

# Claude Code Quick Reference Guide

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AIA Copilot Training | 2026

Your essential command reference for Claude Code - from installation to advanced workflows.

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## □ Getting Started

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### Installation

```
# Install Claude Code globally
npm install -g @anthropic-ai/claude-code

# Or use curl (Linux/Mac)
curl -sL https://install.anthropic.com | sh

# Verify installation
claude --version

# Start interactive session
claude
```

### First Steps

```
# Start with a prompt
claude "explain this project"

# Continue most recent conversation
claude -c

# Resume specific session
claude -r SESSION_ID "continue working"
```

```
# Check system health
claude --doctor
```

## ⚙️ Essential Commands

### Session Management

Command	Description
<code>claude</code>	Start interactive REPL
<code>/help</code>	Show available commands
<code>/exit</code> or <code>/quit</code>	End session
<code>/clear</code>	Clear conversation history
<code>/compact</code>	Summarize conversation to save tokens
<code>/cos</code>	Show session cost and duration

### File & Context Management

Command	Description
<code>/init</code>	Create CLAUDE.md for project
<code>@filename</code> + Tab	Reference files (autocomplete)
<code>claude --add-dir ../apps</code>	Add additional working directories

### Permission & Tools

Command	Description
<code>/permissions</code>	View/modify tool permissions

Command	Description
<code>--allowedTools "Read,Write,Bash"</code>	Allow specific tools without prompting
<code>--disallowedTools "Bash(rm:*)"</code>	Block dangerous commands
<code>--dangerously-skip-permissions</code>	⚠ Skip all prompts (use carefully!)

## ☐ Model Selection

```
# Use Sonnet (default, balanced)
claude --model sonnet

# Use Opus (more capable, slower)
claude --model opus

# Use Haiku (faster, cheaper)
claude --model haiku
```

**When to use each:** - **Haiku:** Quick questions, simple tasks, read-only exploration - **Sonnet:** Most development work, balanced speed/capability - **Opus:** Complex architecture, critical decisions, deep reasoning

## ☐ Thinking Modes

Trigger extended reasoning by asking Claude to "think":

Phrase	Thinking Level	Use Case
"think"	Low (~5s)	Simple analysis
"think hard"	Medium (~15s)	Design decisions
"think harder"	High (~30s)	Complex problems

Phrase	Thinking Level	Use Case
"ultrathink"	Maximum (~60s)	Critical architecture

Example:

```
> Think harder about how to structure the database schema for multi-tenancy
```

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## ▣ CLAUDE.md Configuration

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Create `.claude/CLAUDE.md` or `CLAUDE.md` in your project root:

```
# Project: [Your Project Name]

## Commands
- `npm run dev` - Start dev server
- `npm test` - Run test suite
- `npm run build` - Production build

## Tech Stack
- Node.js 20 + TypeScript
- PostgreSQL with Prisma
- Jest for testing

## Code Conventions
- Use async/await, never callbacks
- Prefer named exports
- All functions need JSDoc comments
- Keep functions under 50 lines

## Workflow
- Run tests after code changes
- Use conventional commit messages
- Never commit console.log statements
```

```
## Don't
- Use `any` type
- Modify database directly
- Skip error handling
```

**Pro tip:** CLAUDE.md is loaded automatically at session start. Update it as your project evolves.

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## □ Subagents

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### Built-in Agents

Agent	Model	Purpose	Tools
@explore	Haiku	Fast, read-only search	Glob, Grep, Read, limited Bash
@plan	Sonnet	Research during planning	Read, Glob, Grep, Bash
Custom	Your choice	Task-specific work	You define

### Using Subagents

```
# Quick exploration
> @explore find all authentication code

# Planning research
> Use the plan agent to outline a refactoring strategy
```

### Creating Custom Subagents

Create `.claude/agents/code-reviewer.md`:

```
---
name: code-reviewer
description: Expert code reviewer for security and quality
tools: Read, Grep, Glob, Bash
model: sonnet
---
```

You are a senior code reviewer ensuring high standards.

When invoked:

1. Run git diff to see recent changes
2. Focus on modified files
3. Begin review immediately

Review checklist:

- Code is simple and readable
- No exposed secrets or API keys
- Good test coverage
- Error handling present

Invoke:

```
> @code-reviewer review my recent changes
```

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## ❑ Custom Commands

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Create reusable slash commands in `.claude/commands/` :

### Example: Test Generator

`.claude/commands/test-gen.md` :

```
---
name: test-gen
description: Generate unit tests for a file
```

---

Generate comprehensive unit tests for \$ARGUMENTS.

Requirements:

- Use Jest framework
- Cover happy path and edge cases
- Include setup and teardown
- Mock external dependencies

Usage:

```
> /test-gen src/utils/validator.js
```

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## ❑ Hooks System

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Hooks execute at specific points in Claude's workflow.

### Hook Events

Hook	Fires When	Can Block?
UserPromptSubmit	User submits prompt	<input type="checkbox"/> Yes (exit 2)
PreToolUse	Before tool execution	<input type="checkbox"/> Yes (exit 2)
PostToolUse	After tool completion	× No (logging only)
SubagentStop	Subagent finishes	<input type="checkbox"/> Yes (exit 2)
SessionStart	Session starts/resumes	× No
PreCompact	Before compaction	× No

### Example: Block Secret Commits

```
.claude/hooks/pre-tool/no-secrets.sh :
```

```
#!/bin/bash
# Block commits containing potential secrets

if [[ "$TOOL_NAME" == "Bash" ]] && [[ "$TOOL_INPUT" == *"git commit"* ]]; then
    if git diff --cached | grep -iE "(api[_-]?key|secret|password|token)"; then
        echo "❌ BLOCKED: Potential secret detected in staged changes!"
        exit 2 # Exit code 2 blocks the tool
    fi
fi
```

Make executable:

```
chmod +x .claude/hooks/pre-tool/no-secrets.sh
```

## ❑ MCP (Model Context Protocol)

### Configuration Locations

File	Scope	Checked In?
<code>.mcp.json</code>	Project (shared)	<input type="checkbox"/> Yes
<code>.claude/mcp_servers.json</code>	Project (local)	<input checked="" type="checkbox"/> No
<code>~/.claude/mcp_servers.json</code>	Global	<input checked="" type="checkbox"/> No

### Example MCP Configuration

`.mcp.json` :

```
{
  "mcpServers": {
    "github": {
      "command": "mcp-server-github",
      "args": ["--token", "${GITHUB_TOKEN}"]
    }
  }
}
```

```
    },  
    "filesystem": {  
      "command": "mcp-server-filesystem",  
      "args": ["--root", "${PROJECT_ROOT}"]  
    }  
  }  
}
```

## Using MCP Servers

```
# List available MCP servers  
> /mcp  
  
# Debug MCP connections  
claude --mcp-debug
```

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## □ Git Workflows

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### Commit with AI-Generated Message

```
> /commit  
# Claude analyzes changes and suggests message  
# You approve or edit
```

### Create Pull Request

```
> /pr  
# Claude creates PR with description  
# Opens in browser for final edits
```

## Using gh CLI

```
> Use gh to list open issues assigned to me  
> Create an issue for the bug we just found
```

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## ☐ Skills Marketplace (NEW - Jan 2026)

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### Add Official Marketplace

```
claude  
/plugin marketplace add anthropics/skills
```

### Browse & Install Skills

```
/plugins  
# Select "Browse plugins" from menu  
# Install skills like: context7, frontend-design, document-skills
```

### Using Installed Skills

```
# After installing document-skills:  
> Use the PDF doc tool to generate a brief on this project  
  
# After installing frontend-design:  
> Use frontend-design to create a landing page with header,  
    hero section, 3 feature cards, and CTA
```

### Community Marketplace (Optional)

```
/plugin marketplace add alirezarezvani/claude-skills
```

⚠ **Safety:** Community skills = open source. Inspect before use.

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## ⚡ Planning Mode (CRITICAL)

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**Always use Planning Mode for:** - Live databases (Notion, Airtable, spreadsheets) - Production systems (APIs, cloud resources) - Bulk operations (>10 files/entries) - Destructive actions (delete, replace, overwrite)

### How to Activate

```
> Plan this task first, show me the steps, and wait for approval

> Spend 5 minutes thinking through this. Show me what files you'll
  read, what changes you'll make, and what commands you'll run.
  Wait for me to say 'proceed' before executing.
```

**Why it matters:** 5 minutes planning saves 2 hours recovery.

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## ☐ Common Workflows

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**Explore → Plan → Code → Commit**

```
1. > Give me an overview of this codebase
2. > Plan how to add user preferences feature
3. > Implement the plan, starting with the database schema
4. > /commit
5. > /pr
```

### Test-Driven Development

```
1. > Write failing tests for email validation
2. > /commit
3. > Implement email validation to pass the tests
4. > /commit
```

## Bug Fix Workflow

1. > Find where the login timeout is configured
2. > Think hard about why timeouts might be occurring
3. > Fix the issue following existing patterns
4. > Write a regression test
5. > /commit

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## □ Output Formats

```
# JSON output (for scripting)
claude -p "analyze code" --output-format json

# Stream JSON (real-time processing)
claude -p "large task" --output-format stream-json

# Plain text (default)
claude -p "query" --output-format text
```

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## □ Troubleshooting

Issue	Solution
"command not found: claude"	Add npm global bin to PATH
Authentication fails	Run <code>claude login</code> again
Claude doesn't see files	Ensure you're in project root
Slow responses	Use <code>/compact</code> to reduce context
Changes not applying	Check if you approved the diff
MCP connector errors	Run with <code>--mcp-debug</code>

## Keyboard Shortcuts

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Shortcut	Action
<code>Tab</code>	Autocomplete file/folder names
<code>Ctrl+C</code>	Cancel current operation
<code>Ctrl+D</code>	Exit session
<code>↑ / ↓</code>	Navigate command history
<code>Ctrl+L</code>	Clear screen

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## ☐ Cost Management

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```
# Check current session cost
> /cos

# Limit conversation turns (saves tokens)
claude -p --max-turns 3 "focused query"

# Compact conversations frequently
> /compact "keep only the essential context"

# Clear context between unrelated tasks
> /clear
```

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## ☐ Best Practices

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### Do's ☐

- **Be specific** - "Add email regex validation to signup form" (not "add validation")
- **Use @ mentions** - Reference files directly for accurate context
- **Approve carefully** - Always review diffs before accepting

- **Iterate** - Start broad, refine with follow-up prompts
- **Use /compact** - Long sessions slow down; compact periodically
- **Commit often** - Smaller commits = easier to review and revert
- **Use Planning Mode** - For live data and bulk operations

## Don'ts x

- **Don't skip reviews** - Always check what Claude is about to change
  - **Don't use `--dangerously-skip-permissions`** - Except in isolated/containerized environments
  - **Don't assume context** - Claude doesn't know what you know; provide background
  - **Don't ignore errors** - Ask Claude to explain and fix errors immediately
  - **Don't commit secrets** - Use hooks to prevent this
- 

## ☐ Security Checklist

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- ☐ Review all tool permissions ( `/permissions` )
  - ☐ Use hooks to block dangerous commands
  - ☐ Never commit API keys, tokens, or passwords
  - ☐ Use `.gitignore` to protect sensitive files
  - ☐ Work on git branches (easy rollback)
  - ☐ Use Planning Mode for destructive operations
  - ☐ Test in non-production environments first
  - ☐ Keep Claude Code updated ( `claude update` )
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## ☐ Quick Tips

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### 1. Three-Layer Memory:

2. Global: `~/.claude/CLAUDE.md` (your preferences across all projects)

3. Project: `./.claude/CLAUDE.md` or `./CLAUDE.md` (project-specific)

4. Reference: `@filename` mentions (on-demand context)

### 5. Compounding Systems:

6. Build workflows once, execute forever

7. Example: Interview prep template (45 min vs. 3-4 hours manual)

#### 8. Model Selection:

9. Start with Sonnet (balanced)

10. Use Haiku for exploration (fast, cheap)

11. Use Opus for critical decisions (best reasoning)

#### 12. Context Management:

13. `/clear` between unrelated tasks

14. `/compact` for long sessions

15. `--max-turns` to limit conversation length

#### 16. Safety First:

17. Planning Mode prevents mistakes

18. Hooks enforce security rules

19. Git branches enable easy rollback

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## □ Additional Resources

- **Official Docs:** <https://code.claude.com/docs>
- **Best Practices:** <https://anthropic.com/engineering/claude-code-best-practices>
- **MCP Specification:** <https://modelcontextprotocol.io>
- **Community Skills:** <https://github.com/alirezarezvani/claude-skills>
- **Awesome Claude Code:** <https://github.com/hesreallyhim/awesome-claude-code>

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## □ Getting Help

In Claude Code:

```
> /help           # Show all commands
> /doctor         # Check installation health
> /mcp            # MCP server status
```

**Community:** - GitHub Discussions: <https://github.com/anthropics/claude-code/discussions> - Discord: Ask in #claude-code channel

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*Keep this reference handy - it will save you hours of searching docs!*