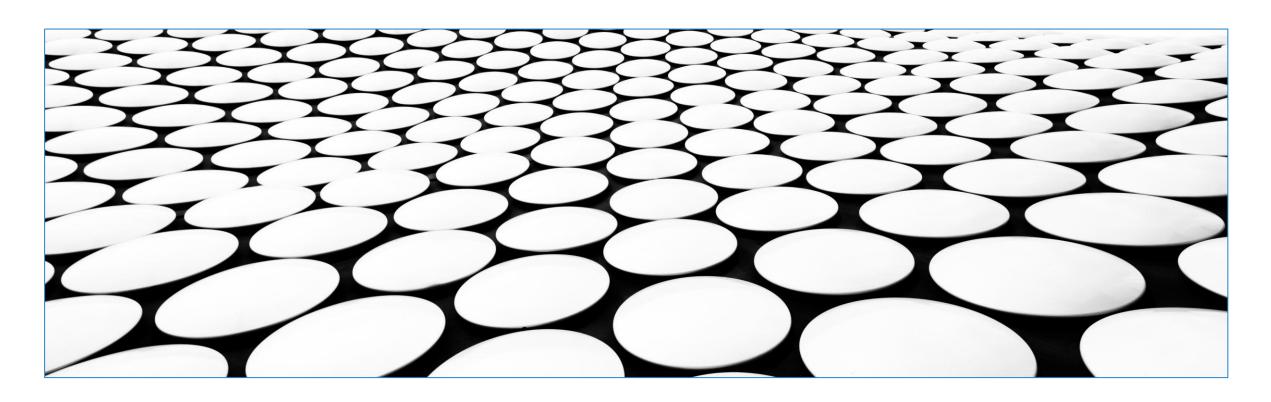
CONVERSATIONAL AI

GROUP 99 - ASSIGNMENT 2

APARNARAM KASIREDDY - 2023AC05145
K NIRANJAN BABU - 2023AC05464
LAKSHMI MRUDULA MADDI- 2023AC05138
MURALIKRISHNA RAPARTHI - 2023AC05208
RAJAMOHAN NAIDU - 2023AC05064



CONTENT

- Technology and Techniques
- <u>Architecture</u>
- Streamlit Link and UI
- Streamlit Demo
- **Summary**
- Metrics Analysis

HDFC FINANCIAL CHATBOT - RAG & RAFT IMPLEMENTATION



Data Prep

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



Model Pipeline

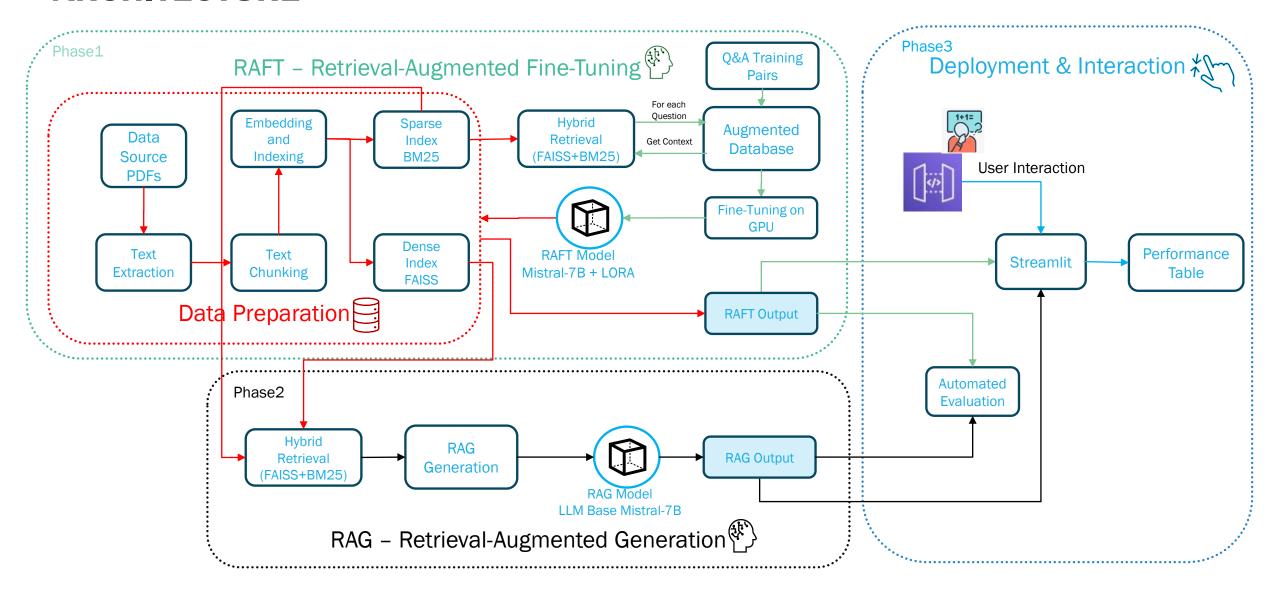
Hybrid Retrieval
RAG (On-the-fly Generation)
RAFT (Offline Fine-Tuning)



Deployement & Interaction

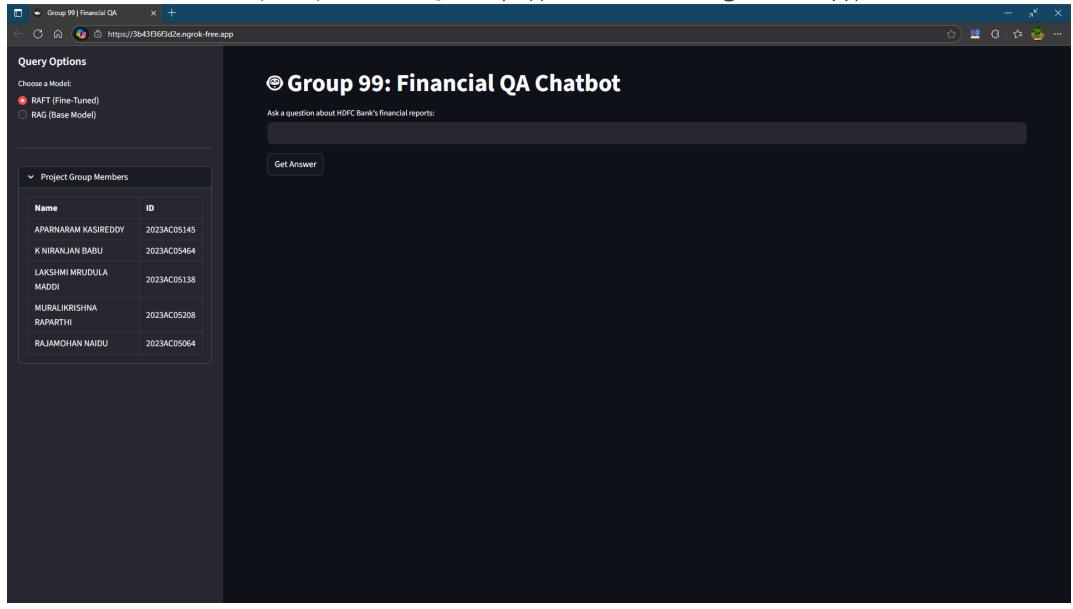
Inference Environment
Automated Evaluation
Interactive UI (CLI & Streamlit)

ARCHITECTURE

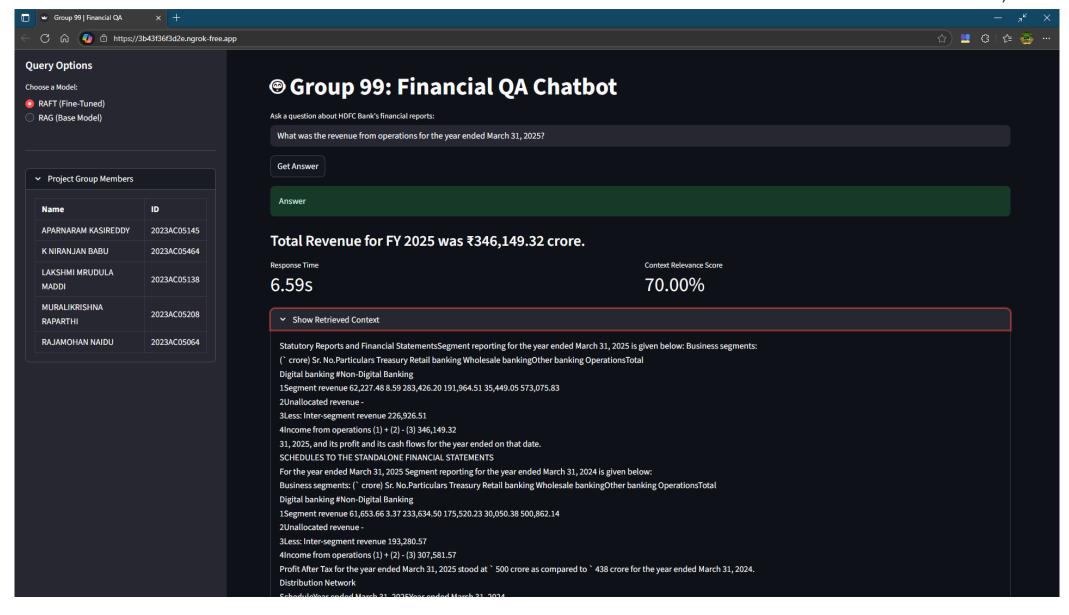


STREAMLIT

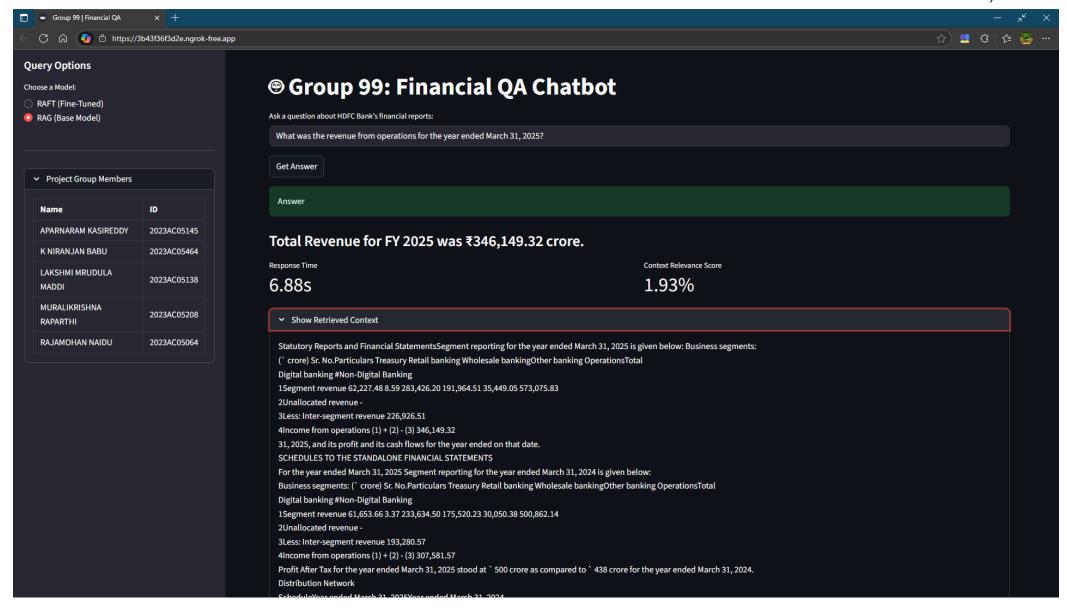
Group 99 | Financial QA - https://3b43f36f3d2e.ngrok-free.app/



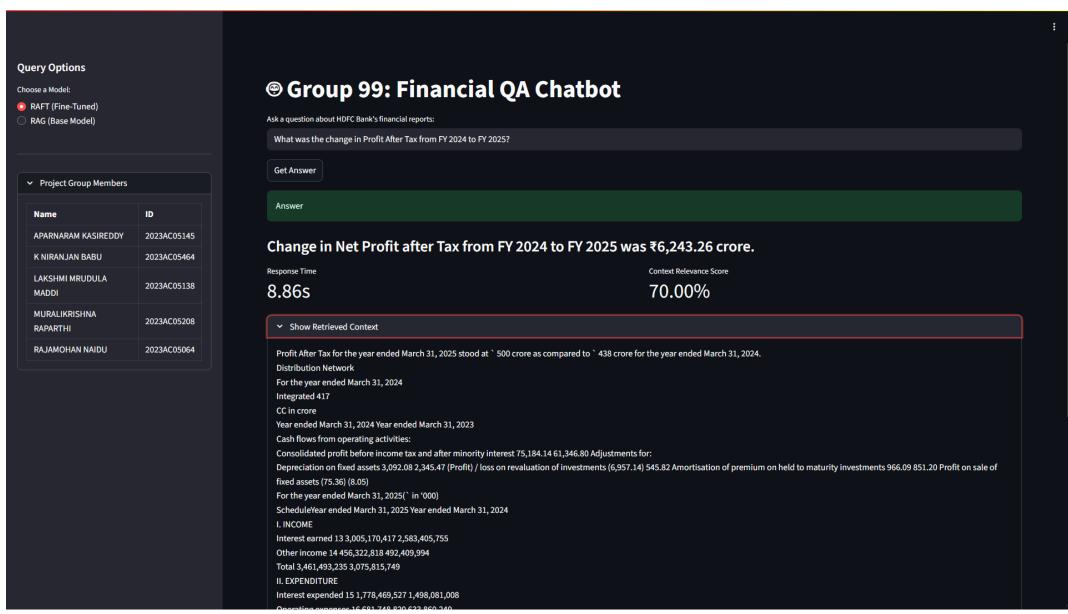
RAFT - WHAT WAS THE REVENUE FROM OPERATIONS FOR THE YEAR ENDED MARCH 31, 2025?



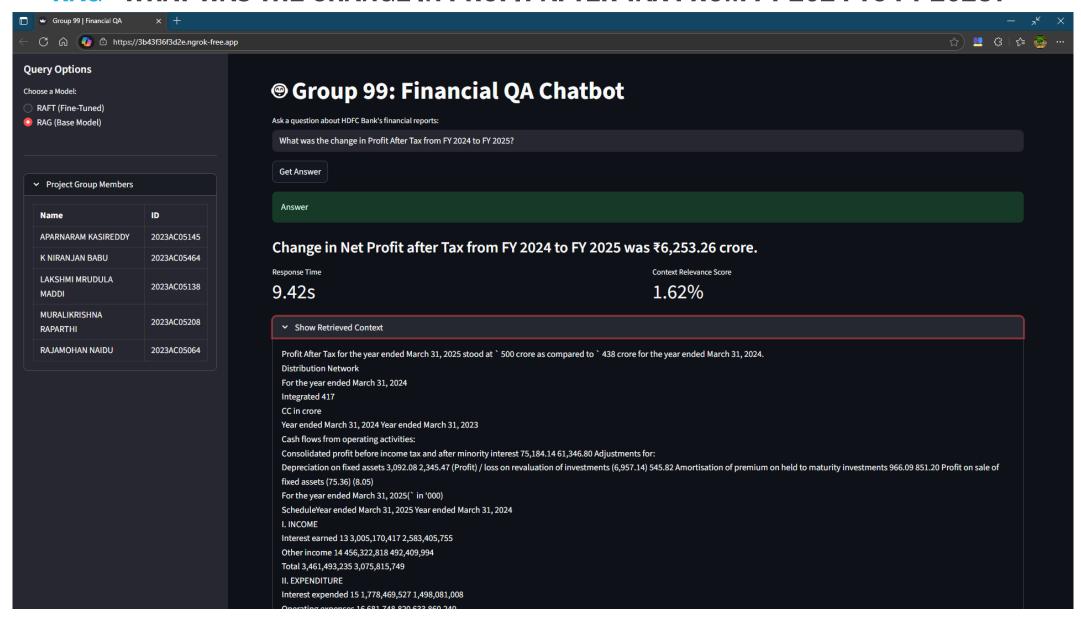
RAG - WHAT WAS THE REVENUE FROM OPERATIONS FOR THE YEAR ENDED MARCH 31, 2025?



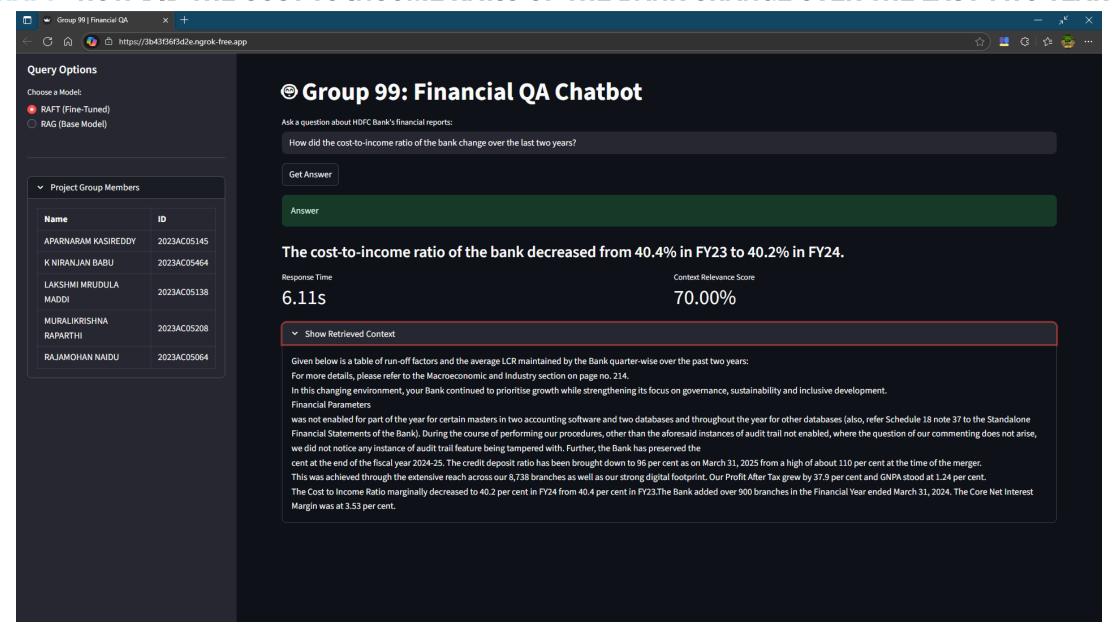
RAFT - WHAT WAS THE CHANGE IN PROFIT AFTER TAX FROM FY 2024 TO FY 2025?



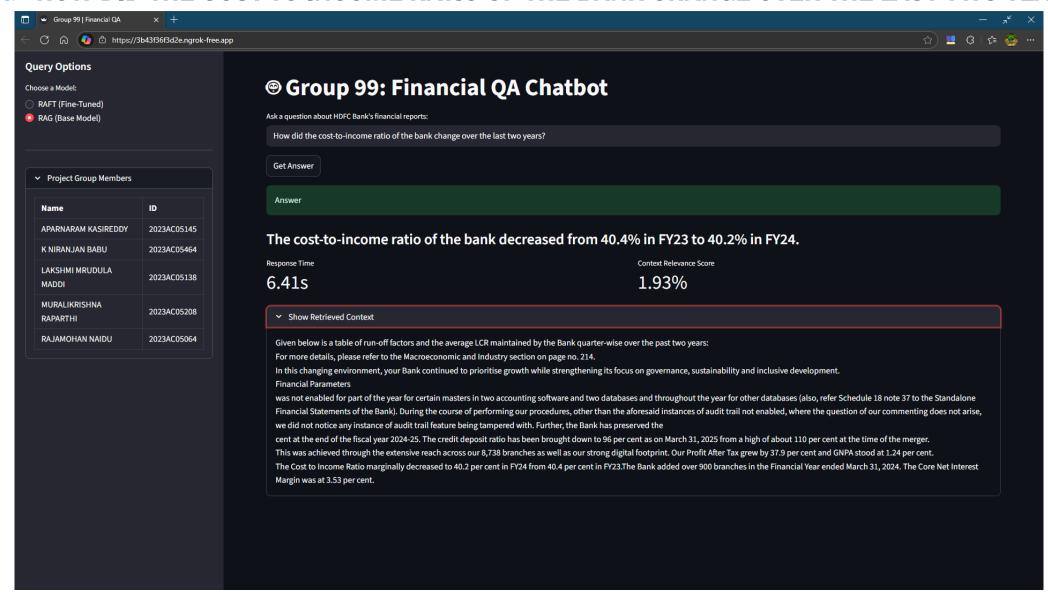
RAG - WHAT WAS THE CHANGE IN PROFIT AFTER TAX FROM FY 2024 TO FY 2025?



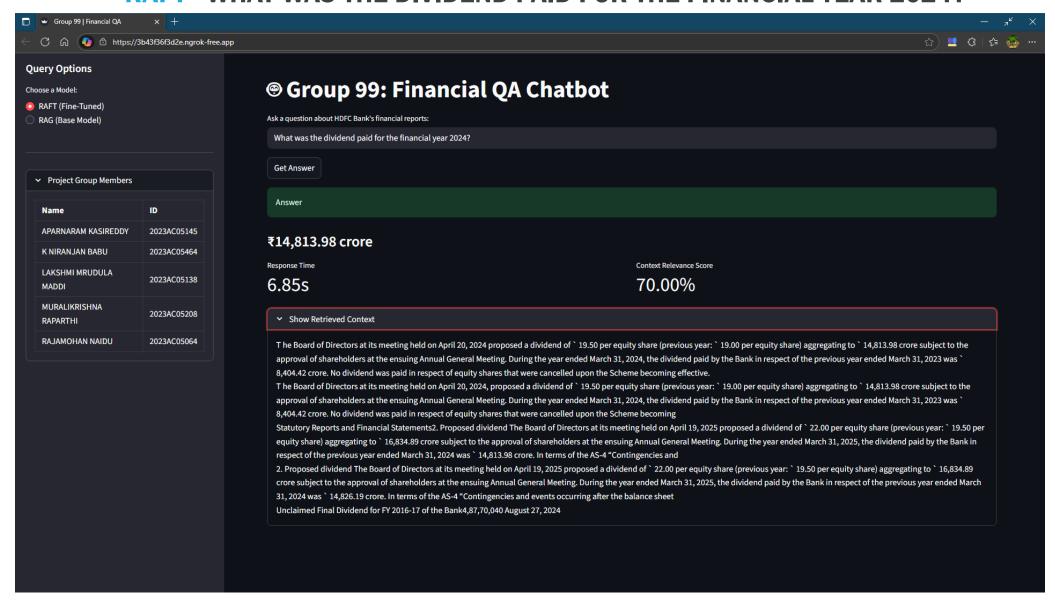
RAFT - HOW DID THE COST-TO-INCOME RATIO OF THE BANK CHANGE OVER THE LAST TWO YEARS?



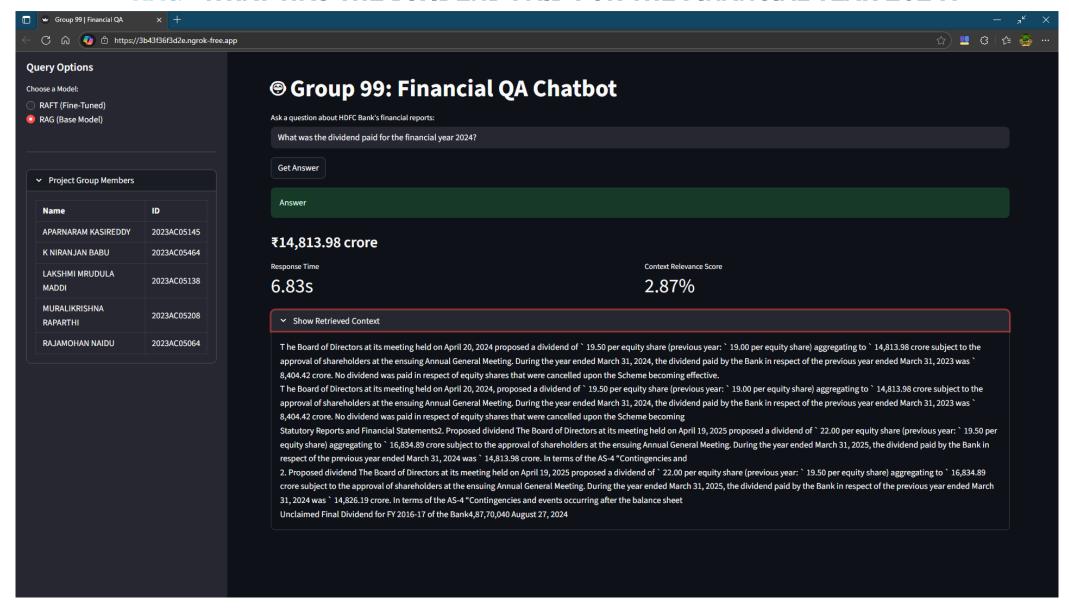
RAG - HOW DID THE COST-TO-INCOME RATIO OF THE BANK CHANGE OVER THE LAST TWO YEARS?



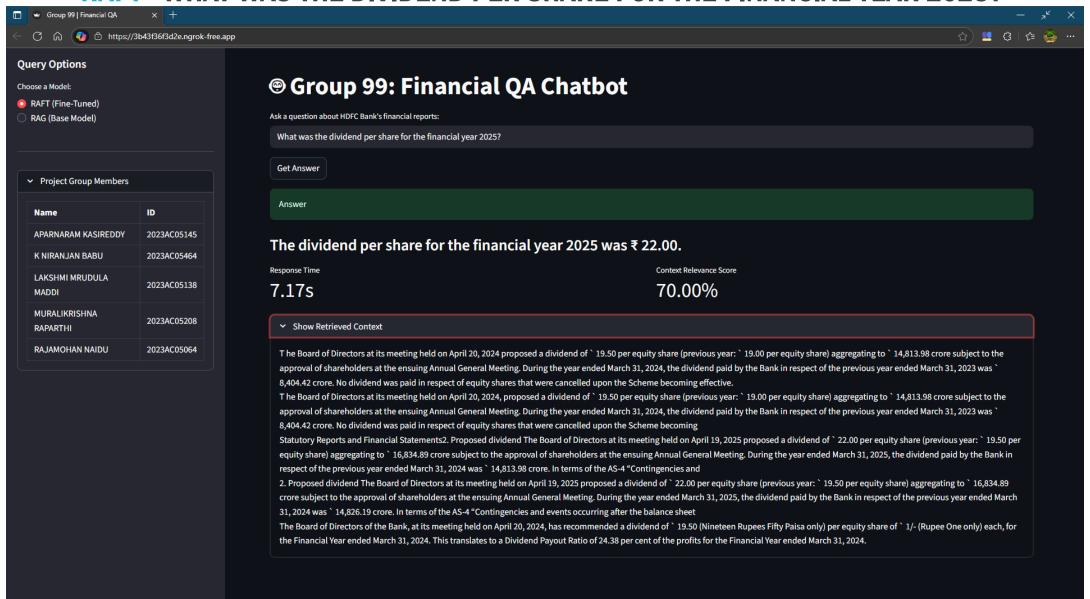
RAFT - WHAT WAS THE DIVIDEND PAID FOR THE FINANCIAL YEAR 2024?



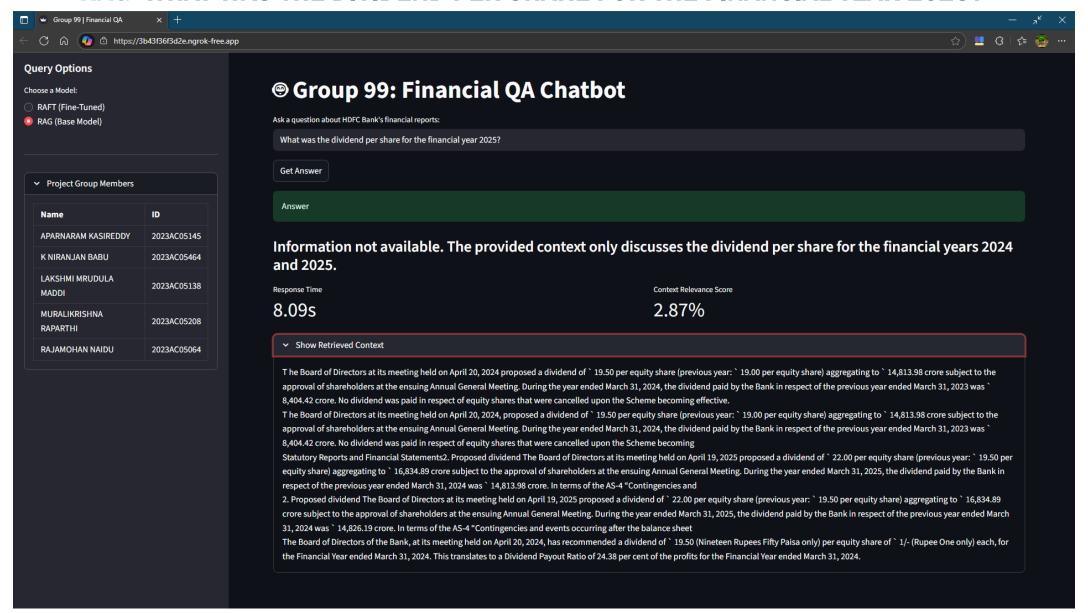
RAG - WHAT WAS THE DIVIDEND PAID FOR THE FINANCIAL YEAR 2024?



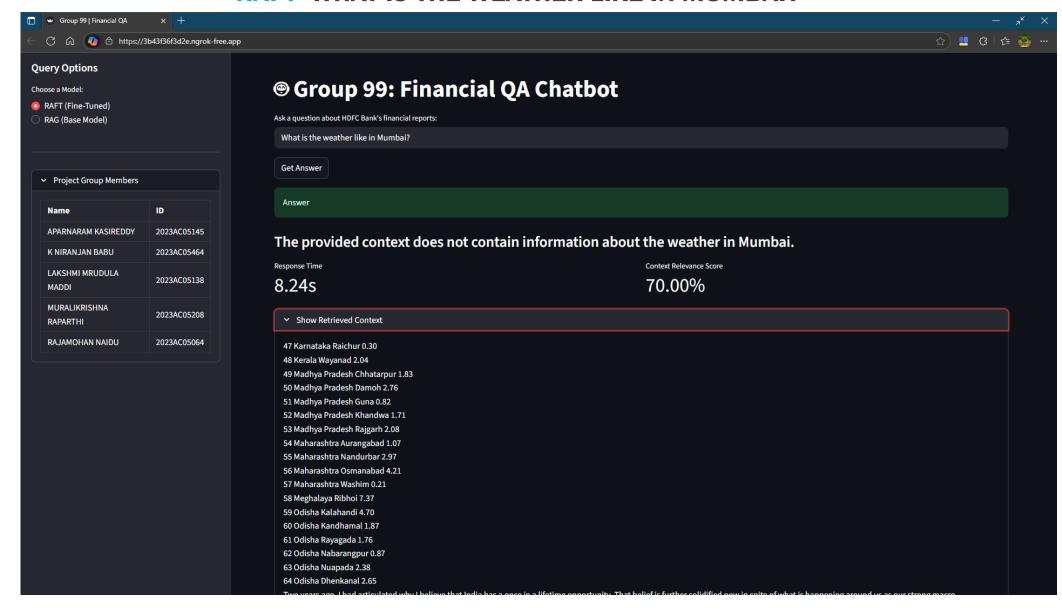
RAFT - WHAT WAS THE DIVIDEND PER SHARE FOR THE FINANCIAL YEAR 2025?



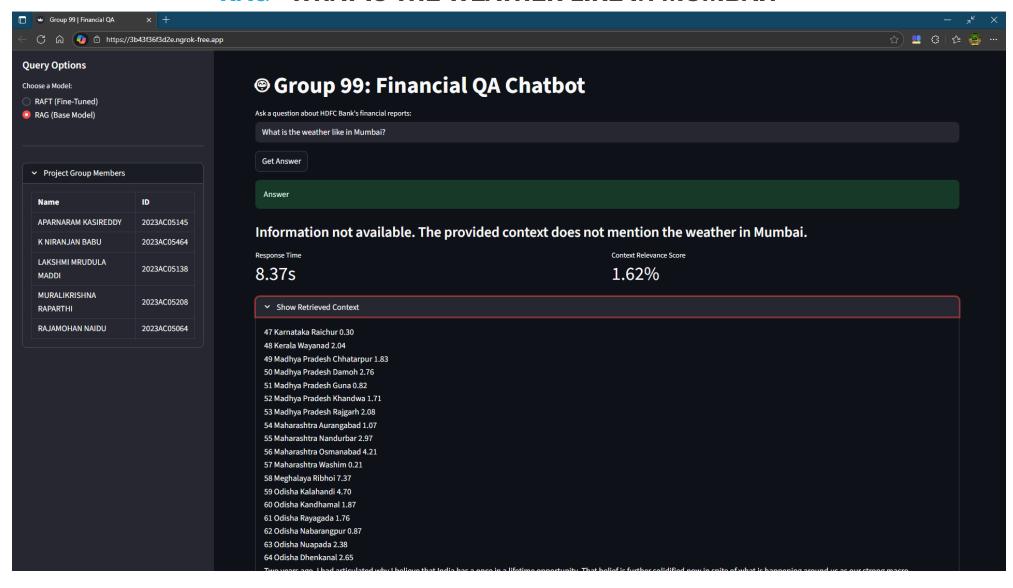
RAG-WHAT WAS THE DIVIDEND PER SHARE FOR THE FINANCIAL YEAR 2025?



RAFT- WHAT IS THE WEATHER LIKE IN MUMBAI?



RAG - WHAT IS THE WEATHER LIKE IN MUMBAI?



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	The Bank's Total Deposits as of March 31, 2025 were 117,366,810,000.	0.02	9.9	Υ
What was the Bank's Total Deposits as of March 31, 2025?	Fine-Tune	₹117,366.81 crore	0.4	18.9	N
What was HDFC Bank's digital engagement volume in FY25?	RAG	Information not available in the provided context.	0.02	4.3	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	11.16	Υ
How did employee costs change in FY25?	RAG	Information not available in the provided context.	0.02	4.44	N
How did employee costs change in FY25?	Fine-Tune	The percentage increase in the median remuneration of employees in the FY 2024-25 was 9.27%.	0.7	14.47	Υ
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	6.07	Υ
How much of HDFC Bank's electricity mix came from renewable sources in FY25?	Fine-Tune	3.22%	0.7	9.4	Υ
What was the value of Total Borrowings as of March 31, 2025?	RAG	Information not available in the provided context. The context only provides details of loans acquired during the year ended March 31, 2024 and March 31, 2023, as well as expected rate of return on investments and major categories of plan assets as a percentage of fair value of total plan assets as at March 31, 2024 and March 31, 2023. There is no information provided about the value of total borrowings as of March 31, 2025.	0.02	16.09	Y
What was the value of Total Borrowings as of March 31, 2025?	Fine-Tune	₹29,326.76 crore	0.4	16.56	N
What was HDFC Bank's total customer base in FY24?	RAG	Information not available in the provided context.	0.02	3.29	N
What was HDFC Bank's total customer base in FY24?	Fine-Tune	₹53.82 lakh	0.7	7.97	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	8.36	N
What was the Profit on Sale of Investments in FY24?	Fine-Tune	Net Profit after Tax for FY 2024 was ₹1,959 crore.	0.7	13.51	N
How much did HDFC Bank earn from Fees and Commissions in FY25?	RAG	Information not available in the provided context.	0.02	3.5	N
How much did HDFC Bank earn from Fees and Commissions in FY25?	Fine-Tune	₹28,160.7 crore	0.7	10.13	N
What was the change in RoE between FY24 and FY25?	RAG	Information not available in the provided context.	0.02	4.24	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 context.	0.7	9.43	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 Information not available in the provided context	0.02	5.86	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	16.73	N

METRIC ANALYSIS

Metric	Average Inference Speed	Average Accuracy
RAG (Base Model)	6.61 seconds	30.00%
Fine-Tuned RAFT	12.83 seconds	40.00%