# Image Compression Utility – Documentation

## Overview

This tool is designed to batch compress high-resolution image files to significantly reduce their file size while retaining acceptable visual quality. It is built using Python and the Pillow library and is optimized for use in Jupyter Notebook.

## Use Case

Modern cameras and smartphones produce high-quality images, which often range from 5MB to 10MB per image. When managing large batches (e.g., 200+ photos), storage can quickly become a major concern—especially when backing up, sharing, or uploading files online.

Real Example:  
I used this tool to compress multiple large photo sets:  
- 3.67 GB to 506 MB  
- 5.6 GB to 750 MB  
- 5.87 GB to 772 MB  
The visual quality was preserved, and I saved gigabytes of disk space.

## Features

- Batch compression of hundreds of .jpg, .jpeg, and .png files  
- Choose custom input/output folders  
- Adjustable compression level via quality parameter  
- Converts .png (with transparency) to .jpg for better size reduction  
- Simple integration with Jupyter Notebook – no complex UI or dependencies

## Benefits

| **Feature** | **Benefit** |
| --- | --- |
| Drastic size reduction | Save disk space and cloud storage costs |
| Easier file sharing | Faster uploads to Google Drive, email, or web platforms |
| Organized workflow | Output folder separation keeps compressed files clean |
| Safe to use | Original images remain untouched |
| Automatable | Easily process thousands of images with one script run |

## How to Use (Jupyter Notebook)

1. Install Pillow (only once):  
 !pip install pillow  
  
2. Run the compression script, and when prompted:  
 - Enter the path to the folder containing your original images.  
 - Enter the path to the output folder for compressed images.  
  
3. The script will compress and save all supported images with a default quality of 60%.

## Customization

You can adjust the compression by changing:  
quality=60  
Increase to 75 or 85 for higher quality (larger size), or decrease to 40 for smaller files.  
  
PNGs are converted to JPEG by default. If you want to preserve PNG format, modify the code accordingly.

## Conclusion

This image compression script is ideal for photographers, designers, event planners, or anyone working with large sets of images. It simplifies image management without sacrificing usability or quality.