

## DEVELOPING GENERATIVE AI APPLICATIONS ON AWS

**Duration: 2 Days**    **Course Code: GK910010**    **Delivery Method: Virtual Classroom**

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### 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

### Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

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### Target Audience:

This course is intended for Software developers.

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### 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
<ul style="list-style-type: none"><li>Understanding generative AI concepts</li><li>Identifying AWS generative AI stack components</li><li>Designing generative AI application components</li></ul>	Module 5: Customizing Generative AI Responses with RAG	<ul style="list-style-type: none"><li>Understanding responsible AI</li><li>Mitigating bias and addressing prompt misuses</li><li>Using Amazon Bedrock Guardrails</li></ul>
Module 2: Programming with Amazon Bedrock	<ul style="list-style-type: none"><li>Implementing Retrieval Augmented Generation (RAG)</li><li>Using Amazon Bedrock Knowledge Bases</li></ul>	Hands-on lab: Securing Generative AI Applications Using Bedrock Guardrails
<ul style="list-style-type: none"><li>Guiding model response generation</li><li>Using Amazon Bedrock programmatically</li></ul>	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	<ul style="list-style-type: none"><li>Using tools</li><li>Understanding AI agents</li><li>Understanding open source agentic frameworks</li><li>Understanding agent interoperability</li></ul>
Hands-on lab: Develop Streaming Patterns with Amazon Bedrock APIs	<ul style="list-style-type: none"><li>Invoking a foundation model in Amazon Bedrock using LangChain</li><li>Using LangChain for context-aware responses</li></ul>	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	<ul style="list-style-type: none"><li>Implementing Amazon Bedrock Flows</li><li>Designing Amazon Bedrock Agents</li><li>Developing Amazon Bedrock Inline Agents</li><li>Designing multi-agent collaboration</li><li>Using Amazon Bedrock AgentCore</li></ul>
<ul style="list-style-type: none"><li>Introducing prompt engineering</li><li>Introducing prompt techniques</li><li>Optimizing prompts for better result</li></ul>	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	<ul style="list-style-type: none"><li>Evaluating application components</li><li>Evaluating model output</li><li>Evaluating RAG output</li><li>Optimizing latency and cost</li></ul>	
<ul style="list-style-type: none"><li>Implementing architecture patterns with Amazon Bedrock APIs</li><li>Exploring common use cases</li><li>Adding conversational memory to extend context</li></ul>		

## Further Information:

For More information, or to book your course, please call us on 00 966 92000 9278

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