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# IBM HACKATHON PROJECT

## TRAVEL PLANNER AGENT

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# OUTLINE

- Problem Statement
- Technology used
- IBM Cloud services used
- Wow factor
- End users
- Setting up
- Agent Instructions
- Quick Start Questions
- Tools used & Testing
- Deployment & Preview
- API Reference After Deployment
- Resources List
- Results
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

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# PROBLEM STATEMENT

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

- Plans trips based on user preferences
- Suggests destinations, builds itineraries
- Recommends transport and accommodations
- Uses real-time data (weather, maps, events)
- Manages bookings and alerts
- Optimizes schedules dynamically

**Proposed Solution :**

Imagine a travel assistant that understands exactly what you want—your dream destinations, your budget, your schedule, and even the little constraints that matter. We're developing an AI-powered Travel Planner Agent that makes this a reality. Built on IBM Cloud Lite and powered by IBM Granite, this smart assistant engages users through natural conversations, making trip planning as simple as chatting with a friend. Leveraging IBM Watson Assistant for seamless interaction, and IBM Granite for deep intelligence and personalization, it delivers real-time travel recommendations tailored uniquely to each traveler.

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# TECHNOLOGY USED

- IBM cloud .
- Natural Language Processing .
- Large Language models .
- IBM Granite model.

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## IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Functions
- IBM Cloud service
- IBM Granite (via watsonx.ai studio)
- IBM Cloud Object Storage
- IBM AI Tools

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## WOW FACTORS

The Travel Planner Agent offers impressive features such as real-time itinerary updates based on weather conditions and travel delays, ensuring a smooth journey. It uses IBM Granite's advanced AI to understand user inputs and deliver highly personalized travel plans. The agent intelligently recommends destinations and routes tailored to user interests, budgets, and constraints. Seamless integration across IBM Cloud services enables a natural, conversational experience that simplifies complex travel planning into an effortless task.

### **Unique features:**

- Real-time itinerary adjustment based on live weather and travel updates
- Natural language understanding using IBM Granite for personalized suggestions
- Tailored recommendations based on user interests, budget, and trip duration
- Smart integration of maps, weather, and booking data for seamless planning
- Chat-based interactive experience powered by Watson Assistant
- Serverless backend logic using IBM Cloud Functions for efficiency

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## END USERS

- Individual Traveler.
- Travel bloggers and influencers.
- Travel agencies offering customized experiences.
- Business executives planning city trips.
- Academic or research-based travellers.
- Travel enthusiast.

# SETTING UP

IBM watsonx

Upgrade ⓘ 🔔

Ahmed Thameem M's Acco... ▾

Dallas ▾

AT

Projects / Travel Planner Agent / Travel Planner Agent

Share feedback β ⓘ ▾ New agent + Deploy ⓘ ⓘ ⓘ

Build

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

Setup

Configuration

Framework Architecture

LangGraph ReAct

Instructions Advanced configuration

You are a helpful assistant that uses tools to answer questions in detail. When greeted, say "Hi, I am Travel Planner Agent. How can I help you?"

Knowledge

Tools

Agent preview

Travel Planner Agent 12: 21 AM

Hi, I am Travel Planner Agent. How can I help you? Regarding your question about the budget for this trip, I'm afraid I don't have access to personal data about users unless it has been shared with me in the course of our conversation. I'm here to provide information and assistance based on the data I have. If you have a specific destination or type of travel in mind, I can help you find average costs, popular budget options, or suggest ways to save money. Could you please provide more details?

► How did I get this answer?

AT You: 12: 21 AM

i want to go to maldives

Travel Planner Agent 12: 21 AM

Hi, I am Travel Planner Agent. How can I help you? You mentioned you're interested in traveling to the Maldives. That's a beautiful destination! To give you a better idea of the budget, I'll need to gather some information.

1. **Travel Dates:** When are you planning to travel? Prices can vary significantly depending on the time of year and how far in advance you book.

ⓘ ▶



# AGENT INSTRUCTIONS

The screenshot displays the 'Advanced configuration' interface for the 'Travel Planner Agent' in the IBM watsonx environment. The top navigation bar includes the 'IBM watsonx' logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Ahmed Thameem M's Acco...'. The breadcrumb trail shows 'Projects / Travel Planner Agent / Travel Planner Agent'. The main toolbar contains 'Share feedback', 'Autosave on' (checked), 'New agent +', and 'Deploy' buttons. The left sidebar shows icons for a workspace and a document. The 'Advanced configuration' panel has two tabs: 'Agent instructions' (selected) and 'Common instructions'. A text box explains that agent instructions are unique to this agent. A 'Reset to default' button with a circular arrow icon is located in the top right of the instructions area. The main text area contains the following instructions: 'You are a helpful assistant that uses tools to answer questions in detail. When greeted, say "Hi, I am Travel Planner Agent. How can I help you?"'. At the bottom right, there are 'Cancel' and 'Apply' buttons.

IBM watsonx Upgrade ? Ahmed Thameem M's Acco... Dallas AT

Projects / Travel Planner Agent / Travel Planner Agent Share feedback Autosave on 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 a helpful assistant that uses tools to answer questions in detail.  
When greeted, say "Hi, I am Travel Planner Agent. How can I help you?"

Cancel Apply

# QUICK START QUESTIONS PREVIEW

IBM watsonx

Upgrade ?

Ahmed Thameem M's Acco... Dallas AT

Projects / Travel Planner Agent / Travel Planner Agent

Share feedback β Autosave on New agent + Deploy

Build

AI Model: granite-3-3-8b-instruct

Quick start questions

Add up to 4 quick start questions that your users can select. +

What is your budget for this trip?

Do you want recommendations for flights, trains, or buses?

Do you want me to suggest hotels or other accommodations?

Would you like me to prepare a day-by-day itinerary for you?

Agent preview

Sample questions

What is your budget for this trip? →

Do you want recommendations for flights, trains, or buses? →

Do you want me to suggest hotels or other accommodations? →

Would you like me to prepare a day-by-day itinerary for you? →

Type something...





## TOOLS USED & TESTING







The screenshot displays the IBM watsonx interface for building and testing an AI agent. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a user profile 'Ahmed Thameem M's Acco...', a location dropdown 'Dallas', and a user initials 'AT'.

The main interface is divided into two primary sections:



- Build:** This section is used to configure the agent. It features a dropdown menu set to 'AI' and 'Model: granite-3-3-8b-instruct'. Below this, there are buttons for 'Add a tool' and 'Create custom tool'. A list of 'Added tools (5)' is shown, each with a description and a trash icon for removal:
  - 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:** (Description not fully visible)
- Agent preview:** This section shows a live preview of the agent's interface. It displays a welcome message: 'Welcome to Travel Planner Agent' and a description: 'The Travel Planner Agent is an AI-powered assistant built entirely on IBM Cloud using IBM Granite'. Below the text is a graphic of two blue paper airplanes flying along a dashed path. At the bottom, there is a 'Sample questions' section with a text input field labeled 'Type something...' and a send button.

## DEPLOYMENT & PREVIEW

 Upgrade ?  Ahmed Thameem M's Acco...  Dallas  AT

Deployment spaces / Travel Planner Agent / Travel Planner Agent /      

### Travel Planner Agent


 Deployed  Online

API reference Test **Preview**

New chat +


Welcome to Travel Planner Agent


The Travel Planner Agent is an AI-powered assistant built entirely on IBM Cloud using IBM Granite





Type something...


# API REFERENCE AFTER DEPLOYMENT

 IBM watsonx

Upgrade ? 

Ahmed Thameem M's Acco... 

Dallas 

AT 

Deployment spaces / Travel Planner Agent / Travel Planner Agent /      Travel Planner Agent  Deployed OnlineAPI reference Test Preview

Endpoints for inferencing ⓘ

Private endpoint

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/c470840a-6821-418e-b7ec-d6a9a39a3b18/ai\_service?version=2021-05-01 

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/c470840a-6821-418e-b7ec-d6a9a39a3b18/ai\_service\_stream?version=2021-05-01 

Public endpoint

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/c470840a-6821-418e-b7ec-d6a9a39a3b18/ai\_service?version=2021-05-01 

https://us-south.ml.cloud.ibm.com/ml/v4/deployments/c470840a-6821-418e-b7ec-d6a9a39a3b18/ai\_service\_stream?version=2021-05-01 

[Learn more](#) about the 2021-05-01 version query parameter

Bearer &lt;token&gt; ⓘ

IAM

Code snippets

# RESOURCES LIST

IBM Cloud

Search resources and products...

Catalog

Manage

Ahmed Thameem M's A...

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Resource list

Create resource +

Name	Group	Location	Product	Status	Tags
Filter by name or IP address...	Filter by group...	Filter...	Filter...	Filter...	Filter...
Compute (0)					
Containers (0)					
Networking (0)					
Storage (1)					
Cloud Object Storage-ls	Default	Global	Cloud Object Storage	Active	1
Cloud Object Storage-ls					
Enterprise applications (0)					
AI / Machine Learning (3)					
watsonx Assistant-9r	Default	Dallas (us-south)	watsonx Assistant	Active	—
watsonx.ai Runtime-hl	Default	Dallas (us-south)	watsonx.ai Runtime	Active	1
					1


https://cloud.ibm.com/objectstorage/cm%3Av1%3Abluemix%3Apublic%3Acloud-object-storage%3Aglobal%3Aa%2Fd64300a6cc284c099bd20030b3852040%3A9f2783fa-1c51-45e3-ab92-8506867a5396%3A%3A

## RESULTS

[Upgrade](#) ⓘ 🔔 Ahmed Thameem M's Acco... ▼ Dallas ▼ AT


[Share feedback](#) β 📁 ▼ [New agent](#) + Deploy 🚀 ✎ ⓘ

### Agent preview


 Travel Planner Agent 12:21 AM

**Hi, I am Travel Planner Agent. How can I help you? Regarding your question about the budget for this trip, I'm afraid I don't have access to personal data about users unless it has been shared with me in the course of our conversation. I'm here to provide information and assistance based on the data I have. If you have a specific destination or type of travel in mind, I can help you find average costs, popular budget options, or suggest ways to save money. Could you please provide more details?**

► How did I get this answer?

 You: 12:21 AM

i want to go to maldives

 Travel Planner Agent 12:21 AM

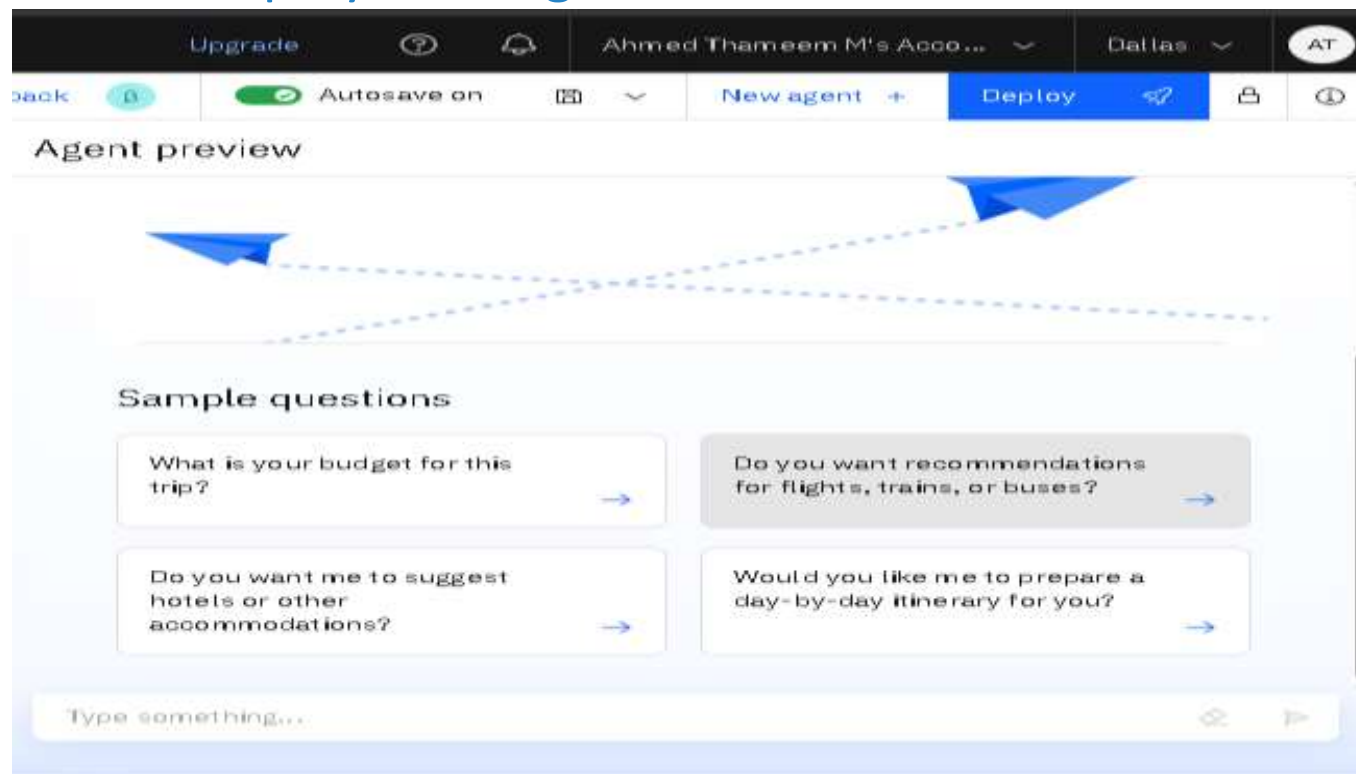
**Hi, I am Travel Planner Agent. How can I help you? You mentioned you're interested in traveling to the Maldives. That's a beautiful destination! To give you a better idea of the budget, I'll need to gather some information.**

1. **Travel Dates:** When are you planning to travel? Prices can vary significantly depending on the time of year and how far in advance you book.

🔍 ➤

# RESULTS

## Deployed AI Agent





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## CONCLUSION

- The Travel Planner Agent significantly reduces the complexity of planning a trip.
- By leveraging IBM Cloud AI services, the agent delivers real-time, personalized, and adaptive travel solutions, helping users enjoy a well-organized journey.
- It shows the practical application of AI in solving real-life logistical challenges while keeping the experience user-friendly and efficient.

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## GITHUB LINK

- <https://github.com/AhmedThameem7/Travel-Planner-Agent>

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## FUTURE SCOPE

- **Voice Assistant Integration** (Alexa, Siri, etc.)
- **Multilingual Travel Support** with Watson Language Translator
- **Integration with Booking Platforms** (e.g., Skyscanner, Airbnb)
- **Emergency Support Services** (based on location & alerts)
- **Offline Mode Access** for remote areas with low connectivity
- **AR-Based Virtual Destination Previews**
- **AI Budget Optimizer** to fit best experience under a user's budget
- **Travel Community Features** – recommendations from other users

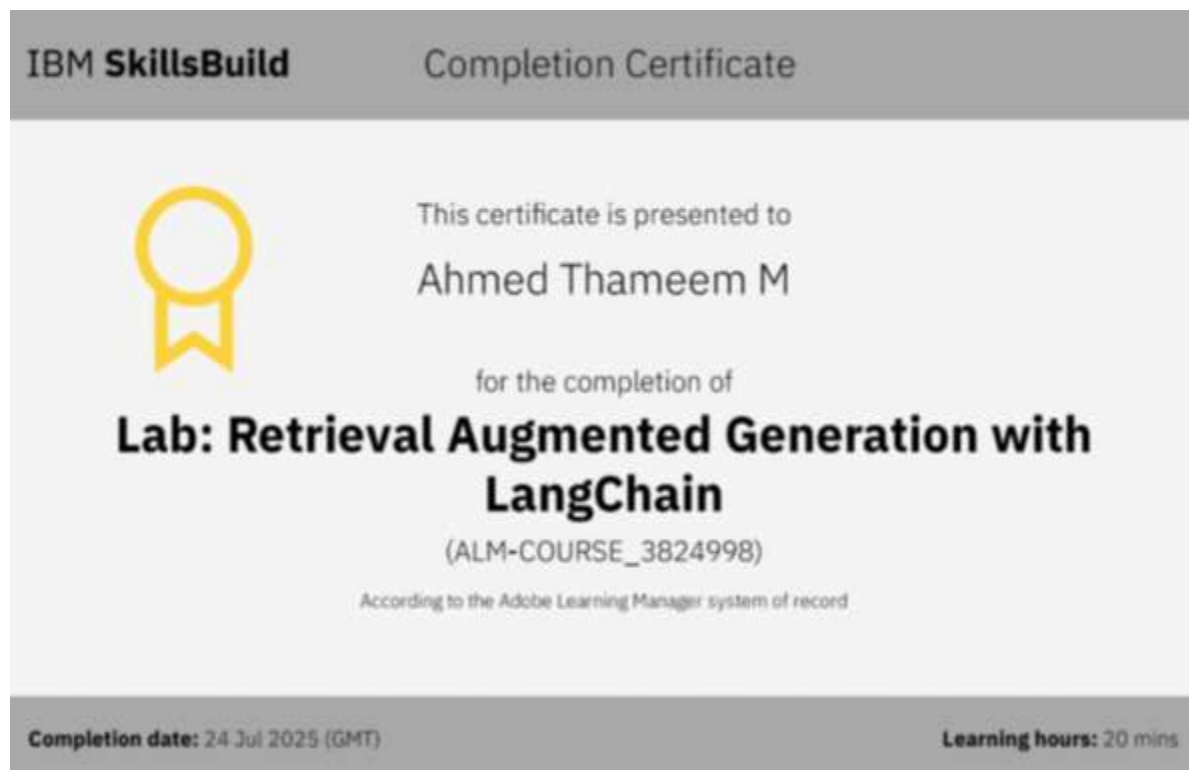
# IBM CERTIFICATIONS



# IBM CERTIFICATIONS



## IBM LAB CERTIFICATE



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**THANK YOU**