

DEVELOPING GENERATIVE AI APPLICATIONS ON AWS

Duration: 2 Days **Course Code: GK910010**

Overview:

Learn to build and customize AI solutions by using Amazon Bedrock programmatically. In this advanced two-day course, software developers learn to build and customize AI solutions by using Amazon Bedrock programmatically. Through hands-on exercises and labs, participants will invoke foundation models through Amazon Bedrock APIs, implement Retrieval Augmented Generation (RAG) patterns with Amazon Bedrock Knowledge Bases and develop AI agents with tool integration. The course focuses on the practical implementation of prompt engineering techniques, responsible AI practices with Amazon Bedrock Guardrails, open-source framework integration, and architectural patterns for real-world business application.

Target Audience:

This course is intended for Software developers.

Prerequisites:

We recommend that attendees of this course have:

- Completed the Generative AI Essentials AWS instructor-led course
 - Intermediate-level proficiency in Python
 - Familiarity with AWS Cloud
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Content:

Day 1	Hands-on lab: Develop Conversation Patterns with Amazon Bedrock APIs	Hands-on lab: Evaluating Retrieval Augmented Generation (RAG) Applications
Module 1: Exploring Components of Generative AI Applications on AWS	Day 2	Module 8: Implementing Responsible AI
■ Understanding generative AI concepts ■ Identifying AWS generative AI stack components ■ Designing generative AI application components	Module 5: Customizing Generative AI Responses with RAG	■ Understanding responsible AI ■ Mitigating bias and addressing prompt misuses ■ Using Amazon Bedrock Guardrails
Module 2: Programming with Amazon Bedrock	■ Implementing Retrieval Augmented Generation (RAG) ■ Using Amazon Bedrock Knowledge Bases	Hands-on lab: Securing Generative AI Applications Using Bedrock Guardrails
■ Guiding model response generation ■ Using Amazon Bedrock programmatically	Hands-on lab: Develop Retrieval Augmented Generation (RAG) Applications with Amazon Bedrock Knowledge Base	Module 9: Using Tools and Agents in Generative AI Applications
Hands-on lab: Develop with Amazon Bedrock APIs	Module 6: Integrating Open Source Frameworks with Amazon Bedrock	■ Using tools ■ Understanding AI agents ■ Understanding open source agentic frameworks ■ Understanding agent interoperability
Hands-on lab: Develop Streaming Patterns with Amazon Bedrock APIs	■ Invoking a foundation model in Amazon Bedrock using LangChain ■ Using LangChain for context-aware responses	Module 10: Developing Amazon Bedrock Agents
Module 3: Applying Prompt Engineering for Developers	Hands-on lab: Develop a Generative AI Application Pattern using Open Source Frameworks and Amazon Bedrock Knowledge Bases	■ Implementing Amazon Bedrock Flows ■ Designing Amazon Bedrock Agents ■ Developing Amazon Bedrock Inline Agents ■ Designing multi-agent collaboration ■ Using Amazon Bedrock AgentCore
■ Introducing prompt engineering ■ Introducing prompt techniques ■ Optimizing prompts for better result	Module 7: Evaluating Generative AI Application Components	Hands-on lab: Developing Amazon Bedrock Agents Integrated with Amazon Bedrock Knowledge Bases and Guardrails
Module 4: Using Amazon Bedrock APIs in Common Architectures	■ Evaluating application components ■ Evaluating model output ■ Evaluating RAG output ■ Optimizing latency and cost	
■ Implementing architecture patterns with Amazon Bedrock APIs ■ Exploring common use cases ■ Adding conversational memory to extend context		

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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