Lab: Effective Text Prompts for Image Generation

Estimated time: 30 minutes

Introduction

Welcome to the hands-on lab - Effective Text Prompts for Image Generation!
Prompts are particularly significant in image generation, as the generative AI model depends on textual cues to generate the preferred image. There are various types of images that can be classified based on attributes such as color, style, and resolution. Therefore, it is critical to specify the image type you require and the details it should encompass when crafting textual prompts for image generation.

Learning objectives

After completing this lab, you will be able to:

1. Leverage the image generation capability of the generative AI platform
2. Apply various image-prompting techniques for effective image generation

Choose the model

Use the drop-down arrow from the top-left corner of the right pane for the text generation exercise and choose **DALL·E 2** model.

Important note

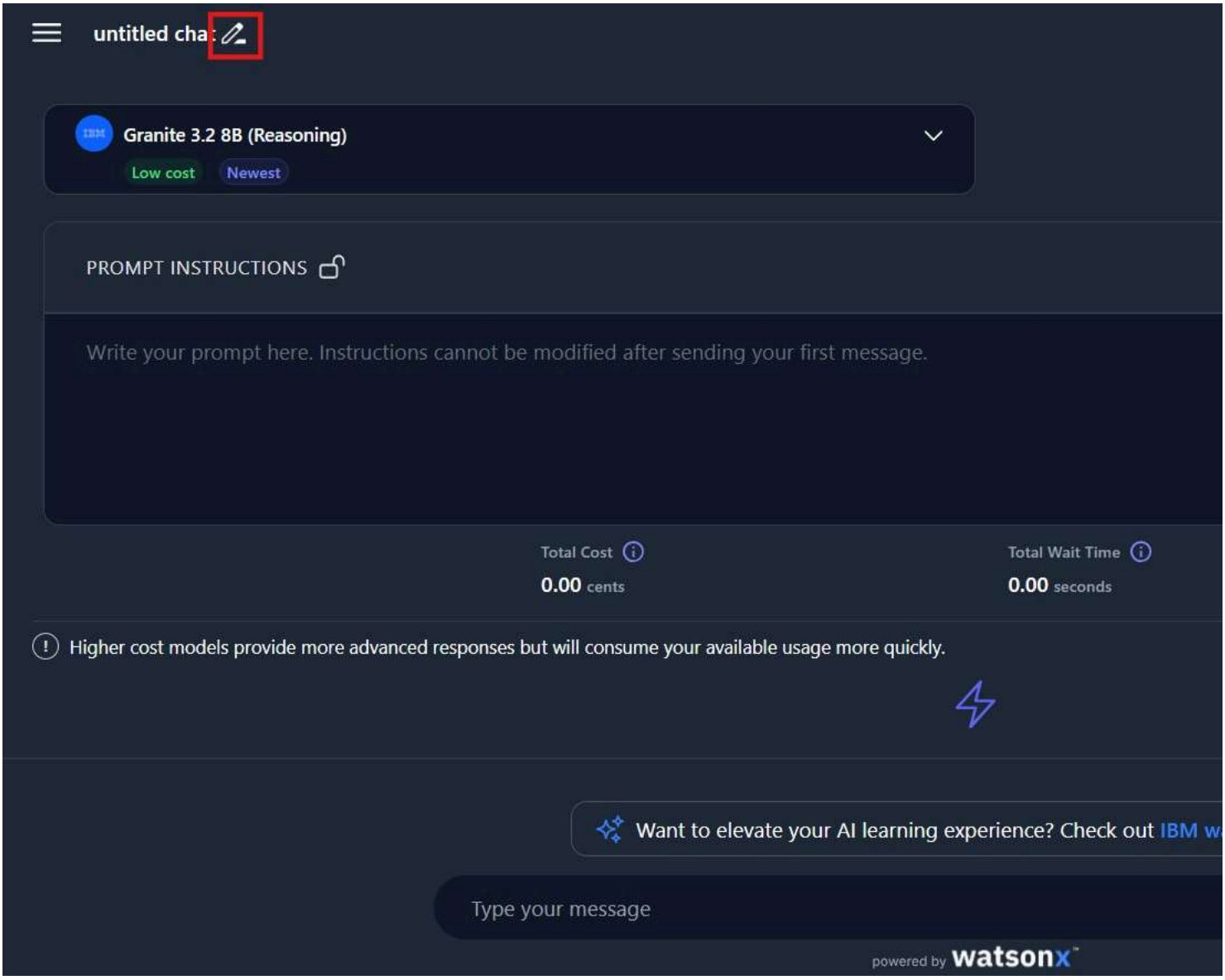
Please note that there is a daily usage limit on the number of image outputs that can be generated in the DALL·E labs. Once this limit is reached, you will have to wait for 24 hours (or for the specified time limit as mentioned in the notification) before generating additional images. To ensure a smooth learning experience, learners are strongly advised to use the platform judiciously.

Step 1: Set up the AI classroom

In this exercise, you will prompt the generative AI classroom chatbot to generate the preferred image and review the generative AI model's image generation capability.

As the first step, you must set up your generative AI classroom for a better learning experience. To do so, you should:

1. **Name the chat**.
   Use the pencil icon available on the top-left corner of the right pane to name the chat.



2. **Select the model**.
   Use the drop-down arrow from the list box at the top in the right pane and select **DALL·E 2** from the drop-down list.

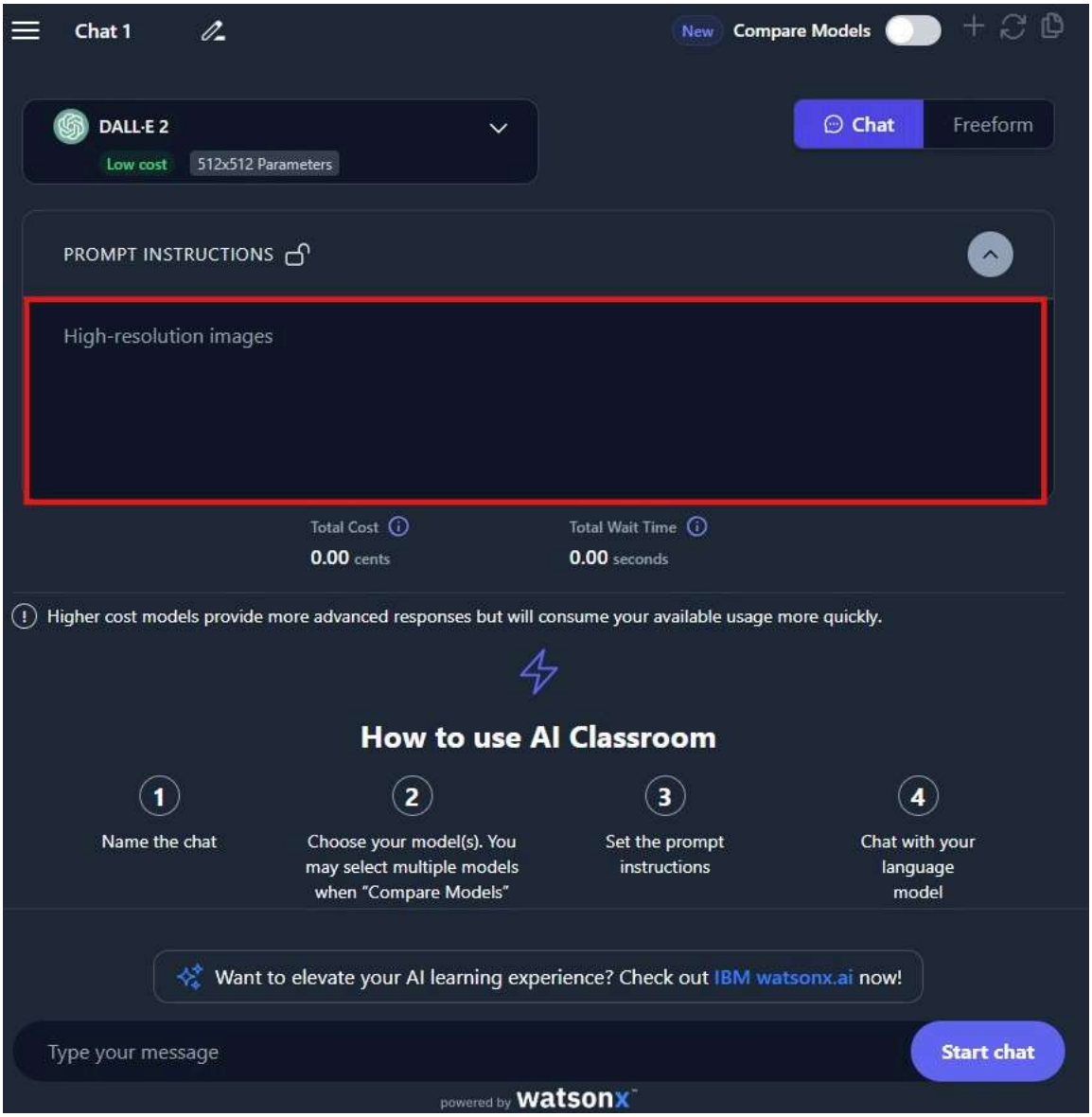
Step 2: Generate image from text prompt

1. **Provide prompt instructions.**

Use the **PROMPT INSTRUCTIONS** field on the upper right pane of the chat system to provide instructions or any specific details about the context of the required output. For example, let's type the following in the **PROMPT INSTRUCTIONS** field.

```
High-resolution images
```

Note: These instructions will be locked once you'll start the chat and cannot be modified later.

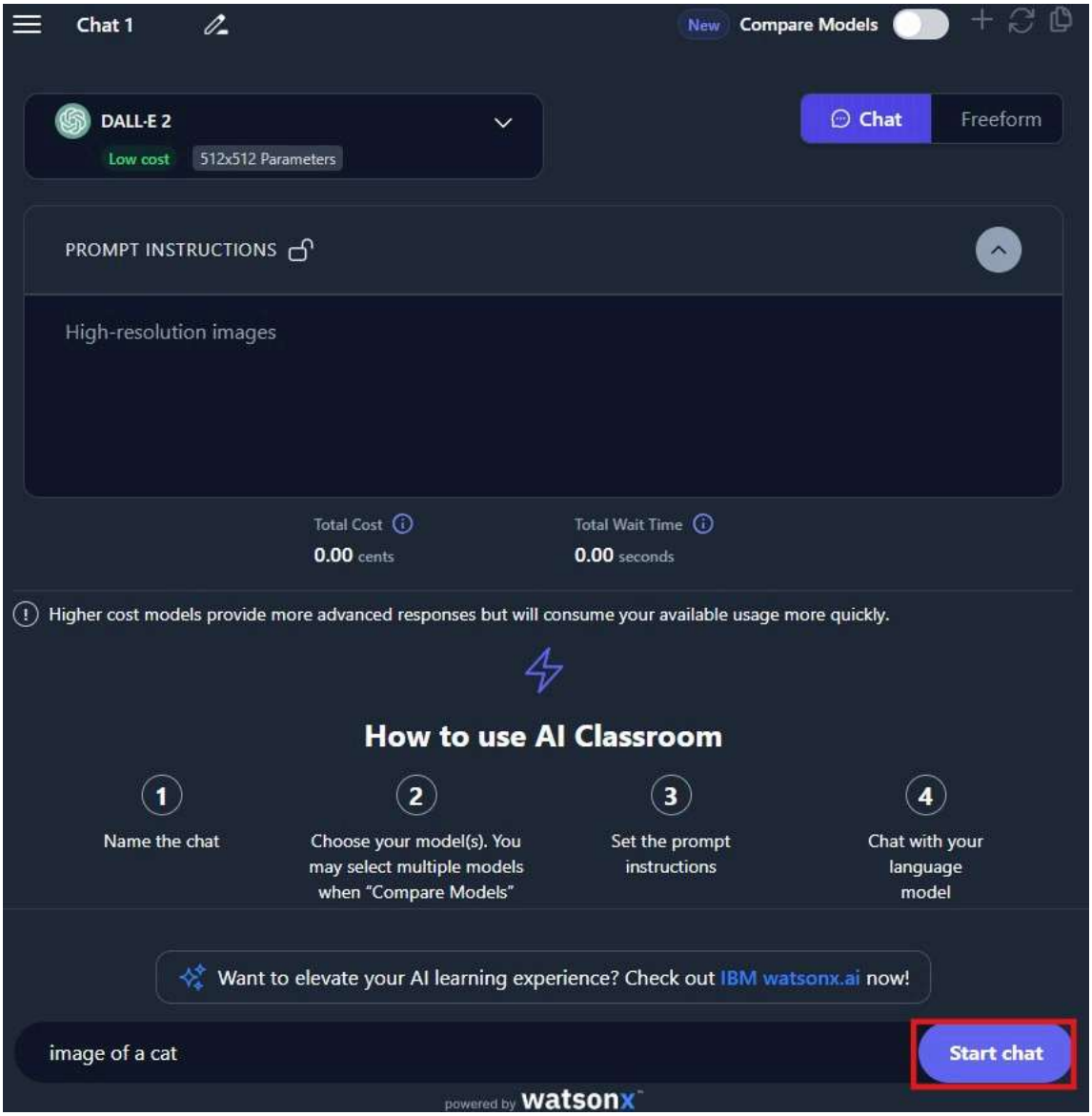


2. **Type your message.**

   Think about and specify description for the image you would like to generate. To do so, use the text box available at the bottom of the page to write the prompts and converse with the chat system.

   Now, write the preferred prompt in the **Type your message** box. For example, type the words "image of a cat" in the **Type your message** box.

3. **Select "Start chat" to generate the image.**
   Note: The image may take some time to generate.



4. **An image of a cat will be generated.**
   Note: The generated images will expire in two hours.

5. **Select "Regenerate response" to generate a new image.**

6. **The image is regenerated.**

Note that the **plus icon** available at top-right of the page helps to add a new chat to generate text or images, and the **refresh icon** refreshes the generative AI page. The **floppy icon** helps in duplicating the chat.

Step 3: Refine prompt using style modifiers

Style modifiers serve as descriptors that influence the artistic style or visual attributes of images produced by generative AI models. These descriptors can help the generative AI model produce graphics with innovative styles while conforming to the structure and content of the text prompt.
Some examples of style modifiers include Photographic, Animated, Digital Art, Comic Book, Fantasy Art, Line Art, Analog Film, Neon Punk, Isometric, Origami, and Cinematic Pixel Art.

1. **Refine your prompt using any of the style modifiers and select Send.**
   For example, type the prompt "Comic art of a cat" in the **Type your message** box.

2. **Try refining your prompt with a different style modifier and Select Send.**
   For example, type the prompt "Image of a cat with neon punk" in the **Type your message** box.

Step 4: Refine your prompt using quality boosters to enhance image quality

High-quality images are more attractive than low-quality ones. Quality boosters are terms used in an image prompt to enhance the visual appeal and improve the overall quality and sharpness of the output image. Some examples of quality boosters include high-resolution, intricate details, hyper-detailed, sharp focus, and complementary colors. These terms continue to evolve with the image's characteristics.

1. **Refine your prompt**.
   Refine your prompt with a few quality boosters and select **Send** .
   For example, type the prompt "Create a highly detailed and realistic painting of a cat" in the **Type your message** box.

2. **Enhance your prompt**.
   Enhance your prompt with another quality booster, focusing on the complementary colors, and select **Send**
   For example, type the prompt "A cat having complementary colors and charming body" in the **Type your message** box.

Step 5: Enhance your prompt with weighted terms for emphasis

Weighted terms let you enhance or diminish particular objects or emotions in an image. Generative AI models allow you to give positive or negative weights to such terms to emphasize or de-emphasize a certain object or emotion in the image.

1. **Create a prompt**.

   Create a prompt and select **Send**.

   For example, type the prompt **Scenic landscape** in the **Type your message** box.

2. **Refine your prompt**.
   Now, refine your prompt with specific terms and select **Send** .

   For example, type the prompt "Generate an Image of a scenic landscape with exactly 4 mountains and a lake" in the **Type your message** box.

Try yourself

1. Try some more style modifiers yourself. You can even explore a combination of one or more style modifiers, separating them with commas.

   For example:
   a. An animated, neon punk image of a cat
   b. A lined, digital art image of a cat
   c. A comic book-inspired, fantasy art portrayal of a cat
   d. An origami-inspired, isometric view of a cat

2. Now, try some quality boosters. You can even explore a combination of one or more quality boosters, separating them with commas or "and."

   For example:
   a. A lifelike, exquisitely detailed, high-quality image of a cat
   b. An exquisite, handcrafted mahogany dining table
   c. A sensational, multi-layered chocolate cake
   d. A breathtaking, panoramic view of a castle on a hill

3. Further, dabble with some different emotions and specifications and check out the output.

   For example:
   a. Tranquil beach with crystal-clear water and sands
   b. Futuristic cityscape with sleek skyscrapers and illuminated streets

Summary

Congratulations on completing the hands-on lab - Effective Text Prompts for Image Generation.

In this lab, you explored the popular, open-source image generation model **DALL·E 2**. You used this generative AI model to create images by providing appropriate text prompts. You also learned to refine your prompts to optimize image quality and ensure that required details are included.

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