

# **Phase3**

## **Project: Chatbot Deployment with IBM Cloud Watson Assistant**

### **PROBLEM STATEMENT: ( Development Part 1 )**

In this part you will begin building your project.

Start building the chatbot using IBM Cloud Watson Assistant.

Define the chatbot's persona and design the conversation flow.

Configure intents, entities, and dialog nodes in Watson Assistant to handle user queries.

### **Step 1: Defining the Chatbot's Persona**

We will give a name for the chatbot, say, Dalia.

The tone of the chatbot will be friendly and casual

This chatbot serves as a virtual guide to provide information ,answer frequently asked questions , and engage users in a friendly and conversational manner.

### **Step 2: Designing the Conversation Flow**

Designing the conversation flow involves planning how the chatbot will interact with users.A basic flowchart that outlines the key steps in the conversation. For example:

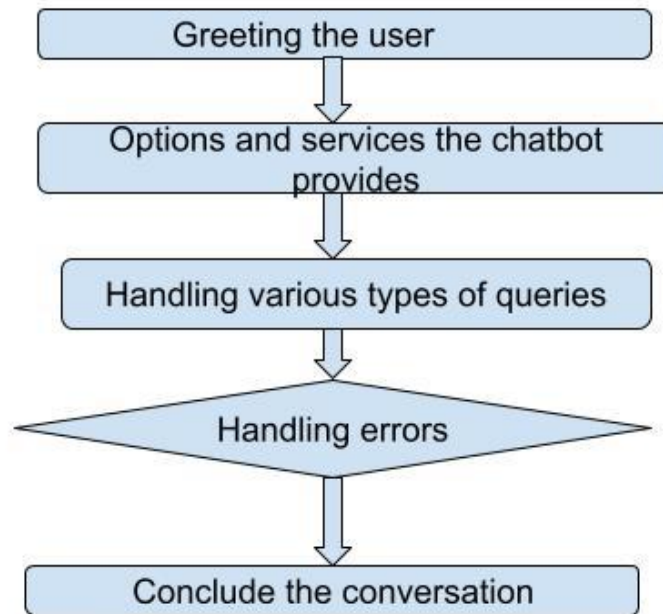
Greeting: How will the chatbot greet users?

Main Menu: What are the primary options or services the chatbot can provide?

User Queries: How will the chatbot handle various types of user queries?

Error Handling: What happens when the chatbot doesn't understand a query or encounters an error?

Goodbye: How will the chatbot conclude the conversation?



### Step 3: Configuring Intents

Intents represent the user's intention or what they want to achieve. In the Watson Assistant tool:

We will go to the "Intents" section and,

Define intents based on common user queries. For example, the chatbot has intents like , "Greetings","Information","Queries" , "thankyou" ,etc..,

### Step 4: Configuring Entities

Entities represent specific pieces of information within a user's query. In the Watson Assistant tool:

We will go to the "Entities" section and,

Define entities related to the chatbot's use case. For example, entities might include "Location," "Dates," etc.

## **Step 5: Create Dialog Nodes**

Dialog nodes are where we define how the chatbot responds to user inputs. For each intent:

We will go to the "Dialog" section ,  
Create a dialog node for each intent and  
Define the response for each node.

## **Step 6: Configure Dialog Flow**

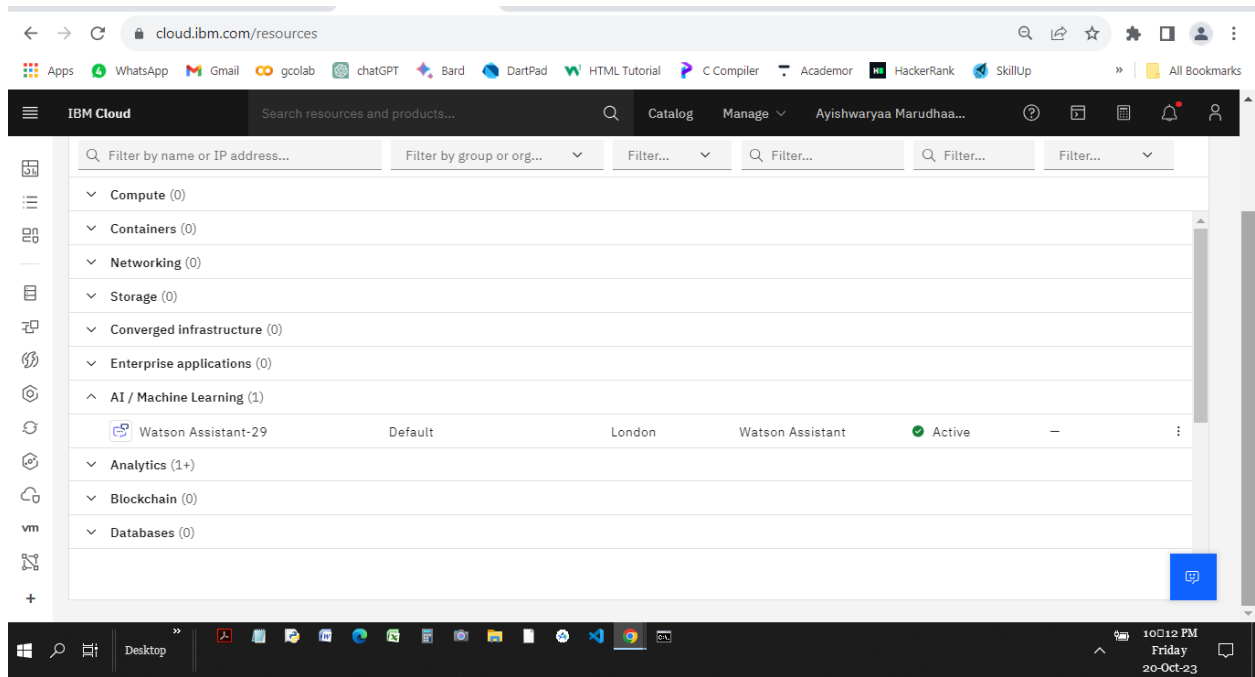
In each dialog node:

We will configure conditions based on intents and entities,  
Define multiple responses for variety, and  
Set context variables to remember user information or choices.  
Include options for user navigation and provide clear guidance.

## **Step 7: Testing and Refining**

Testing the chatbot within the Watson Assistant interface. Trying different user queries to ensure it responds correctly. Refining the dialog nodes and improving responses based on user feedback.

## 1. Creating a chatbot using watson Assistant



cloud.ibm.com/services/conversation/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a6...

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Resource list / Watson Assistant-29 Active Add tags Details Actions...

Manage Service credentials Plan Connections

Start by launching the tool

Launch Watson Assistant Getting started tutorial API reference

Plan Lite Upgrade

Credentials

Download Show credentials

API key: .....

URL: https://api.eu-gb.assistant.watson.cloud.ibm.com/instances/...

Desktop 10:13 PM Friday 20-Oct-23

IBM Watson Service Page Actions | IBM watsonx Assistant IBM Watson Service Page Home | IBM watsonx Assistant CAD\_Phase3 - Google

eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a6...

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Home

Welcome, you're in watsonx Assistant! Learn more

Dalia | English (US) No description

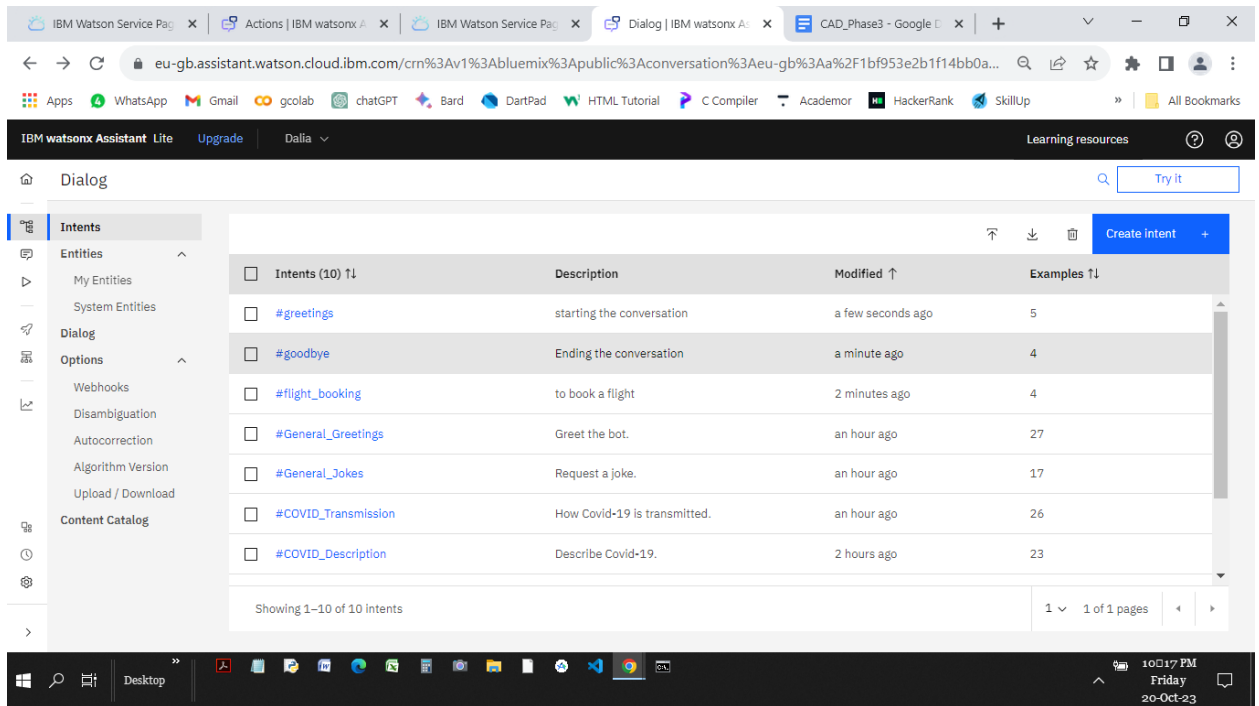
Get started 3 steps left 7 min 0%

- ☐ Learn about watsonx Assistant 5 min
- ☐ Explore your learning resources **New!** Check out our new set of learning resources, and mark complete when you're ready to continue.
- ☐ Explore watsonx Assistant features on our interactive demo site 2 min

Create a conversation

Desktop 10:13 PM Friday 20-Oct-23

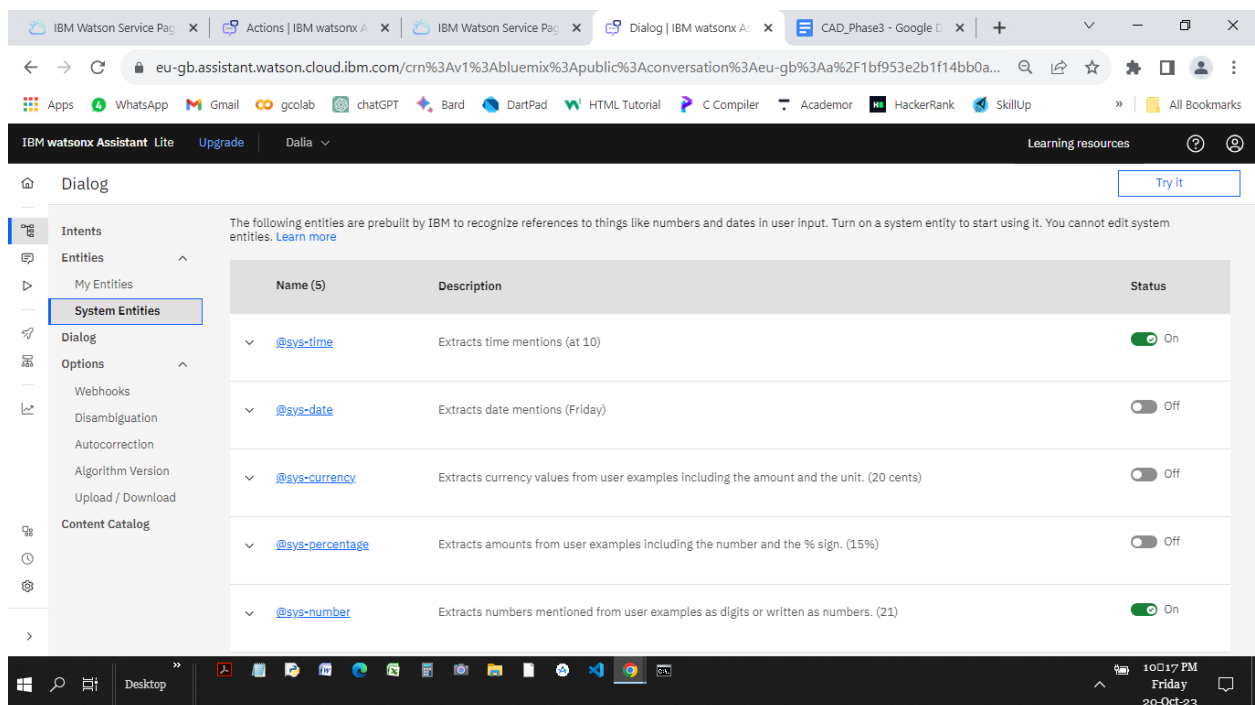
## 2. Creating Intents..



The screenshot shows the IBM Watson Assistant interface in a web browser. The 'Intents' tab is selected in the left sidebar. The main area displays a table of 10 intents. The table has columns for 'Intents (10) ↓', 'Description', 'Modified ↑', and 'Examples ↓'. The intents listed are: #greetings, #goodbye, #flight\_booking, #General\_Greetings, #General\_Jokes, #COVID\_Transmission, and #COVID\_Description. A 'Create Intent +' button is visible in the top right corner of the table area. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:17 PM on Friday, 20-Oct-23.

Intents (10) ↓	Description	Modified ↑	Examples ↓
#greetings	starting the conversation	a few seconds ago	5
#goodbye	Ending the conversation	a minute ago	4
#flight_booking	to book a flight	2 minutes ago	4
#General_Greetings	Greet the bot.	an hour ago	27
#General_Jokes	Request a joke.	an hour ago	17
#COVID_Transmission	How Covid-19 is transmitted.	an hour ago	26
#COVID_Description	Describe Covid-19.	2 hours ago	23

## 3. Using system Entities..



The screenshot shows the IBM Watson Assistant interface with the 'System Entities' tab selected in the left sidebar. The main area displays a table of system entities. Above the table, a note states: 'The following entities are prebuilt by IBM to recognize references to things like numbers and dates in user input. Turn on a system entity to start using it. You cannot edit system entities. [Learn more](#)'. The table has columns for 'Name (5)', 'Description', and 'Status'. The entities listed are: @sys-time, @sys-date, @sys-currency, @sys-percentage, and @sys-number. The status for @sys-time and @sys-number is 'On', while the others are 'Off'. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:17 PM on Friday, 20-Oct-23.

Name (5)	Description	Status
@sys-time	Extracts time mentions (at 10)	On
@sys-date	Extracts date mentions (Friday)	Off
@sys-currency	Extracts currency values from user examples including the amount and the unit. (20 cents)	Off
@sys-percentage	Extracts amounts from user examples including the number and the % sign. (15%)	Off
@sys-number	Extracts numbers mentioned from user examples as digits or written as numbers. (21)	On

#### 4. Building dialog nodes for the created intents and entities..

This screenshot shows the IBM Watson Assistant dialog editor interface. The left sidebar contains a navigation menu with options: Intents, Entities, Dialog, Options, Webhooks, Disambiguation, Autocorrection, Algorithm Version, Upload / Download, and Content Catalog. The 'Dialog' section is selected, and the 'Add node' button is highlighted. The main workspace displays a vertical list of dialog nodes:

- Welcome** (#greetings): 1 Responses / 0 Context Set / Does not return
- Initial** (#initial): 1 Responses / 0 Context Set / Does not return
- flight** (#flight\_booking): 1 Responses / 0 Context Set / Does not return
- arr** (@sys-number): 1 Responses / 0 Context Set / Return allowed

The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:17 PM on Friday, 20-Oct-23.

This screenshot shows the IBM Watson Assistant dialog editor interface with a more complex dialog flow. The left sidebar is the same as in the previous screenshot. The main workspace displays a vertical list of dialog nodes:

- flight** (#flight\_booking): 1 Responses / 0 Context Set / Does not return
- arr** (@sys-number): 1 Responses / 0 Context Set / Return allowed
- time** (@sys-number): 1 Responses / 0 Context Set / Return allowed
- 3am** (@sys-number:3): 1 Responses / 0 Context Set / Return allowed
- 6am** (@sys-number:6): 1 Responses / 0 Context Set / Return allowed

The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:18 PM on Friday, 20-Oct-23.

IBM Watson Service Page | Actions | IBM watsonx Assistant | IBM Watson Service Page | Dialog | IBM watsonx Assistant | CAD\_Phase3 - Google | +

eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a...

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### Dialog

Try it

**Intents** | Add node | Add child node | Add folder

- Entities**
  - My Entities
  - System Entities
- Dialog**
- Options**
  - Webhooks
  - Disambiguation
  - Autocorrection
  - Algorithm Version
  - Upload / Download
- Content Catalog**

time  
@sys-number  
1 Responses / 0 Context Set / Return allowed

3am  
@sys-number:3  
1 Responses / 0 Context Set / Return allowed

6am  
@sys-number:6  
1 Responses / 0 Context Set / Return allowed

10am  
@sys-number:10  
1 Responses / 0 Context Set / Return allowed

corona  
#COVID\_Description

Desktop | 10:18 PM Friday 20-Oct-23



IBM Watson Service Pag x Actions | IBM watsonx A x IBM Watson Service Pag x Dialog | IBM watsonx A x CAD\_Phase3 - Google x + -

eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a...

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### Dialog

Try it

Intents Add node Add child node Add folder

Entities

- My Entities
- System Entities

Dialog

Options

- Webhooks
- Disambiguation
- Autocorrection
- Algorithm Version
- Upload / Download

Content Catalog

corona  
#COVID\_Description  
1 Responses / 0 Context Set / Does not return

symptoms  
#COVID\_Symptoms  
1 Responses / 0 Context Set / Does not return

transmission  
#COVID\_Transmission  
1 Responses / 0 Context Set / Does not return

vaccines  
#COVID\_Treatment\_Vaccine || #COVID\_Treatment\_Info  
1 Responses / 0 Context Set / Does not return

10:18 PM Friday 20-Oct-23

IBM Watson Service Pag x Actions | IBM watsonx A x IBM Watson Service Pag x Dialog | IBM watsonx A x CAD\_Phase3 - Google x + -

eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a...

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### Dialog

Try it

Intents Add node Add child node Add folder

Entities

- My Entities
- System Entities

Dialog

Options

- Webhooks
- Disambiguation
- Autocorrection
- Algorithm Version
- Upload / Download

Content Catalog

1 Responses / 0 Context Set / Does not return

transmission  
#COVID\_Transmission  
1 Responses / 0 Context Set / Does not return

vaccines  
#COVID\_Treatment\_Vaccine || #COVID\_Treatment\_Info  
1 Responses / 0 Context Set / Does not return

jokes  
#General\_Jokes  
1 Responses / 0 Context Set / Does not return

thanks  
#goodbye  
1 Responses / 0 Context Set / Does not return

10:18 PM Friday 20-Oct-23

## 5. Testing the chatbot with some user queries..

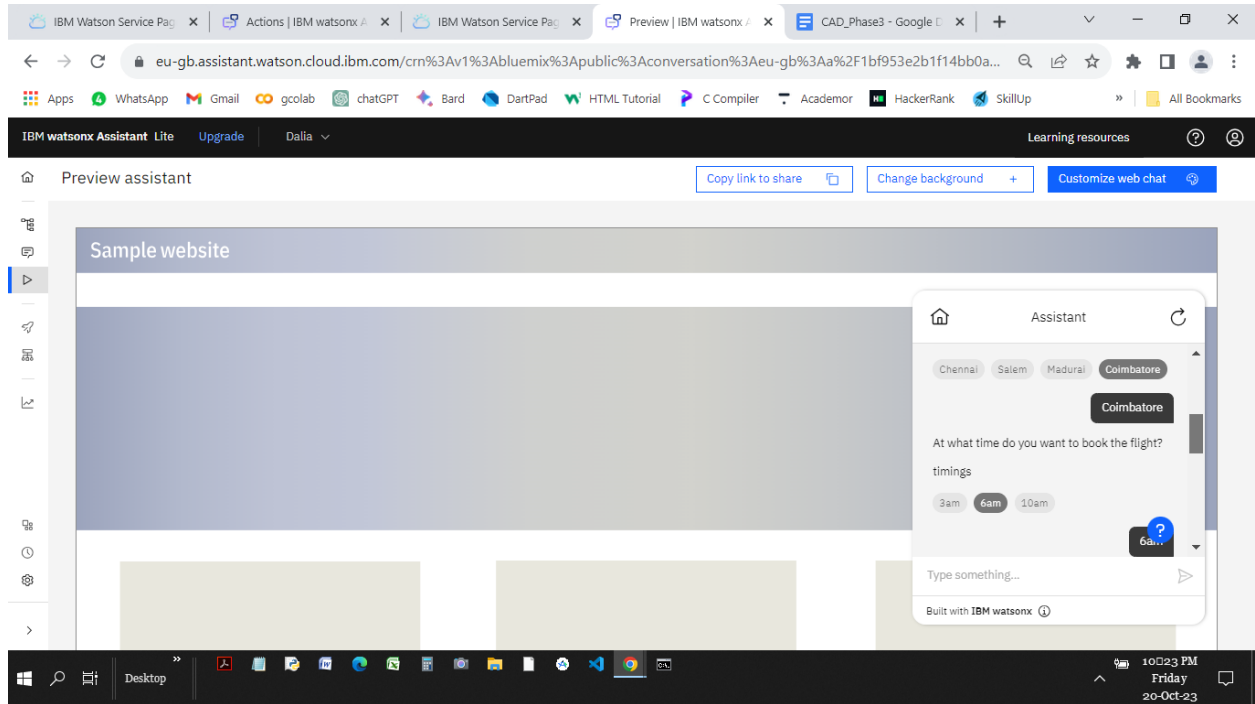
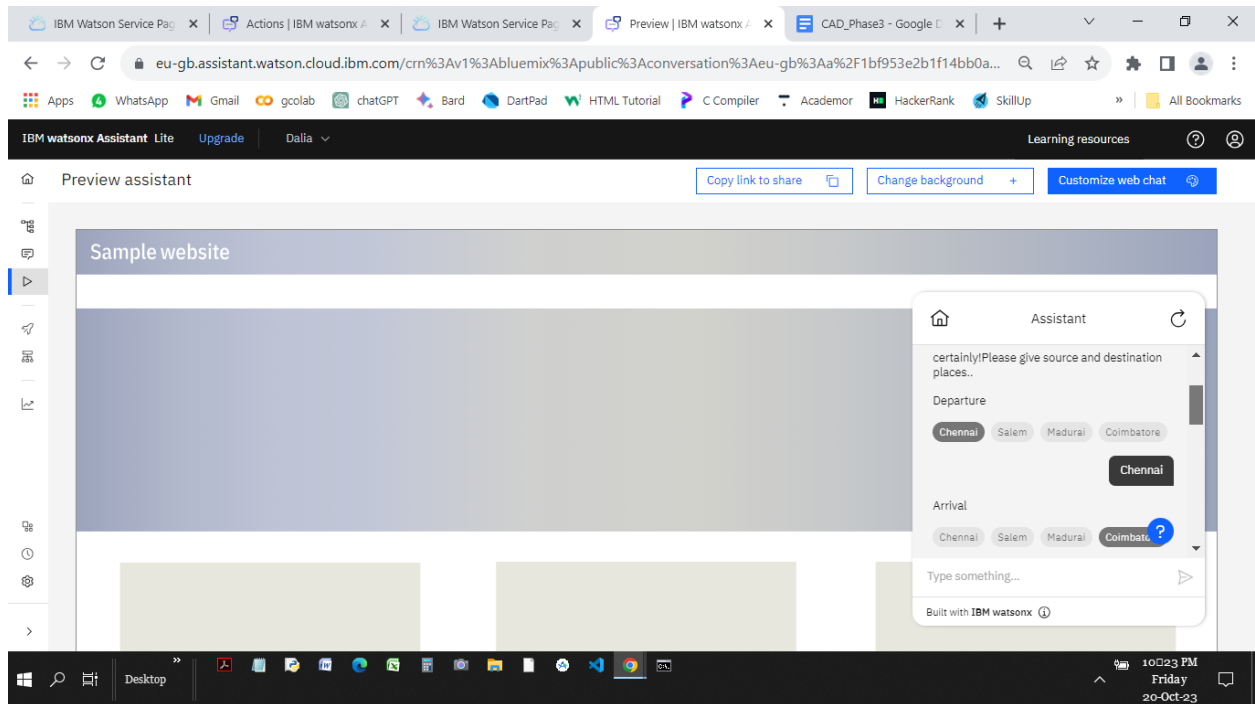
The image displays two screenshots of the IBM Watson Assistant chatbot interface, showing a conversation between the user and the assistant.

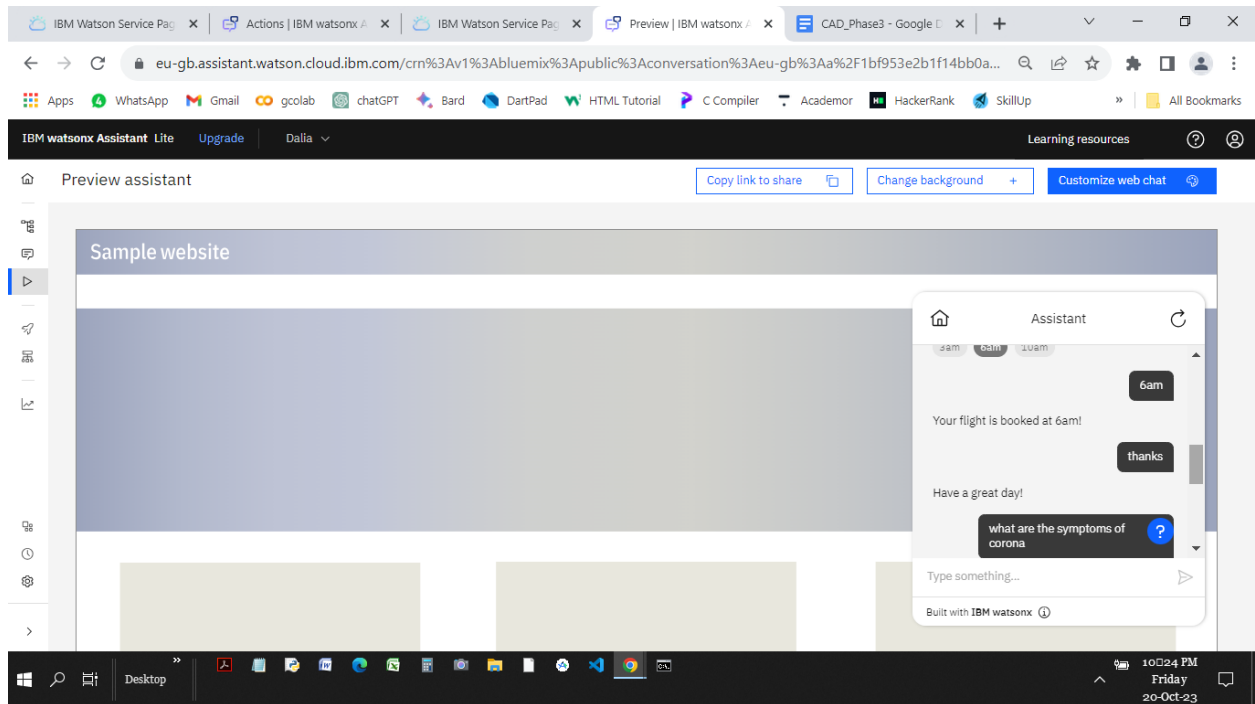
**Top Screenshot:**

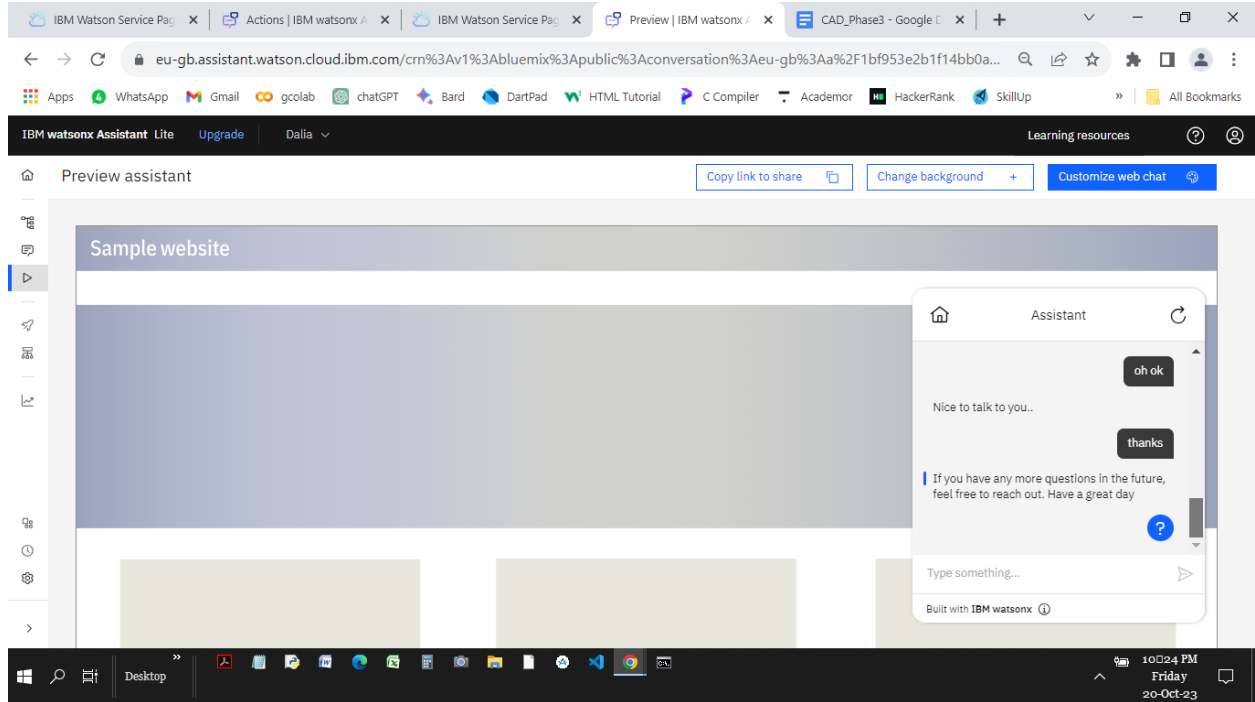
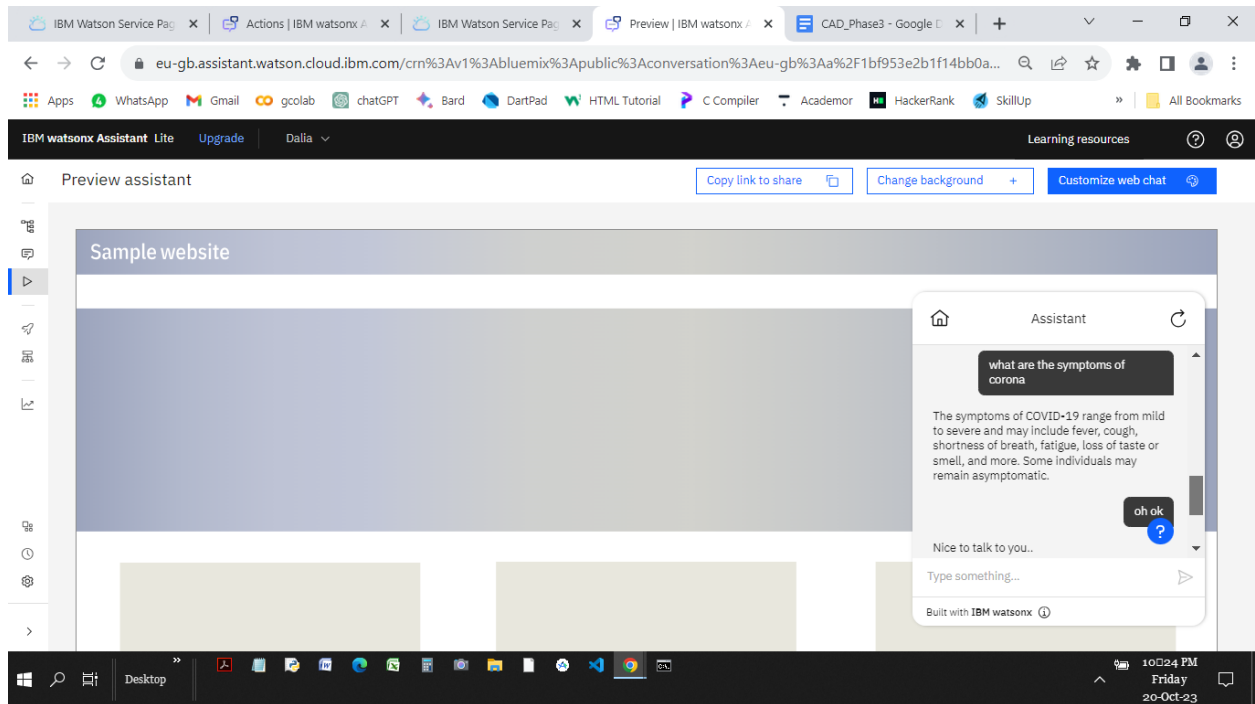
- The browser address bar shows the URL: `eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a...`
- The chatbot interface shows a "Sample website" background.
- The assistant's message is: "Hi! I'm Dalia , your virtual assistant. How can I help you today?"
- The user's input is: "hii"
- The assistant's response is: "i want to book a flight"
- The user's input is: "Example:Wanna hear some jokes?"
- The assistant's response is: "Type something..."
- The chatbot interface includes buttons for "Copy link to share", "Change background", and "Customize web chat".

**Bottom Screenshot:**

- The browser address bar shows the same URL as the top screenshot.
- The chatbot interface shows the same "Sample website" background.
- The assistant's message is: "How may i help you?"
- The user's input is: "book me aflight"
- The assistant's response is: "certainly!Please give source and destination places.."
- The user's input is: "Departure"
- The assistant's response is: "Type something..."
- The chatbot interface includes buttons for "Copy link to share", "Change background", and "Customize web chat".

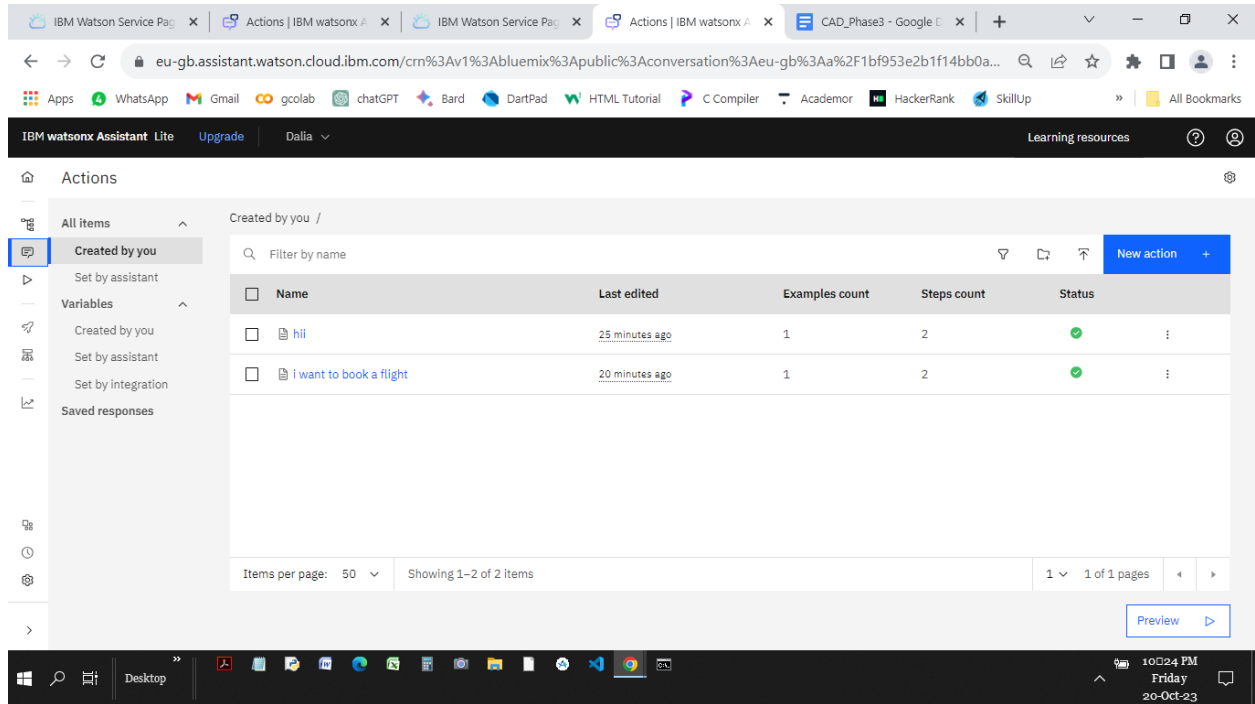






## ACTIONS:

Creating actions..



The screenshot shows the IBM Watson Assistant web interface. The browser tabs include 'IBM Watson Service Page', 'Actions | IBM watsonx', and 'CAD\_Phase3 - Google'. The URL is 'eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F1bf953e2b1f14bb0a...'. The page title is 'IBM watsonx Assistant Lite' with an 'Upgrade' button and a 'Dalia' user profile. The main content area is titled 'Actions' and shows a list of actions created by the user. The list has columns for Name, Last edited, Examples count, Steps count, and Status. Two actions are listed: 'hi!' and 'i want to book a flight'. Both have 1 example and 2 steps. The status is 'OK'. A 'New action' button is in the top right. The bottom of the page shows a Windows taskbar with the time '10:24 PM Friday 20-Oct-23'.

Name	Last edited	Examples count	Steps count	Status
hi!	25 minutes ago	1	2	OK
i want to book a flight	20 minutes ago	1	2	OK

