AI Agents

LangChain Agents: Quickstart

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Goal of an AI Agent

- To use an LLM Model as a reasoning engine to determine which actions to take and in which order.
    - LLM App with a loop.

Key concepts

- AgentAction.
- AgentFinish.
- Intermediate Steps.
- Agent inputs.
- Agent outputs.
- AgentExecutor.
  - The runtime for an agent.
- Tools.
- Toolkits.

Agent Types

- General tool calling agent.
- OpenAI tool calling agent.
- OpenAI function calling agent.
- XXL agent.
- Structured chat agent.
- JSON chat agent.
- ReAct agent.
- Self-ask with search agent.

Agent tools

- Agents are only as good as the tools they have.
- Quickstart on tools.
- LangChain's Built-in Tools.
- Quickstart on toolkits.
- LangChain's Built-in Toolkits.
- How to build custom tools.
- How to use LC tools as OpenAI's functions.

LangChain Agent's Quickstart

- Setup.
- Built-in tool: Online Search with Tavily.
- RAG tool.
- Custom tool.
- List of tools.
- Agent creation.

Adding memory to the agent

- Basic agents are stateless: without memory of previous interactions.
- How to make our agent remember previous interactions:
  - Message by message.
  - Or automatically.

Basic agent operations: How-To Guides

- How to build an agent with custom tool and memory.
- How to add streaming.
- How to return structured output.
- How to run an agent as an iterator.
- How to handle parsing errors.
- How to access intermediate steps.
- How to cap the max number of iterations.
- How to add timeouts for agents.