

## Cloudprinter.com Integration

### Description

Integrating with a Cloudprinter.com has never been easier. Receiving orders, downloading artwork and signalling back to Cloudprinter is all handled for you by the app.

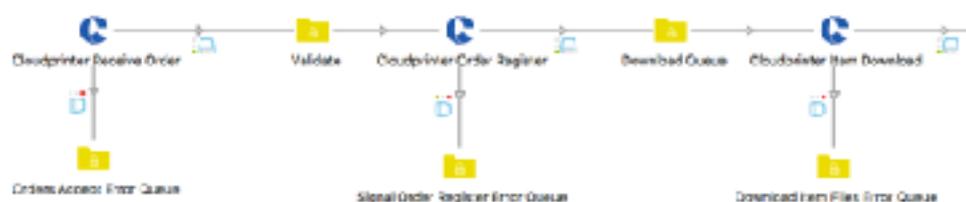
Cloudprinter.com is an independent world-wide print network. Learn more at [www.cloudprinter.com](http://www.cloudprinter.com).

The integration consists of 6 companion apps that each serve their specific purpose and are easy to integrate into your existing flow.

Each of the 6 companion apps are described here:

- **Cloudprinter Receive Order**  
Receives an order from Cloudprinter through the technology of webhooks or through a Cloudprinter XML v2.1 being injected into the flow.
- **Cloudprinter Order Register**  
Signals to the Cloudprinter system that the order was accepted and splits the order into jobs with a single item in each
- **Cloudprinter Item Download**  
Downloads artwork for the item from Cloudprinter and validates the content via a checksum.
- **Cloudprinter Item Shipped**  
Signals to the Cloudprinter system that the item is ready to ship, this signal includes the shipping option and the tracking code. The signal is generated from the dataset properties.
- **Cloudprinter Item Error**  
Signals to the Cloudprinter system that a production error, that you can recover from, occurred and how long the expected delay is. The signal is generated from the dataset properties.
- **Cloudprinter Item Cancel**  
Signals to cloudprinter that the item can not be produced and has to be cancelled. A cancellation cause and description are included. The signal is generated from the dataset properties.

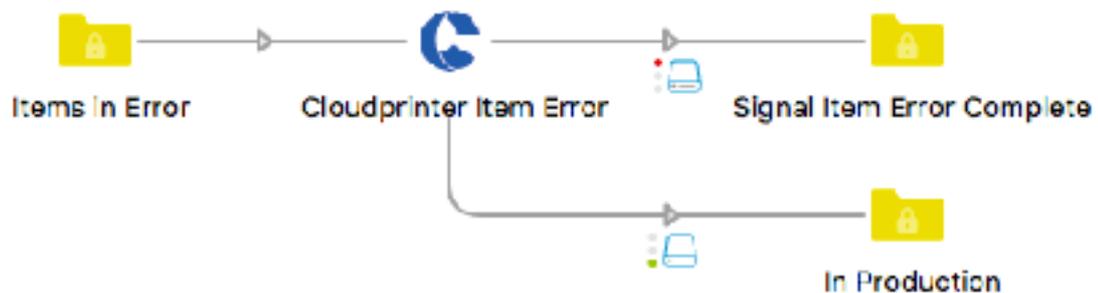
Here is an example of an accept, register and download flow:



Between the Order Accept and Signal Order Register, it would be natural to have your validation of the order content and validate that the products in the order is supported etc.

Are CloudSignal signals back to Cloudprinter important? Yes, signals are very important to Cloudprinter and our clients. Signals are used to provide a good user experience for the end-consumer, and are also the base of the statistics the Cloudprinter routing algorithms use. So if you don't send signals timely, you will get less orders.

Here is an example of Signal Item Error app in a flow:



The Cloudprinter app is designed to use the webhook technology, which means that the Cloudprinter system will call a web endpoint in Switch. Webhooks have to be enabled Switch and HTTPS encryption with a valid SSL certificate is required for live orders. Firewall configuration may be required. See section “External setup” for more details.

Please note: The use of this app requires a Cloudprinter.com account, which can be created at [www.cloudprinter.com/printers](http://www.cloudprinter.com/printers)

### Compatibility

Switch 18 and higher. Windows and Mac.

### Connections

Each app have different connections which are listed here:

- **Cloudprinter Receive Order** - With webhooks (recommended)  
The normal operation mode for the “Receive Order” app is with webhooks.
  - *Incoming connection*: None - When webhooks are used there is no need for an incoming connection. The app will be triggered by the arrival of the Cloudprinter order XML v2.1. The call to the webhook is coming from the Cloudprinter system. The order XML is validated against the CloudCore API key.
  - *Traffic-light outgoing connections*: Success and Error. The Error connection is used for orders that are not validated or parseable. The output of the Success connection is an XML with the details of the order. The XML content is also attached

- **Cloudprinter Receive Order - With incoming connection**  
 In some cases the Cloudprinter order XML v2.1 can be supplied using a different method, for example in an MIS that will then inject the Cloudprinter XML v2.1 to Switch.
  - *Incoming connection:* Cloudprinter order XML v2.1 is supported. The order XML is validated against the CloudCore API key.
  - *Outgoing Traffic-light connections:* Success and Error.  
 Success: The Success connection is used when the validation of the Cloudprinter order XML v2.1 was successful. The XML content is attached as a dataset, so it can be used to validate the order and the. The XML will be sent along the Success connection.  
 Error: The Error connection is used for orders that are not validated or parseable.
- **Cloudprinter Order Register**
  - *Incoming connection:* Cloudprinter order XML v2.1 is supported.
  - *Outgoing Traffic-light connections:* Success and Error.  
 Success: The Success connection is used when the Cloudprinter Order XML V2.1 was successfully split into single jobs, each with one item, and when signals to Cloudprinter's system for order registration was also successful.  
 One or more Cloudprinter item XML v2.1 will be sent along the Success connection.  
 Error: The Error connection is used if the Cloudprinter order XML v2.1 could not be split into single jobs and the register signal to Cloudprinter's system repeatedly failed. The Cloudprinter order XML v2.1 will be sent along the Error connection.
- **Cloudprinter Item Download**
  - *Incoming folder connection:* Cloudprinter item XML v2.1 is supported.
  - *Outgoing Traffic-light connection:* Success and Error.  
 Success: The Success connection is used for the item-related artwork files. One or more files per job can be sent along.  
 Error: The Error connection is used when repeated attempts to download the artwork for the item fail or if the validation with checksum repeatedly fail. The Cloudprinter item XML v2.1 that failed will be sent along the Error connection.
- **Cloudprinter Item Shipped, Cloudprinter Item Error and Cloudprinter Item Cancel**
  - *Incoming folder connection:* Cloudprinter item XML v2.1 is supported.
  - *Outgoing Traffic-light connections:* Success and Error.  
 Success: The Success connection is used when the signal was delivered with success to Cloudprinter's system.  
 Error: The Error connection is used when the signal for Cloudprinter's system has repeatedly failed. The Cloudprinter item XML v2.1 file will be sent along the Error

connection.

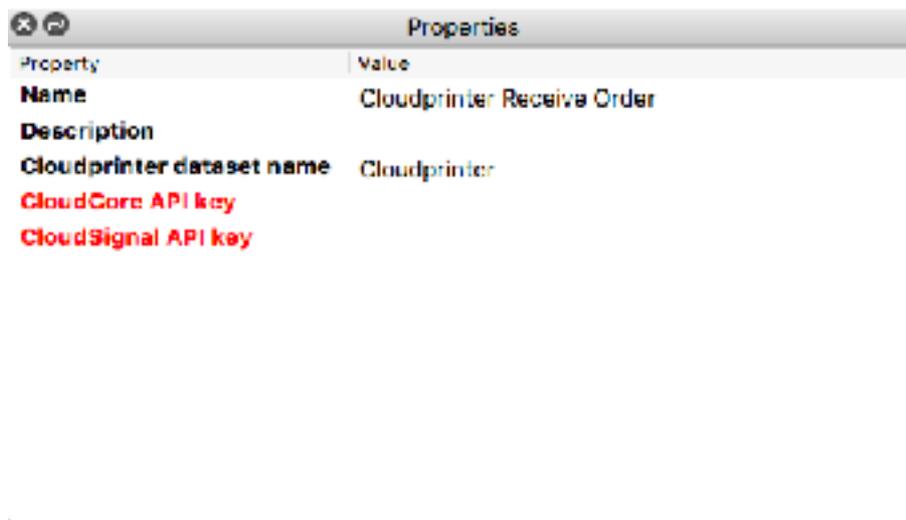
### Properties detailed info

The apps have properties that should either be set during the flow design to fixed values like the Cloudprinter API key, or dynamic during flow execution, example on this is e.g/ the tracking code for the shipped signal.

Each app with properties are described here:

- **Cloudprinter Receive Order**

On “Receive order” the two Cloudprinter API keys are set. The API keys are used by all apps, but only set once. They are both found in the Cloudprinter admin Dashboard ([admin.cloudprinter.com](http://admin.cloudprinter.com)) under “Production Interface” for the CloudCore API key and under “CloudSignals API Interfaces” for CloudSignal API key.

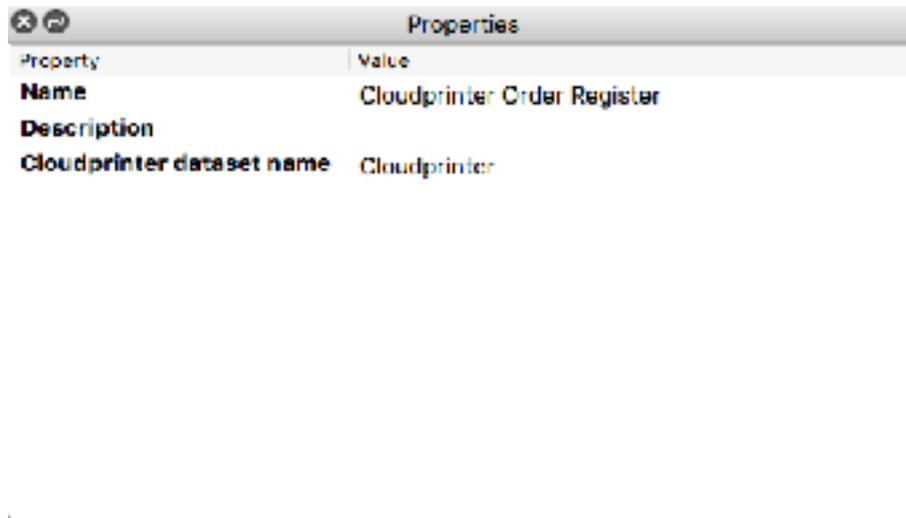


The screenshot shows a window titled "Properties" with a table of configuration details for the "Cloudprinter Receive Order" app. The table has two columns: "Property" and "Value".

Property	Value
<b>Name</b>	Cloudprinter Receive Order
<b>Description</b>	
<b>Cloudprinter dataset name</b>	Cloudprinter
<b>CloudCore API key</b>	
<b>CloudSignal API key</b>	

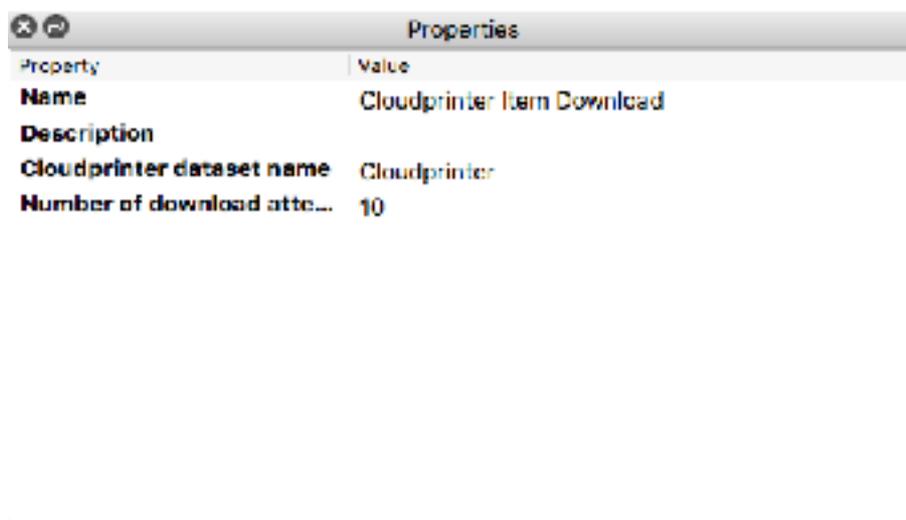
- **Signal Order Register**

On “Signal Order Register” only the dataset name is defined.



- **Item Download**

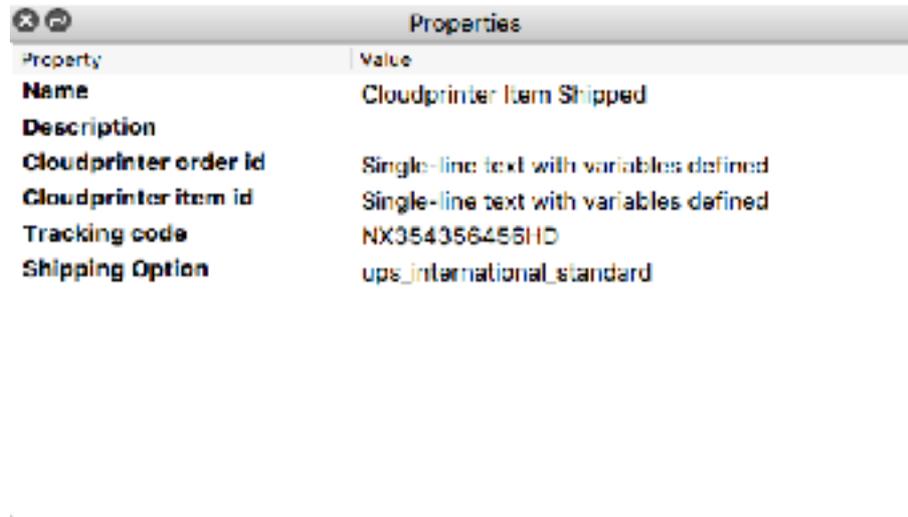
On “Item Download” the dataset name is defined and “Number of download attempts”, which defines the number of attempts the download app will have to download the artwork. If the checksum validation fails the retry mechanism is used.



- **Cloudprinter Item Shipped**

The shipped signal requires a shipping option. This string must be one of the shipping reference codes found in the Cloudprinter admin dashboard.

The tracking code is set if the shipment is trackable. If not set the None value.

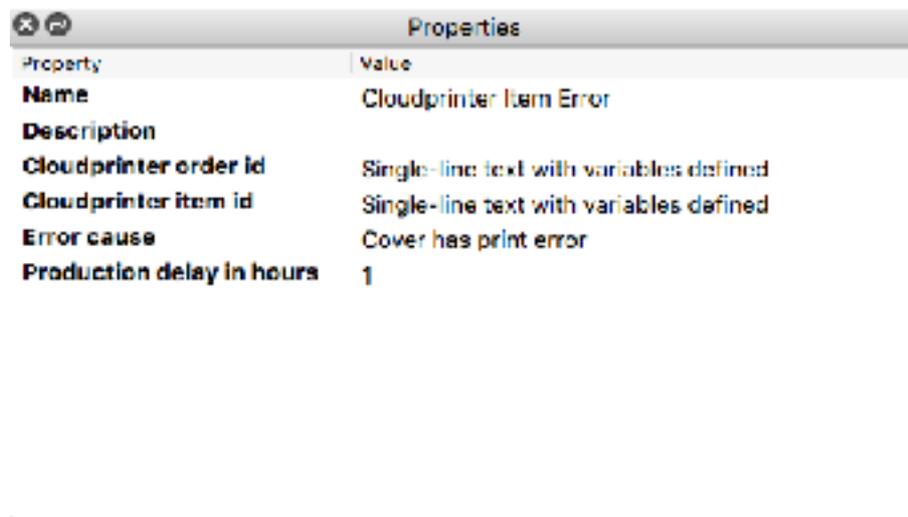


A screenshot of a 'Properties' dialog box. The dialog has a title bar with a close button and a refresh button. Below the title bar is a table with two columns: 'Property' and 'Value'. The table contains the following rows:

Property	Value
<b>Name</b>	Cloudprinter Item Shipped
<b>Description</b>	
<b>Cloudprinter order id</b>	Single-line text with variables defined
<b>Cloudprinter item id</b>	Single-line text with variables defined
<b>Tracking code</b>	NX354356456HD
<b>Shipping Option</b>	ups_international_standard

- **Cloudprinter Item Error**

The error signal tells Cloudprinter that something has gone wrong and the production time will be extended. So it requires to set both the “Error cause” as textual description in English and “Production delay in hours”.



A screenshot of a 'Properties' dialog box. The dialog has a title bar with a close button and a refresh button. Below the title bar is a table with two columns: 'Property' and 'Value'. The table contains the following rows:

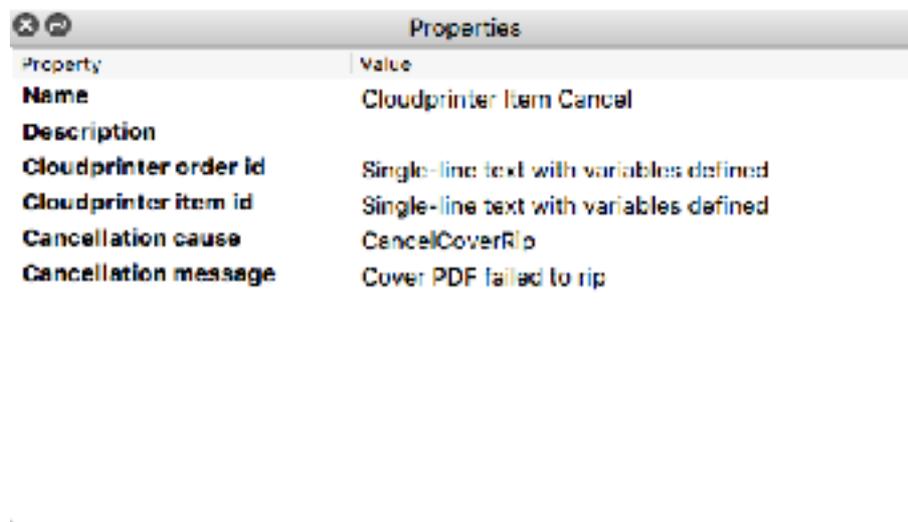
Property	Value
<b>Name</b>	Cloudprinter Item Error
<b>Description</b>	
<b>Cloudprinter order id</b>	Single-line text with variables defined
<b>Cloudprinter item id</b>	Single-line text with variables defined
<b>Error cause</b>	Cover has print error
<b>Production delay in hours</b>	1

- **Signal Item Cancel**

The cancellation signals tell Cloudprinter that a specific item can not be produced and that it should be cancelled. This information is of course also given to our clients. Both properties are required.

The “Cancellation cause” is one of the Cloudprinter predefined causes and they are selectable as a dropdown.

The “Cancellation message” is a textual description in English of the cause, it should offer additional details.



Property	Value
<b>Name</b>	Cloudprinter Item Cancel
<b>Description</b>	
<b>Cloudprinter order id</b>	Single-line text with variables defined
<b>Cloudprinter item id</b>	Single-line text with variables defined
<b>Cancellation cause</b>	CancelCoverRip
<b>Cancellation message</b>	Cover PDF failed to rip

### Flow elements properties

For each app the element properties are described here:

- **Cloudprinter Receive Order**

- **CloudCore API key**

Cloudprinter authentication key for incoming orders. Generated by the Cloudprinter admin system on the “Production Interface” configuration. This property is required and must be set to a string before running the flow.

- **CloudSignals API key**

Cloudprinter authentication key for outgoing signals. Generated by the Cloudprinter admin system on the “CloudSignal API Interface” configuration. This property is required and must be set to a string before running the flow.

- **Cloudprinter Item Download**

- **Number of download attempts**

If download of an artwork file fails, the “Item Download” app will retry the download this number of times. There will be a 3 sec delay between the attempts.

- **Cloudprinter Item Shipped**

- **Tracking code**

The tracking for the shipment of the specific item. Tracking code is a string.

For none-trackable postal orders, set the None value. This property is required.

- **Shipping option**  
Shipping options are predefined by Cloudprinter and can be found in the Cloudprinter admin dashboard. It is the “reference” value. The reference value can be overwritten by the print partner in the Cloudprinter admin dashboard, in these cases the print partner defined reference is to be used. This property is required.
- **Cloudprinter Item Error**
  - **Error cause**  
The error cause is a textual description in English describing the error in the production. This signal is used for errors from which the production can recover, e.g. a reprint of a cover. This property is required.
  - **Production delay in hours**  
When an error has occurred and something need manual attention or a reprint, more time is normally needed. The “production delay in hours” property indicates the estimated delay. This property is required.
- **Cloudprinter Item Cancel**
  - **Cancellation cause**  
The “Cancellation case” is one of the Cloudprinter predefined causes and they are selectable as a dropdown. This property is required.
  - **Cancellation message**  
When an item can not be produced for some reason, this could be a wrong size file or a file that can not be processed by the rip server, it is important to describe the cause in details in a textual description in English, this enables the client to correct the issue before the item is ordered again. This property is required.

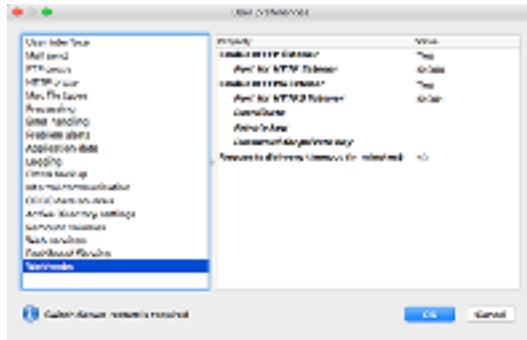
## External setup

- **Using webhooks behind a firewall**  
When using webhooks the Cloudprinter system must be able to connect to the pre-configured TCP port on the Switch server. The default HTTPS port is 51081. If your Switch server is behind a firewall and it will be required for you to forward HTTPS port 51081 to server or computer where the Switch server is running.

For HTTP connections use by default TCP port is 51080.

**Note:** Running none encrypted communication is only recommended for testing. Live orders must always be delivered on a HTTPS encrypted connection with a valid SSL Certificate.

- **Enabling HTTPS support in Switch**  
Switch will not accept HTTPS connections before you enable it. In the User Preferences for Switch find the Webhooks section. Change the “Enable HTTPS listener” to “Yes”. Then add your SSL certificate.



- **Security using webhooks**

Communication from Cloudprinter to Switch must be HTTPS. Using TLS encryption. This is configured in the Cloudprinter admin dashboard, under the “Production Interface”.

For a HTTPS connections to be safe a valid SSL certificate from a registered certificate authority is required. The certificate is added to Switch.

Setting up IP filtering on the print partner firewall for the communication from Cloudprinter to port 51080 and 51081 will also provide addition access control. The IP numbers of Cloudprinter’s servers processing servers can be found here [docs.-cloudprinter.com/production/cloudprinter-servers/](https://docs.cloudprinter.com/production/cloudprinter-servers/)

- **Creating a “Production Interface” in Cloudprinter admin**

Delivering orders from Cloudprinter to the Switch server requires some configuration, meaning that Cloudprinter’s order processor will need to know the endpoint to call with the information.

This configuration is done in the Cloudprinter Admin dashboard at [admin.cloudprinter.com](https://admin.cloudprinter.com) - In the menu select “Production Interfaces”. Click on the production name to see the production interfaces for that specific production account. Click on the existing production interface or create a new one if the list is empty.

The new Production Interface should be configured like this:

- Name: “Switch Test Production Interface”
- Note: “Production interface for test orders to Switch”
- Production: Select the production from the dropdown
- Organization: Select “All” from the dropdown
- Account: Select “All” from the dropdown
- Priority: Select 5 from the dropdown
- Production interface mode: Select “Test mode” from the dropdown
- Production interface method: Select “Post XML to API Cloudprinter v2.1”
- Protocol: Select “HTTPS” from the dropdown
- Host: Set to your public IP + “/cloudprinter/add”. An example “1.2.3.4/cloudprinter/add”
- Username: Leave empty
- Password: Leave empty
- ACL: Set your public IP that communication from Switch is coming from. An exam-

ple “1.2.3.4”

- State: Select “Enabled” from the dropdown

After saving the interface will look like this:

The screenshot shows the 'Production Interface - Edit' configuration page. The form is filled with the following values:

- Name: Switch Test Production Interface
- Note: Production interface for test orders to Switch
- Production: EU Production
- Organization: All
- Account: All
- Priority: 5 - Medium
- State: Enabled
- Production interface mode: Test mode - Used for test orders
- Production interface method: Post: XML to API Cloudprinter v2.1
- Protocol: HTTPS protocol
- Host: 1.2.3.4/cloudprinter/add
- Username: (empty)
- Password: (empty)
- API key: d90603e8000c0e0ba2b20c194c5cc33
- ACL IP addresses from where you will download files. Comma separated: 1.2.3.4
- Create date: 2018-08-15 13:08:59
- Modify date: 2018-08-15 13:08:59

The above example assume that port 443 for HTTPS or port 80 for HTTP was forwarded in your router to the Switch server port 51081 for HTTPS or 51080 for HTTP. If a different port is forwarded, the Production Interface needs to be adjusted as well.

A custom port is specified in the Host field Production Interface looks like this: “1.2.3.4:51080/cloudprinter/add”

- **Creating a “CloudSignal API Interface” in Cloudprinter admin**

Delivering signals from the Switch server to Cloudprinter requires some configuration, meaning that a Cloudprinter’s CloudSignal API interface should be created. The interface have an API key for validation and is linked to one or more Cloudprinter accounts.

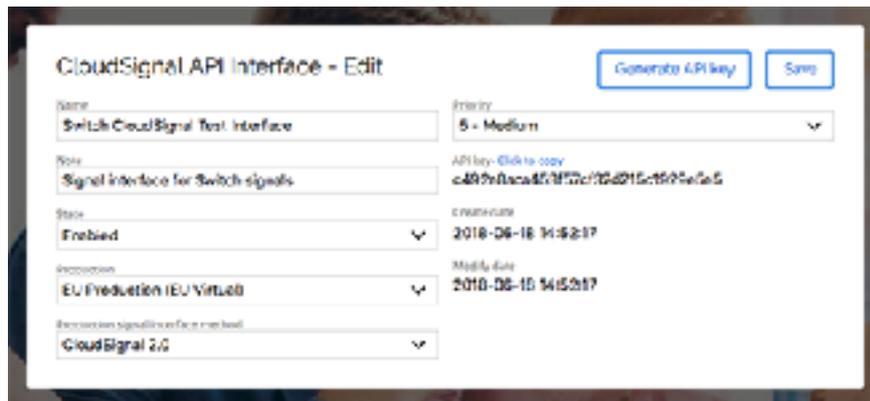
This configuration is done in the Cloudprinter Admin dashboard at [admin.cloudprinter.com](http://admin.cloudprinter.com) - In the menu select “CloudSignal API Interfaces”, then “Interfaces”. Click on the existing signal interface or create a new one if the list is empty.

The new Production Interface should be configured like this:

- Name: “Switch Test Production Interface”
- Note: “Production interface for test orders to Switch”
- State: Select “Enabled” from the dropdown

- Production: Select the production from the dropdown
- Production signal interface method: Select "CloudSignal 2.0" from the dropdown
- Priority: Select 5 from the dropdown

After saving the interface will look like this:



The screenshot shows the 'CloudSignal API Interface - Edit' form. It contains the following fields and values:

Field	Value
Name	Switch CloudSignal Test Interface
Priority	5 - Medium
Note	Signal interface for Switch signals
API key	Click to copy c497efbca4578f7c76a215c7505e5e5
State	Enabled
Production	EU Production (EU Virtual)
Production signal interface method	CloudSignal 2.0
Create date	2018-06-18 14:52:17
Modify date	2018-06-18 14:52:17

Buttons: Generate API key, Save