

Problem Statement No.13 - Fitness Buddy

The challenge - In today's fast-paced world, many individuals struggle to maintain a healthy lifestyle due to lack of personalized guidance, time constraints, and inconsistent motivation. Traditional fitness solutions often require expensive subscriptions, in-person consultations, or rigid schedules that don't adapt to personal preferences or daily routines.

There is a growing need for an accessible, friendly, and intelligent virtual assistant that can provide on-demand fitness advice, healthy lifestyle suggestions, and basic nutrition guidance—all tailored to individual needs and available at any time.

Fitness Buddy aims to solve this problem by offering a conversational, AI-powered health and fitness coach that can:

Recommend home workouts and routines based on user input.

- Provide motivational tips and daily fitness inspiration.
- Suggest simple, nutritious meal ideas.
- Encourage habit-building and consistency.

Technology: Use of IBM cloud lite services /IBM Granity is mandatory.

Agent Lab — Yatharth's Agent | X

https://dataplatfom.cloud.ibm.com/wx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib...BasicElectricalEngin... (13) WhatsAppSign in with your Ri...Dark S 01 E 01: Fre...Free Course: Introd...CISCO Credential St...CISCO Ethical Hackerlabs.cognitiveclassa...AI Chat Bot CourseOSINT FrameworkCreating a new repo...

IBM watsonx

Upgrade?Yatharth Singh's AccountDallasYs

Projects / Yatharth's Agent / Agent Lab

Share feedbackBUnsavedNew agent +Deploy

Build

ATModel: llama-3-3-70b-instruct

+

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

Configuration

FrameworkLangGraphArchitectureReAct

Instructions

Advanced configuration

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

Knowledge

Tools

Add a toolCreate custom tool

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.

DuckDuckGo search

Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

YS You: 12:34 AM

Give me a 5 day workout plan

Fitness Agent 12:34 AM

Here is a 5-day workout plan:

Monday: Chest and triceps

- Barbell Bench Press (4 sets of 8-12 reps)
- Incline Dumbbell Press (3 sets of 10-15 reps)
- Cable Flyes (3 sets of 12-15 reps)
- Tricep Pushdowns (3 sets of 10-12 reps)
- Tricep Dips (3 sets of 12-15 reps)

Tuesday: Back and biceps

- Pull-ups (3 sets of as many reps as possible)
- Barbell Rows (4 sets of 8-12 reps)
- Lat Pulldowns (3 sets of 10-12 reps)
- Dumbbell Bicep Curls (3 sets of 10-12 reps)
- Hammer Curls (3 sets of 10-12 reps)

Wednesday: Shoulders

- Seated Dumbbell Shoulder Press (4 sets of 8-12 reps)
- Lateral Raises (3 sets of 10-12 reps)
- Rear Delt Flyes (3 sets of 12-15 reps)
- Face Pulls (3 sets of 12-15 reps)

Type something...

Type here to search

28°C Light rain00:3609-03-2025

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

Architecture

ReAct

Advanced configuration

232

[Create custom tool](#)

- Hammer Curls (3 sets of 10-12 reps)

- Seated Dumbbell Shoulder Press (4 sets of 8-12 reps)
- Lateral Raises (3 sets of 10-12 reps)
- Rear Delt Flyes (3 sets of 12-15 reps)
- Face Pulls (3 sets of 12-15 reps)

- Squats (4 sets of 8-12 reps)
- Leg Press (3 sets of 10-12 reps)
- Lunges (3 sets of 10-12 reps per leg)
- Leg Extensions (3 sets of 12-15 reps)
- Leg Curls (3 sets of 10-12 reps)

- Planks (3 sets of 30-60 seconds)
- Russian Twists (3 sets of 10-12 reps per side)
- Leg Raises (3 sets of 10-12 reps)
- Bicycle Crunches (3 sets of 10-12 reps per side)
- Woodchoppers (3 sets of 10-12 reps per side)

► How did I get this answer?

YS You: 12:36 AM

△

Agent Lab — Yatharth's Agent | X +

← → ↺ https://dataplatfom.cloud.ibm.com/vx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib... BasicElectricalEngin... (13) WhatsApp Sign in with your Ri... Dark S 01 E 01 : Fre... Free Course: Introd... CISCO Credential St... CISCO Ethical Hacker labs.cognitiveclassa... AI Chat Bot Course OSINT Framework Creating a new repo... >

IBM watsonx Upgrade ? 🔔 Yatharth Singh's Account ▼ Dallas ▼ YS

Projects / Yatharth's Agent / Agent Lab Share feedback B Unsaved 📁 ▼ New agent + Deploy 🚀

Build

AT Model: llama-3-3-70b-instruct 🔗 ⏪

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

Configuration

Framework LangGraph ▼ Architecture ReAct ▼

Instructions [Advanced configuration](#)

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

Knowledge ▼

Tools

Add a tool Create custom tool

Added tools (5)

Google search ⚙️ 🗑️

Retrieve information from the internet with the Google search engine.

DuckDuckGo search 🗑️

Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

• Leg Raises (3 sets of 10-12 reps)

- Bicycle Crunches (3 sets of 10-12 reps per side)
- Woodchoppers (3 sets of 10-12 reps per side)

Note: Warm up before each workout, and rest for 60-90 seconds between sets. Adjust the weights and reps based on your fitness level and goals. It's also important to listen to your body and take rest days as needed.

► How did I get this answer?

YS You: 12:36 AM

How is your daily nutrition and hydration?

🔊 Fitness Agent 12:36 AM

Based on the search engine results, it appears that daily nutrition and hydration are important for maintaining overall health and well-being. The recommended daily caloric intake varies by age and activity level, and it's important to stay hydrated by drinking enough water and other fluids.

Some specific recommendations include:

- Drinking 6-8 cups (1.5-2 liters) of fluid per day, including water, lower-fat milk, and sugar-free drinks
- Eating a balanced diet that includes a variety of foods from all food groups
- Paying attention to nutrient density and identifying gaps in nutrient intake
- Considering nutritional supplements if necessary
- Personalizing hydration and fueling strategies for athletes or individuals with specific needs

It's also important to note that nutrition and hydration needs can vary depending on factors such as age, sex, and health status, and that individualized recommendations may be necessary. Consult with a healthcare professional or registered dietitian for personalized advice.

► How did I get this answer?

🔄

🔍 type something... 🔍 ▶

Type here to search 🌟 📅 🗂️ 🌐 📧 📺 🎵 🎮

28°C Light rain ⬆️ 🔊 🔌 ENG 00:36 09-03-2025 🗨️

Agent Lab — Yatharth's Agent |

https://dataplatfom.cloud.ibm.com/vx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib...BasicElectricalEngin... (13) WhatsAppSign in with your Ri...Dark S 01 E 01 : Fre...Free Course: Introd...CISCO Credential St...CISCO Ethical Hackerlabs.cognitiveclassa...AI Chat Bot CourseOSINT FrameworkCreating a new repo...

IBM watsonx

UpgradeYatharth Singh's AccountDallas

Projects / Yatharth's Agent / Agent Lab

Share feedbackUnsavedNew agentDeploy

Build

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

AT

+

←

→

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

+

Configuration

^

Framework

LangGraph

Architecture

ReAct

Instructions

Advanced configuration

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

Knowledge

^

Tools

^

Add a tool

Create custom tool

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.

DuckDuckGo search

Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

Eased on the search engine results, it appears that daily nutrition and hydration are important for maintaining overall health and well-being. The recommended daily caloric intake varies by age and activity level, and it's important to stay hydrated by drinking enough water and other fluids.

Some specific recommendations include:

- Drinking 6-8 cups (1.5-2 liters) of fluid per day, including water, lower-fat milk, and sugar-free drinks
- Eating a balanced diet that includes a variety of foods from all food groups
- Paying attention to nutrient density and identifying gaps in nutrient intake
- Considering nutritional supplements if necessary
- Personalizing hydration and fueling strategies for athletes or individuals with specific needs

It's also important to note that nutrition and hydration needs can vary depending on factors such as age, sex, and health status, and that individualized recommendations may be necessary. Consult with a healthcare professional or registered dietitian for personalized advice.

► How did I get this answer?

YS You: 12:37 AM

How much water should i drink

Fitness Agent 12:37 AM

The amount of water you should drink daily varies depending on factors such as age, sex, and activity level. The general recommendation is to drink at least 8-10 cups (64-80 ounces) of water per day. However, some studies suggest that drinking more water, up to 13 cups (104 ounces) per day, may have additional health benefits. It's also important to note that you can get some of your daily water intake from other fluids, such as milk, juice, and tea, as well as from foods that are high in water content, such as fruits and vegetables. Ultimately, the best way to determine your individual water needs is to pay attention to your body's signs of hydration, such as the color of your urine and your level of thirst.

► How did I get this answer?

Type something...

Type here to search

28°C Light rain

00:37

09-09-2025

Agent Lab — Yatharth's Agent |

https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib...BasicElectricalEngin... (13) WhatsAppSign in with your Ri...Dark S 01 E 01 : Fre...Free Course: Introd...CISCO Credential St...CISCO Ethical Hackerlabs.cognitiveclassa...AI Chat Bot CourseOSINT FrameworkCreating a new repo...

IBM watsonx

Upgrade?Yatharth Singh's AccountDallasYs

Projects / Yatharth's Agent / Agent Lab

Share feedbackBUnsavedNew agent +Deploy

Build

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

AT

+

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

Configuration

FrameworkLangGraphArchitectureReAct

Instructions

Advanced configuration

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

Knowledge

Tools

Add a toolCreate custom tool

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.

DuckDuckGo search

Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

It's also important to note that nutrition and hydration needs can vary depending on factors such as age, sex, and health status, and that individualized recommendations may be necessary. Consult with a healthcare professional or registered dietitian for personalized advice.

How did I get this answer?

YS You: 12:37 AM

How much water should I drink

Fitness Agent 12:37 AM

The amount of water you should drink daily varies depending on factors such as age, sex, and activity level. The general recommendation is to drink at least 8-10 cups (64-80 ounces) of water per day. However, some studies suggest that drinking more water, up to 13 cups (104 ounces) per day, may have additional health benefits. It's also important to note that you can get some of your daily water intake from other fluids, such as milk, juice, and tea, as well as from foods that are high in water content, such as fruits and vegetables. Ultimately, the best way to determine your individual water needs is to pay attention to your body's signs of hydration, such as the color of your urine and your level of thirst.

How did I get this answer?

YS You: 12:37 AM

Ideal protein intake per day

Fitness Agent 12:37 AM

The ideal protein intake per day varies depending on factors such as age, sex, weight, and activity level. The recommended daily allowance (RDA) is 0.8 g/kg per day for adults aged 18 years or greater. Based on weight, growing children and pregnant or lactating women may require more protein. Additionally, athletes or individuals who are trying to build muscle may require more protein to support muscle growth and repair. It's also important to note that excessive protein intake can be harmful, so it's essential to consult with a healthcare professional or registered dietitian to determine the appropriate protein intake for your individual needs.

How did I get this answer?

Type something...

Type here to search

28°C Light rain00:3709-03-2025

Agent Lab — Yatharth's Agent | X +

https://dataplatform.cloud.ibm.com/wx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib... BasicElectricalEngin... (13) WhatsApp Sign in with your Ri... Dark S 01 E 01 : Fre... Free Course: Introd... CISCO Credential St... CISCO Ethical Hacker labs.cognitiveclassa... AI Chat Bot Course OSINT Framework Creating a new repo...

IBM watsonx Upgrade ? Bell Yatharth Singh's Account Dallas YS

Projects / Yatharth's Agent / Agent Lab

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

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

Configuration

Framework LangGraph Architecture ReAct

Instructions Advanced configuration

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

Knowledge

Tools

Add a tool Create custom tool

Added tools (5)

Google search Retrieve information from the internet with the Google search engine.

DuckDuckGo search Retrieve information from the internet with the DuckDuckGo search engine.

Agent preview

recommendation is to drink at least 8-10 cups (64-80 ounces) of water per day. However, some studies suggest that drinking more water, up to 13 cups (104 ounces) per day, may have additional health benefits. It's also important to note that you can get some of your daily water intake from other fluids, such as milk, juice, and tea, as well as from foods that are high in water content, such as fruits and vegetables. Ultimately, the best way to determine your individual water needs is to pay attention to your body's signs of hydration, such as the color of your urine and your level of thirst.

How did I get this answer?

YS You: 12:37 AM

Ideal protien intake per day

Fitness Agent 12:37 AM

The ideal protein intake per day varies depending on factors such as age, sex, weight, and activity level. The recommended daily allowance (RDA) is 0.8 g/kg per day for adults aged 18 years or greater. Based on weight, growing children and pregnant or lactating women may require more protein. Additionally, athletes or individuals who are trying to build muscle may require more protein to support muscle growth and repair. It's also important to note that excessive protein intake can be harmful, so it's essential to consult with a healthcare professional or registered dietitian to determine the appropriate protein intake for your individual needs.

How did I get this answer?

YS You: 12:37 AM

ideal weight if my height is 178cm and im a male

Fitness Agent 12:37 AM

Based on the search engine results, the ideal weight for a male who is 178cm tall is between 58.6kg and 79.2kg. This is considered a healthy/normal weight range. However, it's important to note that this is just an estimate and that ideal weight can vary depending on factors such as muscle mass, bone density, and body composition. It's always best to consult with a healthcare professional to determine a healthy weight range for your individual needs.

How did I get this answer?

Type something...

Type here to search

28°C Light rain 00:38 09-03-2025

Agent Lab — Yatharth's Agent |

https://dataplatfom.cloud.ibm.com/vx/agents?context=wx&project_id=1832585f-1397-4810-a535-e243094efafd

Concepts of Distrib...BasicElectricalEngin... (13) WhatsAppSign in with your Ri...Dark S 01 E 01 : Fre...Free Course: Introd...CISCO Credential St...CISCO Ethical Hackerlabs.cognitiveclassa...AI Chat Bot CourseOSINT FrameworkCreating a new repo...

IBM watsonx

Upgrade?Yatharth Singh's AccountDallasYs

Projects / Yatharth's Agent / Agent Lab

Share feedbackUnsavedNew agentDeploy

Build

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

When greeted, say "Hi, I am AI agent. How can I help you?"

Knowledge

Tools

Add a toolCreate custom tool

Added tools (6)

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

Retrieve the weather of a city.

Agent preview

recommendation is to drink at least 8-10 cups (64-80 ounces) of water per day. However, some studies suggest that drinking more water, up to 13 cups (104 ounces) per day, may have additional health benefits. It's also important to note that you can get some of your daily water intake from other fluids, such as milk, juice, and tea, as well as from foods that are high in water content, such as fruits and vegetables. Ultimately, the best way to determine your individual water needs is to pay attention to your body's signs of hydration, such as the color of your urine and your level of thirst.

How did I get this answer?

YS You: 12:37 AM

Ideal protien intake per day

Fitness Agent 12:37 AM

The ideal protein intake per day varies depending on factors such as age, sex, weight, and activity level. The recommended daily allowance (RDA) is 0.8 g/kg per day for adults aged 18 years or greater. Based on weight, growing children and pregnant or lactating women may require more protein. Additionally, athletes or individuals who are trying to build muscle may require more protein to support muscle growth and repair. It's also important to note that excessive protein intake can be harmful, so it's essential to consult with a healthcare professional or registered dietitian to determine the appropriate protein intake for your individual needs.

How did I get this answer?

YS You: 12:37 AM

ideal weight if my height is 178cm and im a male

Fitness Agent 12:37 AM

Based on the search engine results, the ideal weight for a male who is 178cm tall is between 58.6kg and 79.2kg. This is considered a healthy/normal weight range. However, it's important to note that this is just an estimate and that ideal weight can vary depending on factors such as muscle mass, bone density, and body composition. It's always best to consult with a healthcare professional to determine a healthy weight range for your individual needs.

How did I get this answer?

Type something...

Type here to search

28°C Light rain00:3809-03-2025

IBM Cloud

Home | IBM watsonxai Studio

AI Agent — Yatharth's Agent | IBM

AI Fitness Buddy — Yatharth's Ag

IBM Terms

https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/95ed9e03-0d3b-4d93-96ad-4808d37a73fd?projectId=1832585f-1397-4810-a535-e243094efafd&context=wx#

Sign in

IBM watsonx

Upgrade

Yatharth Singh's Account

Dallas

Ys

Projects / Yatharth's Agent / AI Agent

File Edit View Run Kernel Help

Trusted Memory:728 / 4096 MB

Python 3.11

[...] Prompt Lab | Part of IBM watsonx.ai®

Prompt notebook

AI Service Deployment Notebook

This notebook contains steps and code to test, promote, and deploy an Agent as an AI Service.

Note: Notebook code generated using Agent Lab will execute successfully. If code is modified or reordered, there is no guarantee it will successfully execute. For details, see: [Saving your work in Agent Lab as a notebook](#).

Some familiarity with Python is helpful. This notebook uses Python 3.11.

Contents

This notebook contains the following parts:

1. Setup
2. Initialize all the variables needed by the AI Service
3. Define the AI service function
4. Deploy an AI Service
5. Test the deployed AI Service

1. Set up the environment

Before you can run this notebook, you must perform the following setup tasks:

Connection to WML

This cell defines the credentials required to work with watsonx API for both the execution in the project, as well as the deployment and runtime execution of the function.

Action: Provide the IBM Cloud personal API key. For details, see [documentation](#).

Type here to search

28°C Light rain

00:51
09-03-2025

IBM Cloud

Home | IBM watsonxai Studio

AI Agent — Yatharth's Agent | IBM

AI Fitness Buddy — Yatharth's Ag

IBM Terms

https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/95ed9e03-0d3b-4d93-96ad-4808d37a73fd?projectId=1832585f-1397-4810-a535-e243094efafd&context=wx#

Concepts of Distrib...BasicElectricalEngin... (13) WhatsAppSign in with your Ri...Dark S 01 E 01: Fre...Free Course: Introd...CISCO Credential St...CISCO Ethical Hackerlabs.cognitiveclassa...AI Chat Bot CourseOSINT FrameworkCreating a new repo...Sign in

IBM watsonxUpgradeYatharth Singh's AccountDallasYs

Projects / Yatharth's Agent / AI Agent

File Edit View Run Kernel Help

Trusted Memory: 728 / 4096 MBPython 3.11

5. Test the deployed AI Service

1. Set up the environment

Before you can run this notebook, you must perform the following setup tasks:

Connection to WML

This cell defines the credentials required to work with watsonx API for both the execution in the project as well as the deployment and runtime execution of the function.

Action: Provide the IBM Cloud personal API key. For details, see [documentation](#).

```
[4]: import os
from ibm_watsonx_ai import APIClient, Credentials
import getpass

credentials = Credentials(
    url="https://us-south.ml.cloud.ibm.com",
    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 be used to host the promoted AI Service.

```
[5]: space_id = "750eb8e3-62a7-44c7-85a7-835b38ca75cd"
client.set_default_space(space_id)
```

NameError

Traceback (most recent call last)

Cell In[5], line 2

1 space_id = "750eb8e3-62a7-44c7-85a7-835b38ca75cd"

Type here to search

28°C Light rain00:5209-03-2025

2. Create the AI service function

We first need to define the AI service function

2.1 Define the function

```
[7]: params = {
    "space_id": space_id,
}

def gen_ai_service(context, params = params, **custom):
    # import dependencies
    from langchain_ibm import ChatWatsonx
    from ibm_watsonx_ai import APIClient
    from ibm_watsonx_ai.foundation_models.utils import Tool, Toolkit
    from langchain_core.messages import AIMessage, HumanMessage
    from langgraph.checkpoint.memory import MemorySaver
    from langgraph.prebuilt import create_react_agent
    import json
    import requests

    model = "meta-llama/llama-3-3-70b-instruct"

    service_url = "https://us-south.ml.cloud.ibm.com"
    # Get credentials token
    credentials = {
        "url": service_url,
        "token": context.generate_token()
    }

    # Setup client
    client = APIClient(credentials)
    space_id = params.get("space_id")
    client.set_default_space(space_id)

    def create_chat_model(watsonx_client):
        parameters = {
            "frequency_penalty": 0,
            "max_tokens": 2000,
            "presence_penalty": 0.

```

IBM Cloud

Home | IBM watsonxai Studio

AI Agent — Yatharth's Agent | IBM

AI Fitness Buddy — Yatharth's Ag

IBM Terms

https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/95ed9e03-0d3b-4d93-96ad-4808d37a73fd?projectId=1832585f-1397-4810-a535-e243094efafd&context=wx#

Sign in

Concepts of Distrib... BasicElectricalEngin... (13) WhatsApp Sign in with your Ri... Dark S 01 E 01: Fre... Free Course: Introd... CISCO Credential St... CISCO Ethical Hacker labs.cognitiveclassa... AI Chat Bot Course OSINT Framework Creating a new repo...

Upgrade ? Bell Yatharth Singh's Account Dallas YS

Projects / Yatharth's Agent / AI Agent

File Edit View Run Kernel Help Trusted Memory:728 / 4096 MB Python 3.11

```
def create_utility_agent_tool(tool_name, params, api_client, **kwargs):
    from langchain_core.tools import StructuredTool
    utility_agent_tool = Toolkit(
        api_client=api_client
    ).get_tool(tool_name)

    tool_description = utility_agent_tool.get("description")

    if kwargs.get("tool_description"):
        tool_description = kwargs.get("tool_description")
    elif (utility_agent_tool.get("agent_description")):
        tool_description = utility_agent_tool.get("agent_description")

    tool_schema = utility_agent_tool.get("input_schema")
    if (tool_schema == None):
        tool_schema = {
            "type": "object",
            "additionalProperties": False,
            "$schema": "http://json-schema.org/draft-07/schema#",
            "properties": {
                "input": {
                    "description": "input for the tool",
                    "type": "string"
                }
            }
        }

    def run_tool(**tool_input):
        query = tool_input
        if (utility_agent_tool.get("input_schema") == None):
            query = tool_input.get("input")

        results = utility_agent_tool.run(
            input=query,
            config=params
        )

        return results.get("output")

    return StructuredTool(
        name=tool_name,
```

Type here to search

28°C Light rain 00:52 09-03-2025

IBM Cloud

Home | IBM watsonxai Studio

AI Agent — Yatharth's Agent | IBM

AI Fitness Buddy — Yatharth's Ag

IBM Terms

https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/95ed9e03-0d3b-4d93-96ad-4808d37a73fd?projectId=1832585f-1397-4810-a535-e243094efafd&context=wx#

Sign in

Concepts of Distrib...BasicElectricalEngin... (13) WhatsApp Sign in with your Ri... Dark S 01 E 01: Fre... Free Course: Introd... CISCO Credential St... CISCO Ethical Hacker labs.cognitiveclassa... AI Chat Bot Course OSINT Framework Creating a new repo...

Upgrade ? Bell Yatharth Singh's Account Dallas YS

Projects / Yatharth's Agent / AI Agent

File Edit View Run Kernel Help Trusted Memory:728 / 4096 MB Python 3.11

```
        if message["role"] == "system":
            instructions += message["content"]
graph = create_react_agent(model, tools=tools, checkpointer=memory, state_modifier=instructions)
return graph

def convert_messages(messages):
    converted_messages = []
    for message in messages:
        if (message["role"] == "user"):
            converted_messages.append(HumanMessage(content=message["content"]))
        elif (message["role"] == "assistant"):
            converted_messages.append(AIMessage(content=message["content"]))
    return converted_messages

def generate(context):
    payload = context.get_json()
    messages = payload.get("messages")
    inner_credentials = {
        "url": service_url,
        "token": context.get_token()
    }

    inner_client = APIClient(inner_credentials)
    model = create_chat_model(inner_client)
    tools = create_tools(inner_client, context)
    agent = create_agent(model, tools, messages)

    generated_response = agent.invoke(
        { "messages": convert_messages(messages) },
        { "configurable": { "thread_id": "42" } }
    )

    last_message = generated_response["messages"][-1]
    generated_response = last_message.content

    execute_response = {
        "headers": {
            "Content-type": "application/json"
        },
        "body": {
            "choices": [{
                "index": 0,
```

Type here to search

28°C Light rain 00:52 09-03-2025

IBM Cloud | Home | IBM watsonxai Studio | AI Agent — Yatharth's Agent | IBM | AI Fitness Buddy — Yatharth's Ag | IBM Terms

https://dataplatform.cloud.ibm.com/analytics/notebooks/v2/95ed9e03-0d3b-4d93-96ad-4808d37a73fd?projectId=1832585f-1397-4810-a535-e243094efafd&context=wx#

IBM watsonx Upgrade ? Yatharth Singh's Account Dallas YS

Projects / Yatharth's Agent / AI Agent

File Edit View Run Kernel Help Trusted Memory: 728 / 4096 MB Python 3.11

```
return execute_response

def generate_stream(context):
    print("Generate stream", flush=True)
    payload = context.get_json()
    headers = context.get_headers()
    is_assistant = headers.get("X-Ai-Interface") == "assistant"
    messages = payload.get("messages")
    inner_credentials = {
        "url": service_url,
        "token": context.get_token()
    }
    inner_client = APIClient(inner_credentials)
    model = create_chat_model(inner_client)
    tools = create_tools(inner_client, context)
    agent = create_agent(model, tools, messages)

    response_stream = agent.stream(
        { "messages": messages },
        { "configurable": { "thread_id": "42" } },
        stream_mode=["updates", "messages"]
    )

    for chunk in response_stream:
        chunk_type = chunk[0]
        finish_reason = ""
        usage = None
        if (chunk_type == "messages"):
            message_object = chunk[1][0]
            if (message_object.type == "AIMessageChunk" and message_object.content != ""):
                message = {
                    "role": "assistant",
                    "content": message_object.content
                }
            else:
                continue
        elif (chunk_type == "updates"):
            update = chunk[1]
            if ("agent" in update):
                agent = update["agent"]
                agent_result = agent["messages"][0]
                if (agent_result.additional_kwargs):
```

```
        "content": message_object.content
    }
    else:
        continue
    elif (chunk_type == "updates"):
        update = chunk[1]
        if ("agent" in update):
            agent = update["agent"]
            agent_result = agent["messages"][0]
            if (agent_result.additional_kwargs):
                kwargs = agent["messages"][0].additional_kwargs
                tool_call = kwargs["tool_calls"][0]
                if (is_assistant):
                    message = {
                        "role": "assistant",
                        "step_details": {
                            "type": "tool_calls",
                            "tool_calls": [
                                {
                                    "id": tool_call["id"],
                                    "name": tool_call["function"]["name"],
                                    "args": tool_call["function"]["arguments"]
                                }
                            ]
                        }
                    }
                else:
                    message = {
                        "role": "assistant",
                        "tool_calls": [
                            {
                                "id": tool_call["id"],
                                "type": "function",
                                "function": {
                                    "name": tool_call["function"]["name"],
                                    "arguments": tool_call["function"]["arguments"]
                                }
                            }
                        ]
                    }
            elif (agent_result.response_metadata):
                # Final update
                message = {}
```

```
[11]: # Define the request and response schemas for the AI service
request_schema = {
  "application/json": {
    "$schema": "http://json-schema.org/draft-07/schema#",
    "type": "object",
    "properties": {
      "messages": {
        "title": "The messages for this chat session.",
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "role": {
              "title": "The role of the message author.",
              "type": "string",
              "enum": ["user", "assistant"]
            },
            "content": {
              "title": "The contents of the message.",
              "type": "string"
            }
          },
          "required": ["role", "content"]
        }
      },
      "required": ["messages"]
    }
  },
  "required": ["messages"]
}

response_schema = {
  "application/json": {
    "oneOf": [{ "$schema": "http://json-schema.org/draft-07/schema#", "type": "object", "description": "AI Service response for /ai_service_stream", "properties": { "choices": { "description": "A list of chat completion choices.", "type": "array", "items": { "t

[12]: # Store the AI service in the repository
ai_service_metadata = {
  client_repository: AIServiceMetadataName: "AIT & agent"
```


Next steps

You successfully deployed and tested the AI Service! You can now view your deployment and test it as a REST API endpoint.

Copyrights

Licensed Materials - Copyright © 2024 IBM. This notebook and its source code are released under the terms of the ILAN License. Use, duplication disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Note: The auto-generated notebooks are subject to the International License Agreement for Non-Warranted Programs (or equivalent) and License Information document for watsonx.ai Auto-generated Notebook (License Terms), such agreements located in the link below. Specifically, the Source Components and Sample Materials clause included in the License Information document for watsonx.ai Studio Auto-generated Notebook applies to the auto-generated notebooks.

By downloading, copying, accessing, or otherwise using the materials, you agree to the [License Terms](#)
