Chatbot Deployment with IBM Cloud Watson Assistant

Project: Educational Chatbot

Phase 4: Development Part - II

Educational Chatbot:

Educational chatbot provides the students with the notes for their enhanced learning. This chatbot is designed to assist the students with educational notes should be a valuable tool that supports their learning journey, fosters engagement, and ensures they have access to high-quality and relevant educational materials.

In this phase we are going to continue the development of the chatbot using IBM Cloud Watson Assistant and also integrate it with a famous messaging platforms like Facebook or WhatsApp.

Integration techniques provided by the IBM Cloud Watson Assistant:

1. **Website:**

   To integrate your chatbot in your website you should follow the below steps.

   I. **Set Up an IBM Watson Assistant Service:**

   → If you don't already have an IBM Cloud account, sign up using the steps provided in the previous phases.

   → Create an instance of IBM Watson Assistant in your IBM Cloud account.

   This step is explained in phase 3.

   II. **Build and Train Your Assistant:**

   → Define your chatbot's skills, dialog flow, and responses within the Watson Assistant tool.

   → Train your assistant by providing sample user interactions.

   This step is explained in phase 3.

III. **Obtain API Credentials:**
   → Get the API credentials (API key and URL) for your Watson Assistant instance from the IBM Cloud dashboard.

IV. **Integrate into Your Website:**
   → You can integrate Watson Assistant into your website using the provided SDKs or RESTful APIs. You have a few options:
   - **Web Chat Widget:** You can use the Watson Assistant Web Chat Widget, which is a JavaScript-based chat interface. You need to include the widget's code in your HTML.
   - **API Integration:** You can use the Watson Assistant API to build a custom chat interface for your website. You'll need to make API calls to send user messages and receive responses.

V. **Customize the UI (Optional):**
   → Modify the appearance and behavior of the chat widget to match your website's design and branding.

VI. **Test and Deploy:**
   → Test the chatbot to ensure it works as expected on your website.
   → Deploy it to your live website.

VII. **Continuous Improvement:**
   → Monitor the performance of your chatbot and collect user feedback to make improvements over time.

Keep in mind that the specific implementation details may vary depending on your website's technology stack (e.g., HTML, JavaScript, React, Angular, etc.). IBM Watson Assistant provides documentation and resources to help you with the integration process.

2. WhatsApp:

To integrate your chatbot in WhatsApp you should follow the below steps.

Integrating IBM Watson Assistant with WhatsApp involves a different approach than integrating it on a website. WhatsApp doesn't have an open API for chatbot integration, but you can use third-party platforms like Twilio to facilitate the connection. Here's a high-level overview of the process:

I. **Create or Access an IBM Watson Assistant Instance:**
   → If you don't have an IBM Watson Assistant instance, create one and configure your chatbot.

II. **Sign Up for Twilio:**
   → Sign up for a Twilio account (if you don't already have one). Twilio allows you to send and receive messages on WhatsApp.

III. **Get a Twilio WhatsApp Number:**
   → Obtain a Twilio phone number with WhatsApp capabilities. This number will be used to send and receive messages with your chatbot.

IV. **Set Up Webhooks:**
   → In your Twilio account, set up webhooks to receive incoming WhatsApp messages and send outgoing responses.
   → You'll need to configure a server or cloud service that can handle incoming messages and interact with your IBM Watson Assistant instance.

V. **Integrate IBM Watson Assistant with Twilio:**
   → Develop a service that connects your Twilio webhook with the IBM Watson Assistant API. When messages are received on WhatsApp, send them to Watson Assistant for processing, and then send the responses back to Twilio for delivery on WhatsApp.

VI. **Test Your Integration:**
   → Test your chatbot on WhatsApp to ensure it can understand and respond to user messages.

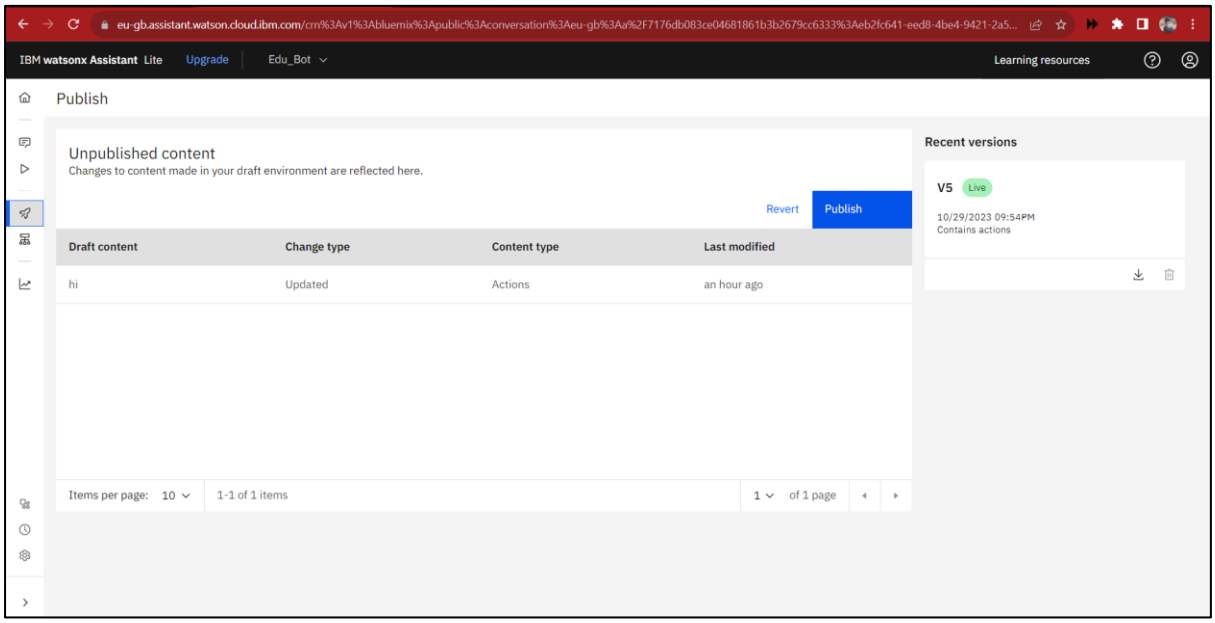
VII. **Deploy and Monitor:**
   → Once you're satisfied with the integration, deploy it to your Twilio WhatsApp number.
   → Monitor the performance of your chatbot and make adjustments as needed.

Please note that this integration may involve some development work, including setting up a server or cloud service to handle the communication between Twilio and IBM Watson Assistant. Twilio provides documentation and resources to guide you through this process. Additionally, Twilio may have specific pricing based on your usage.

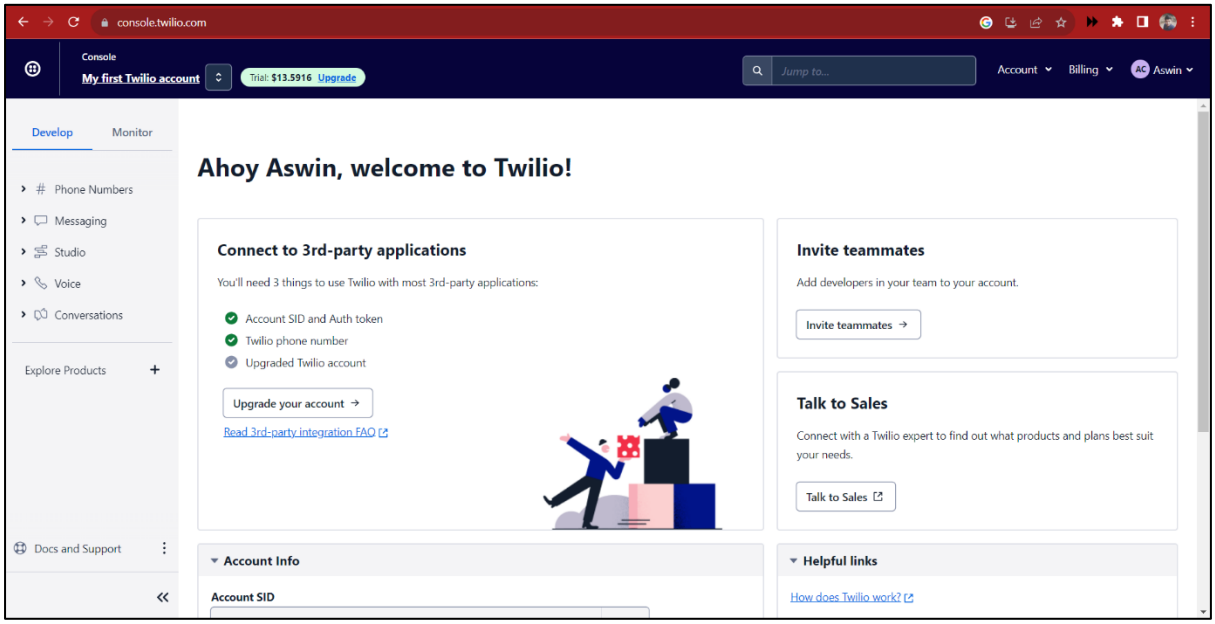
Note: Not only the above mentioned integrations are provided by the IBM Cloud Watson Assistant. There are many other integrations too like Facebook Messenger, Slack, etc... But in my project, I have used website and WhatsApp integrations.

Integration of my Educational Chatbot in WhatsApp:

1. Create the Chatbot using IBM Cloud Watson Assistant.
2. After creating the chatbot, preview it to check whether it is giving correct responses as you expected.
3. Now go to Publish and Publish your chatbot version.

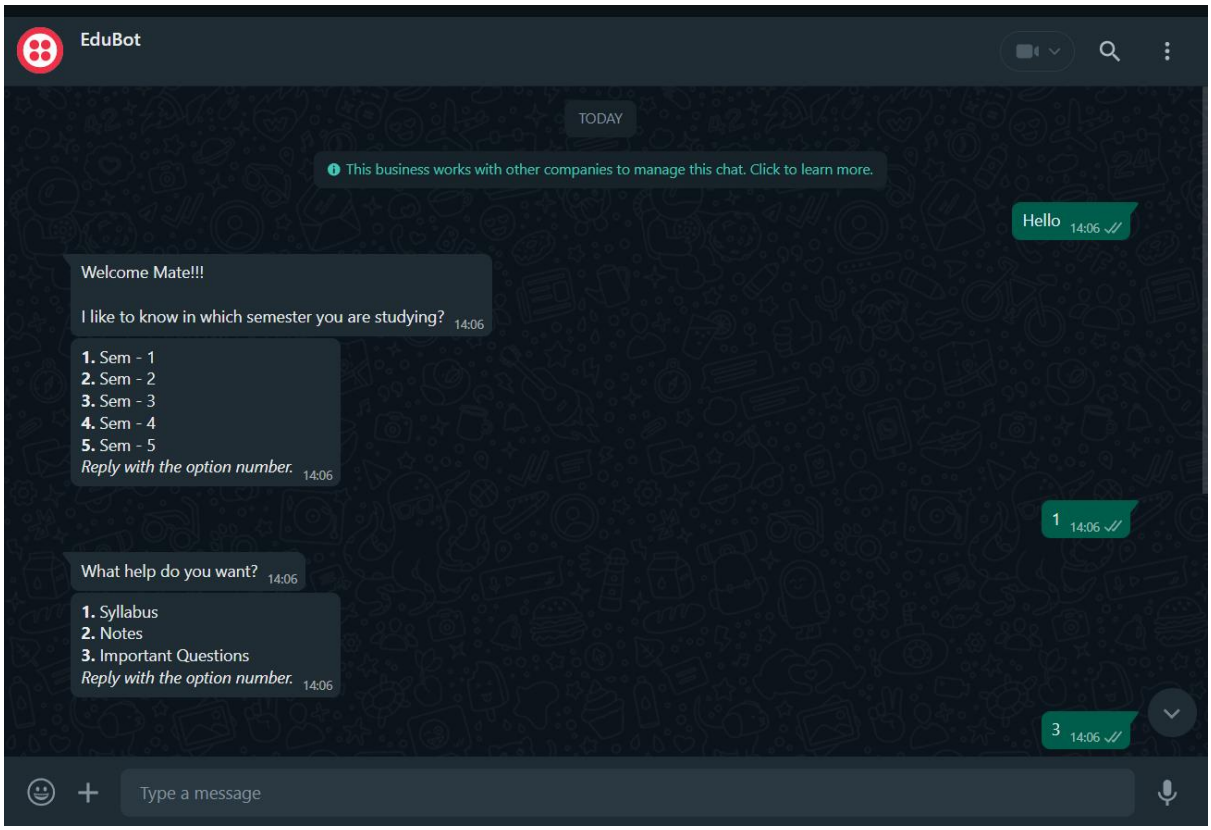


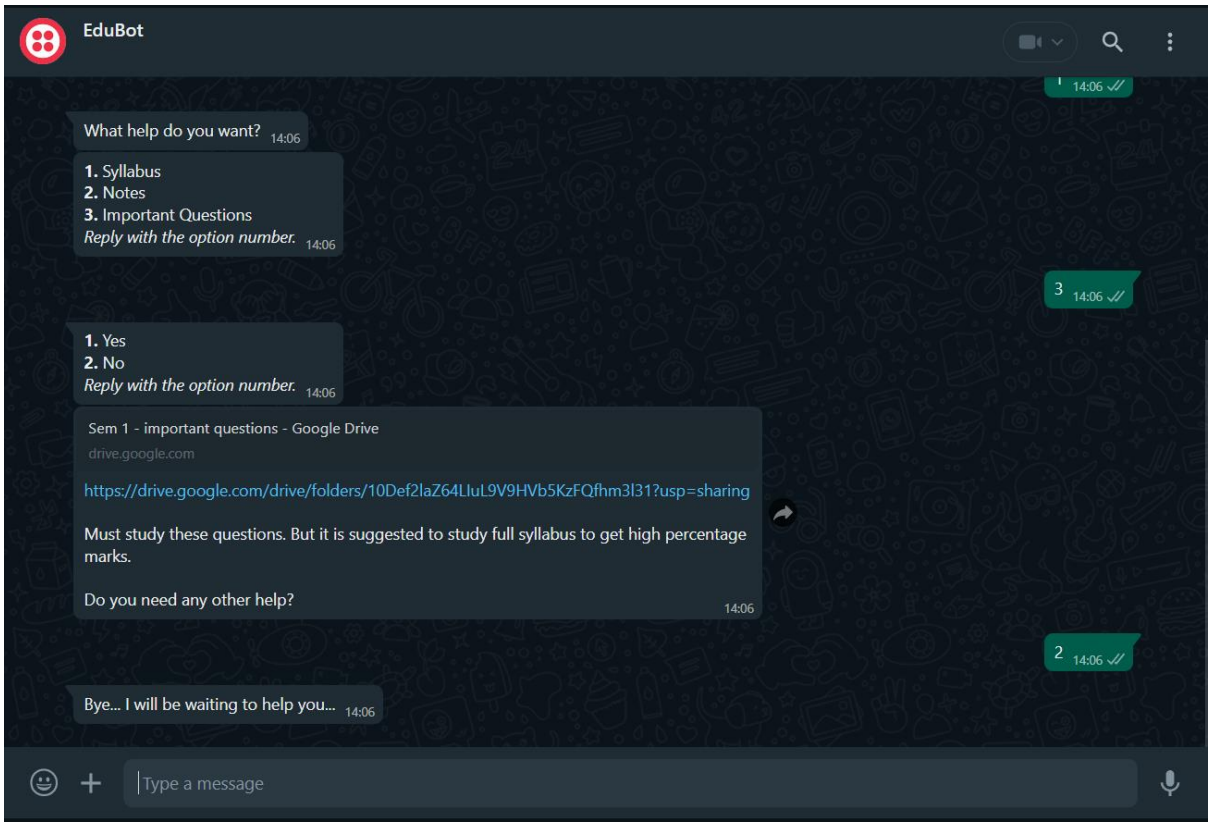
4. After publishing your chatbot, go to environment and connect your chatbot with the WhatsApp using Twilio. This step is explained above.



5. Atlast test your chatbot on WhatsApp to ensure it can understand and respond to user messages.

Educational WhatsApp Chatbot Output:



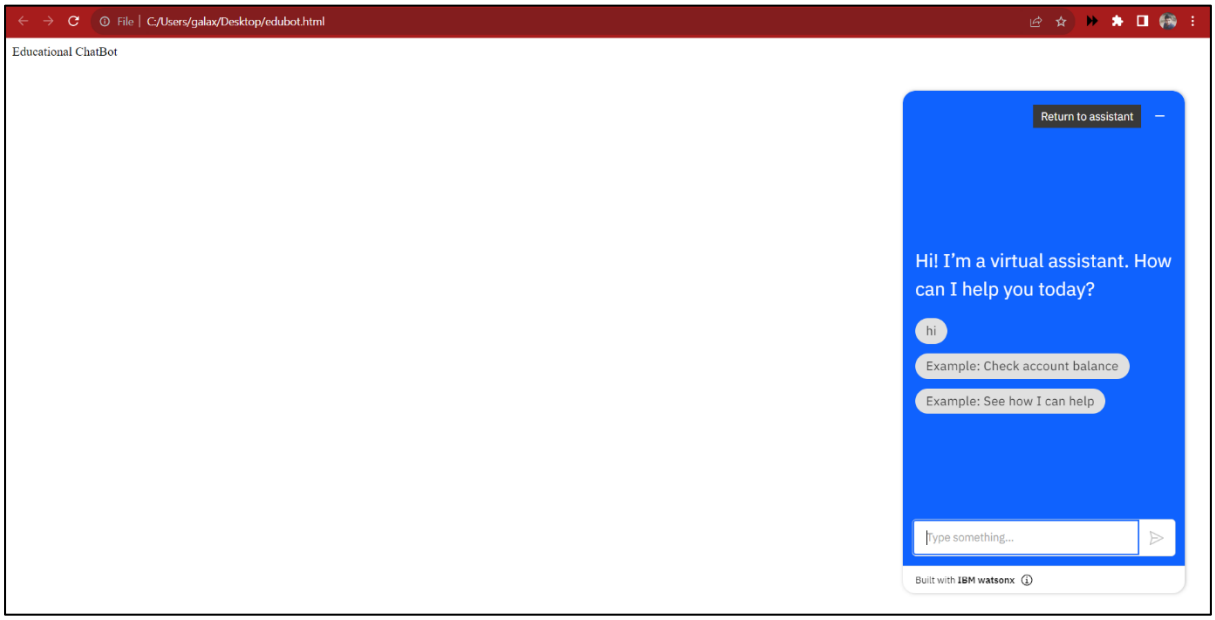


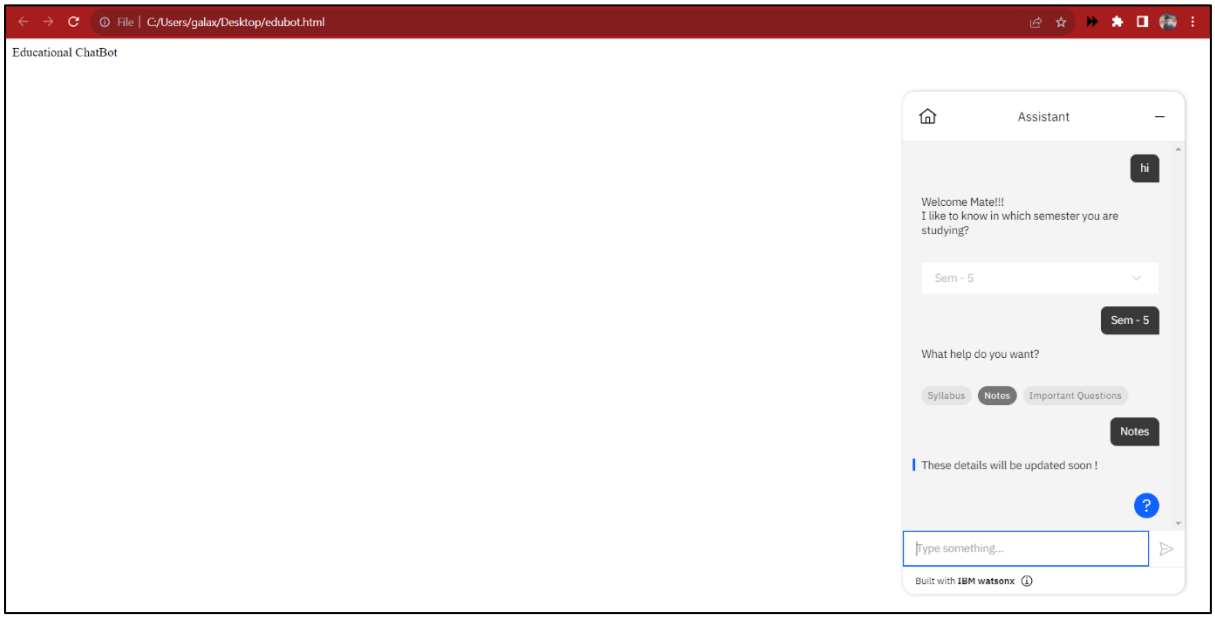
Educational Chatbot in Website:

Code:

```
<html>
<head>
  <title>My ChatBot</title>
</head>
<body>
  <title>My Test Page</title>
  <p>Educational ChatBot</p>
  <script>
 window.watsonAssistantChatOptions = {
  integrationID: "4dbda3b4-1c5a-4105-a887-0d40588961fd", // The ID of this integration.
  region: "eu-gb", // The region your integration is hosted in.
  serviceInstanceID: "eb2fc641-eed8-4be4-9421-2a5e0dd066df", // The ID of your service instance.
  onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
  const t=document.createElement('script');
  t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";
  document.head.appendChild(t);
 });
</script>
  </body> </html>
```

Output:


File | C:/Users/galax/Desktop/edubot.html
Educational ChatBot
Return to assistant
Hi! I'm a virtual assistant. How can I help you today?
hi
Example: Check account balance
Example: See how I can help
Type something...
Built with IBM watsonx


File | C:/Users/galax/Desktop/edubot.html
Educational ChatBot
Assistant
hi
Welcome Mate!!!
I like to know in which semester you are studying?
Sem - 5
Sem - 5
What help do you want?
Syllabus
Notes
Important Questions
Notes
These details will be updated soon !
Type something...
Built with IBM watsonx