

Step-by-Step Guide to Run DeepSeek-R1 on Ollama for FREE!



If you're having trouble getting access to [Deepseek.com](https://deepseek.com) or getting lots of errors there's an amazing alternative to try. Run it locally.

DeepSeek is an advanced AI Reasoning model that you can run locally using [Ollama](https://ollama.com), a lightweight framework for running large language models on your computer. Completely Private! Completely Free!!

Step 1: Install Ollama

If you haven't installed Ollama yet, do so with the following commands:

For macOS & Linux:

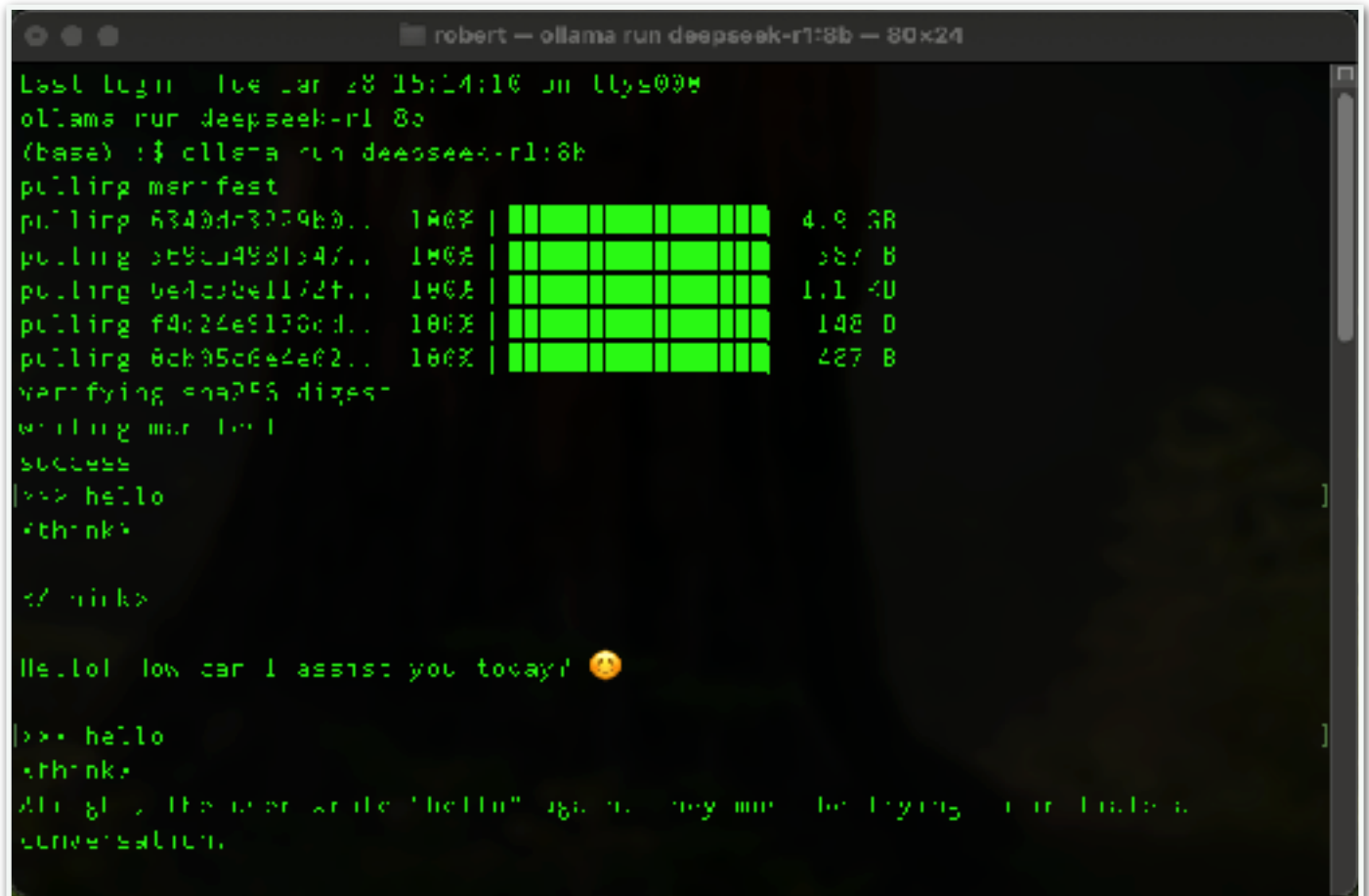
```
curl -fsSL https://ollama.ai/install.sh | sh
```

For Windows (via WSL):

1. Install **Windows Subsystem for Linux (WSL)** if you haven't:
`wsl --install`
2. Open WSL and run:`curl -fsSL https://ollama.ai/install.sh | sh`
3. After installation, restart your terminal.

Step 2: Pull the DeepSeek Model

Installing Deepseek-r1 8 billion parameters

A terminal window titled "robert - ollama run deepseek-r1:8b - 80x24" shows the command "ollama run deepseek-r1:8b" being executed. The output displays the progress of pulling the model's manifest and five data blocks, each at 100% completion. The blocks are 4.9 GB, 387 B, 1.1 KB, 148 B, and 427 B in size. After verifying the digest and writing the manifest, the model is successfully pulled. The user then interacts with the model by typing "hello" and "thank", which the model responds to with "Hello! how can I assist you today?" and "thank". The user repeats "hello" and "thank", and the model responds with a message about the user repeating "hello".

```
robert - ollama run deepseek-r1:8b - 80x24
Last Login: Tue Jan 28 15:14:16 on tty000
ollama run deepseek-r1:8b
(base) :$ ollama run deepseek-r1:8b
pulling manifest
pulling 6349dc3259b9... 100% | ██████████ 4.9 GB
pulling 5b9c14931b47... 100% | ██████████ 387 B
pulling 6edc3be1172f... 100% | ██████████ 1.1 KB
pulling f4c24e9170cd... 100% | ██████████ 148 B
pulling 8cb95c6e4e02... 100% | ██████████ 427 B
verifying sha256 digest
writing manifest
success
[>>> hello
<think>

</think>

Hello! how can I assist you today? 🤖

[>>> hello
<think>

Although you never wrote "hello" again, they may be trying to continue a conversation.
```

Ollama allows you to download and run models locally. To get DeepSeek, run:

```
ollama pull deepseek-r1:8b
```

This downloads the latest DeepSeek model for offline use.

Step 3: Run DeepSeek on Ollama

Once the model is downloaded, you can start an interactive session:

```
ollama run deepseek-r1:8b
```

This will load the model, and you can start prompting it directly from your terminal.

Step 4: Run DeepSeek with a Specific Prompt

If you want to execute a command directly without opening an interactive session:

```
ollama run deepseek-r1:8b "Explain quantum physics in  
simple terms."
```

Step 5: Using DeepSeek in a Python Script

You can integrate DeepSeek into a Python script using Ollama's API:

1. **Install the Ollama Python package:**

```
pip install ollama
```
2. **Run the following script:**

```
import ollama
```
3.

```
response = ollama.chat(model='deepseek', messages=[
```
4.

```
    {'role': 'user', 'content': 'Explain quantum  
mechanics in simple terms.'}
```
5.

```
])
```
6.

```
print(response['message']['content'])
```
7. This will return a response from DeepSeek.

Step 6: Optimizing for Performance

If you're running into performance issues, consider:

- **Running on a GPU:** Ollama automatically detects GPUs, but ensure your drivers are up to date.
- **Using a Smaller Model:** If memory is limited, try a smaller DeepSeek variant (if available).

Step 7: Stopping the Model

If you need to stop a running DeepSeek instance, press:

Ctrl + C

Or kill all Ollama processes:

```
ollama stop
```

Next Steps

- Check available models: `ollama list`
- Remove the model if needed: `ollama rm deepseek`

Now, you're all set to run **DeepSeek on Ollama** and explore AI locally for FREE! 🚀

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Appendix A: How Deepseek thinks about your questions before answering them

```
Okay, so after the user asked about the capital of Pakistan, I answered that it's Islamabad. Now, they're asking about the capital of Barbados. Hmm, Barbados is a country I don't hear about as often, but I think it's in the Caribbean somewhere. I remember hearing that some Caribbean nations have capitals named after their islands or significant locations. I'm trying to recall if Barbados has multiple cities or just one prominent city that serves as the capital. Bridgetown comes to mind; I think it's a major city and port there. I believe it's located on the coast, which makes sense for a port city. Wait, I should confirm if Bridgetown is indeed the capital. From what I remember, Barbados has had discussions about moving the capital away from Bridgetown due to its coastal location and potential flooding issues. However, as of now, I think Bridgetown still serves as the administrative center. So, putting it all together, the capital of Barbados is Bridgetown. </think> The capital of Barbados is Bridgetown.
>>> Send a message (/? for help)
```

Appendix B: Deepseek limitations

```
>>> What is your latest memory?  
<think>
```

```
Alright, the user is asking about my latest memory. Since  
I don't have access to real-time data, I should clarify  
that I don't remember specific  
events or dates.
```

```
I should explain that my knowledge is static and based on  
information up until December 2023.
```

```
It's important to be clear so the user doesn't get  
confused about what I can and cannot recall.
```

```
Maybe offering further assistance would be helpful if they  
have other questions.  
</think>
```

```
Hi there! I don't remember specific dates or events. My  
knowledge is based on information up until December 2023.  
Let me know how I can assist you!
```

```
>>> Who is the president of the united states?  
<think>
```

```
</think>
```

```
As of my last update in December 2023, Joe Biden is the  
President of the United States. If you have any other  
questions or need further assistance,  
feel free to ask!
```

```
>>> Send a message (/? for help)
```