OpenAI Agents SDK – Step-by-Step Guide

0) Prereqs - Python >= 3.10 - OpenAI API key (env var: OPENAI_API_KEY) - Optional: Vector Store for File Search

1) Project Setup python -m venv .venv . .venv/Scripts/Activate.ps1 (Windows) source .venv/bin/activate (macOS/Linux) pip install openai-agents Set OPENAI_API_KEY

2) Your First Agent from agents import Agent, Runner assistant = Agent(name="Helper", instructions="You are a concise assistant.", model="gpt-4o-mini") print(Runner.run_sync(assistant, "Say hello").final_output)

3) Add Your Own Tool @function_tool def shipping_quote(weight_kg: float, destination_country: str) -> dict: return {"currency": "USD", "estimate": 5 + 2 * weight_kg, "to": destination_country}

4) Built-in Tools Web Search: WebSearchTool() File Search: FileSearchTool(vector_store_ids=["vs_abc123"])

5) Sessions (SQLiteSession) – automatic conversation history 6) Streaming Output – run_streamed for live tokens 7) Multi-Agent Handoffs – triage between agents 8) Guardrails – validate inputs/outputs 9) Tracing – debug via OpenAI dashboard 10) Models – gpt-4o, gpt-4o-mini, reasoning models 11) Deployment – FastAPI example included 12) Troubleshooting – API key, tool errors, sessions

Read Next: Official docs for Agents SDK, Tools, Handoffs, MCP, Launch Post