

Cloud Application **Development - Group 5**

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Project name : Chatbot deployment with IBM Watson

Chatbot deployment with IBM Watson

Phase 5

Introduction

Chatbots are crucial in the modern digital environment for boosting customer engagement and operational effectiveness. A potent tool for creating and deploying intelligent chatbots is IBM Watson Assistant.

Let's start this journey using IBM Watson Assistant to change customer interactions, streamline procedures, and increase satisfaction. Let's use chatbots to improve consumer interaction, regardless of your industry—whether you work in e-commerce, healthcare, banking, or another field.

Problem solving definition

Problem solving in chatbot deployment typically involves:

Identification of requirements: Understanding the specific needs and objectives of deploying a chatbot with IBM Watson. This includes determining the target audience, defining the chatbot's purpose, and establishing key performance indicators (KPIs) for success.

Design and development: Creating a chatbot using IBM Watson technologies, such as Watson Assistant or Watson Natural Language Understanding. This involves defining the chatbot's conversational flow, designing the user interface, and integrating with relevant systems or data sources.

Testing and debugging: Conducting thorough testing of the chatbot to identify any issues or bugs. This includes testing different user inputs, edge cases, and scenarios to ensure the chatbot functions as intended.

Debugging involves identifying and resolving any errors or unexpected behavior.

Maintenance and support: Providing ongoing maintenance and support for the deployed chatbot. This includes monitoring the chatbot's performance, addressing any reported issues, and keeping the chatbot up to date with changes in requirements or underlying technologies.

Design Thinking

Our chatbot deployment process integrates design thinking principles with IBM Watson's capabilities for a user-centered, iterative approach:

Empathize: Understand user needs and personas through research.

Define: Clearly state the problem and set goals.

Ideate: Generate creative solutions leveraging IBM Watson.

Prototype: Create and refine chatbot mockups.

Test: Gather feedback from usability testing.

Build: Develop the chatbot with IBM Watson tools.

Test (QA): Ensure quality and resolve technical issues.

Deploy: Roll out the chatbot incrementally.

Collect Data: Continuously gather user data and feedback.

Iterate: Improve the chatbot based on insights.

Scale and Evolve: Expand deployment and functionalities.

Document and Share: Document the process for future projects.

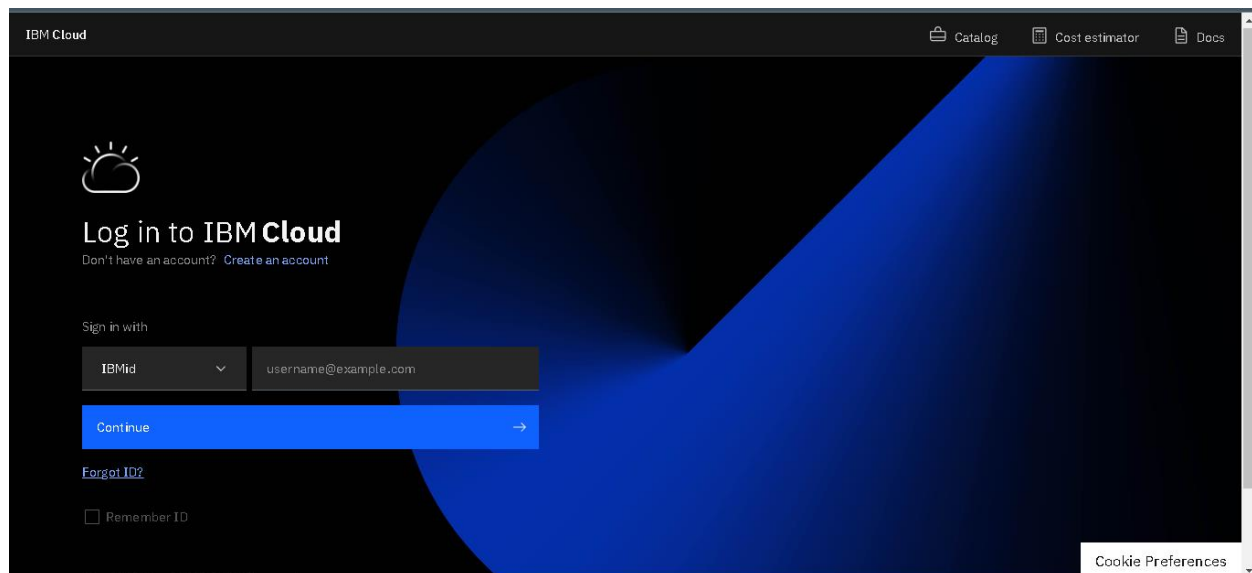
Natural language understanding (NLU)

IBM Watson's Natural Language Understanding (NLU) is a cloud-based service that analyzes text to extract valuable insights. It recognizes entities, sentiments, emotions, concepts, and keywords in text, making it easier to understand and organize unstructured content. NLU is customizable and widely used in applications like content analysis, social media monitoring, and chatbot development, helping businesses gain deeper insights from text data for better decision-making and customer service.

Building a chatbot using IBM cloud Watson assistant

Set Up an IBM Cloud Account

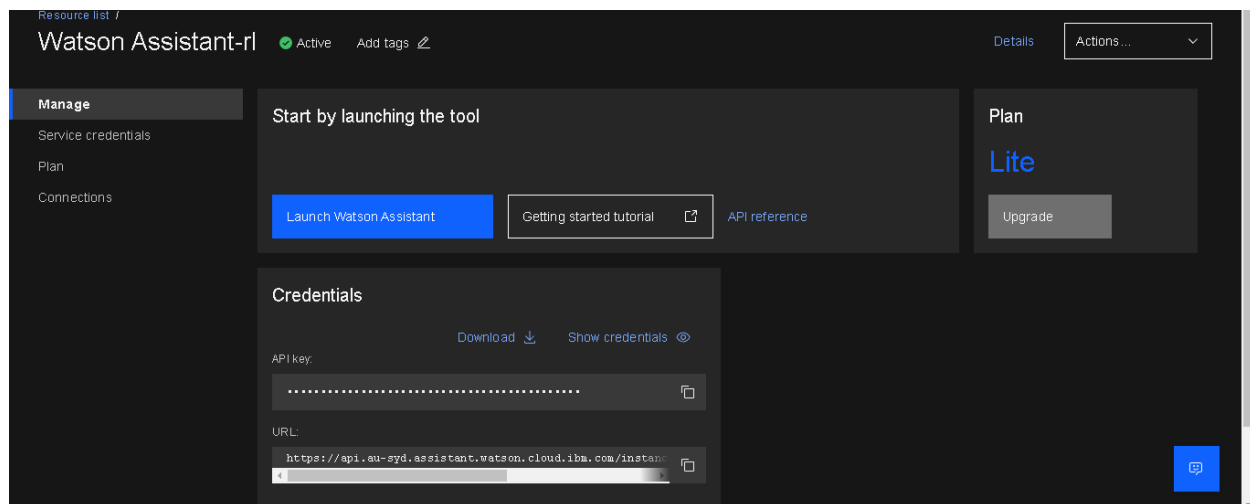
First, create an IBM Cloud account from the [IBM Cloud website](#) and log in. Keep in mind that the **IBM id** button will probably be the email address you registered with.



Find Watson assistant

Click catalog in IBM cloud dashboard and select AI/Machine learning and then you can see Watson assistant.

click Watson assistant choose location and plan. after choosing the plan view resource list in dashboard and launch Watson assistant.



Build a chatbot

"In this project, we are planning to create a movie ticket booking chatbot named **Sylvie**, and here are some of its features:"

- 1.Movie Listings and Showtimes:** Provide users with a comprehensive list of movies, including details such as showtimes and movies screening at nearby locations.
- 2.Seat Selection:** Enable users to choose their preferred seats from an interactive seating layout, allowing them to visualize the seating arrangement in the theatre.
- 3.Booking Management:** Allow users to review and manage their bookings, including the ability to reschedule their dates.

4.Receive Tickets via WhatsApp: Provide the option for users to receive their tickets by entering their mobile number for delivery via WhatsApp.

5.Payment Integration: Facilitate secure and seamless payment transactions by integrating various payment options and send payment confirmation via SMS.

Create a chatbot

After launching Watson assistant set up your chatbot assistant.

Create a new assistant

Assistant name

Sylvie

Your assistant name will be kept internally and not visible to your customers

Description (optional)

I'm here to help you book movie tickets

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Assistant language

English (US)

This is the language your assistant will speak.

Cancel

Create assistant

Setup action

Train your assistant by creating actions.

IBM watsonx Assistant Lite Upgrade Sylvie Learning resources

Actions

All Items

Created by you

Set by assistant

Variables

Created by you

Set by assistant

Set by integration

Saved responses

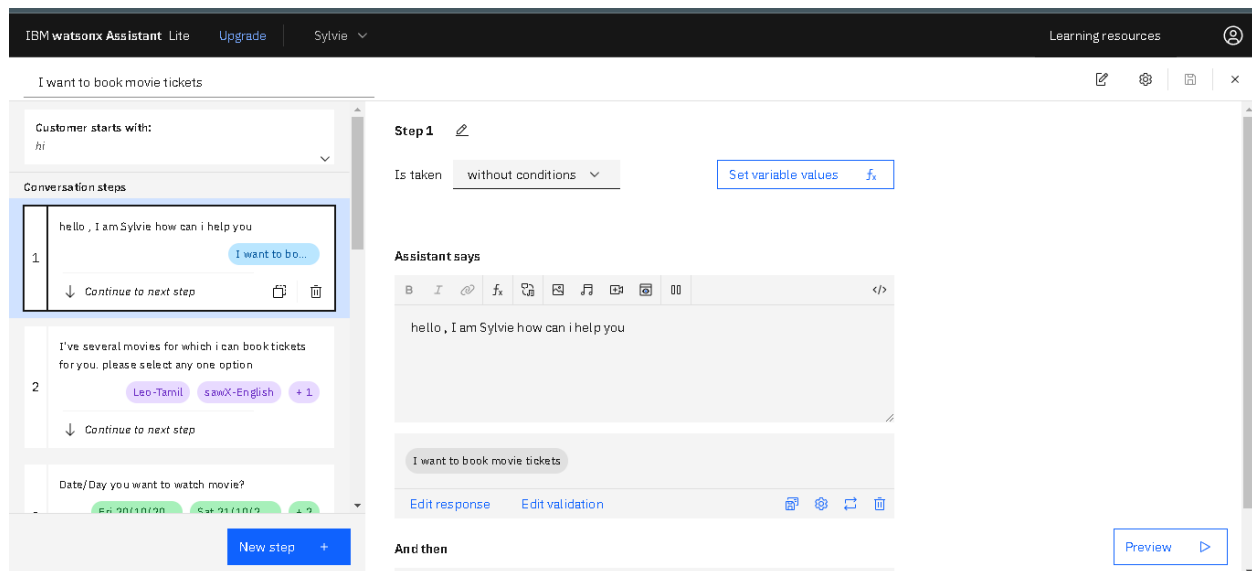
Created by you /

Filter by name

	Name	Last edited	Examples count	Steps count	Status	
<input type="checkbox"/>	<input type="checkbox"/> I want to book movie tickets	a day ago	3	9		:

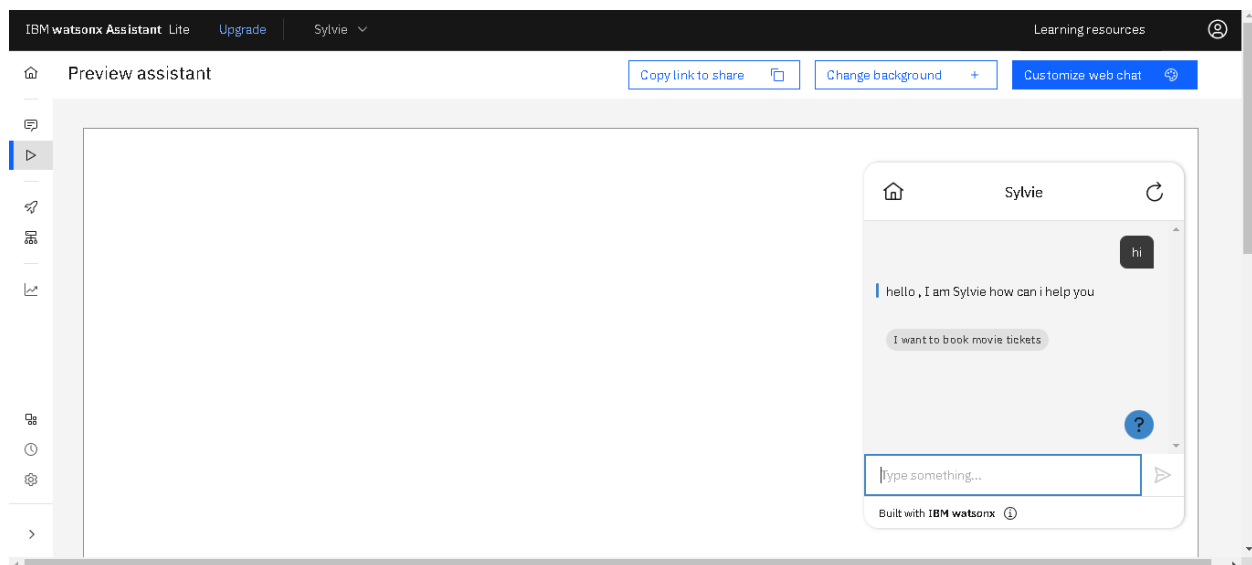
Items per page: 50 Showing 1–1 of 1 items 1 1 of 1 pages 4

Preview



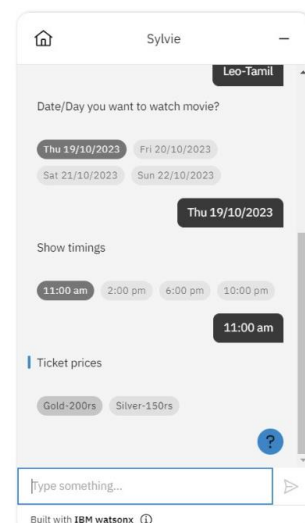
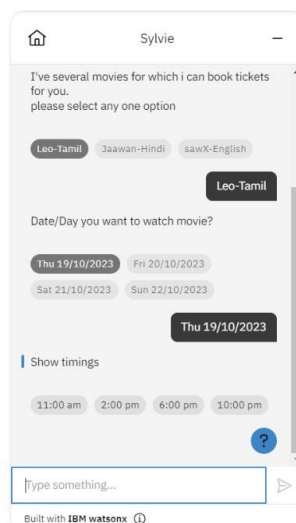
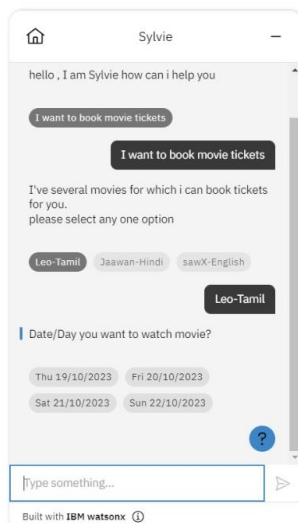
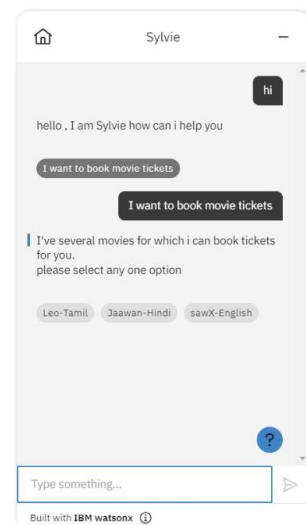
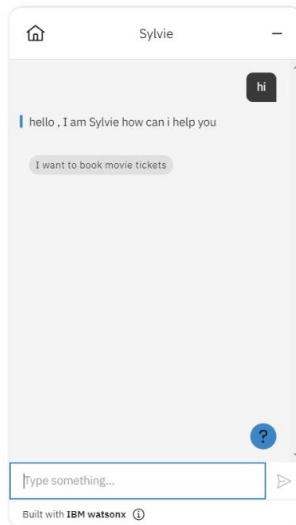
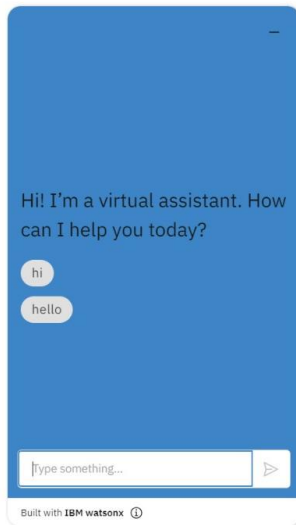
Preview

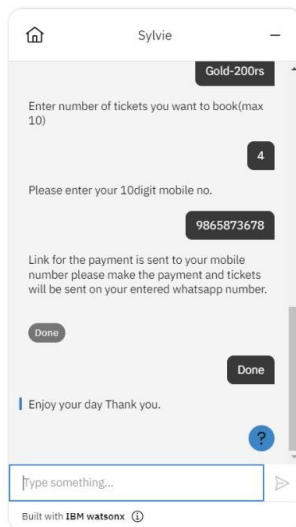
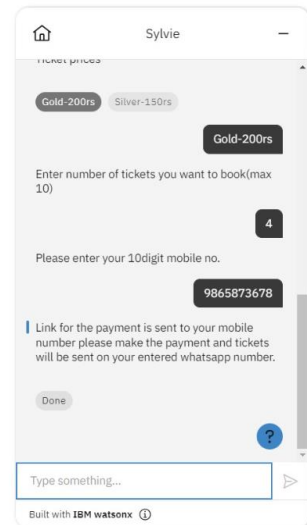
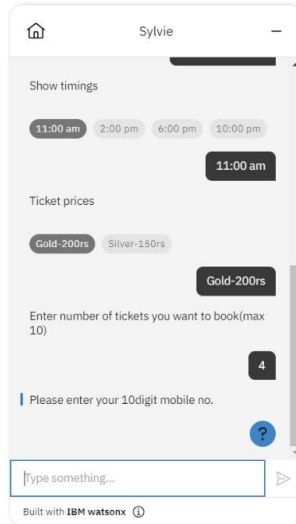
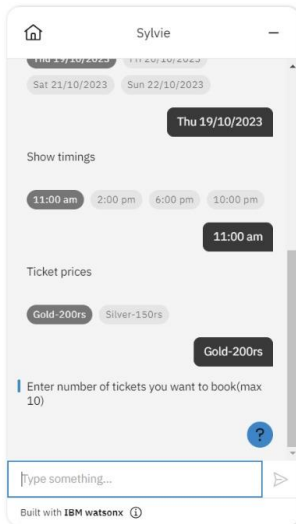
After completing feed actions to your chatbot use preview option for viewing our chatbot.



Preview link for our chatbot : [Click here](#)

Screen shots:





Building a chatbot by integrating it with messaging platforms and refining the process.

Create a Watson Assistant Skill:

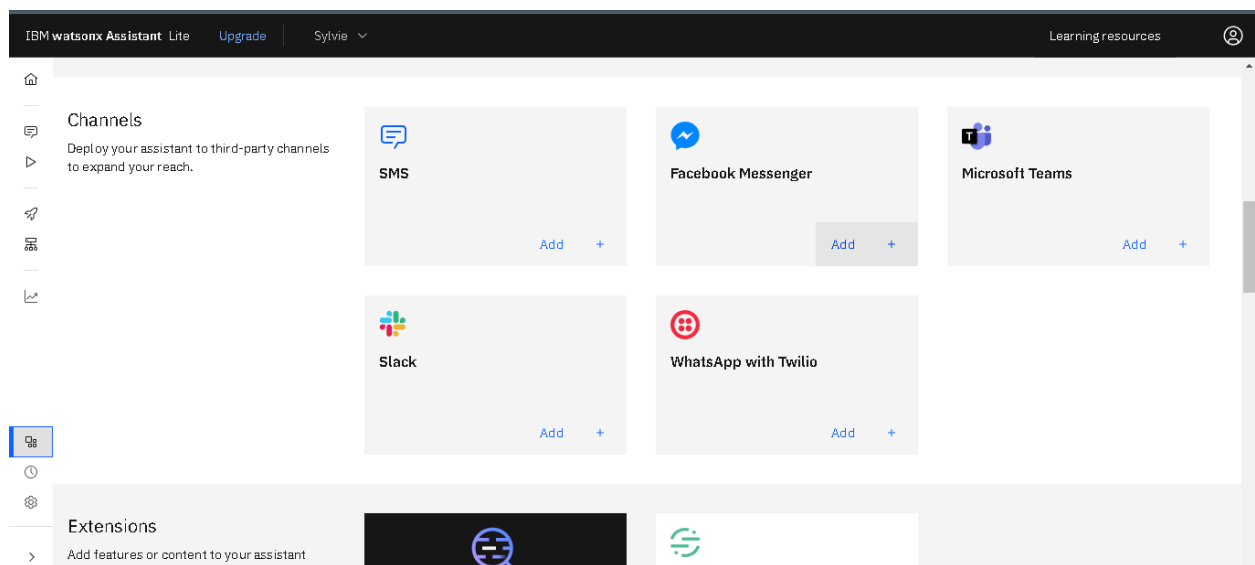
- Log in to your IBM Cloud account and access IBM Watson Assistant.
- Create a new skill or use an existing one.
- Build your chatbot using the IBM Watson Assistant's service.
- Train your chatbot by providing example user inputs.

Set Up Integration:

- In your Watson Assistant skill, navigate to the "Options" menu and select "Integration."
- Click to the "Channels" and view messaging platforms.

Configure the Messaging Platform:

- Selecting a platform for example Facebook messenger.



Creating a Facebook application

- Go to [Facebook for developers](https://developers.facebook.com) and log into Facebook account.

- Register a developer account and add necessary details complete registration.

Meta for Developers

Create a Meta for Developers account

✓ Register

✓ Contact info

⌚ About you

Which of the following best describes you?
Help us improve your experience by telling us which of the following roles best describe you.

</> Developer ☒

📊 Marketer ☐

📈 Analyst ☐

📁 Product manager ☐

🎓 Student ☐

👤 Owner/founder ☐

👤 Other ☐

[Complete Registration](#)

Creating an app

- Click Add a New App and complete the steps to create a new app ID.
- Add app name and contact details for create an app.

Meta for Developers

Docs Tools Support My Apps Search developer documentation

✓ Add use case

⌚ App details

Add an app name
This is the app name that will show on your My Apps page and associated with your app ID. You can change the name later in Settings.

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App contact email
This is the email address we'll use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised.

Business Account · Optional
Connecting a Business Account to your app is only required for certain products and permissions. You'll be asked to connect a Business Account when you request access to those products and permissions.

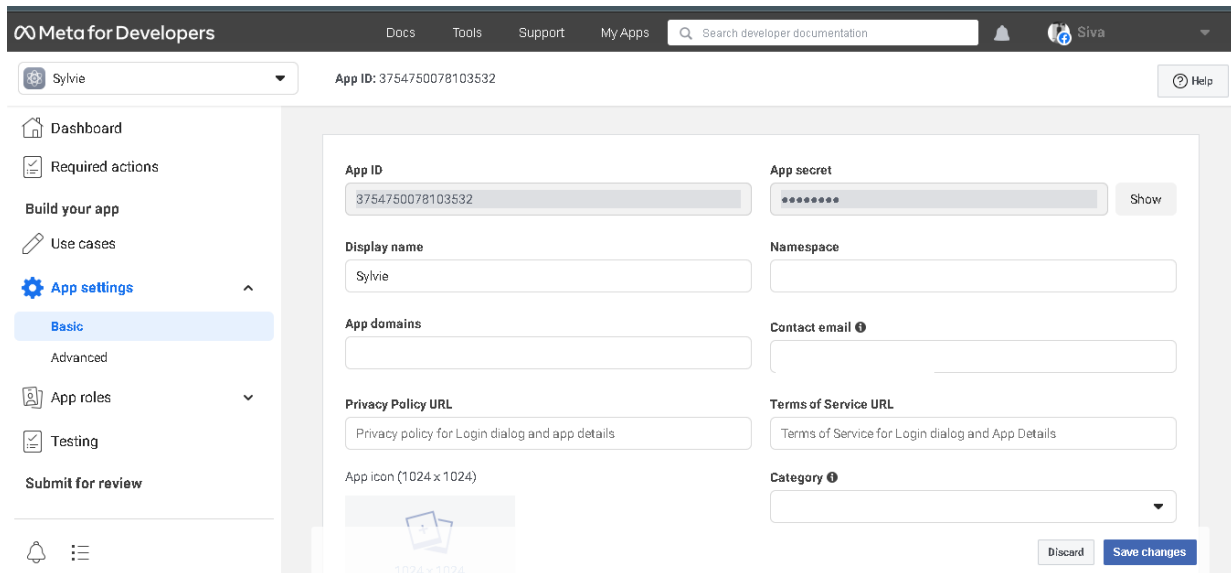
No Business Manager account selected

By proceeding, you agree to the [Meta Platform Terms](#) and [Developer Policies](#).

[Previous](#) [Create app](#)

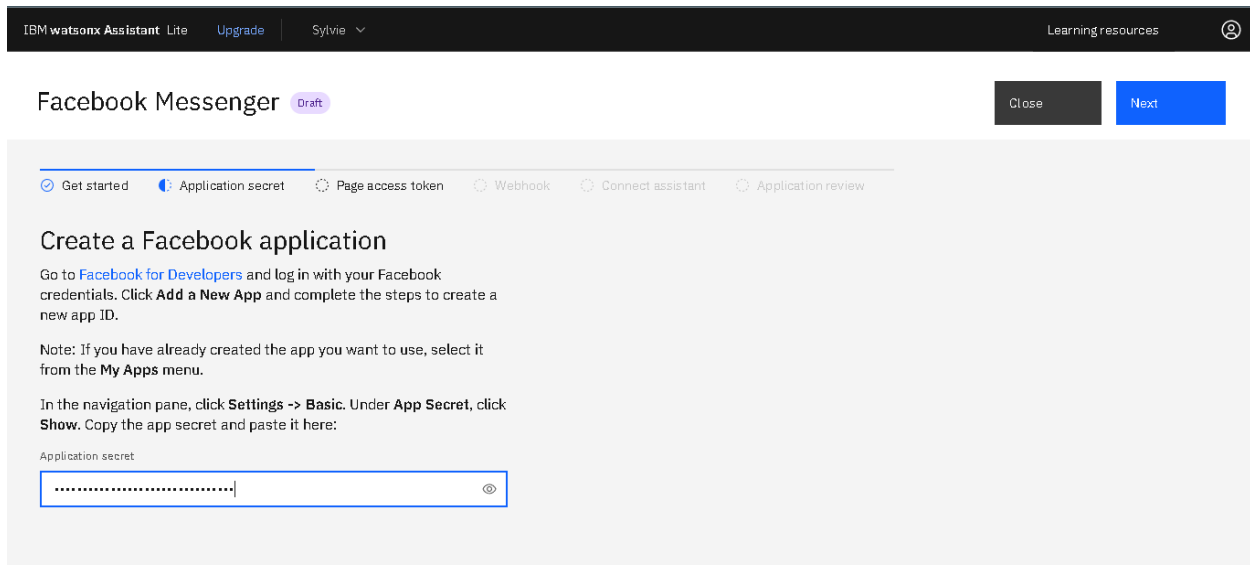
- In the dashboard, click App settings select Basic.

- Select App Secret, click Show. Copy the app secret.



The screenshot shows the 'Meta for Developers' interface. The top navigation bar includes 'Docs', 'Tools', 'Support', 'My Apps', and a search bar. The user 'Siva' is logged in. The left sidebar contains navigation options: 'Dashboard', 'Required actions', 'Build your app', 'Use cases', 'App settings' (selected), 'App roles', 'Testing', and 'Submit for review'. The 'App settings' section is expanded, showing 'Basic' and 'Advanced' tabs. The 'Basic' tab is active, displaying the following fields: 'App ID' (3754750078103532), 'App secret' (masked with dots and a 'Show' button), 'Display name' (Sylvie), 'Namespace', 'App domains', 'Contact email', 'Privacy Policy URL' (Privacy policy for Login dialog and app details), 'Terms of Service URL' (Terms of Service for Login dialog and App Details), 'App icon' (1024 x 1024), and 'Category'. The 'App secret' field is highlighted, and the 'Show' button is visible.

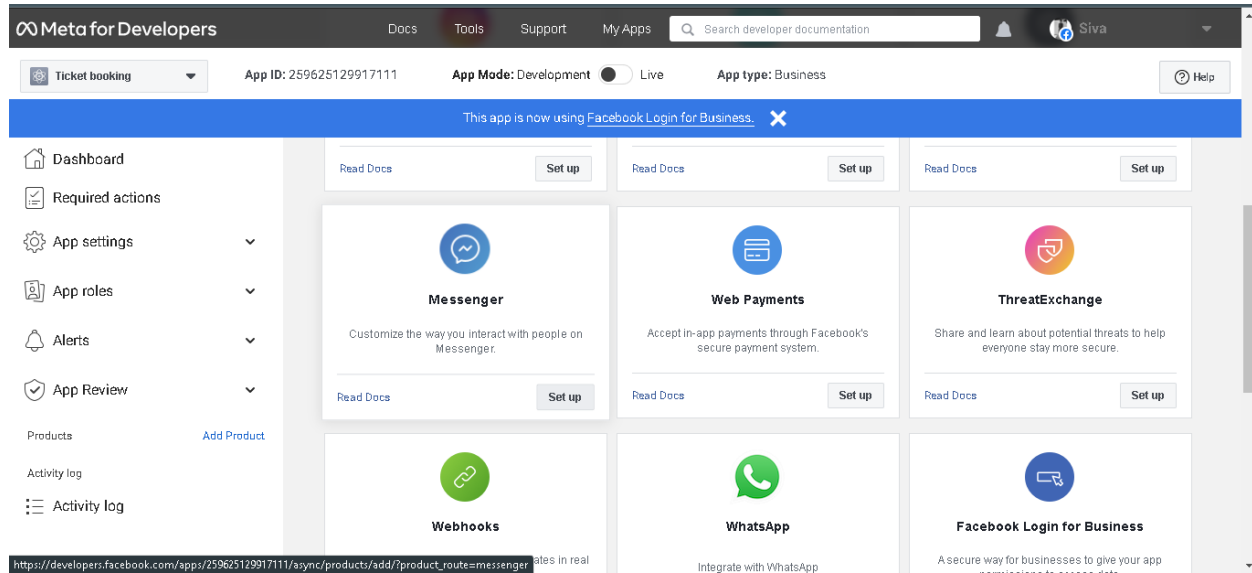
- Copied app secret pasted into IBM Watson assistant Facebook messenger.



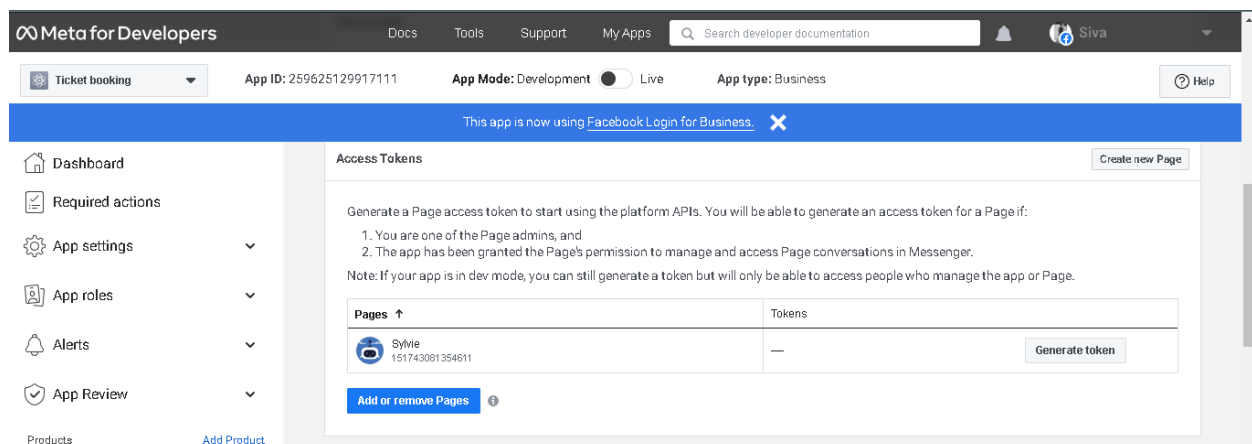
The screenshot shows the 'IBM watsonx Assistant Lite' interface. The top navigation bar includes 'Upgrade', 'Sylvie', and 'Learning resources'. The main heading is 'Facebook Messenger' with a 'Draft' status. Below the heading is a progress bar with steps: 'Get started' (completed), 'Application secret' (active), 'Page access token', 'Webhook', 'Connect assistant', and 'Application review'. The 'Application secret' step is selected, and the text 'Create a Facebook application' is displayed. Below this, instructions are provided: 'Go to Facebook for Developers and log in with your Facebook credentials. Click Add a New App and complete the steps to create a new app ID.' A note follows: 'Note: If you have already created the app you want to use, select it from the My Apps menu.' Another instruction states: 'In the navigation pane, click Settings -> Basic. Under App Secret, click Show. Copy the app secret and paste it here:'. Below this, there is a text input field labeled 'Application secret' with a masked value (dots) and a 'Show' button.

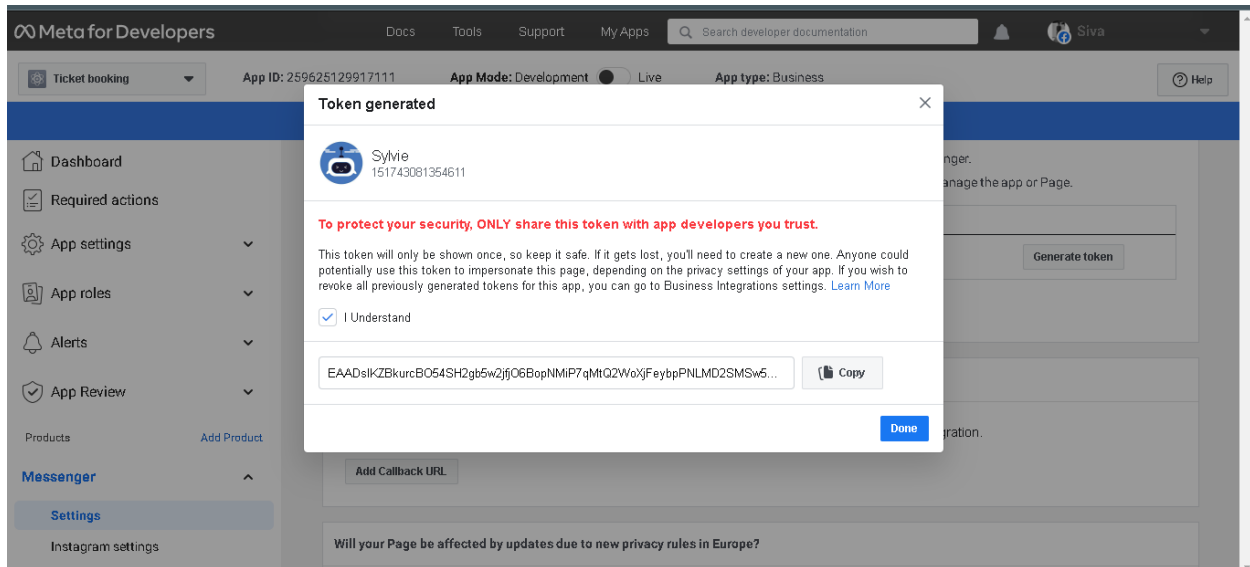
Creating a Facebook page

- On the Facebook app page, click the **Products** in the left side navigation.
- find the **Messenger** tile and click **Set Up**.

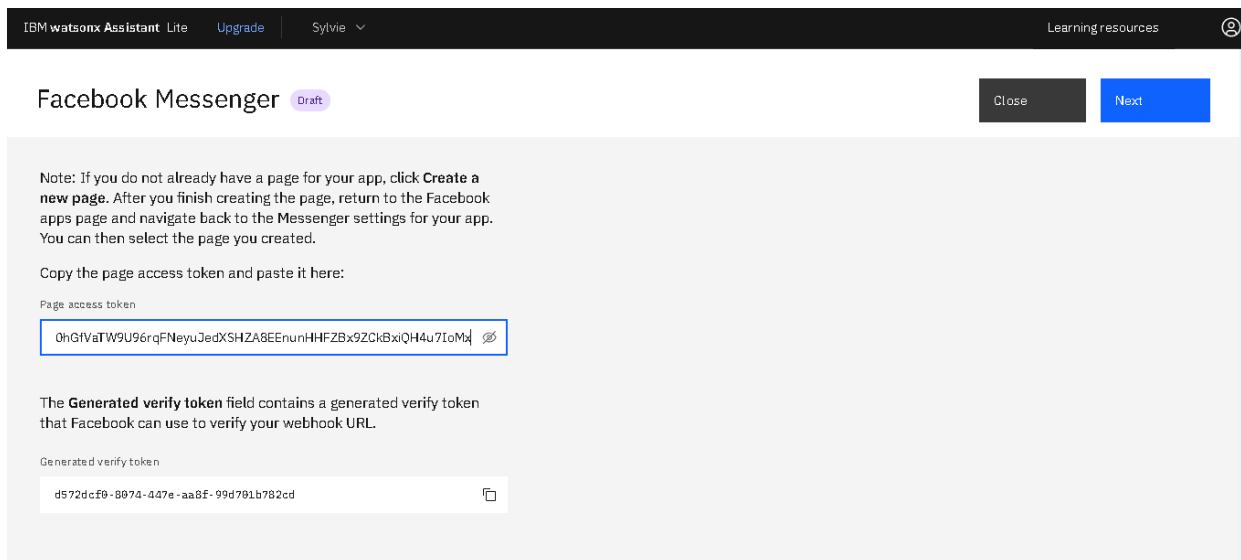


- Click **Add or Remove Pages** and choose the Facebook page you want to use for your app.
- Click **Generate Token** and check the I Understand checkbox to generate the page access token.



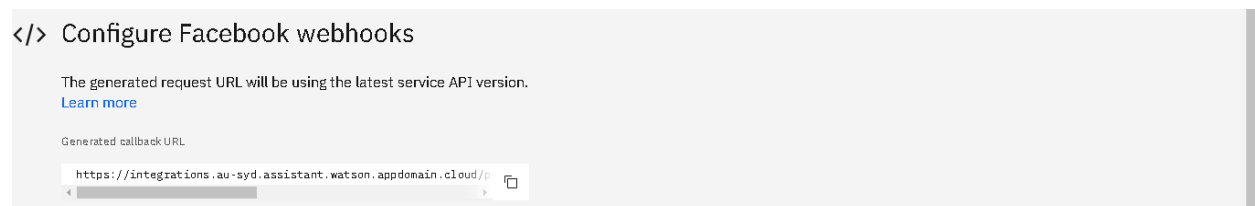


- Copy the page access token and paste into IBM Watson Facebook messenger page.

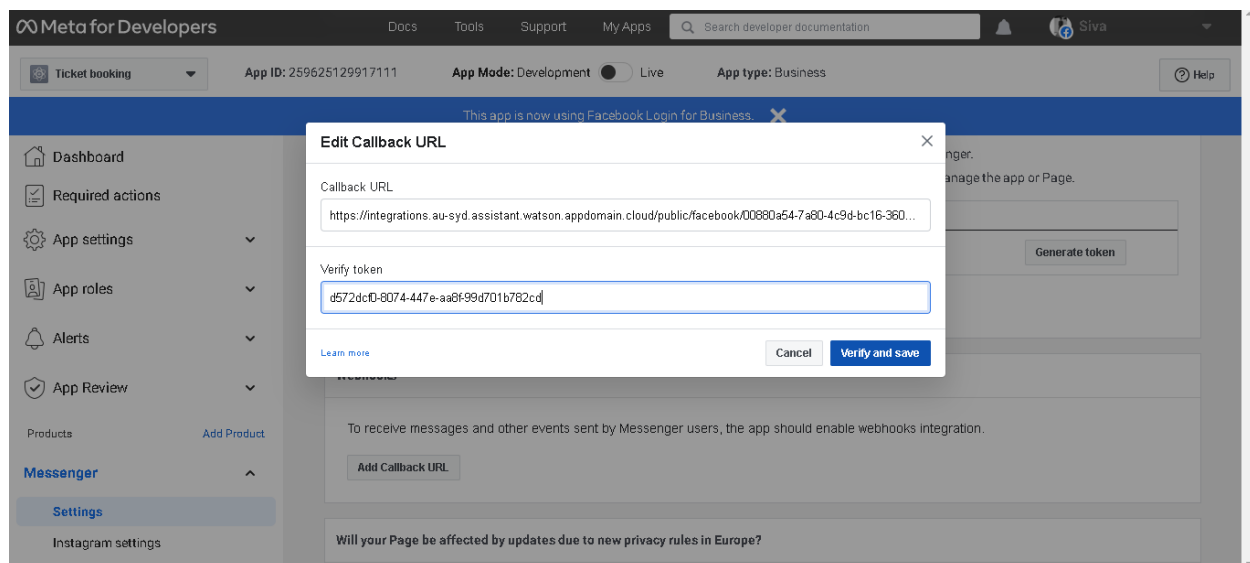
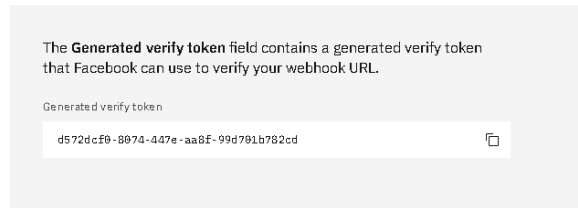


Configure Facebook webhooks

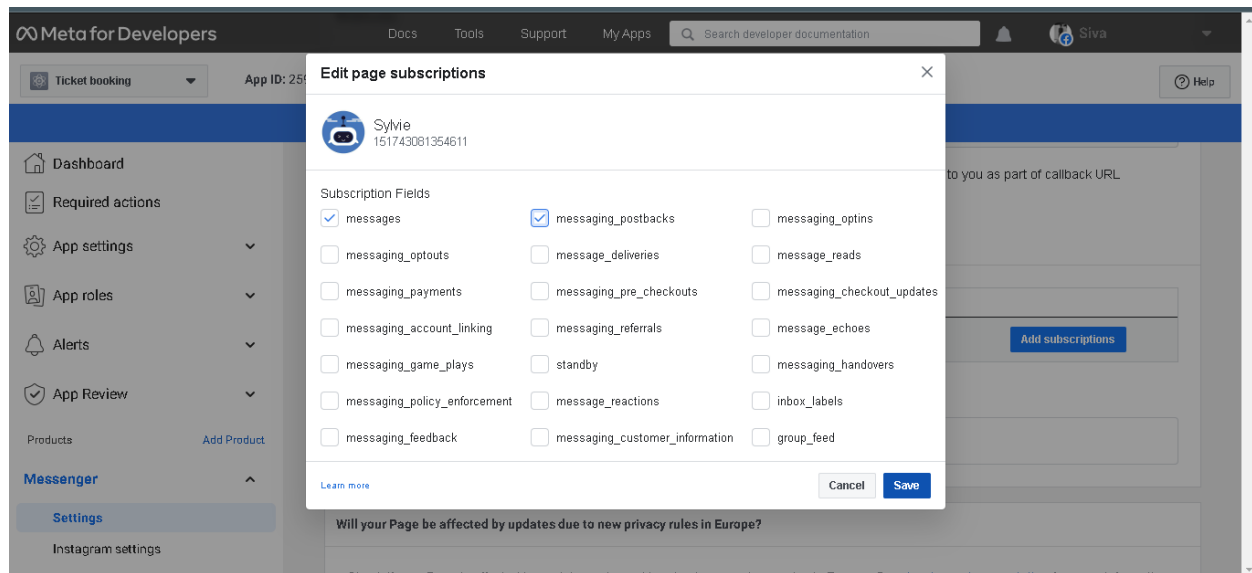
- Copy the generated URL in IBM Watson Facebook messenger.



- In the Meta developers Facebook Messenger settings, scroll to the **Webhooks** section. Click **Setup Webhooks**.
- In the **Edit Callback URL** window, paste the **generated callback URL** into the Callback URL field.
- In the **Verify Token field**, paste the verify token that was generated for you in **Facebook page** in IBM Watson Facebook messenger page.
- Click **Verify and Save**.



- Click **Add Subscriptions**. In the **Edit Page Subscriptions** window under Subscription Fields, select **messages** and **messaging_postbacks**. And click **Save**.



Connect your assistant

- After successfully completing the above procedure, your chatbot is now successfully integrated into messaging platforms like Facebook Messenger.

Screenshots



