

Document



Tutorial Index - Complete ADK Learning Path

Welcome to the comprehensive ADK Training Hub tutorial collection!
This index organizes all 34 tutorials into structured learning paths to help you master Google Agent Development Kit from first principles to production deployment.



Progress Overview

- **Tutorial Implementation:** 34/34 completed (100%) ✓
- **Available Tutorials:** 34/34 ready to use
- **Total Roadmap:** 34 comprehensive tutorials completed



Foundation Track (Beginner Friendly)

Start here if you're new to ADK. These tutorials build fundamental concepts and practical skills.

| Completed Tutorials

Tutorial	Difficulty	Time	Description
01: Hello World Agent (./01_hello_world_agent.md)	Beginner	30 min	Build your first conversational AI agent with Google ADK
02: Function Tools (./02_function_tools.md)	Beginner	45 min	Add custom functions as tools for agent capabilities
03: OpenAPI Tools (./03_openapi_tools.md)	Beginner	1 hour	Integrate REST APIs using OpenAPI specifications
04: Sequential Workflows (./04_sequential_workflows.md)	Beginner	1.5 hours	Chain agents together in pipeline workflows
05: Parallel Processing (./05_parallel_processing.md)	Intermediate	1.5 hours	Execute multiple agents simultaneously
06: Multi-Agent Systems (./06_multi_agent_systems.md)	Intermediate	2 hours	Coordinate complex multi-agent architectures
07: Loop Agents (./07_loop_agents.md)	Intermediate	1.5 hours	Create iterative refinement with critic/refiner patterns
08: State Memory (./08_state_memory.md)	Intermediate	1.5 hours	Manage conversation and application state
09: Callbacks & Guardrails (./09_callbacks_guardrails.md)	Intermediate	2 hours	Add safety controls and event handling
10: Evaluation & Testing (./10_evaluation_testing.md)	Intermediate	1.5 hours	Build comprehensive testing frameworks
11: Built-in Tools & Grounding (./11_built_in_tools_grounding.md)	Intermediate	1.5 hours	Use ADK's built-in tools and web grounding
12: Planners & Thinking (./12_planners_thinking.md)	Advanced	2 hours	Advanced agent reasoning and planning

Advanced Workflows (Intermediate to Advanced)

Build sophisticated agent systems with complex orchestration and production considerations.

✓ Advanced Completed Tutorials

Tutorial	Difficulty	Time	Description
13: Code Execution (./13_code_execution.md)	Advanced	2.5 hours	Execute code dynamically within agents
14: Streaming & SSE (./14_streaming_sse.md)	Advanced	2 hours	Real-time streaming responses and server-sent events
15: Live API Audio (./15_live_api_audio.md)	Advanced	2.5 hours	Audio processing and speech integration
16: MCP Integration (./16_mcp_integration.md)	Advanced	2 hours	Model Context Protocol for standardized tools
17: Agent-to-Agent Communication (./17_agent_to_agent.md)	Advanced	2.5 hours	Direct communication between agents
18: Events & Observability (./18_events_observability.md)	Advanced	2 hours	Advanced monitoring and event handling
19: Artifacts & Files (./19_artifacts_files.md)	Advanced	2 hours	File handling and artifact management
20: YAML Configuration (./20_yaml_configuration.md)	Intermediate	1.5 hours	Configuration-driven agent development
21: Multimodal Images (./21_multimodal_image.md)	Intermediate	2 hours	Image processing and vision capabilities
22: Model Selection (./22_model_selection.md)	Intermediate	1.5 hours	Choosing optimal models for different tasks

Production Ready (Enterprise Deployment)

Deploy production-grade AI agents with enterprise features and scalability.

Production Completed Tutorials

Tutorial	Difficulty	Time	Description
23: Production Deployment (./23_production_deployment.md)	Advanced	3 hours	Enterprise deployment strategies
24: Advanced Observability (./24_advanced_observability.md)	Advanced	2.5 hours	Production monitoring and analytics
25: Best Practices (./25_best_practices.md)	Advanced	2 hours	Production optimization and patterns
26: Google AgentSpace (./26_google_agentspace.md)	Advanced	2.5 hours	Google's managed agent platform
27: Third-Party Tools (./27_third_party_tools.md)	Advanced	2 hours	Integrating external tool ecosystems
28: Using Other LLMs (./28_using_other_llms.md)	Advanced	2 hours	Beyond Gemini: other model integration

UI Integration (Frontend Development)

Build beautiful user interfaces for your AI agents.

✓ UI Completed Tutorials

Tutorial	Difficulty	Time	Description
29: UI Integration Intro (./29_ui_integration_intro.md)	Intermediate	1.5 hours	Frontend integration fundamentals
30: Next.js ADK Integration (./30_nextjs_adk_integration.md)	Intermediate	2 hours	React chat interfaces with CopilotKit
31: React/Vite ADK Integration (./31_react_vite_adk_integration.md)	Intermediate	2 hours	Modern React development with Vite
32: Streamlit ADK Integration (./32_streamlit_adk_integration.md)	Beginner	1.5 hours	Rapid prototyping with Streamlit

🔗 External Integrations (Communication & Collaboration)

Connect your agents with external platforms and services.

✓ Integration Completed Tutorials

Tutorial	Difficulty	Est. Time	Description
33: Slack ADK Integration (./33_slack_adk_integration.md)	Intermediate	2.5 hours	Slack bot development and integration
34: PubSub ADK Integration (./34_pubsub_adk_integration.md)	Advanced	2.5 hours	Event-driven architectures with PubSub

Learning Paths

Quick Start Path (2-3 hours)

For complete beginners who want to see ADK in action quickly:

1. **Tutorial 01** ([./01_hello_world_agent.md](#)) - Hello World Agent
2. **Tutorial 02** ([./02_function_tools.md](#)) - Function Tools
3. **Tutorial 03** ([./03_openapi_tools.md](#)) - OpenAPI Tools

Builder Path (2-3 Days)

Comprehensive foundation for building production agents:

1. Foundation Track (Tutorials 01-12)
2. Advanced Workflows (Tutorials 13-21)
3. Choose specialization: UI Integration (Tutorials 29-30) OR External Integrations (Tutorials 33-34)

Production Path (3-4 Days)

Enterprise-ready agent development:

1. Builder Path (complete)
2. Production Ready Track (Tutorials 22-28)
3. Choose deployment: AgentSpace OR Custom Infrastructure

Tutorial Status Legend

-  **Completed:** Fully implemented with working code examples (34/34)

Quick Navigation

By Difficulty:

- [Beginner Tutorials](#) (#-foundation-track-beginner-friendly)
- [Intermediate Tutorials](#) (#-advanced-workflows-intermediate-to-advanced)
- [Advanced Tutorials](#) (#-production-ready-enterprise-deployment)

By Category:

- [Agent Fundamentals](#) (#-foundation-track-beginner-friendly)
- [Workflow Orchestration](#) (#-advanced-workflows-intermediate-to-advanced)
- [UI Development](#) (#-ui-integration-frontend-development)
- [External Integrations](#) (#-external-integrations-communication--collaboration)

Contributing

Found an issue or want to contribute? Check out our [GitHub repository](https://github.com/raphaelmansuy/adk_training) (https://github.com/raphaelmansuy/adk_training) and join the community!

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