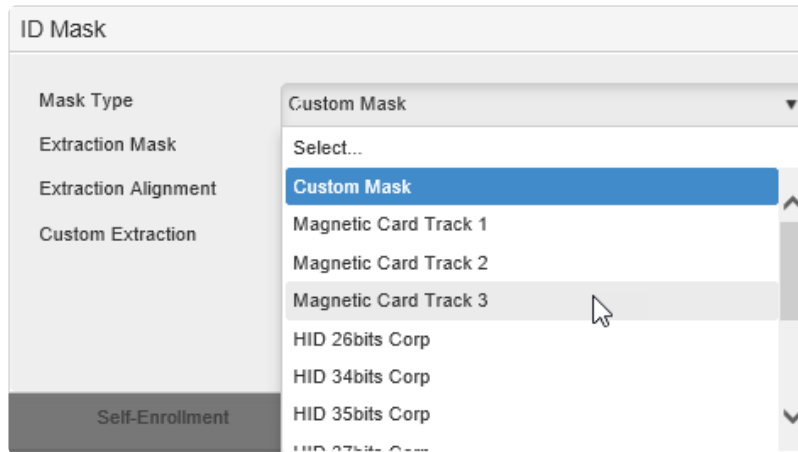
 **Note:** The Login User (Login Name) used in Celiveo Authentication Profile requires AD/LDAP Read and Write rights to user's attributes.

## 5. Specify How to Process Card Number

1. Click **[ID Mask]**.
2. Click  next to the **[ID Mask]**.

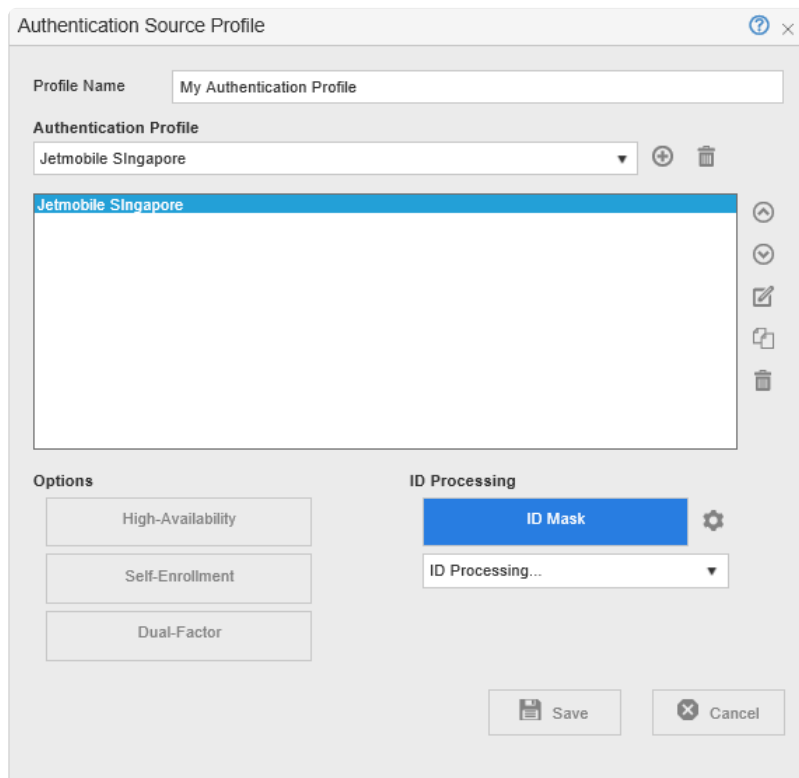



- From the **[Mask Type]** drop-down select the mask that extracts the card number.



- Click **[Close]**.
- From the **[ID Processing]** drop-down, specify how the Card Number is processed.

## 6. Enable Self Enrollment



- Click **[Self-Enrolment]** to turn it on.
- Click  next to the **[Self-Enrolment]**.

**Self Enrollment**


**Enrollment Configuration**


☒ SQL  
☐ AD/LDAP


Auto unenroll inactive user after days :


**Schedule SQL User Data Sync**

Schedule Time Zone

  To




 17-Oct-2017 03:10 PM

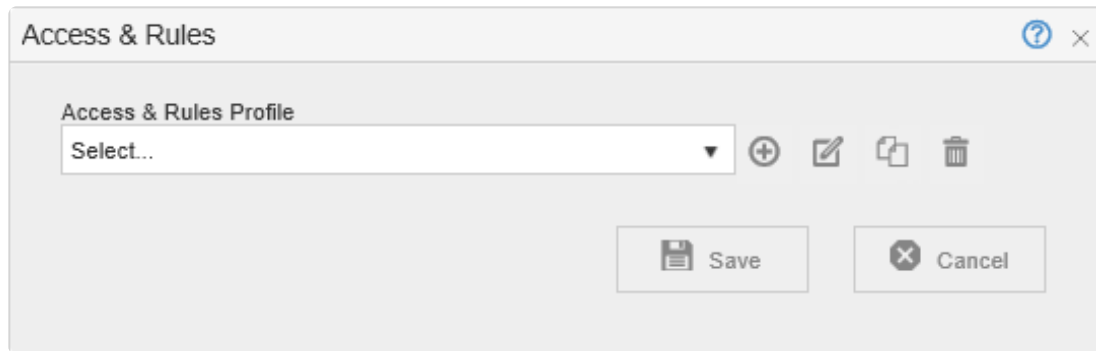
 Close

3. Verify that **[SQL]** is selected and click **[Close]**.
4. Click **[Save]** until all dialogs close.

## 7. Enable Card Authentication for Remaining Printers

Celiveo <span>Admin</span>						
1 / 19 (Default View)						
<input type="checkbox"/>	Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address
<input type="checkbox"/>	HP LaserJet 600 M603	hp	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c
<input type="checkbox"/>	HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b
<input checked="" type="checkbox"/>	KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67
<input type="checkbox"/>	KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa
<input type="checkbox"/>	Lexmark CX725 7528629010GDx ATL 032.095	L	Lexmark CX725 7528629010GDx ATL 032.095		192.168.12.134	00:21:b7:3d:81:51
<input type="checkbox"/>	RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0
<input type="checkbox"/>	Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82

1. In the Printers List, select the printers you want to apply the Access and Rules Profile to.
2. Click . The Access & Rules dialog is displayed.

The image shows a software dialog box titled "Access & Rules". At the top right of the dialog are a help icon (question mark in a circle) and a close icon (X). Below the title bar, the text "Access & Rules Profile" is displayed above a drop-down menu that currently shows "Select...". To the right of the drop-down menu are four icons: a plus sign in a circle, a pencil, a document with a plus sign, and a trash can. At the bottom of the dialog are two buttons: "Save" with a floppy disk icon and "Cancel" with a circle containing an X icon.

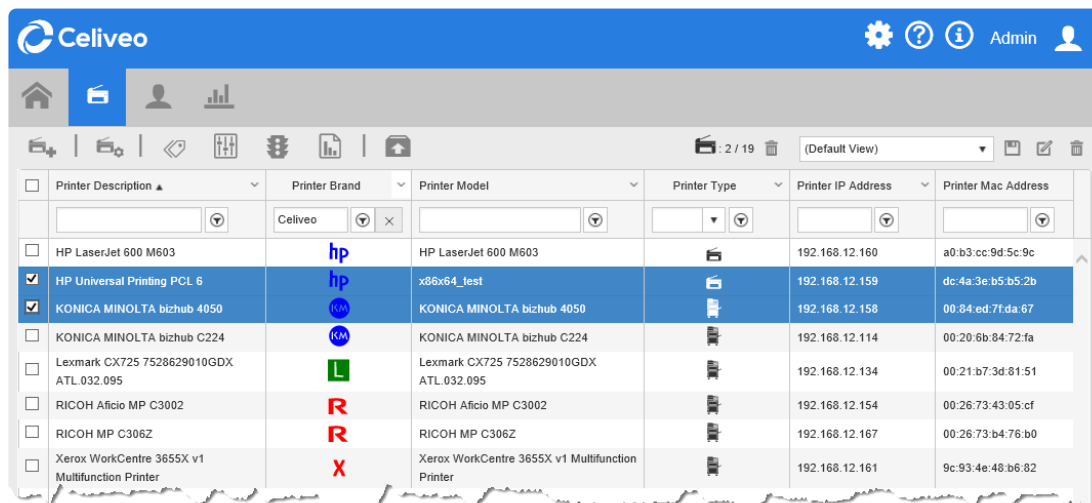
3. From the **[Access & Rules Profile]** drop-down, select the Access and Rules profile for the Printer.

**! Note for HP Printers:** When authenticating by showing a card to the printer card reader, follow the instructions shown on the bottom of the printer screen and wait until the authentication is complete before pressing any button.

*Last modified: 11 February 2021*

## 7.8. Synchronize Printers

Once you have defined all needed settings for a physical printer, these settings must be uploaded to the printer. You upload the settings by synchronizing the printer with the Web Admin.



1. Select the printers to synchronize.

**Note:** Only physical printers that have their Celiveo Pull Print property enabled can be synchronized.

2. Click .

The selected printers are synchronized, one at a time.

*Last modified: 8 September 2020*

## 7.9. Set the Session Timeout

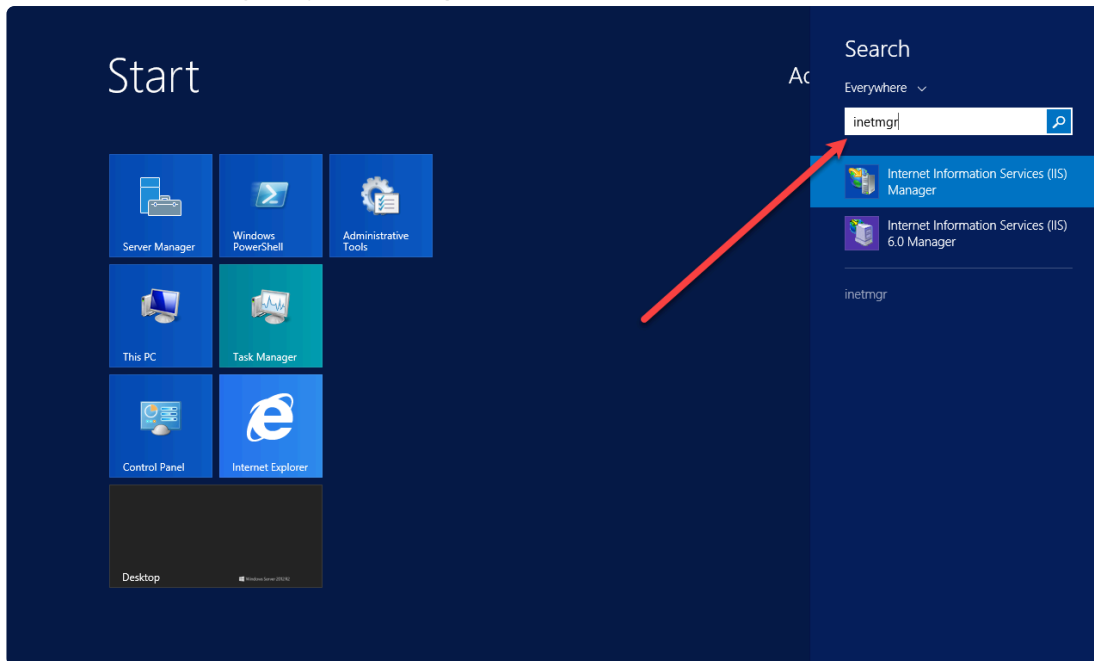
### What is the Session Timeout?

The Session Timeout specifies how long the system should wait before ending a Web Admin session, if no activity is detected.

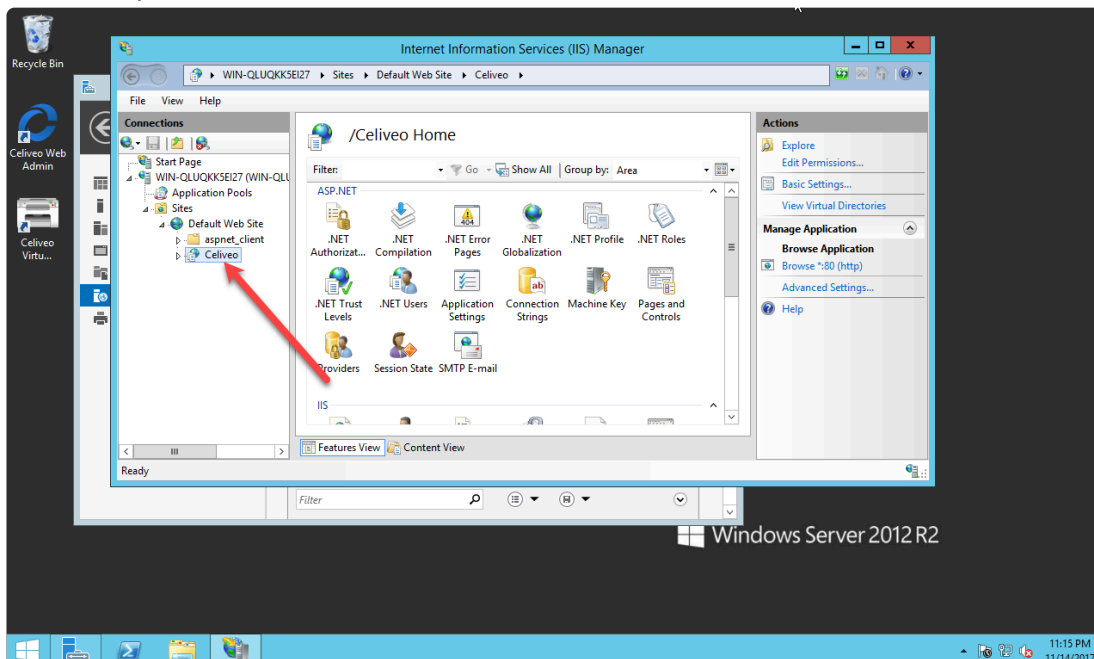
### To Specify the Session Timeout:

1. Open IIS Manager.

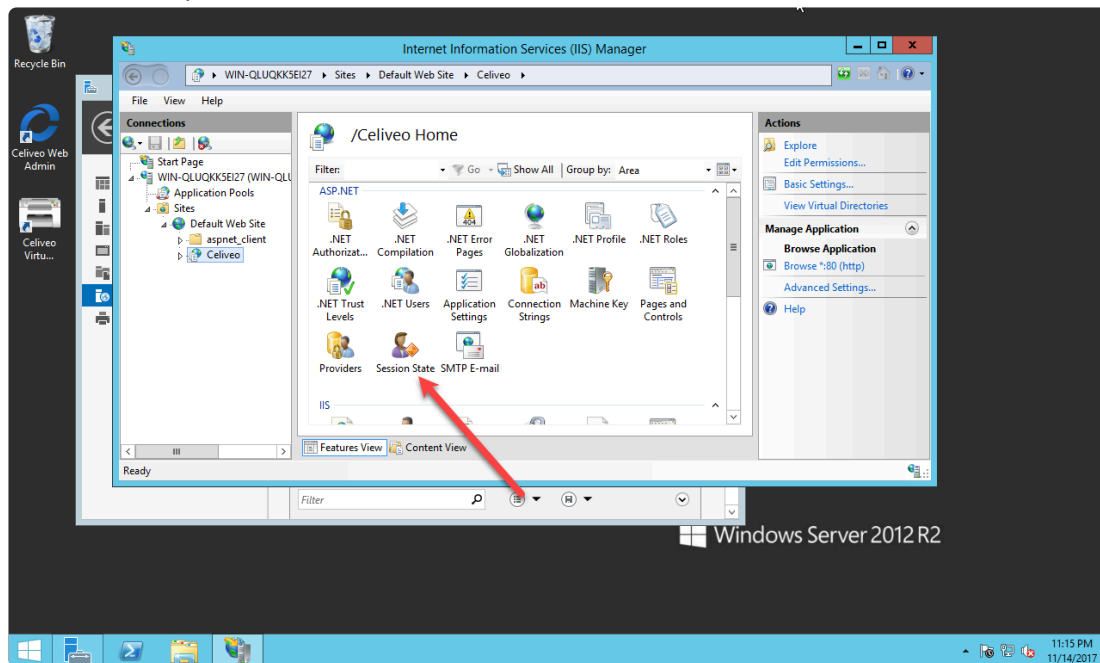
To open IIS Manager, type **inetmgr** in the **Start Search** box and press ENTER.



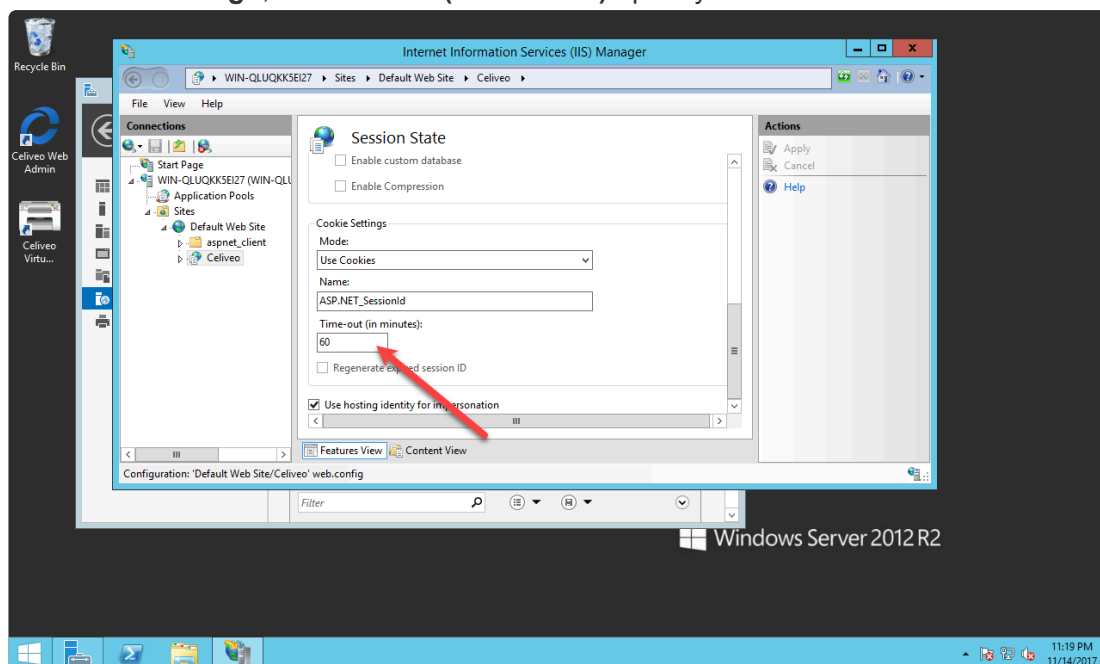
2. In the left pane, select **Server Name > Sites > Default Web Site > Celiveo**.



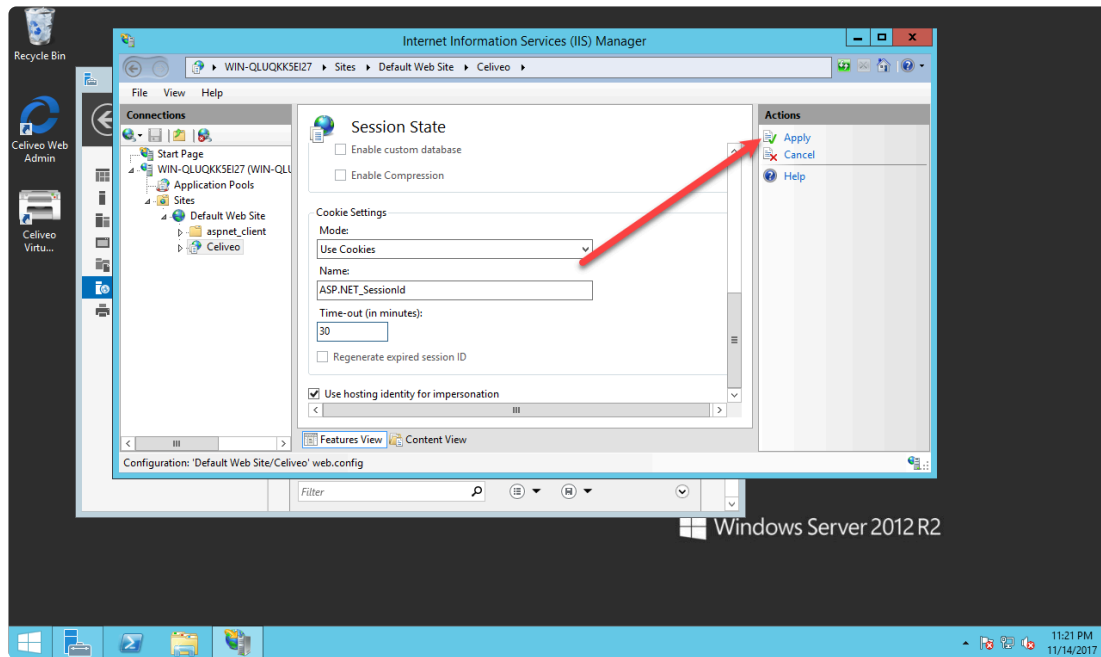
3. In the middle pane, double-click **Session State**.



4. In **Cookie Settings**, at **Time-out (in minutes)** specify the new session timeout.



5. Click **Apply**.



*Last modified: 8 September 2020*

## **7.10. Configuration to be done at the Printer**

*Last modified: 8 September 2020*



## 7.10.1. Konica Minolta

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Here, you will learn about the prerequisites and required settings to be done on the Konica Minolta printer device before and after installation of the Celiveo solution.

1. [Prerequisites](#)
2. [Ports and Communication](#)
3. [Configure the device using Konica Minolta Page Scope Web Connection](#)
4. [Configuration after installing Celiveo](#)

### 1. Prerequisites

Before you install, make sure these prerequisites are met:

- The device is connected to an active LAN connection.
- The device has a fixed IP or DHCP reserved IP address.
- The network allows management by Simple Network Management Protocol (SNMP) v1/v2.
- The badge authentication should be configured as “Unset” (deactivated) on the Konica Minolta devices. To enable/disable this feature, contact a Konica Minolta technician.
- User authentication (for Print without authentication) should be disabled on the Konica Minolta driver.
- The Celiveo Smart Appliance is connected to the device.

#### 1.1 Configuring CSA

By default, the CSA is set in DHCP mode. You can also opt for fixed IP network settings.

The steps to configure CSA for DHCP and for fixed IP network settings can be found [here](#).

#### 1.2 Celiveo Version upgrade on CSA

Follow the procedure given [here](#) to upgrade the Celiveo Version on CSA.

### 2. Ports and Communication

A comprehensive list of all the ports used by Celiveo solutions, describing the ports and applications used for communication between the Celiveo components that consist of the Celiveo Server Services, Web Admin Server, Active Directory, Database (SQL) server, the device, and the PC/laptop/workstation can be found [here](#).



Konica Minolta Printers use HTTPS protocol for communicating between Celiveo Smart Appliance and the printer device.

## 3. Configure the device using Konica Minolta Page Scope Web Connection

This section describes the required configurations to be performed on the device's web service page before you install the Celiveo solution.

- Create and upload an SSL certificate
- Enable SSL communication on socket

### 3.1 Create and upload an SSL Certificate

A valid SSL certificate is required for the solution to work. Either use an approved SSL certificate provided, or create a self-signed certificate on the device.

1. At the web browser, enter the IP address of the Konica Minolta device.
2. Select the Administrator radio button and click **Login**.

**Login**

☐ Registered User

Login

Password

☒ Administrator

**View Mode**

☐ Flash ☒ HTML

Flash Player is necessary to see in Flash form.

**Display Speed**

☐ Quick Mode ☒ Standard Mode

To speed up the display speed using the cache in quick mode.

**User Assist**

☐ Display dialog box in case of warning.

**Language**

English (English)

**Login**

**Starting-up Data Management Utility**

Flash Player is required to use the Data Management Utility.

[Manage Copy Protect Data](#)

[Manage Stamp Data](#)

3. Select the **Administrator (Admin Mode)** radio button.
4. Enter the administration password and click **OK**.

**Note:** Refer to the device manufacturer documentation for the default password.

**Select Login**

- ☒ Administrator (Admin Mode)  
☐ Administrator (User Mode)

**Password**

**Help Display Setting**

Help Display is a network-only function.

On Mouse

OFF ▾

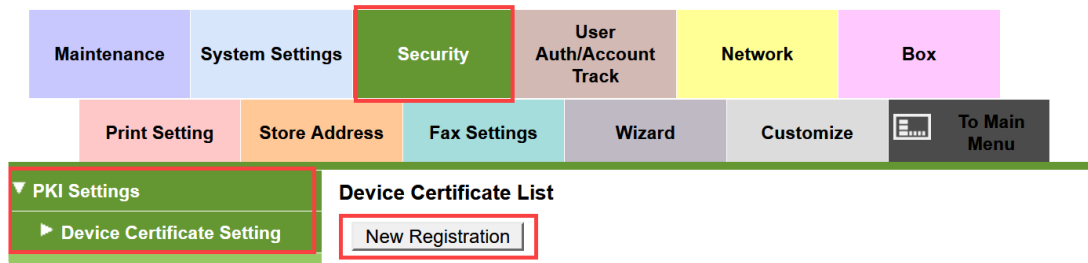
On Focus

OFF ▾




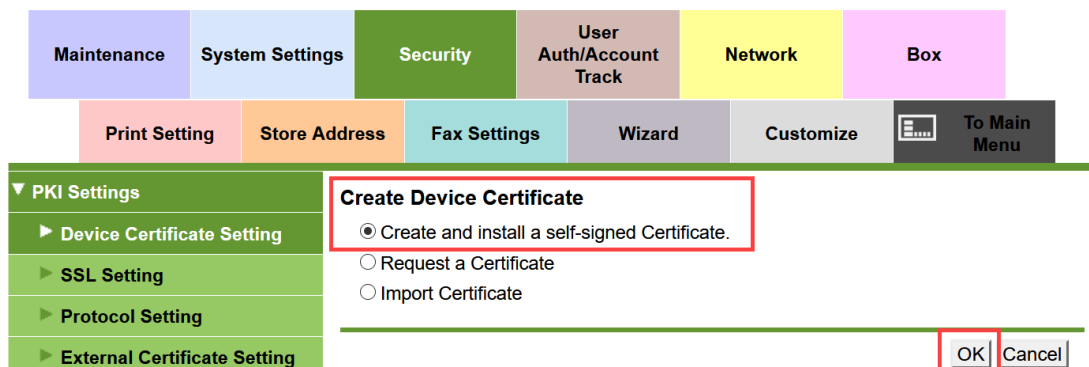
5. After logging in, click **Security**.

6. Go to **PKI Settings > Device Certificate Setting**, click **New Registration**.



7. Under **Create Device Certificate**, select the **Create and install a self-signed Certificate** radio button and click **OK**.

 **Note:** If the SSL certificate is already available, click **Import Certificate**. Browse to the location and select the appropriate SSL certificate. Upload the required SSL certificate, enter the password and click **OK**.



8. Enter the information in the self-signed certificate fields as shown and click **OK**.

Maintenance	System Settings	Security	User Auth/Account Track	Network	Box
Print Setting	Store Address	Fax Settings	Wizard	Customize	To Main Menu

PKI Settings

Device Certificate Setting
SSL Setting
Protocol Setting
External Certificate Setting
Certificate Verification Settings
Address Reference Setting
Restrict User Access
Auto Logout
Administrator Password Setting
TX Operation Log Setting
Quick Security Setting

**Create and install a self-signed Certificate.**

Common Name: 192.168.13.114

Organization: Celiveo

Organizational Unit: CVO

Locality: France

State/Province: Issy

Country: FR

Admin. E-mail Address: support.emea@celiveo.com

---

Validity Start Date: 19/11/2018 13:29:34

Validity Period: 3650 Day(s)(1-3650)

---

Encryption Key Type: RSA-1024\_MD5

OK Cancel

The messages are displayed:

‘Certificate is being created. Please wait’

‘Certificate has been created and installed. SSL/TLS can now be used. (After OK is clicked, SSL Mode setting will be available.)’

9. Click **OK** to apply the SSL mode settings.
10. After the certificate has been created and uploaded, click on **Security**, then click **Device Certificate List**.
11. Select the newly created certificate, then click **OK**.

The following message is displayed: ‘Completed. Activate your browser again.’

### 3.2 Verify the Protocol set for the Certificate

1. Go to **Security > PKI Settings > Device Certificate Settings**, then click **Details** next to the certificate to use.

**Navigation Menu:** Maintenance, System Settings, **Security**, User Auth/Account Track, Network, Box

**Sub-Menu:** Print Setting, Store Address, Fax Settings, Wizard, Customize, To Main Menu

**PKI Settings:** Device Certificate Setting, SSL Setting, Protocol Setting, External Certificate Setting, Certificate Verification Settings, Address Reference Setting, Restrict User Access, Auto Logout, Administrator Password Setting, TX Operation Log Setting, Quick Security Setting

**Device Certificate List**

Default	Issuer	Subject	Validity Period	Detail	Setting
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	19/06/2015	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	23/07/2015	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	plus tard ce sera...	KM8472FA.intimete...	30/07/2015	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	plus tard ce sera...	KM printer	29/06/2016	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	02/07/2015	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	Requesting Certificate	KM8472FA.intimete...		<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	Requesting Certificate	KM8472FA.intimete...		<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	KM8472FA	KM8472FA	16/08/2025	<a href="#">Detail</a>	<a href="#">Setting</a>
<input type="radio"/>	KM8472FA.celiveoq...	KM8472FA.celiveoq...	13/11/2028	<a href="#">Detail</a>	<a href="#">Setting</a>
<input checked="" type="radio"/>	KM8472FA.celiveoq...	KM8472FA.celiveoq...	16/11/2028	<a href="#">Detail</a>	<a href="#">Setting</a>

[OK](#) [Cancel](#)

2. Check that the Protocol is set to **SSL OpenAPI**. Otherwise, follow step 3.

**Navigation Menu:** Maintenance, System Settings, **Security**, User Auth/Account Track, Network, Box

**Sub-Menu:** Print Setting, Store Address, Fax Settings, Wizard, Customize, To Main Menu

**PKI Settings:** Device Certificate Setting, SSL Setting, Protocol Setting, External Certificate Setting, Certificate Verification Settings, Address Reference Setting, Restrict User Access, Auto Logout, Administrator Password Setting, TX Operation Log Setting, Quick Security Setting

**Device Certificate Details**

**Issuer**

Organization	Celiveo
Organizational Unit	CVO
Locality	France
State/Province	Issy
Country	FR



**Subject**

Protocol	SSL	OpenAPI
Organization	Celiveo	
Organizational Unit	CVO	
Locality	France	
State/Province	Issy	
Country	FR	
Admin. E-mail Address	support.emea@celiveo.com	


**Validity Period** 19/11/2018 13:42:16 - 16/11/2028 13:42:16

[Back](#)

3. Go to **Protocol Setting**, click the **Edit** button next to **SSL OpenAPI** and select the required certificate.

Model Name: bizhub C224  Low Paper 

**Maintenance** **System Settings** **Security** **User Auth/Account Track** **Network** **Box**

**Print Setting** **Store Address** **Fax Settings** **Wizard** **Customize**  **To Main Menu**


▼ **PKI Settings**

- ▶ Device Certificate Setting
- ▶ SSL Setting
- ▶ **Protocol Setting**
- ▶ External Certificate Setting
- ▶ Certificate Verification Settings
- ▶ Address Reference Setting
- ▶ Restrict User Access
- ▶ Auto Logout
- ▶ Administrator Password Setting
- ▶ TX Operation Log Setting
- ▶ Quick Security Setting

**Protocol Setting**

	Protocol 1	Protocol 2	Edit	Delete
	SSL	http Server	Create	Delete
	SSL	E-Mail Transmission (SMTP)	Create	Delete
	SSL	E-mail RX (POP)	Create	Delete
	SSL	TCP Socket	Create	Delete
	SSL	LDAP	Create	Delete
	SSL	WebDAV Client	Create	Delete
*	SSL	OpenAPI	<b>Edit</b>	Delete
	SSL	Web Service	Create	Delete
	SSL	IPsec	Create	Delete
	SSL	Remote Panel	Create	Delete
	IEEE802.1X		Create	Delete
	S/MIME		Create	Delete

**Maintenance** **System Settings** **Security** **User Auth/Account Track** **Network** **Box**

**Print Setting** **Store Address** **Fax Settings** **Wizard** **Customize**  **To Main Menu**

▼ **PKI Settings**

- ▶ Device Certificate Setting
- ▶ SSL Setting
- ▶ **Protocol Setting**
- ▶ External Certificate Setting
- ▶ Certificate Verification Settings
- ▶ Address Reference Setting
- ▶ Restrict User Access
- ▶ Auto Logout
- ▶ Administrator Password Setting
- ▶ TX Operation Log Setting
- ▶ Quick Security Setting

**Protocol Setting(SSL OpenAPI)**

	Issuer	Subject	Validity Period	Detail
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	19/06/2015	<a href="#">Detail</a>
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	23/07/2015	<a href="#">Detail</a>
<input type="radio"/>	plus tard ce sera...	KM8472FA.intimete...	30/07/2015	<a href="#">Detail</a>
<input type="radio"/>	plus tard ce sera...	KM printer	29/06/2016	<a href="#">Detail</a>
<input type="radio"/>	KM8472FA.intimete...	KM8472FA.intimete...	02/07/2015	<a href="#">Detail</a>
<input type="radio"/>	KM8472FA	KM8472FA	16/08/2025	<a href="#">Detail</a>
<input type="radio"/>	KM8472FA.celiveoq...	KM8472FA.celiveoq...	13/11/2028	<a href="#">Detail</a>
<input checked="" type="radio"/>	KM8472FA.celiveoq...	KM8472FA.celiveoq...	16/11/2028	<a href="#">Detail</a>

**OK** **Cancel**

### 3.3 Enable SSL Communication on socket

This section describes the steps to enable the SSL/TLS port number so that it can establish the communication on the socket.

1. Log into the Web interface as Administrator.
2. After successful login, go to **Security> PKI Setting> SSL Setting**
3. In the drop-down menu, select **Administrator mode**. Click **OK**.

Your browser will reconnect to the web server in “https” mode. You may need to confirm an invalid certificate in your browser.

**IMPORTANT NOTE: Ensure that TLS 1.2 protocol is enabled in the SSL setting. You may need to upgrade the printer firmware, if the options are not available.**

**PKI Settings**

- Device Certificate Setting
- SSL Setting**
- Protocol Setting
- External Certificate Setting
- Certificate Verification Settings
- Address Reference Setting
- Restrict User Access

**SSL Setting**

Mode using SSL/TLS: Admin. Mode

Encryption Strength: AES-256, 3DES-168, RC4-128

SSL/TLS Version Setting

- ☒ SSLv3
- ☒ TLSv1.0
- ☒ TLSv1.1
- ☒ TLSv1.2

OK Cancel

- Go to **Network > TCP Socket Setting** page, select **Use SSL/TLS Port No. (SSL/TLS)** and click **OK**.

The message is displayed: ‘Turn the main switch OFF, and then ON, when changing the settings.’

**TCP Socket Setting**

(Turn the main switch OFF, and then ON , when changing TCP Socket.)

- ☒ TCP Socket
  - Port Number: 59158 (1-65535)
- ☒ Use SSL/TLS
  - Port No.(SSL/TLS): 59159 (1-65535)
- ☒ TCP Socket(ASCII Mode)
  - Port No.(ASCII Mode): 59160 (1-65535)

OK Cancel

- Log in again to the Web interface as Administrator and in the **Network** section, select **OpenAPI Settings**.
  - In the **Use SSL / TLS** drop-down list, select **SSL Only**.

- Verify that the SSL port number is **50003**.
- **Certificate Verification Level Settings** must be set as follows: Client Certificates: “Do not request”.

For all other items, select “Do Not Confirm” (even for the Validity Period item for which “Confirm” is often set by default).

Maintenance	System Settings	Security	User Auth/Account Track	Network	Box
Print Setting	Store Address	Fax Settings	Wizard	Customize	To Main Menu

<ul style="list-style-type: none"> <li>▶ TCP/IP Setting</li> <li>▶ E-mail Setting</li> <li>▶ LDAP Setting</li> <li>▶ IPP Setting</li> <li>▶ FTP Setting</li> <li>▶ SNMP Setting</li> <li>▶ SMB Setting</li> <li>▶ DPWS Settings</li> <li>▶ Bonjour Setting</li> <li>▶ NetWare Setting</li> <li>▶ AppleTalk Setting</li> <li>▶ WebDAV Settings</li> <li>▶ <b>OpenAPI Setting</b></li> <li>▶ TCP Socket Setting</li> <li>▶ IEEE802.1X Authentication Setting</li> <li>▶ LLTD Setting</li> <li>▶ SSDP Settings</li> <li>▶ Web Browser Setting</li> </ul>	<p><b>OpenAPI</b></p> <p>Use SSL/TLS <span>SSL Only</span></p> <p>Port Number <span>50001</span> (1-65535)</p> <p>Port No.(SSL) <span>50003</span> (1-65535)</p> <p>Proxy Settings</p> <p>Proxy Server Address <input type="checkbox"/> Please check to enter host name. <span>0.0.0.0</span></p> <p>Proxy Server Port Number <span>8080</span> (1-65535)</p> <p>Proxy Server Port Number (HTTPS) <span>8080</span> (1-65535)</p> <p>Proxy Server Port Number (FTP) <span>21</span> (1-65535)</p> <p>User Name <span>admin</span></p> <p><input type="checkbox"/> Password is changed. (Password is currently set.)</p> <p>Password <input type="password"/></p> <p><b>Certificate Verification Level Settings</b></p> <p>Client Certificates <span>Do not request</span></p> <p>Validity Period <span>Do Not Confirm</span></p> <p>CN <span>Do Not Confirm</span></p> <p>Key Usage <span>Do Not Confirm</span></p> <p>Chain <span>Do Not Confirm</span></p> <p>Expiration Date Confirmation <span>Do Not Confirm</span></p>
---	--

OK Cancel

6. To apply the settings, click OK.
7. Reboot the device.

## 4. Configuration after installing Celiveo

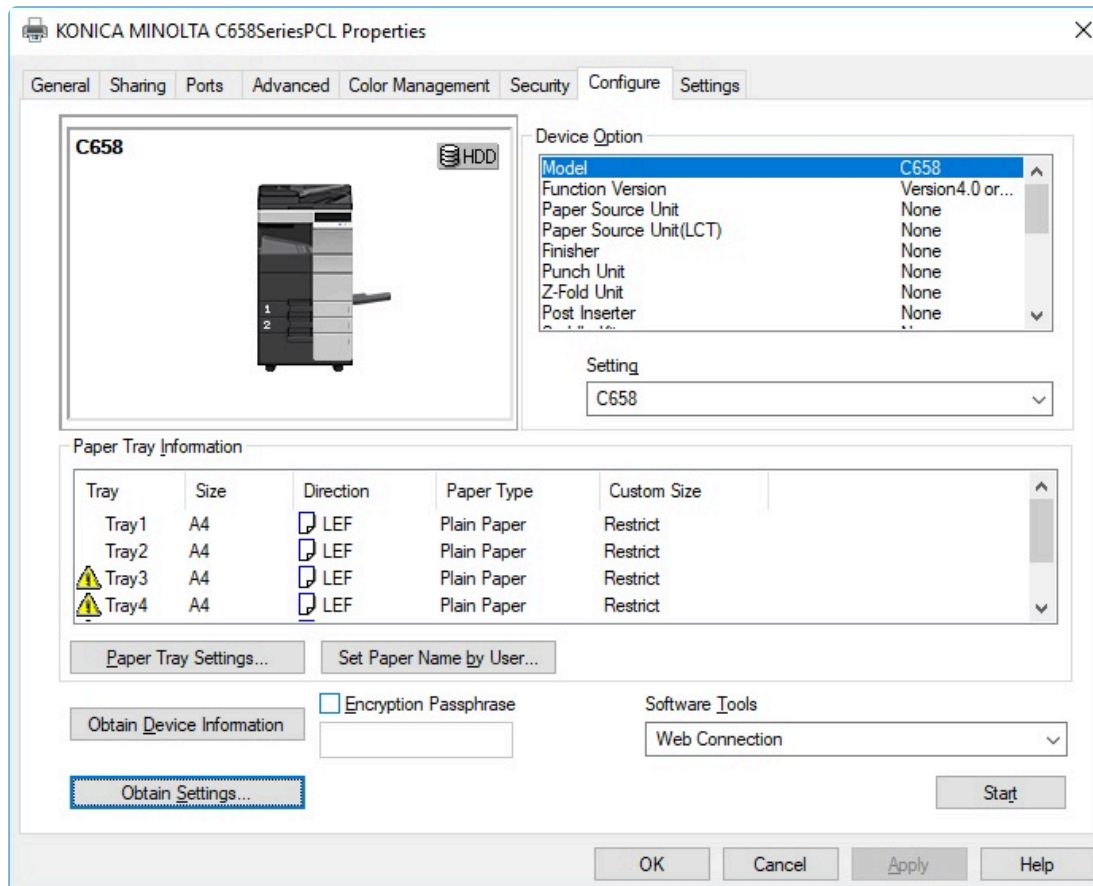
Make these configurations after the installation of the Celiveo solution.

### 4.1 Disable user authenticated printing in printer properties

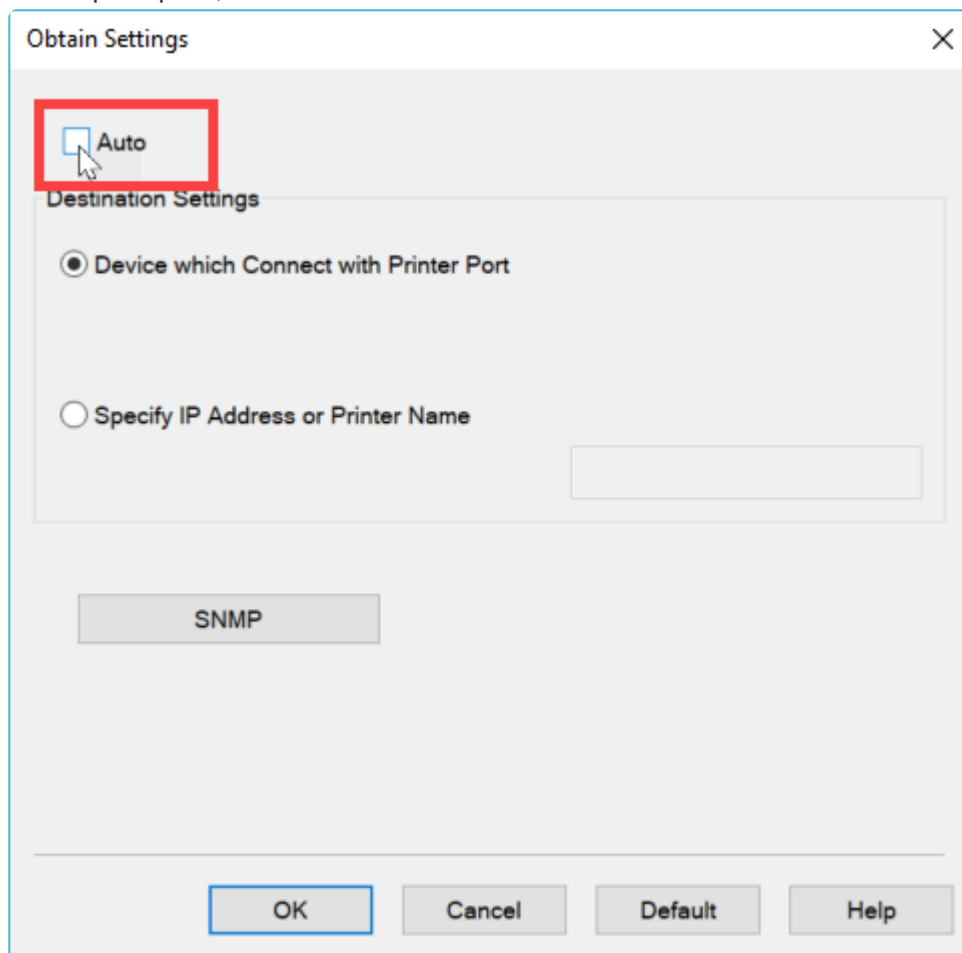
After installation of the Celiveo solution, disable the unauthenticated printing setting by the printer driver. This allows the Celiveo solution to take over tracking of device usage activities after user authentication.

1. At the client machine, open the print queue properties.
2. Select **Configure**.
3. Click on **Obtain Settings**.





When prompted, uncheck **Auto** and click **OK**



✿ **Note:** On some models, the IP address and device administrator password have to be entered before the Auto option can be unchecked.

4. In the **Device Options** list, select **User Authentication**.
5. Select **Disable**, then click **Apply**.
6. To exit, close the dialog box.

## 4.2 Disable user authenticated printing on device UI

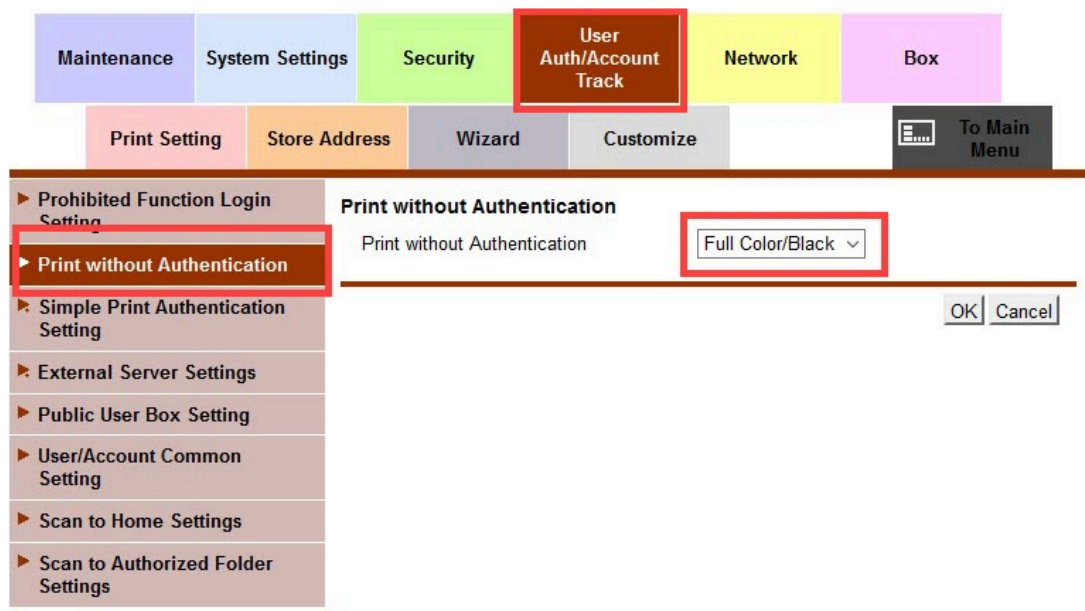
✿ **Note:** The settings in this section are required only if you have not disabled user authenticated printing in Konica Minolta Web Services.

1. On the front panel of the device, press the **MENU** button.
2. Press **Utility**, then press **Administrator Settings**.
3. Enter the administrator password and press **OK**.
4. Press **User Authentication/Account Track**.
5. Press **Print without Authentication**.
6. To save the settings, press **Full Color/Black**, then press **OK**. (On some models, select **Allow**, if **Full Color/Black** is not available)

## 4.3 Disable user authenticated printing from Konica Minolta Page Scope Web Connection

✿ **Note:** The settings in this section are required only if you have not disabled user authenticated printing at the printer UI.

1. Log in to Web interface as Administrator.
2. Go to **User Auth/ Account Track > General Settings > Print without Authentication**.
3. In Print without Authentication drop-down menu, select **Full Color/Black**.



4. To save the settings, select **OK**.

*Last modified: 8 September 2020*

## 7.10.2. Lexmark

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### System Requirements

The system requirements for installing Celiveo 8 solution can be found [here](#).

### Ports and Communication

A comprehensive list of all the ports used by Celiveo solutions, describing the ports and applications used for communication between the Celiveo components that consist of the Celiveo Server Services, Web Admin Server, Active Directory, Database (SQL) server, the device, and the PC/laptop/workstation can be found [here](#).



Lexmark Printers use HTTPS protocol for communicating between Celiveo Smart Appliance and the printer.

### Prerequisites

Before you install, make sure these prerequisites are met:

- The device is connected to an active LAN connection.
- The device has a fixed IP or DHCP reserved IP address.
- The network allows management by Simple Network Management Protocol (SNMP) v1/v2.
- From the device embedded web services, set the device session time to be longer than the default Celiveo Web Admin inactivity time out (30 sec).

### Configuring CSA

By default, the CSA is set in DHCP mode. You can also opt for fixed IP network settings.

The steps to configure CSA for DHCP and for fixed IP network settings can be found [here](#).

### Celiveo Version upgrade on CSA

Follow the procedure given [here](#) to upgrade the Celiveo Version on CSA.

Once the Celiveo embedded solution is installed on the device, there are additional settings to be done in order to operate in the Celiveo environment. This section includes the topics:

1. [Basic Security Setup](#)
2. [Enable Lexmark Device Logs](#)
3. [Reset Factory](#)
4. [Timeout Settings](#)

# Basic Security Setup on Lexmark Devices

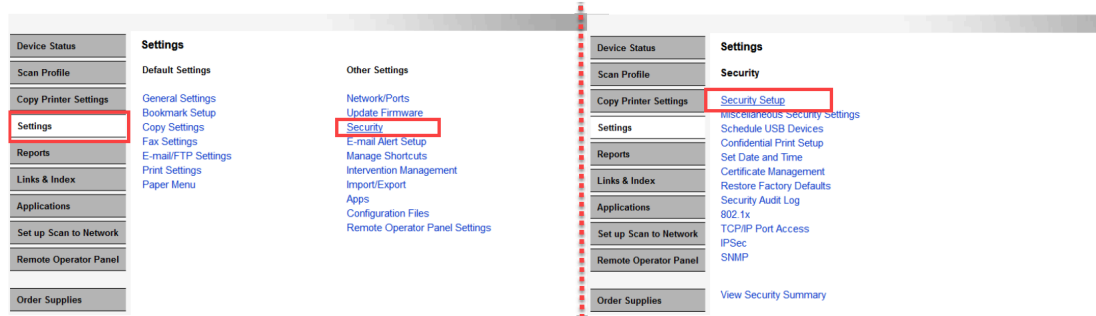
## Setup Basic Security on Lexmark Device running on Framework 3.x/ 4.x

1. In the browser address bar, enter the IP address of the printer in the format shown below:

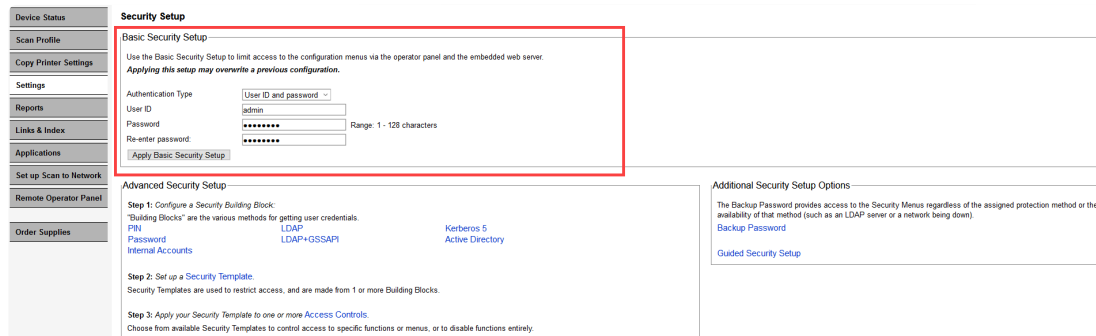
*https://Device\_IP\_Address*

The device Embedded Web Server page opens.

2. Click **Settings** in the left panel, then go to **Other Settings > Security > Security Setup**.



3. In the **Basic Security Setup** section, select **User ID and password** option as **Authentication Type**.
4. Set the User ID and password and click **Apply Basic Security Setup**.



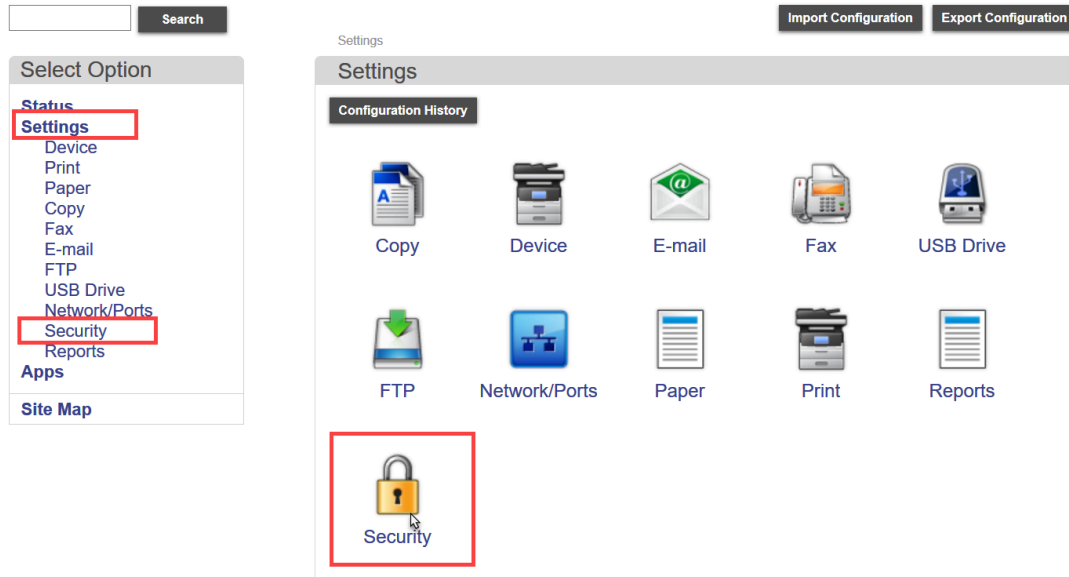
## Setup Basic Security on Lexmark Device running on Framework 5.x/ 6.x

1. In the browser address bar, enter the IP address of the printer in the format shown below:

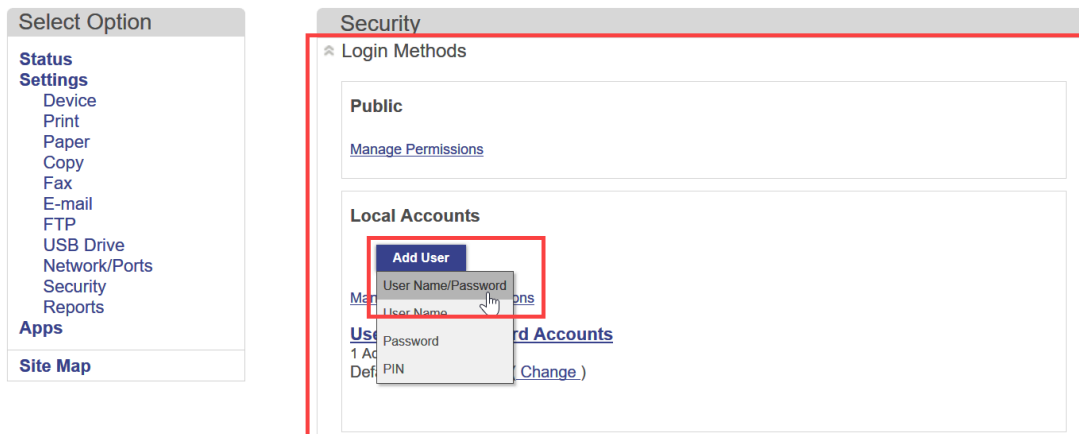
*https://Device\_IP\_Address*

The device Embedded Web Server page opens.

2. Click Settings in the left panel, then click Security and open Login Methods block.

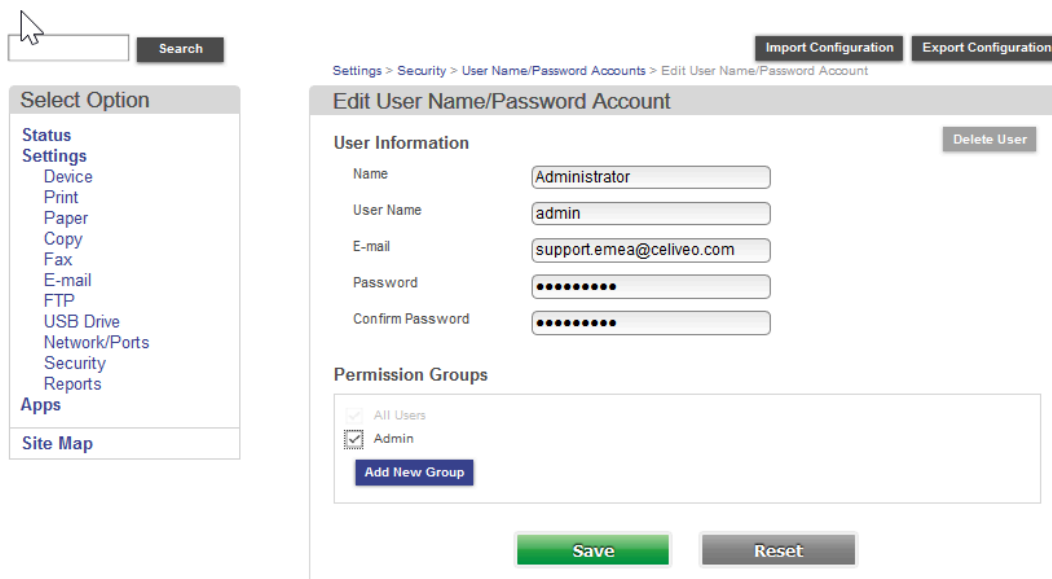


3. Under **Local Accounts** section, click **Add User** button.



4. Fill in user information such as name, username, e-mail, password etc.

5. Select **Admin** checkbox under **Permission Groups**, and click **Save**.



6. Go back to **Security**.

7. In the **Public** section, click **Manage Permission** link.

8. Uncheck all "Administrative Menus," "Device Management" and "Apps" controls.

9. Uncheck all Function Access that you want to be restricted.

10. Then, click **Save**.

The screenshot shows the 'Manage Permissions' web interface. On the left, there is a 'Select Option' menu with the following items: Status, Settings, Device, Print, Paper, Copy, Fax, E-mail, FTP, USB Drive, Network/Ports, **Security** (highlighted with a red box), Reports, Apps, and Site Map. The main content area is titled 'Manage Permissions' and contains a section for 'Access Controls'. This section has several expandable/collapsible items, each with a checkbox: Function Access, Administrative Menus (expanded), Security Menu, Network/Ports Menu, Paper Menu, Reports Menu, Function Configuration Menus, Supplies Menu, Option Card Menu, SE Menu, Device Menu, Device Management (expanded), Remote Management, Firmware Updates, Apps Configuration, Operator Panel Lock, Import / Export All Settings, Out of Service Erase, and Apps. A red box highlights the 'Security' menu item in the sidebar and the 'Access Controls' section in the main area. At the bottom of the main area are 'Save' and 'Reset' buttons. The top right of the interface has 'Import Configuration' and 'Export Configuration' buttons.

## Enable Lexmark Logs

Enabling the Lexmark device logs helps in detecting and diagnosing a problem.

To enable device logs on the Lexmark device:

1. In the browser address bar, enter the IP address of the device in the format shown below:  
[https://Device\\_IP\\_Address/se](https://Device_IP_Address/se)  
 For example: <https://192.168.8.82/se>  
 The Lexmark Embedded Web Server page opens.
2. Login as Admin user.
3. Click on [Embedded Solutions](#), then click on **Set Logging Level**.

### Menu Options

- [Log File](#)
- [Clear Log File](#)
- [Set Logging Level](#)
- [Bundle Information](#)
- [Printer Status](#)
- [USB Information](#)
- [Stack trace and monitor info](#)

4. Click **Yes** option to allow debugging entries in the log, then **Submit**.
5. Repeat the above step.
6. Go back to [Embedded Solutions](#), then select **Log File**.
7. Copy all the solution logs and send it to the [Celiveo Support](#) team.
8. After the solution logs are copied, return to step 3.

- Click on **Default** option, then **Submit**.

## Reset Factory

### Reset Factory on Lexmark Device running on Framework 3.x / 4.x:

To enable device logs on the Lexmark device:

- In the browser address bar, enter the IP address of the device in the format shown below:  
*https://Device\_IP\_Address*  
For example: *https://192.168.8.82*  
The Lexmark Embedded Web Server page opens.
- Login as Admin user.
- Click **Settings** in the left panel, then click on **Security**.
- Click “Restore Factory Defaults”, then click on Erase Printer Memory.
- Check “This operation will clear all settings, solutions, jobs, and faxes on this printer, and restore to factory defaults. I understand and wish to continue.”
- Then click **Erase**.

**Settings**

**Erase Printer Memory**

☒ This operation will clear all settings, apps, and jobs on this printer and restore to factory defaults. I understand and wish to continue.

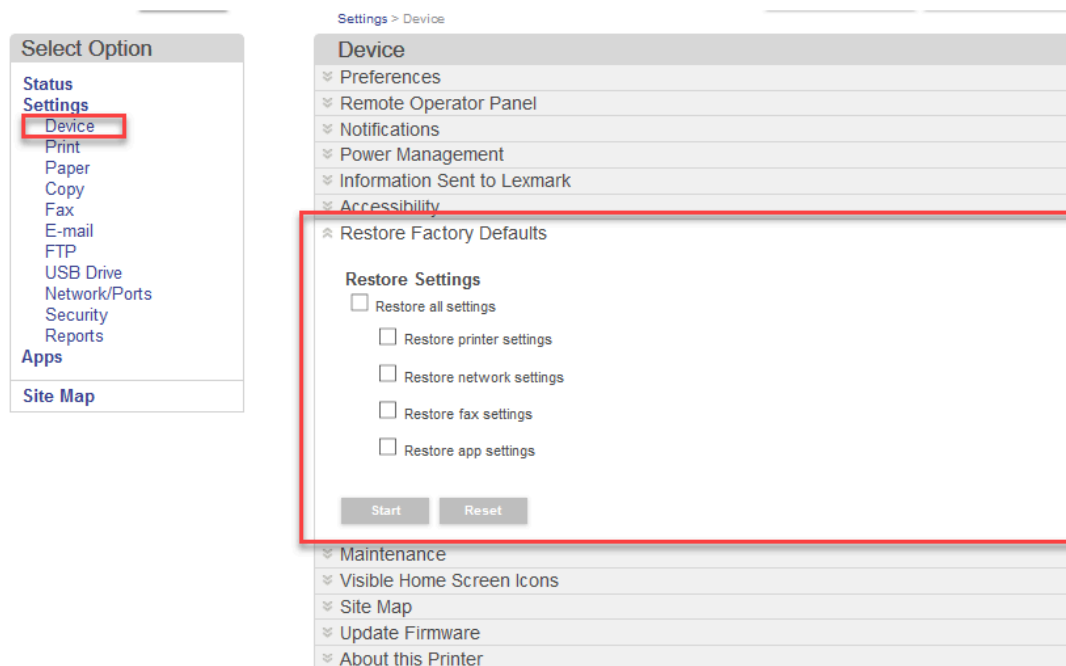
Erase

Reset Form

### Reset Factory on Lexmark Device running on Framework 5.x / 6.x:

- In the browser address bar, enter the IP address of the device in the format shown below:  
*https://Device\_IP\_Address*  
For example: *https://192.168.8.82*  
The Lexmark Embedded Web Server page opens.
- Login as Admin account.
- Then click on **Device** on the left panel.
- Go to **Restore Factory Defaults** block.
- Check the required settings and click **Reset**.
- Confirm the action when prompted.





## Timeout Settings

This configuration is necessary to ensure that the connection between the printer and Celiveo Smart Appliance is not disrupted.

### Configure Timeout settings on Lexmark Device running on Framework 3.x / 4.x:

1. In the browser address bar, enter the IP address of the device in the format shown below:  
*https://Device\_IP\_Address*  
For example: *https://192.168.8.82*  
The Lexmark Embedded Web Server page opens.
2. Login as Admin user.
3. Click **Settings** in the left panel, then click go to **General Settings > Timeouts**.
4. Under the **Timeouts** section, make sure that **Do not Hibernate** is selected for **Hibernate Timeout on Connection**.
5. Configure the settings as shown in the image below:

Device Status	Settings	
Scan Profile	Timeouts	
Copy Printer Settings	Standby Mode +	15 <small>Range: 1 - 240 minutes. Length of inactivity before entering Standby power level.</small>
Settings	Sleep Mode +	30 <small>Range: 1 - 60 minutes.</small>
Reports	Print with Display Off	Display on when printing
Links & Index	Hibernate Timeout	20 minutes
Applications	Hibernate Timeout on Connection	Do Not Hibernate
Set up Scan to Network	Screen Timeout	100 <small>Seconds of inactivity before panel returns to Home screen. Range: 15-300 seconds.</small>
Remote Operator Panel	Print Timeout	90 <small>Range: 1-255 seconds, Disabled = 0.</small>
	Wait Timeout	40 <small>Range: 15-65535 seconds, Disabled = 0.</small>
	<input type="button" value="Submit"/> <input type="button" value="Reset Form"/>	
	+ Printer must be in the Ready State prior to submit.	

6. Click **Submit**.

### Configure Timeout settings on Lexmark Device running on Framework 5.x / 6.x:

1. In the browser address bar, enter the IP address of the device in the format shown below:

[https://Device\\_IP\\_Address](https://Device_IP_Address)

For example: <https://192.168.8.82>

The Lexmark Embedded Web Server page opens.

2. Log into Admin account.
3. Then click **Device** on the left panel.
4. Go to **Power Management** block.
5. In the **Timeouts** section, select **Do Not Hibernate** for **Hibernate Timeout on Connection**.
6. Select the configurations as shown in the image below:

The screenshot displays the Lexmark Embedded Web Server interface. On the left, a sidebar titled 'Select Option' contains a 'Settings' section with 'Device' highlighted. The main content area is titled 'Device' and shows the 'Power Management' section. Under 'Sleep Mode Profile', the 'Print With Display Off' setting is 'Allow printing with display off'. In the 'Timeouts' section, 'Sleep Mode' is set to '1' (Range: 1-120 minutes) and 'Hibernate Timeout' is set to '1 Hour'. The 'Hibernate Timeout on Connection' is set to 'Do Not Hibernate'. Below this, the 'Eco-Mode' is set to 'Energy'. At the bottom, there is a 'Schedule Power Modes' section with a table for adding schedules. The table has columns for 'Action', 'Day(s)', and 'Time'. Below the table are 'Add', 'Clear', 'Save', and 'Reset' buttons.

Action	Day(s)	Time
----	----	----

Buttons: Add, Clear, Save, Reset

7. Click **Save**.

*Last modified: 8 September 2020*

# 7.10.3. Embedded Agent for Ricoh Android SOP 2.x MFP

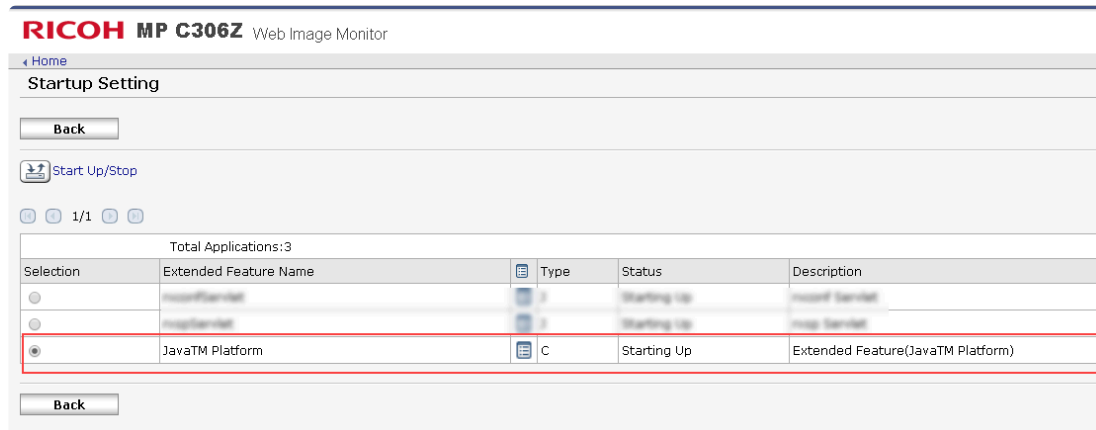
## Contents

1. [Prerequisites](#)
2. [Configure the printer before installing the Embedded Agent](#)
3. [Configuring the printer using Web Image Monitor](#)
4. [Connecting Celiveo Authentication Hardware \(Card Reader\) to the printer device.](#)

## 1. Prerequisites

Before you install, make sure these prerequisites are met:

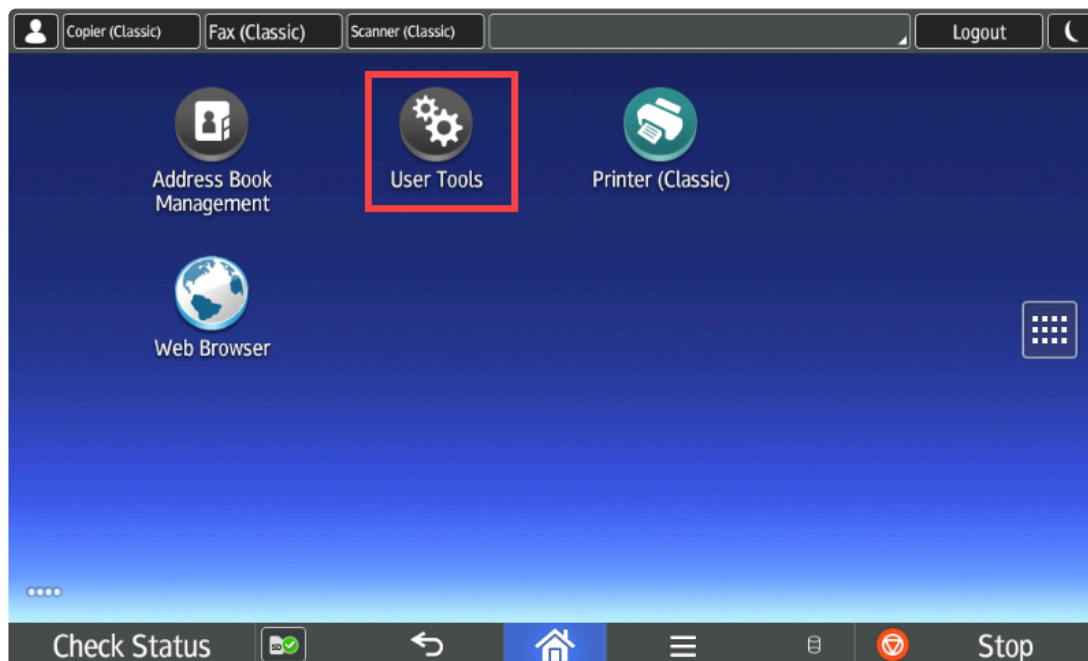
- The printer is connected to an active LAN connection.
- The printer has a fixed IP or DHCP reserved IP address.
- The network allows management by Simple Network Management Protocol (SNMP) v1/v2.
- Enable HTTPS for Ricoh secure access.
- JRE (Java SE Runtime Environment) 8 is installed on the virtual machine where the Celiveo solution (Web Admin) is hosted.
- Non-API Environment: SQL Server is configured to listen to port 1433 for TCP/IP connections.
- API Environment: SQL Server can be configured with using dynamic Port. Click [here](#) to download the API Package which to be installed on the same machine as hosted the Web Admin.
- Java TM platform is enabled on the printer (this is applicable for SOP2.0 Ricoh Models ONLY).



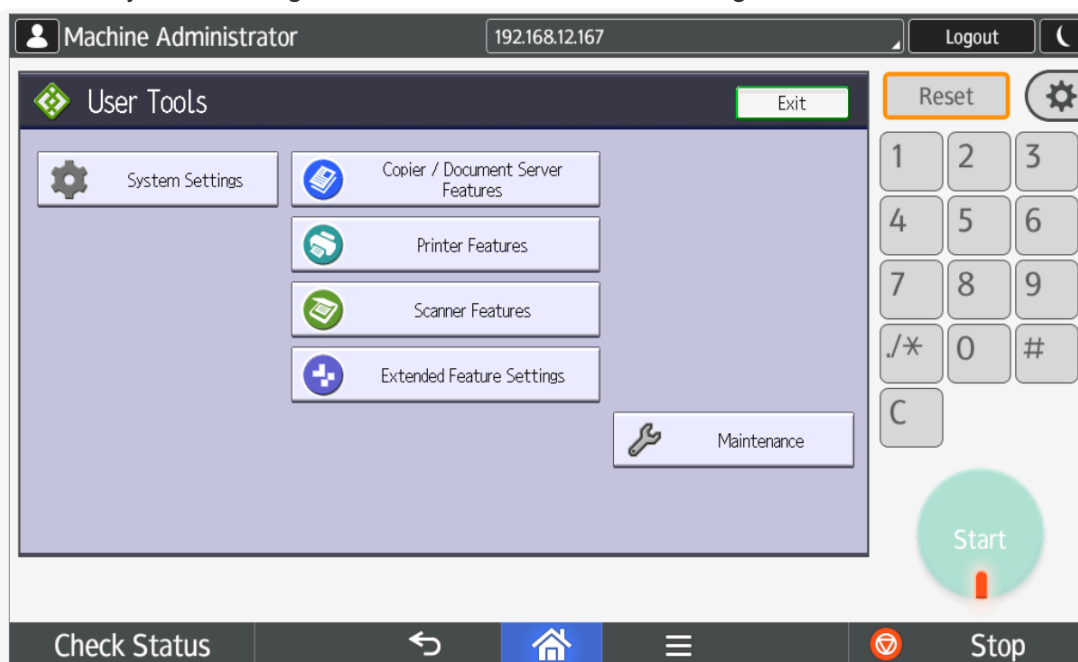
## 2. Configure the printer before installing the Embedded Agent

### 2.1 Configure network settings (IP and DNS settings)

1. Press User Tools, then select Machine Features.



2. When prompted, enter a valid username and password.
3. Choose System Settings and then select Interface Settings tab.



Machine Administrator Host Name: RNP002673B476B0 Logout

System Settings Exit

General Features Tray Paper Settings Timer Settings **Interface Settings** File Transfer Administrator Tools

Network Print List

Machine IPv4 Address	192.168. 12.167	DNS Configuration	Specify
IPv4 Gateway Address	192.168. 12. 5	DDNS Configuration	Active
Machine IPv6 Address		IPsec	Inactive
IPv6 Gateway Address	::	Domain Name	
IPv6 Stateless Address Autoconfiguration	Inactive	WINS Configuration	On
DHCPv6 Configuration		Effective Protocol	

1 / 2 Previous Next

Check Status Stop

Start

4. Press DNS Configuration
5. Enter the required DNS settings for your network.

Machine Administrator Logged in: Machine Administrator Logout

System Settings Exit

DNS Configuration Cancel OK

Select item.

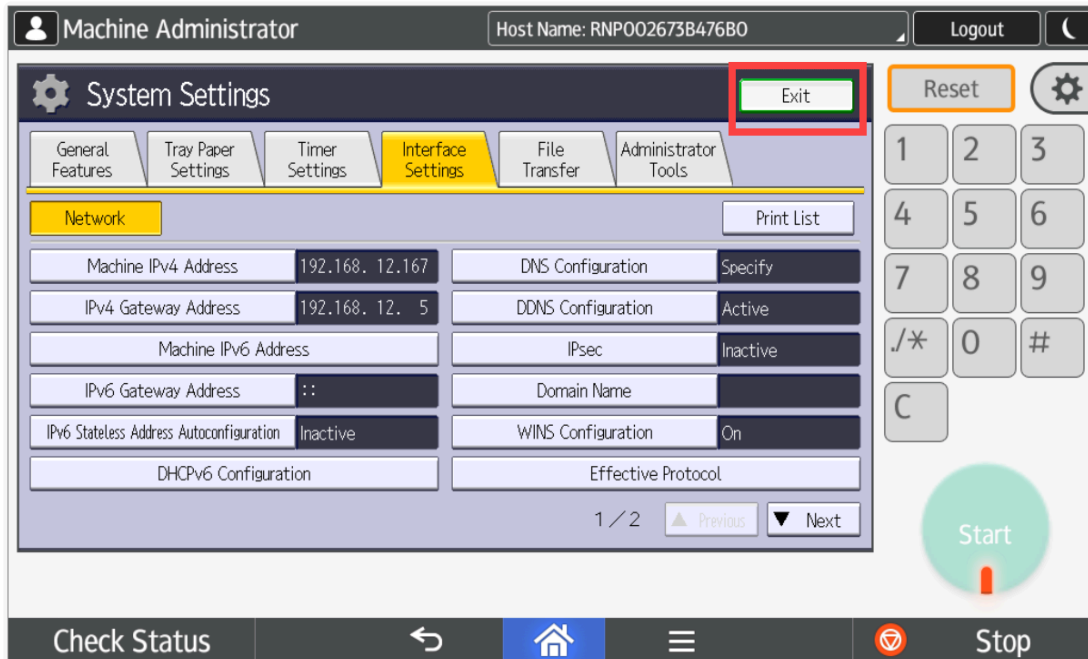
Auto-Obtain (DHCP) Specify

► DNS Server 1	192. 168. 12. 200	Change	Connection Test
► DNS Server 2	0. 0. 0. 0	Change	Connection Test
► DNS Server 3	0. 0. 0. 0	Change	Connection Test

Check Status Stop

Start

6. To apply the settings, press [Exit] button.



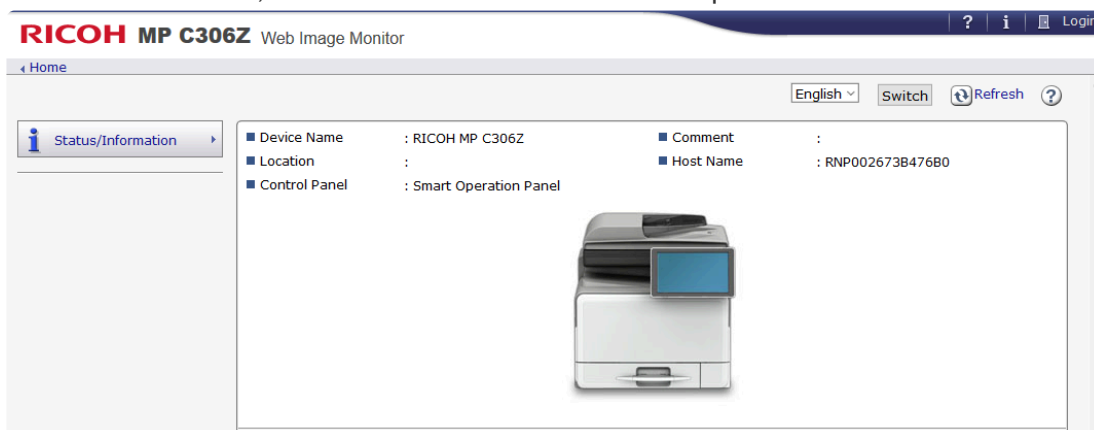
\* **Note:** Ensure that Celiveo Web Admin and Ricoh printer are in the same network, i.e. they are connected to the same DNS server and have network accessibility to each other.

### 3. Configure Ricoh Android printer through Web Image Monitor

Follow these instructions to configure the Ricoh printer through Web Image Monitor.

#### 3.1 Login to printer

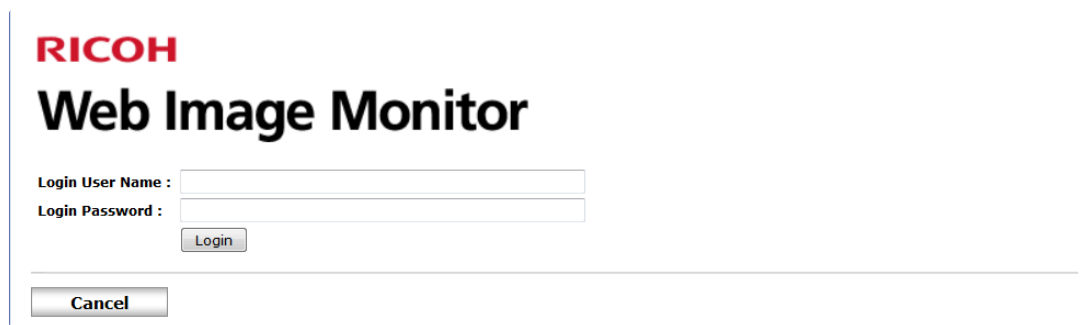
1. At the web browser, enter the IP address of the Ricoh printer.



2. On the printer home page, click **[Login]**.
3. When prompted, enter a valid administrator username and password.

\* **Note:** Ensure that the same login credentials are entered when adding the printer in

## Celiveo Web Admin.



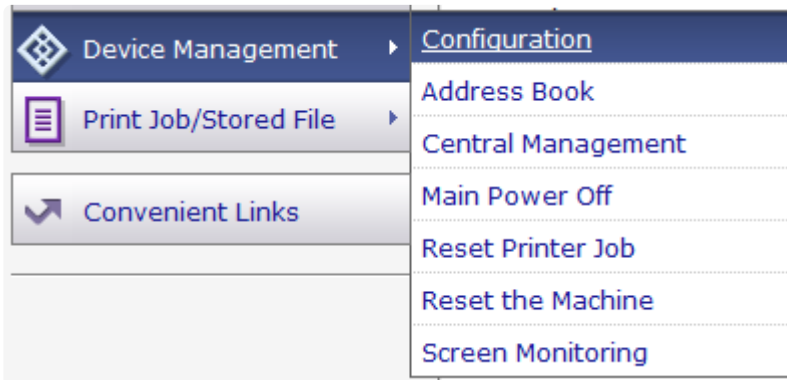
**RICOH**  
**Web Image Monitor**

Login User Name :   
Login Password :

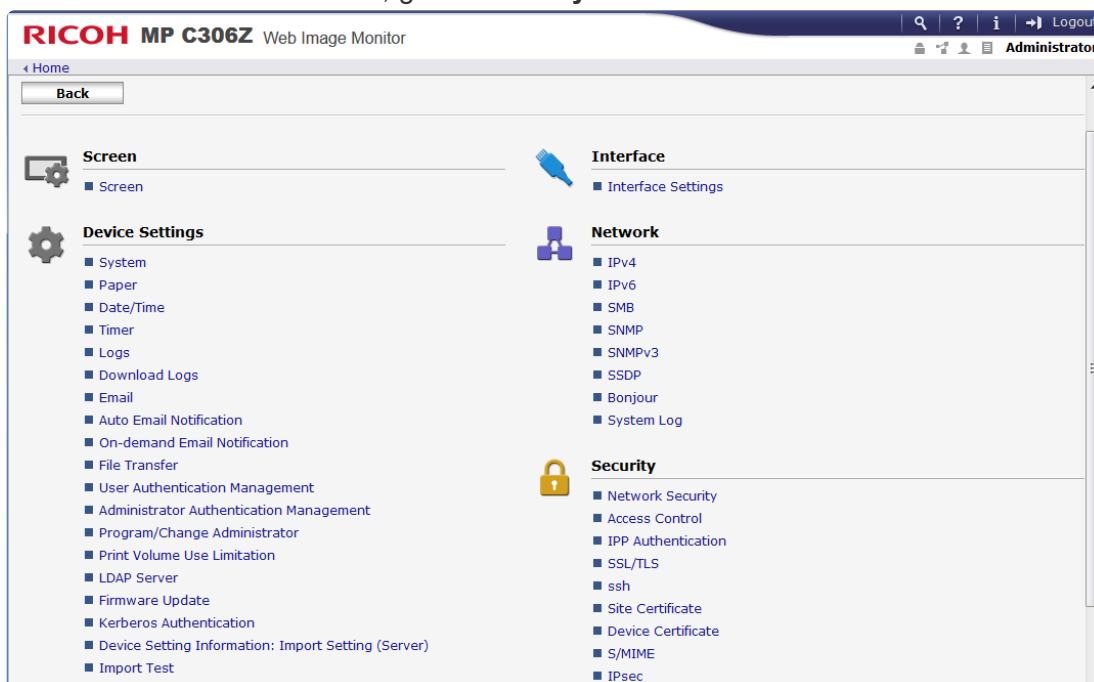
- Click **[Login]**.

### 3.2 Enable SSL from Web Image Monitor

- Login to the printer's Web Image Monitor.
- Go to **Device Management > Configuration**.



- To create a device certificate, go to **Security > Device Certificate**.



- Select the radio button for **Certificate1** and click **Create**.
- Enter the required information and click **OK**.

**RICOH MP C306Z Web Image Monitor**

← Home

**Certificate Information**

OK Cancel

■ Certificate No. : 1  
 ■ Common Name : RNP002673B476B0 (Important: You must enter within 64 alphanumerics.)  
 ■ Organization : (Optional: You may enter within 64 alphanumerics.)  
 ■ Organizational Unit : (Optional: You may enter within 64 alphanumerics.)  
 ■ Email Address : (Optional: You may enter within 128 alphanumerics.)  
 ■ City/Locality : (Optional: You may enter within 128 alphanumerics.)  
 ■ State/Province : (Optional: You may enter within 128 alphanumerics.)  
 ■ Country Code : SG (Important: You must enter within 2 alphabetical characters.)  
 ■ Validity Start Date : 27 day 05 month 2016 year  
 ■ Validity Period : 1 year  
 ■ Algorithm Signature : sha1WithRSA-2048

OK Cancel

6. Click **Home**.
7. Go to **Device Management > Configuration > Network Security**.
8. At **SSL/TLS – Port 443**, select **Open**. Then click **OK**.

← Home

**Network Security** Refresh ?

OK Cancel

■ Security Level : User Settings ▼

**TCP/IP**

		IPv4	IPv6
TCP/IP		Active	<input type="radio"/> Active <input checked="" type="radio"/> Inactive
HTTP	Port 80	<input checked="" type="radio"/> Open <input type="radio"/> Close	<input checked="" type="radio"/> Open <input type="radio"/> Close
IPP	Port 80	<input checked="" type="radio"/> Open <input type="radio"/> Close	<input checked="" type="radio"/> Open <input type="radio"/> Close
	Port 631	<input checked="" type="radio"/> Open <input type="radio"/> Close	<input checked="" type="radio"/> Open <input type="radio"/> Close
	Port 443	<input checked="" type="radio"/> Open <input type="radio"/> Close	<input checked="" type="radio"/> Open <input type="radio"/> Close
SSL/TLS	Permit SSL/TLS Communication	Ciphertext Priority ▼ To select [Ciphertext Only], a device certificate is necessary.	

## 4. Connecting Celiveo Authentication Hardware to the Printer device

Celiveo Authentication Hardware refers to the card readers that are used to authenticate users on the device.

These card readers are supported by default; no manual setup is required on the printer:

Manufacturer	Model	VID/PID
HID	Omnikey 5427ck	076b/5428
HID		076b/5128
Ricoh supported Reader		0c27/3bfa
		19e5/0002

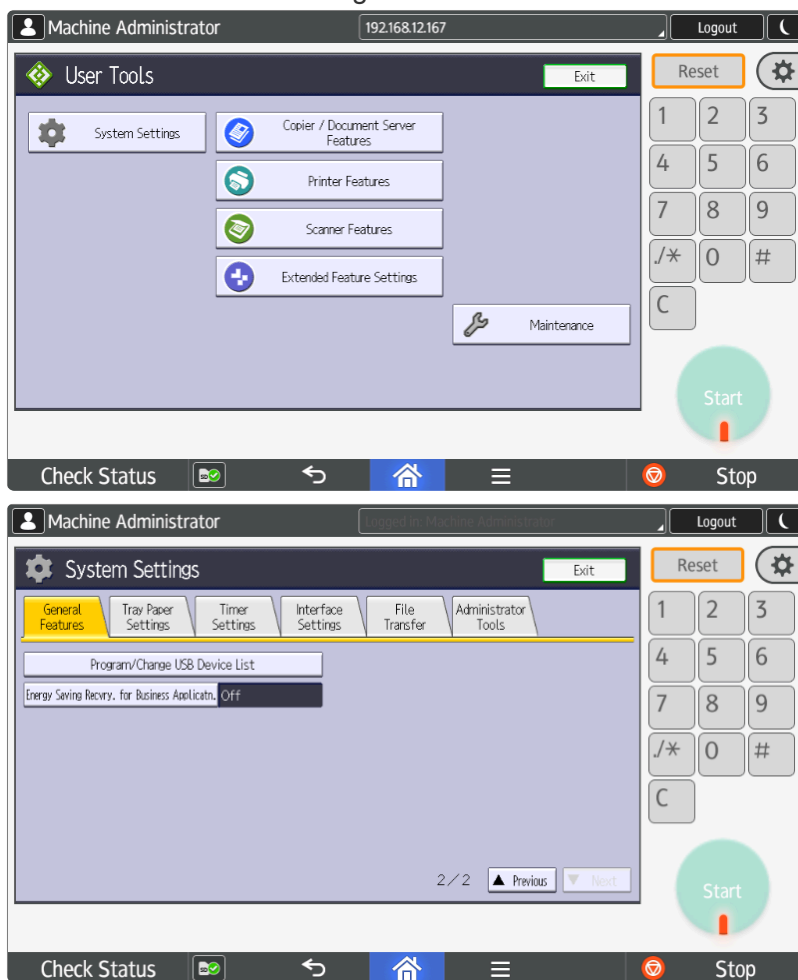


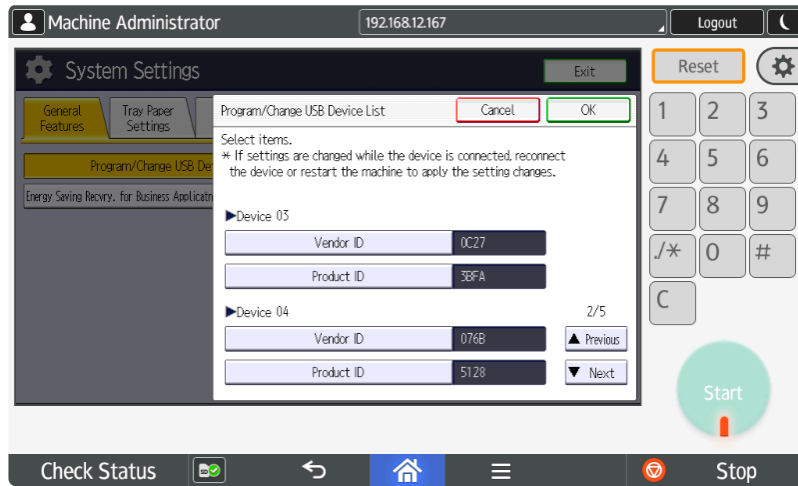
		0c27/3b24
		076b/5427
		09D8/0410

## Configuring additional Vendor ID and Product ID at the Printer

Before connecting the Celiveo Authentication Hardware, you need to configure the Vendor ID and Product ID (VID/ PID) at the printer. This is a one-time configuration.

1. At the printer panel, login as Machine Administrator.
2. Go to **System Settings > Program/ Change USB Device List**
3. Select a **Device** item and enter the **Vendor ID** and **Product ID**
4. Click **OK** to save the settings.





## Connect to device

The Celiveo Authentication Hardware can be connected the Ricoh Android printer device using the USB or mini-USB port available near the printer panel. Ricoh recommends to use the mini-USB slot to connect card readers to the printer.

### To connect Celiveo Authentication Hardware

1. Switch off the device and disconnect the power cable.
2. Locate the mini-USB slot connector.
3. Connect a USB or mini-USB cable from the Celiveo Authentication Hardware to the mini-USB port on the device.
4. Connect the device to the power cable.
5. Switch on the device.

*Last modified: 10 September 2020*

## 7.10.4. Xerox

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### System Requirements

The system requirements for installing Celiveo 8 solution can be found [here](#).

### Ports and Communication

A comprehensive list of all the ports used by Celiveo solutions, describing the ports and applications used for communication between the Celiveo components that consist of the Celiveo Server Services, Web Admin Server, Active Directory, Database (SQL) server, the device, and the PC/laptop/workstation can be found [here](#).

✳ Xerox printers use HTTP protocol for communicating between Celiveo Smart Appliance and printer device.

### Prerequisites

Before you install, make sure these prerequisites are met:

- The device is connected to an active LAN connection.
- The device has a fixed IP or DHCP reserved IP address.
- The network allows management by Simple Network Management Protocol (SNMP) v1/v2.
- Enable HTTPS for Xerox secure access.
- For some Xerox devices, enable “Custom services” if it is not an in-built option.
- From the device embedded web services, set the device session time to be longer than the default Celiveo Web Admin inactivity time out (30 sec).
- Xerox devices require (EIP) Extensible Interface Platform 1.5 or higher and (JBA) Job Based Accounting to run the Celiveo solution.
- The Celiveo Smart Appliance is connected to the device.

### Configuring CSA

By default, the CSA is set in DHCP mode. You can also opt for fixed IP network settings.

The steps to configure CSA for DHCP and for fixed IP network settings can be found [here](#).

### Celiveo Version upgrade on CSA

Follow the procedure given [here](#) to upgrade the Celiveo Version on CSA.

## Configure Xerox WorkCentre devices in CentreWare

# Internet Services

Follow these instructions to configure the Xerox WorkCentre device through CentreWare Internet Services:

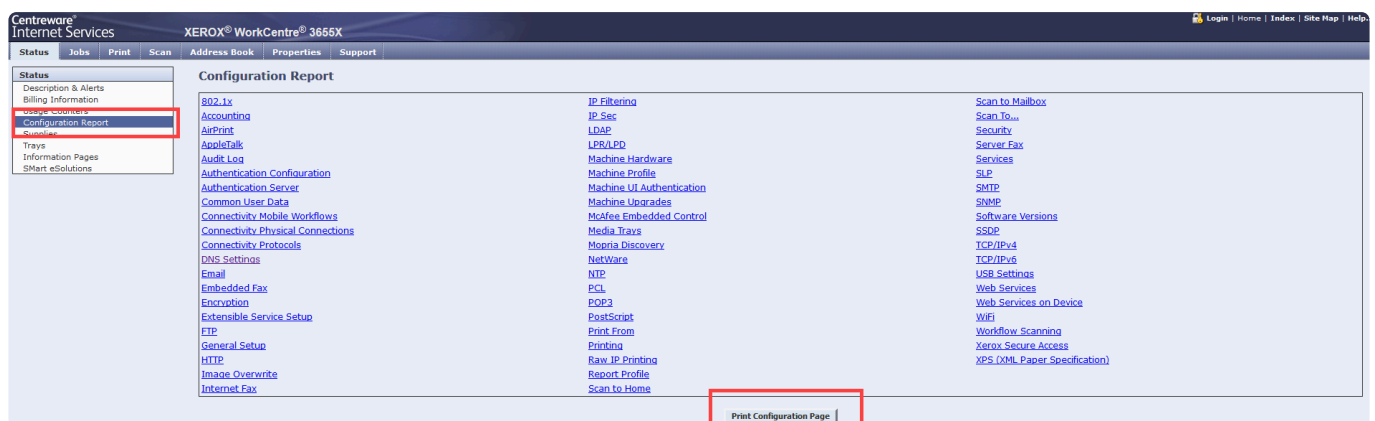
1. At the web browser, enter the IP address of the device.
2. Click Login, then enter a valid username and password.



**Note:** Refer the device manufacturer guide for default login credentials.

The Celiveo solution automatically configures the settings for the device.


Current device configuration settings are listed on the Configuration Page, and can be printed as a Configuration Report via that web page or the device local user interface.



To manually setup the connectivity settings:

1. Go to **Properties > Connectivity > Setup**
  2. Under **Network** section, verify that **Wired connection** profile is selected.
  3. Click the **Edit** icon to configure the IP settings for the device.
  4. Under the **IPv4** tab, in **General** section, select the **Enabled** checkbox for **Protocol**.
  5. Choose the **IP Address Resolution** from the drop down list.
  6. Enter the IP address for the device and other details, in case Static IP Resolution is selected.
- Refer to the image shown below.


## 7. Click **Apply**.

 **Note:** Changing the IP address will impact the protocols: NetBIOS/IP, LPR/LPD, FTP, SNMP and Raw TCP/IP Printing. These protocols will need to reference to the new IP address. Disabling TCP/IP will impact these protocols. The Web user interface will be disabled until the TCP/IP is re-enabled at the device control panel.

1. Similarly, you can configure the settings for IPv6. IPv6 is optional. This may be used in addition to, or in place of IPv4.
2. Select the **DNS** tab. Provide the Host name, Domain name, and DNS server addresses.
3. Click **Apply**.

## Memory Clear and Diagnostic Entry

This is an optional procedure. You may follow this process to clear the printer memory and restore the factory settings:

 **Note:** When performing Memory Clear, all the address books and mailboxes stored in the printer will be deleted and the device setting is reset to default.


As precaution, do the following before performing memory clear for the device:

1. Print the following reports:
  - Fax phone book
  - Local and group members e-mail address books.
  - System configuration.
2. To save the printer settings, export the fax address book, local and group email address books and then perform a cloning procedure through Xerox Web interface.

#### To perform Memory Clear on the device:


1. Select Copier Diagnostics > Memory Clear.  
Selecting Memory Clear will result in the following:
  - Mailboxes to be deleted.
  - Templates to be deleted from the hard disk.
  - NVM values to be reset to default.
  - Fax (if available) to be re-installed.
2. Import the fax address book, local and group email address books, and then install the clone file through Xerox Web interface.

## Diagnostic Entry

 **Note:** When the diagnostic mode is entered, all existing copy jobs are cancelled. If the machine is connected to network, the current job will be completed before diagnostic mode is entered. All scheduled jobs will be held in queue due to the machine being offline.

To enter **Diagnostics** mode in Workcenter model printers:


1. Switch on the device.
2. When the device is in the **Ready** state, on the device panel, press and hold **#** key and then press the **Log In/Out key**. The **Diagnostics Entry** screen opens.
3. Enter the password.

 **Note:** Refer to the device manufacturer guide for default password. Press the **C** key to clear an incorrect password entry. Three incorrect entries will cause the screen to lock for three minutes.

4. Select **Start** on the device panel.  
The Diagnostics Screen will be displayed.

To exit from Diagnostics:

1. Select the Close tab on the UI to exit from the dC procedures.
2. Select the Call Closeout button to exit diagnostics.
3. When the Call Closeout window is displayed, the following options are available:
  - Reset All Counters. The default is No. If the Yes button is touched, the following counters are reset:
    - Error Messages.
    - Last 40 Error Messages.
    - Total Images made after the last service call.
    - Exit Only (in 4265)
    - Exit and Reboot (in 4265)
    - Cancel (in 4265)
  - Reboot device. The default is Yes. Image processor, IOT, scanner, UI, DADF and Finisher are rebooted. Touch the **No** button if the device reboot is not needed.

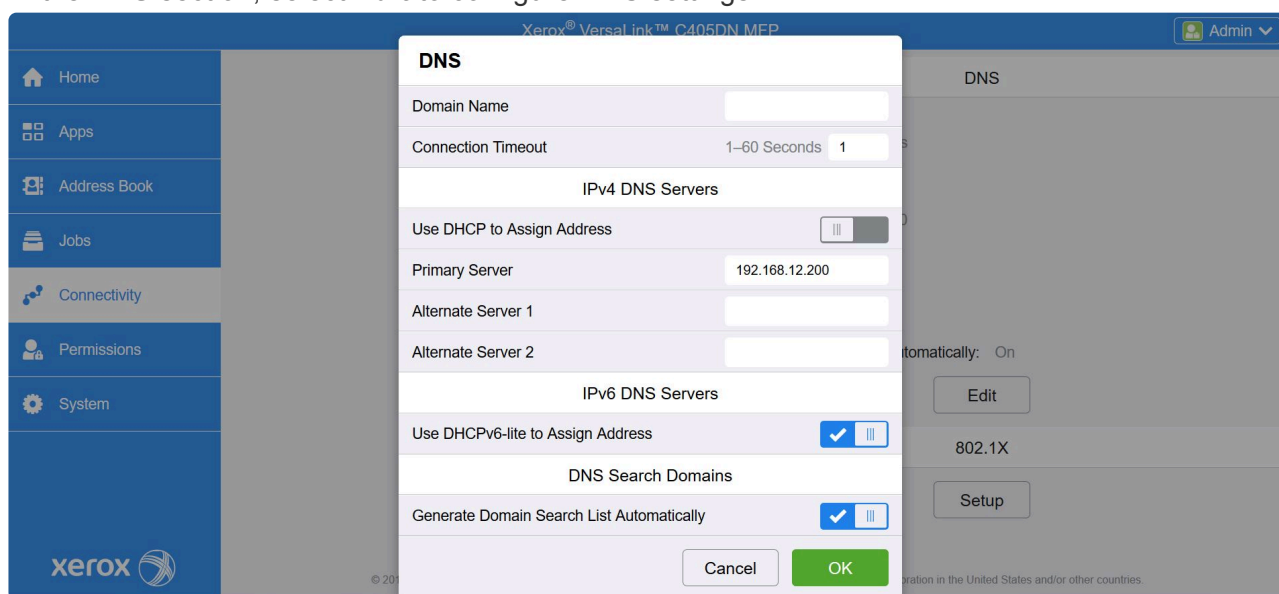
 **Note:** If the device is not rebooted, the exit time from diagnostics is decreased.

## Configure Xerox VersaLink Series devices via the Internet Services interface

1. Open a Web browser and enter http:// in the Address field
2. Log in with your Administrator credentials

### Connectivity Settings

1. On the left panel, select **Connectivity > Ethernet**.
2. In the **DNS** section, select **Edit** to configure DNS settings.

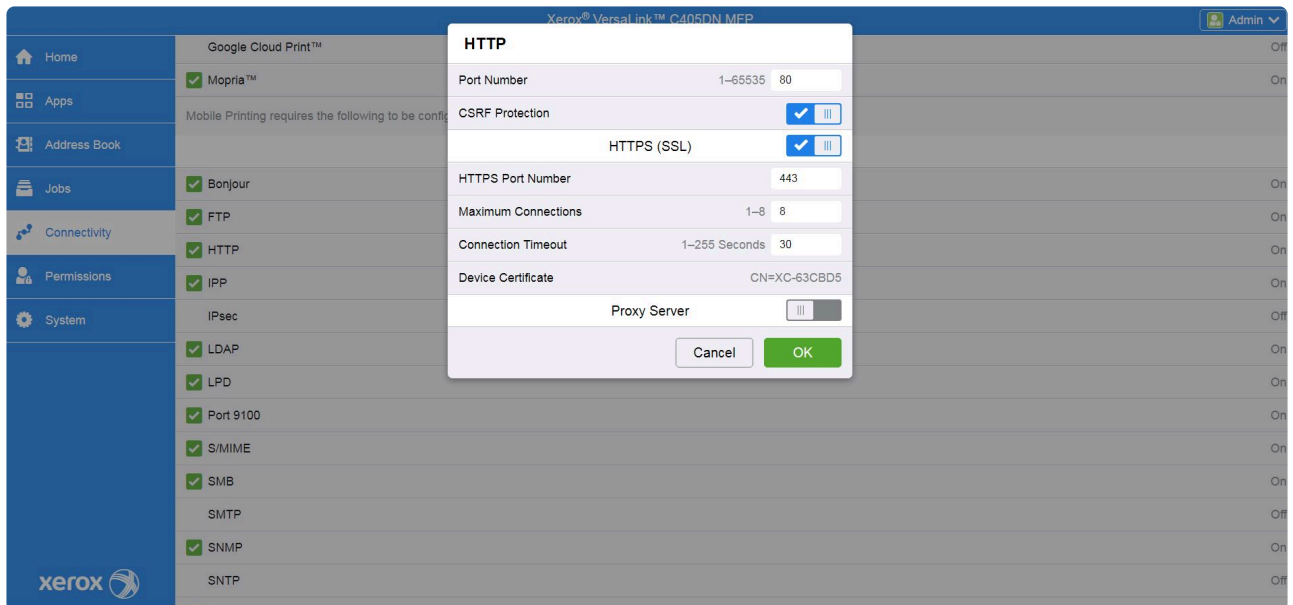


The screenshot displays the Xerox VersaLink C405DN MEP web interface. A modal window titled "DNS" is open, allowing configuration of network settings. The window includes the following fields and controls:

- Domain Name:** A text input field.
- Connection Timeout:** A dropdown menu set to "1" (range 1-60 Seconds).
- IPv4 DNS Servers:**
  - Use DHCP to Assign Address:** A toggle switch currently turned off.
  - Primary Server:** A text field containing "192.168.12.200".
  - Alternate Server 1:** An empty text field.
  - Alternate Server 2:** An empty text field.
- IPv6 DNS Servers:**
  - Use DHCPv6-lite to Assign Address:** A toggle switch currently turned on (checked).
- DNS Search Domains:**
  - Generate Domain Search List Automatically:** A toggle switch currently turned on (checked).

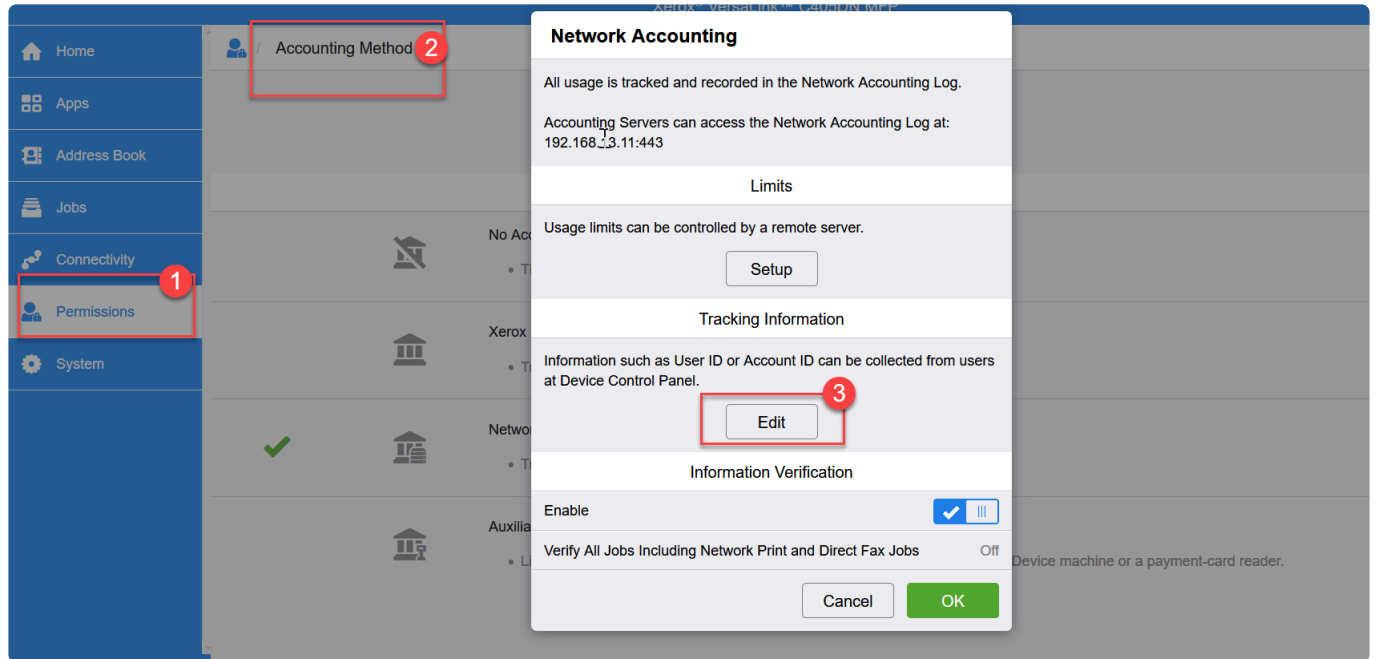
At the bottom of the modal are "Cancel" and "OK" buttons. The background interface shows a sidebar with navigation options: Home, Apps, Address Book, Jobs, Connectivity (selected), Permissions, and System. The main content area shows the "DNS" configuration page with an "Edit" button.

3. Once DNS settings are properly configured, click **OK** and go back to **Connectivity** and in the **Protocols** section, select **HTTP**.
4. Make sure the **HTTPS (SSL)** option is enabled and that the corresponding fields are filled.



## Permissions settings

Check that all permission parameters are correctly set:



1. Go to **Permissions > Accounting Method** and click the **Edit** button in the **Tracking Information** section.

Make sure that the **Ask Users** options under **User ID** (4) and **Account ID** (5) are **DISABLED**.



**Tracking Information**

**User ID**

Default Label: UserID

Default Value:

Ask Users: ☒ (4)

Mask Input: ☐

**Account ID**

Default Label: AccountID

Default Value:

Ask Users: ☒ (5)

Mask Input: ☐

**When to Prompt**

Select which functions will display the prompt.

Function	Setting
Copy	Always Prompt
Print	Always Prompt
Scan	Always Prompt

- In **Permissions**, click the **Edit** button next to **Guest Access** to configure the access permissions to non-authenticated users.

**Edit Role**

A Guest is anyone who is not currently logged into the Device.

**Control Panel Permissions**

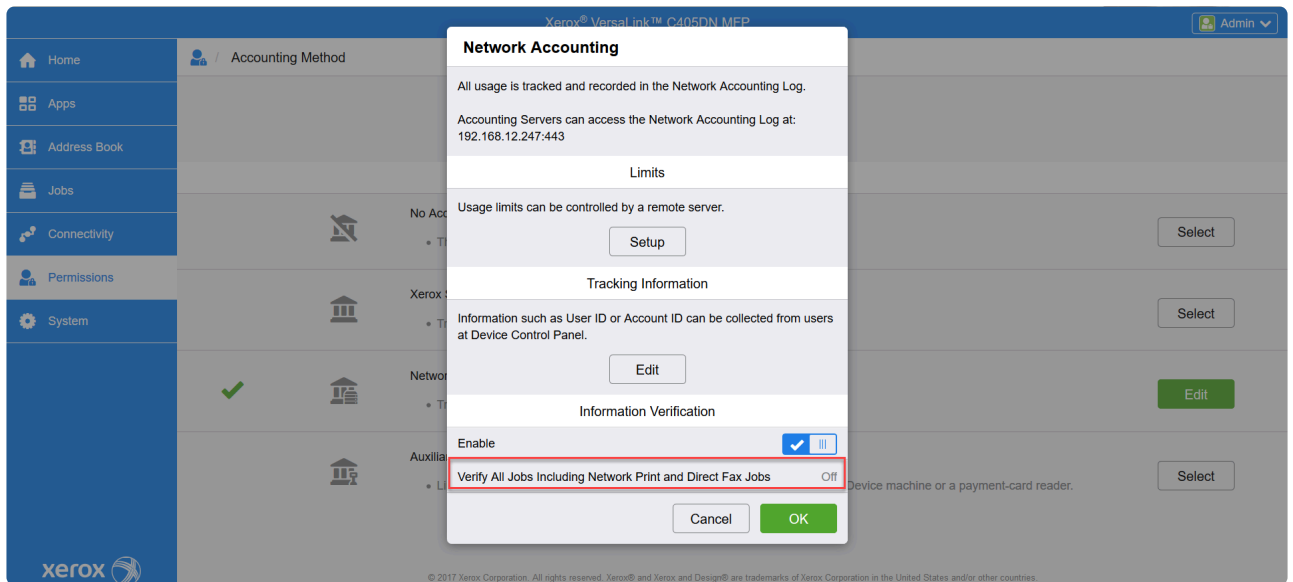
- ☐ No Access  
Users must log in to access anything.
- ☒ Everything Except Setup  
Users can access everything except setup and configuration functions.
- ☐ Copy Only  
Users can use Copy Apps only. No access to Scanning Apps, Printing Apps, status or set up functions.
- ☐ Access All  
Users can access all functions.
- ☐ Custom Permissions

**Device Website Permissions**

- ☒ Everything Except Setup  
Users can access everything except: Apps, Connectivity, Permissions, and System
- ☐ Home Only  
Users only have access to the Home page.
- ☐ Custom Permissions

Cancel OK

- Then go to the **Login/Logout Settings** menu and click the **Edit** button below **Advanced Settings**. Make sure the **Obtain User Information on Login** option is enabled.
- In **Permissions > Accounting Method**, click the **Edit** button next to **Network**.

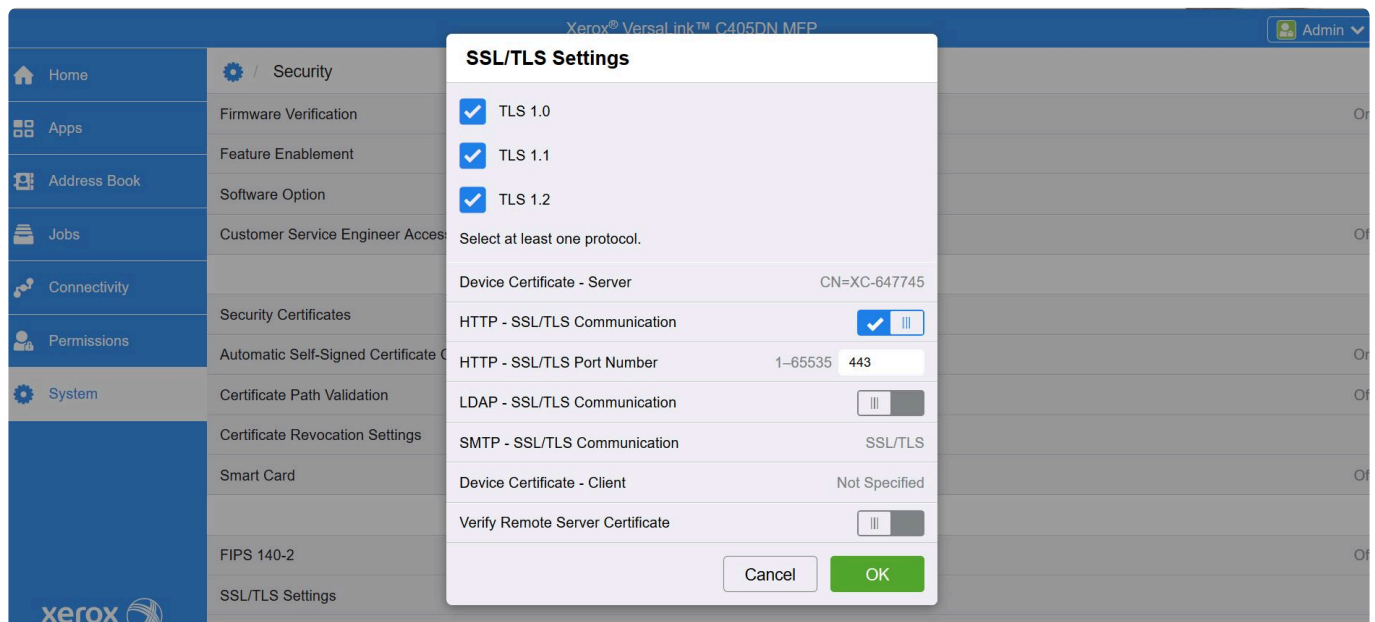


- Under **Information Verification**, make sure the **Verify All Jobs Including Network Print and Direct Fax Jobs** option is disabled.

**! Attention:** This setting is mandatory. Enabling the **Verify All Jobs Including Network Print and Direct Fax Jobs** would prevent print jobs from being released.

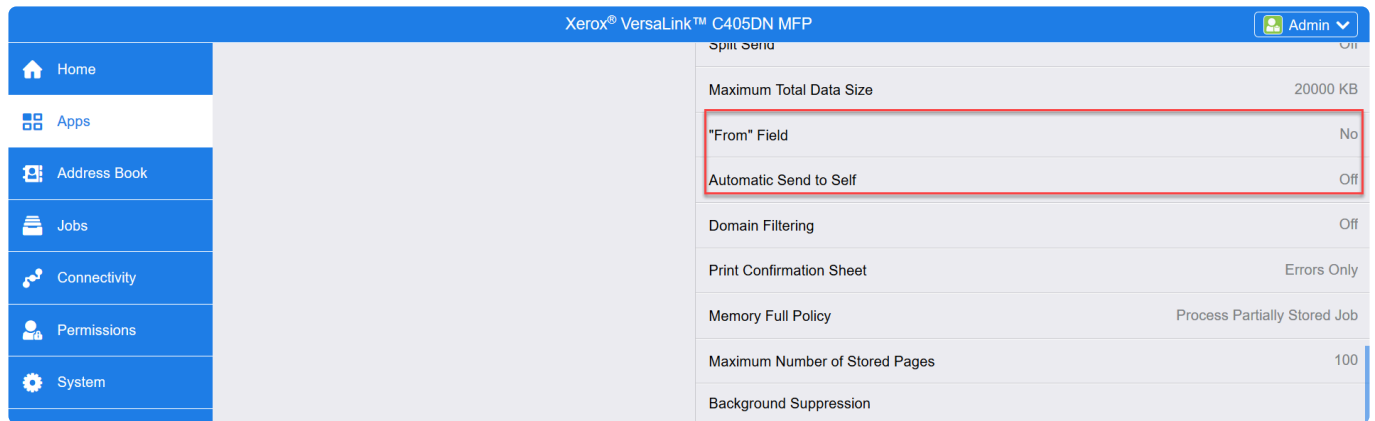
## System Settings

In the left menu, select **System > Security > SSL/TLS Settings** then configure the options as shown below:



## Scan to Email Settings

In the left menu, select **Apps > Email** and make sure the **“From” Field** and **Automatic Scan to Self** options are disabled.



## Resetting the Printer Settings

**! CAUTION : Reset to Factory Defaults** erases all settings and returns the printer to the original factory state. All jobs, presets, apps, and device settings are reset. When finished, the printer restarts and the Install Wizard starts to guide you through the setup process.

1. At the printer control panel, log in as administrator, then press the **Home** button.
2. Touch **Device > Resets**.
3. To reset the settings for 802.1X and IPsec, touch **Reset 802.1X and IPsec**.
4. At the confirmation message, touch **Reset**.
5. To delete all the downloaded fonts, forms, and macros from the printer memory storage, touch **Reset Fonts, Forms, and Macros**.
6. At the confirmation message, touch **Reset**.
7. To reset the printer to factory defaults, touch **Reset to Factory Defaults**.
8. At the confirmation message, touch **Reset**.

**Source:** Xerox® VersaLink® Series Multifunction and Single Function Printers System Administrator Guide available at [http://download.support.xerox.com/pub/docs/6510/userdocs/any-os/en\\_GB/VersaLink\\_series\\_sag\\_en-us.pdf](http://download.support.xerox.com/pub/docs/6510/userdocs/any-os/en_GB/VersaLink_series_sag_en-us.pdf)

**! IMPORTANT:** After a factory reset, make sure to change the printer EWS admin password.

## Configure Xerox AltaLink Series devices via the Internet Services interface

Xerox Altalink devices do not need any additional configuration. The Default settings should be left as is.

## Limitations

Some Xerox printer screens do not feature Asian languages fonts and print job names may not appear

correctly if they contain such characters.

*Last modified: 23 December 2020*

## 7.10.5. HP

This section provides the information regarding the prerequisites, specific settings to be made on the HP device and the configurations to be performed on the device web server page for installation of Celiveo solution.

### System Requirements

#### FIRMWARE NOTES – IMPORTANT

**Important: Do not use HP Futuresmart firmware 4.9.0.1 on MFPs or 4.10.0.1 on SFPs as some problems have been encountered. You need to use more recent firmware (i.e. 4.10.0 on MFPs) or earlier for SFPs.**

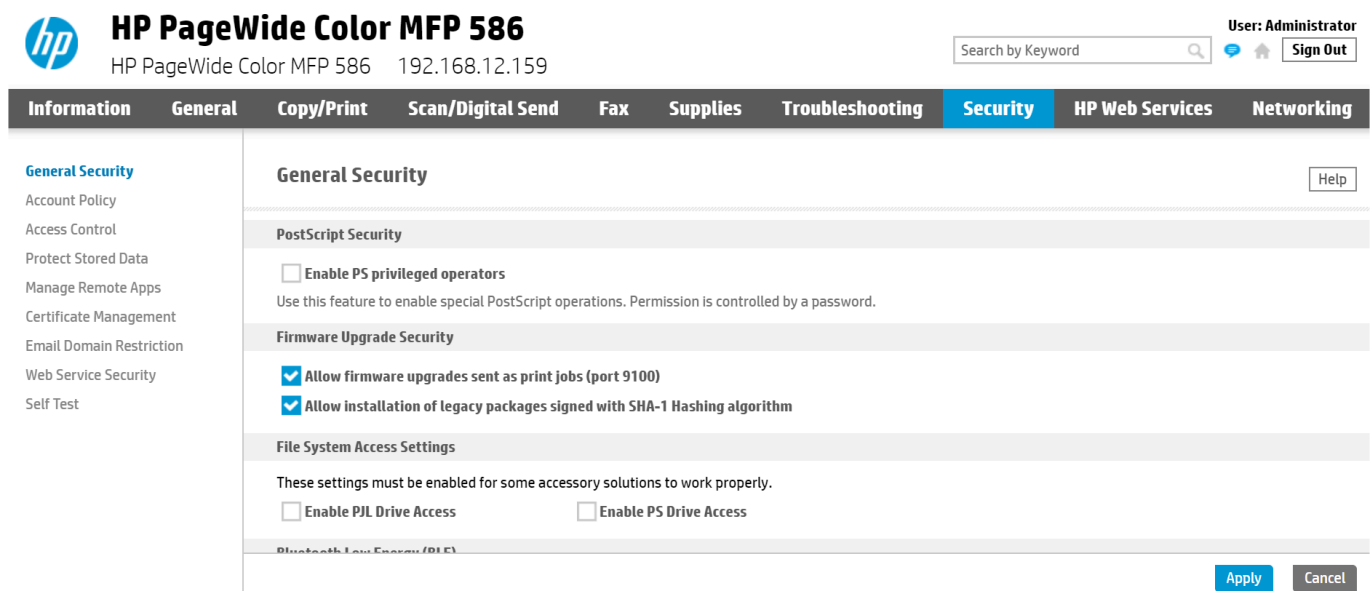
Link to HP printers firmware download page: <https://support.hp.com/us-en/document/c03933242>

#### 4.10 or later

If you are using HP Futuresmart firmware 4.10 or later, you need to disable port 9100 after the synchronization is complete.

This can be done through the EWS:

1. On the Printer panel, in Administrator mode, select **Security > General Security** and disable the **Allow firmware upgrades sent as print jobs (port 9100)** option.
2. Click **Apply**.



**HP PageWide Color MFP 586**  
HP PageWide Color MFP 586 192.168.12.159

User: Administrator  
Search by Keyword

**Information General Copy/Print Scan/Digital Send Fax Supplies Troubleshooting Security HP Web Services Networking**

**General Security**

**PostScript Security**

☐ Enable PS privileged operators  
Use this feature to enable special PostScript operations. Permission is controlled by a password.

**Firmware Upgrade Security**

☒ Allow firmware upgrades sent as print jobs (port 9100)  
☒ Allow installation of legacy packages signed with SHA-1 Hashing algorithm

**File System Access Settings**

These settings must be enabled for some accessory solutions to work properly.

☐ Enable P/L Drive Access ☐ Enable PS Drive Access

**Bluetooth Low Energy (BLE)**

#### Compatibility with HP Futuresmart 4.10.0 firmware

HP Futuresmart firmware 4.10.0.1 has a defect on HP Single Functions Printers (SFP) such as the M607/M608/M609.

It loads multiple times solutions instead of just once. This results in corrupted print job data.

This problem and the solution can easily be diagnosed by checking the printer configuration page, where repeated lines about Celiveo being “Enabled” appear. Solution: downgrade the printer firmware to a version earlier than 4.10.0.1, or upgrade the firmware when HP releases a fix.

#### **4.9.0.1**

**Do not use HP Futuresmart firmware 4.9.0.1 as some problems have been encountered. You need to stay with a 4.8.x.x firmware or earlier until a 4.9.x.x is released, that fully support added solutions.**

The system requirements for installing Celiveo 8 solution can be found [here](#).

## **Ports and Communication**

A comprehensive list of all the ports used by Celiveo solutions, describing the ports and applications used for communication between the Celiveo components that consist of the Celiveo Server Services, Web Admin Server, Active Directory, Database (SQL) server, the device, and the PC/laptop/workstation can be found [here](#).

 HP Printers use HTTPS protocol for communicating between Celiveo Smart Appliance and the printer device.

## **Prerequisites**

Before you install, make sure these prerequisites are met:

- The device is connected to an active LAN connection.
- The device has a fixed IP or DHCP reserved IP address.
- The network allows management by Simple Network Management Protocol (SNMP) v1/v2.
- From the device Embedded Web Services (EWS) page, set the device session time to be longer than the default Celiveo Web Admin inactivity time out (30 sec).

## **Configuring CSA**

 **Note:** This configuration is necessary for HP printers that do not belong to FutureSmart category.

By default, the CSA is set in DHCP mode. You can also opt for fixed IP network settings.

The steps to configure CSA for DHCP and for fixed IP network settings can be found [here](#).

## Celiveo Version upgrade on CSA

Follow the procedure given [here](#) to upgrade the Celiveo Version on CSA.

## Limitations

HP PageWide Pro and HP OfficeJet Pro models are only supported for ID to Print All.

For print jobs stored on the printer HDD (secure push printing) the “Print B&W” and printer print rules do not apply as of today.

## Push Printing

In Push Printing, jobs are sent to the device for authentication and release. Push Printing is convenient as it makes a powerful serverless secure printing solution. On the other hand, the limited hard disk drive capacity on a device can be an issue as compared to that of a server, if large jobs are to be retained. The print jobs can also be released only from the device where they are stored.

*Push Printing is supported on HP devices with a hard disk drive, and a minimum disk space of 30GB. The Push Printing feature is not supported on CM8050 and CM8060 multi-function printers. Printers must have storage media (HDD, USB stick) with 50MB free, and an active TCP-IP LAN connection.*

*A special driver plug-in to benefit from the Secure Push Printing feature is available in the [Downloads](#) section.*

## HP Printer Setup

### 1. Configuring Settings on the Device

On initializing the HP printer, the date and time, location, and language need to be set for the device. This is done through the device's control panel.

**To configure initial setup for the device:**

1. When the printer completes its initial boot up, the **Initial setup** screen is displayed on the device control panel. Select appropriate values for the following attributes on the screen:
  - Language
  - Location
  - Date/Time Format
  - Date/Time

Initial Setup

► **Language**  
English

**Location**  
Not configured

**Date/Time Format**  
MMM DD, YYYY 12 hours (AM/PM)

**Date/Time**  
Jun 25, 2018 3:01 PM

**Other Features**  
1 of 2 enabled

**Summary**

English	Français	Deutsch
Italiano	Español	Svenska
Dansk	Norsk	Nederlands
Suomi	Português	Türkçe
polski	русский	Čeština
Magyar	日本語	繁體中文
简体中文	한글	Ελληνικά
Hrvatski	Română	Slovenčina
slovenščina	Català	ไทย
Indonesia	עברית	العربية

Next

Initial Setup

✓ **Language**  
English

► **Location**  
Singapore

**Date/Time Format**  
MMM DD, YYYY 12 hours (AM/PM)

**Date/Time**  
Jun 25, 2018 3:01 PM

**Other Features**  
1 of 2 enabled

**Summary**

☐ Oman

☐ Romania

☐ Russia

☐ Rwanda

☐ Saudi Arabia

☐ Serbia

☒ Singapore

☐ Slovakia

☐ Slovenia

☐ South Africa

☐ Spain

☐ Sri Lanka

☐ Sweden

Previous

Next

Initial Setup

✓ **Language**  
English

✓ **Location**  
Singapore

► **Date/Time Format**  
MMM DD, YYYY 12 hours (AM/PM)

**Date/Time**  
Jun 25, 2018 3:01 PM

**Other Features**  
1 of 2 enabled

**Summary**

**Date Format**

☐ 25 Jun, 2018

☒ Jun 25, 2018

☐ 2018 Jun 25

**Time Format**

☒ 12 hours (AM/PM)

☐ 24 hours

Previous

Next



**Initial Setup**

- ✓ **Language**  
English
- ✓ **Location**  
Singapore
- ✓ **Date/Time Format**  
MMM DD, YYYY 12 hours (AM/PM)
- **Date/Time**  
Jun 26, 2018 6:01 AM
- Other Features**  
1 of 2 enabled
- Summary**

**Date**  
June 26 2018

**Time Zone**  
(GMT+08:00) Kuala Lumpur, Singapore

**Time**  
3 : 07 PM

☐ Adjust for Daylight Savings

Previous Next

2. Press **Finish** to apply the settings.

## 2. Setting up Printer Administrator credentials

Administrator password is set to prevent unauthorized users from remotely configuring the device or gaining access to functionality reserved for the network administrator at the control panel. This password acts as the Device Administrator Access Code at the device.

### To set password for Administrator:

1. In the browser address bar, enter the following URL by replacing the text in bold typeface with the IP address of the HP device: [https://\\*{device IP address}\\*/hp/device/DeviceStatus/Index](https://*{device IP address}*/hp/device/DeviceStatus/Index).  
The device EWS page opens.
2. Go to **Security** tab and select **General Security**.
3. The user name is predefined here. Set the password for the Admin user and click **Apply**.

**General Security** Help

**Set the Local Administrator Password**

An administrator password can be set to prevent unauthorized users from remotely configuring the device or gaining access to functionality reserved for the network administrator at the control panel. This password is also the Device Administrator Access Code at the device.

User Name  
admin

Old Password  
Password is not set.

New Password

Verify Password

## 3. Configuring SNMP and Network Settings

The SNMP and network settings can be configured for the printing device using the device EWS page.

### To enable SNMP:

1. Log in to the EWS page of the device.

2. Go to **Networking** tab and select **Mgmt. Protocols** on the left menu.
3. Select **SNMP** tab.
4. Select **Enable SNMPv1/v2 read-write access** option.
5. You can also configure the Community Name. By default, the Community Name is set to 'public'.

The screenshot shows the Celiveo 8 web interface. The top navigation bar includes tabs: Information, General, Copy/Print, Scan/Digital Send, Fax, Supplies, Troubleshooting, Security, HP Web Services, and **Networking**. The left sidebar lists various configuration options under Configuration, Google Cloud Print, and Security. The main content area is titled 'Mgmt. Protocols' and has three sub-tabs: Web Mgmt., **SNMP**, and Other. Under the SNMP tab, the 'SNMPv1/v2' section is active, showing the option 'Enable SNMPv1/v2 read-write access' selected with a radio button. Below this, there are four text input fields for 'Set Community Name', 'Confirm Set Community Name', 'Get Community Name', and 'Confirm Get Community Name'. At the bottom right, there are 'Apply' and 'Cancel' buttons.

### To configure the Network setting:

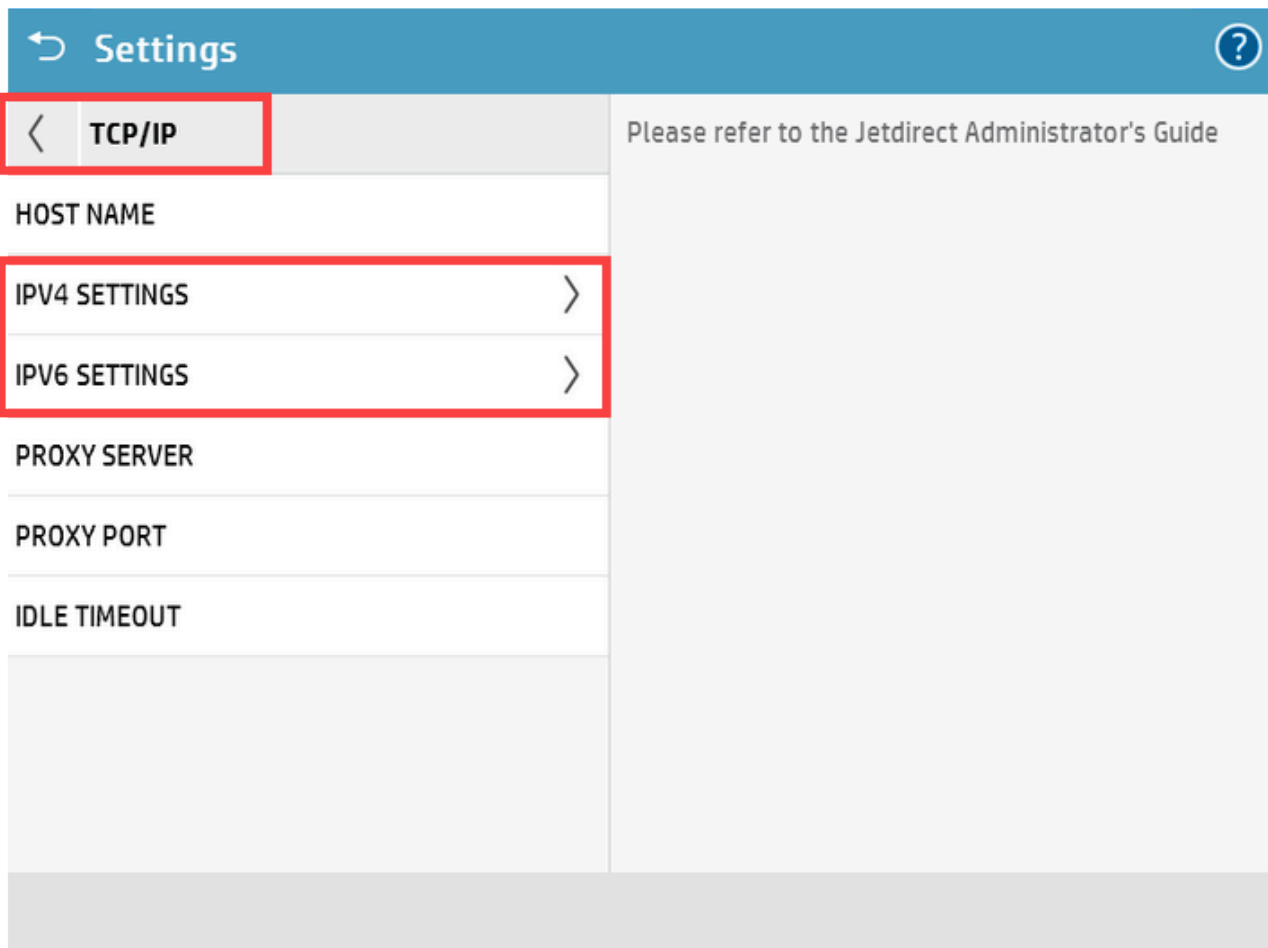
1. Under **Networking** tab, go to **TCP/ IP Settings > Network Identification** tab.
2. Set the **Domain** name and **DNS** for the device. Click **Apply**.

The screenshot shows the Celiveo 8 web interface. The top navigation bar includes tabs: Information, General, Copy/Print, Scan/Digital Send, Fax, Supplies, Troubleshooting, Security, HP Web Services, and **Networking**. The left sidebar lists various configuration options under Configuration, Google Cloud Print, and Security. The main content area is titled 'TCP/IP Settings' and has six sub-tabs: Summary, **Network Identification**, TCP/IP(v4), TCP/IP(v6), Config Precedence, and Advanced. Under the Network Identification tab, there are text input fields for 'Host Name' (containing 'NPIC79ECD'), 'Domain Name (IPv4/IPv6)', and 'Domain Name (IPv6 only)'. Below these, there is a section titled 'Enabled Features' which includes two columns for DNS settings: DNS(IPv4) and DNS(IPv6). Each column has 'Primary' and 'Secondary' text input fields. The IPv4 Primary field contains '192.168.12.200' and the IPv4 Secondary field contains '8.8.8.8'. At the bottom, there is a checkbox labeled 'Enable DDNS'.

You can also configure the network settings using the device control panel.

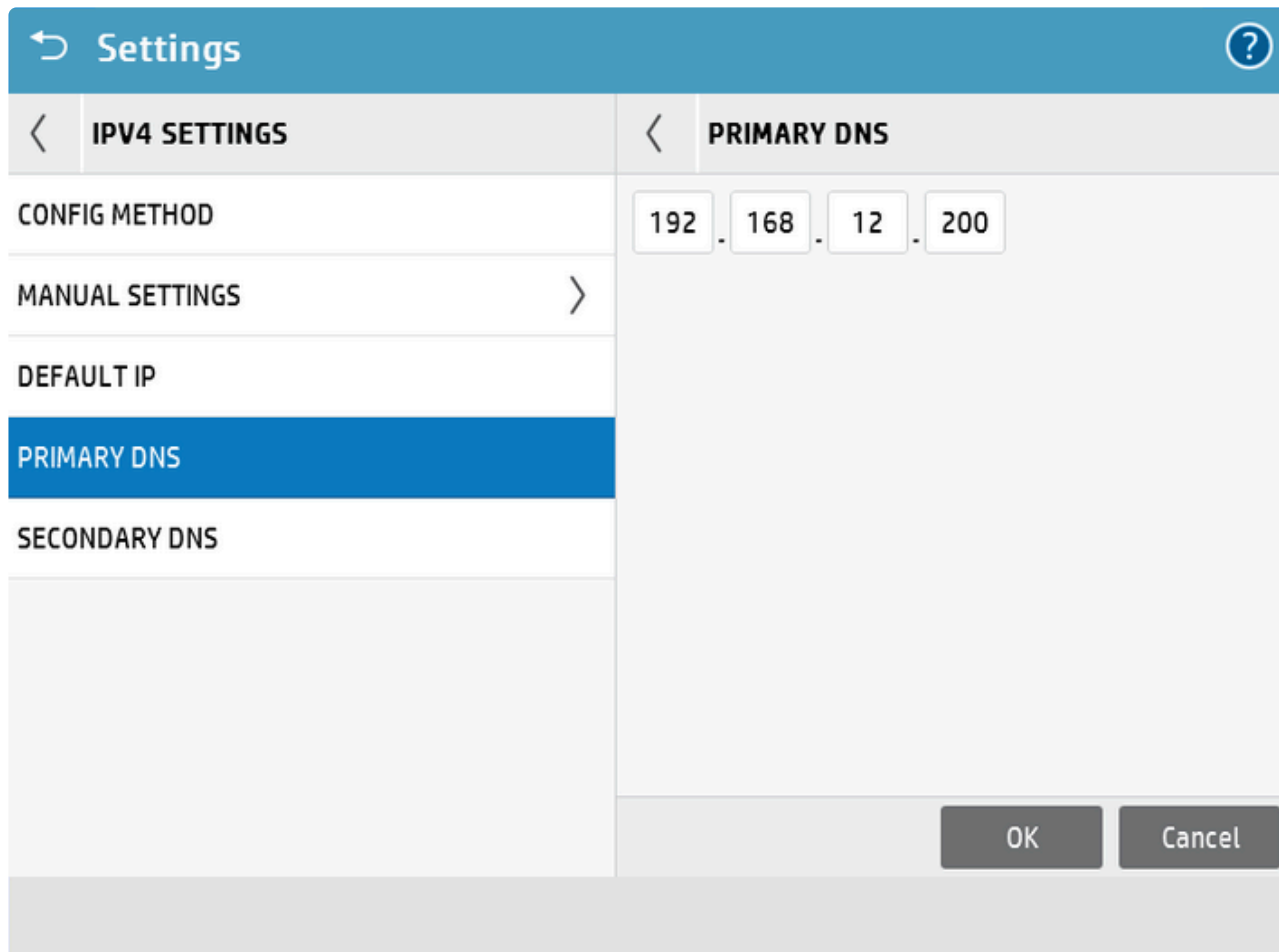
### To set the network configuration through device panel:

1. On the device control panel, press **Settings > Networking > Ethernet > TCP/IP**
2. Select appropriate IP settings (IPV4 or IPV6) to configure.



The screenshot shows the 'Settings' application. At the top, there is a blue header with a back arrow and the word 'Settings', and a help icon (question mark in a circle) on the right. Below the header, a list of settings is shown. The 'TCP/IP' option is highlighted with a red box. To its right, a message reads 'Please refer to the Jetdirect Administrator's Guide'. Below 'TCP/IP', several other settings are listed: 'HOST NAME', 'IPV4 SETTINGS', 'IPV6 SETTINGS', 'PROXY SERVER', 'PROXY PORT', and 'IDLE TIMEOUT'. 'IPV4 SETTINGS' and 'IPV6 SETTINGS' are also highlighted with a red box, and each has a right-pointing chevron icon.

3. Enter the **Primary DNS** and **Secondary DNS** for the selected IP settings.
4. Press **OK**.



The screenshot shows the 'IPV4 SETTINGS' screen. The left sidebar has a back arrow and 'IPV4 SETTINGS' at the top. Below it are 'CONFIG METHOD', 'MANUAL SETTINGS' (with a right-pointing chevron), 'DEFAULT IP', 'PRIMARY DNS' (which is highlighted in blue), and 'SECONDARY DNS'. The main area on the right is titled 'PRIMARY DNS' with a back arrow. It contains four input fields with the values '192', '168', '12', and '200', separated by dots. At the bottom right of the screen are two buttons: 'OK' and 'Cancel'.

## More Information:

### Configuring Scan to Email/ Scan to Sharepoint for Office365 account

For users using Office 365 account, HP provides instructions on how to configure the cloud-based Microsoft Office 365 Outlook email system on HP LaserJet Enterprise/ HP PageWide Enterprise (with firmware version 3.4 and newer) MFPs for **Scan to Email/ Scan to Sharepoint** options.

Follow the steps provided here: <https://support.hp.com/in-en/document/c05920994>

### Note regarding the Jobs Statistics Service:

Celiveo Embedded Agent registers the Tracking service as a non-critical service so it would not appear on the below Jobs Statistics Service:

**HP LaserJet MFP M527**  
HP LaserJet MFP M527 192.168.12.77

**Information** **General** Copy/Print Scan/Digital Send Fax Supplies Troubleshooting Security HP Web Services Networking

**Job Statistics Settings**

**Job Statistics Service**

If this product is connected to a job statistics service, and the service is unavailable due to network or service issues for an extended period, users might not be able to complete] resort. the job statistics service can be forcefully removed by clicking the Remove All button.

**Job Statistics Service**

Not Connected Remove All

The product must be re-connected to the job statistics service at the application server.

**Device User Statistics Log**

The Device User Statistics Log captures user data including name, print data including black pages printed, pages copied, pages faxed, and pages scanned.

☐ Enable Device User Statistics Log

**Job Statistics Settings**

*Last modified: 8 September 2020*

## 8. Using Celiveo

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Learn how to use the Celiveo Solution on a daily basis!

[Enroll a Card on a Celiveo-Enabled Printer](#)

[Tag Printers and Users](#)

[Place or Locate Printers on a Floor Plan](#)

[Print from a Workstation](#)

[Print Using Print Direct](#)

*Last modified: 9 October 2020*

## 8.1. Enroll a Card on a Celiveo-Enabled Printer

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When authenticating for the first time on a Celiveo-Enabled Printer, you need to enroll your card in the printer, i.e make your card recognizable by the machine. Once you have done this, authentication will only require a simple gesture.

### To enroll your card:

1. Swipe your card over the reader.



2. When prompted, enter your Windows credentials.
3. Wait for the confirmation message. Your card is now enrolled.
4. To authenticate, simply swipe the card over the reader.

*Last modified: 11 February 2021*

## 8.2. Tag Printers and Users

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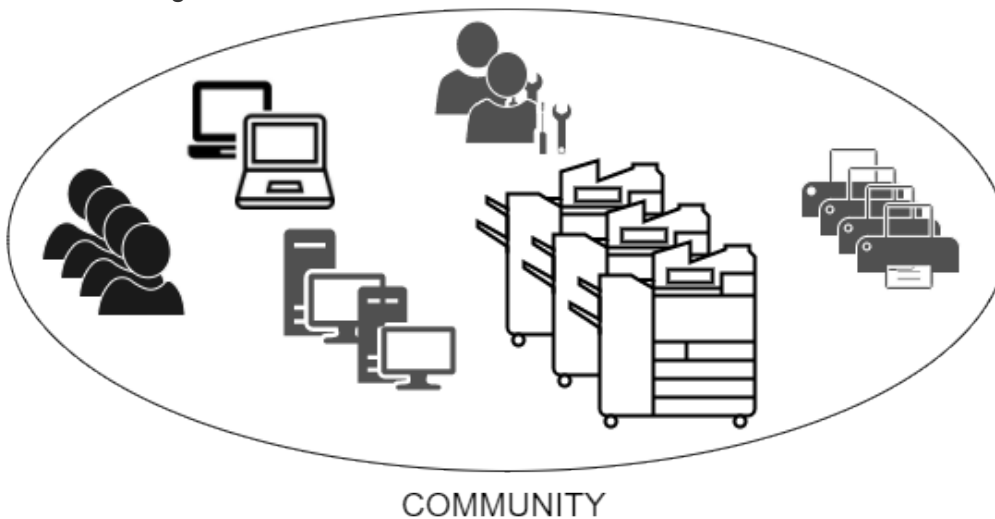
### Use Tags to Define Communities

#### Contents

1. [What is community?](#)
2. [Why use Tags/Communities?](#)
3. [Examples](#)
4. [Use Bookmarks to access communities quickly](#)
5. How to...
  - a. [Label a Tag](#)
  - b. [Tag Printers](#)
  - c. [Tag Users](#)
  - d. [Tag User Groups](#)
  - e. [Tag IP Address Ranges](#)

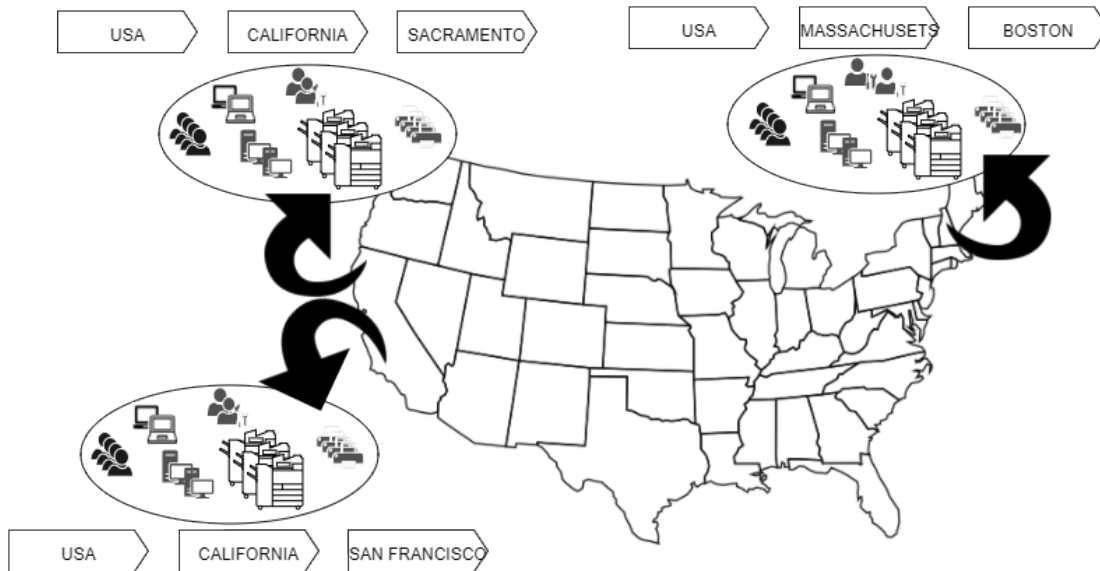
#### What is a community?

A community is a group of users, workstations, printers, and administrators that have a common characteristic. For example, a group of users, workstations, printers, and administrators, located in the same building.



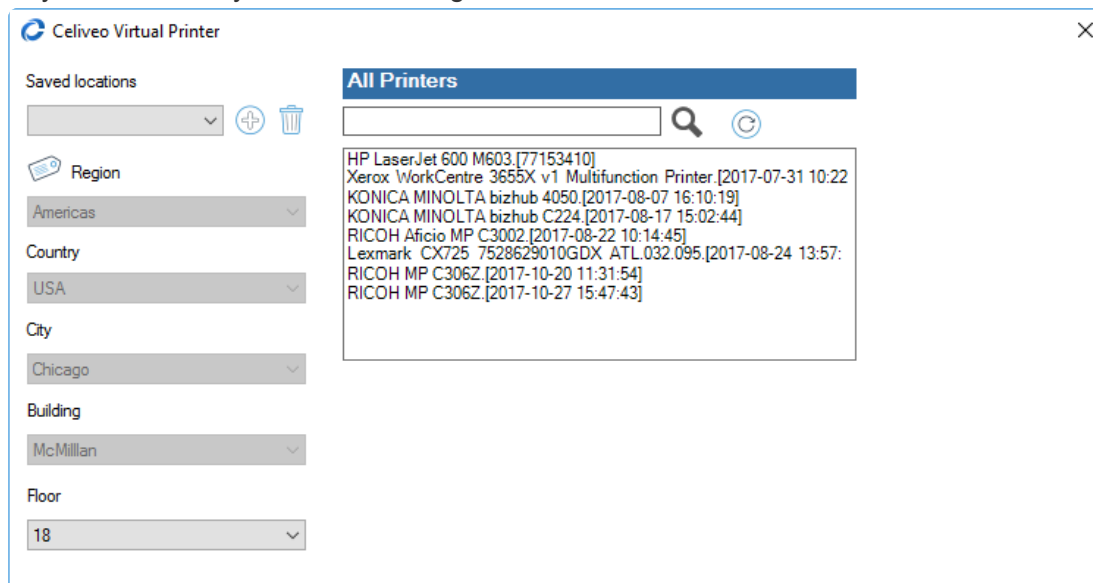
The community that a user or device belongs to is determined by the tags assigned to them.

#### Why use Tags/Communities?



The example shown above illustrates a company distributed across several cities. The company uses tags to identify places. Although Celiveo supports up to five tags, they use only three, which identify Country, State and City. A user tagged *USA*, *California*, *San Francisco*, belongs to the San Francisco community. A user tagged *USA*, *California*, *\**, belongs to the California community, which is a super set of San Francisco and Sacramento.

When you use Print Direct, tags filter the available printer list to display only those printers that are part of your community, thus minimizing screen clutter.



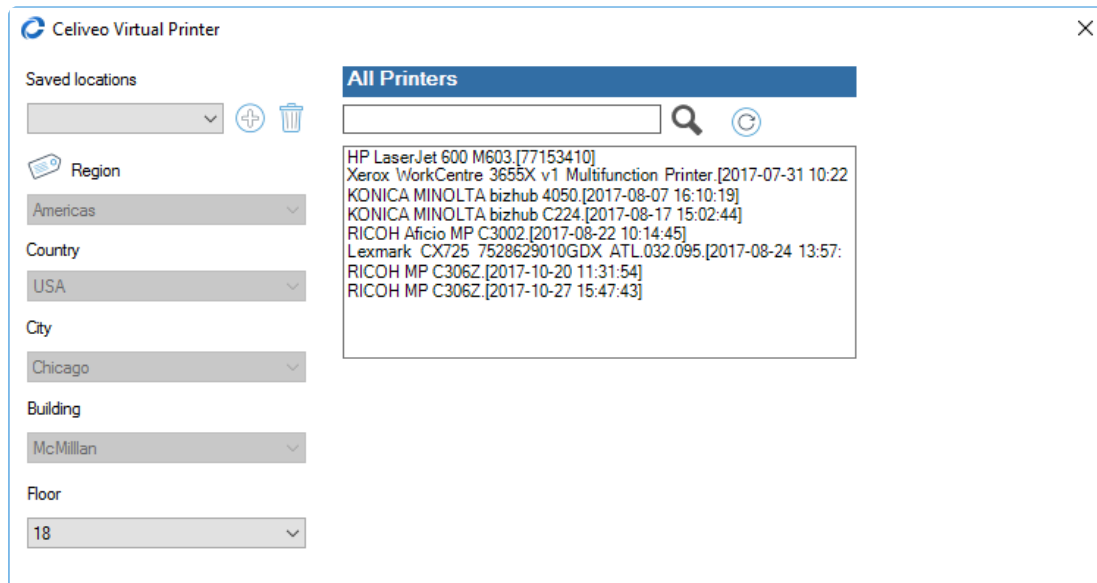
You can also use tagging to delegate system administration of a community to a user who belongs to that community. (See Managing System Administrators for more information)

## Examples

**Example 1 :** Your Company is distributed across multiple cities (Sacramento, San Francisco, and Boston). You don't want to clutter a Boston user's screen with Sacramento and San Francisco Printers (and vice versa). Hence, you create three separate communities for Sacramento, San Francisco, and Boston. You then tag the printers and IP Address ranges so that the printers and IP Addresses used in



each geography will belong to the same community. When a user connects to the network from the Boston office, the user is assigned a Boston IP Address. Because this IP address is tied to the Boston Community, Print Direct filters the list of Printers to show only the Boston Printers. If this same user visits the San Francisco office, and plugs into the San Francisco network, the list of printers will automatically show the San Francisco printers.



**Example 2:** Your Company occupies a large multi-story building, and each organizational unit is housed in a different zone in the building. You want to provide users' access to printers within their zone. Hence you create communities for each zone. You tag printers so that they belong to the zone they are placed in. Thereafter you tag Active Directory organizational units (using authentication profiles), such that users who belong to an organizational unit will belong to the zone they are seated in. When these users log in to Windows, the system interacts with the Active Directory and filters the list of available printers to those in the zone they are seated in.

## Use Bookmarks to access communities quickly

In the Web Admin, you can save a tag combination as a bookmark. Thereafter when you load the bookmark, the tag combination loads. Thereby, a bookmark serves as a shortcut to a community.

## How to...

### Label a Tag

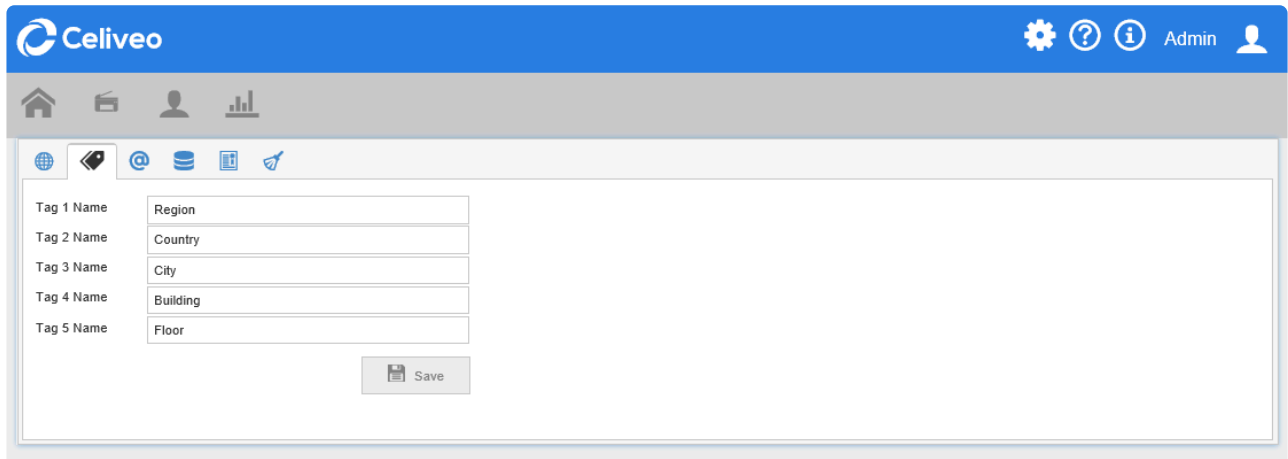
1. Click .



2. Click .



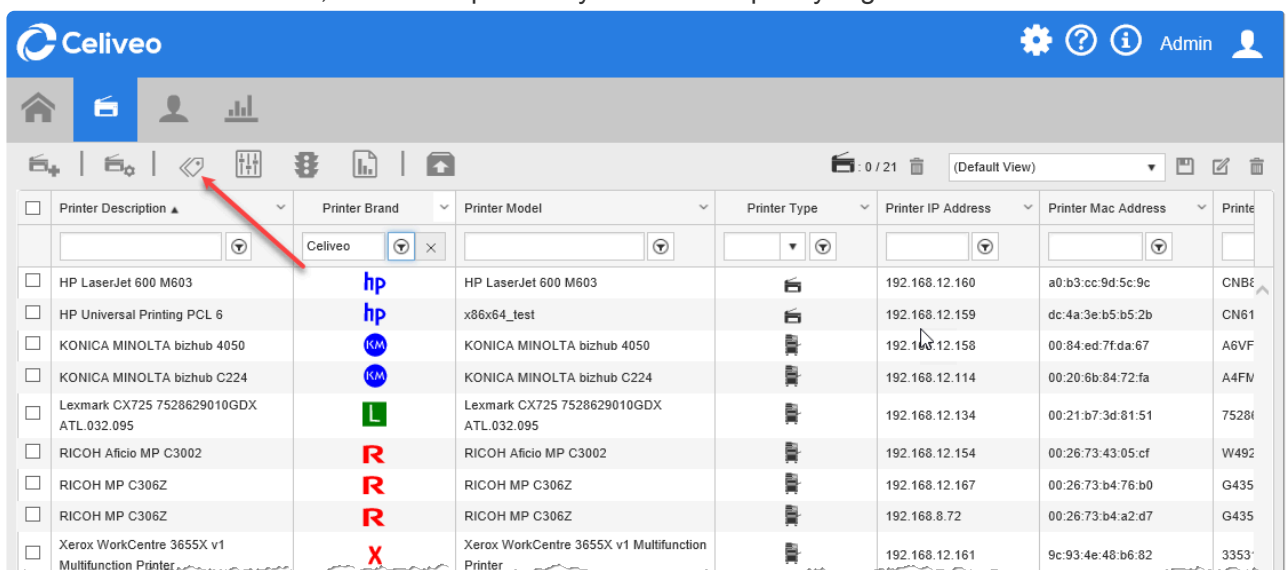
3. Label the tags as required and click **[Save]**.



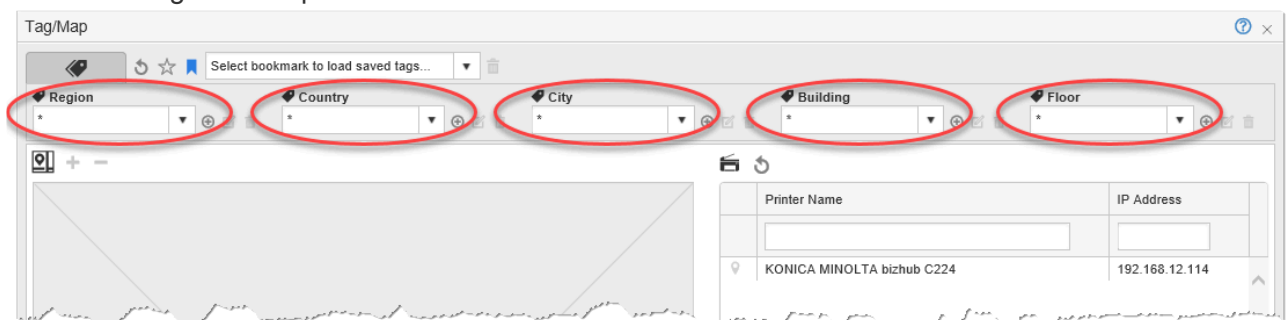
Celiveo Web Admin Software v8R2.017.1016 (c) 2011-2017 Celiveo Pte Ltd

## Tag Printers (Add Printers to a Community)


1. From the List of Printers, select the printers you want to specify tags for and click .



2. Select the tags for the printers.

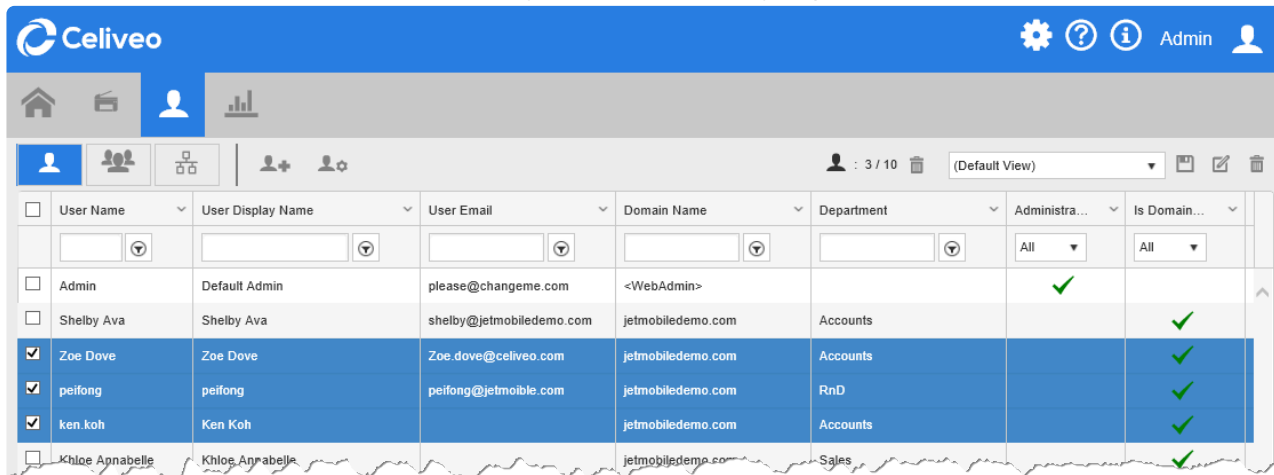


3. If any tag drop-down list is empty, or does not contain the value you need:

- a. Click  next to the drop-down.
  - b. Specify the new value for the tag and click **[Save]**.
4. Click **[Save]**. The tags are assigned to the printers.

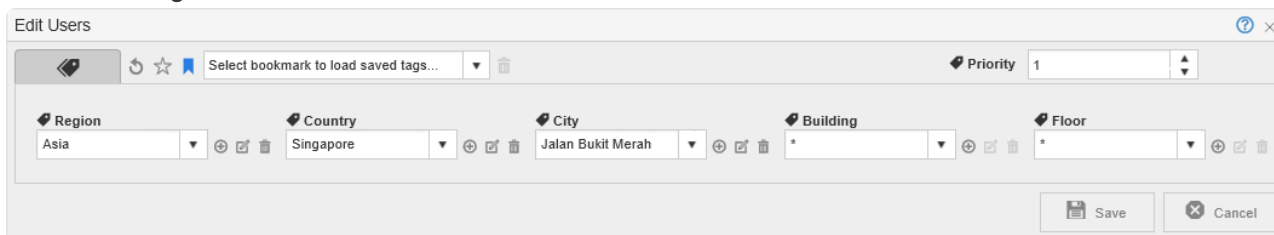
## Tag Users (Add Users to a Community)

1. From the List of Users, select the users you want to specify tags for and click .




<input type="checkbox"/>	User Name	User Display Name	User Email	Domain Name	Department	Administra...	Is Domain...
<input type="checkbox"/>	Admin	Default Admin	please@changeme.com	<WebAdmin>		✓	
<input type="checkbox"/>	Shelby Ava	Shelby Ava	shelby@jetmobiledemo.com	jetmobiledemo.com	Accounts		✓
<input checked="" type="checkbox"/>	Zoe Dove	Zoe Dove	Zoe.dove@celiveo.com	jetmobiledemo.com	Accounts		✓
<input checked="" type="checkbox"/>	peifong	peifong	peifong@jetmoible.com	jetmobiledemo.com	RnD		✓
<input checked="" type="checkbox"/>	ken.koh	Ken Koh	jetmobiledemo.com	Accounts			✓
<input type="checkbox"/>	Khloe Annabelle	Khloe Annabelle	jetmobiledemo.com	Sales			✓

2. Select the tags for the users.

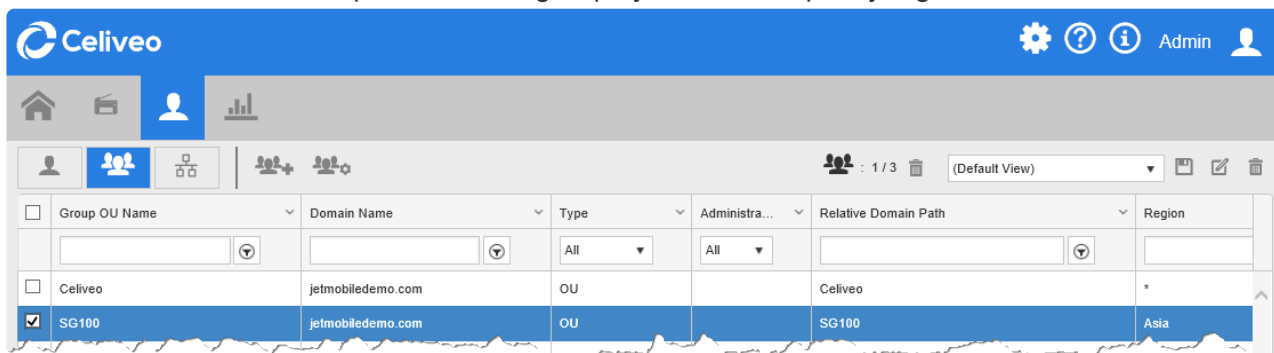


☐ Region: Asia  
☐ Country: Singapore  
☐ City: Jalan Bukit Merah  
☐ Building: \*  
☐ Floor: \*

3. If any tag drop-down list is empty, or does not contain the value you need:
  - a. Click  next to the drop-down.
  - b. Specify the new value for the tag and click **[Save]**.
4. Click **[Save]**. The tags are assigned to the users.

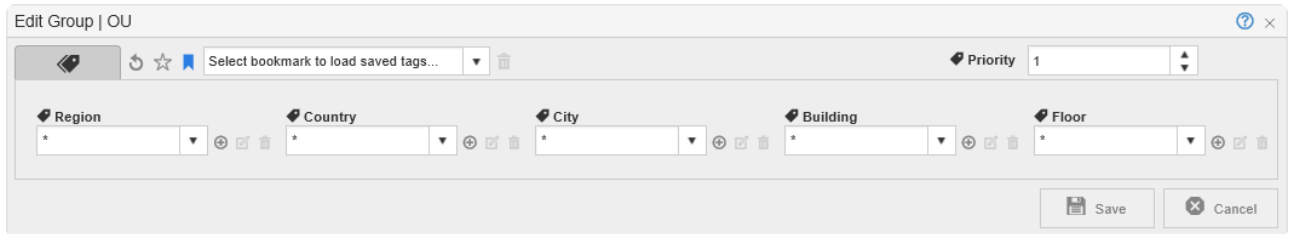
## Tag User Groups (Add user groups to a community)

1. From the List of User Groups, select the groups you want to specify tags for and click .




<input type="checkbox"/>	Group OU Name	Domain Name	Type	Administra...	Relative Domain Path	Region
<input type="checkbox"/>	Celiveo	jetmobiledemo.com	OU		Celiveo	*
<input checked="" type="checkbox"/>	SG100	jetmobiledemo.com	OU		SG100	Asia


2. Select the tags for the user groups.

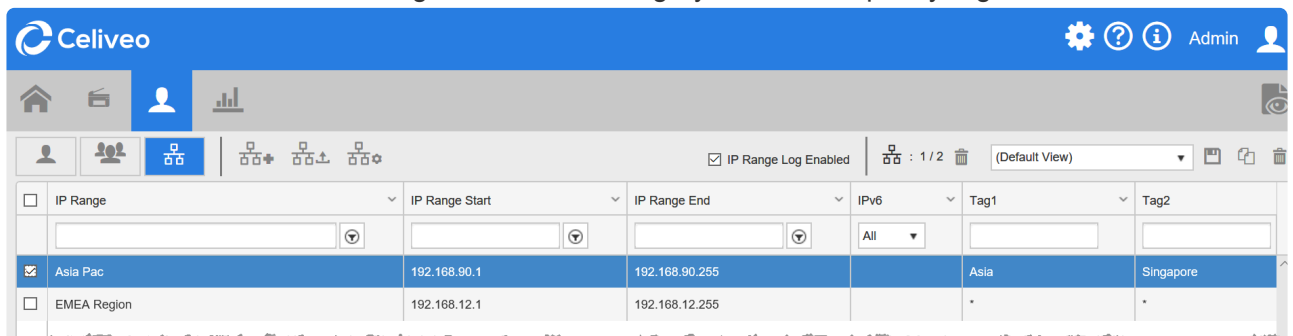


Dialog box titled "Edit Group | OU". It features a "Select bookmark to load saved tags..." dropdown, a "Priority" field set to 1, and five tag fields: Region, Country, City, Building, and Floor. Each tag field has a dropdown menu and a plus icon for adding new tags. At the bottom right are "Save" and "Cancel" buttons.

3. If any tag drop-down list is empty, or does not contain the value you need:
  - a. Click  next to the drop-down.
  - b. Specify the new value for the tag and click **[Save]**.
4. Click **[Save]**. The tags are assigned to the users.

## Tag IP Address Ranges (Add IP Address Range to a Community)

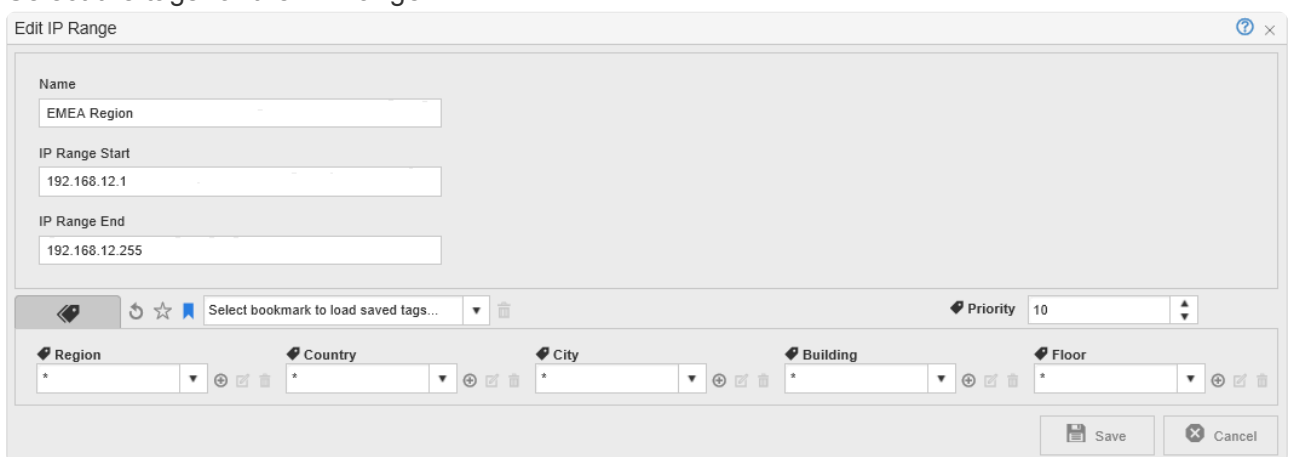
1. From the List of IP Address ranges, select the range you want to specify tags for and click .




Screenshot of the Celiveo web interface showing the "List of IP Address ranges". The table has columns: IP Range, IP Range Start, IP Range End, IPv6, Tag1, and Tag2. The "Asia Pac" range is selected.

IP Range	IP Range Start	IP Range End	IPv6	Tag1	Tag2
<input checked="" type="checkbox"/> Asia Pac	192.168.90.1	192.168.90.255	All	Asia	Singapore
<input type="checkbox"/> EMEA Region	192.168.12.1	192.168.12.255		*	*

2. Select the tags for the IP Range.



Dialog box titled "Edit IP Range". It contains fields for Name (EMEA Region), IP Range Start (192.168.12.1), and IP Range End (192.168.12.255). Below these are the same five tag fields as in the first dialog: Region, Country, City, Building, and Floor. At the bottom right are "Save" and "Cancel" buttons.

3. If any tag drop-down list is empty, or does not contain the value you need:
  - a. Click  next to the drop-down.
  - b. Specify the new value for the tag and click **[Save]**.
4. Click **[Save]**. The tags are assigned to the users.

## Enable IP Range Log (Generate log messages in System Log)

Select this checkbox to generate (warning) messages in Web Admin System Log if user tries to connect from IP addresses that are not configured/ enlisted under the defined IP Address Range list. This option takes effect (i.e., log messages are generated) only if at least one IP Address Range is defined.

☒ IP Range Log Enabled

<input type="checkbox"/>	IP Range	IP Range Start	IP Range End	IPv6
	<input type="text"/>	<input type="text"/>	<input type="text"/>	All
<input type="checkbox"/>	Asia Pac	192.168.90.1	192.168.90.255	
<input type="checkbox"/>	EMEA Region	192.168.12.1	192.168.12.255	

Last modified: 8 September 2020

## 8.3. Place or Locate Printers on a Floor Plan

The Floor Plan is tied to the combination of settings that are current at the time the Floor Plan is imported.

As such, ensure that tags are defined before you begin this exercise.

### Contents


1. [Why Floor Plans?](#)
2. [Import a Floor Plan and Place a Printer on It](#)
3. [Place Another Printer on the Floor Plan](#)

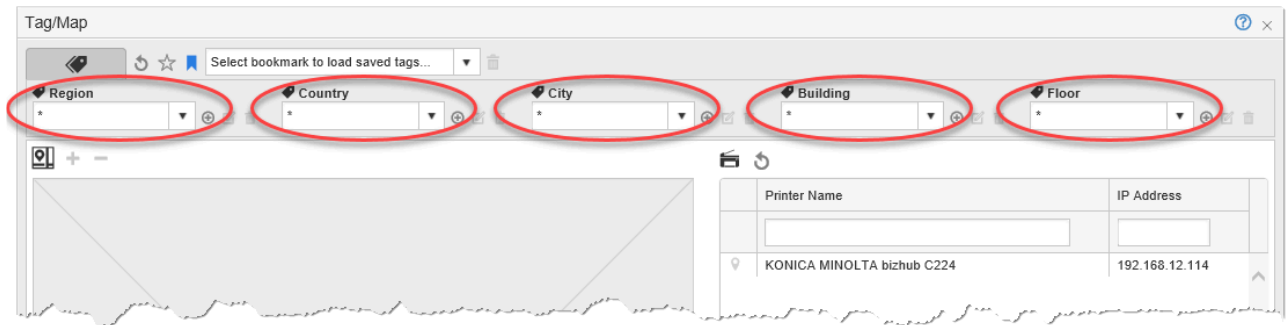
## 1. Why Floor Plans?



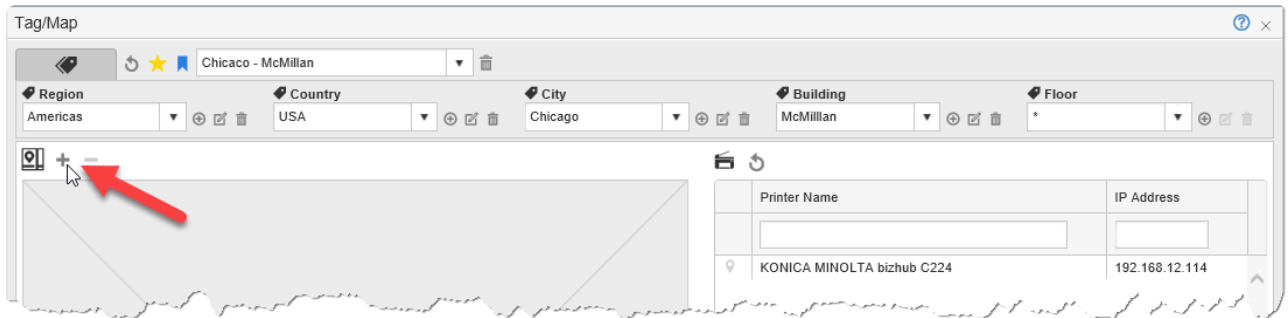
## 2. Import a Floor Plan and Place a Printer on It

Celiveo <span>⚙️ ? ⓘ Admin</span>							
<span>🏠</span> <span>🖨️</span> <span>👤</span> <span>📊</span> <span>🔍</span> <span>📄</span> <span>📁</span> <span>1 / 20</span> <span>(Default View)</span>							
<input type="checkbox"/>	Printer Description ▲	Printer Brand ▼	Printer Model ▼	Printer Type ▼	Printer IP Address ▼	Printer Mac Address ▼	Printer S
<input type="checkbox"/>		Celiveo					
<input type="checkbox"/>	HP LaserJet 600 M603	hp	HP LaserJet 600 M603	🖨️	192.168.12.160	a0:b3:cc:9d:5c:9c	CNB8D5
<input type="checkbox"/>	HP Universal Printing PCL 6	hp	x86x64_test	🖨️	192.168.12.159	dc:4a:3e:b5:b5:2b	CN61C5
<input type="checkbox"/>	KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050	🖨️	192.168.12.158	00:84:ed:7f:da:67	A6VF041
<input checked="" type="checkbox"/>	KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224	🖨️	192.168.12.114	00:20:6b:84:72:fa	A4FM02
<input type="checkbox"/>	Lexmark CX725 7528629010GDX ATL.032.095	L	Lexmark CX725 7528629010GDX ATL.032.095	🖨️	192.168.12.134	00:21:b7:3d:81:51	7528629
<input type="checkbox"/>	RICOH Aficio MP C3002	R	RICOH Aficio MP C3002	🖨️	192.168.12.154	00:26:73:43:05:cf	W492M3
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z	🖨️	192.168.12.167	00:26:73:b4:76:b0	G435PC
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z	🖨️	192.168.8.72	00:26:73:b4:a2:d7	G435PC
<input type="checkbox"/>	Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer	🖨️	192.168.12.161	9c:93:4e:48:b6:82	3353158

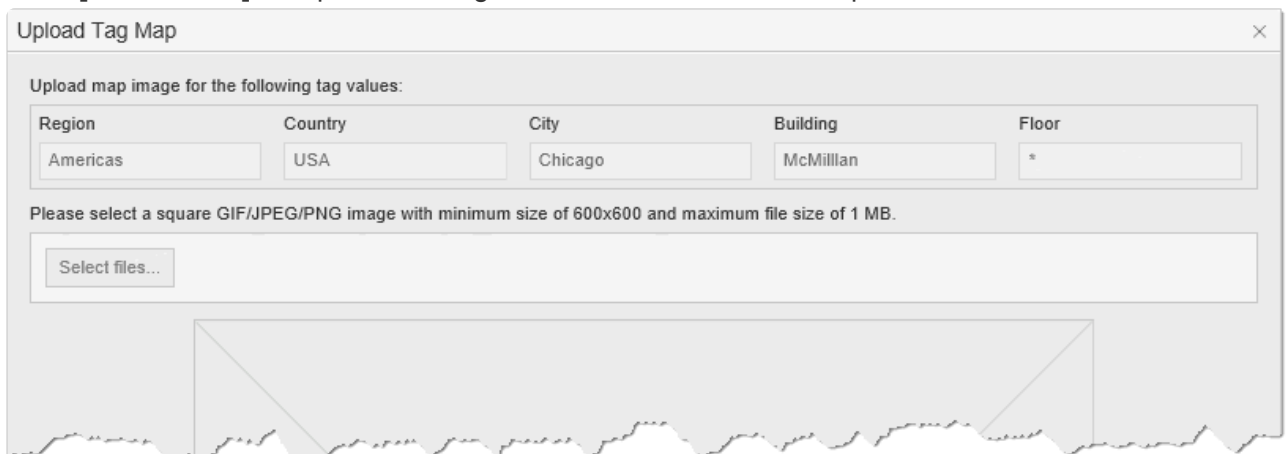
1. In the Printers List, select the printer you want to place on the Floor Plan.
2. In the Printer Menu, click . The Tag/Map displays.



3. Specify the tags for the printer.
4. Click + below the first tag. Upload Tag Map displays.



5. Click **[Select files]** and pick the image file that contains the floor plan.



Note:

- a. The image file must at least be 600px X 600px.
- b. If the width is not the same as the height, the floor plan may become distorted.
- c. The image file must be smaller than 1MB.

6. Click **[Save]**.

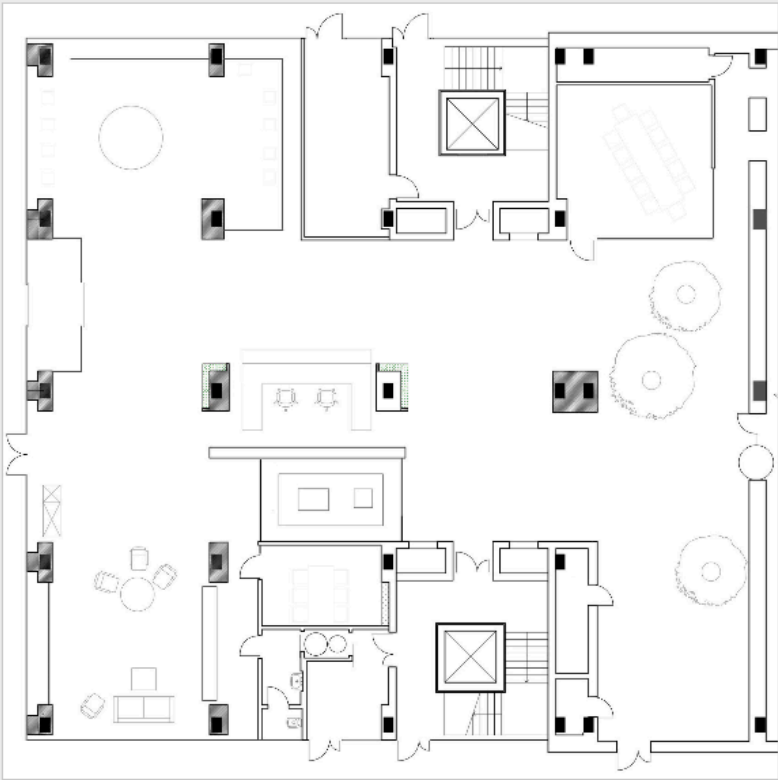
Upload Tag Map

Upload map image for the following tag values:

Region	Country	City	Building	Floor
Americas	USA	Chicago	McMillan	*

Please select a square GIF/JPEG/PNG image with minimum size of 600x600 and maximum file size of 1 MB.

Select files...



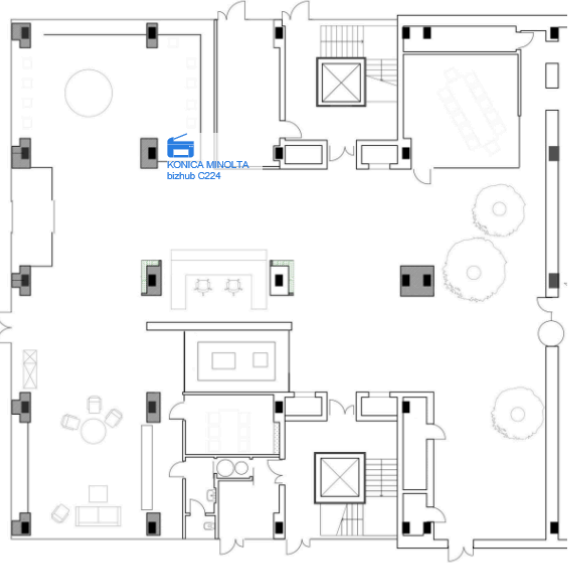
Save Cancel

7. Drag the printer from the printer list on the right to its location on the Floor Plan.

Tag/Map

Chicago - McMillan

Region	Country	City	Building	Floor
Americas	USA	Chicago	McMillan	*



Printer Name	IP Address
KONICA MINOLTA bizhub C224	192.168.12.114

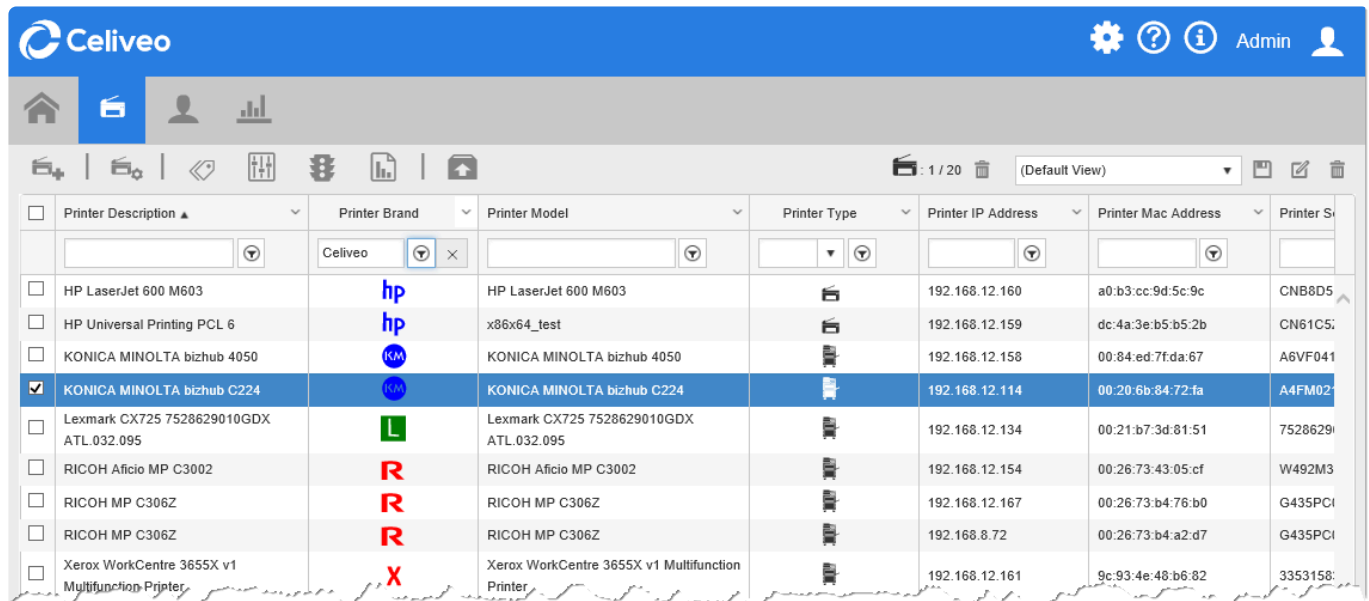
1 50 Items per page 1 - 1 of 1 items

Save Cancel


8. Click **[Save]**.

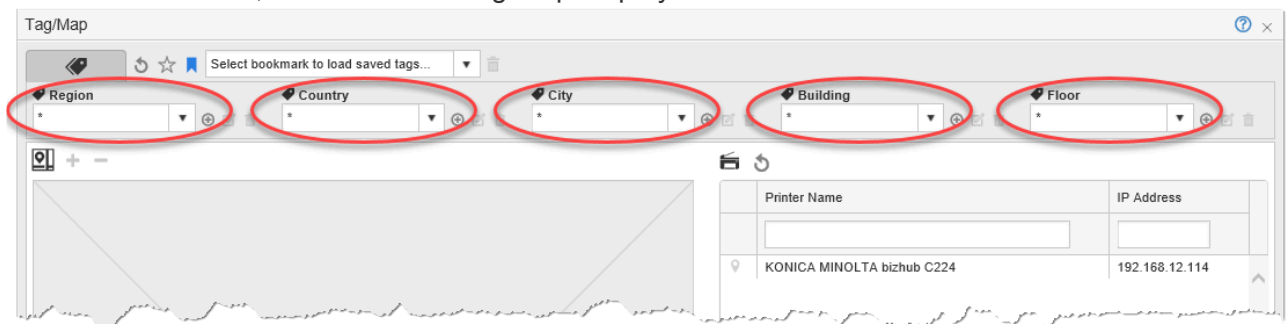


### 3. Place Another Printer on the Floor Plan



Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address	Printer S
<input type="checkbox"/> HP LaserJet 600 M603	hp	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c	CNB8D5
<input type="checkbox"/> HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b	CN61C5
<input type="checkbox"/> KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67	A6VF041
<input checked="" type="checkbox"/> KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa	A4FM02
<input type="checkbox"/> Lexmark CX725 7528629010GDX ATL 032.095	L	Lexmark CX725 7528629010GDX ATL 032.095		192.168.12.134	00:21:b7:3d:81:51	7528629
<input type="checkbox"/> RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf	W492M3
<input type="checkbox"/> RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0	G435PC
<input type="checkbox"/> RICOH MP C306Z	R	RICOH MP C306Z		192.168.8.72	00:26:73:b4:a2:d7	G435PC
<input type="checkbox"/> Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82	3353158

1. In the Printers List, select the printer you want to place on the Floor Plan.
2. In the Printer Menu, click . The Tag/Map displays.



Printer Name	IP Address
KONICA MINOLTA bizhub C224	192.168.12.114

3. Specify the tags for the printer. When you specify the tags, the floor plan displays automatically.
4. Drag the printer from the printer list to its location on the floor plan.
5. Click **[Save]**.

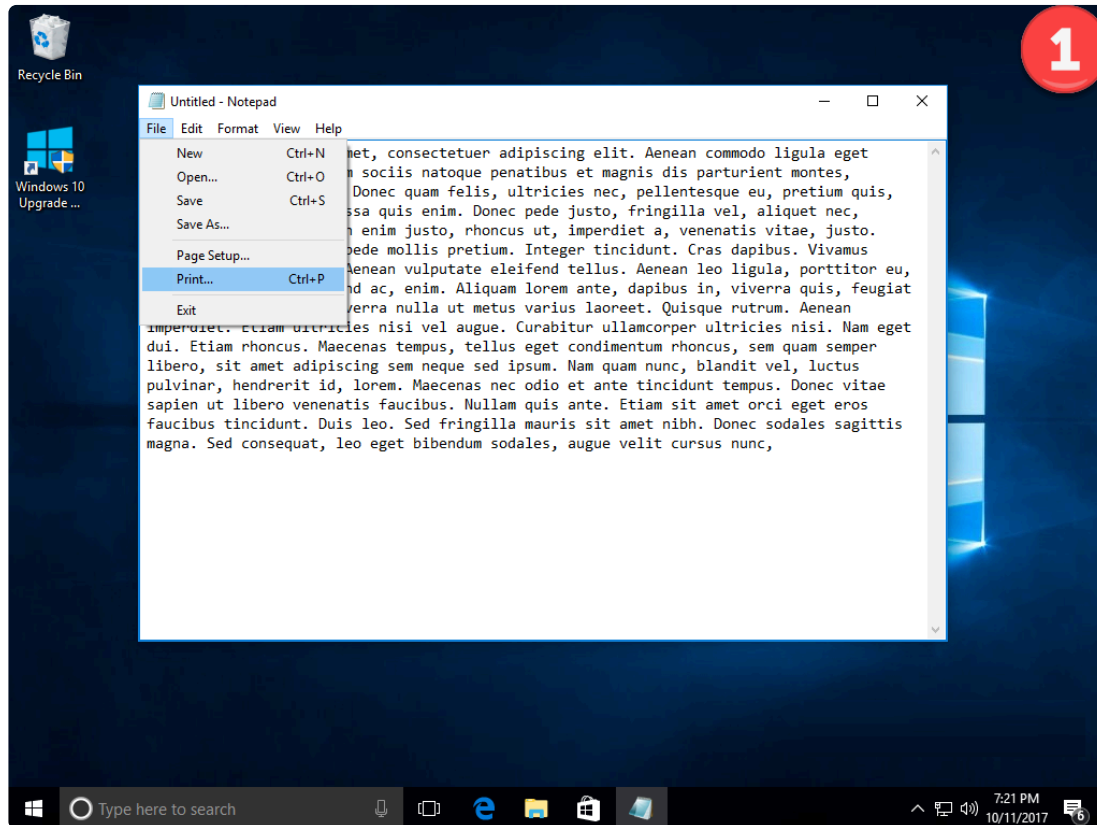
You can find Sample Floor Plans in our [Downloads section](#) (requires a Celiveo Portal Account).

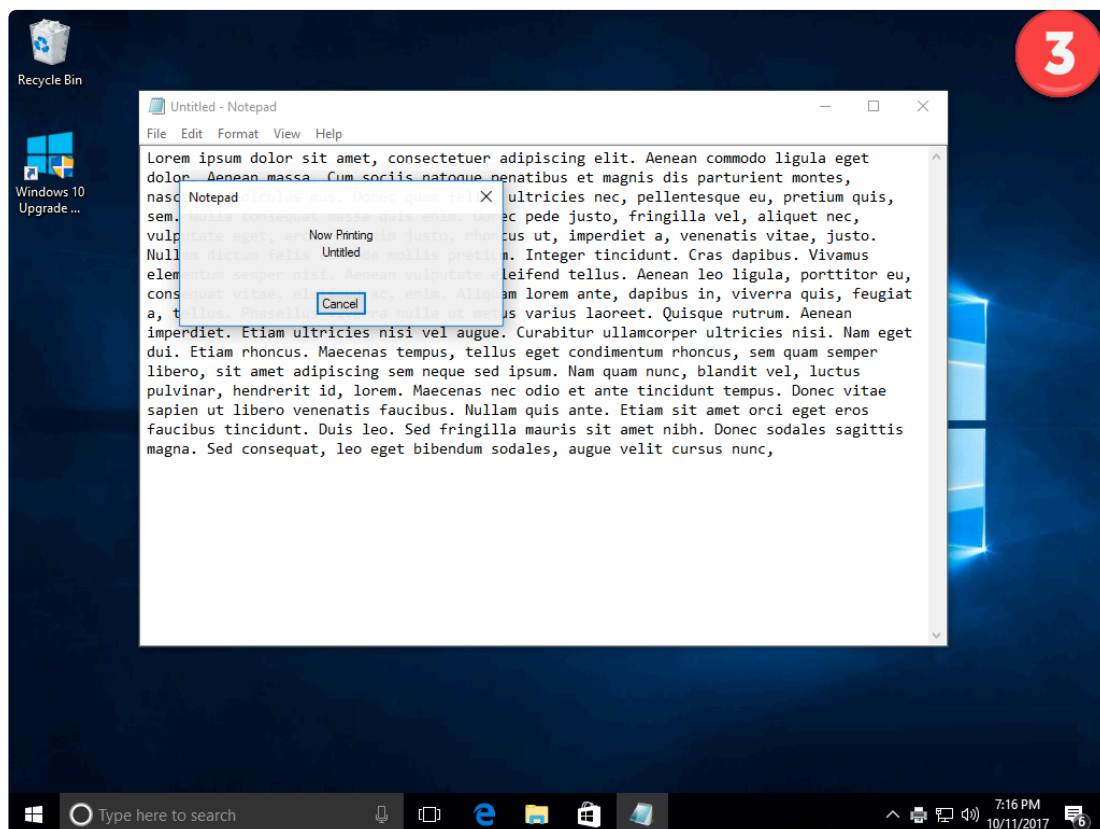
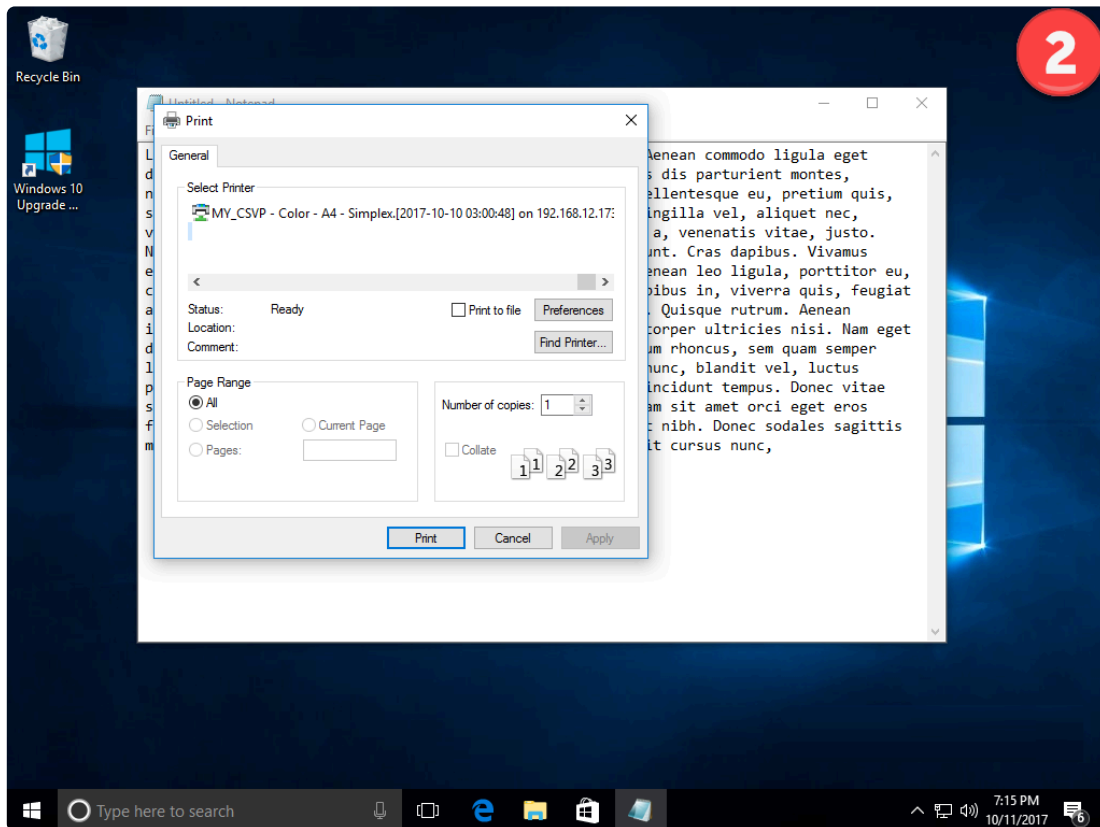
*Last modified: 2 October 2020*

## 8.4. Print from a Workstation

### 1. On the User's Workstation...

When you print from a user's workstation, you print to the Celiveo Shared Virtual Printer, just like how you would print to any other printer. After that, you go to the nearest Celiveo-enabled printer.





## Notes:

- In Print-Direct mode, the virtual printer on user workstation dynamically takes the [name + driver] of the physical printer that is selected, so that the user knows which printer is addressed and with what driver nickname.
- If both Pull Printing and Print-Direct are configured for the virtual printer, make sure the Celiveo

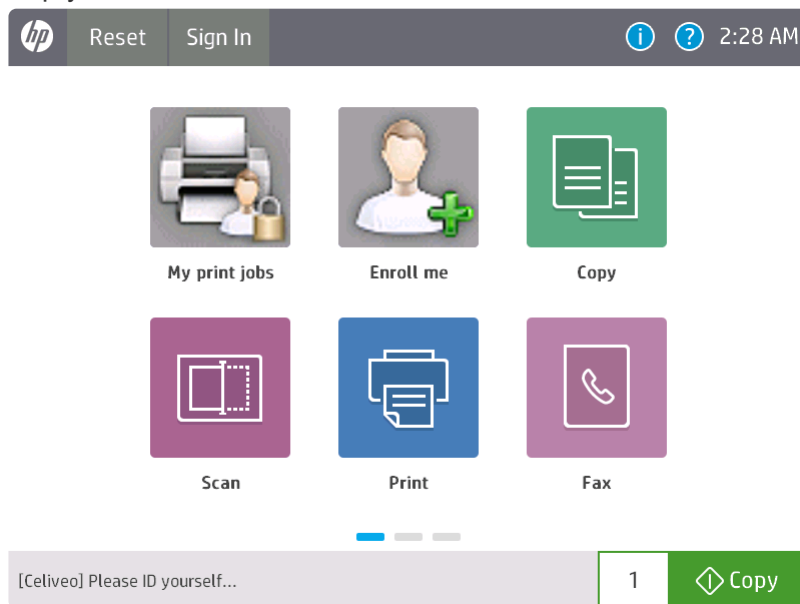
Smart Appliance is attached to the printer and synchronized (in case of HP FutureSmart printers, only synchronization is required) before printing, for Track-GreenSaver tracking to work properly.

## 2. At the Printer...

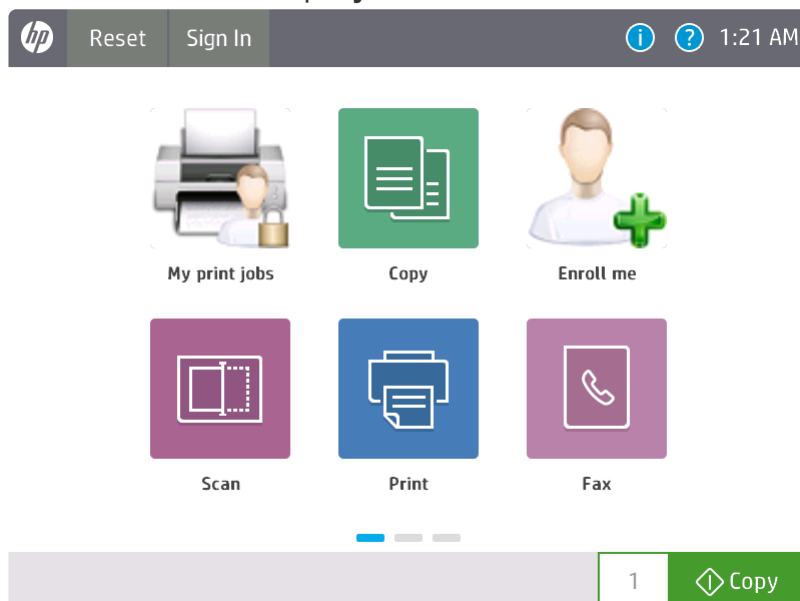
\* **Note:** The screens you see at the printer and the workflow for releasing print jobs differ from one brand to another. The mock-ups shown below are for the purpose of illustrating the workflow, and can be different from actual screens.

### 2.1 HP Printers

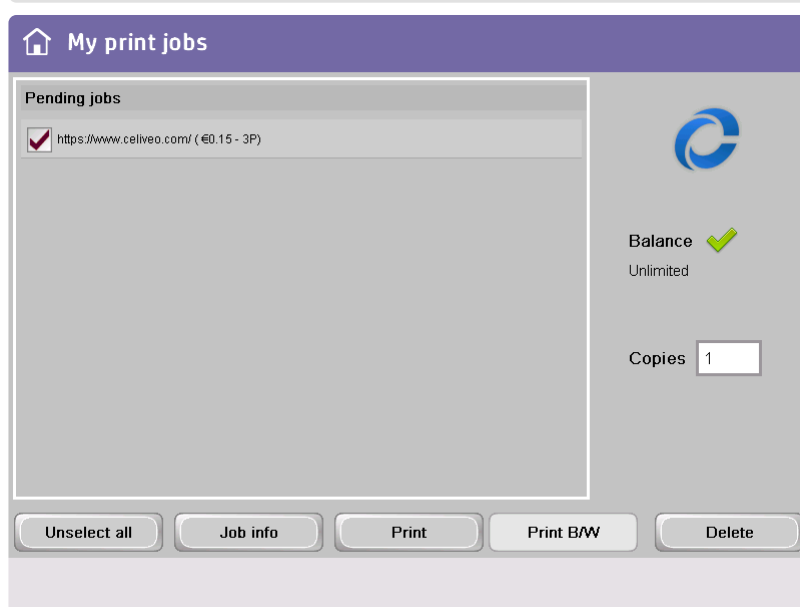
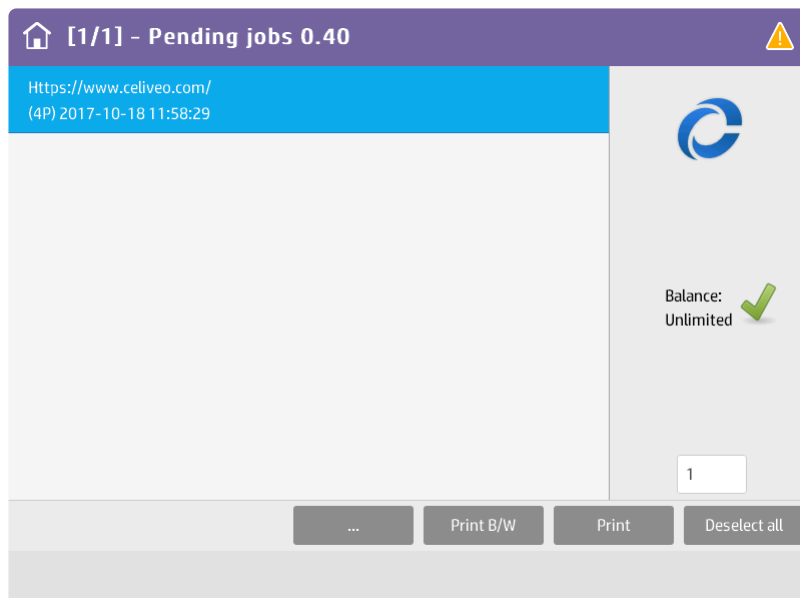
1. Tap your access card on the card reader.



2. At the Home Screen tap **My Print Jobs**.



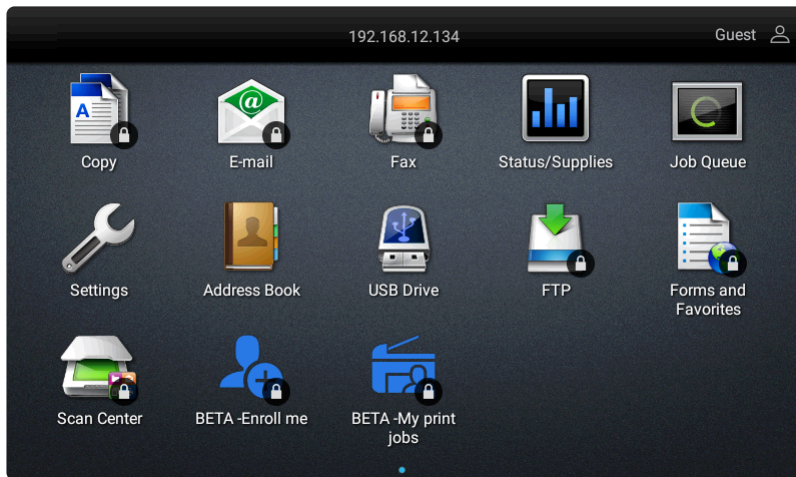
3. From the Print Job list, select the print jobs you want to release and tap **Print**.



\* **Note:** The number of copies that can be printed for a print job is limited from 1 to 99 in HP printers.

## 2.2 Lexmark Printers

1. Tap your access card on the card reader.
2. At the Home Screen, tap My Print Jobs.

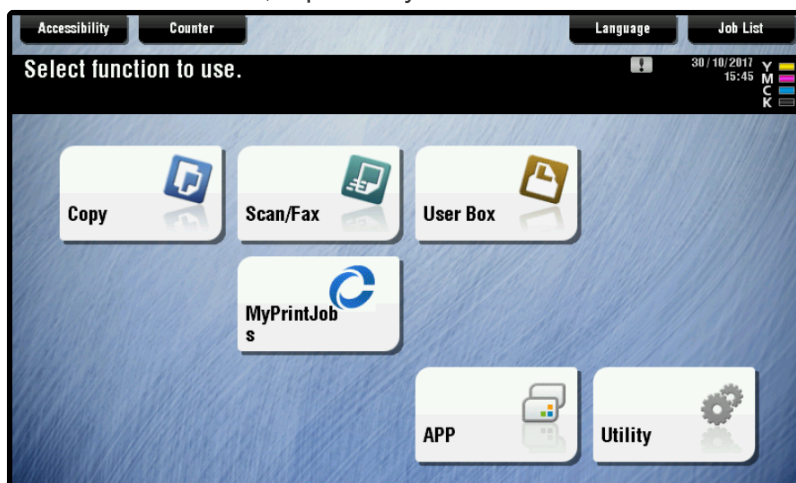


3. Select the print jobs to release and tap Print.

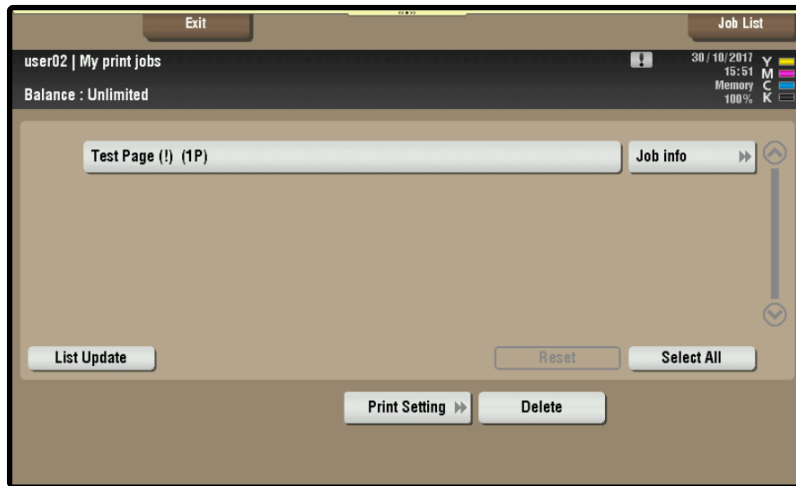


## 2.3 Konica Minolta Printers

1. Tap your access card on the card reader.
2. At the Home screen, tap the My Print Jobs icon.



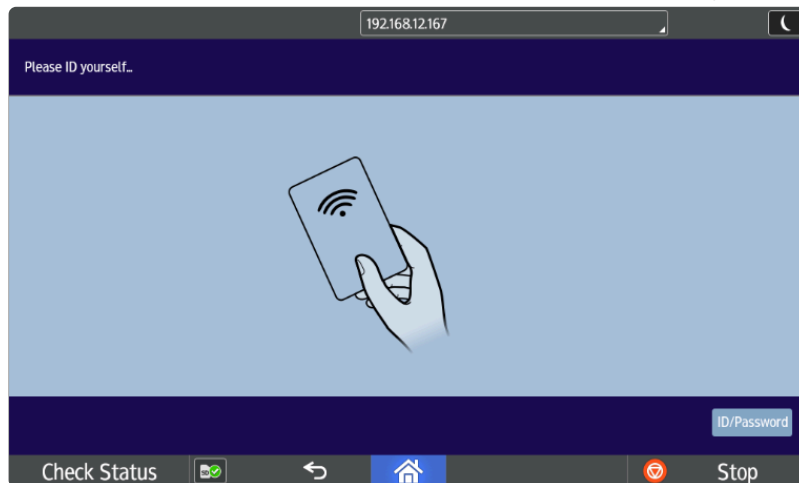
3. In the Print Jobs list, tap the print jobs you want to release.



4. Press the Start button on the Printer.

## 2.4 Ricoh Printers

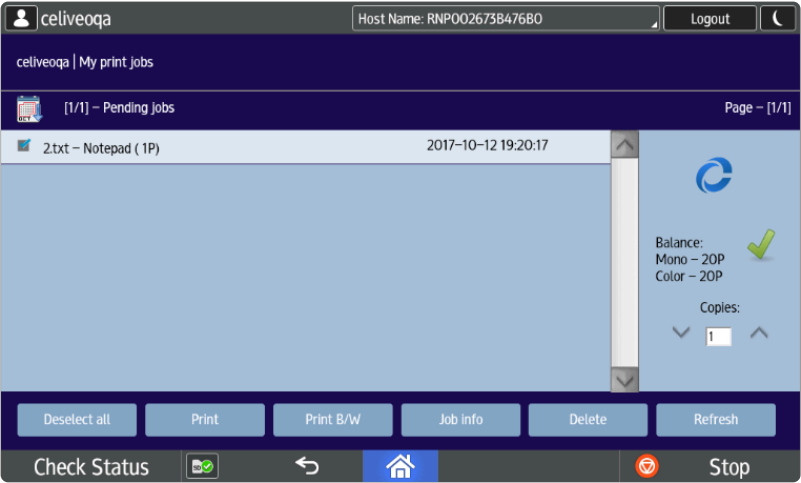
A screen similar to the mock-up shown below is displayed when no one is logged into the printer.



1. Tap your access card on the card reader.
2. Tap **My Print Jobs**.



3. When the Print Job list is displayed, select the print jobs to release and tap Print.



Printing in a few seconds.

*Last modified: 8 September 2020*

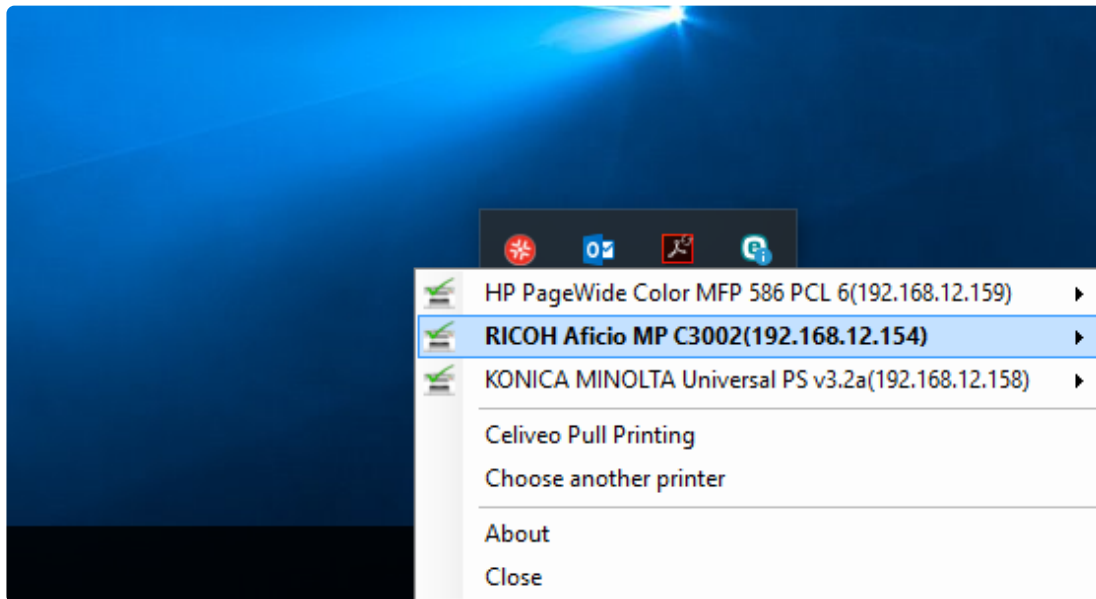


## 8.5. Print Using Print Direct

- [Select Default Printer and Print](#)
- [If the Printer You want to Use is not on the Menu](#)
- [Change Default Printing Preferences](#)

### Select Default Printer and Print

1. Right-click the Celiveo Virtual Printer system tray icon (  ). A menu displays.



#### Notes:

- The printers you installed are listed at the top of the menu. Their status is displayed in real-time. A green tick mark indicates that the printer is available. A red x mark indicates that the printer is unavailable.
- In Print-Direct mode, the virtual printer on PC dynamically takes the name + driver of the physical printer that is selected, so that the user knows what printer is addressed and with what driver nickname.

2. Click the printer you want to print from and then click **[Select]**. The printer is set as the default printer for Windows.



**Note:** If the printer driver for the printer you selected is shared with another printer, the name of the printer driver is displayed in a sub menu after **[Select]**. If so, click the driver.


3. In the application to print from, print via the default printer.

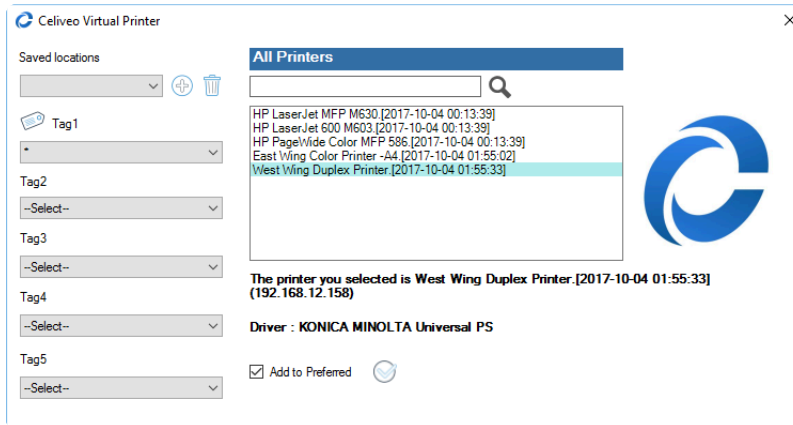



**Note:** For a Virtual printer, where both Pull printing and Direct IP printing are configured, always make sure that the CSA is attached to the printer and synchronized (in case of HP printers, only syncing is required) before printing, for Track-GreenSaver tracking to

work properly.

## If the Printer You want to Use is Not on the Menu...

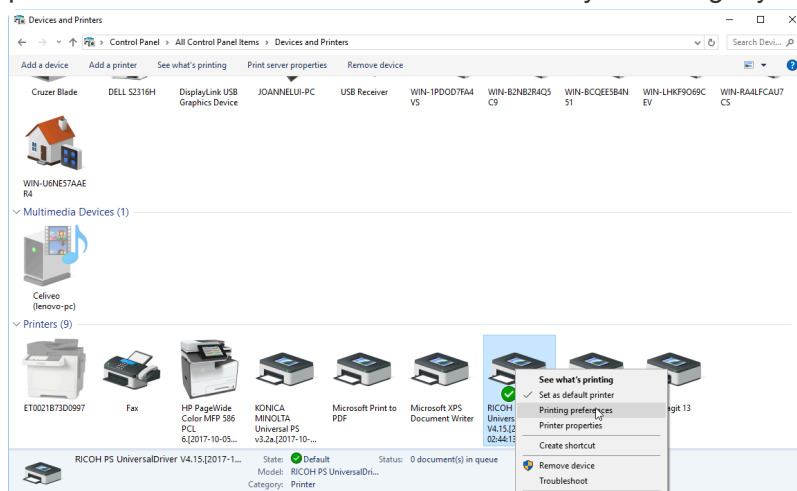
1. Right-click  on the system tray. A menu displays.
2. Click **[Choose another printer]**. The Celiveo Virtual Printer screen displays.



3. Select the printer to use on this workstation and click  .  
A vertical yellow bar starts running on the Celiveo Virtual Printer system tray icon while the printer is installed on the workstation.

## Change Default Printing Preferences

The procedure for changing default printing preferences listed here applies to Windows 10. The procedure for other versions of Windows may differ slightly.



1. Start the **[Devices and Printers]** control panel applet.
2. Right-click the driver corresponding to the printer you want to configure. A menu displays.
3. Click **[Printing Preferences]**.
4. Specify the settings and click **[OK]**.



**Note:** The settings you specify are used as the default preferences for all printers that

use that driver. If you install another printer that uses the same driver, the settings may be overwritten.

*Last modified: 8 September 2020*

## 9. Celiveo Print-Web

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Celiveo® Print-Web comes as an option of Celiveo Enterprise and offers a mobile print software solution that installs in minutes, inside the customers private network, and lets users print from any smartphone, tablet, or mobile computer with extreme ease.

*Last modified: 9 October 2020*

# 9.1. Celiveo Print-Web Installation Guide

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[Celiveo Print-Web Installation Guide](#)

*Last modified: 8 September 2020*

## 9.2. Celiveo Print-Web Mobile Gateway Installation Guide

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[Celiveo Print-Web Mobile Gateway Installation Guide](#)

*Last modified: 8 September 2020*

# 10. Authentication

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This section details how to configure the Celiveo authentication feature.

[Access Control Rules](#)

[Authentication Profiles](#)

[High Availability](#)

[Enable ID Code Authentication for Printers](#)

[Save Card Number and ID code on Active Directory](#)

[Configure BLE RF IDEAS Readers for Smartphone Authentication with Orange Pack-ID Application](#)

[Configure ID Mask](#)

[Custom Access Control for HP FutureSmart Printers](#)

*Last modified: 9 October 2020*

# 10.1. Access Control Rules

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## Contents



1. About Access & Control Rules
  - a. [What are Access Control Rules?](#)
  - b. [Unlock a Function for Unrestricted Access](#)
  - c. [Authorize a Function for a Specific Group of Users](#)
  - d. [Combining Access Control Rules and Assigning them to Printers](#)
2. How to...
  - a. [Create a New Access & Rules Profile](#)
  - b. [Add a Rule to Unlock a Function](#)
  - c. [Authorize a Function for Smartcard/Card or PIN Authentication](#)
  - d. [Set Up ID Mask and Dual Factor Authorization for Card Authentication](#)
  - e. [Enable Self-Enrollment for Card Authentication](#)

## About Access Control Rules

### What are Access Control Rules?

Access Control Rules define who can access which functions of a multi-function printer. Access Control Rules:

1. Unlock functions for unrestricted use, so that they can be used without authentication.
2. Enable functions you are authorized to use, when you authenticate at the printer.

On a printer, the functions that are unlocked are available without you having to authenticate. Once you authenticate the functions you are authorized to use will also become available.

### Unlock a Function for Unrestricted Access

In the example shown below, a company does not want to restrict black and white photocopying. The Access Control Rule unlocks the black and white photocopy function, making it unnecessary for anyone to authenticate at the printer for that function.



Access Control Rule Profile

Rule Name:

**Identification Method**

Criteria	Operator	Source
No Identification	Not Applicable	Not Applicable

1 - 1 of 1 items

**Rule Condition**

☒ Match All ☐ Match Any

Criteria	Operator	Value

No items to display

**Device Function**

UNAVAILABLE BECAUSE NO IDENTIFICATION METHOD PROVIDES UNRESTRICTED ACCESS

ONLY B/W COPY IS SELECTED FOR CURRENT ACTION (NO IDENTIFICATION METHOD)

Any printer that this rule applies to does not restrict the black and white photocopy function. The other rules that apply to that printer (see the example below) cannot restrict the black and white copy function, because it is already unlocked.

Access Control Rule Profile

Rule Name: Color Copy

**Identification Method**

Criteria	Operator	Source

0 - 0 of 0 items

**Rule Condition**

☒ Match All ☐ Match Any

Criteria	Operator	Value

0 - 0 of 0 items

**Device Function**

UNAVAILABLE TO OTHER RULES BECAUSE THE FUNCTION IS ALREADY UNRESTRICTED

## Authorize a Function for a Specific Group of Users

In the example shown below, the Access Control Rule specifies the following:

1. Use Card to authenticate at the printer.
2. Validate credentials against the identity management system(s) specified by *Authentication Source Profile (ASP Admin)*
3. Upon successful authentication, Authorize Color Copying only for those who belong to Organizational Groups that have names beginning with the letters ACC.

The screenshot shows the 'Access Control Rule Profile' window with the following configuration:

- Rule Name:** Color Copy
- Identification Method:**
  - Criteria: Card Number
  - Operator: Is In
  - Source: Authentication Source Profile (ASP Admin)
- Rule Condition:**
  - Criteria: User OU
  - Operator: Begins With
  - Value: ACC
- Device Function:** Color Copying (selected)

Annotations with red arrows point to specific fields:

- 'SPECIFIES THE USE OF CARD AUTHENTICATION' points to the 'Card Number' criteria in the Identification Method table.
- 'SPECIFIES WHO IS AUTHORIZED TO USE THE PRINTER' points to the 'Authentication Source Profile (ASP Admin)' source in the Identification Method table.
- 'SPECIFIES WHICH USERS (THOSE WHOSE ORGANIZATIONAL UNIT BEGINS WITH ACC) ARE AUTHORIZED TO USE THE SPECIFIED FUNCTION (COLOR COPYING)' points to the 'User OU' criteria and 'ACC' value in the Rule Condition table.
- 'IDENTIFIES THE FUNCTION (COLOR COPYING) THAT THIS RULE AUTHORIZES' points to the 'Color Copying' device function selected in the Device Function list.

The rule can be expanded to enable more complex scenarios such as:



1. Enabling Color Copy for those who belong to Organizational Groups that have names beginning with the letters ACC, and belong to the User Group SG, but not to the User Group NO\_COLOR\_PRINT.

Access Control Rule Profile

Rule Name: Color Copy

Identification Method







+ Add

Criteria	Operator	Source	
Card Number	Is In	Authentication Source Profile (ASP Admin)	 

1 - 1 of 1 items


Rule Condition

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value	
User OU	Begins With	ACC	 
User Group	Is	SG	 
User Group	Does Not Contain	NO_COLOR_PRINT	 

1 - 3 of 3 items

Device Function



Save Cancel

Changing the rule condition from **Match All** to **Match Any** allows for one who belongs to any one of the specified groups to have authorization to use the Color Copy Feature.

2. Allow for Card Authentication as well as User Name / Password Identification Method, so that users who forget their card can still authenticate at the printer.

Access Control Rule Profile

Rule Name: Color Copy

Identification Method

+ Add

Criteria	Operator	Source		
Card Number	Is In	Authentication Source Profile (ASP Admin)		
Username and Password	Is In	Authentication Source Profile (ASP Admin)		

1 - 2 of 2 items

Rule Condition

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value		
User OU	Begins With	ACC		
User Group	Is	SG		
User Group	Does Not Contain	NO_COLOR_PRINT		

1 - 3 of 3 items

Device Function

Save Cancel

### 3. Enable more than one function within a single rule.

Access Control Rule Profile

Rule Name: Color Copy

Identification Method

+ Add

Criteria	Operator	Source		
Card Number	Is In	Authentication Source Profile (ASP Admin)		
Username and Password	Is In	Authentication Source Profile (ASP Admin)		

1 - 2 of 2 items

Rule Condition

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value		
User OU	Begins With	ACC		
User Group	Is	SG		
User Group	Does Not Contain	NO_COLOR_PRINT		

1 - 3 of 3 items

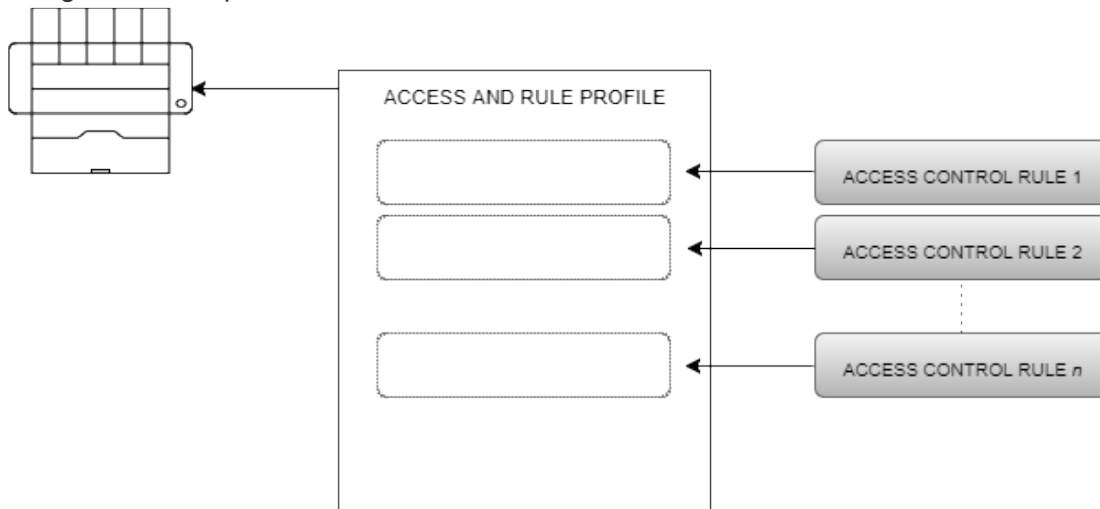
Device Function

Save Cancel

COLOR COPYING AND FAX  
SELECTED IMPLIES SPECIFIED  
ACTION (ENABLE ON  
AUTHENTICATION) IS APPLIED TO  
BOTH FUNCTIONS.

## Combining Access Control Rules and Assigning them to Printers

You assign a rule to a printer by adding the rule to the Access & Rule Profile assigned to that printer. An Access & Rule Profile is a named collection of rules. When you authenticate at a printer, the availability of functions is determined by the combination of the Access Control Rules in the Access & Rule Profile assigned to that printer.

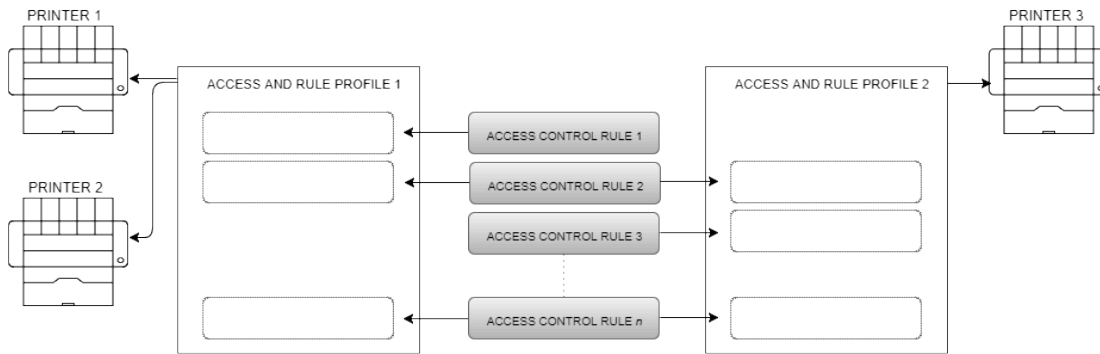


The screenshot shows the 'Access & Rules Profile' configuration interface. At the top, the 'Profile Name' is set to 'Jetmobile Singapore'. Below this, the 'Access Control Rules' section features a dropdown menu currently showing 'Select...'. A list of rules is displayed below the dropdown, with 'Unrestricted Access B/W Copy' and 'Color Copy and FAX' visible; 'Color Copy and FAX' is highlighted in blue. To the right of the rule list are several icons for adding, removing, and managing rules. The 'Printing Rules' section at the bottom also has a 'Select...' dropdown and a list area, with similar management icons on the right. The entire interface is presented with a torn-edge graphic effect.

One Access & Rule Profile can be assigned to many printers. This eliminates the need to set rules for each printer individually. Furthermore, if you add, remove or change a rule, all printers controlled by that Access and Rule Profile are updated.

Similarly, one Access rule can be assigned to more than one Access & Rule Profile. Changing the rule

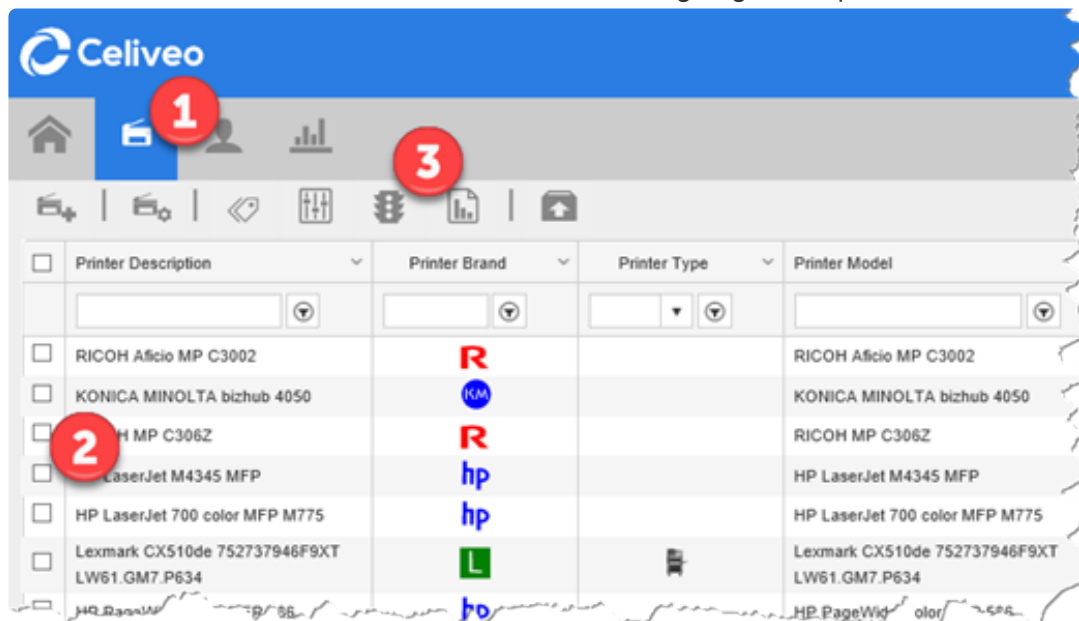
will update all such Access & Rule Profiles, and hence, all printers that use those Access & Rule Profiles.



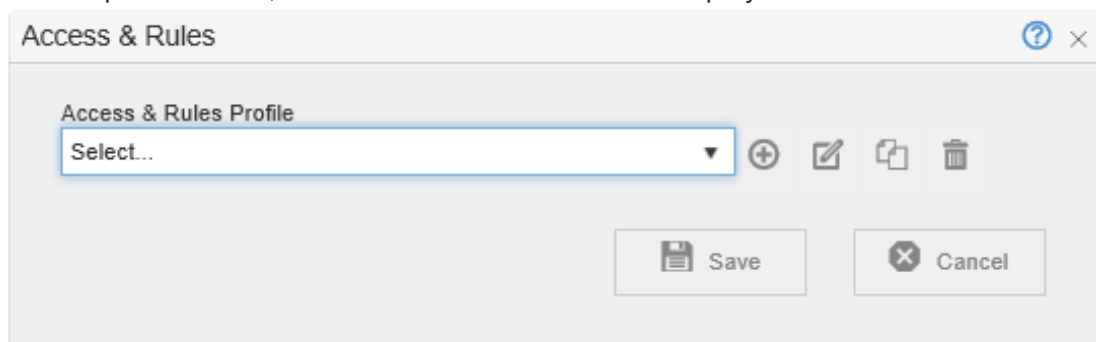
## How to...

### Create a New Access & Rule Profile


You create a new Access & Rules Profile while assigning it to a printer.

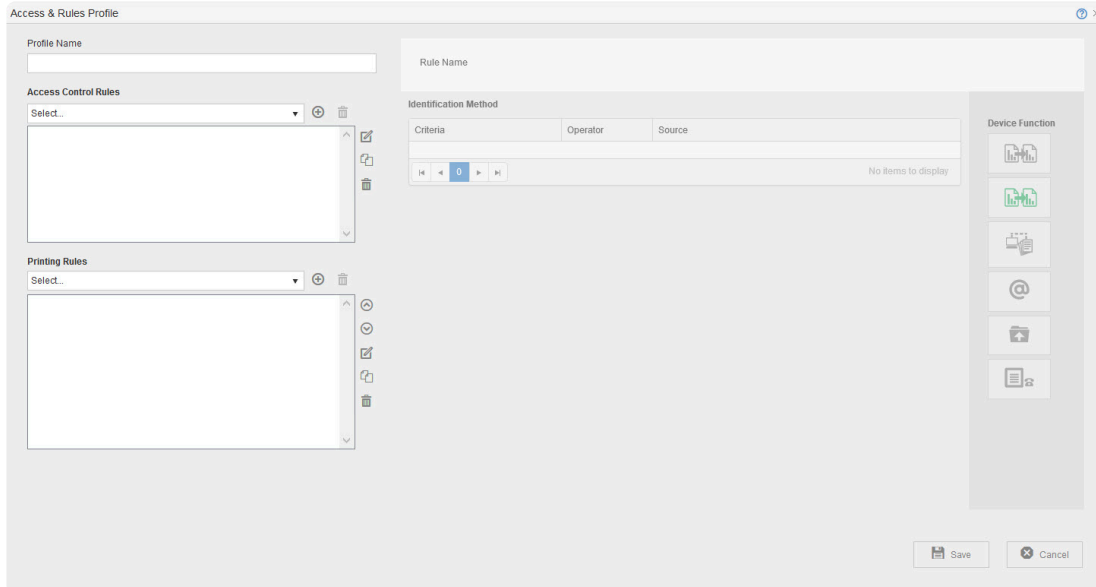


1. On the Celiveo Web Admin, at the main menu, click . The Printer List displays.
2. Select the Printer you want to add the new Access & Rules Profile to.
3. On the printer menu, click . Access and Rules is displayed.




4. To create an empty Access & Rules Profile, click .

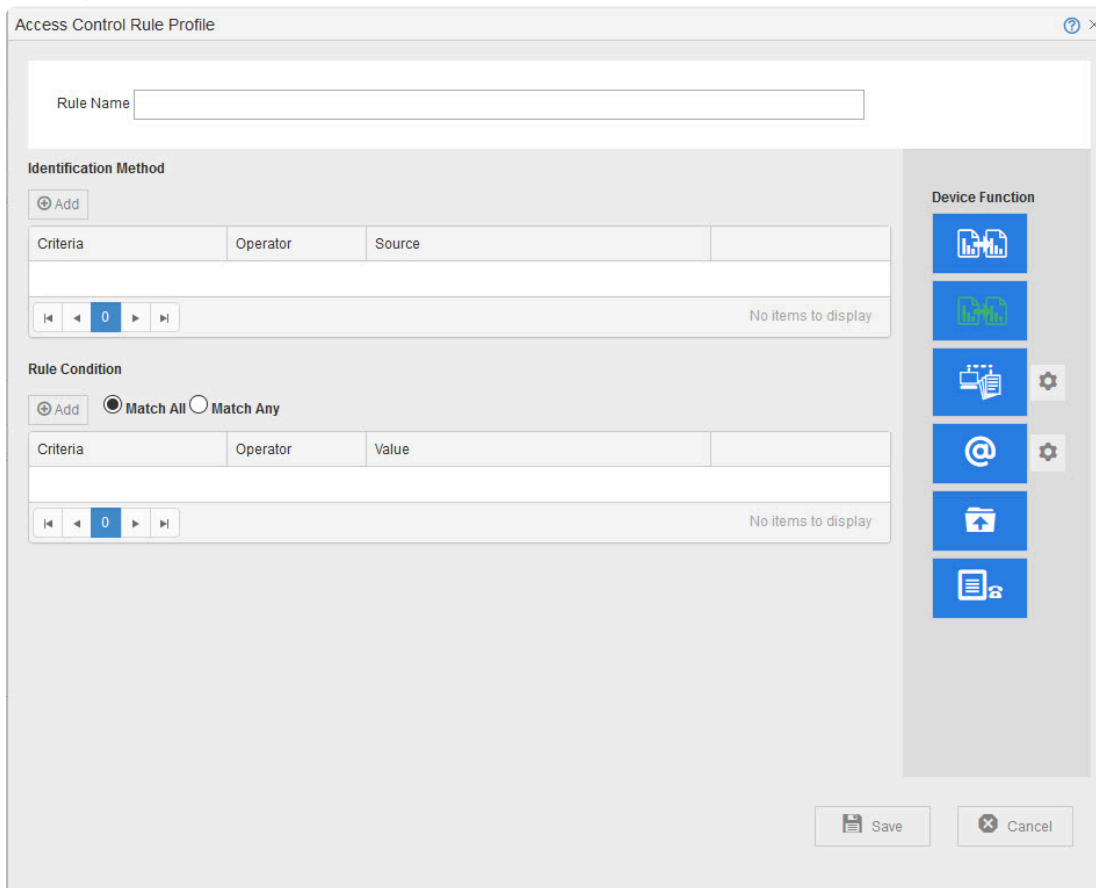
To create a new Access & Rules Profile by cloning an existing rule, select the existing rule from the drop-down and click . The Access & Rules Profile is displayed.



- In the **[Profile Name]** box, specify a unique name for the Access & Rules Profile. The new Access & Rules Profile is created when you save it.

## Add a Rule to Unlock a Function

- In Access & Rule Profile, click  adjacent to **[Access Control Rules]** drop-down. A new rule displays.



2. At **[Rule Name]** specify a name for the rule.
3. In the **[Device Functions]** section, click the different buttons to deactivate all features but Black and White Copy.
4. In the **[Identification Method]** section, select **No identification**.

Access Control Rule Profile

Rule Name: Unrestricted access B&W

**Identification Method**

+ Add

Criteria	Operator	Source
No Identification	Not Applicable	Not Applicable

1 - 1 of 1 items

**Rule Condition**

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value

No items to display

**Device Function**

Black and White Copy (selected)

UNAVAILABLE BECAUSE NO IDENTIFICATION PROVIDES UNRESTRICTED ACCESS

ONLY B/W COPY IS SELECTED FOR CURRENT ACTION (UNRESTRICTED ACCESS)

Save Cancel

5. Click **[Save]**.

## Authorize a Function for SmartCard/Card or PIN Authentication

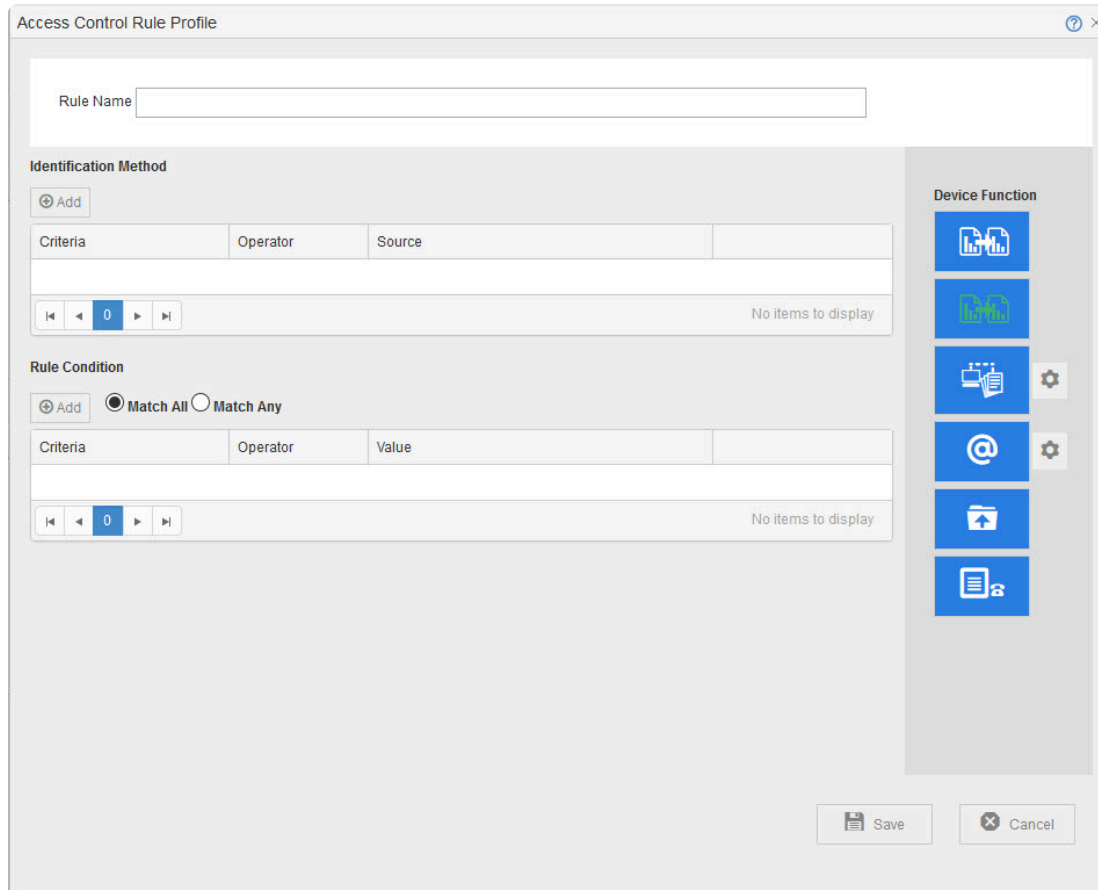
Authorizing a function, is a 3 stage process.

- Stage 1 – Enable Smartcard, Proximity card or PIN Authentication
- Stage 2 – Specify the function to authorize
- Stage 3 – Specify who is authorized to use the function (If all users who successfully authenticate are allowed to use the function, this stage can be skipped)

### Stage 1:


1. In Access & Rule Profile, click **+** adjacent to **[Access Control Rules]** drop-down. A new rule displays within the Access & Rules Profile.

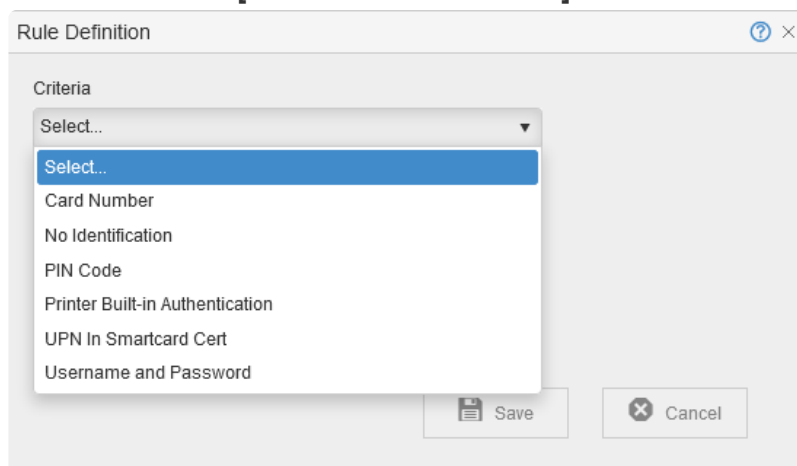




The 'Access Control Rule Profile' dialog box contains the following elements:

- Rule Name:** A text input field at the top.
- Identification Method:** A section with an 'Add' button and a table with columns 'Criteria', 'Operator', and 'Source'. Below the table is a pagination control showing '0' items and 'No items to display'.
- Rule Condition:** A section with an 'Add' button, radio buttons for 'Match All' (selected) and 'Match Any', and a table with columns 'Criteria', 'Operator', and 'Value'. Below the table is a pagination control showing '0' items and 'No items to display'.
- Device Function:** A vertical sidebar on the right containing six icons: a bar chart, a network diagram, a document with a checkmark, an '@' symbol, a folder with an up arrow, and a document with a lock.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom right.

- At **[Rule Name]** specify a name for the rule.
- In the Access Control Rule Profile, In the **[Identification Method]** section, click . The Rule Definition is displayed.
- In the **[Criteria]** drop-down, select **[Card Number]** for Card Authentication, **[PIN Code]** for PIN Authentication or **[UPN in Smartcard Cert]** for Smartcard Authentication.



The 'Rule Definition' dialog box shows the 'Criteria' dropdown menu open, displaying the following options:

- Select...
- Select...
- Card Number
- No Identification
- PIN Code
- Printer Built-in Authentication
- UPN In Smartcard Cert
- Username and Password

At the bottom of the dialog are 'Save' and 'Cancel' buttons.

- In the **Source** drop-down, select the Authentication Source Profile to authenticate against.

Rule Definition

Criteria  
Card Number

Operator  
Is In

Source  
Select...

- Select...
- AC - Card & Username Auth Profile
- AC - Card Auth AD (228)
- AC - Card Auth to SQL
- AC - PIN Access Source Profile (AD)
- AC - PIN Authentication Access (AD)
- AC - Smart Card Auth Source
- AC - Username & Password Auth Source [228]
- AC - Username to AD 228

Cancel

### Notes:

- For information on Authentication Profiles, see the [article on Authentication Profiles](#).
- The system ensures that all Card Authentication Access Control Rules for a given printer are authenticated against the same Authentication Profile.
- For more information about Authentication Profile, refer to About Authentication Profiles.
- You can combine Card Authentication with the User Name/Password method in the same Access Control Rule.
- A Smartcard license feature connector is required to use **[UPN In Smartcard Cert]**.
- **[UPN In Smartcard Cert]** rule can only be combined with **[Username and Password]**.
- **[UPN In Smartcard Certification]** rule cannot be used with the **[Celiveo Authentication Gateway]** authentication method.

6. Click **[Save]**. You return to the Access Control Rule Profile.

Access Control Rule Profile

Rule Name: Card Auth-Print (No Color Copy)

**Identification Method**

+ Add

Criteria	Operator	Source
No items to display		

0

**Rule Condition**

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value
No items to display		

0

**Device Function**



- Scan to Email
- Scan to Print
- Scan to Email (Settings)
- Print (Settings)
- Scan to Email
- Print

Save Cancel

## Stage 2

1. In the **[Device Functions]** section, select the features you want to authorize. The features you select are displayed as blue buttons.

### Notes:

- If you selected Scan to Email, click  and specify who to send the scanned image to.
- If you selected Print, click  and specify the pull print settings.

**Tip:** Use the Celiveo CSS option only if you are upgrading from SecureJet 7.0.5/6 or Celiveo 8.0.x.

Access Control Rule Profile

Rule Name: Card Auth-Print (No Color Copy)

Identification Method

+ Add

Criteria	Operator	Source	
Card Number	Is In	CELIVEO EMEA	

1 - 1 of 1 items

Rule Condition

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value

No items to display

Device Function

- 
- 
- 
- 
- 
- 

Save Cancel

### Stage 3

To grant permission for a user group or organizational unit:

**Note:** Access Control Rules cannot be applied to a user group that is a Primary AD group.

**IMPORTANT:** Rules for a Celiveo Shared Virtual Printer must not have USER OU as a criteria.

- Under **[Rule Condition]**, click . The Rule Definition is displayed.

Rule Definition

Criteria: Select...

Operator:

Value:

Save Cancel

- From the **[Criteria]** drop-down, select **User Group** or **Organizational Unit**.
- In the **[Operator]** drop-down select the comparison criterion.
- In the **[Value]** box, specify what to compare against .
- Note:** You can specify multiple rule conditions, and select **[Match Any]** to authorize the features if any one condition is met, or select **[Match All]**, to authorize the features if every condition is met.

Access Control Rule Profile

Rule Name: Card Auth-Print (No Color Copy)

**Identification Method**

+ Add

Criteria	Operator	Source		
Card Number	Is In	CELIVEO EMEA		

1 - 1 of 1 items

**Rule Condition**

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value		
User OU	Begins With	ACC		
User Group	Is	SG		
User Group	Does Not Contain	NO_COLOR_PRINT		

1 - 3 of 3 items

**Device Function**

- 
- 
- 
- 
- 
- 

Save Cancel

- Click **Save** until all dialogs close.

## Set Up ID Mask and Dual Factor Authorization for Card Authentication



- In Access & Rule Profile, in Access Control Rules, select the rule that implements card authentication.
- Click under **[Access Control Rules]**. The rule displays for editing.

Access Control Rule Profile

Rule Name: Card Auth-Print (No Color Copy)

**Identification Method**







+ Add

Criteria	Operator	Source	
Card Number	Is In	CELIVEO EMEA	 

1 - 1 of 1 items







**Rule Condition**

+ Add ☒ Match All ☐ Match Any

Criteria	Operator	Value	
User OU	Begins With	ACC	 
User Group	Is	SG	 
User Group	Does Not Contain	NO_COLOR_PRINT	 

1 - 3 of 3 items

**Device Function**

- 
- 
- 
- 
- 
- 

Save Cancel




3. In the **[Identification Method]** section, click  in the row containing the Card Number condition. The Rule definition displays.

Rule Definition


Criteria: Card Number

Operator: Is In


Source: Jet Mobile HA

+   

Save Cancel

4. Click  in the row containing the Source. The Authentication Source Profile displays.

To set up the ID Mask;

1. Click the **[ID Mask]** button to turn it on.
2. Click  , which is placed next to **[ID Mask]**. The ID Mask displays.


3. Specify the ID Mask to use to extract the card number and click **[Close]**. See this article on [how to configure ID mask](#).
4. From the **[ID Processing]** drop-down, specify how to process the extracted card number.

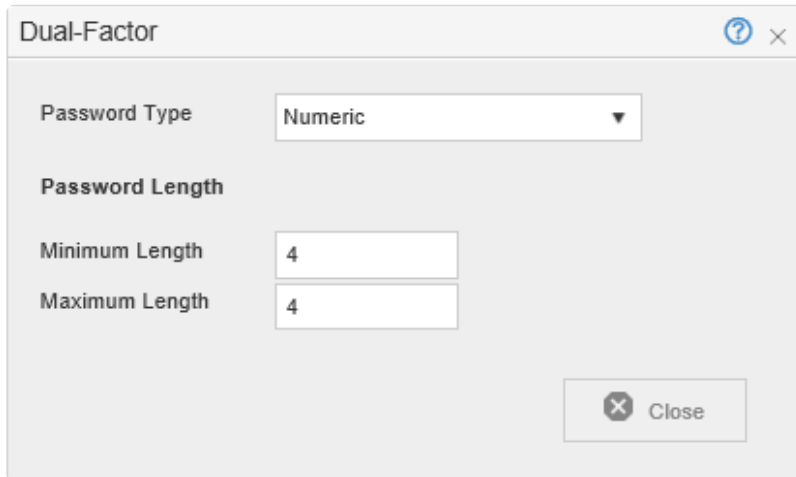
### Information about ID Processing:

The ID Processing methods are used to match the number extracted from the card with the one that is written in the back of the card. These conversions are needed when the card ID in Celiveo has to match the numbers in the back of the card or if they need to correspond to an existing number in a database that would be imported to AD or Celiveo SQL DB.

To enable dual factor authentication;

1. Click the **[Dual Factor]** button to turn it on.

- Click , which is placed next to the **[Dual Factor]** button.



**Dual-Factor**

Password Type: **Numeric**

Password Length

Minimum Length: **4**


Maximum Length: **4**

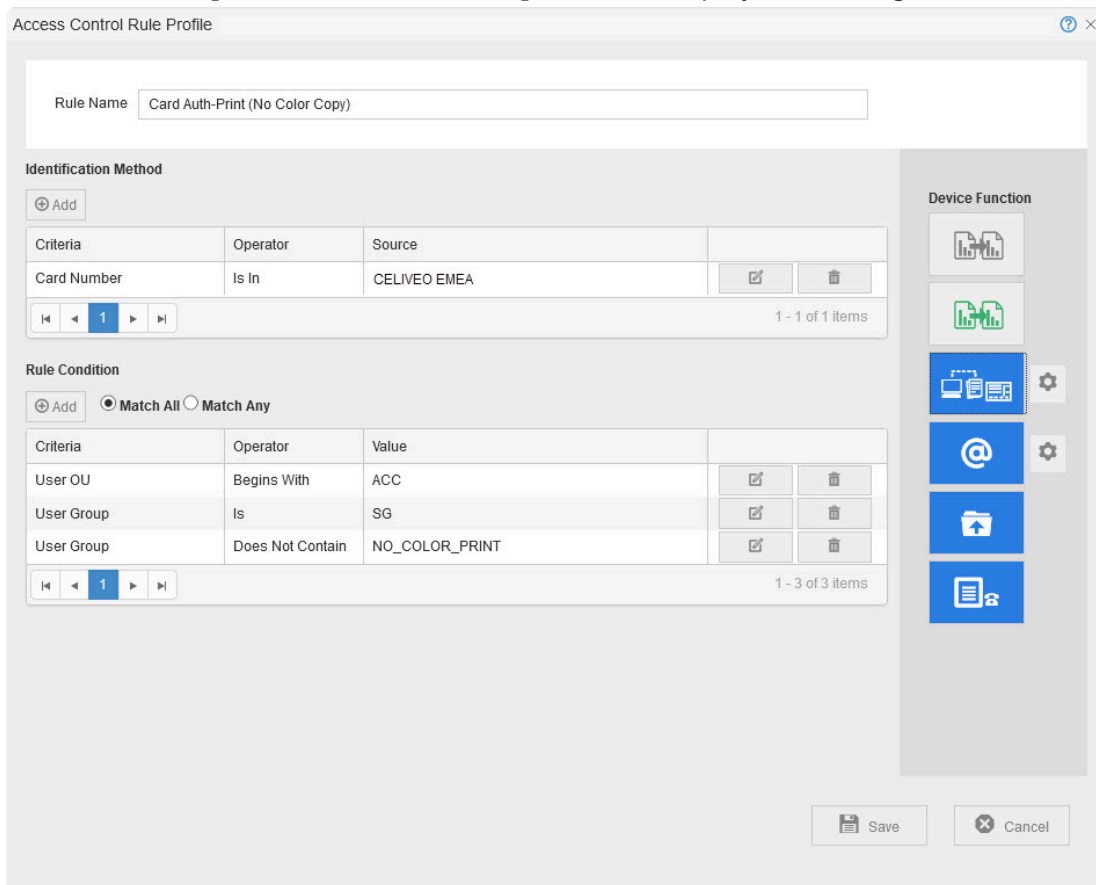
**Close**

- Specify properties of the password to use and click **[Close]**.
- Click **Save**.

## Enable Self Enrollment for Card Authentication

When self enrollment is enabled, you can log in at the printer using your Windows credentials. Thereafter you can save your card details to Celiveo, without the help of a Celiveo Administrator.

- In Access & Rule Profile, in Access Control Rules, select the rule that implements card authentication.
- Click  under **[Access Control Rules]**. The rule displays for editing.





**Access Control Rule Profile**

Rule Name: Card Auth-Print (No Color Copy)

**Identification Method**







**Add**

Criteria	Operator	Source	
Card Number	Is In	CELIVEO EMEA	 

1 - 1 of 1 items









**Rule Condition**

**Add** ☒ Match All ☐ Match Any

Criteria	Operator	Value	
User OU	Begins With	ACC	 
User Group	Is	SG	 
User Group	Does Not Contain	NO_COLOR_PRINT	 

1 - 3 of 3 items

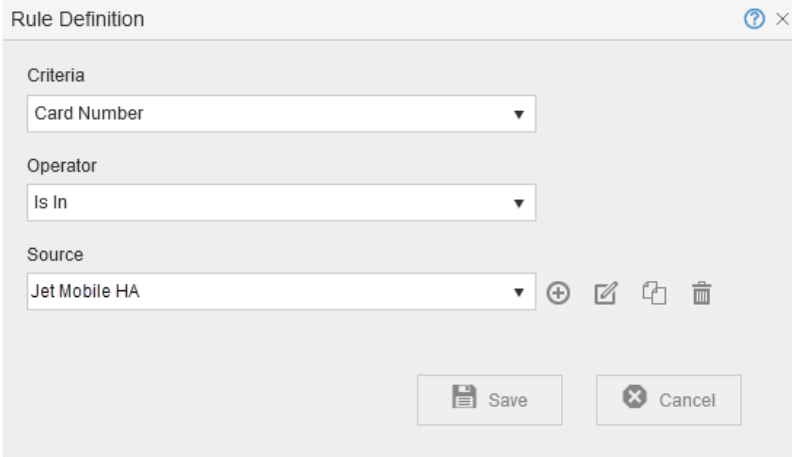
**Device Function**

- 
- 
-  
-  
- 
- 


**Save** **Cancel**

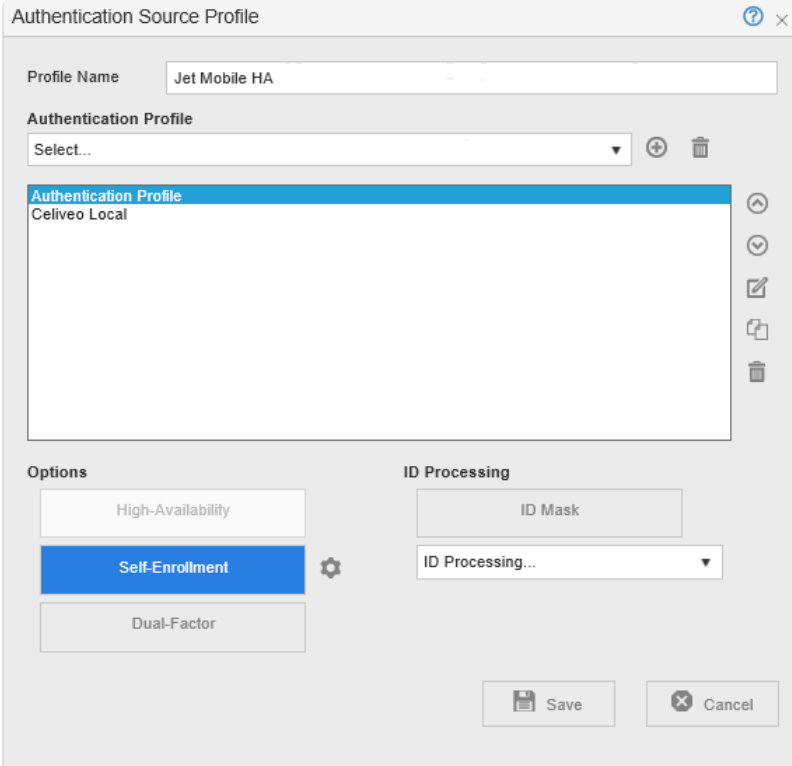


3. In the **[Identification Method]** section, click  in the row containing the Card Number condition. The Rule definition displays.




The Rule Definition dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains three dropdown menus: 'Criteria' with 'Card Number' selected, 'Operator' with 'Is In' selected, and 'Source' with 'Jet Mobile HA' selected. To the right of the 'Source' dropdown are four icons: a plus sign, a pencil, a document, and a trash can. At the bottom are two buttons: 'Save' with a floppy disk icon and 'Cancel' with an 'X' icon.

4. Click  in the row containing the Source. The Authentication Source Profile displays.



The Authentication Source Profile dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains a 'Profile Name' field with 'Jet Mobile HA' entered. Below it is an 'Authentication Profile' dropdown menu with 'Select...' as the current selection. To the right of this dropdown are a plus icon and a trash icon. Below the dropdown is a list box containing 'Authentication Profile' and 'Celiveo Local'. To the right of the list box are four icons: a plus, a minus, a pencil, and a trash can. At the bottom are two buttons: 'Save' with a floppy disk icon and 'Cancel' with an 'X' icon. There are also two sections: 'Options' with three buttons ('High-Availability', 'Self-Enrollment' which is highlighted in blue, and 'Dual-Factor') and 'ID Processing' with two buttons ('ID Mask' and 'ID Processing...'). A gear icon is located between the 'Options' and 'ID Processing' sections.

5. Verify that the Self Enrollment is turned on (The Self Enrollment button is highlighted in blue when Self Enrollment is on).
6. Click , which is placed next to the **[Self Enrollment]** button. The Self Enrollment settings display.

**Self Enrollment**

**Enrollment Configuration**

☒ SQL  
☐ AD/LDAP

Auto unenroll inactive user after days : 90

**Schedule SQL User Data Sync**

Schedule Time Zone: Local

24 16:30 To 18:30

31 Date

01 November 2017

01-Nov-2017 04:30 PM

Close

### UNENROLL INACTIVE USERS

To help the IT administrator keep the database up to date, you can set a time frame to automatically remove an inactive user.

At **[Auto unenroll inactive user after days]**, enter the number of days.

An enrolled user who has not used the Celiveo system after the specified number of days is automatically removed.

**Note:** If enrollment into AD is selected, to avoid any error, make sure that the **Last Activity Field Name** of the Active Directory fields is documented and that the field has read/write rights for the indicated AD service account. This can be set up in the Advanced Section of the Authentication Profile settings. To learn more, see the [information about the advanced settings of an authentication profile](#).

- To save card info in the Celiveo database:
  - Select **[SQL]**.
  - In the **[Schedule SQL User Data Sync]** section, specify when and how often user information should be synced with the Authentication Server.
- To save card information on the Authentication Server, select **[AD/LDAP]**.  
See the [information about the advanced settings of an authentication profile](#) to see where card information is saved.
- Close all dialogs.



## 10.2. Authentication Profiles

### Contents

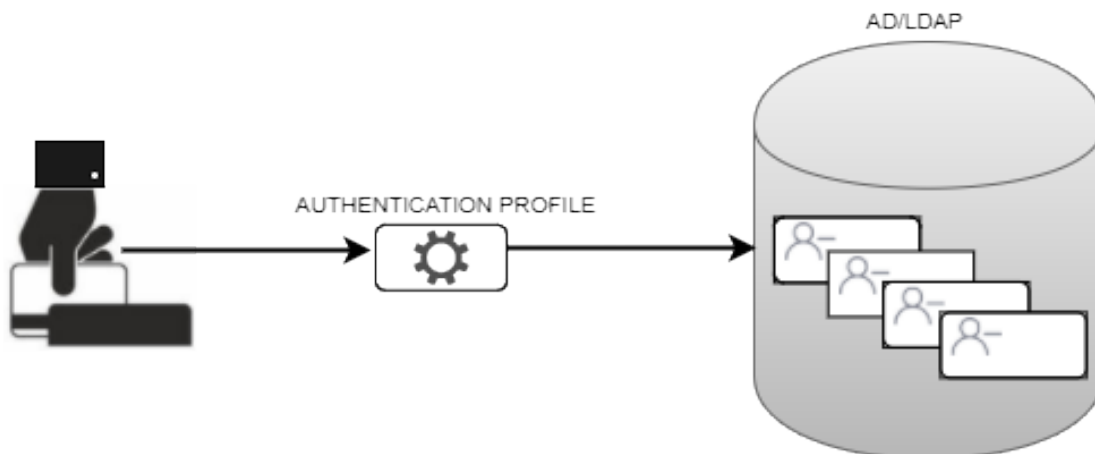


1. About Authentication Profiles
  - a. [What are Authentication Profiles?](#)
  - b. [Settings Specified in an Authentication Profile](#)
  - c. [Authentication Profiles in Access Control Rules](#)
  - d. [Optimizing Authentication for Large Organizations](#)
  - e. [Additional Settings in an Authentication Profile](#)
2. How to...
  - a. [Create a New Authentication Source Profile](#)
  - b. [Create and Add an Authentication Profile to an Authentication Source Profile](#)
  - c. [Create a New Authentication Profile](#)

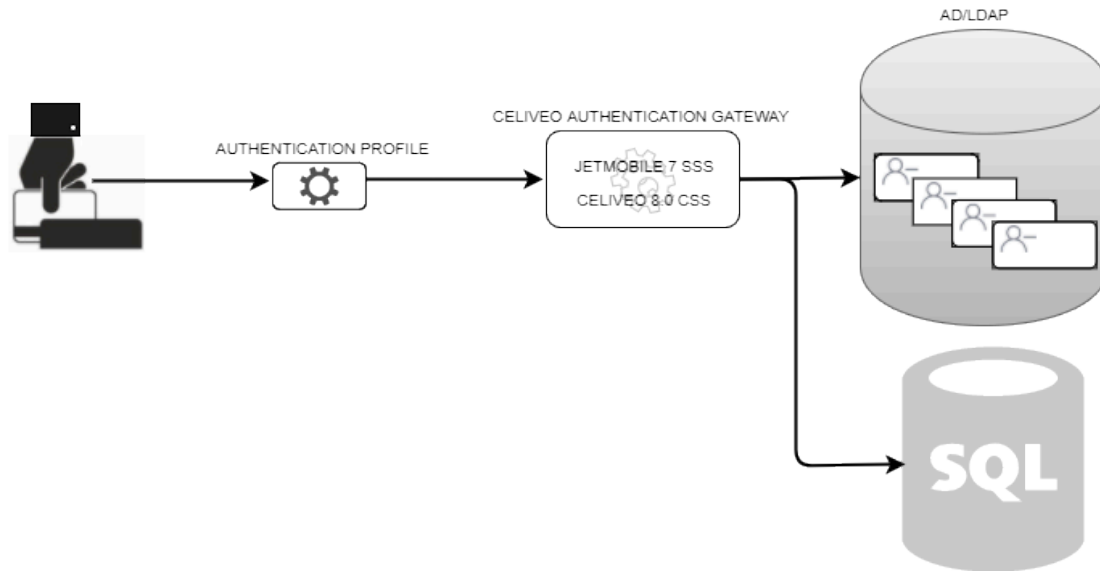
## About Authentication Profiles

### What are Authentication Profiles?

Authentication Profiles contain the settings that Celiveo uses to query an Authentication Server and retrieve a list of users (who typically are authorized to access Celiveo-enabled printers). Celiveo works with Microsoft's Active Directory (AD), the directory service used by Microsoft Windows for identity management, using the vendor neutral Lightweight Directory Access Protocol (LDAP).



If you already have a running installation of SecureJet 7 or Celiveo 8.0.x, you can connect to the Celiveo Authentication Gateway instead of connecting directly to AD/LDAP. By connecting to the Celiveo Authentication Gateway, you avoid having to set up the authentication mechanism all over again.



However, connecting to the Authentication Gateway deprives you of the performance improvements introduced with the current version of Celiveo. For example, the ability to optimize authentication for large organizations.

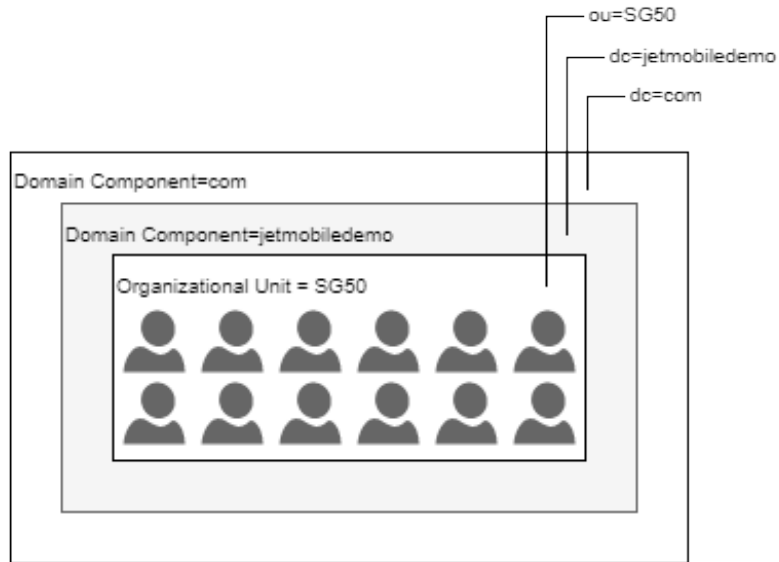
## Settings Specified in an Authentication Profile

The basic settings of an authentication profile specify:

1. Settings to open a connection to an Authentication Server.
2. LDAP search parameters that results in a shortlist of authorized users.

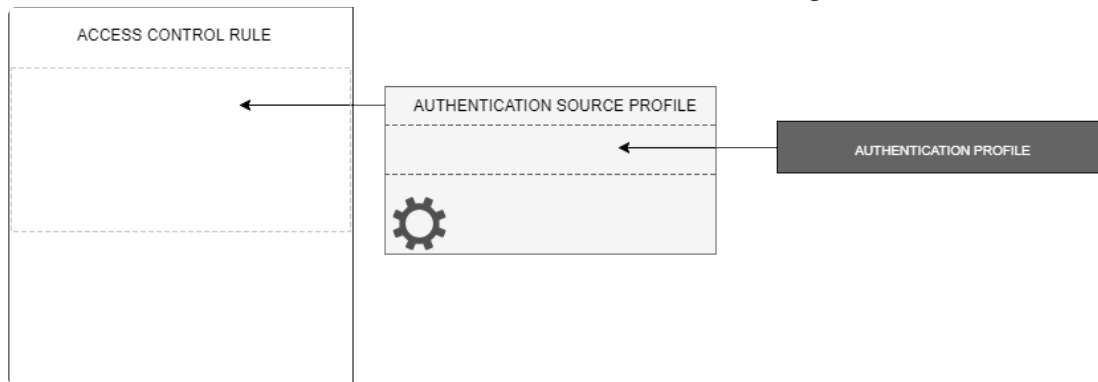
The example shown below:

- Connects to 192.168.12.200 (the Authentication Server hosting the AD Database for the domain jetmobiledemo.com).
- Shortlist users who are part of the Organizational Unit SG50 (OU=SG50).



## Authentication Profiles in Access Control Rules

Access Control Rules connect to Authentication Profiles through Authentication Source Profiles.

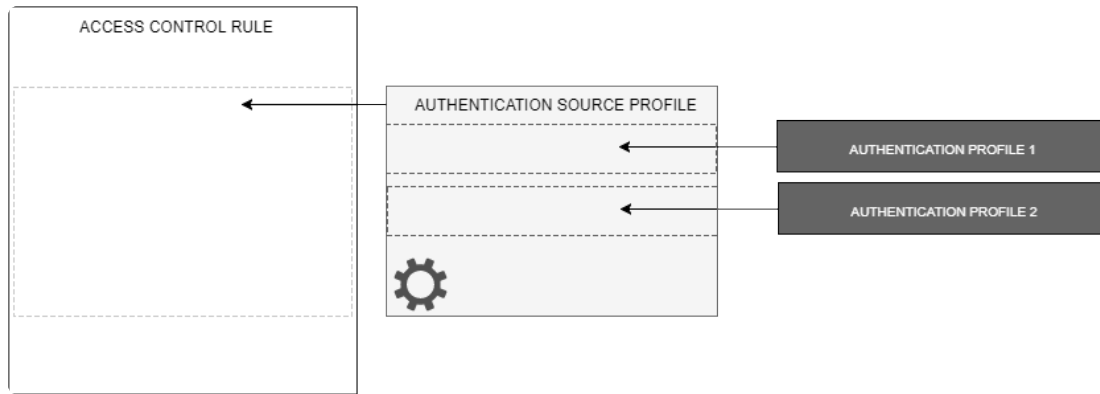


An Authentication Source Profile supplements Authentication Profile by carrying additional information that may be required by an Authentication Profile. For example, the mask used to extract the employee id from an employee card.

## Optimizing Authentication for Large Organizations

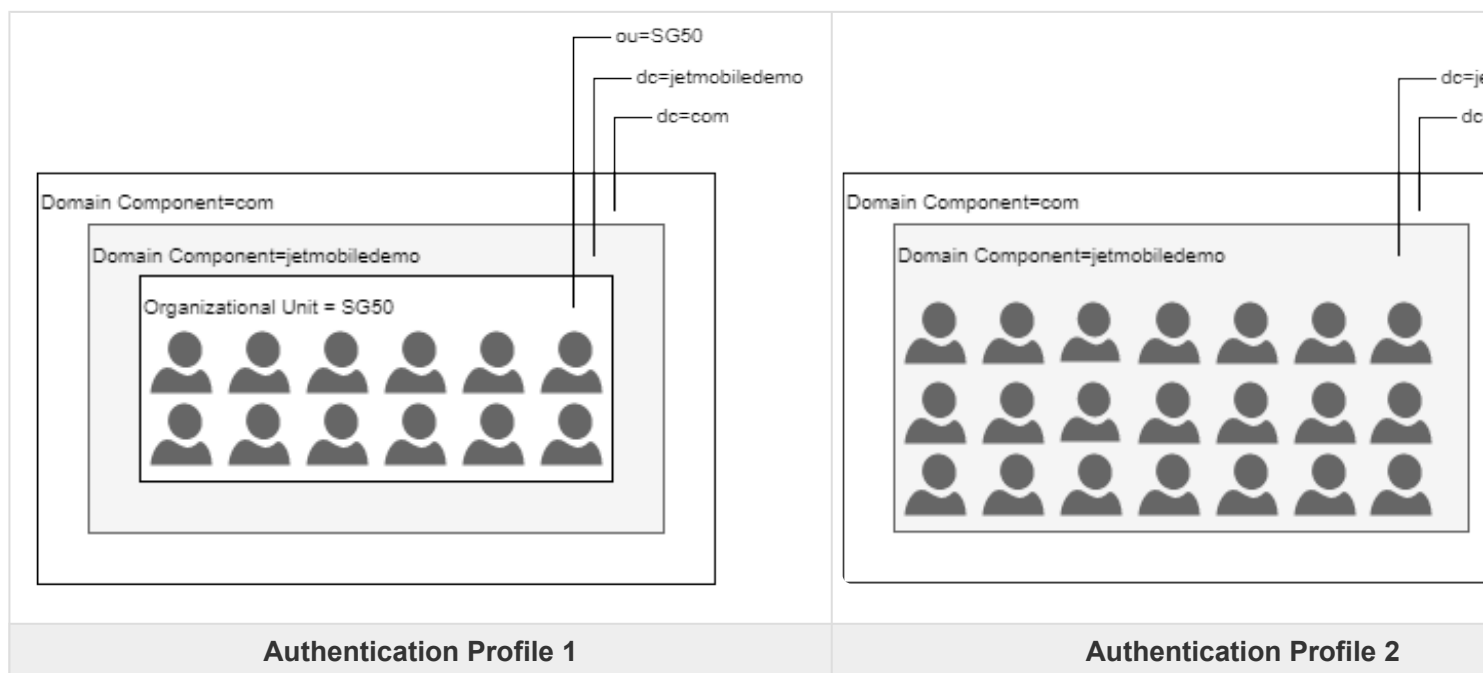


In large organizations, where the number of users is considerably high, or is geographically distributed, authentication may take time. The Enterprise Version of Celiveo provides a work-around for this bottleneck. The Enterprise Version supports the ability for an Authentication Source Profile to contain multiple Authentication Profiles.



If authentication fails on the first Authentication Profile, the system automatically falls back on to the next profile. By setting up more restrictive but faster Authentication Profiles to be processed before the less restrictive but larger ones, you can speed up authentication for regular users.

For example, supposing a large company has offices distributed across the globe, you can set up one authentication profile exclusively for employees of one office (OU=SG50 in the illustration below) and another less restrictive one for the entire company. Both Authentication Profiles are then assigned to the printers in that office.



When SG50 employees authenticate at a printer, Authentication Profile 1 is able to handle their authentication. Supposing a visitor from another office of the same organization visits the SG50 office, Authentication Profile 2 is able to handle their Authentication. SG50 employees are able to authenticate faster than the visiting employee because Authentication Profile 1 ensures that the system has to deal only with the SG50 employees. The visiting employee will take longer to authenticate because Authentication Profile 2 results in a larger number of users to look up. This technique (of falling back on a secondary authentication profile when authentication against a main profile is unsuccessful) helps to cover all of the company's employees, while allowing the SG50 office employees enjoy faster authentication.

## Additional Settings in an Authentication Profile

The Advanced settings are important only if you choose to configure the connection method (Simple or Encrypted) and /or store enrollment information on the Authentication Server, instead of the Celiveo Database.

Connection to the Authentication Server can be made in two ways:

- **Simple:** Choose this method to connect to the AD via unsecured port. Simple connection uses port 389 for communication.
- **Over TLS:** Choose this method to enable secured connection to AD. Standard port used for such communication is 636. You can also change the port number.

Since AD does not have fields that correspond to some Celiveo specific properties, you can use the Advanced section to map Celiveo properties to AD field names that are not in use.

For example, when Card Authentication is enabled, Celiveo uses the card number to identify a user. Similarly, when PIN Authentication is enabled, Celiveo uses the PIN code to identify users. Celiveo stores both the card number and PIN code in a Celiveo specific property named Id Code. However, AD does not have a field named Id Code. So, you must store the Id Code in an unused AD field that already exists on the Authentication Server. In the Advanced section, you can map Id Code to the relevant unused AD field.

Setting	Description
Id Code Field Name	Default value is [postOfficeBox]. Or, select the Active Directory field which stores the user ID in the Active Directory or User Directory.
Department Field Name	Default value is [department]. Or, select the Active Directory field which stores the user department information.
Full Name Field Name	Default value is [displayName]. Or, select the Active Directory field which stores the user full name information.
Enrollment Id Field Name	Default value is [sAMAccountName]. This field is searched in the Active Directory to match the user login name and get their information during enrollment.

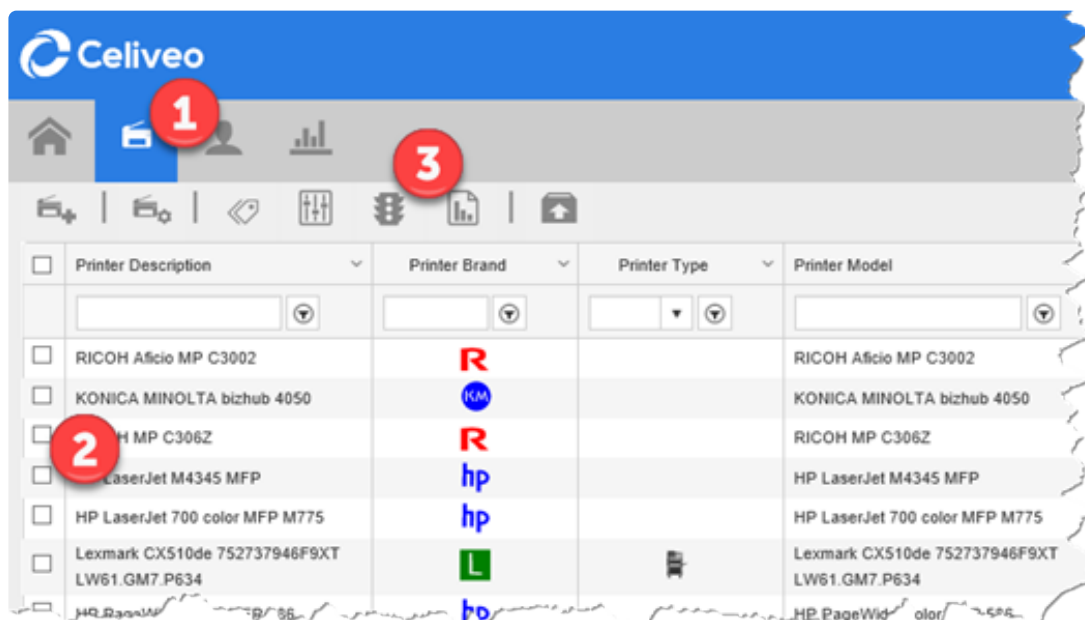


Dual Factor Field Name	Default value is [description]. Or, select the Active Directory field which stores the Dual Factor password.
Tracking Login Field Name	Default value is [sAMAccountName]. Or, select the Active Directory field which stores the user tracking login activity.
Login Field Name	Default value is [sAMAccountName]. Or select the Active Directory field which stores the user login information.
Email Field Name	Default value is [mail]. Or, select the Active Directory field which stores the user email information.
Home Directory Field Name	Default value is [homeDirectory]. Or, select the Active Directory field which stores the user information.
Domain Field Name	Default value is [domain]. Or, select the Active Directory field which stores the user domain.
Last Activity Field Name	Default value is lowercase of letter 'L'. The time of the most recent authentication by the user. The feature is critical for auto-unenrollment, as the exact time is calculated before the user is automatically un-enrolled. The data of Last Activity Time is stored in the file if the user is enrolled locally. NOTE: Make sure that this field is documented and that it has read/write rights for the indicated AD service account.

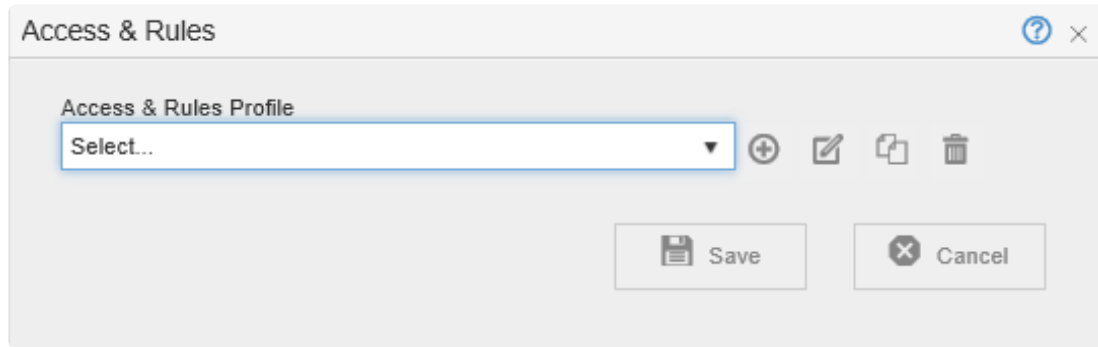
## How to...

### Create a New Authentication Source Profile

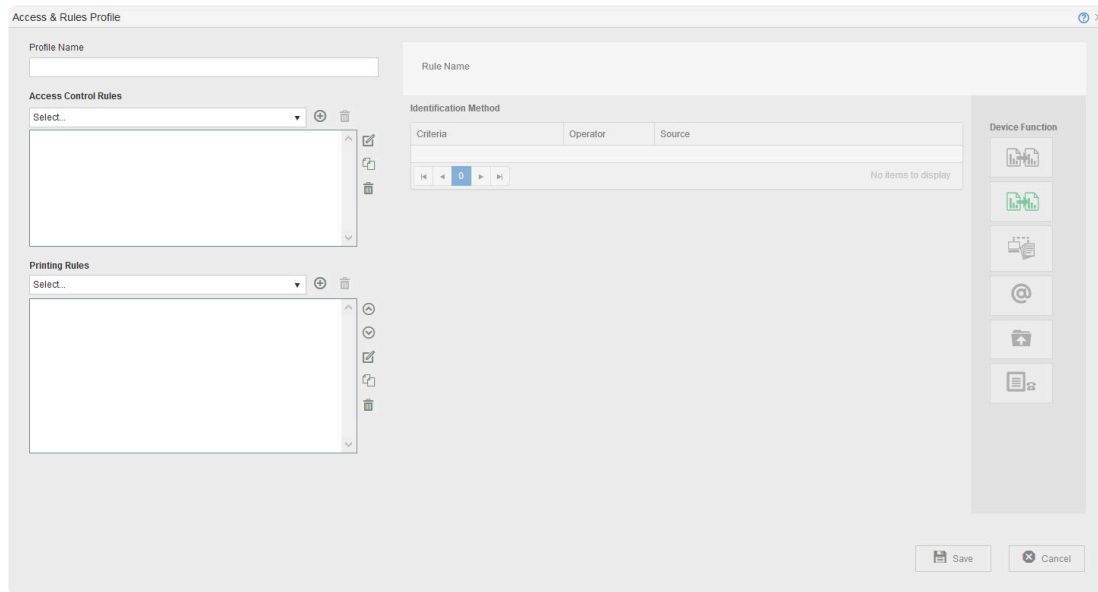
New Authentication Profiles are created while binding Access Control Rules to printers.



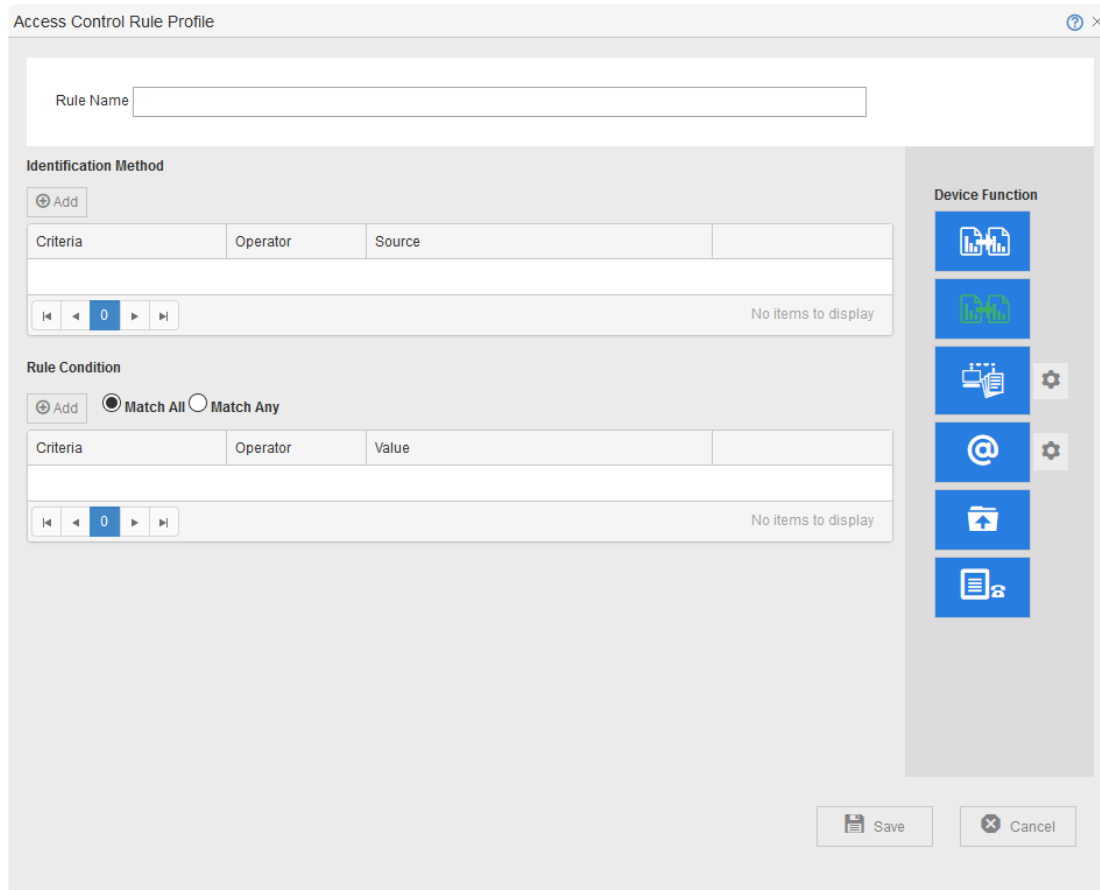
1. On the Celiveo Web Admin, at the main menu, click . The Printer List displays.
2. Select the Printer you want to add the new Access & Rules Profile to.
3. On the printer menu, click . Access and Rules is displayed.



4. Select an Access & Rules Profile from the **[Access & Rules Profile]** drop down and click **+**. The Access & Rules Profile displays.




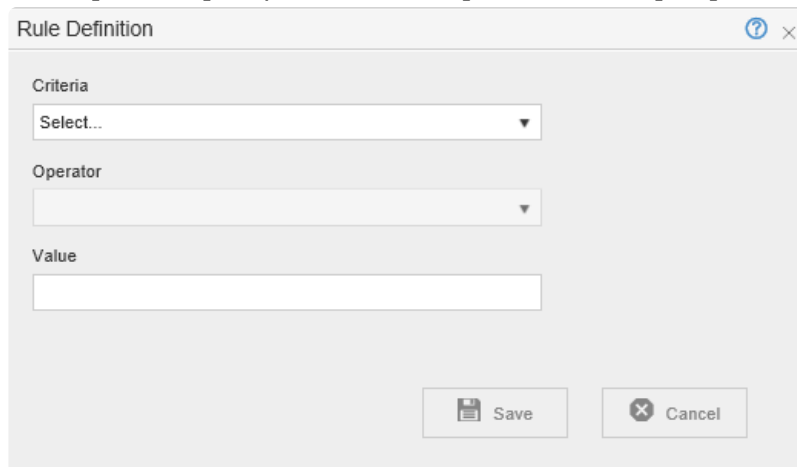
5. In the **[Profile Name]** box, specify a unique name for the Access & Rules Profile.
6. Click **+** adjacent to the **[Access Control Rules]** drop-down. A new rule displays.



The **Access Control Rule Profile** dialog box contains the following elements:


- Rule Name:** A text input field at the top.
- Identification Method:** A section with an **Add** button and a table with columns: Criteria, Operator, and Source. Below the table is a pagination control showing 0 items and a 'No items to display' message.
- Rule Condition:** A section with an **Add** button, radio buttons for **Match All** (selected) and **Match Any**, and a table with columns: Criteria, Operator, and Value. Below the table is a pagination control showing 0 items and a 'No items to display' message.
- Device Function:** A vertical sidebar on the right containing six icons: a card reader, a PIN pad, a document with a checkmark, an '@' symbol, a folder, and a document with a lock. Each icon has a settings gear to its right.
- Buttons:** **Save** and **Cancel** buttons at the bottom right.

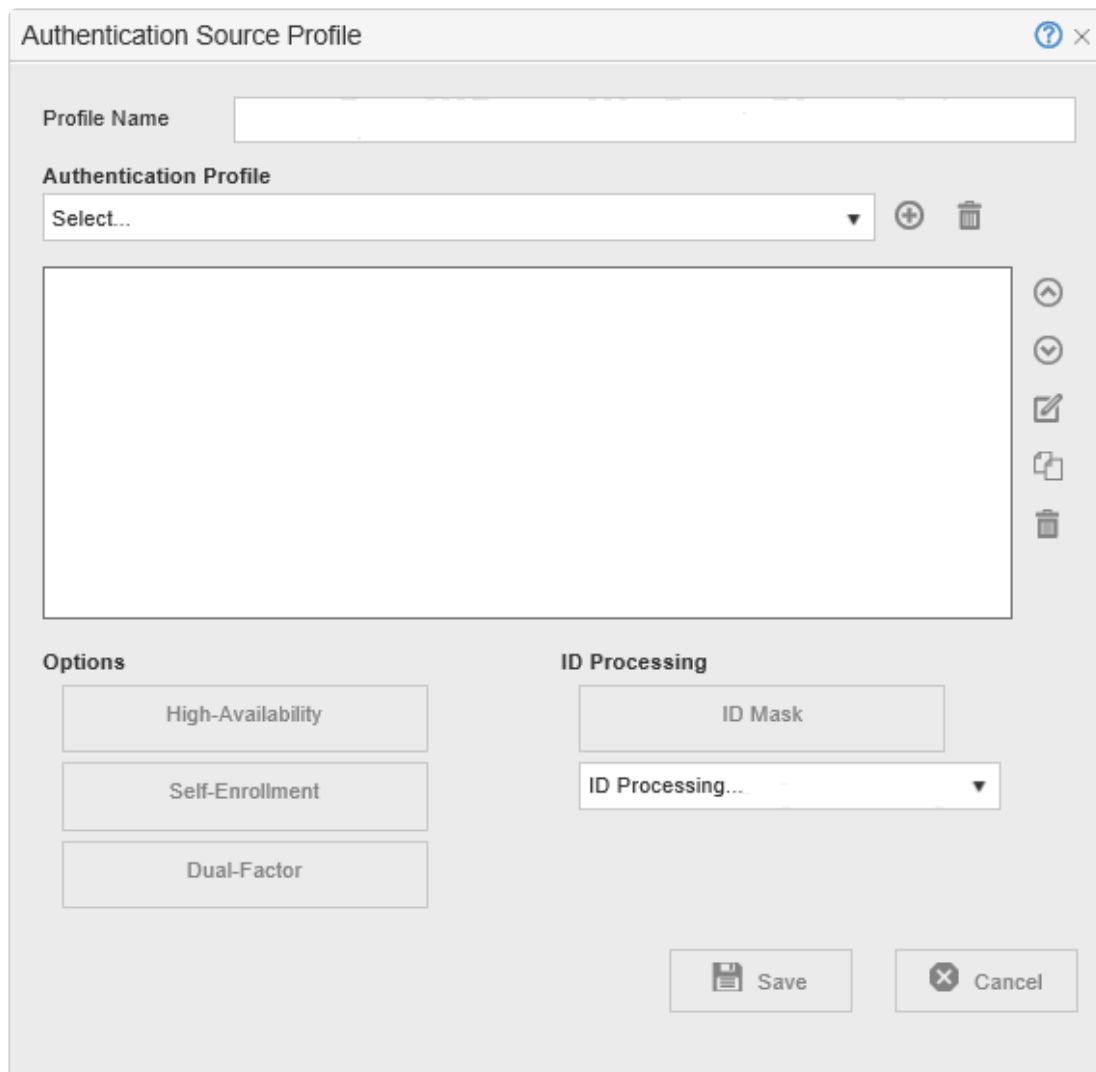
7. At **[Rule Name]** specify a name for the rule.
8. In the Access Control Rule Profile, In the **[Identification Method]** section, click . The Rule Definition is displayed.
9. In the **[Criteria]** drop-down, select **[Card Number]** or **[PIN Code]** for PIN Authentication.



The **Rule Definition** dialog box contains the following elements:

- Criteria:** A drop-down menu with 'Select...' as the current selection.
- Operator:** A drop-down menu.
- Value:** A text input field.
- Buttons:** **Save** and **Cancel** buttons at the bottom.


10. Click , which is located next to the **[Source]** drop-down. A new Authentication Source Profile displays.



The screenshot shows the 'Authentication Source Profile' window. At the top, there is a 'Profile Name' text field. Below it is the 'Authentication Profile' section, which includes a 'Select...' dropdown menu, a '+' icon, and a trash icon. A large empty rectangular area is positioned below the dropdown. To the right of this area is a vertical toolbar with icons for up, down, edit, copy, and delete. At the bottom, there are two sections: 'Options' on the left with buttons for 'High-Availability', 'Self-Enrollment', and 'Dual-Factor'; and 'ID Processing' on the right with an 'ID Mask' button and an 'ID Processing...' dropdown. At the very bottom are 'Save' and 'Cancel' buttons.

11. At **[Profile Name]**, specify a name for the Authentication Source Profile.

## Create and Add an Authentication Profile to an Authentication Source Profile

1. Click  , which is located next to the [Authentication Profile] drop-down. A new Authentication Source Profile displays.

2. To specify authentication against your company authentication server:
  - a. Ensure that the Authentication Method is set to AD/LDAP.
  - b. Specify the parameters to query the authentication server.

### Configure advanced settings




1. Click on **[Advanced]** to access the advance configuration.
2. At **[Authentication]**, select either **[Simple]** or **[Over TLS]**.
3. At **[Host Port]**, depending on the authentication method selected, the port number selected is:
  - 389 for **[Simple]** and
  - 636 for **[Over TLS]**.\*

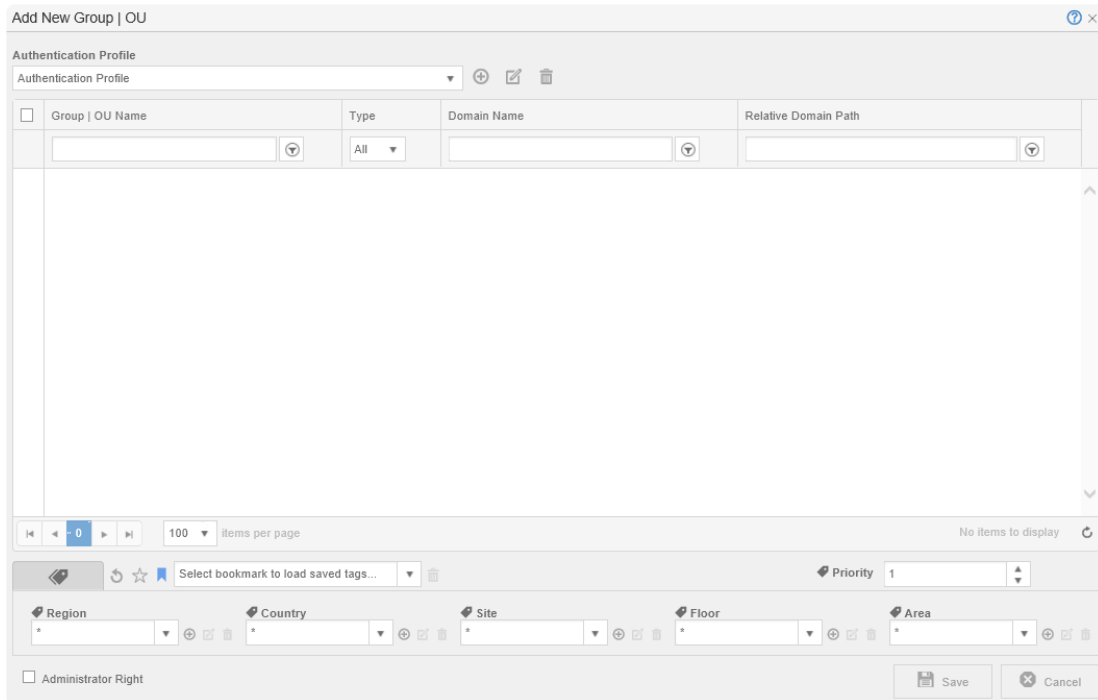



**IMPORTANT:** \*To avoid any dysfunction, especially with HP FutureSmart Printers, make sure your LDAP is properly configured to be used over TLS. To get the step-by-step instructions, please see the [Microsoft Blog](#).

4. Make the required changes to the **[Active Directory Field Names]**.
5. Click **[Save]**. You are returned to the Authentication Source Profile.
6. From the **[Authentication Profile Name]** drop-down, select the Authentication Profile you just created.
7. Click **[Save]**.

## Create a New Authentication Profile (Alternate Method)


1. From the Celiveo Web Admin Main Menu, click  . The User list displays.
2. Click  . The User Groups list displays.
3. Click  . The Add New Group|OU displays.



4. Click  , which is located next to the **[Authentication Profile]** drop-down. The Authentication Profile dialog displays.
5. At Authentication Profile Name, specify a name to identify the Authentication Profile.
6. Specify the parameters to query the authentication server.

- Click **[Save]**. The Groups and Organizational units retrieved by the LDAP query you specified is listed in the Add New Group|OU dialog.

- Inspect the list and verify if the information that the Authentication Profile retrieved is correct.
- Click **[Cancel]**.

 **Note:** The objective of this exercise was to create the authentication profile and not create a group. Because the authentication profile is already created and verified, we cancel without saving the group.

*Last modified: 9 September 2020*

# 10.3. High Availability

## Contents

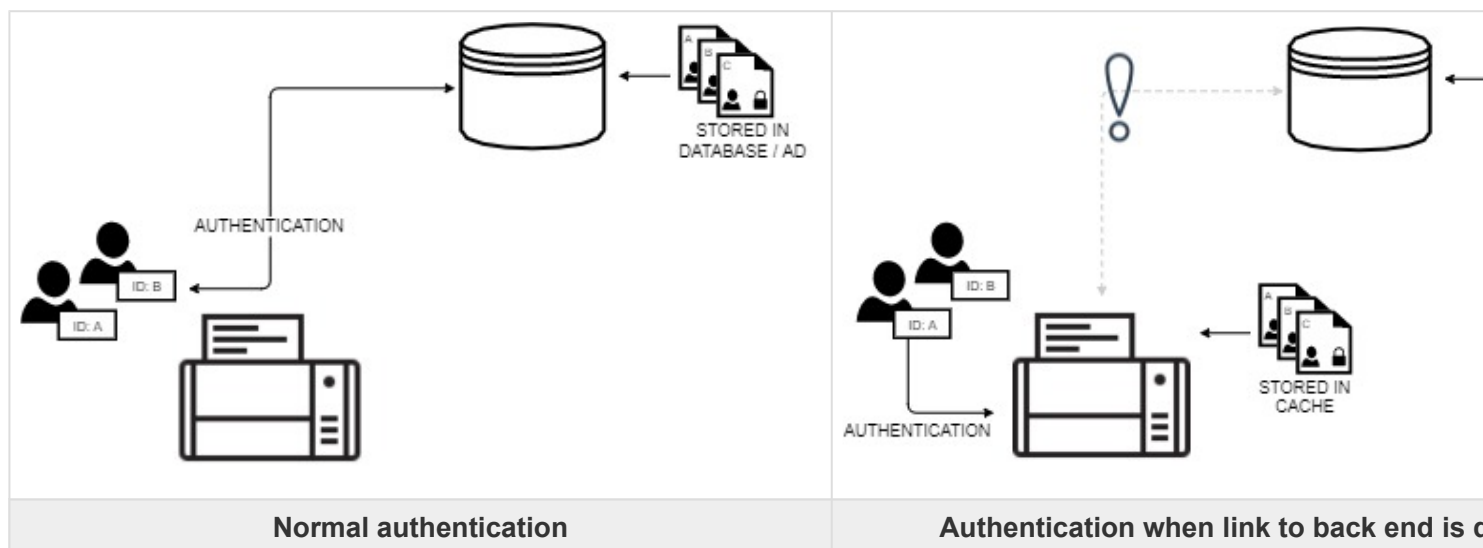
E

1. About High Availability
  - a. [What is high availability?](#)
  - b. [Full Cache Vs Dynamic Cache](#)
  - c. [Cache First Vs Cache Last](#)
  - d. [Tracking and High Availability](#)
  - e. [Limitations](#)
2. How to...
  - a. [Enable High Availability](#)
  - b. [Configure High Availability Options](#)

## About High Availability

### What is High Availability?

High Availability is an optional feature that makes badge authentication and PIN authentication possible, even when the connection with the back end is lost. This feature is implemented via a mechanism that authenticates user details against a cache at the printer, rather than the back end.



High Availability is offered with any Vertical Connector purchased on top of Celiveo Enterprise.

### Full Cache Vs Dynamic Cache

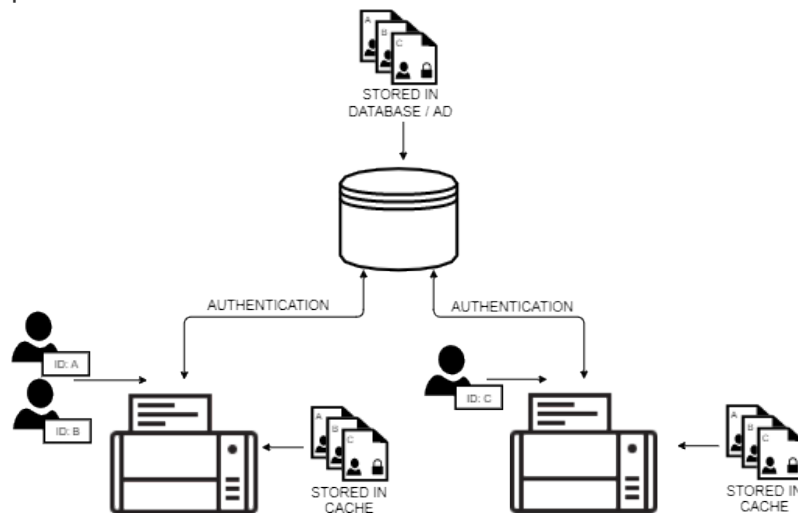
High Availability supports two modes of caching.

1. Full Cache
 

In this mode, the cache downloads the details of all enrolled users from the database/Active Directory (AD). In order to keep the data current, the cache is synced periodically with the back



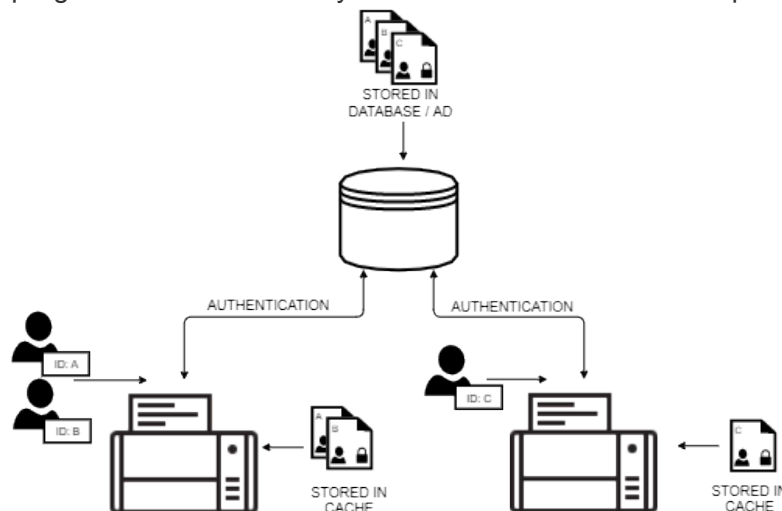
end. This synchronization happens at every scheduled event on the printer. It is possible to fine tune the list of users that shall be downloaded inside a printer cache using the AD filter string. If different printers need different lists of users, the admin just needs to use different AD profiles for printers.



Full Cache stores details of all users in the cache

## 2. Dynamic Cache

In this mode, the cache captures your details whenever you authenticate at the printer. The data is purged from the cache if you do not authenticate at the printer for a specified time.



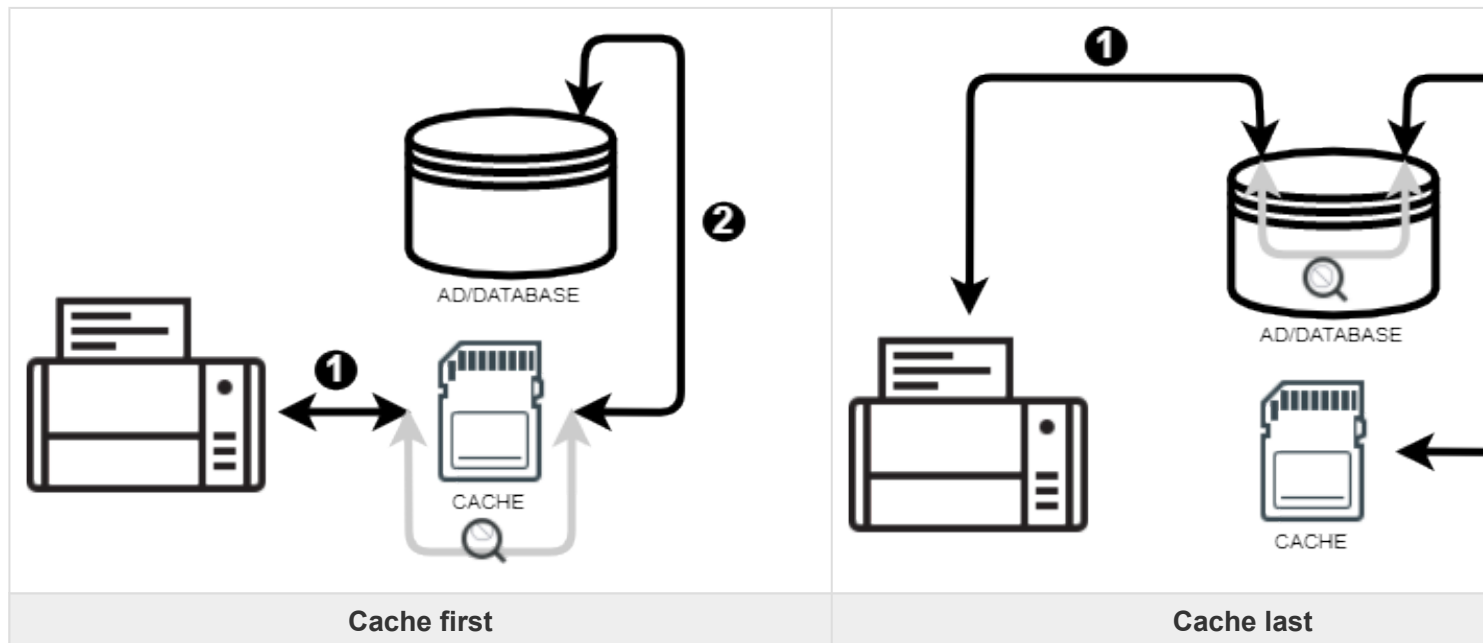
Dynamic cache stores the details of those who authenticate at that printer

Because Full Cache contains the details of all enrolled users, any user can authenticate at a printer when the back end is offline. However, keeping the cache in sync with the back end can generate significant network traffic, especially in an environment with a large number of users and printers.

Because Dynamic Cache purges cache data when you do not authenticate at the printer for a while, only recent users of the printer can authenticate when the back end is offline. Typically, the printers that do not contain your details are the ones you are least likely to access. As such, Dynamic Cache allows for successful authentication most of the time, while keeping network traffic down.

## Cache First Vs Cache Last

You can choose between two authentication methods; authenticate against the cache first or authenticate against the cache last.



When the Cache First method is enabled, the back end is queried only if your details are not found in the cache. When details are found on the cache, the authentication process becomes much faster, because queries across the network are circumvented, and hence, the impact of network latency is blunted. Consequently, the Cache First method is able to boost performance. The performance gains can be quite significant, especially on corporate networks with geographically distributed branches, where the quality of service (QoS) between branches is not optimal. On the downside, cached details are only as accurate as the most recent sync operation.

For example, If you re-assign the Badge ID of an old user who is currently not existing with the organization, to a new user, and the cached details have not been synced recently, there would be a mismatch as the user details would be already existing in the cache under the old user's name.

When the Cache Last method is enabled, user details are always authenticated against the back end. The cache is checked only if there is no response from the back end. Because details are always checked against the back end, this authentication method is the more secure of the two. In this mode, the cache acts purely as a failover mechanism.

## Tracking and High Availability

Tracking data is cached at the printer even if High Availability is not enabled. When the connection with the back end is lost, tracking data is stored in the cache. Whenever the connection is restored, cached tracking data is written back to the back end.

## Limitations

When the connection to the back end is lost, upon authentication, High Availability checks the cache for the sources of the most recent print jobs. It then queries the source for pending print jobs matching the user details it just authenticated. Upon finding the print job, it “pulls” the print job and prints it. If the computer you are using to send the print job has not used the printer recently, the High Availability cache of that printer will have no record of the computer. As such, it will not be able to “pull” the job from that computer. Accordingly, you may not be able to print a pull print job, if the computer you are on has not recently used that printer.

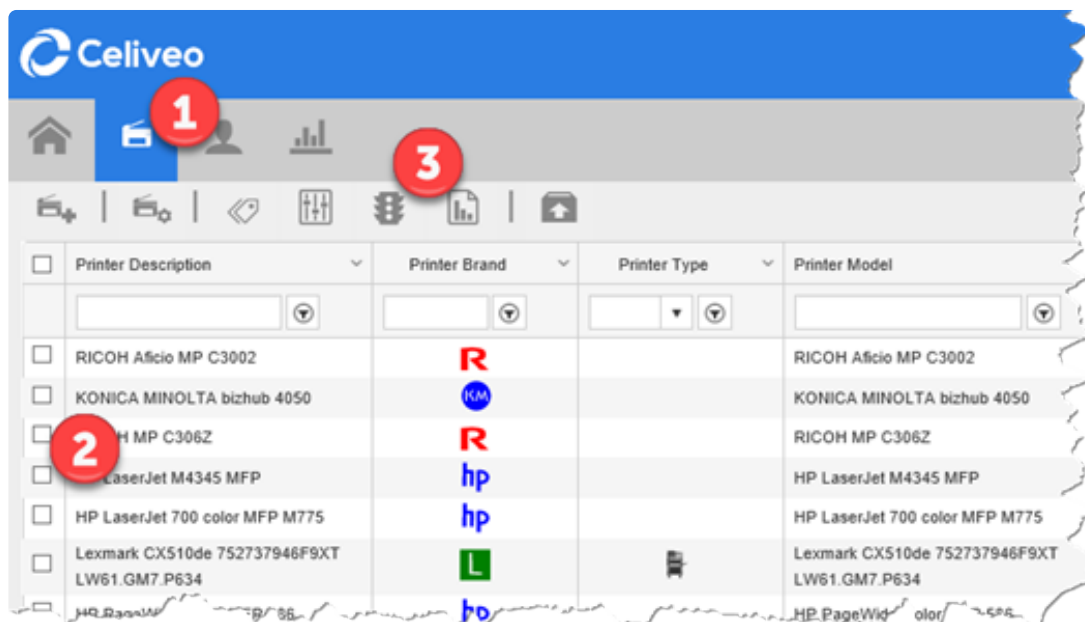
When Dynamic Cache is enabled, you must authenticate at least once to allow for the cache to capture your details. As such, when the back end is offline, you may not be able to authenticate at a printer you have not used before.

If you upgrade the Celiveo Version of a Printer with a Celiveo Version file name that ends with OSI.fw, the High Availability cache is purged. Thereafter the cache starts rebuilding from scratch, and requires a while to build the cache to effectively implement High Availability.

For security reasons, Smart Card Authentication support High Availability feature in Dynamic Cache mode with Read Cache Last method only. “Read Cache First” method selection, if configured, will be ignored and no cache will be applied.

## How to...

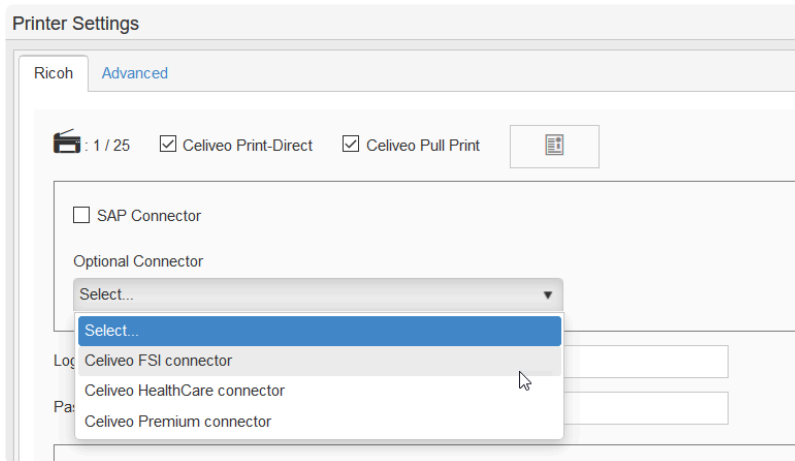
### Enable High Availability:



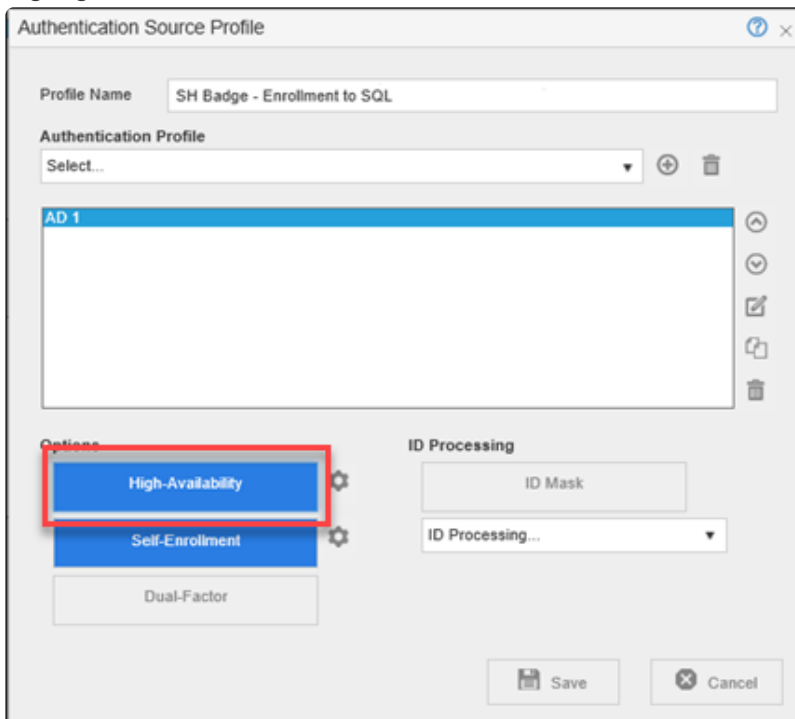
1. On the Celiveo Web Admin, at the main menu, click . The Printer List displays.
2. Select the printer you want to enable High Availability for.

**Note:** The printer must have has Badge Authentication or PIN Authentication enabled.

- High availability is supplied by optional connectors for Celiveo Enterprise Edition. In the printer settings, select the desired optional connector.



- On the printer menu, click . Access and Rules is displayed.
- Click adjacent to Access & Rules Profile. The selected Access & Rules Profile is displayed.
- Click adjacent Access Control Rules list. The Access Control Rule Profile is displayed.
- In the row corresponding to the Badge Number or PIN Code, click .
- Click adjacent to the Source box.
- To enable, High Availability, click **High-Availability**. When the feature is enabled, the button is highlighted in blue.



## Configure High Availability Options:

- Open the Authentication Profile containing the High Availability options.
- Click adjacent to the High-Availability button.

**Note:** This button is visible only if High Availability is enabled.

3. To ensure that details are checked against the cache before the back end is queried, select **[Read Cache First]** (authenticates faster).

To ensure that details are checked against the back end before the cache is queried, select **[Read Cache Last]** (more secure).

4. To provide High Availability only for recent users of the printer, but with low network traffic:
- Select **[Dynamic Cache]**.
  - In **[Cache Inactivity Timeout]**, specify how many days to retain user details in the cache.
5. To provide High Availability for all users:
- Select **Full Cache**.
  - Under Full Cache Configuration, specify how often, the cache is synced with the back end. You can choose between monthly, weekly, daily, or a specific date.

- c. Specify a time interval within which sync is performed.

**Note:** As many printers can attempt to sync at the same time and cause high network traffic, you specify a time interval, rather than a specific time.

*Last modified: 9 September 2020*

# 10.4. Enable ID Code Authentication for Printers

You enable ID Code authentication by creating an Access Control Rule and assigning the rule to a printer. You however cannot assign an Access Control Rule directly to a printer. Instead, you create an Access & Rules Profile for a printer and add the Access Control Rule to the Access & Rules Profile.



## 1. Add a New Access & Rules Profile to a Printer

Celiveo <span>Settings ? i Admin</span>							
<span>Home</span> <span>Printer</span> <span>User</span> <span>Report</span>							
<span>Printer</span> <span>Access &amp; Rules</span> <span>Printer Settings</span> <span>Printer Status</span> <span>Printer Logs</span> <span>Printer History</span>							
1 / 20 (Default View)							
<input type="checkbox"/>	Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address	Printer S
<input type="checkbox"/>	HP LaserJet 600 M603	Celiveo	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c	CNB8D5
<input type="checkbox"/>	HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b	CN61C5
<input type="checkbox"/>	KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67	A6VF041
<input checked="" type="checkbox"/>	KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa	A4FM02
<input type="checkbox"/>	Lexmark CX725 7528629010GDX ATL.032.095	L	Lexmark CX725 7528629010GDX ATL.032.095		192.168.12.134	00:21:b7:3d:81:51	7528629
<input type="checkbox"/>	RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf	W492M3
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0	G435PC
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z		192.168.8.72	00:26:73:b4:a2:d7	G435PC
<input type="checkbox"/>	Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82	3353158

1. Select the printer to add the Access and Rules Profile to.
2. Click . The Access & Rules dialog is displayed.

Access & Rules

Access & Rules Profile

Select...

Save

Cancel

3. Click . The Access and Rules profile is displayed.

Access & Rules Profile

Profile Name

Access Control Rules

Select...

Printing Rules

Select...

Rule Name

Identification Method

Criteria	Operator	Source
No items to display		

Device Function

Save Cancel

4. At **[Profile Name]**, specify a unique name for the Access & Rules Profile.

## 2. Add a New Access Control Rule to the Access and Rules Profile

1. Click , located in the same row as the **[Access Control Rules]** drop-down. The Access & Rules Profile displays

Access Control Rule Profile

Rule Name

Identification Method

Add

Criteria	Operator	Source
No items to display		

Rule Condition

Add

☒ Match All ☐ Match Any

Criteria	Operator	Value
No items to display		

Device Function

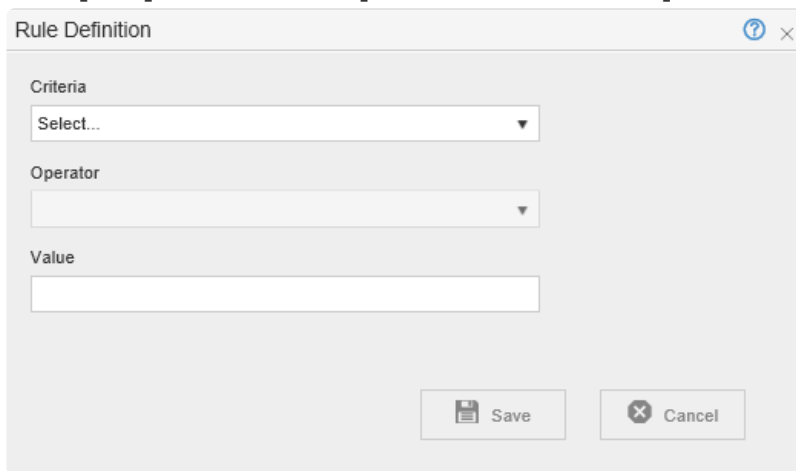
Save Cancel

2. At **[Rule Name]**, specify a unique name for the Access Control Rule.



### 3. Add ID Code Authentication as the Identification Method

1. Click **[Add]**, located below **[Identification Method]**. The Rule Definition displays.

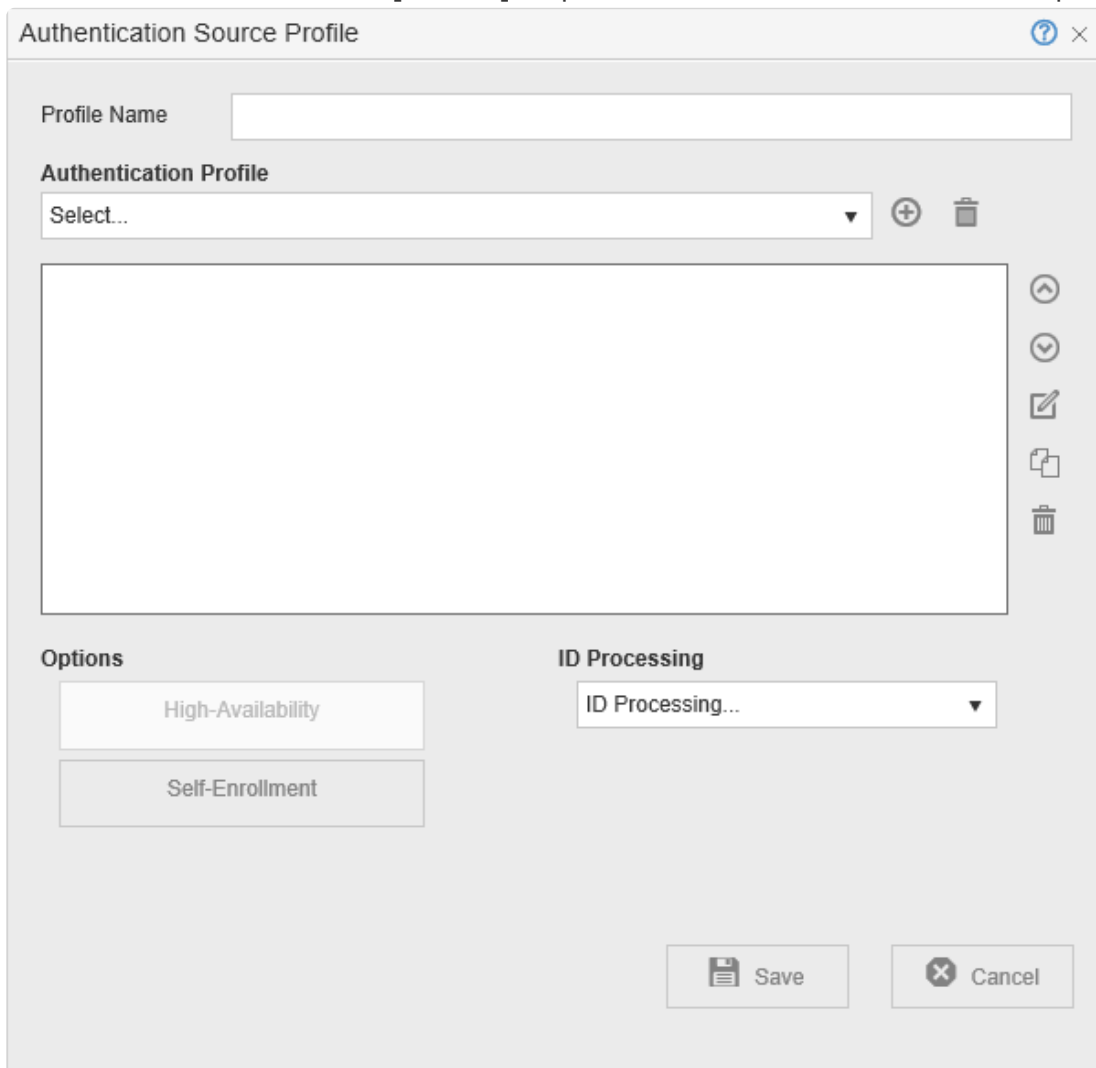


The Rule Definition dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains three fields: 'Criteria' with a dropdown menu showing 'Select...', 'Operator' with a dropdown menu, and 'Value' with a text input field. At the bottom, there are two buttons: 'Save' with a floppy disk icon and 'Cancel' with a close icon.

2. From the **[Criteria]** drop-down, select **[IDCode]**.
3. From the **[Operator]** drop-down, select **[Is In]**.

### 4. Build the Authentication Profile to Validate the PIN

1. Click **+**, located next to the **[Source]** drop-down. The Authentication Profile displays.



The Authentication Source Profile dialog box is shown. It has a title bar with a question mark icon and a close button. The main area contains a 'Profile Name' text input field, an 'Authentication Profile' dropdown menu showing 'Select...', and a large empty rectangular area for the profile content. To the right of this area are five icons: a plus sign, a trash can, a double arrow, a single arrow, and a document icon. Below the main area, there are two sections: 'Options' with two buttons labeled 'High-Availability' and 'Self-Enrollment', and 'ID Processing' with a dropdown menu showing 'ID Processing...'. At the bottom, there are two buttons: 'Save' with a floppy disk icon and 'Cancel' with a close icon.

2. In the **[Profile Name]** box, specify a unique name to identify the profile.
3. Click **(+)**, located in the same row as the **[Authentication Profile]** drop-down. The Authentication Profile is displayed.
4. Specify the AD/LDAP query (similar to that of the screen capture shown below) that returns the list of users who are authorized to use the printer.

Authentication Profile

Profile

Authentication Method: AD/LDAP

Authentication Profile Name: Jetmobile Singapore

User Directory Connection Parameters

IP/Hostname: 192.168.12.200

Domain (FQDN): jetmobiledemo.com

Login Name: administrator

Password: .....

Test

Search Parameters

Search Base: dc=jetmobiledemo,dc=com

Filter: OU=SG50

Timeout: 30 seconds

Advanced >>

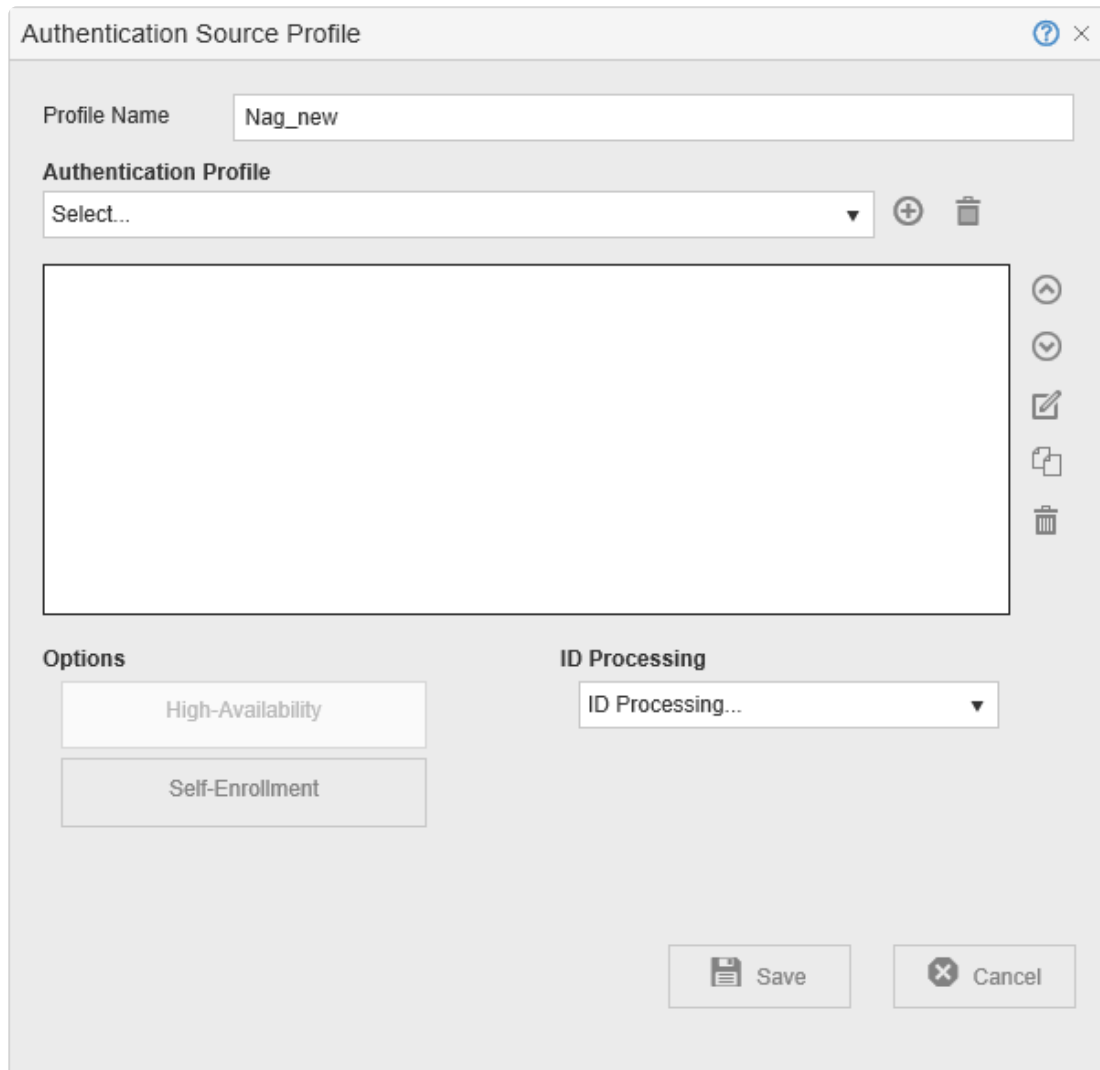
Save Cancel

PARAMETERS TO USE WHEN CONNECTING TO THE AUTHENTICATION SERVER

PARAMETERS TO USE IN LDAP QUERY, WHICH RETURNS A SHORTLIST OF USERS AUTHORIZED TO USE THE PRINTER

5. Click **[Test]**.  
If log in to the Authentication Server is successful, a message is displayed below the [Test] button.
6. Click **[Save]**. You are returned to the Authentication Source Profile.

## 5. Specify How to Enable Self Enrollment



**Authentication Source Profile**

Profile Name:

**Authentication Profile**

Select...

**Options**


High-Availability

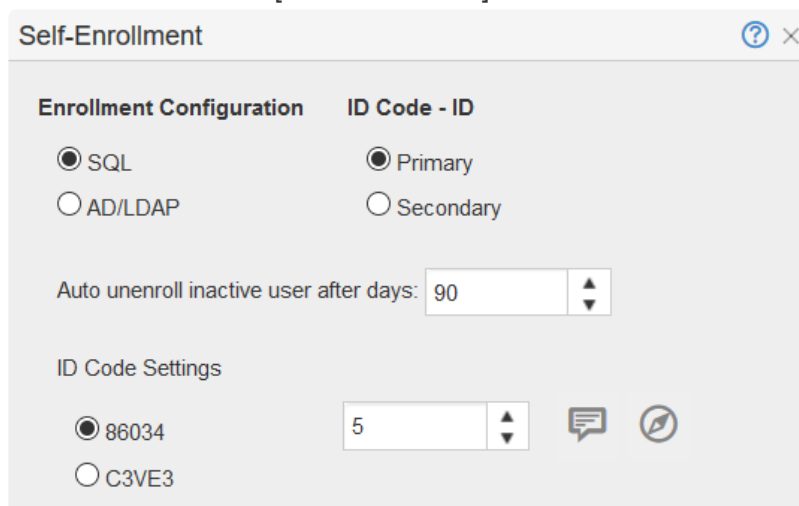
Self-Enrollment

**ID Processing**

ID Processing...

Save Cancel

1. Click **[Self-Enrollment]**.
2. Click  next to the [Self Enrollment].



**Self-Enrollment**

**Enrollment Configuration**

☒ SQL ☐ AD/LDAP

**ID Code - ID**

☒ Primary ☐ Secondary

Auto unenroll inactive user after days:

**ID Code Settings**

☒ 86034 ☐ C3VE3

Save Cancel

3. At **[Auto unenroll inactive user after days]**, enter the number of days.  
An enrolled user who has not used the Celiveo system after the specified number of days is automatically removed.

 **Note:** In order to function, this features requires that Time and Date are properly configured on the printer.


4. To enable authentication with a Smartphone using BLE (Bluetooth Low Energy), tick the **Use Celiveo Mobile ID** checkbox.
5. At **[ID Code Settings]** specify if you want a numeric (made of digits) or alphanumeric (made of digits and letters) PIN. You can also choose the length of your code.
  - a. Numeric ID codes shall not:
    - Start with 0
    - Be made of consecutive digits, for example 123456 or 2345
    - Be made of repeated digits, for example 11111
    - Have the same digits except one, for example 51111
    - Be made of repeated patterns, for example 123123
  - b. Alphanumeric ID codes shall:
    - Be uppercased, for example 45ER9
    - Always be uppercased when entered on MFP screen, for example at5p => AT5P
    - Have a random mix of digits and letters
    - Supported letters can be A to Z except o and i that can be mixed up with 0 and 1.
    - Supported digits can be 1 to 9, no zero
  - c. Alphanumeric ID codes shall not:
    - Be lower cased
    - Be made of the same characters, for example AAAA
    - Be made of repeated patterns, for example ABAB or TOTO

If you have more than 1000 users, do not use less than 5 digits for the PIN.


6. At **[Schedule Time Zone]**, select one option:

Local	Apply the time settings of the local machine.
UTC	Apply the preferred Coordinated Universal Time (UTC) time zone.


### Schedule SQL User Data Sync



Local ▼




13:55 ⌚ To 15:55 ⌚



Date ▼

2020-05-19 📅


 2020-05-19 13:55

7. Set the range of time for the data sync to occur.

To avoid a sudden increase in network traffic, the update is scheduled to happen anytime during the specified period.

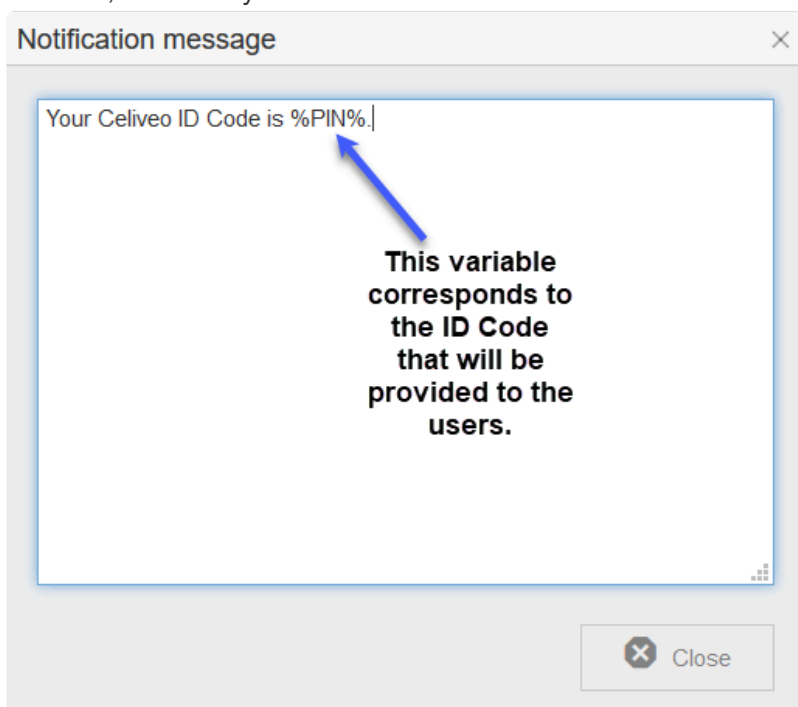
8. Set the frequency of the data sync.


Date	The data sync occurs on a specific date. Set the date to start the data sync.
Daily	The data sync occurs every day during the specified time frame.
Weekly	The data sync occurs every week on a specific day of the week. From the drop menu, select the day of the week.
Monthly	The data sync occurs every week on a specific day of the month. From the drop menu, select the day of the month.

 **Note:** PIN Settings is a global configuration. The PIN length and enrollment configuration (SQL or AD/LDAP) once defined, cannot vary across Access Profiles.

9. Click  . The Notification Message displays.

10. Specify the text for the notification and click **[Close]**. This template is used to inform users of their ID code, when they enroll.



11. Click  . You are taken to the ID Code generating portal.
  - a. Log in using your Windows credentials.
  - b. Note down the URL of the portal. You need to send the link to users to enable them to generate their own ID Codes and enroll themselves.
12. Close all dialogs by clicking **[Save]** to save all settings.

## 10.5. Save Card Number and ID code on Active Directory

1. [Introduction](#)
2. How to...
  - a. [Specify the AD Field to Store the Card Number/ID Code](#)
  - b. [Make Celiveo Save the Card Number/ID Code in AD](#)

### Introduction

In the article on [Enabling Card Authentication](#), and [Enabling ID Code Authentication](#), the Card Number and PIN were stored in the Celiveo Database (CeliveoDB). If required, you can store this information directly on the Active Directory (AD). However, the AD does not have field that corresponds to the Celiveo specific Id Code field, which is where the ID Code and Card Number is stored. As such, the Celiveo specific Id Code must be mapped to an unused field on AD.

CELIVEO SPECIFIC PROPERTIES

AD FIELD NAMES

Time: 30 seconds

Advanced <<

User Directory Connection Parameters

Authentication: Simple

Host Port: 389

Protocol: AD

Active Directory Field Names

Id Code Field Name: postOfficeBox

Department Field Name: department

Full Name Field Name: displayName

Enrollment Id Field Name: sAMAccountName

Dual Factor Field Name: description

Tracking Login Field Name: sAMAccountName

Login Field Name: sAMAccountName

Email Field Name: mail

Home Directory Field Name: homeDirectory

Domain Field Name: domain

Last Activity Field Name: I

Success : AD/LDAP is connected.

Test Save Cancel

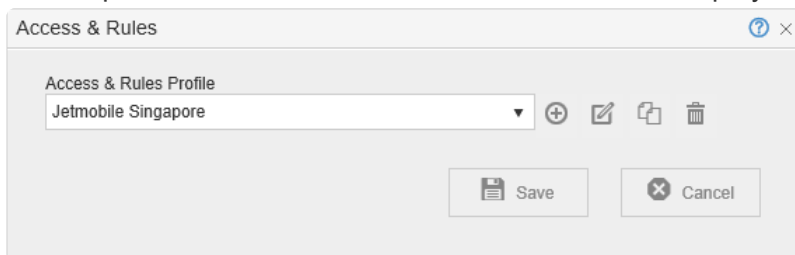
### How to...

#### Specify the AD Field to Store the Card Number/PIN Code

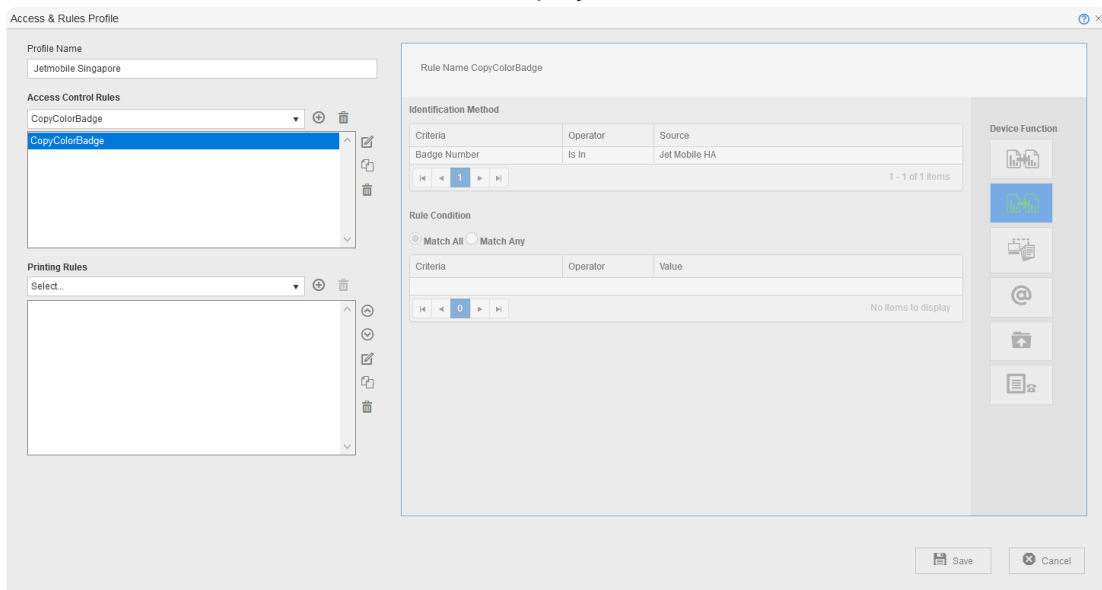
1. Display an Authentication Profile that uses ID Code authentication or Card authentication.



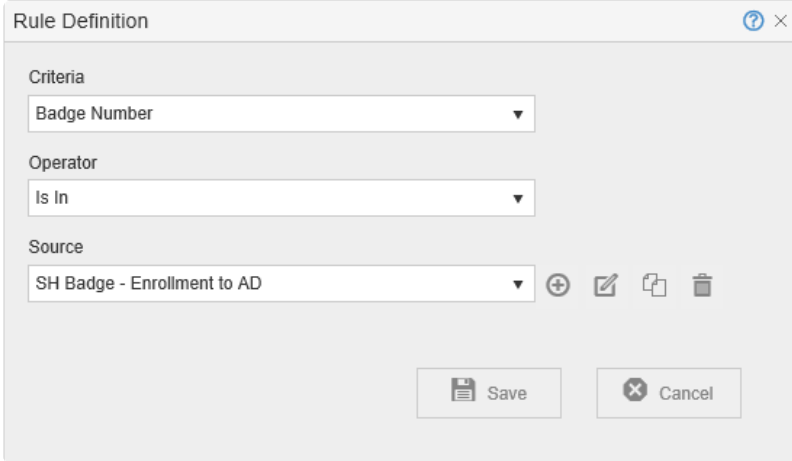
- On the Celiveo Web Admin, at the main menu, click . The Printer List displays.
- Select a Printer that uses Card authentication or ID Code authentication.
- On the printer menu, click . Access and Rules is displayed.



- Click . The Access & Rules Profile displays.



- In the Access Control Rules section, select the Access Control Rule and click . The Rule Definition




**Rule Definition**

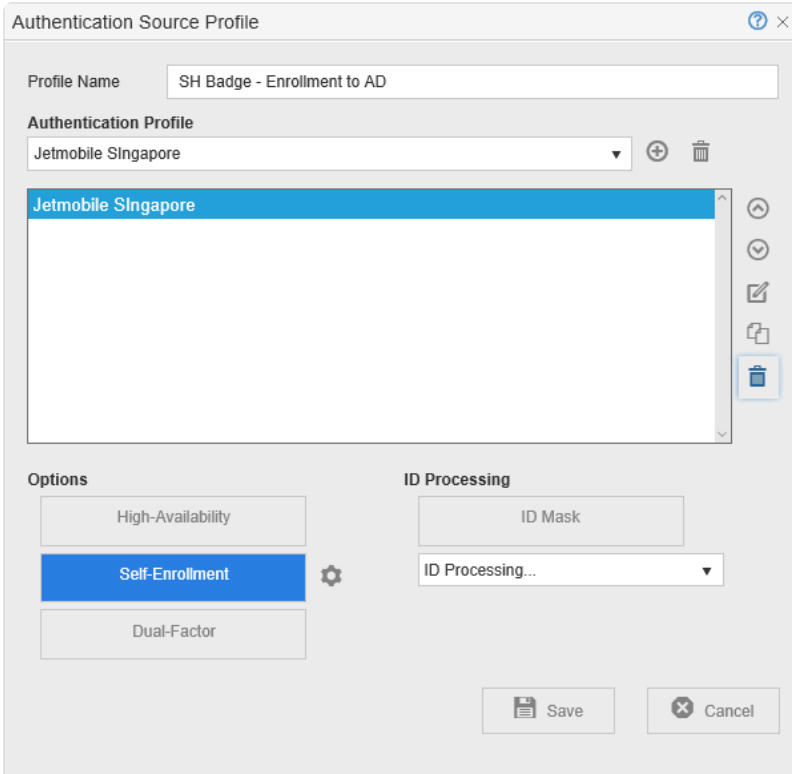
Criteria  
 Badge Number

Operator  
 Is In

Source  
 SH Badge - Enrollment to AD

Save Cancel

- f. Click  located next to the **[Source]** drop-down.



**Authentication Source Profile**

Profile Name SH Badge - Enrollment to AD


Authentication Profile  
 Jetmobile Singapore

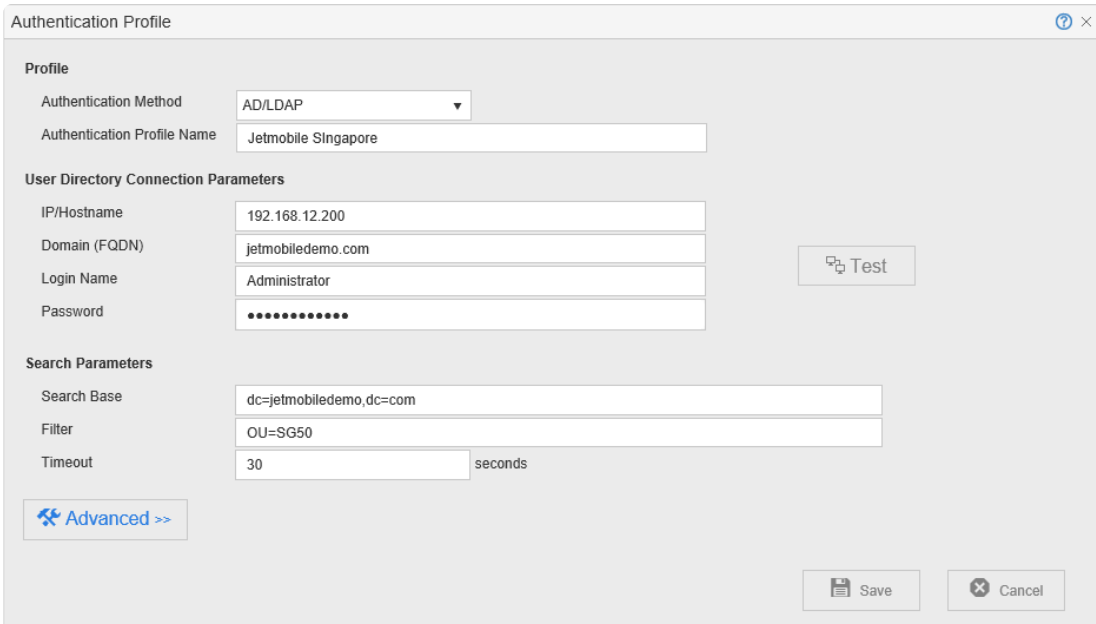
Jetmobile Singapore

Options  
 High-Availability  
 Self-Enrollment  
 Dual-Factor

ID Processing  
 ID Mask  
 ID Processing...

Save Cancel

- g. Select the Authentication Profile and click . The Authentication Profile displays.



**Authentication Profile**

Profile  
 Authentication Method AD/LDAP  
 Authentication Profile Name Jetmobile Singapore

User Directory Connection Parameters  
 IP/Hostname 192.168.12.200  
 Domain (FQDN) jetmobiledemo.com  
 Login Name Administrator  
 Password .....

Test

Search Parameters  
 Search Base dc=jetmobiledemo,dc=com  
 Filter OU=SG50  
 Timeout 30 seconds


Advanced >>


Save Cancel



- Click **[Advanced]**. The screen expands to show the advanced properties.

- In the **[Id Code Field Name]** drop-down select the AD field to store the PIN Code or Card Number.
- Click **[Save]**.

 **Note:** When using AD enrollment with SHA256 ID conversion, the field where the ID is stored needs to have a minimum length of 64.

 **IMPORTANT:** It is recommended to index the AD attribute(s) where the user IDs are stored (card number, PIN code) so that live user authentication against AD is faster. By default the primary user ID attribute is stored in **postOfficeBox**.

## Make Celiveo Save the Card Number/PIN Code in AD

- Display the Authentication Source profile of a printer (See steps 1 – 6) in [previous procedure](#).

Authentication Source Profile

Profile Name: SH Badge - Enrollment to AD

Authentication Profile: Jetmobile Singapore

Options:


- High-Availability
- Self-Enrollment**
- Dual-Factor

ID Processing:

- ID Mask
- ID Processing...

Save Cancel

- Click  located next to **[Self-Enrollment]**.

Note: The settings button (  ) is visible only when [Self-Enrollment] is turned on.

- Select **[AD/LDAP]**.

Self Enrollment

Enrollment Configuration

- ☐ SQL
- ☒ AD/LDAP

Auto unenroll inactive user after days : 90

PIN Settings

5

Close

**Self Enrollment  
(PIN Authentication)**

Self Enrollment

Enrollment Configuration

- ☐ SQL
- ☒ AD/LDAP

Auto unenroll inactive user after days : 90

**Self Enrollment  
(Card Authentication)**

- Click **[Close]**.

*Last modified: 27 October 2020*

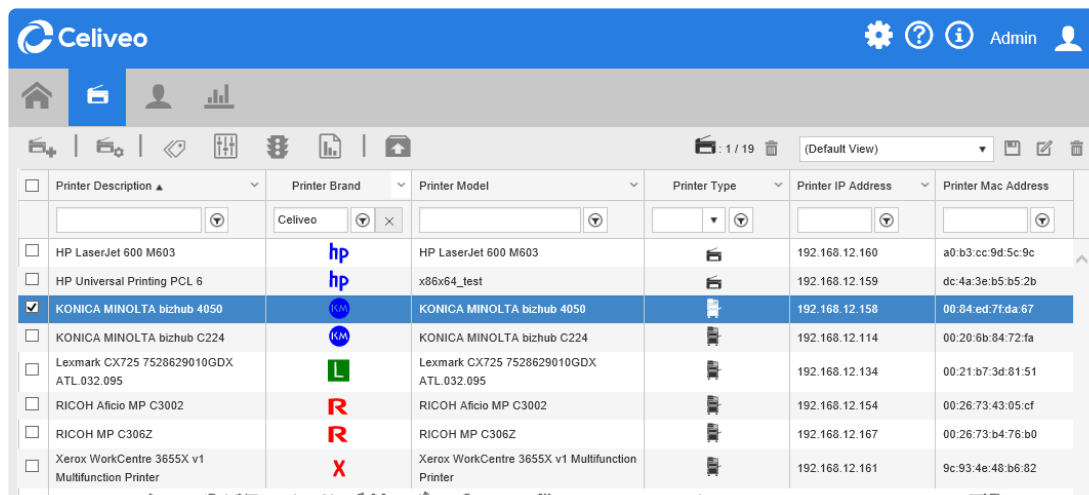
# 10.6. Enable Smart card authentication for printers

## Enable Smart card Authentication for Printers


You enable Smart card authentication by creating an Access Control Rule and assigning the rule to a printer. You however cannot assign an Access Control Rule directly to a printer. Instead, you create an Access & Rules Profile for a printer and add the Access Control Rule to the Access & Rules Profile.

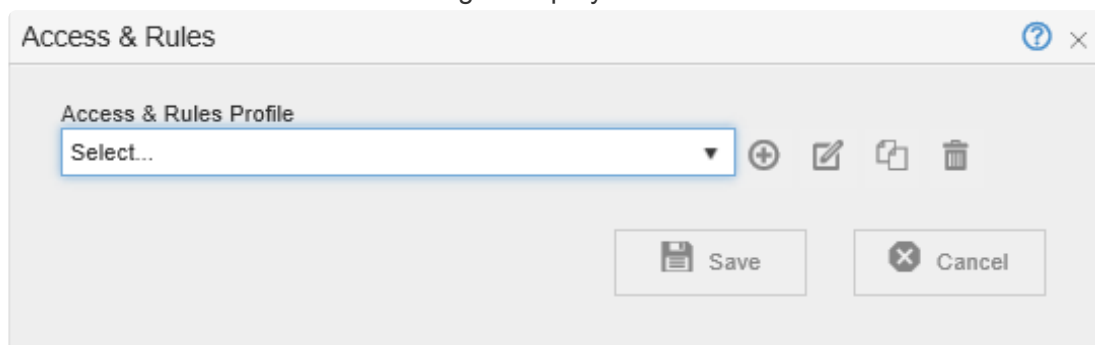
### Workflow

## 1. Add a New Access & Rules Profile to a Printer



Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address
<input type="checkbox"/> HP LaserJet 600 M603	hp	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c
<input type="checkbox"/> HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b
<input checked="" type="checkbox"/> KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67
<input type="checkbox"/> KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa
<input type="checkbox"/> Lexmark CX725 7528629010GDX ATL 032.095	L	Lexmark CX725 7528629010GDX ATL 032.095		192.168.12.134	00:21:b7:3d:81:51
<input type="checkbox"/> RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf
<input type="checkbox"/> RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0
<input type="checkbox"/> Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82

1. Select the printer to add the Access and Rules Profile to.
2. Click . The Access & Rules dialog is displayed.




**Access & Rules**

Access & Rules Profile


Select...

Save Cancel

3. Click . The Access and Rules profile is displayed.

- At **[Profile Name]**, specify a unique name for the Access & Rules Profile.

## 2. Add a New Access Control Rule to the Access and Rules Profile

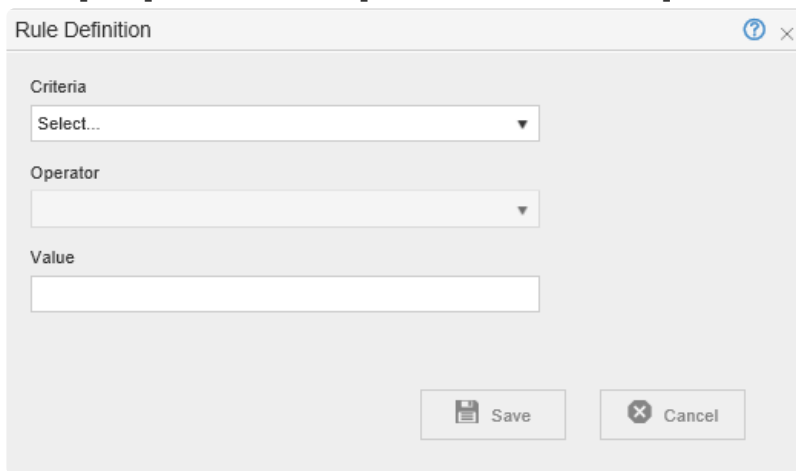
- Click , located in the same row as the **[Access Control Rules]** drop-down. The Access & Rules Profile displays.

- At **[Rule Name]**, specify a unique name for the Access Control Rule.

## 3. Add Smart card Authentication as the Identification

## Method

1. Click **[Add]**, located below **[Identification Method]**. The Rule Definition displays.

A screenshot of the 'Rule Definition' dialog box. It has a title bar with a question mark icon and a close button. The dialog contains three fields: 'Criteria' with a dropdown menu showing 'Select...', 'Operator' with a dropdown menu, and 'Value' with a text input field. At the bottom right, there are two buttons: 'Save' with a floppy disk icon and 'Cancel' with an 'X' icon.

2. From the **[Criteria]** drop-down, select **[UPN in Smartcard Cert]**.
3. From the **[Operator]** drop-down, select **[Is In]**.

### NOTE:

- A Smartcard license feature connector is required to use **[UPN In Smartcard Certification]**
- **[UPN In Smartcard Certification]** identification method can be combined with **[Username and Password]**
- **[UPN In Smartcard Certification]** identification method cannot be used with the **[Celiveo Authentication Gateway]** authentication method.

## 4. Build the Authentication Profile to Validate the Smart card

1. Click **⊕**, located next to the **[Source]** drop-down. The Authentication Source Profile displays.

**Authentication Source Profile**

Profile Name

Authentication Profile

Select...

Smart card


Upload Smart card configuration File

Options

High-Availability

Card Validation

Save Cancel

2. In the **[Profile Name]** box, specify a unique name to identify the profile.
3. Click , located in the same row as the **[Authentication Profile]** drop-down. The Authentication Profile is displayed.
4. Specify the AD/LDAP query (similar to that of the screen capture shown below) that returns the list of users who are authorized to use the printer.

Authentication Profile

Profile

Authentication Method: AD/LDAP

Authentication Profile Name: Jetmobile Singapore

User Directory Connection Parameters

IP/Hostname: 192.168.12.200

Domain (FQDN): jetmobiledemo.com

Login Name: administrator

Password: .....

Search Parameters

Search Base: dc=jetmobiledemo,dc=com

Filter: OU=SG50

Timeout: 30 seconds

Advanced >>

Test

Test

Save

Cancel

PARAMETERS TO USE WHEN CONNECTING TO THE AUTHENTICATION SERVER

PARAMETERS TO USE IN LDAP QUERY, WHICH RETURNS A SHORTLIST OF USERS AUTHORIZED TO USE THE PRINTER

5. Click **[Test]**.  
If log in to the Authentication Server is successful, a message is displayed below the **[Test]** button.
6. Click **[Save]**. You are returned to the Authentication Source Profile.

\* **Note:** The Login User (Login Name) used in Celiveo Authentication Profile requires AD/LDAP Read and Write rights to user's attributes.

## 5. Specify How to Process Smart card

Authentication Source Profile

Profile Name

Authentication Profile

Select...

Smart card

Upload Smart card configuration File

Options

High-Availability

Card Validation

Save Cancel

1. Under **[Smart card]** section, click **[Upload Smart card configuration File]** to upload a SCAS file.
2. Click **[Card Validation]**.
3. Click the settings icon next to **[Card Validation]** to configure the Card Validation settings.

You can select any of the validation methods:

- **Pin Code:** You will be prompted to enter a pin code after inserting the Smart card into the reader.
- **Certificate Expiration Date:** The Smart card is verified using the Certificate expiration date.
- **Certificate KeyPair Validation:** The Smart card is verified using the Certificate Keypair.
- **Certificate Authority:** The Smart card is verified using the Certificate Authority file. You can add multiple certificate authority files for card validation. Select a file in the drop-down list or click the + icon next to the drop menu to add a new certificate authority file.
- **CRL:** The Smart card is verified using the Certificate Revocation List (CRL). You can only use one CRL file for card validation. Select a file in the drop-down list or click the + icon next to the drop menu to add a new CRL file.

4. Select **[High Availability]** option, to configure the settings that determine how to manage

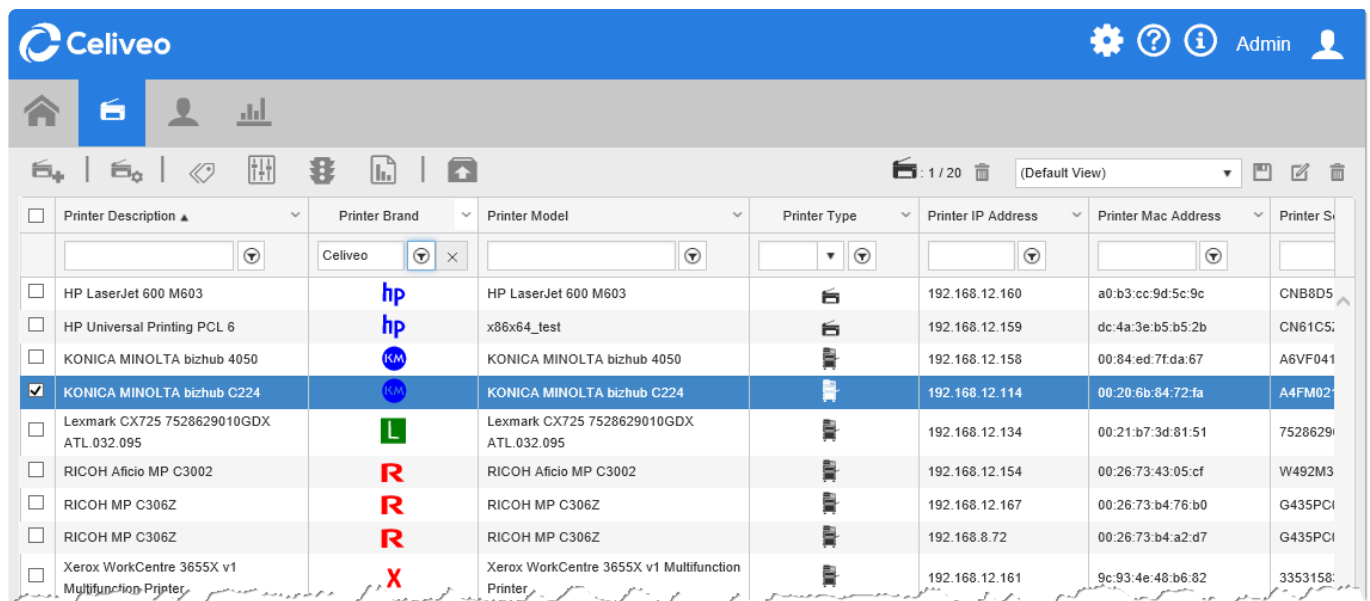


authentication when the printer cannot connect to the organization network.


**! IMPORTANT NOTE:** For security reasons, Smart Card Authentication support High Availability feature in **Dynamic Cache** mode with **Read Cache Last** method only. **Read Cache First** method selection, if configured, will be ignored and no cache will be applied.

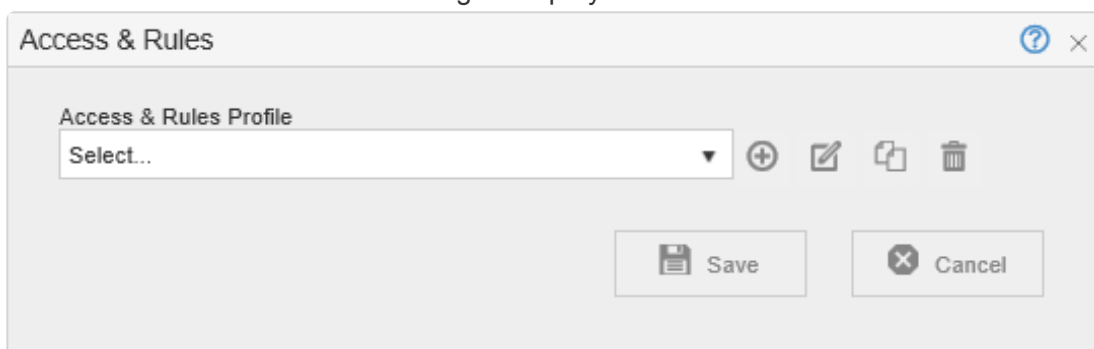
5. Click **[Save]** until all dialogs close.

## 6. Enable Smart card Authentication for Remaining Printers



<input type="checkbox"/>	Printer Description ▲	Printer Brand ▼	Printer Model ▼	Printer Type ▼	Printer IP Address ▼	Printer Mac Address ▼	Printer Serial Number
<input type="checkbox"/>	HP LaserJet 600 M603	hp	HP LaserJet 600 M603		192.168.12.160	a0:b3:cc:9d:5c:9c	CNB8D5
<input type="checkbox"/>	HP Universal Printing PCL 6	hp	x86x64_test		192.168.12.159	dc:4a:3e:b5:b5:2b	CN61C5
<input type="checkbox"/>	KONICA MINOLTA bizhub 4050	KM	KONICA MINOLTA bizhub 4050		192.168.12.158	00:84:ed:7f:da:67	A6VF041
<input checked="" type="checkbox"/>	KONICA MINOLTA bizhub C224	KM	KONICA MINOLTA bizhub C224		192.168.12.114	00:20:6b:84:72:fa	A4FM02
<input type="checkbox"/>	Lexmark CX725 7528629010GDX ATL.032.095	L	Lexmark CX725 7528629010GDX ATL.032.095		192.168.12.134	00:21:b7:3d:81:51	7528629
<input type="checkbox"/>	RICOH Aficio MP C3002	R	RICOH Aficio MP C3002		192.168.12.154	00:26:73:43:05:cf	W492M3
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z		192.168.12.167	00:26:73:b4:76:b0	G435PC
<input type="checkbox"/>	RICOH MP C306Z	R	RICOH MP C306Z		192.168.8.72	00:26:73:b4:a2:d7	G435PC
<input type="checkbox"/>	Xerox WorkCentre 3655X v1 Multifunction Printer	X	Xerox WorkCentre 3655X v1 Multifunction Printer		192.168.12.161	9c:93:4e:48:b6:82	3353158

1. In the Printers List, select the printers you want to apply the Access and Rules Profile to.
2. Click . The Access & Rules dialog is displayed.



Access & Rules

Access & Rules Profile

Select...

Save Cancel

3. From the **[Access & Rules Profile]** drop-down, select the Access and Rules profile for the Printer.

*Last modified: 8 September 2020*

## 10.7. Configure BLE RF IDEAS Readers for Smartphone Authentication with Orange Pack-ID Application

---

Celiveo engages with Orange Pack ID for mobile authentication at the printer (reader). Users can store their Card (Badge) ID credentials in their smartphones via this mobile app and can authenticate using their Smartphone at the Reader to successfully login at the printer.

Using the pcProx Configuration utility tool, the BLE pcProx Reader can be configured to read user credentials from Orange Pack ID.

### Configuring BLE RF IDEAS Readers for Smartphone Authentication

You will need to install the **pcProxConfig** tool to allow configuring the reader for Orange Pack ID, obtainable at <https://www.rfideas.com/support/downloads>

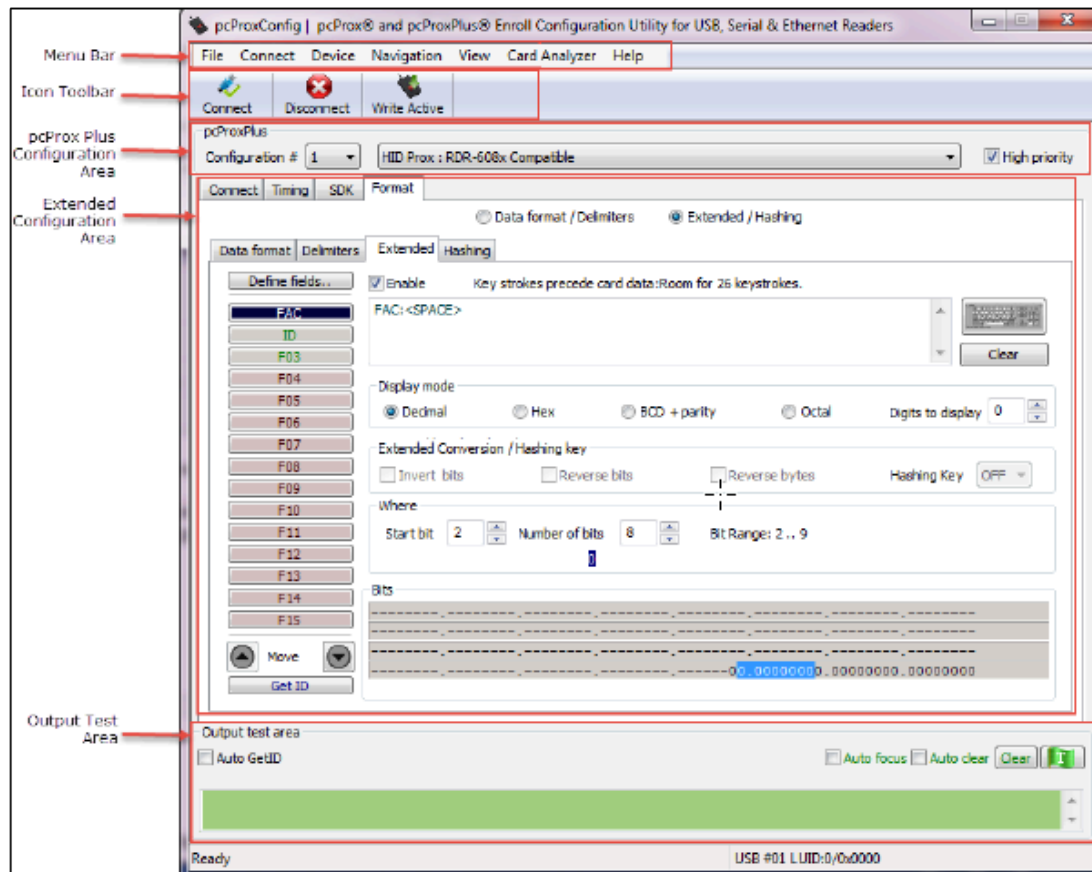
1. Unzip the file pcProxConfig-5.2.39.zip and install the executable on a Windows **PC**. After installation the pcProxConfig icon will appear on your desktop. When you start the utility, the screen should look as below. (The USB cable of the RF IDEas reader should be plugged into the USB port of the PC).



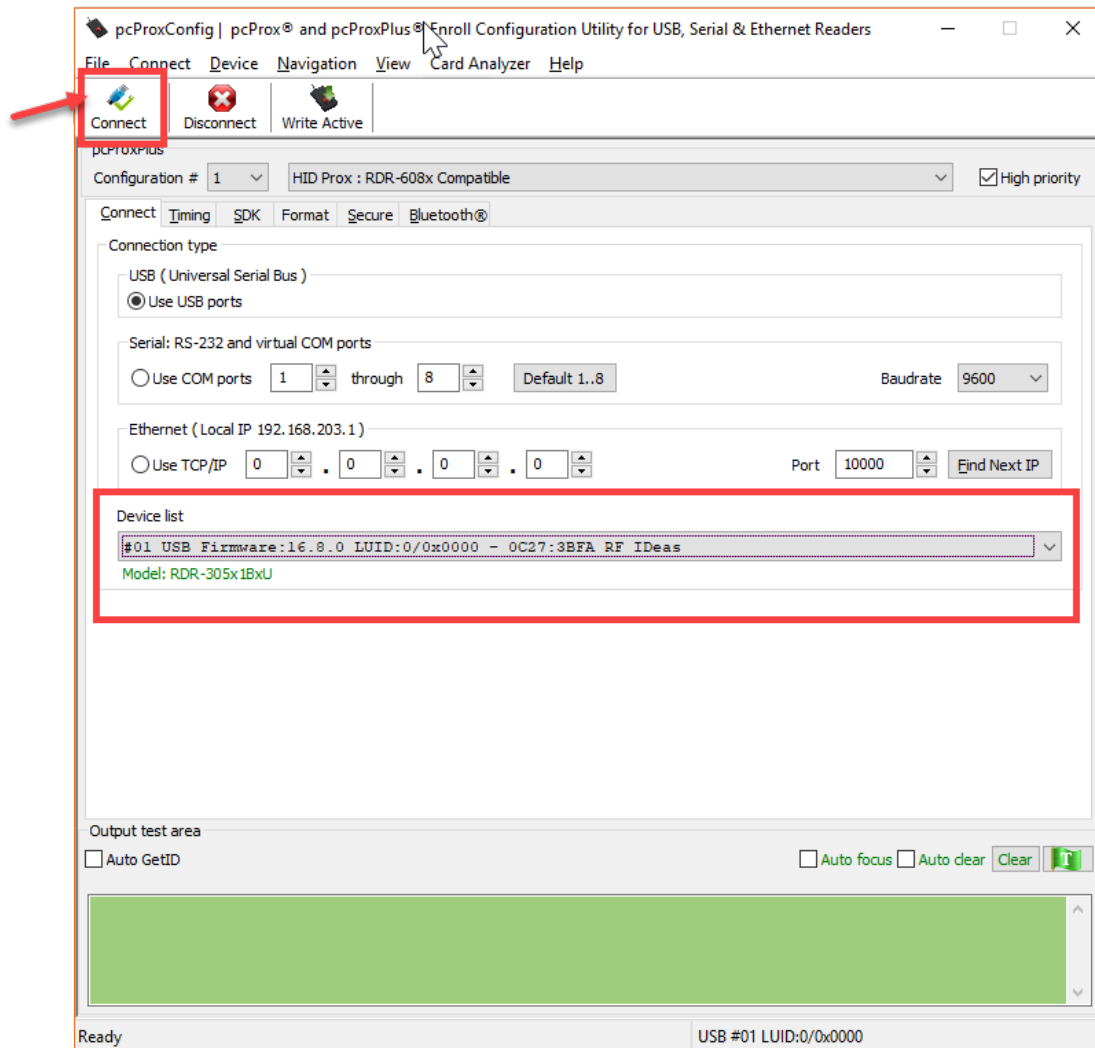
**Important:**

The reader P/N as displayed on the label must be RDR-30581BKU-SFT or RDR-30582BKU-SFT

You **MUST** use version 5.2.39 of pcProxConfig.exe or newer. Older versions will not work.



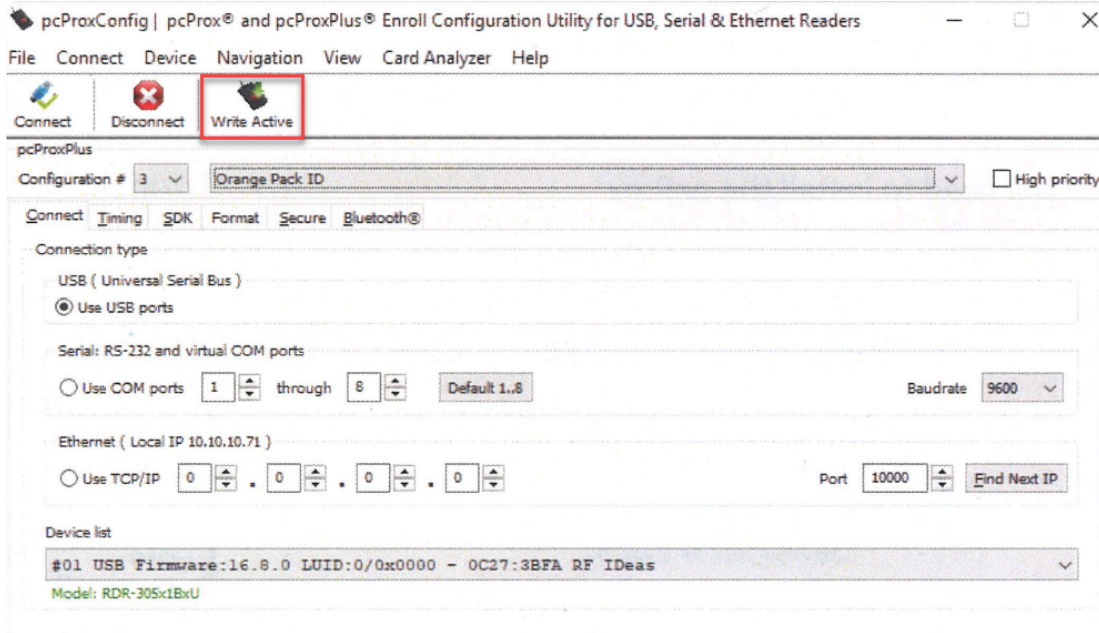
2. Connect the pcProx® Plus BLE Reader to the system via USB port.
3. Click **Connect** on the Icon toolbar menu.
4. The model number and VID/PID of the Reader will be displayed on the Device list.



*The Model number RDR-305×1BxU must be displayed in green font as shown, indicating that the reader is connected.*

✿ **Note:** If Orange Pack ID does not show up, you may be using the wrong version of pcProxConfig, or you may have the wrong reader.

5. Configure the settings to 3 and choose Orange Pack ID in the options.
6. Click **Write Active**. This allows to write the configurations selected to the device.



The reader is now configured to read the Pack ID mobile credentials.

✿ **Note:** If “758x Equivalent” configuration is left turned on, iPhone users will experience Apple Pay automatically opening when the phone is tapped to the reader. To prevent this, Configuration #2 can be set to OFF.

*Last modified: 8 September 2020*

# 10.8. Configure ID Mask

Masks are used to extract values from specific positions of a badge ID. When you select a standard reader type from the [Mask type] drop-down, the corresponding ID mask is automatically applied when the badge ID is read.

 Celiveo uses HID Type B (OMNIKEY 5×27 CK) card reader.

To configure ID mask under Authentication Source Profile in Web Admin:

Select a reader card type to apply an appropriate ID mask or configure a custom mask.

ID Mask

Mask Type

Select...

Extraction Mask

111111

Extraction Alignment

Right

Custom Extraction

000

000

000

000

Close

Select reader type

At [Mask type], select a reader type and click [Save]. The relevant mask will be applied.

Mask type	Card Type
Magnetic Card Track 1	Swipe card reader
Magnetic Card Track 2	Swipe card reader
Magnetic Card Track 3	Swipe card reader
HID 26bits Corp	Proximity reader
HID 34bits Corp	Proximity reader
HID 35bits Corp	Proximity reader
HID 37bits Corp	Proximity reader
HID 37bits Cn Corp	Proximity reader
EM-Marin	Proximity reader
HITAG	Proximity reader
LEGIC	Proximity reader
MIFARE	Proximity reader

## Configure custom ID mask

1. At **[Mask type]**, select **[Custom Mask]**.
2. At **[Extraction Mask]**, Enter the extraction mask to apply to the badge number string.
  - The mask allows the extraction of a smaller value from a badge value. It can consist of values '1' and 'X'. '1' retains the digit, 'X' removes the digit.
3. Select the alignment of the extracted mask.
4. Set the values of **[Custom Extraction]**.
  - (for HID Prox badges only) Enter the first and last bit numbers for the site code followed by the first and last bit numbers of the badge number. This allows for the extraction of a range of bits from a badge. The mask is a 'D' followed by a 12-digit string D'aaabbbbcccd' where:
    - 'aaa' is the first bit number for the badge site code
    - 'bbb' is the last bit number for the badge site code
    - 'ccc' is the first bit number for the badge number
    - 'ddd' is the last bit number for the badge number

Once settings are complete, click **[Save]**.

## HID Card Data Formats

Knowledge of the card format allows to properly decode the data. The 26-bit Wiegand standard format is the industry standard used globally. You can also learn more about HID Card Data formats in the article [here](#).

*Last modified: 8 September 2020*

# 10.9. Custom Access Control for HP FutureSmart Printers

## What is Custom Access Control?


Celiveo administrators are able to force a customized OXPd Authorization Agent Configuration – also called Authorization Proxy – on HP FutureSmart printers.

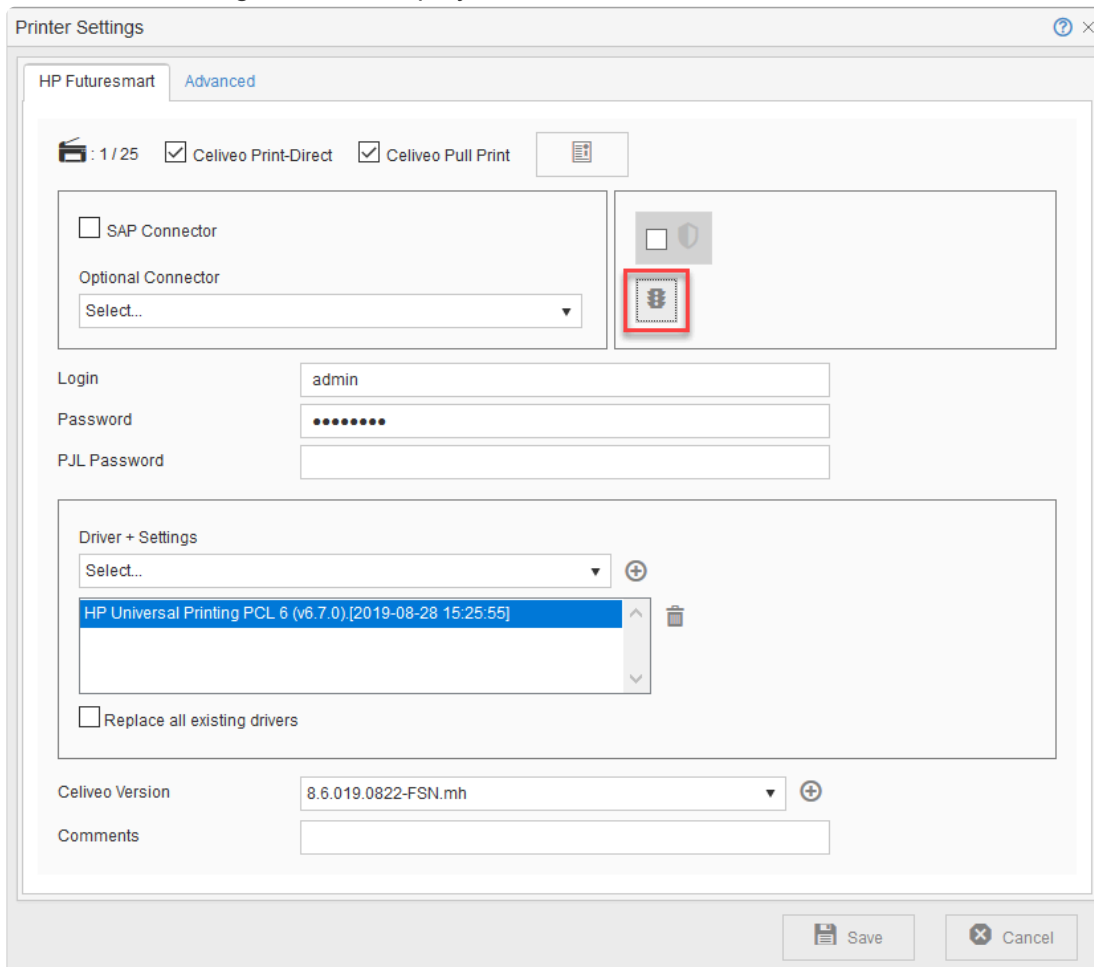
This allows to define which Printer functions are controlled by Celiveo.


## How to apply Custom Access Control?

Celiveo has a default Authorization proxy configured on the printer by the solution. The Web Admin allows the download of the default XML configuration file for an admin to customize it and upload it back to the Celiveo Web Admin in order to be deployed on printers.

To do so:

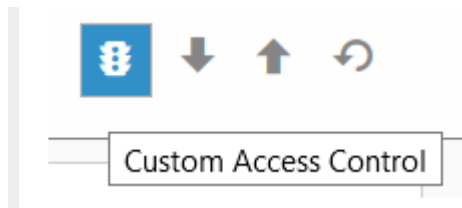
1. In the Web Admin, select your HP FutureSmart printer and click the **Printer Settings**  icon.
2. The Printer Settings window displays.




3. To enable Custom Access Control, click the  icon.




#### 4. The options display:



**Download**  icon – This allows the download of the current Celiveo OXPd Authorization Agent configuration. If the Celiveo OXPd Authorization Agent is disabled, a sample file will be downloaded as a reference. This file can be edited with custom configuration and then uploaded to the Web Admin.

**Note:** The sample file will not reflect any setting applied on the Printer EWS or via any third party software such as HP WebJetAdmin.

**Upload**  icon – This allows to upload the modified Access Control file. This requires the printer to be synchronized again for the new settings to be applied.

**Reset**  icon – This will remove the Celiveo OXPd Authorization Agent. This also requires a new printer synchronization.

**Note:** If the Reset option is used, the Celiveo Access Rules will not be applied on this printer. The user can then configure Access Control on the Printer EWS or using any third-party software such as WebJetAdmin.

## How to customize the configuration file?

### Understanding the Configuration file

The XML file begins with a section which gives you an identifying code (GUID) for each Printer function, called “Permission” and each Sign-in Method available on the printer.

The section starts with the **< OxpdcConfigurationReferenceObjects >** element and contains 2 sub-elements:

- **< PermissionList >** which provides the GUID for each permission.
- **< SignInMethodList >** which provides the GUID for each Sign-in method.

You will need the GUIDs to customize the configuration file.

As an example, this is the GUID for the “Print from USB Drive” permission:

```

<Permission>CRLF
<id>12642a24-5e74-41a2-a154-20d20436abee</id>
<name>Print from USB Drive</name>CRLF
</Permission>CRLF

```

## Customizing the Configuration file

The actual rights given are in the section which begins with the **< OxpAuthzProxy >** element and are divided into three sets:

- **< guestPermissionId >** All printer functions (Copy, Fax, Scan, etc.) that you need to be accessible without authentication (Guest Access) need to be identified in this section. Put each Permission GUID under the **guestPermissionSet** element and inside the **guestPermissionId** tag.

In this case:

```
...<guestPermissionSet>CRLF
...<guestPermissionId>12642a24-5e74-41a2-a154-20d20436abee</guestPermissionId>
```

Users can Print from USB Drive without Authentication.

```
...<Permission>CRLF
...<id>12642a24-5e74-41a2-a154-20d20436abee</id>
...<name>Print from USB Drive</name>CRLF
...</Permission>CRLF
```

- **< PermissionToSignInMethod >** In this section, you will define which specific Authentication Agent will be used for Authentication on each printer function.

Under the **< PermissionToSignInMethod >** section, put the Permission (function) GUID inside the **permissionId** tag and the corresponding sign-in method GUID inside the **signInMethodId** tag.

In this case:

```
...<PermissionToSignInMethod>CRLF
...<permissionId>cedab422-33b3-4638-b6a1-604e54525215</permissionId>CRLF
...<signInMethodId>60c23e33-38f5-4584-884a-c7d4999e63d0</signInMethodId>CRLF
...</PermissionToSignInMethod>CRLF
```

The "Copy" function requires the user to be authenticated by Celiveo.

```
<Permission>CRLF
...<id>cedab422-33b3-4638-b6a1-604e54525215</id>CRLF
...<name>Copy</name>CRLF
</Permission>CRLF
```

```
...<SignInMethod>CRLF
...<id>60c23e33-38f5-4584-884a-c7d4999e63d0</id>CRLF
...<name>CvoAuthSC</name>CRLF
...</SignInMethod>CRLF
```

- **< defaultSignInMethod >** Put the desired sign-in method GUID inside the **defaultSignInMethod** tag.

Put the desired sign-in method GUID inside the **defaultSignInMethod** tag.

Here, the default sign-in method is the Celiveo Authentication Agent.

```
...<defaultSignInMethod>60c23e33-38f5-4584-884a-c7d4999e63d0</defaultSignInMethod>
```

```

.....<SignInMethod>CRIF
.....<id>60c23e33-38f5-4584-884a-c7d4999e63d0</id>CRIF
.....<name>CvoAuthSC</name>CRIF
.....</SignInMethod>CRIF

```

- **< allowAlternateSignInMethods >** This element value should be set to “False” in order to restrict the access to the activities with another Authentication Agent. By default, it is set to “True”.
- **< addNewPermissionToGuest >** This element , when set to “True” will grant the Guest Access to newly installed applications (when Celiveo is already installed). Otherwise, the New Applications (Permissions) will be locked by the Default Sign In Method. By default, it is et to “False”.

## Sign-in Methods GUIDs

Description	GUID (Permission ID)
Celiveo Authentication for Celiveo Badge, PIN and Username and Password profiles	60c23e33-38f5-4584-884a-c7d4999e63c9
Celiveo Authentication for Celiveo Smart Card profiles and Celiveo Smart card profiles with Login and Password as secondary profile	60c23e33-38f5-4584-884a-c7d4999e63d0
Celiveo Dual Factor Authentication for Celiveo Badge with Dual Factor Enabled profiles	60c23e33-38f5-4584-884a-c7d4999e63d1
Celiveo Enrolment with the Celiveo “Enroll Me” Permission	d4840600-9f9b-434f-b4b1-56e6c78b971f
HP Pin Authentication Agent	41acce0-a865-4dc5-9e1f-25ab790ebec0
HP LDAP Agent	8a3a1a8c-773f-8b17-1dc6-1780745631a2
HP Windows Agent	5470b2ae-29cf-415b-a22d-349b50c9cb13

## Control Panel Features GUIDs

Description	GUID (Permission ID)
Settings	3dfe6950-5cf9-41c2-a3b2-6154868ab45d
Copy/Print	3c06acc4-f0e9-4248-8933-4aa500cee7b8
Manage Stored Jobs	fbd10c44-f550-498a-bfa0-b7e634afa551
Manage Trays	d41cc382-c023-46dc-b722-4178a599901a
Enable Print from USB Drive	7b8e9297-1c88-4316-b1c8-ed7a5b8eb4c7
Default Print Options	07799ea1-52ea-4cc8-8dbf-1458dc2f39d1
Print Quality	dceabb35-81d0-4c5f-a2f8-4c9c318b043b
PCL and PostScript Settings	7389ff49-20e5-41ff-9b96-5c1df60d7e67
Scan/Digital Send	2565f335-e4ad-4cde-966d-30d9f3f1999f
Email Settings	a639160a-7b18-4c02-b4a4-00b9026f00d6
Email Setup	52099d81-6fd5-481f-84ef-588c8ce39a3c
Scan to USB Drive Settings	4d1dc259-0d38-4bfd-b121-b11c22bc67bc
Network Folder Settings	74d83bcd-0cd0-4f89-aca5-39df93cb0b0d

Digital Sending Software (DSS) Setup	c980a35a-3e93-4971-b8c6-f76cbfbeddcf
Fax	965dabb4-8d1a-42df-943a-74c368a4c144
Fax Send Settings	eca4c819-4f03-458c-9aff-62f4be730e0b
General	a062b6d9-8475-4663-8bbf-c9ed15e8d460
Date/Time	defd075a-d6a7-498e-9efb-4b9465a8c091
Display Settings	cdd8157e-c605-473d-939b-98994607a436
Energy Settings	fdc59fb8-3a54-426d-9f5a-2d9087233bb0
Restore Factory Settings	b532012c-4017-472a-97d7-625f628bf75b
Enable Device USB	74425807-8557-49ae-820c-ce203f15e96b
Manage Supplies	1a2d31a0-b6c8-4497-a708-707792bd2609
Networking	4fdcd8b2-6e7e-44da-924a-85981a727c1b
Network Protocols	4692a241-8998-4aa8-9d31-1f8ccb43ea14
Reports	34876b06-05be-4044-b61c-40cca9dfe4cb
Configuration/Status Pages	7bb1b399-d731-4f3e-a013-82ce9ea9434f
Supplies Status Page	978af7de-4501-4709-b4e6-ecc056d41917
Usage Page	7e162dc5-a9af-4af2-b3a3-48c2d6e6bb7b
Configuration Page	c4fc5dcf-d03f-46e0-8e42-085ec5c3c108
File Directory	a12676bb-aa09-44bf-9608-a8d14cde50d7
Fax Reports	f22bab25-0bde-4983-9e28-24e536f13981
Blocked Fax List	5d1f0b3f-131e-4901-9807-a17d21ed11ba
Fax Activity Log	8591cb93-584c-43db-af22-eb9a817add9c
Billing Codes Report	84fc50f6-338d-4f5c-baba-e3a90418f364
Last Fax Call Report	d13fe446-6403-40c4-8f95-c734978d3dd3
Other Pages	81fbf819-ac36-481d-8736-c66a20a3ce75
App Gallery	4443c06a-0b8a-4442-aad7-ac773c9B9cee
Contacts	900a0d59-533a-497e-8e89-2b5bc898d5cc
Ability to edit a Speed Dial	ed979c88-86e4-422a-9842-6da6d53b431b
Ability to manage contacts in a Personal address book	1047e094-c564-4bcc-8a14-370bfddfb796
Ability to manage contacts in shared address books	6d777dcb-f62b-4cec-b536-c39078e14fc5
Copy	cedab422-33b3-4638-b6a1-604e54525215
Save defaults for Copy and Scan to Job Storage	57325ed2-49cd-4253-86f4-dc9af7103bda
Load Copy Quick Set	1fc3f42a-f887-461c-a27a-66a73156308a
Save new Quick Set for Copy	6b27ea0c-5311-4ce7-b0a8-aa4d21afe76b
1-sided copy output	7deecd46-5c05-4ce7-9c23-0c6fa1d5fc01
Support Tools	1d370ecf-fb74-44ae-8934-39740a6911ed
Troubleshooting menu	a9e3da1b-8173-419f-bd6a-2cc325567c4c

Retrieve Diagnostic Data	e4835c1f-7f0e-446b-9fc2-f18ef145698f
Fax	44aa632b-cfa3-4c10-8cab-697a9bef610b
Save defaults for Fax	016d46c6-5a3a-4646-910d-0ede122b949e
Load Fax Quick Set	8b99a8ad-9432-48a1-baca-22b0df6c65e4
Save new Quick Set for Fax	c33fdc04-682f-43ab-9f70-fdedfdc1d74b
Ability to edit the billing code	922cd28d-77a8-47a8-85c4-f117f5f69c82
Scan to SharePoint®	a3d696df-b7ff-4d3d-9969-5cd7f18c0c92
Ability to edit the SharePoint® path	19363c7c-235e-4c78-8be3-fb4673d59b25
HP Command Center	A935C131-CBE6-4d09-9AC2-624C12A9033B
Job Log and Active Jobs	56ce9217-377d-4d5c-a950-a2ad37c07882
Details or Cancel any user's job	3c40cf32-1d3d-4051-9ba2-0a7b839b0288
Ability to Promote any user's job	4068badd-7fa0-4c8f-b875-bf7e04dec26e
Ability to view other specific users' jobs in the Job Log	ef4dbcd9-34d5-46e2-af53-1bacda9e2a34
Print from Job Storage	87550e5e-f927-11df-950b-00306e48bff7
Stored Faxes	d544b0ba-a3fb-4911-a82b-bf4f891b3308
Delete protected jobs without entering the password or PIN	a4dfaedc-7724-48ea-948a-5cd7b11407f0
Ability to view other specific users' jobs and folders	535ea693-db6d-4beb-b548-f1693460eab3
Scan to Job Storage	d6c8dbb4-0cea-4147-b8a7-0cffd9c3ca90
Print from USB Drive	12642a24-5e74-41a2-a154-20d20436abee
Remote Scan Request	573619b2-7527-48b7-9ef7-ea0dcca519b5
My Print Jobs (Celiveo)	b629740c-1667-11da-a344-0010837a5f07
Enroll Me (Celiveo)	b629740c-1667-11da-a344-0010837a5f08
Email	b8460c9e-43c8-4290-a0f8-8ce450867f09
Ability to edit the BCC field for email	1502c3b6-db02-4010-ab27-a9a11f353ff0
Ability to edit the CC field for email	eb70fc52-81a7-4261-9978-f31c09ed87dc
Ability to edit the From field for email	5a707440-966b-4598-9c9b-29b08838d9a7
Ability to edit the body of an email	1d073e3c-7bd1-4269-b029-4e26c17c65b8
Ability to edit the Subject field for email	e56b78b2-5081-4473-9761-f90c79cca974
Ability to edit the To field for email	b35a7519-0680-46cd-834c-3096ab8a8692
Save defaults for Scan to Email	d5e988c7-c39c-4e77-b53f-51c6fdea210a
Load Email Quick Set	d8a96619-9aba-4249-afac-b2db90d0ca8b
Save new Quick Set for Email	5af2a754-d27c-40a4-a56d-2e7191def383
Scan to Network Folder	65acca51-619d-4e29-b1d0-6414e52f908b
Save defaults for Scan to Network Folder	f69557b5-82f6-4269-894c-1b4046a0a92a
Ability to edit the network folder path	ee19ffb2-d93c-42ab-a23b-b868a63304a3

Load Scan to Network Folder Quick Set	3ecf76a7-4ebe-4265-8cdf-22f4f359daf9
Save new Quick Set for Scan to Network Folder	f753d9a7-c4fc-47c8-abd3-49d901528f29
Scan to USB Drive	09866970-7133-404f-bb20-440b9148e8e2
Save defaults for Scan to USB Drive	00aed7aa-fc3b-4d18-81dd-e46365576f6a
Load Scan to USB Drive Quick Set	1bd63e89-82c9-4360-82c6-1fe9b4241247
Save new Quick Set for Scan to USB Drive	4044fe20-84a3-4314-a708-35626144609b
Supplies	a5e59604-d216-4977-a901-4774fcacbc4
Trays	
Ability to modify tray size and type settings	e402dfff-566a-45c9-a0d3-18350436666e

## On the Printer Panel

Once the configuration file has been customized and uploaded to the Web Admin and once the printer has been synchronized, the Custom Access Control configuration is applied and the Security Settings are locked on the printer panel. If the Celiveo Authentication Agent is removed, the settings become available again.

**HP LaserJet MFP M527**  
HP LaserJet MFP M527 192.168.1.150

User: Administrator Sign Out

Information General Copy/Print Scan/Digital Send Fax Supplies Troubleshooting **Security** HP Web Services Networking

General Security Account Policy **Access Control** Protect Shared Data Manage Remote Apps Certificate Management Email Domain Restriction Web Service Security Self Test

### Access Control

Some security settings on this page are unavailable because they are managed by Celiveo Authentication service.

Enable and Configure Sign-In Methods

Enabled sign-in methods can be used to sign in at the product. If relating product permissions to network users or groups, make sure to use a sign-in method that matches what people usually use to sign in at a computer.

Status	Sign-In Method	Description
Local Device	Local Device	Local accounts have access codes between 4 and 8 digits long. Accounts are stored on product hard disk.
LDAP	LDAP	Authenticate using an LDAP directory server. A user name and Password will be requested.
Windows	Windows	Windows Domain, User Name, and Password will be requested.
Celiveo Login	Celiveo Login	This is an accessory sign-in method that has been installed.
Celiveo Enrollment	Celiveo Enrollment	This is an accessory sign-in method that has been installed.

Sign-In and Permission Policies

Click the icons below to change settings. Set sign-in requirements at the control panel by allowing or denying Guest access. Guests are users who have not signed in to use the product. The remaining permissions can be applied to local user accounts stored on the product or to network users and groups.

Control Panel	Device Guest	Device Administrator	Device User	Sign-In Method
Settings	On	On	On	Local Device
Reports	On	On	On	Local Device
App Gallery	On	On	On	Local Device
Contacts	On	On	On	Local Device
Copy	On	On	On	Local Device
Support Tools	On	On	On	Local Device
Fax	On	On	On	Local Device
Save defaults for Fax	On	On	On	Local Device
Load Fax Quick Set	On	On	On	Local Device
Save new Quick Set for Fax	On	On	On	Local Device
Ability to edit the billing code	On	On	On	Local Device
Scan to SharePoint*	On	On	On	Local Device
HP Command Center	On	On	On	Local Device

Last modified: 8 September 2020

## 10.10. Using Microsoft AD LDS software

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### No Active Directory? AD LDS allows to manage easily and professionally users

Some clients do not have Active Directory but need Print Management and a users list is necessary to provide authentication service on printers.

A solution is to use free Microsoft AD LDS software (Active Directory Lightweight Directory Services) to manage users and groups and make them accessible from Celiveo Web Admin and printers.

AD LDS is a scaled-down version of Active Directory, much smaller and simpler to install and use than the full blown version. It runs on PC workstations and Servers OS, can be used standalone and it is even possible to have multiple instances of AD LDS running independently on the same PC or server, they will not interfere with each other. Celiveo supports natively AD LDS users directory in authentication profiles thanks to its AD/LDAP interface.

With AD LDS you benefit from:

- A Microsoft graphical UI to manage users and groups (ADSI Edit tool present within AD LDS)
- Management through Powershell cmdlets
- The ability put users in groups, used to grant rights on printers/rules
- The ability to import users lists from CSV list into AD LDS. This can be useful if users are coming from a third party system, ie a door management system with card numbers, or a PIN code generation system.
- A fast track to Active Directory and Azure AD the day you want to migrate

Note that PC login against AD LDS is possible but we don't recommend it, it is best to then use a full blown Active Directory software.

If you are already familiar with Active Directory, AD LDS has some limitations, detailed in the AD LDS Microsoft page:

<https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc732019>

AD LDS can be downloaded from that link:

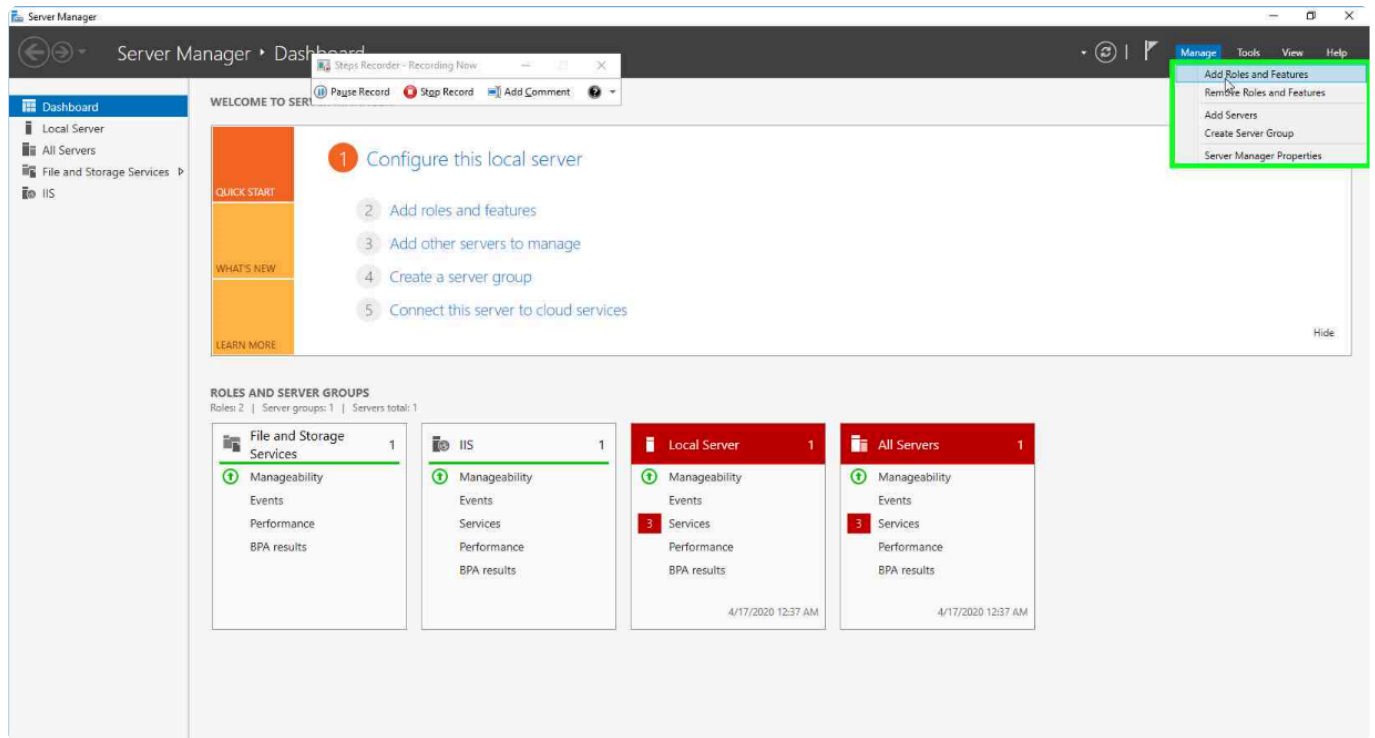
<https://www.microsoft.com/en-us/download/details.aspx?id=1451>

A lot has already been written on AD LDS, you will find here an excellent article detailing how to install and setup AD LDS on Servers and PCs:

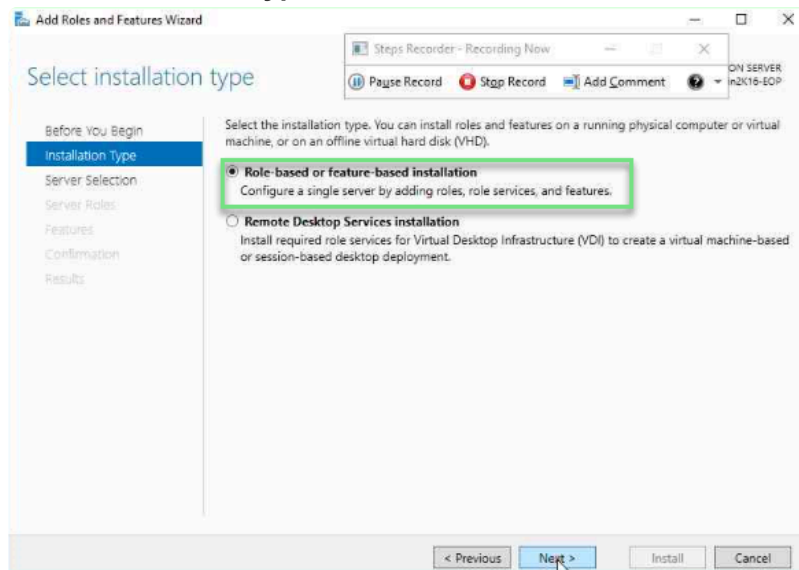
<http://www.rebeladmin.com/2018/02/step-step-guide-setup-active-directory-lightweight-directory-services-ad-lds/>

### Installing AD LDS

Open Windows Server Manager and click **Manage > Add Roles and Features**.

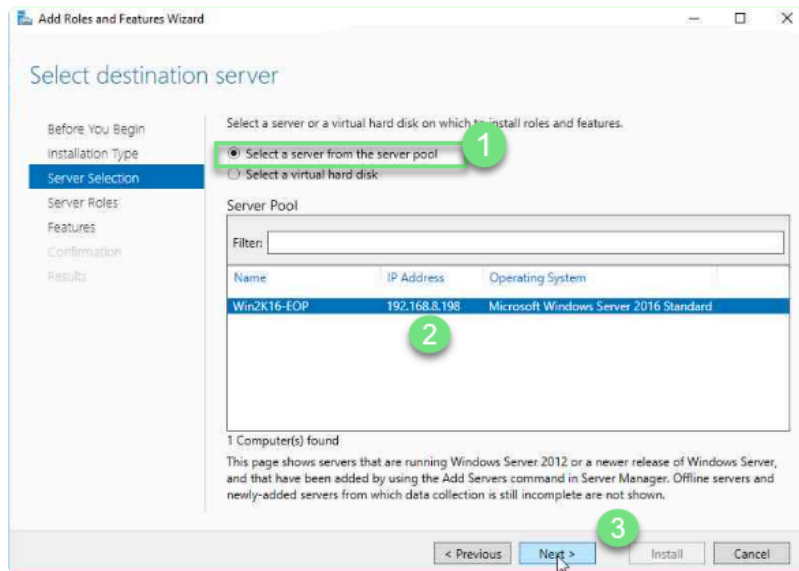


In the **Installation type** section, select **Role-based or feature-based installation** and click **Next**.

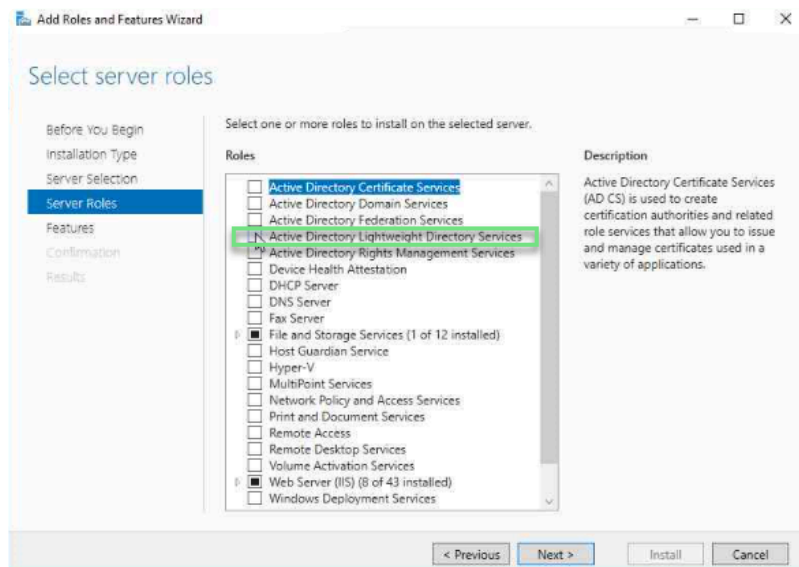


In the **Server Selection** section, click **Select a server from the server pool**, select a server and click **Next**.

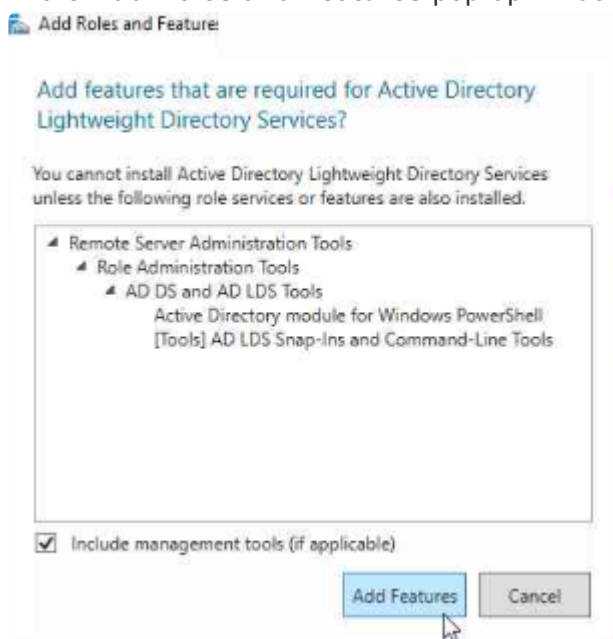




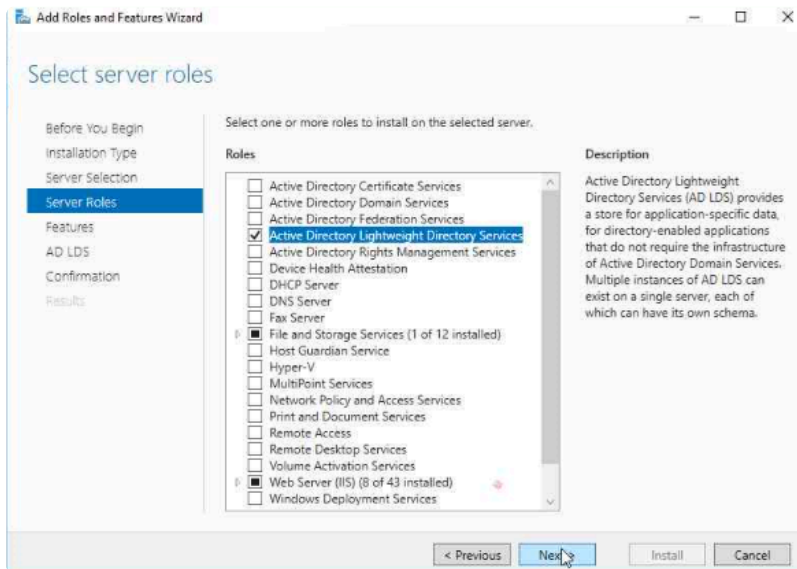
In the **Server Roles** section, select **Active Directory Lightweight Directory Services** from the **Roles** list.



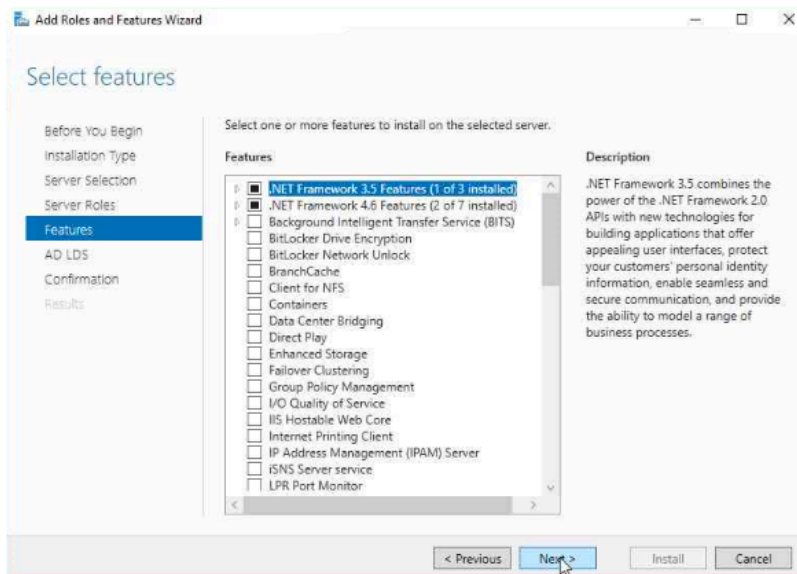
In the **Add Roles and Features** pop-up window, click **Add Features**.



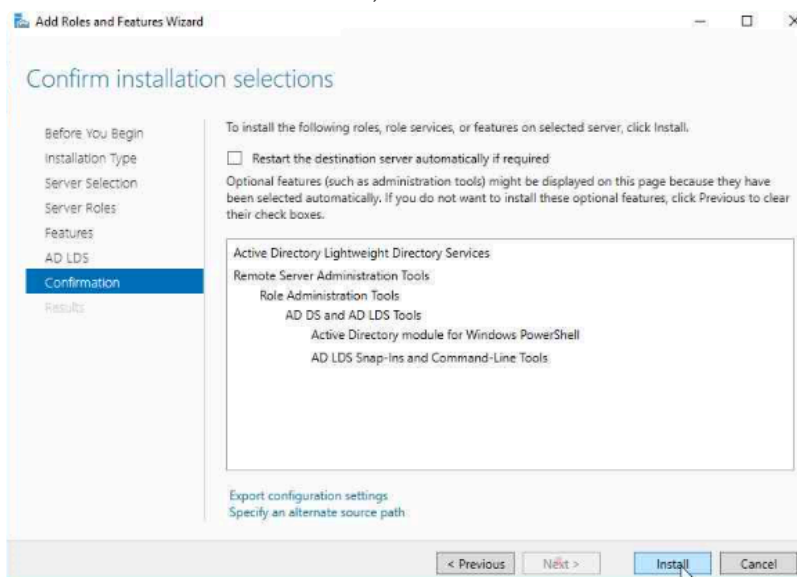
Back to the **Server Roles** section, click **Next**.



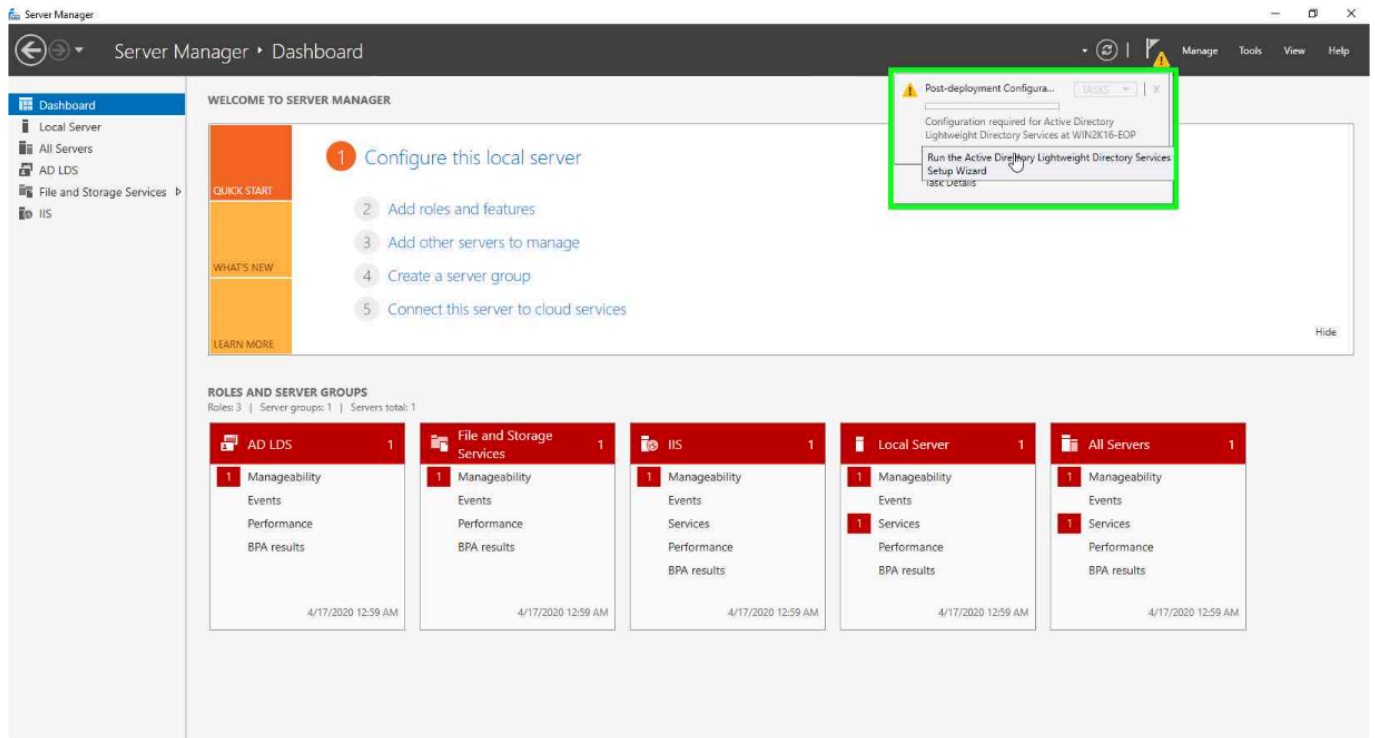
In the **Features** section, select **.NET Framework 3.5 Features** and **.NET Framework 4.6 Features** then click **Next**.



In the **Confirmation** section, click **Install**.



In Windows Server Manager, click the yellow exclamation mark to enter the setup wizard.



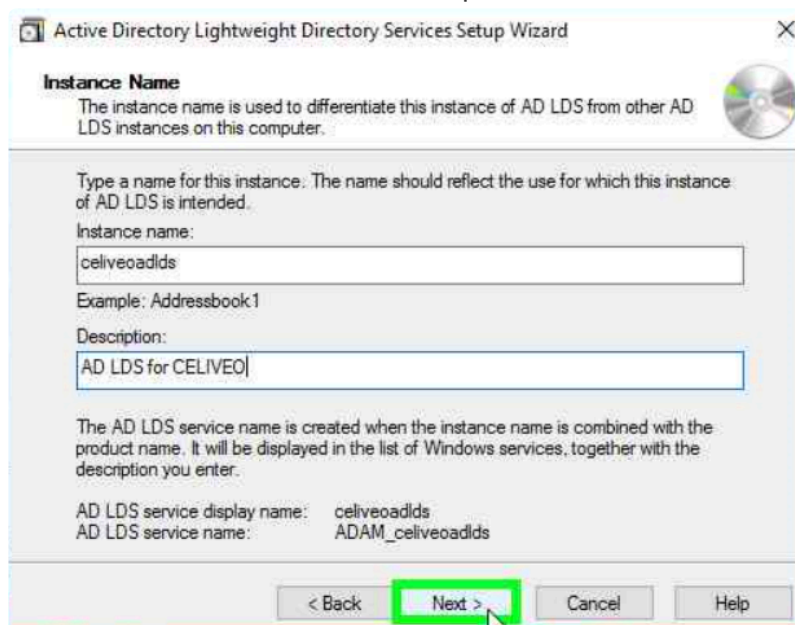
Click **Next**.



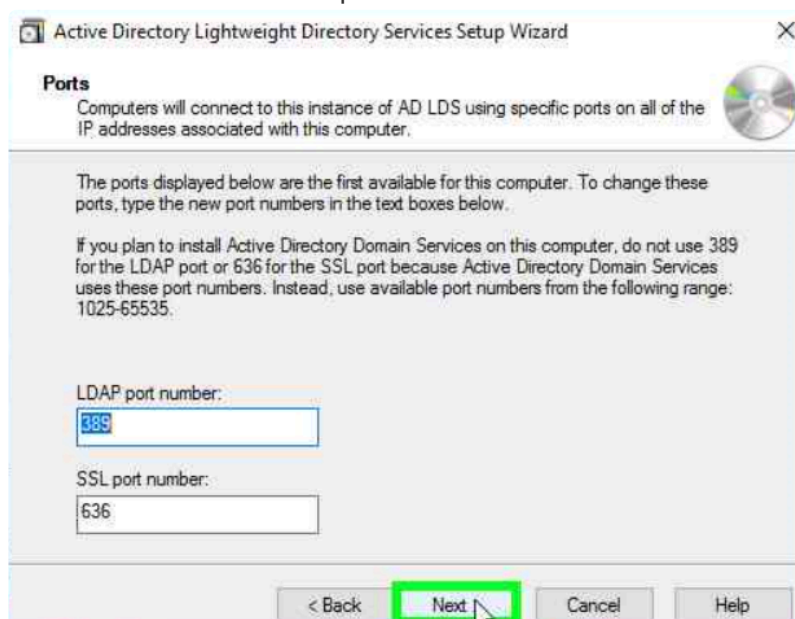
In the **Setup Options**, select **A unique instance**.



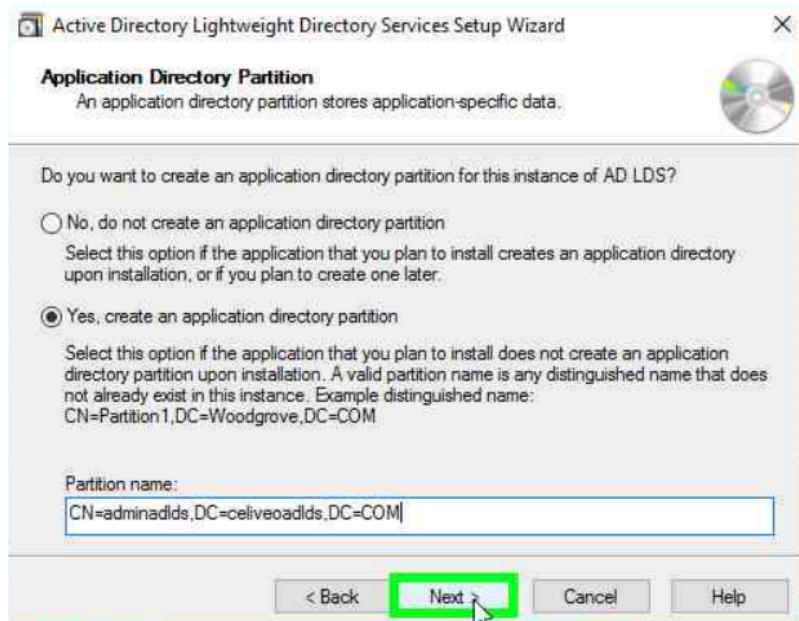
Enter an Instance name and description and click **Next**.



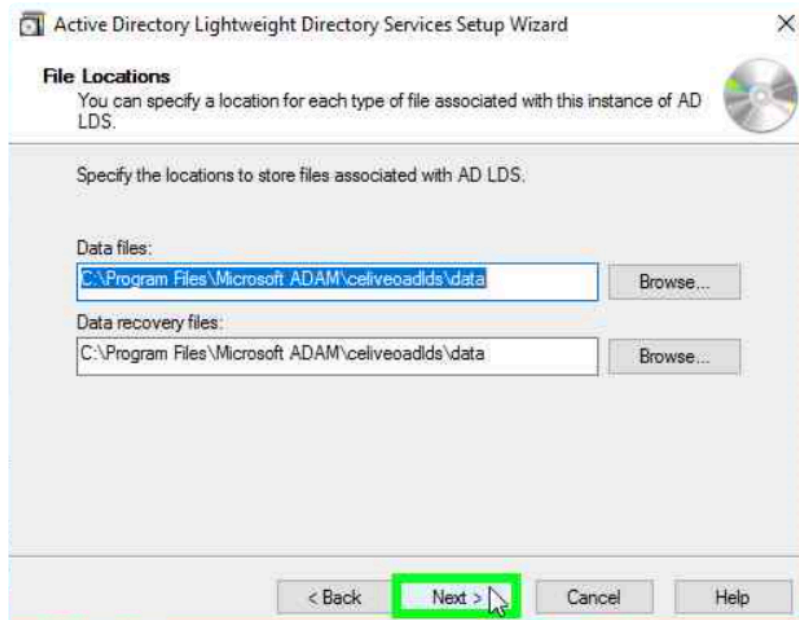
Enter the LDAP and SSL port numbers and click **Next**.



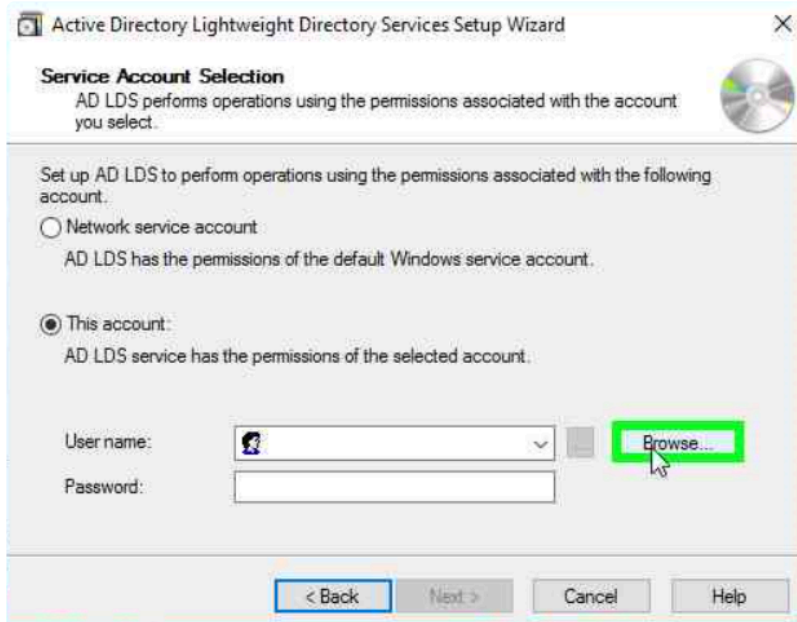
Select **Yes, create an application directory partition**, enter a partition name and click **Next**.



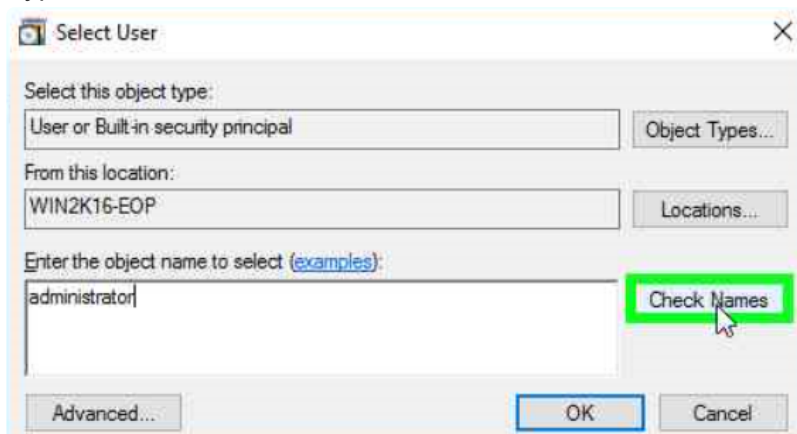
Select the locations to store the files associated with your instance of AD LDS and click **Next**.



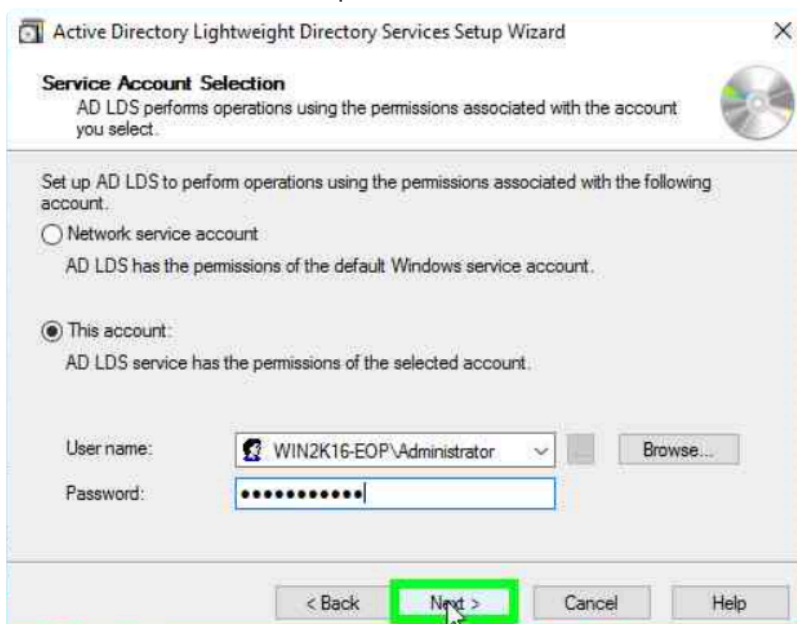
In the **Service Account Selection** window, select **This account**.  
Click the **Browse** button to select a user.



Type a user name in the dedicated field and click **Check Names**. Then click **OK**.

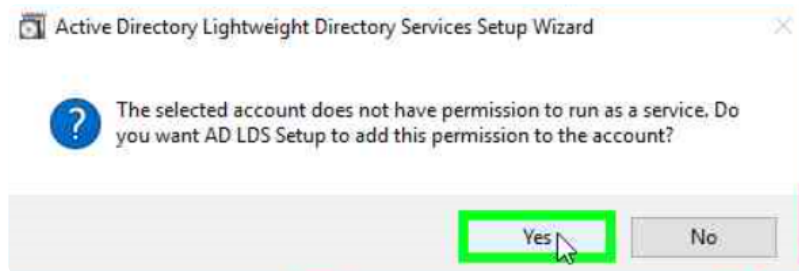


Enter the selected user's password and click **Next**.

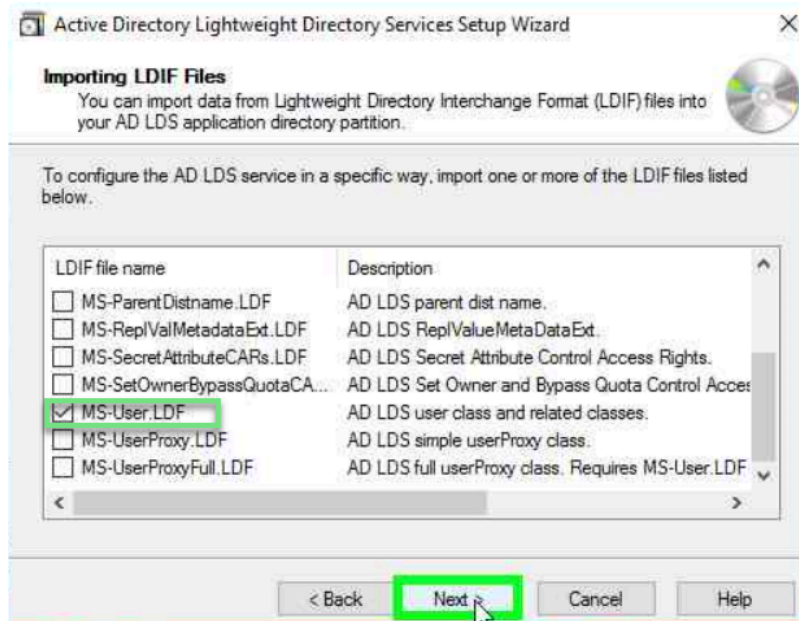


When prompted to add the permission to run as a service to the account, select **Yes**. Then click **Next**.

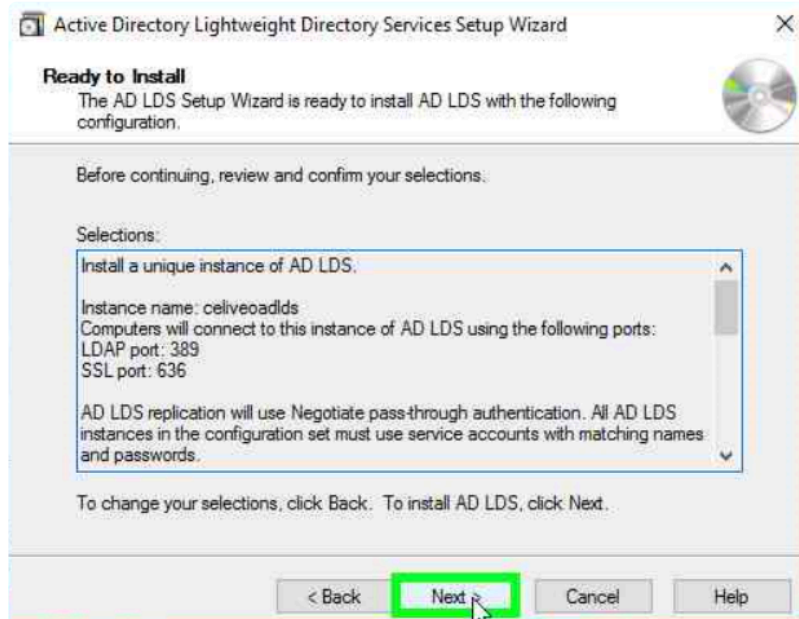




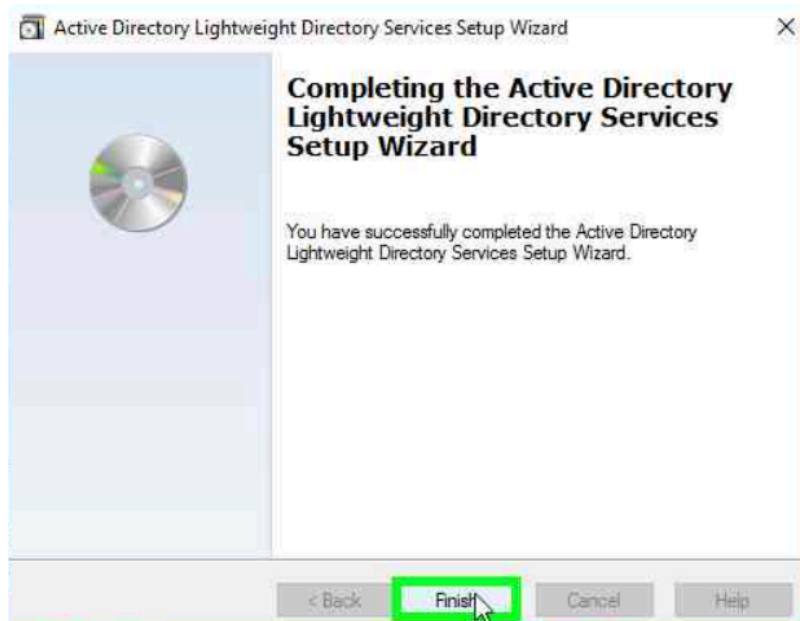
Select the **MS-User.LDF** file in the LDIF files to import list and click **Next**.



In the **Ready to Install** window, click **Next** to start the installation.



When prompted, click **Finish** to complete the installation.



## AD LDS and User Authentication for printers

### No sAMAccountName attribute:

sAMAccountName is a legacy AD attribute (logon name that supports old versions of Windows) progressively replaced by the user UPN (userPrincipalName). The Windows Print Spooler still uses the sAMAccountName but you won't find it in AD LDS or in Azure AD. That won't be an issue as with a mouse click you can instruct Celiveo Authentication profile to use the UPN attribute instead of sAMAccountName. Note that the UPN attribute shall then contain the user PC login name, not the real UPN (which contains the domain name), otherwise there will be no match to the user name used by the Windows print spooler when supplying print jobs to Celiveo pull print service.

### Indexing the user ID attribute:

When there are a large number of users the lookup for a PIN code or card number is much faster if the attribute (field) that contains it is indexed.

By default Celiveo uses the postOfficeBox attribute to store the user ID (card or PIN) and it is indexed, but any other attribute can be selected.

If you need to index an attribute in Active Directory that article explains how to proceed:

<https://docs.microsoft.com/en-us/previous-versions/tn-archive/aa995762>

### Importing/exporting users list with PIN/card ID in/from AD LDS using CSV file

Microsoft provides the free csvde utility to import/export users into AD LDS. That can't import/export password, which are not necessary when using AD LDS to store a pre-defined list of users and card ID/PIN codes. The documentation for

<https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc732101>



## Updating frequently the list of users


Microsoft warns that “By design AD LDS keeps track on all deleted records though. This lead to the scenario where the database file grew more and more, as all deleted records were not permanently deleted by only flagged as “to be deleted””. The file adamntds.dit grows significantly when a script is run very frequently and performs significant updates. The link below describes the issue and the solution.

<https://docs.microsoft.com/en-us/archive/blogs/isablog/the-case-of-the-big-ad-lds-database>


## Configuring AD LDS for Celiveo Users list

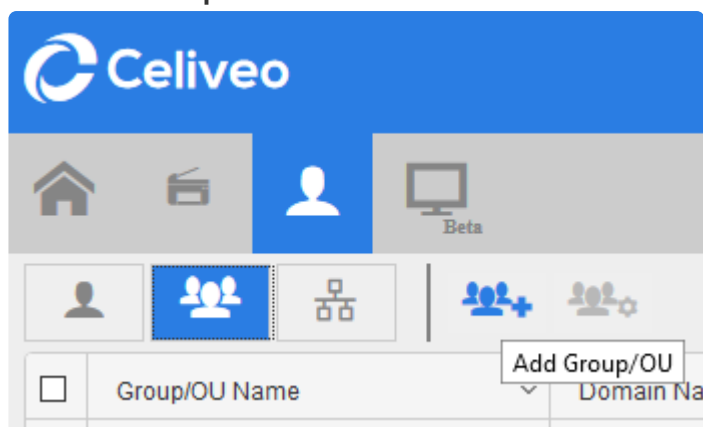
- Create admin accounts to manage the AD LDS system. We recommend you define a complex and long password and use a non-explicit login name.
- Create a service account with read/write access rights, that will be used in the Celiveo Access Control profile to query AD LDS for user IDs and users information. We recommend you define a complex and long password and use a non-explicit login name.

## Configuring the Celiveo Authentication profile to connect to the AD LDS instance

- From the physical printer access control button  create a PIN code or Card authentication profile.
- Do not activate “Self Enrollment” unless all users have a login/password defined in AD LDS and know it. Otherwise users will not be able to authenticate on MFPs to enroll their card or on the web portal to request a PIN code.
- Create an authentication profile matching the Connection Settings detailed in ADSI Edit tool mentioned above.

You can see all fields that by default are *sAMAccountName* have to be changed to *userPrincipalName* since *sAMAccountName* does not exist by default in AD LDS.

- Test the connection to AD LDS using the  **Test** button, you should have successful status. If not, verify the settings and firewall to allow the LDAP host ports inbound and outbound communication.
- Go to the **Users Management** screen as shown below, select the user icon then the group icon then **add Group/OU**.



- Select the Authentication profile created earlier, then enter \* below to select all group. If the connection is successful the list of groups shows up.

**Add Group/OU**

**Authentication Profile**  
MyAD LDS authentication lookup profile

\*

<input type="checkbox"/>	Group/OU Name	Type	Domain Name	Relative Domain Path
<input type="checkbox"/>	Administrators	Group	myusersdirectory.com	Builtin/Administrators
<input type="checkbox"/>	Users	Group	myusersdirectory.com	Builtin/Users
<input type="checkbox"/>	Guests	Group	myusersdirectory.com	Builtin/Guests
<input type="checkbox"/>	Print Operators	Group	myusersdirectory.com	Builtin/Print Operators
<input type="checkbox"/>	Backup Operators	Group	myusersdirectory.com	Builtin/Backup Operators
<input type="checkbox"/>	Replicator	Group	myusersdirectory.com	Builtin/Replicator
<input type="checkbox"/>	Remote Desktop Users	Group	myusersdirectory.com	Builtin/Remote Desktop Users
<input type="checkbox"/>	Network Configuration Operators	Group	myusersdirectory.com	Builtin/Network Configuration Operators
<input type="checkbox"/>	Performance Monitor Users	Group	myusersdirectory.com	Builtin/Performance Monitor Users
<input type="checkbox"/>	Performance Log Users	Group	myusersdirectory.com	Builtin/Performance Log Users
<input type="checkbox"/>	Distributed COM Users	Group	myusersdirectory.com	Builtin/Distributed COM Users
<input type="checkbox"/>	IIS_IUSRS	Group	myusersdirectory.com	Builtin/IIS_IUSRS
<input type="checkbox"/>	Cryptographic Operators	Group	myusersdirectory.com	Builtin/Cryptographic Operators

100 items per page 1 - 100 of 1046 items

Select bookmark to load saved tags...

Tag1 Tag2 Tag3 Tag4 Tag5

☐ Administrator Right

Save Cancel

## Adding users and their PIN code or Card number into AD LDS

- **From the UI:** use ADSI Edit to add users manually, enter their PC login name in the userPrincipalName attribute and their PIN or card number in the postOfficeBox attribute.
- **From CSV file:** use the **csvde** utility referenced earlier in that article.

## Using the static users list in printer capability

- Some setup require the full list of users inside the printer memory, no connection to the AD LDS. Celiveo in the printer can connect to AD/ADLDS to extract a list of users and card number/PIN codes to authenticate them locally without connecting to AD/ADLDS. Should a PIN/Card number be unknown the AD/AD LDS is still queried in case that's a new user not yet in the local list. All this is possible using the Full Cache in printer capability, activated in the authentication profile.
- We recommend to narrow the scope of AD extract to not extract the full directory, that will be more efficient and faster.
- Define a time range that's wide enough to not trigger all the extracts at the same time and ensure the PC or server that hosts AD/ADLDS is accessible at that time.

*Last modified: 31 October 2020*

# 11. Print Management

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This topic will help you understand how the Celiveo solution can be used to manage and control the way documents are printed in your environment.

[Printers Overview](#)

[Create Print Rules](#)

[Pull Print Delegation](#)

*Last modified: 9 October 2020*

# 11.1. Printers Overview


On this page, you can add or delete a printer. Or, simply get an overview of all the printers managed by Celiveo Web Admin. Click on one of the sections for details:

- [About the printers list](#)
- [Add printers](#)
- [Edit printer settings](#)
- [Delete a printer](#)

## About the printers list


Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Hostname	Printer Mac Address	Printer Serial	Celiveo IP	Sync Status	Region	Count
Canon IR-ADV C5550 19.06. [76388327]		Canon IR-ADV C5550 19.06		192.168.8.113	192.168.8.113	60:12:8b:d2:94:3c	WHL00527		Ready for synchronization	Europe	UK
myVirtualPrinter	Celiveo	Celiveo Virtual Printer (Windows) v20170421.000001							N/A	*	*
CSprinter_JDesktop	Celiveo								N/A	*	*

The printer list provides information on each printer added to Celiveo Web Admin. You can adjust the format of the printer list to suit your information needs. Save the order of the columns and access the same view the next time you log in.

 **Note regarding the Printer hostname column:** if the hostname is not resolved, the column will contain the IP address of the printer.

Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Hostname	Printer Mac Address
Canon IR-ADV C5550 19.06. [76388327]		Canon IR-ADV C5550 19.06		192.168.8.113	192.168.8.113	60:12:8b:d2:94:3c
myVirtualPrinter	Celiveo	Celiveo Virtual Printer (Windows) v20170421.000001				

## Create a customized printer list

1. On the right hand side of the screen, select the  icon.

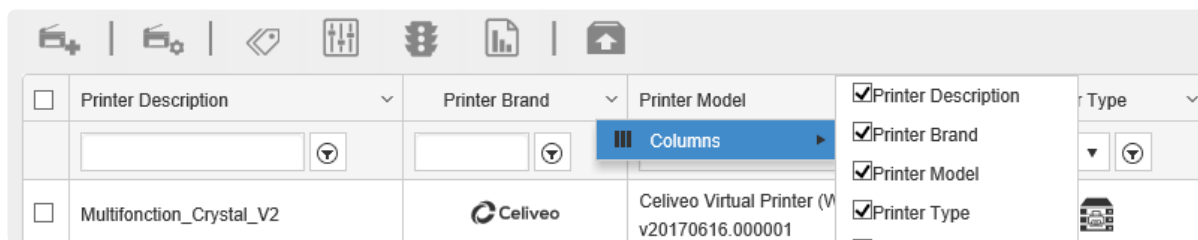
Save
Edit
Delete

2. When prompted, enter the name for the customized view and click **[Save]**.
3. Make the adjustments (if required):
  - **To reorder the columns:**

Click and drag the selected column to the target location. Release to insert the column at the new location.

- **To show or hide a column:**


Click on the down arrow next to the column label, select **[Columns]**. Check or uncheck the box next to each column header to show/hide.



- **To sort the fields under a column:**

Click once on the column header, for example **[Printer Brand]**. Click on the column header again to sort in ascending or descending order.

- **To customize the labels of Tags 1 – 5,**

Click on the  icon on the top right corner of the screen. See the Help on Renaming Tags.

- **To search a printer by its printer properties or assigned tags,**

Enter the required field in the search box under each column header and click Enter.

4. To save the changes, click on the  Save icon.

- **To rename the customized view,**

Click on the  icon.



When prompted, enter the new name and click **[Save]**.

- **To delete a customized view,**



Click on the  Delete icon.

When prompted, click **[OK]**.

## Add printers

1. At the Main Menu , click on the  Printer icon.

2. At the Add Printer menu , select one of the following methods to add printers:

-  **Manual:** upload printer information in a CSV file or enter the printer hostname manually.
-  **Discovery Agent:** allow Discovery Agent to automatically search and locate printers in the network.
-  **Virtual Printer:** set up a virtual printer where print jobs can be released to any printer in the network.

## Edit printer settings

Under the printer list, select a printer and click on any of the icons on the printer taskbar.



Icon	Menu Option
	Edit printer settings.
	Edit tags and maps.
	Edit the language on the Celiveo menu and authentication screens on the printer.
	Edit access control and printing rules.
	Edit cost definition for the printer.
	For <b>Physical Printers</b> : Sync the selected printer again. For <b>Virtual Printers</b> : Download the MSI configuration file again.

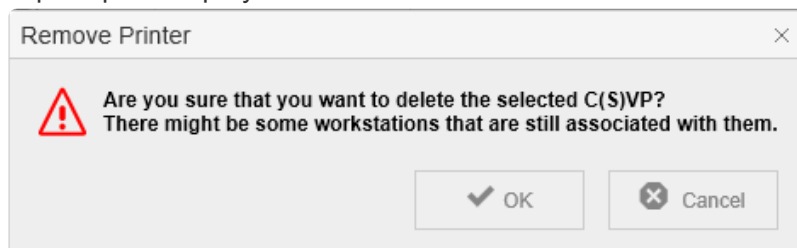
## Edit printer description

You can change the description of any physical printer. As you move the cursor over a printer description that can be changed, the cursor changes to an edit icon ( ).

1. Double-click the printer description to change. The Edit Printer screen displays.
2. At **[Printer Description]**, specify the new description.
3. Click **[Save]**.

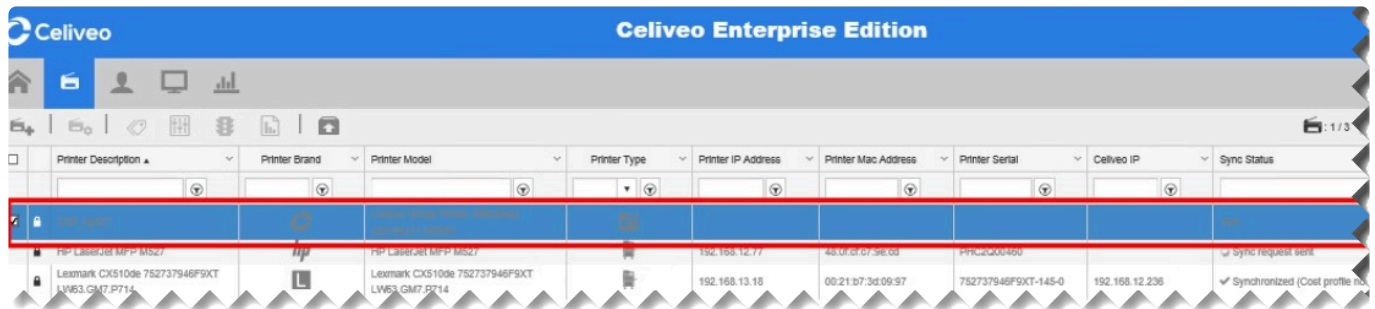
## Delete a printer

1. Under the printer list, select a printer and click on the [Delete] icon.
2. When prompted, click **[OK]**.
3. When deleting a virtual printer (CVP/ CSVP), make sure there are no workstations associated to it. A prompt is displayed to confirm this action.



4. Click **[OK]**.

**Note:** A Sub Admin user (with lesser access privileges than a Super Admin user) cannot delete printer(s), created by a Super Admin user. The corresponding rows will be locked/ disabled for the Sub Admin user.



The screenshot displays the Celiveo Enterprise Edition software interface. At the top, there is a blue header bar with the Celiveo logo and the text "Celiveo Enterprise Edition". Below the header is a navigation bar with icons for home, printer, user, and reports. A secondary bar contains various tool icons. The main area features a table with columns for printer details and synchronization status. The table has a red header row and a red-bordered row for a selected printer. The data rows show two printers: an HP LaserJet MFP M527 and a Lexmark CX510de. The HP printer's sync status is "Sync request sent", while the Lexmark printer's status is "Synchronized (Cost profile no.)".

Printer Description	Printer Brand	Printer Model	Printer Type	Printer IP Address	Printer Mac Address	Printer Serial	Celiveo IP	Sync Status
HP LaserJet MFP M527	HP	HP LaserJet MFP M527	HP LaserJet MFP M527	192.168.12.77	48:0E:07:07:5E:03	PHL2J000460		Sync request sent
Lexmark CX510de 752737946F9XT	Lexmark	Lexmark CX510de 752737946F9XT	Lexmark CX510de 752737946F9XT	192.168.13.18	00:21:b7:3d:09:97	752737946F9XT-145-0	192.168.12.236	✓ Synchronized (Cost profile no.)

*Last modified: 8 September 2020*



## 11.2. Create Print Rules

Print Rules let you define the availability of a printer and how a print job should be handled, depending on:



- The day of week/time of day.
- Who the sender is
- The value of an attribute of the print job (For example, the page count of a print job)


### **Notes:**

- For Print Direct, you create Print Rules on a Celiveo Virtual Printer. The Celiveo Virtual Printer is a module you deploy on a user's workstation, in order to capture print jobs.
- For Pull Printing, if you want to apply a print rule universally for all printers, you place the rule on a Celiveo Virtual Printer. If you want to apply a rule to a specific printer only, you place the rule on that printer.
- Make sure that the maximum job file name size sent to a physical printer is 35 characters and 95 for a job sent to a virtual printer.
- **IMPORTANT:** Rules for a Celiveo Shared Virtual Printer must not have **USER OU** as a criteria.



Let's create print rules for the following examples:

1. [Example 1 – Force behavior](#)
2. [Example 2 – Control printer availability](#)
3. [Example 3 – Override restrictions](#)

### Example 1:

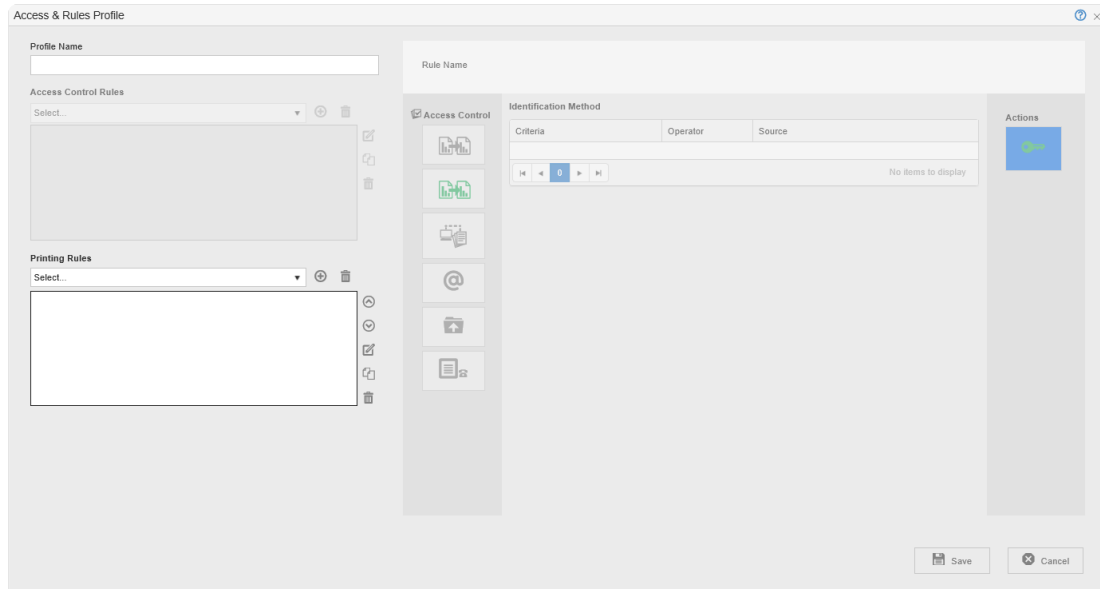
 Force color print jobs to be converted to grayscale, if the page count is larger than 10 pages.


#### Stage 1: Select Printer

1. At the Main menu, click . The Printers List is displayed.
2. Select a Celiveo Virtual Printer you want to apply the rule to, and click . Access & Rules is displayed.

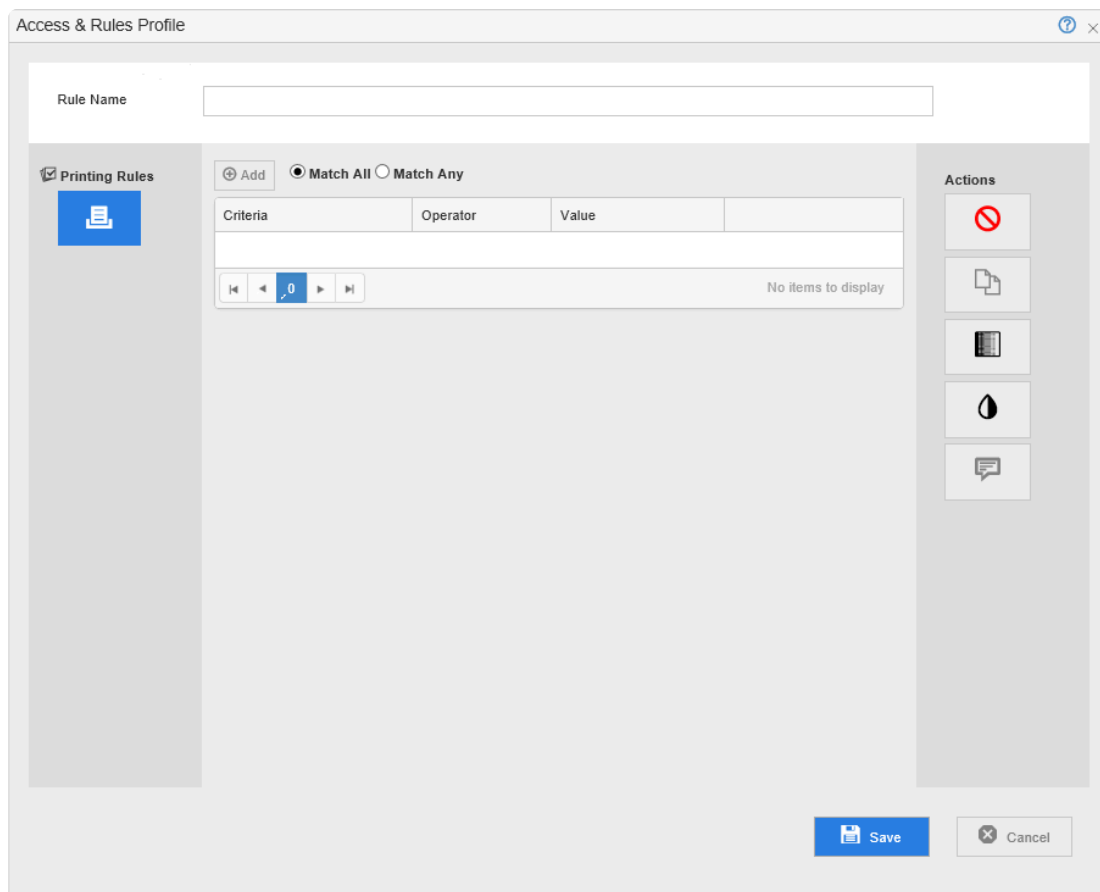
#### Stage 2: Create a New Access & Rules Profile


1. Click . The Access & Rules Profile for the new rule is displayed.

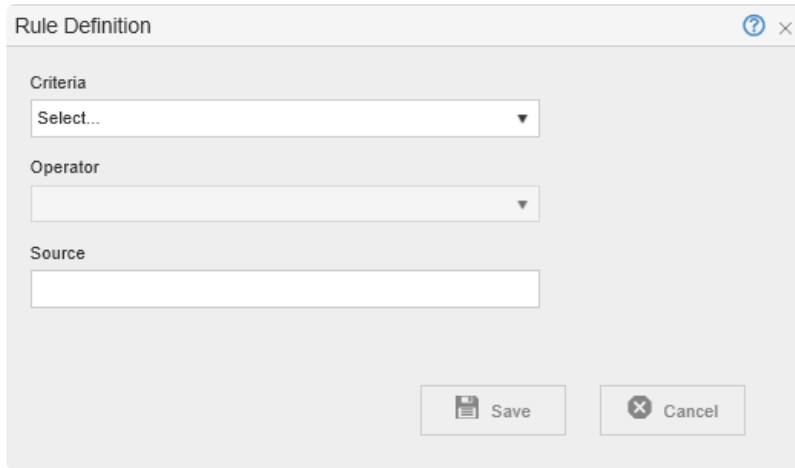


2. At **[Profile Name]** box, specify a unique name (for this example, we will use *Rules for Color Printing* as the name) for the Access & Rules Profile.
3. Click , located next to the **[Printing Rules]** drop-down, to add a new rule.

### Stage 3: Configure the New Rule



1. At **[Rule Name]**, specify a unique name for the rule (for the purpose of this example we will use *Large color jobs* as the name).
2. Click , located next to **[Add]**. The Rule Definition displays.



Rule Definition

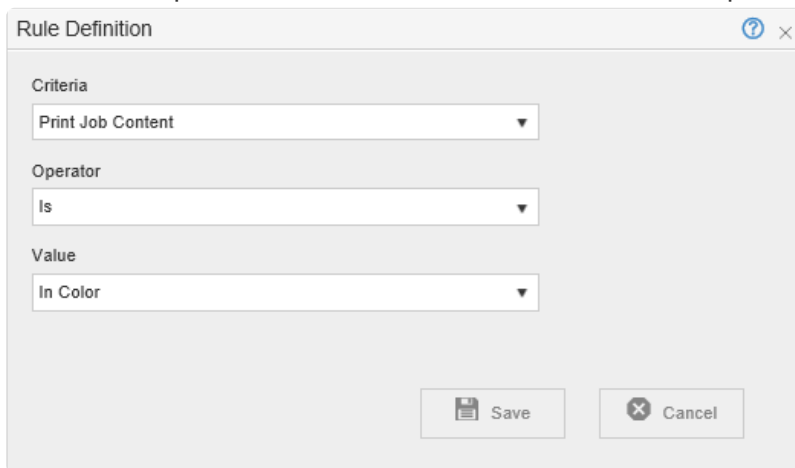
Criteria  
Select...

Operator  
▼

Source  
▼

Save Cancel

3. From the drop-down lists in the Rule Definition, select options as shown below and click **[Save]**.



Rule Definition

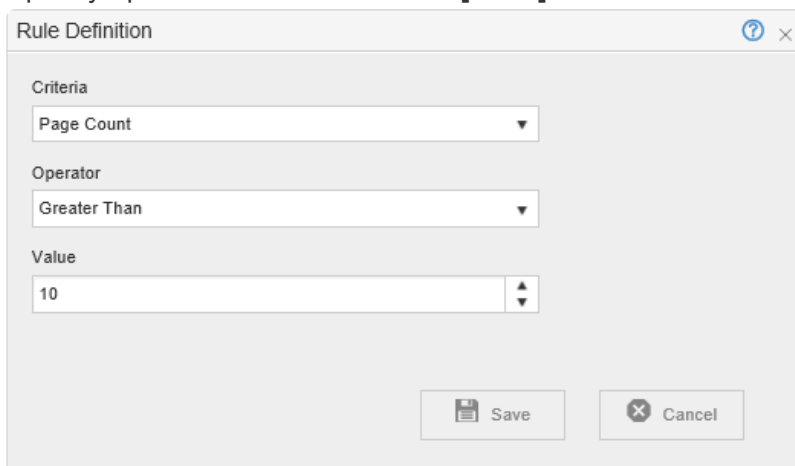
Criteria  
Print Job Content

Operator  
Is

Value  
In Color

Save Cancel

4. Once again click **+**, located next to **[Add]**. The Rule Definition displays.
5. Specify options as below and click **[Save]**.




Rule Definition

Criteria  
Page Count

Operator  
Greater Than

Value  
10

Save Cancel

6. In the **[Actions]** panel, click . The Access and Rules profile should now resemble the illustration below:

Access & Rules Profile

Rule Name: Large color jobs

☒ Printing Rules

☒ Match All ☐ Match Any

Criteria	Operator	Value	
Print Job Content	Is	In Color	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Page Count	Greater Than	10	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

1 - 2 of 2 items

Actions:

7. Click **[Save]**. Large color jobs rule is now listed under **[Printing Rules]**.

## Example 2:

- \* Make Printing unavailable outside regular office hours (8.30 AM and 7.30 PM). Notify users if they attempt to print.

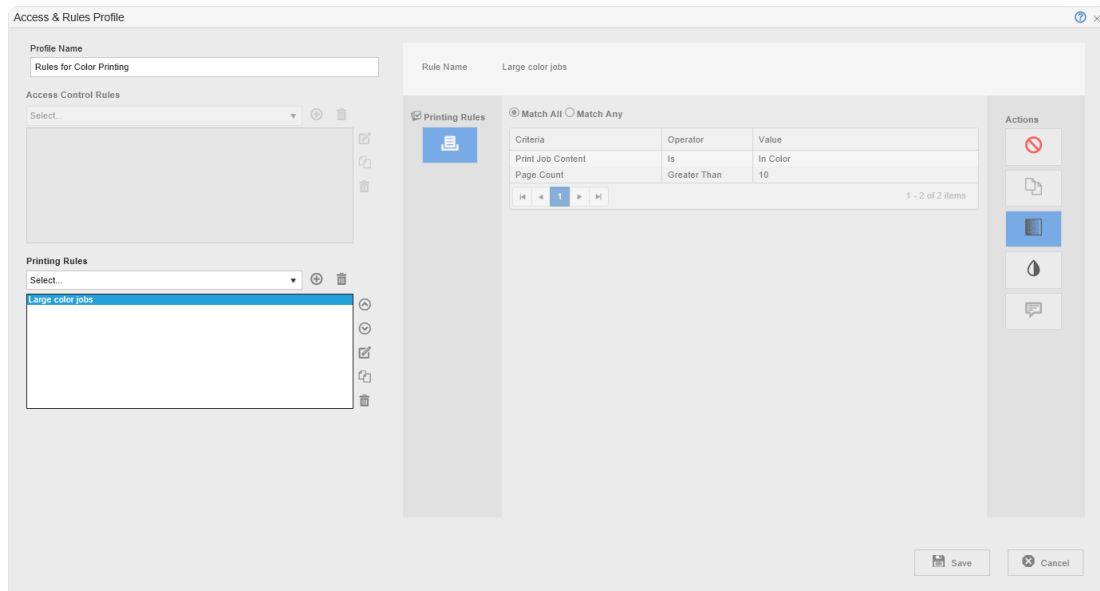
### Stage 1: Load Access & Rules Profile


1. From the Printer List, select the printer you modified in the last example and click . Access & Rules is displayed.

Access & Rules

Access & Rules Profile: Rules for Color Printing

2. Click . The Access & Rules Profile displays.



- Click , located next to the [Printing Rules] drop-down, to add a new rule.

## Stage 2: Configure the New Rule

- At [Rule Name], specify a unique name for the rule (for the purpose of this example we will use *No Printing Outside Office Hours* as the name).
- Follow the workflow outlined in stage 3 of example 1 to create the two criteria shown below.

Rule Definition

Criteria: Time

Operator: Is Before

Value: 08:30

Save Cancel

Rule Definition

Criteria: Time

Operator: Is After

Value: 19:30

Save Cancel

- Select [Match Any].

Access & Rules Profile

Rule Name: No Printing Outside Office Hours

**Printing Rules**

☐ Match All ☒ Match Any

Criteria	Operator	Value		
Time	Is Before	08:30		
Time	Is After	19:30		

1 - 2 of 2 items

**Actions**

4. Click .
5. Click . The icon appears next to the button.
6. Click . and specify the notification as shown below:

Notification

Notification Timeout (Seconds)

0

English (United States)

No printing allowed outside office hours

Čeština (Česká republika)

Deutsch (Deutschland)

Español (España, alfabetización internacional)

Suomi (Suomi)

Français (France)

Magyar (Magyarország)

Bahasa Indonesia (Indonesia)

Italiano (Italia)

日本語 (日本)

한국어 (대한민국)

Nederlands (Nederland)

Polski (Polska)

Português (Brasil)

Русский (Россия)

Slovenčina (Slovenská republika)

Svenska (Sverige)

Türkçe (Türkiye)

中文(中华人民共和国)

中文(台灣)

Close

7. Click **[Close]**.
8. Click **[Save]**. The screen should now look like this:

Access & Rules Profile

Profile Name

Rules for Color Printing

Access Control Rules

Select...

Printing Rules

No Printing Outside Office Hours

Large color jobs

No Printing Outside Office Hours

Rule Name

No Printing Outside Office Hours

Printing Rules

Match All

Match Any

Criteria	Operator	Value
Time	Is Before	00:30
Time	Is After	19:30

1 - 2 of 2 items

Actions

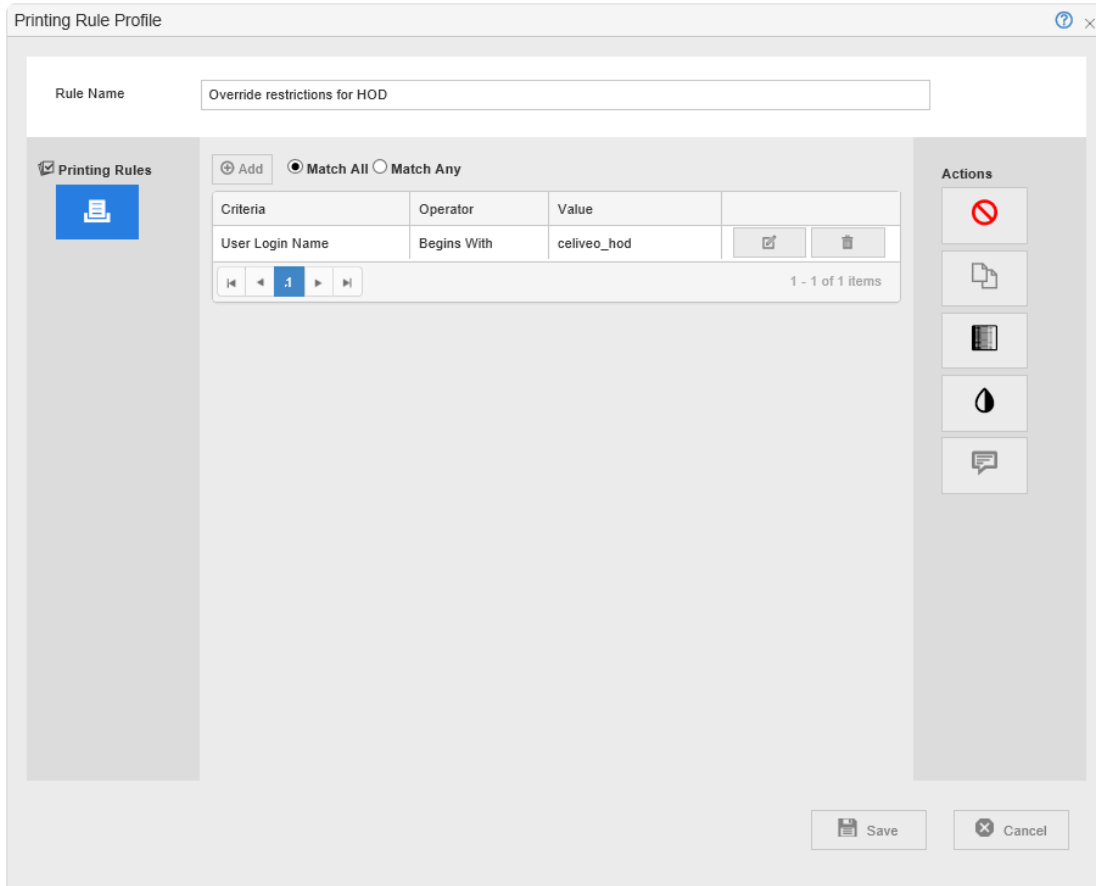
Save

Cancel



## Example 3:

 Remove all restrictions for head of department.

1. Follow the procedure outlined in example 2 and create a new rule as shown in the image below:

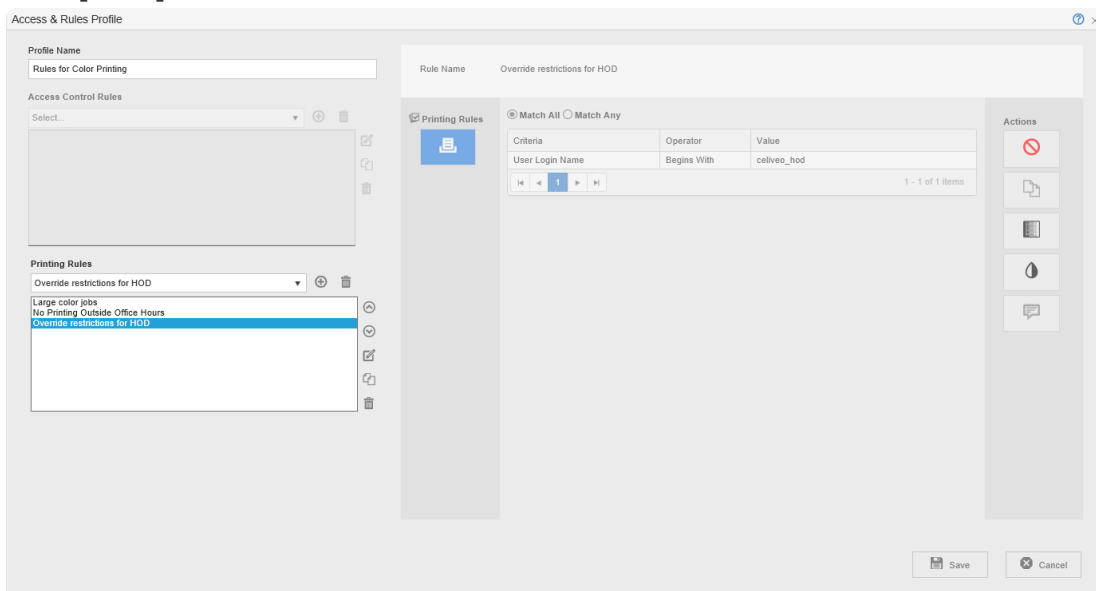


The **Printing Rule Profile** dialog box is shown. The **Rule Name** field contains "Override restrictions for HOD". The **Printing Rules** section on the left has a blue button with a printer icon. The main area shows a table with one rule:

Criteria	Operator	Value	
User Login Name	Begins With	celiveo_hod	 

Below the table are navigation arrows and the text "1 - 1 of 1 items". On the right, the **Actions** section contains five icons: a red prohibition sign, a document with a checkmark, a document with a magnifying glass, a document with a drop, and a speech bubble. At the bottom right are **Save** and **Cancel** buttons.

2. Click **[Save]**. You are returned to the Access and Rule Profile.



The **Access & Rules Profile** dialog box is shown. The **Profile Name** field contains "Rules for Color Printing". The **Access Control Rules** section on the left has a "Select..." dropdown and a list of rules. The **Printing Rules** section on the right has a dropdown menu with "Override restrictions for HOD" selected. The main area shows the same rule table as in the previous image. At the bottom right are **Save** and **Cancel** buttons.

3. Click  to ensure that the Override Restrictions for HOD rule is placed as the first rule.

**Note:** The first rule is processed before all others. Because the rule triggered by the user name that



begins with Celiveo\_hod is processed first, that user has unrestricted access. Hence, the subsequent rules do not apply to that user.

## Important information

The CVP rules and Printer print rules are complementary and do not replace one another.

CVP rules act and inform the user at the PC level, the admin-defined message (optional) shows up immediately in a popup window to inform the user the job has been cancelled as it breaks the rules.

Printer print rules are run at the printer level and will inform the user (if a message is defined) on the jobs list (job list in color when the printer technology allows it, plus admin-defined message in job details).

### Example:

You can define the corporate rules in the CVP:

- Printout from Outlook shall be duplex, toner saving, b&w
- Jobs with CONFIDENTIAL in title shall be stopped
- Any print job that may cost more than 10\$ shall be stopped

Rules in printers are ideally device-centric, made to lower cost and avoid errors by end-users (trying to print a paper format not available on that printer model):

You can define the following rules on small non-duplex A4 printers:

- No print job of more than 25 pages
- No A3 paper print job
- No duplex job (printer is not duplex)

You can define the following rules on duplex and A3-capable printers:

- No print job of more than 100 pages, ask users to contact print room service

## Limitations

Forced B/W, Forced Duplex, and Toner Saving actions are supported only by the following printers:

- HP
- Konica Minolta
- Ricoh Smart SDK (SOP2)
- Toshiba
- Lexmark
- Xerox

*Last modified: 9 September 2020*

## 11.3. Pull Print Delegation

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### What is Pull Print Delegation?

Celiveo allows to delegate the pull print job (and Pull Print jobs only) upon printing for another user to release. It is called "Pull Print Delegation".

In a few clicks, a user can delegate print jobs to another Active Directory User chosen within a list accessible from a button in the Windows Taskbar.



The selected user can then collect the jobs upon authentication on a Celiveo-enabled device.

Pull Print Delegation is available with Celiveo Business+ and Enterprise Editions, part of the Celiveo Virtual Printer for Windows.

### User Interface

#### Notification/status Icon

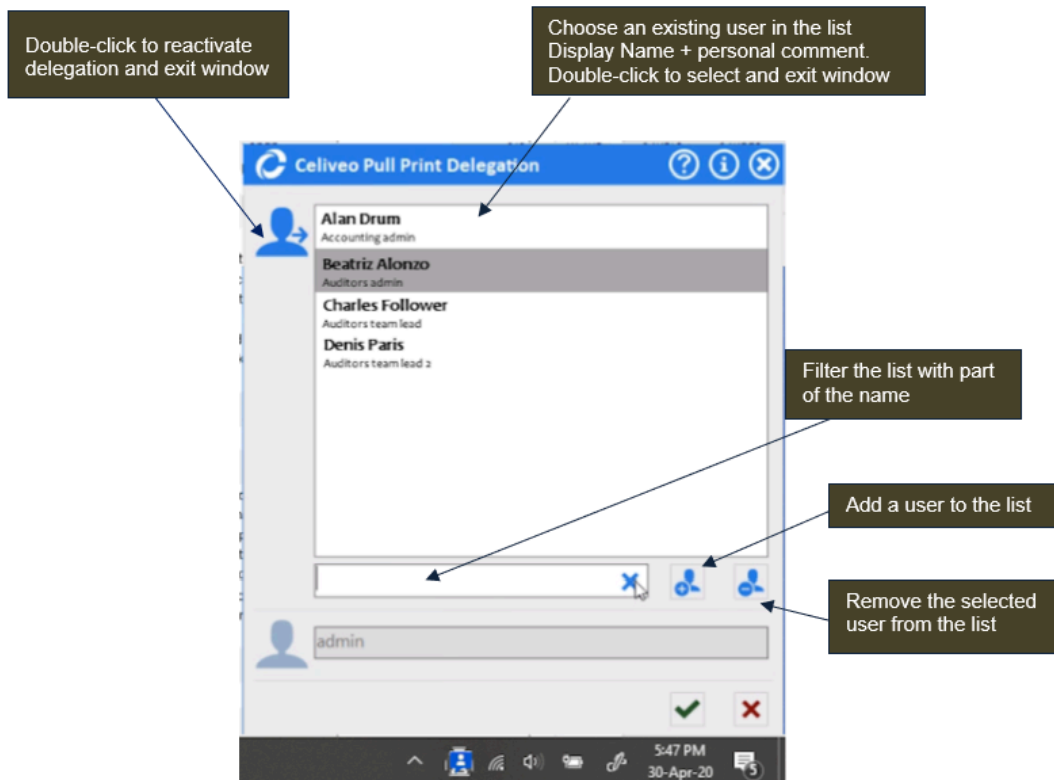
The icon indicates the Redirection status:

- Redirection ON 
- Redirection OFF 


#### Application UI

The application is accessible with an icon on the Taskbar. Right-clicking the icon opens a pop-up window.

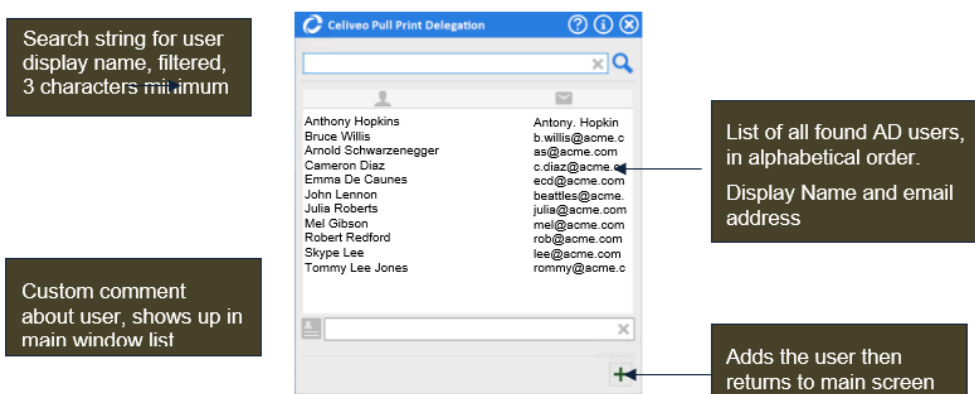




## Adding a user to the list

The  icon allows to add a user to the list. A popup appears, as shown below.

It allows to browse the current user Active Directory connection to get a short list of users and select one.



## Frequently Asked Questions

### What happens when the delegation is activated?

Subsequent print jobs are stored in the system for the user selected in the delegation process.

That user will see that document in his jobs list when he reaches a MFP to connect his print jobs.

**How is that delegated user informed there is a print job for him?**

The delegating user needs to use his standard communication methods (IM, direct communication) to ask the delegated user to collect his documents. The concept of an email communication has been rejected by beta testers as they already have too many emails and this is not real time. Using their existing IM such as Skype for Business or Team had their preference.

Celiveo will continue to innovate and add more capabilities in the near future.

**Can the delegated print jobs expire?**

Yes, delegated print jobs are like the non-delegated print jobs and expire if not collected after the predefined time set by the administrator.

**Who will be shown as the job owner in tracking?**

The delegated user becomes the job owner as soon as the delegator prints for him/her.

**If I have quota in place, what quota will be used?**

The delegated and delegator are usually from the same OU or quota group, the quota of the user who releases the document is the one debited with the pages cost/count. We don't recommend to apply personal user quota if print delegation is installed for such users.

*Last modified: 8 September 2020*

# 12. User Management

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This topic details everything you need to know about managing your Celiveo users and administrators.

[Managing System Administrators](#)

[Add Domain Users for Print Direct](#)

*Last modified: 9 October 2020*

# 12.1. Managing System Administrators

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## h4. Contents

### 1. About System Administrators

- a. [The Super Admin](#)
- b. [What is a Community](#)
- c. [Regular Admins](#)
- d. [Print Rules and Access Control Rules](#)
- e. [Visibility of Users and Printers on Web Admin](#)
- f. [Effective Community](#)

### 2. How to...

- a. [Create a Non-Domain User as an Administrator](#)
- b. [Add Domain Users as Administrators](#)
- c. [Add Printers to a Community](#)
- d. [Label Tags](#)



## About System Administrators

### The Super Admin

When you install Web Admin, an Administrator User (User Name = Admin) is automatically created. This user has administrative privileges over all users and all printers, and hence is referred to as Super Admins. Super Admins can appoint other users as Super Admins. The other users can be domain users, or they can be non-domain users who are created on the Celiveo database.

If communities are defined, Super Admins can appoint Regular Admins for a community rather than creating another Super Admin.

### What is a Community?

A community is a group of users, workstations, printers, and administrators that have a common characteristic. For example, a group of users, workstations, printers, and administrators, located in the same building.

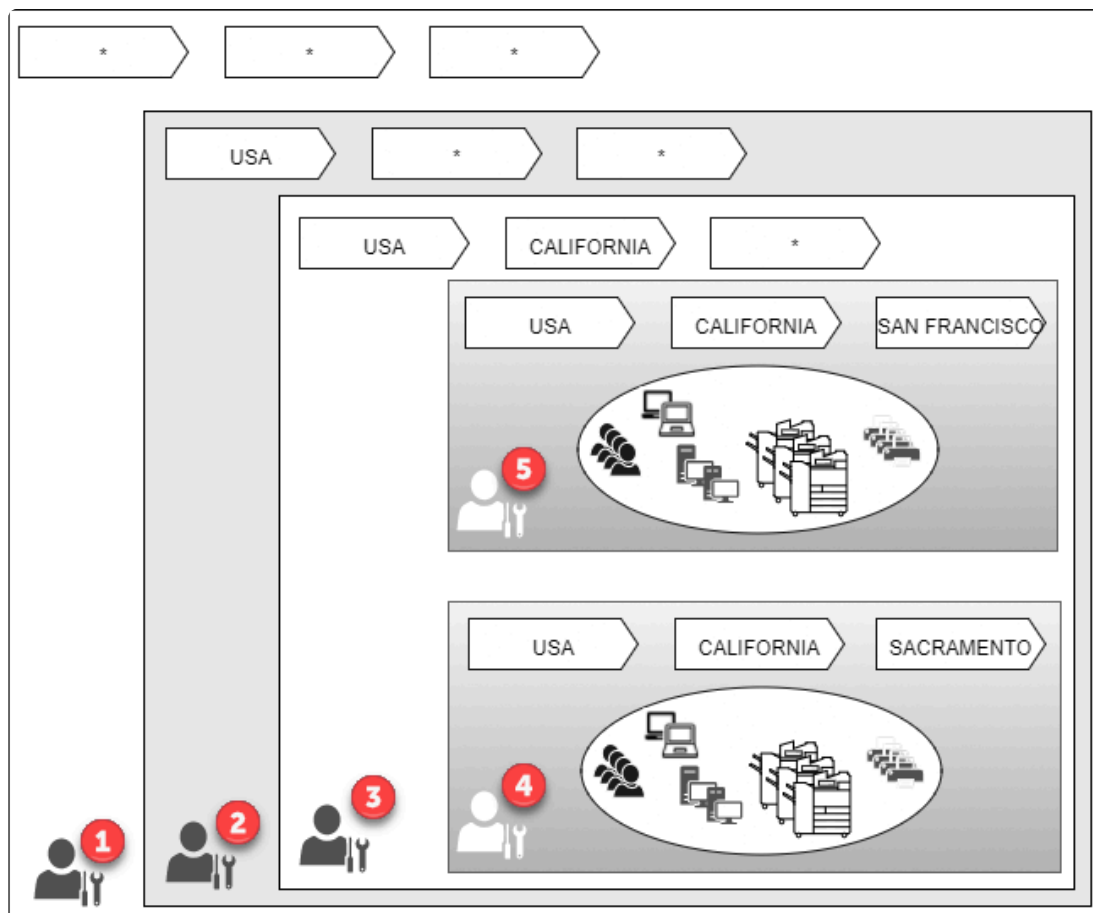
The community that a user or printer belongs to is determined by the tags assigned to them. We will use an example to illustrate the concepts behind system administrators and communities.

An example is a company distributed across several cities. The company uses tags to identify places. Although Celiveo supports up to five tags, they use only three, which identify Country, State and City. A user tagged USA, California, San Francisco, belongs to the San Francisco community. A user tagged USA, California, \*, belongs to the California community, which is a super set of San Francisco and Sacramento.

## Regular Admins

Super Admins can pick a user who belongs to the California community and make that user an Administrator. That user then becomes an administrator for the California community. In this manner the Super Admin of a large organization is able to delegate administrative privileges for each community to regular admins who are responsible for their community.

The administrator for California can pick another user belonging to the California community and make that user an administrator. As such California will now have more than one regular administrator. In this manner the Admin for California is able to delegate duties to a peer to assist with administration. Additionally, California administrators can delegate administrative duties for the smaller community of San Francisco to a user who belongs to the San Francisco community. Using this technique of defining communities and appointing admins for each level of community, you can implement a multi-level admin strategy for an organization.



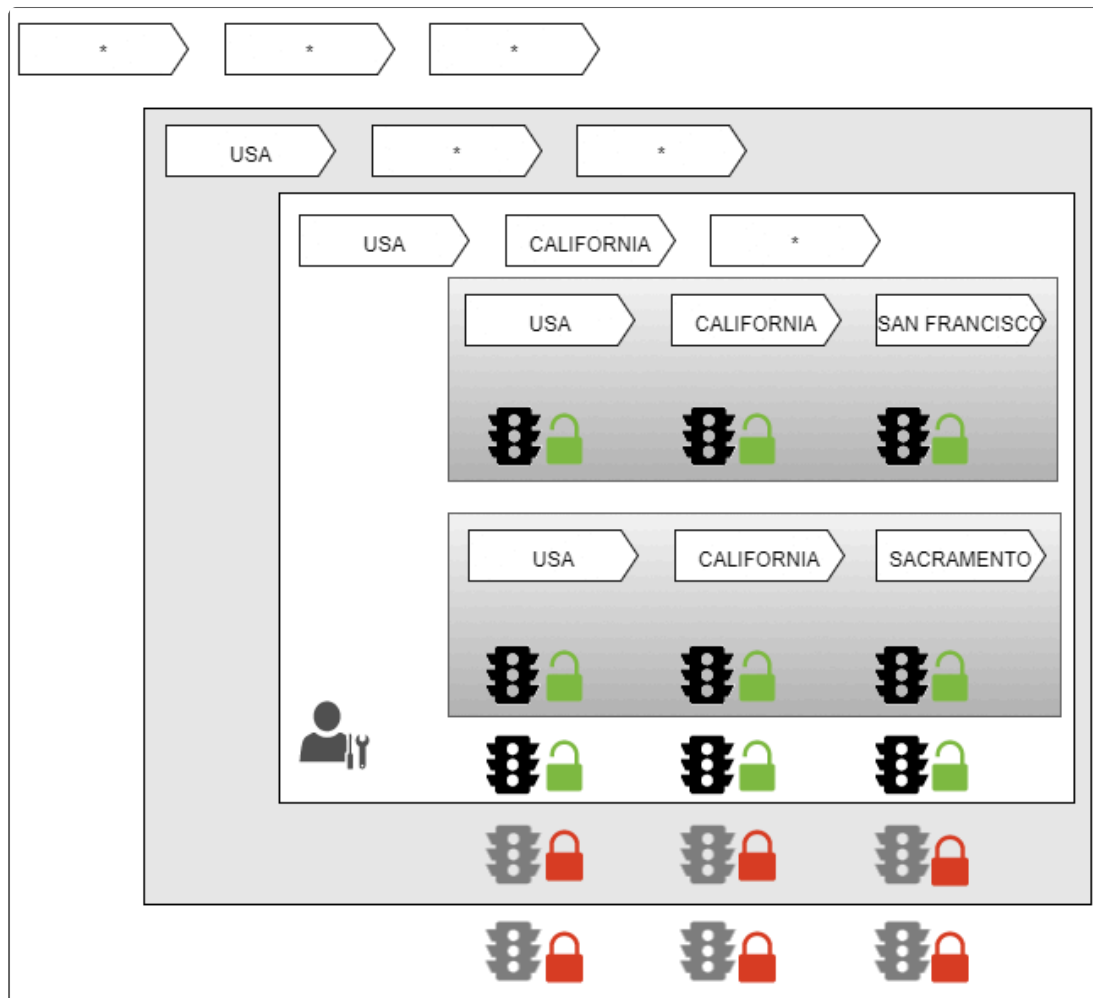
### Legend

- 1- Default Admin – Super Admin created automatically at installation
- 2- Regular Admin – Can handle all communities within the USA
- 3- Regular Admin for California (including San Francisco and Sacramento)
- 4- Regular Admin for Sacramento.
- 5- Regular Admin for San Francisco.

## Print Rules and Access Control Rules

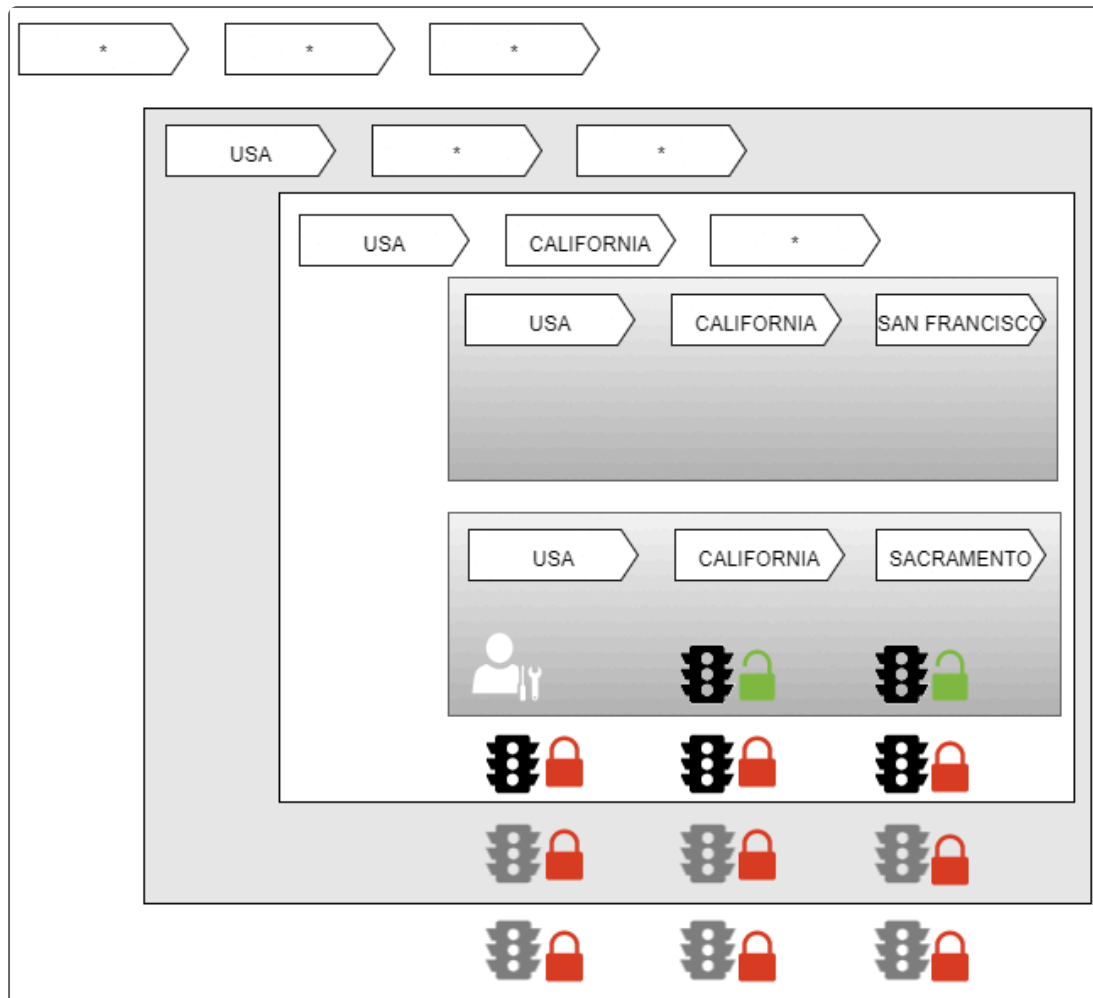
A regular admin has access to all Print Rules and Access Control Rules created by the administrators above them. However, they cannot modify these rules.

For example, the California administrator has access to, and can make use of all the rules created by the Super Admin and USA Admin. However, the California Admin cannot modify any of these rules. On the other hand, the California Admin can modify any rule that the San Francisco and Sacramento administrators have created.



The Sacramento administrator can see and make use of the rules created by the Super Admin, USA Admin and California Admin, but cannot modify them. The Sacramento administrator cannot access any rules that the San Francisco Admin created.





## Visibility of Users and Printers on Web Admin

When a regular admin logs into web admin, in addition to the users and printers that belong to their community, they see the users and printers who belong to the larger communities they are part of. For example, when administrators of the Sacramento community log into Web Admin, in addition to the users and printers of the Sacramento community, they see the California users, USA users, as well as any untagged users and printers (users and printers that have \* assigned to all tags). They however will not see any San Francisco users or printers.

## Effective Community



An administrator user can inherit a community setting in more than one way.

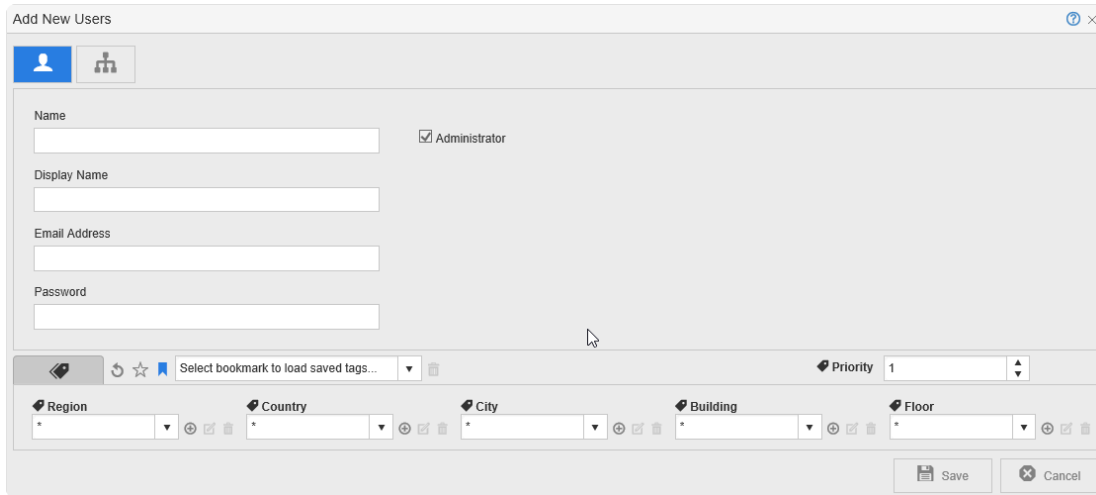
1. By the direct assignment of tags to their user account.
2. By assignment of tags to a user group. A user can be a member of more than one user group.

Whenever you assign a set of tags to a user or to a user group, you also assign a property known as “priority”. When a user inherits community settings from more than one source, the community (tag setting) with the highest priority takes precedence over the others.

# How to...

## Create a Non-Domain User as an Administrator

1. From the main menu, click .
2. Click +. The Add New Users screen displays.





3. At **[Name]**, specify a unique name, which the user will use to log on to the Web Admin.
4. Select the **[Administrator]** check-box.
5. Specify the users name, email address and password in the appropriate boxes.
6. Specify the tags that define what community the user has admin privileges for.

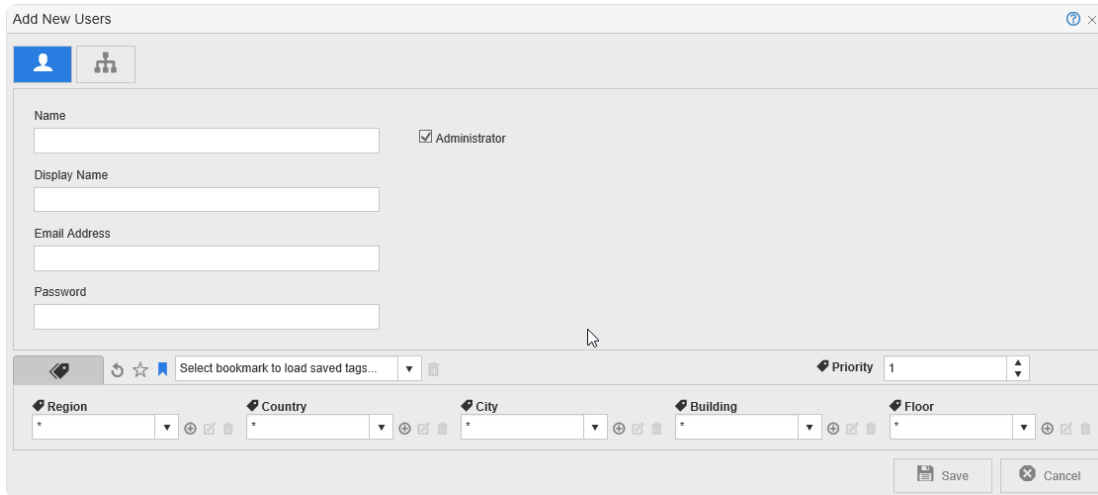
### Notes:

- The new user inherits the same community as you, by default.
- You can change only those tags that are marked "\*" in your own tag assignment, allowing you to make them administrators of a smaller community within your community.
- When the new user logs in to Web Admin, the user can access the printers, users and user groups that are part of the specified community.

7. Click **[Save]**.

## Add Domain Users as Administrators

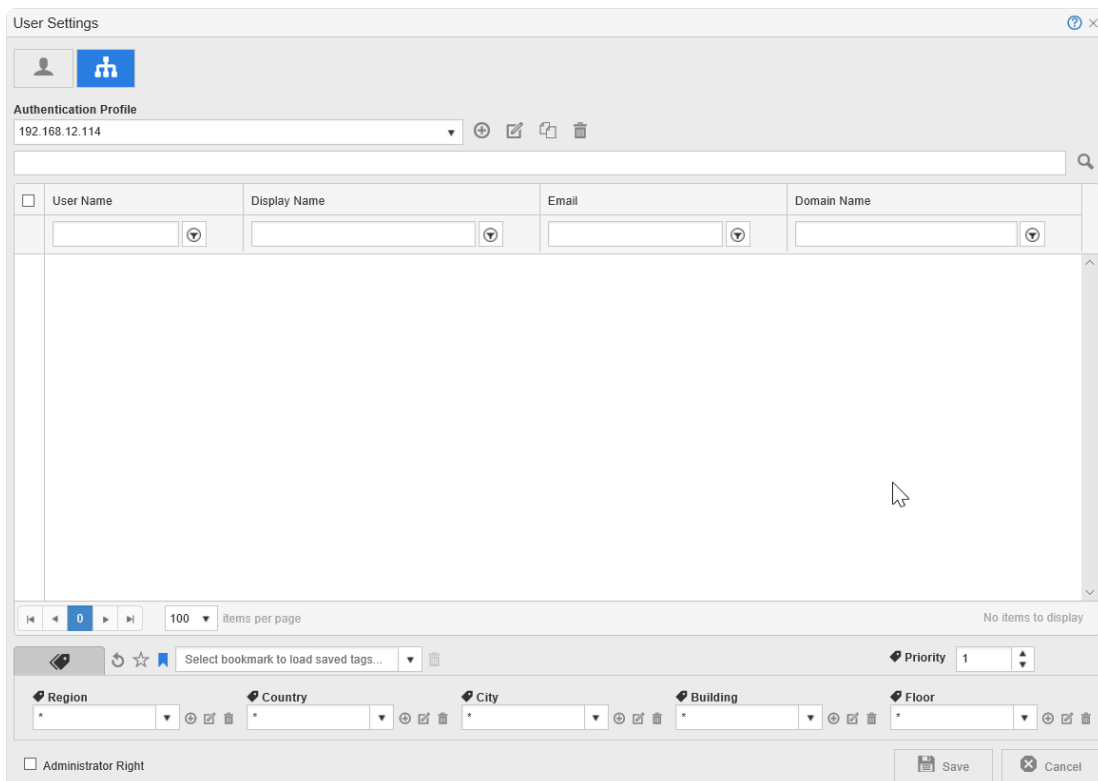
1. From the main menu, click .
2. Click +. The Add New Users screen displays.



The 'Add New Users' dialog box contains the following fields and controls:

- Name:** Text input field.
- Administrator:** Checkmark.
- Display Name:** Text input field.
- Email Address:** Text input field.
- Password:** Text input field.
- Priority:** Dropdown menu set to 1.
- Region, Country, City, Building, Floor:** Dropdown menus, each with a search icon and a clear button.
- Buttons:** Save, Cancel.


3. Click .




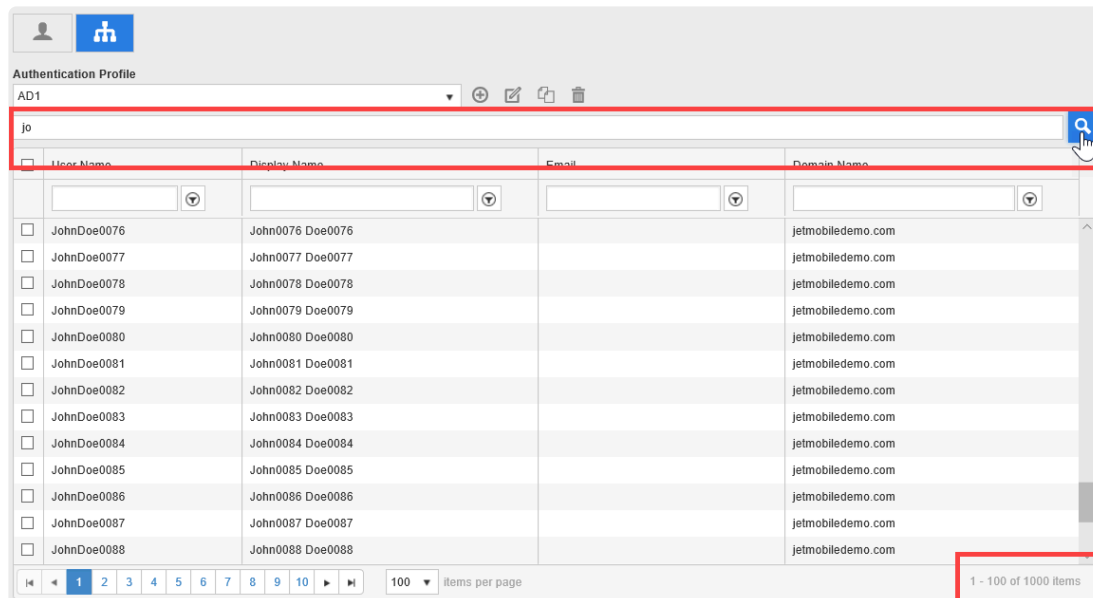
The 'User Settings' dialog box contains the following fields and controls:

- Authentication Profile:** Dropdown menu showing '192.168.12.114'.
- Search Box:** Text input field with a search icon.
- Table:**

User Name	Display Name	Email	Domain Name
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
- Footer:**
  - Navigation icons (back, forward, search, etc.).
  - Items per page: 100.
  - Priority: 1.
  - Region, Country, City, Building, Floor: Dropdown menus with search and clear icons.
  - Administrator Right: Checkmark.
  - Buttons: Save, Cancel.

- From the [Authentication Profile] drop-down, select the profile to fetch the list of domain users.
- Click the  icon next to the **[Search box]**, to list first 1000 users belonging to the selected domain. You can also search for particular user/ users by providing short names or characters.

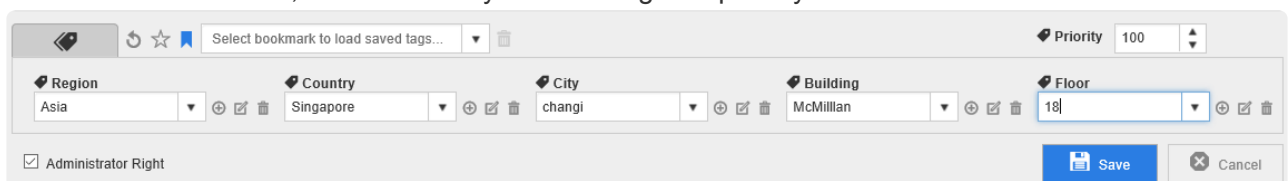
 **Note:** Wild / Special characters cannot be used for Search.



6. Select the users you want to add to the user list.
7. Select the **[Administrator Right]** check box at the bottom-left.
8. Specify the tags that define what community the selected users are part of.


#### Notes:

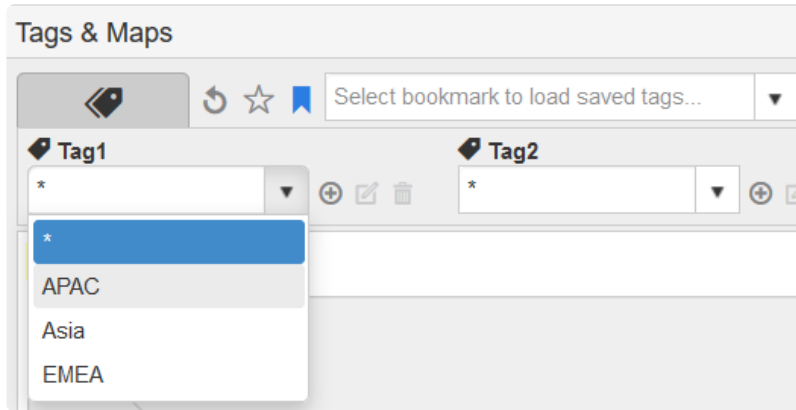
- The new user inherits the same community as you, by default.
  - You can change only those tags that are marked “\*” in your own tag assignment, allowing you to make the new users a part of a smaller community within your community.
  - When the new users attempt to print via Print Direct, only the printers that are part of the specified community are listed.
  - If the new users have admin rights, whenever they log in to Web Admin, they can access the printers, users and user groups that are part of the specified community.
9. At **[Priority]**, assign a priority setting for the community (tag assignment) to be assigned to the new users. The highest priority is 100, and lowest is 1. When a user inherits a community from more than one source, the community with the highest priority overrides the others.




10. Click **[Save]**.

## Add Printers to a Community

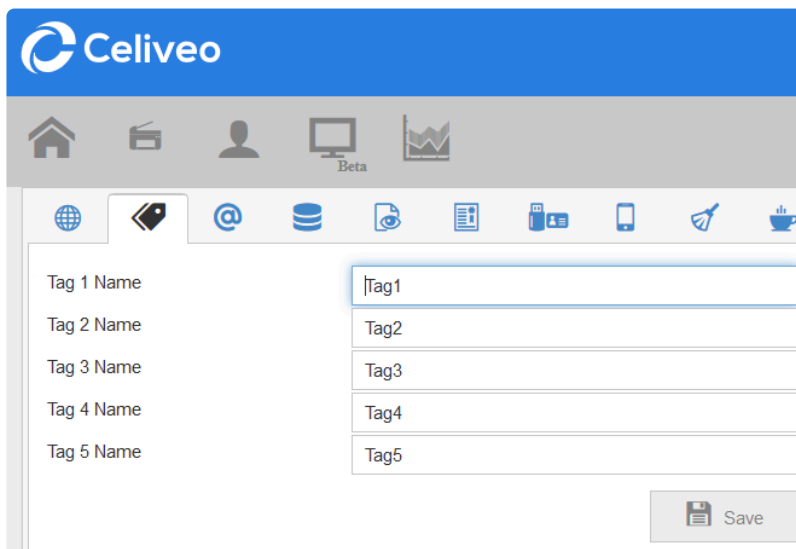
1. From the List of Printers, select the printers you want to specify tags for and click .
2. Select the tags for the printers.



3. If any tag drop-down list is empty, or does not contain the value you need:
  - a. Click  next to the drop-down.
  - b. Specify the new value for the tag and click **[Save]**.
4. Click **[Save]**. The tags are assigned to the printers.

## Label Tags

1. Click .
2. Click .



3. Label the tags as required and click **[Save]**.

*Last modified: 9 September 2020*

## 12.2. Add Domain Users for Print Direct

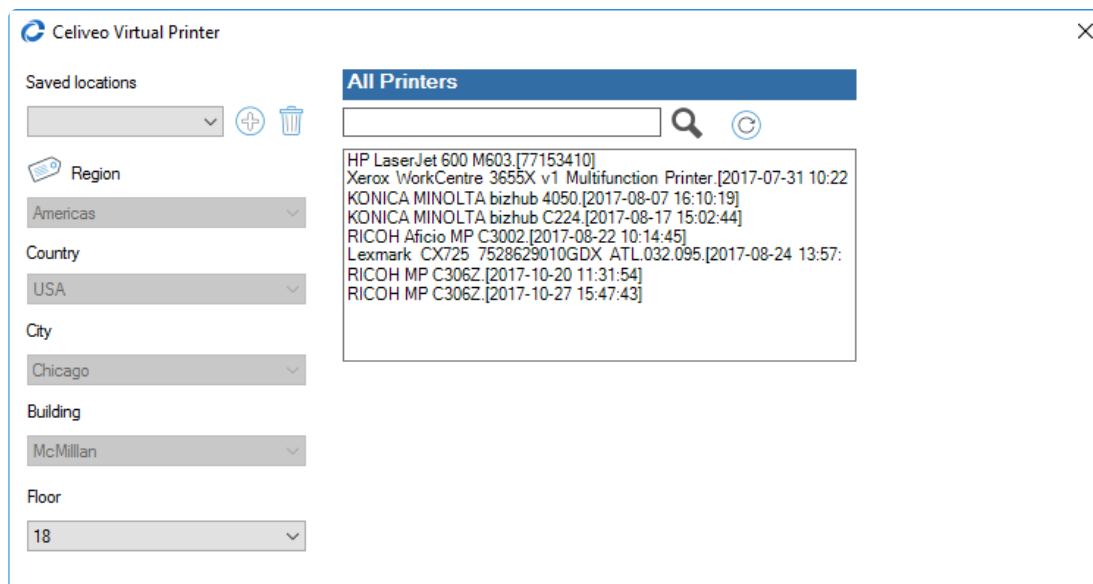
PD

1. [Why Add Domain Users to a Community?](#)
2. [What if I am a member of several groups/OU?](#)
3. How to...
  - a. [Add Domain Users to a Community](#)
  - b. [Add User Groups/OUTs to a Community](#)

### Why Add Domain Users to a Community?

The User Experience for Print Direct can be enhanced greatly by adding Domain Users to a [Community](#).

Celiveo is able to map you to a community based on AD/LDAP attributes such as Name, Organizational Unit, and Group. Thereby, when you attempt to print using Print Direct, the list of printers is filtered to display printers that are within your community, thereby reducing screen clutter.





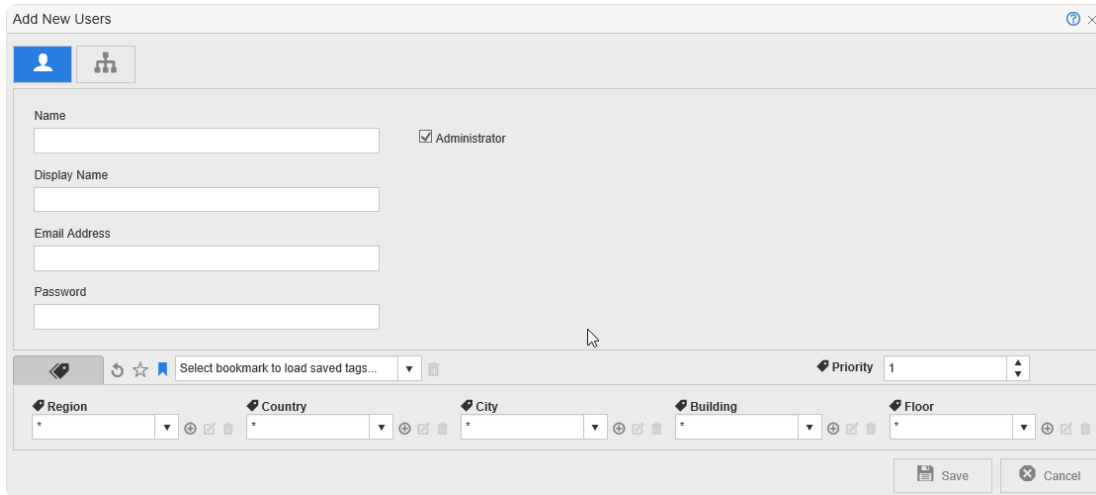
### What if I am a Member of Several Groups/OUTs?

If you are a member of more than one Group/OU, and each Group/OU is mapped to a different community, the community setting of the Group or OU with the highest priority value is assigned to you. The same principal applies if your user name is assigned to a community and you inherit a community from the groups you belong to. It is the community with the highest priority that is assigned to you.

### How to...

#### Add Domain Users to a Community

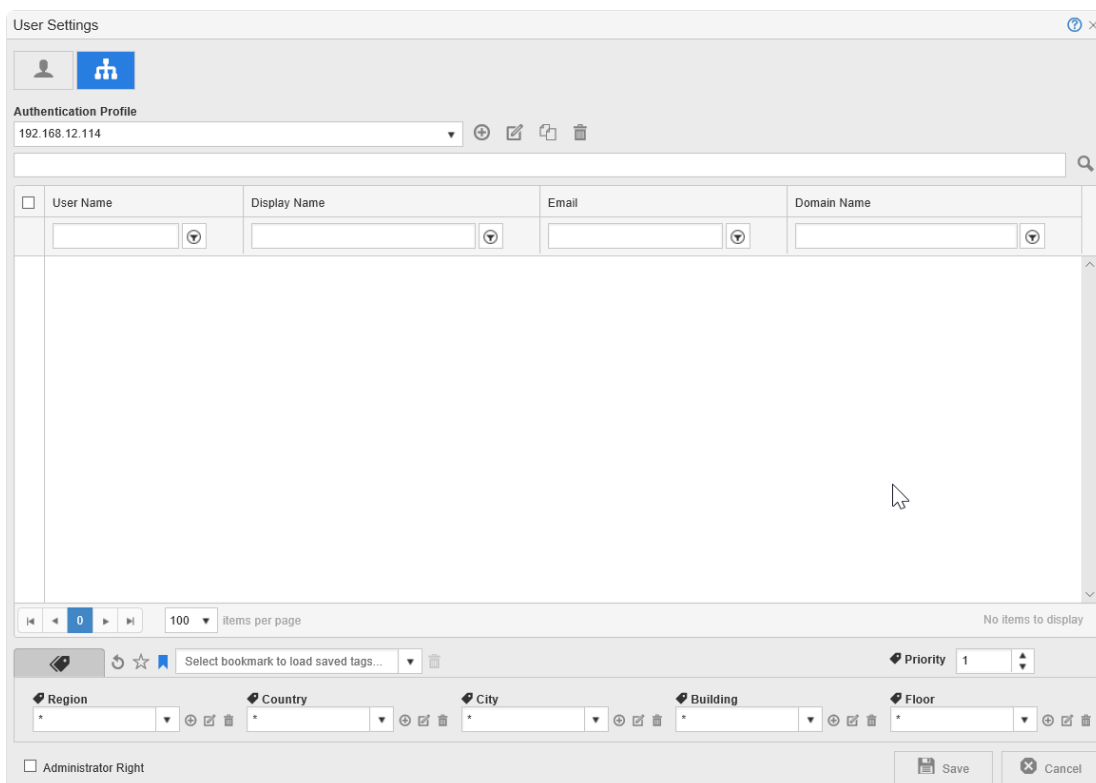
1. From the main menu, click .
2. Click . The Add New Users screen displays.



The 'Add New Users' dialog box contains the following fields and controls:

- Name:** Text input field.
- Administrator:** Checkmark box.
- Display Name:** Text input field.
- Email Address:** Text input field.
- Password:** Text input field.
- Priority:** Dropdown menu set to 1.
- Region, Country, City, Building, Floor:** Dropdown menus, each with a search icon and a trash icon.
- Save/Cancel:** Buttons at the bottom right.

3. Click .



The 'User Settings' dialog box contains the following fields and controls:

- Authentication Profile:** Dropdown menu showing '192.168.12.114'.
- User Name, Display Name, Email, Domain Name:** Text input fields with dropdown arrows.
- Items per page:** Dropdown menu set to 100.
- Priority:** Dropdown menu set to 1.
- Region, Country, City, Building, Floor:** Dropdown menus with search and trash icons.
- Administrator Right:** Checkmark box.
- Save/Cancel:** Buttons at the bottom right.

- From the **[Authentication Profile]** drop-down, select the authentication profile to fetch a list of domain users.
- Select the users you want to add to the user list.
- Specify the tags that define what community the selected users are part of.



#### Notes:

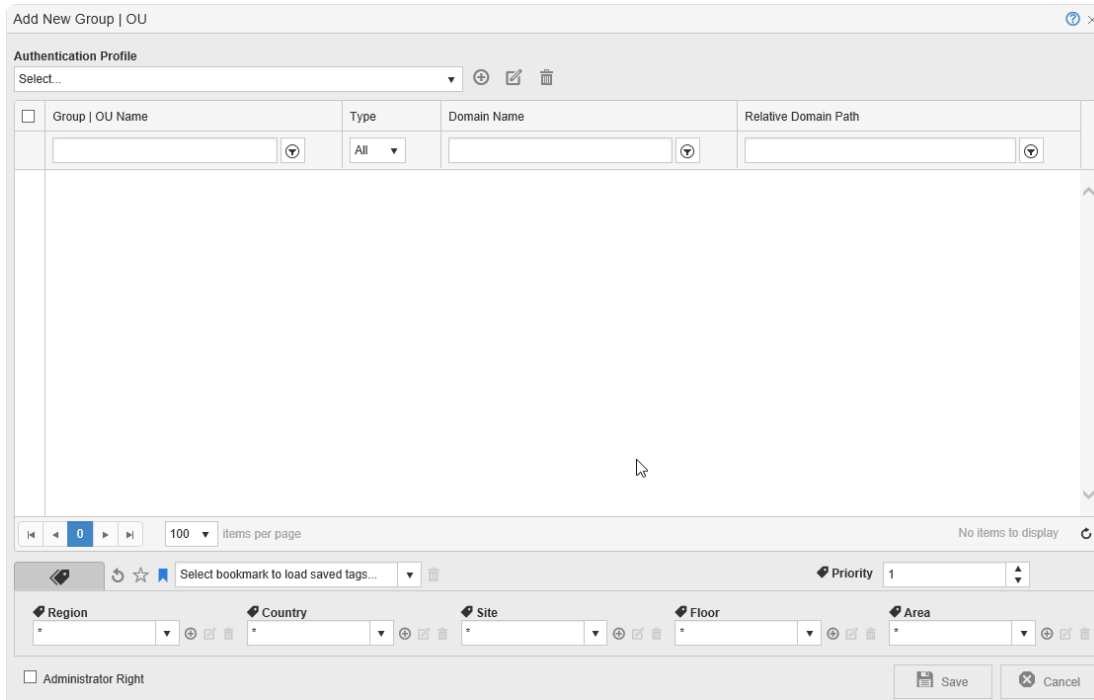
- The new user inherits the same community as you, by default.
- You can change only those tags that are marked "\*" in your own tag assignment, allowing you to make the new users a part of a smaller community within your community.
- When the new users attempt to print via Print Direct, only the printers that are part of the specified community are listed.
- If the new users have admin rights, whenever they log in to Web Admin, they can access the printers, users and user groups that are part of the specified community.
- You can also create bookmarks for frequently used tags; show or hide bookmarks as per

convenience.

7. At **[Priority]**, assign a priority setting for the community (tag assignment) to be assigned to the new users. The highest priority is 100, and lowest is 1. When a user inherits a community from more than one source, the community with the highest priority overrides the others.
8. Click **[Save]**.

## Add User Groups or Organizational Units to a Community

1. From the main menu, click .
2. Click . The Add New Group | OU screen displays.



3. From the **[Authentication Profile]** drop-down, select the authentication profile to fetch the Group or Organizational Unit from the Active Directory.
4. Select the Groups/OUs you want to add to the community.
5. Specify the tags that define the community.

### Notes:

- The groups inherits the same community as you, by default.
  - You can change only those tags that are marked “\*” in your own tag assignment, allowing you to make the new users a part of a smaller community within your community.
  - When the new users attempt to print via Print Direct, only the printers that are part of the specified community are listed.
  - If the new users have admin rights, whenever they log in to Web Admin, they can access the printers, users and user groups that are part of the specified community.
  - You can also create bookmarks for frequently used tags; show or hide the bookmarks as per convenience.
6. At **[Priority]**, assign a priority setting for the community (tag assignment) to be assigned to the new users. The highest priority is 100, and lowest is 1. When a user inherits a community from



more than one source, the community with the highest priority overrides the others.

7. Click **[Save]**.

*Last modified: 9 September 2020*

# 13. Track and Report Print Jobs

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Celiveo offers a powerful Tracking and Reporting tool. This section will help you understand it.

[Configure Quota Settings](#)

[Configure Default Cost Definitions](#)

[Configure Cost Definition Profiles](#)

[Using Celiveo Reporting tool – TGS 10](#)

[Downgrade from TGS 10 to TGS 8](#)

[Configure Embedded Tracking for Print-Direct](#)

*Last modified: 9 October 2020*

# 13.1. Configure Quota Settings




## What are Quotas?

**Print Quotas** are used to control and reduce print costs by restricting users' prints to a certain cost or a certain number.

You can define the quota settings to be applied to domain users.

Important note: Usage quota rules only apply for CVP, not for CSVP (shared virtual printer).

## To access the Quotas section:

- 1. On the Web Admin home page, click the **Tracking/Reporting** icon . The Quotas rules list is displayed.

Celiveo Enterprise Edition												
Reports												
Quota												
celiveo.local												
+												
Apply To		Quota			Criteria	Type	Auto Update	Action	Frequency	Next Update UTC	Priority	
		Value	Pages	Mono / Color								
OU=test,DC=celiveo,DC=local		0.00	0.00	10 / 10	OU	Split Count	All				1	
CN=Guests,CN=BuiltIn,DC=celiveo,DC=local		0.0000			Group	Value					1	

You can sort the existing rules in the list using either search fields, filters or drop-down lists:

Apply To ▼

Type a value to search

guest

Click the arrow to remove the filter

×

CN=Guests,CN=BuiltIn,DC=celiveo,DC=local

Mono / Color

9.00

10 /

Is Equal To

Is Not Equal To

Is Greater Than

Is Less Than

Is Greater Than Or Equal To

Is Less Than Or Equal To

Frequency

▼

Daily

Weekly

Monthly

## To create a quota rule:

1. Click on the icon.
2. In the drop-down list, select **Value**, to limit usage by the cost of printed pages, **Count**, to limit usage by the number of printed pages, or **Split Count**, to limit usage by the number of printed pages, sorted according to black and white or color prints.
3. Enter the quota value.
4. In the **Criteria** drop-down list, select what to apply the quota to: User, Group or OU.
5. Set the Rule priority
6. Click the Search button next to the **Apply to** field to select the User, Group or OU to apply the rule to.
  - a. Select an Authentication profile or click the icon to add one.
  - b. Click the Search button next to display all Users/Groups/OUs in the authentication profile, according to what was selected in step 4.
  - c. Select a value and click **Apply to**.

Apply To - Search

Authentication Profile

Celiveo LDAP

Search

Distinguished Name	User/Group/OU	Domain (FQDN)
CN=etienne,CN=Users,DC=celiveo,DC=local	etienne	celiveo.local
CN=Etienne TIAN,OU=Users,OU=Paris,OU=SNCF,DC=celiveo,DC=local	Etienne.tian	celiveo.local
CN=Eva Persson,OU=Manager,DC=celiveo,DC=local	eva.persson	celiveo.local
CN=Fernando EPIFANIO,OU=Présent,OU=USERS,OU=TRAINING HP,DC=celiveo,DC=local	fernando.epifanio	celiveo.local
CN=FRANCE USER,CN=Users,DC=celiveo,DC=local	userfrance	celiveo.local
CN=Frans BOERSMA,OU=Remote,OU=USERS,OU=TRAINING HP,DC=celiveo,DC=local	frans.boersma	celiveo.local
CN=fred,CN=Users,DC=celiveo,DC=local	fred	celiveo.local
CN=Gaston GL. LAGAFFE,CN=Users,DC=celiveo,DC=local	gaston.lagaffe	celiveo.local
CN=Henri HD. DUPONT,CN=Users,DC=celiveo,DC=local	henri.dupont	celiveo.local
CN=Hervé DEPARDE,OU=Présent,OU=USERS,OU=TRAINING HP,DC=celiveo,DC=local	herve.deparde	celiveo.local
CN=Hervé MATHIEU,OU=Users,OU=Lyon,OU=SNCF,DC=celiveo,DC=local	herve.mathieu	celiveo.local
CN=Houssemeddine		

1 - 50 of 97 items

Please select User.

Apply To Cancel

7. Check the **Auto Update** checkbox if you want your rule to be automatically updated on a regular

basis.

- a. In the **Action** drop-down list, select Reset if you wish the quota to be reset or Add if you want it to be increased.
- b. In the **Frequency** drop-down list, select how often you want the quota to be updated.
- c. In the **Next Update UTC – Date** and **Next Update UTC – Time**, set the next update date and time.

8. Click **Save** to save the rule.

The screenshot shows the 'Quota Profile Rule - Add' dialog box. It contains the following fields and controls:

- 1**: Title bar 'Quota Profile Rule - Add'.
- 2**: 'Type' dropdown menu set to 'Value'.
- 3**: 'Quota - Value' spinner box set to '10.0000'.
- 4**: 'Criteria' dropdown menu set to 'OU'.
- 5**: 'Priority' spinner box set to '2'.
- 6**: 'Apply To' search box.
- 7**: 'Auto Update' checkbox, which is checked.
- 8**: 'Action' dropdown menu set to 'Reset'.
- Frequency**: Dropdown menu set to 'Daily'.
- Next Update UTC - Date**: Date picker set to '2020-04-07'.
- Next Update UTC - Time**: Time picker set to '09:35'.
- 8**: 'Save' button at the bottom right.

### ! IMPORTANT NOTES:

- The first time a user authenticates on Celiveo, the user balance is displayed as “0.00” even if this user has quota. This is due to user initialization process. Once the user logs in again, the quota balance is updated to the correct value. For example, when a user reaches a 0 Copy Quota, the copy will continue but at the next login, the quota will be updated and the user will not be able to copy anymore.
- Quota stop rules must match the quota applied to the user otherwise it is not considered.

#### Example 1:

A credit in number of page is defined for user John Smith, and the MFP he is using has a print rule that contains a usage limit rule based on the credit value. That rule won't be applied when John Smith uses the MFP.

#### Example 2:

A credit in number of page is defined for user John Smith, and the Celiveo Virtual Printer he is using

has a print rule that contains a usage limit rule based on the credit value. That rule won't be applied when John Smith uses that CVP.

*Last modified: 28 October 2020*

## 13.2. Configure Default Cost Definitions

The default cost definitions are applied if the administrator does not customize any cost definitions settings in a profile.



**Note:** For direct storage of print jobs inside printer, the default paper type for cost pre-calculation is A4/Letter. The post printing cost/calculation will use the cost of the paper format actually used to output the print job. A future version of the driver plugin will improve the cost prediction .

### Add new default cost definition

1. In the **[Cost Definition Settings]** window, click on the + sign.
2. Enter the paper type, dimensions and cost settings for the new cost definition.
3. Once settings are complete, click **[Save]**.  
The new cost definition is added to the default cost definition profile.
4. To return to the cost definition profile window, click **[Close]**.

### Edit default cost definition

1. At the cost definition to edit, click on the Edit icon.
2. Edit the required settings and click **[Save]**.  
The cost definition is updated.
3. To return to the cost definition profile window, click **[Close]**.

### Delete default cost definition

1. At the cost definition to delete, click on the Delete icon.
2. When prompted, click **[OK]** to proceed. To cancel, click **[Cancel]**.
3. To return to the cost definition profile window, click **[Close]**.

*Last modified: 9 September 2020*

## 13.3. Configure Cost Definition Profiles



A **cost definition profile** comprises of a collection of cost definitions for the various paper types.

A **cost definition** refers to the cost of printing a single sheet for the selected paper type.

When a user prints a document, these cost definitions are applied to calculate the cost of the print job. For example, the cost of printing an A4 document in black and white is \$0.05/sheet. If a user sends a print job comprising of 10 single-sided A4 sheets in black and white, the print job costs \$0.50 in total.

You can also customize and apply cost definitions specifically for a printer or printer group.

### 1. Add a new cost definition profile

1. At **[Cost Definition Profile]**, click on the + sign.
2. When prompted, enter the new profile name and click **[Add]**.  
The new profile is added to the **[Cost Definition Profile]** drop menu.  
The default cost definitions are applied to this profile.

### 2. Customize a cost definition in a selected profile

You can create different profiles for one profile and customize the cost definition in each profile.

1. From the **[Cost Definition Profile]** drop menu, select the profile to edit.
2. To edit the cost definition for a specific paper type (e.g. A4), click the Edit icon.
3. Enter the new cost values and click **[Save]**.  
The new cost definition applies only when this cost profile is selected.  
When a profile containing customized cost definitions is selected, the customized cost definitions in this profile are highlighted.



**NOTE:** When using Pull Printing with a Celiveo Virtual Printer, if you want a customized Cost Definition to be applied, you need to update the CVP Cost Definition Profile with it. Otherwise, it is the Default Cost Definition Profile information that will be applied, such as the currency, which is USD by default – but can be changed if necessary.



### 3. Apply Duplex Discount

Cost savings result from duplex printing and you can apply the savings applicable to calculate this. At **[Duplex Discount]**, enter the percentage discount to apply when calculating two-sided print jobs.

### 4. Apply Toner Saving Discount

Cost savings result from printing jobs using less toner for draft prints.

At **[Toner Saving Discount]**, enter the savings in percentage to apply when calculating print jobs printed in this mode.

To save all settings, click **[Save]**. To cancel, click **[Cancel]**.



**NOTE:** Ricoh printers do not propose toner saving mode, therefore the toner saving discount is not applicable on those devices.

## Additional Information

### Revert a customized cost definition to default

1. At the customized cost definition, click the Edit icon.
2. Uncheck the tick next to the paper type, then click **[Save>]**.

The customized cost definition is removed from this profile. The default cost definitions settings are applied.

## Delete a cost definition profile

A cost definition profile may become irrelevant due to a change in IT policies. If a cost definition profile is deleted, the default cost profile will apply on the affected the printers.

1. From the **[Cost Definition Profile]** drop menu, select the profile to delete.
2. When prompted, click **[Delete]** to confirm. To cancel, click **[Cancel]**.  
The profile is deleted.
3. Click **[X]** to exit.

*Last modified: 9 September 2020*

# 13.4. Using Celiveo Reporting tool – TGS 10

## Contents

1. [What is TGS 10?](#)
2. [Accessing the Reporting tool](#)
3. [TGS 10 Dashboard](#)
4. [Types of reports](#)
5. [Generating a report](#)

## 1. What is TGS 10?

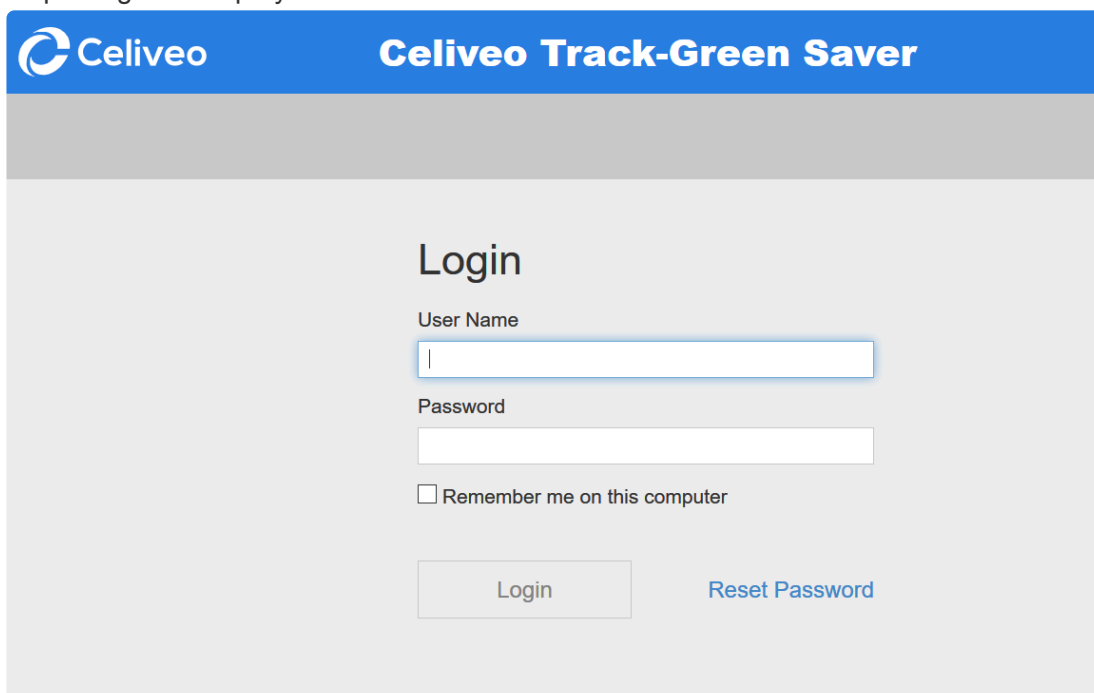
Celiveo Track-GreenSaver (TGS) 10 is an independent reporting tool of Celiveo that helps create detailed reports from the data collected from printer and MFP usage. These reports make it possible to monitor printing costs and influence user behavior. Detailed web-based reports help to identify sources of waste and fine-tune the printing environment to reduce costs and prevent misuse. You can also use the recorded data to forecast costs allowing you to better plan your budget.

Reports are created based on the following data collected:

- Network data collected includes: user name, workstation name, server name, printer name, and printer group.
- Print job data collected includes: time/date printed, document title, document type, page count, sheet count, copy count, page size, print job size, black and white output, color output, duplex, etc.

## 2. Accessing TGS 10

1. Double-click the Celiveo Reporting tool icon on the desktop. The initial logon screen of the Reporting tool displays.



The screenshot shows the login interface for Celiveo Track-Green Saver. At the top, there is a blue header bar containing the Celiveo logo on the left and the text 'Celiveo Track-Green Saver' on the right. Below the header, the main content area has a light gray background. In the center, the word 'Login' is displayed in a large, bold font. Underneath 'Login', there are two input fields: 'User Name' and 'Password'. Below the 'Password' field, there is a checkbox labeled 'Remember me on this computer'. At the bottom of the login section, there are two buttons: a gray 'Login' button and a blue 'Reset Password' link.

2. Specify admin as both the **[User Name]** and **[Password]**.
3. Click **[Login]**. The User Information Update screen displays.

## User Information Update

Please provide the valid email address and reset the default password for Admin.

Name

Display Name

Email Address

New Password

Re-type New Password

[Back to login](#)

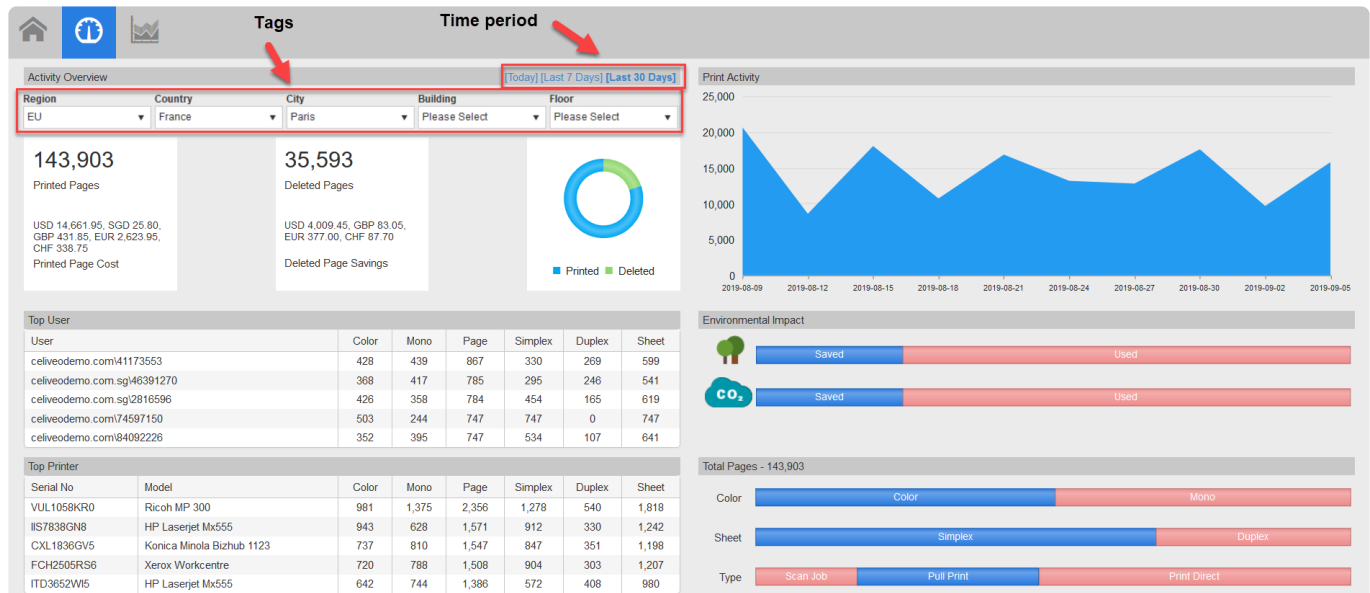
4. At **[Email Address]**, specify a valid email address.
5. Specify a new password for the Default Admin user account.
6. Click **[Update User]**.

## 3. TGS 10 Dashboard

### 3.1 Settings

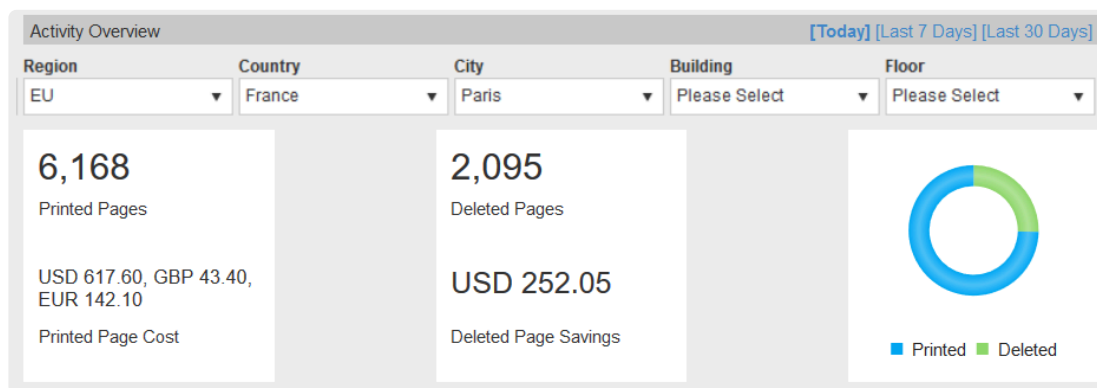
You can define the time period of your dashboard: you can choose to see the activity of the day, the last 7 days or the last 30 days by clicking the buttons located at the top of the **Overview** section.

You can also choose to use tags to see data based on tag combinations.



## 3.2 Information provided

### 3.2.1 Activity Overview



This section details the number of pages that have been printed and deleted on the time period and geographical area you defined. It also indicates the cost of all printed pages and the savings allowed by deleted pages in different currencies.

### 3.2.2 Top User

Top User						
User	Color	Mono	Page	Simplex	Duplex	Sheet
celiveodemo.com\3954650	193	165	358	358	0	358
celiveodemo.com\6957115	190	163	353	353	0	353
celiveodemo.com.sg\46096734	169	157	326	326	0	326
celiveodemo.com.sg\22924466	184	110	294	0	147	147
celiveodemo.com\21053301	180	98	278	0	139	139

This section provides printer usage information about the most active users on the time period and geographical area you defined.

✿ **Note:** click on the columns titles to sort the data in this column.

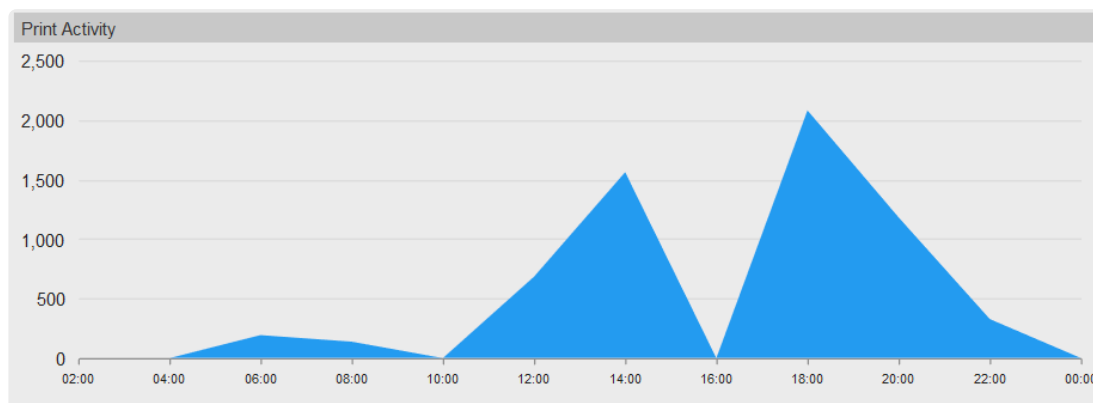
### 3.2.3 Top Printer

Top Printer							
Serial No	Model	Color	Mono	Page	Simplex	Duplex	Sheet
QGT7217ZU4	Xerox Workcentre	357	187	544	544	0	544
JNZ1469AS3	Xerox Workcentre	190	163	353	353	0	353
LNK1040ZC1	Xerox Workcentre	169	157	326	326	0	326
MFW3290YU8	Ricoh MP 300	184	110	294	0	147	147
WIE6599YU6	Konica Minolta Bizhub 1123	180	98	278	0	139	139

This section provides usage information about the most active printers on the time period and geographical area you defined.

✿ **Note:** click on the columns titles to sort the data in this column.

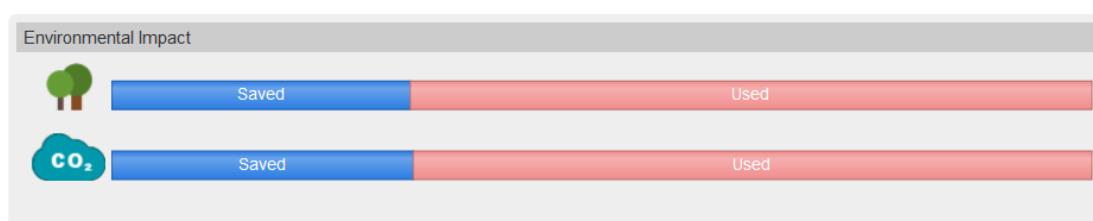
### 3.2.4 Print Activity




This section provides a chart indicating the number of printing pages over the time period and geographical area you defined.

✿ **Note:** Hover your mouse on the chart to obtain the exact numbers.

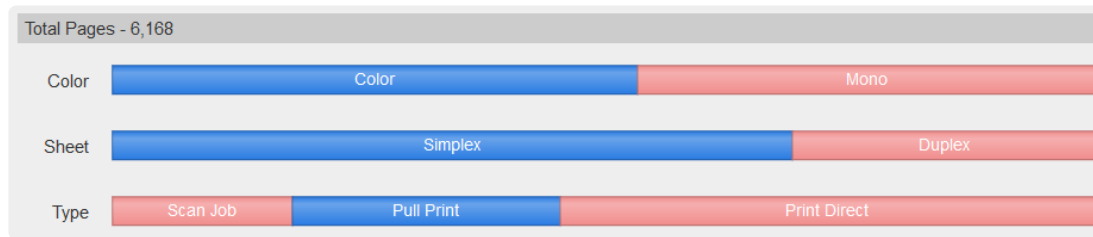
### 3.2.5 Environmental Impact



This section provides a diagram indicating the number of trees saved or used and the amount of CO2 saved or used over the time period and the geographical area you defined.


 **Note:** Hover your mouse on the diagram to obtain the exact numbers.

### 3.2.6 Total Pages



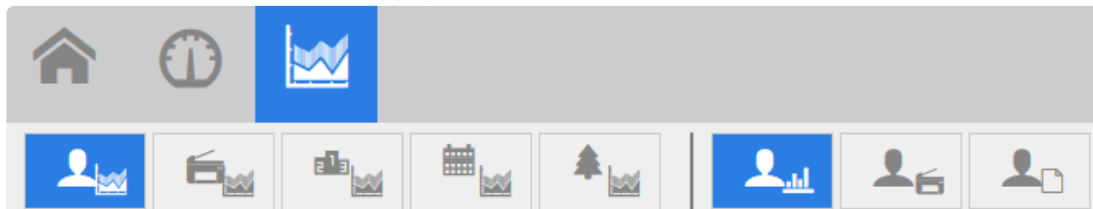
This section provides the total number of printed pages over the time period and geographical area you defined.

It also details how many pages were printed in black & white or color, in Simplex or Duplex and which type of job it corresponded to – Scan Job, Print-Direct or Pull Printing.

 **Note:** Hover your mouse on the diagram to obtain the exact numbers.

## 4. Types of Reports

TGS 10 produces the following types of reports:



### 4.1 User Reports

**These reports allow you to view and compare printer usage for all users or a specific user.**

- User Summary – displays print history of all users. You can also choose a specific user to view user's printer usage statistics.
- User Summary by Printer – displays print history of users on the basis of printer(s) used.
- User Summary by Page size – displays print history of users on the basis of page size of print jobs.

### 4.2 Printer Reports

**These produces reports based on printer usage.**

- Printer Summary – displays print history of all printers. You can choose a specific printer to view printer usage statistics

- Printer Summary by User – displays print history of printers on the basis of its users.
- Printer Summary by Page size – displays print history of printers on the basis of size of the page.

## 4.3 Top Reports

*Only available in Celiveo Enterprise Edition*

**These allow you to produce reports for the most active users, printers or departments.**

- Top users – displays print history of the 10, 20 or 50 most active users.
- Top printers – displays print history of the 10, 20 or 50 most active printers.
- Top departments – displays print history of the 10, 20 or 50 most active departments.

## 4.4 By Month Reports

*Only available in Celiveo Enterprise Edition*

**These reports allow you to view and compare printer usage by month.**

- User by month – displays print history of all users by month. You can also choose a specific user to view user's printer usage statistics by month.
- Printer by month – displays print history of all printers. You can choose a specific printer to view printer usage statistics.

## 4.5 Saving Reports

*Only available in Celiveo Enterprise Edition*

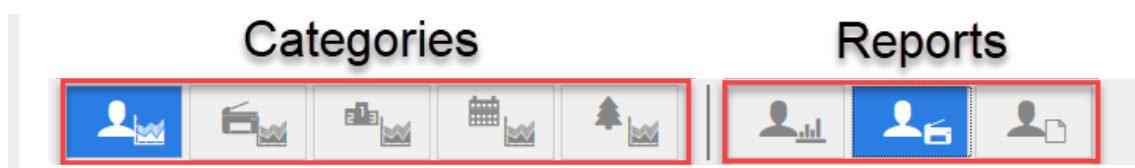
**These reports allow you to view savings by user.**


- Savings by user – displays savings realized by all users or a specific one.

# 5. Generating a report

## 5.1 To view reports

1. At the **[Reports]** menu, click one of the categories.




2. Then choose a report to view.
3. For demonstrative purpose, let's choose User Summary by Printer .
4. Choose the dates in the **[Print Date From]** and **[Print Date To]** fields using the **[Calendar]** icons

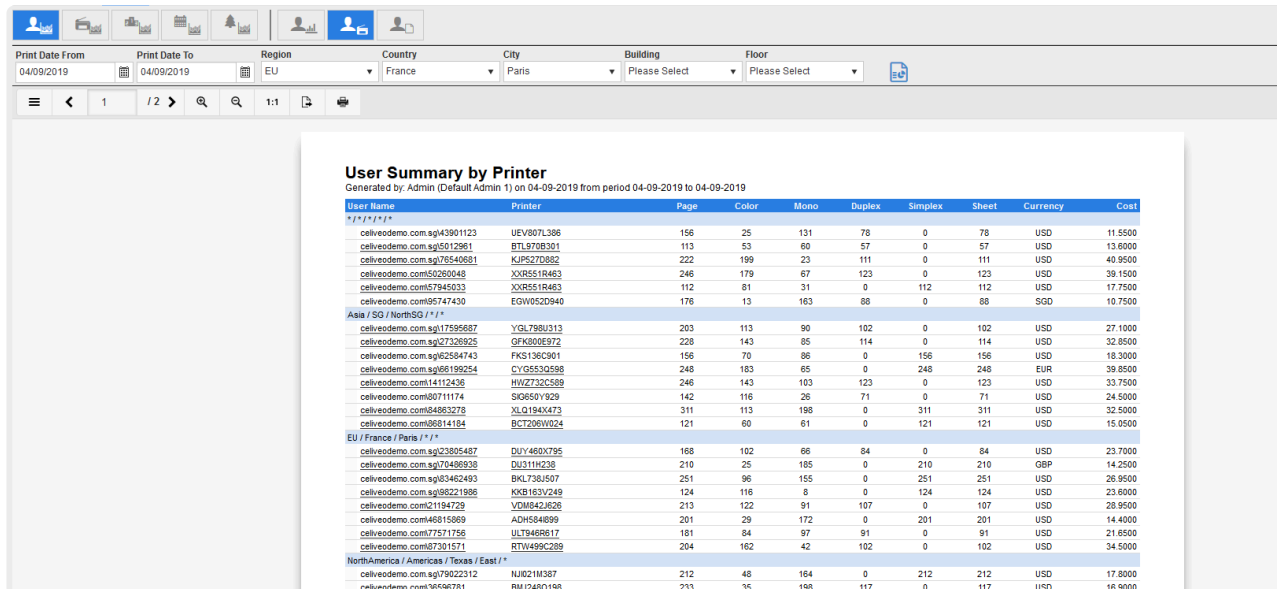


to specify the date range to generate the report.

- You can also choose from tags to display the records based on tag combination selected.

 **NOTE:** A Super Admin can configure the tag names for TGS 10 via Web Admin.

- Click the **[Generate]**  icon to view the report.
- The report generated will be displayed as in the image shown below:










**User Summary by Printer**  
Generated by: Admin (Default Admin 1) on 04-09-2019 from period 04-09-2019 to 04-09-2019

User Name	Printer	Page	Color	Mono	Duplex	Simplex	Sheet	Currency	Cost
<b>*/ */ */ *</b>									
celivedemo.com.sg\43901123	UEV807L386	156	25	131	78	0	78	USD	11.5500
celivedemo.com.sg\5012961	BTLE70B301	113	53	60	57	0	57	USD	13.6000
celivedemo.com.sg\76540681	KJP527082	222	199	23	111	0	111	USD	40.9500
celivedemo.com.sg\263045	JOUR5518463	246	179	67	123	0	123	USD	38.1500
celivedemo.com.sg\57945033	JOUR5518463	112	81	31	0	112	112	USD	17.7500
celivedemo.com.sg\56747430	EGV0520940	176	13	163	88	0	88	SGD	10.7500
<b>Asia / SG / NorthSG / * / *</b>									
celivedemo.com.sg\17595687	YGL788U313	203	113	90	102	0	102	USD	27.1000
celivedemo.com.sg\27328925	GFX800E972	228	143	85	114	0	114	USD	32.8500
celivedemo.com.sg\62584743	PKS136C901	156	70	86	0	156	156	USD	18.3000
celivedemo.com.sg\66199254	CV105530598	248	183	65	0	248	248	EUR	39.8500
celivedemo.com.sg\14112458	HWZ732C589	246	143	103	123	0	123	USD	33.7500
celivedemo.com.sg\80711174	SGE501929	142	116	26	71	0	71	USD	24.5000
celivedemo.com.sg\84863278	XLQ184K473	311	113	198	0	311	311	USD	32.5000
celivedemo.com.sg\86814184	BCT206W024	121	60	61	0	121	121	USD	15.0500
<b>EU / France / Paris / * / *</b>									
celivedemo.com.sg\23805487	DUY460X795	168	102	86	84	0	84	USD	23.7000
celivedemo.com.sg\70499238	DJ311H236	210	25	185	0	210	210	GBP	14.2500
celivedemo.com.sg\3462493	BKL738V507	251	96	155	0	251	251	USD	26.9500
celivedemo.com.sg\96221986	KKB183V249	124	116	8	0	124	124	USD	23.6000
celivedemo.com.sg\21194729	VDM842J628	213	122	91	107	0	107	USD	28.9500
celivedemo.com.sg\46815869	ADH584B99	201	29	172	0	201	201	USD	14.4000
celivedemo.com.sg\77571756	ULT946R617	181	84	97	91	0	91	USD	21.6500
celivedemo.com.sg\27301571	RTV499C289	204	162	42	102	0	102	USD	34.5000
<b>NorthAmerica / Americas / Texas / East / *</b>									
celivedemo.com.sg\79022312	NJ021M387	212	48	164	0	212	212	USD	17.8000
celivedemo.com.sg\36598781	BMJ248D198	233	35	198	117	0	117	USD	16.9000


- Click the **[User Name]** or **[Printer Name]** in the report page to view the print history of the user in detail.

## 5.2 Additional Viewing Options

### Icon Description

-  Click to toggle between navigation pane.
-  Click to go to previous page of the report
-  Denotes the current page number. You can also click to specify a page number to view.
-  Click to go to next page. The number denotes the total number of pages for the report.
-  Click to zoom in
-  Click to zoom out
-  Displays the page in 100% resolution

Click to export the report in any of the following formats: Adobe PDF, XHTML/CSS, Multi-Mime HTML,

 Excel, Word, RTF, XPS, TIFF, PNG, JPEG, Bitmap, Metafile (EMF), HTMLjQueryMobile, Powerpoint, Pinwriter (TTY),

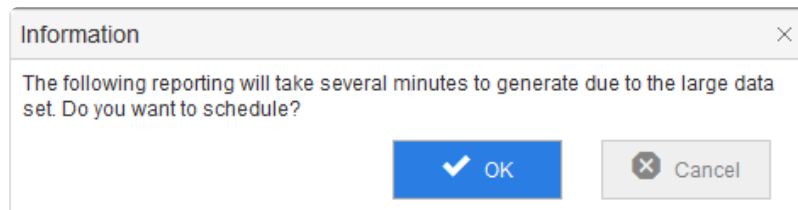
SVG, Text(CSV), Text (Layout), XML



Click to print the report

## 5.3 Schedule and Email Reports

The optimal response time to display the report is about few seconds to couple of minutes, but if the report generation takes longer due to large data set, then a prompt will be displayed to schedule report viewing for later.



1. Click **[OK]**. This provides an option for the report to be sent via email so that you can view it at your convenience.
2. You can choose the format of the report to email, modify the filename, and email the report to more than one recipient.

A 'Schedule Report' dialog box with a close button (X) in the top right corner. It contains the following fields and controls:

- Report Name:** User Summary by Printer
- File Format:** A dropdown menu currently showing 'PDF Format'.
- File Name:** A text input field containing 'User Summary by Printer'.
- To Email:** A text input field with the placeholder text 'Enter comma separated email'.
- At the bottom right, there are two buttons: a grey 'OK' button with a document icon and a grey 'Close' button with an 'X' icon.

*Last modified: 8 September 2020*

## 13.5. Downgrade from TGS 10 to TGS 8

1. Download the "[TGS 8 manual rights script.sql](#)" file.
2. Open it in SQL Server Management Studio.
3. Replace these 3 lines as follows:

---

USE PrintManager90

```
print 'USE [PrintManager90]' + + CHAR(13) + CHAR(10) + + CHAR(13) + CHAR(10)
```

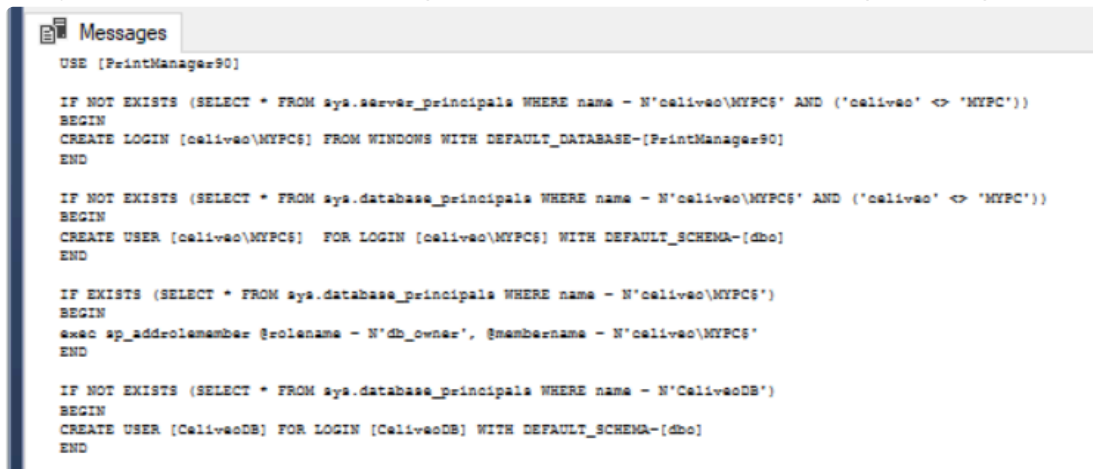
```
Declare @cmd nvarchar(MAX), @domainName nvarchar(500), @computerName nvarchar(500), @cvoSer
SET @domainName = '<domain>'
SET @computerName = '<computerName>'
SET @cvoServiceUserForWA = '<DBUserName>'
```

For @domainName – put the machine where TGS 8 is installed domain name.

For @computerName – put the computer where TGS 8 is installed hostname.

For @cvoServiceUserForWA – put the DB service account name which is used to install Web Admin.

4. Run the script on SSMS.
5. Copy the script from the “Messages” window in SSMS and run it again using SSMS.



```
USE [PrintManager90]

IF NOT EXISTS (SELECT * FROM sys.server_principals WHERE name = N'celiveo\MYPC$' AND ('celiveo' <> 'MYPC$'))
BEGIN
CREATE LOGIN [celiveo\MYPC$] FROM WINDOWS WITH DEFAULT_DATABASE=[PrintManager90]
END

IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'celiveo\MYPC$' AND ('celiveo' <> 'MYPC$'))
BEGIN
CREATE USER [celiveo\MYPC$] FOR LOGIN [celiveo\MYPC$] WITH DEFAULT_SCHEMA=[dbo]
END

IF EXISTS (SELECT * FROM sys.database_principals WHERE name = N'celiveo\MYPC$')
BEGIN
EXEC sp_addrolemember @rolename = N'db_owner', @membername = N'celiveo\MYPC$'
END

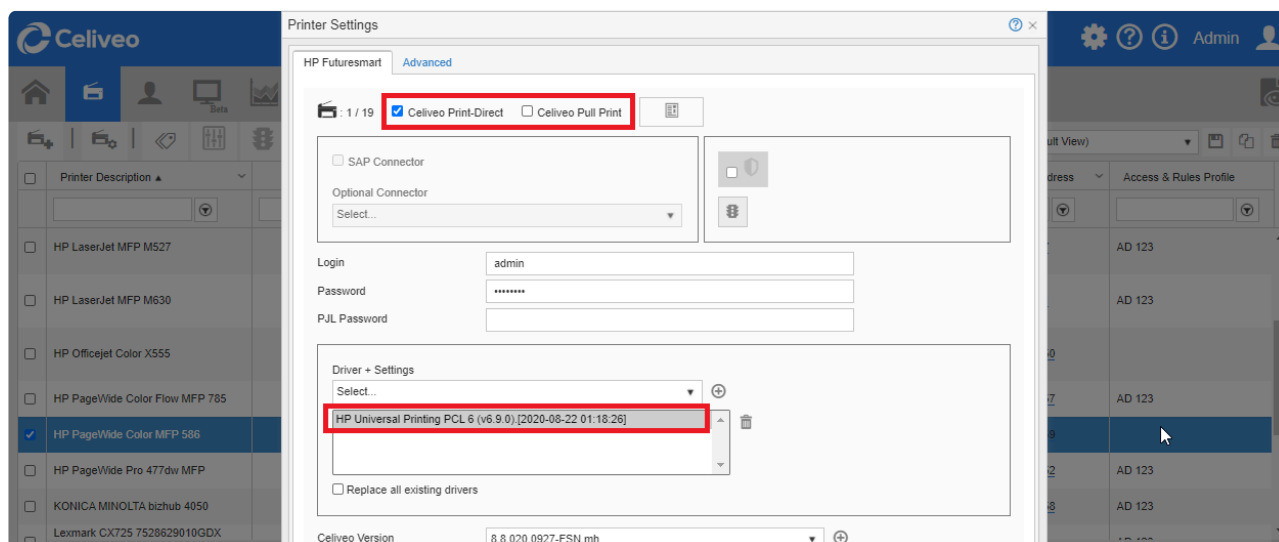
IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'celiveoDB')
BEGIN
CREATE USER [celiveoDB] FOR LOGIN [celiveoDB] WITH DEFAULT_SCHEMA=[dbo]
END
```

*Last modified: 8 September 2020*

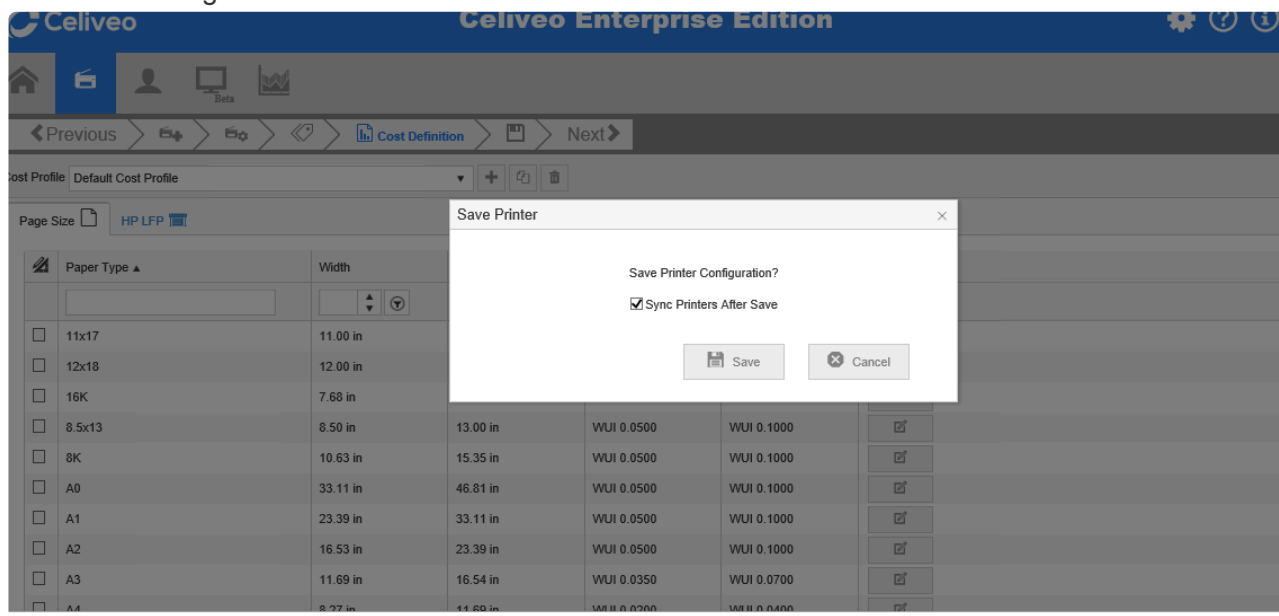
## 13.6. Configure Embedded Tracking for Print-Direct

Embedded tracking with Print-Direct is available for HP FS printers. It is available with a Print-Direct license to provide tracking information without deploying a CVP on the client machine.

1. When [adding a Printer](#), in the Printer Settings, load the HP FS embedded agent and save it.
2. Uncheck the **Pull Print** checkbox and ensure the **Print-Direct** checkbox is enabled.



3. Save the settings.



### Notes:

- After syncing the printer, the Printer status is **Synchronized (Print rules not set)**.
- In TGS 10, tracking data is labelled as Print-Direct.

Last modified: 5 October 2020

# 14. Technical Information

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This topic details advanced technical information useful to get the best out of your Celiveo solution.

[Quick and Easy Solution to Disable SSL/ Early TLS Protocols and Enforce TLS 1.2](#)

[Managing 32 bit and 64 bit Architectures](#)

[Environmental Impacts of Printing – Formulae used in TGS 10 reports](#)

[Pushing Print Jobs to Network Attached Storage](#)

[Celiveo WebAdmin Tools and API](#)

[Open Source codes used in Celiveo 8](#)

[Migration Support to Celiveo 8 Versions](#)

[Technical FAQ](#)

*Last modified: 9 October 2020*

# 14.1. [IMPORTANT] Quick and Easy Solution to Disable SSL/ Early TLS Protocols and Enforce TLS 1.2

---

**IMPORTANT – THIS PROCESS IS MANDATORY TO SUPPORT TLS 1.2 WITHOUT IT CELIVEO WON'T WORK**



**Note:** This is applicable for SecureJet (7.0.5 and higher) and Celiveo (8.0.0 and higher) products. Currently, Celiveo supports TLS 1.2 in HP FutureSmart printers.

According to PCI Security Standards Council, 30 June 2018 is the cutoff date for disabling SSL /early TLS protocols and implementing a more secure encryption protocol – TLS 1.1 or higher (TLS 1.2 is strongly recommended) in order to meet the PCI Data Security Standard (PCI DSS) for secure communication.

Microsoft has released several patches both for Server side (SQL Server) and client side (Machine connecting to SQL Server) to enable TLS 1.2 support.

All the information can be found in the following link: <https://support.microsoft.com/en-us/help/3135244/tls-1-2-support-for-microsoft-sql-server>

## Process for disabling SSL/ Early TLS protocols and re-configuring CSS/ SSS settings:

### 1. Update Windows OS:

Make sure that your Windows Server is up to date. Microsoft's latest update provides support for TLS System Default Versions. The Windows Update (mentioned below) enables the use of TLS v1.2 in .NET Framework 3.5 and its higher versions.

To download patch file for:

**Windows Server 2012 R2:** <https://support.microsoft.com/en-us/help/3154520/support-for-tls-system-default-versions-included-in-the-net-framework>

**Windows Server 2012:** <https://support.microsoft.com/en-us/help/3154519/support-for-tls-system-default-versions-included-in-the-net-framework>

**Windows Server 2008 R2:** <https://support.microsoft.com/en-us/help/3154518/support-for-tls-system-default-versions-included-in-the-net-framework>

**Windows Server 2016:** The following two Microsoft patches are mandatory for TLS 1.2 to be active on

Windows Server 2016. The latest versions currently available are as of 2019-07.

- KB4509091 – Servicing Stack Update for Windows Server 2016 for x64-based Systems (SSU) – <https://www.catalog.update.microsoft.com/Search.aspx?q=KB4509091>
- KB4507460 – Cumulative Update for Windows Server 2016 for x64-based Systems – <https://www.catalog.update.microsoft.com/Search.aspx?q=KB4507460>

#### Notes:

- Make sure to restart the system, after installing the patch file.
- If your system is already up to date via Windows Update, then proceed to the next step.

## 2. Update SQL Server:

1. Refer to the table given in the link <https://support.microsoft.com/en-us/help/3135244/tls-1-2-support-for-microsoft-sql-server> to download the correct SQL Server patch.
2. Apply the SQL Server patch accordingly to your version (**Latest SQL Server might not require this step**).

SQL Server release	First build that supports TLS 1.2	Download link for earlier builds	Additional information
SQL Server 2014 SP1	12.0.4439.1	<a href="#">Cumulative Update 5 for SQL Server 2014 SP1</a>	KB 3052404 FIX: You cannot use the Transport Layer Security protocol version 1.2 to connect to a server that is running SQL Server 2014 or SQL Server 2012
SQL Server 2014 SP1 GDR	12.0.4219.0	<a href="#">SQL Server 2014 SP1 GDR TLS 1.2 Update</a>	
SQL Server 2014 RTM	12.0.2564.0	<a href="#">Cumulative Update 12 for SQL Server 2014</a>	KB 3052404 FIX: You cannot use the Transport Layer Security protocol version 1.2 to connect to a server that is running SQL Server 2014 or SQL Server 2012
SQL Server 2014 RTM GDR	12.0.2271.0	<a href="#">SQL Server 2014 RTM GDR TLS 1.2 Update</a>	
SQL Server 2012 SP3 GDR	11.0.6216.27	<a href="#">SQL Server 2012 SP3 GDR TLS 1.2 Update</a>	
SQL Server 2012 SP3	11.0.6518.0	<a href="#">Cumulative Update 1 for SQL Server 2012 SP3</a>	KB 3052404 FIX: You cannot use the Transport Layer Security protocol version 1.2 to connect to a server that is running SQL Server 2014 or SQL Server 2012
SQL Server 2012 SP2 GDR	11.0.5352.0	<a href="#">SQL Server 2012 SP2 GDR TLS 1.2 Update</a>	
SQL Server 2012 SP2	11.0.5644.2	<a href="#">Cumulative Update 10 for SQL Server 2012 SP2</a>	KB 3052404 FIX: You cannot use the Transport Layer Security protocol version 1.2 to connect to a server that is running SQL Server 2014 or SQL Server 2012
SQL Server 2008 R2 SP3	10.50.6542.0	<a href="#">SQL Server 2008 R2 SP3 TLS 1.2 Update</a>	
SQL Server 2008 R2 SP2 GDR (IA-64 only)	10.50.4047.0	<a href="#">SQL Server 2008 R2 SP2 GDR (IA-64) TLS 1.2 Update</a>	
SQL Server 2008 R2 SP2 (IA-64 only)	10.50.4344.0	<a href="#">SQL Server 2008 R2 SP2 (IA-64) TLS 1.2 Update</a>	
SQL Server 2008 SP4	10.0.6547.0	<a href="#">SQL Server 2008 SP4 TLS 1.2 Update</a>	
SQL Server 2008 SP3 GDR (IA-64 only)	10.0.5545.0	<a href="#">SQL Server 2008 SP3 GDR (IA-64) TLS 1.2 Update</a>	
SQL Server 2008 SP3 (IA-64 only)	10.0.5896.0	<a href="#">SQL Server 2008 SP3 (IA-64) TLS 1.2 Update</a>	

### 3. Enable/Disable SSL/TLS protocols:

- You can manually disable SSL 1.0/2.0/3.0 and early TLS protocols and enable TLS 1.2 in the Registry. Refer to the document available [here](#) on how to do this.
- Alternatively, you can download and run the [TLS RegistryEdit](#) script file to update the registry on application and database server.
- Make sure the registry keys are set as shown below:

```

1 Windows Registry Editor Version 5.00
2
3 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\Client]
4 "Enabled"=dword:00000000
5 "DisabledByDefault"=dword:00000001
6 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\Server]
7 "Enabled"=dword:00000000
8 "DisabledByDefault"=dword:00000001
9 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 3.0\Client]
10 "Enabled"=dword:00000000
11 "DisabledByDefault"=dword:00000001
12 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 3.0\Server]
13 "Enabled"=dword:00000000
14 "DisabledByDefault"=dword:00000001 Disabled SSL 2.0, SSL 3.0, TLS 1.0, TLS 1.1
15 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Client]
16 "Enabled"=dword:00000000
17 "DisabledByDefault"=dword:00000001
18 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Server]
19 "Enabled"=dword:00000000
20 "DisabledByDefault"=dword:00000001
21 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\Client]
22 "Enabled"=dword:00000000
23 "DisabledByDefault"=dword:00000001
24 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\Server]
25 "Enabled"=dword:00000000
26 "DisabledByDefault"=dword:00000001
27 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.2\Client]
28 "Enabled"=dword:00000001 Enabled TLS 1.2
29 "DisabledByDefault"=dword:00000000
30 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.2\Server]
31 "Enabled"=dword:00000001
32 "DisabledByDefault"=dword:00000000
33
34 [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\ .NETFramework\v2.0.50727]
35 "SystemDefaultTlsVersions"=dword:00000001 Set TLS 1.2 for .NET 3.5 application
36
37 [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\ .NETFramework\v2.0.50727]
38 "SystemDefaultTlsVersions"=dword:00000001

```

#### Notes:

- At this point RDP to connect to the remote server might stop working in some cases because TLS 1.0 will be disabled. Make sure that you are using the latest RDP/windows update.
- Some of the settings on Registry (HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols) may also change. So a registry backup or VM Snapshot is recommended.

### 4. On the Server Running CSS:

- Apply the **SQL Server Native Client** patch corresponding to the SQL Server that it will connect to. You can download the patch from here: <https://support.microsoft.com/en-us/help/3135244/tls-1-2-support-for-microsoft-sql-server>

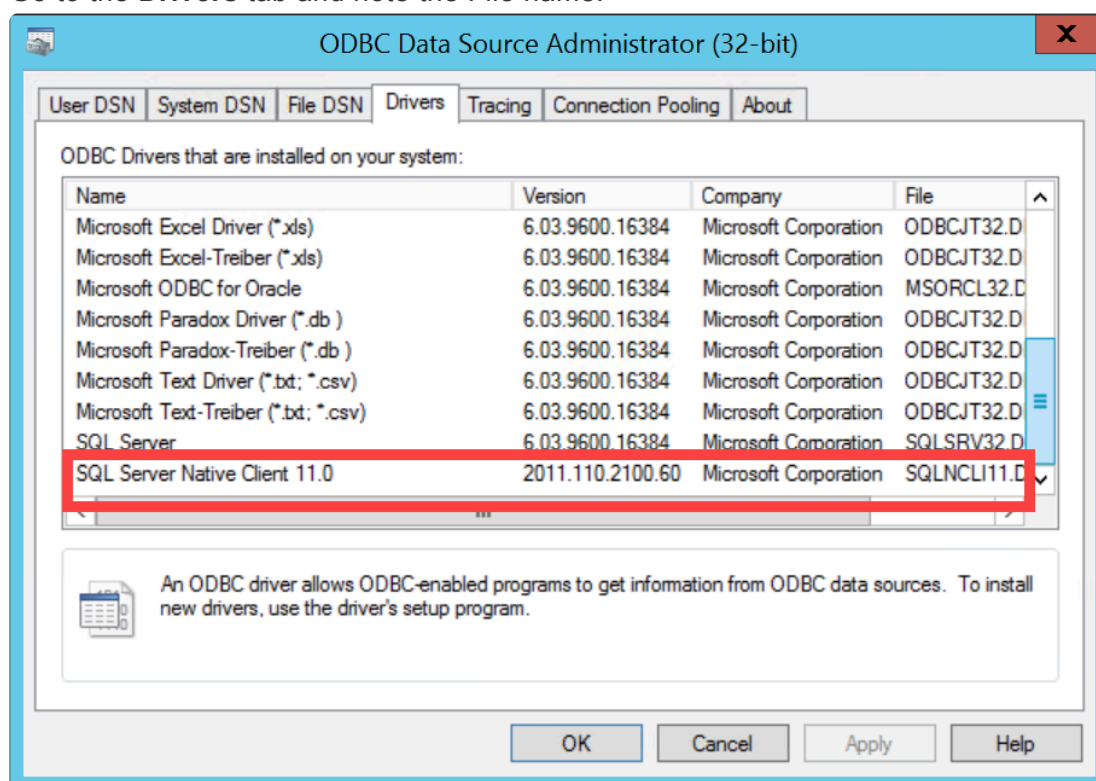


SQL Server Native Client (for SQL Server 2008 R2)	SQL Server Native Client (x86 and x64)
SQL Server Native Client (for SQL Server 2008 R2)	SQL Server 2008 R2 Native Client (IA-64)
SQL Server Native Client (for SQL Server 2008)	SQL Server 2008 Native Client (x86 and x64)
SQL Server Native Client (for SQL Server 2008)	SQL Server 2008 Native Client (IA-64)
SQL Server Native Client (for SQL Server 2012 and SQL Server 2014)	Microsoft SQL Server 2012 Native Client - QFE
Microsoft ODBC Driver for SQL Server	Microsoft ODBC Driver 11 for SQL Server - Windows
JDBC 6.0	Microsoft JDBC Drivers 6.0 (Preview), 4.2, 4.1, and 4.0 for SQL Server
JDBC 4.1 and JDBC 4.2	Microsoft JDBC Drivers 6.0 (Preview), 4.2, 4.1, and 4.0 for SQL Server

- Verify that **SQL Server Native Client 10 or higher** is installed on the server or client machine running CSS/ SSS (Serverless/ Server-based).

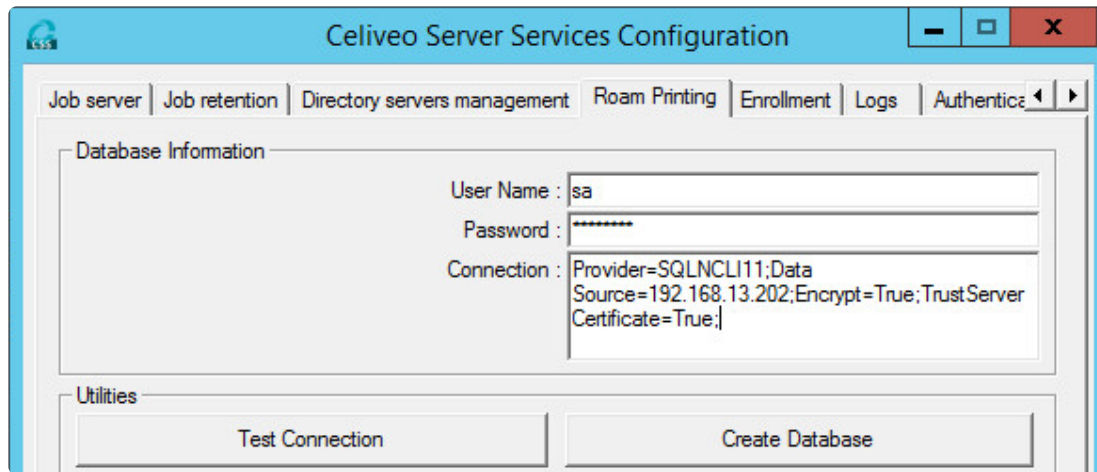
On the machine:

- Press **Start**
- Type **Run**
- Type **%windir%\syswow64\odbcad32.exe** and press **OK**
- Go to the **Drivers** tab and note the File name.



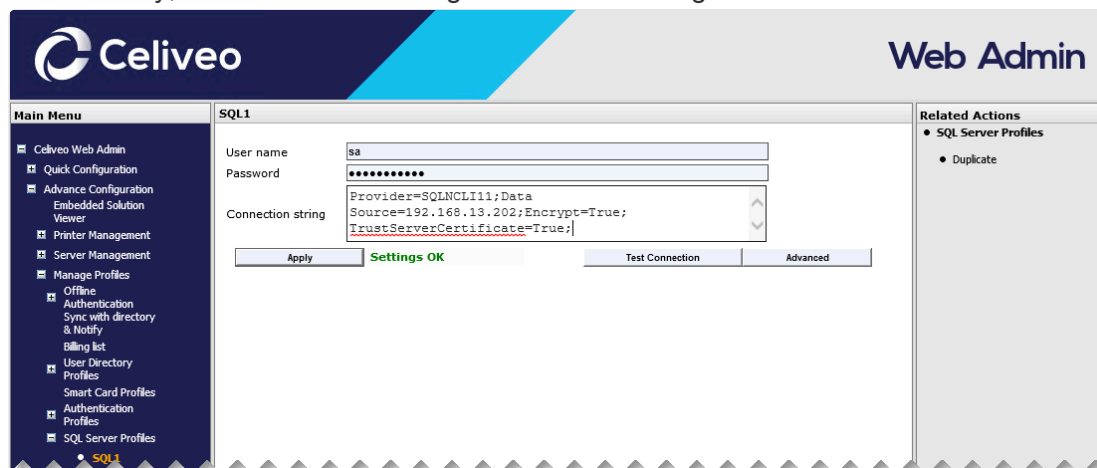
- Now, Launch the **CSS/ SSS Configuration tool** as Administrator.
- Go to the **Roam Printing** tab.
- Change the **Connection** string in order to force the SQL native client provider instead of the OLEDB:

**Provider=< Name of the file without the extension >;Data Source=< Server IP Address\_or\_Host name >;Encrypt=True;TrustServerCertificate=True;**  
 For example: Provider=SQLNCLI11; Data Source=192.168.13.202; Encrypt=True;  
 TrustServerCertificate=True;



6. Apply the same configuration on **Enrollment** tab.
7. Press **OK/Apply**.

Alternatively, the Connection string can also be configured via Celiveo Web Admin application.



### ! Warning:

- Once the patch is applied on the SQL Server and TLS 1.1/1.2 is enforced, SQL Management studio won't be able to access the SQL DB as it also requires a patch or a newer version.
- RDP might require an update for Admins to login on the SQL Server since it normally operates on SSL.
- Other 3rd party software might not work as expected since SSL 1.0/2.0/3.0 and TLS 1.0 is forcibly disabled on the SQL Server machine.

*Last modified: 8 September 2020*

## 14.2. Managing 32 bit and 64 bit Architectures

---

### How to add x86 (32 bit) Print Drivers on a x64 (64 bit) Windows Print Server

✿ **Note:** Both x86 and x64 drivers **MUST** have the same name. If they have the same name, they will appear automatically in Additional drivers for both architectures in the Printer's sharing properties.

#### Create and share a print queue on x64 Windows Print Server

1. Login to the Windows Print Server with Administrator account (Domain/ Local).
2. Click on **Start > Control Panel > Hardware**.
3. Click on **Add a Printer** and follow the steps to install the printer.
4. Download the 32 bit version of the printer driver, from the Printer manufacturer's driver site.
5. Next, right-click the Printer name and choose **Printer Properties**.
6. Click the **Sharing** tab.
7. Click on **Additional Drivers**.
8. Select **x86 Type 3 – User Mode**.
9. When prompted, provide the location of the 32 bit printer driver that was downloaded.

### How to add x64 (64 bit) Print Drivers on a x86 (32 bit) Windows Print Server

#### Create and share a print queue on x86 Windows Print Server

1. Login to the Windows Print Server with Administrator account (Domain/ Local).
2. Click on **Start > Control Panel > Hardware**.
3. Click on **Add a Printer** and follow the steps to install the printer.
4. Download the 64 bit version of the printer driver, from the Printer manufacturer's driver site.
5. Next, right-click the Printer name and choose **Printer Properties**.
6. Click the **Sharing** tab.
7. Click on **Additional Drivers**.
8. Select **x64 Type 3 – User Mode**.
9. When prompted, provide the location of the 32 bit printer driver that was downloaded.

*Last modified: 8 September 2020*

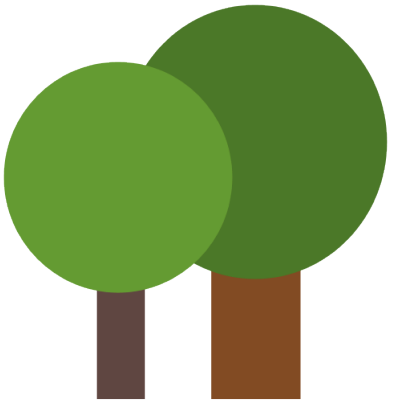
## 14.3. Environmental Impacts of Printing – Formulae used in TGS 10 reports

Formulae used in calculating the environmental impact due to loss of trees in paper production and the greenhouse gas mainly carbon dioxide (CO<sub>2</sub>) released during the process.

### Some paper facts and assumptions:

- Here we consider the paper used for printing are 100% virgin copier paper of A4 size and not recycled. per Facts:
  - 1 A4 size sheet weighs 0.009 pounds (0,004 g) (see: <https://www.papersizes.org/paper-weights.htm>)
  - 1 carton = 10 reams = 5000 sheets
  - 1 tree makes 16.67 reams of copy paper or 8,333 sheets
  - 1 ream (500 sheets) uses 6% of a tree, i.e. 0.6 trees (see: <http://conservatree.org/learn/EnviroIssues/TreeStats.shtml>)
- Carbon absorption by trees (Carbon sequestration)
  - The amount of carbon absorbed vary for trees of different species and ages. Here, a 25 year old pine tree is taken as a standard for calculation.
  - An average pine tree of 25 year old absorbs 14.667 [1] pounds (6,350 kg) of CO<sub>2</sub> per year.

### Calculating the impact of cutting down trees

	<p>This value represents the number of tree(s) that has gone into the making of paper,  <b>Calculation: Total number of sheets of paper / 5000 sheets (per carton) * 0.6 trees</b> For example: A company uses printing paper on an average of 245,902 (non-recycled) A4 sheets per year. Calculating the loss of trees due to this print paper usage would be:          245,902 sheet of paper per year / 5000 sheets = 49.18 cartons of paper          49.18 cartons * 0.6 trees = 29.50824 trees are cut down per year</p>
---	---

### Calculating the total carbon dioxide emitted

The carbon dioxide emission is calculated in two parts:

- **Carbon sequestration**

This denotes the quantity of carbon that would have been absorbed had the tree been alive.

According to the assumption: An average pine tree of 25 year old absorbs 14.667 pounds (6,350 kg) of CO<sub>2</sub> per year.

Calculating the CO<sub>2</sub> sequestration for each sheet of paper : **(Number of trees \* 14.667 pounds (6,350 kg) of CO<sub>2</sub>) / Number of sheets**

For the above example, if 29.50824 trees are cut down per year, then **29.50824 trees cut down \* 14.667 pound of CO<sub>2</sub> = 432.80 pounds (195,95 kg) of CO<sub>2</sub>** is no longer absorbed due to loss of trees.

Thus, each sheet of paper is worth **432.80/245,902 = 0.00176 pounds (0,00080 kg) of CO<sub>2</sub>**

- **Carbon dioxide produced during paper production**

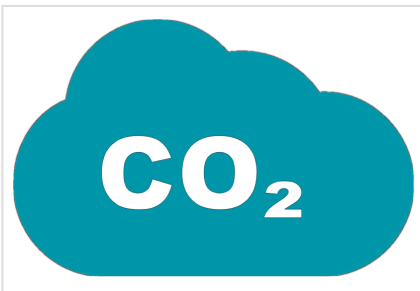
According to EPA (color-red) 1 pound of paper produces 4.36% (color-red)<sup>2</sup> pounds of CO<sub>2</sub> during production.

Calculating the CO<sub>2</sub> produced by each sheet of paper: **(Total weight of paper in pounds \* 4.36 pounds of CO<sub>2</sub>) / Number of sheets**

For the above example, **245,902 sheets of paper \* 0.009 pounds per paper = 2,213.12 pounds (1003,7 kg) of paper**

**2,213.12 pounds of paper \* 4.36 pounds of CO<sub>2</sub> = 9469.19 pounds (4295,06 kg) of CO<sub>2</sub>** is produced during paper production

Thus, each sheet of paper produces **9469.19 pounds / 245902 sheets of paper = 0.03924 pounds (0,01783 KG) of CO<sub>2</sub>** during production

	<p>The CO<sub>2</sub> emission is calculated as a sum total of carbon dioxide not absorbed due to tree loss + carbon dioxide released during paper production</p> <p>Calculation: <b>(Number of trees * 14.667 pounds of CO<sub>2</sub>) / Number of sheets + (Total weight of paper in pounds * 4.36 pounds of CO<sub>2</sub>) / Number of sheets</b></p> <p>For the above example: (0.00176 + 0.03924) * 245902 = 10,081.99 pounds (4572,66 kg) of CO<sub>2</sub> is released per year.</p>
---	---

You may also read : <https://www.celineo.com/smart-printing-blog/green-it-environmental-facts-about-printing>

**[1] [2]** The values are derived from Study Report: Save Paper submitted by Daniel in MIT, and U.S EPA, 2006. Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks, EPA530-R-06-004

\* U.S. Environmental Protection Agency, publishes guidelines for minimum recycled product content, for use by federal agencies for purchasing standards. EPA also advocates source reduction practices, as well as other aspects of environmentally sound products, such as reduced toxins, energy savings, and biomass projects. In addition to providing guidance on environmental products, EPA regulates many aspects of paper industry production, including emissions (air, water, land) and solid waste management.



# 14.4. Pushing Print Jobs to Network Attached Storage (NAS)

## Contents

- [What is NAS?](#)
- [How does NAS work for virtual printers?](#)
- [How to push print jobs to NAS?](#)
- [How to configure NAS path while creating CVP deployment package?](#)
- [Support for NAS during CVP manual installation](#)

## What is NAS?

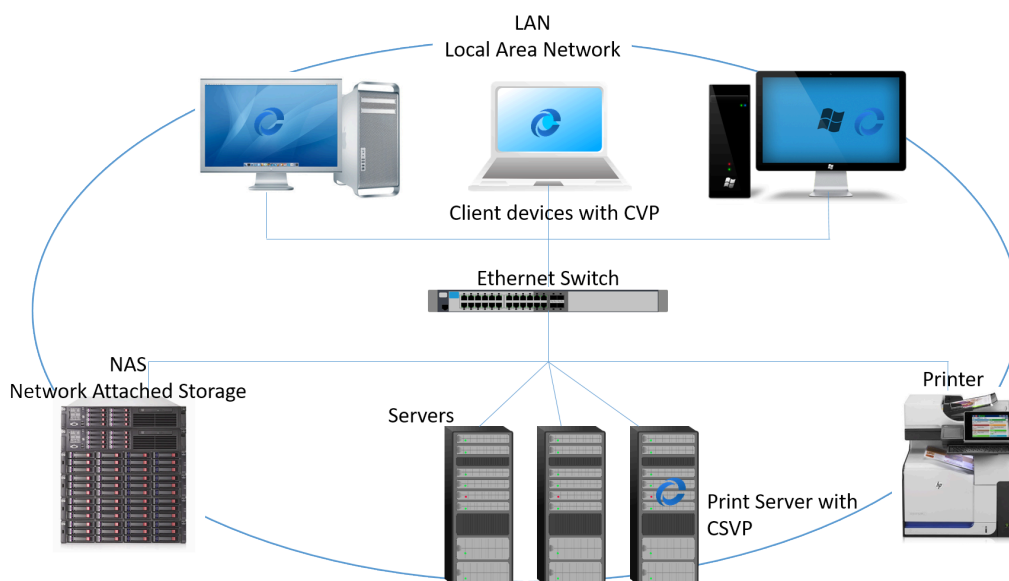
**Network Attached Storage** or NAS is a typical storage unit (single purpose computer server unit) attached to the network that provides file based data storage access to varied group of client systems. The purpose of **NAS** is to provide centralized and shared storage for digital files. For this reason there can be multiple hard drives in a single NAS unit.

- NAS units generally do not have a keyboard or a display unit. They are accessed through browsers.
- The NAS unit connected to a network, can be accessed by any number of PCs as long as they are also on the same network.

## Some benefits of NAS include:

- Additional storage space
- Data protection with fail-over configurability
- Easy to setup

NAS connected to a network:



## How does NAS work for Celiveo Virtual Printers?

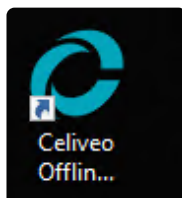
NAS works as a temporary storage location (remote storage location) for print job files, in the case when Print Server (CSVP) is unreachable to store print job information.

Celiveo has now enabled support for pushing print job files to NAS unit for easier access to print jobs details. In the event, when the Print Server is not reachable (Celiveo Server Services in CSVP are offline) when trying to send print jobs from a user workstation using Celiveo Virtual Printer, the print jobs are re-routed to be stored in NAS unit temporarily. Once the Print Server is accessible, all the print jobs stored in NAS are moved to local storage of the Print Server. Thus NAS unit acts as a temporary location for storing print job data generated across all CVP workstations in the network.

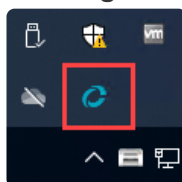
## How print job data are pushed to NAS?

Print Job data can be pushed to NAS by two methods:

- **Shutdown to NAS:** This feature is configured while creating the Celiveo Virtual Printer (CVP) deployment package. CVP can push the print files to a temporary storage (NAS unit) which is connected in the same domain network during shutdown of workstation. You should add the domain network details (User name/ Password/ Domain name) and NAS path while configuring the CVP package.
- **Push printing (manual):** In this method, a CVP user can either:
  - Choose to move the print job data to the NAS unit using the **Celiveo Offline Printing** icon available on the desktop. This icon is made available upon CVP installation.



- Right-click the Celiveo icon available on the Windows system tray and choose **Offline Printing**.

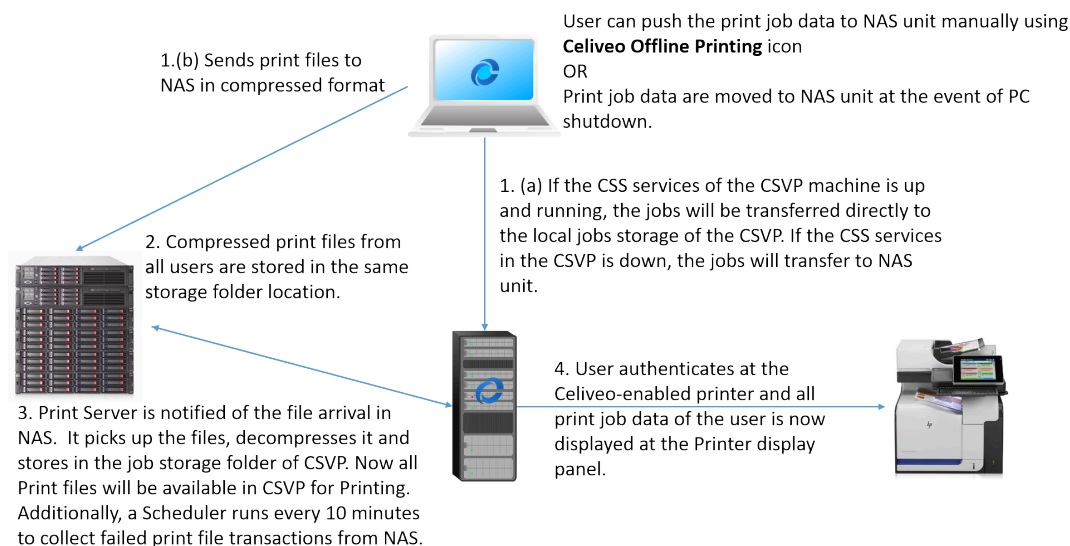


When user sends a print job to NAS, the CVP initially checks if the Print Server is accessible.

- IF Print Server is accessible (CSS services is online) : all print files are pushed directly to the Print Server, where it is stored in the default jobs storage folder.
- IF Print Server is not accessible (CSS services is offline): all print files are pushed to NAS (temporary storage). While pushing to NAS, all print files are **compressed** and stored at a single location (destination folder) in the NAS unit. This reduces the storage space used in NAS instead of allocating a definite amount of space to an individual user's print job information.



How NAS push printing works:



## How does Print Server pick up print job files from NAS?

As and when the print jobs get transferred to NAS, the Print Server is notified of this event, and when it the compressed print files are picked from NAS unit, decompressed and stored in the jobs storage folder of Print Server. Now all those print files will be available at the Print Server.

In addition to this, a scheduler runs every 10 minutes to check for any failed print job transactions in NAS. For each scheduler event, all the remnant print job files available in the NAS folder are picked, decompressed and stored in the jobs storage folder of the CSVP.

No copy of these print files are retained in the NAS folder.

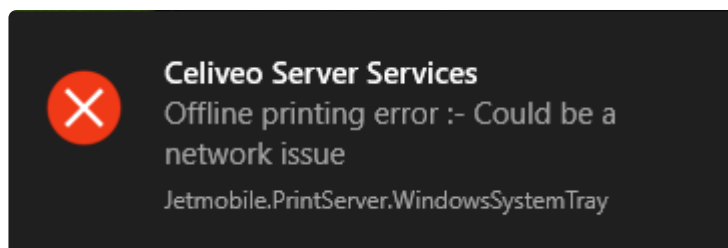
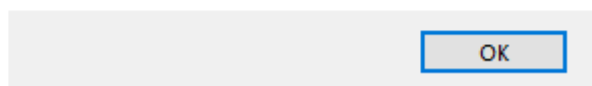
## What happens when NAS is not available?

- When the NAS is not available while doing a **manual push print** using the desktop icon or Windows system tray icon, appropriate error messages are displayed notifying the user.

Celiveo offline printing



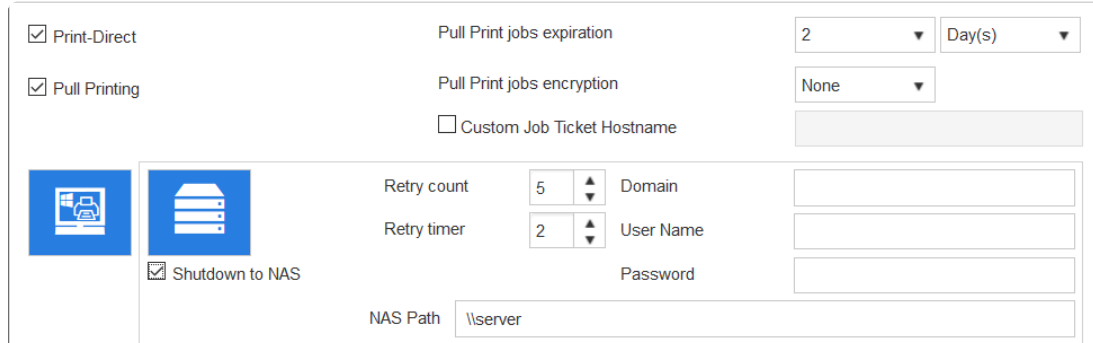
Offline printing error :- Could be a network issue



- When the NAS is not reachable **upon Shutdown** of client workstation, the print jobs are retained on client machine's default jobs location.

## How to configure NAS while creating Celiveo Virtual Printer?

While configuring the CVP deployment package, you have the option to choose **Remote** server to store the print jobs.



The screenshot shows the configuration window for the Celiveo Virtual Printer. It includes several sections:

- Print-Direct** and **Pull Printing** are checked.
- Pull Print jobs expiration** is set to 2 days.
- Pull Print jobs encryption** is set to None.
- Custom Job Ticket Hostname** is unchecked.
- Shutdown to NAS** is checked, indicated by a blue icon.
- Retry count** is set to 5.
- Retry timer** is set to 2 seconds.
- Domain**, **User Name**, and **Password** fields are empty.
- NAS Path** is set to \\server.

1. Select the **[Shutdown to NAS]** option. This allows the print jobs information to be transferred to the NAS unit when user initiates shutdown of the workstation.
2. Enter **[User Name]**, **[Password]**, **[Domain]** and **[NAS Path]**.
3. At **[Retry Count]**, enter the number of attempts to reach the NAS to store the jobs.
4. At **[Retry timer]**, enter the time interval (Seconds) between each attempt to reach the NAS.
5. Once all settings are complete, proceed with creating the deployment package.

## Support for NAS during CVP manual installation

You can install Celiveo Virtual Printer using silent installation with an option to push print job data to a Network Attached Storage (NAS). This increases accessibility to the print jobs when CVP is offline (user workstation is shutdown).

To enable this feature during installation, run the following command: **installer.exe -ccp -s**



**Note:** **-s** prevents display of any popup notifications to the user during silent installation.

*Last modified: 8 September 2020*

## 14.5. Celiveo WebAdmin Tools and API

✳ **NOTE:** The Celiveo WebAdmin command line API tool is available from WA 8.6.19.808 and newer versions.

This Celiveo WebAdmin command line API tool allows admin to import printers in bulk using CSV file, synchronize a printer and get its synchronization status. This command line tool can also be invoked by third party systems, by passing the right parameters. It responds using the correct return code at standard output – stdout.

```
C:\Program Files\Celiveo\Celiveo 8\ImportPrinter>importprinter
Celiveo WebAdmin Tool and API c Celiveo Pte Ltd 2011-2019
Version: 8.6.174.1
Usage:
ImportPrinter import <csvPath>
ImportPrinter sync <printerIp>
ImportPrinter getstatus <printerIp>
```

### Download

To download the latest version of the Celiveo Web Admin Command Line API tool, click [here](#).

### Call:

Calls to this API tool is performed from the Windows command line interface (cmd.exe) or using Start-Process in Powershell or Process.Start() in C# or any other language's method which spawns a process on Windows OS.

The API returns value zero when call is successful with response on stdout or non-zero when call fails, with description on stdout.

### Security:

This tool supports TLS 1.2 encryption or any protocol that is configured for the CeliveoDB SQL Server database access (defined in SQL Server).

It uses that protocol to encrypt communication to the SQL Server database.

### Before you begin:

This tool needs the connection details to access the Web Admin database (CeliveoDB).

You can provide data base information in one of the following two ways:

- Copy ConnectionString.xml from Web Admin Server's "C:\Program Files\Celiveo\Celiveo 8\Web Admin" to the directory where the command line API tool is installed and run. Ensure that the

access to the directory containing the tool is secured to prevent unauthorized usage.

The login information is read from that encrypted file and used to access the CeliveoDB database OR

- Run the tool on the server where Web Admin is installed at "C:\Program Files\Celiveo\Celiveo 8" Launch the command line tool with the syntax "ImportPrinter.exe getstatus abc".

This is a one time operation that asks for all CeliveoDB database details, they will be stored locally in an encrypted file and not requested again.

```
C:\Non OS\Celiveo\Code\Git\Software.WA\Source Code\ImportPrinter\bin\Debug>ImportPrinter.exe getstatus abc
Connection details are not specified. Either run on Web Admin machine at <C:\Program Files\Celiveo\Celiveo 8> OR copy Co
nnectionStrings.xml file from WA to the same directory as that of this tool!
Alternatively you can press key 'c' to provide database details using this tool
Enter DB server (e.g. WIN-SG145DDR or WIN-SG145DDR\SQLEXPRESS):
.\SQLEXPRESS
Enter the username:
CeliveoDB
Enter password:
Are you connecting with multisubnet failover cluster (Y/N):
```

## API to Import Printers into Celiveo WebAdmin

**Version:** 8.6.30.2

**Purpose:** This call initiates the import of printers from a CSV file into the Celiveo Web Admin software. The information about the printer is obtained from the values provided in the CSV file.

You must have created and tested some master printers in the Celiveo WebAdmin software (Master Printers), that the imported printers will clone when being added through the API.

Example of process:

- create and configure a master printer in the Celiveo WebAdmin portal, its MAC Address is 00:8A:75:42:FE:1F.

**Important:** That printer to clone shall be of the exact same type as the injected printers that will clone it.

Examples:

*If you want to inject HP Futuresmart 3 or 4 printers, you must have defined a HP Futuresmart 3 or 4 master printer.*

*If you want to inject Ricoh SOP 2.x printers, you must have defined a Ricoh SOP 2.x master printer.*

*If you want to inject Lexmark Android-capable printers, you must have defined a Lexmark Android-capable master printer.*

*etc...*

- build a CSV file where each line represents a printer to import into the Celiveo WebAdmin, and contains the MAC address of the printer to clone.

The columns content of the printer definition override those properties cloned from the master printer (ie: tags, name, description...)

- run the import utility
- synchronize the printer(s) using the Celiveo WebAdmin or the command line tool

**List of printers to import with master printer(s) cloning:**

The CSV file needs to be created with one line per printer to inject, and each line data in the following format:

Column 1	IPv4 MAC Address of MP2C Format: 12:34:56:78:90:AB or 123456789AB
Column 2	HostName of P2I (string, max length= 250 chars)
Column 3	IPv4 Address of P2I Format: xxx.xxx.xxx.xxx
Column 4	IPv4 MAC Address of P2I Format: 12:34:56:78:90:AB or 123456789AB
Column 5	Serial number of P2I (string, max length = 50 chars)
Column 6	Printer model of P2I (string, max length = 250 chars) The printer model must be solution-compatible with the MP2C printer model.
Column 7	Printer Brand of P2I (string, LEXMARK HP RICOH KM XEROX CANON TOSHIBA FUJI-XEROX KYOCERA etc... The brand must be the exact same as the MP2C printer brand.
Column 8	Printer Description of P2I (string, max length = 250 chars)
Column 9	Printer Type for P2I ("MFP" or "SFP") The printer Type must be the exact same as the MP2C printer Type.
Column 10	Tag1 value of P2I (string, max length = 150 chars)
Column 11	Tag2 value of P2I (string, max length = 150 chars)
Column 12	Tag3 value of P2I (string, max length = 150 chars)
Column 13	Tag4 value of P2I (string, max length = 150 chars)
Column 14	Tag5 value of P2I (string, max length = 150 chars)
<i>Where, MP2C = Master Printer to clone and P2I = Printer to Inject</i>	

<b>Syntax</b>	<b>ImportPrinter import &lt; CSVPath &gt;</b> , where CSVPath is the full path to the CSV.
<b>Example</b>	ImportPrinter import C:\Users\Documents\Printers\Printers.csv
<b>Response Status</b>	Returns printer added or updated description, if successful:
<b>Error</b>	Returns Error status and description if printer is not able to be added. 0: Success -1000 : Invalid number of command line parameters 1000 : error connecting to CeliveoDB SQL database 1004 : Invalid command

## API to Synchronize a Printer

**Version:** 8.6.30.2

**Purpose:** This call synchronizes a printer present in the Celiveo Web Admin database, to load the printer agent and settings, as appropriate.

p((. It is same as syncing the printer from the Celiveo WebAdmin UI.

**Note:** The printer should have been created interactively in the Celiveo WebAdmin UI or through the “ImportPrinter” call documented above.

<b>Syntax</b>	<b>ImportPrinter sync &lt; filepath or IP Address &gt;</b> Filepath —> For multiple printers, path to the file – One IP per line. IP Address —> IPv4 address for a single printer.
<b>Example</b>	ImportPrinter sync 192.168.4.45
<b>Response</b>	No text output on stdout upon success or failure.
<b>Return Code</b>	Returns Non-Zero code in case the printer does not exist in Web admin or for any other error. 0: Success -1000 : Invalid number of command line parameters 1000 : error connecting to CeliveoDB SQL database 1003 : Printer to be sync'd does not exist in Web Admin database 1004 : Invalid command

## API to Get Synchronization Status of Printer present in Celiveo WebAdmin

**Version:** 8.6.30.2

**Purpose:** This call gets the status of printer present in Celiveo Web Admin.

p((. The status of the printer is returned, that's the value displayed in the Celiveo Web Admin UI.

<b>Syntax</b>	<b>ImportPrinter getstatus &lt; filepath or IP Address &gt;</b> Filepath —> For multiple printers, path to the file – One IP per line. IP Address —> IPv4 address for a single printer.
<b>Example</b>	ImportPrinter getstatus 192.168.4.145
<b>Response</b>	Returns status of the printer if the call is successful: Error Configuration in progress Synchronized Sync failed: Could not connect to database Sync failed: Unable to execute SQL procedure Sync failed: No data Sync failed: Unable to retrieve SQL configuration from Web Admin. Sync failed: Internal error Sync failed: Unknown error Synchronized (Cost profile not set) Synchronized (Print rules not set) Synchronized (Cost profile and print rules not set) Sync failed: No authentication configuration Printer configuration in progress

	<p>Sync failed: upgrade Celiveo</p> <p>Sync failed: Invalid printer credentials</p> <p>Sync failed: Invalid AD/LDAP credentials</p> <p>All embedded code packages loaded</p> <p>Downloading Celiveo embedded solution</p> <p>Sync failed: Unable to download Celiveo embedded solution</p> <p>Sync failed: Unable to install Celiveo embedded solution</p> <p>Configuring Celiveo embedded solution</p> <p>Sync failed: Unable to configure Celiveo embedded solution</p> <p>Installing Celiveo embedded solution</p> <p>Sync failed: Printer is offline.</p> <p>Not synchronized</p> <p>Sync request sent</p> <p>N/A</p> <p>Ready for synchronization</p> <p>Printer is unreachable</p> <p>Sync failed</p> <p>Sync failed: no answer from CSA</p> <p>Ready for license synchronization</p> <p>License update failed</p> <p>License validation failed</p>
<b>Return code</b>	<p>Returns Error status and description if printer is not able to be added.</p> <p>0: Success</p> <p>-1000 : Invalid number of command line parameters</p> <p>1000 : error connecting to CeliveoDB SQL database</p> <p>1004 : Invalid command</p> <p>Returns "Printer not found" on stderr for any other error.</p>

*Last modified: 8 September 2020*

## 14.6. Open Source codes used in Celiveo 8 (Latest version)

GNU GENERAL PUBLIC LICENSE	Matrix Version	License/Source Location	Component
NETPLUGD – 1.2.9.2	1.2.9.2	<a href="https://github.com/vyos/netplug/releases">https://github.com/vyos/netplug/releases</a>	
LINUX KERNEL – 3.2.0	3.2.0-SIA-1.16	<a href="https://www.kernel.org/">https://www.kernel.org/</a>	
GNU LESSER GENERAL PUBLIC LICENSE	Matrix Version	License/Source Location	Component
OPENSCLITE – 0.13.0	0.13.0	<a href="http://www.gnu.org/licenses/gpl2.html">http://www.gnu.org/licenses/gpl2.html</a>	FIRMWARE
LIBUSB – 1.0.19	1.0.9	<a href="http://libusb.info/">http://libusb.info/</a>	FIRMWARE
GEMALTO .NET PKCS11 – 2.2.0.9	2.2.0.9		
CCID – 1.4.19	1.4.19	<a href="https://alioth-archive.debian.org/releases/pcsclite/ccid/1.4.19/">https://alioth-archive.debian.org/releases/pcsclite/ccid/1.4.19/</a>	
LIBRARY	Matrix Version	License/Source Location	Component
OpenLdap	2.4.33	<a href="http://www.openldap.org/software/download/OpenLDAP/openldap-release/LICENSE">http://www.openldap.org/software/download/OpenLDAP/openldap-release/LICENSE</a>	FIRMWARE
ASM	4.2	<a href="http://asm.ow2.org/license.html">http://asm.ow2.org/license.html</a>	
Dropbear	2012.55	<a href="https://secure.ucc.asn.au/hg/dropbear/raw-file/tip/LICENSE">https://secure.ucc.asn.au/hg/dropbear/raw-file/tip/LICENSE</a>	
FLTK	1.3.2	<a href="http://www.fltk.org/COPYING.php">http://www.fltk.org/COPYING.php</a>	FIRMWARE
IPTables	1.4.15	<a href="http://www.netfilter.org/licensing.html">http://www.netfilter.org/licensing.html</a>	
Kerberos	1.11	<a href="http://web.mit.edu/kerberos/krb5-devel/doc/mitK5license.html">http://web.mit.edu/kerberos/krb5-devel/doc/mitK5license.html</a>	
Libxml2	2.9.1	<a href="http://opensource.org/licenses/mit-license.html">http://opensource.org/licenses/mit-license.html</a>	FIRMWARE
MiniZip	1.1	<a href="https://github.com/nmoinvaz/minizip/blob/master/LICENSE">https://github.com/nmoinvaz/minizip/blob/master/LICENSE</a>	FIRMWARE
NET-SNMP	5.7.1	<a href="http://www.net-snmp.org/about/license.html">http://www.net-snmp.org/about/license.html</a>	
NTP	4.2.6p5	<a href="http://opensource.org/licenses/NTP">http://opensource.org/licenses/NTP</a>	
CyrusSasl	2.1.26	<a href="https://cyrusimap.org/imap/download/installation.html#licensing">https://cyrusimap.org/imap/download/installation.html#licensing</a>	FIRMWARE
SQLite	3.8.3.1	<a href="http://www.sqlite.org/copyright.html">http://www.sqlite.org/copyright.html</a>	FIRMWARE
TinyXml	2.6.2	<a href="https://sourceforge.net/projects/tinyxml/files/tinyxml/2.6.2/">https://sourceforge.net/projects/tinyxml/files/tinyxml/2.6.2/</a>	FIRMWARE
Zlib	1.2.5	<a href="http://www.zlib.net/zlib_license.html">http://www.zlib.net/zlib_license.html</a>	FIRMWARE
	1.0.2.o		FIRMWARE
Openssl	0.9.8	<a href="http://www.openssl.org/source/license.html">http://www.openssl.org/source/license.html</a>	CSS



OpenSc	0.13.0	<a href="http://www.gnu.org/licenses/gpl2.html">http://www.gnu.org/licenses/gpl2.html</a>	FIRMWARE
pcsc	1.8.14	<a href="https://alioth-archive.debian.org/releases/pcsc-lite/pcsc-lite/1.8.14/">https://alioth-archive.debian.org/releases/pcsc-lite/pcsc-lite/1.8.14/</a>	FIRMWARE
ossp-uuid	1.6.2	<a href="http://www.ossp.org/pkg/lib/uuid/">http://www.ossp.org/pkg/lib/uuid/</a>	FIRMWARE
ProtoBuf	2.5.0	<a href="https://github.com/protocolbuffers/protobuf/blob/master/LICENSE">https://github.com/protocolbuffers/protobuf/blob/master/LICENSE</a>	CSS
Celib2	1.0	<a href="https://github.com/coldnew/celib/tree/master/LICENSE">https://github.com/coldnew/celib/tree/master/LICENSE</a>	
arp-scan	1.9	<a href="https://github.com/royhills/arp-scan/blob/master/COPYING">https://github.com/royhills/arp-scan/blob/master/COPYING</a>	
Cronie	1.4.8	<a href="https://github.com/cronie-crond/cronie/blob/master/COPYING">https://github.com/cronie-crond/cronie/blob/master/COPYING</a>	
Fping	3.5	<a href="https://github.com/schweikert/fping/blob/develop/COPYING">https://github.com/schweikert/fping/blob/develop/COPYING</a>	
Libcrafter	0.3	<a href="https://github.com/pellegr/libcrafter/blob/master/libcrafter/LICENSE">https://github.com/pellegr/libcrafter/blob/master/libcrafter/LICENSE</a>	FIRMWARE
Arping	2.13	<a href="https://github.com/ThomasHabets/arping/blob/arping-2.x/LICENSE">https://github.com/ThomasHabets/arping/blob/arping-2.x/LICENSE</a>	
FreeTDS	5.1.0	<a href="https://github.com/FreeTDS/freetds/blob/master/COPYING.txt">https://github.com/FreeTDS/freetds/blob/master/COPYING.txt</a>	FIRMWARE
Apache Tomcat	9.0.1	<a href="http://www.apache.org/licenses/LICENSE-2.0">http://www.apache.org/licenses/LICENSE-2.0</a>	
NLog	4.6.5	<a href="https://github.com/NLog/NLog/blob/master/LICENSE.txt">https://github.com/NLog/NLog/blob/master/LICENSE.txt</a>	Web Admin/ CVP
Newtonsoft.Json	12.0.2	<a href="https://github.com/JamesNK/Newtonsoft.Json/blob/master/LICENSE.md">https://github.com/JamesNK/Newtonsoft.Json/blob/master/LICENSE.md</a>	Web Admin/ CVP
SevenZipSharp	LGPL v3.0	<a href="https://archive.codeplex.com/?p=sevenzipsharp">https://archive.codeplex.com/?p=sevenzipsharp</a>	Web Admin/ CVP
gsoap	2.8.16	<a href="https://www.cs.fsu.edu/~engelen/license.html">https://www.cs.fsu.edu/~engelen/license.html</a>	FIRMWARE
jsoncpp	0.5.0	<a href="https://github.com/open-source-parsers/jsoncpp/blob/master/LICENSE">https://github.com/open-source-parsers/jsoncpp/blob/master/LICENSE</a>	FIRMWARE
unixodbc	2.3.5	<a href="https://sourceforge.net/directory/os:windows/license:lgpl/">https://sourceforge.net/directory/os:windows/license:lgpl/</a>	FIRMWARE
jtds	1.3.0	<a href="http://jtds.sourceforge.net/license.html">http://jtds.sourceforge.net/license.html</a>	BUSINESS EMBEDDED
log4j	1.2.17	<a href="https://github.com/usnistgov/jsip/blob/master/licenses/LOG4J-LICENSE.txt">https://github.com/usnistgov/jsip/blob/master/licenses/LOG4J-LICENSE.txt</a>	BUSINESS EMBEDDED
org.sqldroid	1.0.3	<a href="https://github.com/SQLDroid/SQLDroid/blob/master/LICENSE">https://github.com/SQLDroid/SQLDroid/blob/master/LICENSE</a>	BUSINESS EMBEDDED
com.unboundid	4.0.4	<a href="https://docs.idap.com/ldap-sdk/docs/LICENSE-UnboundID-LDAPSDK.txt">https://docs.idap.com/ldap-sdk/docs/LICENSE-UnboundID-LDAPSDK.txt</a>	BUSINESS EMBEDDED
DiffieHellman	0.0.0.0	<a href="https://github.com/dscape/diffie-hellman/blob/master/LICENSE">https://github.com/dscape/diffie-hellman/blob/master/LICENSE</a>	CSS
Ionic.Zip	1.9.1.8	<a href="https://github.com/litdev1/LitDev/blob/master/Ionic.Zip.License.txt">https://github.com/litdev1/LitDev/blob/master/Ionic.Zip.License.txt</a>	CSS

Ionic.Zlib	1.9.1.8	<a href="https://github.com/jstedfast/Ionic.Zlib/blob/master/License.zlib.txt">https://github.com/jstedfast/Ionic.Zlib/blob/master/License.zlib.txt</a>	CSS
Novell.Directory.Ldap	2.0.0.0	<a href="https://github.com/dsbenghe/Novell.Directory.Ldap.NETStandard/blob/master/LICENSE">https://github.com/dsbenghe/Novell.Directory.Ldap.NETStandard/blob/master/LICENSE</a>	CSS
Starksoft.Net.Ftp	1.0.158.0	<a href="https://github.com/bentonstark/starksoft-aspen">https://github.com/bentonstark/starksoft-aspen</a>	CSS
Starksoft.Net.Proxy	1.0.131.0	<a href="https://github.com/bentonstark/starksoft-aspen">https://github.com/bentonstark/starksoft-aspen</a>	CSS
Tamir.SharpSSH	1.1.1.13	<a href="https://github.com/kthompson/SharpSSH">https://github.com/kthompson/SharpSSH</a>	CSS
Org.mentalis.Security.dll	1.0.13.715	<a href="http://www.mentalis.org/site/license.qpx">http://www.mentalis.org/site/license.qpx</a>	CSS
Cryptopp (Cryptlib.lib)		<a href="https://www.cryptopp.com/License.txt">https://www.cryptopp.com/License.txt</a>	CSS
7zip-1801	19.0	<a href="https://sourceforge.net/projects/sevenzips/">https://sourceforge.net/projects/sevenzips/</a>	CSS

*Last modified: 8 September 2020*

## 14.7. Upgrade to Celiveo 8

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### Celiveo Web Admin Installer

This Celiveo 8 installer comprises of Web Admin, Celiveo Virtual Printer (CVP) and Discovery Agent (DA). This product installer is 64-bit compatible and should only be installed on Windows Server systems running on 64-bit OS. It is not recommended to install WA on Windows Client systems, except for demonstrative purposes. For more information, refer to System requirements for Celiveo 8.

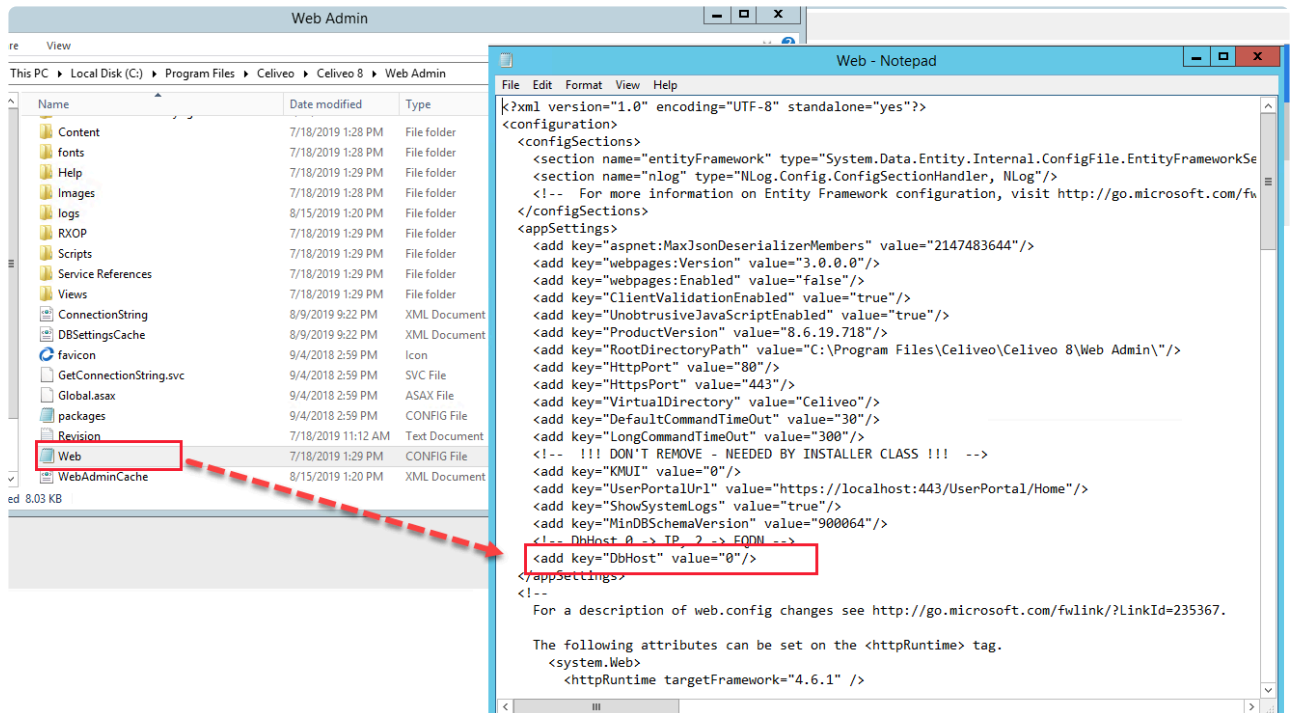
Celiveo Virtual Printer installer is compatible for both 32-bit and 64-bit operating systems. The appropriate version will be automatically deployed based on the OS running on the client/ server systems.

### Before you begin...

If you have an existing Celiveo 8 solution from a previous release, **it is necessary to uninstall the old version before installing the new version.**

Ensure to take note of the following attributes in the Web configuration file before uninstalling the solution. If the attribute values are modified, you will have to update those values in the Web configuration file of the new version.

1. Go to "C:\Program Files\Celiveo\Celiveo 8\Web Admin"
2. Open Web configuration file.
3. Search for attribute key "DbHost".
4. Take note of the value if it has been changed. The default value is zero.  
"DbHost" values can be the following:  
0: The Web Admin will use the Database IP in the CVP configuration file and to send Database details to printers.  
Or  
2: The Web Admin will use the Database Hostname or FQDN (depending on the DNS resolution) in the CVP config file and to send to printers.
5. Similarly, note the value for the attribute "KMUI" if it has been changed. The default value is zero. (This is optional)

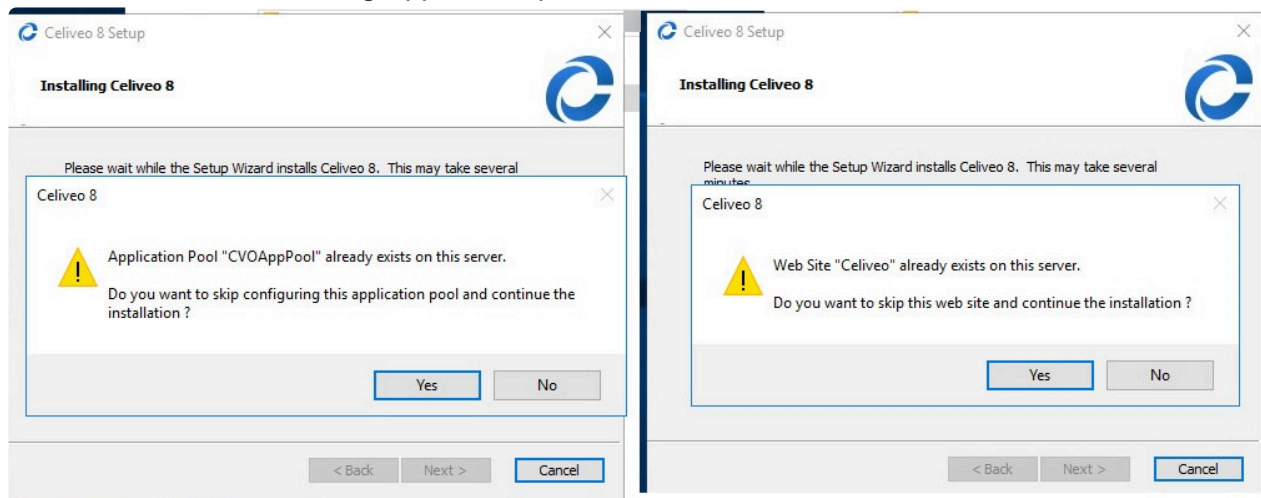


## Uninstall the existing Celiveo 8 solution

1. Go to **Control Panel > Programs and Features**.
2. Choose Celiveo 8 and click **Uninstall**.
3. Click **OK** on the confirmation dialog to uninstall.

## Install the new Celiveo 8 solution

1. Download the latest Celiveo 8 solution from [here](#).
2. Follow the steps [here](#) to install the Celiveo Web Admin.
3. During the installation, confirmation prompts will be displayed to skip the configuration of the Celiveo Application Pool and Website.
4. Click **Yes** to use the existing Application pool and Website.



5. Complete the installation and update the Web configuration file, if required.

# Celiveo Virtual Printer

To upgrade the Celiveo Virtual Printer installed on a user's work station:

1. Follow the instructions given [here](#) to upload the new Celiveo Virtual Printer deployment package on Web Admin.
2. Follow the instructions given [here](#) to download and install the new Celiveo Virtual Printer Deployment package on a user's workstation.

## Celiveo Smart Appliance/ Embedded Agents

To upgrade the agents (Celiveo Smart Appliance/ Embedded Agent for HP FutureSmart and Ricoh Android printers), follow the instructions given [here](#) to upgrade the Celiveo Version on CSA Agent/ Embedded Agents.

## Migrating from SecureJet 7.0.x / Celiveo 8.0.x to Celiveo 8

Follow the instructions given [here](#) to upgrade to the latest Celiveo 8 version.

*Last modified: 9 October 2020*

## 14.8. Migration Support to Celiveo 8 Versions

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This section explains the phased approach of migrating SecureJet/ Celiveo solutions from its previous releases to the latest Celiveo 8 version (8.8.x.x). Currently migration to Celiveo 8 version is supported from versions of SecureJet 7.0.5, 7.0.6, and Celiveo 8.0.1, 8.0.2.

In this approach, the new application (Celiveo 8 Web Admin) is installed alongside the old one (SecureJet/ Celiveo Web Admin), and both operate in tandem during the transition. Updates from both applications are posted to the database until the migration is complete. Once it has been validated that the new application is functioning correctly, the old one is removed (uninstalled).

For ease of understanding, let's term the Windows Server with existing solution as Legacy Server.

The migration approach currently follows these stages:

- Upgrading the existing database in the Legacy Server
- Migration of printers to Celiveo database (CeliveoDB)

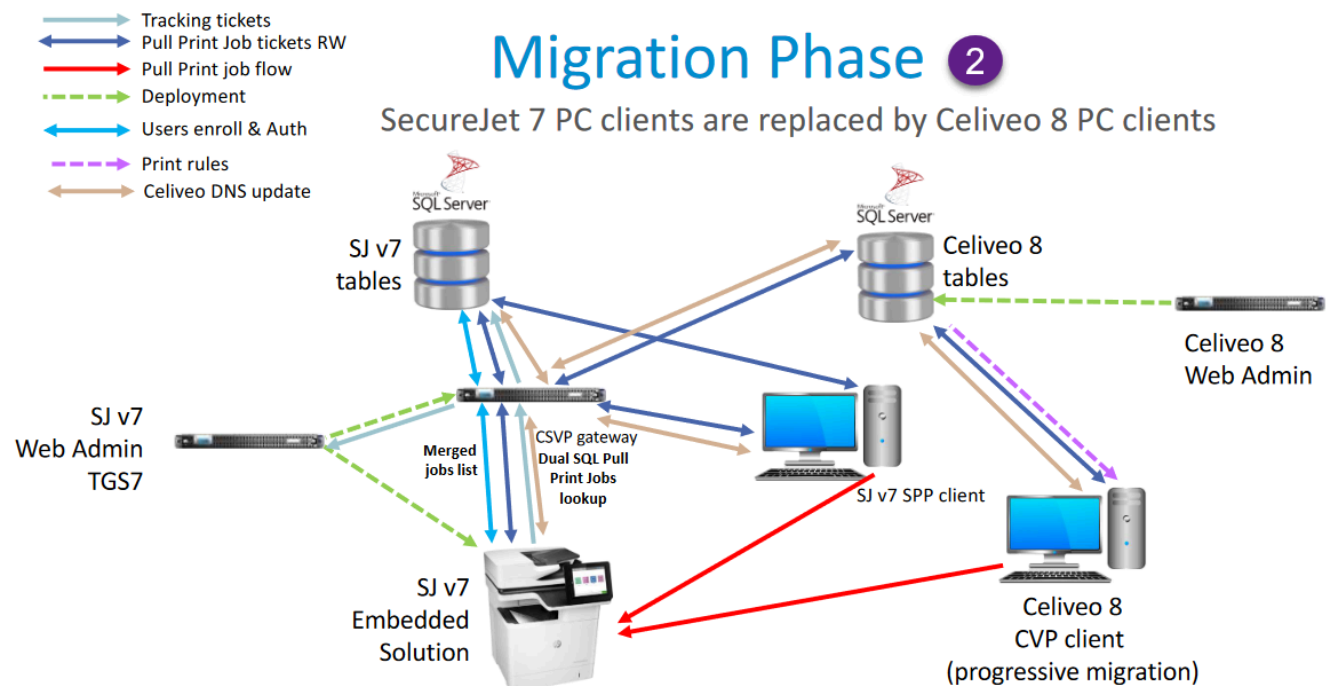
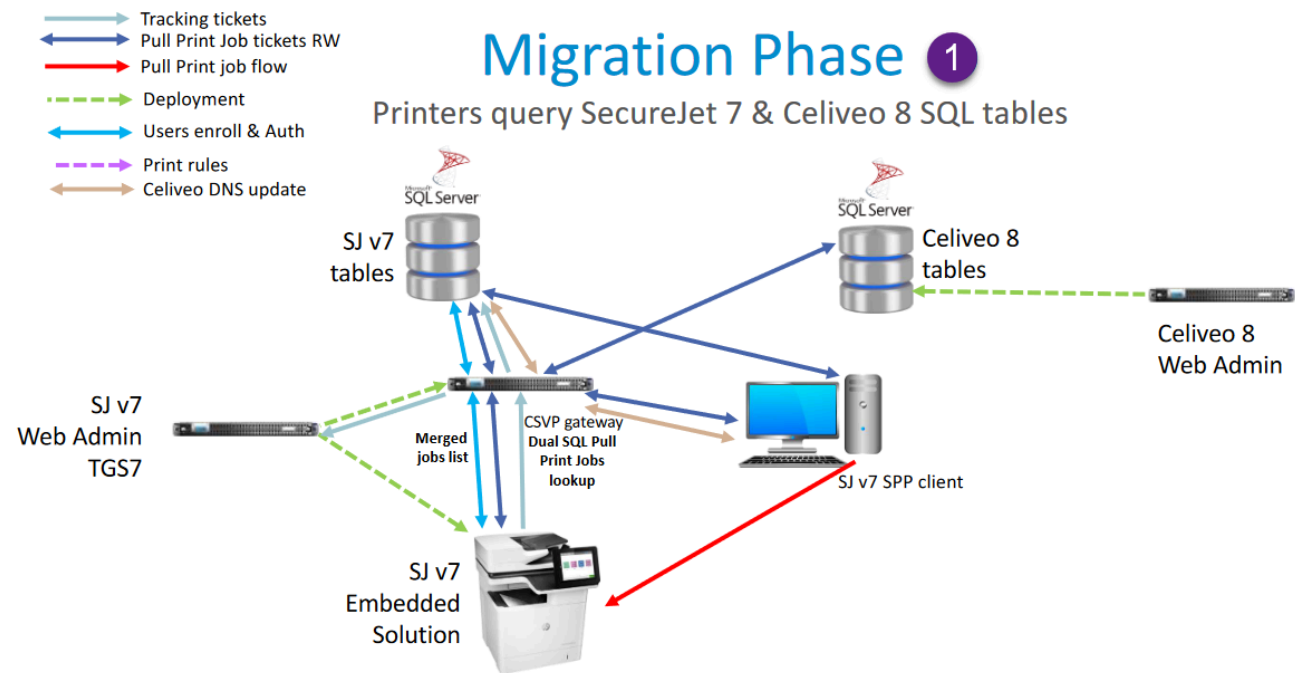
**! IMPORTANT NOTE:** Tracking information from the Legacy application is currently not supported for migration.

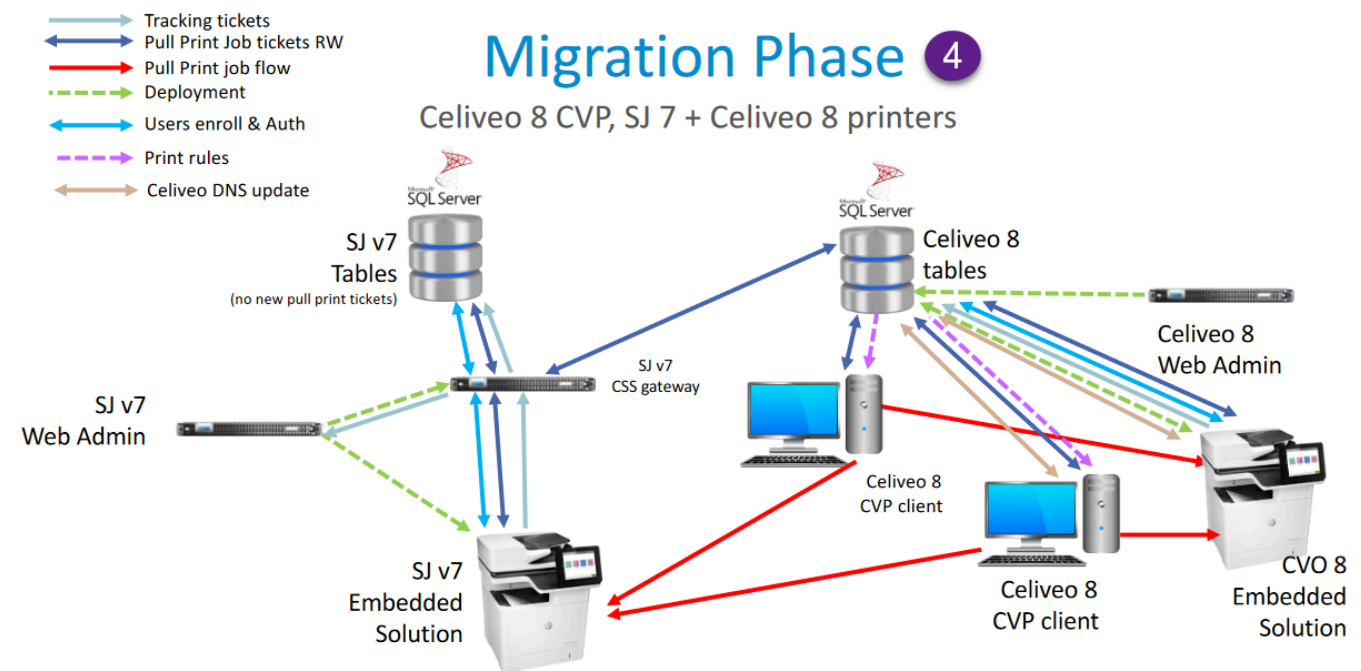
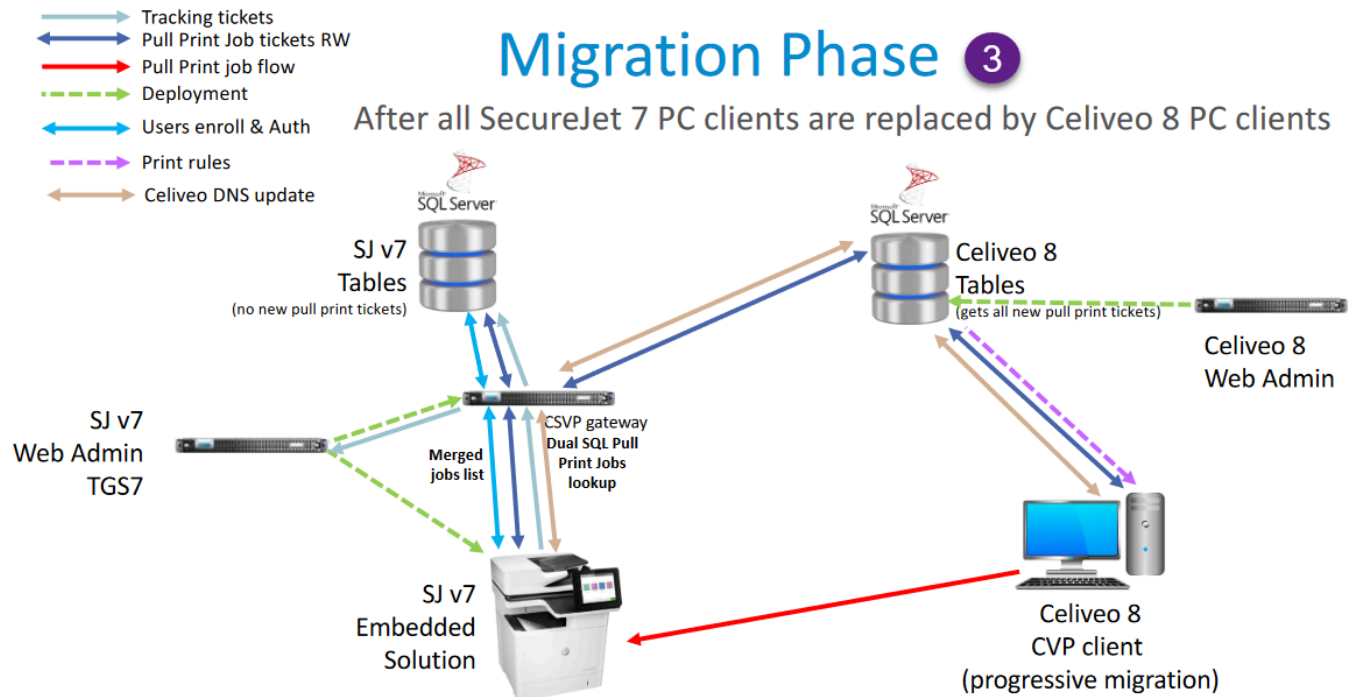
### Before you begin...

**While upgrading from SecureJet 7.0.5, 7.0.6 and Celiveo 8.0.1, 8.0.2 to Celiveo 8 (8.x.x.x) versions:**

- Ensure the minimum system requirements for installing Celiveo 8 solution are fulfilled. Refer to the [System Requirements for Celiveo 8](#) for further details.
- Ensure that the Legacy Server containing the SecureJet or Celiveo solution is up to date. Ensure the printers are synchronized successfully in SecureJet/ Celiveo 8.0.2 Web Admin and you are able to successfully perform a pull print via the Virtual Pull Print client.
- Ensure you have the latest version of Celiveo 8, ready to be installed in the Legacy Server. You can get the latest version from the Downloads section.
- Ensure that HP FutureSmart printers are upgraded to at least 4.7.3 firmware version. If you have older firmware version such as 3.7 and below, it is recommended to upgrade the printers successively from 3.2-3.7 to 3.9 and then to 4.7.3 for a successful migration.
- **IMPORTANT:** A custom SQL script needs to be executed at the Legacy Server to upgrade the enrollment (SJPS) database to function successfully for Celiveo 8. Ensure you obtain a copy of custom SQL script before you start the migration process. Contact Support for more details on the custom SQL script.
- **IMPORTANT:** Ensure to back-up the SQL databases mainly SJPS and TGS (PrintManager/ PrintManager90) before you initiate the migration process.

# Migration graphs





[Upgrade from SecureJet 7.0](#)

[Upgrade from Celiveo 8.0.x](#)

Last modified: 30 October 2020



## 14.8.1. Upgrade from SecureJet 7.0

### Special Gateway Replacement on SJ7.0.x Server

1. Open the Celiveo 8 Web Admin and create a CSVP. This CSVP should be created with an AD access profile.
  2. Download the CSVP package and copy it to the SJ7.0.x server.
  3. Uninstall SecureJet Server Services from the SJ7.0.x Web Admin server.
  4. Install the Celiveo 8 CSVP on the SJ7.0.x server.
  5. Configure Celiveo Server Services on the SJ7.0.x server using the CSS configurator:
    - Navigate to the **Roam Printing** tab and perform the following steps:
      - i. Make sure that the database connection string is pointing to the Celiveo 8 database.
- Note:** To avoid any error, install the MSOLEDBSQL driver on the SJ7.0.x server.
- ii. Test the connection.
  - iii. Once the connection is successful, click **Apply**.

The screenshot shows the 'Celiveo Server Services Configuration' window with the 'Roam Printing' tab selected. The 'Database Information' section contains the following fields:

- User Name : [ ]
- Password : [ ]
- Connection : Provider=MSOLEDBSQL;1;Network Library=DBMSSOCN;Data Source=.;SQLEXPRESS;Initial Catalog=CeliveoDB;connect timeout=10;.

Below the database information, there is a 'Utilities' section with the following buttons:

- Test Connection (highlighted with a blue box and a blue circle containing 'ii')
- Create Database

At the bottom of the window, there are three buttons: OK, Cancel, and Apply (highlighted with a blue box and a blue circle containing 'iii').

- Navigate to the **Migration to Celiveo 8** tab and perform the following steps:

- i. Enable the **Dual lookup** checkbox.
- ii. Enter the SJ7.0.x connection string.
- iii. Test the connection.
- iv. Once the connection is successful, click **Apply**.

The screenshot shows the 'Celiveo Server Services Configuration' window. The 'Migration to Celiveo 8' tab is selected. In the 'Database Information' section, the 'User Name', 'Password', and 'Connection' fields are highlighted with a blue box labeled 'ii'. The 'Connection' field contains the text: 'Provider=SQLOLEDB;Data Source=\\PMP;Connection Timeout=5;'. In the 'Utilities' section, the 'Test Connection' button is highlighted with a blue box labeled 'iii'. Below the 'Utilities' section, the 'Dual lookup' checkbox is checked and highlighted with a blue box labeled 'i'. At the bottom right, the 'Apply' button is highlighted with a blue box labeled 'iv'.

6. On the SJ7.0.x Web Admin:
  - Navigate to **List Management > Server Management List** and select the relevant server.
  - Change the Port to **22000** and click **Apply**.

**Note:** This needs to be the Celiveo 8 CSS port

7. On the Celiveo 8 CSS, make sure the following configuration is applied:

- On the Directory servers management tab, make sure a profile is selected.

- On the **Authentication** tab, make sure the ID type is correctly set.

The screenshot shows the 'Celiveo Server Services Configuration' window with the 'Authentication' tab selected. The window has a blue title bar and a tabbed interface. The 'Authentication' tab is active, showing configuration fields for ID type, mask, and position. A blue rectangle highlights the top section of the form. Below this, there is an 'Authentication Module Configuration' section with a 'Module Name' dropdown set to 'Directory Server' and a 'Test Authentication' button. At the bottom of the window are 'OK', 'Cancel', and 'Apply' buttons.

**Celiveo Server Services Configuration**

Roam Printing | Migration to Celiveo 8 | Enrollment | Logs | **Authentication** | Tracking | About

ID type : PX Custom

Mask (decimal) : 111111111

Mask alignment : Right

Position of the most significant bit : 17

Position of the less significant bit : 1

☐ Allow Facility Code

**Authentication Module Configuration**

☐ Activate User Rights

Module Name : Directory Server

Module Configuration Options :

Test Authentication Save

OK Cancel Apply

8. Synchronize the printer.

## Migrate SJ7.0.x clients to Celiveo 8 CVP

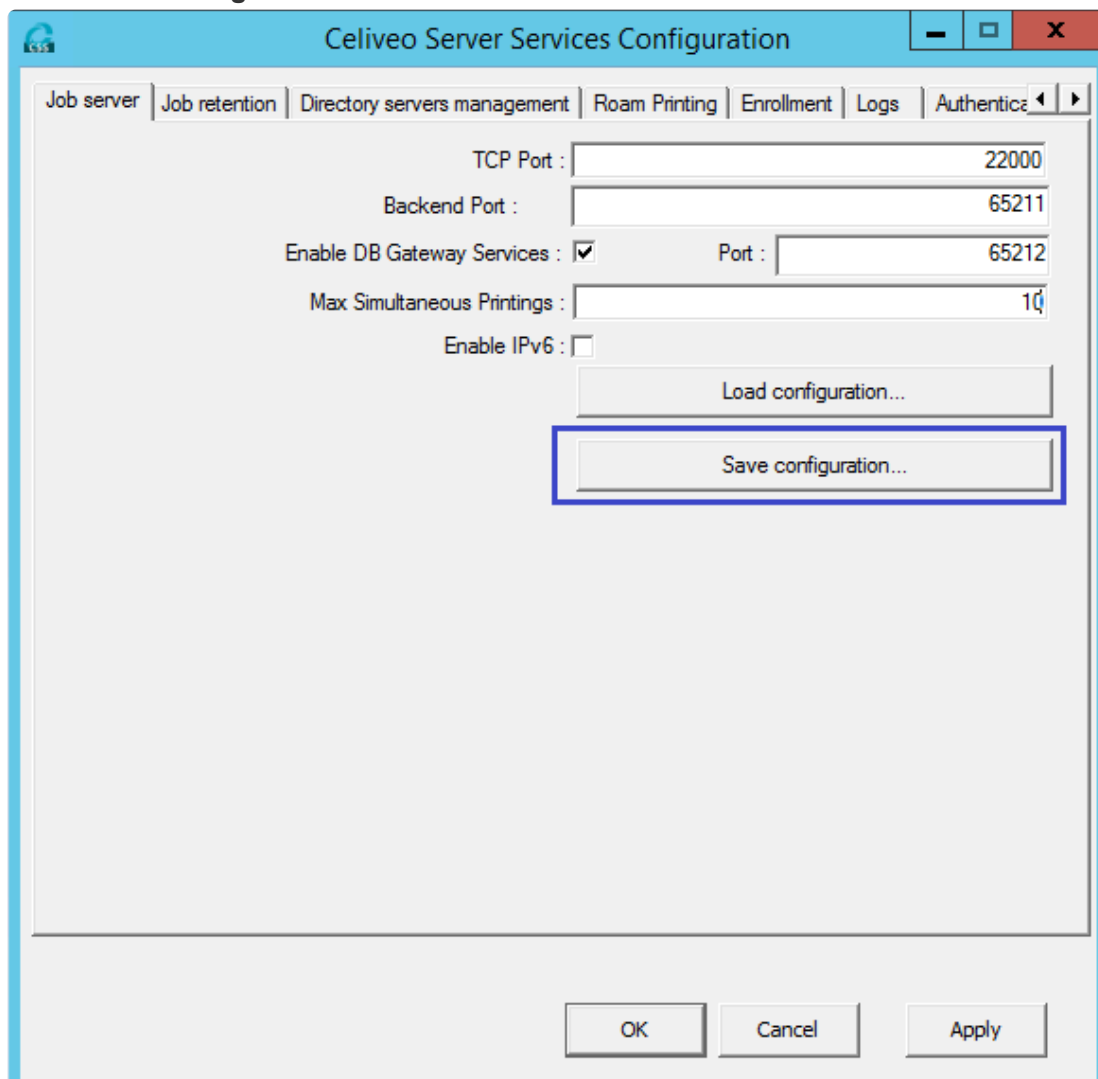
1. Create a CVP from the Celiveo 8 Web Admin.
2. Download the CVP package and install it on the Celiveo 8 client.

*Last modified: 15 October 2020*

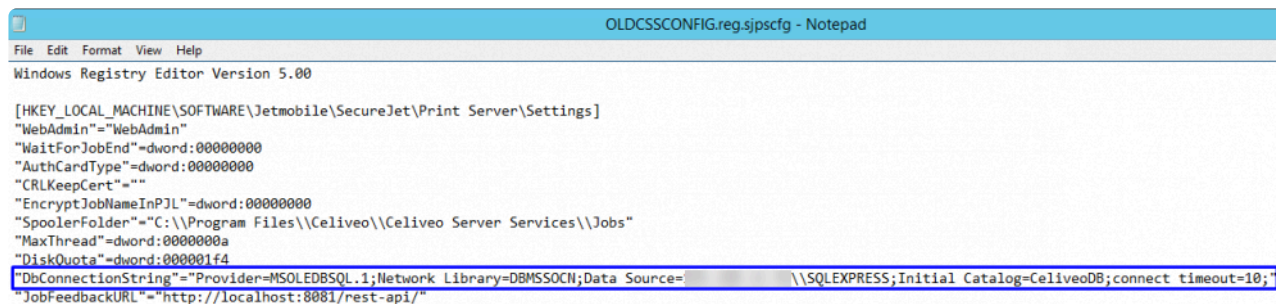
## 14.8.2. Upgrade from Celiveo 8.0.x

### Special Gateway Replacement on Celiveo 8.0.x Server

1. Install the Celiveo 8 Web Admin on a separate server.
2. Open the Celiveo 8 Web Admin and create a CSVP. This CSVP should be created with an AD access profile.
3. Download the CSVP package and copy it to the Celiveo 8.0.x server.
4. Back up the Celiveo Server Services configuration on the Celiveo 8.0.x server:
  - Navigate to **C:\Program Files\Jetmobile\Celiveo Server Services**.
  - Run **SJ Print-PS Configuration** as administrator.
  - Click **Save Configuration...**



5. Open the saved CSS configuration file and replace the Celiveo 8.0.x DBConnectionString with the Celiveo 8 DBConnectionString.  
"DbConnectionString"="Provider=MSOLEDBSQL.1;Network Library=DBMSSOCN;Data Source=\\;Initial Catalog=CeliveoDB;connect timeout=10;"



```

OLDCSSCONFIG.reg.sjpscfg - Notepad
File Edit Format View Help
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Jetmobile\SecureJet\Print Server\Settings]
"WebAdmin"="WebAdmin"
"WaitForJobEnd"=dword:00000000
"AuthCardType"=dword:00000000
"CRLKeepCert"=""
"EncryptJobNameInPJL"=dword:00000000
"SpoolerFolder"="C:\Program Files\Celiveo\Celiveo Server Services\Jobs"
"MaxThread"=dword:0000000a
"DiskQuota"=dword:000001f4
"DbConnectionString"="Provider=MSOLEDBSQL.1;Network Library=DBMSSOCN;Data Source=\\.\SQLEXPRESS;Initial Catalog=CeliveoDB;connect timeout=10;"
"JobFeedbackURL"="http://localhost:8081/rest-api/"

```

6. Execute the MigrationCVP.exe console application as Administrator on the Celiveo 8.0.x server.
7. Once the MigrationCVP.exe console application is successfully run, unzip the CSVP package and install the CSVP as administrator.

### Notes:

- If the backup is made following the method given on step #4, the CSVP can be installed by simply running **installer.exe** on the CSVP package as administrator. The default TCP Port on the CSS configurations will be '22000'.
  - If the CSS backup is not performed on step #4 and if a different TCP port needs to be defined, please use the following method to install the CSVP on the Celiveo 8.0.x server:
    1. Open the command prompt as administrator.
    2. Go to the unzipped CSVP package folder using the command prompt.
    3. Type **installer.exe -p< PORT\_NUMBER >** Ex: **installer.exe -p2000**
8. Once the CSVP installation is complete, navigate to **C:\Program Files\Celiveo\Celiveo Server Services** and open **SJ Print-PS Configuration** as administrator.
    - If the old CSS configurations are not saved, all tabs needs to be manually configured to match the existing configurations on the previous CSS.
    - If the old CSS configurations are saved, follow the steps below:
      1. Navigate to the **Job Server** tab and click **Load configuration...** to load the SSS configurations saved on step #4. Once the configuration is loaded, click **Apply**.

The screenshot shows the 'Celiveo Server Services Configuration' window with the 'Migration to Celiveo 8' tab selected. The window has a blue title bar and a tabbed interface. The 'Migration to Celiveo 8' tab is active, showing configuration fields for TCP Port (22000), Backend Port (65211), Enable DB Gateway Services (checked), Port (65212), Max Simultaneous Printings (10), and Enable IPv6 (unchecked). There are three buttons on the right: 'Load configuration...', 'Save window configuration...', and 'Save mac configuration...'. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons. The 'Apply' button is highlighted with a blue border.

Celiveo Server Services Configuration

Job server | Job retention | Directory servers management | Roam Printing | Migration to Celiveo 8 | Enrollme

TCP Port : 22000

Backend Port : 65211

Enable DB Gateway Services : ☒ Port : 65212

Max Simultaneous Printings : 10

Enable IPv6 : ☐

Load configuration...

Save window configuration...

Save mac configuration...

OK Cancel Apply

2. Navigate to the **Migration to Celiveo 8** tab and perform the following steps:
  - i. Enable the **Dual lookup** checkbox.
  - ii. Enter the Celiveo 8.0.x connection string.
  - iii. Test the connection.
  - iv. Once the connection is successful, click **Apply**.

The screenshot shows the 'Celiveo Server Services Configuration' window with the 'Migration to Celiveo 8' tab selected. The window has a blue title bar and a tabbed interface. The 'Database Information' section contains fields for 'User Name', 'Password', and 'Connection'. The 'Connection' field is pre-filled with 'Provider=SQLNCLI11;Data Source=\\SQLEXPRESS;Connection Timeout=5;'. The 'Utilities' section contains a 'Test Connection' button. Below this is a checkbox for 'Dual lookup' which is checked. At the bottom right are 'OK', 'Cancel', and 'Apply' buttons. Blue callout boxes with letters i, ii, iii, and iv are placed around the interface: 'i' is next to the 'Dual lookup' checkbox, 'ii' is next to the 'User Name' field, 'iii' is next to the 'Test Connection' button, and 'iv' is next to the 'Apply' button.

Celiveo Server Services Configuration

Job server | Job retention | Directory servers management | Roam Printing | Migration to Celiveo 8 | Enrollme

Database Information

User Name :  
Password :  
Connection : Provider=SQLNCLI11;Data Source=\\SQLEXPRESS;Connection Timeout=5;

Utilities

Test Connection

☒ Dual lookup

OK Cancel Apply

3. Navigate to the **Roam Printing** tab and perform the following steps:

- i. Enter the Celiveo 8 connection string.
- ii. Test the connection.
- iii. Once the connection is successful, click **Apply**.



**Celiveo Server Services Configuration**

Job server | Job retention | Directory servers management | Roam Printing | Migration to Celiveo 8 | Enrollment

**Database Information**

User Name :

Password :

Connection : Provider=MSOLEDBSQL.1;Network Library=DBMSSOCN;Data Source=\\SQLEXPRESS;Initial Catalog=CeliveoDB;connect timeout=10;

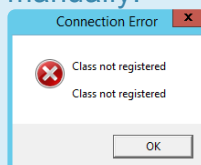
**Utilities**

☒ Activate distributed architecture support

Roaming Database Sync Interval (Seconds) :



**Note:** If you encounter the error below, you need to install the MSOLEDB driver manually.

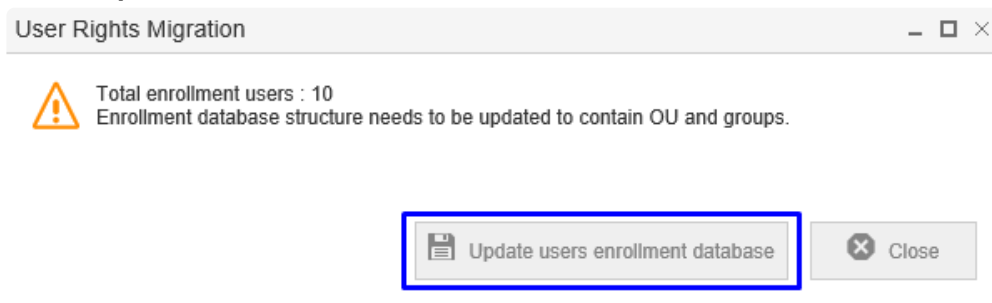


## Migrate Celiveo 8.0.x clients to Celiveo 8 CVP

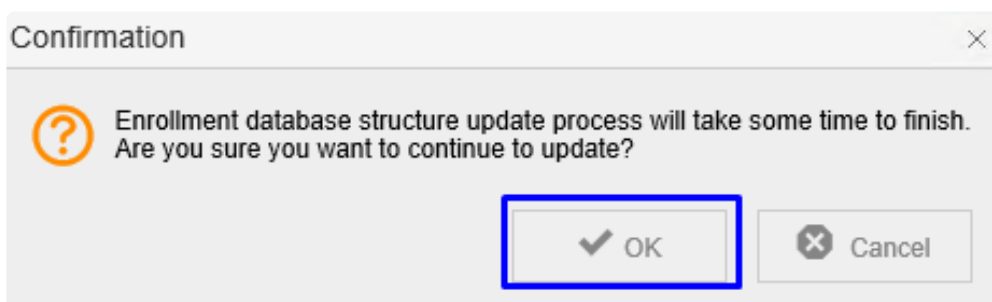
1. Create a CVP from the Celiveo 8 Web Admin.
2. Download the CVP package and copy it to the Celiveo 8.0.x SPP client.
3. Execute the MigrationCVP.exe console application as Administrator on the Celiveo 8.0.x client.
4. Once the MigrationCVP.exe console application is successfully run, unzip the CVP package and install the CVP as administrator.

## Migrate the Enrollment Table

1. In Celiveo 8.0.x database, right-click on **SJPS > Task > Generate Script > Next**
2. Select **Select specific database table > select dbo.T\_Enrollment > Next**
3. Provide a name and a path for the file.
4. Click **Advanced**.
5. Select **Data only** in the \*Types of data to script \*
6. Click **OK** then **Next**.
7. Copy the script to the Celiveo 8 database.
8. Execute the script on the Celiveo 8 database. **Note:** Make sure to log out and close all the opened Celiveo 8 Web Admin windows.
9. Since the Celiveo 8 Web Admin has been opened before at least once, delete the MigrationStatus from the database.
10. Open the Celiveo 8 Web Admin and Log in.
11. Select **Update users enrollment database**.

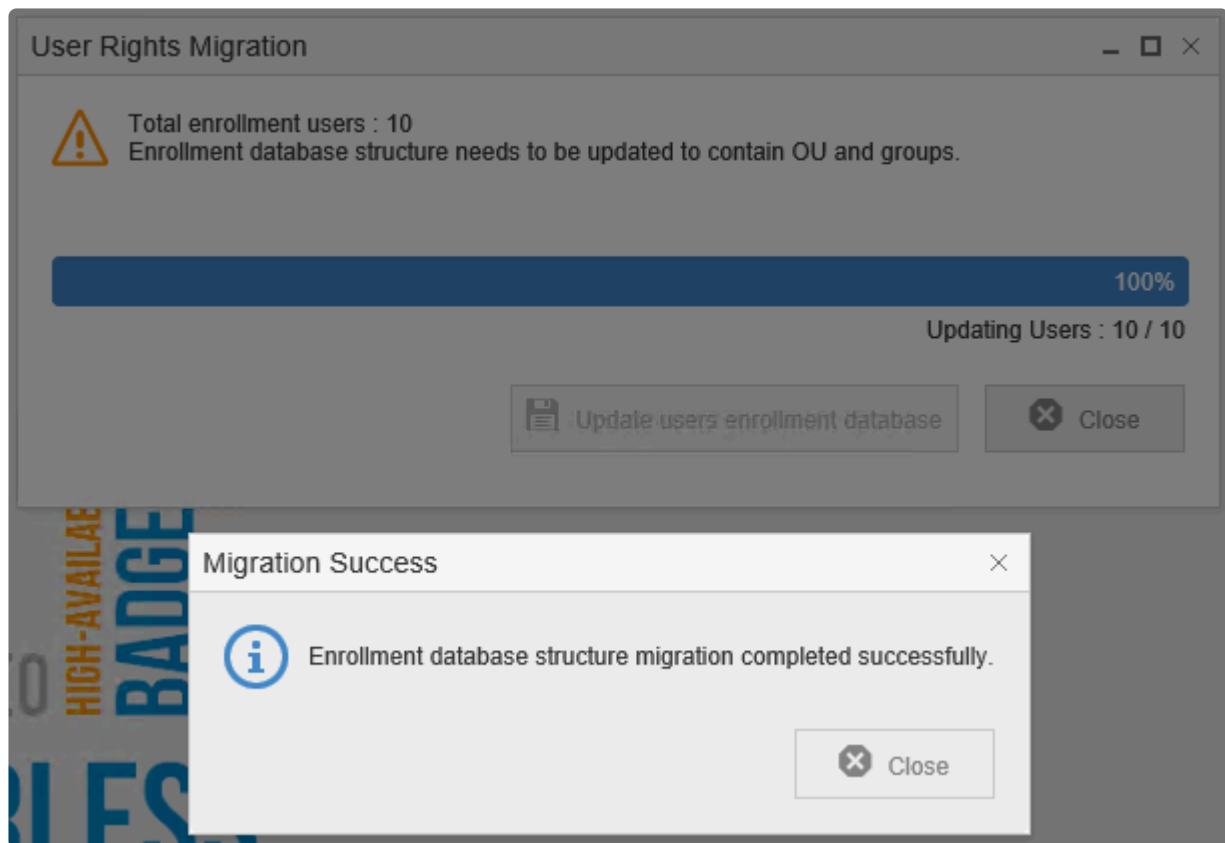


12. Click **OK** to confirm.

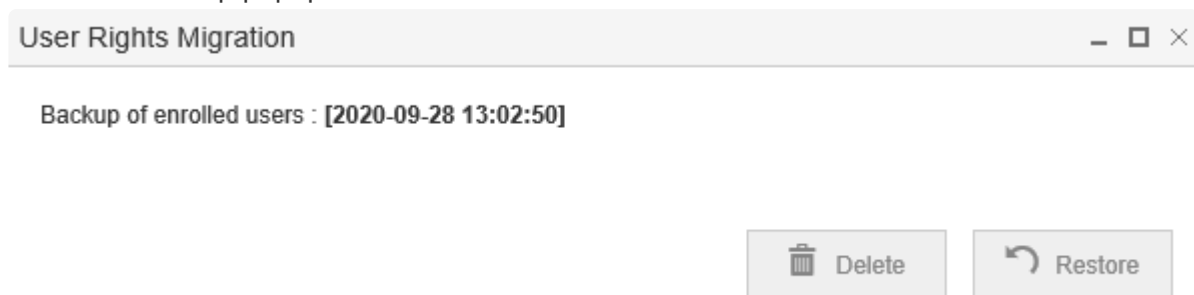


The migration starts.

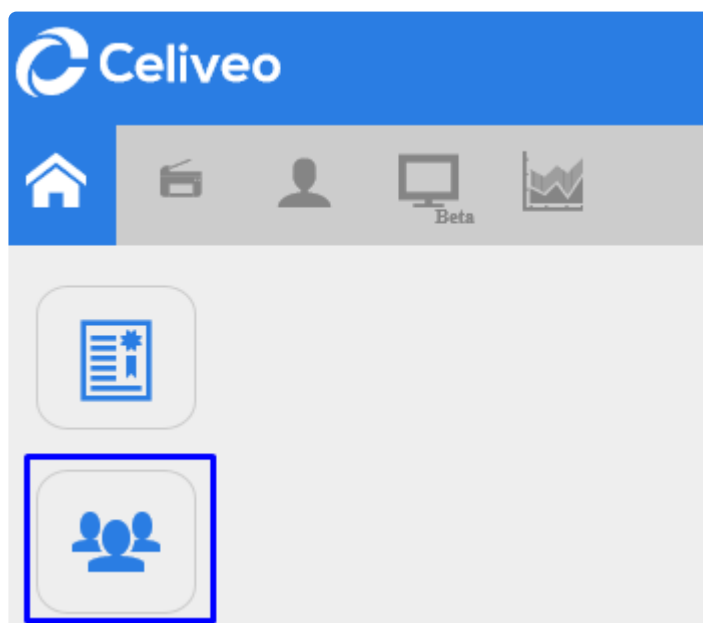
13. Once the migration is successful, a confirmation message displays.



14. Close the backup popup.



15. The **Users** icon is now available on the Web Admin.



## Limitations

- A user cannot have a mix of Celiveo 8.0.x SPP clients and Celiveo 8 CVP client workstations. If a user has multiple Celiveo 8.0.x SPP workstations, all of them need to be upgraded to Celiveo 8 CVP clients in order to use the Celiveo functionalities. (Defect #16887)
- Once the enrollment table is migrated, the users should not enroll using Celiveo 8.0.x printers.
- If there is any job left with the Celiveo 8.0.x SPP client, the jobs will be migrated to the new Celiveo 8 database upon migration of the SPP client to the Celiveo 8 CVP client. However, the tracking details listed below will not appear on the reports for the expired and deleted migrated jobs. (Defect #15866)

For deleted jobs:

[PrinterFormatterNumber] = NULL

[Language] = Blank

[UserGroups] = NULL

[UserOUs] = NULL

For Expired jobs:

[Language] = Blank

[UserGroups] = NULL

[UserOUs] = NULL

- If there is any job left with the Celiveo 8.0.x SPP client, the jobs will be migrated to the new Celiveo 8 database upon migration of the SPP client to the Celiveo 8 CVP client. However, the tracking information for the migrated jobs will not displayed under FQDN. (Defect #15866)

*Last modified: 15 October 2020*

## 14.9. Technical FAQ

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- [How to contact us?](#)
- [How to close a ticket on the tracking center?](#)
- [What are the Open Source Codes used in Celiveo 8?](#)
- [How to take advantages of Celiveo deployment services?](#)
- [Is there any impact to Celiveo when NTLMv1 and/or SMBv1 protocols are disabled?](#)

### How to contact us?

To contact Celiveo regional teams, please fill our [online form](#).

### How to close a ticket on the tracking center?

The following fields must be checked (and possibly modified) before changing a ticket's status to Closed:

- Component
- Version
- Operating System
- Device Model
- Resolution

### What are the Open Source Codes used in Celiveo 8?

Celiveo 8 Enterprise Edition may make use of Open source codes selected by the Celiveo R&D department to meet with industry standards. This [list of Open Sources](#) may be used at any time in Libraries used by Celiveo 8.

Celiveo is committed to meeting the requirements of the open source licenses contained in Libraries used by its products and will make all required Libraries source code available upon request. If you would like a copy of the GPL source code contained in the Celiveo Enterprise products, please send us a request by registered mail together with a check for USD100 to cover production and shipping costs (by certified mail) and a USB stick with the applicable source code will be mailed to you.

### How to take advantages of Celiveo deployment services?

We will describe here the deployment effort for each of the Celiveo products.

- **Celiveo Print-Direct**

Hardware deployment: none required.

Software deployment: can be done remotely to all client PCs, using for instance the existing software deployment tools used at client site.

An instance of the Celiveo web admin software and the Celiveo Track-GreenSaver software needs to be

installed using existing IIS and SQL instances.

- **Celiveo Business or Celiveo Enterprise**

Hardware deployment: Some MFP required extra hardware. Please get in touch with your Celiveo contact.

The configuration of each MFP must be verified (firmware revision)

1. Then service menu has to be accessed to activate the solutions layer and the access control.
2. Then a Celiveo badge reader and its micro appliance\* (containing all the Celiveo authentication, pull printing and tracking logic) need to be installed on each of the MFPs that requires badge pull printing or badge access control.
3. Depending on the size of the fleet, this deployment phase can be long and costly, for a financial benefit that needs to be carefully evaluated. Please get in touch with your Celiveo contact.

\*if needed, depends on the printer model

Software deployment: can be done remotely.

- If the server-based pull printing is chosen by the client, a single shared print queue is setup on the regional/local server and accessed by remote users, there is nothing to setup on the client PCs besides that print queue.
- If the Celiveo Pack Badge serverless pull printing is chosen by the client (only for Celiveo Enterprise version), a client module storing the print jobs locally and communicating with MFPs and SQL server needs to be installed on each Windows or Mac PC.
- Celiveo can assist the client in the process, but cannot be in charge of the deployment software usage.

An instance of the Celiveo web admin software and the Celiveo Track-GreenSaver reporting software needs to be installed using existing IIS and SQL instances.

**Important:** Celiveo can assist the client in all the processes, but cannot be in charge of the SQL Server or IIS installation and configuration or installing the server OS or defining its Active Directory integration.

## **Is there any impact to Celiveo when NTLMv1 and SMBv1 protocols are disabled?**

Is there any impact to Celiveo when NTLMv1 and SMBv1 protocols are disabled?

- Celiveo uses either SMBv1 or SMBv2 protocols depending on the server configuration for Printer Sharing and Network Folder Access. Disabling SMBv1 protocol does not affect the solution.
- Celiveo authentication and enrollment process can be performed directly to AD server even when NTLMv1 protocol is disabled.

Celiveo can adapt to upgrades that Microsoft Windows provides as part of Network Management.

*Last modified: 8 September 2020*

# 15. Troubleshooting

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*Last modified: 1 September 2020*

# 15.1. Common Questions

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## Troubleshooting

Frequently asked questions regarding the technical aspects of the Celiveo solution.

[Why are the printing rules configured on the physical printer not applied?](#)

[Users are unenrolled shortly after enrollment due to inactivity timeout.](#)

[Managing 32 and 64bit printer drivers](#)

[Windows couldn't connect to the Internet to download the necessary files during WA installation on Windows 8, 10, 2012, 2012R2](#)

[Discovery Agent wizard returns to blank screen in WA, when you perform cancel action while adding new printer driver for printer.](#)

[How to enable Open-API on Konica Minolta MFPs](#)

[Print Jobs are not cleared from Shared Print Queue and remains stuck with status 'Sent to Printer'](#)

[Synchronization failure using SecureJet 7.0.6\[20180726\] and latest Firmware \(4.6.3\) on HP Printer](#)

[How to initiate Celiveo Printing Services on macOS?](#)

[Ensure the Windows OS hosting Celiveo Web Admin supports all proper TLS 1.2 cipher protocols](#)

[Celiveo Services stop and does not start automatically when Print server is rebooted](#)

[Impact of SQL Database password change](#)

[Enrollment and authentication with a user account that is a member of more than 1,010 groups may fail on a Windows Server-based device](#)

## Known Defects and Limitations

Not available

## Retrieve Logs

[Retrieve Web Admin Log](#)

[Enable and retrieve CSA Logs](#)

**!** **IMPORTANT:** Logs might slow the solution therefore they should not be enabled permanently.

[Manually retrieve CSA logs – Internal procedure](#)

[Retrieve Discovery Agent Log](#)

[Retrieve Celiveo Print Queue Client Application Log](#)

## Error Message

This section explains the Celiveo error messages that appear on the device UI while operating the device. It also includes troubleshooting tips and instructions for the error messages.



Before contacting Celiveo Support, note down the error message code wherever displayed (within brackets) for reference.

[Single Function Printer](#)

[Multi-Function Printer](#)

[Celiveo Product Installation](#)

Troubleshooting information for users who are unable to add devices connected to the Celiveo Hardware.

[Serverless Pull Printing and Track-PM](#)

Troubleshooting information for users who face issues with the Serverless Pull Printing client on the Mac operating system.

## Logs Messages

[SQL Logs](#)

## Disaster Recovery Plan

[Disaster Recovery Plan](#)

This procedure describes how to restore the Celiveo Solution in different cases of failure.

*Last modified: 8 September 2020*

## 15.2. Retrieve Logs

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*Last modified: 8 September 2020*

## 15.2.1. Enable and Download Log Files

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### Why Enable Log Files?

Log files record messages generated by the printer as and when events occur. Logging is disabled by default, as generating log files can hinder the performance of the printer. However, in the event of errant behavior, log files provide valuable information for troubleshooting. Log files typically make sense only to technicians specifically trained to decipher and analyze log files.


Celiveo can also generate log files for the Web Admin. Unlike log files generated by the printer, logging Web Admin events does not impede performance. As such, Web Admin logging is always enabled.

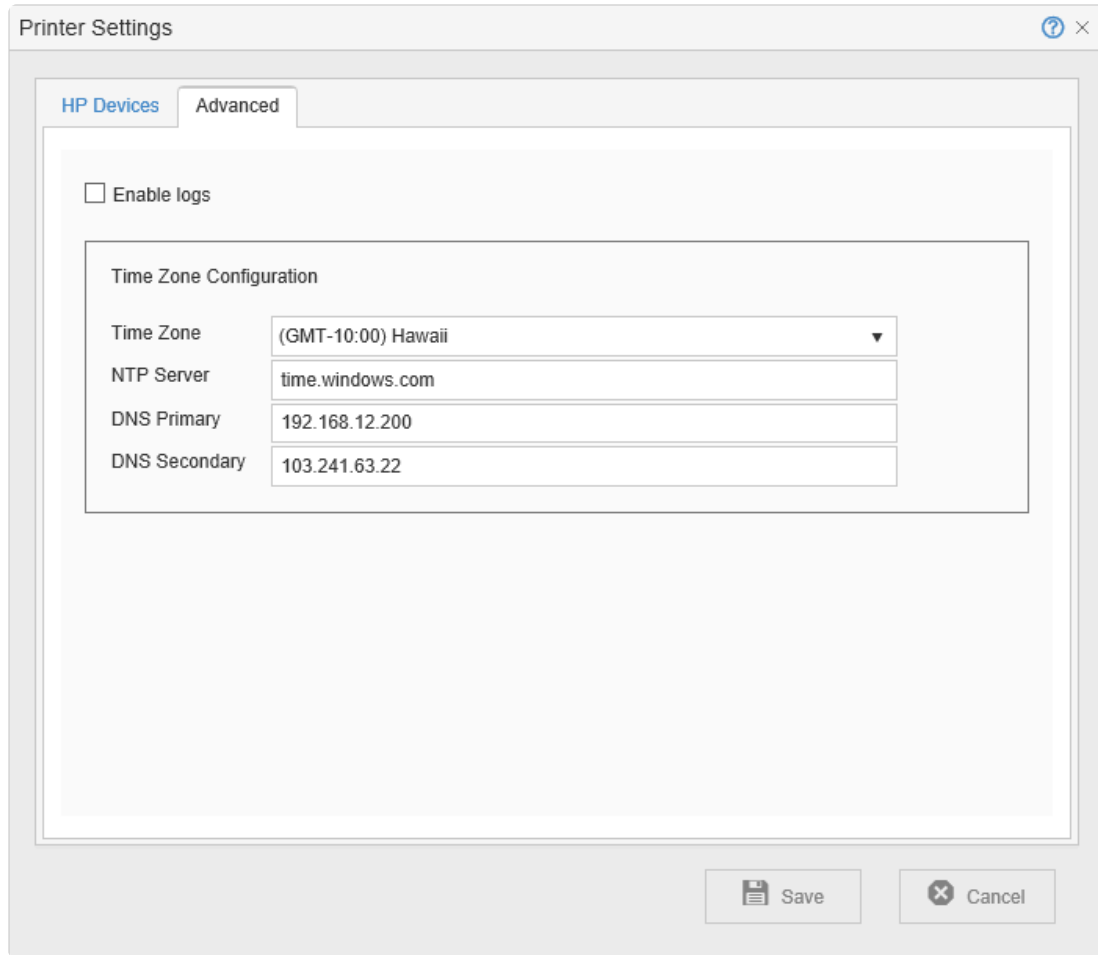
### How to...


#### Enable Log Files for a Printer




**IMPORTANT NOTE:** This option should only be set at the request of Celiveo and for the indicated duration. It produces an encrypted file that is not usable by end-users.

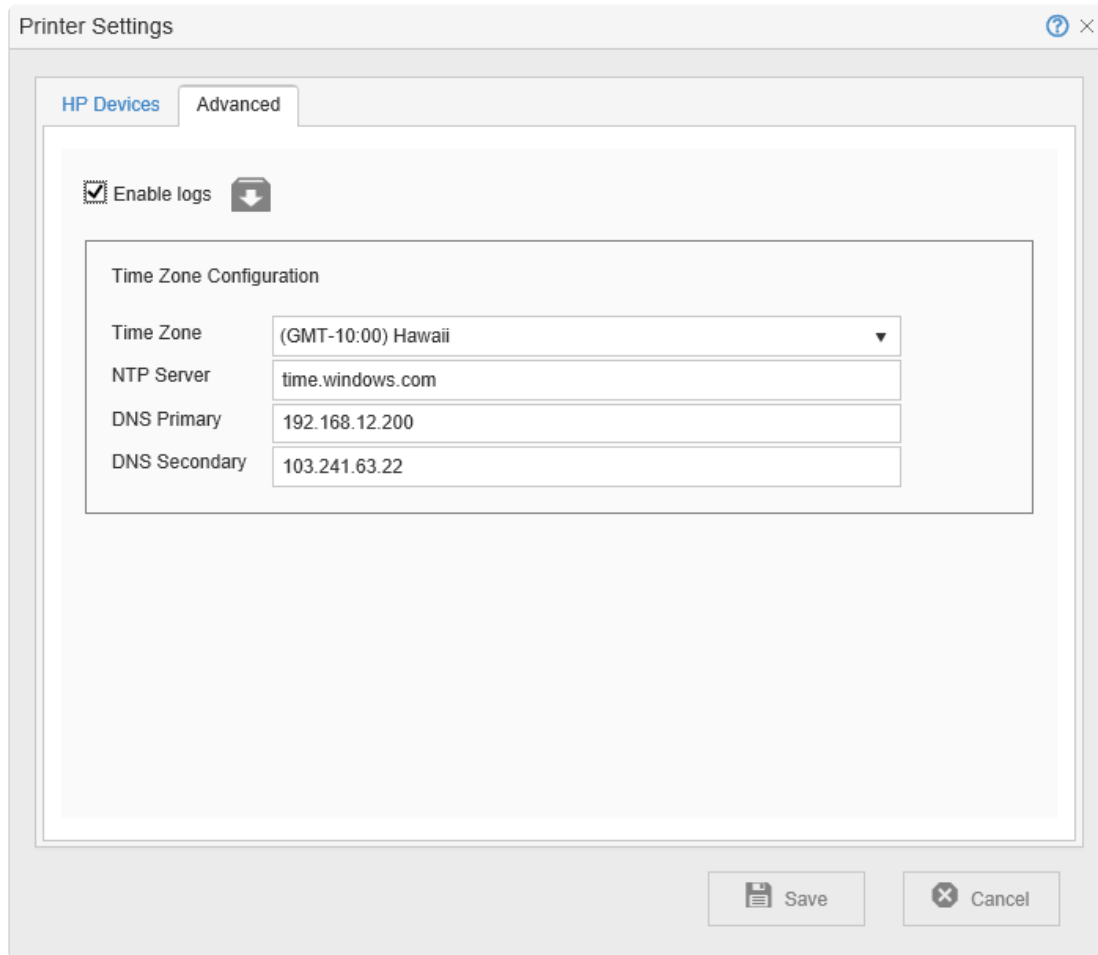
1. From the list of printers, select the printer you want to enable log files for.
2. Click . The Printer Settings display.
3. Click the Advanced tab.




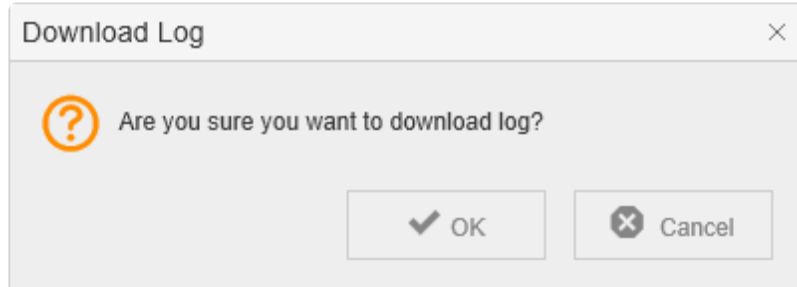
4. Select **[Enable logs]**.
5. Click **[Save]**. You are returned to the list of printers.
6. Click . The setting is written to the printer, and the printer starts logging events to a log file.

## Download Printer Log Files

1. From the list of printers, select the printer you want to enable log files for.
2. Click . The Printer Settings display.
3. Click the Advanced tab.



4. Click . A confirmation message is displayed.



5. Click **[OK]**. The log file begins to download.

**Note:** The log file is compressed into a zip file before it starts downloading. Hence, allow a little time for the download to begin.

## Download Web Admin Log File

1. Log in the Web Admin, and click . The About screen displays.



2. Click .

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## 15.2.2. Retrieve Web Admin Logs

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Web Admin logs are enabled by default.





On the client machine or server where Web Admin is installed, go to

**C:\Program Files\Celiveo\Web Admin\logs\wa2.log**

*Last modified: 8 September 2020*

## 15.2.3. Enable and retrieve CSA Logs

### Enable CSA Logs

1. At the Main Menu , click on the  printer icon.
2. From the list of printers, select the printer to collect the CSA logs.
3. Click on the  printer settings icon.
4. Select the **[Advanced]** tab.
5. Select **[Enable logs]** and click on the  Save icon.

### Retrieve logs through USB

#### Enable log retrieval through USB

✿ Use the following method only if Celiveo Web Admin is unable to reach the Celiveo Smart Appliance (CSA). Do not include any spaces in the configuration entries. Disable the logs retrieval after you have collected the required logs. This ensures that the CSA will not continue to allocate resources to collect the logs.  
Make sure either *ipsetup.conf* or *support.conf* files are present in the USB flash drive at any one point in time if both files are placed, *support.conf* takes the priority.

1. Format a USB flash drive to FAT32.
2. On the USB flash drive, create a configuration file and enter the following

**LOGLEVEL=3**

**GETLOGS=1**

3. Save the file as support.conf file.
4. Switch off the Celiveo Smart Appliance (CSA).
5. Connect the USB flash drive with the support.conf file to the CSA.
6. Switch on the CSA. The configuration file is copied to the CSA and log retrieval is enabled.
7. Once the LED on the CSA switches to a steady green light, it is now safe to remove the USB flash drive.

#### Reproduce issue and retrieve the log

After enabling logs retrieval, proceed to reproduce the issue.

1. After enabling logs retrieval, proceed to reproduce the issue.
2. Switch off the Celiveo Smart Appliance (CSA).
3. Connect the USB flash drive with the support.conf file to the CSA.
4. Switch off the Celiveo Smart Appliance (CSA).



5. Connect the USB flash drive with the `support.conf` file to the CSA.
6. Switch on the CSA. The CSA will copy all logs in a compressed folder to the USB flash drive.  
(Folder filename: `.tar.tgz`).
7. Once the LED on the CSA switches to a steady green light, it is now safe to remove the USB flash drive.

## Disable log retrieval through USB

Disable the process after you have collected the logs.

1. On the USB flash drive, create a configuration file and enter the following:

**LOGLEVEL=0**

2. Save the file as *support.conf*.
3. Switch off the Celiveo Smart Appliance (CSA).
4. Connect the USB flash drive with the *support.conf* file to the CSA.
5. Switch on the CSA.
6. Once the LED on the CSA switches to a steady green light, it is now safe to remove the USB flash drive. It is now safe to remove the USB flash drive.

 **NOTE: Don't leave logs enabled on the CSA.**

*Last modified: 8 September 2020*

## 15.2.4. Retrieve Discovery Agent Log

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On the client machine or server where Web Admin is installed, go to

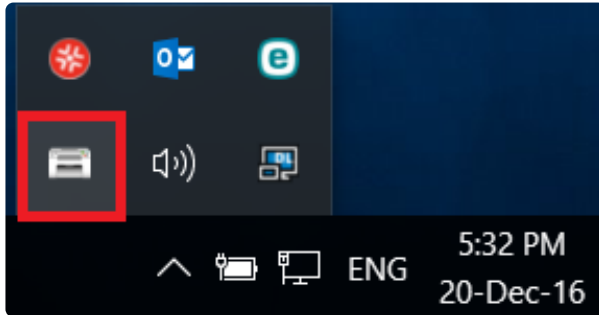
**C:\Program Files\Celiveo\Web Admin\CeliveoPrinterDiscoveryAgentService\log.txt**

*Last modified: 8 September 2020*

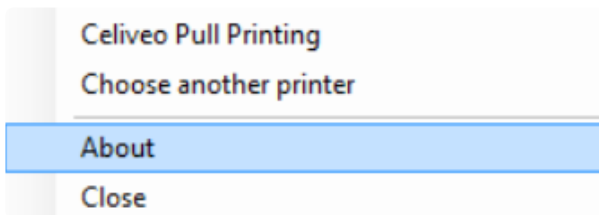
## 15.2.5. Retrieve Celiveo Print Queue Client Application Log


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1. Go to the system tray on the client machine.



2. Select the **Celiveo Print Queue** icon and click left.



3. In the **[About]** window, click on the  log icon.

*Last modified: 8 September 2020*

## 15.3. Error Messages

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*Last modified: 1 September 2020*

## 15.3.1. Single Function Printers

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Message displayed/ Cause	Resolution
[B13] Celiveo: Invalid Celiteo Server	<ul style="list-style-type: none"><li>• Check the Celiveo Server Services IP address.</li><li>• Check the Celiveo Server Services port number.</li><li>• Check the Celiveo Server Services service status.</li><li>• Check the response time of the server. If the response time is less than 20 seconds, an error message appears.</li><li>• Check the compatibility between the version of the device and that of Celiveo Server Services.</li></ul>

*Last modified: 8 September 2020*

## 15.3.2. Multi-Function Printers

Check the response time of the server. If the response time is less than 20 seconds, an error message appears.

Message displayed/ Cause	Resolution
<b>[B4] Celiveo: ID update failed, please contact Administrator</b> <b>[B5] Celiveo: BILLING update failed, please contact Admin</b>	<ul style="list-style-type: none"> <li>• Check for Celiveo Server Services IP address.</li> <li>• Check for Celiveo Server Services port number.</li> <li>• Check for Celiveo Server Services port number.</li> </ul>

Message displayed/ Cause	Resolution
<b>[C1] No Hard Disk. Contact Admin</b> <b>[C15] Celiveo system error sync. Please reboot</b> <b>[C16] Celiveo print request failed</b> Celiveo could not release the stored print job.	Try the procedure again and delete the print job.
<b>[C17] Celiveo: Hard disk operation failed.</b> A hard disk read/write operation failed	The disk might require reformatting or the disk might be defective. Note : During the product installation, this message can be ignored.

## Connectivity Issues

Message displayed/ Cause	Resolution
<b>[C23] Celiveo : IP Connection failed</b> Celiveo could not establish an IP connection	Check if the LAN connection is active at the device, routers and firewalls. check if the internal configuration page of the device can be accessed.
<b>[C24] Your server does not respond.</b> The Celiveo Server Services server hosting the print jobs did not answer requests.	Check the network, routers, firewalls and the Celiveo Server Services version and status.
<b>[C25] No response from the server.</b> The CeliveoPull Printing server hosting the print jobs did not answer any requests from the device.	
<b>[C28] Celiveo: Read error from server.</b> Celiveo Server Services received corrupted data from the server.	
<b>[C31] Celiveo: Write error from server</b> The Celiveo Server Services server hosting the print jobs received incorrect data.	
<b>[C30] Invalid Celiveo Server</b> The Celiveo Server Services server hosting the	Check the network, routers, firewalls and the version of Celiveo Server Services version and status.

print jobs did not answer any requests or had sent incorrect data.	
<p><b>[G11] Invalid Celiveo Print Server</b> Identification process between a Celiveo Server and Celiveo authentication failed.</p>	<ul style="list-style-type: none"> <li>• Check the Celiveo Server Services IP address.</li> <li>• Check the Celiveo Server Services port number.</li> <li>• Check the firewall status (see Ports and Communication)</li> <li>• Check the Celiveo Server Services service status.</li> <li>• Check the response time of the server. If it is less than 20 seconds, the error message above will be displayed.</li> <li>• Check the compatibility between the device and Celiveo Server Services version.</li> </ul>
<p><b>[D14] The server is unreachable.</b> The Celiveo Server Services server did not respond to the authentication request from the device. It may be because the Celiveo Server was unable to find the user details.</p>	<p>Check the network, routers, firewalls and the Celiveo Server Services status. Check the connection between the device and the server. If the connection is broken, ensure that the settings (server IP and port number) are correct, and ensure that the connection to the server is restored.</p>
<p><b>[D15] The server is unreachable.</b> The Celiveo Server Services server hosting the print jobs did not answer requests. It may be because the Celiveo Server hosting the print jobs is not available. This message is displayed when there is a failure to receive print jobs on the device.</p>	
<p><b>[26] Failed to contact host</b> The Celiveo Server Services server hosting the print jobs did not answer requests from the device.</p>	
<p><b>[H17] Failed to contact host</b> The device failed to contact the Authentication Gateway or Celiveo Pull Printing server to authenticate a user, or to print a job respectively.</p>	
<p><b>[C19] Celiveo failed to post AUTH request</b> The device failed to send authentication request to Celiveo Server Services.</p>	
<p><b>[D14] or [D15] The server is unreachable</b> This error is displayed mainly due to default device socket timeout which is lesser than the server response.</p>	<p>Increase the device inactivity timeout. Check the DB gateway timeout and reduce the server response timeout.</p>
<p><b>[D29] Sorry, there was an error during the login process. Please authenticate again.</b> The authentication server could not authenticate the user. This could be due to a failure to connect to the server, or authentication agent, or an invalid user credentials was submitted.</p>	<p>Check the connection with the device and the server. If the connection is broken, ensure that the settings (server IP and port number) are correct and ensure that the connection to the server is restored. Try to login the user again with the correct credentials. Also, verify the settings in Celiveo Web Admin software.</p>

## Enrollment-related Issues

Message displayed/ Cause	Resolution
<b>[H7] Pre-enrollment failed. Please contact</b>	Check the connection between the device and the

<p><b>Administrator.</b></p> <p>The user could not be validated against the enrolled user details in the user database, user directory or file enrollment authentication user files on the Authentication server. It could be because the card is already enrolled in the user database, user directory or file enrollment authentication user files.</p>	<p>Authentication server that hosts the user database, user directory or file enrollment authentication user files. Check if the card is already enrolled in the user database, user directory or file enrollment authentication user files.</p>
<p><b>[H8] Unenrollment failed. Please contact Administrator.</b></p> <p>An enrolled user could not be un-enrolled from the user database, user directory, or file enrollment authentication user files on the authentication server. This could be due to the following reasons:</p> <ul style="list-style-type: none"> <li>• The device connection to the server failed while un-enrolling the user.</li> <li>• The database from where the user is to be un-enrolled is not available on the server.</li> </ul>	
<p><b>[C100] Enrollment failed.</b></p> <p>A user could not be enrolled into the user database, user directory or file enrollment, authentication user files on the authentication server. This could be due to following reasons:</p> <ul style="list-style-type: none"> <li>• The device connection to the server failed while un-enrolling the user.</li> <li>• The database where the user is to be enrolled is not available on the server.</li> </ul>	<p>If the connection is broken, ensure that the settings (server IP and port number) are correct. Also ensure that the connection to the server is restored, and the database services are available. Check the user enrollment settings in the <b>Enrollment &amp; Roaming</b> tab in Celiveo Web Admin Software.</p>

## Other Messages

Message displayed/ Cause	Resolution
<p><b>[B11] Corrupted user list. Contact Admin</b></p> <p>The list of users and user IDs on the device is corrupted.</p>	<p>Reload the users list to the device.</p>
<p><b>[C1] No hard disk. Contact Admin.</b></p> <p>There is no hard disk in the device.</p>	<p>Contact the device vendor.</p>
<p><b>[C2] No ID List. Contact Admin</b></p> <p>The device has not been initialized with the users list.</p>	<p>Use the Celiveo Web admin software to send a valid list to the device, or link to enrolment or to live LDAP validation.</p>
<p><b>[C4] Corrupted ID list. Contact Admin</b></p> <p>The user ID list is corrupted, as there could be unsupported special characters in the local ID list.</p>	<p>Check to ensure that there are no unsupported special characters in the local ID list, then re-synchronize the device.</p>
<p><b>[C5] Corrupted BLG list. Contact Admin</b></p> <p>The billing list is corrupted, as there could be unsupported special characters in the billing list.</p>	
<p><b>[C42] Celiveo: Please use Celiveo DIMM</b></p> <p>The device does not have a valid hardware license for Celiveo</p>	<p>Please contact the Administrator or the Celiveo Support team.</p>
<p><b>[C26] Celiveo: Out of memory. Please reboot.</b></p>	<p>Reboot the device and notify support if this happens</p>



The system ran out of memory.	again.
<b>[C58] Synch error, please reboot.</b> The device failed to synchronize with Celiveo Web Admin software.	Please reboot the device.

## Card Reader Error Messages

Message displayed/ Cause	Resolution
<b>[C65] error (Invalid badge).</b> The badge is not compatible with the authentication parameters.	Check the configuration: <ul style="list-style-type: none"> <li>• Check the reader settings</li> <li>• Check the ID validity. Check the Active Directory field containing the ID.</li> </ul>
<b>[C66] ID error (Transmission failure).</b> Data received from the badge reader is corrupted.	Re-authenticate or contact the Celiveo Support team if the problem occurs again.
<b>[G3] Celiveo Failed to upgrade reader settings.</b> The Smart Card reader could not get its parameters from the device.	Re-generate the Smart Card configuration, then reboot the device.
<b>[G4] Celiveo media error.</b> The Smart Card reader is either defective or is not connected.	Check the Smart Card reader connection to the device or please contact Administrator.
<b>[G6] Celiveo ADK error.</b> An unknown error that occurs internally in the device.	Please contact the Administrator or the Celiveo Support.
<b>[G12] Celiveo Invalid Card.</b> The Smart Card is not sending the data to Celiveo Server Services. This may be because the Smart Card holder is not a valid user in the database.	Check the Active Directory lookup for the Smart Card user profiles.
<b>[G19] Celiveo Initialization failed.</b> The device could not communicate with the Smart Card reader.	Check if the reader is switched on.
<b>[G23] Celiveo LDAP Error Configuration.</b> The configured LDAP profile setting is incorrect	Verify that the LDAP profile settings are correct.
<b>[G24] Celiveo LDAP Error Data.</b> The data retrieved from the LDAP profile is incorrect or corrupted.	Verify that the LDAP profile configuration is correct. If the problem persists, please contact Celiveo Support.
<b>[G25] Celiveo LDAP Error Connection.</b> The LDAP connection is not working	Check the LDAP Smart Card configuration settings.
<b>[G29] Celiveo Invalid login and/or password.</b> The login/passsword entered for the alternate authentication is incorrect.	Check your network credentials.
<b>[G30] Celiveo Failed to get user information.</b> The Smart Card LDAP configuration is incorrect.	Check the LDAP Smart Card configuration.
<b>[H9] Failed to change your Card password. Please contact Administrator.</b> The card password could not be successfully updated in Celiveo Server Services.	Ensure that the user is adhering to the card password policy. Ensure that the Dual Factor settings are correctly configured in Celiveo Web Admin software.

**No Reader Detected, shutdown the printer and plug a reader.**

This is expected behavior while the Celiveo solution is being loaded.

Please wait for 5-10 minutes for the error message to disappear and the solution to be loaded.

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## 15.3.3. Celiveo Product Installation

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Message displayed/ Cause	Resolution
<b>Unable to add a device connected to the Celiveo Hardware.</b> Celiveo Web Admin is installed directly without using Celiveo Product Installer, the necessary IIS settings is not configured properly.	Make sure to install all or specified Celiveo server modules using the Celiveo Product Installer.

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## 15.3.4. Serverless Pull Printing and Track-PM

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### Installation troubleshooting

Error / Cause	Resolution
Unable to install Serverless Pull Printing client No administrator rights	Login using root user credentials

### Operation troubleshooting

Error/Cause	Resolution
Unable to list a print job (a) Network issue	Verify the network settings using the Celiveo utility that can be accessed by clicking the Celiveo icon in the <b>\$/Applications</b> directory. If the settings are correct, try connecting to the network again.
(b) IP Tracking feature is off	The IP Tracking feature is required to operate the Serverless Pull Printing Client on the Mac machines. Check that the IP Tracking feature is turned on in the main Celiveo Server machine. Then, check the <b>Serverless PullPrintingConfig.xml</b> file entries.

*Last modified: 8 September 2020*

# 15.4. Disaster Recovery Plan

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[Disaster Recovery Plan](#)

*Last modified: 8 September 2020*