

```
!pip install -U diffusers
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✓ Local Inference on GPU

Model page: <https://huggingface.co/stabilityai/stable-diffusion-xl-base-1.0>

⚠ If the generated code snippets do not work, please open an issue on either the [model repo](#) and/or on [huggingface.js](#) 🙏

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pip install -U diffusers transformers accelerate
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Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.12/dist-packages (from jinja2->torch>=2.

```
import torch
from diffusers import StableDiffusionPipeline
import os
from PIL import Image
import matplotlib.pyplot as plt

os.makedirs("synthetic_dataset", exist_ok=True)

device = "cuda" if torch.cuda.is_available() else "cpu"
print("Using device:", device)

pipe = StableDiffusionPipeline.from_pretrained(
    "runwayml/stable-diffusion-v1-5",
    torch_dtype=torch.float16
)

pipe.to(device)
pipe.enable_attention_slicing()

prompts = [
    "A futuristic city with flying cars",
    "A serene lake at sunset",
    "An astronaut cat on Mars",
    "A steam train in autumn",
    "A robot playing chess"
]

for i, prompt in enumerate(prompts):
    image = pipe(prompt).images[0]

    path = f"synthetic_dataset/sample_{i+1}.png"
    image.save(path)

    # DISPLAY
    plt.figure(figsize=(4,4))
    plt.imshow(image)
    plt.axis("off")
    plt.title(prompt)
    plt.show()

print("DONE")
```

