EVOLIS SDK

How to use the JSON requests

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Abstract

This documentation is a guideline for available tests sample requests for API mode and a description on how to create customized requests.

Prerequisite

One computer with an Evolis driver suite installed in standard or supervision mode (Evolis Premium Suite, Evolis premium suite 2, Edikio Printer Suite, Badgy Premium Suite).

Pay attention to name your printer (designed as "Device" in the request) as it is instantiated on the server (Ex: Evolis Zenius (Copy 1)).

Pay attention to the type of consumables (cards and ribbons) that need to be used in the printer. Change the ribbon according to the design of the card (monochrome or color).

Depending on the examples, you may require a genuine Evolis Black ribbon for monochrome printing or an YMCKO ribbon for color printing, as well as a duplex printer for printing a double-sided card.

Technical limitations

Evolis Services Provider API is only available on Windows operating System for the server side. Client must be compatible with JSON RPC V2.00 specifications.

Testing thanks to the demo tool

To test the requests set, possibly use the demo tool here (click on 1.demo.exe), select your communication mode in the first section.

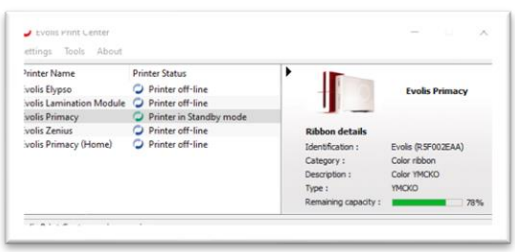
Copy / paste requests one by one sequentially (the expected results/answer shows up in the lower pane of the demo application).

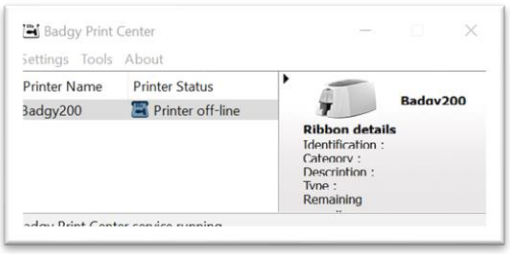
Available development methods:

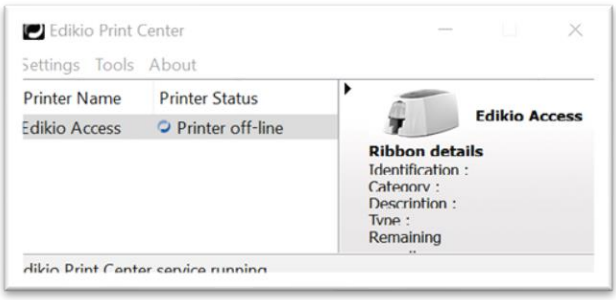
API Mode :

In the case of Evolis / Edikio / Badgy Print Center installed as administrator in Standard or Supervision mode:

- Using the TCP or PIPE communication in API mode.

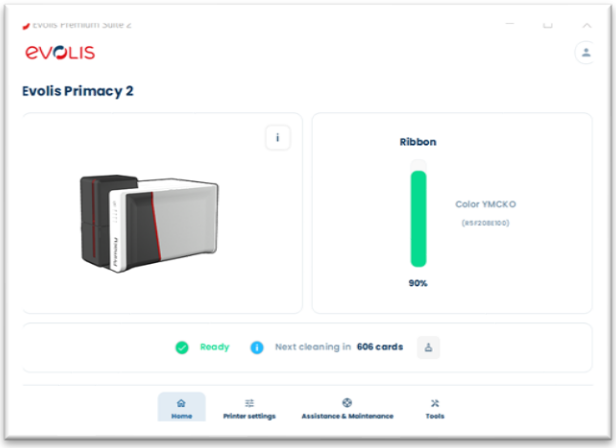






In the case of Evolis Service Provider 2 installed as administrator in Standard mode:

- Using the TCP or PIPE communication in API mode.



Requirements:

- Client/server architecture: client is driver-less and could be any type of device that supports JSON RPC V2.

Requests

To test the request, run the '.bat' file according to the printer's framework (ESP or ESP2) and the communication type used (PIPE or TCP).

The results of the command are saved in the folder named "results".

Renaming the printer

The printer's name is changed by modifying the string content in each JSON request.

```
{
        "id": "1",
        "jsonrpc": "2.0",
        "method": "CMD.GetStatus",
        "params": {
                "device": "Evolis Primacy 2"
        }
}
```

Please verify the correct name of the device (including spacing, numbers and brackets) in the printer settings.

Figure 1 Printer Settings

00_full session

The requests are used to get the status of the printer, insert, encode the magnetic tracks of a card, make a double-side printing session, and eject the card.

⚠ This example is made for **Evolis Premium Suite** type printers only! ⚠

Obs: Be sure that the printer used has the following functions, some options may need activation or may be absent depending on the printer type!

- Magnetic encoding
- Duplex function

- 00-getStatus.json = JSON request for printers available in Evolis Premium Suite.
- 01-enable-TCP.json : JSON request to activate the TCP communication
- 10-insert. json = JSON request used to insert a single card in the printer for printers available in Evolis Premium Suite.
- 11-setCoers. json = JSON request used to insert a single card in the printer for printers available in Evolis Premium Suite.
- 12-setTrack1.json - 14-setTrack3.json = JSON request used to set the 3 magnetic tracks of the card.
- 15-startSequence.json = JSON request used to indicate the beginning of a command sequence.
- 16-magBuffer1.json - 18-magBuffer3.json = JSON request used to set the magnetic buffer of the 3 tracks.
- 19-writeTracks.json = JSON request used to write the data downloaded from the Dm command on the magnetic tracks.
- 20-begin. json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite.
- 21-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite.
- 22-setSettings.json = JSON request used to set the printing settings of the current session for printers available in Evolis Premium Suite.

Obs: Be sure that in the “setSettings.json” file the Duplex option is set to “**HORIZONTAL**” and adding the duplex type as “**DUPLEX_CC**”.

- 23-setFrontBitmapColor.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 24-setFrontBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 25-setFrontBitmapVarnish.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 26-setBackBitmapColor.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 27-setBackBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 28-setBackBitmapVarnish.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 29-print.json = JSON request used to send the printing session parameters to the service and start the printing process.
- 30-end.json = JSON request used to end the printing session for printers available in Evolis Premium Suite

01_get_printer_status

The requests are used to get the printer's status. There are 2 types of requests:

- 10-getStatus.json = JSON request for printers available in Evolis Premium Suite.
- 20-getStatus.json = JSON request for printers available in Evolis Premium Suite 2.

02_enable_disable_TCP_comm

The request is used to get the enable or disable the TCP communication layer with the printer. The request can be used before attempting to print a card to enable and use the TCP layer.

- 10-enable. json = JSON request that enables the TCP communication for printers available in Evolis Premium Suite.
- 10-disable. json = JSON request that disables the TCP communication for printers available in Evolis Premium Suite.
- 20-enable. json = JSON request that enables the TCP communication for printers available in Evolis Premium Suite 2.
- 20-disable. json = JSON request that disables the TCP communication for printers available in Evolis Premium Suite 2.

Manual protocol

Command can be made manually by setting the boolean value to "true" in the command shown in the images below.

- For Evolis Premium suite, the file is in the following directory:

C:\Program Files\Evolis Card Printer\Evolis Premium Suite\ESPFSvc.properties

- For Evolis Premium suite 2, the file is in the following directory:

C:\Program Files\Evolis Card Printer 2\Evolis Premium Suite 2\bin\evoservice.properties

Values in the case of ESP (left-side image) and ESP2 (right-side image).

Figure 2 EPS1 & EPS properties

03_echo

The request is used to send an echo test strong (“HELLO SERVER!”) to the Evolis Services Provider.

- 10-echo. json = JSON request that send the test echo to the Evolis Services Provider.

04_restart_printer

The requests are used to send an echo test strong (“HELLO SERVER!”) to the Evolis Services Provider.

- 10-restart_printer.json = JSON request used to perform a single command “Srs” thanks to the CMD.SendCommand service to restart the printer for printers available in Evolis Premium Suite.
- 20-restart_printer.json = JSON request used to perform a single command “Srs” thanks to the CMD.SendCommand service to restart the printer for printers available in Evolis Premium Suite 2.

05_restart_service_provider

The batch file is used to restart the Evolis Service Provider.

- Restart_ESPF_Service.bat = batch file for printers available in Evolis Premium Suite.
- Restart_ESPF2_Service.bat = batch file for printers available in Evolis Premium Suite 2.

Manual protocol

Using the command line on Windows, enter the request “services.msc” where you will find both service providers. Choose the service according to your printer, right-click it and restart it.

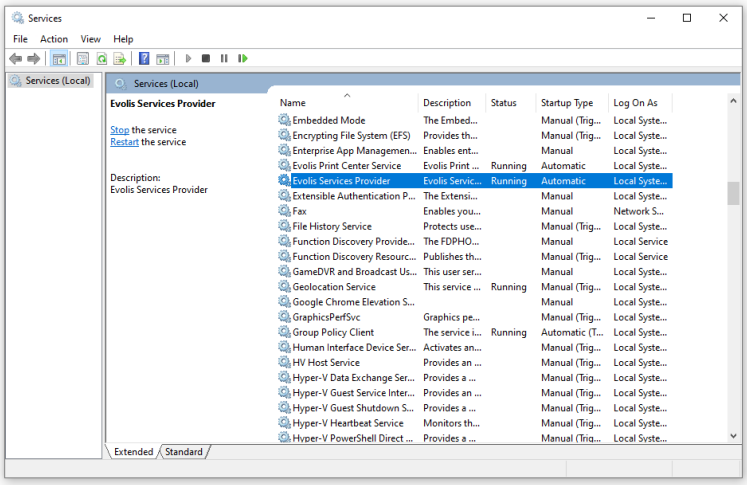


Figure 3 Restarting the Service Provider

06_insert_eject_card

The requests are used to insert and eject a card in the printer.

- 10-insert. json = JSON request used to insert a single card in the printer for printers available in Evolis Premium Suite.
- 10-eject. json = JSON request used to eject the card from the printer for printers available in Evolis Premium Suite.
- 20-insert. json = JSON request used to insert a single card in the printer for printers available in Evolis Premium Suite 2.
- 20-eject. json = JSON request used to eject the card from the printer for printers available in Evolis Premium Suite 2.

The user has the possibility to modify the request in order to perform other actions, the parameters that can be changes are the following:

- "**command**" : Can be modified according to the Firmware command guide.
- "**device**" : Can be modified to change the type of printer
- "**timeout**": Can be modified to increase or decrease the wait time set to receive a response from the service.

07_read_firmware_move_motor

The request is used to read the firmware version of the printer and to move the fan motor to assure its functionality.

- 10-motor. json = JSON request used to move the fan motor of the printer for printers available in Evolis Premium Suite.
- 10-read_firmware. json = JSON request used to read the firmware version of the printer for printers available in Evolis Premium Suite.
- 20-motor. json = JSON request used to move the fan motor of the printer for printers available in Evolis Premium Suite 2.
- 20-read_firmware. json = JSON request used to read the firmware version of the printer for printers available in Evolis Premium Suite 2.

08_monochrome_print_one_side

The requests are used to print a monochrome, one-sided card.

Ribbon type needed for this print session: "**RM_KBLACK**"

Obs: Be sure that in the "setSettings.json" file the Duplex option is set to "**NONE**". The printing job ID in the "**sessions**" parameter is an example that can be changed by the developer.

For a double-sided print session, please verify that the duplex option is activated and use the 09_monochrome_print_double_side request.

- 10-begin. json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite.
- 11-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite.

- 12-setSettings.json = JSON request used to set the printing settings of the current session for printers available in Evolis Premium Suite.
- 13-setBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 14-print.json = JSON request used to send the printing session parameters to the service and start the printing process.
- 15-end.json = JSON request used to end the printing session for printers available in Evolis Premium Suite.

Obs: The printing settings are checked only when the 14-print.json request is verified. Please check all settings to ensure they are valid and available for the specified printer to prevent errors.

- 20-begin.json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite 2.
- 21-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite 2.

09_monochrome_print_double_side

The requests are used to print a monochrome, double-sided card.

Obs: Be sure that in the "setSettings.json" file the Duplex option is set to "**HORIZONTAL**" and adding the duplex type as "**DUPLEX_CC**". The printing job ID in the "**sessions**" parameter is an example that can be changed by the developer.

- 10-begin. json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite.
- 11-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite.
- 12-setSettings.json = JSON request used to set the printing settings of the current session for printers available in Evolis Premium Suite.
- 13-setFrontBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 14-setBackBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 15-print.json = JSON request used to send the printing session parameters to the service and start the printing process.
- 16-end.json = JSON request used to end the printing session for printers available in Evolis Premium Suite.

Obs: The printing settings are checked only when the 15-print.json request is verified. Please check all settings to ensure they are valid and available for the specified printer to prevent errors.

- 20-begin.json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite 2.
- 21-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite 2.

10_color_print_one_side

The requests are used to print a colored, one-sided card.

Multiple ribbon types can be used for this print session, main different being the use of the "**RC**" type ribbon.

Obs: Be sure that in the "setSettings.json" file the Duplex option is set to "**NONE**".

For a double-sided print session, please verify that the duplex option is activated and use the 09_monochrome_print_double_side session.

- 10-begin. json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite.
- 11-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite.
- 12-setSettings.json = JSON request used to set the printing settings of the current session for printers available in Evolis Premium Suite.
- 13-setBitmapColor.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 14-setBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 15-setBitmapVarnish.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 16-print.json = JSON request used to send the printing session parameters to the service and start the printing process.
- 17-end.json = JSON request used to end the printing session for printers available in Evolis Premium Suite.

Obs: The printing settings are checked only when the 16-print.json request is verified. Please check all settings to ensure they are valid and available for the specified printer to prevent errors.

- 20-begin.json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite 2.
- 21-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite 2.

11_color_print_double_side

The requests are used to print a colored, double-sided card.

Obs: Be sure that in the "setSettings.json" file the Duplex option is set to "**HORIZONTAL**" and adding the duplex type as "**DUPLEX_CC**".

- 10-begin. json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite.
- 11-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite.
- 12-setSettings.json = JSON request used to set the printing settings of the current session for printers available in Evolis Premium Suite.
- 13-setFrontBitmapColor.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.

- 14-setFrontBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 15-setFrontBitmapVarnish.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 16-setBackBitmapColor.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 17-setBackBitmapBlack.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 18-setBackBitmapVarnish.json = JSON request used to set the bitmap for the current session for printers available in Evolis Premium Suite.
- 19-print.json = JSON request used to send the printing session parameters to the service and start the printing process.
- 20-end.json = JSON request used to end the printing session for printers available in Evolis Premium Suite.

Obs: The printing settings are checked only when the 19-print.json request is verified. Please check all settings to ensure they are valid and available for the specified printer to prevent errors.

- 20-begin.json = JSON request used to initialize the printing session of the printer for printers available in Evolis Premium Suite 2.
- 21-getJobId. json = JSON request used to get the printing job identification of the printer for printers available in Evolis Premium Suite 2.

12_magnetic encoding

The requests are used to encode a magnetic card.

Commands used for Evolis Premium Suite:

- 10-setCoers.json = JSON request used to set the coercivity level, High or Low.
- 11-setTrack1.json - 13-setTrack3.json = JSON request used to set the 3 magnetic tracks of the card.
- 14-startSequence.json = JSON request used to indicate the beginning of a command sequence.
- 15-magBuffer1.json - 17-magBuffer3.json = JSON request used to set the magnetic buffer of the 3 tracks.
- 18-writeTracks.json = JSON request used to write the data downloaded from the Dm command on the magnetic tracks.
- 19-readTracks.json = JSON request used to read the data on the magnetic tracks.

Commands used for Evolis Premium Suite 2:

- 20-setCoers.json = JSON request used to set the coercivity level, High or Low.
- 21-setTrack1.json - 23-setTrack3.json = JSON request used to set the 3 magnetic tracks of the card.
- 24-startSequence.json = JSON request used to indicate the beginning of a command sequence.

- 25-magBuffer1.json - 27-magBuffer3.json = JSON request used to set the magnetic buffer of the 3 tracks.
- 28-writeTracks.json = JSON request used to write the data downloaded from the Dm command on the magnetic tracks.
- 29-readTracks.json = JSON request used to read the data on the magnetic tracks.

13_scan

The requests are used to scan the surface of a card.

- 10-begin.json = JSON request used to initiate a new scan session.
- 11-acquire.json = JSON request used to acquire the image data in a base64 format.
- 12-end.json = JSON request used to end the scanning session.

14_rewrite_one_side

The requests are used to rewrite the surface of a rewritable card.

Obs: Be sure that in the card type is a Rewrite.

- 10-begin.json = JSON request that initiates a new print session.
- 11-getJobId.json = JSON requests that display the current job Id of the printer.
- 12-setSettings.json = JSON request used to specify the type of rewrite settings used. (The ribbon and card type must be set according to the consumables used)
- 13-setBitmap.json = JSON request used to specify the image.
- 14-print.json = JSON request used to send the print command.
- 15-end.json = JSON requests used to end the printing process.

15_rewrite_double_side

The requests are used to rewrite the surface of a rewritable card.

Obs: Be sure that in the card type is a Rewrite.

- 10-begin.json = JSON request that initiates a new print session.
- 11-getJobId.json = JSON requests that display the current job Id of the printer.
- 12-setSettings.json = JSON request used to specify the type of rewrite settings used. (The ribbon and card type must be set according to the consumables used)
- 13-setFrontBitmap.json = JSON request used to specify the image.
- 14-setBackBitmap.json = JSON request used to specify the image.
- 15-print.json = JSON request used to send the print command.
- 16-end.json = JSON requests used to end the printing process.

Modifying the Requests

The server works by taking each request, one by one, and executing them. Due to this, a script with multiple requests cannot be used.

One advantage of this method is that in the case of changing a printer that works with the Evolis Premium Suite with another that uses the second generation, Evolis Premium Suite 2, only certain requests need to be changed.

For this reason, in most request examples, we have common content and just a few requests that are specific to the service provider.

Element	Description
results	Folder that contains the responses of the JSON requests.
10-motor.json 10-read_firmware.json	JSON requests that contain the information regarding the commands sent to the Evolis Premium Suite Framework service.
20-motor.json 20-read_firmware.json	JSON requests that contain the information regarding the commands sent to the Evolis Premium Suite Framework 2 service.
EspfRequestTool.exe	Executable that interprets all requests received before forwarding them to the relevant target service.
Rfv_motor_PIPE.bat Rfv_motor_PIPE_EPS2.bat	Script file that contains the commands to be executed in a serial number using the pipe server for Evolis Premium Suite and Evolis Premium Suite 2.
Rfv_motor_TCP.bat Rfv_motor_TCP_EPS2.bat	Script file that contains the commands to be executed in a serial number using the IP address and port number for Evolis Premium Suite and Evolis Premium Suite 2.

Modifying the JSON request

The JSON requests can be modified by changing the content of the request. The parameters most common that can be modified are:

- **Method**: can operate different services (command, print, settings, supervision, echo, add-on, etc).

For a detailed explanation of all the services, please read the Reference Guide.

- **Params**: member is an object which member names matching the parameters expected by the server. Any value is a String.
- **Session**: data that specifies the print session ID, it is generated automatically by the Evolis Services Provider. It remains possible to set its own JOB ID.
- **Result:** member is a String
- **Data**: data generated from the base64 conversion of the image to be printed on the card.
- **Face**: data that specifies the side of the card to be printed (front / back)
- **Panel**: data that specifies the panel of the ribbon used (color / black / varnish)

Modifying the .bat file

The .bat file can be modified by removing or adding JSON requests, according to the task needed using a text or source code editor.

The file needs to include all the JSON requests, in the correct order.

Please make sure that the requests are valid according to the task by following the workflow presented in the request examples.

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Evolis - 14 Avenue de la Fontaine - ZI Angers-Beaucouzé 49070 Beaucouzé - France
T +33 (0) 241 367 606 - F +33 (0) 241 367 612 - **info@evolis.com**

www.evolis.com