# How to Make Vibe Coding Actually Work Hidden Prerequisites, Safer Paths, and Practical Wins

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## Today's Journey

- Why vibe coding matters now
- What vibe coding really is
- Ten hidden assumptions that derail beginners
- Guardrails to keep you moving
- A practical path forward
- The broader ecosystem of tools

# Why This Matters Now

- Vibe coding = describing what you want to an LLM and iterating
- Gentle on-ramp to computing
- Copy short programs, run them, get results in minutes
- Goal: acquire just enough skill to turn ideas into working tools
- Not about becoming a software engineer

### A Connected Path

- 4 Hidden assumptions that trip up beginners
- A set of practical guardrails
- Concrete Week-1 plan
- Sustainable habits for the long term

# What Vibe Coding Is

- NOT "magic code without learning"
- A cooperative workflow:
  - You state the outcome
  - LLM proposes code
  - You run it and observe what fails
  - Refine the prompt or code
- Power comes from rapid feedback
- Realistic for absolute beginners with guardrails

### What Vibe Coding Is Not

- Not a way to skip all prerequisites
- Not guaranteed to work on first try
- Not a replacement for understanding basics
- Not magic—requires iteration and learning

### Ten Hidden Assumptions

The frustration most newcomers feel comes from silent prerequisites.

None is advanced; together they cascade.

## Hidden Assumption #1: Terminal Fluency

- Without cd, ls/dir, pwd, nothing starts
- Learn ten most common terminal commands
- Understand relative vs. absolute paths
- Know how to move file names into terminal
- Use arrow keys and tab completion

## Hidden Assumption #2: Python Dependencies

- Standard pip leads to "dependency hell"
- Solution: Use Poetry or Pipenv
- ModuleNotFoundError = missing dependency
- Use poetry show --tree for diagnosis
- Isolated environments with lockfiles

## Hidden Assumptions #3-4

### **Project Layout & Imports**

Files in wrong place cause "module not found"

### **\$PATH Configuration**

- Shell must find executables
- Commands fail without proper PATH
- Learn PATH basics for your OS

### Hidden Assumptions #5-6

### **Runtime Selection**

- Language must be installed
- Correct version matters

### **Isolation (Virtual Environments)**

- Global installs cause conflicts
- Use Poetry or uv for Python
- Avoid permissions errors

# Hidden Assumption #7: Error Reading

- Stack traces have structure
- First actionable line usually near bottom
- Give error messages to LLM
- Use cut-and-paste or screen capture
- Don't panic—errors are normal!

## Hidden Assumptions #8-10

### **Quoting & Spaces**

- Unquoted file paths break commands
- Learn drag-and-drop for your OS

#### **Environment Boundaries**

- Browser  $JS \neq Node.js$
- CLI code  $\neq$  web page

### **Version Control**

Without Git, experiments feel risky

# Guardrails That Keep You Moving

Once you know the pitfalls, adopt guardrails that make vibe coding feel coherent instead of fragile.

### Guardrail #1: Start Without Frameworks

- Frameworks choose project structure for you
- Examples: Django, Flask, React, Rails
- Scaffolding creates many files automatically
- Good once you understand parts
- Week 1 rule: One file, no build step

### Guardrail #2: Defer Docker

- Docker excellent for deployment
- Adds: images, containers, volumes, networks
- More vocabulary, more places to break
- Prefer native installs at first
- Return to Docker when you need it

## Guardrail #3: Low-Friction Languages

- JavaScript in browser: No installs needed
- Go: Strong standard library, single binary
- Python: Excellent libraries, use Poetry

**Trade-off:** JS and Go may have fewer legal-specific packages, but that's OK for first projects.

## Guardrail #4: Python with Poetry

### Minimal Poetry workflow:

- pipx install poetry
- 2 poetry new myproject
- poetry add requests
- opetry run python main.py

Use Poetry the moment you add any third-party package.

# Guardrail #5: Learn Just Enough Git

#### Five-command subset:

- git init (start repository)
- git add -A and git commit -m "message"
- git log (see history)
- git restore --source -- file (recover)
- git branch -c feature-x (try ideas safely)

Benefits: easy undo, fearless experiments, backup via GitHub

## Guardrail #6: Use Study & Learn Mode

- Turn friction into short, targeted lessons
- 90-second PATH explainer
- Readiness checklists for project types
- Just-in-time learning
- Preserve momentum while closing gaps

# Your Week 1 Strategy

- Start with one file projects
- Choose low-friction environment
- Avoid frameworks and Docker
- Learn basic terminal commands
- Set up Git repository
- Use Poetry for Python dependencies

### First Project Ideas

- HTML page with embedded JavaScript
- Python script to process CSV files
- Go program to organize files
- Simple calculator or converter
- Text analysis tool
- Basic data visualization

# When Things Go Wrong

- Read the first clear error message
- Copy error to LLM for help
- Check file locations and imports
- Verify dependencies are installed
- Use Git to revert changes
- Start smaller if needed

# **Building Confidence**

- Keep projects small
- Treat line count as risk indicator
- Celebrate small wins
- Focus on working programs you can run
- Iterate based on feedback
- Don't aim for perfection

### Final Counsel

- Reduce operational complexity
- Let LLM help with what it does best
- Build sustainable habits early
- Focus on practical wins
- Confidence comes from working code

## The Broader Ecosystem of Tools

There is a LOT more to learn...

And an ever-growing list of sophisticated tools

### **Advanced Coding Tools**

### Al-Powered Development:

- Claude Code
- ChatGPT Codex
- Gemini CLI
- GitHub Copilot

### **Enhanced Editors & IDEs:**

- Cursor
- Kiro
- Warp terminal
- Visual Studio Code

### Prerequisites for Advanced Tools

- Many tools presuppose decent knowledge of:
  - Visual Studio Code
  - Command line proficiency
  - Git workflows
  - Development environments
  - Package managers
- The ecosystem grows rapidly
- New tools emerge constantly
- Foundation skills remain essential
- Start simple, build up gradually

Remember: Master the basics first, then explore the advanced tools!