

Claude Code: Zero to Hero

Learning Series for GovTech



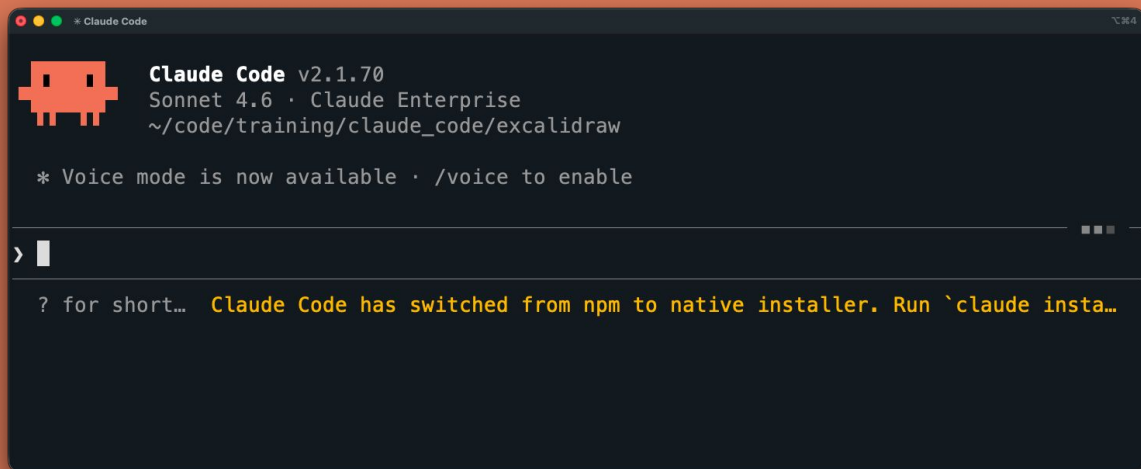
David Scavo
Applied AI Engineer
Anthropic



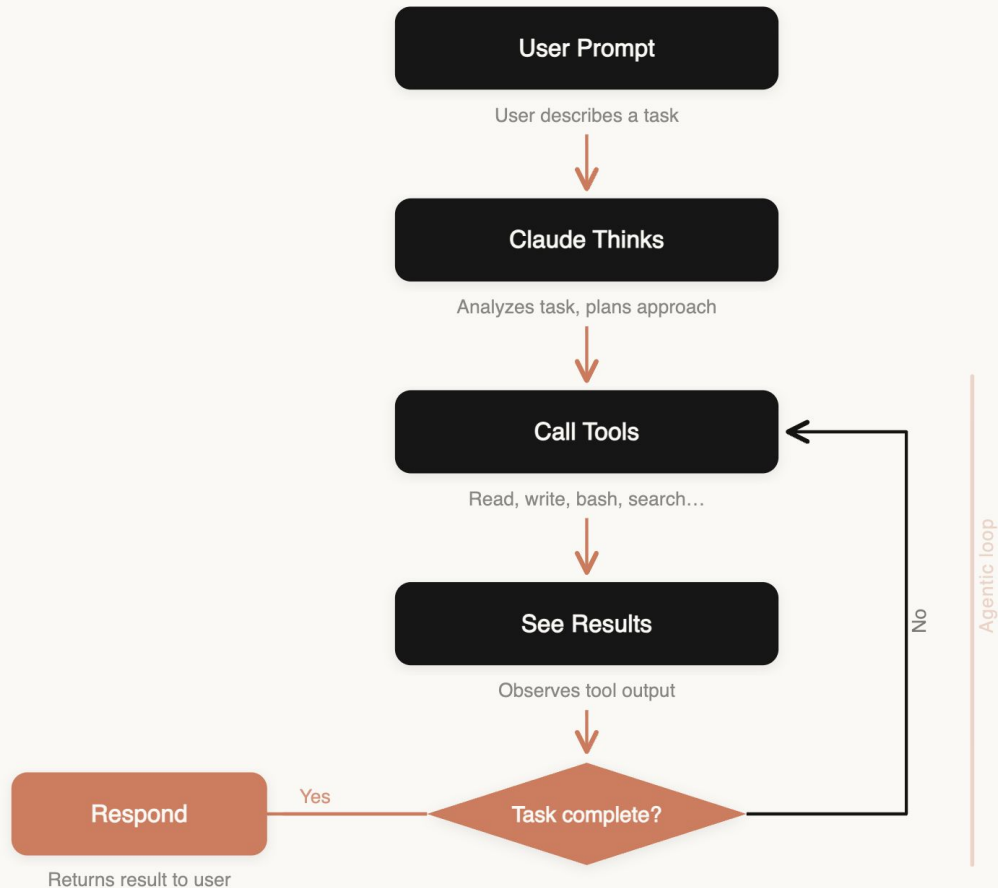
John McCabe
Customer Success
Anthropic

What is Claude Code

- State of the Art (SoTA) Coding Model
- Given the right tools and prompts to be a SoTA Coding agent
- Works everywhere you work



✶ The agentic loop



Claude Code is not just for writing code

It can help you with every step of a project

1. Discover

Explore codebase
and history

Search
documentation

Onboard & Setup

2. Design

Plan project

Develop tech specs

Define architecture

3. Build

Implement code

Write and execute
tests

Create commits
and PRs

4. Deploy

Automate CI/CD

Configure
environments

Manage
deployments

5. Support & Scale

Debug errors

Large-scale
refactor

Monitor usage &
performance

Meet the Claude model family

Three models, each tuned for a different kind of work

Haiku

Fast and compact — best for high-volume, low-latency tasks like classification, simple lookups, and quick edits.

Sonnet

The balanced everyday workhorse — strong reasoning and speed for most coding, writing, and analysis work.

Opus

The most capable model — reach for it on complex, long-horizon problems and deep reasoning tasks.

Managing context

- As you work, context is filled up
- Use `/compact` or `/clear` to create space
- Use subagents to keep context clean

```

> /context
└─ Context Usage
    ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ claude-sonnet-4-6 · 11k/200k tokens (6%)
    ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
    ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Estimated usage by category
    ○ System prompt: 4k tokens (2.0%)
    ○ System tools: 3.3k tokens (1.6%)
    ○ Memory files: 2.8k tokens (1.4%)
    ○ Skills: 160 tokens (0.1%)
    ○ Messages: 1.2k tokens (0.6%)
    □ Free space: 156k (77.8%)
    ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ Autocompact buffer: 33k tokens (16.5%)

Memory files · /memory
└─ ~/.claude/CLAUDE.md: 2.1k tokens
└─ CLAUDE.md: 770 tokens

Skills · /skills

```

Large data? Write a script.

Don't pour the whole dataset into Claude's context.

Small data → **process in-agent**

Fits in context. Let Claude read and reason on it directly.

Large data → **have Claude write a script**

Big CSVs, logs, datasets. Ask Claude to write Python/bash that processes the file, run it, and return just the result. Data never enters context.

Don't make Claude read the data — make Claude write the code that reads the data.

Questions?

AI

Claude Code - Details



CLAUDE.md

This file provides guidance to Claude Code (claude.ai/code) when working with code in this repository.

Development Commands

```
yarn start                # Start development server (excalidraw-app)
yarn test:app             # Run tests in watch mode
yarn test:app --watch=false # Run all tests once
yarn test:update          # Run tests and update snapshots
yarn test:typecheck       # TypeScript type checking
yarn fix                  # Auto-fix formatting and linting issues

# Run a single test file
yarn test:app packages/excalidraw/tests/selection.test.tsx

# Run tests matching a pattern
yarn test:app -t "should select"
```

Project Structure

Excalidraw is a monorepo with Yarn workspaces:

- **packages/excalidraw/** - Main React component library (@excalidraw/excalidraw)
- **packages/element/** - Element manipulation logic (@excalidraw/element)
- **packages/math/** - Geometry primitives and math utilities (@excalidraw/math)
- **packages/common/** - Shared constants and utilities (@excalidraw/common)
- **packages/utils/** - Export/import utilities (@excalidraw/utils)
- **excalidraw-app/** - Full web application (excalidraw.com)

Architecture

The “/Init” Command

- Claude Code will scan your codebase, noting project structure, dependencies, commands, etc.
- Findings will be summarized in a **CLAUDE.md** file
- When working on your project, Claude Code will automatically read the contents of this file
- You can have multiple CLAUDE.md files:
 - “Project” (check into git, shared between engineers)
 - “Local” (not checked into git, your particular notes to Claude)
 - “User” (used across all projects)
- **TIP:** when running “/init” you can add in special directions

CLAUDE.md

This file provides guidance to Claude Code (claude.ai/code) when working with code in this repository.

Run Commands

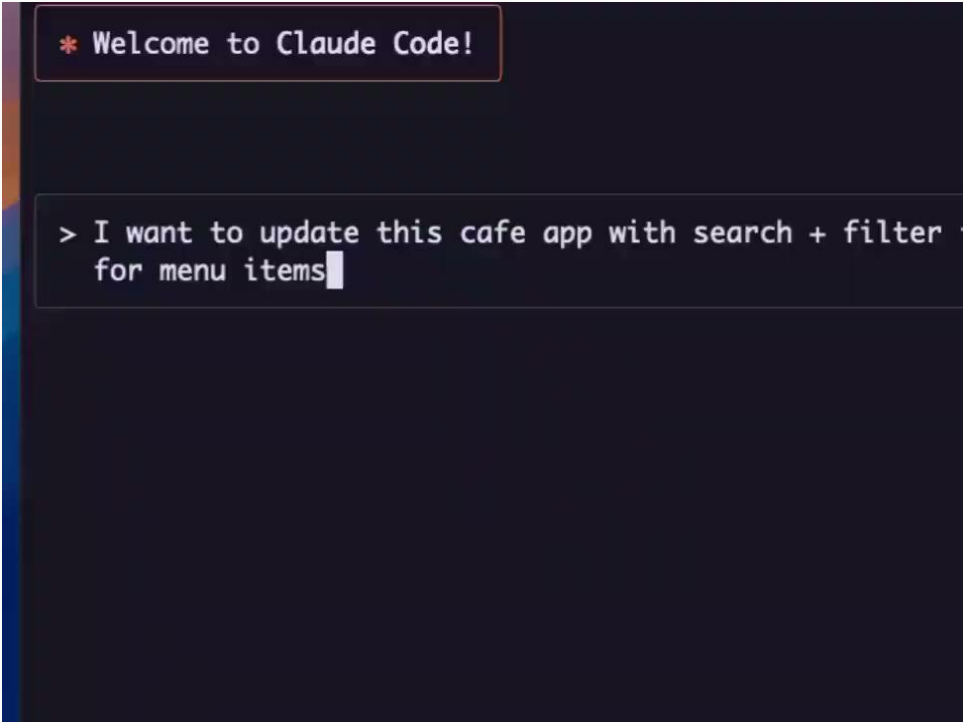
- Run the project: ``uv run main.py``

Code Style Guidelines

- Python version: 3.10+
- Use type hints for function parameters and return values
- Imports should be grouped: standard library, third-party, and local
- Keep functions small and focused on a single task
- Handle exceptions with appropriate try/except blocks
- Use f-strings for string formatting
- Keep code simple and readable - prefer clarity over cleverness

Plan Mode

- Leverage Plan Mode & Autonomous Mode to get the most mileage on complex tasks
- **Shift+Tab** to toggle plan mode & autonomous mode

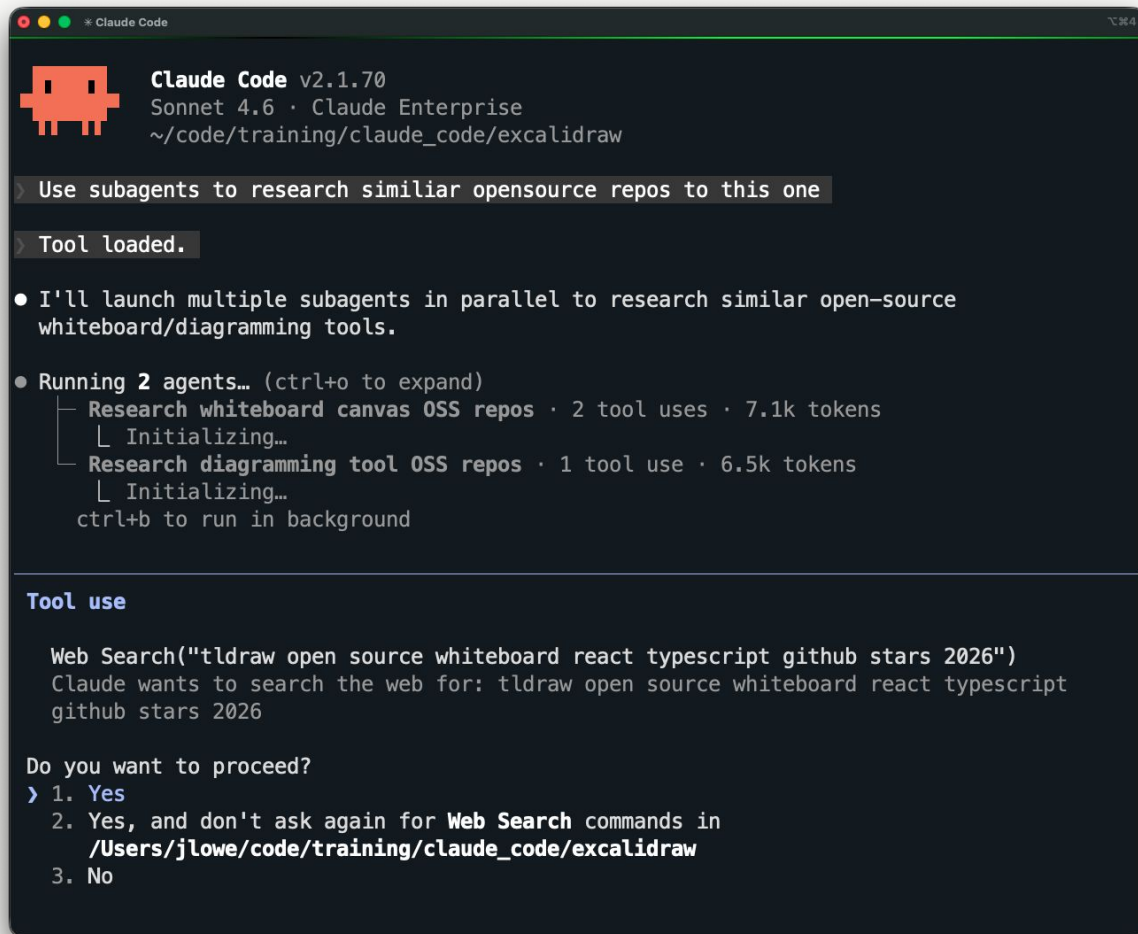


* Welcome to Claude Code!

> I want to update this cafe app with search + filter for menu items

Agents

- Run tasks in parallel
- Don't pollute the context window

A screenshot of the Claude Code v2.1.70 interface. The window title is "Claude Code". The header shows the Claude Code logo, version "v2.1.70", and details "Sonnet 4.6 · Claude Enterprise" and the path "~/code/training/claude_code/excalidraw". The main content area shows a prompt: "Use subagents to research similiar opensource repos to this one". Below this, a status bar says "Tool loaded.". The execution log shows: "I'll launch multiple subagents in parallel to research similar open-source whiteboard/diagramming tools.", "Running 2 agents... (ctrl+o to expand)", a tree view with "Research whiteboard canvas OSS repos · 2 tool uses · 7.1k tokens" and "Research diagramming tool OSS repos · 1 tool use · 6.5k tokens", both with "Initializing..." sub-items, and "ctrl+b to run in background". A section titled "Tool use" shows a "Web Search" command with the query "tldraw open source whiteboard react typescript github stars 2026". Below this, it asks "Do you want to proceed?" and lists three options: "1. Yes", "2. Yes, and don't ask again for Web Search commands in /Users/jlowe/code/training/claude_code/excalidraw", and "3. No".

```
Claude Code v2.1.70
Sonnet 4.6 · Claude Enterprise
~/code/training/claude_code/excalidraw

> Use subagents to research similiar opensource repos to this one

> Tool loaded.

• I'll launch multiple subagents in parallel to research similar open-source
  whiteboard/diagramming tools.

• Running 2 agents... (ctrl+o to expand)
  └─ Research whiteboard canvas OSS repos · 2 tool uses · 7.1k tokens
    └─ Initializing...
  └─ Research diagramming tool OSS repos · 1 tool use · 6.5k tokens
    └─ Initializing...
    ctrl+b to run in background

Tool use

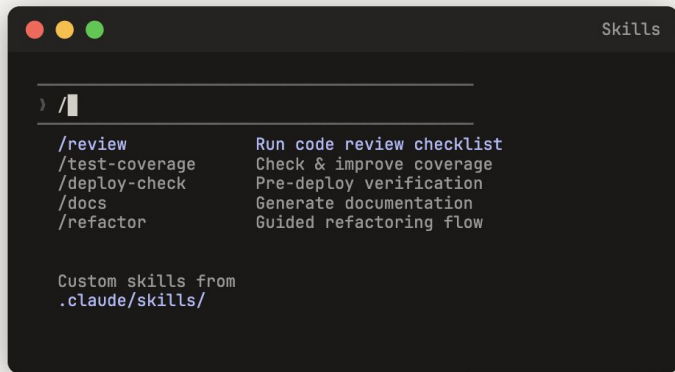
Web Search("tldraw open source whiteboard react typescript github stars 2026")
Claude wants to search the web for: tldraw open source whiteboard react typescript
github stars 2026

Do you want to proceed?
> 1. Yes
   2. Yes, and don't ask again for Web Search commands in
     /Users/jlowe/code/training/claude_code/excalidraw
   3. No
```

Custom skills

Encode repeatable workflows as reusable skills

DEFINE ONCE, REUSE EVERYWHERE



How it works

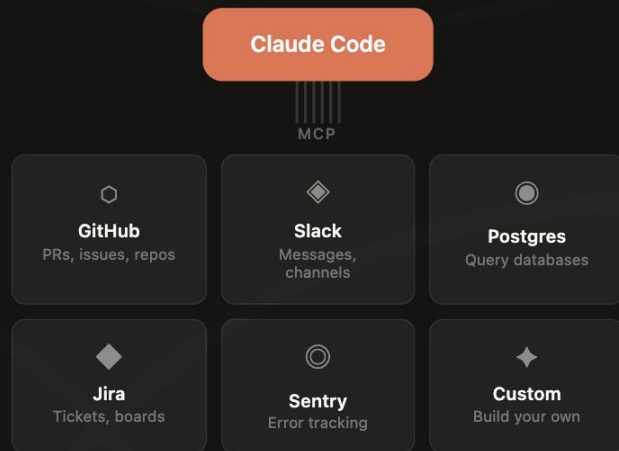
- Create markdown files in `.claude/skills/`
- Each file becomes a custom skill
- Contains the prompt template Claude will follow
- Use `$ARGUMENTS` for dynamic input

EXAMPLE FILE

```
# .claude/skills/review.md  
Review the code in $ARGUMENTS  
for security issues, bugs,  
and style violations.
```

Model Context Protocol

Connect Claude Code to any external tool or service via MCP servers



IN ACTION

```
MCP

> check sentry for recent errors

• mcp_sentry(list_issues)
  └ Found 3 unresolved issues

• mcp_github(create_issue)
  └ Created #142

• Found 3 Sentry errors and created
  GitHub issues for each one.
```

Configure in `.claude/settings.json` or the `/mcp` command

Thank you

AI