
CAPSTONE PROJECT

TRAVEL PLANNER AGENT

Presented By:

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BE(Comp)

OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

- **Problem Statement No.5- Travel Planner Agent**
- **The Challenge - A Travel Planner Agent** is an AI-powered assistant that helps users plan trips efficiently and intelligently. It uses real-time data to suggest destinations, build itineraries, and recommend transport and accommodation options. By understanding user preferences, budgets, and constraints, it tailors personalized travel plans. Integrated with maps, weather updates, and local guides, it ensures a smooth travel experience. The agent can also manage bookings, alert users to changes, and optimize schedules on the go. This smart assistant transforms complex travel planning into a seamless, enjoyable process.

PROPOSED SOLUTION

- Proposed Solution – Travel Planner Agent

We propose an AI-powered Travel Planner Agent that:

- Understands user inputs (location, budget, interests, duration)
- Recommends destinations based on preferences
- Builds personalized, day-wise itineraries
- Suggests transport and accommodations
- Integrates real-time weather data and maps
- Adapts to changes and provides alerts
- Supports conversational interaction via Granite AI models

SYSTEM APPROACH

- System Architecture & Technologies
- **Frontend:** React.js (for web UI) or simple HTML/CSS
- **Backend:** IBM Cloud Functions / IBM Code Engine
- **Database:** IBM Cloudant (NoSQL for storing user data)
- **AI/NLP:** IBM watsonx.ai with Granite Foundation Models
- **Weather Integration:** IBM Weather Company API
- **Maps & Location Data:** OpenStreetMap / Mapbox
- **Notifications:** SendGrid or similar email/SMS service

ALGORITHM & DEPLOYMENT

Algorithm Overview:

- Parse user input using IBM Granite model (watsonx.ai)
- Extract preferences (budget, duration, interest)
- Match with suitable destinations from a dataset
- Generate itinerary using prompt-based content generation
- Fetch real-time weather and adjust the plan dynamically
- Store session in Cloud and display results on frontend

Deployment:

- Backend deployed on **IBM Cloud Functions**
- AI prompts executed using **watsonx.ai playground or API**
- Frontend hosted via **IBM Cloud Object Storage (static site)**
- Real-time APIs connected securely via environment configs

RESULT

IBM watsonx

Projects / Final_Project_2 / Travel Planner Agent

Share feedback β Autosave on New agent + Deploy

Build

AI Model: llama-3-2-90b-vision-instruct

Setup Configuration Framework: LangGraph Architecture: ReAct

Instructions [Advanced configuration](#)
You are a smart travel assistant that helps users plan personalized trips.
When greeted, say:
"Hi! I'm your Travel Planner Agent powered by watsonx.ai. Ready to plan your next trip?"
Use user input to suggest destinations, create itineraries, recommend transport and hotels, and adapt to real-time changes like weather or budget.

Knowledge Tools

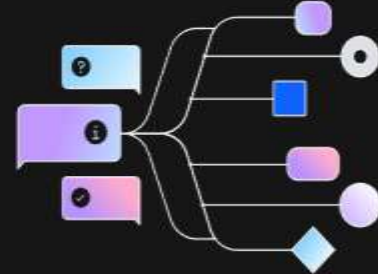
Add a tool Create custom tool

Agent preview

Travel Planner Agent 04:22 PM

Welcome to Travel Planner Agent

Welcome! I'll plan your trip, suggest spots, and handle the details. Let's explore! 🌍 ✨



Sample questions

1. 🌍 Where would you like to travel? 2. 📅 When are you planning your trip?

Type something...



Travel Planner Agent



Deployed

Online

[API reference](#)[Test](#)[Preview](#)[New chat](#) +

You 05:44 PM

"Plan a 5-day trip to Paris for two people interested in art, wine, and museums. Budget: \$2500."



Travel Planner Agent 05:44 PM

Based on the search results, here's a suggested 5-day itinerary for a trip to Paris for two people interested in art, wine, and museums:

Day 1: Arrival and Exploration of Paris

- Arrive in Paris and check into your hotel
- Spend the day exploring the city, starting with the famous Champs-Élysées and Arc de Triomphe
- Visit the nearby Musée d'Orsay, which is home to an impressive collection of Impressionist and Post-Impressionist art
- In the evening, enjoy a wine tasting at a local vineyard or winery



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Navigation Menu / Travel Agent Deploy / Travel Planner Agent /

Travel Planner Agent Deployed Online

API reference Test Preview

New chat +


Day 2: Museums and Art

- Start the day with a visit to the Louvre Museum, one of the world's largest and most famous museums
- Spend the morning exploring the museum's vast collection of art and artifacts, including the Mona Lisa
- In the afternoon, visit the Musée national de l'Orangerie, which is home to a collection of Impressionist and Modern art
- In the evening, enjoy a dinner at a Michelin-starred restaurant

Day 3: Wine and Castles


- Take a day trip to the Chambord Castle, which is located about an hour outside of Paris
- Visit the castle and enjoy a wine tasting at the nearby vineyard
- In the afternoon, return to Paris and visit the Musée Rodin, which is dedicated to the works of French sculptor Auguste Rodin
- In the evening, enjoy a dinner at a local bistro


Day 4: Montmartre and Street Art







Type something... 

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edunet
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Day 4: Montmartre and Street Art


- Spend the day exploring the historic neighborhood of Montmartre, which is known for its bohemian vibe and street art
- Visit the Sacré-Cœur Basilica, which is located at the top of a hill and offers stunning views of the city
- In the afternoon, visit the Musée de Montmartre, which is dedicated to the history of the neighborhood
- In the evening, enjoy a dinner at a local restaurant


Day 5: Departure











- Spend the morning shopping for souvenirs or visiting any last-minute attractions
- Depart for the airport and head home

Budget Breakdown:

- Accommodation: \$1,000 (avg. \$200 per night for 5 nights)
- Transportation: \$200 (metro tickets and day trip to Chambord Castle)


Type something... 

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Budget Breakdown:

- Accommodation: \$1,000 (avg. \$200 per night for 5 nights)
- Transportation: \$200 (metro tickets and day trip to Chambord Castle)
- Food and drink: \$800 (avg. \$160 per day for meals and wine tastings)
- Attractions and activities: \$500 (avg. \$100 per day for museum entrance fees and guided tours)
- Total: \$2,500

This itinerary should provide a good balance of art, wine, and culture, and should fit within the budget of \$2,500. However, please note that prices may vary depending on the time of year and availability.

► How did I get this answer?



Type something... 

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Deployment spaces /↕?🔗🕒💬⚙️

Travel Agent Deploy

Overview

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↺

Name	Type	Status	Asset	Asset type	Tags	Last modified	⌵
🔗 Travel Planner Agent	Online	✅ Deployed	Travel Planner Agent	Ai service	wx-agent 🔗	5 minutes ago Amar Manjarathkar (You)	⋮

Items per page: 20 ▼

1-1 of 1 items

1 of 1 pages◀▶

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API reference Test Preview

Endpoints for inferencing ⓘ

Private endpoint

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9a765c2e-e4c0-40f6-a83d-f708d62ead2e/ai_service?v...

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9a765c2e-e4c0-40f6-a83d-f708d62ead2e/ai_service_s...

Public endpoint

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9a765c2e-e4c0-40f6-a83d-f708d62ead2e/ai_service?v...

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9a765c2e-e4c0-40f6-a83d-f708d62ead2e/ai_service_s...

Learn more about the 2021-05-01 version query parameter

Code snippets

Bearer <token> ⓘ

IAM

About this deployment ×

Name

Travel Planner Agent

Description

🌐 Welcome! I'll plan your trip, suggest spots, and handle the details. Let's explore! 🗺️ ✨

Deployment Details

Deployment ID: 9a765c2e-e4c0-40...

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

Travel Planner Agent

edunet
foundation

PROJECT DETAILS

- Deployment ID - 9a765c2e-e4c0-40f6-a83d-f708d62ead2e
- Project ID - 959f8eab-2187-482d-9ab5-b12e378678e6
- IBM API KEY - cpd-apikey-IBMid-6940010R1N-2025-08-01T12:11:17Z
- LLM Used - llama-3-2-90b-vision-instruct by META
- Deployment GUID - 4213b975-fb21-4e27-935a-5ea8e593c872
- Bucket - 1c8fed0d-8c5d-4681-b31d-ceaf27e944ee

CONCLUSION

- The Travel Planner Agent simplifies the complex task of travel planning through AI-driven personalization and real-time assistance. By leveraging IBM Cloud and Granite foundation models, it delivers smart, efficient, and engaging travel experiences for users.
- It transforms basic inputs into actionable, customized plans—reducing stress and increasing satisfaction for travelers.

FUTURE SCOPE

- Multilingual support for international users
- Integration with live booking APIs (flights, hotels, tours)
- Voice-based assistant and mobile app version
- AI-powered cost prediction and dynamic itinerary adjustment
- Enhanced user profiling for recurring travelers
- Integration with travel insurance and visa services

REFERENCES

- IBM watsonx.ai documentation
- IBM Cloud Functions documentation
- IBM Weather Company API
- Mapbox API
- Official IBM Cloud Lite Plan documentation
- Granite Model Developer Guides
- Edunet foundation pdf

IBM CERTIFICATIONS



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THANK YOU