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# CAPSTONE PROJECT

## TRAVEL AI AGENT

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# OUTLINE

- Problem Statement
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- IBM Certifications

# PROBLEM STATEMENT

- In today's fast-paced world, planning a trip can be a time-consuming and overwhelming task. Travelers often struggle to find the best destinations, compare accommodation and transport options, create optimized itineraries, and manage budget constraints—all while trying to tailor the experience to their unique preferences.
- Existing travel platforms are often fragmented, requiring users to switch between multiple apps and websites to gather information, book services, and organize their trips. This not only leads to inefficiencies but also results in suboptimal travel experiences.
- There is a need for an intelligent, user-friendly solution that can automate and personalize the travel planning process end-to-end. The solution should leverage artificial intelligence to understand user preferences, analyze real-time data, suggest suitable destinations, build customized itineraries, and recommend optimal transport and accommodation options—all in a seamless and intuitive interface.

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# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

# IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

# WOW FACTORS

The Travel AI Agent stands out with its intelligent and highly personalized approach to trip planning. By leveraging artificial intelligence, it can understand user preferences—such as budget, travel duration, and interests—and generate customized, day-wise itineraries that adapt dynamically based on real-time data like weather conditions, transport availability, and local events. One of its most impressive features is the natural language interface, allowing users to plan entire trips through simple conversational commands. Unlike traditional travel apps, this agent acts as a one-stop solution, combining flight and hotel booking, local transportation suggestions, food recommendations, and expense tracking in a unified dashboard. It also offers a smart budget optimization engine that adjusts the travel plan based on financial constraints. With multilingual support and location awareness, it ensures a culturally relevant and inclusive experience. Additionally, the agent provides real-time safety alerts, travel document organization, and calendar integration for seamless coordination. For eco-conscious travelers, it even recommends sustainable travel options. These innovative features collectively make the Travel AI Agent not just a tool, but a truly smart travel companion.

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## END USERS

- Frequent Travellers
- Students and budget travellers
- Corporate Travel Planners
- Travel Agencies and Agents

# RESULTS

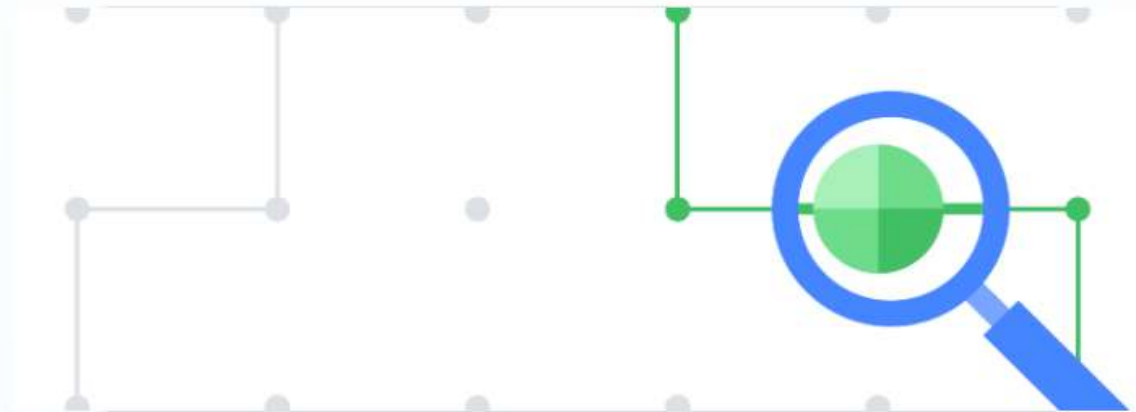
## Agent preview



Travel Agent 12:27 AM

### Welcome to Travel Agent

This Travel Agent helps for all travel related queries and it is your travel buddy.



Type something...





# RESULTS

Deployment spaces / Travel\_Agent / Travel Agent /

Travel Agent ✓ Deployed Online

API reference Test **Preview**

New chat +

**A** You 12:40 AM  
what are the different type of visa for travelling

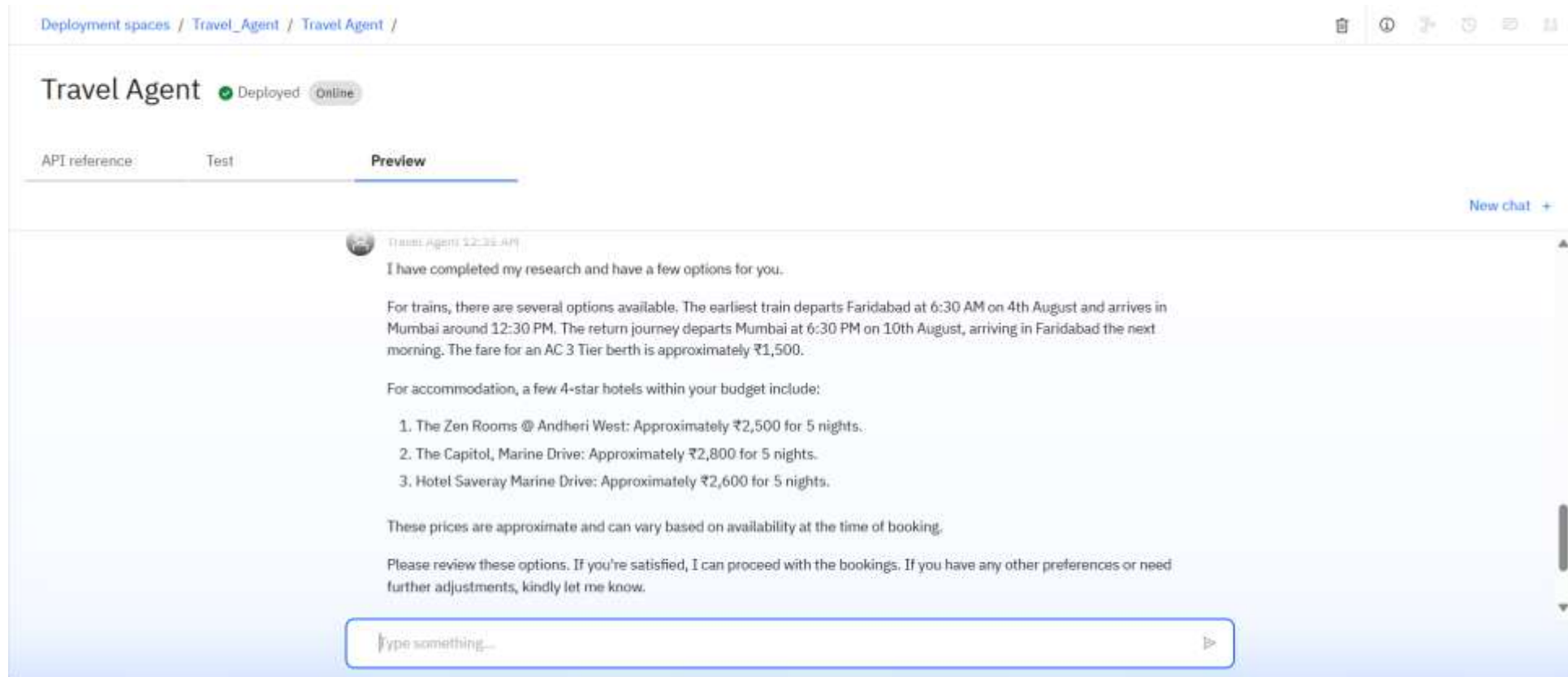
**Travel Agent** 12:40 AM  
There are numerous types of visas, and the specific one you need depends on the purpose and duration of your travel, as well as the countries you plan to visit. Here are some common types:

1. Tourist or Visitor Visa: For short-term stays for tourism, visiting friends, or attending social events.
2. Business Visa: For those traveling for business purposes such as meetings, conferences, or negotiations.
3. Work Visa: For individuals seeking employment in a foreign country.
4. Student Visa: For those planning to study in another country.

Type something...

# RESULTS

## Deployed AI Agent



The screenshot displays the user interface of a deployed AI agent named "Travel Agent". At the top, the breadcrumb navigation shows "Deployment spaces / Travel\_Agent / Travel Agent /". The agent's status is "Deployed" with a green checkmark and "Online" in a grey pill. Below this are three tabs: "API reference", "Test", and "Preview", with the "Preview" tab being the active selection. On the right side of the preview area, there is a "New chat +" button. The chat history shows a message from the "Travel Agent" at 12:33 AM. The message content is as follows:

I have completed my research and have a few options for you.

For trains, there are several options available. The earliest train departs Faridabad at 6:30 AM on 4th August and arrives in Mumbai around 12:30 PM. The return journey departs Mumbai at 6:30 PM on 10th August, arriving in Faridabad the next morning. The fare for an AC 3 Tier berth is approximately ₹1,500.

For accommodation, a few 4-star hotels within your budget include:

1. The Zen Rooms @ Andheri West: Approximately ₹2,500 for 5 nights.
2. The Capitol, Marine Drive: Approximately ₹2,800 for 5 nights.
3. Hotel Saveray Marine Drive: Approximately ₹2,600 for 5 nights.

These prices are approximate and can vary based on availability at the time of booking.

Please review these options. If you're satisfied, I can proceed with the bookings. If you have any other preferences or need further adjustments, kindly let me know.

At the bottom of the chat window is a text input field with the placeholder text "Type something..." and a send button (a right-pointing triangle) on the right.

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## CONCLUSION

- The Travel AI Agent simplifies and revolutionizes the trip planning process through intelligent automation and real-time data integration.
- It addresses the common pain points of modern travelers by offering personalized, budget-friendly, and efficient travel solutions in a single platform.
- It enhances safety convenience, and accessibility for various types of travelers- from tourists to business professionals.

## GITHUB LINK

- <https://github.com/arpit6398/IBM-skillsbuild-project>

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# FUTURE SCOPE

- Predictive travelling planning
- Voice Assistant & Wearable Integration
- Social & Group Travel Features
- Hyper-Personalization
- Multi-Language and cross border support
- White-Label SaaS Model

# IBM CERTIFICATIONS





This certificate is presented to

Arpit Dhiman

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record



**THANK YOU**