IBM HACKATHON PROJECT

NUTRITION AI AGENT

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OUTLINE

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PROBLEM STATEMENT

- Today, many people want personalized nutrition advice. But most apps give same diet plans to everyone and don't consider lifestyle, culture, allergies, or health changes.
- Dieticians and nutritionists can't help everyone personally because of limited time and resources.Generative AI can solve this by creating a smart and helpful virtual nutrition assistant.
- It can understand input from text, voice, or images (like food photos or labels) and give custom meal plans and healthy food swaps.
- The assistant can also explain why a food is good and change suggestions based on feedback.
- This project uses IBM Cloud Lite and IBM Granite to build “The Smartest AI Nutrition Assistant”, making diet advice more personal and easy to access.

TECHNOLOGY USED

- IBM cloud lite services
- Natural Language Processing (NLP)
- IBM Granite model
- IBM App Connect
- Multimodal Input Analysis (Text, Voice, Image)
- Large Language models (LLM)

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Functions
- IBM Cloud service
- IBM Granite (via watsonx.ai studio)
- IBM Cloud Object Storage
- IBM AI Tools

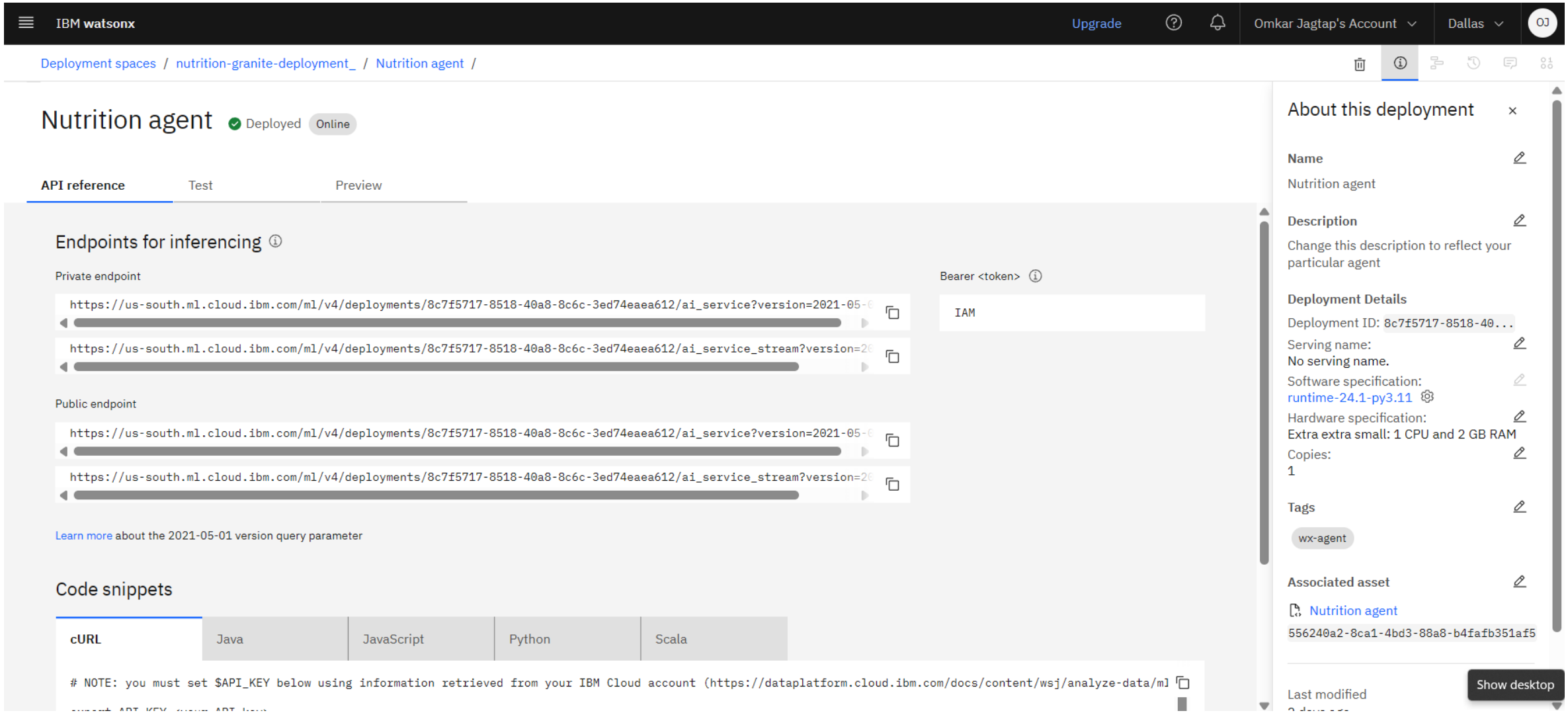
WOW FACTORS

- Real-time dietary plan updates based on feedback
- Smart food swaps and contextual nutritional explanations
- Multimodal understanding (image, voice, text)
- Hyper-personalized plans based on user lifestyle and culture
- Continuous learning from user interactions

END USERS

- Health-conscious individuals
- Fitness enthusiasts
- People with medical dietary needs
- Dieticians & Nutritionists
- Lifestyle coaches
- Wellness app users

API REFERENCE AFTER DEPLOYMENT



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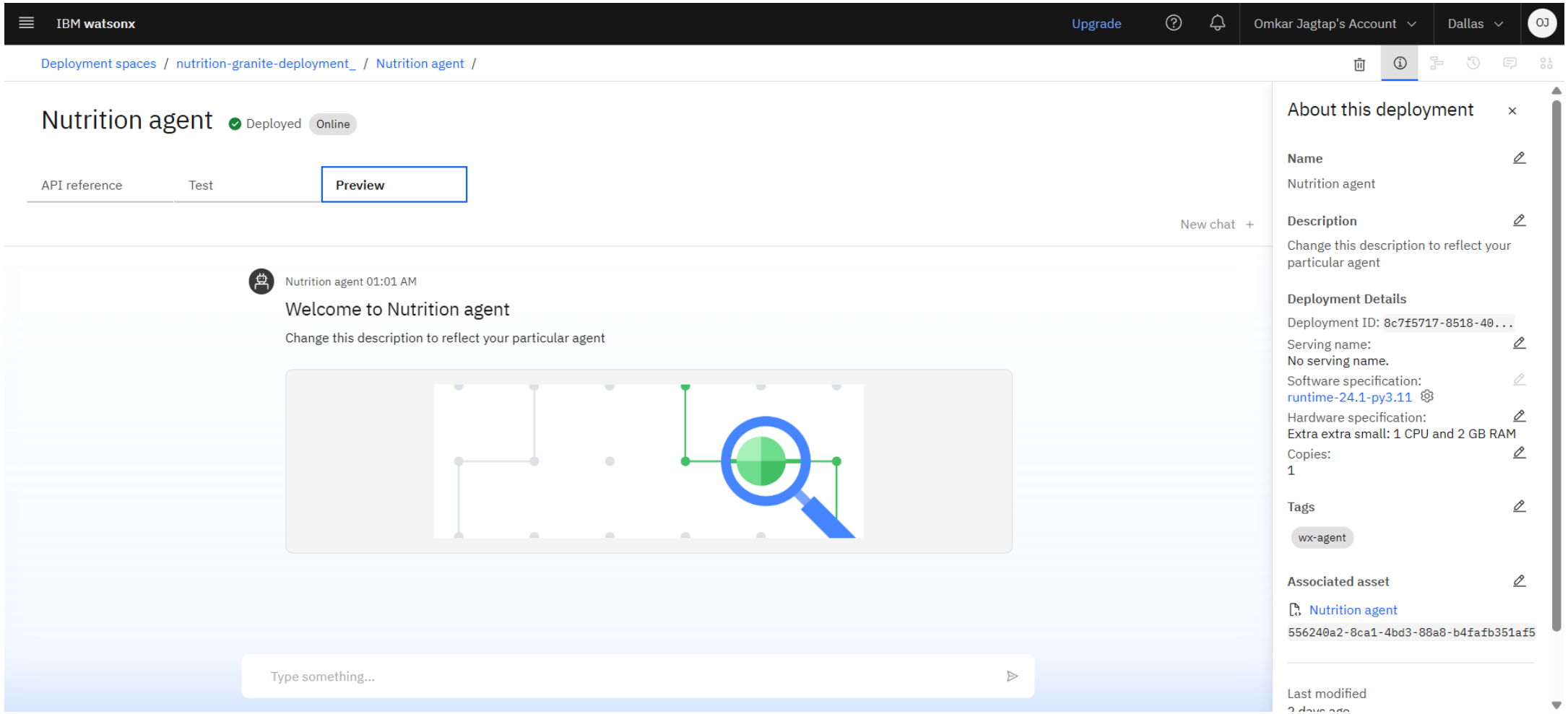
DEPLOYMENT & PREVIEW



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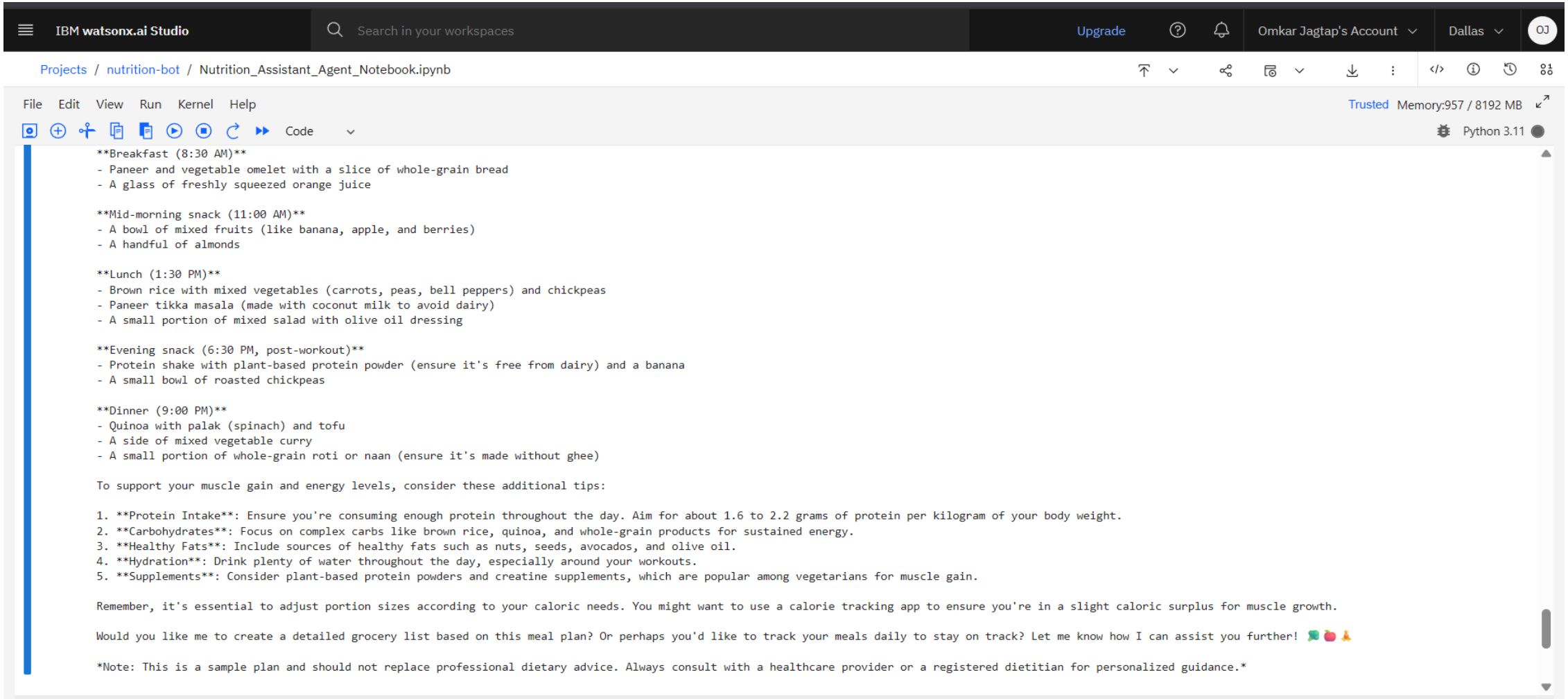
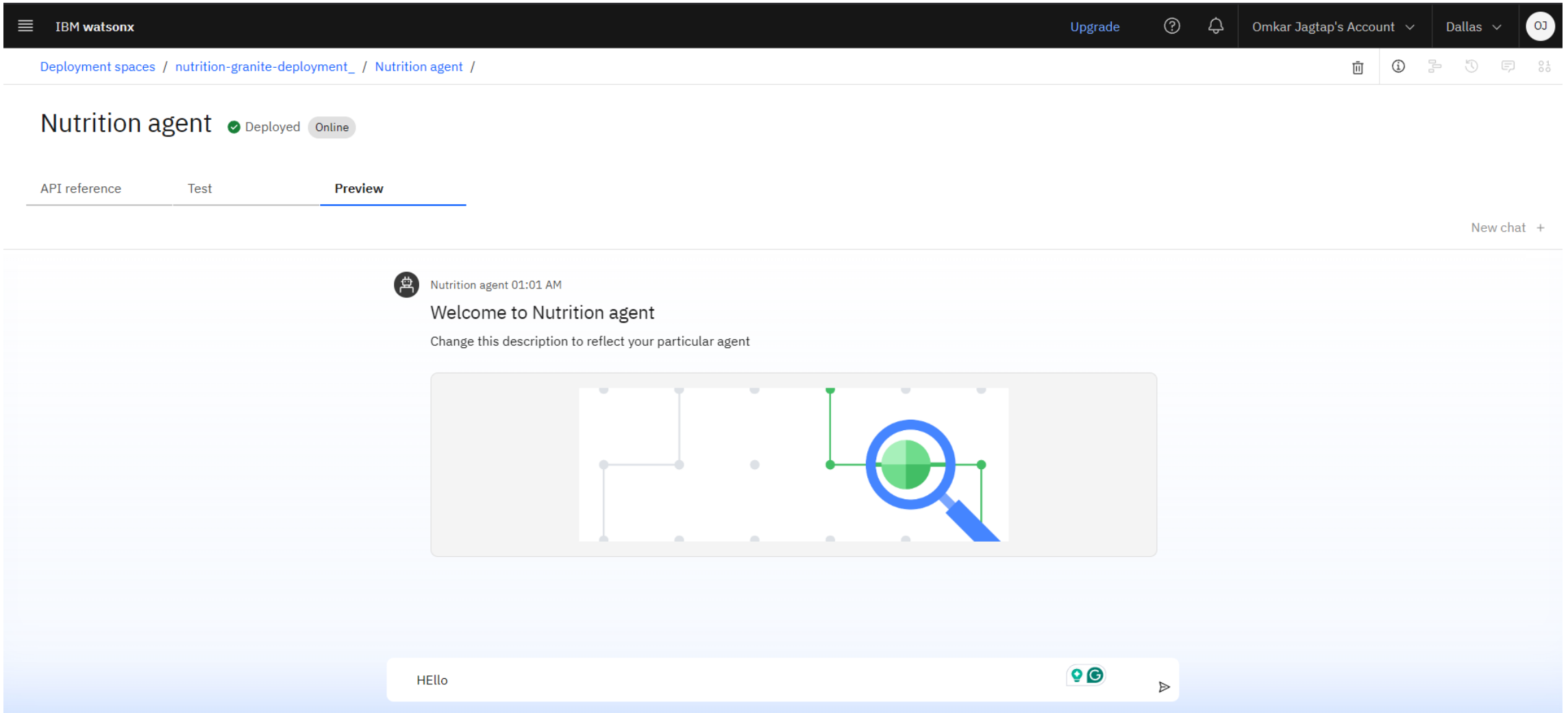
DEPLOYMENT & PREVIEW



RESULTS



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CONCLUSION

- The Nutrition AI Assistant makes healthy eating simple and personalized.By using IBM Cloud AI services, it delivers real-time, adaptive meal plans based on each person's unique needs and preferences.
- The AI Nutrition Assistant transforms generic diet planning into an adaptive, interactive experience.
- It brings scalable, personalized nutritional guidance through IBM's cutting-edge AI tools.
- This project shows how AI can solve real-life health and lifestyle challenges in a smart, easy, and user-friendly way.

GITHUB LINK

- https://github.com/Omkarj00/NUTRI-BOT_AI-Nutrition-Assistant-

FUTURE SCOPE

- Integration with fitness wearables (e.g., Fitbit, Apple Watch) to track real-time activity and calories burned for more accurate meal planning.
- AI-powered chatbot for 24/7 meal tracking, reminders, and personalized feedback based on user progress.
- Multilingual support to help users around the world with nutrition guidance in their native languages.
- Voice assistant integration (e.g., Alexa, Google Assistant) to allow hands-free access to meal suggestions and health tips.
- Offline access mode for users in rural or low-connectivity areas, ensuring uninterrupted support and meal recommendations.

IBM CERTIFICATIONS

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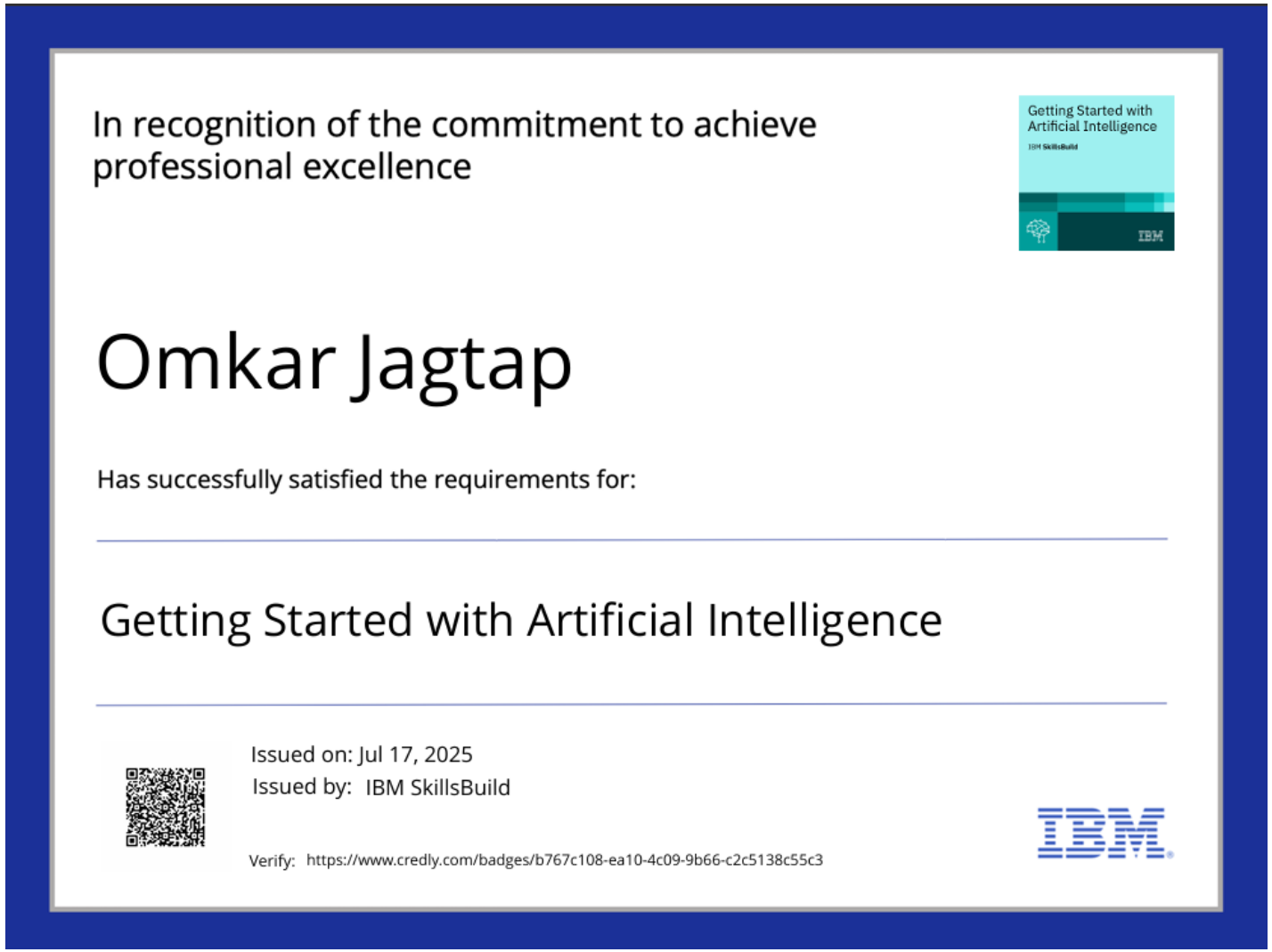
IBM CERTIFICATIONS



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IBM LAB CERTIFICATE

IBM **SkillsBuild** Completion Certificate

This certificate is presented to

Omkar Jagtap

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 18 Jul 2025 (GMT) **Learning hours:** 20 mins

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THANK YOU

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