

# CLAWNAGERS

## Technical Requirements

*Hardware, Software & Network Requirements for AI Agent Development*

### System Requirements Overview

#### Minimum Hardware

- 4 GB RAM
- 500 MB free disk space
- Dual-core processor (2 GHz+)
- Stable internet connection

#### Recommended Hardware

- 8 GB RAM or higher
- 2 GB free disk space
- Quad-core processor (2.5 GHz+)
- 25+ Mbps internet speed

### Operating System Support

Operating System	Minimum Version	Recommended	Notes
macOS	macOS 10.15 (Catalina)	macOS 13+ (Ventura)	Native support, best experience
Windows	Windows 10 (64-bit)	Windows 11	PowerShell access required
Linux	Ubuntu 18.04+	Ubuntu 22.04+	Terminal access required

ChromeOS	ChromeOS 88+	ChromeOS 100+	Linux environment must be enabled
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## Software Prerequisites

### ✓ Essential Software

- **Node.js (v18+):** Runtime environment for OpenClaw
- **npm:** Package manager (included with Node.js)
- **Text Editor:** VS Code, Notepad++, TextEdit, or similar
- **Terminal/Command Prompt:** Built into all supported OS

## Network & Security Requirements

### 🔒 IT Department Checklist

Coordinate with your school's IT team to ensure these requirements are met:

### Network Access Requirements

- Allow access to `registry.npmjs.org` (npm package installation)
- Allow HTTPS connections to AI providers:
  - `api.anthropic.com` (Claude)
  - `api.openai.com` (GPT models)
  - `generativelanguage.googleapis.com` (Gemini)
- Enable WebSocket connections (port 443 outbound)
- Allow global npm package installation (may require admin rights)

## AI Model Requirements

Students need access to at least one AI model provider. Choose based on your budget and privacy requirements:

Provider	Cost	Setup	Recommended For
Google Gemini	Free tier available	Google AI Studio → API Key	Budget-conscious schools
Ollama (Local)	Free (no API)	Download ollama.com	Privacy-focused schools
Anthropic Claude	~\$5 minimum	api.anthropic.com → API Key	Best performance/quality
OpenAI GPT	~\$5 minimum	platform.openai.com → API Key	Familiar to most students

### ⚡ Budget Planning

For 30 students over 8 weeks:

- **Google Gemini (free tier):** \$0 - limited daily usage
- **Ollama (local):** \$0 - requires more powerful hardware
- **Shared Claude/GPT API key:** \$20-50/month with usage limits

## Classroom Setup Guide

### Pre-Class Installation (Recommended)

```
# Install Node.js on all machines # Download from nodejs.org
and run installer # Verify Node.js installation node --version
npm --version # Pre-install OpenClaw (saves class time) npm
install -g openclaw
```

## Student Account Setup

### Best Practices

- **Individual API keys:** Each student gets their own (recommended for ownership)
- **Shared classroom key:** One API key with spending limits (easier management)
- **Free tier models:** Use Google Gemini or Ollama to avoid costs entirely

## Troubleshooting Common Issues

Issue	Cause	Solution
<code>npm: command not found</code>	Node.js not installed	Install Node.js from <a href="https://nodejs.org">nodejs.org</a>
<code>permission denied</code>	Insufficient admin rights	Use <code>sudo</code> (Mac/Linux) or Run as Administrator (Windows)
<code>openclaw: command not found</code>	PATH not updated	Restart terminal or logout/login
API key invalid	Wrong key or expired	Re-run <code>openclaw setup</code>
Rate limit exceeded	Too many API calls	Wait 60 seconds, implement usage limits

## Security & Privacy Considerations

### Data Privacy

- **Local storage:** All agent configurations stay on student machines
- **API calls:** Conversations are processed by the AI provider (Anthropic, OpenAI, Google)
- **No accounts required:** Students don't create OpenClaw accounts
- **FERPA compliance:** Consult your district's data privacy officer regarding API usage

## Performance Optimization

### Tips for Smooth Operation

- **Close unnecessary applications** during class to free RAM
- **Use local models (Ollama)** if internet is unreliable
- **Implement API rate limits** to prevent billing surprises
- **Test on one machine first** before rolling out to the entire class

## Support Resources

- **Technical Issues:** OpenClaw Discord community ([discord.gg/openclaw](https://discord.gg/openclaw))
- **Educational Support:** [david@clawnagers.com](mailto:david@clawnagers.com)
- **Node.js Installation:** [nodejs.org/download](https://nodejs.org/download)
- **API Provider Setup:**
  - Google AI Studio: [aistudio.google.com](https://aistudio.google.com)
  - Anthropic: [api.anthropic.com](https://api.anthropic.com)
  - OpenAI: [platform.openai.com](https://platform.openai.com)
  - Ollama: [ollama.com](https://ollama.com)



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