How to Set Up a Secure, Free Local AI Environment with Ollama and Claude Code

1. Ensuring Maximum Privacy with Ollama If you are looking for a completely private AI experience, Ollama is an excellent solution. It allows you to download and run various AI models entirely on your local machine. However, to guarantee your data remains secure, you must verify two key settings:

- **Enable Airplane Mode:** This ensures that Ollama does not route your queries to the internet or utilize cloud-based models.
- **Disable Network Exposure:** Ensure this setting is turned off so your local AI server refuses incoming API requests from other devices on your network.

2. Running Claude Code Locally for Free (Ideal for Computer Science Students) For CS students and developers looking to leverage Claude's exceptional programming capabilities without incurring API or CLI billing costs, you can route Anthropic's Claude Code directly through your private Ollama setup. This keeps your codebase entirely off the public network.

*Note: The following instructions require **Windows PowerShell 7 (x64)** running in **Administrator mode**.*

Step 1: Install Ollama and Download Your Model

First, install the Ollama engine and pull a highly capable, open-weight reasoning model.

PowerShell

```
# Install Ollama via the Windows Package Manager
winget install --id=Ollama.Ollama -e
# Download and run the OpenAI gpt-oss:20b model (requires approx. 14GB of storage)
ollama run gpt-oss:20b
```

Step 2: Install and Configure Claude Code

Next, install the Claude CLI tool and set your environment variables so it communicates with your local machine rather than Anthropic's cloud servers.

PowerShell

Install the Claude Code CLI natively

irm https://claude.ai/install.ps1 | iex

Route Anthropic traffic to your local Ollama server

$env:ANTHROPIC_AUTH_TOKEN="ollama"

$env:ANTHROPIC_BASE_URL="http://localhost:11434"

Launch Claude Code using your local model (replace 'gpt-oss:20b' with your preferred model if needed)

npx @anthropic-ai/claude-code --model gpt-oss:20b