JaJuMa

WebP Optimized Images

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1. Introduction

Performance is getting increasingly important when it comes to User Experience and also SEO. One way to improve pageload times is reducing the amount of data that needs to be transferred. Hence, with images usually making up for the biggest share of data to be downloaded for a webpage, it is crucial to choose the best file format and compression to reduce image sizes as much as possible.

Magento by default supports .jpg, .png as well as .gif images as file formats. Each of these can be optimized by applying lossless as well lossy compression.

However, with newer image file format WebP, size of images can be reduced even more with its superior compression and quality characteristics compared to their older JPEG and PNG counterparts.

JaJuMa WebP Optimized Images Extension adds WebP Support to new as well as existing Magento Stores. There is no need to change existing Product Images. Also new images can be uploaded as usual as JPG or PNG, the Extension will create and handle WebP variants automatically.

For further details as well as comparisons between .jpg /.png and .webp regarding file size and quality, please see:

https://www.jajuma.de/en/jajuma-develop/extensions/webp-optimized-images-extension-for-magento-2

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2. Installation

2.1.   Extension Installation

Follow installation process as with any Magento Extension

2.2.   Conversion Tools

This Extension supports 3 different conversion tools: GD, cwebp + Imagemagick.

GD should work out of-the-box on any Magento installation.
But the command line tools cwebp + Imagemagick might need additional installation or configuration steps to run correctly on your server.

In case of any issues with these tools or in case you are unsure how to get these tools up and running, please ask your hosting provider for assistance.

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3. Extension Scope

JaJuMa WebP Optimized Images Extension supports conversion of .jpg and .png images into .webp files based on configuration as described below using one of three supported conversion tools:

- GD
- Cwebp
- Imagemagick

WebP images are delivered to visitors on Category Pages and Product Detail Pages. Using HTML5 <picture>-tag / browser WebP support detection it is ensured that .webp files are only served to browsers that can show this image type.
For visitors using a web browser without .webp support, the extension automatically fall back to delivering .jpg or .png files.

The extension integrates with Magento Media Cache. Means, WebP image files are created for the same size variants as for .jpg/.png files (for example thumbnails and small grid images as well as original size).

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4. Configuration

In Magento Backend see

Stores -> Configuration -> Open Tab: JaJuMa -> Select: WebP Image Optimization

For JaJuMa WebP Optimized Images configuration with 2 sections:

- General Configuration
- Conversion Configuration

4.1.   General Configurations

Optimized Images

To enable WebP Optimized Images, select from Drop Down:

- Yes → Enable Extension
- No → Disable Extension

If enabled, the Extension will convert existing images to WebP and deliver those to Store visitors

Disable with transparent images

In case you see increased file sizes or quality issues with images that have transparency,
you can disable WebP to be used for these images by selecting from Drop Down:

- Yes → Images with transparency will be excluded
- No → Images with transparency will be included

However, in most cases it should be fine to keep this as "No".

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4.2.   Conversion Configurations

Please see below for configurations regarding conversion depending on conversion tool you want to use.

For the conversion to webp to work, you need to make sure the conversion tool selected is setup and installed correctly on your server. See below and section 2.2.for further details.

Please Note:
For testing different conversion settings or changing conversion tool / parameters, just delete Magento Media Cache in

System -> Cache Management -> Flush Catalog Images Cache

This will delete generated product images incl. webp files.
By this, new image files will be created applying your new conversion configuration.

4.2.1. Image Conversion Using GD

For using GD as conversion tool, you just need to

1. **Choose "GD" from Conversion Tool Drop-Down**

2. **WebP Quality:**
   Define the compression factor to be applied**.**

GD does not provide any further conversion options.

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4.2.2. Image Conversion Using cwebp

For using "Cwebp" as conversion tool, you just need to

1. **Choose "Cwebp" from Conversion Tool Drop-Down**

2. **Path to cwebp**

   Configure correct path to working cwebp executable.

   Please note: For cwebp to work correctly

   ➔ Cwebp and all dependencies need to be installed correctly on your system
   ➔ Cwebp binary needs to be executable (by webuser)
   ➔ PHP *exec()* is required

   Option 1

   The cwebp is included with the Extension.
   In order to use the bundled binary please use following path:

   [magentoroot]/app/code/Jajuma/WebpImages/bin/cwebp

   Please double-check the binary is executable by your web-user and make sure all required dependencies are installed on your system.

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Option 2

You can also use any cwebp installation already present on your system or download from
https://developers.google.com/speed/webp/download and install in any other path.

Just add the path to the executable binary.

Option 3

In case cwebp is executable via global command as "cwebp",
you can just leave this configuration empty.

3. Conversion Parameters:

Base Mode

WebP Quality:
Define the compression factor to be applied.

Conversion will be performed using following pre-configured command:

```
-q <WebP Quality Config> -alpha_q 100 -z 9 -m 6 -segments 4 -sns 80 -f 25 -
sharpness 0 -strong -pass 10 -mt -alpha_method 1 -alpha_filter fast
```

Advanced Mode

Cwebp Custom Command:
Define any custom cwebp command with parameters that suit your needs.
For a detailed description of parameters available, please see
https://developers.google.com/speed/webp/docs/cwebp

Note: Leave this configuration empty to use Base Mode

4.2.3. Image Conversion Using Imagemagick

For using "Imagemagick" as conversion tool, you just need to

1. **Choose "Imagemagick" from Conversion Tool Drop-Down**

2. **Configure correct path to Imagemagick executable**

   Option 1

   You can leave this configuration empty to use global command "*convert*".

   Option 2

   Or define the custom path of imagemagick command on your system.

   Example: */usr/local/bin/convert*

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4. Conversion Parameters:

Base Mode

WebP Quality:

Define the compression factor to be applied.

Conversion will be performed using following pre-configured command:

```
-quality <WebP Quality Config> -define
webp:lossless=false,method=6,segments=4,sns-strength=80,auto-
filter=true,filter-sharpness=0,filter-strength=25,filter-type=1,alpha-
compression=1,alpha-filtering=fast,alpha-quality=100
```

Advanced Mode

Imagemagick Custom Command:

Define any custom Imagemagick command with parameters that suit your needs

For a detailed description of parameters available, please see
https://www.imagemagick.org/script/webp.php

Note: Leave this configuration empty to use Base Mode

5. Further Recommendations

5.1.   General

Conversion results, in terms of webp file size, saving compared to .jpg/.png as well as quality, highly depend on your existing images. Hence it is not possible to give a "one size fits all" recommendation or provide a configuration that delivers 'perfect' results for every use case.

With the preconfigured conversion parameters in Base Mode we tried our best to provide you with a configuration that provides good results out-of-the-box.
In case the results with this configuration are not satisfying to you, please feel free to play around with the different parameters in Advanced Mode to find a configuration that better suits your needs. Its as easy as saving your custom command and deleting Magento Media Cache to see the results.

5.2.   Which Tool Should I Use?

We recommend to use cwebp, the official conversion tool developed by Google.
It is the best choice regarding quality, conversion speed and also provides the most conversion parameters.
However, the price for this is the "challenge" to get cwebp up and running on your server, which might not be possible in every case, e. g. with some shared hosts.

In that case we recommend to use GD, it should work out-of-the-box on any Magento System without further setup requirements and is easy to use due to having just one option to be configured. But in most cases GD still provides pretty good results.

Imagemagick is also pretty good regarding conversion speed, however it is said to produce slightly less good quality than the other 2 tools.

5.3.   What "WebP Quality" Should I Use?

This value defines the compression factor applied for conversion - Default is 75.

In case of lossy compression (default), a small value produces a smaller file with lower quality. Best quality is achieved by using a value of 100.

In case of lossless compression (specified by the -lossless option), a small factor enables faster compression speed, but produces a larger file. Maximum compression is achieved by using a value of 100.

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5.4.   How About All These Other Paramters?

Please see Official Documenation for

cwep: https://developers.google.com/speed/webp/docs/cwebp

Imagemagick: https://www.imagemagick.org/script/webp.php

6. Support

Please feel free to contact JaJuMa support team via support@jajuma.de.
In case any additional information is required. We'd be more than happy to assist in setting up the extension.