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# AICTE PROJECT

## TRAVEL PLANNER AGENT

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## OUTLINE

- Problem Statement
- Proposed Solution
- Technology used
- End User
- Wow factor
- Result
- Conclusion
- Future scope
- IBM Certifications
- Git-hub Link

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# PROBLEM STATEMENT

Planning a trip—whether for leisure or business—is often a time-consuming and overwhelming task. Travelers face challenges such as researching destinations, comparing flights and accommodations, organizing itineraries, managing budgets, and dealing with last-minute changes or disruptions. These tasks require switching between multiple apps and platforms, leading to fragmented and inefficient planning experiences. There is a need for an intelligent, all-in-one solution that can simplify and streamline the entire travel planning process by providing personalized recommendations, smart itineraries, and real-time assistance—all in one place.

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# PROPOSED SOLUTIONS

- Trip Genie is an intelligent AI travel agent powered by IBM Watsonx and advanced Large Language Models (LLMs) to revolutionize the way users plan and experience travel. By harnessing the capabilities of Watsonx.ai, Trip Genie can understand natural language queries, interpret user preferences, and generate dynamic, personalized travel plans in real time. The LLM enables deep contextual understanding, allowing the agent to:
  - Suggest ideal destinations based on user interests and travel history
  - Generate complete day-by-day itineraries
  - Assist in hotel, flight, and activity bookings
  - Respond to follow-up questions and changes with contextual memory
  - Provide real-time travel assistance such as weather updates, visa requirements, or cancellation policies

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# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

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## IBM CLOUD SERVICES USED

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

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## END USERS

- Leisure Traveler
- Business Travelers
- First-Time Travelers
- Travel Enthusiasts / Digital Nomad
- Event and Group Planners
- Students Studying or Traveling Abroad

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# WOW FACTORS

- ❖ Built on IBM Cloud with secure, scalable infrastructure
- ❖ Utilizes Watsonx.ai for powerful, natural language conversations
- ❖ Personalized AI-generated itineraries based on user preferences
- ❖ End-to-end trip planning in a single platform
- ❖ Context-aware LLM with memory for seamless follow-ups
- ❖ Smart budget planner and cost-optimized suggestions
- ❖ Eco-friendly travel recommendations
- ❖ Offline access to itineraries and emergency assistance
- ❖ Easily extendable for travel agencies, corporates, and universities
- ❖ Enterprise-grade AI governance and data privacy with Watsonx



# RESULTS

## 1. SETUP..

The screenshot displays the IBM watsonx Agent Lab interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Md Hamza Anwar's Account' in the 'Dallas' region. The breadcrumb trail shows 'Projects / Travel\_Planner\_Agent / Agent Lab'. The main interface is divided into two panels: 'Build' and 'Agent preview'.

**Build Panel:**

- Setup:** A dropdown menu showing the current configuration.
- Name:** A text field containing 'Trip Genie'.
- Description:** A text area with the placeholder text 'Hi! Let's plan your next adventure together.' and a character count of '44/100'.
- Icon:** A selection of icons, with a blue umbrella icon chosen.
- Placeholder image:** A text field with a placeholder image of a blue background with white lines.
- Quick start questions:** A section for adding questions, with a placeholder text 'Add up to 4 quick start questions that your users can select.'

**Agent preview Panel:**

- Header:** 'Agent preview' with a model selector set to 'Model: granite-3-3-8b-instruct'.
- Message:** A chat bubble with the text 'Hi! Let's plan your next adventure together.'
- Image:** A large blue image with white lines, matching the placeholder image in the build panel.
- Sample questions:** A grid of four buttons with sample questions: 'Suggest a destination for my budget', 'Plan 5-day trip to Bali', 'Find hotels and flights', and 'What's the weather at my travel location?'. Each button has a right-pointing arrow.
- Input:** A text input field with the placeholder 'Type something...' and a send button.

# RESULTS

## 2. AGENTS INSTRUCTIONS..

The screenshot shows the 'Advanced configuration' interface for an agent in the IBM watsonx environment. The breadcrumb trail indicates the path: Projects / Travel\_Planner\_Agent / Agent Lab. The page has a dark header with 'IBM watsonx' and user account information. The main content area is titled 'Advanced configuration' and has two tabs: 'Agent instructions' (selected) and 'Common instructions'. A 'Reset to default' button is located in the top right of the configuration area. The instructions text reads: 'You are Trip Genie, an AI-powered travel planning assistant. Your role is to help users plan personalized trips, suggest destinations, build itineraries, recommend hotels and transport options, and answer general travel-related queries.' Below this, there are three sections: 'Personality' (Friendly, professional, concise, and knowledgeable. Always be helpful, non-intrusive, and easy to understand. Use natural, conversational language.), 'Capabilities' (a list of tasks like asking follow-up questions, recommending destinations, building itineraries, suggesting accommodations, answering FAQs, and using tools), and 'Behavior Guidelines' (Greet new users with a specific message and always confirm inputs before giving final suggestions). At the bottom right, there are 'Cancel' and 'Apply' buttons.

IBM watsonx Upgrade ? Md Hamza Anwar's Account Dallas MA

Projects / Travel\_Planner\_Agent / Agent Lab Share feedback 8 Unsaved New agent + Deploy

### Advanced configuration

Agent instructions Common instructions

Agent instructions are unique to this agent and will affect its specific behavior. [Reset to default](#)

You are Trip Genie, an AI-powered travel planning assistant. Your role is to help users plan personalized trips, suggest destinations, build itineraries, recommend hotels and transport options, and answer general travel-related queries.

- Personality: Friendly, professional, concise, and knowledgeable. Always be helpful, non-intrusive, and easy to understand. Use natural, conversational language.

✖ Capabilities:

- Ask follow-up questions to clarify travel dates, interests, budget, duration, and location preferences.
- Recommend destinations based on user preferences (e.g. budget, weather, purpose).
- Build day-by-day itineraries including attractions, activities, and travel times.
- Suggest accommodations and transportation based on availability, budget, and convenience.
- Answer FAQs like passport requirements, best travel time, visa info, etc.
- Use tools (if connected) for live weather data, currency rates, or travel APIs.

💡 Behavior Guidelines:

- Greet new users with: "Hi! I'm Trip Genie, your smart travel assistant. How can I help you plan your next trip?"
- Always confirm inputs before giving final suggestions.

Cancel Apply

# RESULTS

## 3. TOOLS USED..

IBM watsonx

Upgrade ⓘ 🔔

Md Hamza Anwar's Account ▾ Dallas ▾ MA

Projects / Travel\_Planner\_Agent / Trip Genie

Share feedback ⓘ Autosaved 3:49 AM 📁 ▾ New agent + Deploy 🔗 🔒 ⓘ

Build

AI Model: granite-3-3-8b-instruct ▾ ⚙️ <

Add a tool

Create custom tool

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.

⚙️ 🗑️

DuckDuckGo search

Retrieve information from the internet with the DuckDuckGo search engine.

🗑️

Wikipedia search

Retrieve information from Wikipedia articles.

⚙️ 🗑️

Webcrawler

Retrieve information from a website.

🗑️

Weather

Retrieve the weather of a city.

🗑️

Agent preview

Trip Genie 03:49 AM

Great! With a budget of 50,000, you have a good range for various destinations. For a balanced experience, I suggest considering Thailand. It offers beautiful beaches, vibrant cities like Bangkok, and affordable prices. You can enjoy luxury resorts, fine dining, and cultural experiences without exceeding your budget.

Would you like more details on Thailand or would you like to explore other options?

▶ How did I get this answer?

MA You: 03:50 AM

what about paris

Trip Genie 03:50 AM

Paris is a fantastic choice! It's known for its iconic landmarks, world-class museums, exquisite cuisine, and fashion. However, it's generally more expensive than Thailand. With a budget of 50,000, you can afford comfortable mid-range accommodations, dine at nice restaurants, and visit most major attractions.

Would you like a suggested itinerary for Paris or assistance with booking hotels and transportation?

▶ How did I get this answer?

🔄

Type something...

🗨️ ▶

# RESULTS

## 4. QUICK START QUESTIONS..

The screenshot displays the IBM watsonx Agent Lab interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, the user account 'Md Hamza Anwar's Account', the location 'Dallas', and a profile icon. Below the navigation bar, the 'Navigation Menu' shows 'Planner\_Agent / Agent Lab'. The main interface is divided into two panels: 'Build' and 'Agent preview'.

**Build Panel:**

- AI Model:** granite-3-3-8b-instruct
- Quick start questions:** A section with a prompt 'Add up to 4 quick start questions that your users can select.' and a list of four questions, each with a trash icon for removal:
  - Suggest a destination for my budget
  - Plan 5-day trip to Bali
  - Find hotels and flights
  - What's the weather at my travel location?
- Configuration:**
  - Framework:** LangGraph
  - Architecture:** ReAct

**Agent preview Panel:**

- Header:** 'Hi! Let's plan your next adventure together.'
- Image:** A blue abstract graphic with white lines.
- Sample questions:** A grid of four questions, each with a right arrow icon:
  - Suggest a destination for my budget
  - Plan 5-day trip to Bali
  - Find hotels and flights
  - What's the weather at my travel location?
- Input field:** 'Type something...'

A URL is visible at the bottom of the Build panel: [https://dataplatform.cloud.ibm.com/wx/agents/context=wx&project\\_id=4a494ae8-243a-492e-a369-5474cd5bfdd#](https://dataplatform.cloud.ibm.com/wx/agents/context=wx&project_id=4a494ae8-243a-492e-a369-5474cd5bfdd#)

# RESULTS

## Deployed AI Agent

IBM watsonx

Upgrade ?

Md Hamza Anwar's Account

Dallas

MA

Deployment spaces / TripGenie / Trip Genie /

Trip Genie

Deployed Online

API reference Test Preview

New chat +

You 03:19 AM

plan a trip of 5 days in riya

Trip Genie 03:19 AM

Great! Here's a suggested 5-day itinerary for Riyadh:

Day 1:

Start your trip with a visit to the Kingdom Centre Tower for panoramic views of the city. Then, head to the National Museum of Saudi Arabia to learn about the country's rich history and culture.

Day 2:

Spend your day at the Red Sand Dunes, about 70 km from the city center. You can enjoy activities like sandboarding and camel riding.

Day 3:

Visit the Masmak Fortress, a historical landmark that played a crucial role in the founding of the Kingdom of Saudi Arabia. In the afternoon, explore the Al Faisaliah Tower and its unique spherical rooftop.

Day 4:

Take a trip to the Al Rihla Cultural Village, a living museum that showcases traditional Saudi life. In the evening, enjoy a stroll at the Riyadh Park, a beautiful green space in the heart of the city.

Type something...

About this deployment

Name

Trip Genie

Description

Hi! Let's plan your next adventure together.

Deployment Details

Deployment ID: a65bbf94-ee41-4e...

Serving name:

No serving name.

Software specification:

runtime-24.1-py3.11

Hardware specification:

Extra extra small: 1 CPU and 2 GB RAM

Copies:

1

Tags

wx-agent

Associated asset

Trip Genie

ddba2187-1e0f-434c-8d33-0f9f60d3135b

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## CONCLUSION

- Trip Genie provides a smart AI – driven solution for end to end travel planning.
- Built using IBM Cloud and watsonx.ai, it enables natural, conversational interactions.
- It simplifies trip management with real-time alerts, personalization and automation .
- A future-ready tool designed to enhance convenience, accuracy and user experience in travel

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## FUTURE SCOPE

- Integration with AR/VR for immersive destination previews
- Voice-only travel planning via smart assistant (e.g., Alexa, Siri)
- Deeper personalization using user behavior and travel history
- Blockchain-based secure travel document handling
- AI chatbot extension for post-trip feedback and review
- API support for integration with third-party travel apps and agencies

## IBM CERTIFICATIONS

- Screenshot/ credly certificate( getting started with AI)





Attach your RAG LAB certificate here



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Git hub link : [https://github.com/HamzaAnwar2801/TripGenie\\_Agent\\_AI](https://github.com/HamzaAnwar2801/TripGenie_Agent_AI)

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## GITHUB LINK

- Make sure that there should be readme file :  
[https://github.com/HamzaAnwar2801/TripGenie\\_Agent\\_AI/blob/main/README.md](https://github.com/HamzaAnwar2801/TripGenie_Agent_AI/blob/main/README.md)

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**THANK YOU**