ANZ Diversity Hackathon—Women in AI/ML		
Team 41		
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Business Case:

Auditing Smart FAQ Bot (RAG + Bedrock Agent + KB + S3 + Lightsail)

1. Executive Summary

Auditors spend significant paid time searching through policies, donor rules, standard operating procedures (SOPs), and prior audit reports. Information is often scattered across PDF documents, shared folders, and email threads, leading to inefficiencies, inconsistent interpretations, and repeated queries to senior auditors.

The Auditing Smart FAQ Bot addresses this challenge by providing a centralized conversational interface where auditors can ask natural language questions and receive accurate, citation-backed responses grounded in approved internal documents.

The system is built using Amazon Bedrock Agents for orchestration and reasoning, together with Amazon Bedrock Knowledge Base implementing a Retrieval-Augmented Generation (RAG) architecture for document retrieval. Amazon S3 is used for secure document storage and vector indexing, while Titan Text Embeddings v2 enables semantic search across indexed content. Claude 3.5 Sonnet powers grounded answer generation, and the user-facing web interface is developed in Streamlit and deployed on Amazon Lightsail (Ubuntu 22.04).

The solution streamlines document indexing, automates retrieval, and generates traceable, source-backed responses through Bedrock Agent trace events. By reducing manual search effort and ensuring consistent interpretation of policies, the system improves audit quality, accelerates audit workflows, and reduces overall audit labour costs.

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2. Problem Statement

Auditors face recurring challenges working with fragmented key policy documents, resulting in extended audit timelines and increased labour costs.

2.1 Operational Inefficiency

- Hours wasted manually searching PDFs and folders

- Repeated queries to senior staff
- Difficulty locating the latest version of policies or donor rules

2.2 Compliance & Quality Risks

- Misinterpretation of regulatory and global standards requirements
- Inconsistent application of internal controls
- Missed updates to policies or frameworks

2.3 Knowledge Fragmentation

- Policies stored across multiple systems
- Institutional knowledge trapped in senior staff

These issues lead to **delays**, **errors**, and **increased audit risk**.

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3. Proposed Solution

Smart FAQ Bot for Auditing

A single Bedrock Agent powered by a Knowledge Base that performs Retrieval-Augmented Generation (RAG) to answer auditor questions with citations.

Key Capabilities

- Natural language Q&A
- Document ingestion and indexing via Amazon Bedrock Knowledge Base
- Streamlined document indexing workflow
- Source citations (document, section, page)
- Real-time access to policies, SOPs, Government regulations, donor rules, and audit reports
- Scalable, secure, and auditable

Example Queries

- “What is the procurement threshold for competitive bidding for donor X.”
- “What evidence is required for travel expense verification.”
- “what characterizes an acceptable gift given to an employee .”

- “Show me segregation of duties requirements for cash handling.”

Why It’s Innovative

- Moves auditors from **searching** to **asking**
- Eliminates knowledge silos
- Uses RAG to ensure answers are grounded in real documents
- Provides defensible citations, which are critical for audit quality
- Automated retrieval and citation-backed response generation

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4. Architecture & Technical Design

4.1 Components

Component	Purpose
Amazon Lightsail (Ubuntu 22.04)	Hosts the deployed Streamlit application and provides the public access environment.
Streamlit Web Application	User-facing chat interface that invokes the Bedrock Agent and processes trace-based citations.
Amazon S3	Stores source documents (PDFs, policies, SOPs, donor rules, audit reports) and supports vector storage for indexing.
Amazon Bedrock Knowledge Base	Ingests documents from S3, performs chunking and embedding (Titan Text Embeddings v2), and manages semantic retrieval.
Amazon Bedrock Agent	Executes the RAG workflow, retrieves relevant content, generates grounded answers using Claude 3.5 Sonnet, and returns citations via trace events.
Claude 3.5 Sonnet	Foundation model used for reasoning and response generation.

4.2 Why a Single Agent

The system adopts a single-agent architecture because the core requirement is document-based question answering. Document ingestion and semantic indexing are handled natively by Amazon Bedrock Knowledge Base, eliminating the need for additional preprocessing services.

As the use case does not require multi-step workflows or external system integrations, a single-agent design ensures a clean, secure, and maintainable architecture while reducing operational complexity and cost.

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5. Real-Life Auditing Use Cases

Detailed real-life auditing scenarios and workflow examples are provided in the accompanying "Use Case Specification" document submitted as part of this project package.

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6. Expected Benefits (Business Impact)

6.1 Efficiency Gains which will translate to audit budget savings

- 40–60% reduction in time spent searching for policy and compliance information (will translate to budget and cost savings)
- Faster audit planning and fieldwork
- Reduced dependency on senior staff

6.2 Quality & Consistency

- Answers grounded in authoritative documents
- Reduced misinterpretation of donor rules
- Stronger audit defensibility
- Improved timely acceptability of audit observations/ risks identified

6.3 Knowledge Retention

- Institutional knowledge captured in the KB
- Less risk when senior auditors leave
- Company policies in a consolidated back up repository

6.4 Compliance & Risk Reduction

- Up-to-date policies always indexed
- Clear audit trails through citations

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7. Conclusion

The Auditing Smart FAQ Bot delivers a **high-impact, innovative, technically sound, and well-presented** solution that directly addresses real-world audit challenges. It modernizes how auditors access information, improves compliance, and enhances audit quality — all with a clean, single-agent architecture. It works for both internal and external auditors.

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