Build Intelligent AI Agents with Strands Agents SDK

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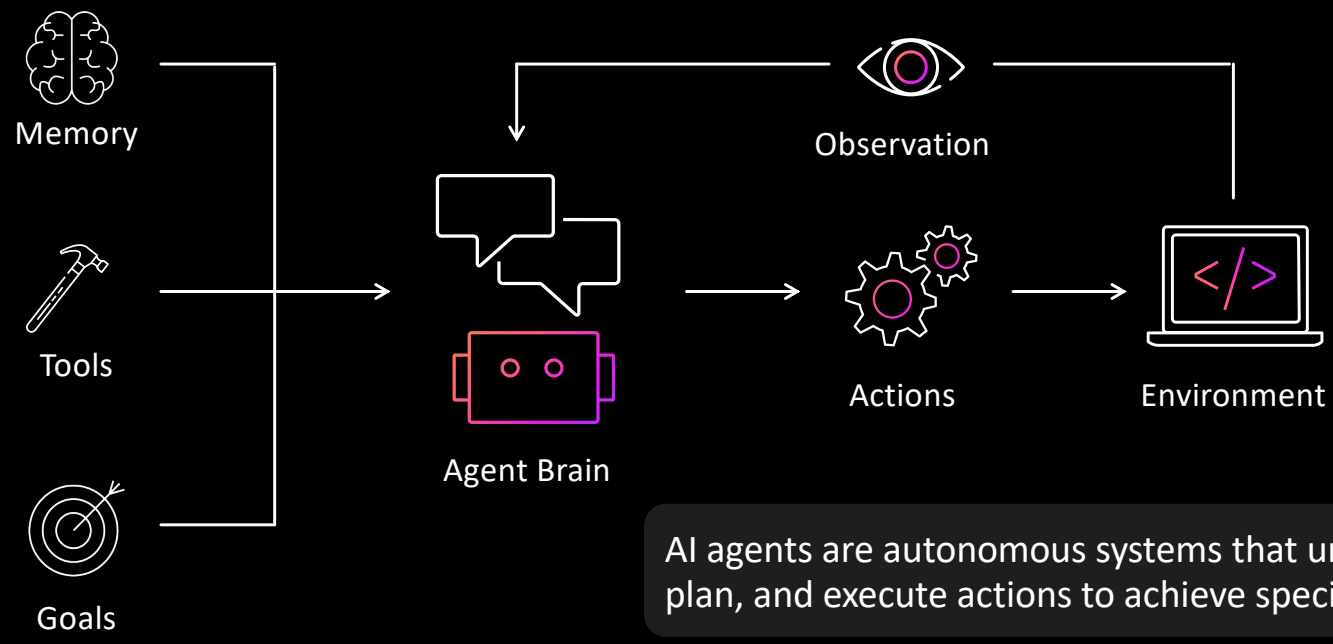
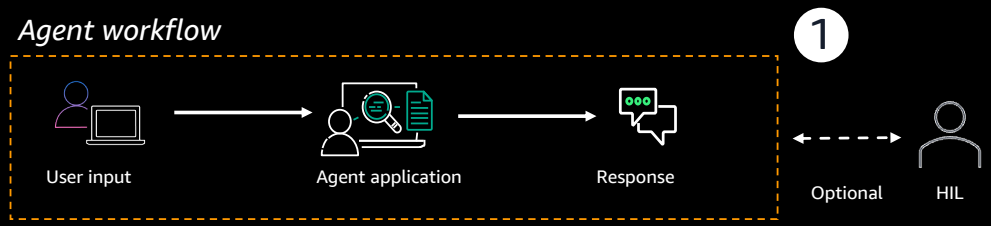
What is Agentic AI?



AI agents are autonomous systems that understand, plan, and execute actions to achieve specific goals.

What does an agentic system look like?



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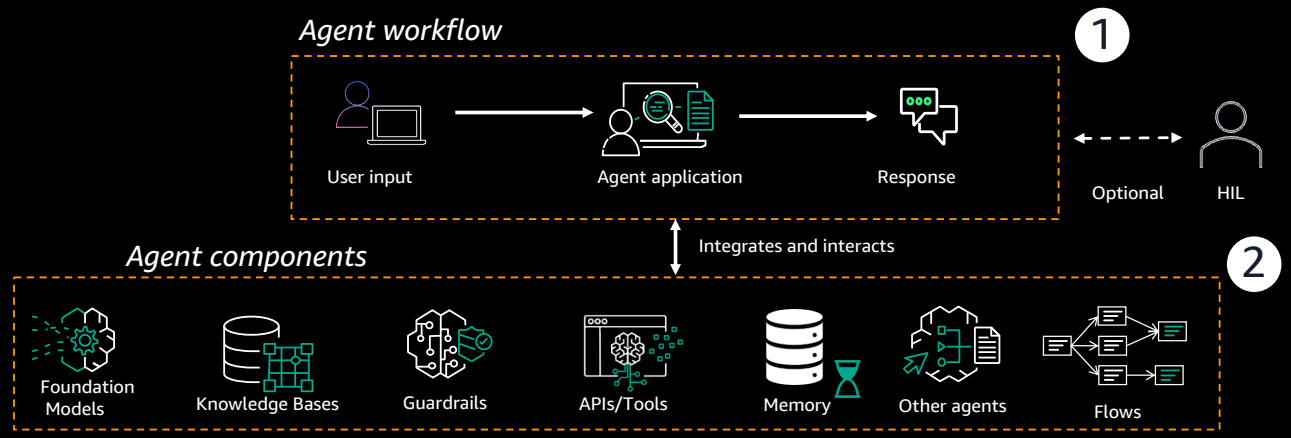

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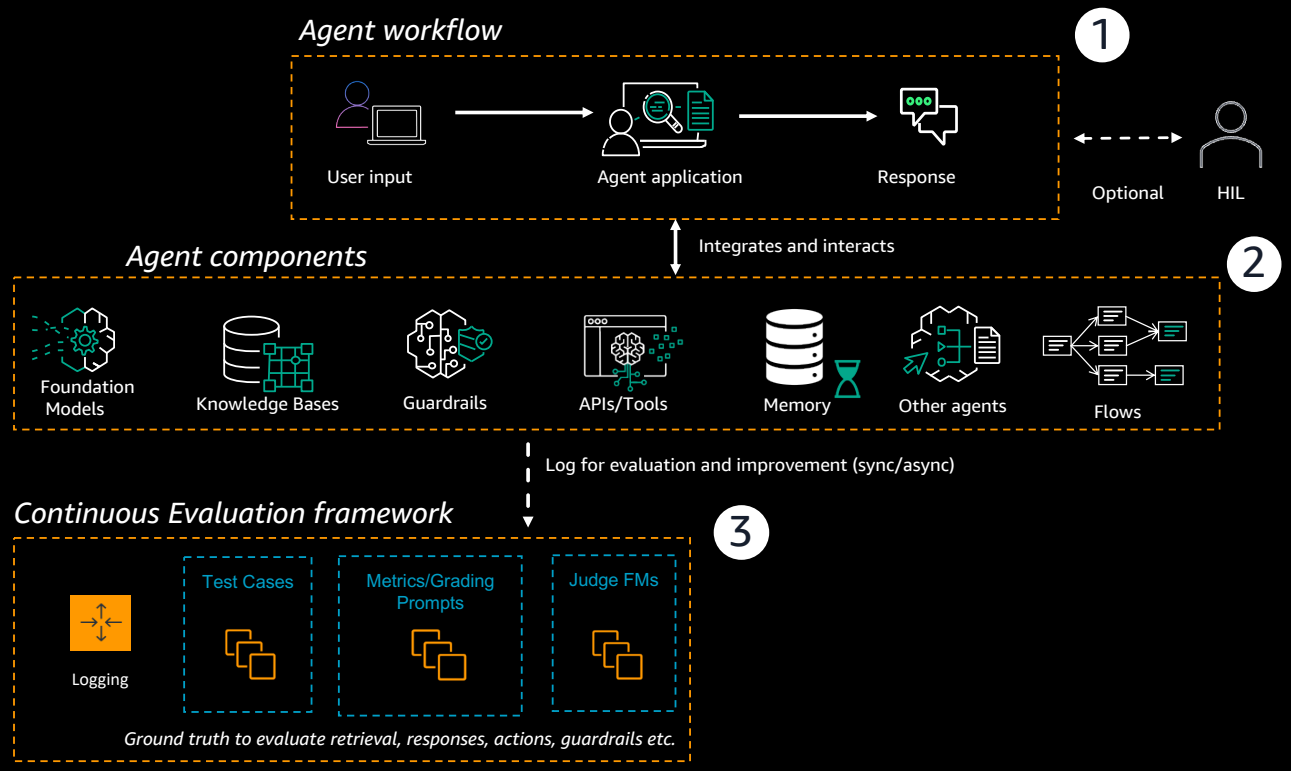

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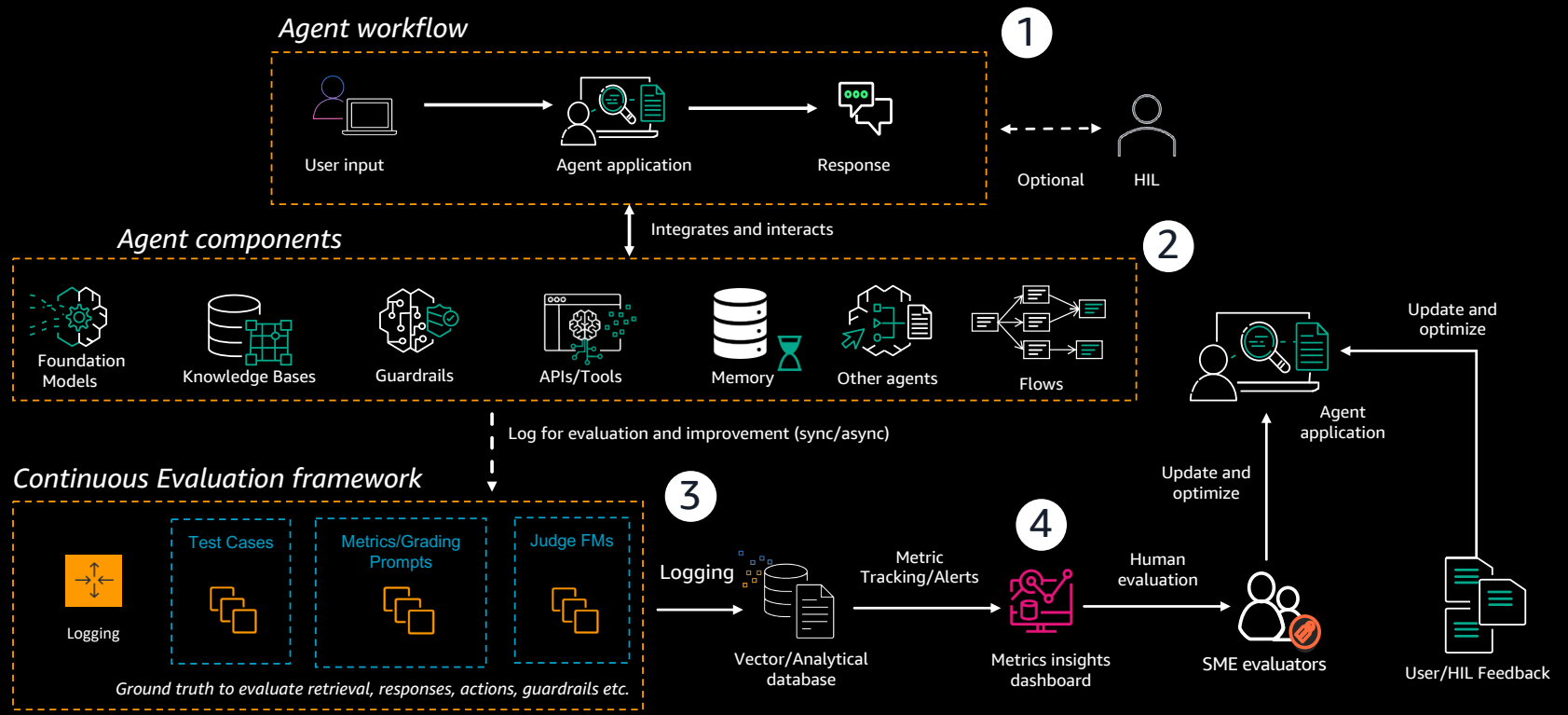


< Hello, World! >

Strands Agents

- Strands Agents is an open source Python SDK for building agents using just a few lines of code
- Supports MCP and A2A protocols

```python
from strands import Agent


# Create an agent with default settings
agent = Agent()

# Ask the agent a question
response = agent("What is mcp?")
```

Model agnostic

- Model Providers
  - Amazon Bedrock
  - Anthropic
  - LiteLLM
  - LlamaAPI
  - MistralAI
  - Ollama
  - OpenAI
  - SageMaker
  - Writer
  - Cohere
  - Custom Providers

```python
from strands import Agent
from strands.models import BedrockModel

# Create a Bedrock model instance
bedrock_model = BedrockModel(
    model_id=="us.amazon.nova-premier-v1:0",
    temperature=1
)

# Create an agent using the BedrockModel instance
agent = Agent(model=bedrock_model)

# Ask the agent a question
response = agent("What is Amazon Bedrock?")
```

Pre-built Tools

```python
from strands import Agent
from strands_tools import current_time, http_request

# Create an agent with default settings
agent = Agent(
    system_prompt="""You are an assistant""",
    tools=[current_time, http_request]
)

# Test the agent with a query that might benefit from tools
query = """
Answer the following questions:
1. What is the current time in UTC?
2. Based on Wikipedia, which CS concept can be traced back to Paul Bachmann?
"""

response = agent(query)
```

Custom Tools

```python
from strands import Agent, tool

@tool
def hello_world() -> str:
    """Function to say the magic word"""
    return "Hello, world!"

def main():
    agent = Agent(tools=[hello_world])
    agent("What is the magic word ?")

if __name__ == "__main__":
    main()
```

Model Context Protocol (MCP)

```python
from strands import Agent
from strands.tools.mcp import MCPClient

from strands_tools import current_time
from mcp import stdio_client, StdioServerParameters


# MCP Server
mcp_client = MCPClient(
    lambda: stdio_client(
        StdioServerParameters(
            command="uvx",
            args=["awslabs.aws-documentation-mcp-server@latest"]
        )
    )
)

with mcp_client:
    # Create an agent with default settings
    agent = Agent(
        tools=[current_time] + mcp_client.list_tools_sync()
    )

    agent("List your tools.")
```

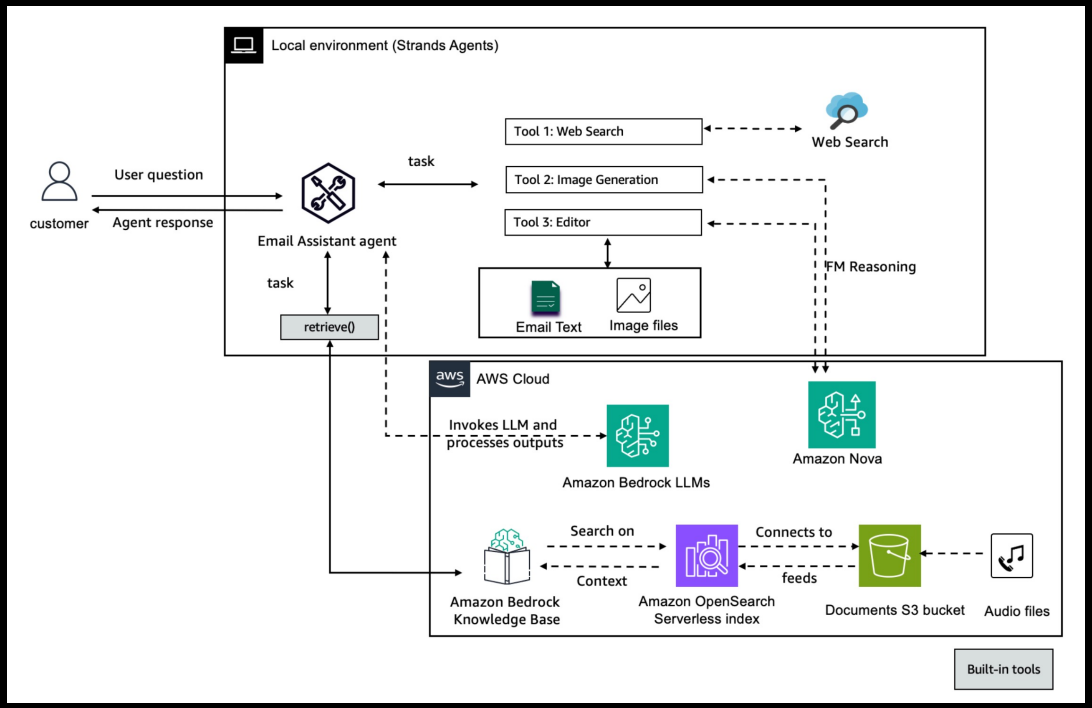
Agent-to-Agent (A2A)

```python
from strands_tools.calculator import calculator
from strands import Agent
from strands.multiagent.a2a import A2AServer

logging.basicConfig(level=logging.INFO)

# Create a Strands agent
strands_agent = Agent(
    name="Calculator Agent",
    description="A calculator agent that can perform basic arithmetic operations.",
    tools=[calculator],
    callback_handler=None
)

# Create A2A server (streaming enabled by default)
a2a_server = A2AServer(agent=strands_agent)

# Start the server
a2a_server.serve()
```

Ideas

- 01-restaurant-assistant
- 02-scrum-master-assistant
- 03-aws-assistant-mcp
- 04-startup-advisor-mcp
- 05-personal-assistant
- 06-code-assistant
- 07-whatsapp-fintech-sample
- 08-data-warehouse-optimizer
- 09-finance-assistant-swarm-agent
- 10-multi-modal-email-assistant-agent
- 11-personal-finance-assistant
- 12-medical-document-processing-assistant
- 13-aws-audit-assistant
- 14-research-agent
- 15-custom-orchestration-airline-assistant

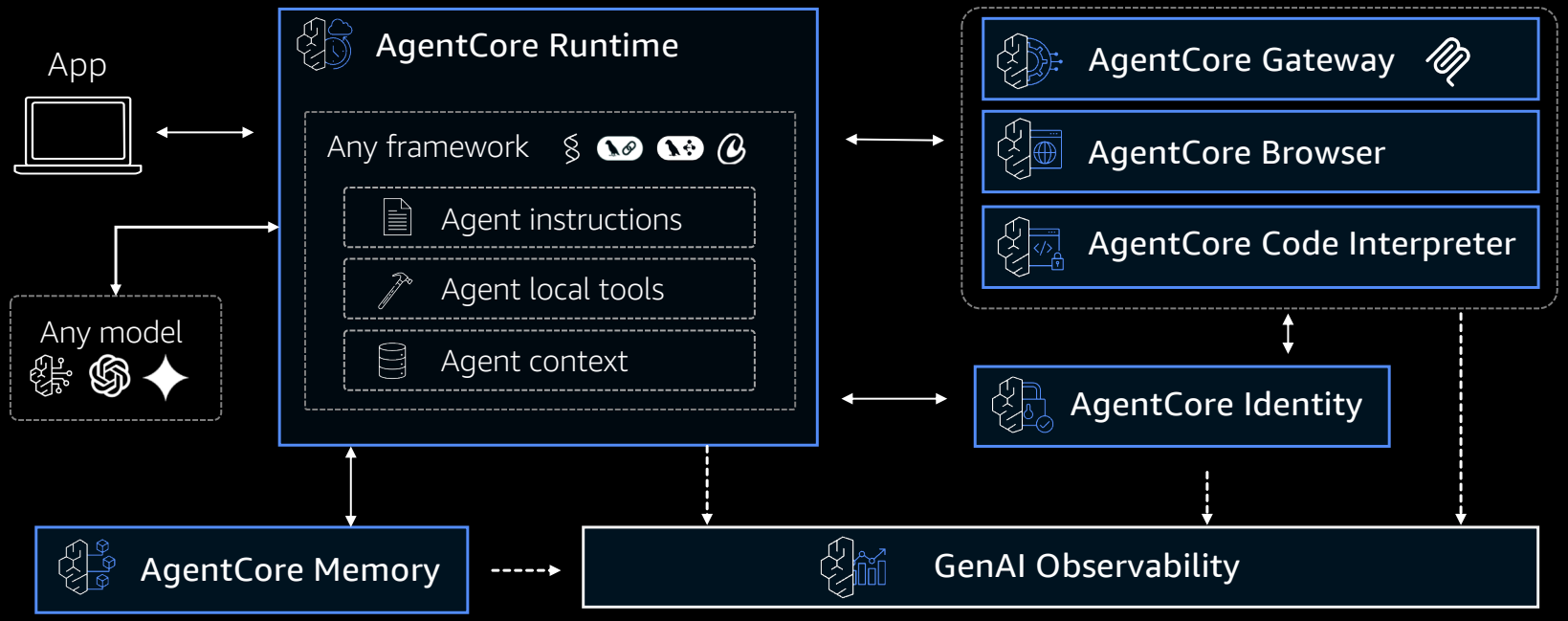
📧🔍 Email Assistant with RAG and Image Generation



What about deploying Agents?

AgentCore for production-ready agents

Deploy and operate highly capable agents securely, at scale using any framework and model



Re:Invent 2025?

Build and deploy AI agents using Kiro and Amazon Bedrock AgentCore (DEV331)

Model Context Protocol (MCP) provides the foundation for building AI agents and code assistants that connect to your data, infrastructure, and services. Whether developing enterprise customer service AI or code that runs on AWS, MCP brings together intelligence and integration. The session demonstrates how Kiro accelerates MCP server and agent development, while exploring Amazon Bedrock AgentCore for AWS deployment. Developers will learn MCP implementation patterns and gain practical experience building and deploying production-ready MCP servers and clients.

Erik Hanchett, Senior Developer Advocate, Amazon Web Services
Du'An Lightfoot, Sr. Developer Advocate, AWS

Type: Code talk

Level: 300 – Advanced

Features: Interactive

Topic: Artificial Intelligence, Developer Tools

Area of Interest: Automation, Agentic AI, DevOps

Segment: Developer Community, Digital Native Business, Independent Software Vendor

Role: Developer / Engineer, Solution / Systems Architect, Tech Explorer

Services: Amazon Bedrock, Kiro

Wednesday, Dec 3 | 10:00 AM - 11:00 AM PST
| MGM | Level 3 | Chairman's 370

Build observable AI agents with Strands, AgentCore, and Datadog (sponsored by Datadog) (AIM233-S)

Operational visibility is essential for running AI agents in production. It turns opaque LLM behavior into measurable, improvable workflows. In this session, we'll walk through building a Strands-based agent, deploying it on Amazon Bedrock AgentCore, and processing telemetry with Datadog LLM Observability. You'll see end-to-end traces across prompts, tool calls, and multi-agent interactions; improve response quality; tune performance and cost; and apply security and privacy guardrails. Leave with best practices and a runnable reference for production. This presentation is brought to you by Datadog, an AWS Partner.

Du'An Lightfoot, Sr. Developer Advocate, AWS
Kunal Batra, Datadog

Type: Breakout session

Level: 200 – Intermediate

Features: AWS Partners, Lecture-style

Topic: Artificial Intelligence, Developer Tools

Area of Interest: Monitoring & Observability, Agentic AI

Industry: Software & Internet

Role: Developer / Engineer, DevOps Engineer

Services: Amazon Bedrock

Wednesday, Dec 3 | 2:30 PM - 3:30 PM PST
| Venetian | Level 3 | Lido 3006

Resources

https://s12d.com/vbrownbag-2025

Demo

Thank you!

Du’An Lightfoot

@labeveryday