
CAPSTONE PROJECT

TRAVEL PLANNER AGENT USING IBM CLOUD

Presented By:
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OUTLINE

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- 2. Proposed System
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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

IBM watsonx

Upgrade



Shweta Ghogale's Account

Dallas

SG

Create a project

Start with a new, blank project or select from where to import an existing project.

+ New

Local file

Sample

Define details

Name

Travel Planner Agent

Description (optional)

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.

Tags (optional)

Cancel

Create

RESULT

IBM watsonx

Upgrade ? Bell

Shweta Ghogale's Account Dallas SG

Projects / Travel_Planner_Agent / Agent Lab

Share feedback Unsaved New agent Deploy

Build AI Model: llama-3-3-70b-instruct

Setup

Configuration

Framework LangGraph Architecture ReAct

Instructions You are a Travel Planner Agent — an AI assistant that helps users plan their trips efficiently. Start by greeting the user and asking for their travel preferences, including destination, travel dates, budget, interests (e.g., adventure, relaxation, culture), and any specific constraints. Use this information to suggest personalized itineraries, transportation and

Knowledge

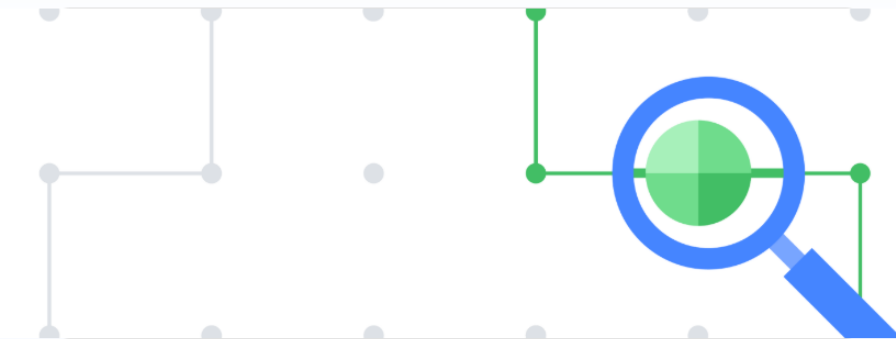
Advanced configuration

Agent preview

watsonx Agent 06:50 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent



Type something...

RESULT

IBM watsonx

Upgrade ?

Shweta Ghogale's Account

Dallas

SG

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Share feedback β Unsaved 📁 ▼ New agent + Deploy 🚀

Build

AI Model: llama-3-3-70b-instruct ▼ 🔗 <

Add a tool

Create custom tool

Added tools (4)

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.

⚙️ 🗑️

Weather

Retrieve the weather of a city.

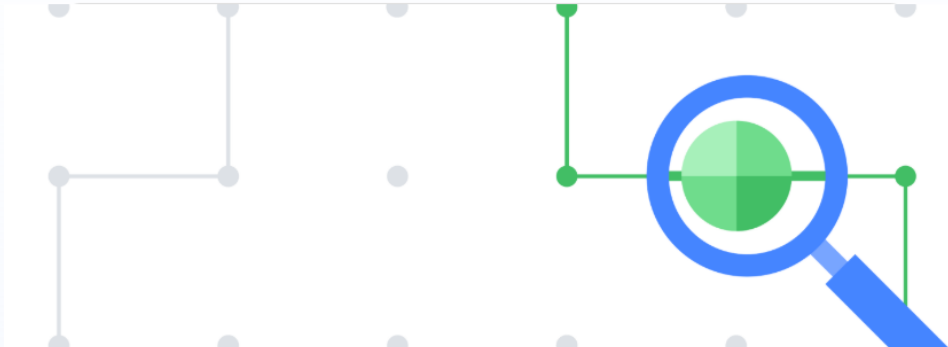
🗑️

Agent preview

👤 watsonx Agent 06:50 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent



Type something...

🗑️ ➤

RESULT

IBM watsonx

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Share feedback Unsaved ▾ New agent + Deploy

Build

AI Model: llama-3-3-70b-instruct

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Setup ▾

Configuration ▴

Framework Architecture

LangGraph ▾ ReAct ▾

Instructions [Advanced configuration](#)

You are a Travel Planner Agent — an AI assistant that helps users plan their trips efficiently. Start by greeting the user and asking for their travel preferences, including destination, travel dates, budget, interests (e.g., adventure, relaxation, culture), and any specific constraints. Use this information to suggest personalized itineraries, transportation, and

Knowledge ▾

Agent preview

You: 07:00 PM

I want to travel a staycation in mumbai pls guide me plan and place


watsonx Agent 07:00 PM





Based on the search results, here are some options for a staycation in Mumbai:

1. Farmhouse Residency in Vasai - a budget-friendly option with rooms starting from ₹1200/night.
2. The Westin Mumbai - offers a staycation package with benefits including breakfast, dinner, discounts on food, laundry, car rentals, and more.
3. The Oberoi, Mumbai (Marine Drive) - a luxurious option ideal for a romantic escape, with sea-facing rooms and exceptional service.
4. Della, Lonavala - a resort near Mumbai that offers a staycation experience with activities like adventure sports and relaxation.
5. Courtyard by Marriott Mumbai - offers a staycation package with benefits including breakfast, dinner, and discounts on food and laundry.





Type something...




RESULT


 IBM watsonx


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Share feedback  Unsaved   New agent + Deploy 

 Build Model: llama-3-3-70b-instruct  


Setup 

Configuration 


FrameworkArchitectureLangGraph ReAct 

Instructions [Advanced configuration](#)


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Knowledge 

Agent preview


 You: 06:57 PM



"What are the cheapest flight or train options to Goa from Bangalore?"

 watsonx Agent 06:57 PM

The cheapest flight or train options to Goa from Bangalore can be found on various websites such as MakeMyTrip, Google Flights, and Goibibo. The prices vary depending on the airline, timings, and availability, but deals this week show fares starting from ₹2250. Additionally, you can also explore local markets for wallet-friendly souvenirs and handcrafted gifts. The two main ways to get around India are planes and trains. You can also use Rome2rio to find the travel option that best suits you, with options starting from \$16 and taking approximately 2¾ hours.

► How did I get this answer?



RESULT

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Share feedback β Unsaved New agent + Deploy

×

Save your work

Specify how to save your work by selecting an asset type and defining details.

Asset type

Agent

Save as an editable agent asset that can be reopened in this tool.

Standard notebook

Save the current agent as a notebook.

Deployment notebook

Save a notebook that can deploy your agent as an AI service.

Define details

Name

watsonx Agent

Description (optional)

Change this description to reflect your particular agent

Cancel

Save

edunet
foundation

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



IBM CERTIFICATIONS



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THANK YOU