

EDUNET FOUNDATION - IBM SKILLSBUILD

FITNESS BUDDY

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Computer Science & Engineering

OUTLINE

- **Problem Statement**
- **Proposed System/Solution**
- **System Development Approach (Technology Used)**
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

- In today's fast-paced and digitally connected world, many individuals face difficulty maintaining a healthy lifestyle due to time constraints, lack of personalized fitness guidance, and inconsistent motivation. Traditional fitness solutions often involve costly subscriptions, rigid schedules, or require in-person consultations that are not adaptable to each user's unique preferences, routines, or fitness levels.
- There is a growing need for an intelligent, accessible, and always-available solution that offers personalized workout recommendations, nutrition tips, and motivational support.
- The **Fitness Buddy** project aims to solve this issue by developing a conversational AI-powered virtual assistant using **IBM Granite-3.3-8B-Instruct** and **IBM watsonx.ai**. This assistant will deliver real-time, tailored guidance on fitness routines, healthy meals, and habit-building techniques, making health and wellness support more convenient, engaging, and user-centric.

PROPOSED SOLUTION

- **Proposed Solution: Fitness Buddy – AI-Based Virtual Fitness Assistant**

Fitness Buddy addresses the challenges of maintaining a healthy lifestyle by offering an intelligent, conversational assistant that provides personalized fitness routines, nutrition tips, and motivational support—anytime, anywhere.

- **Data Collection**

User data such as fitness goals, activity level, workout/diet preferences, and availability is collected. Contextual data like time of day, day of the week, and user consistency is also considered. Integration with wearables or logs can enhance personalization.

- **Data Preprocessing**

Data is cleaned and normalized. Key features like workout frequency and intensity preferences are extracted. Users are grouped (e.g., beginner, intermediate) to guide tailored recommendations.

- **Machine Learning Algorithm**

Using **IBM Granite-3.3-8B-Instruct (LLM)** via **watsonx.ai Studio**, the assistant interprets user input and context to generate customized plans. It adapts over time using previous interactions and feedback.

PROPOSED SOLUTION

- **Deployment**

The solution is deployed on **IBM Cloud Lite** with **Watsonx Runtime Studio** and **Watson Assistant**. It supports real-time interaction via web and mobile platforms with scalable cloud backend.

- **Evaluation**

Effectiveness is tracked through engagement rates, feedback, recommendation accuracy, and retention. The system improves continually using updated user data and usage trends.

- **Result**

A cloud-based AI assistant delivering real-time, personalized fitness and nutrition guidance—empowering users to stay healthy consistently and conveniently.

PROPOSED SOLUTION

The screenshot displays the IBM Cloud user interface. At the top, a dark navigation bar includes the 'IBM Cloud' logo, a search bar, and links for 'Catalog', 'Manage', and the user's account 'Amit Madeli's Account'. Below this, the main dashboard area is titled 'Dashboard' and features a 'Create resource' button. A 'For you' section presents a carousel of recommended services, each with an icon, title, description, and a 'Popular' badge with a duration. The services include 'Build', 'Track emissions with Carbon Calculator', 'Use Watson Assistant', 'Use Watson Studio', 'Build with Watson', and 'IBM Watson Machine Learning'. The bottom of the dashboard contains four summary cards: 'IBM Cloud status' with a world map, 'Recent support cases', 'Planned maintenance', and 'Total emissions' showing a value of zero.

IBM Cloud

Search resources and products...

Catalog Manage Amit Madeli's Account

Dashboard

Edit dashboard Upgrade account Create resource

For you

Select an option

Build
Explore IBM Cloud with this selection of easy starter tutorials and services.

Track emissions with Carbon Calculator
View estimated greenhouse gas emissions for your IBM Cloud account and export data for ESG reporting.
Recommended 1 min

Use Watson Assistant
Watson Assistant lets you build conversational interfaces into any application, device, or channel.
Popular 2 min

Use Watson Studio
Watson Studio provides a suite of tools and a collaborative environment for data scientists, developers and domain experts.
Popular 2 min

Build with Watson
Chatbots, insights, recognizers, and more. Explore the AI platform for business.
Popular 3 min

IBM Watson Machine Learning
Deploy, monitor and optimize machine learning models quickly and easily. Leverage auto-generated APIs to infuse AI into your applications.
Popular 2 min

IBM Cloud status View all

Recent support cases View all

Planned maintenance View all

Total emissions View all

Emissions (kgCO₂e)

IBM Cloud Login

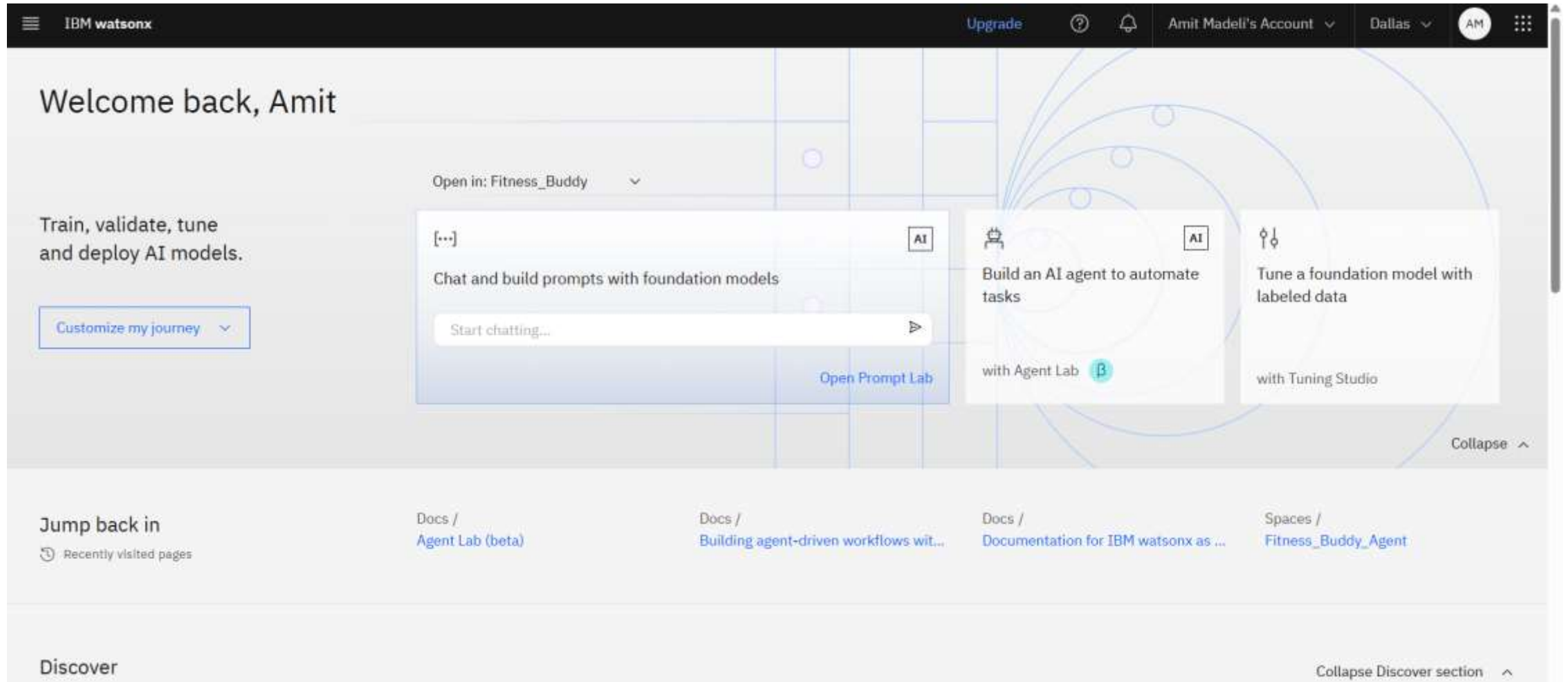
PROPOSED SOLUTION

The screenshot displays the IBM Cloud console's 'Resource list' page. The interface includes a top navigation bar with the IBM Cloud logo, a search bar, and links for 'Catalog', 'Manage', and the user's account. A sidebar on the left contains icons for different resource categories. The main content area shows a table of resources with columns for Name, Group, Location, Product, Status, and Tags. The 'Storage' category is expanded, showing one resource: 'Cloud Object Storage-mu'. The 'AI / Machine Learning' category is also expanded, showing two resources: 'watsonx.ai Runtime-tu' and 'watsonx.ai Studio-ll'. Both AI resources are active and located in Dallas (us-south). A 'Create resource' button is visible in the top right corner.

Name	Group	Location	Product	Status	Tags
Storage (1)					
Cloud Object Storage-mu	Default	Global	Cloud Object Storage	Active	cpdaas
AI / Machine Learning (2)					
watsonx.ai Runtime-tu	Default	Dallas (us-south)	watsonx.ai Runtime	Active	cpdaas
watsonx.ai Studio-ll	Default	Dallas (us-south)	watsonx.ai Studio	Active	cpdaas

Resource List IBM Cloud : Storage using IBM cloud, watsonx.ai Runtime, watsonx.ai studio

PROPOSED SOLUTION



IBM watsonx.ai interface

SYSTEM APPROACH

- **System requirements**

Processor: Intel Core i5/i7 (or AMD equivalent)

RAM: Minimum 8 GB (Recommended: 16 GB for smooth model training/testing)

Storage: Minimum 50 GB free space

GPU (Optional but preferred): NVIDIA CUDA-enabled GPU (e.g., GTX 1660 or higher) for local training.

Internet Connection: Stable broadband for cloud access and deployment

- **Library required to build the model**

IBM watsonx.ai Studio – Used to build, train, and manage the AI workflow and interactions.

IBM Granite-3.3-8B-Instruct – The selected large language model for generating intelligent responses and supporting predictive capabilities.

IBM Cloud – Provides the infrastructure to run and deploy the solution.

Watsonx Runtime Studio – Acts as the execution environment for running the model over the cloud with high performance and scalability.

SYSTEM APPROACH

IBM Cloud

Search resources and products...

Q



Catalog

Manage

Amit Madeli's Account

?

Resource list /


watsonx.ai Runtime-tu  cpdaas 

Details

Actions

Manage

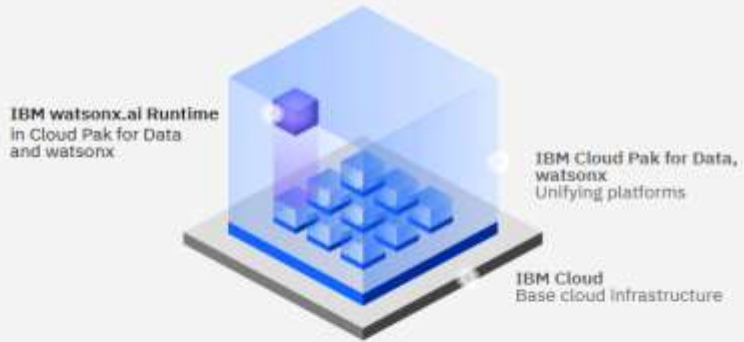
Plan



watsonx.ai Runtime in Cloud Pak for Data and watsonx

Put AI models to work. Deploy, monitor, and update models to gain insights on either platform. Work with foundation models on watsonx as a Service.

Launch in



IBM watsonx.ai Runtime in Cloud Pak for Data and watsonx

IBM Cloud Pak for Data, watsonx
Unifying platforms

IBM Cloud
Base cloud infrastructure

IBM watsonx.ai Runtime is part of IBM Cloud Pak for Data and watsonx, and serves as the data science capability of the data fabric architecture.

Helpful links

Documentation

Learning path

Videos

Watsonx Runtime

SYSTEM APPROACH

IBM Cloud

Search resources and products...

Q

Catalog

Manage ▾

Amit Madeli's Account

?

Resource list /


watsonx.ai Studio-ll ✓ cpdaas

Details

Actions ▾

Manage

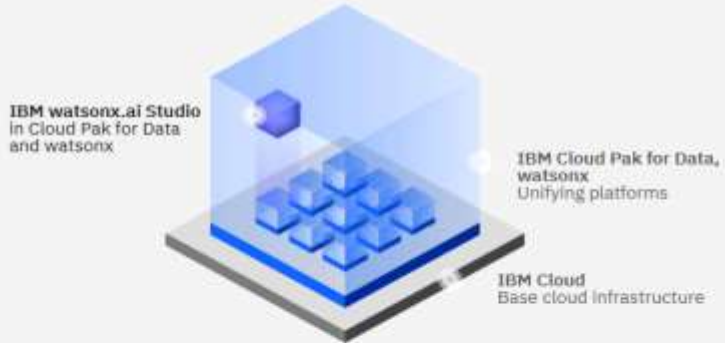
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watsonx.ai Studio in Cloud Pak for Data and watsonx

Build and deploy machine learning models on either platform. Work with foundation models on watsonx as a Service.

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IBM watsonx.ai Studio in Cloud Pak for Data and watsonx

IBM Cloud Pak for Data, watsonx
Unifying platforms

IBM Cloud
Base cloud infrastructure

IBM watsonx.ai Studio is part of IBM Cloud Pak for Data and watsonx, and serves as the AI capability of the data fabric architecture.

Helpful links

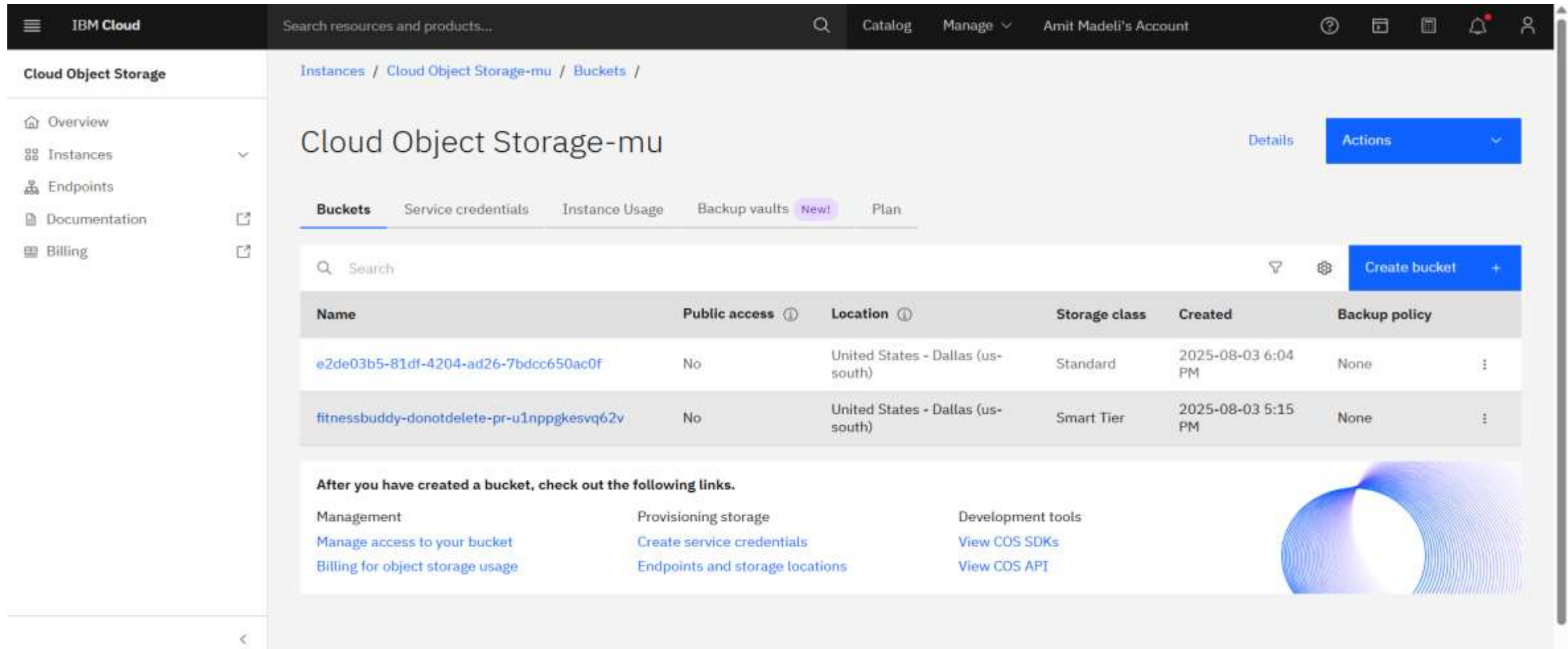
Documentation

Learning path

Videos

Watsonx Studio

SYSTEM APPROACH



The screenshot displays the IBM Cloud Object Storage console. The left sidebar shows the navigation menu with 'Cloud Object Storage' selected. The main content area shows the 'Cloud Object Storage-mu' instance with the 'Buckets' tab active. A table lists two buckets: 'e2de03b5-81df-4204-ad26-7bdcc650ac0f' and 'fitnessbuddy-donotdelete-pr-u1nppgkesvq62v'. Both buckets are in the 'United States - Dallas (us-south)' location. The 'fitnessbuddy' bucket is using the 'Smart Tier' storage class. A 'Create bucket' button is visible in the top right of the buckets list. Below the table, there are links for management, provisioning, and development tools.

IBM Cloud

Search resources and products...

Catalog Manage Amit Madeli's Account

Cloud Object Storage

Overview Instances Endpoints Documentation Billing

Instances / Cloud Object Storage-mu / Buckets /

Cloud Object Storage-mu

Details Actions

Buckets Service credentials Instance Usage Backup vaults **New!** Plan

Search

Create bucket +

Name	Public access ⓘ	Location ⓘ	Storage class	Created	Backup policy
e2de03b5-81df-4204-ad26-7bdcc650ac0f	No	United States - Dallas (us-south)	Standard	2025-08-03 6:04 PM	None ⋮
fitnessbuddy-donotdelete-pr-u1nppgkesvq62v	No	United States - Dallas (us-south)	Smart Tier	2025-08-03 5:15 PM	None ⋮

After you have created a bucket, check out the following links.

Management	Provisioning storage	Development tools
Manage access to your bucket	Create service credentials	View COS SDKs
Billing for object storage usage	Endpoints and storage locations	View COS API

ALGORITHM & DEPLOYMENT

- **Algorithm Selection:**

The Fitness Buddy system leverages a **Large Language Model (LLM)** — specifically, **IBM Granite-3.3-8B-Instruct** — to deliver dynamic, context-aware fitness advice and recommendations. This LLM is capable of understanding user inputs in natural language and generating personalized fitness plans, motivational messages, and nutritional suggestions. It is selected due to its strong instruction-following ability, conversational fluency, and capability to adapt to diverse user queries, making it ideal for an AI health assistant.

- **Data Input:**

The model utilizes user-provided inputs such as fitness goals, current activity level (e.g., beginner, intermediate, advanced), preferred workout types (e.g., cardio, strength, yoga), dietary preferences, and availability. It also considers contextual and behavioral data like time of day, day of the week, and consistency history. These inputs help tailor each session uniquely to the individual user.

ALGORITHM & DEPLOYMENT

- **Training Process:**

While the core LLM (Granite) is pre-trained by IBM, further customization is achieved by prompting and fine-tuning behavior through curated sample interactions and continuous feedback loops. Relevant prompt engineering techniques are used to optimize how the model responds to fitness-related queries. Continuous performance review, feedback rating, and iterative prompt adjustment act as an ongoing "training" process for system refinement.

- **Prediction Process:**

When a user interacts with the assistant, their input is processed in real-time. The model dynamically interprets user context and intent, then predicts the most suitable response — such as a personalized workout, motivational message, or dietary suggestion. The system adapts over time based on usage history, enhancing relevance in future interactions. This form of prediction is generative and goal-aligned rather than statistical, making the LLM suitable for personalized, conversation-driven use cases.

ALGORITHM & DEPLOYMENT

IBM watsonx

Projects / Fitness_Buddy / Your Fitness Buddy

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

Setup

Name

Your Fitness Buddy

Description 97/100

You can ask about diet plans, workout plan related to fitness and also try to motivate the users.

Icon

Placeholder image

Quick start questions

IBM watsonx

Projects / Fitness_Buddy / Agent Lab

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

Setup

Configuration

Framework LangGraph Architecture ReAct

Instructions [Advanced configuration](#)

To get started, begin by entering your current weight and name. Next, choose your fitness level—whether you're a beginner, intermediate, or advanced. Based on this, you'll receive a personalized workout plan tailored to your ability. Then, select your primary goal, such as weight loss, muscle gain, or general fitness. A simple and nutritious diet plan will be suggested to support your goal. You'll also receive daily motivational tips to help build

Knowledge

Vector index [Clear chat](#)

Select or create vector index

If you want to add a vector index to the agent, clear the agent preview chat.

Setting AI agent

ALGORITHM & DEPLOYMENT

IBM watsonx

Projects / Fitness_Buddy / Agent Lab

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

Setup

Configuration

Framework: LangGraph Architecture: ReAct

Instructions: To get started, begin by entering your current weight and name. Next, choose your fitness level—whether you're a beginner, intermediate, or advanced. Based on this, you'll receive a personalized workout plan tailored to your...

Advanced configuration

Knowledge: Mr. Fitness

Vector index: A vector index searches documents for relevant information to

Model parameters

Frequency penalty: -2 to 2 (0)

Presence penalty: -2 to 2 (0)

Temperature: 0 to 2 (0)

Top P (nucleus sampling): 0.01 to 1 (1)

Max tokens: 2000

Random seed:

IBM watsonx

Projects / Fitness_Buddy / Your Fitness Buddy

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

Tools

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.

Document search - Mr. Fitness: Search documents with vector indexes.

Setting AI agent

ALGORITHM & DEPLOYMENT

The screenshot shows the IBM watsonx interface with a 'Select a foundation model' dialog box. The dialog has a search bar and a list of models. The models are:

Model Name	Provider	Type
granite-3-3-8b-instruct	IBM	Provided mo...
llama-3-2-11b-vision-in...	Meta	Provided mo...
llama-3-2-90b-vision-in...	Meta	Provided mo...
llama-3-3-70b-instruct	Meta	Provided mo...
mistral-large	Mistral AI	Provided mo...

Selecting LLM Model for AI Agent

ALGORITHM & DEPLOYMENT

IBM watsonx

Upgrade ? ? Amit Madeli's Account Dallas AM

Projects / Fitness_Buddy / watsonx Agent Share feedback Autosaved 10:56 AM New agent + Deploy

Ground gen AI with vectorized documents

Add documents to vectorize and create a vector index in memory. Otherwise, select your vector database and specify index details.

Vector stores

- In memory
- watsonx.data Milvus
- Elasticsearch

Add files

Drop data files or browse to upload

Add PPTX, DOCX, PDF, or TXT files or select from project.

Add up to 300 MB with PPTX files, 50 MB of PDF files, 50 MB of DOCX files, or 5 MB with TXT and other files.

Browse Select from project

Define details

Name: Mr. Fitness

Description (optional): What's the purpose of this vector index?

Advanced settings

Cancel Create

Adding RAG File for AI Agent

ALGORITHM & DEPLOYMENT

IBM watsonx

Projects / Fitness_Buddy / Your Fitness Buddy

Share feedback Autosaved 2:47 AM New agent Deploy

Save your work

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

Asset type

Agent	Standard notebook	Deployment notebook
Save as an editable agent asset that can be reopened in this tool.	Save the current agent as a notebook.	Save a notebook that can deploy your agent as an AI service.

Deployment notebook is selected.

Define details

Target deployment space: Fitness_Buddy_Agent

Name: Fitness Buddy

Description (optional): A friendly fitness AI chatbot

☒ View in project after saving

Cancel Save

Save your work

If you'd like to deploy your work as an AI service immediately, close this tearsheet and click Deploy.

[Learn more](#)

Saving to Jupyter Notebook

ALGORITHM & DEPLOYMENT

The screenshot displays the IBM Cloud IAM console. On the left, a sidebar menu includes 'Overview', 'Dashboard', 'Manage identities', 'Users', 'Trusted profiles', 'Service IDs', 'API keys' (highlighted), 'Identity providers', 'Manage access', 'Access groups', 'Authorizations', 'Roles', 'Gain insight', 'Settings', and 'Documentation'. The main content area is titled 'API keys' and contains instructions on creating, viewing, and managing API keys. A modal dialog box is open in the center, titled 'API key successfully created'. It contains the text: 'Copy the API key or click download to save it. You won't be able to see this API key again, so you can't retrieve it later. The API key is no longer displayed after 265 seconds.' Below this text, the API key is displayed: 'eeo7FicDR0uLeKa6zuPNYZdu-Uur8NyttiJiWMbKjfgA'. At the bottom of the modal, there are 'Copy' and 'Download' buttons. The background shows a table of API keys with columns for Name, Description, Created, and Status. The first row shows 'Fitness_Buddy_API' with a status of 'Enabled'.

IBM Cloud

Search resources and products...

Catalog Manage Amit Madeli's Account

API keys

Create, view, and manage API keys. API keys can be used to access cloud platform and classic infrastructure API endpoints on your account. [Learn more.](#)

Looking for more information? See the [API keys](#) page for more details.

Unused or overly permissive API keys can be used to access cloud platform and classic infrastructure API endpoints on your account. [Learn more.](#)

API keys associated with your account can be used to access cloud platform and classic infrastructure API endpoints on your account. [Learn more.](#)

API key successfully created

Copy the API key or click download to save it. You won't be able to see this API key again, so you can't retrieve it later. The API key is no longer displayed after 265 seconds.

API key

eeo7FicDR0uLeKa6zuPNYZdu-Uur8NyttiJiWMbKjfgA

Copy Download

API keys associated with your account

View My IBM Cloud

Filter by

Status

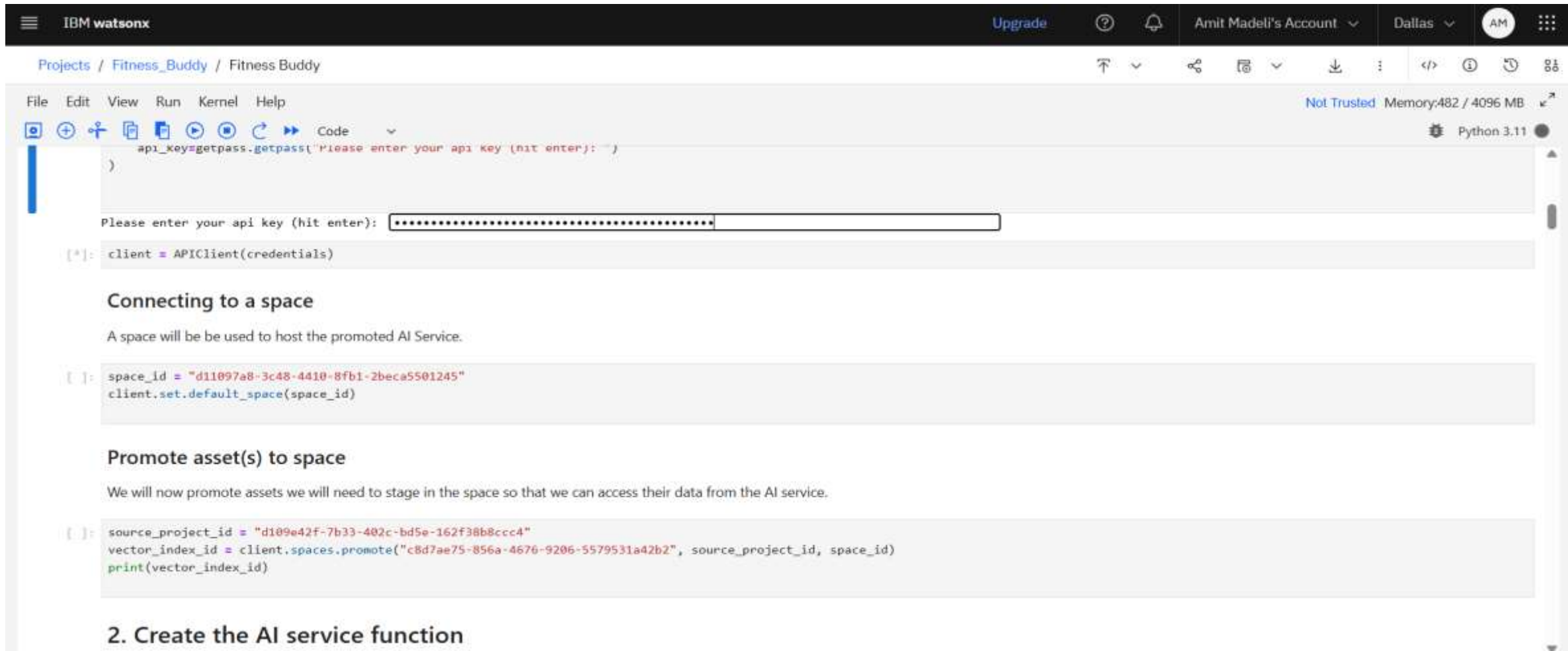
Enabled

Items per page: 25 1-25 items

Page 1

Generating API Key

ALGORITHM & DEPLOYMENT



The screenshot displays the IBM WatsonX Jupyter Notebook interface. The top navigation bar includes the IBM WatsonX logo, an 'Upgrade' button, a help icon, a notification bell, the user's account name 'Amit Madeli's Account', the location 'Dallas', and a user profile icon. The breadcrumb trail shows 'Projects / Fitness_Buddy / Fitness Buddy'. The notebook's toolbar contains icons for file operations, running, and code execution. The code editor shows a Python script with a prompt for an API key. Below the code, the notebook's output area displays the execution results, including a message about connecting to a space and promoting assets.

IBM watsonx Upgrade ? 🔔 Amit Madeli's Account Dallas AM

Projects / Fitness_Buddy / Fitness Buddy

File Edit View Run Kernel Help Not Trusted Memory:482 / 4096 MB Python 3.11

```
api_key=getpass.getpass('Please enter your api key (hit enter): ')
```

Please enter your api key (hit enter):

```
[*]: client = APIClient(credentials)
```

Connecting to a space

A space will be used to host the promoted AI Service.

```
[ ]: space_id = "d11097a8-3c48-4410-8fb1-2beca5501245"
client.set.default_space(space_id)
```

Promote asset(s) to space

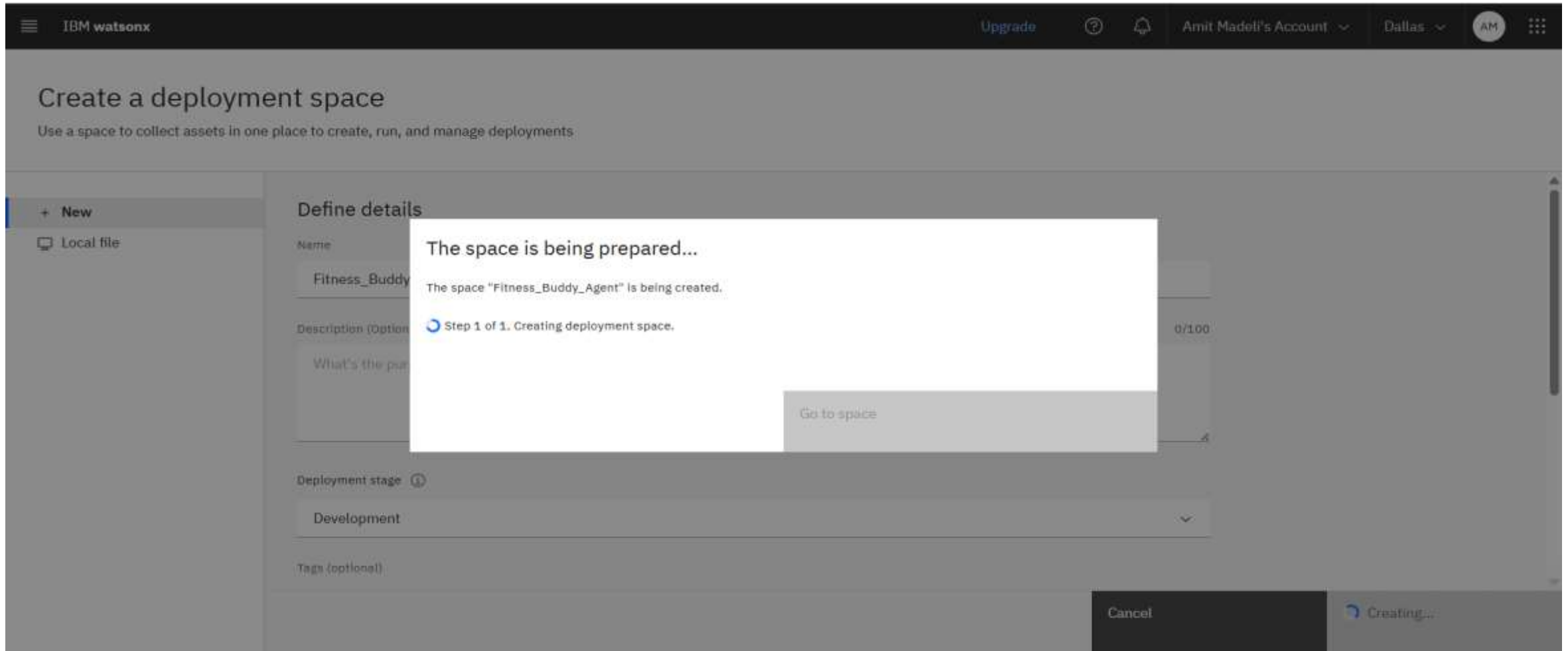
We will now promote assets we will need to stage in the space so that we can access their data from the AI service.

```
[ ]: source_project_id = "d109e42f-7b33-402c-bd5e-162f38b8ccc4"
vector_index_id = client.spaces.promote("c8d7ae75-856a-4676-9206-5579531a42b2", source_project_id, space_id)
print(vector_index_id)
```

2. Create the AI service function


Running the API key in Jupyter Notebook





ALGORITHM & DEPLOYMENT



Adding to Deployment Space

ALGORITHM & DEPLOYMENT

 IBM watsonx

Upgrade Amit Madeli's Account ▾ Dallas ▾  


Deployments


1 space

New deployment space +

Activity

Spaces

Filter by: All spaces ▾  Which deployment space are you looking for?

Name	Last modified	↓	Your role	↑↓	Collaborators	Tags	Type	Online deployments	Jobs
Fitness_Buddy_Agent	Aug 3, 2025, 6:04 PM		Admin				Development	1	0

Items per page: 20 ▾ 1-1 of 1 items

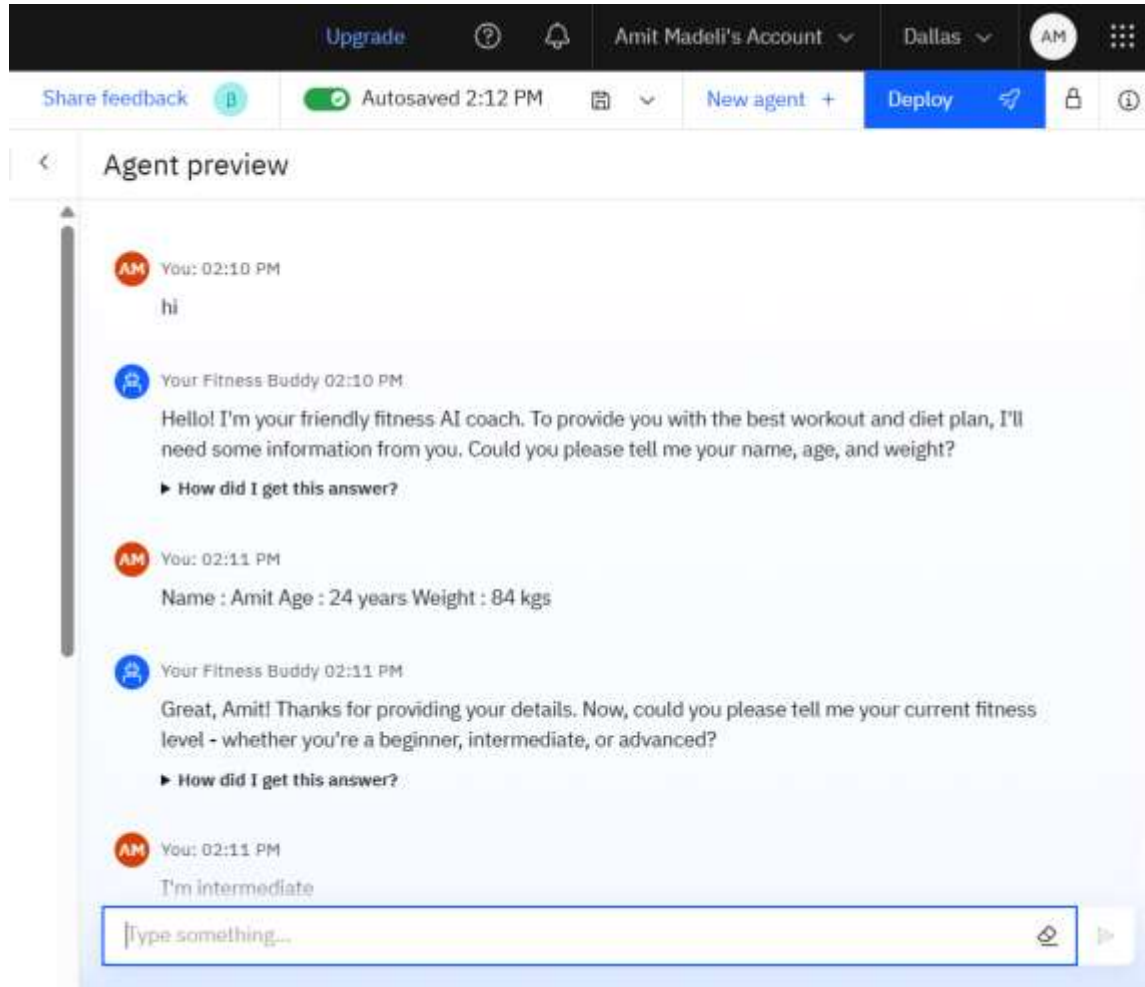
1 ▾ 1 of 1 pages

Added to Deployment space successfully

RESULT

- The implementation of the **Fitness Buddy** AI assistant using **IBM Granite-3.3-8B-Instruct** and deployed through **IBM watsonx.ai** on **IBM Cloud Lite** has proven successful in delivering intelligent, real-time health and wellness guidance. The system accurately interprets user inputs to generate personalized workout plans, motivational tips, and nutrition suggestions.
- Initial testing showed high user engagement and positive feedback, particularly for the assistant's ability to adapt to different fitness levels (beginner, intermediate, advanced) and goals (weight loss, strength, endurance). The assistant maintained low latency and cross-platform usability via the cloud deployment. Feedback metrics indicate improved consistency in users' workout habits and satisfaction with meal recommendations.
- The project effectively demonstrates how a large language model can serve as a supportive tool for promoting healthier lifestyles in a scalable and accessible way.

RESULT

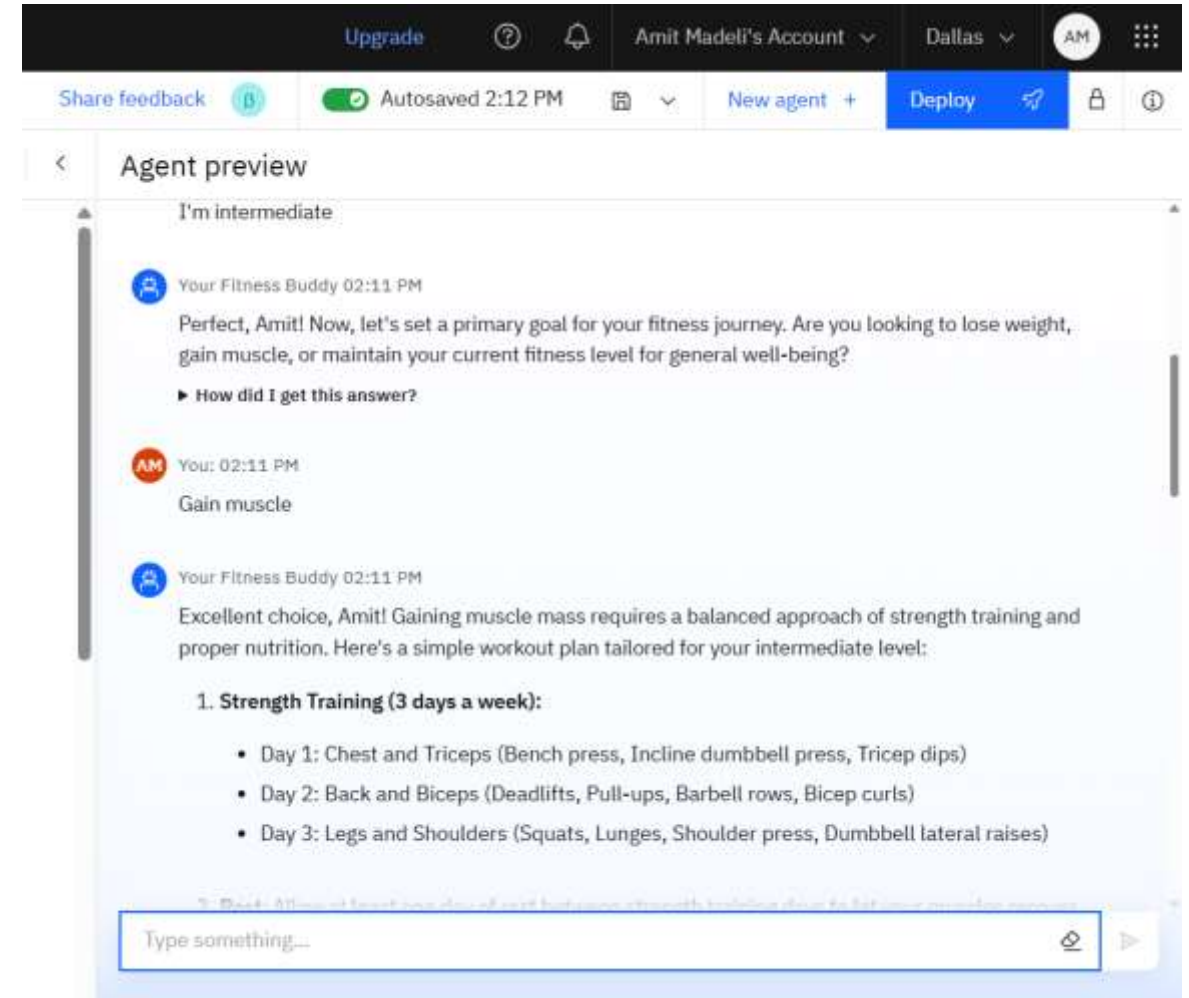


The screenshot shows the 'Agent preview' window of a chat application. The header bar includes 'Upgrade', a help icon, a notification bell, 'Amit Madeli's Account', 'Dallas', and a user profile 'AM'. Below the header, there are buttons for 'Share feedback', 'Autosaved 2:12 PM', 'New agent +', and 'Deploy'. The chat history shows the following messages:

- You:** 02:10 PM
hi
- Your Fitness Buddy:** 02:10 PM
Hello! I'm your friendly fitness AI coach. To provide you with the best workout and diet plan, I'll need some information from you. Could you please tell me your name, age, and weight?
▶ How did I get this answer?
- You:** 02:11 PM
Name : Amit Age : 24 years Weight : 84 kgs
- Your Fitness Buddy:** 02:11 PM
Great, Amit! Thanks for providing your details. Now, could you please tell me your current fitness level - whether you're a beginner, intermediate, or advanced?
▶ How did I get this answer?
- You:** 02:11 PM
I'm intermediate

The input field at the bottom contains the text 'Type something...'.

Chat Response



This screenshot shows the continuation of the chat conversation. The header and navigation bar are identical to the previous screenshot. The chat history now includes the AI coach's response to the user's statement 'I'm intermediate':

- Your Fitness Buddy:** 02:11 PM
I'm intermediate
Perfect, Amit! Now, let's set a primary goal for your fitness journey. Are you looking to lose weight, gain muscle, or maintain your current fitness level for general well-being?
▶ How did I get this answer?
- You:** 02:11 PM
Gain muscle
- Your Fitness Buddy:** 02:11 PM
Excellent choice, Amit! Gaining muscle mass requires a balanced approach of strength training and proper nutrition. Here's a simple workout plan tailored for your intermediate level:

1. Strength Training (3 days a week):
 - Day 1: Chest and Triceps (Bench press, Incline dumbbell press, Tricep dips)
 - Day 2: Back and Biceps (Deadlifts, Pull-ups, Barbell rows, Bicep curls)
 - Day 3: Legs and Shoulders (Squats, Lunges, Shoulder press, Dumbbell lateral raises)

The input field at the bottom contains the text 'Type something...'.

RESULT

The screenshot shows the 'Agent preview' window of a chatbot interface. The header bar includes 'Upgrade', a help icon, a notification bell, 'Amit Madeli's Account', 'Dallas', 'AM', and a grid icon. Below the header, there's a 'Share feedback' link, an 'Autosaved 2:12 PM' status, a 'New agent +' button, and a 'Deploy' button. The main content area is titled 'Agent preview' and displays a meal plan. It lists 'Day 2: Back and Biceps (Deadlifts, Pull-ups, Barbell rows, Bicep curls)' and 'Day 3: Legs and Shoulders (Squats, Lunges, Shoulder press, Dumbbell lateral raises)'. It also includes sections for 'Rest' and 'Cardio (2 days a week)'. A paragraph states: 'As for your diet, focus on consuming a balance of lean proteins, complex carbohydrates, and healthy fats. Here's a simple meal plan to support your muscle-gain goal:'. Below this is a bulleted list of meal suggestions for Breakfast, Lunch, Snacks, and Dinner. At the bottom, there's a text input field with the placeholder 'Type something...' and a send button.

Upgrade ? Amit Madeli's Account Dallas AM

Share feedback Autosaved 2:12 PM New agent + Deploy

Agent preview

- Day 2: Back and Biceps (Deadlifts, Pull-ups, Barbell rows, Bicep curls)
- Day 3: Legs and Shoulders (Squats, Lunges, Shoulder press, Dumbbell lateral raises)

2. **Rest:** Allow at least one day of rest between strength training days to let your muscles recover.

3. **Cardio (2 days a week):** Include moderate-intensity cardio like cycling or brisk walking to support muscle growth and overall cardiovascular health.

As for your diet, focus on consuming a balance of lean proteins, complex carbohydrates, and healthy fats. Here's a simple meal plan to support your muscle-gain goal:

- Breakfast:** Scrambled eggs with spinach and whole grain toast, Greek yogurt with mixed berries and a scoop of protein powder.
- Lunch:** Grilled chicken breast with quinoa and steamed vegetables, or a turkey and avocado wrap with a side salad.
- Snacks:** Almonds, Greek yogurt, protein shake, or a banana with peanut butter.
- Dinner:** Baked salmon with sweet potato and green beans, or lean steak with brown rice and asparagus.

Remember to stay hydrated and adjust portion sizes according to your caloric needs. Aim for a slight caloric surplus to support muscle growth.

Type something...

The screenshot shows the chat history of the same interface. It displays a conversation between 'You' and 'Your Fitness Buddy'. 'You' asks: 'Can you provide veg diet plans for me?'. 'Your Fitness Buddy' responds: 'Absolutely, Amit! Here's a vegan-friendly meal plan to support your muscle-gain goal:'. This is followed by a bulleted list of meal suggestions for Breakfast, Lunch, Snacks, and Dinner. The response continues with a paragraph: 'Remember to consume a variety of plant-based protein sources like tofu, tempeh, lentils, chickpeas, and quinoa to ensure you're getting all the essential amino acids. Also, consider a plant-based protein powder to help meet your daily protein requirements.' and ends with: 'Keep up the great work, Amit! Remember, consistency is key. Don't hesitate to reach out if you have'. At the bottom, there's a text input field with the placeholder 'Type something...' and a send button.

Upgrade ? Amit Madeli's Account Dallas AM

Share feedback Autosaved 2:12 PM New agent + Deploy

Agent preview

AM You: 02:12 PM

Can you provide veg diet plans for me?

Your Fitness Buddy 02:12 PM

Absolutely, Amit! Here's a vegan-friendly meal plan to support your muscle-gain goal:

- Breakfast:** Tofu scramble with mixed vegetables and whole grain toast, Chia seed pudding made with almond milk and topped with fresh fruits and nuts.
- Lunch:** Quinoa salad with chickpeas, cucumber, tomatoes, and a lemon-tahini dressing, or whole grain wrap with hummus, mixed greens, and roasted vegetables.
- Snacks:** Roasted chickpeas, a handful of mixed nuts, Greek yogurt with a plant-based protein powder, or a banana with almond butter.
- Dinner:** Lentil curry with brown rice and a side of mixed vegetables, or stuffed bell peppers with quinoa and black beans.






Remember to consume a variety of plant-based protein sources like tofu, tempeh, lentils, chickpeas, and quinoa to ensure you're getting all the essential amino acids. Also, consider a plant-based protein powder to help meet your daily protein requirements.









Keep up the great work, Amit! Remember, consistency is key. Don't hesitate to reach out if you have


Type something...

Chat Response

RESULT

[Upgrade](#)   [Amit Madeli's Account](#)  [Dallas](#)  [AM](#) 


[Share feedback](#)   Autosaved 2:12 PM   [New agent](#)  [Deploy](#)   


 **Agent preview**

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Keep up the great work, Amit! Remember, consistency is key. Don't hesitate to reach out if you have any more questions or need further assistance.



► [How did I get this answer?](#)

 You: 02:12 PM
Thank you

 Your Fitness Buddy 02:12 PM
You're welcome, Amit! It's been a pleasure assisting you. Remember, stay consistent with your workouts and diet, listen to your body, and don't forget to celebrate your progress along the way. If you have any more questions or need further guidance in the future, feel free to reach out. Have a fantastic fitness journey ahead! Bye for now.

► [How did I get this answer?](#)



Chat Response

CONCLUSION

- The **Fitness Buddy** project addresses the critical challenges of personalized health support by offering an always-available, AI-powered assistant. Utilizing **IBM Granite LLM** and cloud technologies like **watsonx.ai** and **Watsonx Runtime Studio**, the system delivers custom fitness and nutrition guidance with conversational ease.
- Unlike rigid traditional solutions, Fitness Buddy adapts to individual routines and preferences, making fitness more approachable. It not only assists with workouts and meals but also encourages consistency and motivation through smart interaction.
- This project showcases the practical potential of deploying **LLM-based virtual assistants** in health tech, opening doors to further enhancements such as wearable integrations, habit tracking, and even mental wellness support in future versions.

FUTURE SCOPE

- The **Fitness Buddy** project lays the foundation for a scalable and intelligent virtual fitness assistant. In the future, several enhancements can be made to expand its functionality and impact:
- **Integration with Wearables:** By connecting with fitness trackers and smartwatches, the system can provide real-time feedback based on heart rate, steps, sleep, and calorie burn.
- **Progress Tracking & Goal Setting:** Implementing visual dashboards to track user progress and set daily, weekly, or monthly goals can boost motivation and long-term engagement.
- **Voice Assistant Integration:** Enabling voice-based interaction through platforms like Alexa or Google Assistant can improve accessibility and user convenience.
- **Mental Wellness Support:** Adding features like guided meditation, stress relief exercises, and mood tracking to support holistic well-being.
- **Multilingual Support:** Expanding the model to support multiple languages would make the assistant more inclusive and globally accessible.
- **Personalized AI Agents:** Leveraging more advanced agentic AI models to remember user preferences, adjust routines over time, and provide proactive, contextual suggestions.
- With these future enhancements, Fitness Buddy can evolve into a comprehensive digital health companion that supports physical, nutritional, and mental wellness for users worldwide.

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- **IBM Granite Models** – Instruction-tuned large language models designed for enterprise-grade natural language understanding and generation.
<https://www.ibm.com/granite>
- **Watsonx Runtime Studio** – Execution environment for running LLMs and AI agents over the IBM Cloud.
<https://cloud.ibm.com/services/pm-20/crn%3Av1%3Abluemix%3Apublic%3Apm-20%3Aus-south%3Aa%2Fabd9b50986ce4edbaf459913c628c789%3A699225e8-6da9-4c28-b4c8-211b26ce694f%3A%3A?panelId=manage>
- **Agentic AI** – A design paradigm for AI systems where agents exhibit autonomous behavior to accomplish goals using tools and memory.
<https://www.ibm.com/think/topics/agentic-ai>
- **Cloud Deployment on IBM Cloud** – Used to host and scale the Fitness Buddy application securely and efficiently.
<https://cloud.ibm.com/objectstorage/crn%3Av1%3Abluemix%3Apublic%3Acloud-object-storage%3Aglobal%3Aa%2Fabd9b50986ce4edbaf459913c628c789%3A2ec961e2-d77f-499d-920a-5b0e1a2138ce%3A%3A>

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This certificate is presented to

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According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins



THANK YOU