Phi-3

> **Demo Environment**

Development Board: Jetson Nano

SD (TF) Card: 64GB

```
Recommended for models with 4 bytes or fewer parameters
```

Phi-3 is a powerful, cost-effective Small Language Model (SLM) from Microsoft, outperforming models of the same size and larger across various language, reasoning, encoding, and math benchmarks.

Model Location

```
/usr/share/ollama/.ollama/models
```

Model Size

Model	Parameters
Phi-3 (Mini)	3.8 Bytes
Phi-3 (Medium)	14 Bytes

```
Jetson Nano: Tested using a Phi-3 model with 3.8 Bytes!
```

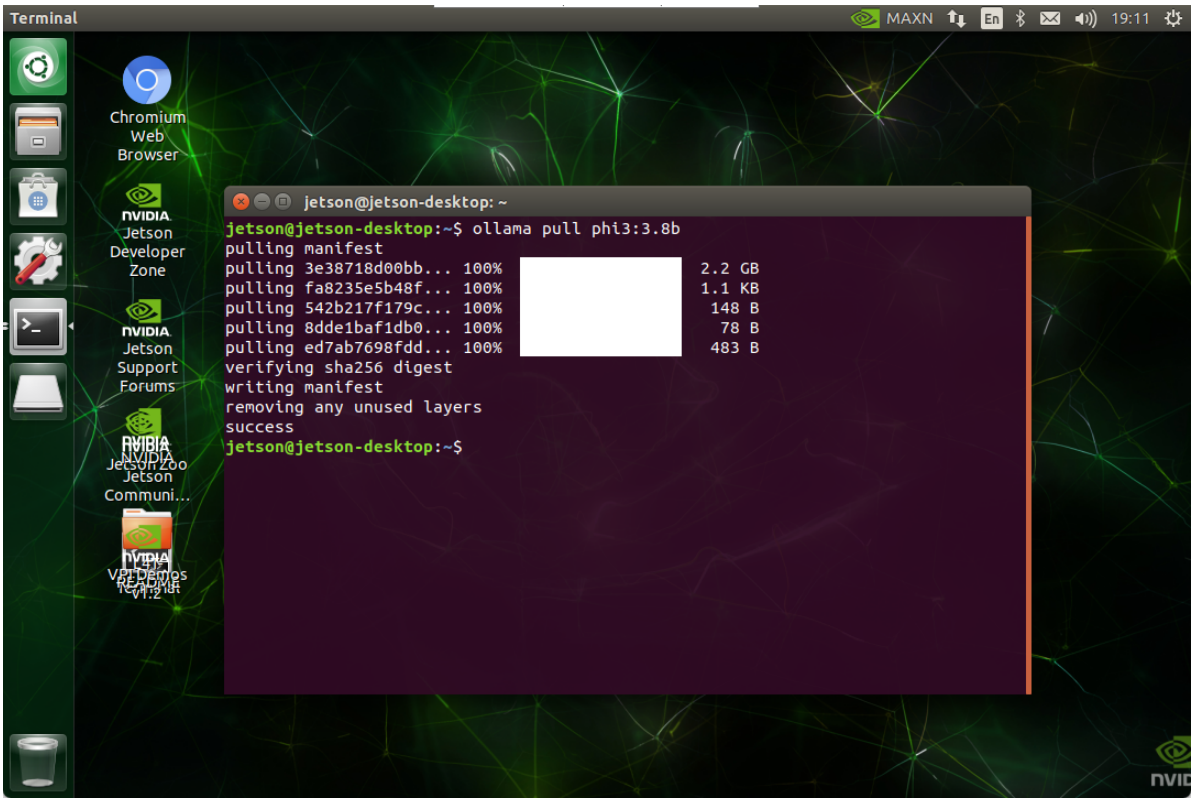
Performance

Category	Benchmark	Phi-3				Gemma-7b	Mistral-7b	Mixtral-8x7b	Llama-3-8B-In	GPT3.5-Turbo-1106	Claude-3 Sonnet
		Phi-3-Mini-4K-In	Phi-3-Mini-128K-In	Phi-3-Small (Preview)	Phi-3-Medium (Preview)						
Popular Aggregate Benchmarks	AGI Eval (0-shot)	37.5	36.9	45	48.4	42.1	35.1	45.2	42	48.4	48.4
	MMLU (5-shot)	68.8	68.1	75.6	78.2	63.6	61.7	70.5	66.5	71.4	73.9
	BigBench Hard (0-shot)	71.7	71.5	74.9	81.3	59.6	57.3	69.7	51.5	68.3	--
Language Understanding	ANLI (7-shot)	52.8	52.8	55	58.7	48.7	47.1	55.2	57.3	58.1	68.6
	HellaSwag (5-shot)	76.7	74.5	78.7	83	49.8	58.5	70.4	71.1	78.8	79.2
Reasoning	ARC Challenge (10-shot)	84.9	84	90.7	91	78.3	78.6	87.3	82.8	87.4	91.6
	ARC Easy (10-shot)	94.6	95.2	97.1	97.8	91.4	90.6	95.6	93.4	96.3	97.7
	BoolQ (0-shot)	77.6	78.7	82.9	86.6	66	72.2	76.6	80.9	79.1	87.1
	CommonsenseQA (10-shot)	80.2	78	80.3	82.6	76.2	72.6	78.1	79	79.6	82.6
	MedQA (2-shot)	53.8	55.3	58.2	69.4	49.6	50	62.2	60.5	63.4	67.9
	OpenBookQA (10-shot)	83.2	80.6	88.4	87.2	78.6	79.8	85.8	82.6	86	90.8
	PIQA (5-shot)	84.2	83.6	87.8	87.7	78.1	77.7	86	75.7	86.6	87.8
	Social IQA (5-shot)	76.6	76.1	79	80.2	65.5	74.6	75.9	73.9	68.3	80.2
	TruthfulQA (MC2) (10-shot)	65	63.2	68.7	75.7	52.1	53	60.1	63.2	67.7	77.8
	WinoGrande (5-shot)	70.8	72.5	82.5	81.4	55.6	54.2	62	65	68.8	81.4
Factual Knowledge	TriviaQA (5-shot)	64	57.1	59.1	75.6	72.3	75.2	82.2	67.7	85.8	65.7
Math	GSM8K Chain of Thought (0-shot)	82.5	83.6	88.9	90.3	59.8	46.4	64.7	77.4	78.1	79.1
Code generation	HumanEval (0-shot)	59.1	57.9	59.1	55.5	34.1	28	37.8	60.4	62.2	65.9
	MBPP (3-shot)	53.8	62.5	71.4	74.5	51.5	50.8	60.2	67.7	77.8	79.4

Pulling Phi-3

Using the pull command will automatically pull the model from the Ollama model repository:

```
ollama pull phi3:3.8b
```



Using Phi-3

Running Phi-3

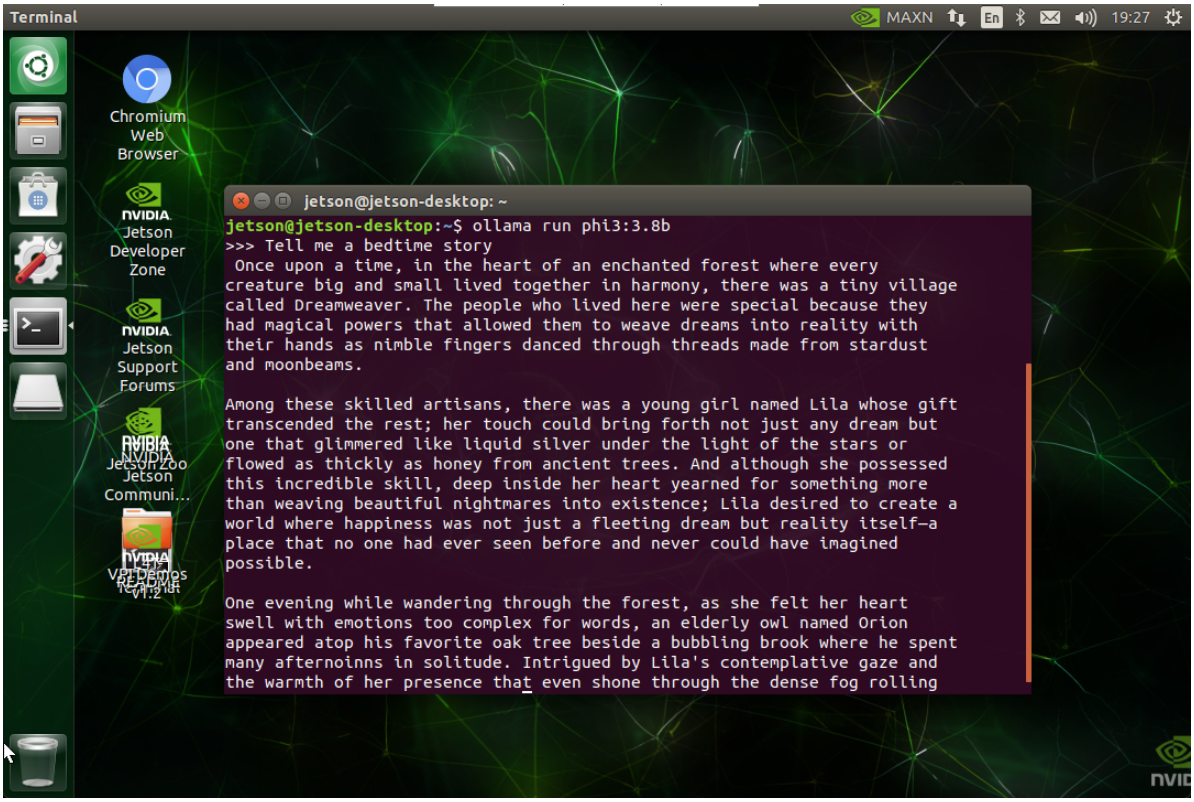
If the system does not have a running model, the system will automatically pull the Phi-3 3.8B model and run it:

```
ollama run phi3:3.8b
```

Chatting

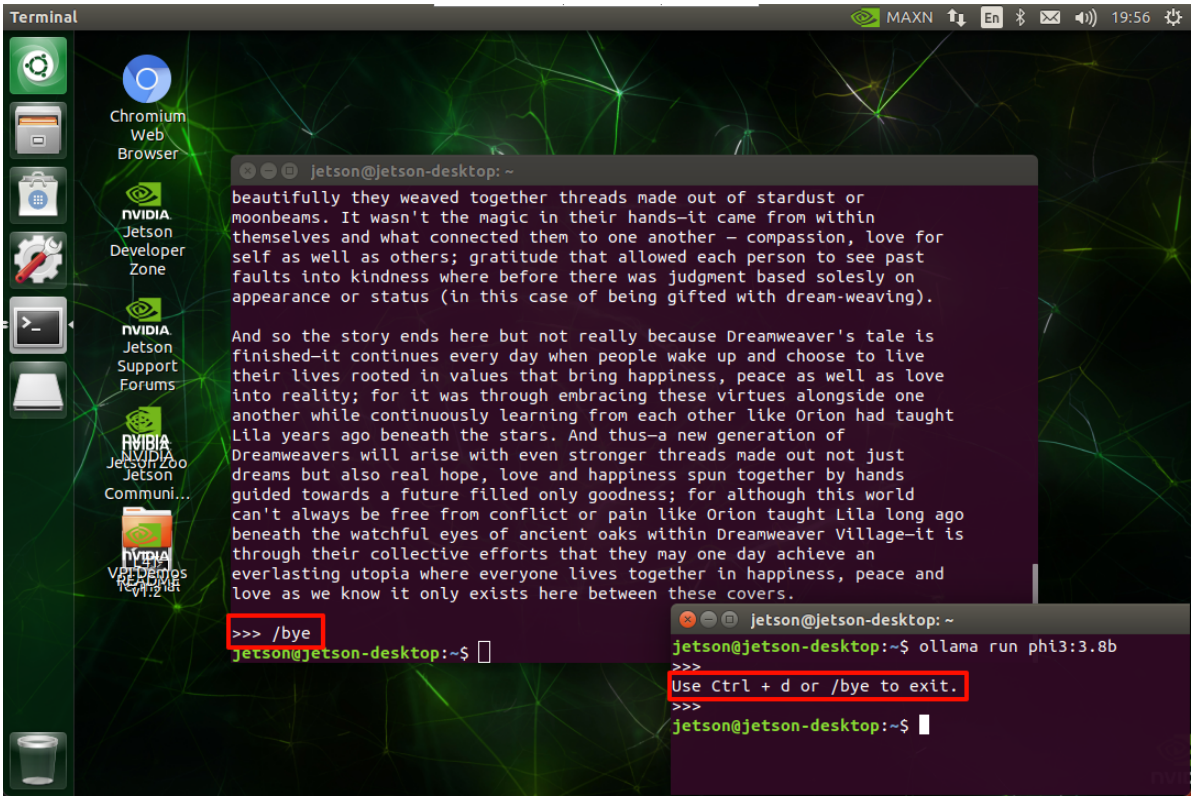
```
Tell me a bedtime story
```

Response time depends on your hardware configuration, so please be patient!



Ending the conversation

Use the `Ctrl+d` shortcut or `/bye` to end the conversation!



References

Ollama

Official website: https://ollama.com/

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

Phi-3

Ollama corresponding model: https://ollama.com/library/phi3