Cloud Contraptions
TRAINING & CONSULTING

To discuss this course and customizations:
Call: 434-509-5680 or Email: sales@cloudcontraptions.com

OpenAI Codex in Practice

Class Duration

14 hours of live training delivered over 2-3 days to accommodate your scheduling needs.

Student Prerequisites

- Professional software development experience
- Comfort with the command line and Git
- An OpenAI API account or ChatGPT plan with Codex access

Target Audience

Software engineers, tech leads, and platform engineers who want to use OpenAI Codex as their primary agentic coding platform—across the CLI, the IDE extension (VS Code, JetBrains, Xcode, Eclipse), the desktop app, and cloud agents. Equally relevant for teams evaluating Codex against Claude Code or building hybrid local-and-cloud workflows where Codex is the agentic backbone.

Description

OpenAI Codex evolved from a sandboxed code-generation API into a full multi-surface agentic platform in 2025–2026. Codex now spans an open-source Rust CLI, native IDE extensions (VS Code, JetBrains, Xcode, Eclipse), a desktop app, and cloud agents that run in parallel inside isolated VMs—all sharing the same configuration and the same model family (GPT-5.5 flagship, the GPT-5.4 family, and the GPT-5.2-Codex specialized variant). This course teaches Codex end-to-end: installation and authentication, model selection, the four agent surfaces, hybrid local/cloud workflows, Skills and Automations, parallel cloud execution with git worktrees, and integration with CI. Participants build progressively more autonomous workflows throughout the labs.

Learning Outcomes

- Install, authenticate, and configure Codex across the CLI, IDE extension, desktop app, and ChatGPT web.

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- Select the right Codex model for a task—GPT-5.5, GPT-5.4, or the GPT-5.x-Codex specialized variants—and switch reasoning levels intentionally.
- Drive Codex CLI sessions for terminal-based agentic development and headless CI usage.
- Use the Codex IDE extension in VS Code, JetBrains, Cursor, and Windsurf as a complement or alternative to the editor's native AI features.
- Run cloud agents in parallel using git worktrees and isolated VMs, then hand work back to the local IDE.
- Author Codex Skills to package reusable capabilities and Automations for unattended/scheduled work.
- Apply approval gates, audit logging, and cost controls for agentic Codex workflows in production.
- Make principled comparisons between Codex and Claude Code on real engineering tasks.

Training Materials

Comprehensive courseware is distributed online at the start of class. All students receive a downloadable MP4 recording of the training.

Software Requirements

OpenAI account with Codex access, Codex CLI installed, an IDE compatible with the Codex extension (VS Code, JetBrains, Xcode, or Eclipse), Git, and the student's preferred language runtime for labs.

Training Topics

The Codex Platform in 2026

- Codex's evolution from sandbox API to multi-surface agent platform
- Four surfaces: CLI, IDE extension, desktop app, ChatGPT web
- Cloud agents and parallel worktree execution
- Codex vs. Claude Code: positioning and tradeoffs

Setup and Authentication

- Installing the Codex CLI (open-source, Rust-based)
- Installing the Codex IDE extension across editors
- Codex desktop app on macOS and Windows

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- Authentication: API key vs. ChatGPT account
- Shared configuration across surfaces

The Codex Model Family

- GPT-5.5: the flagship agentic coding model
- GPT-5.4 and GPT-5.x-Codex specialized variants
- Reasoning level selection and tradeoffs
- Terminal-Bench 2.0 and other benchmark literacy
- Cost and latency profile per model

Codex CLI

- Interactive TUI sessions and the `/model` command
- File and command tools, approval gates
- Headless (non-interactive) usage for scripts and CI
- Project-level configuration files
- Session management and resumption

Codex IDE Extension

- VS Code: agent panel, inline edits, chat
- JetBrains native integration (IntelliJ, PyCharm, WebStorm, Rider)
- Codex inside VS Code and VS Code-derivative editors
- Xcode and Eclipse support
- Inline preview and approval workflows

Cloud Agents and Parallel Execution

- Setting up a cloud environment
- Running an agent task in the cloud from the IDE or CLI
- Git worktree-based parallel execution
- SSH access to approved cloud VMs for sensitive data
- Reviewing cloud agent results and merging back

Skills

- Codex Skills: packaging reusable capabilities
- Skill anatomy: triggers, tools, and outputs
- Building team-shared Skills
- Skills vs. CLI scripts vs. IDE chat modes

Automations

- Codex Automations: unprompted, scheduled, and event-driven runs

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- Common automation patterns: issue triage, alert monitoring, CI/CD
- Approval and human-in-the-loop gates for unattended work
- Observability and audit logs for Automations

Hybrid Local + Cloud Workflows

- When to use local agents vs. cloud agents
- Handing work between local and cloud surfaces
- Cost optimization for long-running cloud tasks
- Multi-tasking patterns: parallel agents on different features

Production Workflow Integration

- Codex in GitHub Actions and GitLab CI
- Approval policies and capability scoping
- Token cost tracking and budget enforcement
- Compliance: data residency, training data policies, content exclusions
- Choosing between Codex and Claude Code per workflow

Workshop

- CLI lab: agentic feature implementation end-to-end
- Cloud agent lab: parallel worktrees on a refactor
- IDE extension lab in VS Code or JetBrains
- Skill + Automation authoring exercise
- Codex vs. Claude Code comparative task
- Q&A session