

# Deakin University

## SIG788- OnTrack Submission

### Task 5.1 C

#### Submitted by

Srileka Vijayakumar

223560038

Attempt #1

Date: 04/16/2023

**Target Grade:** Credit

#### Task Details

### Task 5.1 Credit: LUIS and QnA Maker

**Submission details:** In this task, you need to

- 1) You need to select a domain and application and build a Custom Question Answering Bot using Azure Cognitive Services Language Studio, deploy it to Azure and attach it to a channel like Facebook

#### Submit the following files on Olympus:

- Submit your answers as a PDF file into the Olympus. You need to explain cell by cell of your code and the process for each part. You need to provide the Screen shot of your codes running. (Please note that your task will be graded based on the quality of the explanation for each part)
- If you are aiming for D and HD, you need to prepare a demo of your code and explain, how your code is running and what are the results of your code and submit it on the Olympus (No more than 2 minutes)

#### Answer:

Domain : Large Language Model/Artificial Intelligence/Science & Technology

Application : ChatGPT

For this task, a QnA Maker bot was created to provide answers for all questions related to ChatGPT. A Facebook page was created and this bot was attached to the messenger. In the messenger, various questions related to ChatGPT were asked and responses were given by the bot.

To accomplish this task below are the execution steps followed in this exercise.

#### **High-Level Steps:**

- Step 1:** Resource group and Language service creation
- Step 2:** New project creation in Language Studio
- Step 3:** Add sources to the created project.
- Step 4:** Test Knowledge base and identify gaps
- Step 5:** Final testing in Knowledge base
- Step 6:** Deploying knowledge base
- Step 7:** Creating bot
- Step 8:** Testing the created Bot
- Step 9:** Creating Meta developer profile and App
- Step 10:** Create Facebook Page
- Step 11:** Messenger Set up
- Step 12:** Set up Channels in the created bot
- Step 13:** Update Callback URL and token in Meta for Developers - Messenger settings
- Step 14:** Testing in Facebook Messenger

#### **Detailed steps:**

- Step 1:** Resource group and Language service creation

As a beginning step, the resource group “mds-rg” was created as shown below.

Home > Resource groups >

## Create a resource group

Validation passed.

Basics Tags Review + create

Basics

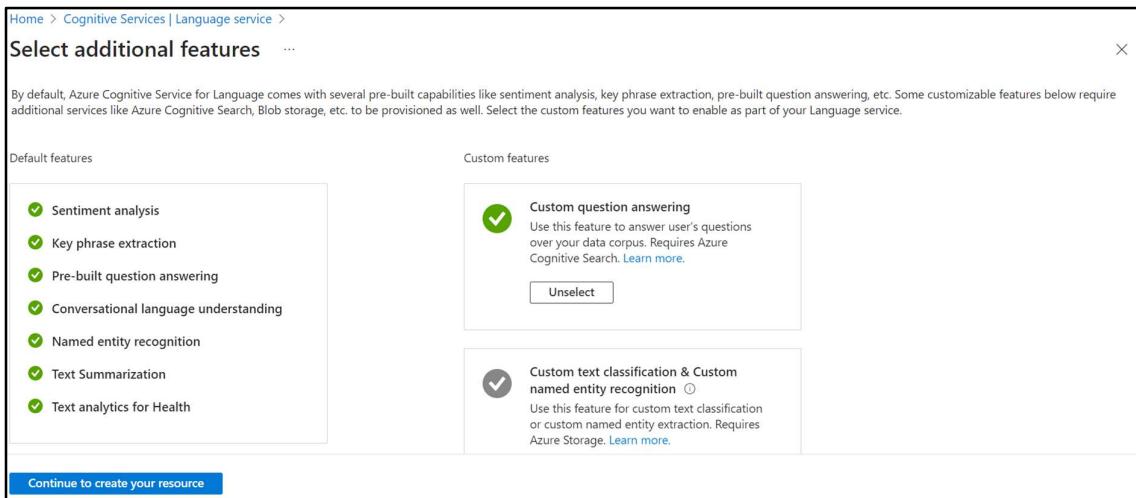
Subscription	Azure for Students
Resource group	mds-rg
Region	East US

Tags

None

Then a new “Language service” resource is created by following the options from Cognitive Services -> Language service -> create.

While creating “Custom question answering” is selected as shown below.



The below form was filled up with needed details as show below.

**Create Language**

[Learn more](#)

**Project Details**

Subscription \* [?](#) Azure for Students

Resource group \* [?](#) mds\_rg [Create new](#)

**Instance Details**

Region [?](#) East US

Name \* [?](#) task51-customqna

Pricing tier \* [?](#) Free F0 (5K Transactions per 30 days)

[View full pricing details](#)

**Custom question answering**

Custom question answering lets you answer user's questions over your data corpus. You can extract questions and answers from your data, customize them and create a knowledge base. The knowledge base is stored in an Azure Cognitive Search index in your own subscription.  
[Learn more](#)

Azure search region [?](#) East US

Azure search pricing tier \* [?](#) Free F (3 Indexes)

[View full Azure search pricing details](#)

**Responsible AI Notice**

Microsoft provides technical documentation regarding the appropriate operation applicable to this Cognitive Service that is made available by Microsoft. Customer acknowledges and agrees that they have reviewed this documentation and will use this service in accordance with it.

[Review + create](#) [< Previous](#) [Next : Network >](#)

"task51-customqna" language service is created as shown below.

The screenshot shows the Azure portal interface for a Language service named 'task51-customqna'. The left sidebar contains navigation links for Home, Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource Management (Features, Keys and Endpoint, Encryption, Pricing tier, Networking), and Language. The main content area displays the 'Essentials' section with details such as Resource group (mrs-rg), Status (Active), Location (East US), Subscription (Azure for Students), Subscription ID (f9af3199-0dd8-428e-8a50-c13d0d171a66), and Tags. A survey prompt at the top right encourages users to help improve the Language service.

Once created, option “sync keys linked to the selected Azure Cognitive Search service” is enabled

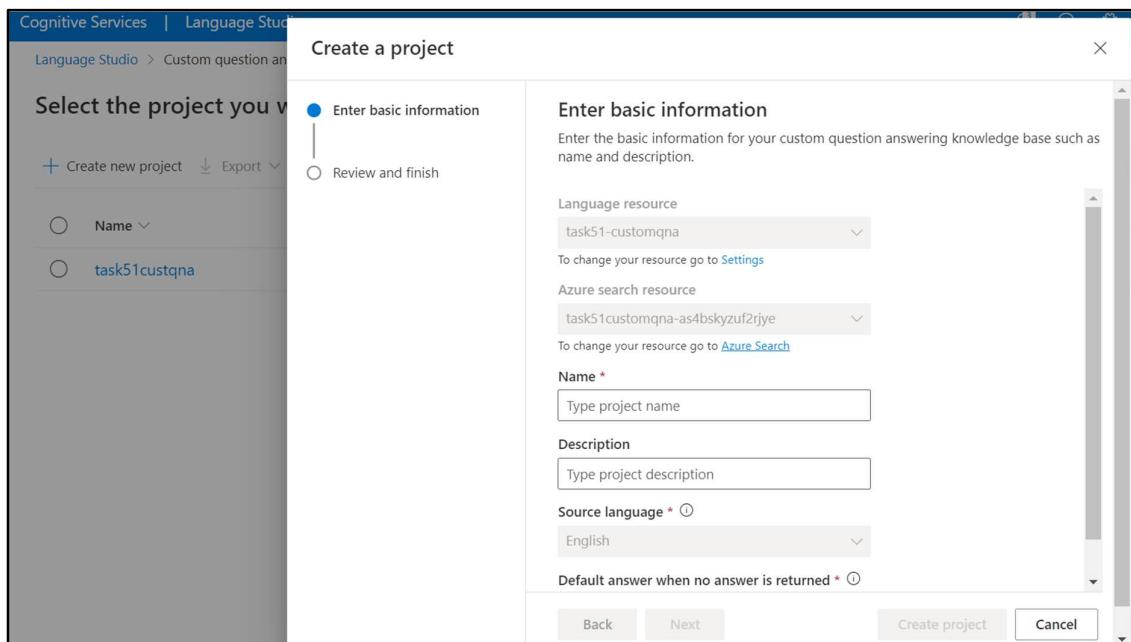
The screenshot shows the 'Features' page for the 'task51-customqna' Language service. The left sidebar includes 'Diagnose and solve problems', 'Resource Management (Features selected)', 'Keys and Endpoint', 'Encryption', 'Pricing tier', and 'Networking'. The main content area shows the 'Enable custom question answering' checkbox checked, with a description explaining it lets you answer user's questions over your data corpus. It also shows the 'Azure Cognitive Search Service' dropdown set to 'task51customqna-as4bskyzuf2jye' and the 'Sync keys linked to the selected Azure Cognitive Search service' checkbox checked.

Below is the Endpoint url and Keys, that will be used later.

The screenshot shows the 'Keys and Endpoint' page for the 'task51-customqna' Language service. The left sidebar includes 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Resource Management (Keys and Endpoint selected)', 'Features', 'Encryption', 'Pricing tier', 'Networking', 'Identity', 'Cost analysis', 'Properties', and 'Locks'. The main content area includes a note about the importance of securely storing keys, a 'Show Keys' button, and fields for 'KEY 1' (redacted), 'KEY 2' (redacted), 'Location/Region' (eastus), and 'Endpoint' (https://task51-customqna.cognitiveservices.azure.com/). Buttons for 'Regenerate Key1' and 'Regenerate Key2' are also present.

## Step 2: New project creation in Language Studio

In Language Studio, new project was created as shown below. The project name was given as “task51custqna”

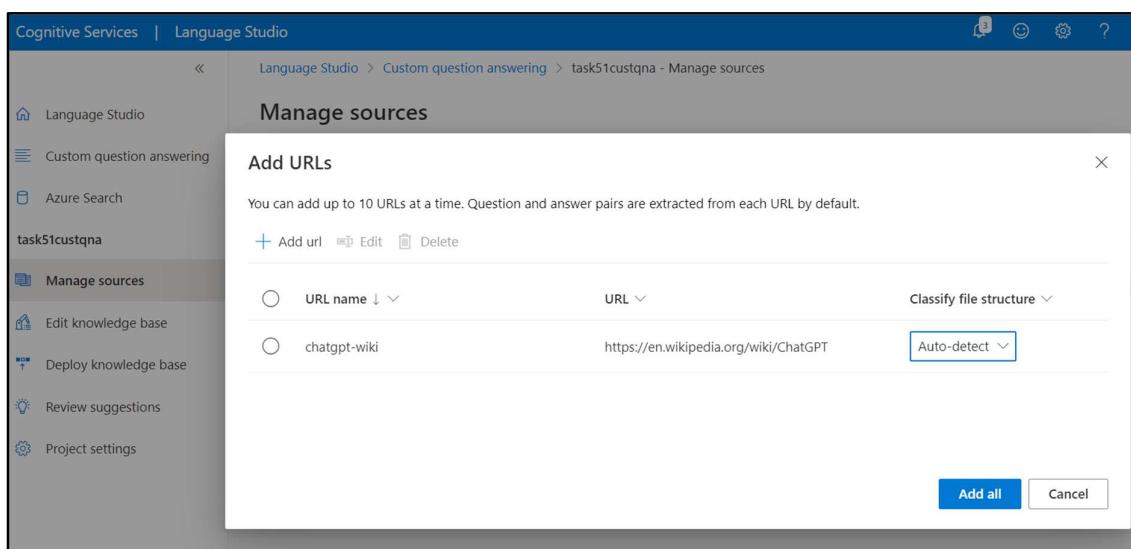


## Step 3: Add sources to the created project.

Below urls have good details on ChatGPT and these are used as source of data.

In Manage sources, the below urls are added as shown below.

Adding <https://en.wikipedia.org/wiki/ChatGPT> to the sources.



Adding <https://www.theinsaneapp.com/2022/12/chatgpt-questions-and-answers.html> to the sources

Apart from above urls adding editorial with our own question and answer pair.

As shown below in the notification panel, all the sources are successfully added.

#### Step 4: Test Knowledge base and identify gaps

Using the option highlighted in red box below, so far created knowledge base is tested as shown below.

Test panel is opened, where the first message sent is "Hi". The response given is "No answer found" as the provided urls wouldn't cover this kind of generic greetings.

**Edit knowledge base**

0 unstructured sources and 1 structured sources. [View sources](#)

**ChatGPT**

Source: <https://en.wikipedia.org/wiki/ChatGPT>

Answer

From Wikipedia, the free encyclopedia

AI chatbot developed by OpenAI

Logo

ChatGPT on [Google Chrome](https://en.wikipedia.org/wiki/Google\_Chrome) | [Developer(s)](https://en.wikipedia.org/wiki/Programmer) | [OpenAI](https://en.wikipedia.org/wiki/OpenAI) | Initial release | November 30, 2022 ; 4 months ago ( 2022-11-30 ) | Stable release[https://en.wikipedia.org/wiki/Software\_release\_life\_cycle] | March 23, 2023, latest\_version-1 |

No answer found

Trying few questions related to ChatGPT. As expected, based on the urls provided, good responses are received for questions related to ChatGPT.

**Edit knowledge base**

0 unstructured sources and 1 structured sources. [View sources](#)

**ChatGPT**

Source: <https://en.wikipedia.org/wiki/ChatGPT>

Answer

From Wikipedia, the free encyclopedia

AI chatbot developed by OpenAI

Logo

ChatGPT on [Google Chrome](https://en.wikipedia.org/wiki/Google\_Chrome) | [Developer(s)](https://en.wikipedia.org/wiki/Programmer) | [OpenAI](https://en.wikipedia.org/wiki/OpenAI) | Initial release | November 30, 2022 ; 4 months ago ( 2022-11-30 ) | Stable release[https://en.wikipedia.org/wiki/Software\_release\_life\_cycle] | March 23, 2023, latest\_version-1 |

what is chatGPT?

From Wikipedia, the free encyclopedia

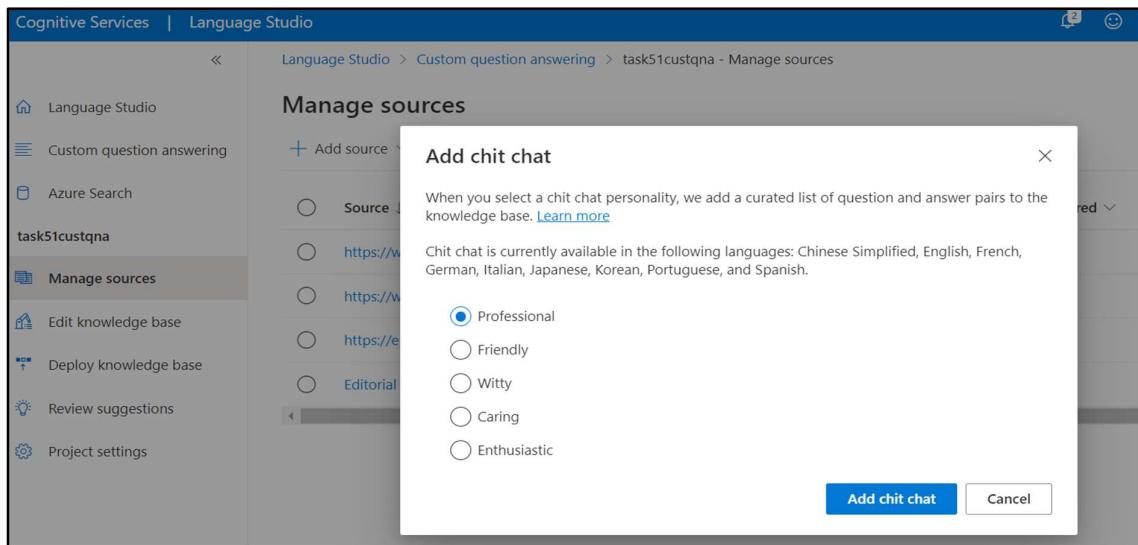
AI chatbot developed by OpenAI

Logo  
ChatGPT on Google Chrome  
Developer(s)

To address the bad responses received for greetings, adding Chitchat as one of the sources.

Source name	URLs
chatgpt-qna2	<a href="https://www.makeuseof.com/chatgpt-questions-and-answers/">https://www.makeuseof.com/chatgpt-questions-and-answers/</a>
chatgpt-qna	<a href="https://en.wikipedia.org/wiki/ChatGPT">https://en.wikipedia.org/wiki/ChatGPT</a>
chatgpt-wiki	<a href="https://en.wikipedia.org/wiki/ChatGPT">https://en.wikipedia.org/wiki/ChatGPT</a>
Editorial	<a href="https://www.chatgpt.com/editorial">https://www.chatgpt.com/editorial</a>

While adding Chitchat, “Professional” option is selected.



Below is the final list of sources added to the project.

The screenshot shows the 'Manage sources' page in the Microsoft Language Studio. The sidebar shows 'task51custqna' is selected. The main area displays a table of sources. The columns are 'Source' (with a dropdown arrow), 'Source name' (dropdown), 'Unstructured' (dropdown), and 'Source type' (dropdown). There are four items listed:

Source	Source name	Unstructured	Source type
Source		No	file
qna_chitchat_Professional		No	file
https://www.theinsaneapp.com/2022/12/chatgpt-questions-an...	chatgpt-qna2	No	url
https://en.wikipedia.org/wiki/ChatGPT	chatgpt-wiki	No	url
Editorial		No	file

### Step 5: Final testing in Knowledge base

After adding all needed sources, finally testing from the knowledge base panel.

As shown below, the initial greeting “Hi” has been responded with “Hello”.

Few more generic greetings and ChatGPT related questions are tried as shown below.

Cognitive Services | Language Studio

Language Studio > Custom question answering > task51custqna - Edit knowledge base

Question answer pairs (151) Synonyms (0)

Search pairs

Do you get hurt? I don't have a body. (74) (1)

That is so boring I aim for efficiency. (112) (1)

Who's older? Age doesn't really apply to me. (47) (1)

Will you ask me anything about myself? I'm better at answering questions. (127) (1)

Edit knowledge base

0 unstructured sources and 4 structured sources. [View sources](#)

**Do you get hurt?**

Source: qna\_chitchat\_Professional

Answer

[Edit answer](#)

I don't have a body.

Alternate questions (74)

Follow up prompts (0)

Metadata (1)

Test

Response options

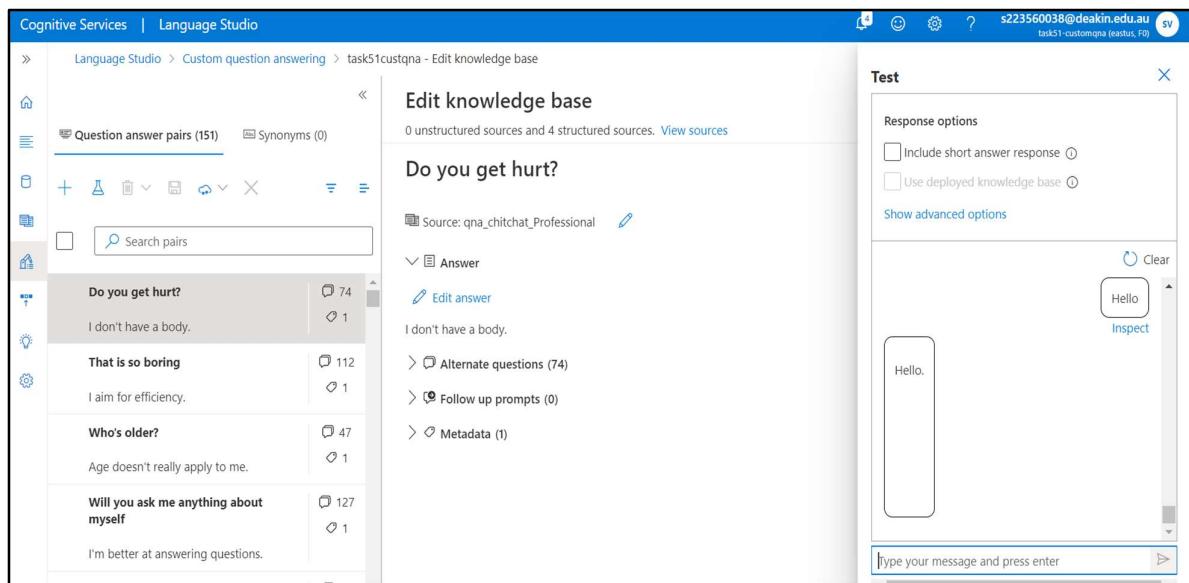
Include short answer response ⓘ  
 Use deployed knowledge base ⓘ

Show advanced options

Clear

Hello. [Inspect](#)

Type your message and press enter



Test

Response options

Include short answer response ⓘ  
 Use deployed knowledge base ⓘ

Show advanced options

Clear

good morning. [Inspect](#)

Good morning.

Type your message and press enter

Test

Response options

Include short answer response ⓘ  
 Use deployed knowledge base ⓘ

Show advanced options

Clear

would like to learn about chatgpt. [Inspect](#)

ChatGPT is an AI-powered tool that allows you to communicate with chatbots in a human-like way and has many other features. The chatbot can answer almost any question and can help you do anything from writing emails, essays, music, poems, blogs, movie script, code, etc.

Type your message and press enter

Test

Response options

Include short answer response ⓘ  
 Use deployed knowledge base ⓘ

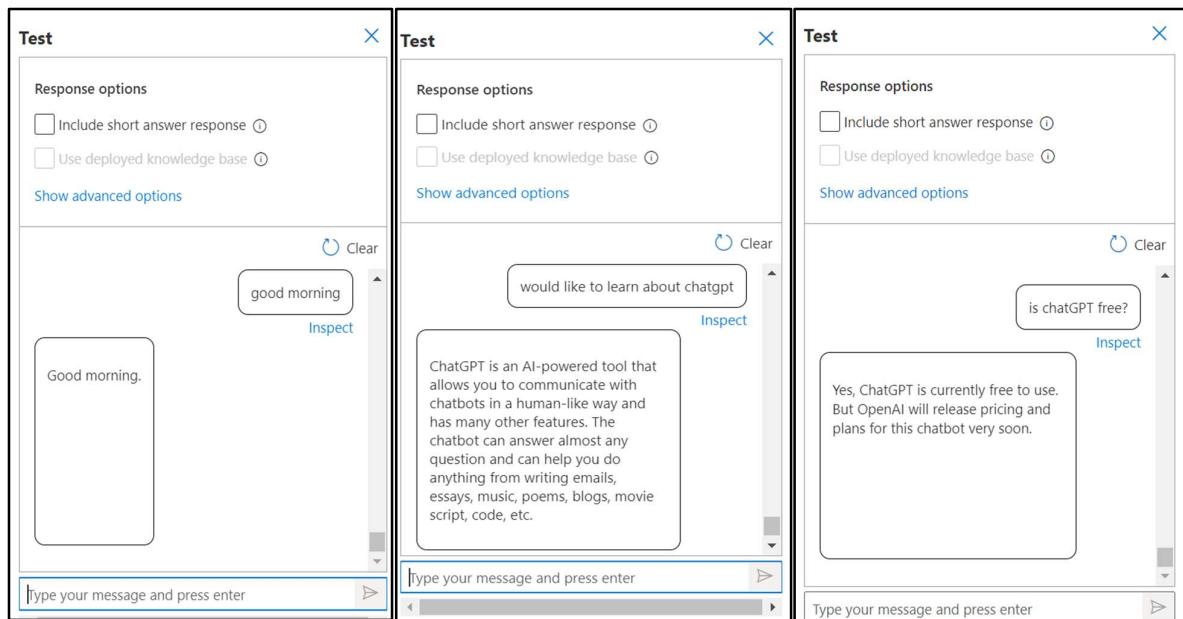
Show advanced options

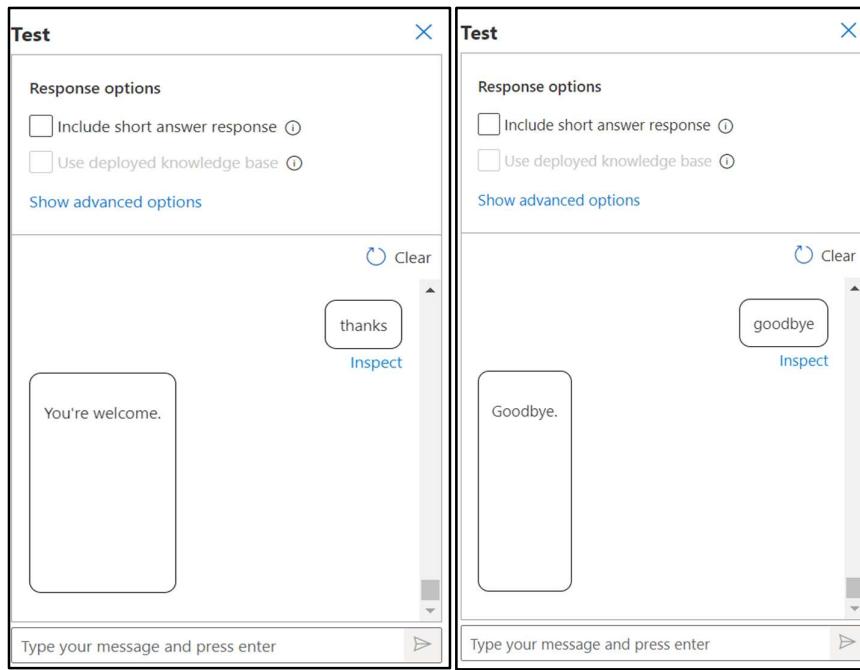
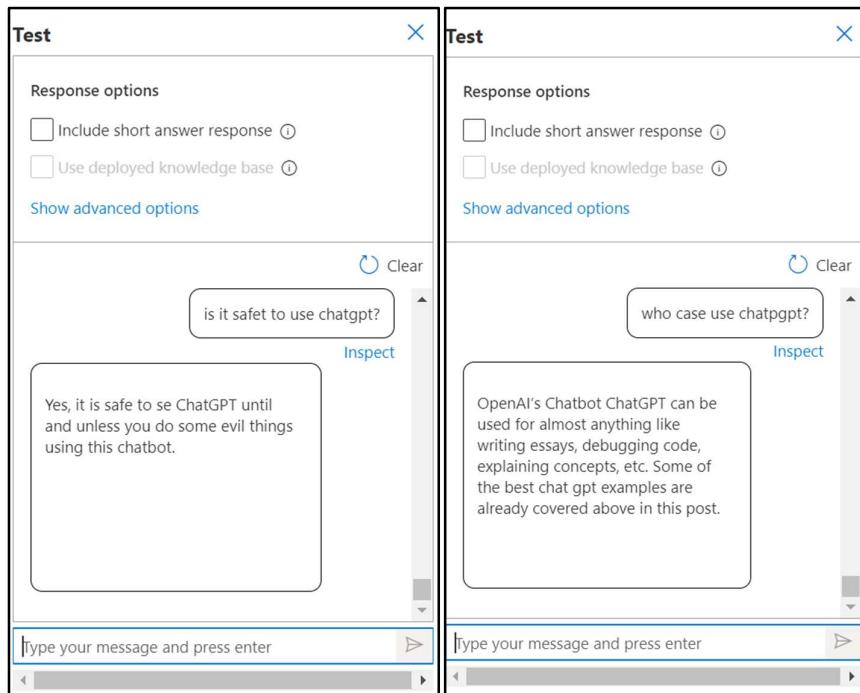
Clear

is chatGPT free? [Inspect](#)

Yes, ChatGPT is currently free to use. But OpenAI will release pricing and plans for this chatbot very soon.

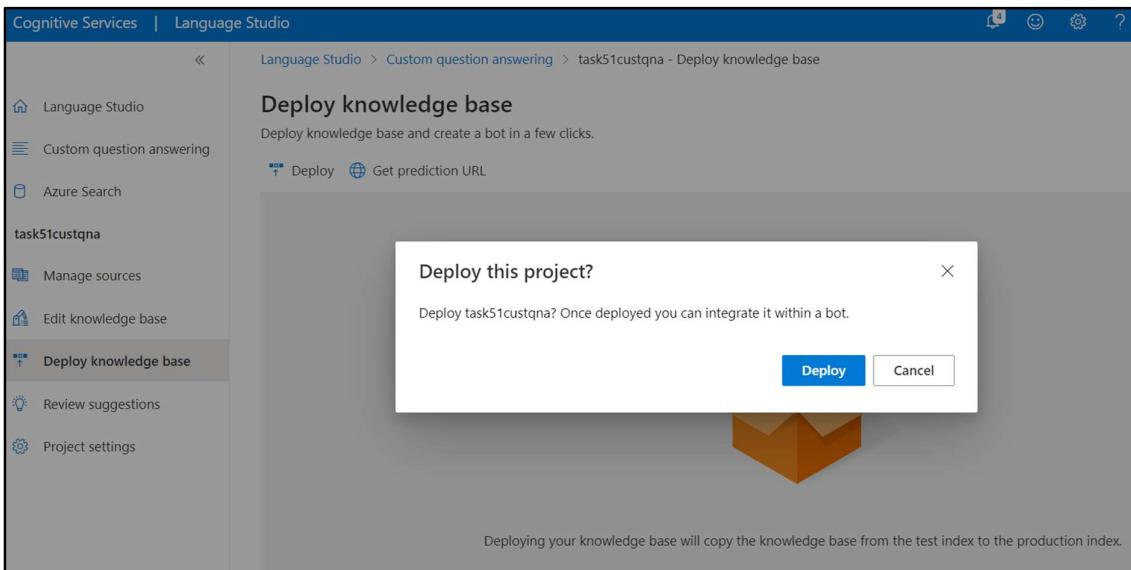
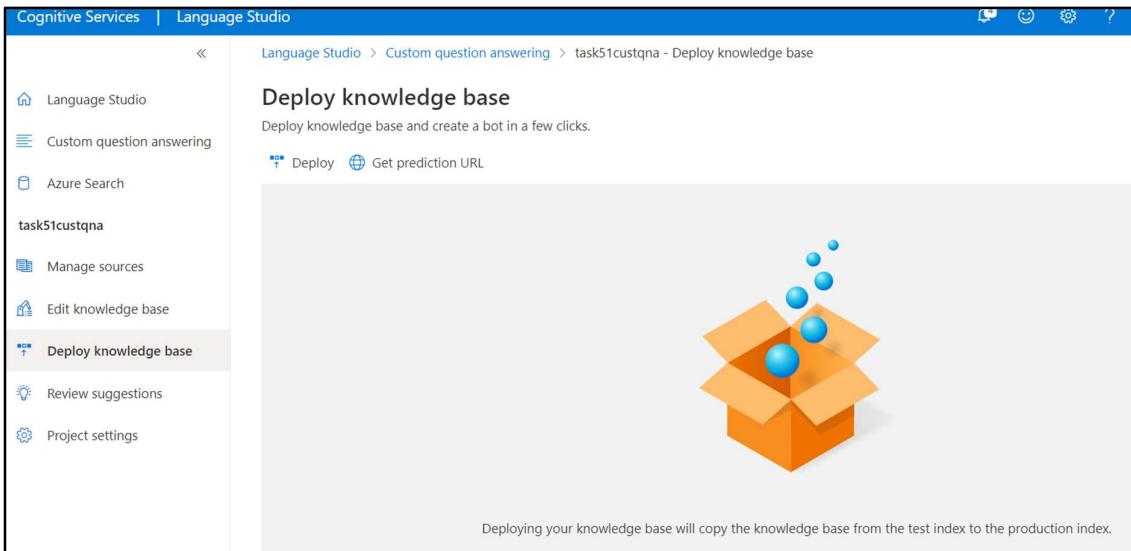
Type your message and press enter





## Step 6: Deploying knowledge base

The above testing is satisfactory and the knowledge base is deployed as shown below.



Below is the deployed knowledge base.

The screenshot shows the Azure Language Studio interface for a project named 'task51custqna'. The left sidebar has a 'Deploy knowledge base' section selected. The main content area displays the 'Deploy knowledge base' status with a green success message: 'Your knowledge base is now deployed. You can get your prediction URL or create a bot.' Below this, the 'Knowledge base status' table shows the following details:

State	Deployment Date	Location	Resource	Tier
Deployed	4/16/2023	eastus	task51-customqna	Free (F0)
	6:34:38 AM			

Next steps are listed as 'Create a bot' with two steps: 'Read the documentation' and 'Go to Azure'. A blue callout box highlights the 'Create a bot' button with the text: 'Click to create a bot in Azure. You will be redirected to the Azure portal to create a bot. Click on create after filling all details to provision a bot resource.' Buttons for 'Skip all' and 'Got it' are at the bottom of the callout.

This screenshot is identical to the one above, showing the same deployment status and next steps for the 'task51custqna' project in the Azure Language Studio. The 'Deploy knowledge base' section is selected in the sidebar, and the main content area shows the knowledge base is deployed with the status table and 'Create a bot' callout.

## Step 7: Creating bot

Once the knowledge base is deployed, the “Create a bot” option is enabled and when clicked, below is the deployment form that pops up. Bot handle name “task51-customqna-bot” is created as shown below.

Home >

### Custom deployment

Deploy from a custom template

**Basics**   **Web App**   **Review + create**

**Template**

**⚠** Changes on this step may reset later selections you have made. Review all options prior to deployment.

**Customized template** **4 resources**

**Edit template**   **Edit parameters**   **Visualize**

**Project details**

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

**Subscription \*** **①** **Azure for Students**

**Resource group \*** **①** **mds-rg** **Create new**

**Instance details**

**Resource group location \*** **①** **(US) East US**

**Azure Bot**

**Bot handle \*** **①** **task51-customqna-bot**

**Choose your pricing tier**

Select a pricing tier for your Azure Bot resource. You can change your selection later in the Azure portal's resource management. Learn more about available options, or request a pricing quote, by visiting the [Azure Bot Services pricing](#).

**Pricing tier** **Standard** **Change plan**

**Microsoft App ID**

Add user assigned identities to grant the resource access to Azure Bot resource.

**Creation type**

Create new User-assigned managed identity  
 Use existing User-assigned managed identity

**Review + create**   **< Previous**   **Next : Web App >**

In WebApp form, Language resource key, Language project name, Language Endpoint hostname, Account Name etc are filled up as shown below.

Home >

## Custom deployment

Deploy from a custom template

**⚠ Changes on this step may reset later selections you have made. Review all options prior to deployment.**

**App Settings**

In App Service, these app settings are variables passed as environment variables to the bot code.

Language Resource Key *	.....	✓
Language project name	task51custqna	
Language service endpoint hostname	https://task51-customqna.cognitiveservices.azure.com	

**Language service details**

Subscription Id	/subscriptions/8d5ceb22-44c7-4367-bfc6-07378096e055
Resource Group Name	mds-rg
Account Name	task51-customqna

**Review + create**    < Previous    Next : Review + create >

The updates are reviewed and finally deployed using “Create” button.

Home >

## Custom deployment

Deploy from a custom template

**Validation Passed**

Basics    Web App    **Review + create**

Summary

Customized template    4 resources

Terms

Azure Marketplace Terms | Azure Marketplace

By clicking “Create,” I (a) agree to the applicable legal terms associated with the offering; (b) authorize Microsoft to charge or bill my current payment method for the fees associated the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s); and (c) agree that, if the deployment involves 3rd party offerings, Microsoft may share my contact information and other details of such deployment with the publisher of that offering.

Microsoft assumes no responsibility for any actions performed by third-party templates and does not provide rights for third-party products or services. See the [Azure Marketplace Terms](#) for additional terms.

Deploying this template will create one or more Azure resources or Marketplace offerings. You acknowledge that you

**Create**    < Previous    Next

[Home](#) >

## Custom deployment

Deploy from a custom template

✓ Validation Passed

**Basics**

Subscription	Azure for Students
Resource group	mds-rg
Resource group location	East US
Bot handle	task51-customqna-bot
Pricing tier	Standard
Creation type	Create new User-assigned managed identity

**Web App**

App name	chatgpt-qna
SDK language selection	Node.js
Creation type	Create new app service plan
Language Resource Key	*****
Language project name	task51custqna
Language service endpoint hostname	https://task51-customqna.cognitiveservices.azure.com
Subscription Id	/subscriptions/8d5ceb22-44c7-4367-bfc6-07378096e055
Resource Group Name	mds-rg

[Create](#) | [< Previous](#) | [Next](#)

Once deployed successfully, an entry is created in Language Studio as shown below.

Cognitive Services | Language Studio

s23560038@deakin.edu.au SV task51-customqna (eastus, F0)

Language Studio

**Settings**

Directory Resources General

In order to sign in to the Language Studio and use the Language Service, you need to have a Language Azure resource. A Language resource's endpoint and key are used to query prebuilt features and author custom models. [Learn more about Azure resources.](#)

Current Subscription: Azure for Students  
Current Language resource: task51-customqna

Search + Create a new resource

Resource name ↑	Region	Managed ide...	Pricing tier	Resource key
task51-customqna	eastus	Enabled	F0	*****

All resources that are deployed are shown as below.

Microsoft.Template-20230416065605 | Overview

Your deployment is complete

Resource	Type	Status	Operation details
task51-customqna-bot	Microsoft.BotService/botSe...	Created	<a href="#">Operation details</a>
chatgpt-qna/MSDeploy	Microsoft.Web/sites/Extensi...	OK	<a href="#">Operation details</a>
chatgpt-qna	Microsoft.Web/sites	OK	<a href="#">Operation details</a>
task51-customqna-serverfarm	Microsoft.Web/serverfarms	OK	<a href="#">Operation details</a>
task51-customqna-bot	Microsoft.ManagedIdentity...	Created	<a href="#">Operation details</a>

Cost Management  
Get notified to stay within your budget and prevent unexpected charges on your bill.  
[Set up cost alerts >](#)

Microsoft Defender for Cloud  
Secure your apps and infrastructure  
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials  
[Start learning today >](#)

Work with an expert  
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support

### Step 8: Testing the created Bot

The bot “task51-customqna-bot” entry when clicked, shows the below screen. The “Test in Web Chat” button is clicked again to test the Bot.

task51-customqna-bot

Bot Service pricing tier : S1

Messaging endpoint : <https://chatgpt-qna.azurewebsites.net/api/messages>

Location : Global

Build enterprise-grade conversational AI

Develop enterprise-grade, conversational AI experiences, while maintaining control of your data. Edit your bot in SDK, host your bot in any environment and enable customers from a variety of channels, such as your app or website, Direct Line Speech, Microsoft Teams and more. [Learn more](#)

Get started with the Bot Framework

Build, test, deploy, and manage intelligent bots, all in one place. The Bot Framework includes a modular and extensible SDK for building bots as well as tools, templates, and related AI services. Note: For User-Assigned Managed Identity and Single Tenant app, BotFramework SDK (C# or Javascript) version 4.15.0 or higher is needed for these app types. [Learn the Bot Framework](#)

Test and refine your bot

Refined and debug locally with Emulator, and test your bot online in Web Chat. Learn more about testing and debugging.

Test in Web Chat

Publish to Azure

When you are ready, publish your bot to Azure and connect to channels. Learn about publishing directly to Azure and continuous deployment.

Connect to channels

Below is the testing with some sample questions on ChatGPT.

The screenshot shows the 'task51-customqna-bot' test interface in the Azure Bot Service. The left sidebar lists various settings and monitoring options. The main area displays a conversation transcript:

- User: Hello.
- Bot: Welcome to the QnA Maker sample! Ask me a question and I will try to answer it.
- User: how are you?
- Bot: Great, thanks.
- User: waht can chatGPT do?
- Bot: ChatGPT is an AI-powered tool that allows you to communicate with chatbots in a human-like way and has many other features
- Bot: ChatGPT is an AI-powered tool that allows you to communicate with chatbots in a human-like way and has many other features. The chatbot can answer almost any question and can help you do anything from writing emails, essays, music, poems, blogs, movie script, code, etc.

A message input field at the bottom is ready for the user's next question.

The screenshot shows the Azure Bot service interface. On the left, there's a sidebar with navigation links: Overview, Activity log, Access control (IAM), Tags, Settings (with sub-options like Bot profile, Configuration, Channels, Pricing, Test in Web Chat, Encryption, Networking, Properties, Locks), Monitoring (with sub-options like Conversational analytics, Alerts, Metrics, Diagnostic settings), and a search bar at the top.

The main area is titled "Test" and shows a conversation history:

- A user message: "waht can chatGPT do?" (A minute ago)
- A bot response: "ChatGPT is an AI-powered tool that allows you to communicate with chatbots in a human-like way and has many other features" (A minute ago)
- A user message: "thanks. is it free to use?" (Just now)
- A bot response: "No QnAMaker answers found." (Just now)
- A user message: "is chatGPT free?" (Just now)
- A bot response: "Yes, ChatGPT is currently free to use. But OpenAI will release pricing and plans for this chatbot very soon." (Just now)

At the bottom, there's a text input field labeled "Type your message" with a send button.

As shown above, even if there are spelling mistakes, the bot was able to get the context and give proper response. Before setting up the Channels for the bot, few more preparatory steps – steps 9, 10, 11 are done.

### Step 9: Creating Meta developer profile and App

In <https://developers.facebook.com>, a Meta developer profile is created by proving personal information and contact details.

The screenshot shows the Facebook Developer registration page. On the left, there are three checked options: Register, Contact info, and About you. The main section asks, "Which of the following best describes you? Help us improve your experience by telling us which of the following roles best describe you." It lists several roles with radio buttons:

- Developer (selected)
- Marketer
- Analyst
- Product manager
- Student
- Owner/founder
- Other

At the bottom right is a blue "Complete Registration" button.

Once the profile is created, new App is created as shown below.

The screenshot shows the 'Meta for Developers' website at [developers.facebook.com/apps/](https://developers.facebook.com/apps/). The top navigation bar includes links for Docs, Tools, Support, and My Apps, along with a search bar for developer documentation and a user profile for Srileka Vijayak... On the left, there's a sidebar titled 'Apps' with a 'Filter by' section containing 'All Apps' (selected) and 'Archived'. The main content area features a large illustration of a person sitting at a desk working on a laptop. Below the illustration, the text 'No apps yet' is displayed, followed by the subtext 'To get started, create your first app.' A prominent green 'Create App' button is located at the bottom right of the main content area.

App type is selected as Business

The screenshot shows the 'Select an app type' step in the app creation process. The top navigation bar is visible. On the left, there's a sidebar with 'Type' selected (indicated by a blue background). The main content area is titled 'Select an app type' with a note: 'The app type can't be changed after your app is created. Learn more'. It lists several options: 'Business' (selected, indicated by a blue background), 'Consumer', 'Instant Games', 'Gaming', 'Workplace', 'Academic research', and 'None'. Each option has a small icon and a brief description. In the bottom right corner, there's a 'Rate your experience' section with 'Good' and 'Bad' buttons.

Details like App Name, contact email are also provided as below.

The screenshot shows the 'Add an app name' step in the app creation process. The top navigation bar is visible. On the left, there's a sidebar with 'Type' and 'Details' selected. The main content area has a text input field for 'Add an app name' with the placeholder 'ChatGPT Ask me'. Below it, there's a section for 'App contact email' with a text input field containing 'srilekavijayakumar@gmail.com'. At the bottom, there's a 'Business Account - Optional' section with a note about connecting a business account for certain products and permissions. A dropdown menu shows 'No Business Manager account selected'. At the very bottom, there's a note about agreeing to the 'Meta Platform Terms and Developer Policies' and a 'Create app' button.

Once the App is created, the App id is generated and products that can be added to the app are shown below.

The screenshot shows the Meta for Developers dashboard for an app named "ChatGPT Ask me". The "App ID" is displayed as 1631096570711512. The "App Mode" is set to "Development" and "Live". The "App type" is "Business". A banner at the top states "This app is now using Facebook Login for Business." Below the banner, there is a section titled "Add products to your app" with a sub-instruction: "We've streamlined the app creation process by surfacing the products and permissions needed to build the app type you selected." Six product cards are listed in a 2x3 grid:

- App Events**: Understand how people engage with your business across apps, devices, platforms and websites. Buttons: "Read Docs" and "Set up".
- Audience Network**: Monetize your app and grow revenue with ads from Meta advertisers. Buttons: "Read Docs" and "Set up".
- Fundraisers**: Create and manage fundraisers for charities. Buttons: "Read Docs" and "Set up".
- Instagram Graph API**: Integrate your app with the Instagram API to let businesses use your app with their Instagram accounts. Buttons: "Read Docs" and "Set up".
- Jobs**: Post jobs to the Facebook platform and receive applications from users. Buttons: "Read Docs" and "Set up".
- Marketing API**: Integrate Facebook Marketing API with your app. Buttons: "Read Docs" and "Set up".

App id and App secret is retrieved as shown below. This App id and App secret code are used in Step 12 when setting up the Channels for the created bot.

The screenshot shows the Meta for Developers dashboard for the same app. The "Settings" section is selected, specifically the "Basic" tab. The "App ID" is 1631096570711512 and the "App secret" is masked. Other settings visible include "Display name" (ChatGPT Ask me), "Namespace" (empty), "App domains" (empty), "Contact email" (srilekavijayakumar@gmail.com), "Privacy Policy URL" (empty), "Terms of Service URL" (empty), "Category" (Choose a category), and an "App icon (1024 x 1024)" placeholder. At the bottom right are "Discard" and "Save changes" buttons.

In Advance Settings, App Restrictions -> Social discovery was enabled as shown below.

The screenshot shows the 'Advanced' settings page for an app named 'ChatGPT Ask me'. Under 'App Restrictions', the 'Social discovery' option is selected, which allows app usage stories to appear in the ticker or feed. Other options like 'References alcohol' and 'Country restricted' are also listed. The 'Age restriction' dropdown is set to 'Anyone (13+)'. There are also sections for 'GDPR Restricted' and 'GDPR Countries'. At the bottom right are 'Discard' and 'Save changes' buttons.

"Allow API Access to app settings" is also enabled as shown below.

The screenshot shows the 'Advanced' settings page under 'Security'. The 'Allow API Access to app settings' option is selected, which prevents changes to app settings through API calls. Other security-related settings include 'Server IP allowlist', 'Update settings IP allowlist', 'Update notification email', and 'Client token'. There are also sections for 'Require app secret' and 'Require 2-factor reauthorization'. At the bottom right are 'Discard' and 'Save changes' buttons.

## Step 10: Create Facebook Page

Below Facebook page is created for this task in my personal account.

The screenshot shows the Facebook 'Manage Pages and profiles' section on the left, with a list of existing pages like 'LLM Chat-GPT Ask me' and 'Meta Business Suite'. On the right, a new page is being created with the name 'LLM Chat-GPT Ask me' and the category 'Create @Username · Science & Tech'. The page has a purple profile picture with a large white letter 'L'. A progress bar indicates '4 of 13 steps completed' under the heading 'Set your Page up for success'.

The Page Id can be found in the About section. The page id is used later to connect the messenger of this page to Bot App created.

The screenshot shows the 'About' section of the 'LLM Chat-GPT Ask me' page. It includes fields for 'General' information (0 people follow this, Science & Tech, Enter location) and 'Hours' (Edit business hours). There is also a link to 'Edit Page info'.

The screenshot shows the Facebook Business Suite interface. On the left, there's a sidebar with icons for Home, Pages, Business Suite, Inbox, Planner, Publishing tools, Insights, and News Feed. The main area is titled 'Manage Pages and profiles' and shows a page named 'LLM Chat-GPT Ask me'. On the right, there's a detailed view of the page settings. A red box highlights the 'Page ID' field, which contains the value '118085827920696'. Other visible options include 'Enter website', 'Enter phone number', 'Enter email', 'Send message', 'Edit description', 'Add additional information', 'Edit impressum', and 'Edit privacy policy'.

The Page id (shown in red box) is used in Step 11 when setting up Messenger and also in Step 12 when setting up the Channels for the created bot.

### Step 11: Messenger Set up

In Meta for Developers page, for the App that was created in Step 9, Dashboard was selected and below is the dashboard screen. Messenger shown in red box was selected.

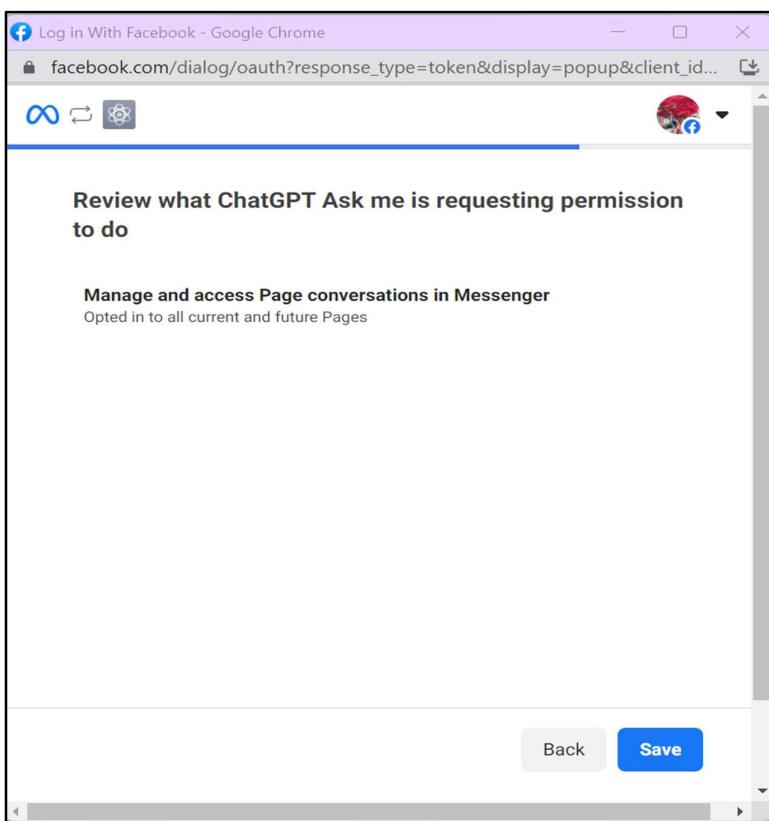
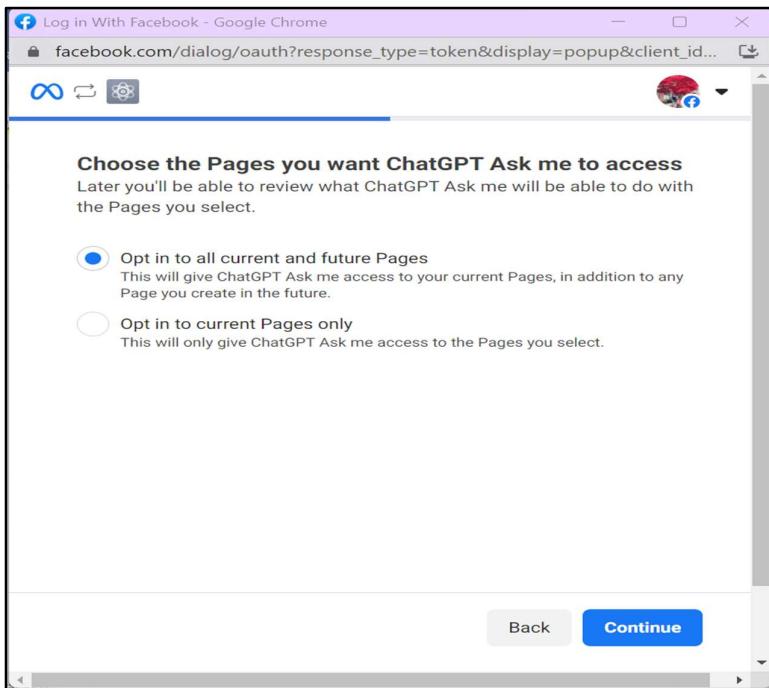
The screenshot shows the Meta for Developers dashboard. The left sidebar includes 'Dashboard', 'Settings', 'App Roles', 'Alerts', 'App Review', 'Products', 'Add Product', 'Activity log', and 'Activity log'. The main area displays several API integration options: 'Instagram Graph API', 'Jobs', 'Marketing API', 'Messenger', 'Web Payments', and 'ThreatExchange'. The 'Messenger' option is highlighted with a red box. Each option has a 'Read Docs' and 'Set up' button.

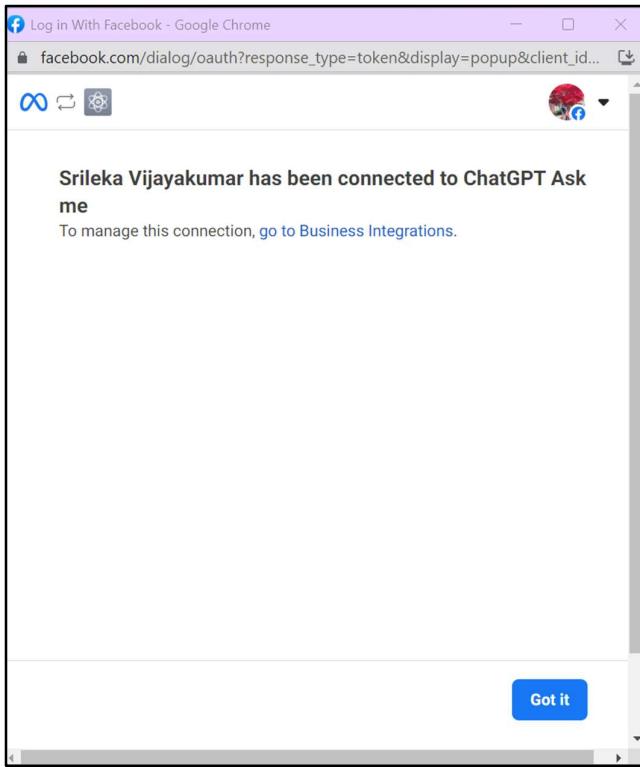
The Facebook book page is added as shown below.

The screenshot shows the Meta for Developers dashboard. On the left, there's a sidebar with options like Dashboard, Settings, App Roles, Alerts, App Review, Products, and Messenger. Under Messenger, 'Settings' is selected. The main area has sections for 'Increase traffic to Messenger', 'Get started', and 'Access Tokens'. The 'Access Tokens' section contains instructions and a note about generating tokens for Page access. At the bottom, there's a button labeled 'Add or remove Pages' which is highlighted with a red box.

Once Add or remove pages button is selected, pop-up asks if it can continue as <my facebook profile>. Upon continue, few more pop-ups open as shown below.

This is a screenshot of a Facebook login dialog in a browser window titled 'Log in With Facebook - Google Chrome'. The URL in the address bar is 'facebook.com/dialog/oauth?response\_type=token&display=popup&client\_id...'. The dialog itself asks 'Continue as Srileka Vijayakumar?' and states that 'ChatGPT Ask me will receive your name and profile picture.' Below that, it says 'Not Srileka Vijayakumar? Log into another account.' A red box highlights the 'Continue as Srileka Vijayakumar?' button.





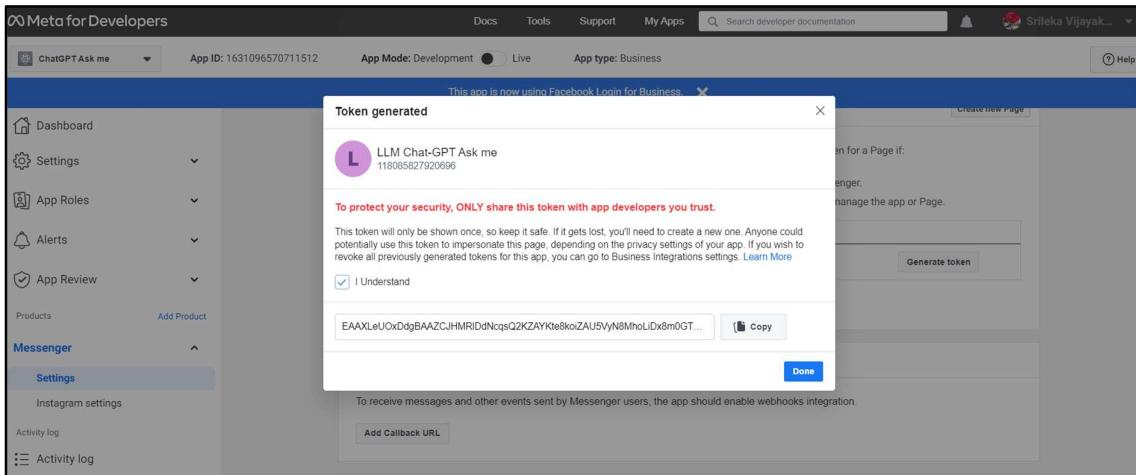
Once done with all pop-ups, the page is successfully added as shown below.

The screenshot shows the Meta for Developers dashboard for the app "ChatGPT Ask me". The left sidebar has "Messenger" selected under "Settings". In the main area, there's a section for "Access Tokens" with a table. One row in the table is highlighted with a red border, showing the "Pages" column with "LLM Chat-GPT Ask me" and the "Tokens" column with "—". There's also a "Generate token" button next to the tokens column.

Pages ↑	Tokens
LLM Chat-GPT Ask me 118005627920696	—

The Page id can be seen along with the page name.

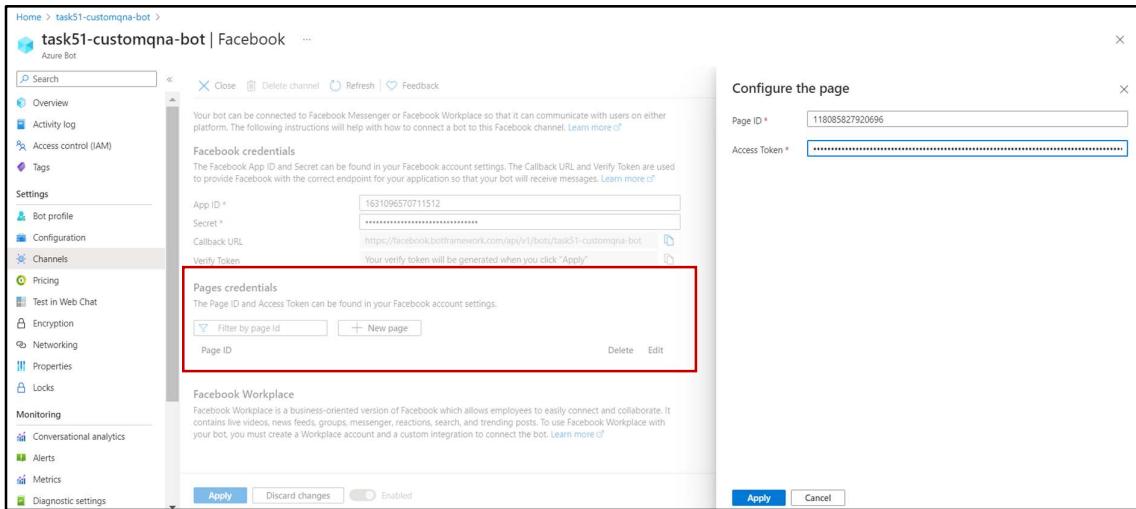
Upon clicking the “Generate token” button, new token is generated which will



### Step 12: Set up Channels in the created bot

In “task51-customqna-bot” created in step 8, channels-> Facebook is selected. Then the App id created in step 9 is given in the form. App secret code is also updated.

Then in “Page credentials” section (shown in red box), “New page” is clicked, which opens up a new sub-window as shown below. The Page ID created in Step 10 is provided here. For access token field, the token which was fetched just above in step 11 was provided.



Once “Apply” button is clicked, an entry is added successfully to the “Pages credentials” section. Once “Apply” button is clicked in this main form, Callback url and Verify Token are populated as shown below.

Callback url - <https://facebook.botframework.com/api/v1/bots/task51-customqna-bot>

### Step 13: Update Callback URL and token in Meta for Developers - Messenger settings

Now coming back to “Meta for Developers” page, in the App created, under Messenger -> Settings page, where the page id was added before, the callback url is also added to webhook section.

For reference - Page id added

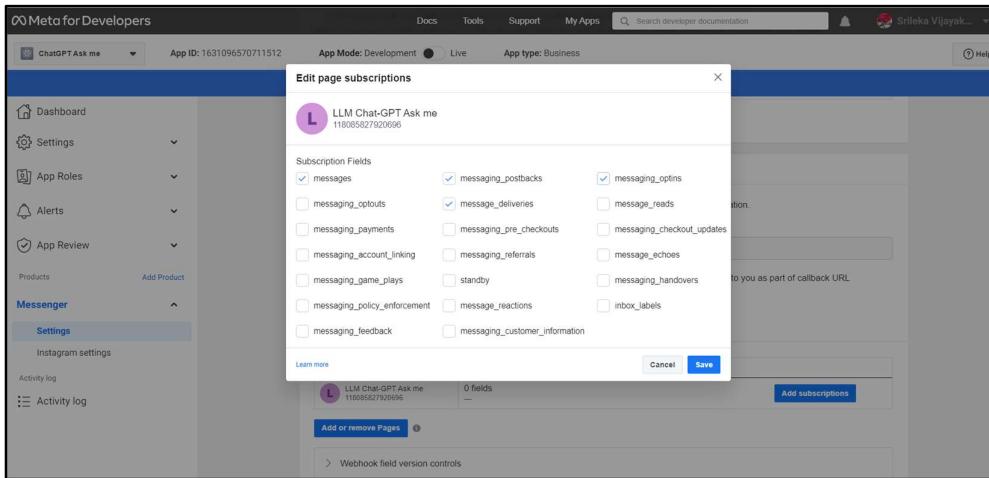
The Callback URL and verify token generated in above Step 12, added to “Webhook” section.

This screenshot shows the 'Edit Callback URL' dialog box overlaid on the Meta for Developers interface. The dialog contains fields for 'Callback URL' (set to <https://facebook.botframework.com/api/v1/bots/task51-customqna-bot>) and 'Verify token' (set to `ADZDwp6Jy7yyEAZBgr63l7DiFvg6a31gc9WzFJv6su4C72WO`). There are 'Cancel' and 'Verify and save' buttons at the bottom. The background shows the 'Messenger' settings page with sections for 'Pages' and 'Webhooks'.

Below is the updated “Webhook” section.

This screenshot shows the 'Webhooks' section of the Meta for Developers interface. It includes fields for 'Callback URL' (<https://facebook.botframework.com/api/v1/bots/task51-customqna-bot>) and 'Verify token' (a redacted string). A red box highlights this section. Below it is a 'Pages' section showing a single page entry: 'LLM Chat-GPT Ask me' with ID '110085827920696'. At the bottom are 'Add or remove Pages' and 'Add subscriptions' buttons.

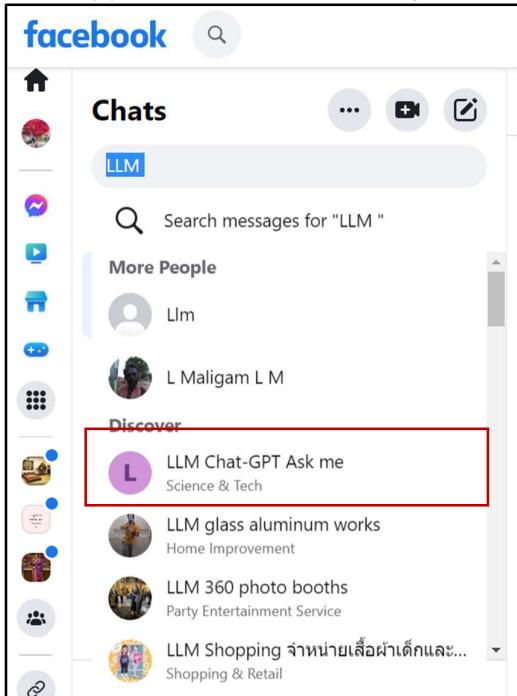
Once the webhook is added, by clicking “Add subscription” button, below po-up window is opened. In which the below options are selected in order to pass the message to the bot and receive back response from the bot, when messaging in the Facebook Page messenger.



All set up are completed with this step.

#### Step 14: Testing in Facebook Messenger

From my personal account, searching the Facebook page “LLM Chat-GPT Ask me”.



**facebook**

Chats

LLM Chat-GPT Ask me

11:11 AM

Hi

Welcome to the QnA Maker sample! Ask me a question and I will try to answer it.

Hello.

good morning

Good morning.

would like to learn about chatGPT

ChatGPT is an AI-powered tool that allows you to communicate with chatbots in a human-like way and has many other features

Profile Mute Search

Customize chat

Media, files and links

Privacy & support

Try Messenger for Windows

This screenshot shows a Facebook Messenger conversation with a bot named 'LLM Chat-GPT Ask me'. The bot has a purple profile picture with a white 'L' on it. The user says 'Hi', and the bot responds with a welcome message: 'Welcome to the QnA Maker sample! Ask me a question and I will try to answer it.' The user then says 'Hello.', and the bot replies with 'good morning'. The user says 'Good morning.', and the bot replies with 'would like to learn about chatGPT'. The bot then provides a detailed explanation of what ChatGPT is. On the right side of the screen, there are various settings and links for the chat, including 'Profile', 'Mute', 'Search', 'Customize chat', 'Media, files and links', and 'Privacy & support'. At the bottom, there are icons for 'Try Messenger for Windows' and some message input options.

**facebook**

Chats

LLM Chat-GPT Ask me

is chatGPT free?

Yes, ChatGPT is currently free to use. But OpenAI will release pricing and plans for this chatbot very soon.

who found chatGPT?

Did you mean:

Who owns ChatGPT?

who is the...

None of the above.

OpenAI

who owns chatGPT?

Profile Mute Search

Customize chat

Media, files and links

Privacy & support

Try Messenger for Windows

This screenshot continues the Facebook Messenger conversation with the same bot. The user asks 'is chatGPT free?', and the bot replies that it is currently free but will have pricing soon. The user then asks 'who found chatGPT?', and the bot lists several possibilities: 'Did you mean:', 'Who owns ChatGPT?', 'who is the...', and 'None of the above.'. The user then types 'OpenAI', and the bot replies with 'who owns chatGPT?'. On the right side of the screen, there are various settings and links for the chat, including 'Profile', 'Mute', 'Search', 'Customize chat', 'Media, files and links', and 'Privacy & support'. At the bottom, there are icons for 'Try Messenger for Windows' and some message input options.

**facebook**

Chats

LLM Chat-GPT Ask me

is chatGPT safe to use?

Yes, it is safe to use ChatGPT until and unless you do some evil things using this chatbot.

No answer found

is it free?

Yes, ChatGPT is currently free to use. But OpenAI will release pricing and plans for this chatbot very soon.

who founded chatGPT?

Elon Musk, Sam Altman, Peter Thiel, OpenAI chief scientist Ilya Sutskever, Jessica Livingston, and LinkedIn cofounder Reid Hoffman

Customize chat

Media, files and links

Privacy & support

Profile Mute Search

Try Messenger for Windows

This screenshot shows a Facebook Messenger chat window. The user has sent messages asking if ChatGPT is safe to use, if it's free, and who founded it. The bot has responded with information about its safety, noting it's free at the moment but will have pricing soon, and that it was founded by Elon Musk, Sam Altman, Peter Thiel, OpenAI chief scientist Ilya Sutskever, Jessica Livingston, and LinkedIn cofounder Reid Hoffman.

**facebook**

Chats

LLM Chat-GPT Ask me

are you human?

I'm digital. In other words, I'm not human.

what do you know about chatGPT?

Did you mean:

What are...

Have you met Alexa?

None of the above.

Have you met Alexa?

I've heard of other bots, but I haven't met any.

Customize chat

Media, files and links

Privacy & support

Profile Mute Search

Try Messenger for Windows

This screenshot shows a continuation of the Facebook Messenger conversation. The user asks if the bot is human, and it responds that it is digital. The user then asks what it knows about ChatGPT. The bot lists several options for what the user might mean, including "What are..." and "Have you met Alexa?". The user then asks if it has met Alexa, and the bot responds that it hasn't met any other bots either.

**facebook**

Chats

LLM Chat-GPT Ask me

Limitations

OpenAI acknowledges that ChatGPT "sometimes writes plausible-sounding but incorrect or nonsensical answers". [7] #cite\_note-OpenAIInfo-8 This behavior is common to large language models [https://en.wikipedia.org/wiki/Language\\_model](https://en.wikipedia.org/wiki/Language_model) and is called "hallucination" [https://en.wikipedia.org/wiki/Artificial\\_intelligence\\_hallucination](https://en.wikipedia.org/wiki/Artificial_intelligence_hallucination). [25] #cite\_note-26 The reward model of ChatGPT, designed around human oversight, can be over-optimized and thus hinder performance, in an example of an optimization pathology known as Goodhart's law [https://en.wikipedia.org/wiki/Goodhart%27s\\_law](https://en.wikipedia.org/wiki/Goodhart%27s_law). [26] #cite\_note-27 ChatGPT has limited knowledge of events that occurred

Customize chat

Media, files and links

Privacy & support

Profile Mute Search

This screenshot shows a continuation of the Facebook Messenger conversation. The user asks about the bot's limitations. The bot responds with a detailed explanation, mentioning that OpenAI acknowledges that ChatGPT sometimes writes plausible-sounding but incorrect or nonsensical answers, which is common to large language models. It also mentions that the reward model of ChatGPT can be over-optimized and hinder performance, an example of an optimization pathology known as Goodhart's law. The bot concludes by stating that it has limited knowledge of events that occurred.

As shown above the Facebook messenger was able to successfully send messages to the bot that was created and receive back the response. As shown above the messages are good and interesting. This concludes that the bot is successfully integrated with the Facebook page messenger.

**References:**

- [1] GreatLearning study material. Week 5 Language Understanding – Chatbots on Azure
- [2] Source URL for bot - Available at: <https://www.theinsaneapp.com/2022/12/chatgpt-questions-and-answers.html>
- [3] Source URL for bot - Available at: <https://en.wikipedia.org/wiki/ChatGPT>