

# TXT2PDF: [AFP | DJDE] Text to PDF tool

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## Introduction :

This tool, developed around FPDF4ZOS core engine, aims at transforming a text file into a PDF document while functional and visual outlook are almost completely driven by a set of external resources : a configuration file, one or several lay out forms and a further fields definition file. As FPDF4ZOS component is more specifically intended for MVS audience, this tool has been tailored to accommodate either DJDE or AFP data text file.

This means for example that, as initially defined by IBM format back in the 60s, a new page is always driven by a character '1' in first column of a line. Besides, correspondance between an original FORM definition will accommodate the 2 main format which have been the only game in town for mass printing in mainfram world during decades, say:

- **DJDE** : commands which indicates which IMAGE or which form (FSL) to pick up.
- **AFP** : commands which indicates which FORMDEF or PAGESEGMENT to pick up.

The tool works according to the following principles:

- Configuration file is read and taken into account; especially the file defining each and every field to be potentially processed by this transformation tool.
- A field is defined as a set of parameters which specify the following feature: Form ID – Line number – Index within line – Field maximum length – Anchor ID – Alignment – Trim indicator – Recursive nb – Display control – etc,
- Each line of input file is read and its content is eventually captured and displayed according to the instructions provided by fields file

Example: supposing a line which defines this field:

**VAFB65** ; **74** ; **72** ; **12** ; **BUANET86** ; L ; **T** ; 0 ; 0 ; 0000000**X** ; zzzzzzzz

This means that when input file is read, in line number **74** after a form feed line of a page defined as **VAFB65**, the string with offset **72** will be captured on a length of **12** and will be displayed according to properties defined in text **BUANET86** anchor. Moreover, captured string will be Trimmed (**T**) and will be scrambled (**X**) if this feature is required in overall configuration file. See sections Configuration file and Field file for more details.

This tool must be given a configuration file to operate properly. Command line calling syntax appears below :

```
txt2pdf -I=<text-input-file> -O=<pdf-output-file> -K=<configuration-file> [-  
P=<customer_id>]
```

Input (-I) and Output (-O) parameters are rather self explaining.

<customer\_id> parameter (say -P) refers to data which may be quite useful to insert both in the header and / or footer of each and every page of the target PDF document. More on this feature below

## **Configuration file :**

Configuration file for this tool may contain several options, each of which is listed and described below.

**FPDFINI=ini\fpdflpag.ini**

This parameter indicates which configuration file the FPDF engine is supposed to take into account while processing FPDF4ZOS initialisation function – say `NewPdfy()`.

*No default for this parameter*

**REC\_LNGR=133**

For MVS environments, which frequently use fixed length records (say RECFM=F[B]), this parameter indicates input file length record (say LRECL). For variable length record (say RECFM=[VB]) or for Windows or Linux files where a <LF> character delimits each and every line, this parameter indicates the maximum length of a line of data.

*Defaults to 133*

**TABLFLDS=<file name>**

This parameter points at the name of the file which defines all the fields to be taken into account by the program. See Field definition section for details about this file. For MVS, this parameter may be a ddname provided it is prefixed with string "DD:".

*No Default for this parameter which is mandatory .*

**VERBOSE=Y | N**

This parameter specifies whether program should display or not miscellaneous information related to its execution.

*Defaults to no*

**EBCDIC=Y | N**

This parameter specifies whether data read from input spools should be translated into ASCII before being processed and transformed into PDF document. This parameters should be set to 'Y' in case mainframe spools are to be processed on either Linux or Windows machines where they have been transferred in binary mode and so remained in EBCDIC.

*Defaults to N*

**MARKRCMD=**

This parameter specifies the string which will be searched for in order to find out whether a line is a regular data line to be processed as such or a DJDE print command to be processed accordingly. If longer than 16, the string retrieved from this configuration line will be truncated to 16 characters.

It is recalled that this program may works in one or two modes. Either it takes into account AFP commands and attempts to match an AFP FORMDEF command line in order to find out which form to apply to a page or it considers that spool is in DJDE format. In the latter case, this option **MARKRCMD** indicates which string does identify a DJDE command,

*Defaults to null string*

#### **FRMNOFAG=NOFFDATA**

It is recalled that this program generates a new page in target PDF document whenever a form feed character '**1**' appears on the first column of inpt text file. If no form feed exists in input file, this parameter if present enables the production of a single page PDF which will contain the form the ID of which is specified by this parameter.

*Defaults to NO default form in case of no page in the spool*

#### **AFTRBEO=A | B**

This parameter indicates whether, in input data spool, command lines specifying which form to apply (either AFP or DJDE) appear after form feed line (**=A**) or before (**=B**).

*Defaults to A*

#### **DISCPAGE=**

This parameter indicates that a page containing a specific string on its first line should be discarded. This option enables the program to filter antiquated mainframe cover pages which should NOT be part of target PDF document.

*Defaults to null string, which means no filter.*

#### **FRSTCOLN=Y | N**

This parameter indicates whether program should interpret or not the first column character of each line according to IBM standards. Those standards are recalled below:

- ' ' → Skip one line
- '0' → Skip two lines
- '-' → Skip three lines
- '+' → Skip zero line (overstrike).

*Defaults to N*

#### **PGORIENT=P | L**

This parameter indicates whether initial page orientation is Portrait (**=P**) or Landscape (**=L**).

*Defaults to NO page to be discarded*

#### **MKANONYM=Y | N**

This parameter indicates whether some data fields retrieved from input file should be scrambled (**=Y**) or not (**=N**), depending on their definition found in file specified in TABLFLDS parameter. See Fields Definition sections for further details.

*Defaults to NO data scrambled.*

#### OFFSET=10

This parameter indicates where real data starts on each line. Usually, this value is 0. But AFP format has a specific mode called record formatting where each line of data is prefixed with a 10 characters string which is supposed to contain a Line Identifier to be processed as such by AFP tools. In that case, this parameter should be set to 10.

*Defaults to 0.*

#### TYPSPool=A | D

This parameter indicates whether program should expect DJDE or AFP format.

*Defaults to D.*

#### FGETREAD=G | R

This parameter indicates whether program should read lines with function `fgetc()` or `fread()`. In the general case, Windows and Linux platforms should use `fgetc()` while MVS environment can use both since input files are opened with option `type=record`. However, when EBCDIC files are transferred in binary mode to be processed by either Windows or Linux, input files should be read with `fread` with a correct value in parameter REC\_LNGR.

*Defaults to R.*

### Fields file :

This file has a CSV like format and where each piece of data is separated from the other by a semi-colon. It contains one line per field as displayed below: described below.

```
;;
;;DJDE Line# Colu# Leng# ANCHOR ID Alig Trim VLoop TZ-SP Control Comments
;;-----
VAFB65 ; 1 ; 26 ; 24 ; BUATITRE ; L ; R ; 0 ; 0 ; 00000000 ; ZZZZZZZ
VAFB65 ; 2 ; 43 ; 24 ; LMATRIRH ; L ; R ; 6 ; 0 ; 00000000 ; ZZZZZZZ
VAFB65 ; 2 ; 68 ; 30 ; VMATRIRH ; L ; R ; 6 ; 0 ; 00000000 ; ZZZZZZZ
VAFB65 ; 3 ; 6 ; 24 ; ADRSCUST ; L ; R ; 5 ; 0 ; 00000000 ; ZZZZZZZ
```

#0 This piece of data identifies target Page into which this field is expected to be found.

- For DJDE, this is a FORM specified in DJDE command
- For AFP, this is a COPYGROUP invocation defined in a FORMDEF AFP file.

#1 This piece of data identifies line number within target page where this field is expected.

NB: Form feed line is assumed to be on line number 1

#2 This piece of data identifies line offset or column where this field is expected.

NB: First character of a line is assumed to have a 0 (zero) offset

- #3 This piece of data identifies the maximum length of this field.
- #4 This piece of data identifies the anchor ID to be applied for this field.
- #5 When filed should be output as a cell, this piece of data specifies alignment.
- =R → Right aligned
  - =C → Center aligned
  - Other → Left aligned
- #6 This piece of data identifies whether this field should be trimmed.
- =R → Right trim, eg spaces at the right of this field are removed
  - =L → Left trim, eg spaces at the left of this field are removed
  - =T → Right AND left trim
  - Other → No trim is applied
- #7 This piece of data specifies a recursive number on subsequent lines.
- #8 This piece of data specifies whether a field should undergo horizontal scaling or not. Zero or 100 means no specific horizontal scaling for that field.
- #9 This piece of data specifies a set of further control characters:
- c0 → =C means that field should be output as Cells
  - c1 → =Z means that field should be output with zebra effect – *only when c0=c.*
  - c2 → If >1 and <9 means that “vertical” recursivity should not apply to successive lines but rather each number of lines (say each 2 or 3 lines)
  - c3 → >0 and <9 means that fields should be transformed as a numeric string with coma; number points at the number of décimals.
  - c4 → =€, £ or \$ means that field should be suffixed with Euro, Pound or Dolar sign.
  - c5 → *Not used for the time being.*
  - c6 → *Not used for the time being.*
  - c7 → =X means that field should be scrambled before being output.
- #10 This piece of data specifies a conditional set of further control characters. It specifies that all fields of a line should be applied a special style if a condition is met.
- c0-c1 → Usually 'B' to specify that a line should be displayed in Bold
  - c2-c4 → A 3 digits number which specifies the offset of a condition
  - c2-c4 → A 3 character string which specifies the value to be matched

### ***Meta variables and dynamic substitutions:***

For headers, footers and cover page, these tools have the capability to handle dynamic metadata. Whenever a string containing a set of keywords are encountered, a dynamic substitution is performed by those tools. See below for the list of key words handled in the current release:

- &CUID&: a 10 characters string which is supposed to refer to a customer ID

- **&PERD&**: a 24 characters string which is supposed to refer to the current period
- **&JNAM&**: an 8 characters string which is supposed to refer to a Job Name or a process ID.
- **&JNUM&**: an 8 characters string which is supposed to refer to a Job Number or a process ID.
- **&PRGM&**: an 8 characters string which will refer to program name (say **fpdf1pag** or **fpdf1row**).
- **&TITL&**: a 48 characters string which will refer to document title
- **&DATE&**: a 12 characters string which will refer to current date (format YYYY-MM-DD)
- **&HOUR&**: a 10 characters string which will refer to current hour (format HH:MM:SS)
- **&NSEQ&**: a 6 hexadecimal characters string which will point at a sequential number.

## Annex A1: example of a configuration file

```
;
; +-----+
; 1 Configuration file for French Payslip 1
; +-----+
;
;
FPDFINI=ini\bultfra.ini
REC_LNGR=210
TABLFLDS=fld\bultfra.fld
EBC2ASC=Y
DISPAGE=
MKANONYM=Y
VERBOSE=Y
;MARKRCMD=DJDE FORM=
AFTRBEFO=B
TYPSPool=A
OFFSET=10
FGETREAD=R
;
FSL_FDEF=VAFB65 bultfra 100
;;;FSL_FDEF=VDL175 bultfra 100
;;;FSL_FDEF=VAF035 bultfra 100
;;;FSL_FDEF=VAFB47 bultfra 100
```

## Annex A2: example of a fields file

```

;
; +-----+
; ! Fields file for French payslip
; +-----+
;
;
;
;;DJDE  Line#  Colu#  Leng#  ANCHOR ID Alig Trim VLoop TZ-SP  Control  CondStyl  Comments
;-----
VAFB65 ;    1 ;    26 ;    24 ; BUATITRE ; L; R ;    0 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;    2 ;    43 ;    24 ; LMATRIRH ; L; R ;    6 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;    2 ;    68 ;    30 ; VMATRIRH ; L; R ;    6 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;    3 ;     6 ;    24 ; ADRSCUST ; L; R ;    5 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;    8 ;    15 ;    32 ; NUMSIRET ; L; R ;    0 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;    9 ;    25 ;    20 ; CONV1COL ; L; R ;    1 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   10 ;     7 ;    24 ; CONV2COL ; L; R ;    1 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   11 ;    60 ;    30 ; BUACW953 ; L; R ;    0 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   13 ;    56 ;    30 ; ADRSEMP1 ; L; R ;    5 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;   20 ;     1 ;    46 ; AFFECTA0 ; L; R ;    4 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;   20 ;    49 ;    30 ; AFFECTA1 ; L; R ;    4 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;   20 ;    85 ;    30 ; AFFECTA2 ; L; R ;    4 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;   26 ;    90 ;    22 ; BUAIDUAU ; L; R ;    0 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   28 ;     1 ;    50 ; RUBRIQC0 ; L; T ;   40 ;   83 ; CZ000000 ; B 001*  ;ZZZZZZZ
VAFB65 ;   28 ;    53 ;    11 ; RUBRIQC1 ; R; T ;   40 ;    0 ; CZ020.00 ; B 001*  ;ZZZZZZZ
VAFB65 ;   28 ;    61 ;     8 ; RUBRIQC2 ; R; T ;   40 ;    0 ; CZ030.00 ; B 001*  ;ZZZZZZZ
VAFB65 ;   28 ;    74 ;    11 ; RUBRIQC3 ; R; T ;   40 ;    0 ; CZ020.00 ; B 001*  ;ZZZZZZZ
VAFB65 ;   28 ;    85 ;    10 ; RUBRIQC4 ; R; T ;   40 ;    0 ; CZ020.00 ; B 001*  ;ZZZZZZZ
VAFB65 ;   28 ;    96 ;    24 ; INFOJOUR ; L; R ;   60 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   73 ;    42 ;     8 ; BUADPU87 ; L; R ;    0 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   74 ;    72 ;    12 ; BUANET86 ; L; T ;    0 ;    0 ; 0000e000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   75 ;     1 ;    22 ; BU0CUM86 ; L; R ;    5 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   75 ;    24 ;    11 ; BU1CUM86 ; R; R ;    5 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   75 ;    36 ;    13 ; BU2CUM86 ; R; R ;    5 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   76 ;    52 ;    40 ; BUAMOD86 ; L; R ;    0 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   77 ;    52 ;    40 ; BUADBA86 ; L; R ;    5 ;    0 ; 0000000X ; 00000000 ;ZZZZZZZ
VAFB65 ;   86 ;     1 ;    48 ; BU0CMP89 ; L; R ;    5 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ
VAFB65 ;   86 ;    52 ;    48 ; BU1CMP89 ; L; R ;    5 ;    0 ; 00000000 ; 00000000 ;ZZZZZZZ

```