



AI Practitioner Certification - Thoughts

*Francisco Javier Moreno Diaz – GenAI
Assisted on Slides 2-4 and 13-16
fmorenod@gmail.com*

Comparison with SAA-C03

Focus shifts from “pure cloud infrastructure” to **AI, ML, and Generative AI**.

Scope includes:

- Fundamentals of AI/ML
- Generative AI concepts
- Applications of Foundation Models
- Responsible AI practices
- Security, compliance & governance in AI solutions

The certificate is **foundational-level**, aimed at enabling business / product / IT professionals to understand AI-driven solutions in AWS



Comparison in short

Dimension	SAA-C03	AIF-C01
Focus	Cloud architecture, resiliency, networking	AI/ML foundations, generative AI, foundation models
Typical questions	Scaling, storage, compute, HA	RAG, FM selection, responsible AI, use-case mapping
Technical depth	Infrastructure-heavy	Conceptual + applied AI services
Skills required	Design, VPC, IAM, distributed systems	Understanding models, prompting, AI ethics, service capabilities
Key services	EC2, RDS, VPC, ALB, S3	Bedrock, SageMaker, Kendra, Comprehend, Lex, Rekognition
Mindset	How to architect cloud workloads	How to apply AI safely & effectively

Conclusion:

- SAA = Build cloud architectures
- AIF-C01 = Understand and apply AI/ML capabilities

Services & concepts you must master

Generative AI / Foundation Models (e.g., tokens, embeddings, vectors, prompting)

Foundation model applications: e.g., RAG (retrieval-augmented generation), agents, multimodal models

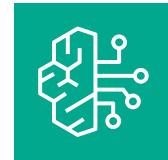
Lifecycle of ML/AI solution: data collection, model training, deployment, monitoring (MLOps concepts)

Amazon Bedrock

Access foundation models (LLMs, embeddings, image models)

Key features: Knowledge Bases, Agents, Guardrails, Model evaluation

Patterns: RAG, chatbots, structured extraction, image generation



Amazon Bedrock

Amazon SageMaker

ML lifecycle: training, inference, hosting

For AIF-C01: conceptual understanding only

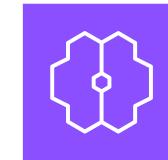


Amazon SageMaker AI

Amazon Kendra

Enterprise search, retrieval, semantic ranking

Critical for RAG architectures



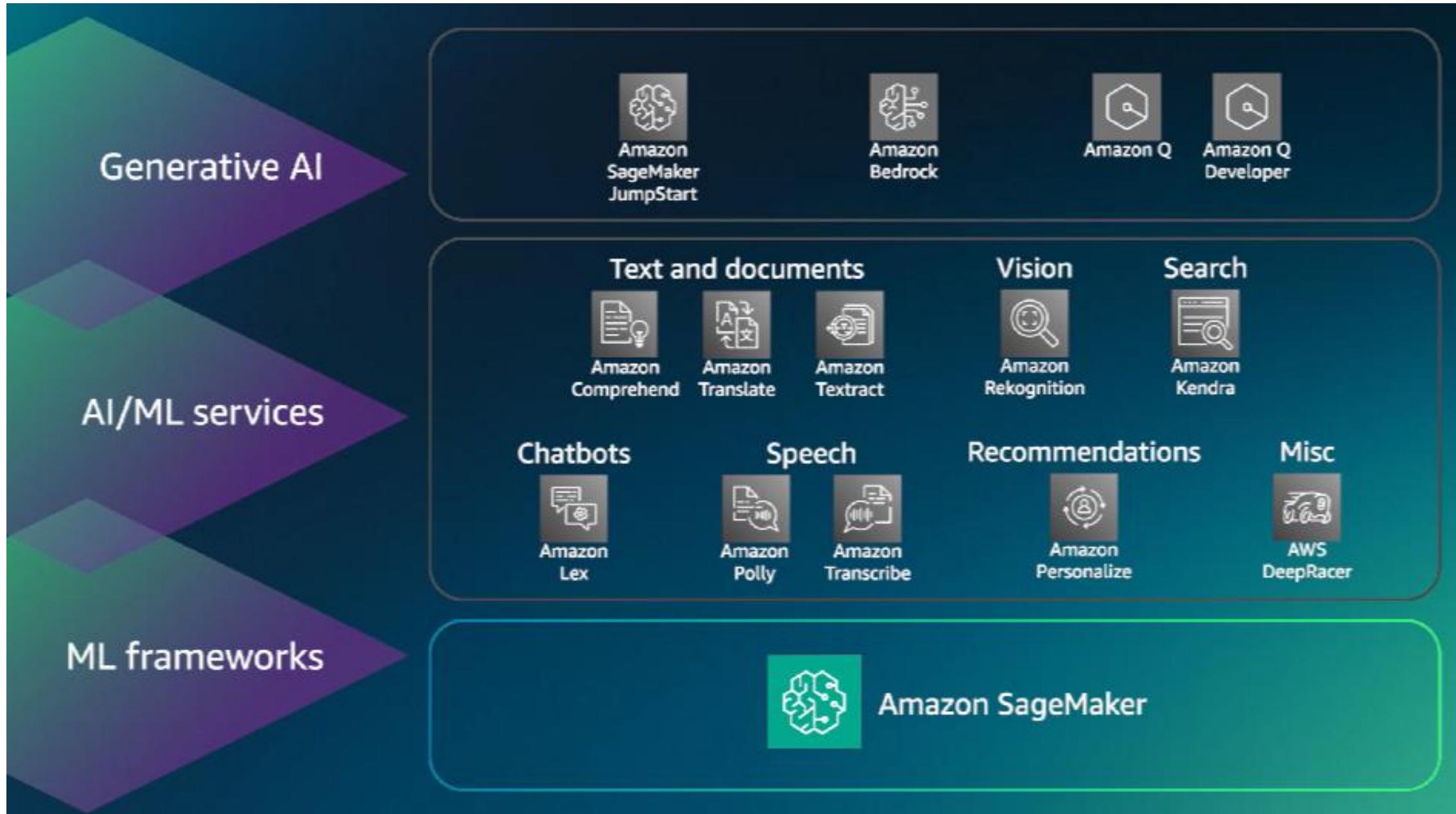
Amazon SageMaker

Others: Amazon Comprehend (NLP: sentiment, classification, entities, PII detection), Amazon Lex, Amazon Rekognition, Translate, Transcribe, Polly, Textract and Security Services: IAM, KMS, CloudTrail



Amazon Q

AWS AI/ML services stack



AIF-C01 Exam Guide

The exam also validates a candidate's ability to complete the following tasks:

- Understand AI, ML, and generative AI concepts, methods, and strategies in general and on AWS.
- Understand the appropriate use of AI/ML and generative AI technologies to ask relevant questions within the candidate's organization.
- Determine the correct types of AI/ML technologies to apply to specific use cases.
- Use AI, ML, and generative AI technologies responsibly.

Target candidate description

The target candidate should have up to 6 months of exposure to AI/ML technologies on AWS. The target candidate uses but does not necessarily build AI/ML solutions on AWS.

Recommended AWS knowledge

The target candidate should have the following AWS knowledge:

- Familiarity with the core AWS services (EC2, S3, Lambda and SageMaker) and AWS core services use cases
- Familiarity with the AWS shared responsibility model for security and compliance in the AWS Cloud
- Familiarity with IAM for securing and controlling access to AWS resources
- Familiarity with the AWS global infrastructure, including the concepts of Regions, AZ, and edge locations
- Familiarity with AWS service pricing models

Review
Description
and question
types



Generative AI Essentials - Course

Course objectives

In this course, you will learn to:

- Summarize generative AI concepts, methods, and strategies
- Discuss the appropriate use of generative AI and machine learning and their technologies
- Describe how to use generative AI responsibly and safely
- Recognize the types of generative AI solutions with specific use cases
- Explain implementation and project planning of generative AI to your organization



Generative AI Essentials - Outline

Module 1: Introducing Generative AI

- Generative AI explained
- Foundation models
- AWS generative AI services

Module 2: Exploring Generative AI Use Cases

- Identify suitable use cases
- Generative AI applications and use cases
- Explore generative AI use case scenarios
- Use case for class

Module 3: Essentials of Prompt Engineering

- Introduction to prompt engineering
- Prompt design best practices
- Advanced prompting strategies
- Model settings and parameters
- Lab: Optimizing Slogan Generation with Amazon Bedrock

Module 4: Responsible AI Principles and Considerations

- Introduction to responsible AI
- Core dimensions of responsible AI
- Generative AI considerations
- Lab: Implementing Responsible AI Principles with Bedrock Guardrails

Module 5: Security, Governance, and Compliance

- Security overview
- Adverse prompts
- Generative AI security services
- Governance
- Compliance

Module 6: Implementing Generative AI Projects

- Introduction – Generative AI application
- Define a use case
- Select a foundational model
- Improve performance
- Evaluate results
- Deploy the application
- Demo: Amazon Q Business



Module 7: Integrating Generative AI into the Development Lifecycle

- Introduction
- Lab: Capstone – Creating a Project Plan with Generative AI

Module 8: Course Wrap-up

Frequent Use-Case Pattern

- When to use generative vs classical ML vs search vs managed services (vision, text, etc.).
- Prompt engineering concepts: Zero-shot, few-shot, in-context learning, etc.
- Use-cases: text generation, image/video generation, chatbots, summarization, code generation.
- Foundation model selection and customization: cost vs performance, fine-tuning vs in-context learning.
- RAG (Retrieval-Augmented Generation): Bedrock Knowledge Bases, Kendra as vector/store retrieval engine
- Responsible AI & governance: bias (minimize), fairness, hallucinations, model audit (parameters).
- Security, compliance, governance, data privacy in AI solutions.



Types of questions & how to answer them

Read the problem and identify:

- The **business goal**
- The **type of content** (text, images, documents, conversations)
- Whether it fits **generative AI, classical ML, or search**

Because, the focus of this examen is to focus on business value, use-case fit, service capabilities, and responsibility/gov aspects.

Eliminate answers that:

- Require heavy ML engineering (i.e. math, or hyperparameter tuning, not in scope)
- Suggest training models from scratch
- Use infrastructure-heavy services (EC2, EKS, EMR)

Prefer:

- Managed AI services
- Bedrock for generative tasks
- Kendra + Bedrock RAG for retrieval needs
- Services that reduce operational burden

- Check**
- Comparisons: Confusing Kendra (search) with Comprehend (NLP) or Selecting SageMaker when a managed generative service exists.
 - Forgetting responsible AI concepts (major part of the exam) or Not considering privacy, data governance, and human-in-the-loop.

Resources

Official AWS AIF-C01 Exam Guide

https://d1.awsstatic.com/training-and-certification/docs-ai-practitioner/AWS-Certified-AI-Practitioner_Exam-Guide.pdf

AWS Skill Builder – Free Generative AI Courses

Includes “Generative AI Essentials for Business Leaders” and “Introduction to Generative AI with AWS”

<https://explore.skillbuilder.aws/learn/public/learning-plans/182/generative-ai-essentials-learning-plan>

AWS Bedrock – Official Developer Guide

<https://docs.aws.amazon.com/bedrock/latest/userguide/what-is-bedrock.html>

AWS Bedrock Workshops (Free Hands-On Labs)

<https://catalog.workshops.aws/bedrock>

Amazon Kendra Workshop

<https://catalog.workshops.aws/kendra>

Amazon SageMaker JumpStart (Free Models & Examples): Conceptual intro to ML lifecycle for AIF-C01

<https://docs.aws.amazon.com/sagemaker/latest/dg/jumpstart-welcome.html>

Resources

AWS Responsible AI Resources: Responsible AI principles, governance, fairness, data protection

<https://aws.amazon.com/machine-learning/responsible-ai/>

AWS Whitepaper – Introduction to Generative AI on AWS

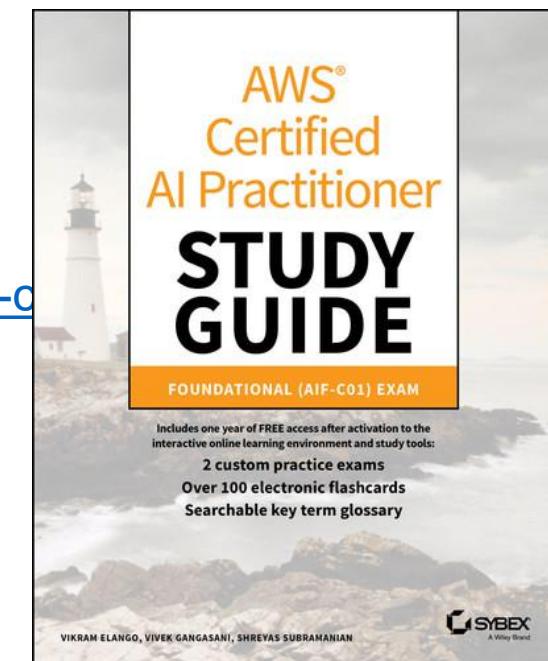
<https://docs.aws.amazon.com/whitepapers/latest/introduction-generative-ai-aws/introduction-generative-ai-aws.pdf>

AWS “Build On Generative AI” YouTube Playlist (Free)

https://www.youtube.com/playlist?list=PLhr1KZpdzukf1HABU3N7V_BaBly7bPZ7W

O'Reilly Books

<https://learning-oreilly-com.ez.unisabana.edu.co/library/view/aws-c01-developer/9781394274802/>



O'REILLY®

**AWS Certified
AI Practitioner
(AIF-C01) Study Guide**

In-Depth Exam Prep and Practice



Tom Taulli

Question 1

A company is building a generative AI application with Amazon Bedrock and wants to understand how much data it can include in a single prompt.
What factor should the company consider?

- a) Temperature setting
- b) Context window size
- c) Maximum inference batch
- d) Model architecture



Question 1 - Answer

A company is building a generative AI application with Amazon Bedrock and wants to understand how much data it can include in a single prompt.
What factor should the company consider?

- a) Temperature setting
- b) Context window size**
- c) Maximum inference batch
- d) Model architecture

