

OpenAI Agents SDK Full Course Roadmap

Designed for GIAIC Students (Beginner to Intermediate)

◆ Level 1: Beginner Level (Understanding Agentic AI & OpenAI SDK)

✓ Step 1: Introduction to Agentic AI & SDK

- What is Agentic AI?
- Real-world use cases
- Difference between classic AI and agentic AI
- Overview of OpenAI Agents Python SDK

✓ Step 2: Environment Setup & Installation

- Installing Python
- Installing OpenAI Agents SDK
- Verifying installation (hello world)

✓ Step 3: Creating Your First Agent

- Importing SDK
- Creating a simple `OpenAIAgent`
- Giving instructions to agent
- Receiving response from the agent

✓ Step 4: Understanding Tools

- What is a tool in Agentic AI?
 - Types of tools
 - Using built-in tools (e.g., Calculator)
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◆ Level 2: Intermediate Level (Customizing and Extending Agents)

✓ Step 5: Building Custom Tools

- Creating Python functions as tools
- Tool parameters: name, description, function
- Multiple tools in one agent

✓ Step 6: Understanding Agent Actions

- What is an action and observation?
- Tool call step-by-step
- Logging agent's behavior

✓ Step 7: Tool Output & Handling Results

- Capturing tool responses
- Formatting agent output
- Making results user-friendly

✓ Step 8: Streaming Output

- Live agent responses
- Streaming console output
- User experience improvement

✓ Step 9: Observability & Debugging

- Understanding what agent is thinking
 - Logs and step history
 - Debugging agent behavior
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◆ Level 3: Project Level (Real-World Application)

✓ Step 10: Custom Agent Project (Task Assistant)

- Create a task-solver agent
- Combine tools + prompts
- Handle user input > output logic

✓ Step 11: CLI App or UI Integration

- Creating CLI app with Python
- Optional: Streamlit or Flask UI for frontend
- Accepting real-time user queries

✓ Step 12: Final Project Submission

- Build a complete AI agent
 - With tools, prompts, user interaction
 - Documenting and testing your agent
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💖 Bonus Level (Optional Advanced Topics)

BONUS 1: Memory (Coming Soon)

- Adding memory to agents (when SDK supports)
- Using conversation history





BONUS 2: Multi-Agent Collaboration


- Calling one agent from another
 - Agents as a team
 - Task routing between agents
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Duration Suggestion:

- Total Weeks: 6 to 8 Weeks (Flexible)
 - Format: 2 Lessons per Week + 1 Practice Project
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Learning Format:

-  SMS-style explanation
 -  Code examples
 -  Real-life project tasks
 -  Memory-friendly examples
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 **By the end of this course, you will be able to:** - Build real AI agents with Python SDK - Use and create tools inside agents - Debug and understand agent decisions - Build and deploy basic AI assistant apps

Github Title Suggestion: `openai-agents-sdk-roadmap-by-sameet`

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Inspired by: GIAIC / Saylani Model