

Microsoft Agent Framework - Workflow

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Agenda

- What is Microsoft Agent Framework?
- Workflows vs Agents
- Sequential Workflow
- Concurrent Workflow
- Human-In-The-Loop Workflow
- Demo, Takeaways, and Q &A

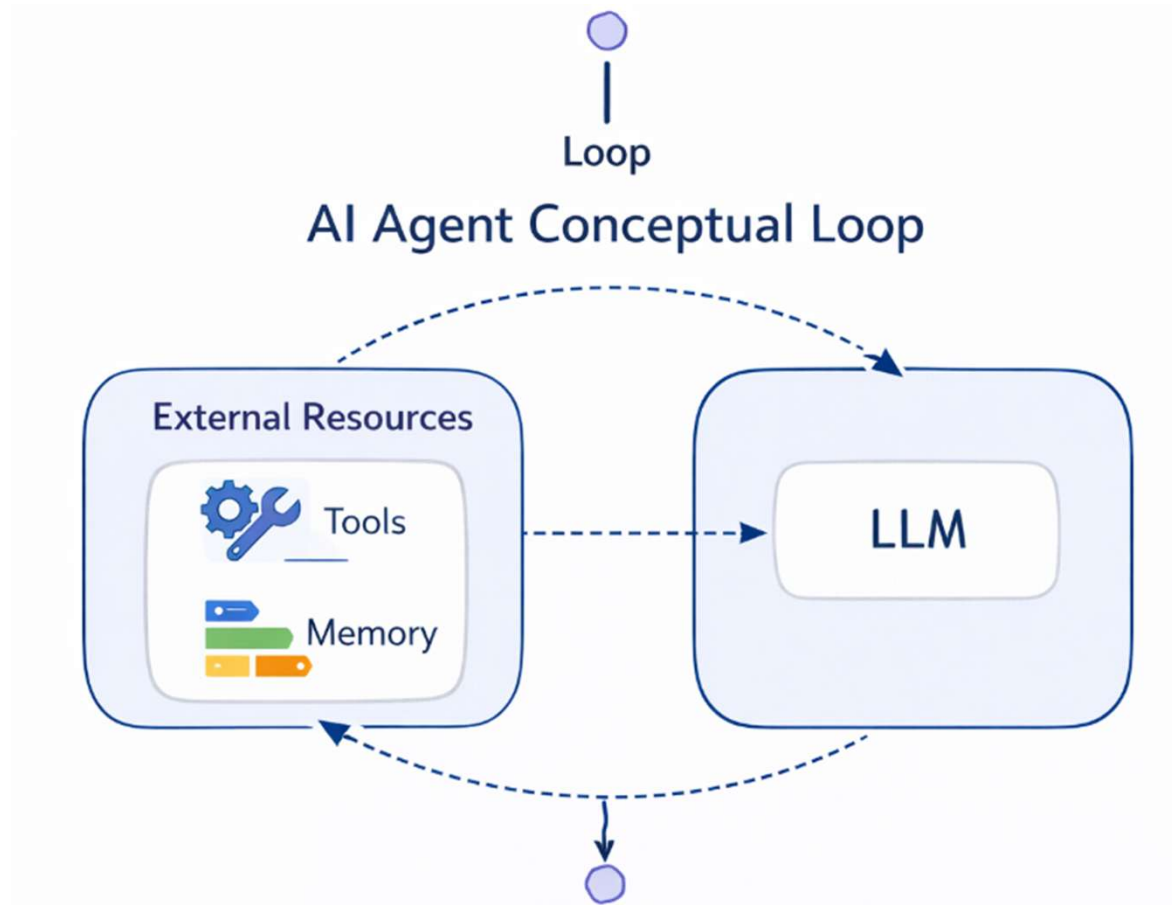
What is Microsoft Agent Framework?

- Build AI agents and orchestrate them in workflows
- Supports .NET & Python
- Type-safe, graph-based workflows

Agents vs Workflows

- Agents: LLM-driven
- Workflows: Predefined execution graphs
- Explicit control over logic

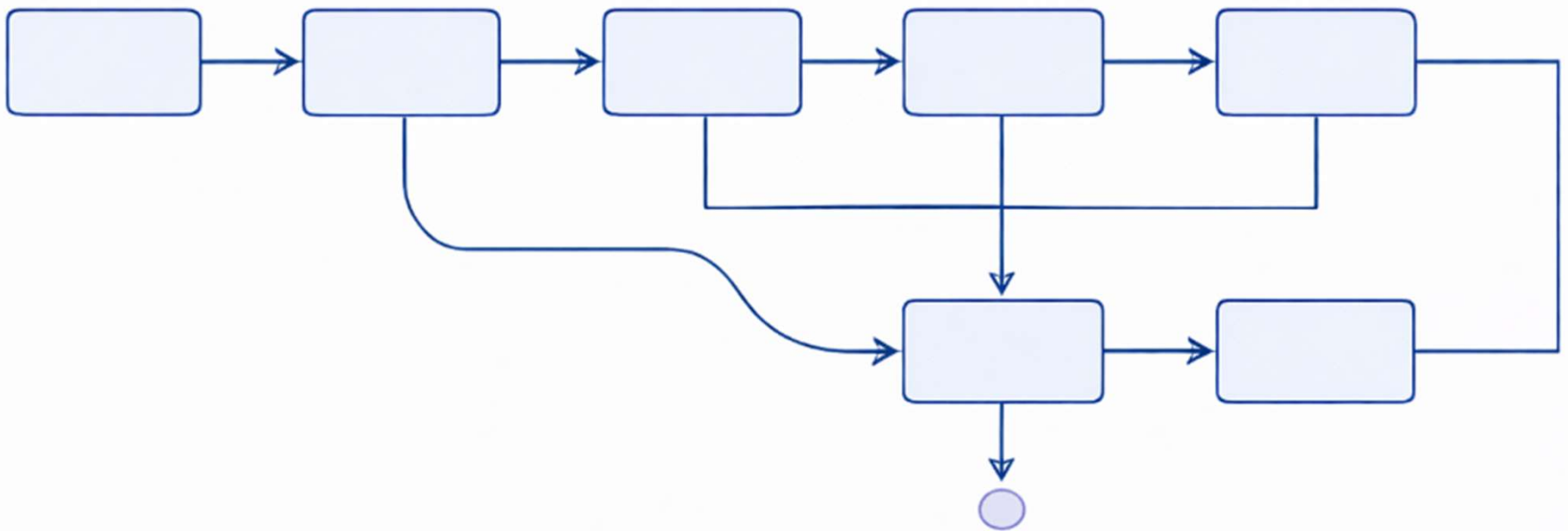
AI Agent Flow



Core Concepts

- Executors
- Edges
- Workflow Graph

Workflow Orchestration



End-to-End AI Workflow Orchestration



Why use Workflows instead of Pure Agents?

- Predictable execution
- Observability
- Compliance
- Deterministic paths
- Enterprise governance

Sequential Workflow

- Steps run one after another
- Example: Uppercase ->Reverse
- Uses WorkflowBuilder

Concurrent Workflow

- Parallel execution
- Fan-out / Fan-in
- Multiple agents run at once

Agents in Workflows

- Agents act as executors
- Perform intelligent tasks
- Support human-in-the-loop

Branching & Human-in-the-loop

- Conditional execution paths based on workflow state
- Decision nodes route tasks dynamically
- Human approval or input at critical steps
- AI resumes execution after human response
- Supports compliance, validation, and exception handling

Checkpointing & Resuming

- Save workflow state
- Resume long-running tasks

Demo

- Demo: Orchestrating AI with Deterministic Workflows
 - Sequence
 - Concurrent
 - Human-in-the-loop

Key Takeaways

- Type-safe workflow orchestration
- Flexible execution patterns (sequential, concurrent, branching, human-in-the-loop)
- Enterprise-ready for production systems
- Powerful AI + workflow integration
- Built for complex automation

Reference

- <https://learn.microsoft.com/en-us/agent-framework/user-guide/workflows/overview>

Thank you for your time and trust!

Boston Azure AI – Dev Day