

# Ollama Quick-Start Guide

## Summary of the Ollama Starter Pack Contents:

1. Quick-Start Guide
  2. Command Cheat Sheet
  3. Prompt Engineering Guide
  4. Bonus Project Ideas
  5. GitHub Repository Link (Code Templates (Python scripts for each project))
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A detailed, step-by-step installation guide for setting up Ollama on different operating systems (macOS, Linux, and Windows). Includes troubleshooting tips, basic configuration, and links to additional resources for deeper learning.

### Bonus GitHub Repository for all code templates (AI projects, including the AI Recruiter Agency project)

This repository serves as a comprehensive resource for AI enthusiasts and developers, offering a variety of code templates that can be used to kickstart and enhance AI projects. Whether you're working on the AI Recruiter Agency project or exploring other AI applications, this repository will be an invaluable tool for innovation and development.



- The main repo: <https://github.com/pdichone/swarm-writer-agents>
  - contains the following projects:
    - AI Recruiter Agency
    - AI Travel Agents
    - News- summarizer
    - Ollama vision
- Ollama Fundamentals (Includes all code for the mini Ollama course)
  - <https://github.com/pdichone/ollama-fundamentals>

## Step-by-Step Installation Guide

### 1. *Installation on macOS*

- Check System Requirements: Ensure macOS 10.15 or later. Install Homebrew if necessary.
- - Install Ollama: Run 'brew install ollama' in the Terminal.
- - Verify Installation: Check with 'ollama --version'.
- - Set Environment Variables: Add Ollama to PATH.

## **2. *Installation on Linux (Ubuntu/Debian)***

- Update System Packages: Use 'sudo apt update && sudo apt upgrade -y'.
- - Install Dependencies: Run 'sudo apt install build-essential libssl-dev -y'.
- - Download Ollama: 'wget https://github.com/ollama/ollama/releases/download/latest/ollama-linux.tar.gz'.
- - Verify Installation: Check with 'ollama --version'.

## **3. *Installation on Windows (Using WSL)***

- Enable WSL: Run 'wsl --install' in PowerShell.
- - Set Up Linux Distribution: Update packages and follow Linux installation steps.
- - Add to PATH: Use 'setx PATH' in PowerShell.

## ***Basic Configuration***

### ***Basic Configuration for Optimizing Ollama:***

#### **1. Setting Environment Variables**

- a. Add to shell config: 'export PATH="/usr/local/bin:\$PATH"'.  
b. Set cache directory: 'export OLLAMA\_CACHE\_DIR="\$HOME/.ollama\_cache"'.

#### **2. Adjusting Memory Usage:**

- a. Low-memory systems: 'ollama config set cache\_size 512MB'.
- b. High-performance systems: 'ollama config set cache\_size 2GB'.

#### **3. Enabling Debug Mode:**

- a. Use 'ollama --debug' for detailed logs.

# Bonus Section: Additional Resources

Explore these additional resources for deeper learning and advanced usage of Ollama:

[GitHub Repository](#)

## Essential Ollama CLI Commands with Llama3.2 Examples

### 1. Start Ollama on your local system:

- Command: *ollama serve*
  - example: *\$ ollama serve*

### 2. Create a new model from an existing one:

- Command: *ollama create <new\_model>*
- Example: Create a new model called 'custom-model':
  - *\$ ollama create custom-model*

### 3. Display details about a specific model:

- Command: *ollama show <model>*
  - Example: Show details of the 'llama3.2' model:
    - *\$ ollama show llama3.2*

### 4. Run a specified model:

- Command: *ollama run <model>*
- Example: Run the 'llama3.2' model:
  - *\$ ollama run llama3.2*

### 5. Download a specific model to your system:

- Command: *ollama pull <model>*
  - Example: Download the 'llama3.2' model:
    - *\$ ollama pull llama3.2*

### 6. List all downloaded models:

- Command: *ollama list*
  - Example: Display a list of all installed models:
    - *\$ ollama list*

### 7. Show currently running models

- Command: *ollama ps*
  - Example: Check the status of all running models:
    - *\$ ollama ps*

### 8. Stop a specified running model:

- Command: *ollama stop <model>*

- *Example: Stop the 'llama3.2' model:*

- *\$ ollama stop llama3.2*

## **9. Remove a specified model from your system:**

- *Command: ollama rm <model>*

- *Example: Remove the 'llama3.2' model from your system:*

- *\$ ollama rm llama3.2*

# ***Prompt Engineering Guide for Ollama Models***

## ***Overview of How Prompts Work and Why They Matter***

### **Overview of How Prompts Work and Why They Matter:**

Prompts are the input queries or instructions given to AI models like Ollama to generate responses.

The quality of the prompt directly impacts the output. A well-crafted prompt provides context, clarity, and

specific instructions, guiding the model to produce accurate and relevant results.

Understanding how to design effective prompts is crucial for maximizing the performance of Ollama models, especially for tasks like summarization, Q&A, and creative writing.

## **Examples of Good and Bad Prompts**

### **1. Text Summarization**

- Bad Prompt: "Summarize this."

- Good Prompt: "Summarize the key points of the following article in 3-4 sentences."

### **2. Question Answering**

- Bad Prompt: "Explain this."

- Good Prompt: "Based on the provided text, explain the main differences between renewable and non-renewable energy sources."

### **3. Chatbot Interaction**

- Bad Prompt: "Tell me about history."

- Good Prompt: "As a history expert, explain the causes and effects of the Industrial Revolution in a simple way."

## ***Tips for Crafting Effective Prompts***

### **Tips for Crafting Effective Prompts:**

#### **1. Be Specific:**

- Clearly state what you want the model to do. Avoid vague instructions.

#### **2. Provide Context:**

- Give background information to help the model understand the task. For example, "You are a medical expert. Summarize the symptoms of diabetes."

#### **3. Use Constraints:**

- Set limits on the response length or format. For example, "Respond in bullet points" or "Limit the summary to 50 words."

#### **4. Experiment with Variations:**

- If the response is not accurate, try rephrasing the prompt. Small changes in wording can lead to better results.

#### **5. Use System Instructions:**

- Direct the model's behavior using system-level messages. For example, "You are a friendly assistant helping a beginner understand Python programming."

# ***Common Use Cases for Ollama Models***

## **Common Use Cases for Ollama Models:**

### **1. Text Summarization:**

- Example Prompt: *"Summarize the following text in a concise paragraph focusing on the main points."*

### **2. Question and Answer (Q&A):**

- Example Prompt: *"Using the information provided, answer the question: What are the benefits of using renewable energy?"*

### **3. Chatbot Interactions:**

- Example Prompt: *"You are a customer service representative. Help the user resolve their issue with billing inquiries."*

### **4. Creative Writing:**

- Example Prompt: *"Write a short story about a detective solving a mystery in a small town."*

### **5. Code Generation:**

- Example Prompt: *"Generate a Python function that calculates the factorial of a number."*

# ***Bonus Project Ideas for Ollama Models***

## ***Bonus Project Ideas***

Explore these additional project ideas to further enhance your skills using Ollama models. These projects offer practical use cases and provide inspiration for building advanced AI tools locally.

### **1. Local Document Search Tool**

- Create a tool that allows users to search through local documents using Ollama. Integrate NLP capabilities to analyze the content and provide relevant search results.

- Example: Build a Python script that indexes PDF and text files, enabling users to ask questions about the content and receive precise answers.

### **2. Personalized Writing Assistant**

- Develop a writing assistant or grammar checker using Ollama. The tool can provide suggestions for improving clarity, grammar, and style in real-time as users type.

- Example: Create a desktop application that integrates with a text editor, offering live feedback and grammar suggestions.

### **3. Local News Summarizer App**

- Build an app that aggregates local news articles and summarizes them using Ollama. The app can focus on providing concise summaries tailored to the user's interests.

- Example: Use RSS feeds to collect news articles, then apply Ollama's summarization capabilities to generate a daily news digest.

### **4. Python Automation with Ollama**

- Integrate Ollama with Python scripts to automate common tasks like data analysis, file organization or batch processing of documents.

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## Bonus Project Ideas for Ollama Models

- Example: Write a Python script that uses Ollama to automatically summarize reports and organize them based on content analysis.

### 5. Local Chatbot for Customer Support

- Create a chatbot that operates entirely locally using Ollama, providing customer support for a specific product or service. The chatbot can answer FAQs, provide troubleshooting steps, and escalate issues when necessary.

- Example: Build a chatbot for a small business that handles common inquiries, such as order status, product information, and basic troubleshooting.

### 6. Educational Quiz Generator

- Use Ollama to build a tool that generates quizzes based on educational content. The tool can take a document (e.g., a textbook chapter) and create multiple-choice questions for self-assessment.

- Example: Develop a Python script that extracts key information from a text file and generates a quiz in a user-friendly format.

### 7. Local Code Documentation Helper

- Create a tool that analyzes your local codebase and generates detailed documentation using Ollama.

This can include function summaries, parameter explanations, and usage examples.

- Example: Integrate the tool with a code editor to provide real-time documentation suggestions based on the active code file.

### 8. Sentiment Analysis Tool for Local Reviews

- Build a sentiment analysis tool that processes local files containing customer reviews or feedback. Use Ollama to classify the sentiment and generate a report highlighting key insights.



## Bonus Project Ideas for Ollama Models

- Example: Analyze a CSV file of customer reviews and provide a summary report of the overall sentiment and common themes.

### 9. Personal Knowledge Base Manager

- Develop a personal knowledge base tool using Ollama to organize and retrieve your notes, ideas, and research. The tool can answer questions based on your saved information.

- Example: Create a desktop application where users can input their notes, and the tool uses Ollama to find relevant entries based on user queries.

### 10. Local Email Summarizer

- Create a tool that processes local email files and summarizes key points, providing a quick overview of the most important messages.

- Example: Use Python to access local email data (e.g., using IMAP) and Ollama to generate concise summaries of unread emails.

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