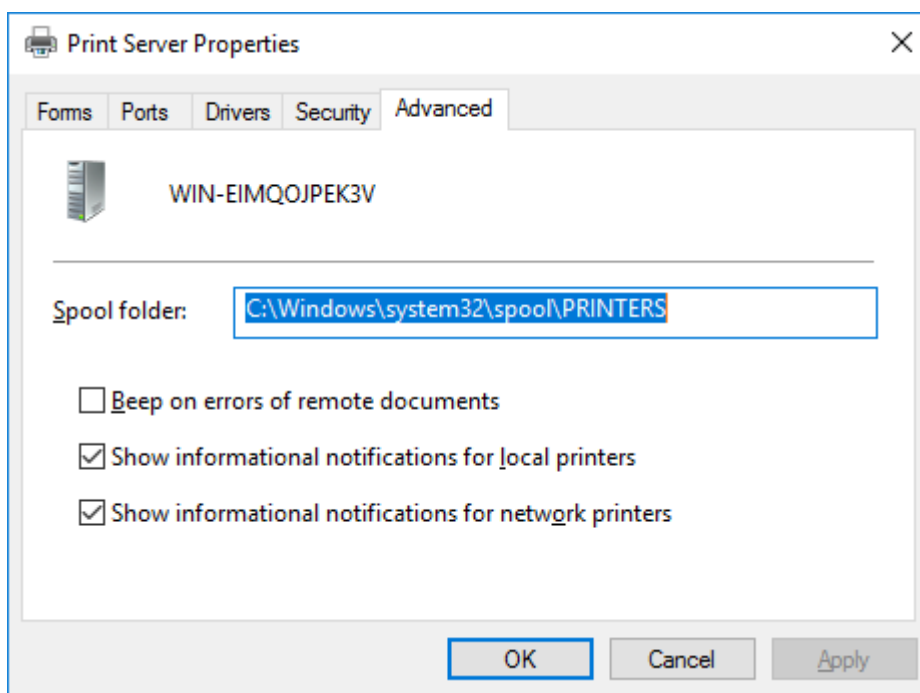


The stethos ELP (Enhanced Laser Printing) is a versatile Output Management System which is available on a variety of operating systems, as well as a networked appliance and embedded within a selection of printer/MFP devices. A detailed functionality overview is available at the stethos website <http://stethos.com/elp>

This document describes how to capture spool files on a Microsoft Windows based operating system. Sometimes you are requested by stethos support to provide them to us in order to give support or implementation services. Here is the step by step procedure:

1. The job comes already through a MS Windows print queue
  - 1.1. The best way is to change the queue port to FILE. Then you will be prompted for a specific file name for every job.
  - 1.2. If the print queue does quite a bit of printing, the version 1.1 is may be a little too interrupting. There is another way: Open the CONTROL PANEL - printers - Properties and open the Enhanced tab. In the second last option you can set the queue to NOT deleting a job after it is printed. Turn it on and save the setting.

For each printed job you find 2 files in the spooling folder (which is usually at %windir% \system32\spool\printers for a non clustered Windows installation). If you are unsure about your spooling folder check the windows spooling system for the spooling folder:



\*.shd which contains the information seen in the queue windows for that job, Name, user, etc.

\*.spl is the job itself. Sometimes the ending can be named differently.

## How to capture spoolfiles

In rare cases, the second file is not the print file itself, but a windows internal data format before printing. In order to see if it is a raw print file, simply send it directly to the printer:

```
lpr -S ###.###.###.### -P raw %windir%\system32\spool\printers\$$$$.spl
```

###.###.###.### is the IP address of the printer \$\$\$\$.spl the file name to be sent.

### Notes:

- Instead of "raw" you can also try the ports "lp", "prn" or "9100"
- The -S and -P must be written in upper case.
- If the LPR command is unknown to your server, then please add the LPR port monitor it via the feature-based installation of your Windows server.

If the printed result is rubbish, then you need to use solution 1.1.

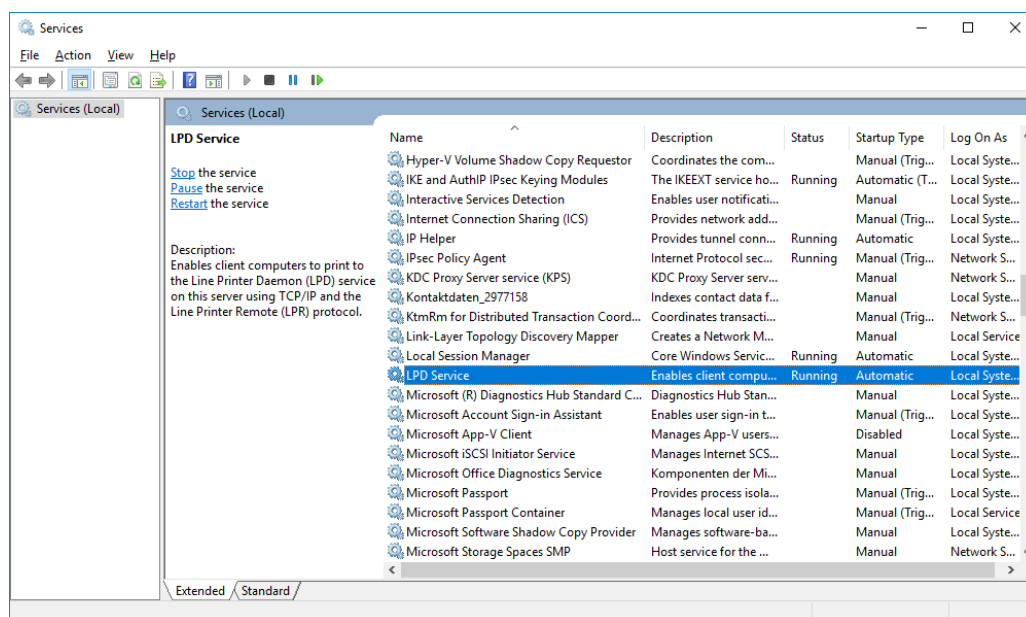
2. Job coming from an SAP Host which is hosted somewhere, and you have a good SAP admin service:

In that case please share your queue using the following 4 digit share name: 9100.

Then ask your SAP admin to setup a new printing with Host Access Method U and give him your TCP/IP Address of your PC and the name for the Host printer: 9100.

Alternatively you can also use Host Spool Access Method L. But in that case you need to make sure that on your PC the LPD service is installed and running. If the service is not yet installed please install it via the role-based installation procedure of your server operating system. You'll find it in the category "Print and document services".

Make sure the newly available LPD service is set to autostart and running:



## How to capture spoolfiles



You may test the functionality by opening a DOS cmd window via START - Run - cmd. Then check if you can find in the actual directory any file using the dir command. You can send this file now to the queue using the same LPR command as described above.

```
lpr -S YourNewIPAddress -P PrinterQueueName Filename.ext
```

Like that: `lpr -S 192.168.0.234 -P 9100 c:\windows\setuplog.txt`

If the printer queue name contains blanks, use double quotes like this:

```
Lpr -S 192.168.0.234 -P "My Printer Name" filename
```

You may then erase the print job and set the queue back into printing mode.

In both cases you can track the jobs like described in section 1.

3. The job comes from a host system, like UNIX or AS400 etc or any other system, and you have no access to the system administrator.

There are 2 ways how the data streams are sent to the printer:

1. Using the LPR (LP) protocol to the tracked port 515 and from there the printer sends the job to the requested internal queue (usually named 9100) or
2. direct usage of TCP/IP printing method to port 9100.

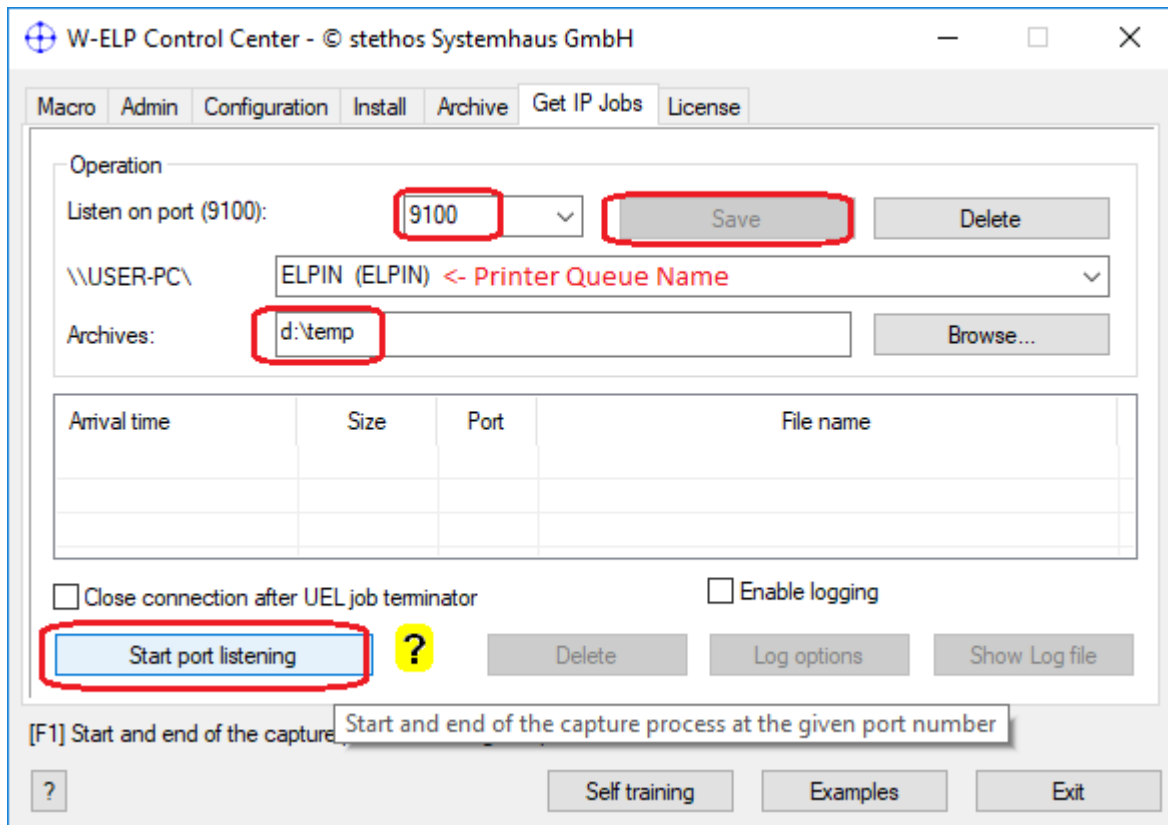
For both cases you need to power of your printer and set your PC to the IP address of your printer.

START -> CONTROL PANEL -> Network connections -> double click on the LAN connection -> button properties -> double click "Internet Protocol (TCP/IP)" -> Use the following IP address -> fill in IP address and subnet mask

After saving these settings, open a DOS cmd window: Start - Run - cmd and type in "IPCONFIG | more" and check if the IP address was changed.

Receive LPR jobs: Setup the TCP/IP Print service like explained above. Then try to send the job. If an error is generated and the printer is not available, then in most cases you need to change the queue share name to one of the names listed above, or ask for the queue name.

Receive IP Jobs: Download from our Web site <http://stethos.com/elp> the windows based W-ELP Software and install it. Then start the W-ELP Control Center. You can skip the Startup Agent. Open the "Get IP Jobs" tab and enter 9100 into the first field and click save:



Then select the shared queue name in the second drop down field or enter an archive path. Then apply the new configuration by clicking on "Save". Then final start port listening.

The jobs will arrive in the named Windows printer queue and can be found in the %windir% \system32\spool\printers directory. If you entered an archive path you'll find the jobs additionally there.

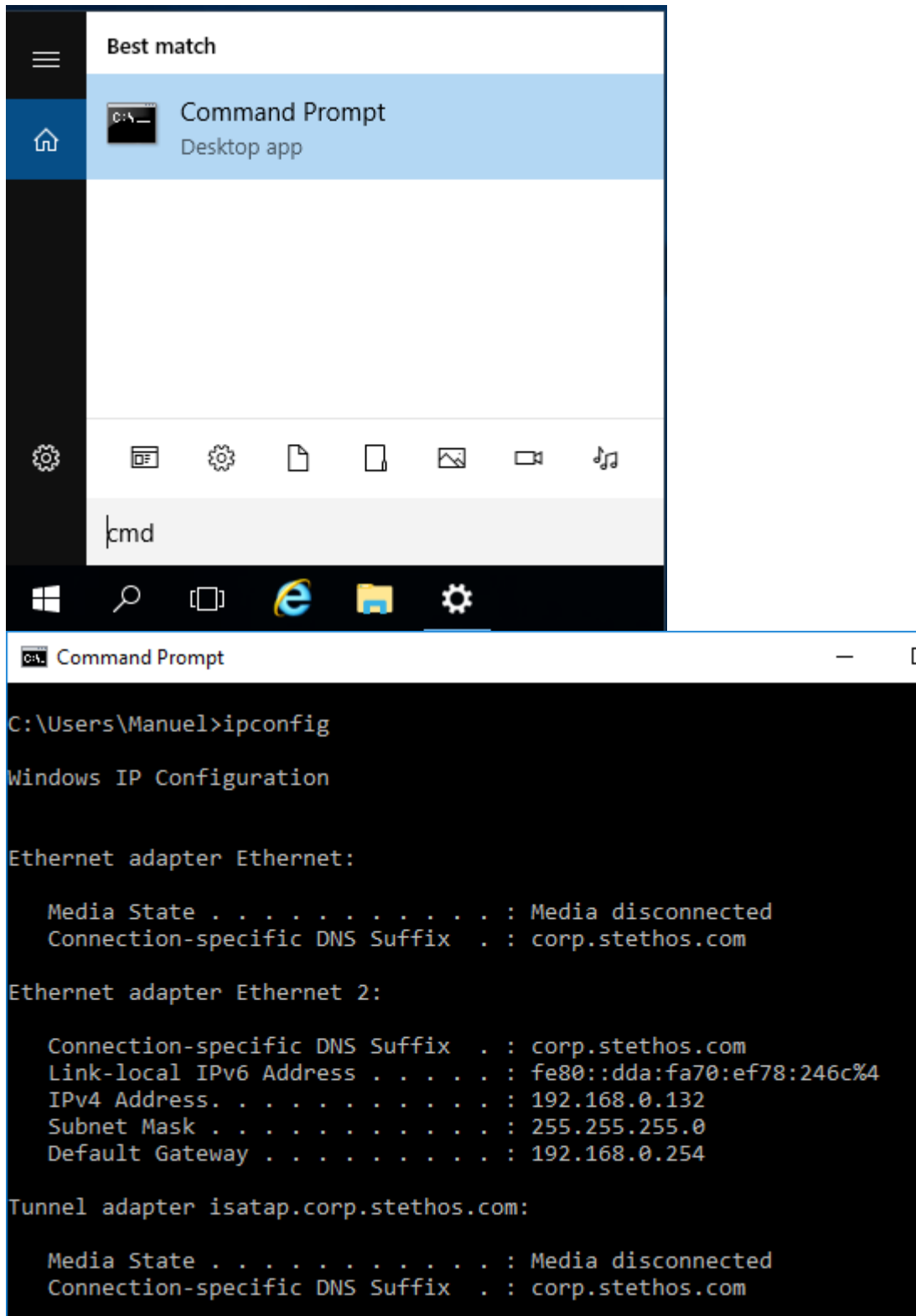
You may then erase the print job and set the queue back into printing mode. In both cases you can track the jobs like described in section 1.

4. The job comes from a host system, like UNIX or AS400 etc or any other system, and you have no access to the system administrator.

There are 2 ways how the data streams are sent to the printer:

1. Using the LPR (LP) protocol to the tracked port 515 and from there the printer sends the job to the requested internal queue (usually named 9100) or
2. direct usage of TCP/IP printing method to port 9100.

For both cases you need to power on your printer and set your PC to the IP address of your printer: START -> CONTROL PANEL -> Network connections -> double click on the LAN connection -> button properties -> double click "Internet Protocol (TCP/IP)" -> Use the following IP address -> fill in IP address and subnet mask



After saving this settings, open a DOS cmd window: Start - Run - cmd and type in "IPCONFIG | more" and check if the IP address was changed, here 192.168.0.167.

- Receive jobs via LPR protocol:

Setup the TCP/IP Print service like explained above. Then try to send the job. If an error is generated and the printer is not available in most cases you need to change the queue share name to one of the names listed above, or ask for the queue name.

- Receive IP Jobs:

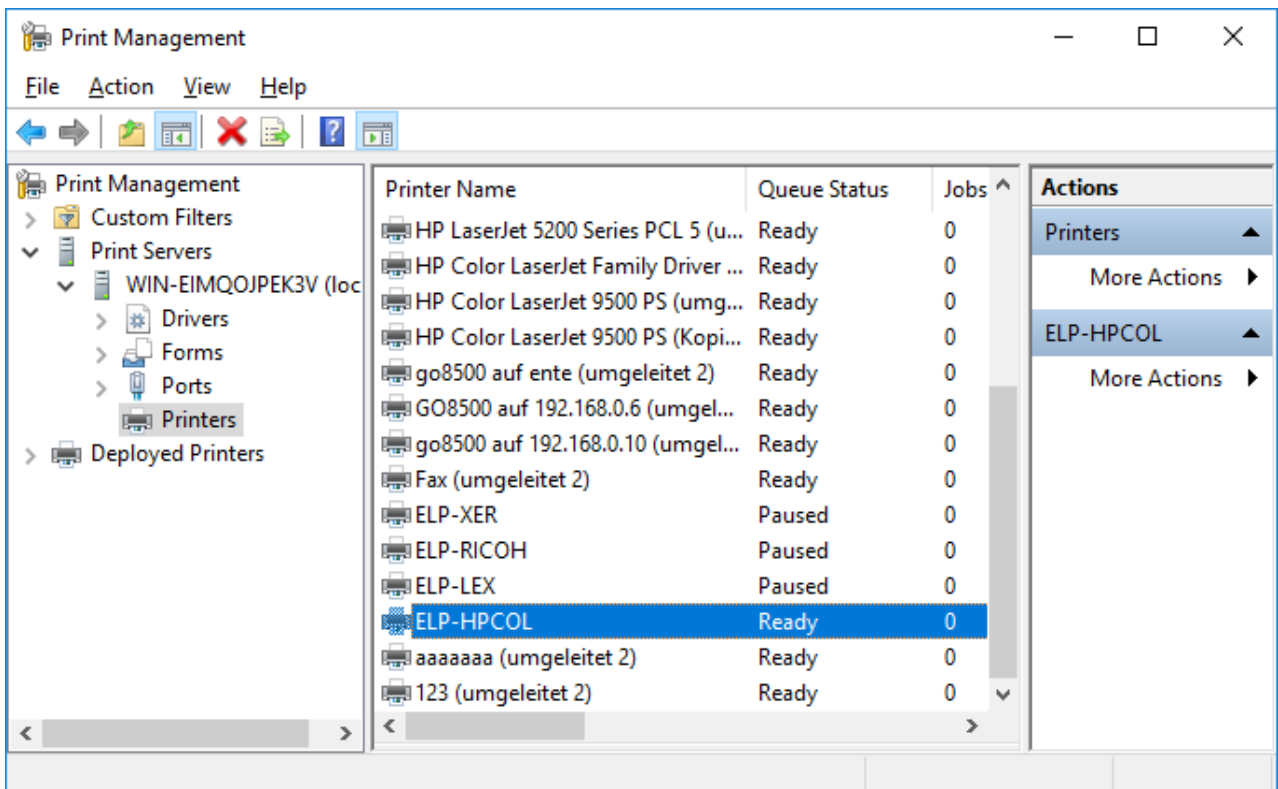
Download our MS Windows based W-ELP Software from [here](#) and install it. Then start PPAAdmin Control Center. You can skip the startup Agent and all popups. Open the "Get IP Jobs" tab and enter 9100 into the first field and a path in the archive field, then click apply. [Get IP Jobs Register Tab](#)

Finally start the port listener and use for first test the tcpsend tool, mentioned above in chapter 1. But this time: tcpsend 127.0.0.1 9100 "Filename". If the local host IP 127.0.0.1 does not work, then use the name localhost or the real IP address.

Note: The ELP GetIPJob routine is smart enough to communicate with the host and answer all its questions, like page count, echo etc. So the behavior is the same as a real printer.

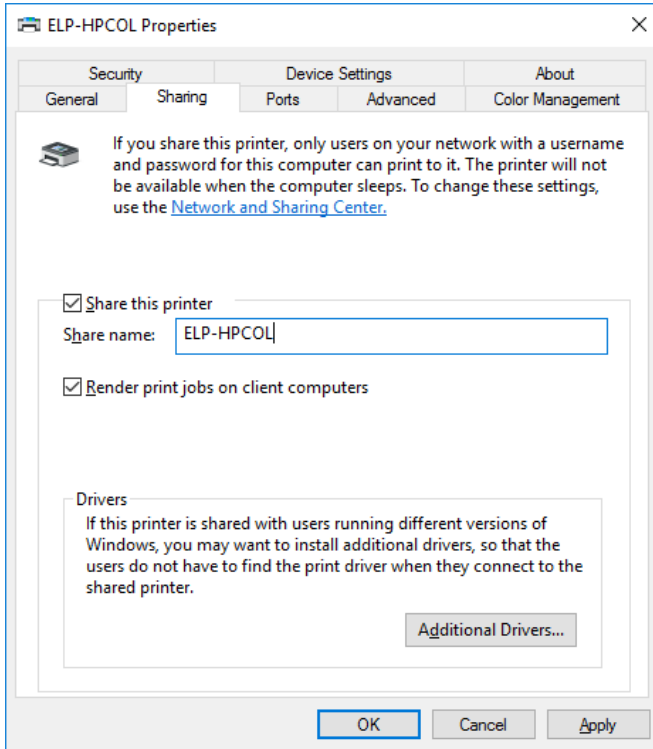
## 5. Printing from SAP

Open from Start Menu:



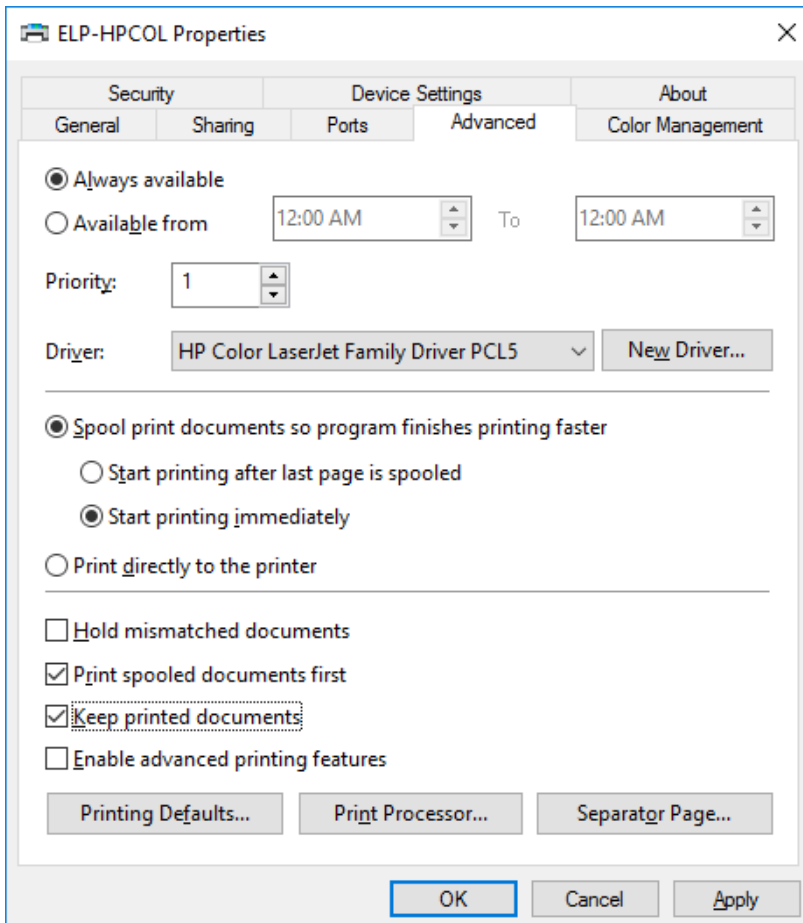
Double click on any listed printer, which usually prints to an PCL5 enabled [laser] printer

Open the printer properties.



Open the sharing tab and share the printer using any legal name  
Here: ELP-HPCOL (recommended: no blanks!)

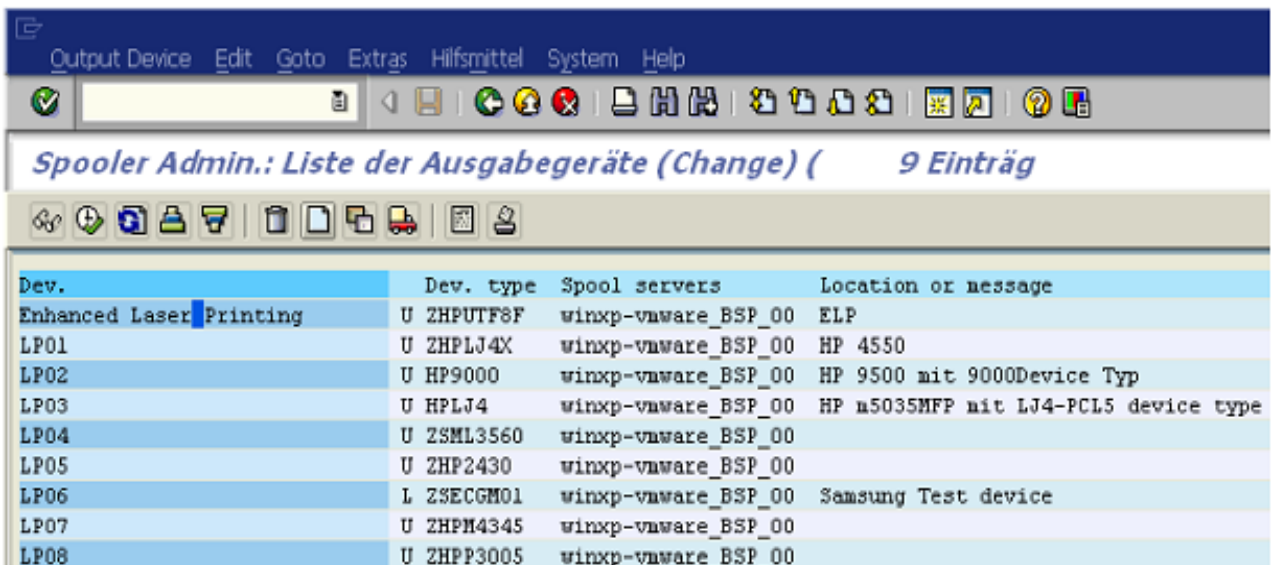
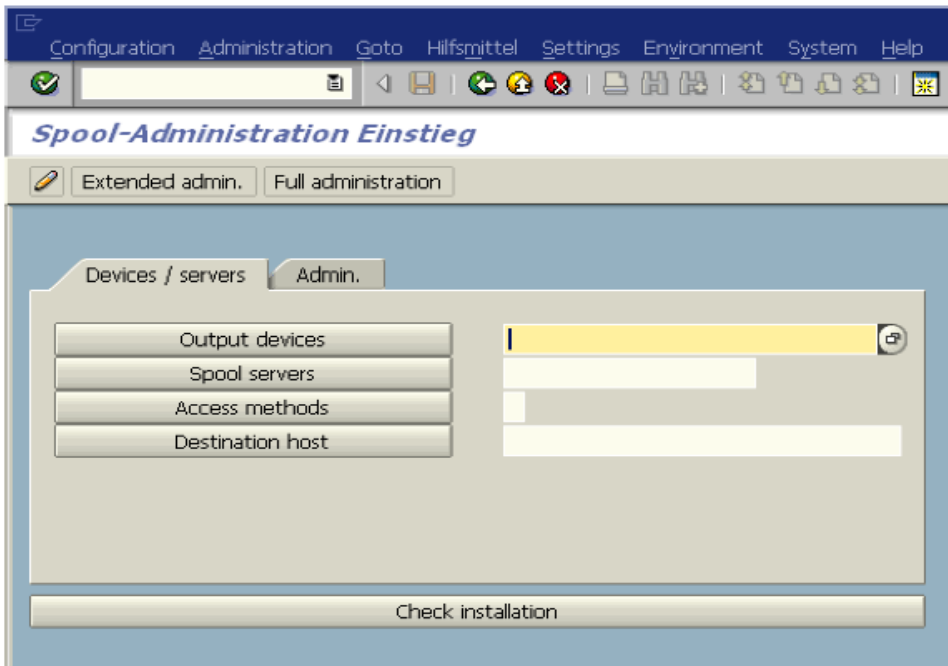
Open the Advanced tab and enable: "Keep printed documents":



## How to capture spoolfiles

Then check for the IP address of your PC as shown in chapter 4 above by opening the DOS BOX, type ipconfig and check for the PC's IP address. Close the box using the exit command.

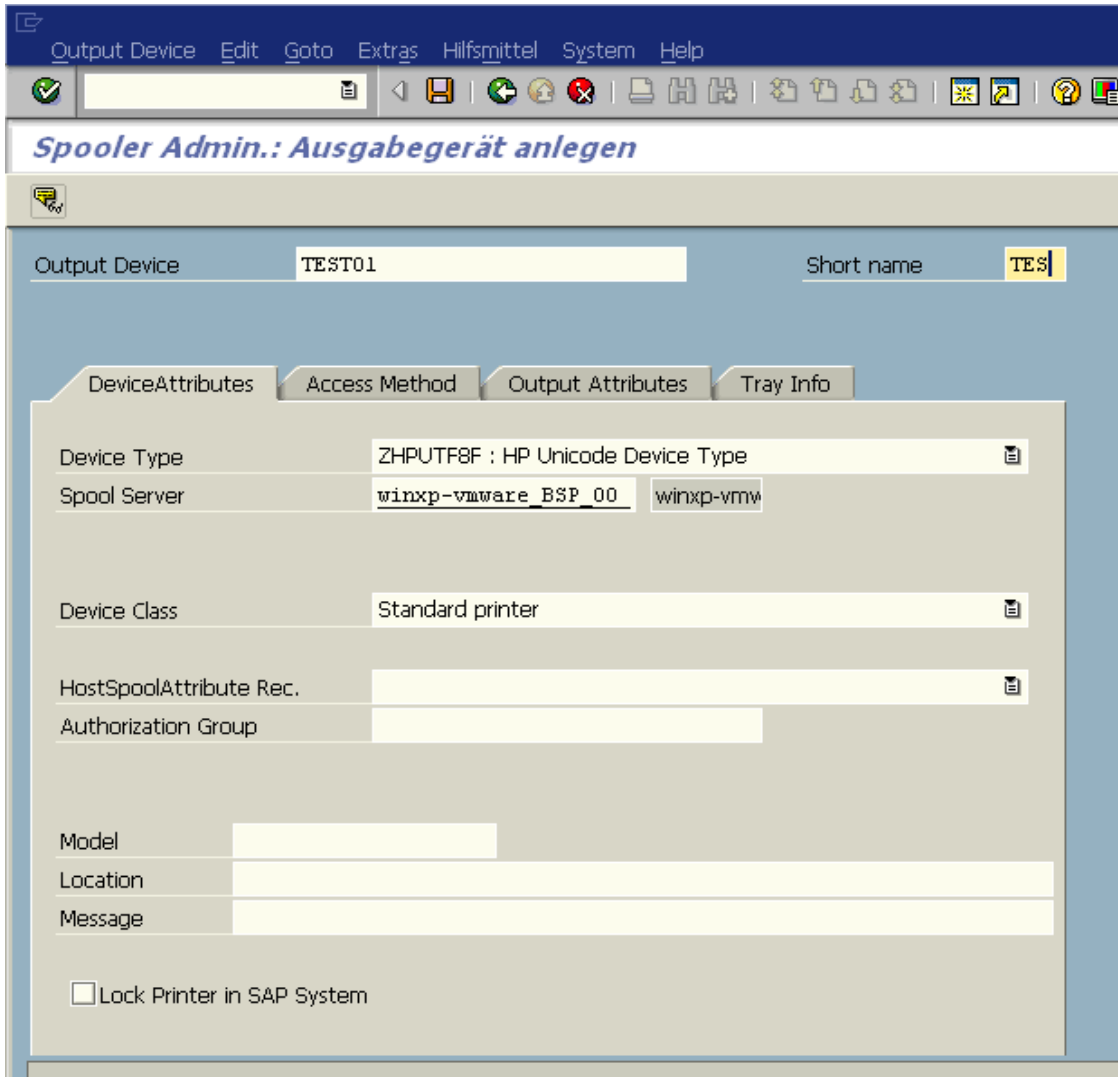
Connect to SAP and type in the transaction: spad and press enter. SAP will lead you to this screen:



Click on button: "Output devices" and there click on the white paper icon in order to create a new output device (Printer)

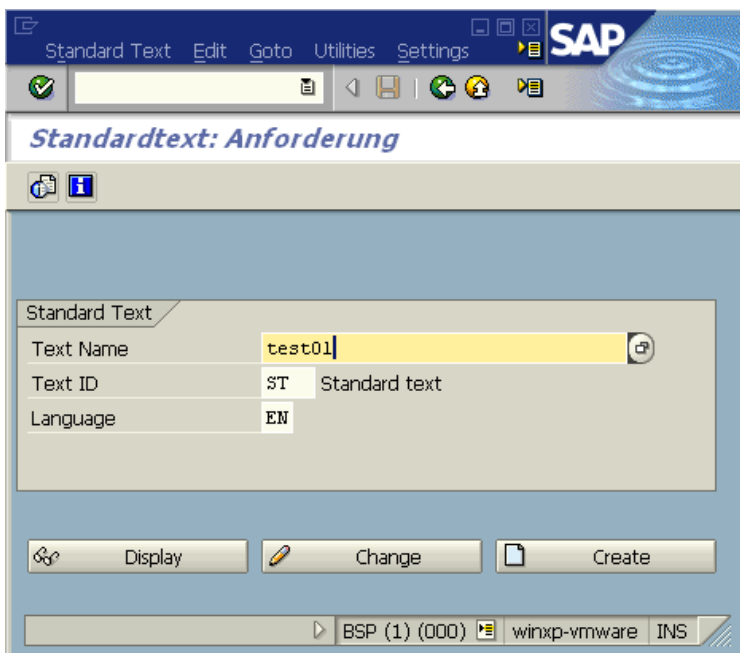
Name in the top line your new printer and give it a short name, also make sure, that you use the correct device type.





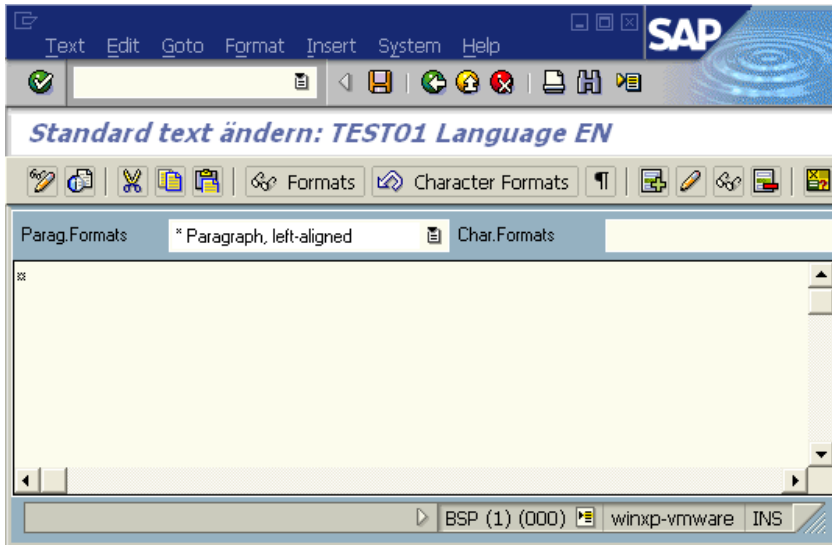
Then click on the Access Method Tab and use the U: Berkeley protocol and the printer share name and the IP address of your PC. Store the new printer setting.

In order to test, click on Tools "For device types" Test data (SAPscript)

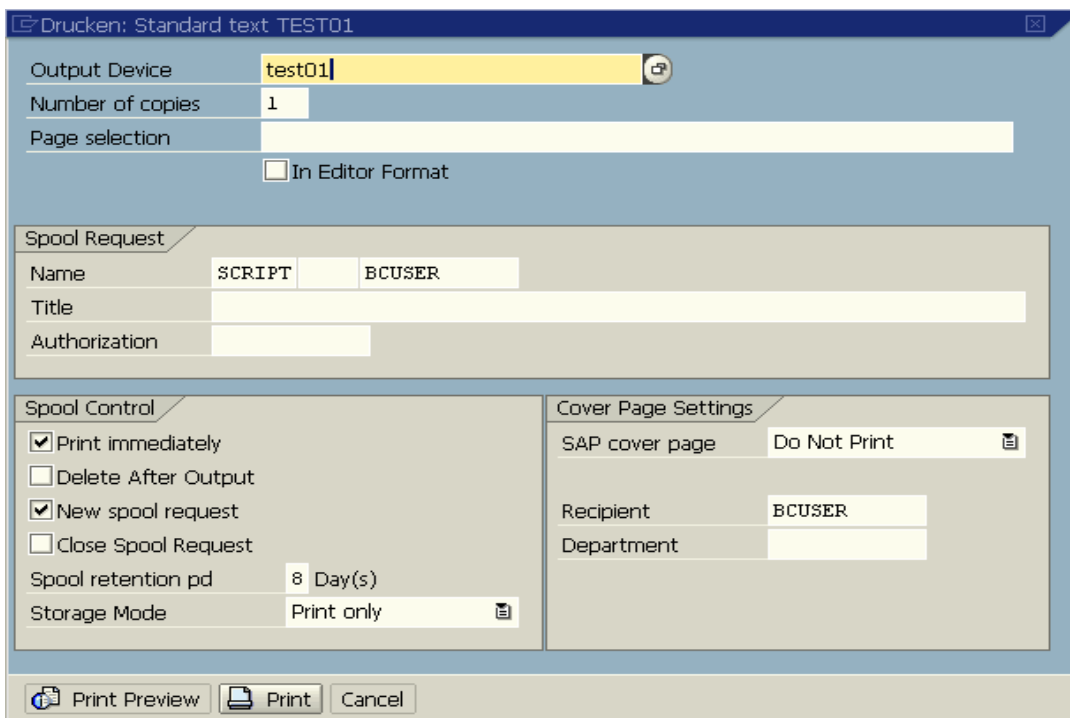


## How to capture spoolfiles

Enter a new name for a new document, here test01 again and click on create  
Click on the printer icon

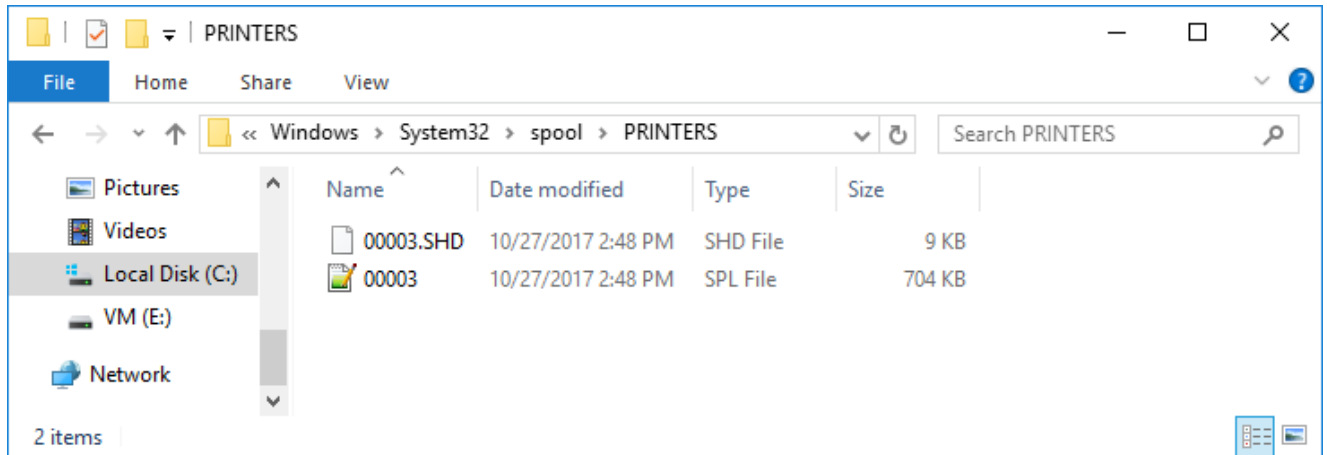


Enter the name of the new created Output Device or search for it for example by typing in on the search screen the short name. Anyway the result will be like shown below. Then click on the print button



Document Name	Status	Owner	Pages	Size	Submitted
Test Page		Manuel	1	703 KB	2:48:55 PM 10/27/20

1 document(s) in queue



And in your Windows queue the job is supposed to arrive now. Remember the print job is not erased after being printed

Final Notes:

1. The spl file is the one which is needed for evaluation
2. The ending of the SPL file may vary.
3. If the directory is empty, then check in the registry for the location of the spool directory for this printer.

Without Windows: by using the AP-ELP appliance

Preparation of the AP-ELP:

Change the IP address of the printer to another one.

Reset the box and check on your DHCP server, which IP address was assigned to the box.

Enter the web-interface of AP-ELP. After logging in, change the destination printer IP address to the new printer IP.

Setup the appliance's IP address (use the old one of the printer).

Restart the appliance to apply all the changes.

Setup the configuration to capture incoming data streams

Log into the web-interface.

Your ELP configuration file "convert.ini" (can be found on the box in the menu "storage" in the folder "runs") should look something like this. Therefore open Notepad copy the next 5 lines into it and store it into the filename convert.ini. Make sure using the file explorer and that the filename is in lower case!

```
[GLOBAL]
Macro_Download=ON
ELP_Max_Heap=2500000
ELP=ON
InArchiveDir=#ELP_FORMS_PATH#captured
```

Using the browser, finally return to the AP-ELP storage runs directory and download the new convert.ini

Technical background informaton: InArchiveDir defines the folder and filename where to store the incoming data streams. Usage:

```
InArchiveDir=#ELP_FORMS_PATH#foldername;filename
#ELP_FORMS_PATH# is the ELP internal variable for the folder "runs" on the box.
```

The folder must be created before archiving can start.

The data streams then will be stored as:

```
runs/foldername/filename
runs/foldername/filename_1
runs/foldername/filename_2
```

## How to capture spoolfiles

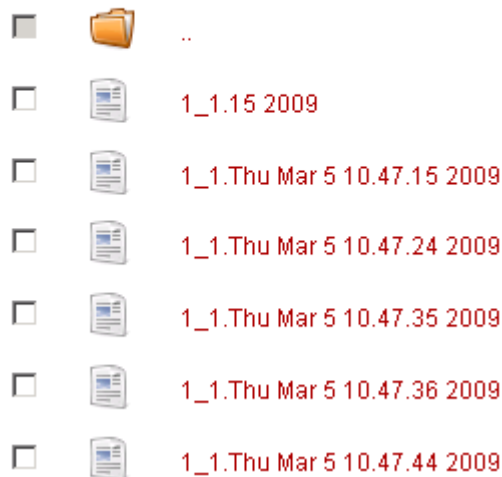
runs/foldername/filename\_3  
[...]

If you don't define a folder name, the data streams are stored in the "runs" folder.  
If you don't define a file name like in the example above (gray background), the incoming data streams are stored with a date/time stamp:



### file on print server

location : runs/captured/



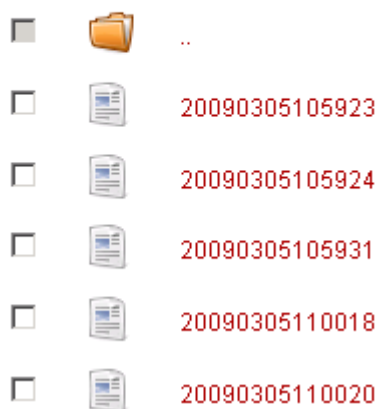
Recommended is not to use a separate folder, but using the file name parameter. Reason for this: If you define a folder, you won't be able to download the files via FTP.

Here an example how to use the internal variable DATESERIAL for naming of the captured files:  
[GLOBAL]

```
Macro_Download=ON  
ELP_Max_Heap=2500000  
ELP=ON  
InArchiveDir=#ELP_FORMS_PATH#captured;#DATESERIAL#
```

### file on print server

location : runs/captured/



Setup the configuration to capture outgoing data streams

It's almost the same like capturing incoming data streams. Just add to your convert.ini the following line:

```
OutArchiveDir=#ELP_FORMS_PATH#;out_#DATESERIAL#.prn
```

Usage is exactly the same like for incoming data streams (see above). Recommended is to create to folders or to use different names, here an example doing both:

```
[GLOBAL]
Macro_Download=ON
ELP_Max_Heap=2500000
ELP=ON
InArchiveDir=#ELP_FORMS_PATH#;in_#DATESERIAL#.prn
OutArchiveDir=#ELP_FORMS_PATH#;out_#DATESERIAL#.prn
```

Downloading the files from the appliance

There are two common ways to do this:

1. Using the web-interface and the browser (recommended):  
Just right-click on the file -> save as... / save target as...
2. Using an FTP client (only works if the captured files are stored in "runs"): Setup an ftp connection to the appliance:  
Username: storage Password: storage

Example:

Enter in the address bar of the Windows Explorer the following: ftp:storage:storage@IPADDRESS  
Change directory to runs and copy the files to your local disk.

Hints:

- SNMP requests cannot be forwarded through the appliance at the moment.
- Don't wonder if a single print job generates multiple archived files (some might be without content). Each time it gets a UEL from the data stream (Esc%-12345X) it creates a new file.

Other operating systems

For all other operating system either use one of the above explained methods.

### Contact and support address

Please open the PPAdmin software -> License Tab -> about  
or start the convert.exe software without any argument  
or ask your system administrator