CAPSTONE PROJECT

AGENTIC AI HEALTH SYMPTOM CHECKER

Presented By:
1. ANSHU SAI-S.J.C INSTITUTE OF TECHNOLOGY-CSE

OUTLINE

- **Problem Statement**

- **Proposed System/Solution**

- **System Development Approach**

- **Algorithm & Deployment**

- **Result (Output Image)**

- **Conclusion**

- **Future Scope**

- **References**

PROBLEM STATEMENT

An Agentic AI Health Symptom Checker helps users understand their health conditions

by analyzing symptoms and providing probable causes, preventive advice, and care recommendations.

It retrieves verified medical data, symptom databases, and guidelines from trusted sources like WHO,

government health portals, and medical journals.

PROPOSED SOLUTION

An Agentic AI Health Symptom Checker is developed to guide users in understanding their health symptoms by:

• Analyzing natural language symptom Providing:

• Probable health conditions

• Urgency level (low, medium, high)

• Preventive advice and home remedies

• Guidance on when to consult a doctor

• Powered by IBM Watsonx.ai, the agent is trained to:

• Use verified medical databases (WHO, CDC, government health portals)

• Support multilingual interaction (e.g., English, Hindi, Kannada)

• Avoid self-diagnosis by delivering educational and referral-based suggestions

This AI-driven assistant aims to promote early detection, reduce misinformation, and empower users to take informed, safe health actions.

edunet
foundation

SYSTEM APPROACH

•IBM Watsonx.ai – Foundation model deployment

•IBM Cloud Object Storage – For asset management

•Streamlit (Optional) – For user-friendly web UI

•Language Detection Library

•Translation APIs – For multilingual support (e.g., Google Translate API)

•Verified Medical Datasets – WHO, CDC, Government health portals

Libraries Used:ibm-watsonx-ai – Accessing IBM foundation modelsstreamlit – Lightweight

UI for testing (optional)

langdetect – Detects language of user input

Requests-json API calls and data handling

dotenv –For secure environment variable storage (e.g., API keys)

ALGORITHM & DEPLOYMENT

Algorithm Selection: IBM Watsonx Foundation Model: Granite-13B-Chat-v2

• Large Language Model (LLM) used for symptom understanding

• Works through prompt engineering (no retraining needed)

• Supports multilingual, safe, and informative responses

Input & Response Process

• Input: User's symptom in natural language (e.g., "I have a sore throat and fever")

• Language detection performed if not in English

• AI processes the prompt and responds with:– Probable health condition(s)– Urgency level (low/medium/high)– Preventive care & home tips– Referral advice (if needed)– Safety disclaimer

ALGORITHM & DEPLOYMENT

Deployment Workflow

1. User enters symptom (via UI or notebook)

2. System detects input language

3. Constructs prompt with safety instructions

4. Sends prompt to Watsonx.ai API

5. Receives structured response

6. 6. Displays result in user's language Hosting & Access

7. Can be extended to mobile or chatbot platforms

RESULT
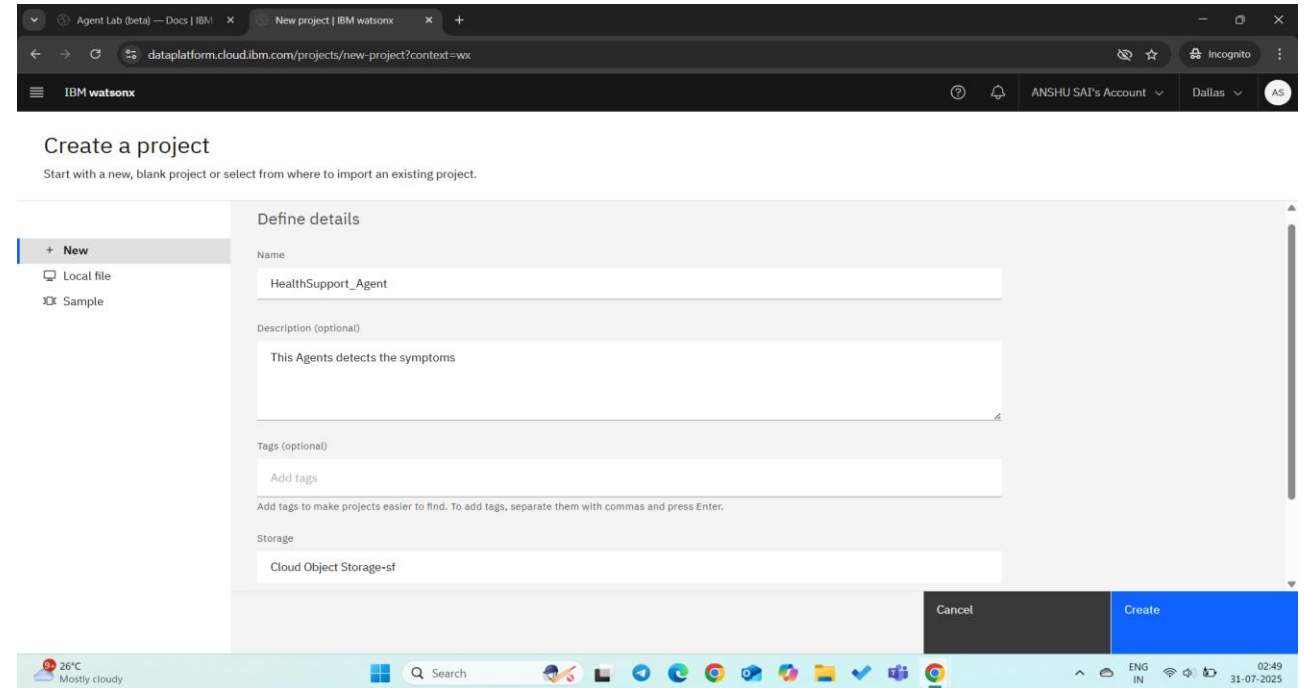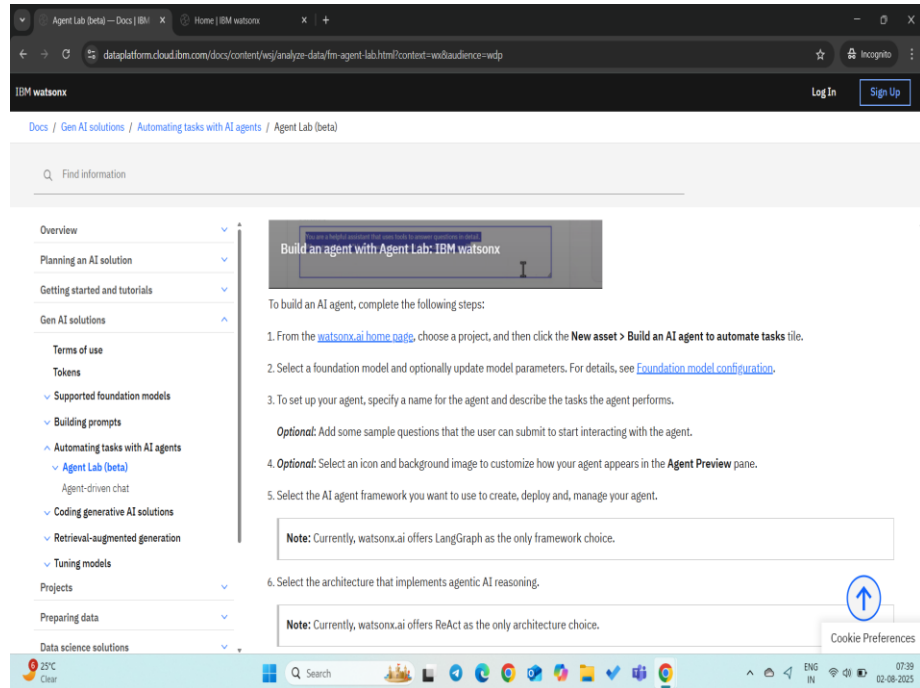
- GO to watsonx ai home page create a new project

RESULT

- Click on Add Cloud storage and select free plan and create it
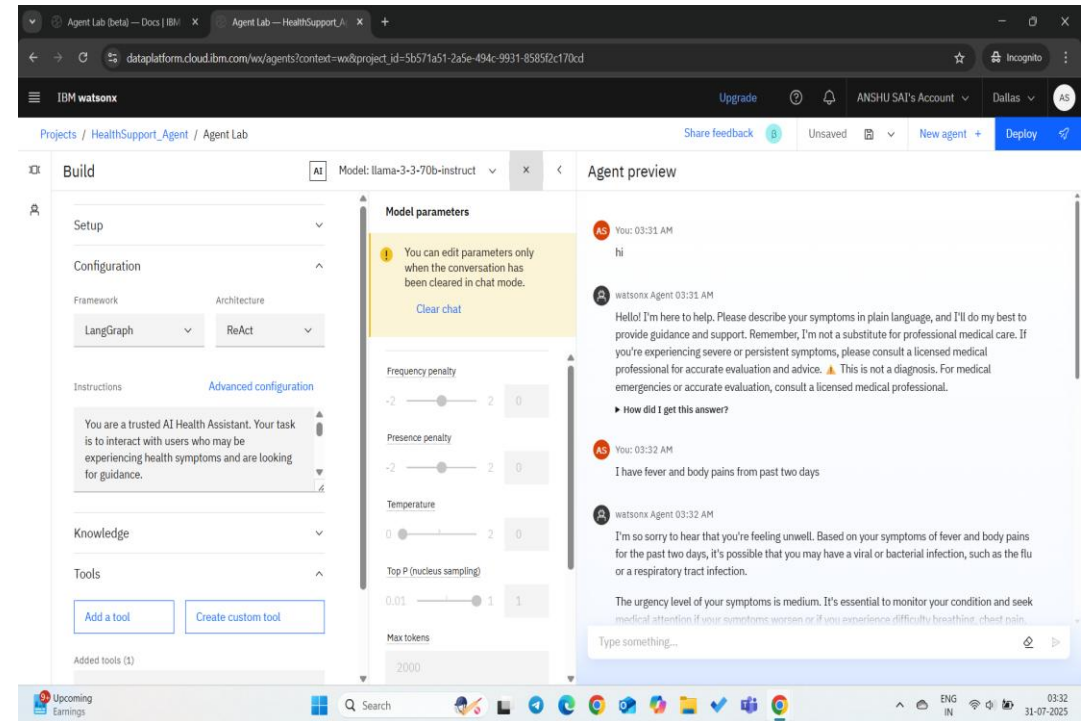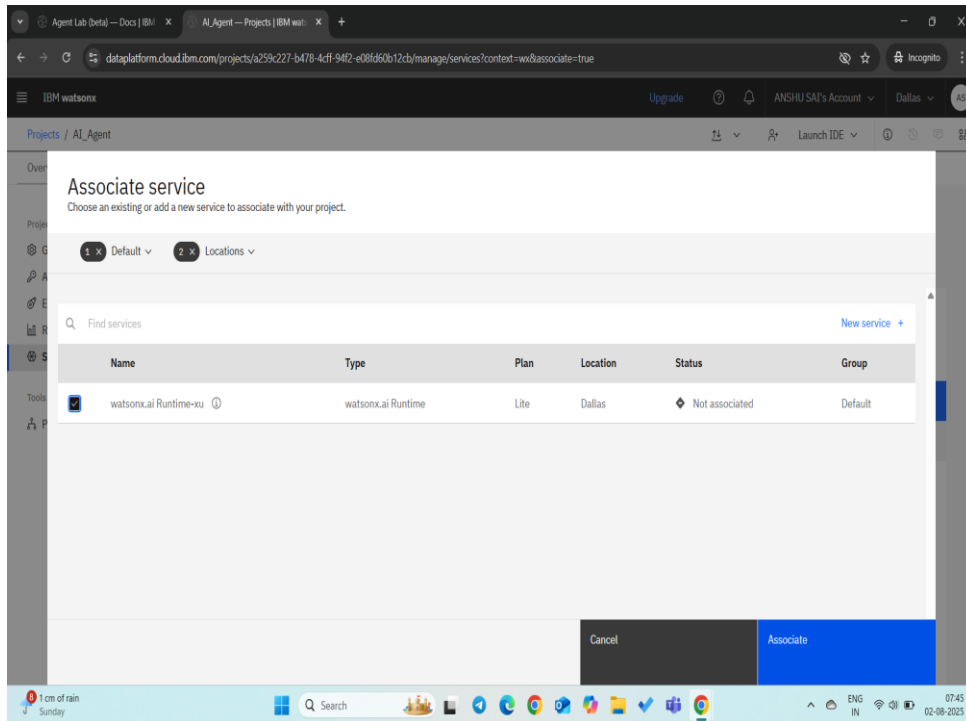
RESULT
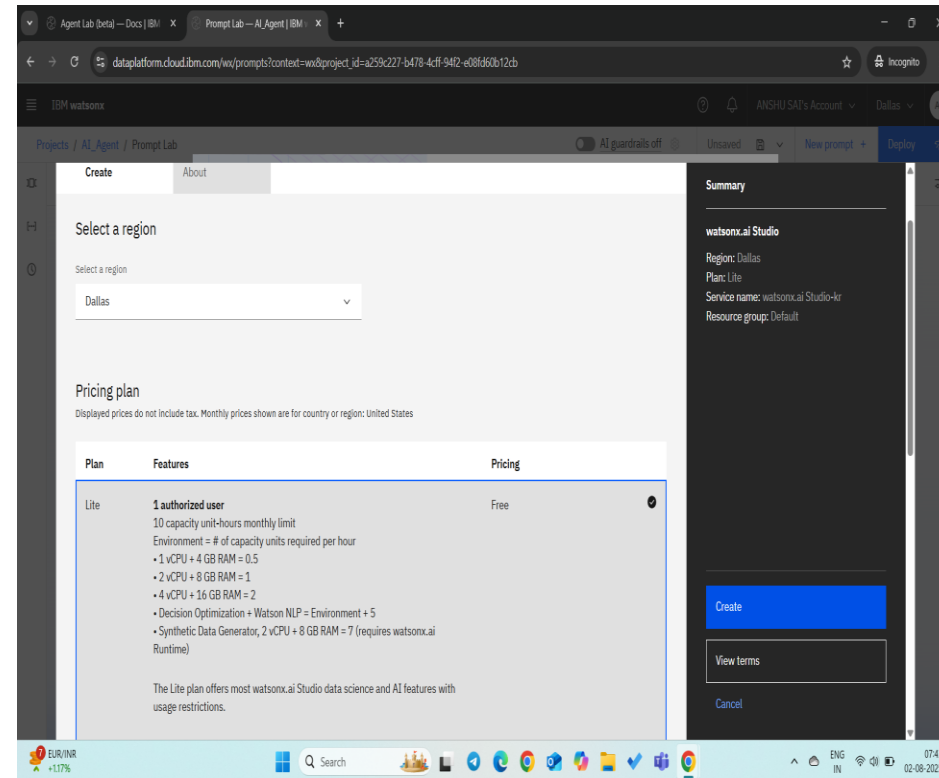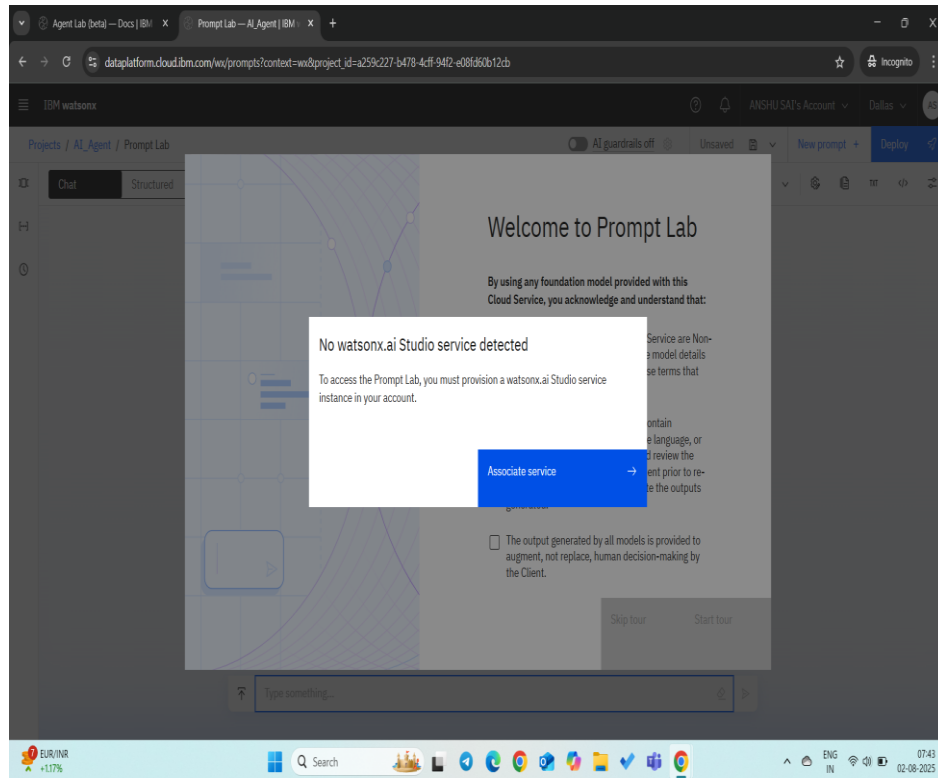
- Now you can click on Build an AI agent to automate tasks click on associate service click on create
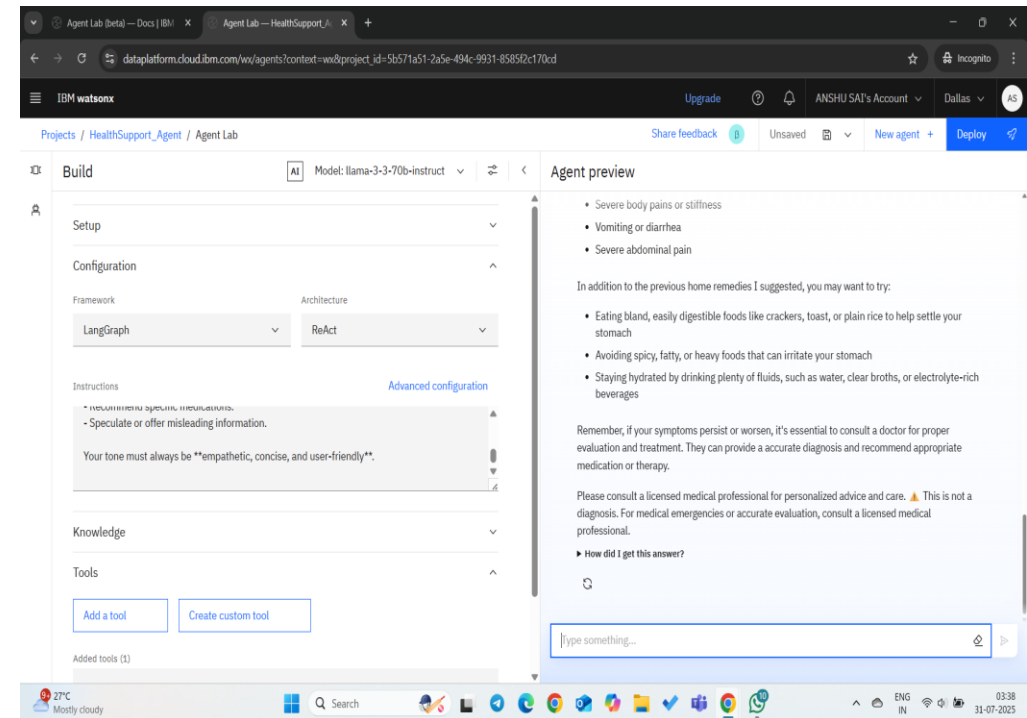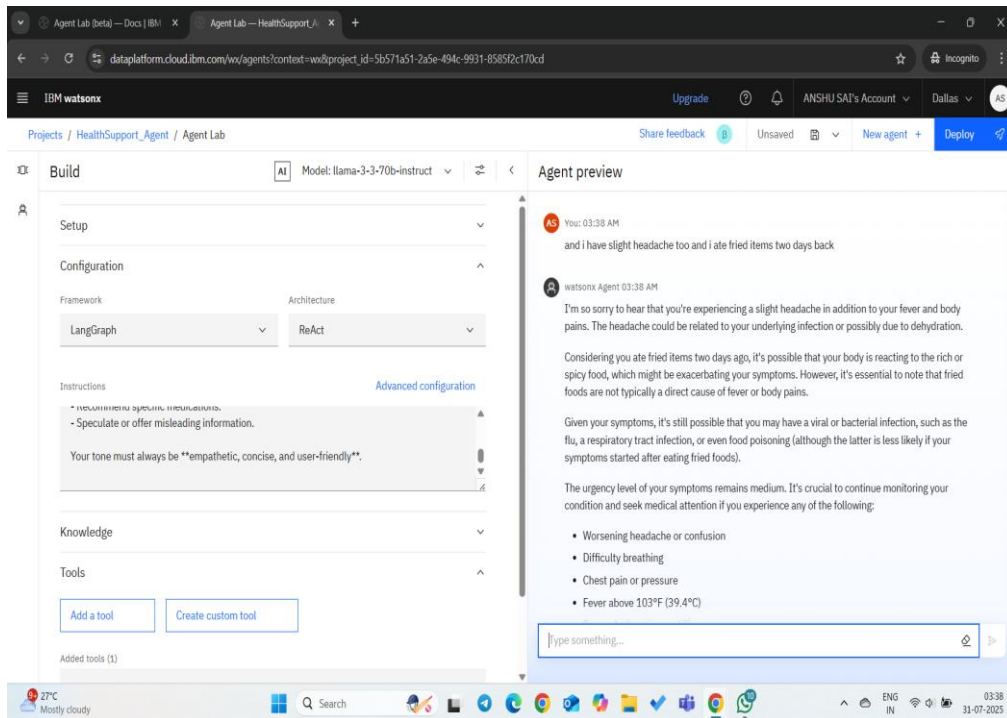
RESULT
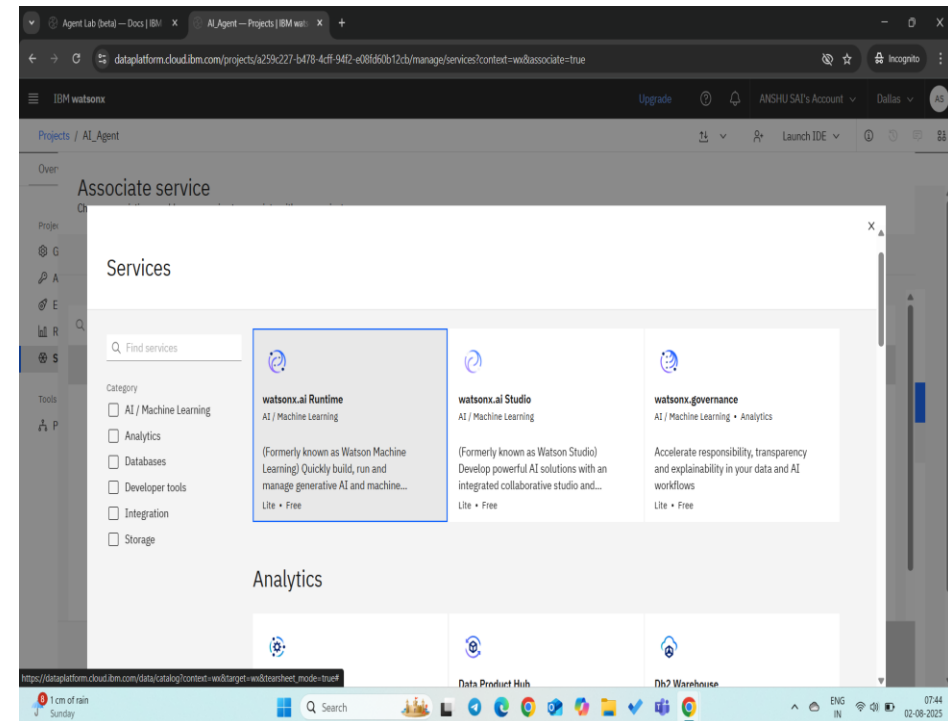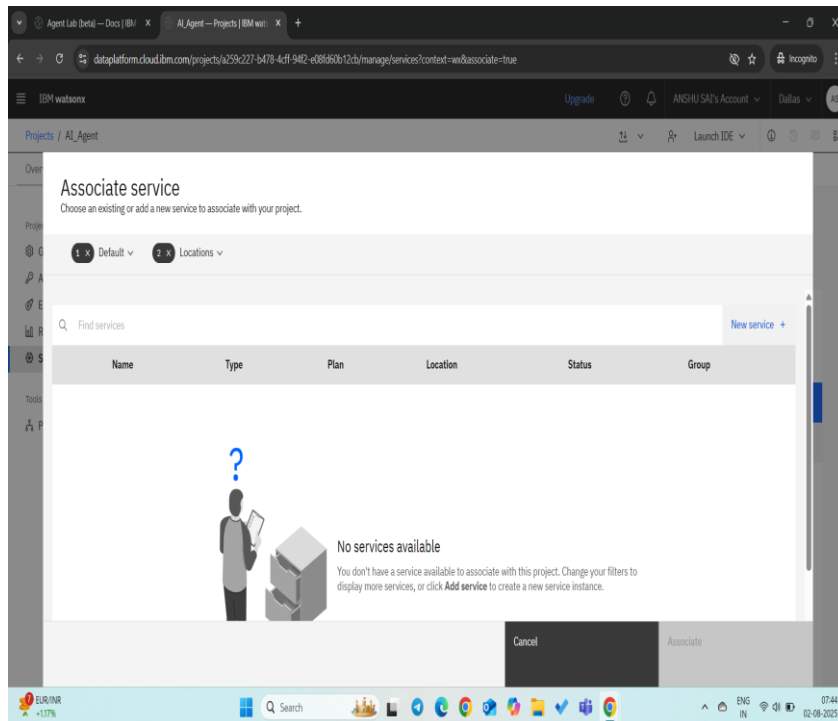
- In associate service click on new service select watsonx runtime and associate it.
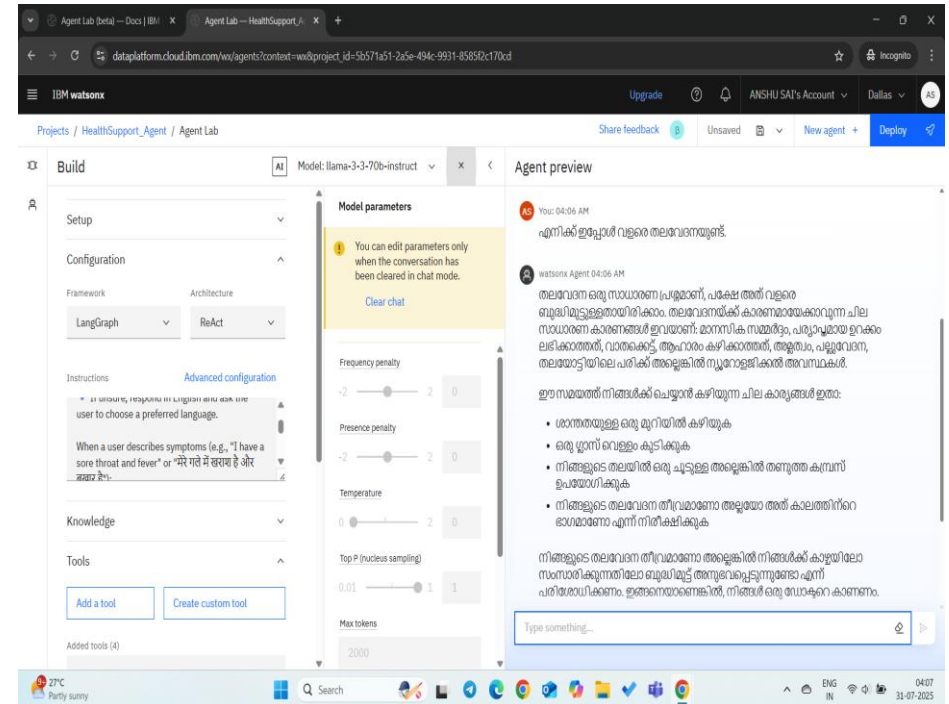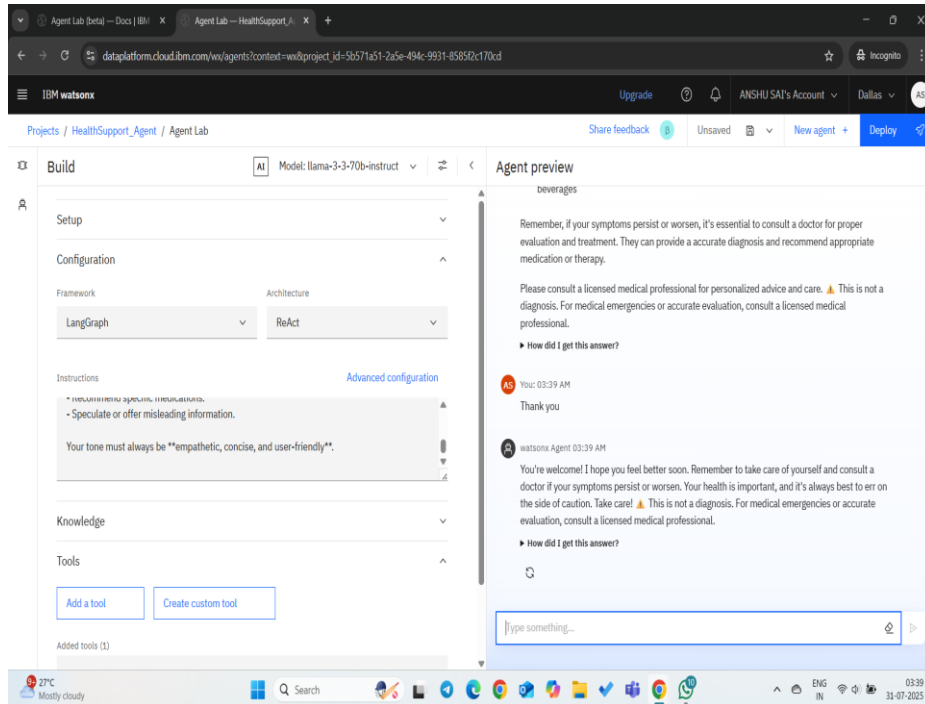
RESULT

- Click on associate and click on ibm watsonx you will enter into agent lab now
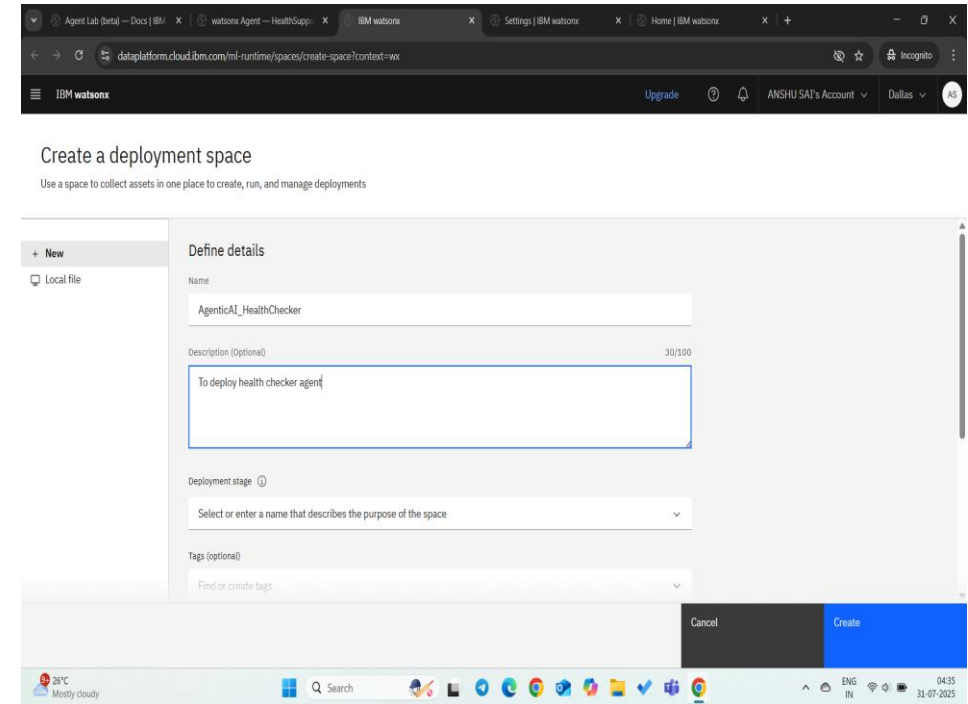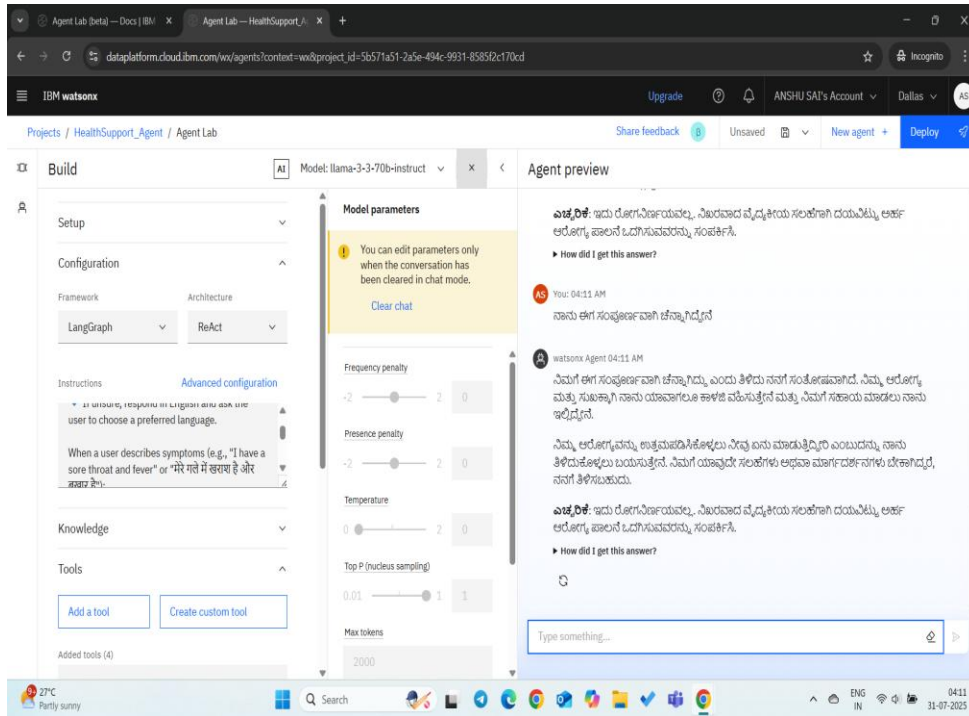
RESULT

- Now you can give instructions to agent and can add KB and custom tools according requirement.
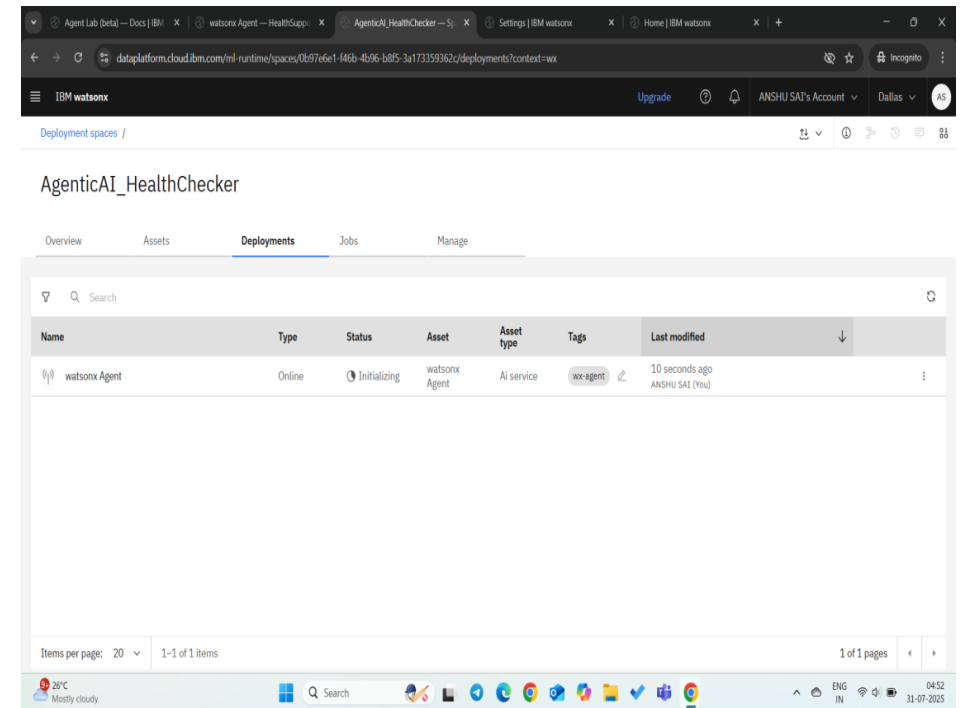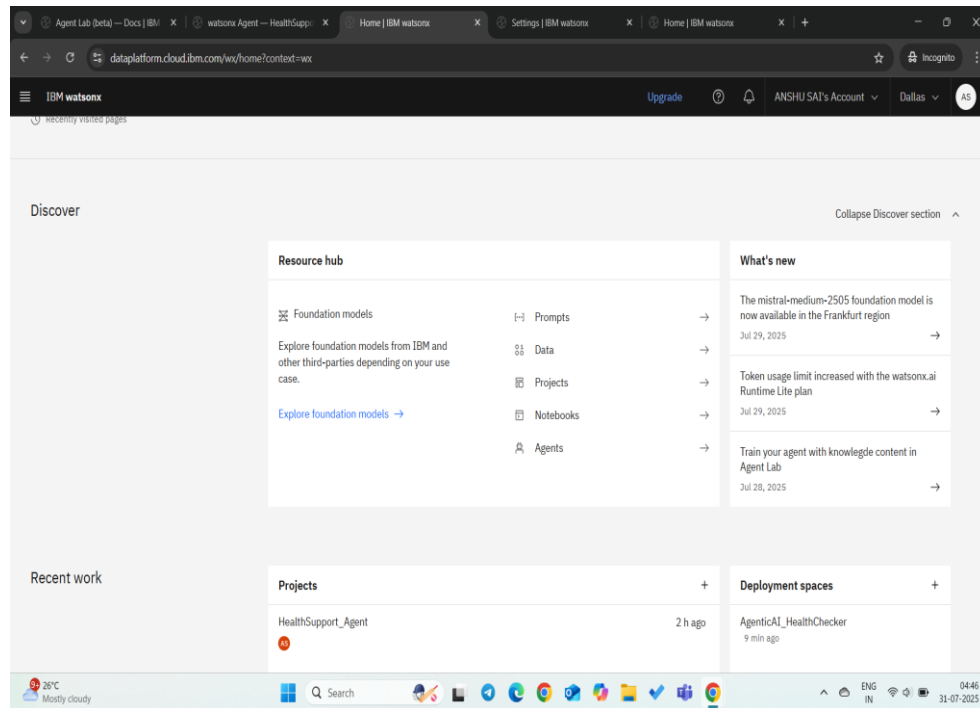
RESULT

- After giving instructions you can preview it how agent is working

RESULT

- After previwing click on save and then Click on AI agents and save and deploy it by creating space for it

RESULT

- In projects we have created deployment space and click on watsonx agent to enter to lab

RESULT

- You can create api key also Its in development stage and it has deployed successfully now

edunet foundation

RESULT

RESULT

- Click on watsonx agent and preview it

CONCLUSION

- The AI-powered symptom checker successfully guides users using verified health data, avoids misdiagnosis, and works in multiple languages. The multilingual prompt design makes it adaptable and inclusive. Key challenges included balancing language-specific nuances and ensuring clarity without overwhelming users.

FUTURE SCOPE

- Future Enhancements:

- - Voice-based interaction and accessibility features

- - Regional language expansion

- - Integration with local health clinics and telemedicine APIs

- - Real-time health alerts and location-based risk detection

- - Use of RAG (Retrieval-Augmented Generation) for evidence-based outputs

REFERENCES

- • WHO Symptom Guidelines – www.who.int

- • CDC Symptom Checker – www.cdc.gov

- • IBM Watsonx.ai Documentation

- • IBM Cloud Services

- • Langdetect Python Library

- • Granite Foundation Model (13B) – IBM Research

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence

Getting Started with Artificial Intelligence

ANSHU SAI

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence

Issued on: Jul 15, 2025
Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/e24fea73-865f-4b4c-8d21-2072e12dba16

IBM

edunet
foundation

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence

ANSHU SAI

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution

Issued on: Jul 16, 2025
Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/1751f3f0-3cde-441e-b651-d20daea620e8

IBM.

IBM CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate

This certificate is presented to

ANSHU SAI

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins

edunet
foundation

THANK YOU

edunet
foundation