
AICTE IBM CLOUD PROJECT

PROBLEM STATEMENT NO.7 – AI AGENT FOR DIGITAL FINANCIAL LITERACY

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OUTLINE

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PROBLEM STATEMENT

- To build an **AI Agent powered by Retrieval-Augmented Generation (RAG)** that enhances **digital financial literacy** by retrieving trustworthy content related to UPI, online scams, interest rates, budgeting, and personal finance from government and educational platforms. The agent aims to educate users and make digital finance **inclusive, safe, and easy to understand**.

TECHNOLOGY USED

□ Technologies Used :-

- IBM Watsonx.ai Studio
- IBM Granite Foundation Model (LLM)
- Vector Index for RAG
- PDF documents from RBI/NPCI/official sources
- Natural Language Processing (NLP)
- IBM Cloud Object Storage

IBM CLOUD SERVICES USED

☁️ IBM Cloud Services Used :-

- Watsonx.ai Studio
- IBM Granite Model
- Watsonx Vector Index
- IBM Cloud Lite Account
- IBM Cloud IAM
- IBM Cloud Object Storage

WOW FACTORS

- ✓ Uses RAG to fetch answers from RBI/NPCI PDFs
- ✓ Fully hosted on IBM Cloud
- ✓ Handles unrelated questions gracefully
- ✓ Multilingual-ready with Watson Translator
- ✓ Educates users on digital financial safety
- ✓ Personalized & secure financial advice

END USERS

- General public seeking financial clarity
- Rural & semi-urban citizens
- Students & young professionals
- First-time UPI and digital banking users
- NGOs & government outreach programs
- Self-help groups / women collectives
- Customer service centers
- Educators / Institutions

RESULT

The screenshot displays the IBM Watsonx interface for building and previewing an AI agent. The browser address bar shows the URL: https://dataplatform.cloud.ibm.com/wx/agents/67e07eb1-12e0-44c4-ae15-994ca7ada030?project_id=59eff289-e314-4a82-bae6-29726db5acb2.... The interface is divided into two main panels: 'Build' on the left and 'Agent preview' on the right.

Build Panel:

- Icon:** A red circular icon with a white speech bubble and a smiley face.
- Placeholder image:** A 3D illustration of a laptop, a smartphone, and a document with a bar chart.
- Quick start questions:** A section titled 'Add up to 8 quick start questions that your users can select.' containing four questions:
 - How can I safely transfer money online?
 - What should I do if I suspect a financial scam?
 - What is a good interest rate for a personal loan?
 - What is UPI and how do I use it to send money via UPI?
- Configuration:** A section at the bottom with a dropdown menu.

Agent preview Panel:

- Header:** 'DigiFinance Buddy 11:20 AM' and 'Welcome to DigiFinance Buddy'.
- Description:** 'Aim to develop an AI agent to guide users in digital finance with RAG and multilingual support.'
- Image:** A 3D illustration of a laptop, a smartphone, and a document with a bar chart.
- Sample questions:** A section containing four questions, each with a right-pointing arrow:
 - How can I safely transfer money online?
 - What should I do if I suspect a financial scam?
 - What is a good interest rate for a personal loan?
 - What is UPI and how do I use it to send money via UPI?
- Input field:** A text box at the bottom with the placeholder 'Type something...' and a right-pointing arrow.

RESULT

The screenshot displays the IBM watsonx interface for building and deploying an AI agent. The browser address bar shows the URL: https://dataplatform.cloud.ibm.com/wx/agents/67e07eb1-12e0-44c4-ae15-994ca7ada030?project_id=59eff289-e314-4a82-bae6-29726db5acb2.... The interface is divided into two main sections: 'Build' and 'Agent preview'.

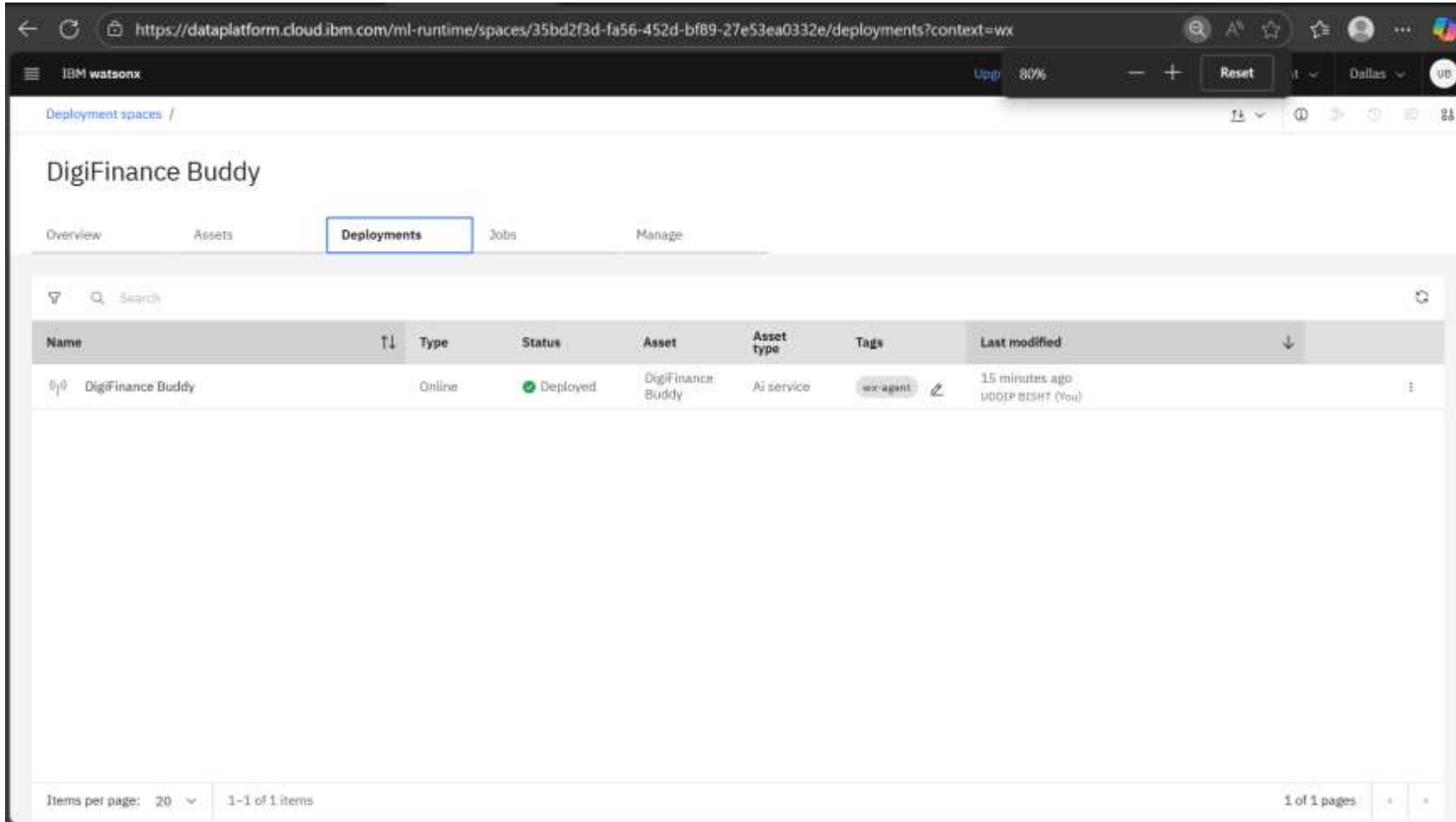
Build Section:

- Setup:** AI Model: granite-3-3-8b-instruct
- Configuration:**
 - Framework: LangGraph
 - Architecture: ReAct
- Instructions:** You are a helpful assistant that uses tools to answer questions in detail. When greeted, say "Hi, I am DigiFinance Buddy.ai agent. How can I help you?"
- Knowledge:**
- Tools:** Add a tool, Create custom tool

Agent preview Section:

- Deployment status:** Deployment has started. Your AI service deployment has started. View status. Timestamp 11:00:56 AM.
- Sample questions:**
 - How can I safely transfer money online?
 - What should I do if I suspect a financial scam?
 - What is a good interest rate for a personal loan?
 - What is UPI and how do I use it to send money via UPI?
- Input field:** Type something...

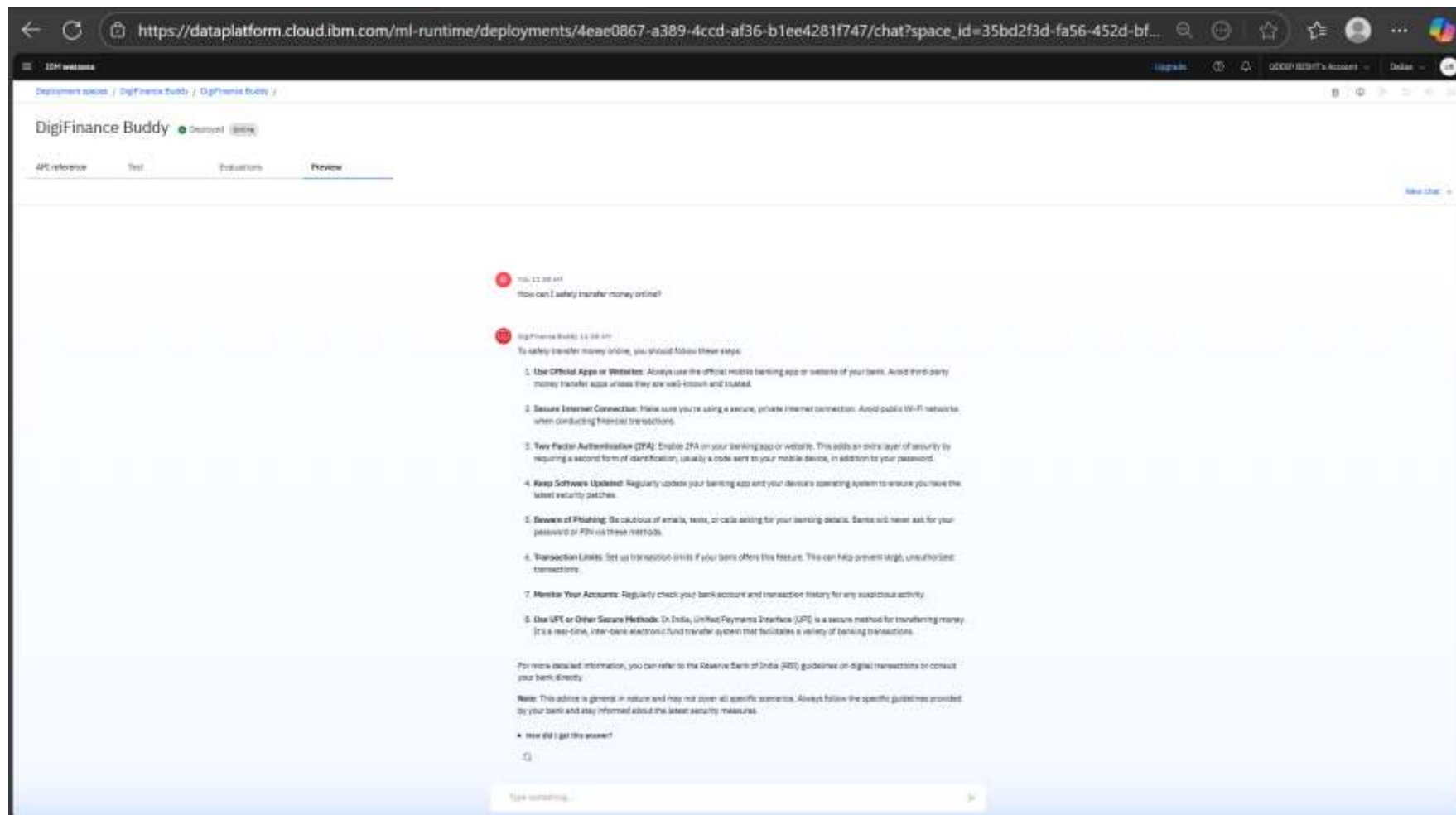
RESULT



The screenshot shows the IBM Watsonx interface for a deployment space. The browser address bar displays the URL: `https://dataplatform.cloud.ibm.com/ml-runtime/spaces/35bd2f3d-fa56-452d-bf89-27e53ea0332e/deployments?context=wx`. The page title is "DigiFinance Buddy". Below the title, there are tabs for "Overview", "Assets", "Deployments" (which is selected), "Jobs", and "Manage". A search bar is located above the table. The table has columns: Name, Type, Status, Asset, Asset type, Tags, and Last modified. One deployment is listed: "DigiFinance Buddy" with status "Deployed" and a green checkmark icon. The "Last modified" column shows "15 minutes ago" and "DDDP BISHI (You)". At the bottom, there is a pagination bar showing "Items per page: 20" and "1-1 of 1 items".

Name	Type	Status	Asset	Asset type	Tags	Last modified
DigiFinance Buddy	Online	Deployed	DigiFinance Buddy	AI service	wx-agent	15 minutes ago DDDP BISHI (You)

RESULT



RESULT

The screenshot shows the IBM Watson ML deployment page for a model named "DigiFinance Buddy". The page is titled "DigiFinance Buddy" and shows it is "Deployed" and "Online". The "API reference" tab is selected, showing the "Endpoints for inferencing". There are two sections: "Private endpoint" and "Public endpoint". Each section lists two URLs with a copy icon. To the right of the endpoints is a "Server token" field with a dropdown menu showing "IAM". Below the endpoints is a link to "Learn more about the 2021-05-01 version query parameter". The "Code snippets" section is also visible, with tabs for "curl", "Java", "JavaScript", "Python", and "Scala". The "curl" tab is selected, showing a code snippet for setting up the API key and making a POST request to the endpoint. A "Show more" link is at the bottom right of the code snippet.

Deployment spaces / DigiFinance Buddy / DigiFinance Buddy /

DigiFinance Buddy

Deployed Online

API reference Evaluations Preview

Endpoints for inferencing

Private endpoint

Server token IAM

Public endpoint

Learn more about the 2021-05-01 version query parameter

Code snippets

curl Java JavaScript Python Scala

```
export API_KEY=<your API key>

export IAM_TOKEN=$(curl --insecure -X POST --location "https://iam.cloud.ibm.com/identity/token" \
--header "Content-Type: application/x-www-form-urlencoded" \
--header "Accept: application/json" \
--data-urlencode "grant_type=urn:ibm:params:oauth:grant-type:apikey" \
--data-urlencode "apikey=${API_KEY}" | jq -r '.access_token')

# TODO: manually define and pass values to be passed below

curl --location "https://us-south.ml.cloud.ibm.com/ml/v4/deployments/4ae0867-a389-4ccd-af36-b1ee4281f747/ml_service_stream?version=2021-05-01" \
--header "Content-Type: application/json" \
--header "Accept: application/json" \
--header "Authorization: Bearer $IAM_TOKEN" \
--data '{"messages":[{"content":"","role":""}]}'
```

Show more

CONCLUSION

- The AI Agent for Digital Financial Literacy successfully addresses the gap in accessible, trustworthy, and multilingual financial education. By leveraging IBM Watsonx.ai and RAG architecture, the system provides real-time, document-backed answers to users in natural language. It helps reduce fraud risk, increases financial confidence, and promotes digital inclusion across diverse user groups.
- This AI-driven RAG-based assistant ensures financial literacy is not only informative but also accessible, reliable, and culturally inclusive. With verified data sources, multilingual interaction, and IBM's AI cloud ecosystem, **DigiFinance Buddy** builds confidence in users to safely navigate the digital finance landscape.

GITHUB LINK

- GitHub repo Link :-

<https://github.com/uddipbisht/AI-Agent-for-Digital-Financial-Literacy-Project.git>

FUTURE SCOPE

- ☐ Future Scope
- 📱 WhatsApp or mobile app integration
- ☐ Voice input (speech-to-text)
- 📊 Auto-generated financial summaries
- 📄 Region-based financial updates
- 🌐 Expanded multilingual support

IBM CERTIFICATIONS

Certificate (getting started with AI)



IBM CERTIFICATIONS

Certificate (Journey to Cloud)



IBM CERTIFICATIONS

[Certificate \(RAG Lab\)](#)

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

UDDIP BISHT

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 20 Jul 2025 (GMT)

Learning hours: 20 mins



THANK YOU