

Creating PDF/A in FileMaker with ZUGFeRD standard

Did you know EU directive 2014/55/EU? Starting 27th November 2020, the invoices to government over 1000 Euro must be sent electronically with structured format. So no longer printed invoices or simple PDFs, but you can send PDF in ZUGFeRD format!



My COMPANY LTD

Invoice No. Invoice Date
Tax Status
Tax Number
UStID No. Co. No.
Tax Country

Invoice 2014-1

Dear Mr. Müller,

Thank you for your order.

Index	Product	Price	Quantity	Total Price
01	Item	1.000	1	1.000
02	Item	1.000	1	1.000
03	Item	1.000	1	1.000
04	Item	1.000	1	1.000
05	Item	1.000	1	1.000
06	Item	1.000	1	1.000
07	Item	1.000	1	1.000
08	Item	1.000	1	1.000
09	Item	1.000	1	1.000
10	Item	1.000	1	1.000
11	Item	1.000	1	1.000
12	Item	1.000	1	1.000
13	Item	1.000	1	1.000
14	Item	1.000	1	1.000
15	Item	1.000	1	1.000
16	Item	1.000	1	1.000
17	Item	1.000	1	1.000
18	Item	1.000	1	1.000
19	Item	1.000	1	1.000
20	Item	1.000	1	1.000
21	Item	1.000	1	1.000
22	Item	1.000	1	1.000
23	Item	1.000	1	1.000
24	Item	1.000	1	1.000
25	Item	1.000	1	1.000
26	Item	1.000	1	1.000
27	Item	1.000	1	1.000
28	Item	1.000	1	1.000
29	Item	1.000	1	1.000
30	Item	1.000	1	1.000
31	Item	1.000	1	1.000
32	Item	1.000	1	1.000
33	Item	1.000	1	1.000
34	Item	1.000	1	1.000
35	Item	1.000	1	1.000
36	Item	1.000	1	1.000
37	Item	1.000	1	1.000
38	Item	1.000	1	1.000
39	Item	1.000	1	1.000
40	Item	1.000	1	1.000
41	Item	1.000	1	1.000
42	Item	1.000	1	1.000
43	Item	1.000	1	1.000
44	Item	1.000	1	1.000
45	Item	1.000	1	1.000
46	Item	1.000	1	1.000
47	Item	1.000	1	1.000
48	Item	1.000	1	1.000
49	Item	1.000	1	1.000
50	Item	1.000	1	1.000
51	Item	1.000	1	1.000
52	Item	1.000	1	1.000
53	Item	1.000	1	1.000
54	Item	1.000	1	1.000
55	Item	1.000	1	1.000
56	Item	1.000	1	1.000
57	Item	1.000	1	1.000
58	Item	1.000	1	1.000
59	Item	1.000	1	1.000
60	Item	1.000	1	1.000
61	Item	1.000	1	1.000
62	Item	1.000	1	1.000
63	Item	1.000	1	1.000
64	Item	1.000	1	1.000
65	Item	1.000	1	1.000
66	Item	1.000	1	1.000
67	Item	1.000	1	1.000
68	Item	1.000	1	1.000
69	Item	1.000	1	1.000
70	Item	1.000	1	1.000
71	Item	1.000	1	1.000
72	Item	1.000	1	1.000
73	Item	1.000	1	1.000
74	Item	1.000	1	1.000
75	Item	1.000	1	1.000
76	Item	1.000	1	1.000
77	Item	1.000	1	1.000
78	Item	1.000	1	1.000
79	Item	1.000	1	1.000
80	Item	1.000	1	1.000
81	Item	1.000	1	1.000
82	Item	1.000	1	1.000
83	Item	1.000	1	1.000
84	Item	1.000	1	1.000
85	Item	1.000	1	1.000
86	Item	1.000	1	1.000
87	Item	1.000	1	1.000
88	Item	1.000	1	1.000
89	Item	1.000	1	1.000
90	Item	1.000	1	1.000
91	Item	1.000	1	1.000
92	Item	1.000	1	1.000
93	Item	1.000	1	1.000
94	Item	1.000	1	1.000
95	Item	1.000	1	1.000
96	Item	1.000	1	1.000
97	Item	1.000	1	1.000
98	Item	1.000	1	1.000
99	Item	1.000	1	1.000
100	Item	1.000	1	1.000

Total amount: 1000,00

Several FileMaker developers now use [MBS FileMaker Plugin](#) to create their invoices in ZUGFeRD standard. That's a data exchange format defined here in Germany, but other countries have similar formats. Basically we have a PDF in PDF/A 3b format and an embedded XML file. The PDF provides the visual and printable view of the invoice while the XML contains the same data readable for computers. With MBS Plugin and [DynaPDF](#) we can create such a ZUGFeRD PDF. We can either create a new file or import pages from existing PDFs. So even if you generate your invoices in FileMaker from layouts, you can convert them later. Here you see an example script for doing exactly this:

```
#Initialize DynaPDF if needed
If [MBS("DynaPDF.IsInitialized") ≠ 1]
    Perform Script ["InitDynaPDF"]
End If

#Make new PDF environments
Set Variable [$pdf; Value:MBS("DynaPDF.New")]
#Set import flags with Prepare For PDF/A enabled
Set Variable [$r; Value:MBS( "DynaPDF.SetImportFlags"; $pdf;
"ImportAll¶ImportAsPage¶PrepareForPDF/A" )]
#Load PDF from container
Set Variable [$r; Value:MBS("DynaPDF.OpenPDFFromContainer"; $pdf; ZUGFeRD
Invoice::Invoice Template)]
#Import all pages
Set Variable [$r; Value:MBS("DynaPDF.ImportPDFFile"; $pdf)]
#PDF/A requires a language set
Set Variable [$r; Value:MBS("DynaPDF.SetLanguage"; $pdf; "en-US")]
#PDF/A requires a structure tree
Set Variable [$r; Value:MBS("DynaPDF.CreateStructureTree"; $pdf)]
#add xml with invoice data
Set Variable [$FileHandle; Value:MBS("DynaPDF.AttachFileText"; $pdf; ZUGFeRD
Invoice::Invoice XML; "UTF-8"; "ZUGFeRD-invoice.xml"; "Invoice as XML")]
Set Variable [$r; Value:MBS("DynaPDF.AssociateEmbFile"; $pdf; "Catalog"; -1;
"Alternative"; $FileHandle)]
#Check if this PDF conforms to PDF/A-3b
Set Variable [$c; Value:MBS("DynaPDF.CheckConformance"; $pdf; "ZUGFeRD Basic")]
If [$c = 1]
```

```

# A RGB ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::RGB ICC Profile)]
Else If [$c = 2]
# A CMYK ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::CMYK ICC Profile)]
Else If [$c = 3]
# A Gray, RGB, or CMYK ICC profile must be added to the document
Set Variable [$r; Value:MBS("DynaPDF.AddOutputIntentEx"; $pdf; ZUGFeRD
Invoice::RGB ICC Profile)]
End If
#save to container
Set Variable [$PDFData; Value:MBS("DynaPDF.Save"; $pdf; "invoice.pdf")]
Set Field [ZUGFeRD Invoice::Output PDF; $PDFData]
Commit Records/Requests []
#cleanup memory
Set Variable [$r; Value:MBS("DynaPDF.Release"; $pdf)]

```

As you see we first initialize DynaPDF if it's not already done. In a new PDF environment, we import from a container the whole PDF. Of course you can import from files or just import pages from different PDFs as needed to build in memory your final PDF. Then we define language and structure tree as required for PDF/A. We attach the XML from a field in this example. The XML is just a block of text which you can generate before, e.g. by filling values into a template.

Next we check conformance with ZUGFeRD standard. If you have DynaPDF Lite license, we only check and report okay or error. If you have a DynaPDF Pro + PDF/A license, we can fix errors and convert any PDF to PDF/A here ([DynaPDF Editions](#)). Next we add the required output intent ICC color profiles. Finally we save the PDF to a container. Please do not hesitate to contact us with your questions.