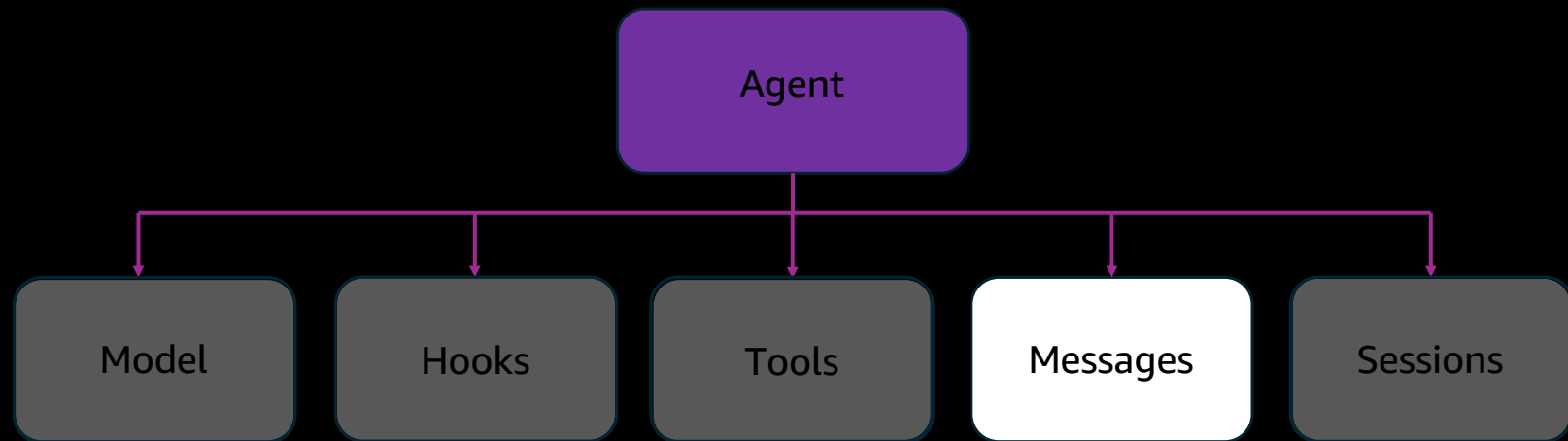**05** Conversation and Session Management

Agenda

- Understand message management in Strands
- Implement conversation management strategies
- Work with sessions for state persistence
- Handle context window limitations

Messages in Strands Agents

Agent Messages = The Conversation Memory

User: "What time is it?"
Assistant: "I'd be happy to help…"
Tool Call: *current_time*
Tool Result: "Found time.."
Assistant: "The current time is.."

"Messages are your agent's complete memory of the conversation"

Managing Message Context

As conversations grow:

X Token limits hit

X Performance degrades

X Older context becomes less relevant

X Maintaining logical flow and preserving information

Conversation Management

Three Built-In Management Strategies

Conversation Management

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SlidingWindowConversationManager
- Drop oldest
- (fixed window)
- *Default*

Conversation Management

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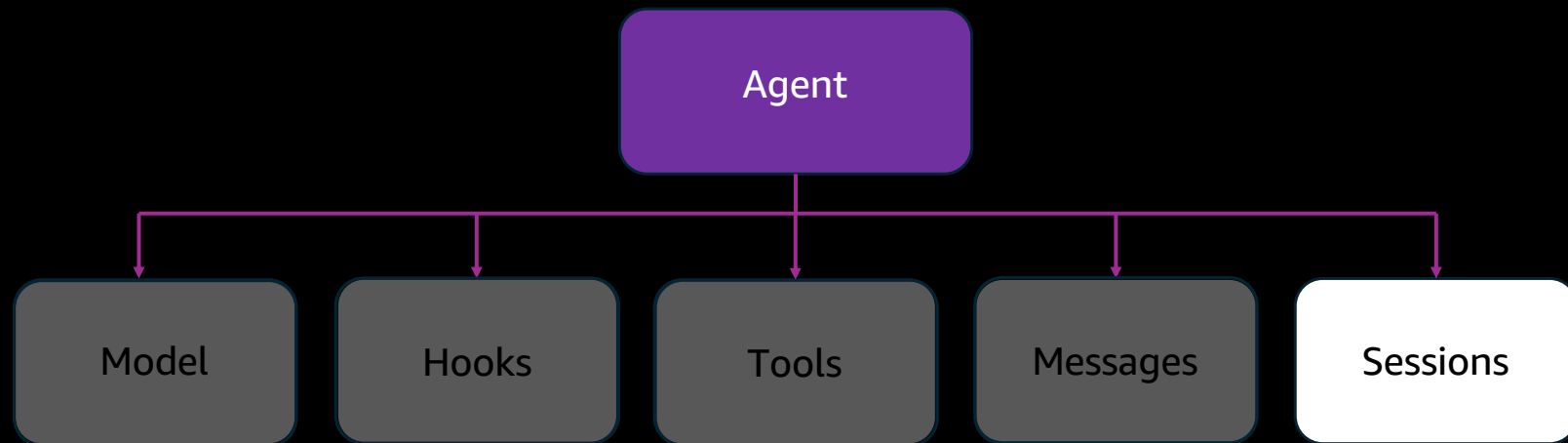
SummarizingConversationManager
- Summarize old
- (preserve key)

NullConversationManager
- Keep everything
- (short chats)

Session Management

Sessions

Session (user-123)
```
├──── Conversation History
│     ├──── "Hello!" (user message)
│     ├──── "Hi there!" (assistant message)
│     └──── Tool calls & results
├──── Agent State
│     ├──── user_preferences: {"theme": "dark"}
│     ├──── action_count: 5
│     └──── last_login: "2025-01-15"
├──── Conversation Manager State
│     └──── window_size: 10
└──── Metadata
      ├──── session_id: "user-123"
      ├──── created_at: "2025-01-15T10:00:00Z"
      └──── updated_at: "2025-01-15T10:30:00Z"
```

Demo

Example: Sessions, State, Conversations

Do you remember my name?

User

Agent

FileSessionManager

Session (user-123)
├── **Conversation History**
│   ├── "Hello!" (user message)
│   ├── "Hi there!" (assistant message)
│   └── Tool calls & results
├── **Agent State**
│   ├── user_preferences: {"theme": "dark"}
│   ├── action_count: 5
│   └── last_login: "2025-01-15"
├── **Conversation Manager State**
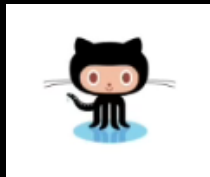│   └── window_size: 10
└── **Metadata**
    ├── session_id: "user-123"
    ├── created_at: "2025-01-15T10:00:00Z"
    └── updated_at: "2025-01-15T10:30:00Z"

Key Takeaways

- Context window management strategies
- Flexible configuration
- Managing Memory and Sessions

Where's the code?

https://s12d.com/advanced-strands-agents