CARDPRESSO
more than an application

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Subject:

Web Print Server

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One of the advanced print features you can use with cardPresso XXL is the **Web Print Server**, which allows to remotely print cards from a computer in the network to another with cardPresso installed and connected to the printer.

To use the Web Print Server, you require:

1 – A computer with cardPresso **XXL Edition** connected to a working local area network (LAN or Internet) to act as the Web Print Server.

2 - Another computer(s) (Client Computer) connected and to the same local area network (LAN or Internet).

3 - Use an external application on the Client Computer to send the Print Job through IP to the server. The Print Job format must comply with the standard we provide in this technote and in our Manual.
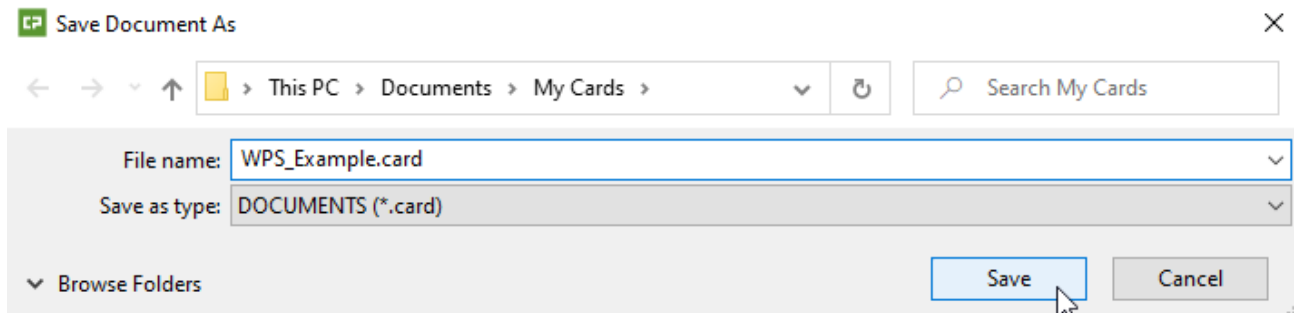
You can find a sample application ready to send print job data to a Web Print Server, available for download **HERE**. This sample application file exemplifies how to send the Print Job data to the cardPresso Web Print Server with a ready to use sample card file.

A Visual Studio 2013 project with the source code of this is available for download **HERE**. (Requires Qt 5 to build the solution).
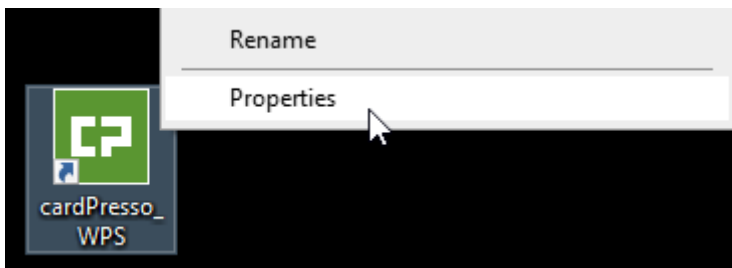
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Setup

The first step to use the Web Print Server service is configuring the computer that will be running cardPresso and receiving the print jobs. For that we must save the card file we wish to print remotely in the **My Cards** folder:
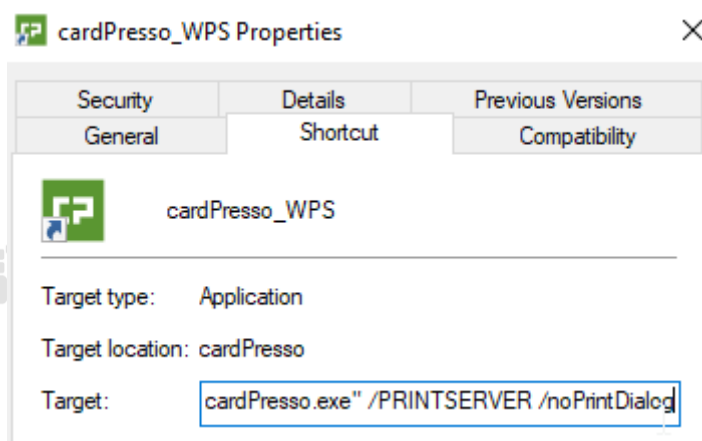

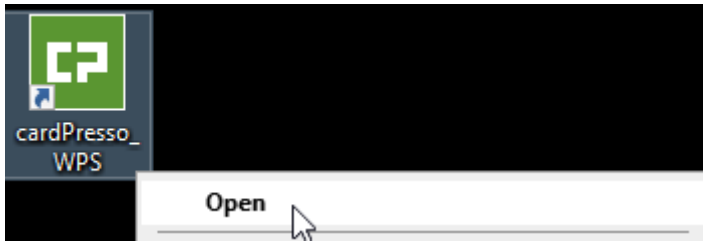Then we setup the Web Print Server in the Client Computer:

1 - Create a copy or use an existing cardPresso shortcut, right click it and select Properties.

2 - Add the /PRINTSERVER switch to the shortcut **Target** after the quotation mark and click OK:

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3 - Open cardPresso as a Web Print Server with the new shortcut, through Double click or right click » Open.

cardPresso_WPS

Open

4 - On the Web Print Server window you must configure:

The IP Address of the computer acting as the Web Print Server.

The Port cardPresso should use to receive print jobs.

The User Groups that can access the Web Print Server (see more on Chapter 8.3 of our Manual).

When all the settings are configured, press the Save button to save the changes and press the green Start Service button, on the bottom right to start the Web Print Server.

If correctly configured, the button will turn red and the Status box will display a listen OK message as shown below:

Status:
listen OK (127.0.0.1:632)

Your Web Print Server is now running and has a .card file ready to be printed.

When working within a LAN (Local Area Network) the Web Print Server computer must be connected to the same network as the Client computer that will send the remote print jobs.

When working through an internet connection, both the Web Print Server computer and the Client computer must be accessible to each other through a TCP/IP connection.

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XML Structure

With the Web Print Server configured and ready to receive print jobs the last step to print using this service is sending a Print Job to the server.

The transmission of the print jobs to the Web Print Server will be handled by a user developed application (see our Visual Studio 2013 project provided above).

The print job data must be sent to the Web Print Server in an XML structured document. A complete XML sample is available for visualization below:

```xml
<?xml version="1.0" encoding="utf-8"?>
<cardPresso xmlns="http://tempuri.org/wpsRequest.xsd">
<login>
<name>ADMIN</name>
<password>admin</password>
</login>
<cardDocument filename="example.card" printer="Microsoft XPS Document Writer">
<item id="NAME">RUI FARIA</item>
<item id="ADDRESS">FUNCHAL</item>
<item id="PHOTO" type="image">
```
iVBORw0KGgoAAAANSUhEUgAAAFoAAABWCAIAAADACBYuAAAAAXNSR0IArs4c6QAAAARnQU1BAACx\njw
v8YQUAAAAJcEhZcwAADsMAAA7DAcdvqGQAAANUSURBVHhe7Zq9T9tAGMb7rzB07tC5UvdKnUEw\nF2UvZ
e/HjphYSrsw8SHBFIhUJkRQOyGRwpSBwMSSbEztI/VVxPOe7Tvb5/SSvI9+my/vnX/xnX1O\nnnj3fWjDGmA7Cd
BCmgzAdhOkgTAdhOgjTQZgOwnQQpoMwHYTpII00GYDsJ0ELV0vnNx+sXK0\ntntPlrowLrp2uq2phWe1U
1DgQffL3zSlUrRRUdsICT+f3Q+1MvBzd7qjLAWcnhqsHAUASDVJVDKK3j\ny9mn0eNIeq4d98uMVRx1IEUV91J
CB3x3+ifSW6Rgrqle5ECk4EopNX1CdcBF/dnhpmkdCC6Tt7tv\nVC95hOpowgUyAR3IYDQIXEqCdNRf3vIyGR0I
prnqKBO/Dsw9KRk7w8eh6gt0787lcOy46l38Or5f\nbku9qIGLzPFhnvcerqRR1Fzcd1VfLn4dxXe+wej289nH5cN
F9akJA4kffrz3Xlneu4xHB7qRSlnZ\nnv95V7f87+G5kcFkpeBT+h0cHHrqkkkpNO/1g1ToSChR8TXzVWeHQUlK65O
2gULEwySo53+aiuQ7VM\nCpy2jJJjJjOiimg2I6KKKaDYjoopoNiOiimgzKnOgajgYYySM486Wu1VGaKTBvcsqmUiFO
w5EZyOaq9I\nUQc2hzzgdF2Kgg5u9vDkyjvcdcnI61k/XpIPYGYxuVV8uyenwfsOV4333A5LTIdVjp3t3rjrKZC50\nD
B+HgS+rZl8Hloxov8JNuw7MkVI/5c+sDlwUeB5Txb3Mmg4sE/vXu632O1U2kKnRgct+8+dGHsuH\ni6D+y/2p0Y
GRqqJZNUF1HQ7+zSHUnSego2BE1ND6p7iQJHStHSzKcriQ89pZFSjtJQgeQ4eSk0z8J\nf8gJQeo6SUUHNs4yosJg
63Vx3w0HHjNXHYnnJBUdxfOlTmBQ9QXkmJNUdlBO/1gGFTvuRJMDThLS\nngcd+PPPKuKIm/K9yCekA+Brz/jRR
J9OqA8BI9Gtkinl9zJpvl19lgdEylWuHAjdl7Brrz53ew5Wq\nDPLu6+511ARVdIzBJhK7SajBdrMs+FTeixnUfNoS
97XJuAC1dMwepoMwHYTpIEwHYTToI00GYDsJ0\nEKaDMB2E6SBMB2E6CNNBmA7CdBCm4wlbC38Bnj6GloL
NwKIAAAAASUVORK5CYII=\n
```xml
</item>
</cardDocument>
</cardPresso>
```

The XML structure of a print job requires the following elements:

The **<cardPresso>** element specifies the beginning of a cardPresso Web Print Server document. It must always contain a login element and a cardDocument element.

The **<login>** element contains the username and password elements. Each specific to the user configuration in the cardPresso Web Print Server application.

The above elements are mandatory.

The **<cardDocument>** element contains properties with the data specific to the print job. They are:

The **<filename>** specifies the name of the .card document file to be used in the print job.

The **<printer>** specifies the printer to be used in the print job.

Note: There can be multiple **<cardDocument>** elements with different attributes and elements for the handling of multiple files and printers.

Within the **<cardDocument>** element we can specify the data to be sent to each item in the *.card document by using item elements and, if your *.card is connected to a database, you can send a condition to print the records that match with it.

To send data to an item you must refer to which item the value will be sent to, as each item element contains an **id** property and a **type** property.

The **id** property is used to specify the item in the card design to which we want to send the data (read more in chapter 4.4.1 – Item of our Manual). The Item IDs sent to the Web Print Job must match the IDs of the items on the .card document file that is to be printed.

The **type** property specifies if the item we are trying to send data to is a text item or an image, where text is the default value.

When sending Images to the Web Print Server they should follow the Base64 encode scheme (read more **HERE**).

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To send the condition to print database records based on this filter, you must indicate the **conditioned field** and the **value** it should have to be printed, within the XML tags.

```xml
<?xml version="1.0" encoding="utf-8"?>
<cardPresso xmlns="http://tempuri.org/wpsRequest.xsd">
<login>
<name>ADMIN</name>
<password>admin</password>
</login>
<cardDocument filename="example.card" printer="Microsoft XPS Document Writer">
<databaseRecord>
<condition field="Employee ID">10</condition>
</databaseRecord>
<item id="NAME">TEST</item>
</cardDocument>
</cardPresso>
```

Print Job Status Request

As print jobs are sent to the Web Print Server to be printed, they are attributed a print job id. This id can later be used to request the current status of the print job.

This can be achieved with a print job status request.

The print job status request follows the same norms as a regular print job, but instead of sending the **<cardDocument>** element, a **getJobStatus** element is sent with a **printJobId** attribute containing the ID of the print job for which the status is to be returned.

Upon receiving a print job status request the Web Print Server will return a response.

Below is a sample of the XML structure of a Print Job Status Request which will return the status of the print job with the ID 5 as specified by the **printJobId** element.

```
<?xml version="1.0" encoding="utf-8"?>
<cardPresso xmlns="http://tempuri.org/wpsRequest.xsd">
<login>
<name>ADMIN</name>
<password>admin</password>
</login>
<getJobStatus printJobId="5"/>
</cardPresso>
```

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Print Server Response

Upon receiving a print job status request the Web Print Server will return a response which can be parsed by the user application.

The response will return a cardPresso element.

This element will contain a **jobStatus** element with a status message of the print job.

The **jobStatus** element will also contain two attributes:

The **printJobId** attribute specifying the ID of the print job to which the response refers.

The status attribute specifying the current status of the print job.

Status attribute can be one of the following vales:
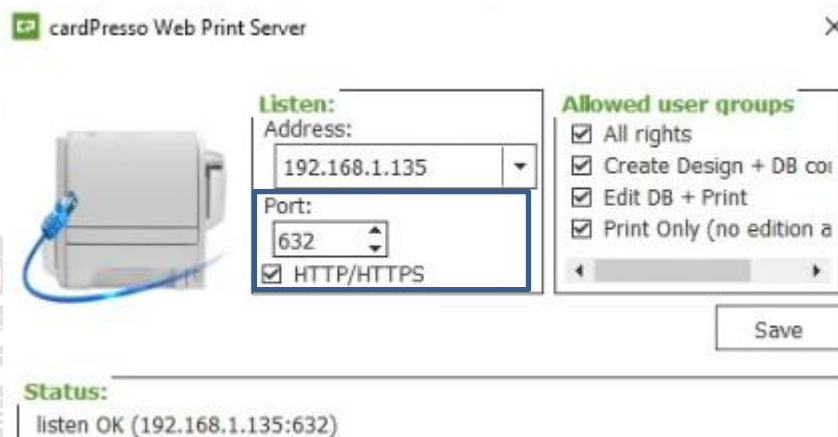
CREATED
PENDING
PRINTING
DELETED
ERROR

The cardPresso element will also have a **statusMessage** element, containing a detailed message regarding the status.

Notes:

- It's **mandatory** to run the Web Print Server (WPS) with the following parameters:
  - /PRINTSERVER /noPrintDialog
- Parameter /noPrintDialog will ensure the print dialog will not stay opened if an error occurs during print

- It's mandatory to use WebPrintServer Test App 1.0.5

  - The application supports 2 new methods:
    - List Printers: lists the printers on the WPS machine
    - Get Server Status: get WPS current status. Possible status: READY, BUSY.
      - READY: WPS is ready to accept print job requests
      - BUSY: WPS is busy handling a print job. All new print jobs will be rejected until the current print job is finished.
  - It's always **recommended** to get the printer status before sending any print job

- It's also mandatory to add the following lines to the cardPresso conf file:
  - **[PRINTING]**
  - **USE_DATABASE=true**
- **USE_DATABASE** will setup the Web Print Server to use a local sqlite database to manage print jobs. This way, the print job states are always available, even after Web Print Server restarts.

- HTTP/HTTPS (if needed)
  - In order to activate HTTP/HTTPS, click the checkbox "HTTP/HTTPS". An additional package has to be downloaded from the Internet. Without this package, HTTP/HTTPS will not work.

  - There's a dedicated configuration file for HTTP/HTTPS. The file is located at:
    - %PROGRAMDATA%\nodejs\config\config.json if the software was installed for all users
    - %LOCALAPPDATA%\nodejs\config\config.json if the software was installed for single user

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- o Once the HTTP/HTTPS is enabled, you can access it at http://localhost.
  - ▪ The server automatically redirects to HTTPS.
  - ▪ Since the default HTTPS certificate provided in the package is self-signed, the browser will warn you. This is normal and must be accepted if you don't want to use a dedicated domain with a HTTPS certificate.
  - ▪ The web server serves a documentation webpage to help developers understand and test the communication
  - ▪ All HTTP/HTTPS requests <u>must</u> include a Basic authentication header.
    - • The user must be wps
    - • The default password is wps, but this can be changed in the config "basicAuthPass" of the config.json file
  - ▪ The default port for HTTP is 80, but this can be changed in the config "portHTTP" of the config.json file
  - ▪ The default port for HTTPS is 443, but this can be changed in the config "portHTTPS" of the config.json file
  - ▪ It's recommended the use of HTTPS
- o Dedicated domain with a HTTPS certificate:
  - ▪ The domain must be inserted in the config "APIBaseUrl" of the config.json file
  - ▪ The HTTPS certificate and private key must be placed at:
    - • Private key:
      - o %PROGRAMDATA%\nodejs\certs\key.pem if the software was installed for all users
      - o %LOCALAPPDATA%\nodejs\certs\key.pem if the software was installed for single user
    - • Certificate:
      - o %PROGRAMDATA%\nodejs\certs\cert.pem if the software was installed for all users
      - o %LOCALAPPDATA%\nodejs\certs\cert.pem if the software was installed for single user
- o In HTTP/HTTPS the print job automatic status updates is not supported. In order to get the print job status, you must send print job status requests to the WPS server.

- • WebSockets
  - o The WebSocket interface uses the same ports as HTTP/HTTPS
  - o A sample websocket_client.html is attached here.
  - o The WebSocket interface supports print job automatic status updates
- • Demo videos can be found here, showing the working solution with HTTPS and WebSockets.

To be possible use this WPS feature, we will need to use the cardPresso version (1.7.27.3) available in the link below.

http://cardpressodownloads.com/filesforclient/Private/cardPresso/cardPresso1.7.27.3.exe

If after the steps above you have some issues or doubts, please contact us, through the email **support@cardpresso.com**.