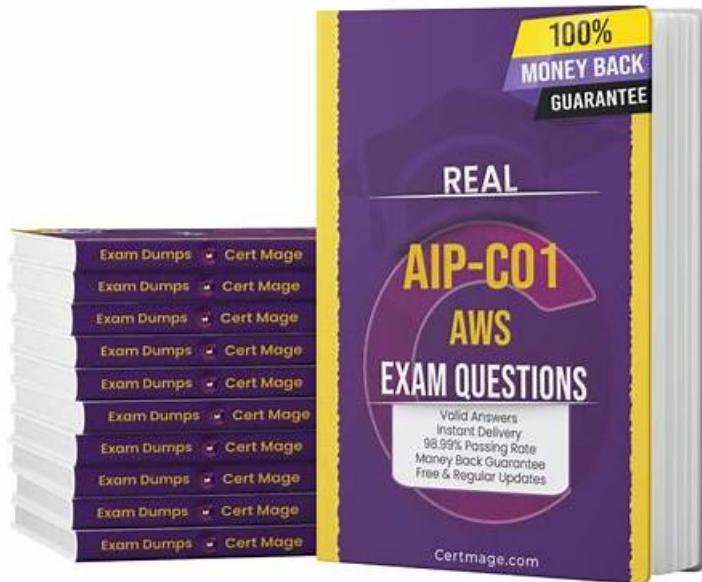


AIP-C01 Dumps Guide & AIP-C01 Exam Objectives



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Amazon AIP-C01 Exam Syllabus Topics:

Topic	Details
Topic 1	<ul style="list-style-type: none">Foundation Model Integration, Data Management, and Compliance: This domain covers designing GenAI architectures, selecting and configuring foundation models, building data pipelines and vector stores, implementing retrieval mechanisms, and establishing prompt engineering governance.
Topic 2	<ul style="list-style-type: none">AI Safety, Security, and Governance: This domain addresses input output safety controls, data security and privacy protections, compliance mechanisms, and responsible AI principles including transparency and fairness.
Topic 3	<ul style="list-style-type: none">Testing, Validation, and Troubleshooting: This domain covers evaluating foundation model outputs, implementing quality assurance processes, and troubleshooting GenAI-specific issues including prompts, integrations, and retrieval systems.
Topic 4	<ul style="list-style-type: none">Operational Efficiency and Optimization for GenAI Applications: This domain encompasses cost optimization strategies, performance tuning for latency and throughput, and implementing comprehensive monitoring systems for GenAI applications.
Topic 5	<ul style="list-style-type: none">Implementation and Integration: This domain focuses on building agentic AI systems, deploying foundation models, integrating GenAI with enterprise systems, implementing FM APIs, and developing applications using AWS tools.

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Amazon AWS Certified Generative AI Developer - Professional Sample Questions (Q26-Q31):

NEW QUESTION # 26

A company is using Amazon Bedrock to design an application to help researchers apply for grants. The application is based on an Amazon Nova Pro foundation model (FM). The application contains four required inputs and must provide responses in a consistent text format. The company wants to receive a notification in Amazon Bedrock if a response contains bullying language. However, the company does not want to block all flagged responses.

The company creates an Amazon Bedrock flow that takes an input prompt and sends it to the Amazon Nova Pro FM. The Amazon Nova Pro FM provides a response.

Which additional steps must the company take to meet these requirements? (Select TWO.)

- A. Create an Amazon Bedrock prompt router. Specify an Amazon Nova Pro FM. Add the required inputs as variables to the input node of the flow. Add the prompt router to the prompts node. Add the output format to the output node.
- B. Create an Amazon Bedrock guardrail that applies the hate content filter. Set the filter response to block. Add the guardrail to the prompts node of the flow.
- C. Create an Amazon Bedrock application inference profile that specifies an Amazon Nova Pro FM. Specify the output format for the response in the description. Include a tag for each of the input variables. Add the profile to the prompts node of the flow.
- D. Create an Amazon Bedrock guardrail that applies the insults content filter. Set the filter response to detect. Add the guardrail to the prompts node of the flow.
- E. Use Amazon Bedrock Prompt Management to specify the required inputs as variables. Select an Amazon Nova Pro FM. Specify the output format for the response. Add the prompt to the prompts node of the flow.

Answer: D,E

Explanation:

The correct answers are A and D because they collectively satisfy the requirements for structured inputs, consistent output formatting, and non-blocking detection of bullying language.

Option A is required because Amazon Bedrock Prompt Management enables prompt templates with explicit input variables and defined output formats. By defining the four required inputs as variables, the company ensures that every invocation of the Amazon Nova Pro FM receives the correct structured inputs. Specifying the output format ensures consistent responses, which is essential for a grants application workflow. Adding the managed prompt to the prompts node of the flow allows Bedrock Flows to invoke the model using this standardized configuration.

Option D addresses the requirement to receive notifications when bullying language is detected without blocking responses. Amazon Bedrock guardrails support content filters with configurable actions. By applying the insults content filter and setting the response action to detect, the system flags responses containing bullying or insulting language while still allowing the response to be returned. This enables monitoring, alerting, and auditing without interrupting application functionality.

Option B is incorrect because setting the filter response to block contradicts the requirement not to block all flagged responses.

Option C introduces a prompt router, which is unnecessary because the application uses a single Amazon Nova Pro FM. Option E incorrectly attempts to enforce input variables and output formatting through an inference profile, which does not provide prompt-level variable enforcement or formatting guarantees.

Therefore, A and D together provide structured prompt management and non-blocking safety detection with minimal operational complexity.

NEW QUESTION # 27

A financial services company is creating a Retrieval Augmented Generation (RAG) application that uses Amazon Bedrock to generate summaries of market activities. The application relies on a vector database that stores a small proprietary dataset with a low index count. The application must perform similarity searches.

The Amazon Bedrock model's responses must maximize accuracy and maintain high performance.

The company needs to configure the vector database and integrate it with the application.

Which solution will meet these requirements?

- A. Launch an Amazon MemoryDB cluster and configure the index by using the Flat algorithm. Configure a horizontal scaling policy based on performance metrics.
- B. Launch an Amazon MemoryDB cluster and configure the index by using the Hierarchical Navigable Small World (HNSW) algorithm. Configure a vertical scaling policy based on performance metrics.
- C. Launch an Amazon Aurora PostgreSQL cluster and configure the index by using the Inverted File with Flat Compression (IVFFlat) algorithm. Configure the instance class to scale to a larger size when the load increases.
- D. Launch an Amazon DocumentDB cluster that has an IVFFlat index and a high probe value. Configure connections to the cluster as a replica set. Distribute reads to replica instances.

Answer: B

Explanation:

Option B is the optimal solution because it maximizes similarity search accuracy and performance for a small, proprietary dataset while maintaining low operational complexity. Amazon MemoryDB is a fully managed, in- memory database that provides microsecond-level latency, making it ideal for real-time RAG workloads that require fast vector similarity searches.

For small datasets with low index counts, the Hierarchical Navigable Small World (HNSW) algorithm is recommended by AWS for its high recall and accuracy. Unlike approximate methods optimized for massive datasets, HNSW excels at returning the most semantically relevant vectors with minimal loss of precision, which directly improves the quality of responses generated by the Amazon Bedrock foundation model.

Vertical scaling in MemoryDB is sufficient for this use case because the dataset size is limited. Scaling up instance size provides increased memory and compute capacity without the complexity of managing distributed indexes or sharding strategies. This simplifies operations while maintaining predictable performance.

Option A's Flat algorithm is computationally expensive and inefficient at scale, even for moderate query volumes. Option C introduces higher latency and operational overhead by using a relational database not optimized for in-memory vector search. Option D is unsuitable because Amazon DocumentDB is not designed for high-performance vector similarity workloads and introduces unnecessary replica management complexity.

Therefore, Option B best meets the requirements for accuracy, performance, and efficient integration with an Amazon Bedrock-based RAG application.

NEW QUESTION # 28

A company is creating a generative AI (GenAI) application that uses Amazon Bedrock foundation models (FMs). The application must use Microsoft Entra ID to authenticate. All FM API calls must stay on private network paths. Access to the application must be limited by department to specific model families. The company also needs a comprehensive audit trail of model interactions.

Which solution will meet these requirements?

- A. Configure OpenID Connect (OIDC) federation between Microsoft Entra ID and IAM. Use attribute- based access control to map department attributes to specific model access permissions. Apply SCP policies to restrict access to Amazon Bedrock FM families based on department. Use Microsoft Entra ID's built-in logging capabilities to maintain an audit trail of model interactions.
- B. Create an identity provider (IdP) connection in IAM to authenticate by using Microsoft Entra ID. Assign department permission sets to control access to specific model families. Deploy AWS Lambda functions in private subnets with a NAT gateway for egress to Amazon Bedrock public endpoints. Enable CloudWatch Logs to capture model interactions for auditing purposes.
- C. Configure SAML federation between Microsoft Entra ID and AWS Identity and Access Management. Create department-specific IAM roles that allow only the required ModelId values. Create AWS PrivateLink interface VPC endpoints for Amazon Bedrock runtime services. Enable AWS CloudTrail to capture Amazon Bedrock API calls. Configure Amazon Bedrock model invocation logging to record detailed model interactions.
- D. Create a SAML identity provider (IdP) in IAM to authenticate by using Microsoft Entra ID. Use IAM permissions boundaries to limit department roles' access to specific model families. Configure public Amazon Bedrock API endpoints with VPC routing to maintain private network connectivity. Set up CloudTrail with Amazon S3 Lifecycle rules to manage audit logs of model interactions.

Answer: C

Explanation:

Option A is the correct solution because it satisfies authentication, private connectivity, fine-grained authorization, and auditing using AWS-recommended patterns.

SAML federation between Microsoft Entra ID and IAM is a mature, well-supported integration that enables centralized enterprise authentication. Department-specific IAM roles allow precise control over which Bedrock ModelId values each department can invoke, enforcing access by model family.

Using AWS PrivateLink interface VPC endpoints for Amazon Bedrock runtime services ensures that all inference traffic stays on private AWS network paths, with no public internet exposure. NAT gateways and public endpoints, as used in other options, violate this requirement.

AWS CloudTrail provides authoritative audit logs of all Bedrock API calls, which is required for compliance.

Amazon Bedrock model invocation logging complements CloudTrail by capturing detailed prompt and response metadata for deeper auditing and investigation.

Option B uses public endpoints via NAT. Option C incorrectly claims public endpoints can be private. Option D relies on IdP-side logs, which do not capture Bedrock API activity.

Therefore, Option A is the only solution that fully meets security, compliance, and observability requirements.

NEW QUESTION # 29

A retail company has a generative AI (GenAI) product recommendation application that uses Amazon Bedrock. The application suggests products to customers based on browsing history and demographics. The company needs to implement fairness evaluation across multiple demographic groups to detect and measure bias in recommendations between two prompt approaches. The company wants to collect and monitor fairness metrics in real time. The company must receive an alert if the fairness metrics show a discrepancy of more than 15% between demographic groups. The company must receive weekly reports that compare the performance of the two prompt approaches.

Which solution will meet these requirements with the LEAST custom development effort?

- A. Create an Amazon Bedrock model evaluation job to compare fairness between the two prompt variants. Enable model invocation logging in Amazon CloudWatch. Set up CloudWatch alarms for InvocationsIntervened metrics with a dimension for each demographic group.
- B. Set up Amazon SageMaker Clarify to analyze model outputs. Publish fairness metrics to Amazon CloudWatch. Create CloudWatch composite alarms that combine SageMaker Clarify bias metrics with Amazon Bedrock latency metrics.
- C. Configure an Amazon CloudWatch dashboard to display default metrics from Amazon Bedrock API calls. Create custom metrics based on model outputs. Set up Amazon EventBridge rules to invoke AWS Lambda functions that perform post-processing analysis on model responses and publish custom fairness metrics.
- D. **Create the two prompt variants in Amazon Bedrock Prompt Management. Use Amazon Bedrock Flows to deploy the prompt variants with defined traffic allocation. Configure Amazon Bedrock guardrails to monitor demographic fairness. Set up Amazon CloudWatch alarms on the GuardrailContentSource dimension by using InvocationsIntervened metrics to detect recommendation discrepancy threshold violations.**

Answer: D

Explanation:

Option B best satisfies the requirements with the least custom development effort by using native Amazon Bedrock capabilities for prompt experimentation, traffic management, fairness monitoring, and alerting.

Amazon Bedrock Prompt Management allows teams to define and manage multiple prompt variants without code changes, making it ideal for comparing recommendation strategies across demographic groups.

Amazon Bedrock Flows enables controlled traffic allocation between prompt variants, which supports real-time A/B testing. This allows the company to collect live fairness metrics under production conditions instead of relying on offline analysis. Because Flows are fully managed, they eliminate the need for custom routing or experimentation frameworks.

Amazon Bedrock guardrails provide built-in monitoring and intervention mechanisms. When configured for fairness-related checks, guardrails can detect policy violations and surface metrics such as InvocationsIntervened, which indicate when outputs are modified or blocked due to rule enforcement. These metrics integrate directly with Amazon CloudWatch, enabling real-time dashboards and threshold-based alarms. Setting an alarm at a 15% discrepancy threshold satisfies the alerting requirement with minimal configuration. Weekly reporting can be generated from CloudWatch metrics using scheduled exports or dashboards without building custom analytics pipelines. Option A requires significant custom post-processing logic. Option C introduces an additional service with higher operational overhead and is not optimized for real-time monitoring. Option D focuses on offline evaluation jobs and does not provide continuous real-time fairness monitoring.

Therefore, Option B provides the most AWS-native, scalable, and low-effort solution for fairness evaluation and monitoring.

NEW QUESTION # 30

A healthcare company uses Amazon Bedrock to deploy an application that generates summaries of clinical documents. The application experiences inconsistent response quality with occasional factual hallucinations.

Monthly costs exceed the company's projections by 40%. A GenAI developer must implement a near real-time monitoring solution to detect hallucinations, identify abnormal token consumption, and provide early warnings of cost anomalies. The solution must require minimal custom development work and maintenance overhead.

Which solution will meet these requirements?

- A. Use AWS CloudTrail to log all Amazon Bedrock API calls. Create a custom dashboard in Amazon QuickSight to visualize token usage patterns. Use Amazon SageMaker Model Monitor to detect quality drift in generated summaries.
- B. Run Amazon Bedrock evaluation jobs that use LLM-based judgments to detect hallucinations. Configure Amazon CloudWatch to track token usage. Create an AWS Lambda function to process CloudWatch metrics. Configure the Lambda function to send usage pattern notifications.
- C. **Configure Amazon Bedrock to store model invocation logs in an Amazon S3 bucket. Enable text output logging. Configure Amazon Bedrock guardrails to run contextual grounding checks to detect hallucinations. Create Amazon CloudWatch anomaly detection alarms for token usage metrics.**
- D. Configure Amazon CloudWatch alarms to monitor InputTokenCount and OutputTokenCount metrics to detect anomalies. Store model invocation logs in an Amazon S3 bucket. Use AWS Glue and Amazon Athena to identify potential hallucinations.

Answer: C

Explanation:

Option C is the correct solution because it provides near real-time monitoring, hallucination detection, and cost anomaly awareness using built-in Amazon Bedrock and Amazon CloudWatch capabilities, with minimal custom development.

By configuring Amazon Bedrock invocation logging with text output logging, the company captures detailed prompt and response data for auditing and analysis without building custom logging pipelines. This data is stored in Amazon S3, providing durable storage for compliance and retrospective investigation.

Using Amazon Bedrock guardrails with contextual grounding checks allows the application to automatically detect hallucinations by verifying whether generated summaries are grounded in the provided clinical documents. This is the AWS-recommended approach for hallucination detection in RAG and summarization workloads and avoids the need to maintain custom evaluation models or pipelines.

Creating Amazon CloudWatch anomaly detection alarms for InputTokenCount and OutputTokenCount metrics enables automatic detection of abnormal token usage patterns that often correlate with runaway prompts, inefficient summarization, or prompt injection attempts. Anomaly detection adapts dynamically to usage trends, making it more effective than static thresholds for early cost warnings.

Option A introduces batch analytics with Glue and Athena, which is not near real time and increases operational overhead. Option B requires managing evaluation jobs and Lambda-based notification logic.

Option D focuses on infrastructure-level monitoring and offline dashboards rather than near real-time GenAI quality and cost signals. Therefore, Option C best meets the requirements with the least operational effort and maintenance overhead.

NEW QUESTION # 31

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