

Project Documentation: Chatbot Implementation using Watson Assistant

Akshay K

Hariharaswamy M

Mohamed Thoufik U

Sudhakaran V

Syed Anwar S

Project Objective :

Develop a chatbot to enhance customer support for an e-commerce platform. Improve user engagement and satisfaction by providing quick and accurate responses to common queries. Reduce the workload on customer support agents for routine inquiries.

Design Thinking Process :

- **Empathize:**
 - Understand customer pain points through surveys, feedback, and support ticket analysis.
- **Define:**
 - Clearly define the scope of the chatbot, identifying key features and user needs.
- **Ideate:**
 - Brainstorm possible interactions and features that would benefit users.
- **Prototype:**
 - Create a basic flowchart of the chatbot's conversation to visualize user interactions.
- **Test:**
 - Collect feedback on the prototype to refine and improve the chatbot's design.

Development Phases :

- **Phase 1: Planning and Setup**
 - Define project requirements and objectives.
 - Set up Watson Assistant account and environment.
- **Phase 2: Design and Prototyping**
 - Create a conversation flowchart.
 - Design the chatbot's persona and scripting.
- **Phase 3: Implementation**
 - Build the chatbot using Watson Assistant.
 - Integrate the chatbot with the e-commerce platform.

- **Phase 4: Testing**

- Conduct user testing to identify and fix any issues.
- Ensure the chatbot provides accurate and helpful responses.

- **Phase 5: Deployment**

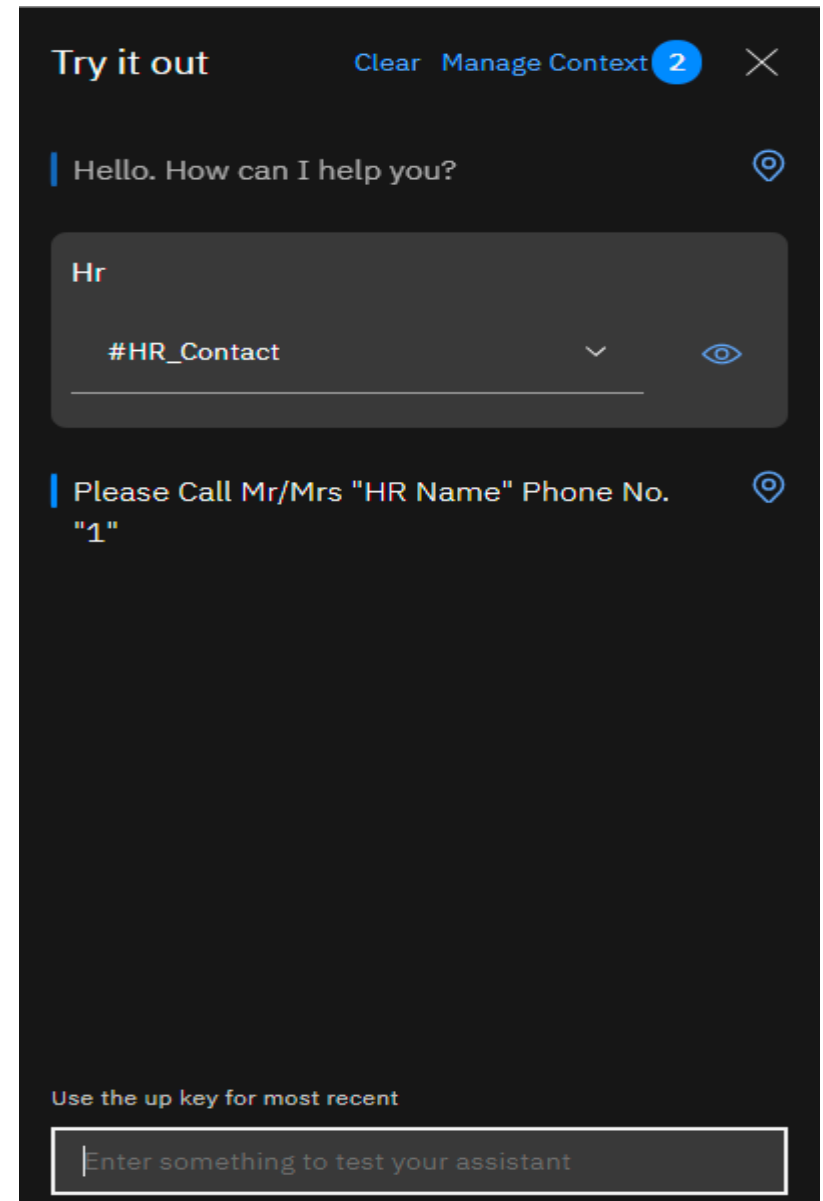
- Deploy the chatbot to the e-commerce website.
- Monitor its performance and gather real-time user feedback.

- **Phase 6: Maintenance and Iteration**

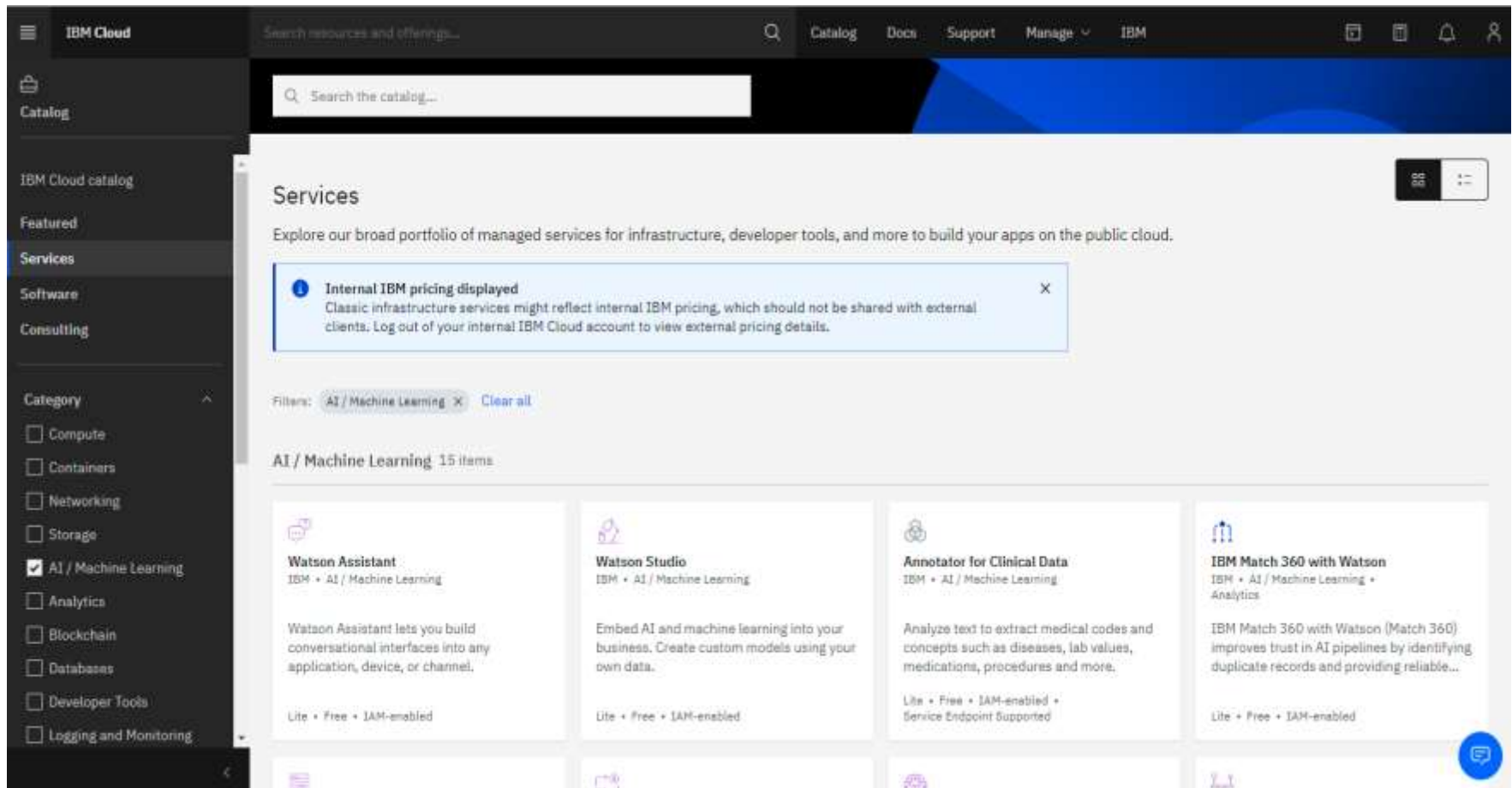
- Regularly update the chatbot based on user feedback and changing business needs.

Chatbot Personal :

- **Name:** ShopBot
- **Persona Traits:**
Friendly, helpful, efficient.
- **Language Style:**
Casual yet professional.



To create the chatbot :



The screenshot displays the IBM Cloud Services catalog interface. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Docs, Support, Manage, and IBM. The left sidebar shows the Catalog menu with options like IBM Cloud catalog, Featured, Services (selected), Software, and Consulting. Below this, a Category list includes Compute, Containers, Networking, Storage, AI / Machine Learning (checked), Analytics, Blockchain, Databases, Developer Tools, and Logging and Monitoring. The main content area is titled 'Services' and features a notification about internal IBM pricing. A filter for 'AI / Machine Learning' is applied, showing 15 items. Four service cards are visible: Watson Assistant, Watson Studio, Annotator for Clinical Data, and IBM Match 360 with Watson. Each card provides a brief description and pricing information.

IBM Cloud Search resources and offerings... Catalog Docs Support Manage IBM

Search the catalog...

Services

Explore our broad portfolio of managed services for infrastructure, developer tools, and more to build your apps on the public cloud.

Internal IBM pricing displayed
Classic infrastructure services might reflect internal IBM pricing, which should not be shared with external clients. Log out of your internal IBM Cloud account to view external pricing details.

Filters: **AI / Machine Learning** Clear all

AI / Machine Learning 15 items

Watson Assistant
IBM • AI / Machine Learning

Watson Assistant lets you build conversational interfaces into any application, device, or channel.

Lite • Free • IAM-enabled

Watson Studio
IBM • AI / Machine Learning

Embed AI and machine learning into your business. Create custom models using your own data.

Lite • Free • IAM-enabled

Annotator for Clinical Data
IBM • AI / Machine Learning

Analyze text to extract medical codes and concepts such as diseases, lab values, medications, procedures and more.

Lite • Free • IAM-enabled • Service Endpoint Supported

IBM Match 360 with Watson
IBM • AI / Machine Learning • Analytics

IBM Match 360 with Watson (Match 360) improves trust in AI pipelines by identifying duplicate records and providing reliable...

Lite • Free • IAM-enabled

Chat icon

Create a Dialog Skill :

90 days of usage analytics
Assistant session inactivity timeout 7 days
1,000 concurrent calls using phone integration, contact us for higher limits
12 month commitment required

To purchase Enterprise with data isolation, or add data isolation to an existing Enterprise plan, contact us at: <http://ibm.biz/contact-ws-enterprise>

Configure your resource

Service name

Tags ⓘ

Service Endpoints

Public network service endpoint is accessible from anywhere on the internet. Private network service endpoint access traverses only IBM Cloud backbone network, not public internet.

Public Network

Encrypt service with KeyProtect

Allows encryption with a KeyProtect key.

☐ Yes ☒ No

Select a resource group ⓘ

Access management tags ⓘ

Summary

Watson Assistant

Location: London

Plan: Enterprise with data isolation

Service name: Watson Assistant - SAPUI5

Resource group: Default

Create

Add to estimate

[View terms](#)



Assistants

An assistant helps your customers complete tasks and get information faster. It may clarify requests, search for answers from a knowledge base, and can also direct your customer to a human if needed.

Create assistant

My first assistant

Built for you to explore and learn.

[← Assistants](#)

Watson Assistant

Actions Beta or Dialog

Build conversations

Understand and address questions or requests that your customers typically ask.

- **Actions** lets you have an assistant ready to chat in less time, with less effort. Compose step-by-step flows for any range of simple or complex conversations.
- **Dialog** offers a set of full-feature editors that you use to define both your training data and the conversation, with greater control over the logic flow.

[Learn more](#)[Add an actions or dialog skill](#)

Search Plus

Turn any content into answers

- Create Q&A experiences in minutes
- Sync with websites and data sources for always up-to-date answers
- Handle even complex questions with inclusive, contextual responses

[Watch a brief demonstration](#) [Try Plus plan](#)

Add Actions or Dialog skill

Add an existing skill or use the sample skill.

Add existing skill

Create skill

Use sample skill

Upload skill

Name

Personal Assistant

Name your skill; for example, Account application or Personal banking.

Description (optional)

Add a description for this skill

Language ⓘ

English (US)

Skill type



Actions



Dialog

Create skill

IBM Watson Assistant Lite

Upgrade

Learning center ?

#HR_Contact

Last updated: a few seconds ago

Try it

Intent name

#HR_Contact

Name your intent to match a customer's question or goal.

Description (optional)

HR Contact Details

User example

Type a user example here

Add unique examples of what the user might say. (Pro tip: Add at least 5 unique examples to help Watson understand).

Add example

Recommended examples Plus

User example recommendations makes it easier to identify new phrasing for your intents. Watson Assistant will recommend new user examples. [Learn more](#)

Show recommendations

Annotate entities [What's this?](#)

☐

User examples (2) ↑

Added 11

☐

HR

a few seconds ago

☐

Human Resources

a few seconds ago

Showing 1–2 of 2 examples

1 1 of 1 pages + -

Personal Assistant



Save new version

Try it

Intents

Entities

Dialog

Options

Analytics

Versions

Content Catalog

Add node

Add child node

Add folder



Welcome

welcome

1 Responses / 0 Context Set / Does not return

#HR_Contact

1 Responses / 0 Context Set / Does not return

Anything else

anything_else

1 Responses / 0 Context Set / Does not return

Enter node name (optional)

Customize



Node name will be shown to customers for disambiguation so use something descriptive.

Settings

If assistant recognizes

#HR_Contact



Assistant responds

Text



Please Call Mr/Mrs "HR Name" Phone No. "1"



Please Call Mr/Mrs "HR Name 2" Phone No. "2"



Enter response variation

Response variations are set to **sequential**. Set to [random](#) | [multiline](#)

[Learn more](#)

Integrating web chat :

The screenshot displays the Watson Assistant web interface. On the left, a sidebar contains icons for chat and a list of assistants. The main area is titled 'Watson Assistant' and features a 'Dialog' section with a 'Personal Assistant' card. This card includes a table with columns for 'LANGUAGE', 'TRAINED DATA', 'VERSION', 'DESCRIPTION', and 'VERSION CREATED'. Below the table, it shows 'LINKED ASSISTANTS (1): Watson Assistant'. A 'Search' button with a 'Plus' icon is also present. To the right, a 'Steps to go live' sidebar lists tasks such as 'Set up your assistant', 'Learn core concepts on dialog', 'Preview your assistant', 'Plan your assistant', 'Build your assistant', 'Share and test your assistant', 'Improve your assistant's performance', 'Configure web chat', and 'Embed your assistant on your website'. At the bottom of this sidebar is an 'Upgrade your plan' button. Below the 'Steps to go live' section, an 'Integrations' section contains the text 'Add your assistant to your company website.' and a link to 'Integrate web chat'.

Assistants

Watson Assistant

Preview

Dialog

Personal Assistant

LANGUAGE	TRAINED DATA	VERSION	DESCRIPTION	VERSION CREATED
English (US)	2 Intents 0 Entities 4 Dialog nodes		---	

LINKED ASSISTANTS (1): Watson Assistant

Search **Plus**

Turn any content into answers

- Create Q&A experiences in minutes
- Sync with websites and data sources for always up-to-date answers
- Handle even complex questions with inclusive, contextual responses

Watch a brief demonstration

Try Plus plan

Steps to go live

- Set up your assistant
- Learn core concepts on dialog
- Preview your assistant
- Plan your assistant
- Build your assistant
- Share and test your assistant
- Improve your assistant's performance
- Configure web chat
- Embed your assistant on your website

Upgrade your plan

Integrations

Add your assistant to your company website. [Integrate web chat](#)

Web chat

Integration name

Watson Assistant

Style

Home screen

Live agent

Suggestions

Security

Embed



Customize your chat UI

Update the style to match your brand and your website. A developer can also add more advanced styling changes with code. [Learn more](#)

Assistant's name as known by customers

Watson Assistant

Primary color

Secondary color

Chat header

#FFFFFF



User message bubble

#3D3D3D



Accent color



[Add an avatar image](#)

Conversation Flow :

- **Greeting:**
 - Welcome the user and inquire about their needs.
- **User Query Handling:**
 - Identify user intent through natural language processing.
 - Provide relevant information or direct users to appropriate sections.
- **Transaction Support:**
 - Assist users with order tracking, returns, and other transaction-related queries.
- **FAQs:**
 - Address frequently asked questions about products, shipping, and policies.
- **Escalation:**
 - If the query is complex, escalate to human support with context.

Technical Implementation using Watson Assistant:

- Utilize Watson Assistant for natural language understanding and processing.
- Define intents, entities, and dialog nodes.
- Implement context handling to maintain conversation context.
- Integrate with the e-commerce platform's APIs for real-time data retrieval.

Examples of User Queries and Responses:

- **User Query 1:**

- *User:* "How can I track my order?"
- *Bot Response:* "Sure thing! To track your order, please provide your order number, and I'll get the details for you."

- **User Query 2:**

- *User:* "What is your return policy?"
- *Bot Response:* "Our return policy allows you to return items within 30 days of purchase. For more details or to start a return, visit our Returns page."

- **User Query 3:**
- *User:* "I received a damaged item. What should I do?"
- *Bot Response:* "I'm sorry to hear that. Please take a photo of the damaged item and email it to support@example.com. Our team will assist you with the return process."

Conclusion :

- This documentation provides an overview of the project's objectives, design thinking process, development phases, chatbot persona, conversation flow, and technical implementation using Watson Assistant. It also includes examples of user queries and the expected chatbot responses. Adjustments can be made based on specific project requirements and feedback during the development and testing phases.