



Data Automation
implementation guide

**Fully automate
label printing**

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WHY AUTOMATE LABELLING?



Manual label printing
(find & open file, enter
data in correct label
fields, press print)

X



5 manual print jobs
per hour

=



Time spent on labelling:
20 minutes/hour

A. FULLY AUTOMATE

ERP / Data Automation app / Brady Printer



Fully automated
label printing

X



5 print jobs
per hour

=

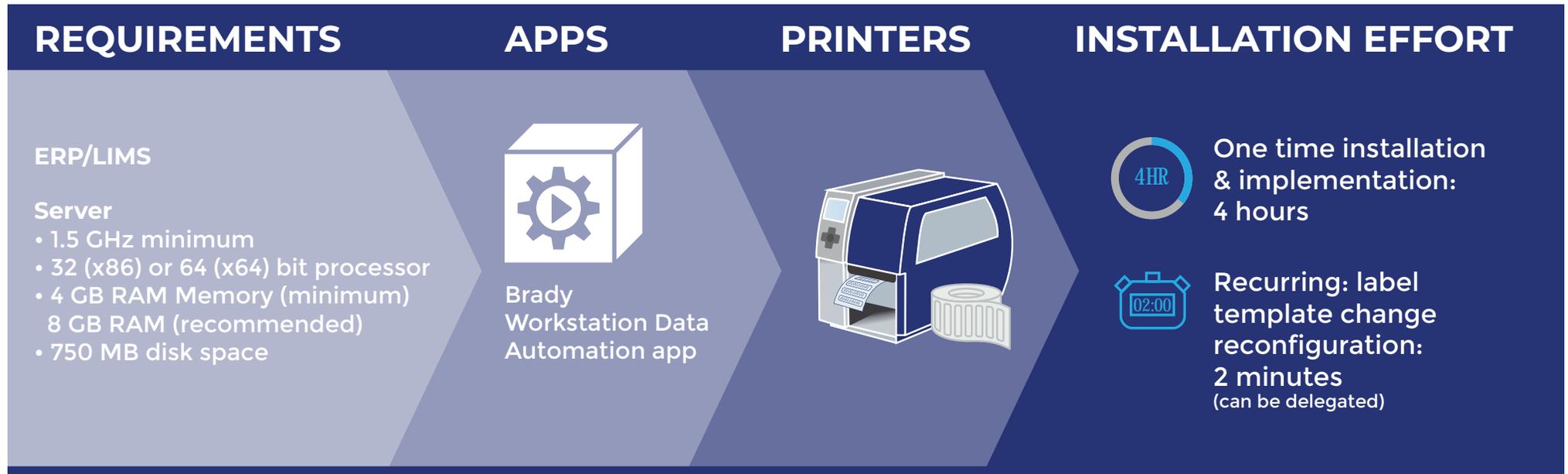


Time spent
on labelling:
0 minutes

Christopher can achieve greater
production output by automating
label printing with Brady.

100%
efficiency increase
in label printing

Why choose Brady?



Can I automate label printing with Brady?

The answer is most likely: yes!

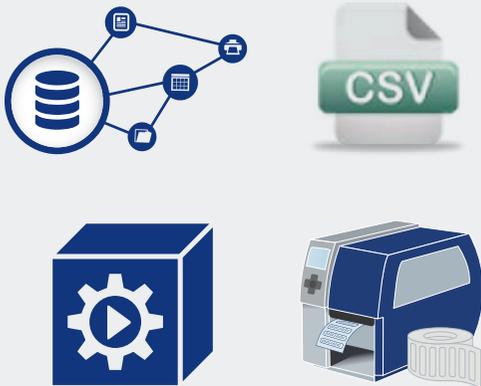
1. If you can dump data to CSV-files, a fully automated label printing software option becomes available. If you add barcode scanners, you can also opt for automated label printing with a manual trigger. Flexible label printing location options become available with Wi-Fi coverage.

Most systems provide an option to dump data to CSV-files. Discover how on page 15.

2. If you cannot dump data to CSV-files, and label data is or can be made electronically available, you can import these data directly in a Brady printer with the Brady Workstation Excel Import or Advanced Import apps, and still cancel the need to retype any label data.

Brady offers 3 options to automate label printing:

A. Fully automate label printing



See this guide

B. Manually trigger automated label printing



See our Scan & print implementation guide

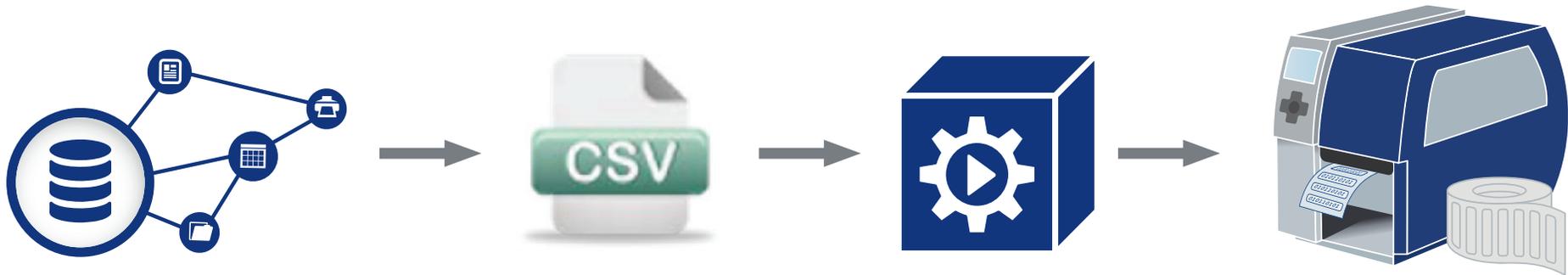
C. Cancel data retyping



Use the Advanced Import app from Brady Workstation

Download Data Automation

The Data Automation app from Brady Workstation runs as a service in the background once installed and immediately processes incoming CSV-files. The app follows a user defined mapping to place data from a CSV-file correctly on a label. Immediately after the data dump in a CSV-file from the business process, label printing will start on designated printers.



Go to <http://workstation.bradyid.com/automation> and download Data Automation. It is possible to activate a 30 day free trial. Purchased licenses can be entered after installation.

Right click the setup executable and run it as an administrator. A Windows Service called Data Automation will be installed on your server.

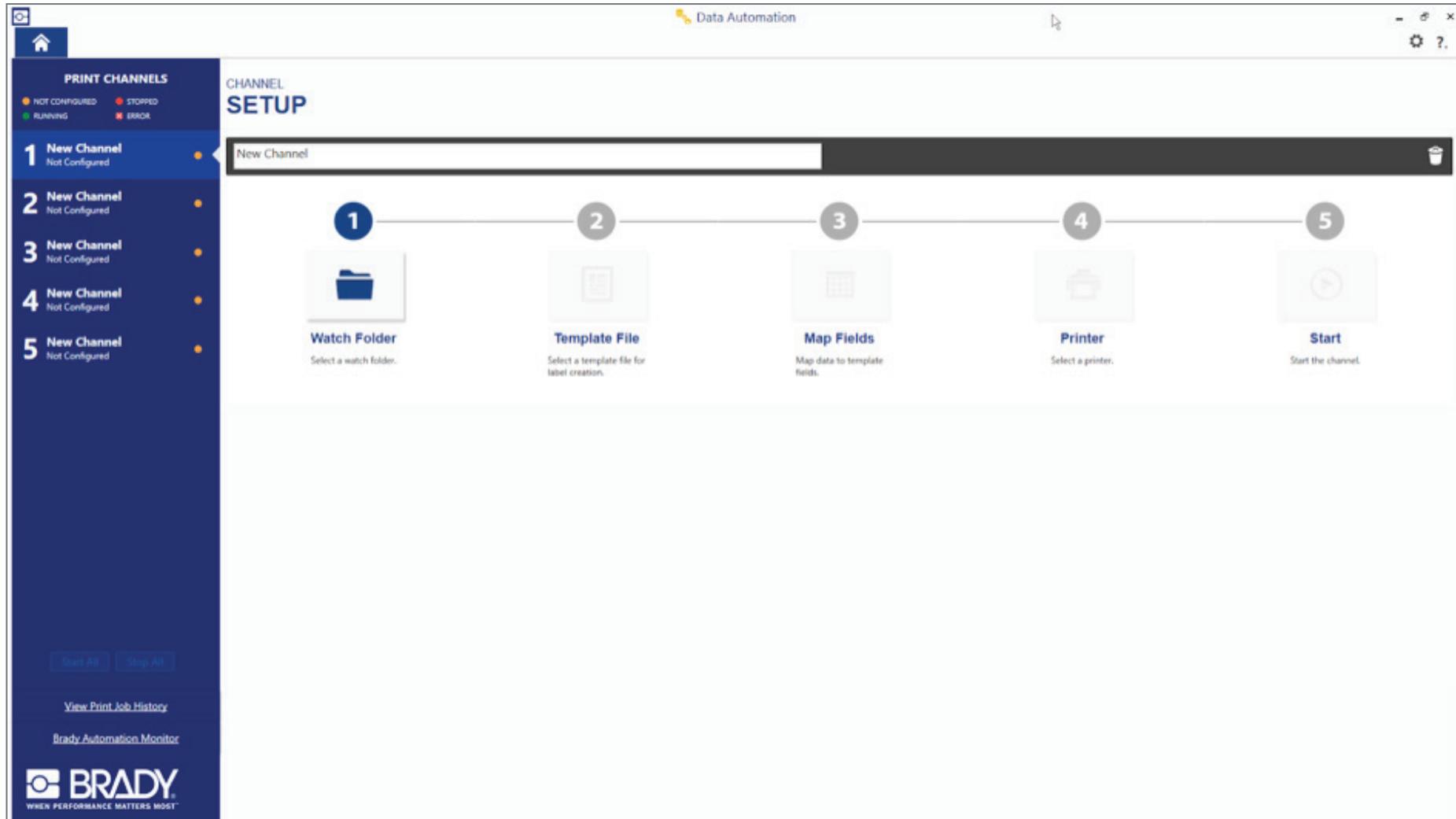


If you already own Brady Workstation, go to the built-in app store

 [Brady App Store >](#)

Set up Data Automation:

Open Brady Workstation and select the Data Automation app. You will see 5 unconfigured channels, more can be ordered if needed. Select the top channel on the left to set up a first automated label printing process with Data Automation





1. Set up a Watch Folder

Click the Watch Folder, or step 1 of the channel to open the Watch Folder window.

Select the location Data Automation should monitor for dumped CSV-files. Set the file extensions Data Automation should look for.

Choose what happens to the CSV-file after Data Automation has processed it:

- Delete file: remove from the file system
- Move file to: keep a copy of the file in a new location
- Allow to reprint jobs: enables reprinting the data later. The data/ csv file remains on the server.

Watch Folder X

Select a folder to watch for incoming data files:

Watch Folder:

Only process files with extension: *.

After data file is processed:

Delete file

Move file to:

Allow to reprint jobs



2. Template File

Select a Brady Workstation label template by clicking Template File, step 2 of channel setup.



If you have not used Brady Workstation before, open the Brady Workstation Custom Designer app to create a label template for this channel. The Custom Designer app is included in your Data Automation download.

Watch the 4 minute video and see how label templates are easy to create with the Brady Workstation Custom Designer app.

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3. Map Fields

Mapping data to labels will require an example CSV-file dumped by your system to feed this Data Automation channel

Map Fields

a. File Settings

Choose a sample file:
C:\Data Automation Demo Folder

File format:
Data has column headers?
 Yes No

Choose a delimiter:
 Tab Comma
 Semicolon Other

Choose an encapsulation character:
 Auto Other

b. Data Columns

1.	serialnumber
2.	description
3.	copies
4.	country

c. Mappings

Template Field	Data Column
TXT_Description	<input type="text"/>
BC_AZEAZEAZEAZEAZ	<input type="text"/>

d. Optional Control Fields

Control Variable	Data Column
Printer Name	<input type="text"/>
Label Copies	<input type="text"/>



a.

Input Settings

- Locate the sample CSV-file
- If the file has a column header, select “Yes”. A column header indicates which data are represented in which column but does not contain actual data itself.

With column header: Company, street_number, postal code, city
 Brady NV, Lindestraat 20, 9420, Zele

Without column header: Brady NV, Lindestraat 20, 9240, Zele

- Enter the delimiter used in the sample CSV-file
- The encapsulation character helps your system recognise data that are part of a single field. Data Automation will automatically recognise common encapsulation characters (Auto) and can recognise uncommon ones (Other). The encapsulation character is not included in the label print.

Without encapsulation character: Company, phone, street_number, postal code, city
 Brady NV, 052457811, Lindestraat 20, 9240, Zele

With encapsulation character: “Company”,”phone”,”street_number”,”postal code”,”city”
 “Brady NV”,”052457811”,”Lindestraat 20”,”9240”,”Zele

b.

Data Columns

- If Input Settings are changed, new data columns will appear here after hitting the ‘Refresh’ button in the Input Settings window on top.

c.

Mappings

- In the window to the right, the fields you used in your Brady Workstation label Template File are listed.
- Select where CSV-data columns should appear on your label template.

d.

Optional Control Fields

- If you have the label printer installed on the same server you are running Data Automation on, you can have the database add the full Windows printer name to the CSV-file. This enables you to print labels on different printers, depending on the CSV-file.

Company, phone, street_number, postal code, city, printer
 Brady NV, 052457811, Lindestraat 20, 9240, Zele, i7100-300

- You can also set the number of copies. This works in the same way as setting the printer. Simply add a column where your system will dump how many copies you want of a label.

Both control variables are independent of each other and are optional.



Benefits of using a column header

Data Automation will map data to labels using column headers if available. This can make your setup future proof.

Imagine CSV-dumps would start including a phone number that should not be printed on the label.

with header

```
Company, phone, street_number, postal code, city
```

```
Brady NV, 052457811,Lindestraat 20,9240,Zele
```

without header

```
Brady NV, 052457811,Lindestraat 20,9240,Zele
```

If you use column headers, Data Automation will recognise the columns it needs, and will not add the phone number to your labels.

If you do not use column headers, Data Automation will place the phone number on the label's spot for the street and so forth, until you reconfigure the channel.

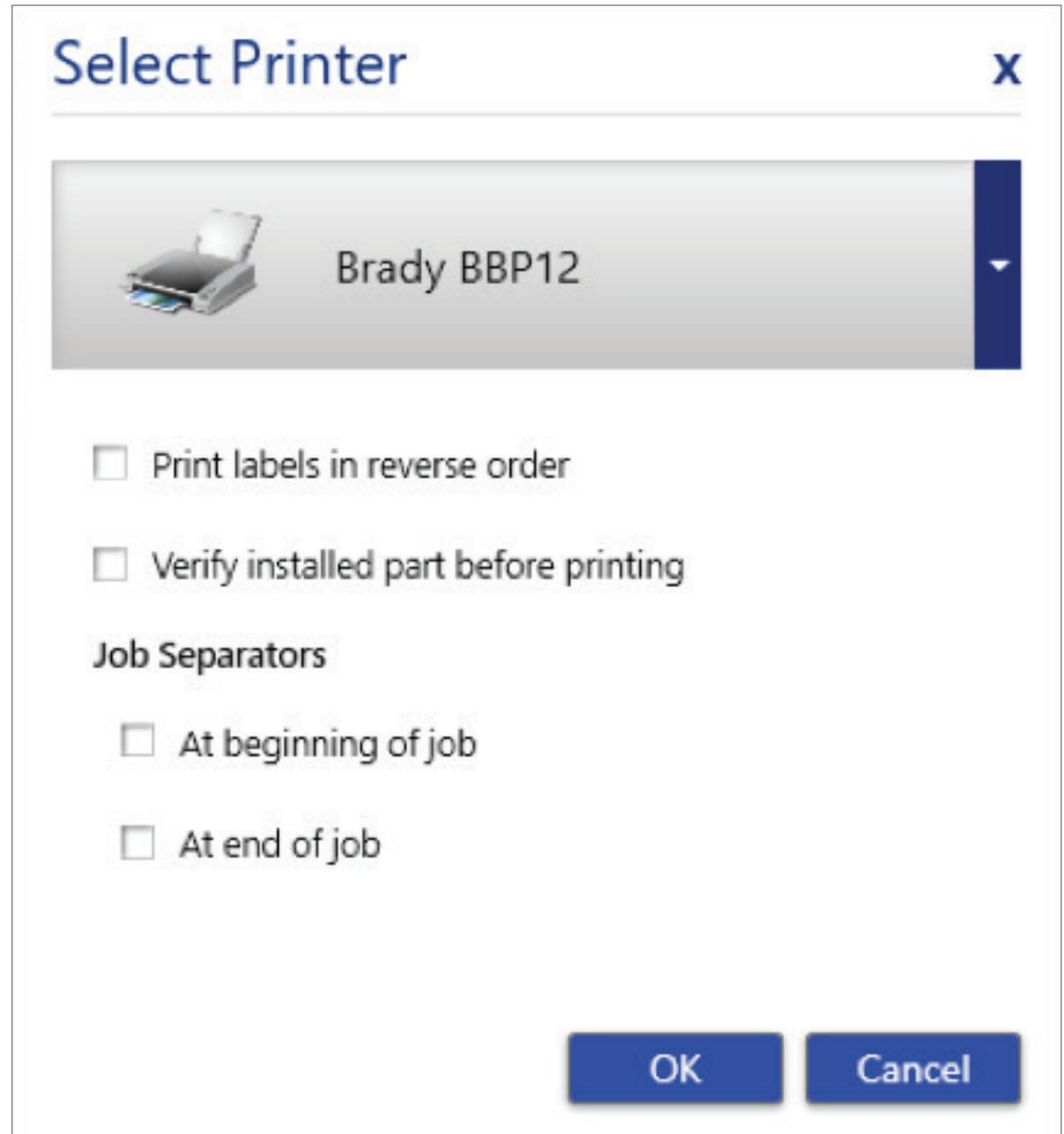
4



4. Printer

Select the default printer. If a printer has been set up as a control variable, the default printer in step 4 will act as a back-up.

- Set the order data need to be printed in (top-bottom, bottom-top).
- Select part verification if you want Data Automation to check if the correct printer consumables are loaded (only for bi-directional communication label printers)
- Define where to include a job separator: A job separator is an additional label to identify the start and/or end of a print job on the label roll. It can guide users to take the right set of labels if the same printer is used for multiple print jobs simultaneously. The job separator label includes date, time, csv-file name and a unique job id.





5. Start

You are now ready to start the channel. Data Automation will monitor the watch folder and print incoming files as we have defined in step 1 to 4.

You can now close Brady Workstation or set up 4 more channels by repeating steps 1 to 5.



How to set up CSV data-dumps?

Can your database export data in a CSV-file?

Most systems have an option to dump data to a CSV-file.

A CSV file is a data file that contains information in a human readable instead of a binary format. A CSV file can be opened with notepad in order to read its contents. It is a record on a single file in which lines are divided by punctuation marks, usually e.g. commas or semicolons.

Example:

```
Company, street_number, postal code, city  
Brady NV, Lindestraat 20, 9420, Zele
```



How to integrate CSV data-dumps?

Data-dumps to CSV-files can be integrated in existing business processes or databases by creating a hook.



1. Integrate CSV-dumps by creating a hook in an existing business process so that the export to CSV becomes part of that particular business process. Check with your business administrator if this is possible.

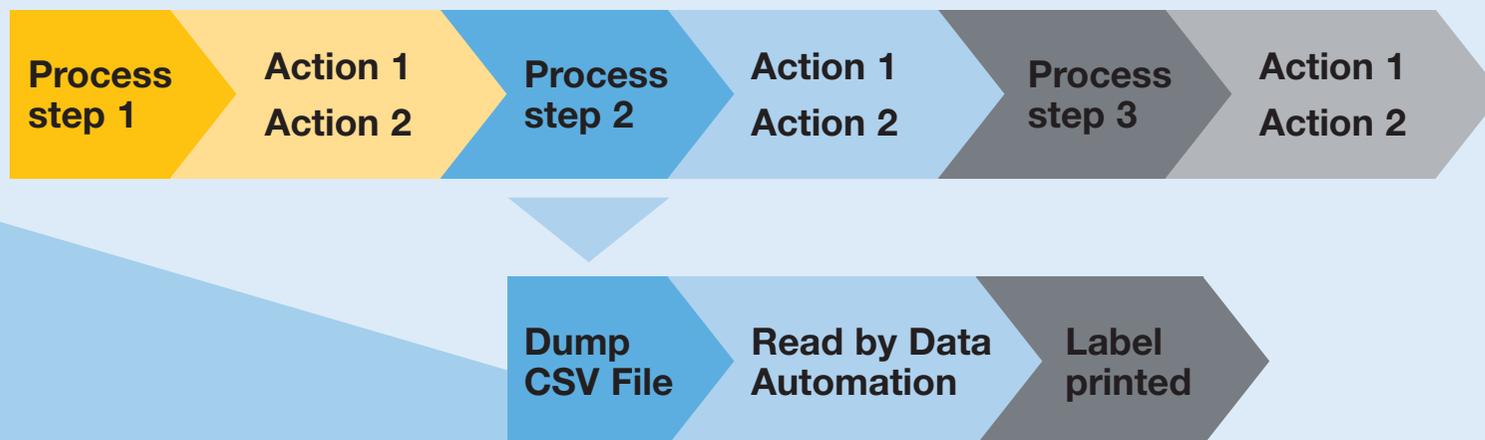


2. Integrate CSV-dumps by creating a stored procedure in the database that can check whether a new record is added or a field is updated in order to trigger a dump of selected data for labelling to a CSV file. Check with your database administrator if this is possible. Additionally, label data could be sent to an inbox and a hook can be created in the mail server to save label data attachments automatically.

A standard business process



A standard business process with a hook to dump data in a CSV-file





Top tips for purchasing label printers

These tips can be practical to select/purchase the best label printer for your setup.

1. Decide first if you want to print labels on a fixed or flexible location. If your label printing location needs to be flexible, select Brady portable label printers with Wi-Fi capabilities. If you will be printing labels on fixed locations, select from a wide range of Brady desktop label printers.
2. Determine how many labels you will need to print per day, and decide on the print quality in terms of DPI.
3. Decide how printers will be connected. Will you use the wired or wireless network? Or will you connect printers directly to the computer running the software with a USB-connection?
4. Determine which label size and label material your label printers should be able to print. Label reliability and legibility is heavily dependent on label material. Discuss ideal options for your environment with Brady to avoid label failures or relabelling operations.



Case example: Fully automated label printing in printed circuit board manufacturing

Challenge

A Printed Circuit Board manufacturer supplies pcb's to multiple customers. This results in a variety of labels that need to be printed automatically to keep up with delivery requirements.

Label template

The amount of label templates in use could be reduced to 4 different templates. Each final product needed 1 PCB label, 1 package label per box and 1 shipping label. 2 PCB label layouts remain in use.

- PCB layout A: this label template includes the pcb type and lot number
- PCB layout B: this label template includes the pcb type and lot number
- Box labels: this label template includes product name, pcb type and lot number
- Shipping labels: this label template includes Company (customer) name, street, postal code, country and city

CSV-data dump set up

The manufacturer's ERP system was able to dump CSV files.

1 CSV-file was set up with all ERP-data needed to print the 3 required labels per product. The customer decided to use column headers.

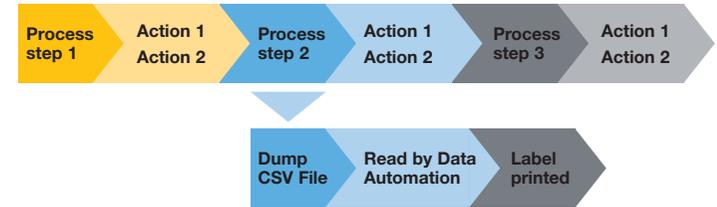
"PCBTYPE","Lotnr","PCB_amount","street","postal code","country","city","Company name","box-amount","product name"

Data Automation set up

The setup uses the option to store the CSV-file in a different folder after it has been processed by Data Automation. In the PCB manufacturer's set up, Data Automation also monitors this storage folder in another channel so that 1 CSV-file with all necessary information for 3 labels is cascaded down.

4 Data Automation channels were set up, 1 per label template:

- PCB layout A: if PCB product type 1, the ERP system dumps the data as a CSV-file in this channel's Watch Folder. The channel is set up to place "PCBTYPE" and "Lotnr" on the first label template. After processing, it dumps the CSV file in the Watch Folder for the Box labels channel.
- PCB layout B: if PCB product type 2, the ERP system dumps the data as a CSV-file in this channel's Watch Folder. The channel is set up to place "PCBTYPE" and "Lotnr" on a second label template. After processing, it dumps the CSV file in the Watch Folder for the Box labels channel.
- Box labels: this Data Automation channel receives CSV-files in its Watch Folder from the Data Automation channels PCB layout A and PCB layout B. It is set up to place "product name", "PCBTYPE" and "Lotnr" on the box label template. "Box-amount" is set up as a control variable to set the amount of copies. This channel copies the CSV-file after use in the Watch Folder for the Shipping labels channel.
- Shipping labels: this Data Automation channel receives CSV-files in its Watch Folder from the Data Automation channel Box labels. It is set up to place the CSV-file fields "Company name","street","postal code","country","city" on a single shipping label.



Case example: Fully automated label printing in a laboratory

Challenge

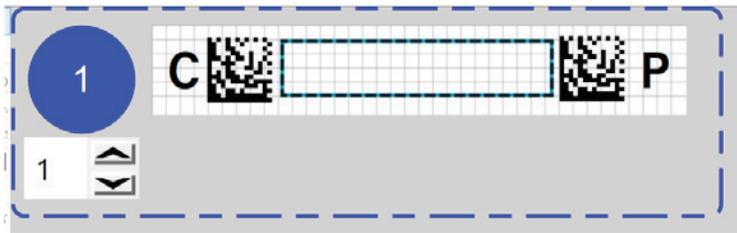
The oncology lab in a local hospital creates separate records in their LIMS when samples are spliced. Each sample needs a dedicated label that includes sample creation date, a unique LIMS ID and a parent ID for traceability purposes.

The laboratory recognised they could save valuable time by automating label creation for these samples.

Label template

The preferred label template includes 2 QR-codes, one with the sample's unique(Child – C) ID on the left, and another one with its parent ID (P) on the right. It also includes the sample creation date in the center.

All this information can be fitted on a standard 38.10 x 6.35 mm label.



CSV-data dump set up

The laboratory has a LIMS that can dump data to CSV-files. Within their existing business process, a sub process or hook was created after splicing samples.

Next to the required information for the labels, the LIMS also dumps additional data that could be added to a new label template planned for the future.

The laboratory used a CSV-file with column headers much like the one shown below:

```
"C_ID","P_ID","Date_created","Origin","Create_by","Test_Code"  
"2548246589","1985634574","2019-02-12","H004","casterst","DICT004"  
"2548246590","1985634574","2019-02-12","H004","casterst","DICT004"  
"2548246591","1985634574","2019-02-12","H004","casterst","DICT004"  
"2548246592","1985634574","2019-02-12","H004","casterst","DICT004"
```

In the above CSV-file the first column is the sample child id, the second is the parent ID. The third column offers the date on which the sample was created. Additional data not immediately included in the actual label includes an origin code for the laboratory, a person ID for the creator of the sample, and a code referring to the laboratory test in which the sample is used.

Data Automation set up

First, a Watch Folder was set up using the folder where the LIMS dumps the data in a CSV-file.

After setting up the Watch Folder, the label template, created with Brady Workstation Custom Designer, was selected.

Next, the data in the CSV-file were mapped to the 3 label fields included in the label template that was selected. We only used the first 3 data columns (Child, Parent, Date) to populate the label fields using headers.

As the laboratory was using a single printer, we did not include a printer name control variable. Each database record requires only one label so we also did not set up a control variable for label copies.

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