
CAPSTONE PROJECT

TRAVEL PLANNER AGENT

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OUTLINE

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PROBLEM STATEMENT

Design and develop an AI-powered Travel Planner Agent that :

- Creates personalized travel plans based on user input
- Suggests destinations and builds itineraries
- Recommends transport and stay options
- Uses live data like weather, traffic, and events
- Manages bookings and sends alerts
- Dynamically adjusts schedules for better travel flow

Proposed Solution :

To deal with a concern, we propose an AI-powered Travel Planner Agent using IBM Cloud Lite and IBM Granite. It will use natural language input to understand user preferences, budget, and travel details, providing personalized, real-time trip plans through IBM Watson Assistant.

TECHNOLOGY USED

- IBM Granite Model
- Retrieval-Augmented Generation (RAG)
- IBM Cloud Services
- Large Language Models (LLMs)
- Conversational AI

IBM CLOUD SERVICES USED

- IBM Cloud Object Storage
- IBM Cloud Watsonx AI Runtime
- IBM Cloud Agent Lab
- IBM Granite Foundation Model
- IBM Cloud Watsonx AI Studio
- IBM Deployment Service

WOW FACTORS

The Travel Planner Agent leverages IBM Granite and IBM Cloud to provide a smart, conversational interface for effortless trip planning. It understands user preferences, budgets, and constraints to deliver personalized travel recommendations. With real-time itinerary updates based on weather and delays, and intelligent destination suggestions, it ensures a smooth and tailored travel experience.

Unique features:

- Delivers personalized recommendations using IBM Granite's natural language understanding
- Combines real-time maps, weather, and booking info for smooth trip planning
- Provides suggestions tailored to user preferences, budget, and travel time
- Enables an interactive chat experience through IBM Watson Assistant
- Recommends trips based on individual interests, budget, and schedule

END USERS

- Independent travellers seeking tailored experiences
- Digital content creators and travel influencers
- Customized tour providers and travel consultants
- Corporate professionals on multi-destination business trips
- Academic and research professionals attending events or fieldwork

RESULTS

The screenshot displays the IBM watsonx web interface. At the top, a navigation bar includes the 'IBM watsonx' logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Prajwal Chavan's Account' in the 'Toronto' region. Below the navigation bar, the breadcrumb path 'Deployment spaces / TRAVEL_AGENT / watsonx Agent /' is visible. The main content area features the 'Travel Agent' title with a green checkmark indicating it is 'Deployed' and 'Online'. Three tabs are present: 'API reference', 'Test', and 'Preview', with the 'Preview' tab currently selected. The chat preview shows a message from 'Travel Agent' at 08:35 PM: 'Welcome to Travel Agent. I am your Travel planner agent, designed to make your travel planning smart, easy and personalized.' Below the text is a diagram of a travel itinerary with a magnifying glass icon. At the bottom, there is a text input field with the placeholder 'Type something...' and a send button.

RESULTS

IBM watsonx Upgrade ? ⓘ Prajwal Chavan's Account Toronto PC

Deployment spaces / TRAVEL_AGENT / watsonx Agent /

Travel Agent

Deployed Online

API reference Test Preview

New chat +

You 03:24 PM
GIVE ME THE 5 DAYS PLAN FOR MUMBAI TO GOA TRIP

watsonx Agent 03:24 PM
Here is a 5-day plan for a Mumbai to Goa trip:

Day 1: Arrival in Mumbai

- Arrive at Chhatrapati Shivaji Maharaj International Airport
- Check-in to your hotel and freshen up
- Visit the Gateway of India, Marine Drive, and Colaba Causeway
- Enjoy the street food and local cuisine

Day 2: Mumbai Sightseeing

- Visit the Elephanta Caves, a UNESCO World Heritage Site
- Explore the Haji Ali Dargah, a historic mosque
- Visit the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, a museum showcasing Indian art and culture

Type something...

About this deployment

Name
Travel Agent

Description
I'm your Travel planner agent, designed to make your travel planning smart, easy and personalized. Whether you are dreaming of a quick weekend escape or long international adventure. I'm here to guide you through every steps. I can help you : Discover the destinations based on your interests, season and budgets Create a personalised planning schedule for trip Make me your travel buddy and partner for better travel experience

Deployment Details
Deployment ID: 60e6ea59-1797-4a...
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

RESULTS

IBM watsonx

Upgrade ?

Prajwal Chavan's Account

Toronto

PC

Projects / TRAVEL_AGENT / Agent Lab

Share feedback β Unsaved 📁 New agent + Deploy 🚀

Build

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

Configuration

Framework Architecture

LangGraph ReAct

Instructions [Advanced configuration](#)

Discover the destinations based on your interests, season and budgets

Create a personalized planning schedule for trip

Make me your travel buddy and partner for better travel experience

Knowledge

Tools

Agent preview

PC You: 01:51 PM

GIVE THE PLAN NASHIK TO MUMBAI

TRAVEL_AGENT 01:51 PM

Here's a travel plan from Nashik to Mumbai:

1. By Flight: You can take a flight from Nashik Airport (ISK) to Mumbai Airport (BOM). The flight duration is approximately 1 hour and 15 minutes. You can book your flight tickets in advance to get the best deals.

2. By Train: You can take a train from Nashik Road Railway Station (NK) to Mumbai Central Railway Station (BCT). The train journey takes around 4-5 hours, depending on the type of train and the route taken. You can book your train tickets online or at the railway station.

3. By Bus: You can take a bus from Nashik to Mumbai. The bus journey takes around 5-6 hours, depending on the traffic and the route taken. You can book your bus tickets online or at the bus station.

Type something... 🗑️ ➤

RESULTS

Deployed AI Agent

The screenshot displays the IBM watsonx interface for a deployed AI agent. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, and icons for help, notifications, and a profile. The breadcrumb trail indicates the current location: Deployment spaces / TRAVEL_AGENT / watsonx Agent /.

The main section is titled 'Travel Agent' and shows a status of '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 with a dropdown arrow.

The chat history shows the following interaction:

- User (P):** You 03:24 PM
GIVE ME THE 5 DAYS PLAN FOR MUMBAI TO GOA TRIP
- watsonx Agent:** 03:24 PM
Here is a 5-day plan for a Mumbai to Goa trip:

Day 1: Arrival in Mumbai
 - Arrive at Chhatrapati Shivaji Maharaj International Airport
 - Check-in to your hotel and freshen up
 - Visit the Gateway of India, Marine Drive, and Colaba Causeway
 - Enjoy the street food and local cuisine
Day 2: Mumbai Sightseeing
 - Visit the Elephanta Caves, a UNESCO World Heritage Site
 - Explore the Haji Ali Dargah, a historic mosque
 - Visit the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, a museum showcasing Indian art and culture

At the bottom, there is a text input field with the placeholder 'Type something...' and a microphone icon.

CONCLUSION

- The agent can recommend destinations, create itineraries, and even suggest accommodations and activities.
- It saves time by automating travel planning tasks like route optimization, budget estimation, and local attraction discovery.
- Travel Planner Agents enhance efficiency, personalization, and user satisfaction in both casual and professional trip planning.

FUTURE SCOPE

- Multilingual Travel Assistance Voice
- Activated Trip Planning
- Real-time Data Integration
- Smart Budget Optimization
- Integration with Booking Platforms
- Personalized Travel Insights

IBM CERTIFICATIONS



IBM CERTIFICATIONS



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GITHUB LINK

- Github link : <https://github.com/prajwalchavan007/TRAVEL-PLANNER-AGENT-.git>



THANK YOU