

# Llama3

## Llama3

[Model scale](#)

[Performance performance](#)

[Got Llama3](#)

[Use Llama 3](#)

[Run Llama 3](#)

[Dialogue](#)

[End conversation](#)

[Reference material](#)

### Demonstration environment

\*\*Development Board \* \*: Raspberry Pi 5B

**SD(TF)card**: 64G (Above 16G, the larger the capacity, the more models can be experienced)

Raspberry Pi 5B (8G RAM): Run 8B and below parameter models

Raspberry Pi 5B (4G RAM): Run 3B and below parameter models, can't run Llama3 model

Raspberry Pi 5B (2G RAM): Run 0.5B and below parameter models, can't run Llama3 model

Meta Llama3 is a series of advanced open source LLMs developed by the Meta AI department.

## Model scale

Model	Parameter
Llama3	8B
Llama3	70B

Raspberry Pi 5B (8G RAM): Test Llama3 model with 8B parameters!

## Performance performance

## Meta Llama 3 Instruct model performance

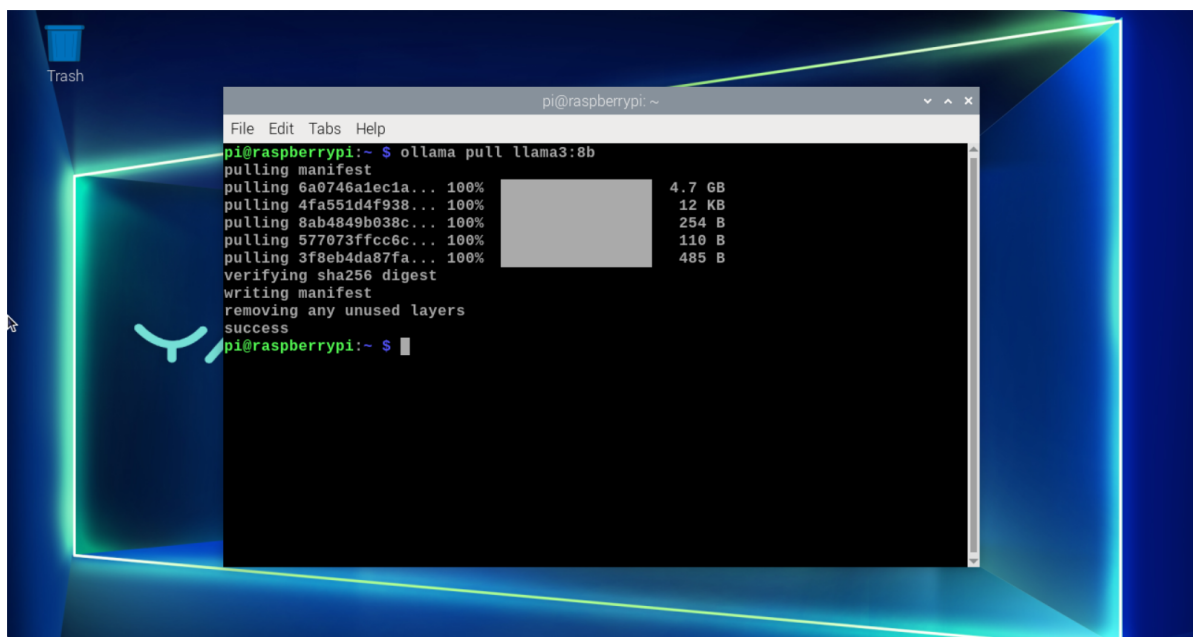
	Meta Llama 3 8B	Gemma 7B - It Measured	Mistral 7B Instruct Measured
MMLU 5-shot	68.4	53.3	58.4
GPQA 0-shot	34.2	21.4	26.3
HumanEval 0-shot	62.2	30.5	36.6
GSM-8K 8-shot, CoT	79.6	30.6	39.9
MATH 4-shot, CoT	30.0	12.2	11.0

	Meta Llama 3 70B	Gemini Pro 1.5 Published	Claude 3 Sonnet Published
MMLU 5-shot	82.0	81.9	79.0
GPQA 0-shot	39.5	41.5 CoT	38.5 CoT
HumanEval 0-shot	81.7	71.9	73.0
GSM-8K 8-shot, CoT	93.0	91.7 11-shot	92.3 0-shot
MATH 4-shot, CoT	50.4	58.5 Minerva prompt	40.5

## Got Llama3

Using the pull command will automatically pull the models from the Ollama model library.

```
ollama pull llama3:8b
```



## Use Llama 3

### Run Llama 3

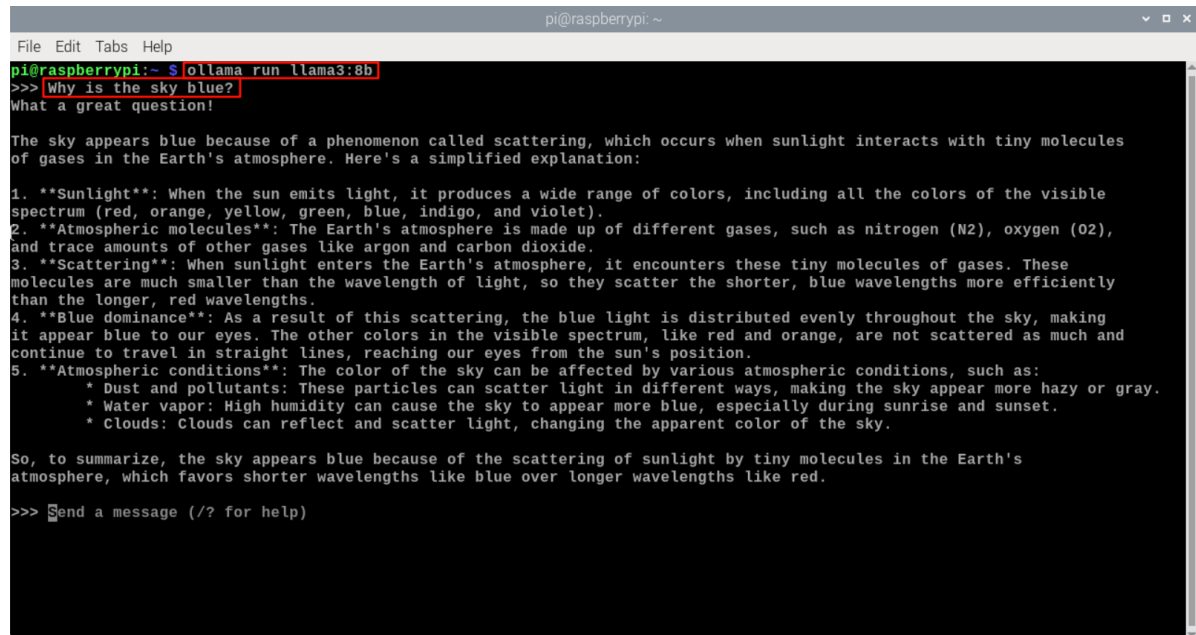
If the system does not have a running model, the system will automatically pull the Llama3 8B model and run it.

```
ollama run llama3:8b
```

# Dialogue

why is the sky blue?

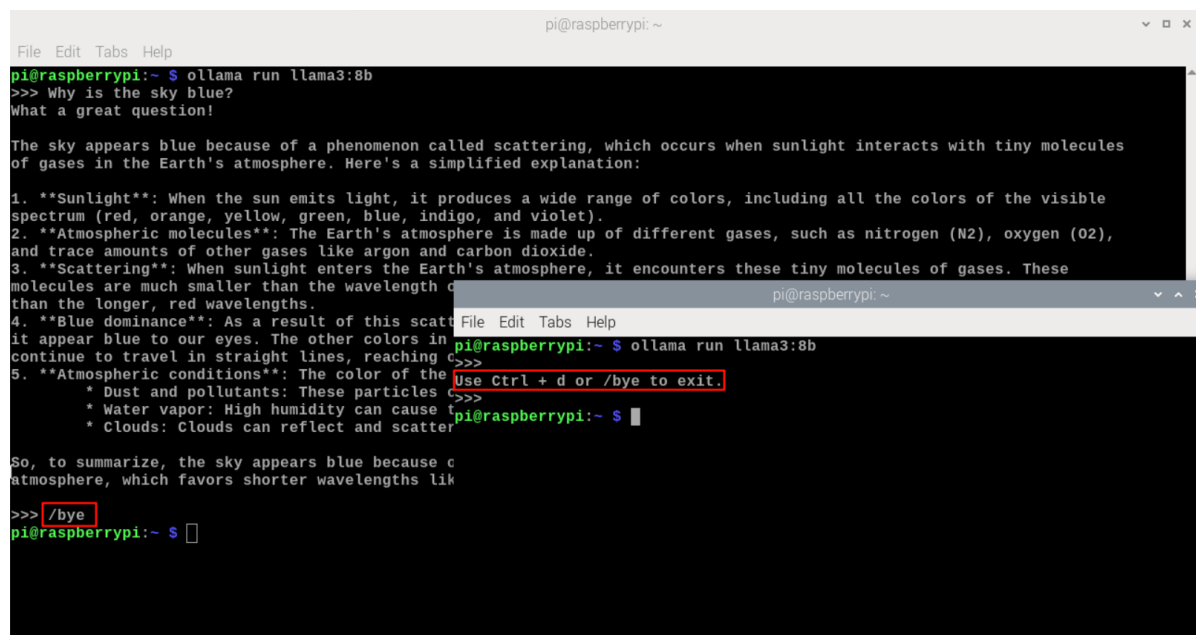
The time to reply to the question depends on the hardware configuration, please be patient.



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~$ ollama run llama3:8b  
>>> Why is the sky blue?  
What a great question!  
  
The sky appears blue because of a phenomenon called scattering, which occurs when sunlight interacts with tiny molecules of gases in the Earth's atmosphere. Here's a simplified explanation:  
  
1. Sunlight: When the sun emits light, it produces a wide range of colors, including all the colors of the visible spectrum (red, orange, yellow, green, blue, indigo, and violet).  
2. Atmospheric molecules: The Earth's atmosphere is made up of different gases, such as nitrogen (N2), oxygen (O2), and trace amounts of other gases like argon and carbon dioxide.  
3. Scattering: When sunlight enters the Earth's atmosphere, it encounters these tiny molecules of gases. These molecules are much smaller than the wavelength of light, so they scatter the shorter, blue wavelengths more efficiently than the longer, red wavelengths.  
4. Blue dominance: As a result of this scattering, the blue light is distributed evenly throughout the sky, making it appear blue to our eyes. The other colors in the visible spectrum, like red and orange, are not scattered as much and continue to travel in straight lines, reaching our eyes from the sun's position.  
5. Atmospheric conditions: The color of the sky can be affected by various atmospheric conditions, such as:  
    * Dust and pollutants: These particles can scatter light in different ways, making the sky appear more hazy or gray.  
    * Water vapor: High humidity can cause the sky to appear more blue, especially during sunrise and sunset.  
    * Clouds: Clouds can reflect and scatter light, changing the apparent color of the sky.  
  
So, to summarize, the sky appears blue because of the scattering of sunlight by tiny molecules in the Earth's atmosphere, which favors shorter wavelengths like blue over longer wavelengths like red.  
  
>>> Send a message (/? for help)
```

## End conversation

You can end the conversation by using the shortcut key 'Ctrl+d' or '/bye'.



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~$ ollama run llama3:8b  
>>> Why is the sky blue?  
What a great question!  
  
The sky appears blue because of a phenomenon called scattering, which occurs when sunlight interacts with tiny molecules of gases in the Earth's atmosphere. Here's a simplified explanation:  
  
1. Sunlight: When the sun emits light, it produces a wide range of colors, including all the colors of the visible spectrum (red, orange, yellow, green, blue, indigo, and violet).  
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    * Clouds: Clouds can reflect and scatter light, changing the apparent color of the sky.  
  
So, to summarize, the sky appears blue because of the scattering of sunlight by tiny molecules in the Earth's atmosphere, which favors shorter wavelengths like blue over longer wavelengths like red.  
  
>>> /bye  
pi@raspberrypi:~$
```

## Reference material

### Ollama

Website: <https://ollama.com/>

GitHub: <https://github.com/ollama/ollama>

### Llama 3

GitHub: <https://github.com/meta-llama/llama3>

Ollama model: <https://ollama.com/library/llama3>