

Stable Diffusion

Stable Diffusion is an AI model for text to image generation. There are various GUIs available to tweak settings, add specific styles like Disney or photorealistic (Lora models) and help adjusting existing images via picture to picture or selection infill.

The guides below focus on the [Automatic1111 Stable Diffusion WebUI](#).

Linux Docker install

This docker requires docker as well as the GPU drivers installed on the host system.

<https://github.com/AbdBarho/stable-diffusion-webui-docker>

```
git clone https://github.com/AbdBarho/stable-diffusion-webui-docker
cd stable-diffusion-webui-docker
vi docker-compose.yaml
#adjust name to stable-diffusion if desired
#adjust data and output dir location to /opt/stable-diffusion/data and
output respectively if desired
mkdir -p /opt/stable-diffusion/{data,output}

#Build the ai and download the models.
#Note, first start will take 15-60 minutes to download models to data folder
as cache depending on internet connection
#size approximately 10GB

docker compose --profile download up --build

# if download errors occur, just repeat the command.

# build the desired interface:
# docker compose --profile [ui] up --build
# where [ui] is one of: invoke | auto | auto-cpu | comfy | comfy-cpu

# use auto-cpu or comfy-cpu for cpu only interface

#docker compose --profile auto-cpu up --build
docker compose --profile auto up --build

# later:
docker compose --profile auto up -d
```

access the app on:

<http://localhost:7860/>

Windows install for AMD GPU

Windows AMD AUTOMATIC1111 stable diffusion webui using Microsoft DirectML for GPU acceleration:

1. Download and run installers for [Python 3.10.6](#) (ticking Add to PATH) and [git](#)
2. Clone the fork as AMD is not officially supported
Paste into command prompt in a directory where it should live

```
git clone
https://github.com/lshqqytiger/stable-diffusion-webui-directml
cd stable-diffusion-webui-directml
git submodule init
git submodule update
venv\Scripts\python.exe -m pip install --upgrade pip
venv\Scripts\pip.exe pip install -r requirements.txt
venv\Scripts\pip.exe install torch-directml
```

3. Right-click webui-user.bat and adjust the command line args to

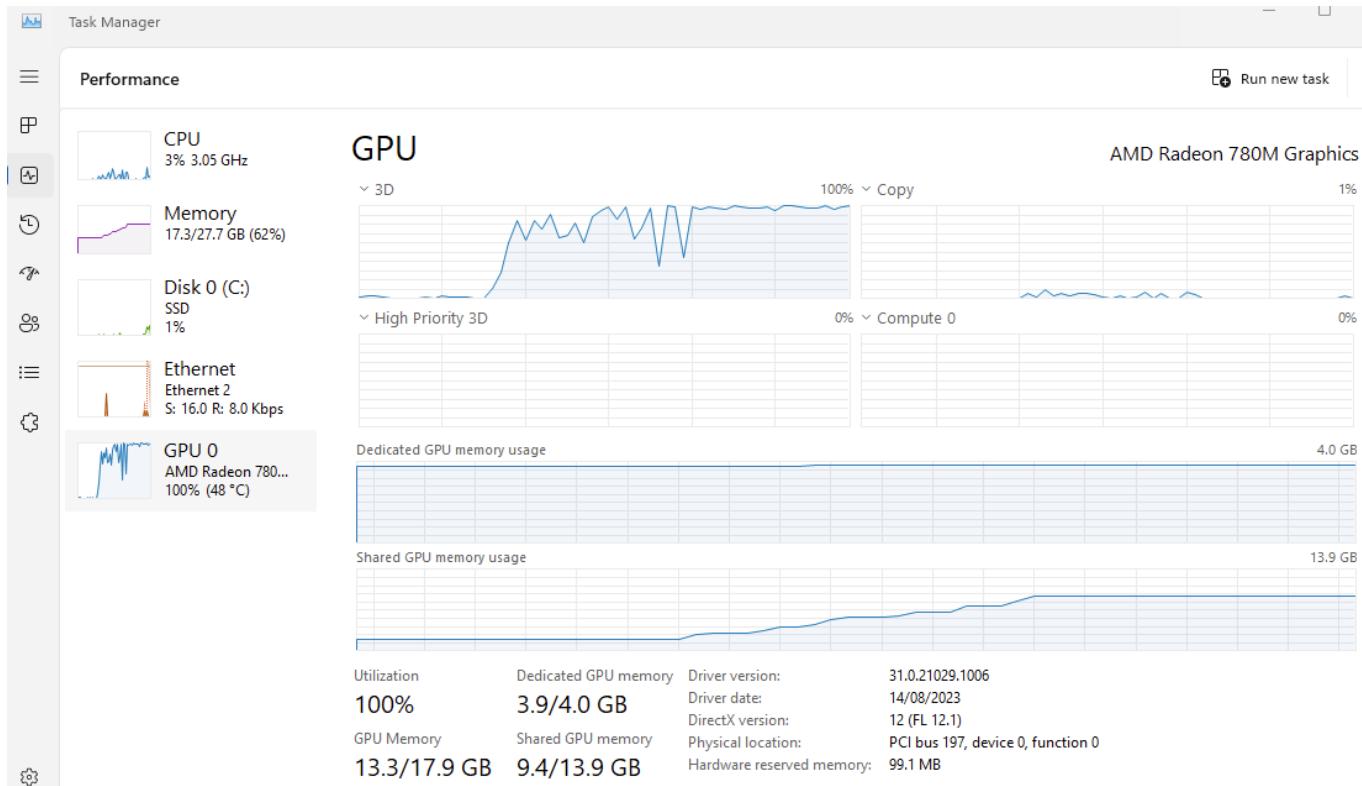
```
COMMANDLINE_ARGS="--use-directml --skip-torch-cuda-test"
```

4. If you have only 4-6gb vram, try adding these additional flags to webui-user.bat's command line args like so:

```
--opt-sub-quad-attention --lowvram --disable-nan-check
```

5. Double-click webui-user.bat in that directory, this will download ~2.7GB torch and other python modules, followed by the 4GB Stable-Diffusion 1.5 pruned model.
6. If it looks like it is stuck when installing or running, press enter in the terminal and it should continue.
7. once done, a browser opens to <http://localhost:7860/>

Check/Test if GPU is used in Task Manager's GPU tab. Dedicated GPU Memory should show large usage for the loaded Model and when generating a test image in the web interface, the GPU usage should ramp up like here:



Performance

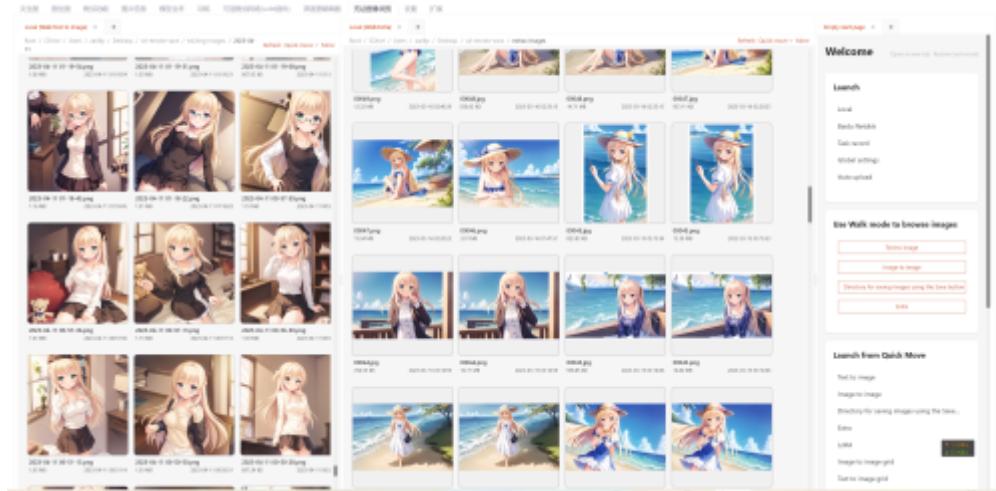
Approx times to generate 512×512 default settings images:

CPU/GPU	Model	Time
CPU	Intel 8th gen i5 (Intel NUC)	5-15 minutes
GPU	AMD Radeon 780M	1.5 minutes
GPU	AMD Radeon 7900XTX	21.7 seconds
GPU	Nvidia RTX 4080	1.2 seconds

Gallery Addon

As an extension for SD-webui: Open the Extensions tab in SD-webui.

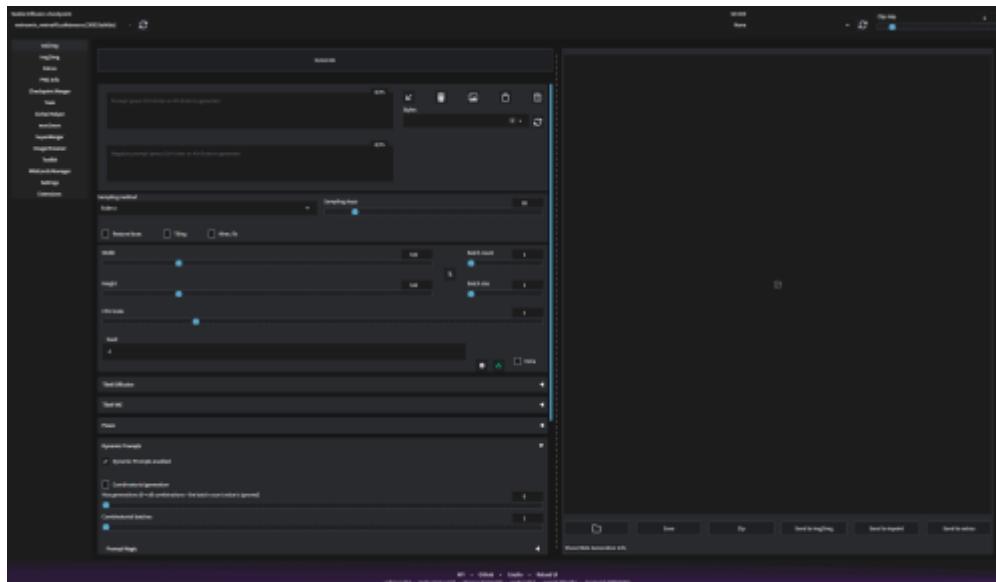
1. Select the Install from URL option.
2. Enter <https://github.com/zanllp/sd-webui-infinite-image-browsing>
3. Click on the Install button.
4. Wait for the installation to complete and click on Apply and restart UI.



Cozy Nest UI Addon

As an extension for SD-webui: Open the Extensions tab in SD-webui.

1. Select the Install from URL option.
2. Enter <https://github.com/Nevysha/Cozy-Nest>
3. Click on the Install button.
4. Wait for the installation to complete and click on Apply and restart UI.



general advice

[Some general Stable Diffusion prompt advice](#)

[More prompting techniques](#)

[Inpainting explanation](#)

Models / Settings

LoRA models/styles/tools as well as base models can be searched and downloaded from [CivitAI](#)

Realistic Vision + Lora

Description for [photorealistic images](#):

1. Download model [Realistic Vision V6.0 B1 Base Model](#) from <https://civitai.com/models/4201/realistic-vision-v11> and save it into the models/stable-diffusion directory
2. create models/Lora directory
3. download [LORA Style hyperrealism art](#) and save to models/Lora directory
4. download [LORA epi_noiseoffset](#) and save to models/Lora directory
5. in web interface go to extensions → install from url and paste to install:

<https://github.com/mcmonkeyprojects/sd-dynamic-thresholding>
<https://github.com/oppaco/stable-diffusion-webui-composable-lora>

6. then go to installed tab and click apply and quit
7. restart stable diffusion web ui
8. go to Lora tab, configure entries (which will create json files, then the entries disappear)

Base settings:

```
set sampling steps to 20
set sampling method to DPM++ SDE Karras
set width to 768 and height to 512
set CFG scale to 6
set seed to -1
enable Dynamic Thresholding (CFG Scale Fix)
enable all composable Lora
```

Stable Diffusion SDXL Model

```
cd /opt/stable-diffusion/data/models/Stable-diffusion
wget
https://huggingface.co/stabilityai/stable-diffusion-xl-base-1.0/raw/main/sd\_xl\_base\_1.0\_0.9vae.safetensors
```

Stable Diffusion XL Turbo model

This is for general objects/scenes/animals/etc, faster than SDXL

download **SDXL Turbo** from <https://huggingface.co/stabilityai/sdxl-turbo> and copy into Models/Stable-diffusion directory.

Text LoRA

<https://civitai.com/models/176555?modelVersionId=214296>

Other Text LoRAs: <https://civitai.com/tag/text>

Image Style/Prompt libraries

[Lexica PromptHero](#)

Some test image prompts

```
3d, 8k, masterpiece, (best quality), Japanese garden, waterfall, cherry blossoms in full bloom, conifer, koi pond, (pagoda:1.1), stone lantern, water basin, water reflections, winding path, (night sky:1.:1), hokusai inspiration, ultra-realistic, pastel color scheme, soft lighting, golden hour, tranquil atmosphere, landscape orientation
```

```
EasyNegative, (worst quality:1.2), (low quality:1.2), (lowres:1.1), (monochrome:1.1), (greyscape), multiple views, comic, sketch, watermark
```

```
25 steps, 2m karras, 1024x768 seed 1192013237
```

```
greg rutkowski, highly detailed, dark, surreal scary swamp, terrifying, horror, poorly lit, trending on artstation, incredible composition, masterpiece
```

```
with settings:  
LMS Karras  
50 steps  
CFG scale 8  
random seed
```

Test. use in txt2img the following prompt:

```
RAW photo, close up photo of face, woman with dark hair in rain at night, blue eyes, detailed eyes, dark skin, (high detailed skin:1.2), 8k uhd, dslr, soft lighting, high quality, film grain, Fujifilm XT3  
<lora:lora_contrast_fix:1> <lora:lora-style-hyperrealism-art:1>
```

and as negative prompt below:

(deformed iris, deformed pupils, semi-realistic, cgi, 3d, render, sketch, cartoon, drawing, anime:1.4), text, close up, cropped, out of frame, worst quality, low quality, jpeg artifacts, ugly, duplicate, morbid, mutilated, extra fingers, mutated hands, poorly drawn hands, poorly drawn face, mutation, deformed, blurry, dehydrated, bad anatomy, bad proportions, extra limbs, cloned face, disfigured, gross proportions, malformed limbs, missing arms, missing legs, extra arms, extra legs, fused fingers, too many fingers, long neck

then click generate as often as you like

Stable Diffusion checkpoint
realistic-vision-6.0b1-base.safetensors [15012cf]

txt2img img2img Extras PNG Info Checkpoint Merger Train Settings Extensions

RAW photo, close up photo of face, woman with dark hair in rain at night, blue eyes, detailed eyes, dark skin, (high detailed skin:1.2), 8k ~~yhd~~, ~~dsdr~~, soft lighting, high quality, film grain, Fujifilm XT3 <|lora:lora_contrast_fix:1> <lora:lora-style-hyperrealism-art:1>

50/75 128/150

(deformed iris, deformed pupils, semi-realistic, ~~cgi~~, 3d, render, sketch, cartoon, drawing, anime:1.4), text, close up, cropped, out of frame, worst quality, low quality, jpeg artifacts, ugly, duplicate, morbid, mutilated, extra fingers, mutated hands, poorly drawn hands, poorly drawn face, mutation, deformed, blurry, dehydrated, bad anatomy, bad proportions, extra limbs, cloned face, disfigured, gross proportions, malformed limbs, missing arms, missing legs, extra arms, extra legs, fused fingers, too many fingers, long neck

Generation Textual Inversion Hypernetworks Checkpoints Lora

Sampling method: DPM++ SDE Karras
Sampling steps: 20
Hires fix: Refiner
Width: 768
Height: 512
Batch count: 1
Batch size: 1
CFG Scale: 6
Seed: -1
Dynamic Thresholding (CFG Scale Fix): checked
Composable Lora: None
Script: None



File Open Save Save As Open Image Open Model Open Project Open Script Open Lora



The image shows a close-up portrait of a woman with dark, wavy hair and intense blue eyes. She has a neutral expression and is looking directly at the camera. The lighting is soft, highlighting her features against a blurred background. The image is presented within a digital interface, likely a file manager or a specific application for viewing generated images. At the top right of the image frame are two small icons: a downward arrow and a cross. Below the main image is a smaller thumbnail version of the same photo, also enclosed in a thin orange border. Underneath the main image are several small, light-gray icons representing different functions or tools, such as a folder, a save icon, a clipboard, and a magnifying glass. At the bottom left of the interface, the file name "00002-859497391.png" is displayed in a simple black font. To the right of the file name, the file size "551.0 KB" is shown in a slightly larger font, followed by a downward arrow indicating it can be downloaded.

00002-859497391.png 551.0 KB ↓

RAW photo, close up photo of face, woman with dark hair in rain at night, blue eyes, detailed eyes, dark skin, (high detailed skin:1.2), 8k uhd, dslr, soft lighting, high quality, film grain, Fujifilm XT3 <lora:lora_contrast_fix:1> <lora:lora-style-hyperrealism-art:1>
Negative prompt: (deformed iris, deformed pupils, semi-realistic, cgi, 3d, render, sketch, cartoon, drawing, anime:1.4), text, close up, cropped, out of frame, worst quality, low quality, jpeg artifacts, ugly, duplicate, morbid, mutilated, extra fingers, mutated hands, poorly drawn hands, poorly drawn face, mutation, deformed, blurry, dehydrated, bad anatomy, bad proportions, extra limbs, cloned face, disfigured, gross proportions, malformed limbs, missing arms, missing legs, extra arms, extra legs, fused fingers, too many fingers, long neck
Steps: 20, Sampler: DPM++ SDE Karras, CFG scale: 6, Seed: 859497391, Size: 768x512, Model hash: cc6cb27103, Model: v1-5-pruned-emaonly, Lora hashes: "lora_contrast_fix: d1131f7207d6, lora-style-hyperrealism-art: 6d4ea812a2d2", Dynamic thresholding enabled: True, Mimic scale: 7, Separate Feature Channels: True, Scaling Startpoint: MEAN, Variability Measure: AD, Interpolate Phi: 1, Threshold percentile: 100, Version: v1.7.0

Update docker

<https://github.com/AbdBarho/stable-diffusion-webui-docker/issues/683>

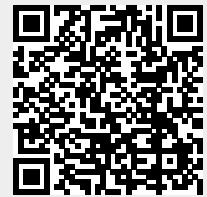
If you want a more up to date version of A1111 here are the steps:

```
docker exec -it webui-docker-auto-1 /bin/bash
git pull
pip install -r requirements.txt
#if needed
cd repositories
```

```
git clone https://github.com/AUTOMATIC1111/stable-diffusion-webui-assets.git  
exit  
  
docker stop webui-docker-auto-1  
docker start webui-docker-auto-1
```

If it fails for any reason just rebuild the container using the standard process of docker compose
-profile auto up -build

From:
<http://wuff.dyndns.org/> - **Wulf's Various Things**



Permanent link:
<http://wuff.dyndns.org/doku.php?id=ai:stable-diffusion>

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