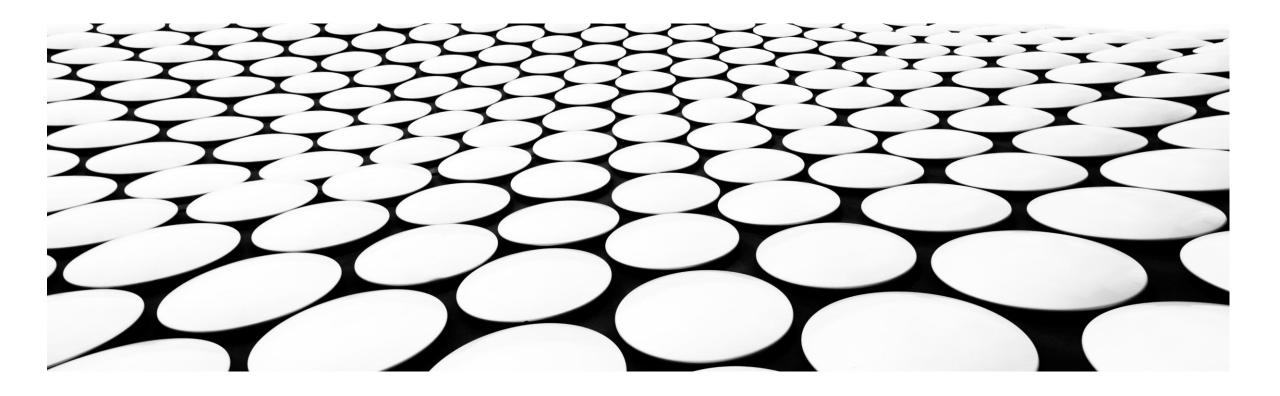
# **GROUP 99 - ASSIGNMENT 2**

# **CONVERSATIONAL AI**



# **CONTENT**



Technology and Techniques



<u>Architecture</u>



Streamlit Link and Ul



**Streamlit Demo** 

# **HDFC FINANCIAL CHATBOT - RAG & RAFT IMPLEMENTATION**



# **Data Prep**

PDF Processing
Text Cleaning & Chunking
Hybrid Indexing (Semantic &
Lexical)



# **Model Pipeline**

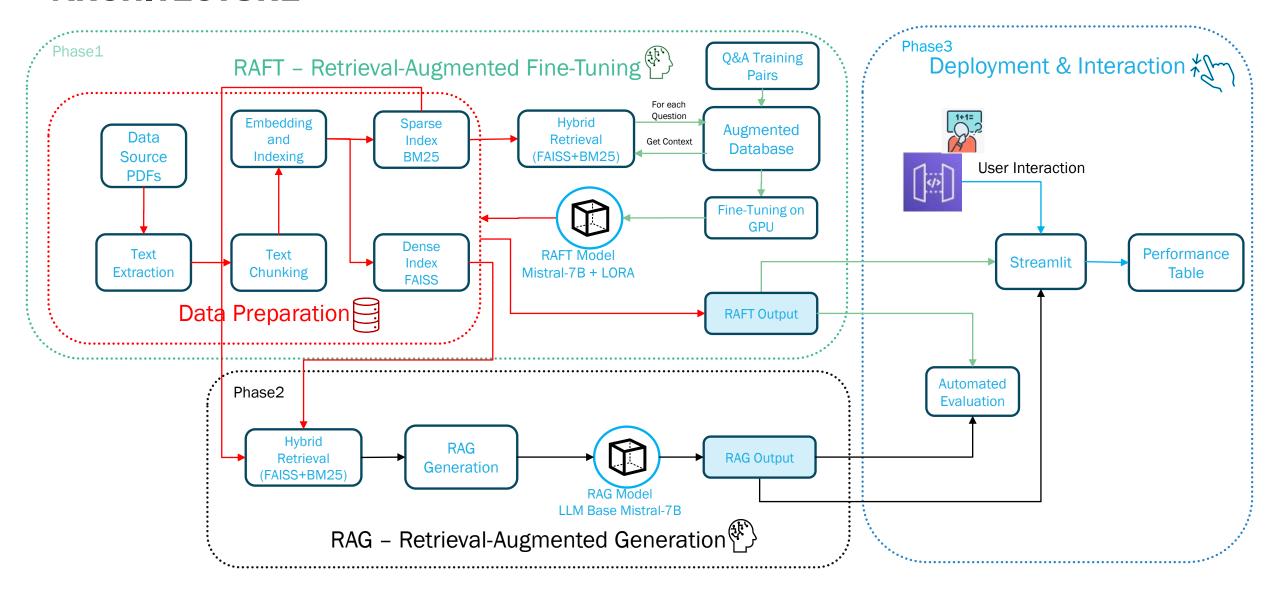
Hybrid Retrieval
RAG (On-the-fly Generation)
RAFT (Offline Fine-Tuning)



# **Deployement & Interaction**

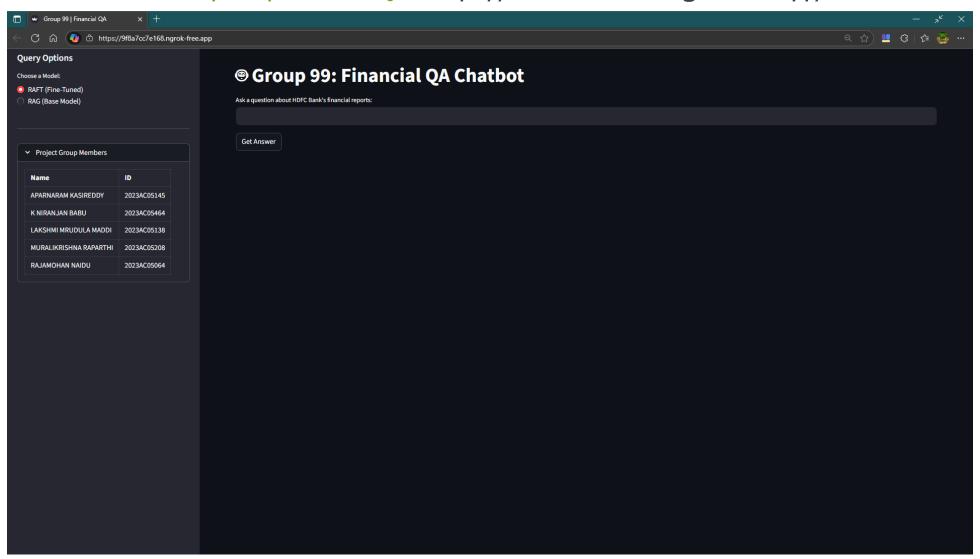
Inference Environment
Automated Evaluation
Interactive UI (CLI & Streamlit)

# **ARCHITECTURE**

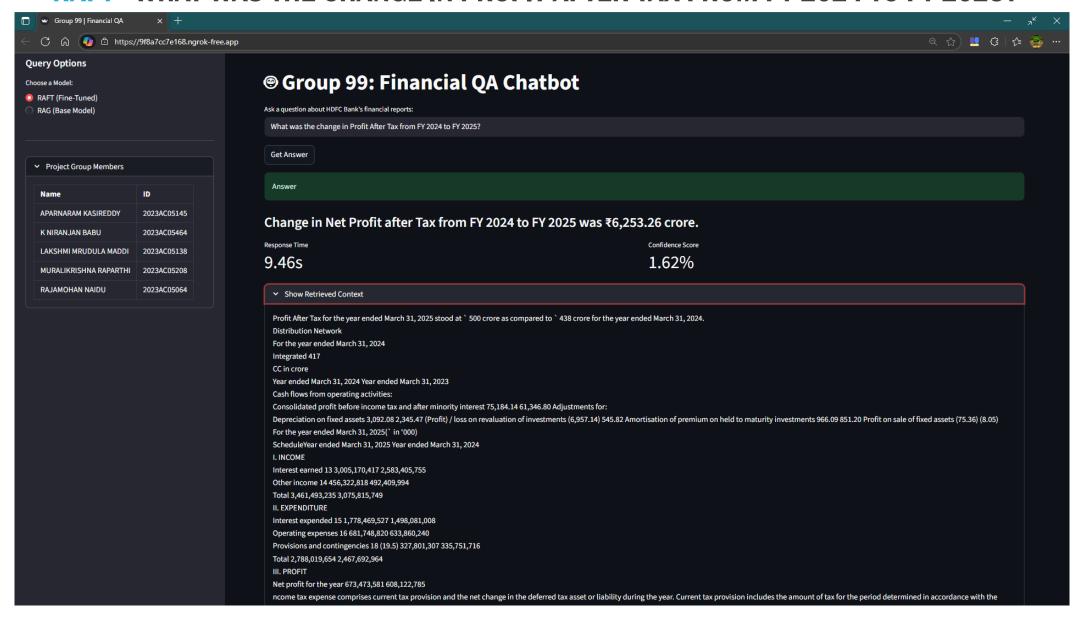


## **STREAMLIT**

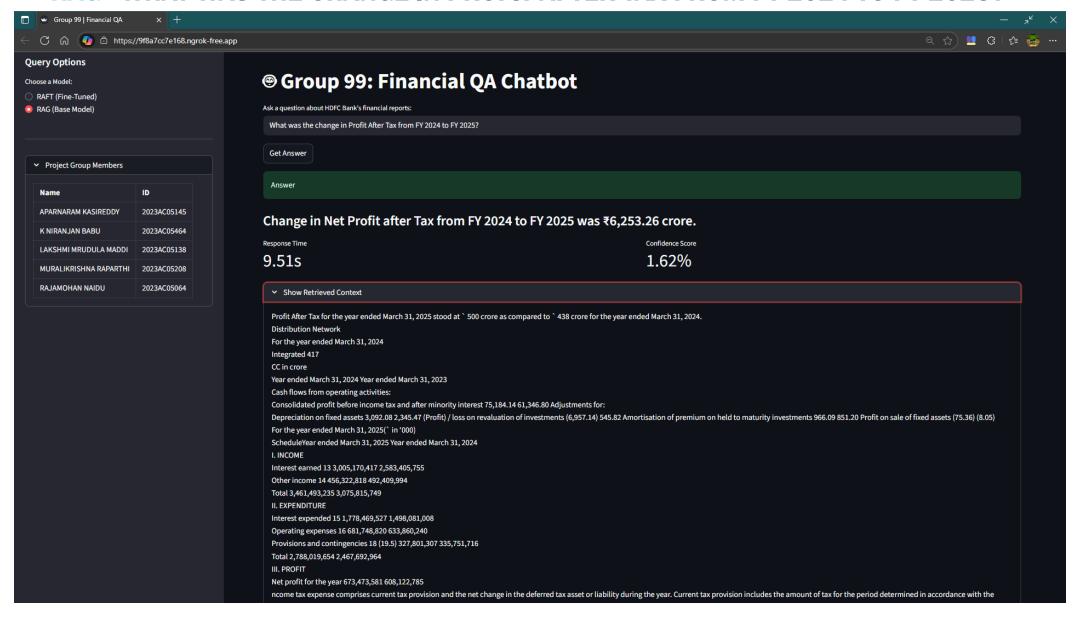
Group 99 | Financial QA - https://9f8a7cc7e168.ngrok-free.app/



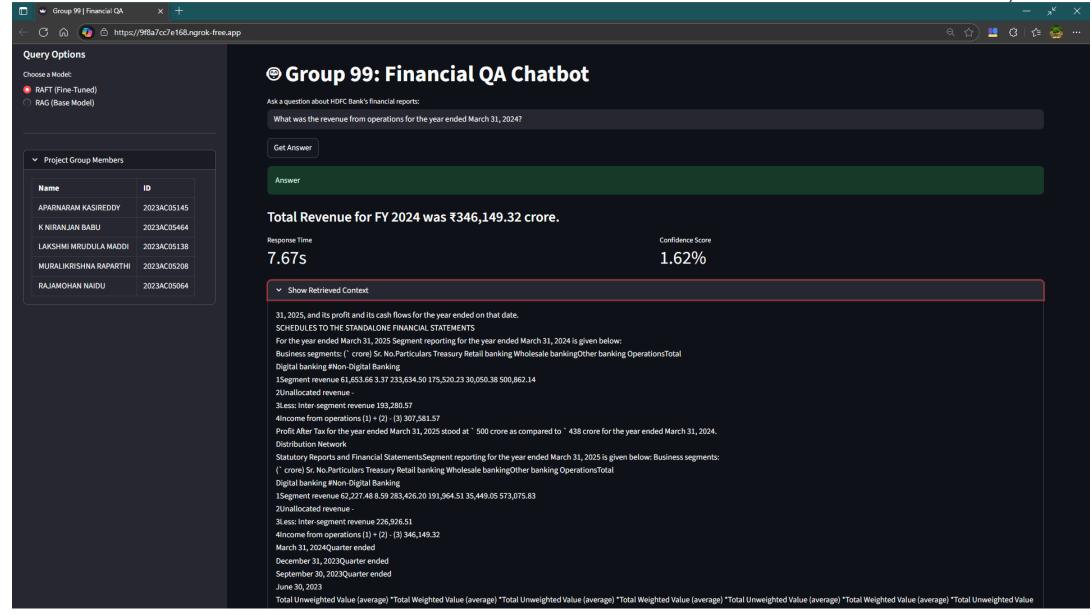
## **RAFT - WHAT WAS THE CHANGE IN PROFIT AFTER TAX FROM FY 2024 TO FY 2025?**



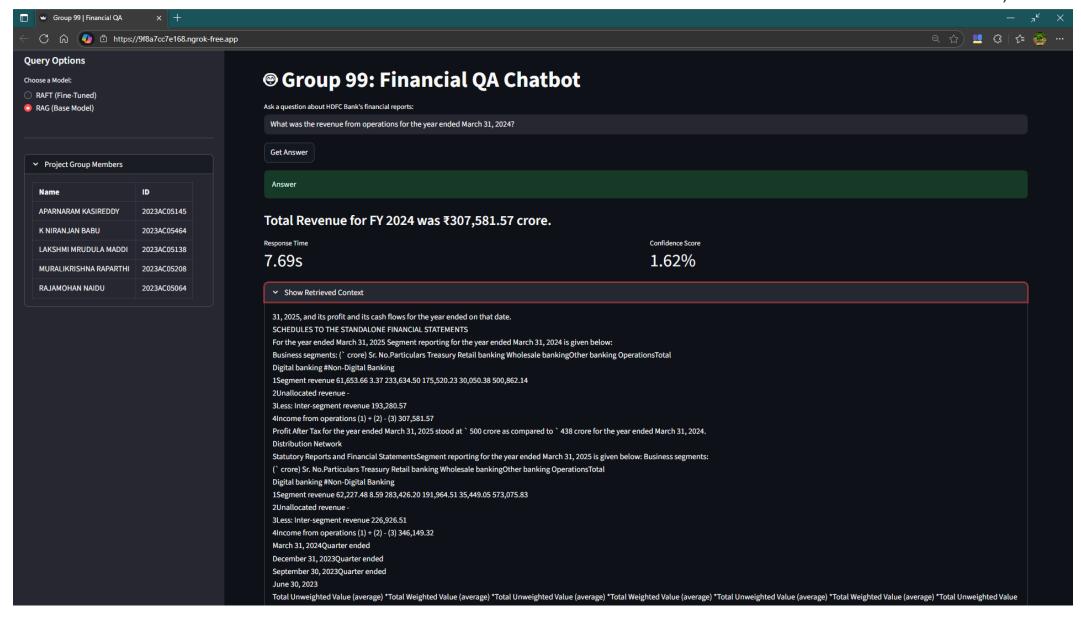
## RAG - WHAT WAS THE CHANGE IN PROFIT AFTER TAX FROM FY 2024 TO FY 2025?



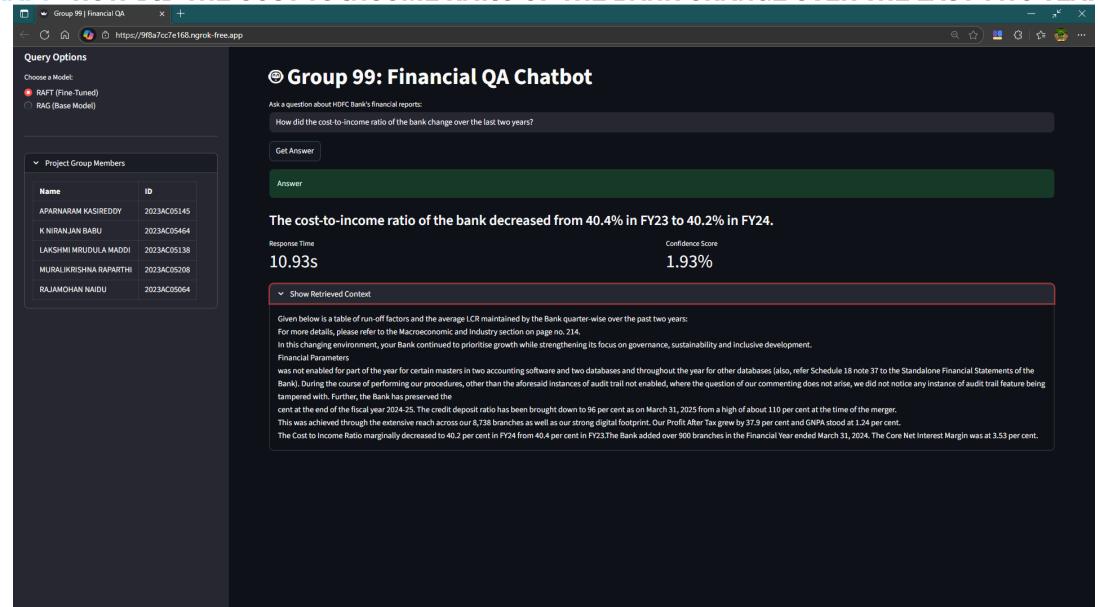
## RAFT - WHAT WAS THE REVENUE FROM OPERATIONS FOR THE YEAR ENDED MARCH 31, 2024?



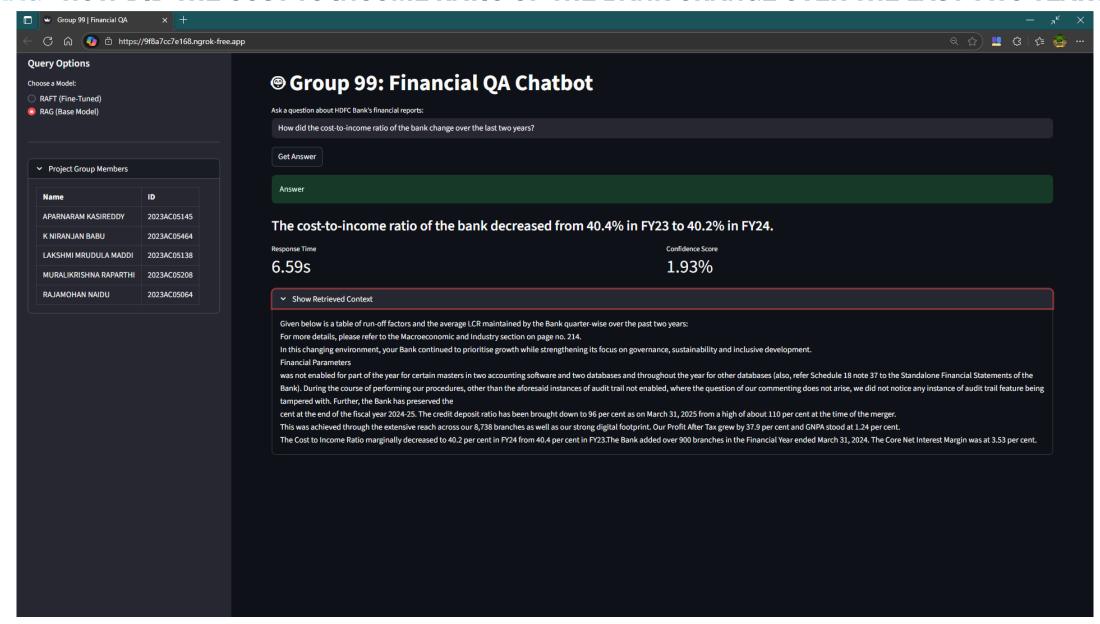
## RAG - WHAT WAS THE REVENUE FROM OPERATIONS FOR THE YEAR ENDED MARCH 31, 2024?



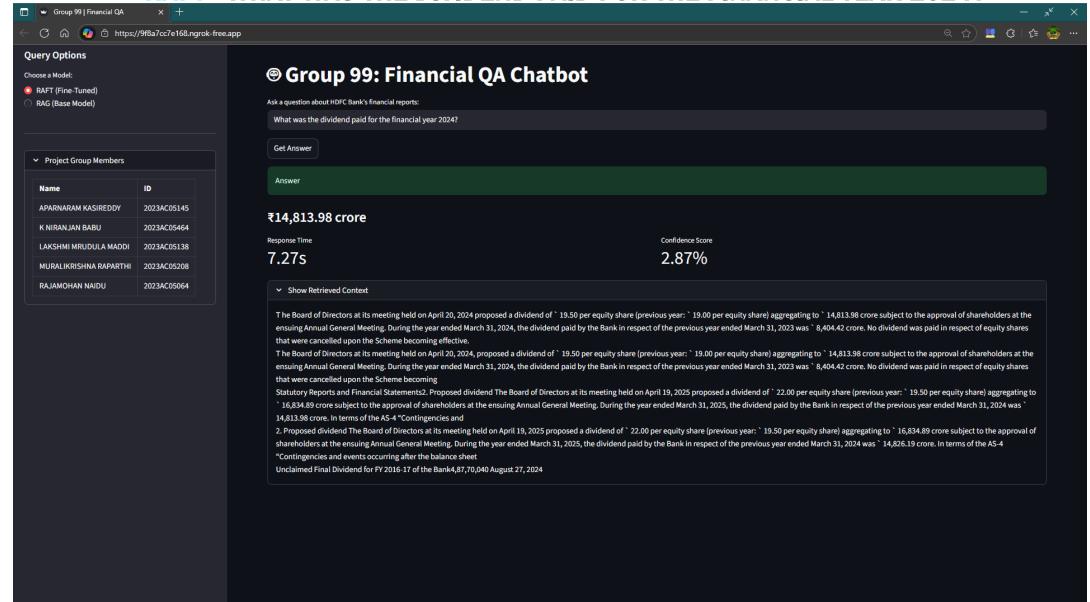
## RAFT - HOW DID THE COST-TO-INCOME RATIO OF THE BANK CHANGE OVER THE LAST TWO YEARS?



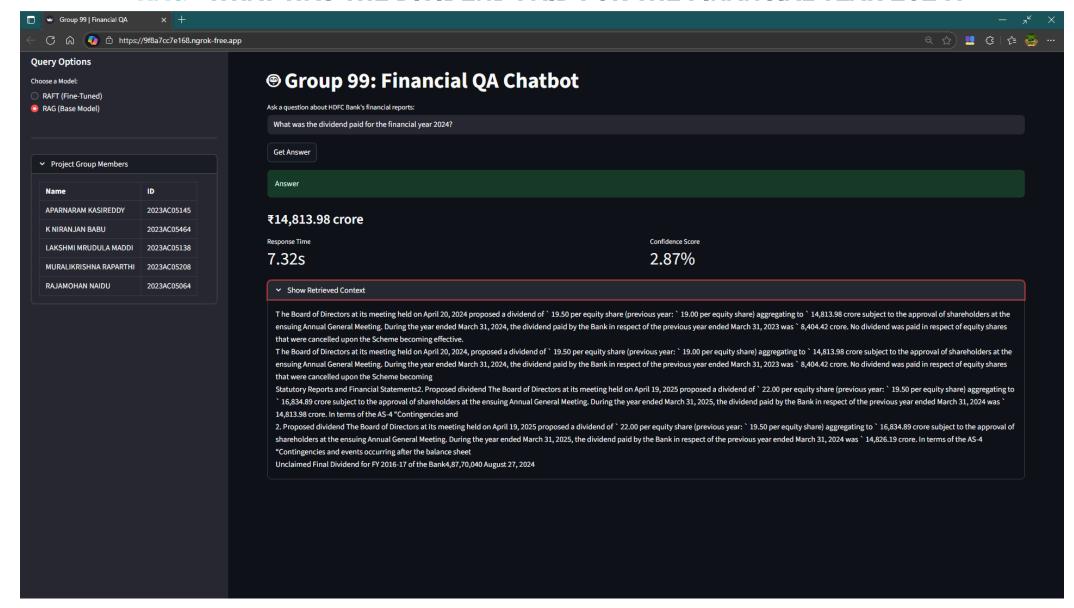
## RAG - HOW DID THE COST-TO-INCOME RATIO OF THE BANK CHANGE OVER THE LAST TWO YEARS?



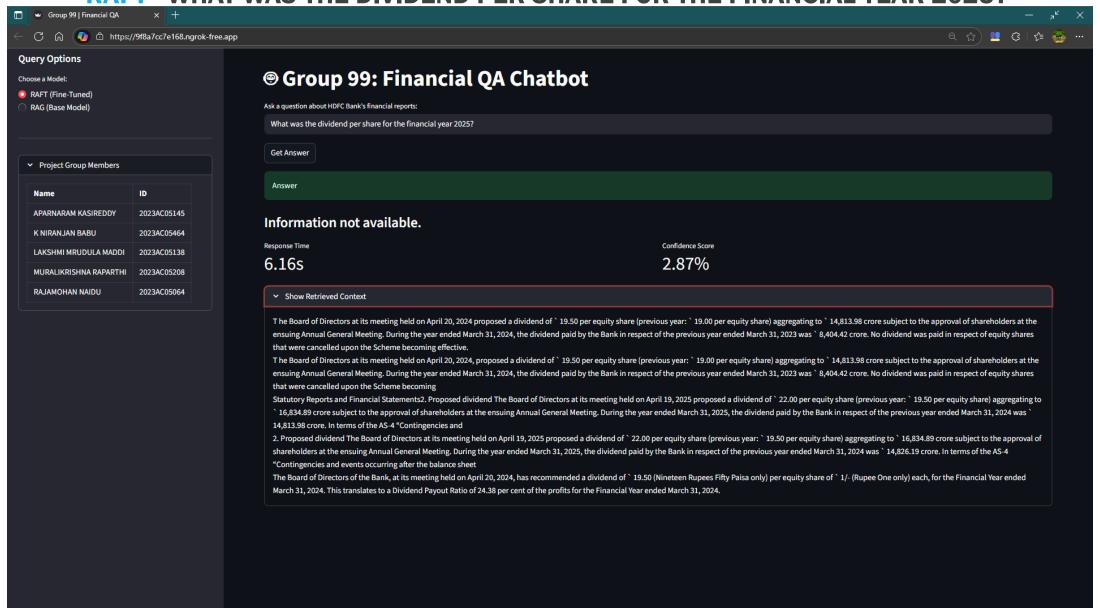
## **RAFT - WHAT WAS THE DIVIDEND PAID FOR THE FINANCIAL YEAR 2024?**



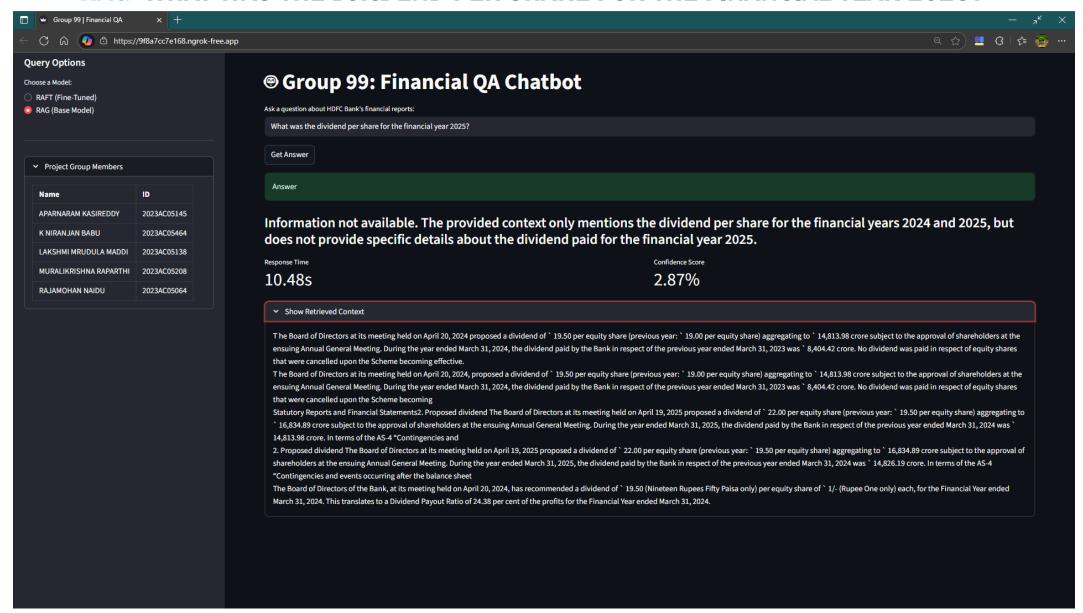
#### RAG - WHAT WAS THE DIVIDEND PAID FOR THE FINANCIAL YEAR 2024?



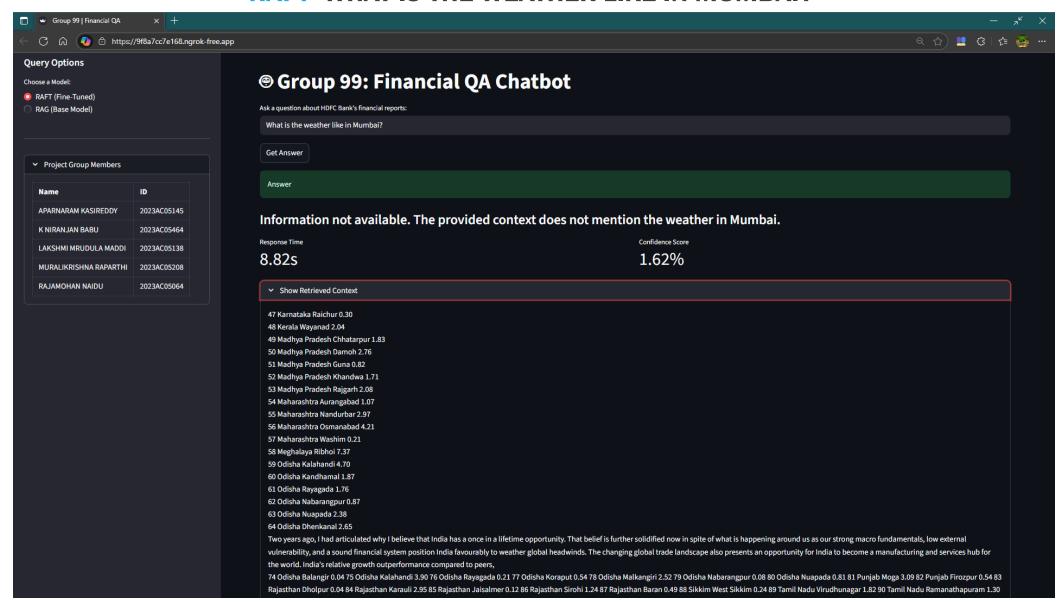
## **RAFT - WHAT WAS THE DIVIDEND PER SHARE FOR THE FINANCIAL YEAR 2025?**



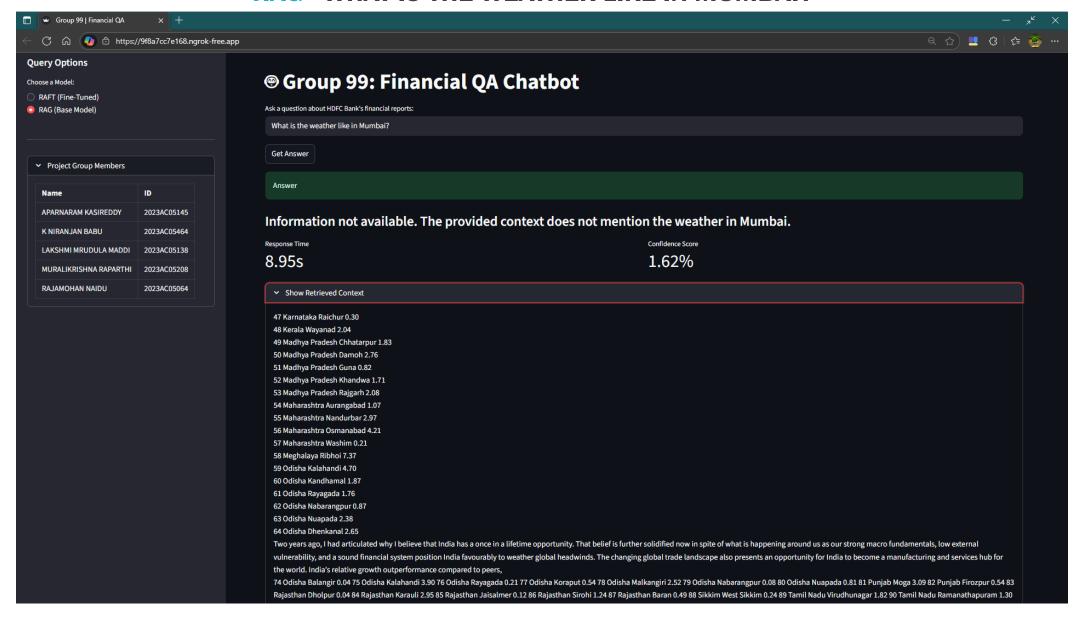
### **RAG-WHAT WAS THE DIVIDEND PER SHARE FOR THE FINANCIAL YEAR 2025?**



#### **RAFT- WHAT IS THE WEATHER LIKE IN MUMBAI?**



#### **RAG - WHAT IS THE WEATHER LIKE IN MUMBA!?**



# **SUMMARY COMPARISON TABLE**

Question	Method	Answer	Confidence	Time (s)	Correct (Y/N)
What was the Bank's Total Deposits as of March 31, 2025?	RAG	₹117,366.81 crore	0.02	10.16	N
What was the Bank's Total Deposits as of March 31, 2025?	Fine-Tune	₹117,366.81 crore	0.4	14.24	N
What was HDFC Bank's digital engagement volume in FY25?	RAG	Information not available in the provided context.	0.02	3.93	N
What was HDFC Bank's digital engagement volume in FY25?	Fine-Tune	HDFC Bank's digital engagement volume in FY25 is not provided in the context.	0.7	8.08	Υ
How did employee costs change in FY25?	RAG	Information not available in the provided context.	0.02	3.88	N
How did employee costs change in FY25?	Fine-Tune	The provided context does not contain information about employee costs in	0.7	10.73	Υ
		FY25. It only provides information about employee costs in FY24-25.			
How much of HDFC Bank's electricity mix came from renewable sources in FY25?	RAG	3.22% of HDFC Bank's electricity mix came from renewable sources in FY25.	0.02	6.17	Υ
How much of HDFC Bank's electricity mix came from renewable sources in FY25?	Fine-Tune	3.22%	0.7	9.29	Υ
What was the value of Total Borrowings as of March 31, 2025?	RAG	Information not available in the provided context.	0.02	6.9	N
What was the value of Total Borrowings as of March 31, 2025?	Fine-Tune	₹29,326.76 crore	0.4	16.49	N
What was HDFC Bank's total customer base in FY24?	RAG	Information not available in the provided context.	0.02	3.19	N
What was HDFC Bank's total customer base in FY24?	Fine-Tune	₹53.82 lakh	0.7	8.02	N
What was the Profit on Sale of Investments in FY24?	RAG	Net Profit after Tax for FY 2024 was ₹2,461 crore.	0.02	8.34	N
What was the Profit on Sale of Investments in FY24?	Fine-Tune	Net Profit after Tax for FY 2024 was ₹2,461 crore.	0.7	13.61	N
How much did HDFC Bank earn from Fees and Commissions in FY25?	RAG	Information not available in the provided context.	0.02	3.53	N
How much did HDFC Bank earn from Fees and Commissions in FY25?	Fine-Tune	₹28,160.7 crore	0.7	10.36	N
What was the change in RoE between FY24 and FY25?	RAG	Information not available in the provided context.	0.02	4.53	N
What was the change in RoE between FY24 and FY25?	Fine-Tune	The change in RoE between FY24 and FY25 is not provided in the given context.	0.7	9.7	Υ
What was the total Net Revenue for FY23–24 and FY24–25?	RAG	Change in Total Revenue from FY 2023 to FY 2024 was ₹1,22,670.1 crore.	0.02	9.37	N
What was the total Net Revenue for FY23–24 and FY24–25?	Fine-Tune	Change in Total Revenue from FY 2023 to FY 2024 was ₹78,409.16 crore.	0.7	16.35	N