

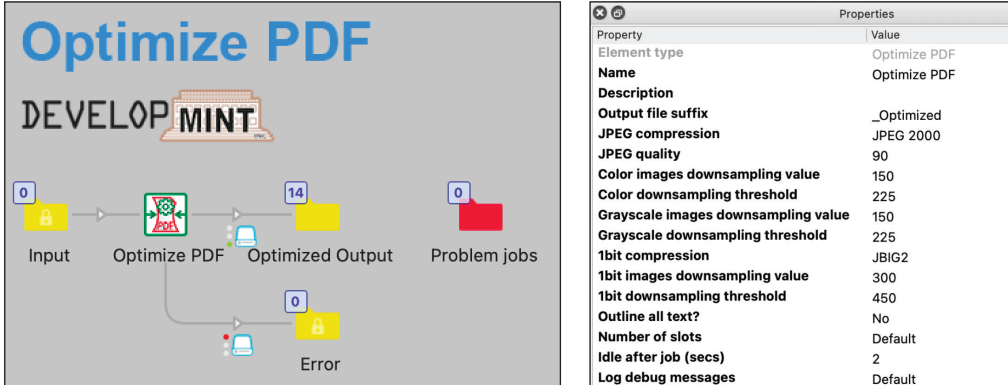
Optimize PDF

Description

Optimize PDF optimizes PDFs using various user parameters, for image compression and downsampling. Similar to Adobe Acrobat's function, it can shrink PDF file sizes for email, etc.

Settings are available for resolution threshold and resolution downsampling of color, grayscale and 1bit images separately. Color and grayscale images can be compressed with JPEG or JPEG 2000 (default). 1bit images can be compressed with CCITT4, JBIG2 (default) or ZIP. A suffix can be added to the optimized output file name.

Submitted files are processed concurrently, with a simple box filter used for downsampling, allowing for exceptional speed and file size reduction. See **Example input/output** below.



The image shows the 'Optimize PDF' flow element in a software interface. On the left, a flow diagram shows an 'Input' folder icon (0) connected to an 'Optimize PDF' element (gear icon), which then connects to an 'Optimized Output' folder icon (14). A red folder icon labeled 'Problem jobs' (0) is also connected to the 'Optimize PDF' element. Below the main flow, an 'Error' folder icon (0) is connected to the 'Optimize PDF' element. On the right, a 'Properties' table lists various settings for the element.

Property	Value
Element type	Optimize PDF
Name	Optimize PDF
Description	
Output file suffix	._Optimized
JPEG compression	JPEG 2000
JPEG quality	90
Color images downsampling value	150
Color downsampling threshold	225
Grayscale images downsampling value	150
Grayscale downsampling threshold	225
1bit compression	JBIG2
1bit images downsampling value	300
1bit downsampling threshold	450
Outline all text?	No
Number of slots	Default
Idle after job (secs)	2
Log debug messages	Default

Compatibility

Switch 2020 Spring and higher. Windows and Mac OSX.

Connections

Optimize PDF only accepts PDF files from one or many incoming connections (all other file types and folders are logged and sent to the Error connection). See **Outgoing connections** below.

Flow elements properties

- **Output file suffix**
 - Suffix to be added to name proper (can be empty, to keep original name).
- **JPEG Compression**
 - Compression scheme for color and grayscale images (JPEG, JPEG 2000; default: JPEG 2000). See **Note 3** below.
- **JPEG Quality**
 - Quality of JPEG compressed images (10-100; default: 90). See **Note 3** below.
- **Color images downsampling value**
 - Downsample color images to this value, in ppi (72-300; default: 150).
- **Color downsampling threshold**
 - Downsample color images that are equal to or above this resolution, in ppi (72-450; default: 225). A value less than Color images downsampling value will be adjusted on the fly, and logged as a Warning.

Flow elements properties (continued)

- **Grayscale images downsampling value**
 - Downsample grayscale images to this value, in ppi (72-300; default: 150).
- **Grayscale downsampling threshold**
 - Downsample grayscale images that are equal to or above this resolution, in ppi (72-450; default: 225). A value less than Grayscale images downsampling value will be adjusted on the fly, and logged as a Warning.
- **1bit compression**
 - Compression scheme for 1bit images (default: JBIG2).
- **1bit images downsampling value**
 - Downsample 1bit images to this value, in ppi (72-600; default: 300).
- **1bit downsampling threshold**
 - Downsample 1bit images that are equal to or above this resolution, in ppi (72-900; default: 450). A value less than 1bit images downsampling value will be adjusted on the fly, and logged as a Warning.
- **Outline all text?**
 - Yes/No list. If Yes, all text will be outlined (except type 3 fonts, if any).

Advanced flow elements properties (displayed only if enabled in the *flow's* properties)

- **Number of slots**
 - The number of slots that can be used concurrently by the app. Possible values are: "0" (unlimited), "Default" (value from Preferences is used) or any number larger than 0. Note that this property can be overridden by the value specified in Preferences > "Concurrent processing tasks".
- **Idle after job (secs)**
 - The number of seconds the app should remain idle after processing a job.
- **Log debug messages**
 - Yes/Default. If Default, debug messages are only displayed if the 'Log debug messages' preference in Switch Designer is enabled.

Outgoing connections

Optimize PDF uses outgoing data Traffic Light connections. Flows should be set up with a Success and Error outgoing Data connection. Note that flows without an outgoing Data Error connection will log and send Error jobs to the flow's Problem jobs folder. This is not suggested.

Example input/output

Below is a comparison of files optimized in the app vs. Acrobat, with similar settings.

Name	Size
20Mb, 24pg_Test 1.pdf	20 MB
20Mb, 24pg_Test 2.pdf	20 MB
20Mb, 24pg_Test 3.pdf	20 MB
20Mb, 24pg_Test 4.pdf	20 MB
77.5Mb, 32pg_Test 1.pdf	77.5 MB
77.5Mb, 32pg_Test 2.pdf	77.5 MB
77.5Mb, 32pg_Test 3.pdf	77.5 MB
77.5Mb, 32pg_Test 4.pdf	77.5 MB
77.5Mb, 32pg_Test 5.pdf	77.5 MB
77.5Mb, 32pg_Test 6.pdf	77.5 MB
77.5Mb, 32pg_Test 7.pdf	77.5 MB
77.5Mb, 32pg_Test 8.pdf	77.5 MB
79.4Mb, 16pg, Spreads_Test 1.pdf	79.4 MB
79.4Mb, 16pg, Spreads_Test 2.pdf	79.4 MB

Input: 14 files, 384 total pages, 859Mb total

Name	Size
20Mb, 24pg_Test 1_Optimized.pdf	534 KB
20Mb, 24pg_Test 2_Optimized.pdf	534 KB
20Mb, 24pg_Test 3_Optimized.pdf	534 KB
20Mb, 24pg_Test 4_Optimized.pdf	534 KB
77.5Mb, 32pg_Test...1_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...2_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...3_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...4_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...5_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...6_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...7_Optimized.pdf	10 MB
77.5Mb, 32pg_Test...8_Optimized.pdf	10 MB
79.4Mb, 16pg, S...1_Optimized.pdf	6.7 MB
79.4Mb, 16pg, S...2_Optimized.pdf	6.7 MB

Optimize PDF: 95.9Mb total; **40 sec.** (4 slots)
11% of original total file size

Name	Size
20Mb, 24pg_Test 1_Acro.pdf	1.3 MB
20Mb, 24pg_Test 2_Acro.pdf	1.3 MB
20Mb, 24pg_Test 3_Acro.pdf	1.3 MB
20Mb, 24pg_Test 4_Acro.pdf	1.3 MB
77.5Mb, 32pg_Test 1_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 2_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 3_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 4_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 5_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 6_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 7_Acro.pdf	7.2 MB
77.5Mb, 32pg_Test 8_Acro.pdf	7.2 MB
79.4Mb, 16pg, Spreads_Test 1_Acro.pdf	6.8 MB
79.4Mb, 16pg, Spreads_Test 2_Acro.pdf	6.8 MB

Acrobat: 76.6Mb total; **5min 40sec**
9% of original total file size

Downsampled Image Comparison



Acrobat

Note that this conversion is somewhat sharper, but contains more compression artifacts in smooth backgrounds (seen around the steeple on the dome). Also, the slightly higher contrast makes the image *appear* more pixelated.



Optimize PDF

Conversely, this conversion is somewhat softer, and contains less compression artifacts in smooth backgrounds (seen around the steeple on the dome). And, the slightly lower contrast makes the image *appear* less pixelated.

Notes

- 1) This app uses a simple box filter for downsampling. This allows for *much* faster processing, with acceptable results for most situations. However, *it may not please everyone*. We encourage everyone to take advantage of the trial, performing tests with various settings, before subscribing to the app.
- 2) The app works best on lower page count PDFs. Although it will optimize PDFs with thousands of pages, the memory constraints involved will require very long processing times.
- 3) Note that setting **JPEG Quality** to **100** for **JPEG 2000**, will result in a *lossless* compression.

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