CAPSTONE PROJECT

TRAVEL PLANNER AGENT USING IBM CLOUD

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PROBLEM STATEMENT

- Planning a trip involves many tasks like selecting destinations, managing budgets, finding accommodations, and choosing travel options. Doing all this manually is time-consuming, especially for inexperienced travelers.
- The lack of a centralized, interactive system for personalized travel planning makes the process difficult.
- There is a need for an intelligent assistant that can provide quick, customized travel suggestions based on user preferences and budget constraints.

PROPOSED SOLUTION

- **The proposed system aims to address the challenge of simplifying the travel planning process for users.**
- Travelers often face confusion while selecting suitable destinations, budgeting, and getting updated travel tips. This project uses **IBM Cloud** and **Watson Assistant** to create a smart conversational agent that assists in planning trips interactively, without requiring manual web searches.
- The solution is an AI-based **Travel Planner Agent** built using **IBM Watson Assistant** on **IBM Cloud Lite**.
  It assists users in planning trips by responding to queries about destinations, budgets, and seasons.
  The chatbot uses predefined conversation flows (intents and dialog nodes) to generate instant, personalized travel suggestions.

SYSTEM APPROACH

System approach means looking at a problem or process as a whole, understanding how all parts interact and work together to achieve a goal.

System Requirements:
•IBM Cloud Lite Account
•Watson Assistant (Lite Plan)
•No external integrations or APIs required

Tools & Tech Used:
•IBM Watson Assistant
•Dialog Intents and Nodes
•Webchat Deployment (Optional)

ALGORITHM & DEPLOYMENT

It uses a **rule-based conversational AI approach** powered by **IBM Watson Assistant**.

- Watson Assistant uses **Natural Language Understanding (NLU)** to detect **user intents**, extract **entities**, and follow **predefined dialog logic** to generate accurate responses instantly.
- 1) **Input Structure (Intent Recognition):**

The system uses structured intents and entities as the core inputs:

User Intents:

#suggest_places – e.g., “Where should I go?”

#budget_travel – e.g., “Suggest places under ₹5000”

- 2) **Response Flow / Decision Logic:**

The chatbot uses predefined dialog trees to generate responses based on matched intent and context.

Conditional logic like “If user says < ₹10,000 budget ⟶ suggest X places” is used.

Responses can be customized dynamically using slot-filling (asking follow-up questions like: “What month are you planning for?”).

ALGORITHM & DEPLOYMENT

- 3) **Example:**

User Query: "Suggest a destination for winter trip under 5000"

Watson Assistant Flow:

Detects intent #budget_travel

Detects entities @season=winter, @budget=5000

Returns: “You can explore Manali, Mussoorie, or Rishikesh for a budget-friendly winter trip.”

- 4) **Real-Time Adaptation:**

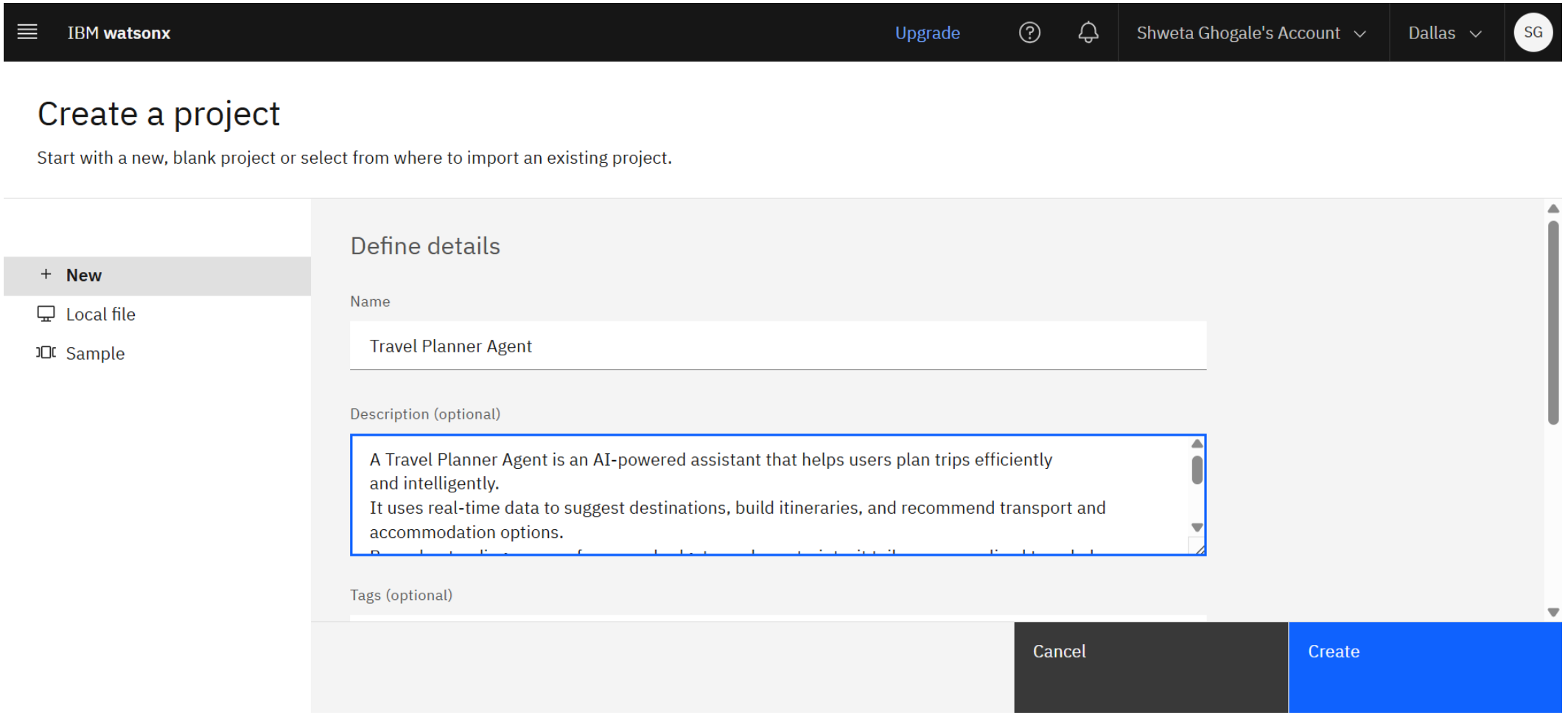
While not dynamically learning like ML, the assistant can be improved manually:

Add more user phrases

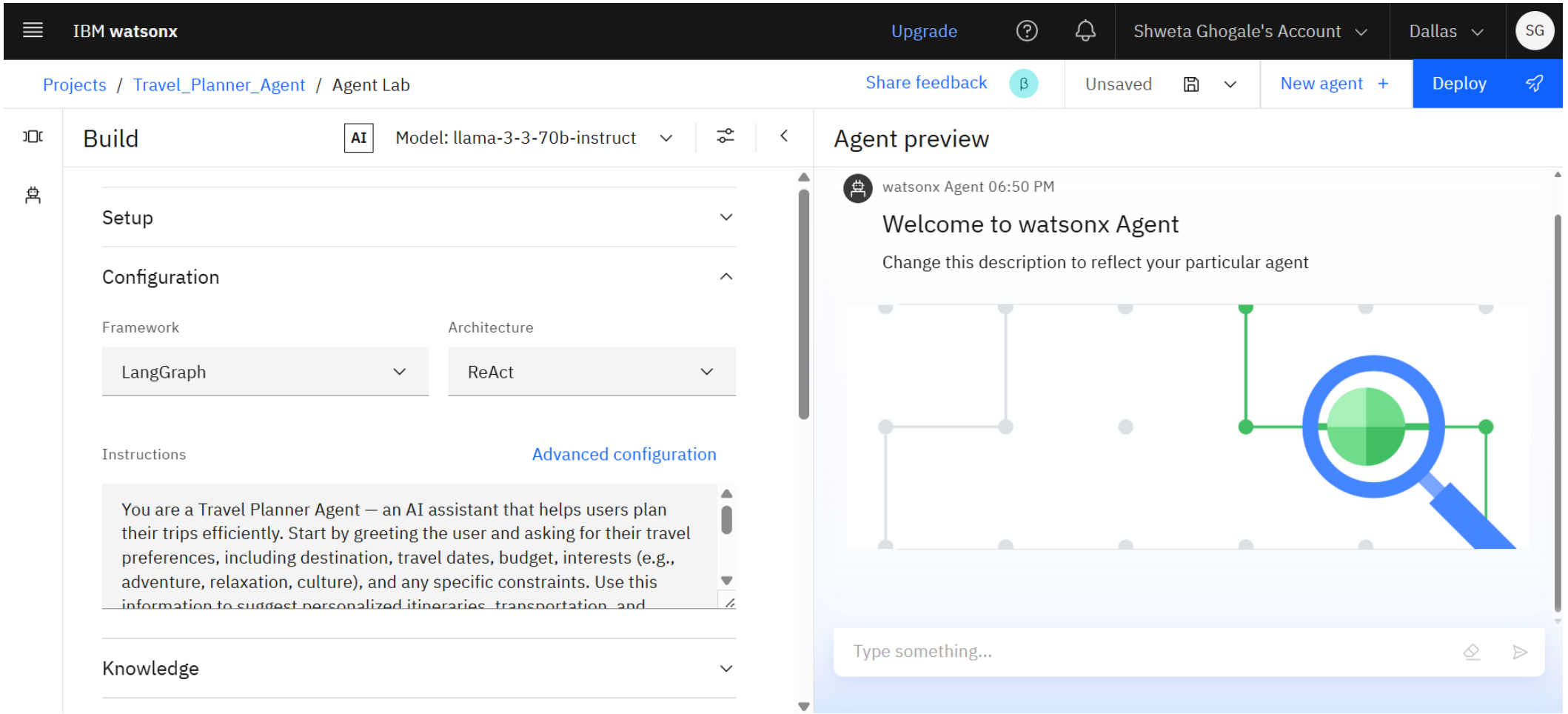
Tune dialog logic

Test and optimize response accuracy

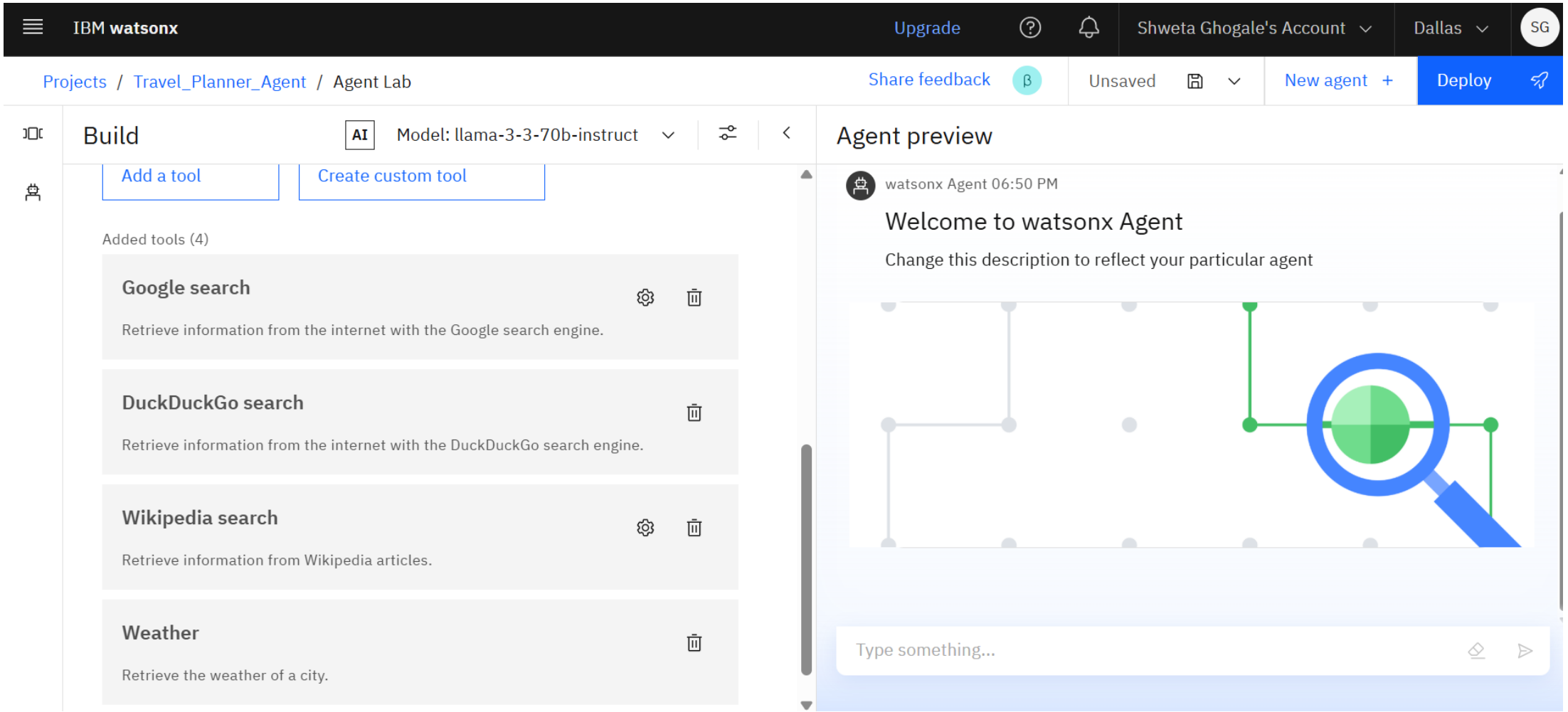
RESULT



RESULT



RESULT



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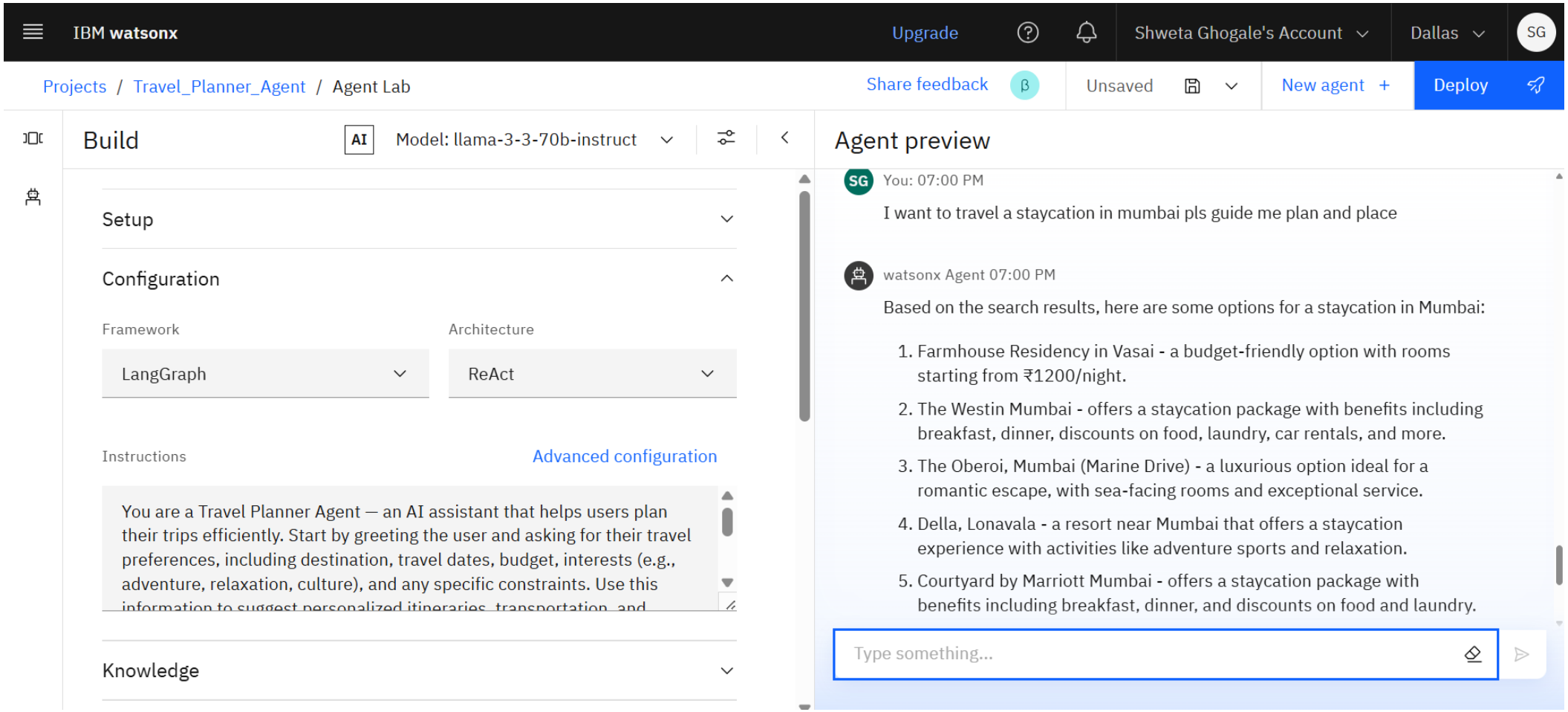
RESULT



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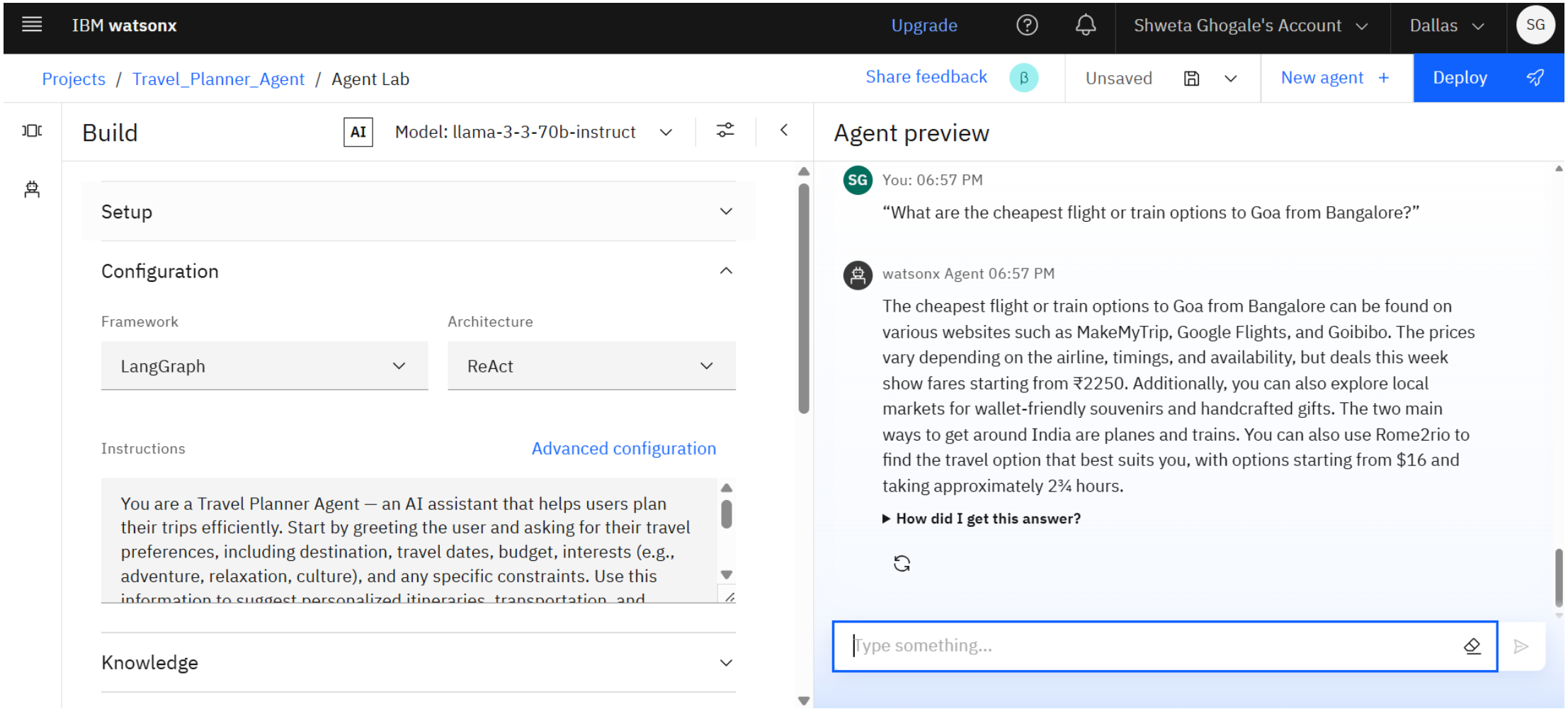
RESULT



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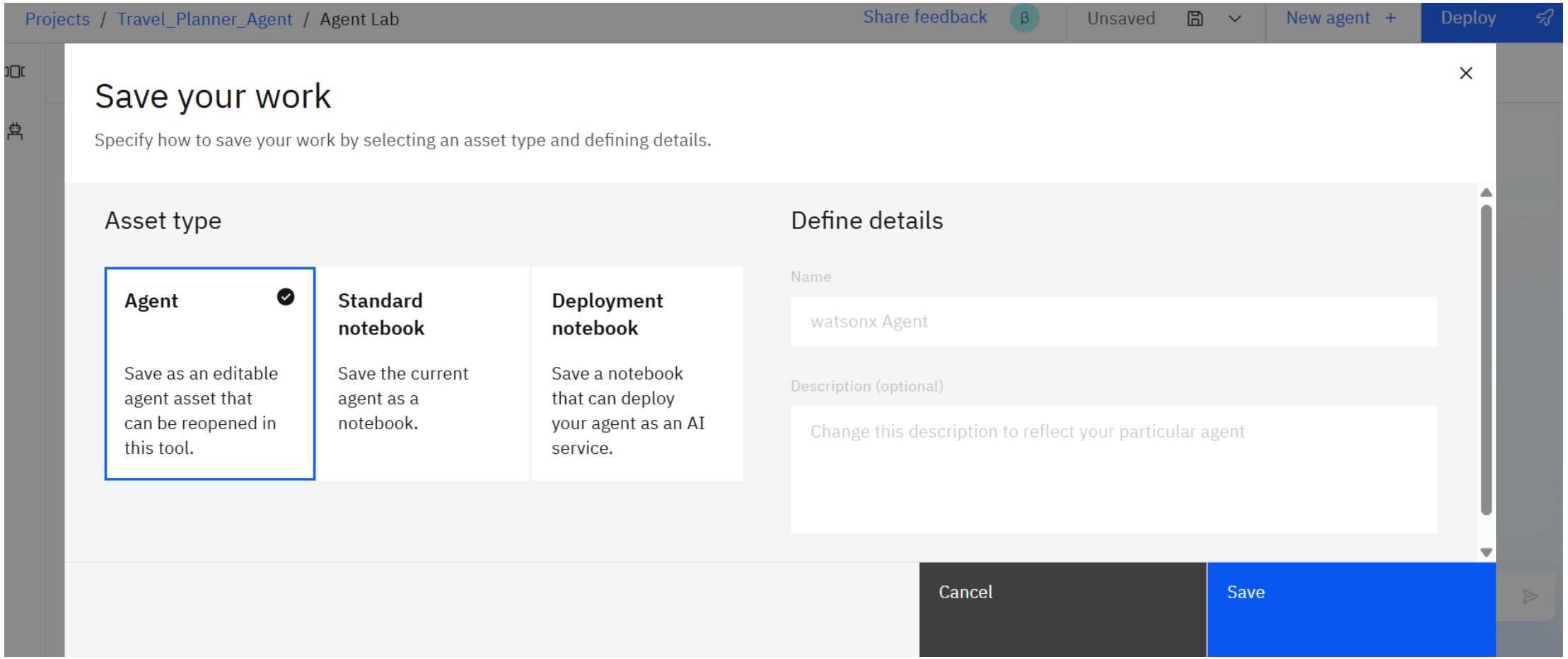

CONCLUSION

- The Travel Planner Agent offers a simple, user-friendly chatbot that helps users make travel decisions easily.
- It reduces manual searching and offers quick suggestions, making travel planning more accessible.
- Using IBM Cloud Lite and Watson Assistant, a functional AI chatbot can be built without complex coding.

FUTURE SCOPE

- Integrate **real-time APIs** for weather, hotels, and flights
- Enable **voice input** and **multi-language support**
- Personalize responses using **user profiles** and **preferences**
- Scale the bot to include **international travel planning**

REFERENCES

- IBM Cloud Documentation: https://cloud.ibm.com/docs
- IBM Watson Assistant: https://cloud.ibm.com/docs/assistant
- IBM SkillsBuild Academia Project List (2025)
- TutorialsPoint, IBM Developer Docs for chatbot deployment

IBM CERTIFICATIONS

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IBM **SkillsBuild** Completion Certificate

This certificate is presented to

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for the completion of

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(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT) **Learning hours:** 20 mins

THANK YOU

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