

Hands-on lab: Effective Text Prompts for Image Generation



Estimated time: 30 minutes

Welcome to the hands-on lab Effective Text 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

About Generative AI Classroom

About generative AI classroom lab

The generative AI classroom allows you to write and compare your prompts to generate desired text and images with real-time chat responses. Moreover, you can choose from multiple generative AI models and learn about their strengths and weaknesses.

You will have the generative AI classroom environment and instructions on one page in a browser. The instructions will be on the left half of the screen, and the generative AI classroom will be on the right half of the screen. You can interact with the language model using the message and chat fields.

Introduction

Prompts are particularly significant in image generation, as the generative AI model depends on textual cues to generate the desired image. There are various types of images, and they can be classified based on attributes like color, style, resolution, and so on. Hence, it's critical to specify the image type you require and the details it should encompass when crafting textual prompts for image generation.

In this lab, you'll work with the **dall-e-2** model in a generative AI classroom to generate high-quality images.

Note: There is a limit to the number of image outputs that can be generated in the DALL-E labs. If you encounter this limit, you will have to wait for 24 hours (or the specified time limit mentioned in the notification) before generating additional images

Exercise 1: Generate images using various prompting techniques

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

Images play a vital role in communication across various domains. An image prompt is a textual description of an image you want to generate. The prompt can be a single word or phrase or more detailed, describing the image's composition, color, and mood.

Step 1: Set up the AI classroom

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

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

untitled chat

meta-llama/llama-3-2-1b-instruct

PROMPT INSTRUCTIONS

Write your prompt here. Instructions cannot be modified after sending your first message.

How to use AI Classroom

- 1 Name the chat
- 2 Choose your model(s). You may select multiple models when "Compare Models" toggle is active
- 3 Set the prompt instructions
- 4 Chat with your language model

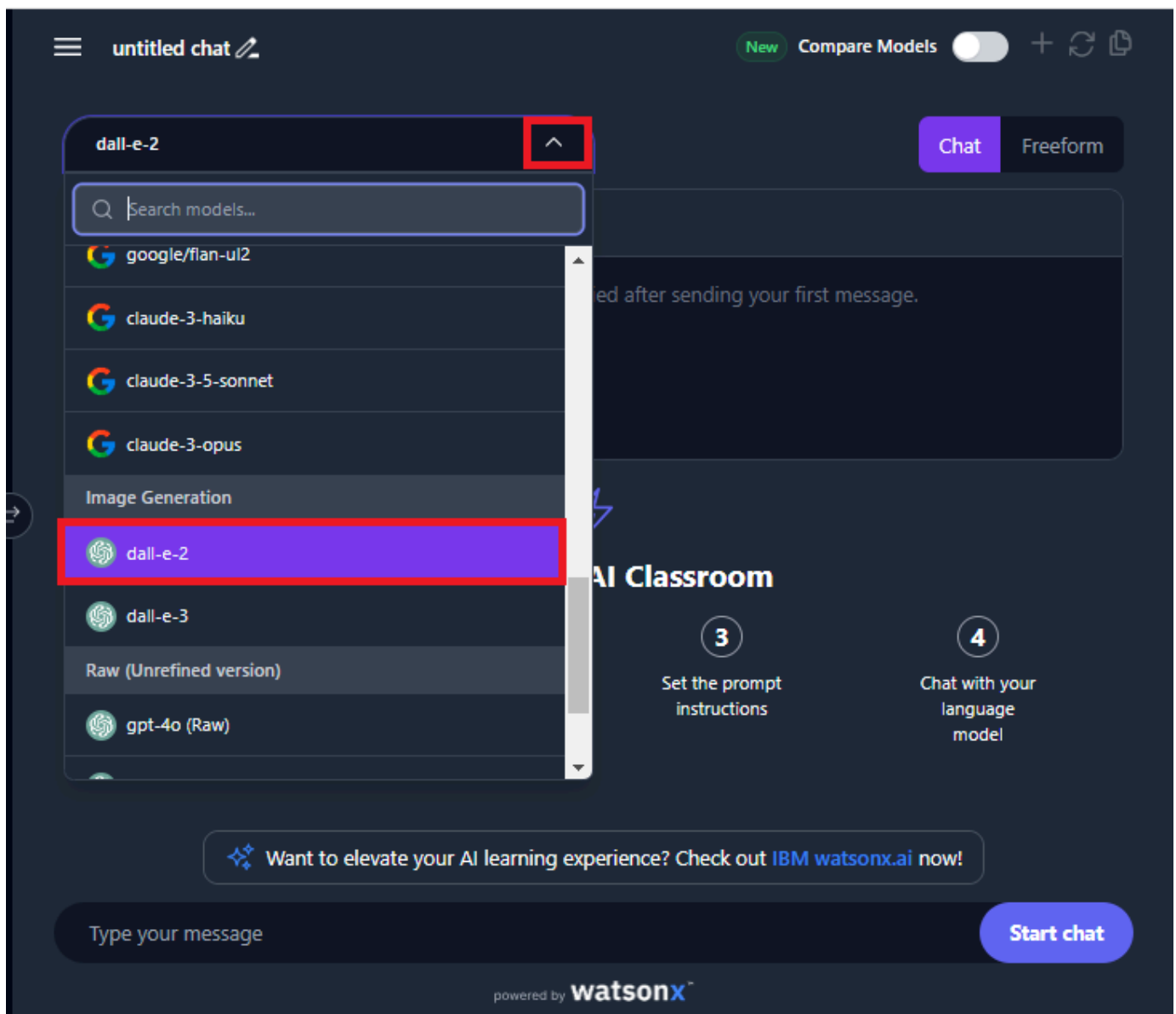
Want to elevate your AI learning experience? Check out [IBM watsonx.ai](https://ibm.com/watsonx.ai) now!

Type your message

Start chat

powered by **watsonx**

2. Choose the model: Use the dropdown option from the top-left corner of the right pane and Select **dall-e-2** from the dropdown list.

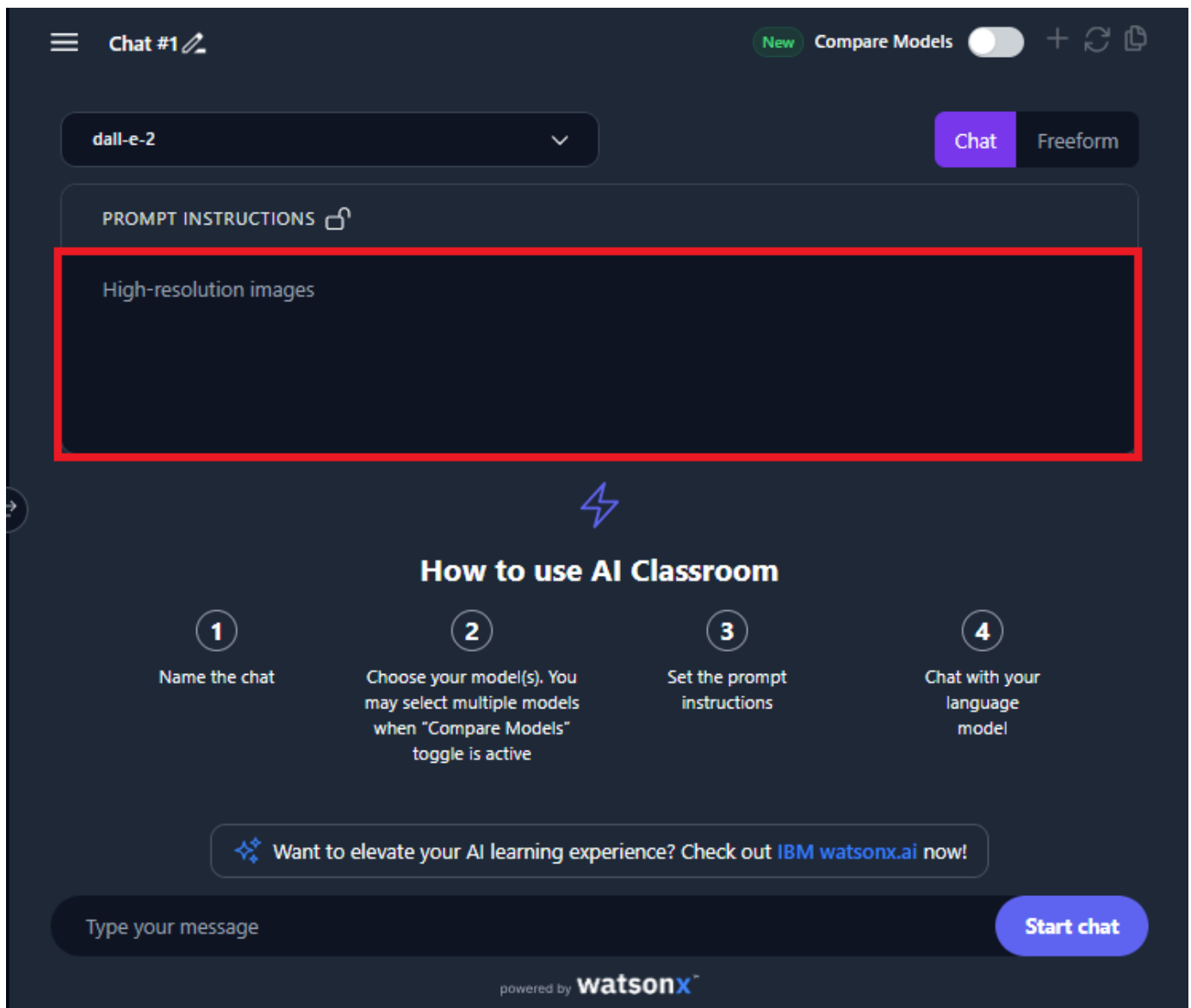


Step 2: Generate image from text prompt

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 "High-resolution images" in **PROMPT INSTRUCTIONS** field.

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



2. Type your message

Think of an 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 desired prompt in the **Type your message** box. For example, type the word "Image of a cat" in the **Type your message** box.

Chat #1

New Compare Models

dall-e-2

Chat Freeform

PROMPT INSTRUCTIONS

High-resolution images

How to use AI Classroom

- 1 Name the chat
- 2 Choose your model(s). You may select multiple models when "Compare Models" toggle is active
- 3 Set the prompt instructions
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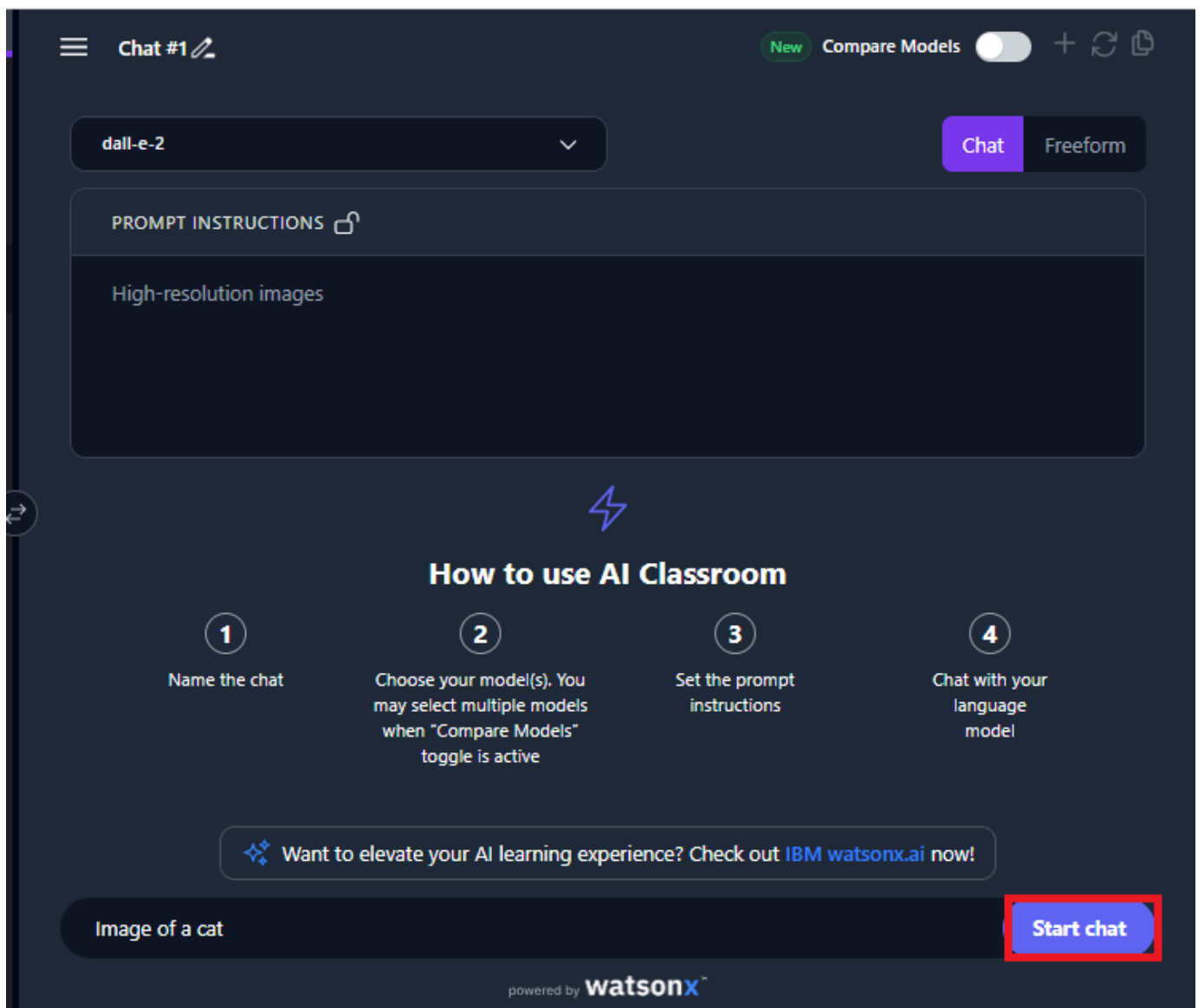
Want to elevate your AI learning experience? Check out [IBM watsonx.ai](#) now!

Image of a cat

Start chat

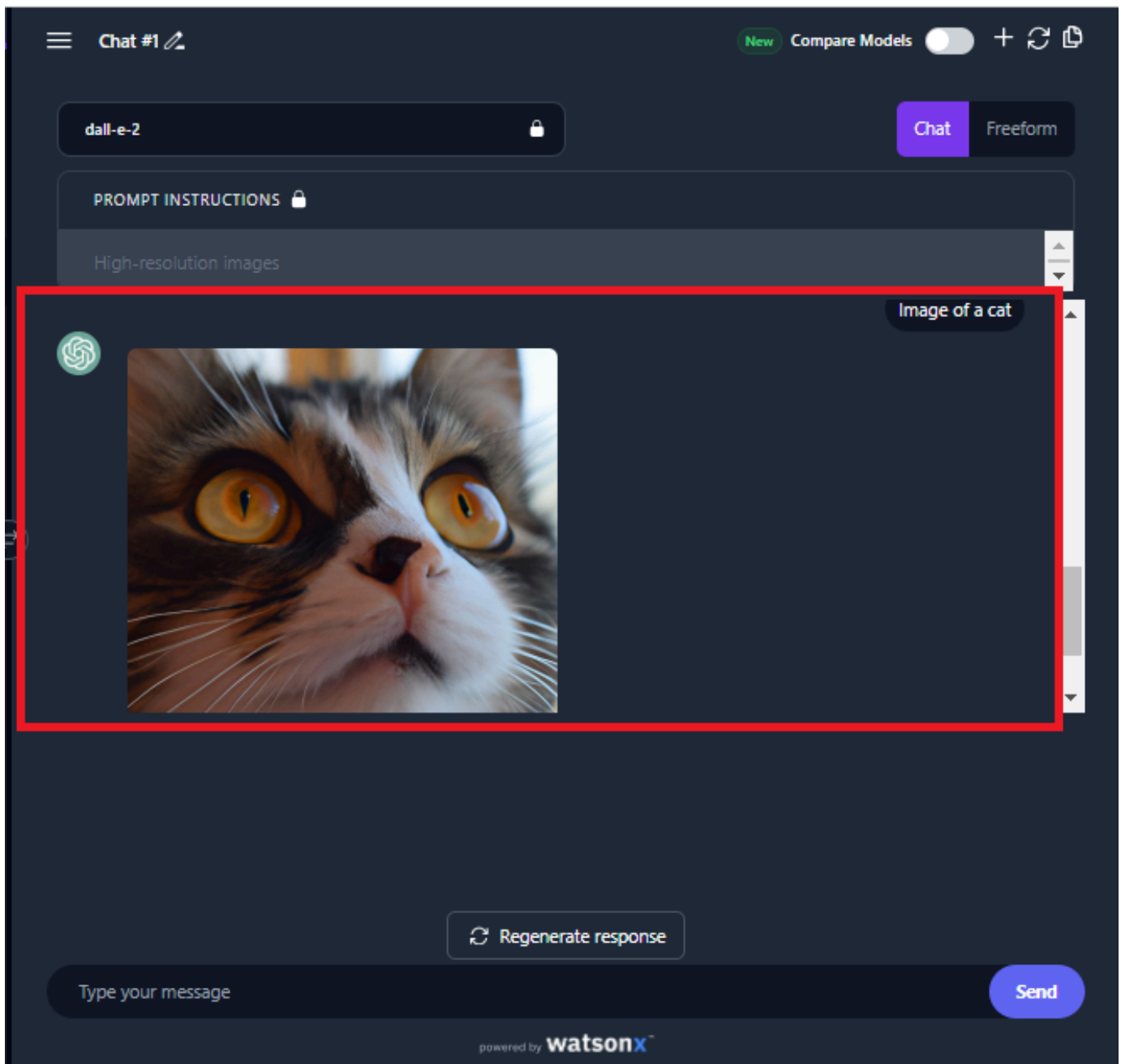
powered by watsonx

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

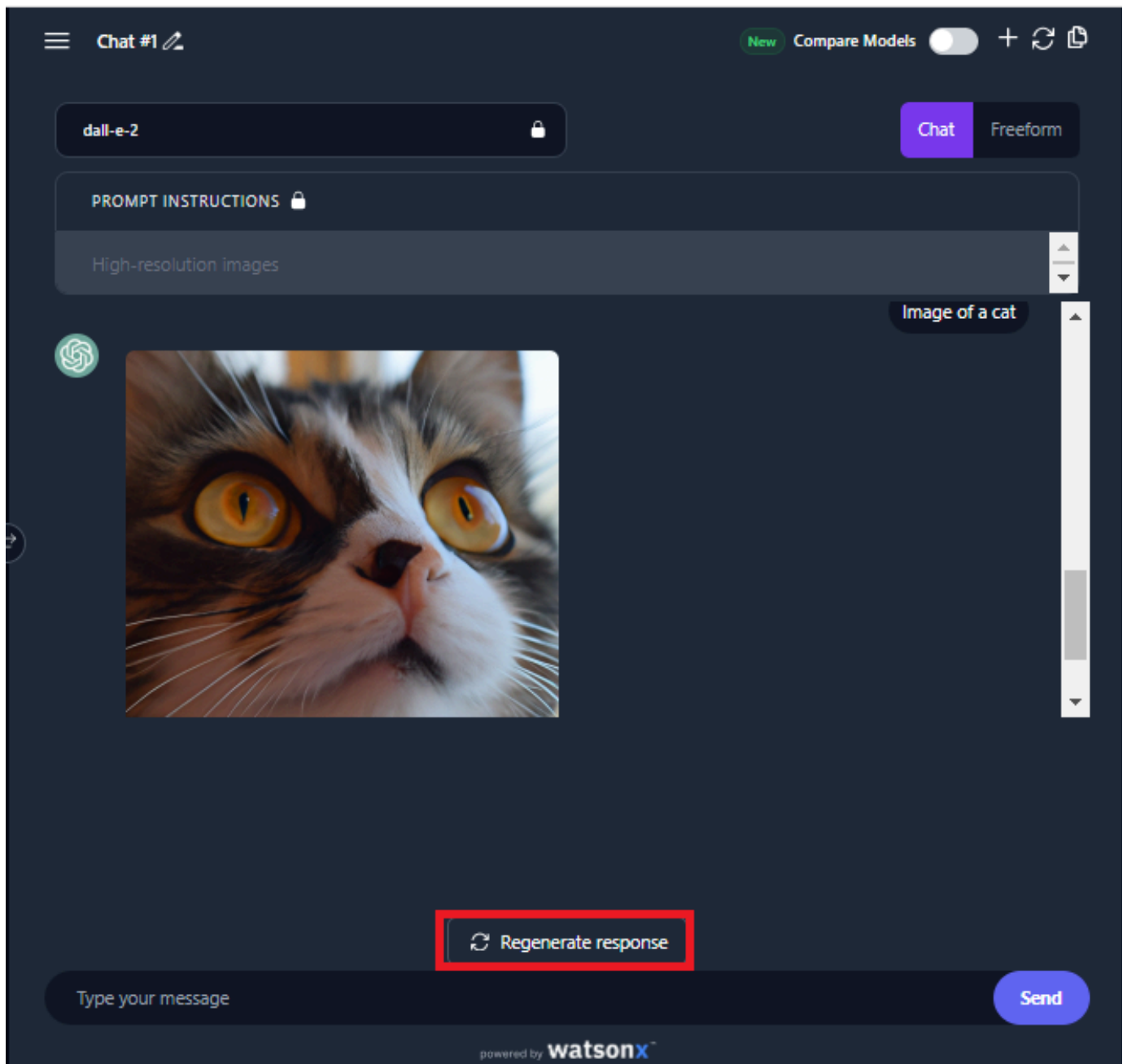


4. An image of a cat will be generated.

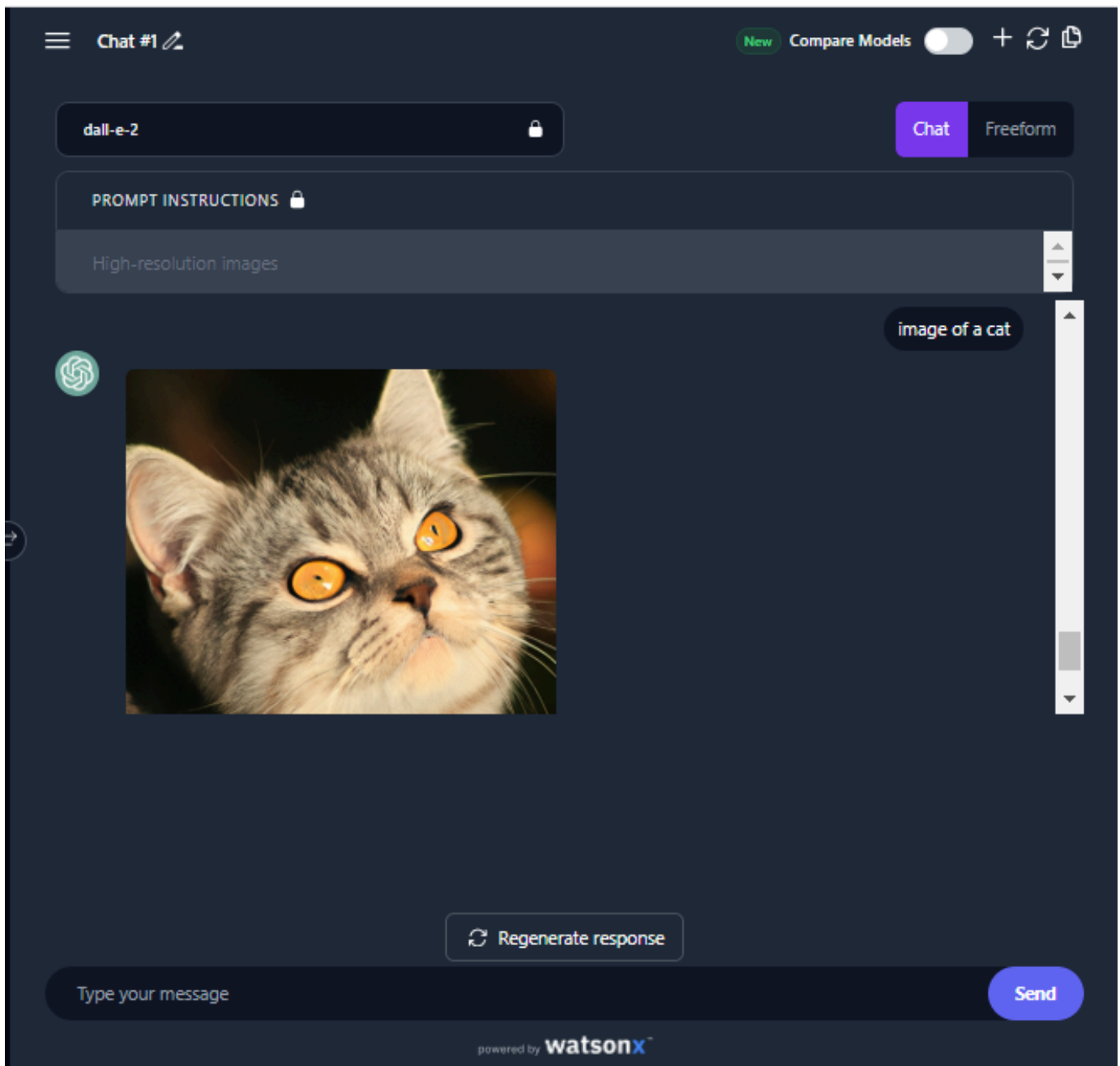
Note: The generated images will expire in two hours.



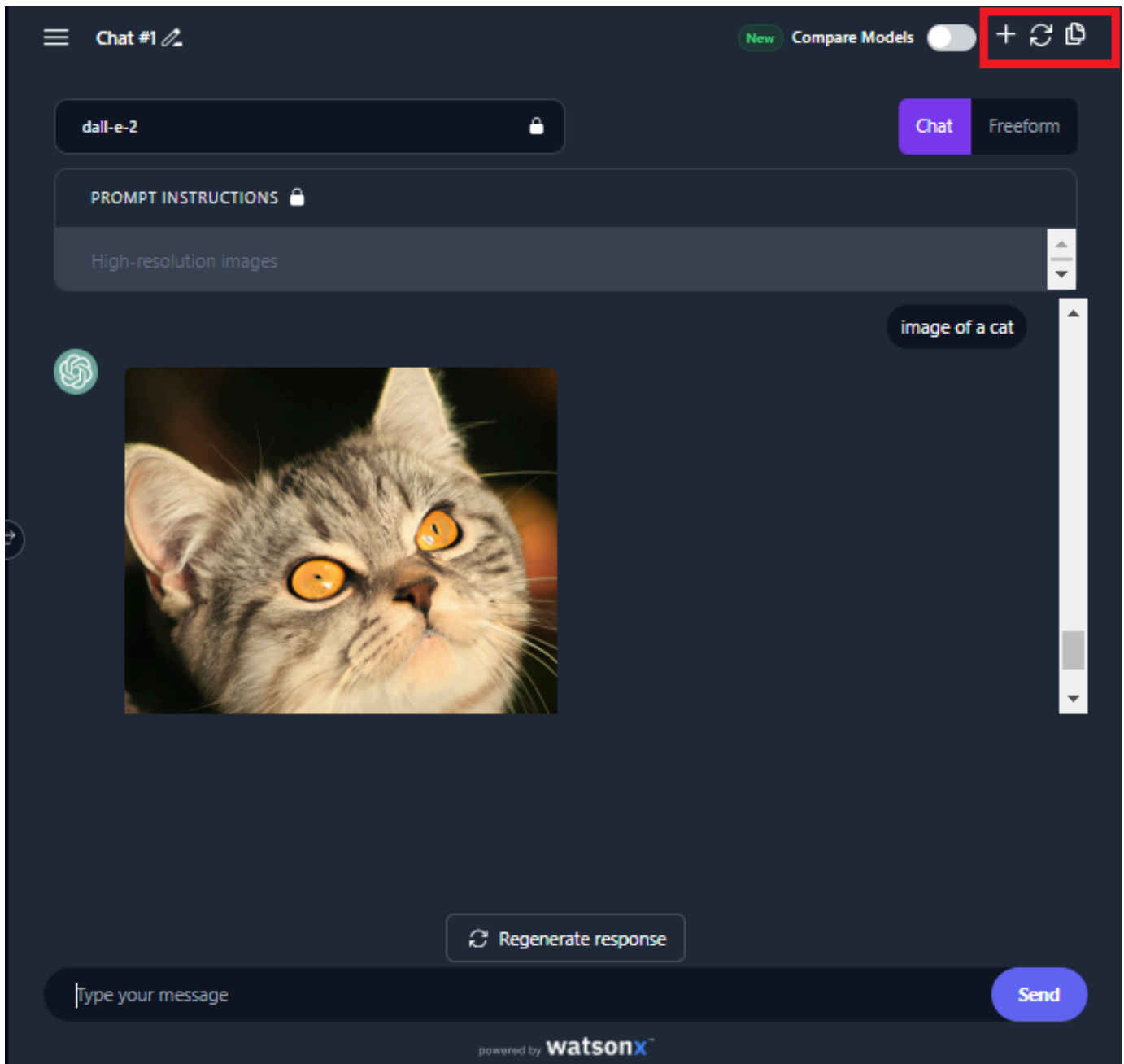
5. Select **Regenerate response** to generate a new image.



6. You'll see that the regenerated image.



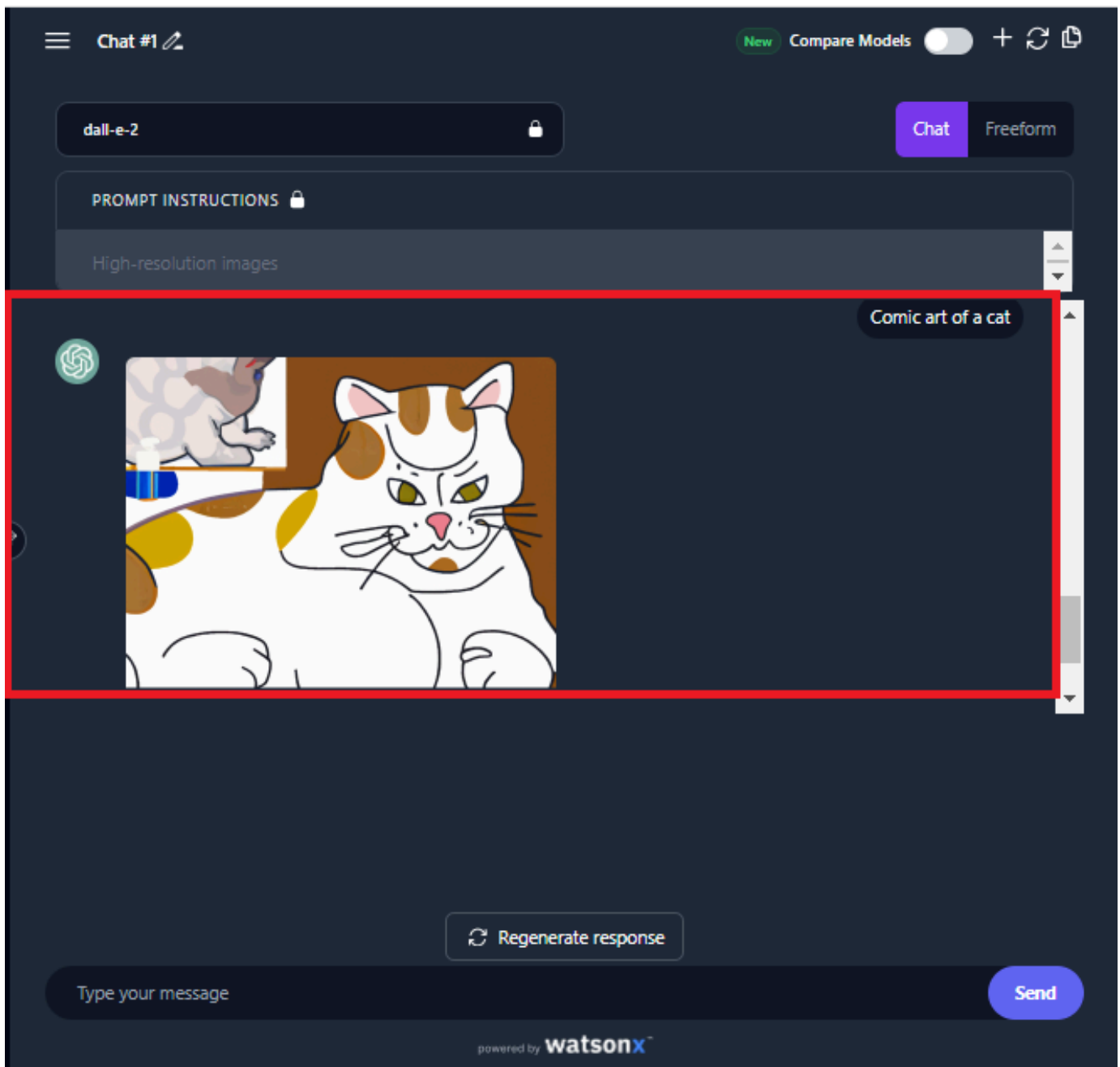
7. The plus icon helps to add a new chat to generate text or images, and the refresh icon refreshes the generative AI page. The floppy icon duplicates the chat.



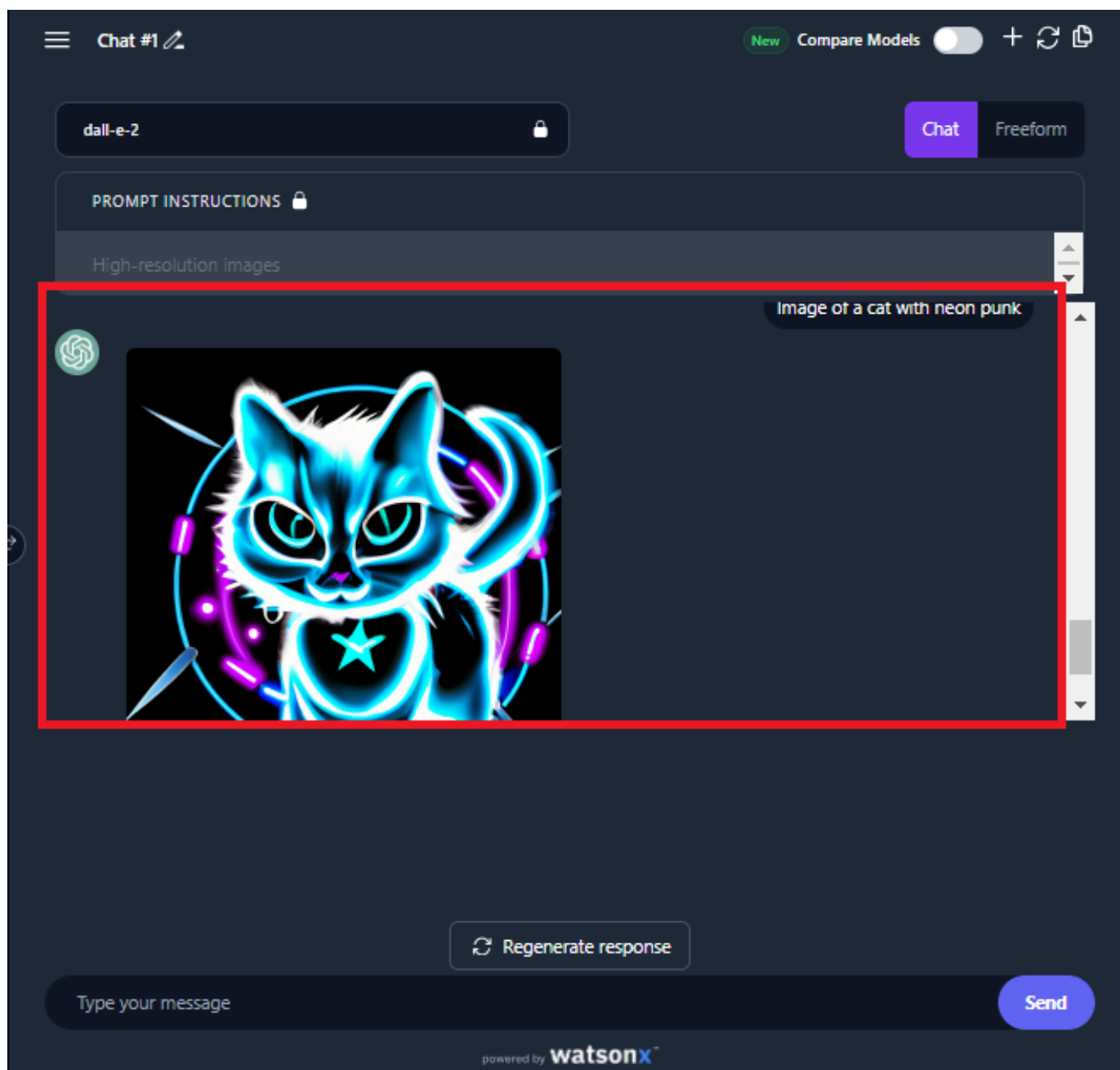
Step 3: Refine prompt using style modifiers to enhance the visual attributes of the image

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, Cinematic Pixel Art, and so on.

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: Try yourself

Now, try other style modifiers. You can even explore a combination of one or more style modifiers, separating them with commas.

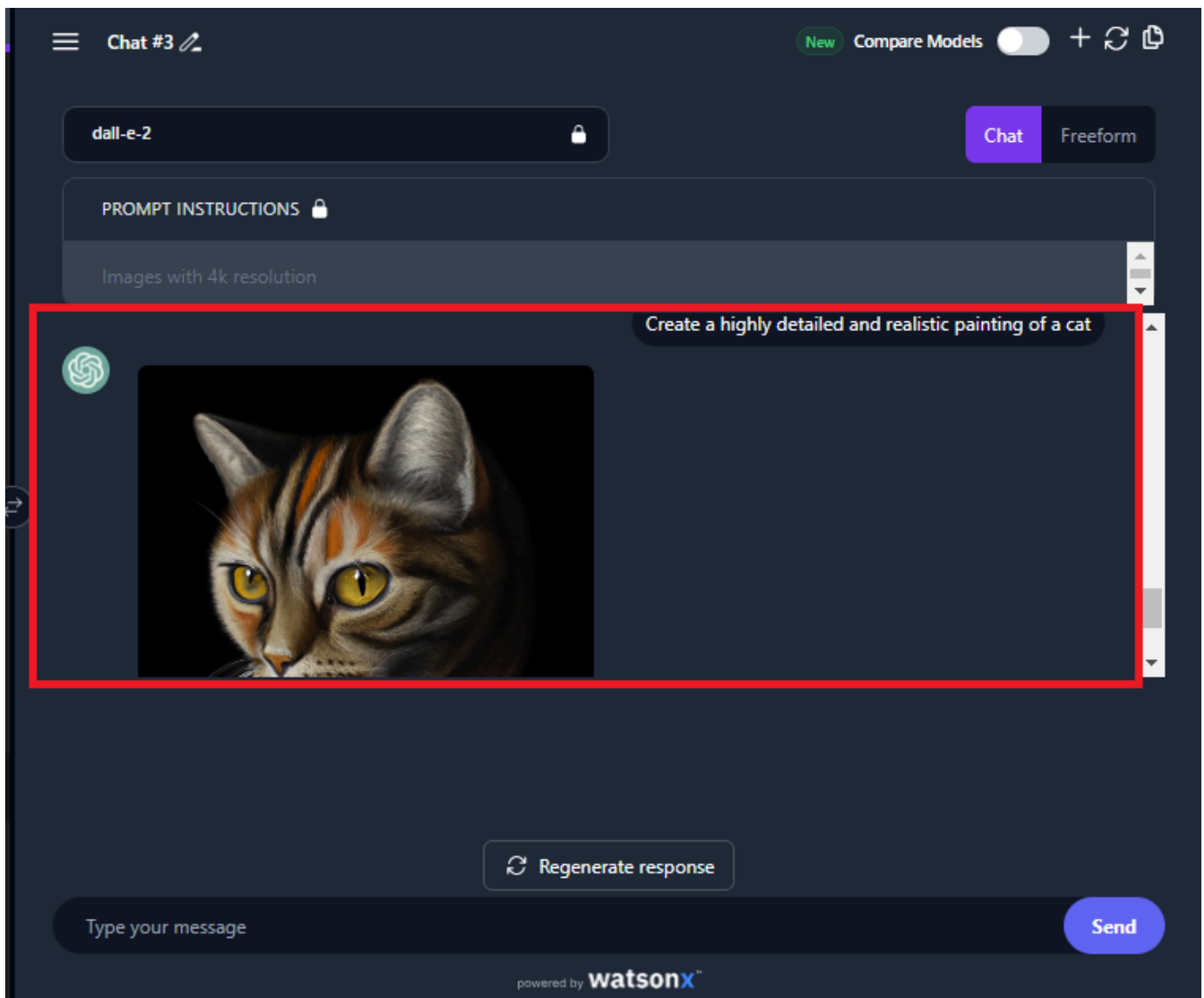
For example:

1. An animated, neon punk image of a cat
2. A lined, digital art image of a cat
3. A comic book-inspired, fantasy art portrayal of a cat
4. An origami-inspired, isometric view of a cat

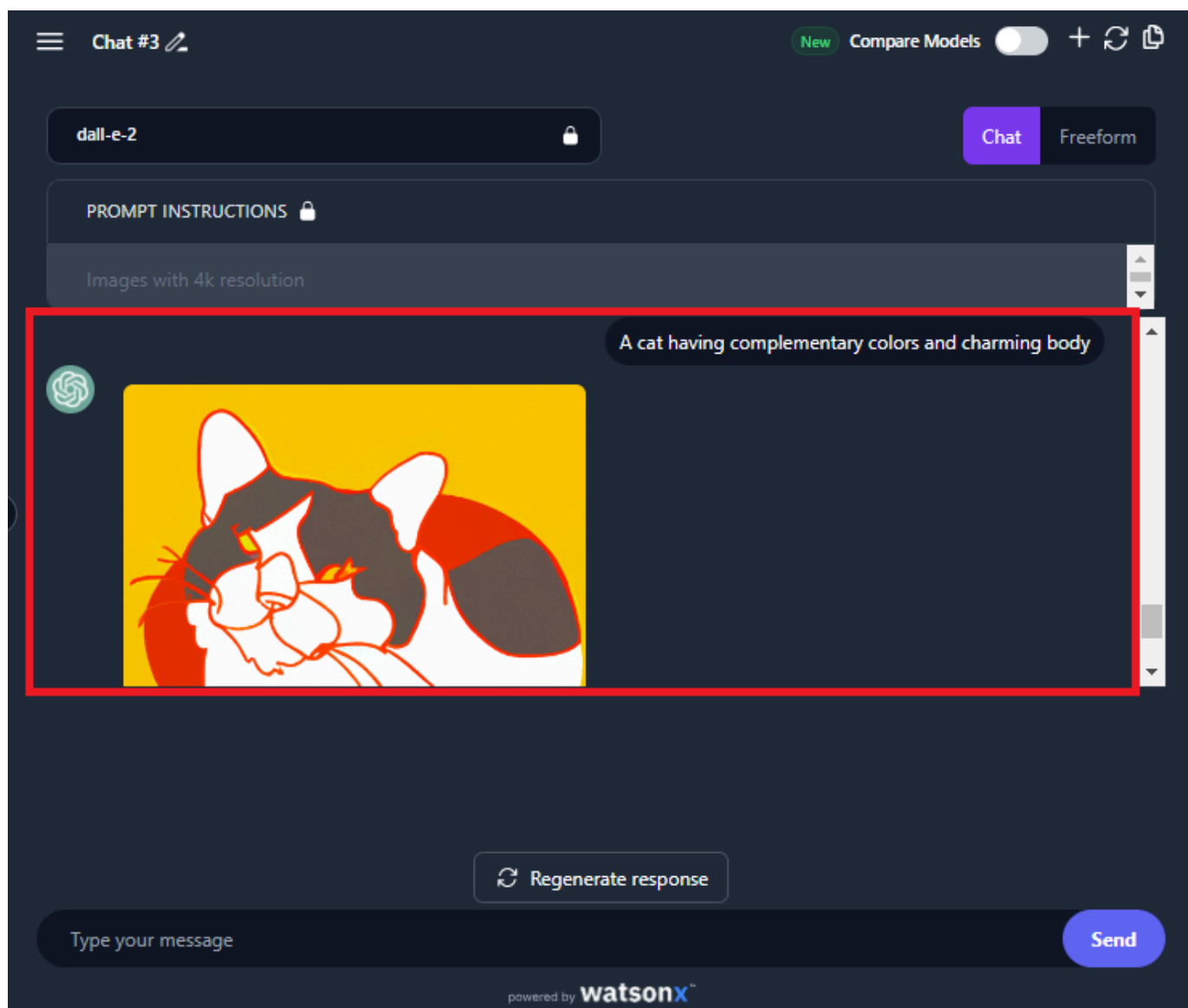
Step 5: Refine your prompt using quality boosters to enhance image quality

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, complementary colors, and so on. These terms continue to evolve with the image's characteristics.

1. 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 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 6: Try yourself

Now, it's your turn to try other quality boosters. You can even explore a combination of one or more quality boosters, separating them with commas or "and."

For example:

1. A lifelike, exquisitely detailed, high-quality image of a cat
2. An exquisite, handcrafted mahogany dining table
3. A sensational, multi-layered chocolate cake
4. A breathtaking, panoramic view of a castle on a hill

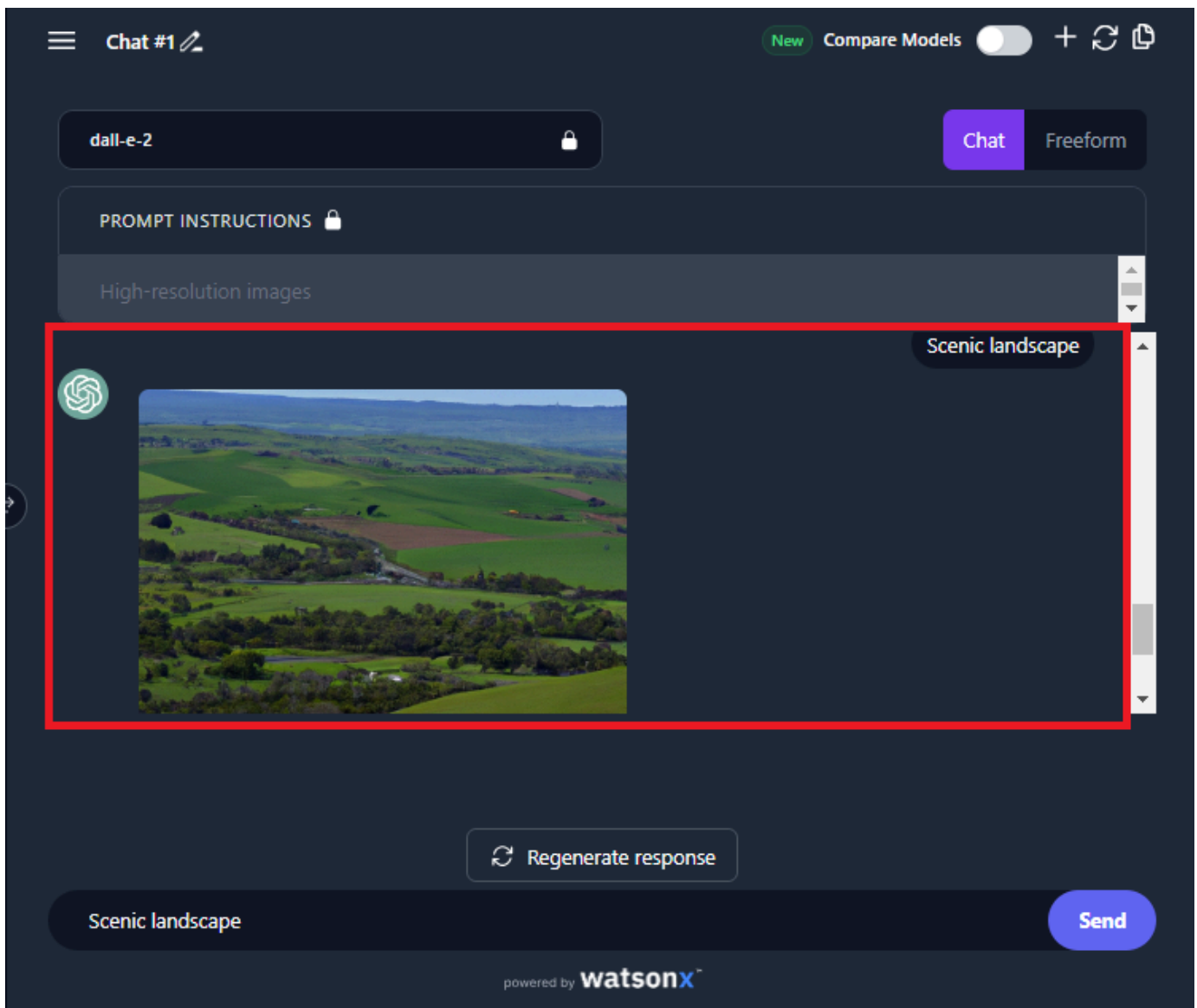
Step 7: Enhance your prompt with weighted terms for emphasis

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.

For example, in the Type your message field, type "Depict a scenic landscape with four mountains and two lakes." In this case, you've specified your desired image with the number of mountains and lakes. This means that the generative AI model could emphasize the words and their quantity.

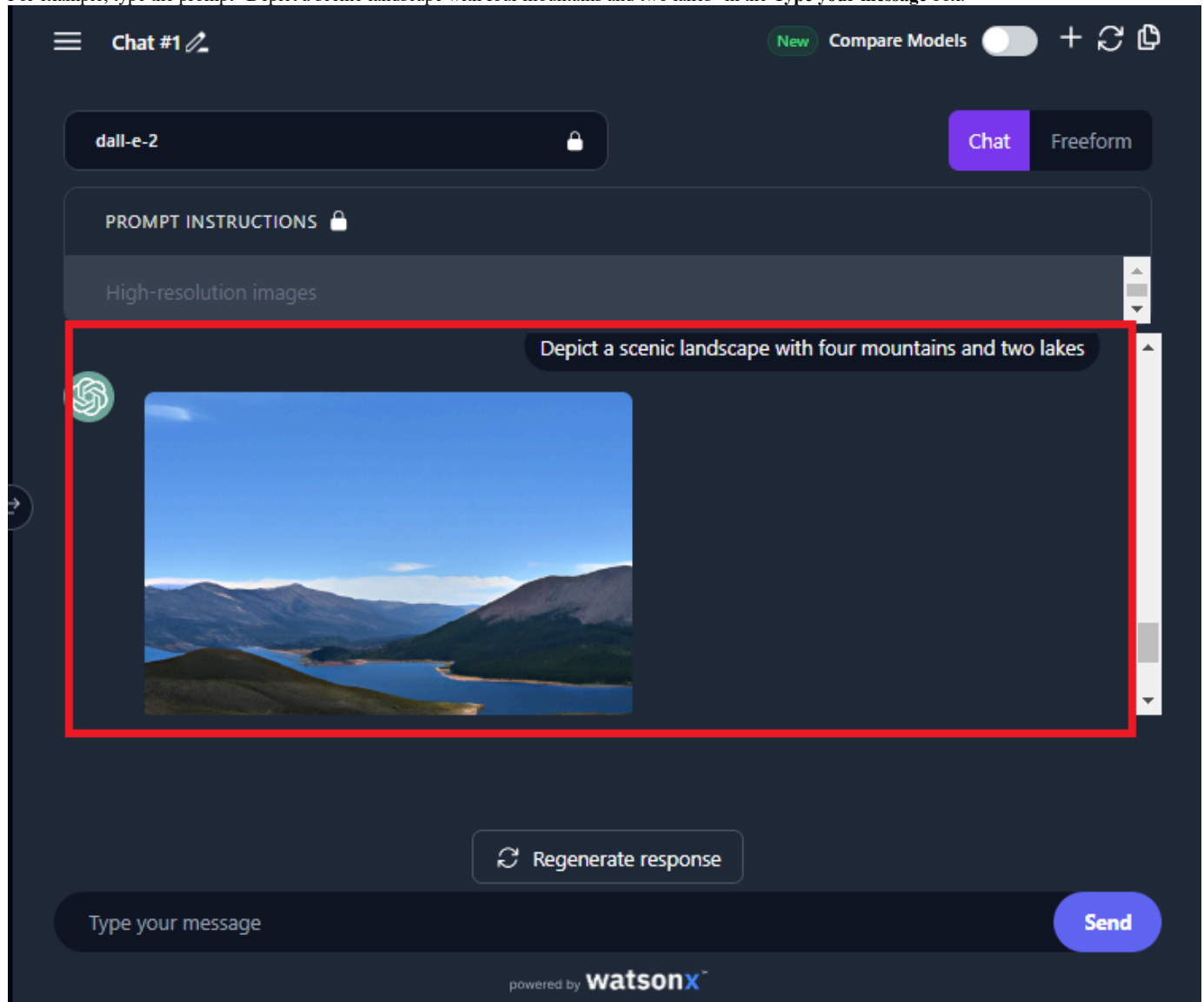
1. Create a prompt and select **Send**.

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



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

For example, type the prompt "Depict a scenic landscape with four mountains and two lakes" in the **Type your message** box.



Step 8: Try yourself

Dabble with different emotions and specifications and check out the output.

For example:

1. Tranquil beach with crystal-clear water and sands
2. Futuristic cityscape with sleek skyscrapers and illuminated streets
3. Bustling street with pedestrians and vibrant market stalls
4. Cozy room with warm lights and chairs

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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