```
!pip install diffusers transformers accelerate scipy safetensors
```

```
Requirement already satisfied: diffusers in /usr/local/lib/python3.11/dist-packages (0.32.2)
Requirement already satisfied: transformers in /usr/local/lib/python3.11/dist-packages (4.50.3)
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Requirement already satisfied: tqdm>=4.27 in /usr/local/lib/python3.11/dist-packages (from transformers)
Requirement already satisfied: psutil in /usr/local/lib/python3.11/dist-packages (from accelerate) (5.9.5
Requirement already satisfied: torch>=2.0.0 in /usr/local/lib/python3.11/dist-packages (from accelerate)
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Requirement already satisfied: jinja2 in /usr/local/lib/python3.11/dist-packages (from torch>=2.0.0->acce
Collecting nvidia-cuda-nvrtc-cu12==12.4.127 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cuda_nvrtc_cu12-12.4.127-py3-none-manylinux2014_x86_64.whl.metadata (1.5 kB)
Collecting nvidia-cuda-runtime-cu12==12.4.127 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cuda_runtime_cu12-12.4.127-py3-none-manylinux2014_x86_64.whl.metadata (1.5 kB)
Collecting nvidia-cuda-cupti-cu12==12.4.127 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cuda_cupti_cu12-12.4.127-py3-none-manylinux2014_x86_64.whl.metadata (1.6 kB)
Collecting nvidia-cudnn-cu12==9.1.0.70 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cudnn_cu12-9.1.0.70-py3-none-manylinux2014_x86_64.whl.metadata (1.6 kB)
Collecting nvidia-cublas-cu12==12.4.5.8 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cublas_cu12-12.4.5.8-py3-none-manylinux2014_x86_64.whl.metadata (1.5 kB)
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  Downloading nvidia_cufft_cu12-11.2.1.3-py3-none-manylinux2014_x86_64.whl.metadata (1.5 kB)
Collecting nvidia-curand-cu12==10.3.5.147 (from torch>=2.0.0->accelerate)
  Downloading nvidia_curand_cu12-10.3.5.147-py3-none-manylinux2014_x86_64.whl.metadata (1.5 kB)
Collecting nvidia-cusolver-cu12==11.6.1.9 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cusolver_cu12-11.6.1.9-py3-none-manylinux2014_x86_64.whl.metadata (1.6 kB)
Collecting nvidia-cusparse-cu12==12.3.1.170 (from torch>=2.0.0->accelerate)
  Downloading nvidia_cusparse_cu12-12.3.1.170-py3-none-manylinux2014_x86_64.whl.metadata (1.6 kB)
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Requirement already satisfied: nvidia-nvtx-cu12==12.4.127 in /usr/local/lib/python3.11/dist-packages (fro
Collecting nvidia-nvjitlink-cu12==12.4.127 (from torch>=2.0.0->accelerate)
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Requirement already satisfied: sympy==1.13.1 in /usr/local/lib/python3.11/dist-packages (from torch>=2.0.
Requirement already satisfied: mpmath<1.4,>=1.1.0 in /usr/local/lib/python3.11/dist-packages (from sympy=
Requirement already satisfied: zipp>=3.20 in /usr/local/lib/python3.11/dist-packages (from importlib-meta
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from
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Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from reques
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from reques
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.11/dist-packages (from jinja2->t
Downloading nvidia_cublas_cu12-12.4.5.8-py3-none-manylinux2014_x86_64.whl (363.4 MB)
 ─────────────────────────────────────── 363.4/363.4 MB 4.4 MB/s eta 0:00:00
Downloading nvidia_cuda_cupti_cu12-12.4.127-py3-none-manylinux2014_x86_64.whl (13.8 MB)
```

```
!huggingface-cli login
```

```
    _|    _|    _|      _|    _|_|_|  _|_|_|  _|_|_|  _|      _|  _|_|_|    _|_|_|_|    _|_|      _|_|_|
    _|    _|  _|  _|  _|  _|  _|        _|    _|  _|  _|_|    _|  _|    _|  _|        _|    _|  _|
    _|_|_|_|  _|    _|      _|  _|  _|_|  _|    _|  _|  _|  _|  _|  _|_|_|    _|_|_|_|  _|_|_|_|  _|
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    _|    _|  _|    _|      _|    _|_|_|    _|_|_|  _|_|_|  _|      _|  _|        _|_|_|_|  _|    _|    _|_|_|

    To log in, `huggingface_hub` requires a token generated from https://huggingface.co/settings/tokens .
Enter your token (input will not be visible):
Add token as git credential? (Y/n) y
Token is valid (permission: fineGrained).
The token `Stability diffusion` has been saved to /root/.cache/huggingface/stored_tokens
Cannot authenticate through git-credential as no helper is defined on your machine.
You might have to re-authenticate when pushing to the Hugging Face Hub.
Run the following command in your terminal in case you want to set the 'store' credential helper as default

git config --global credential.helper store

Read https://git-scm.com/book/en/v2/Git-Tools-Credential-Storage for more details.
```

moon and a girl on a benc •••

```
Token has not been saved to git credential helper.
Your token has been saved to /root/.cache/huggingface/token
Login successful.
The current active token is: `Stability diffusion`
```

```python
from diffusers import StableDiffusionPipeline, EulerDiscreteScheduler
import torch

model_id = "stabilityai/stable-diffusion-2-1-base"

scheduler = EulerDiscreteScheduler.from_pretrained(model_id, subfolder="scheduler")
pipe = StableDiffusionPipeline.from_pretrained(model_id, scheduler=scheduler, torch_dtype=torch.float16)
pipe = pipe.to("cuda")

prompt = "a colourful photo of a girl on a bench infront of moon"
image = pipe(prompt).images[0]

image.save("moon and a girl on a bench.png")
```

```
/usr/local/lib/python3.11/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your settings tab (https://huggingface.co/sett
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to access public models or datasets.
  warnings.warn(
```

scheduler_config.json: 100%   346/346 [00:00<00:00, 36.2kB/s]

model_index.json: 100%   543/543 [00:00<00:00, 46.6kB/s]

Fetching 12 files: 100%   12/12 [00:35<00:00, 3.34s/it]

```
Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HT1
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not
```

config.json: 100%   613/613 [00:00<00:00, 43.8kB/s]

model.safetensors: 100%   1.36G/1.36G [00:21<00:00, 102MB/s]

vocab.json: 100%   1.06M/1.06M [00:00<00:00, 1.94MB/s]

config.json: 100%   911/911 [00:00<00:00, 19.1kB/s]

preprocessor_config.json: 100%   342/342 [00:00<00:00, 11.0kB/s]

tokenizer_config.json: 100%   807/807 [00:00<00:00, 16.7kB/s]

special_tokens_map.json: 100%   460/460 [00:00<00:00, 8.19kB/s]

```
Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HT1
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not
```

merges.txt: 100%   525k/525k [00:00<00:00, 3.06MB/s]

diffusion_pytorch_model.safetensors: 100%   3.46G/3.46G [00:34<00:00, 119MB/s]

```
Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HT1
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not
```

config.json: 100%   553/553 [00:00<00:00, 39.6kB/s]

diffusion_pytorch_model.safetensors: 100%   335M/335M [00:16<00:00, 23.8MB/s]

Loading pipeline components...: 100%   6/6 [00:13<00:00, 2.78s/it]

100%   50/50 [00:06<00:00, 8.24it/s]

```
pip install gradio
```

```
Collecting gradio
  Downloading gradio-5.23.3-py3-none-any.whl.metadata (16 kB)
Collecting aiofiles<24.0,>=22.0 (from gradio)
  Downloading aiofiles-23.2.1-py3-none-any.whl.metadata (9.7 kB)
Requirement already satisfied: anyio<5.0,>=3.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (
Collecting fastapi<1.0,>=0.115.2 (from gradio)
  Downloading fastapi-0.115.12-py3-none-any.whl.metadata (27 kB)
Collecting ffmpy (from gradio)
  Downloading ffmpy-0.5.0-py3-none-any.whl.metadata (3.0 kB)
Collecting gradio-client==1.8.0 (from gradio)
  Downloading gradio_client-1.8.0-py3-none-any.whl.metadata (7.1 kB)
Collecting groovy~=0.1 (from gradio)
  Downloading groovy-0.1.2-py3-none-any.whl.metadata (6.1 kB)
Requirement already satisfied: httpx>=0.24.1 in /usr/local/lib/python3.11/dist-packages (from gradio) (0.
Requirement already satisfied: huggingface-hub>=0.28.1 in /usr/local/lib/python3.11/dist-packages (from g
```

4/6/25, 11:26 PM

```
Requirement already satisfied: jinja2<4.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (3.1.6
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Collecting python-multipart>=0.0.18 (from gradio)
  Downloading python_multipart-0.0.20-py3-none-any.whl.metadata (1.8 kB)
Requirement already satisfied: pyyaml<7.0,>=5.0 in /usr/local/lib/python3.11/dist-packages (from gradio)
Collecting ruff>=0.9.3 (from gradio)
  Downloading ruff-0.11.4-py3-none-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (25 kB)
Collecting safehttpx<0.2.0,>=0.1.6 (from gradio)
  Downloading safehttpx-0.1.6-py3-none-any.whl.metadata (4.2 kB)
Collecting semantic-version~=2.0 (from gradio)
  Downloading semantic_version-2.10.0-py2.py3-none-any.whl.metadata (9.7 kB)
Collecting starlette<1.0,>=0.40.0 (from gradio)
  Downloading starlette-0.46.1-py3-none-any.whl.metadata (6.2 kB)
Collecting tomlkit<0.14.0,>=0.12.0 (from gradio)
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Requirement already satisfied: typer<1.0,>=0.12 in /usr/local/lib/python3.11/dist-packages (from gradio)
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Requirement already satisfied: python-dateutil>=2.8.2 in /usr/local/lib/python3.11/dist-packages (from pa
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.11/dist-packages (from pandas<3.0,>
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Requirement already satisfied: pydantic-core==2.33.0 in /usr/local/lib/python3.11/dist-packages (from pyd
```

```python
import gradio as gr
from diffusers import StableDiffusionPipeline, EulerDiscreteScheduler
import torch

model_id = "stabilityai/stable-diffusion-2-1-base"

scheduler = EulerDiscreteScheduler.from_pretrained(model_id, subfolder="scheduler")
pipe = StableDiffusionPipeline.from_pretrained(model_id, scheduler=scheduler, torch_dtype=torch.float16)
pipe = pipe.to("cuda")

def generated_image(prompt):
    image = pipe(prompt).images[0]
    return image

gr.Interface(
    fn=generated_image,
    inputs=gr.Textbox(label="Enter your prompt"),
    outputs=gr.Image(type="pil"),
    title="Stable Diffusion 2.1 - S Shyamili's  IMAGE GENERATOR APP",
    description="Enter text prompt and see the generated image"
).launch()
```

Loading pipeline components...: 100%   6/6 [00:23<00:00, 4.16s/it]

Running Gradio in a Colab notebook requires sharing enabled. Automatically setting `share=True` (you can tur

Colab notebook detected. To show errors in colab notebook, set debug=True in launch()
* Running on public URL: https://d7bcbce0d6e42d4082.gradio.live

This share link expires in 72 hours. For free permanent hosting and GPU upgrades, run `gradio deploy` from t

Stable Diffusion 2.1 - S Shyamili's IMAGE GENERATOR APP

Enter text prompt and see the generated image

Enter your prompt

generate forest with birds

Clear   Submit

output

Flag

Start coding or generate with AI.