

Stable Diffusion Web UI

Stable Diffusion Web UI (SDUI) is a user-friendly browser interface for the powerful Generative AI model called Stable Diffusion.

What is Stable Diffusion Web UI?

Stable Diffusion Web UI (SDUI) is a user-friendly browser interface for the powerful Generative AI model called Stable Diffusion. This is an advanced AI model capable of generating images from text descriptions or modifying existing images based on text prompts. The web interface, developed by AUTOMATIC1111, provides users with an engaging platform to interact with Stable Diffusion models without requiring any advanced technical or programming skills.

You can use the Web UI locally on a laptop or desktop that supports both CPU and GPU. Alternatively, you have the option to deploy your own model on a server, allowing others to explore and experiment. It supports most operating systems and GPUs, including Nvidia, AMD, and Intel. This revolutionary tool has changed how artists create high-quality artwork on their personal computers, enabling AI-powered creativity in a private and accessible way.

Download and install CUDA for Nvidia GPUs.

You can use Stable Diffusion Web UI without a GPU or CUDA installation. The web interface can run on the CPU and produce quick results. However, for even faster results, you should use GPU acceleration if possible.

This guide focuses solely on users with Nvidia GPUs and Windows operating systems.

First, download and install the latest version of CUDA Toolkit 12.3 . You need to select the appropriate options based on your operating system and download the basic installer.

Operating System	Linux	Windows		
Architecture	x86_64			
Version	10	11	Server 2019	Server 2022
Installer Type	exe (local)	exe (network)		

Download Installer for Windows 11 x86_64

The base installer is available for download below.

> Base Installer Download (3.1 GB)

Next, install the latest version of cuDNN. You can download the zip file from Nvidia cuDNN . Make sure it matches the correct CUDA Toolkit version.

NVIDIA cuDNN is a GPU-accelerated library of primitives for deep neural networks.

Download cuDNN v8.9.6 (November 1st, 2023), for CUDA 12.x

Local Installers for Windows and Linux, Ubuntu(x86_64, armsbsa)

Local Installer for Windows (Zip) 

Local Installer for Linux x86_64 (Tar)

Local Installer for Linux PPC (Tar)

Extract all folders from the zip file, open it, and move the contents to the CUDA toolkit folder. In this case, the folder is **C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v12.3** ; however, the folder may be different for your computer. If you receive a message asking about duplicate files, select **Replace All** .

Note : Always ensure you have the latest Nvidia drivers installed on your computer for optimal performance.

Install on Windows 10/11 with Nvidia GPU using a release package.

1. Download sd.webui.zip from v1.0.0-pre and extract the contents.
2. Run update.bat.
3. Run run.bat.

Automatic installation on Windows

1. Install Python 3.10.6 (newer Python versions do not support the torch), then select **Add Python to PATH** .
2. Install Git .
3. Download the stable-diffusion-weUI repository, for example, by running `git clone https://github.com/AUTOMATIC1111/stable-diffusion-webui.git`.
4. Run webui-user.bat from Windows Explorer as a regular user, not an administrator.

Automatic installation on Linux

1. Install the dependencies:

```
# Debian-based: sudo apt install wget git python3 python3-venv libgl1 libglib2.0
```

If your system is very new, you need to install python3.11 or python3.10:

```
# Ubuntu 24.04 sudo add-apt-repository ppa:deadsnakes/ppa sudo apt update sudo apt
```

2. Navigate to the folder where you want to install the web interface and execute the following command:

```
wget -q https://raw.githubusercontent.com/AUTOMATIC1111/stable-diffusion-webui/m
```

Or simply copy the archive to wherever you want:

```
git clone https://github.com/AUTOMATIC1111/stable-diffusion-webui
```

3. Run webui.sh.

4. Check webui-user.sh for options.

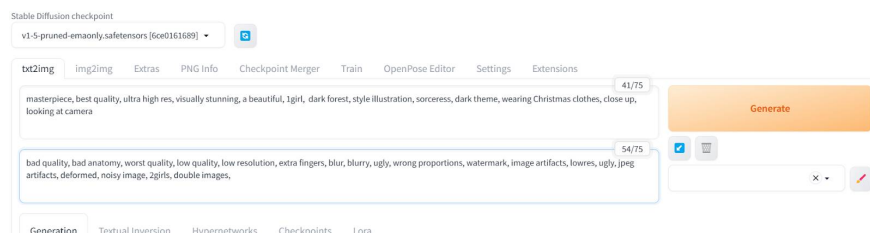
Instructions for using Stable Diffusion Web UI

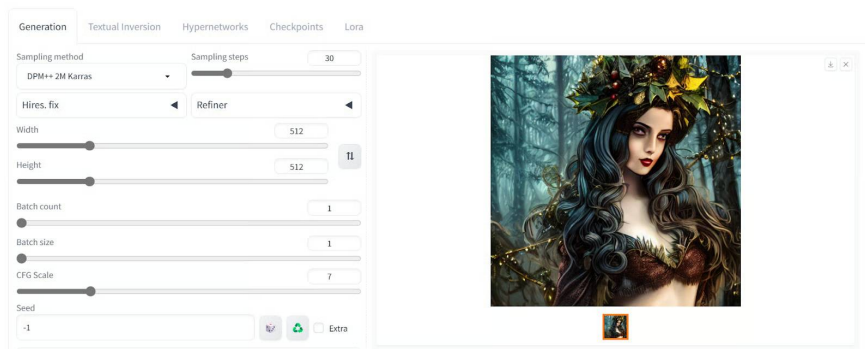
Tab Txt2img

In your default browser, you'll see a user interface with many options. Try each option to create high-quality images.

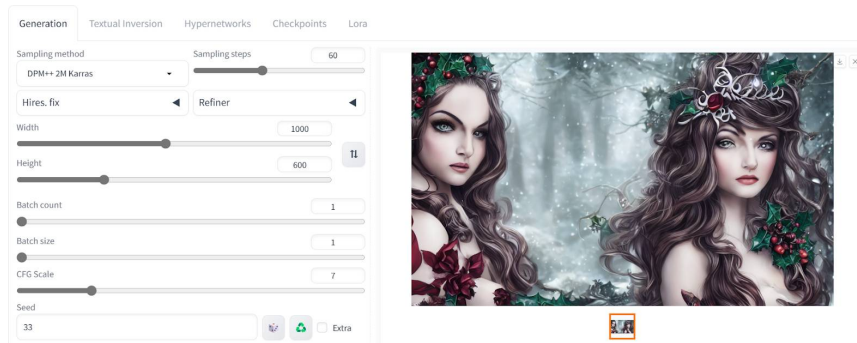
First, click on the txt2img tab and enter the affirmative and negative prompts to generate the image. Additional keywords can be added to improve the quality and style of the image.

Start with a negative limit prompt and continue adding more keywords to eliminate recurring errors in the image.





Next, adjust the advanced settings. You can resize the image and increase the sampling step to add more detail.



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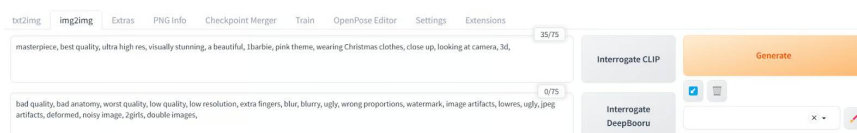
masterpiece, best quality, ultra high res, visually stunning, a beautiful, 1girl, dark forest, style illustration, sorceress, dark theme, wearing Christmas clothes, close up, looking at camera
 Negative prompt: bad quality, bad anatomy, worst quality, low quality, low resolution, extra fingers, blur, blurry, ugly, wrong proportions, watermark, image artifacts, lowres, ugly, jpeg artifacts, deformed, noisy image, 2girls, double images,
 Steps: 30, Sampler: DPM++ 2M Karras, CFG scale: 7, Seed: 1780386419, Size: 512x512, Model hash: 6ce0161689, Model: v1.5-pruned-emaonly, Version: v1.6.0-2-g4afaaf8a

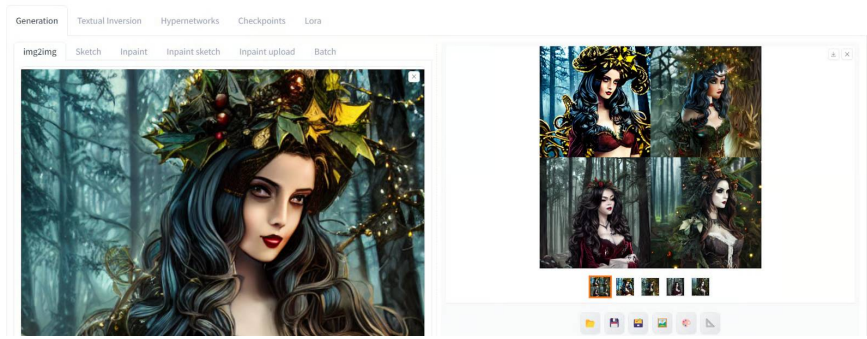
Time taken: 5.5 sec. A: 3.12 GB, R: 3.58 GB, S/S: 4.7/8 GB (58.9%)

All generated images come with metadata including positive and negative prompts as well as advanced settings. You can use this to create similar results.

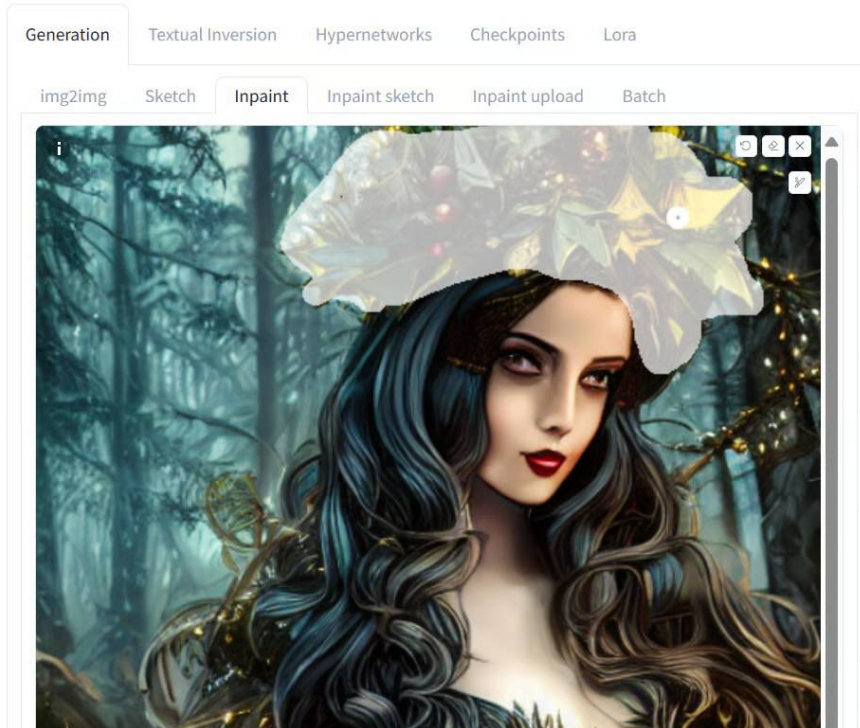
Tab Img2img

The img2img tab allows you to upload reference images to create similar images using prompts for different styles. If you want to create multiple images with a single prompt, you can do so by adjusting the number of batches in the creation settings.

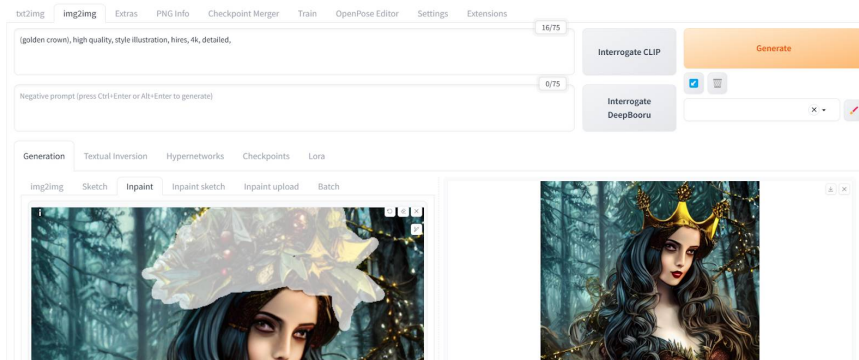




The resulting images look stunning, with a variety of styles and props.



The Inpainting tool allows us to edit only the selected parts of an image.



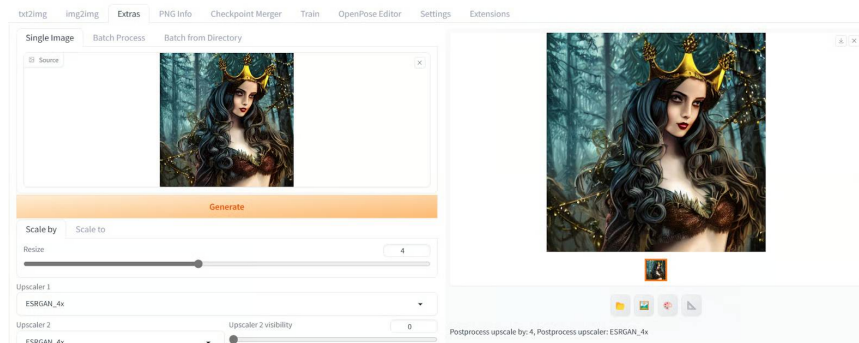
By using the highlighting tool and a simple operation, we were able to edit a part of the image.

Tab Extras

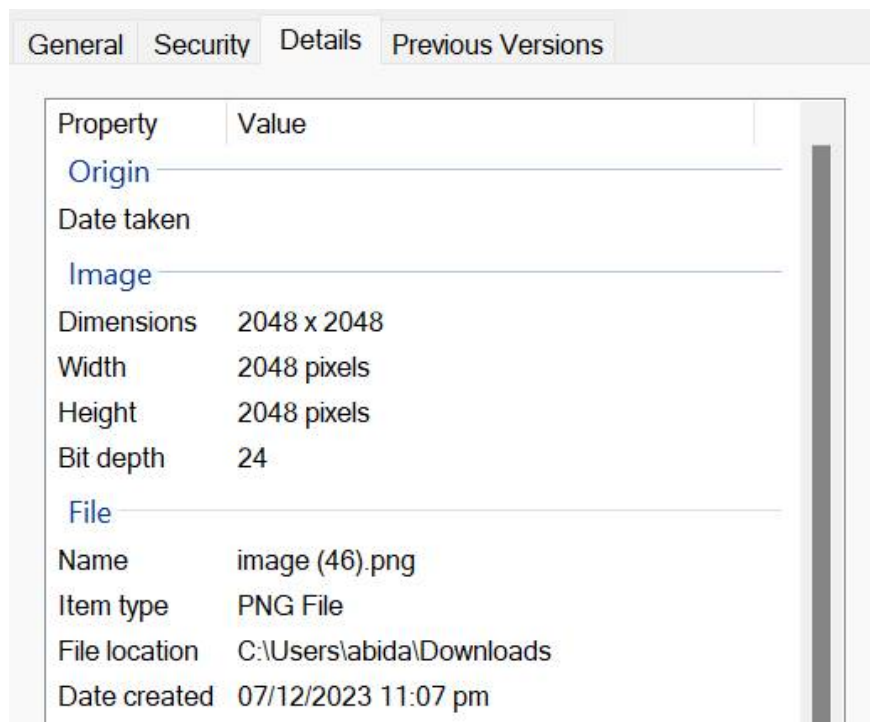
To enlarge the created image, move the image to the Extras tab.



Then, click the **Generate** button to convert '512x512' to '2048x2048' in seconds without losing image quality.

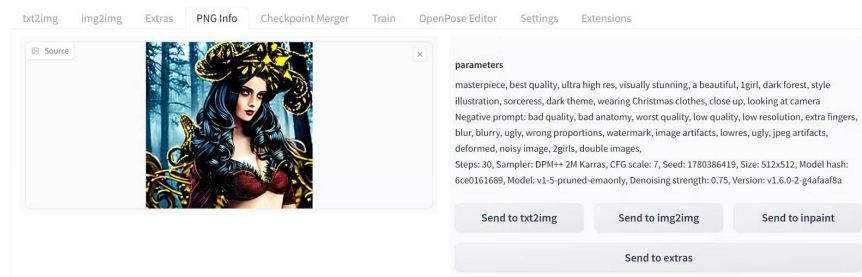


You can check the image size by downloading it to your computer and accessing the image file properties.



Tab PNG Info

Each image contains metadata indicating how it was created. If you want to view information about a previously created image, you can upload it to the PNG Info tab. From there, you can view affirmative and negative prompts, as well as advanced settings.



Stable Diffusion Web UI (SDUI) provides an easy approach for anyone to harness the power of AI-powered imaging. This user-friendly interface makes interacting with advanced diffusion models like Stable Diffusion easy, even for non-technical users.

Clearly, web user interfaces have unlocked creative potential that was previously inaccessible without advanced programming and AI skills.

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