Training: AWS
Building Agentic AI with Amazon Bedrock AgentCore

TRAINING GOALS:

In this course, you'll explore the core principles and strategies for designing Agentic AI systems using AWS services. You'll learn how Agentic AI differs from traditional conversational systems, and how to use tools like Strands Agents SDK, and Amazon Bedrock AgentCore to build autonomous, goal-driven solutions that solve real-world problems.

Course objectives

In this course learners will:

- Define agentic AI characteristics and differentiate them from traditional AI systems.
- Identify the core agent components and their interactions.
- Describe how Bedrock AgentCore services support agentic AI.
- Deploy agents by using supported frameworks with AgentCore Runtime.
- Describe the core features of AgentCore Runtime.
- Configure serverless execution with session isolation.
- Configure AgentCore Identity for enterprise security requirements.
- Create policies to secure agent tool calls using AgentCore Policy.
- Implement secure token management and permission delegation.
- Ensure compliance with data governance and audit requirements.
- Implement different tool integration patterns, including built-in tools and protocol-based tools.
- Design and deploy Model Context Protocol (MCP) servers and clients for extensible agent capabilities.
- Describe common authentication patterns for agent tool use.
- Configure AgentCore Gateway components for secure and authorized tool access.
- Implement agentic memory patterns for different use cases.
- Configure AgentCore Memory operations for context-aware development.
- Optimize memory performance for production workloads.
- Configure AgentCore Observability for production monitoring.
- Implement Amazon CloudWatch integration and specialized tracing.
- Describe the core features of AgentCore Evaluations.

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- Integrate agentic systems with production APIs and services.
- Design deployment strategies for production environments.
- Assess production readiness and establish continuous improvement processes

Intended audience

- Software developers seeking intermediate knowledge for building advanced agentic AI systems
- Technical professionals exploring AI capabilities and interested in building advanced agentic AI systems.
- Development teams building advanced agentic AI solutions.

CONSPECT:

- Module 1: Foundations of Agentic AI Patterns
  - Agent building blocks
  - Amazon Bedrock AgentCore introduction
- Module 2: AgentCore Runtime and Framework Integration
  - Supported frameworks and implementation
  - AgentCore Runtime overview
  - Infrastructure and deployment
- Module 3: Security and Identity Management
  - Security and identity management
  - Securing your agents with AgentCore Identity
- Module 4: Tool Integration and AgentCore Gateway
  - Amazon Bedrock AgentCore Policy
  - Built-in tools and custom integration
  - Model Context Protocol (MCP)
  - AgentCore Gateway
  - Implementing AgentCore Gateway
  - Amazon Bedrock AgentCore Policy
- Module 5: Agentic Memory Implementation
  - Agentic memory core concepts
  - AgentCore Memory
  - Securing AgentCore Memory
  - Hands-on Lab: Enhance and Scale Agents with Amazon Bedrock AgentCore (demo only available at launch, labs released shortly after)

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- Module 6: Production Monitoring and Observability
  - Monitoring agents with AgentCore Observability
  - Verifying agent performance with AgentCore Evaluation
- Module 7: Course Wrap-up
  - Next steps and additional resources
  - Course summary

REQUIREMENTS:

We recommend that attendees of this course have:

- Agentic AI Foundations

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by AWS (course completion).

TRAINER:

AWS Authorized Instructor (AAI)

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