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# IBM AICTE PROJECT

## ECO LIFESTYLE AGENT

**Presented By:**

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# OUTLINE

- **Problem Statement**
- **Technology used**
- **IBM cloud services used**
- **Wow factor**
- **End users**
- **Result**
- **Conclusion**
- **Git-hub Link**
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- **IBM Certifications**

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# PROBLEM STATEMENT

Many individuals lack easy access to personalized, trustworthy information on sustainable living practices. Manually searching for eco-friendly tips, local recycling guidelines, and green alternatives is time-consuming and often overwhelming.

## **Proposed Solution:**

An Eco Lifestyle Agent, powered by RAG (Retrieval-Augmented Generation), empowers users to adopt a greener lifestyle through personalized, practical suggestions. It retrieves sustainable living tips, eco-friendly product recommendations, local recycling guidelines, and government schemes from trusted environmental sources

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# TECHNOLOGY USED

- IBM cloud lite services
- Natural Language Processing (NLP)
- Retrieval Augmented Generation (RAG)
- IBM Granite model

## TOOLS USED

- Word
- Github

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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

# WOW FACTORS

This agent encourages sustainable living through personalized, AI-powered suggestions, making eco-friendly habits more accessible and actionable for everyone.

## Unique Features:

- Delivers real-time green living tips using RAG and IBM Granite
- Provides eco-friendly alternatives for daily use products
- Retrieves document-backed information like recycling rules and green schemes
- Responds to natural language queries .
- Promotes awareness of sustainability policies and government programs
- **It provides information about local recycling and waste management based on the user's city.**
- **It contains sample questions which user can use to ask questions.**

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## END USERS

### **1. Environment-conscious individuals**

Use the agent to get daily, personalized tips for living eco friendly lifestyle.

### **2. Students and educators**

Benefit from the agent as a learning tool to understand sustainability concepts and practices.

### **3. NGOs and community organizations**

Use the agent to spread environmental awareness and guide communities with accurate green information.

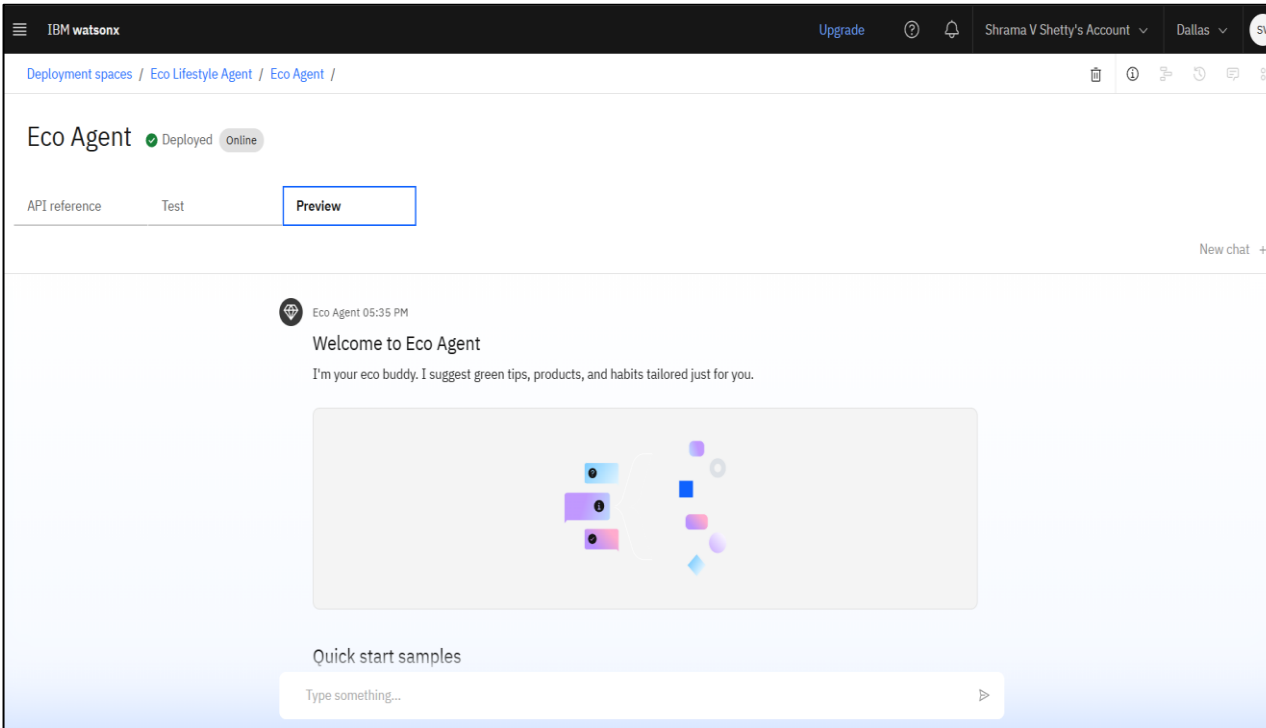
### **4. Smart city planners or local authorities**

Use the agent to provide localized recycling rules and eco-guidance to urban citizens.

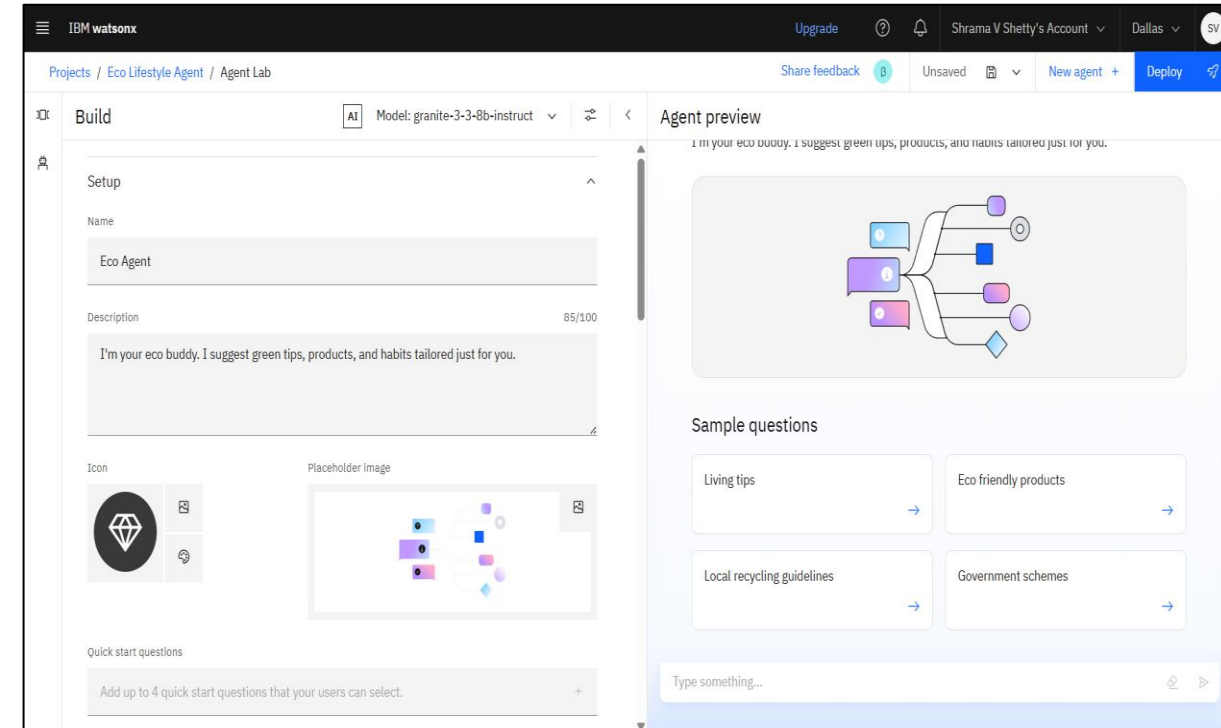
### **5.Green product companies**

Can be used as an educational tool to promote eco-friendly alternatives to consumers.

# RESULTS



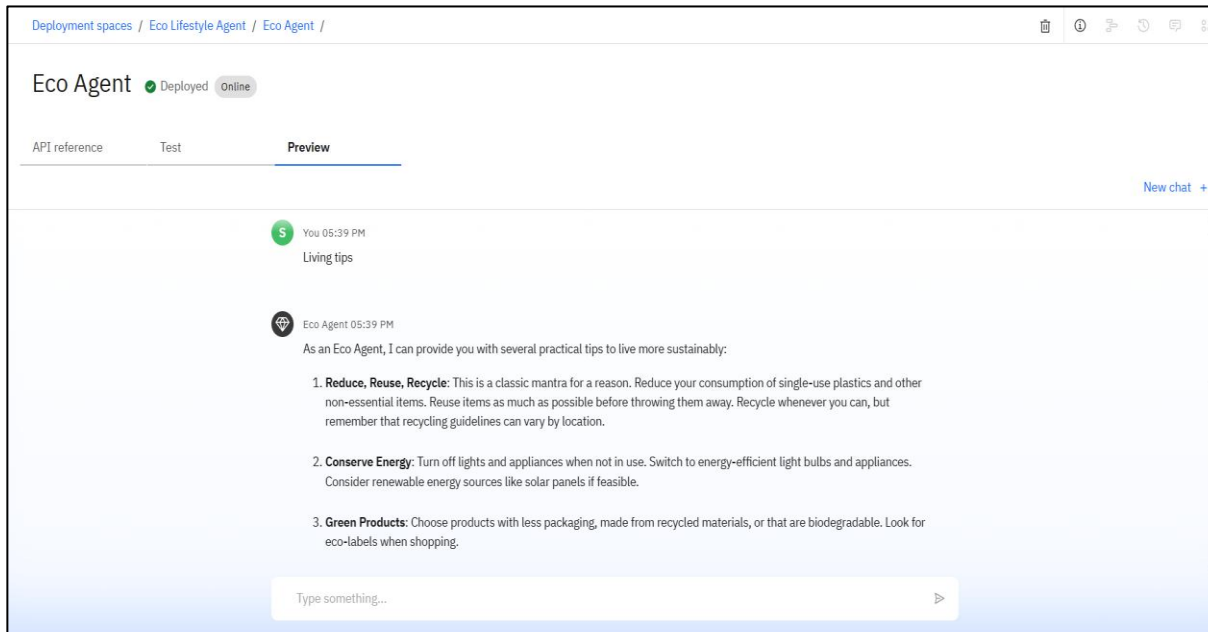
**Deployed Eco Agent**



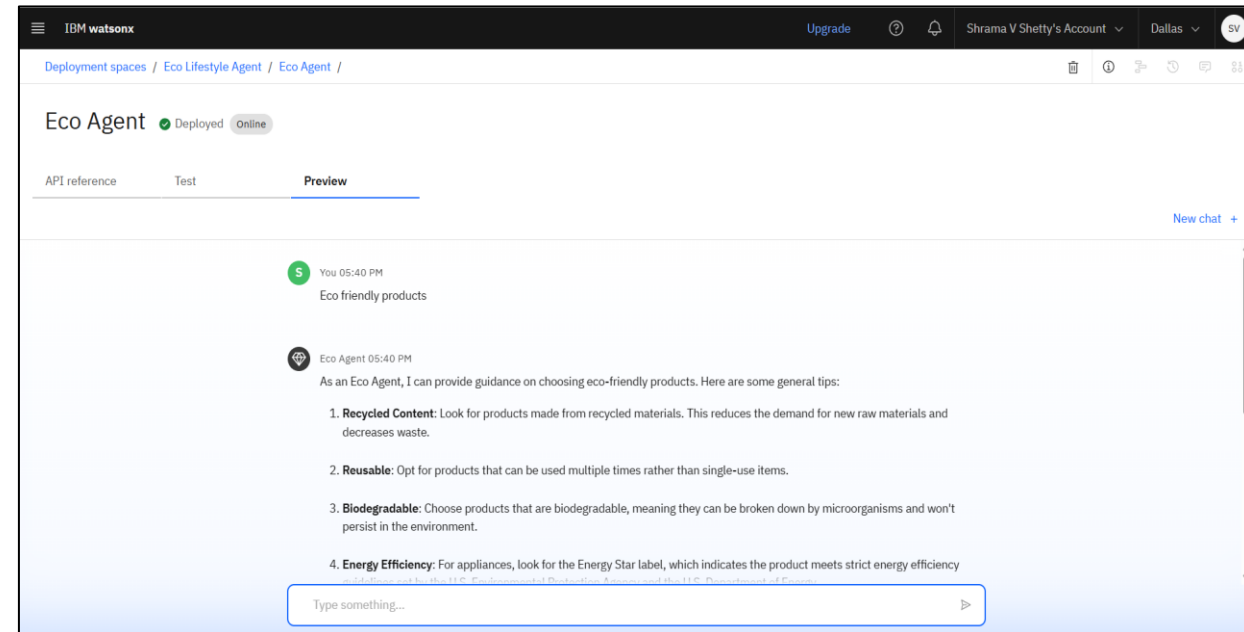
**Eco Agent with Sample questions . Here user can click on the question and the agent will answer the question. Here the user need not type the question.**



# RESULTS



The screenshot shows the IBM Watsonx Eco Agent interface. The top navigation bar includes "Deployment spaces / Eco Lifestyle Agent / Eco Agent /". The agent status is "Eco Agent" with a green checkmark and "Deployed Online". The "Preview" tab is selected. The chat history shows a user message at 05:39 PM: "Living tips". The agent's response at 05:39 PM is: "As an Eco Agent, I can provide you with several practical tips to live more sustainably:" followed by a numbered list of three tips: 1. **Reduce, Reuse, Recycle:** This is a classic mantra for a reason. Reduce your consumption of single-use plastics and other non-essential items. Reuse items as much as possible before throwing them away. Recycle whenever you can, but remember that recycling guidelines can vary by location. 2. **Conserve Energy:** Turn off lights and appliances when not in use. Switch to energy-efficient light bulbs and appliances. Consider renewable energy sources like solar panels if feasible. 3. **Green Products:** Choose products with less packaging, made from recycled materials, or that are biodegradable. Look for eco-labels when shopping. A text input field at the bottom contains the placeholder "Type something..." and a send button.



The screenshot shows the IBM Watsonx Eco Agent interface. The top navigation bar includes "Deployment spaces / Eco Lifestyle Agent / Eco Agent /". The agent status is "Eco Agent" with a green checkmark and "Deployed Online". The "Preview" tab is selected. The chat history shows a user message at 05:40 PM: "Eco friendly products". The agent's response at 05:40 PM is: "As an Eco Agent, I can provide guidance on choosing eco-friendly products. Here are some general tips:" followed by a numbered list of four tips: 1. **Recycled Content:** Look for products made from recycled materials. This reduces the demand for new raw materials and decreases waste. 2. **Reusable:** Opt for products that can be used multiple times rather than single-use items. 3. **Biodegradable:** Choose products that are biodegradable, meaning they can be broken down by microorganisms and won't persist in the environment. 4. **Energy Efficiency:** For appliances, look for the Energy Star label, which indicates the product meets strict energy efficiency standards set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. A text input field at the bottom contains the placeholder "Type something..." and a send button.

This is the answer given by agent when user selected the sample query

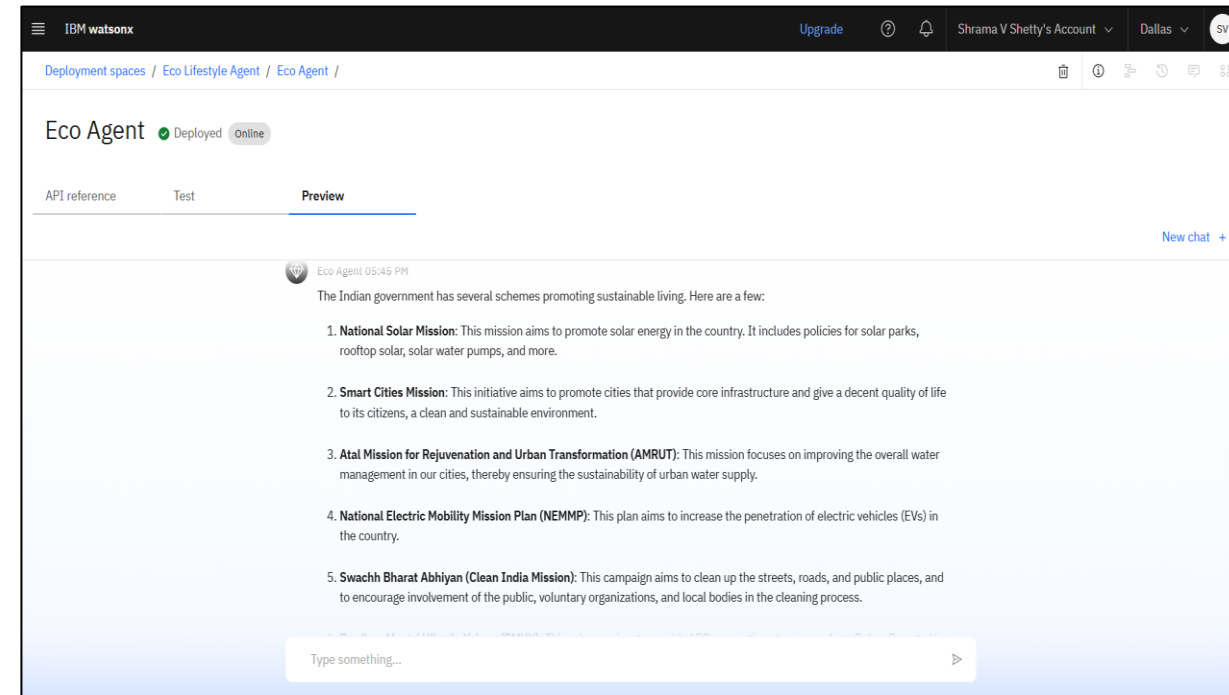
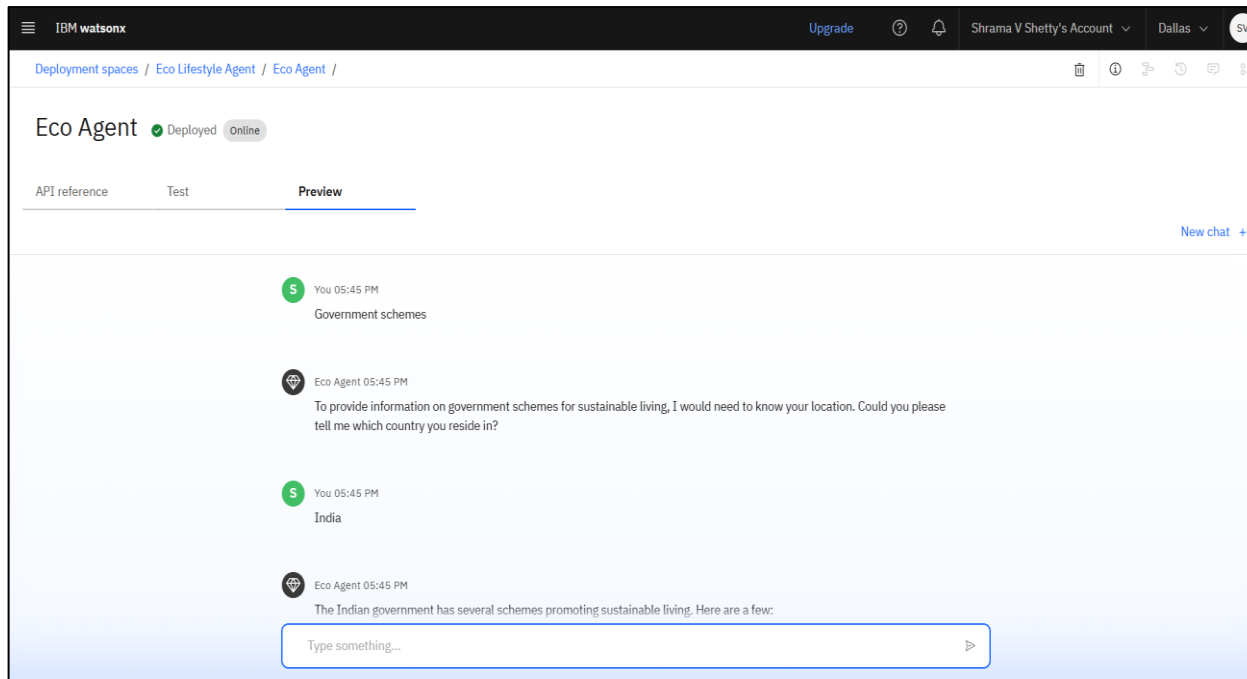
# RESULTS

The screenshot shows the IBM Watsonx interface for the 'Eco Agent'. The top navigation bar includes 'IBM watsonx', 'Upgrade', a help icon, a notification bell, 'Shrama V Shetty's Account', 'Dallas', and a user profile icon 'SV'. The breadcrumb trail is 'Deployment spaces / Eco Lifestyle Agent / Eco Agent /'. Below the header, the agent status is 'Eco Agent' with a green checkmark and 'Deployed Online'. There are three tabs: 'API reference', 'Test', and 'Preview', with 'Preview' being the active tab. A 'New chat +' button is on the right. The chat history shows: a user message 'Local recycling guidelines' at 05:42 PM; an agent response asking for the city name; a user message 'Mangalore' at 05:42 PM; and an agent response providing recycling guidelines for Mangalore. A text input field at the bottom contains 'Type something...'. A vertical scrollbar is on the right side of the chat area.

This screenshot shows the same IBM Watsonx interface, but the agent's response is expanded. It provides detailed recycling guidelines for Mangalore, including a numbered list of six categories: Plastic Bottles, Paper, Glass, Metal, E-waste, and Organic Waste. Below the list, there is a note about rinsing containers and a reference to the Mangalore Nagar Nigam website. A 'How did I get this answer?' link is visible. The text input field at the bottom still contains 'Type something...'. A vertical scrollbar is on the right side of the chat area.

When the user select local recycling guidelines ,agent request the city name and customizes the response according to the city

# RESULTS



**When the user select Government schemes ,agent request the country name and customizes the response according to the country**

# RESULTS

The screenshot shows the IBM watsonx interface for the 'Eco Agent' deployment. The top navigation bar includes 'IBM watsonx', 'Upgrade', a help icon, a notification bell, 'Shrama V Shetty's Account', 'Dallas', and a user profile icon. The breadcrumb trail is 'Deployment spaces / Eco Lifestyle Agent / Eco Agent /'. The main header shows 'Eco Agent' with a green checkmark for 'Deployed' and a grey pill for 'Online'. Below this are tabs for 'API reference', 'Test', and 'Preview'. The 'Preview' tab is active, showing a chat conversation. The chat history includes a user message at 06:26 PM asking 'How can I reduce plastic use at home?' and an agent response at 06:26 PM providing four practical ways to reduce plastic use. A 'New chat +' button is visible. On the right, the 'About this deployment' sidebar shows details: Name (Eco Agent), Description (I'm your eco buddy...), Deployment Details (ID, serving name, software/hardware specifications, and tags including 'wx-agent'), and Associated asset (Eco Agent).

IBM watsonx Upgrade ? Shrama V Shetty's Account Dallas SV

Deployment spaces / Eco Lifestyle Agent / Eco Agent /

Eco Agent Deployed Online

API reference Test **Preview**

New chat +

You 06:26 PM

How can I reduce plastic use at home

Eco Agent 06:26 PM

Here are some practical ways to reduce plastic use at home:

1. **Use Reusable Shopping Bags:** Instead of using plastic bags, opt for reusable shopping bags made from cloth or other sustainable materials.
2. **Say No to Plastic Water Bottles:** Invest in a good quality reusable water bottle. You can also use a water filter if you prefer tap water.
3. **Choose Plastic-Free Food Packaging:** Buy loose fruits and vegetables instead of those pre-packaged in plastic. Opt for products with minimal or recyclable packaging.
4. **Use Glass, Metal, or Bamboo Containers:** Replace plastic containers with glass, metal, or bamboo ones for storing food.

Type something... ▶

About this deployment x

Name Eco Agent

Description I'm your eco buddy. I suggest green tips, products, and habits tailored just for you.

Deployment Details

Deployment ID: f28dc879-ac16-4d...

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 Eco Agent e9991662-d049-4ba1-a98d-fe61d817d48b

The screenshot shows the IBM watsonx interface for the 'Eco Agent' deployment. The top navigation bar includes 'IBM watsonx', 'Upgrade', a help icon, a notification bell, 'Shrama V Shetty's Account', 'Dallas', and a user profile icon. The breadcrumb trail is 'Deployment spaces / Eco Lifestyle Agent / Eco Agent /'. The main header shows 'Eco Agent' with a green checkmark for 'Deployed' and a grey pill for 'Online'. Below this are tabs for 'API reference', 'Test', and 'Preview'. The 'Preview' tab is active, showing a chat conversation. The chat history includes a user message at 06:29 PM asking 'what are eco friendly travel options in mangalore' and an agent response at 06:29 PM providing three eco-friendly options: Public Transportation, Cycling, and Walking. A 'New chat +' button is visible.

IBM watsonx Upgrade ? Shrama V Shetty's Account Dallas SV

Deployment spaces / Eco Lifestyle Agent / Eco Agent /

Eco Agent Deployed Online

API reference Test **Preview**

New chat +

You 06:29 PM

what are eco friendly travel options in mangalore

Eco Agent 06:29 PM

As an Eco Agent, I focus on promoting sustainable living and reducing the carbon footprint in daily activities. For travel within Mangalore, consider the following eco-friendly options:

1. **Public Transportation:** Mangalore has a bus service provided by the Karnataka State Transport Corporation (KSTC). Using public transport is a more sustainable choice compared to individual vehicles.
2. **Cycling:** Mangalore has several cycling tracks, especially along the beach. Cycling is a great way to get around while also getting some exercise and enjoying the scenery.
3. **Walking:** For short distances, walking is the most eco-friendly option. It's good for health and doesn't produce any emissions.

Type something... ▶

Agent answer to the questions asked by user

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## CONCLUSION

- Eco Agent makes sustainability more accessible and actionable
- Empowers users to take green actions every day
- Demonstrates the power of RAG + IBM Granite in real-world AI solutions
- Bridges the gap between sustainability knowledge and everyday behavior

# FUTURE SCOPE

- Support for regional languages (multilingual interaction)
- Integration with smart home devices (e.g., voice assistants)
- Daily eco-tips via WhatsApp or chatbot
- Connect with local eco-product sellers and NGOs
- Track user's carbon footprint and habit progress

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Shrama V Shetty

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



Issued on: Jul 16, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/1e217f25-6c99-4e93-bda7-e671d6f365b3>



7/24/25, 7:23 PM

Completion Certificate | SkillsBuild

**IBM SkillsBuild**

Completion Certificate



This certificate is presented to

Shrama V Shetty

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 24 Jul 2025 (GMT)

**Learning hours:** 20 mins



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## GITHUB LINK

github link: <https://github.com/Shrama-v-shetty/Eco-lifestyle-agent>



**THANK YOU**