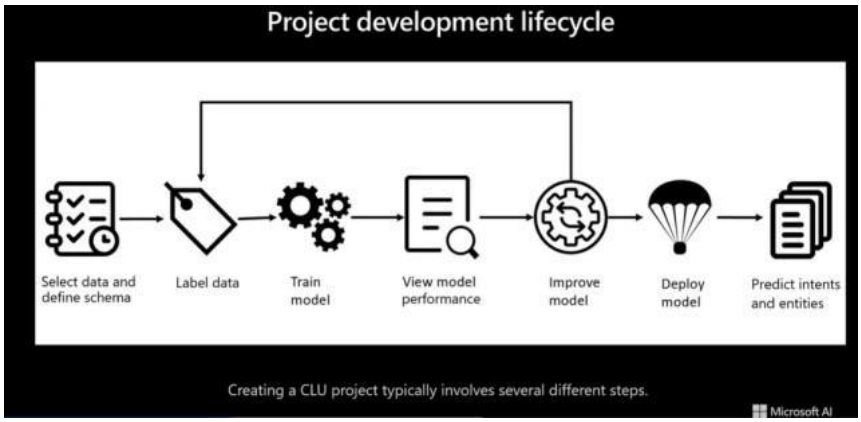
LUIS and QnA Maker

Domain: The domain selected is the **FAQ sheets** on various topics viz., UNDP (United Nations Development Program), Covid-19, WHO (World Health Organization) and Chit-Chat. The application is a **Custom QnA bot** that answers user's queries from the knowledge base.

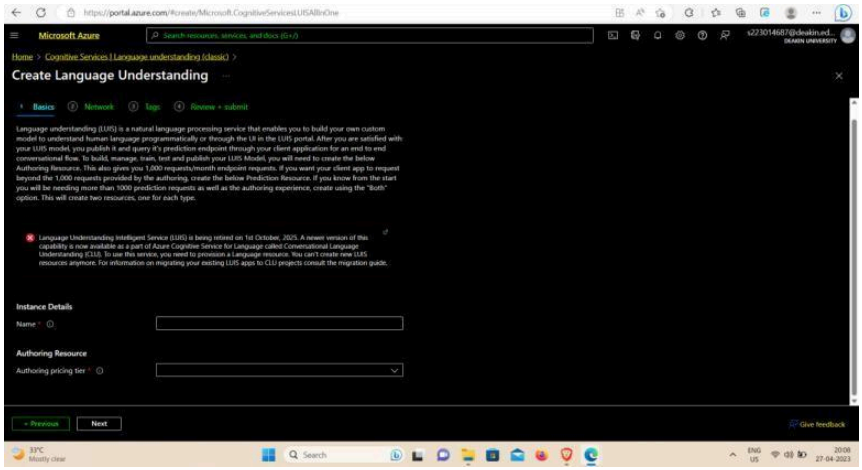
Methodology in Azure ML to design Custom QnA:

Microsoft Azure CLU: Conversational Language Understanding (CLU) is one of the custom features of Azure Cognitive services for Language. It is a cloud-based API service, which applies Machine Learning Intelligence to build custom NLU models and predict overall intention. It extracts information from the input data and generates the knowledge base, which is deployed. The bot performs action based on the extracted information and intention. CLU is widely used in end-to-end conversational bots, enterprise chat bots, human assistant bots and command and control applications [1].

CLU project development has the following steps:

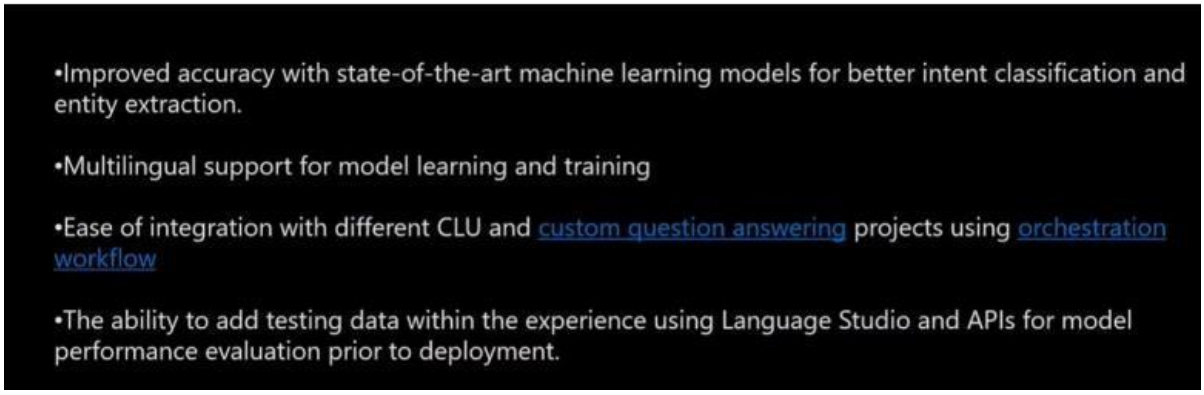


LUIS: Language Understanding Intelligence Service Language understanding (LUIS) is a natural language processing service that enables you to build your own custom model to understand human language programmatically or through the UI in the LUIS portal [1].



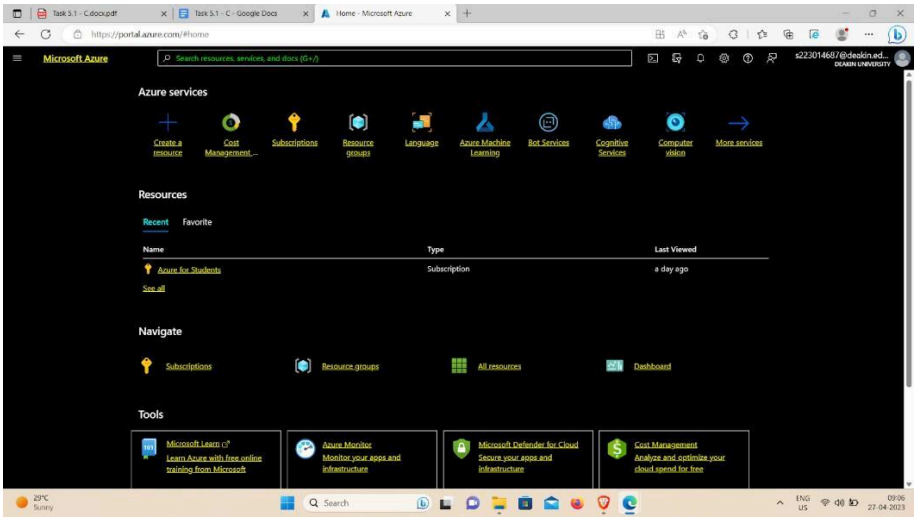
LUIS resources cannot be created from April 1, 2023.

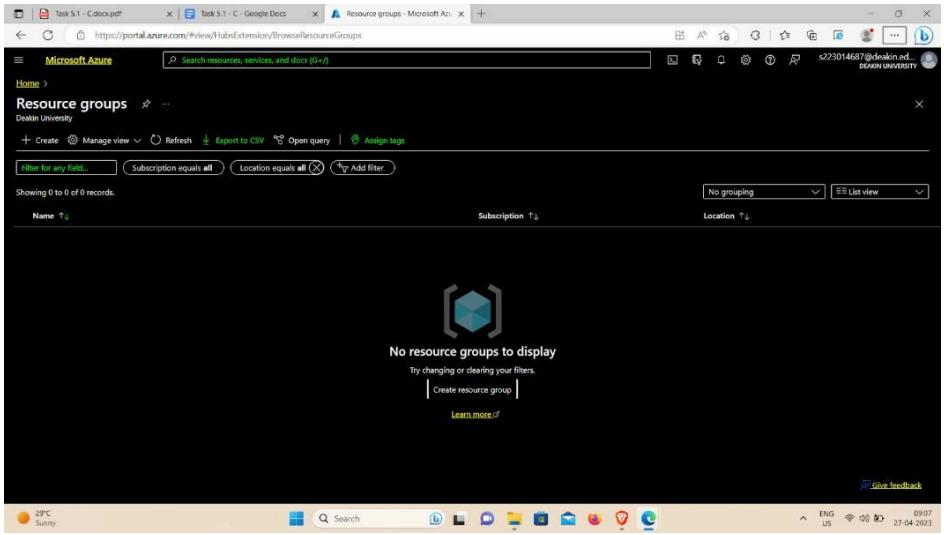
Advantages of CLU over LUIS:



Steps to Design Custom Question Answering Bot using Azure ML and Language Studio:

1. Create a resource group – **dssena_230146867** in central India region.

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Home >
Resource groups
Deakin University
Create
Manage view
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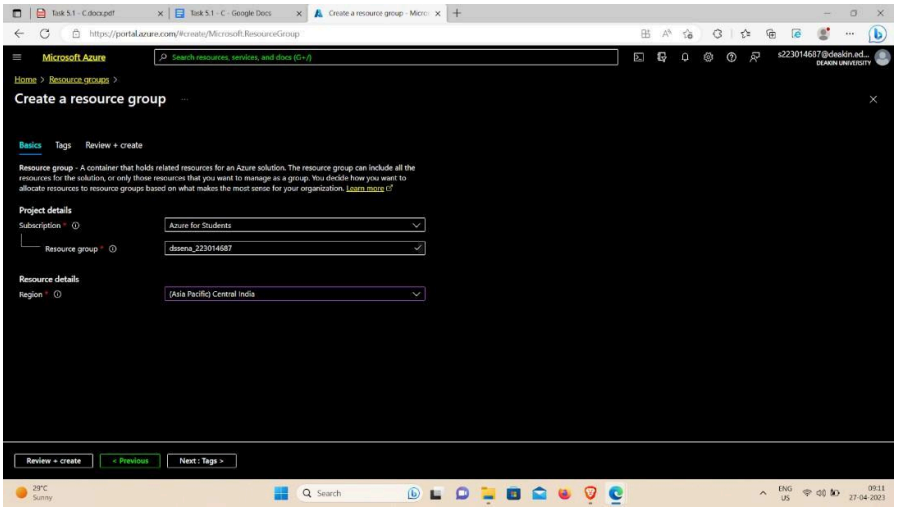
Export to CSV
Open query
Assign tags
Filter for any field...
Subscription equals all
Location equals all
Add filter
Showing 0 to 0 of 0 records.
No grouping
List view
Name
Subscription
Location
No resource groups to display
Try changing or clearing your filters.
Create resource group
Learn more
Give feedback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Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Learn more
Project details
Subscription *
Azure for Students
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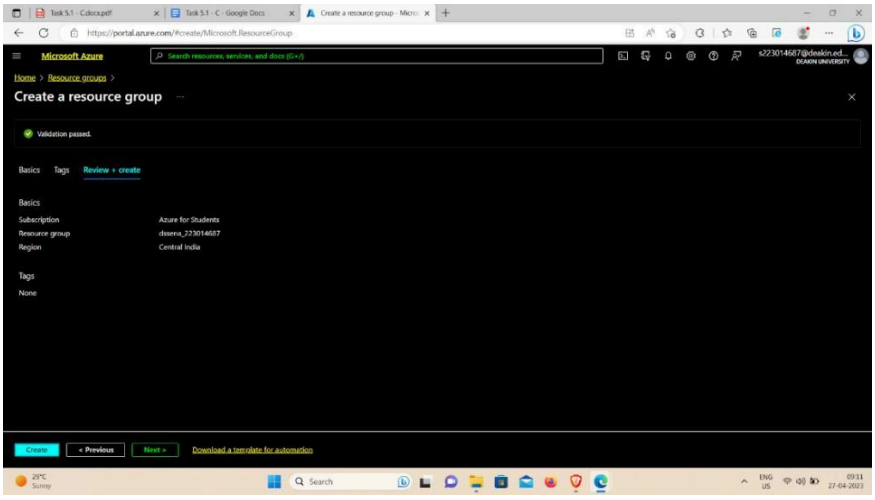
Microsoft Azure
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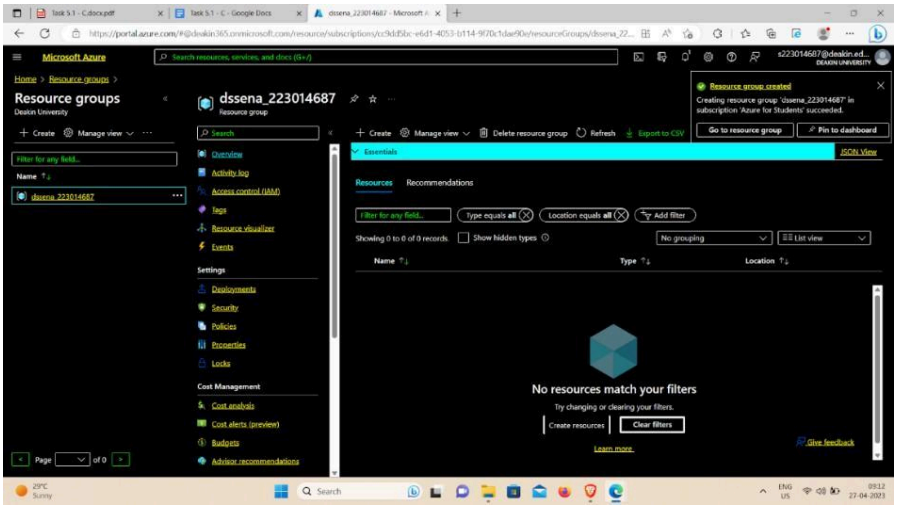
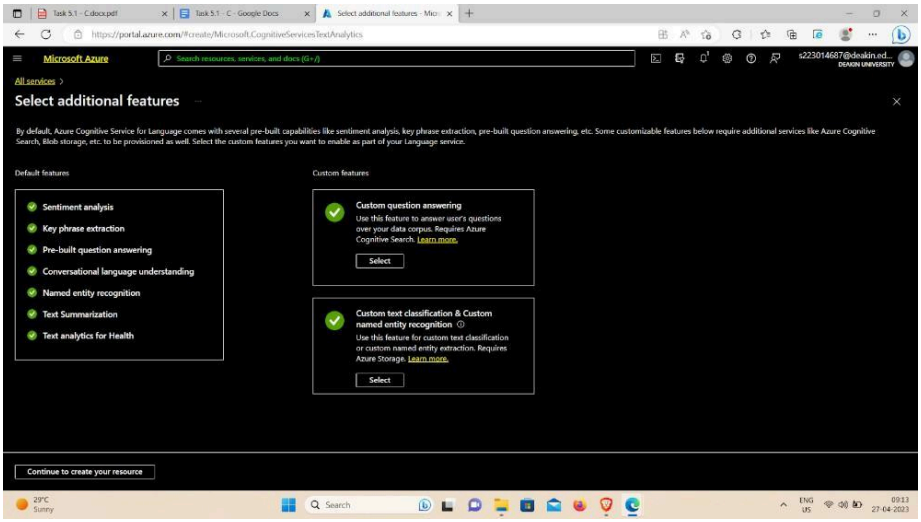
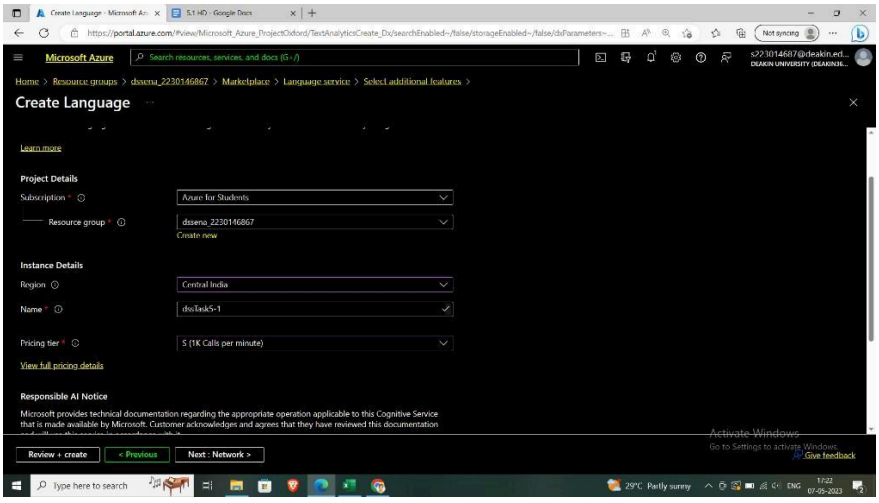
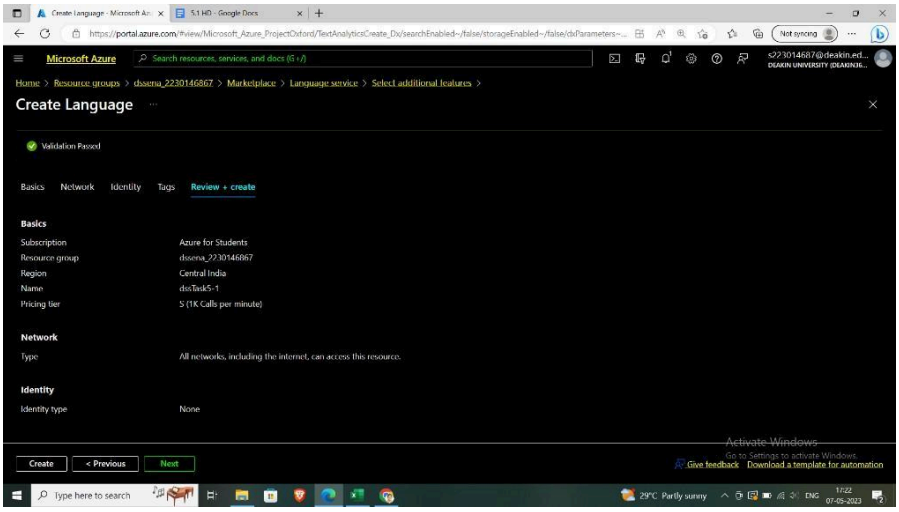
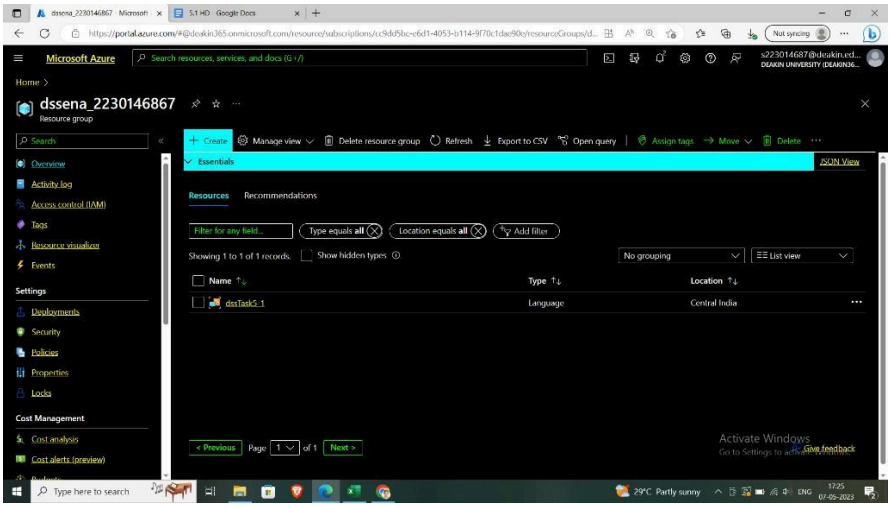


2. Create a language service - '**dssTask5-1**' in this resource group [1].

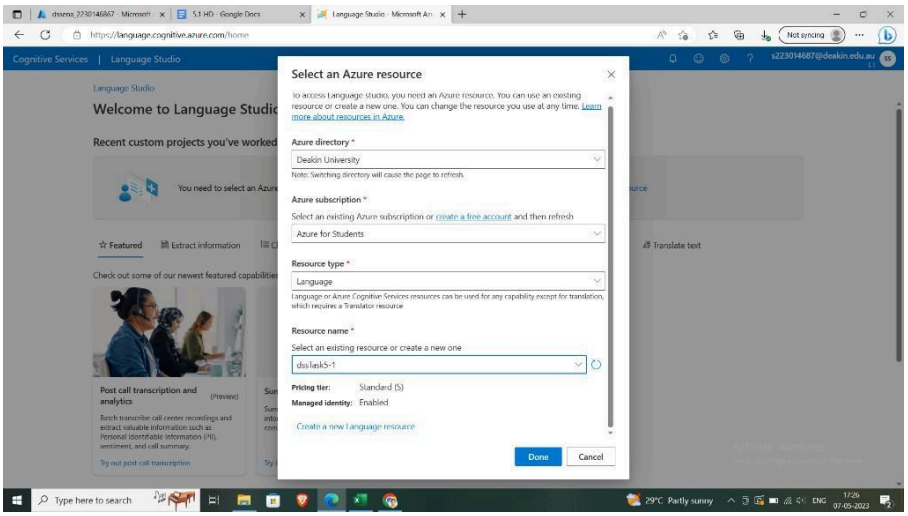




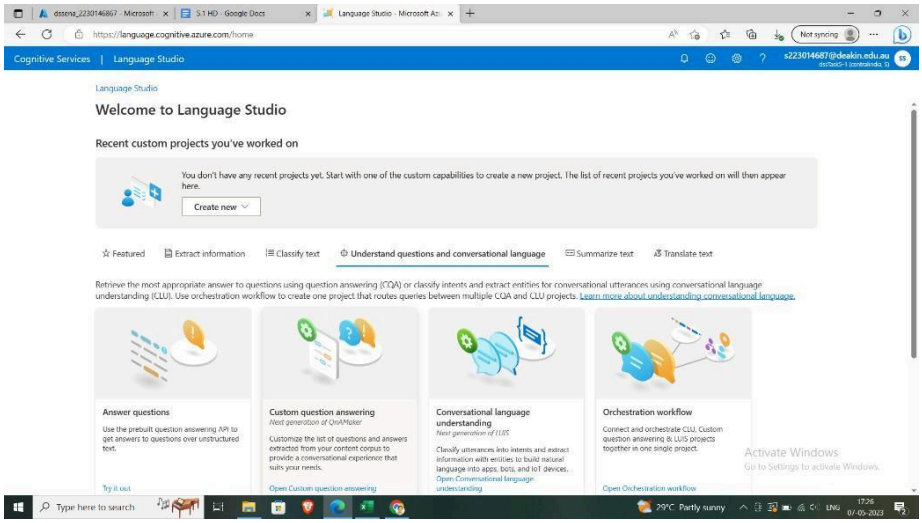


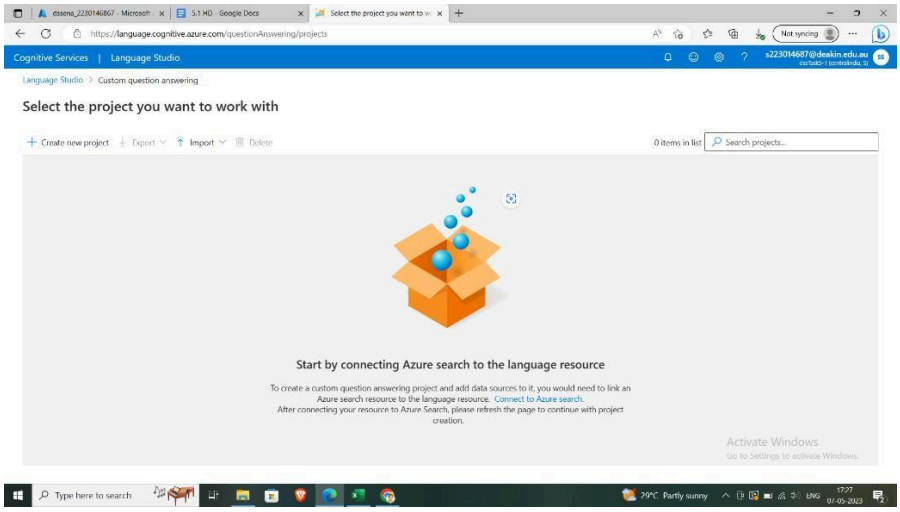


3. Sign into the Language studio and create an Azure resource. The Azure Resource is automatically selected as dssTask5-1.

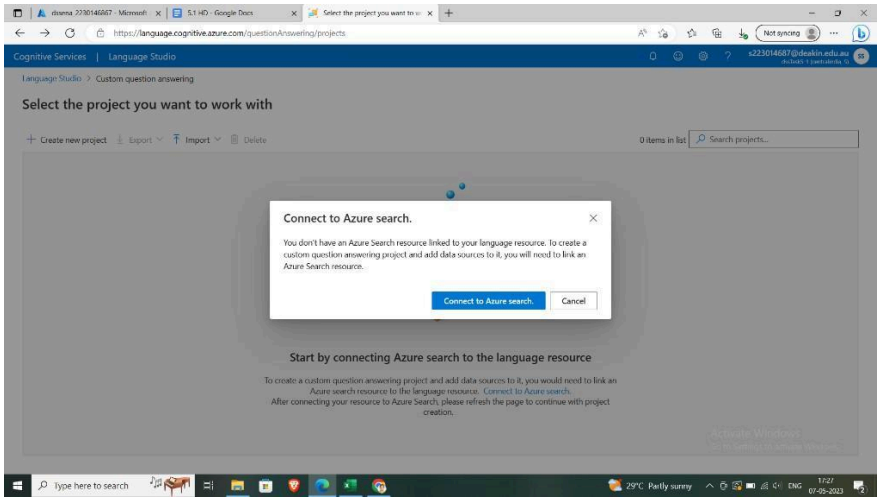


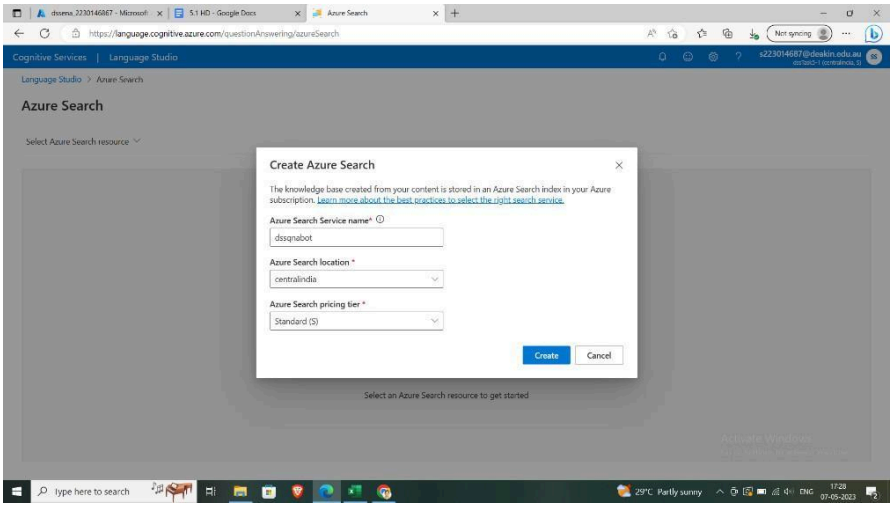
4. Click on Language studio. Then select Understand Questions and Conversational Language. Then select custom Question Answering.

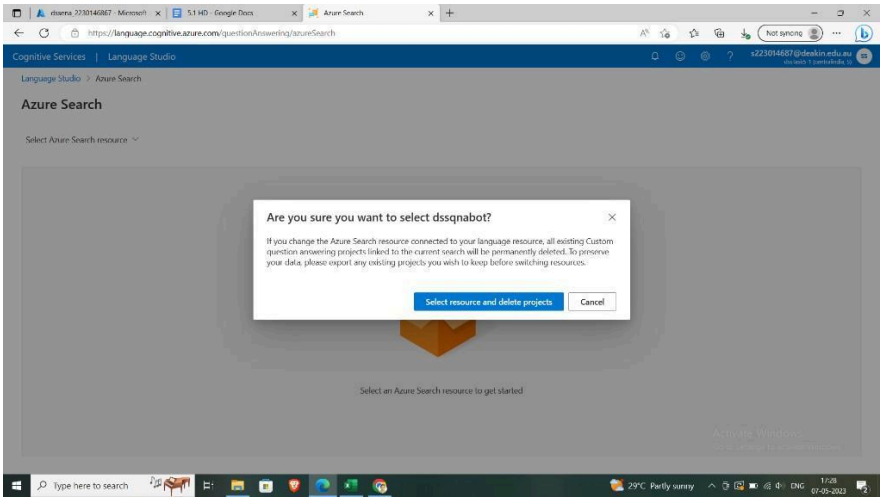


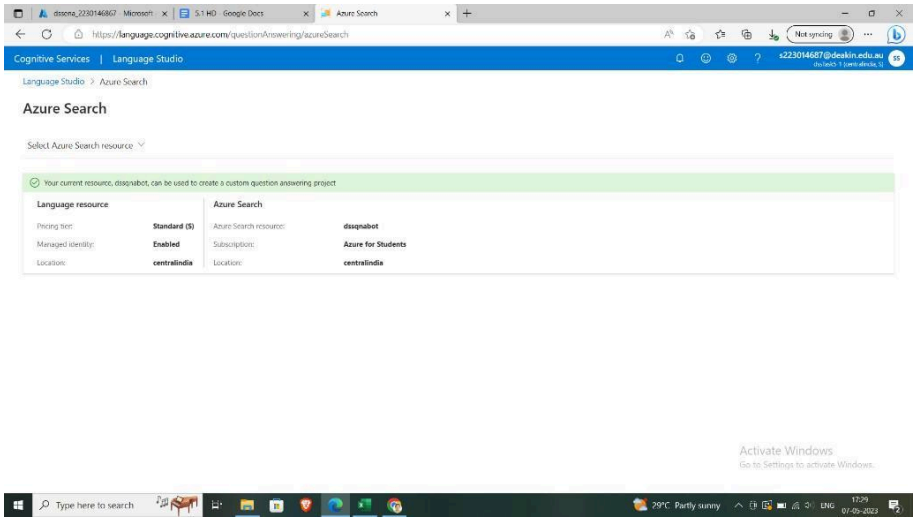


5. Click on Create New Project and select 'create Azure Search' to create a new Azure Search resource – '**dssqnabot**'.

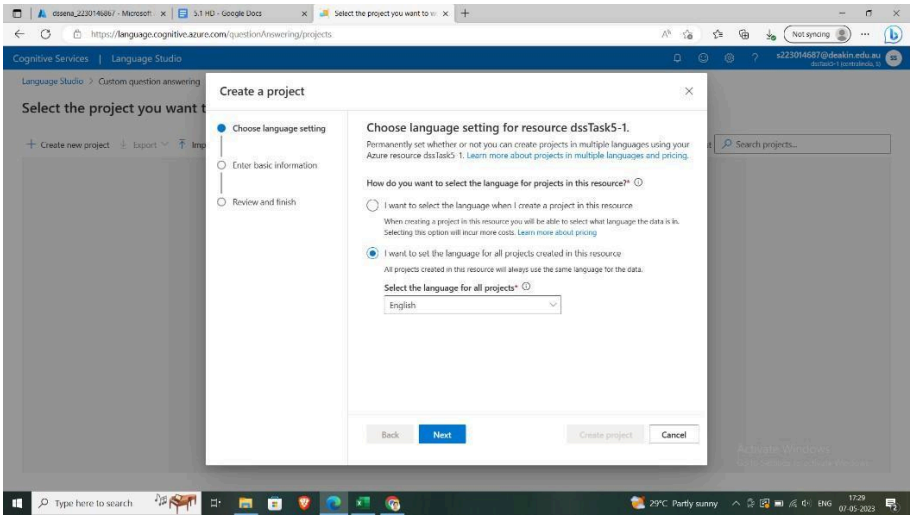


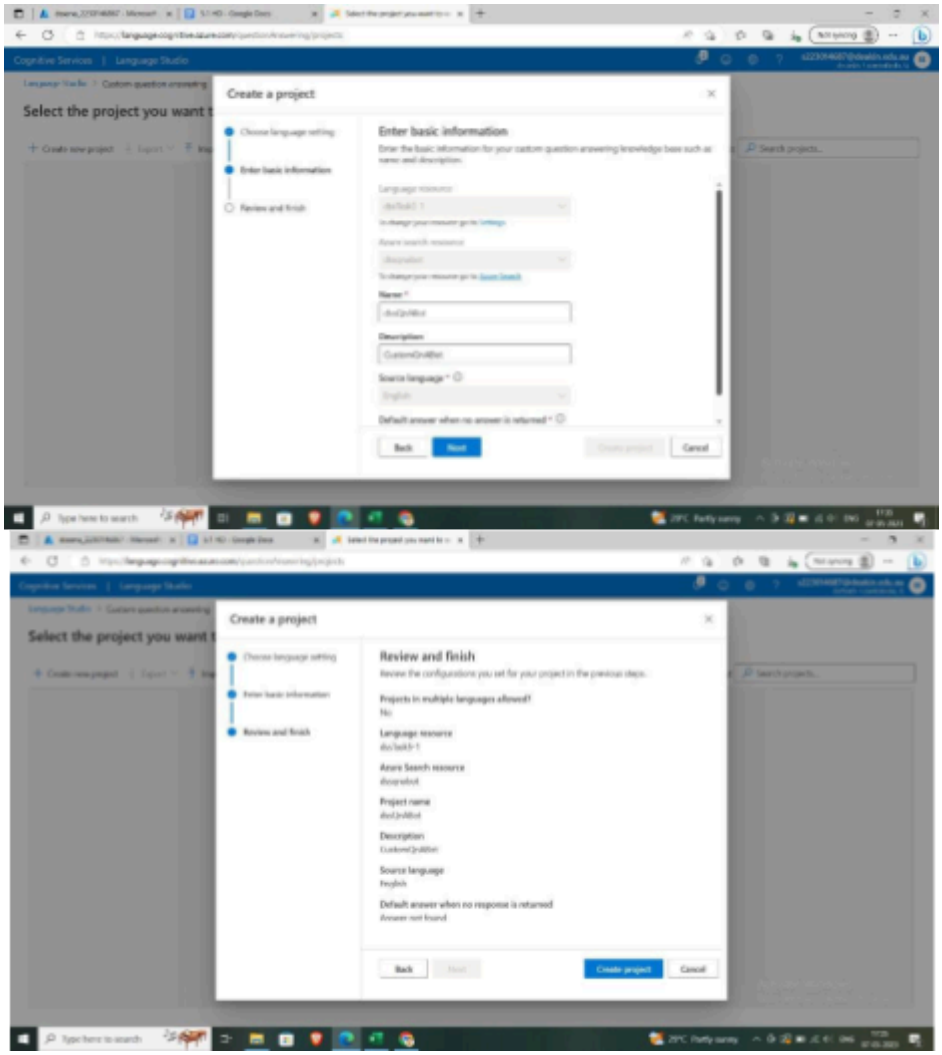






6. Create a new project with the name **dssQnABot**.

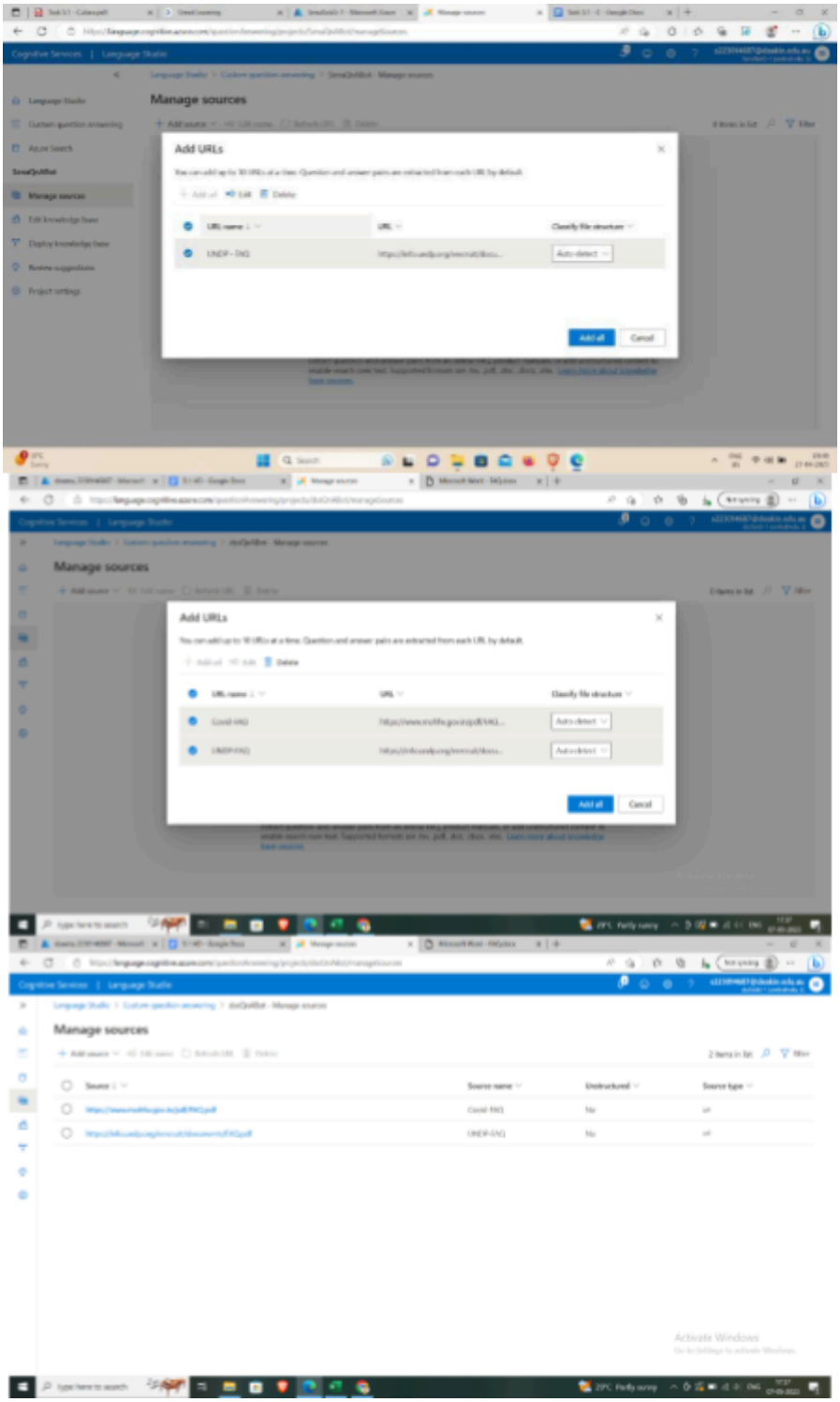


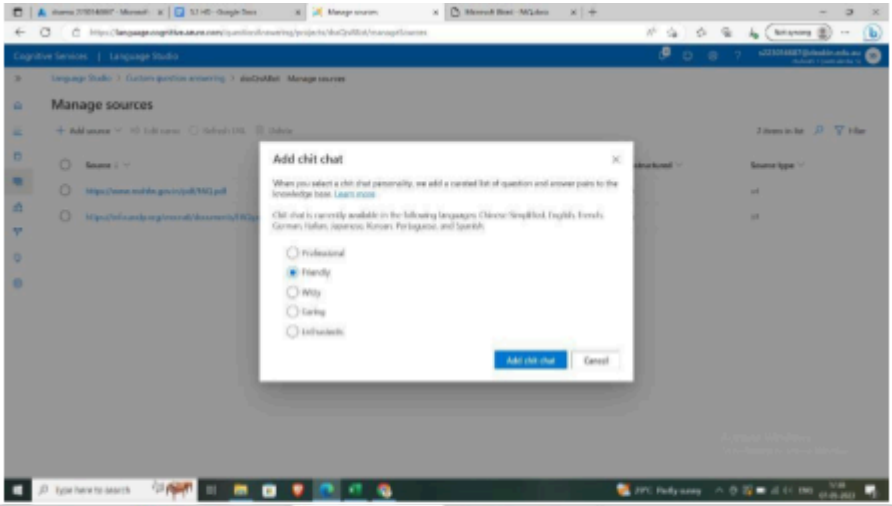


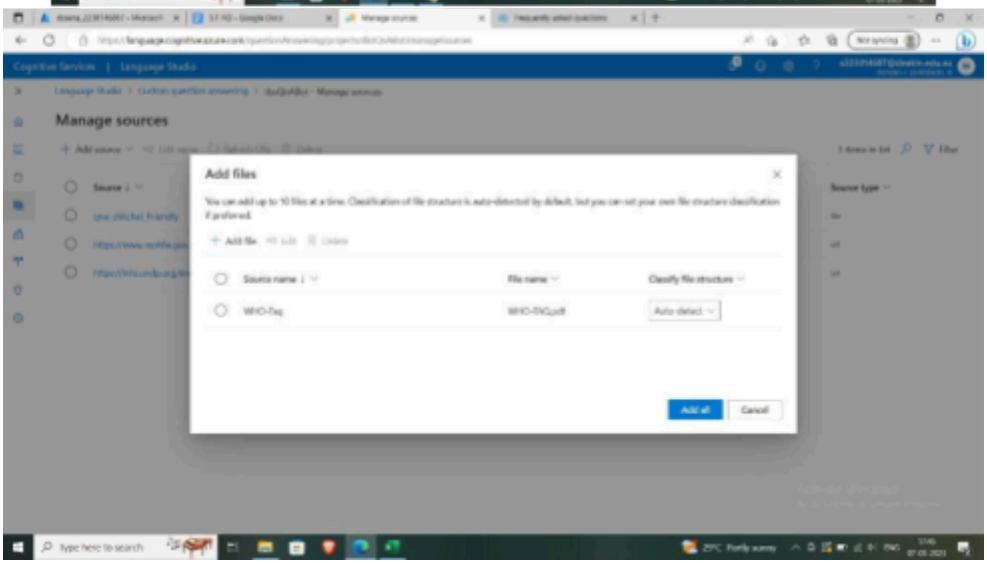
7. Add sources to the knowledge base in the project. The knowledge base sources may be Files, URLs, or Chitchat, either in structured or unstructured format. The sources are added from structured Web URLs and Friendly chitchat, which are as follows:

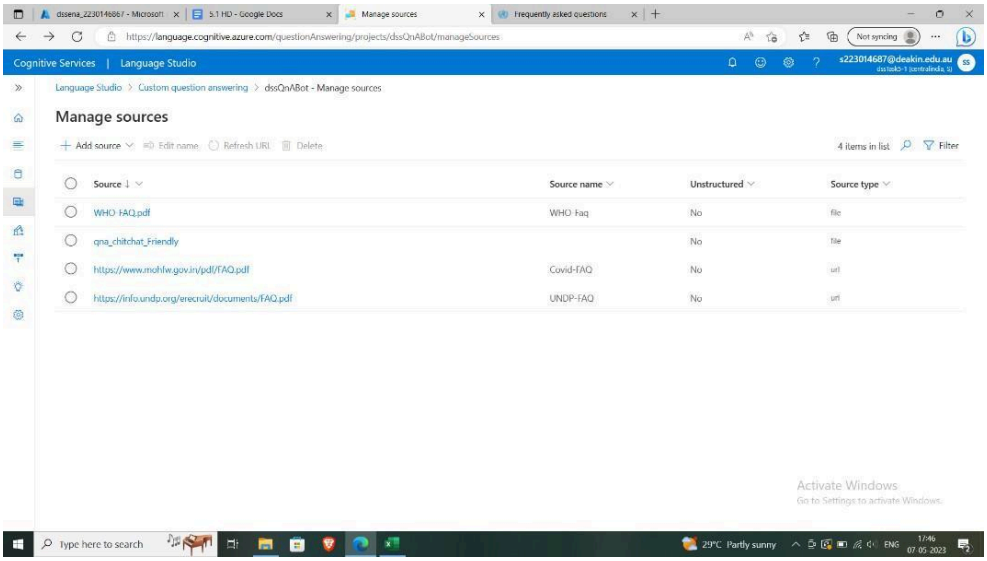
i. https://info.undp.org/erecruit/documents/FAQ.pdf
ii. https://www.mohfw.gov.in/pdf/FAQ.pdf

iii. Friendly chit-chat as file
iv. WHO-FAQ.pdf as file



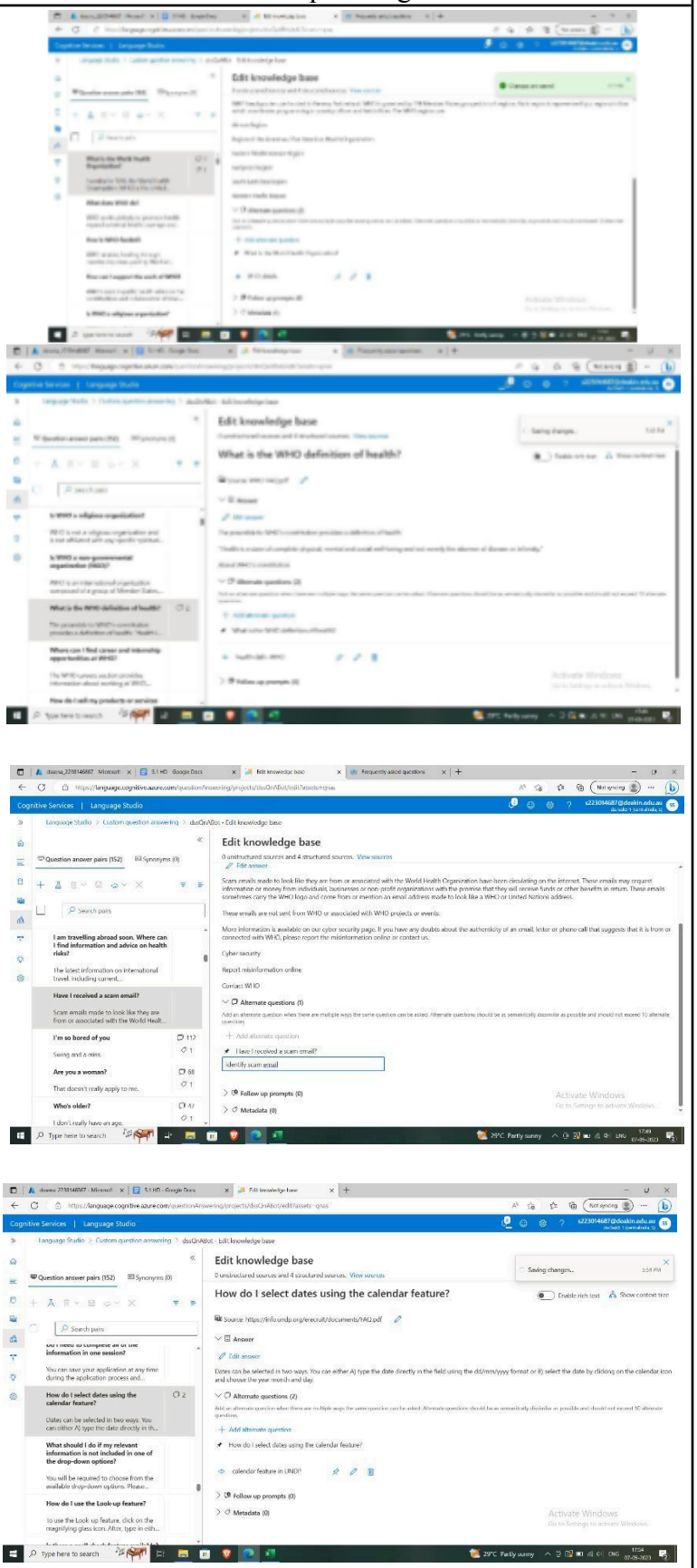


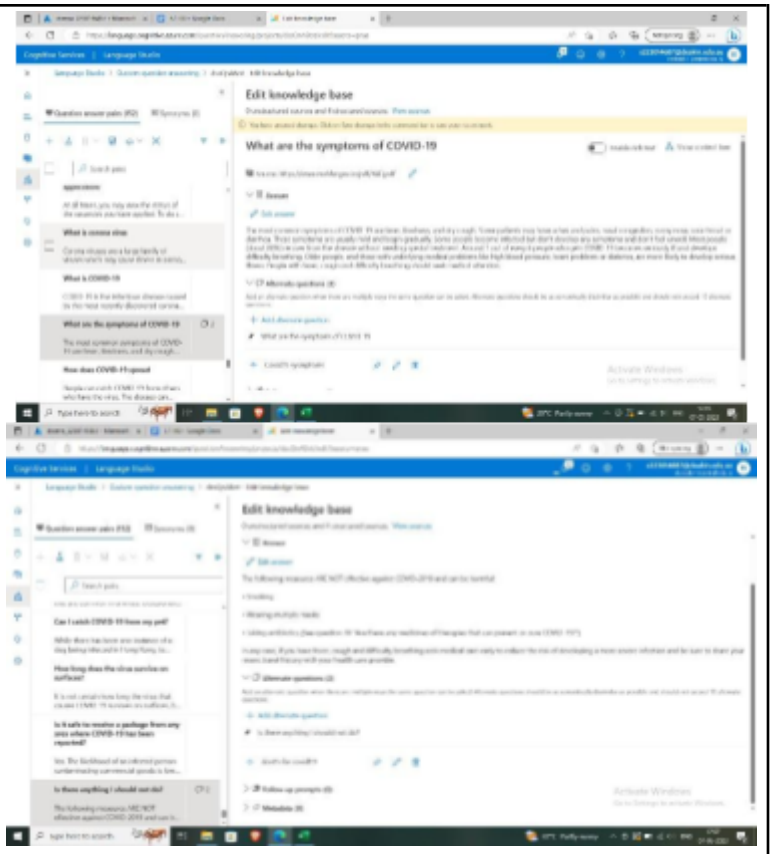
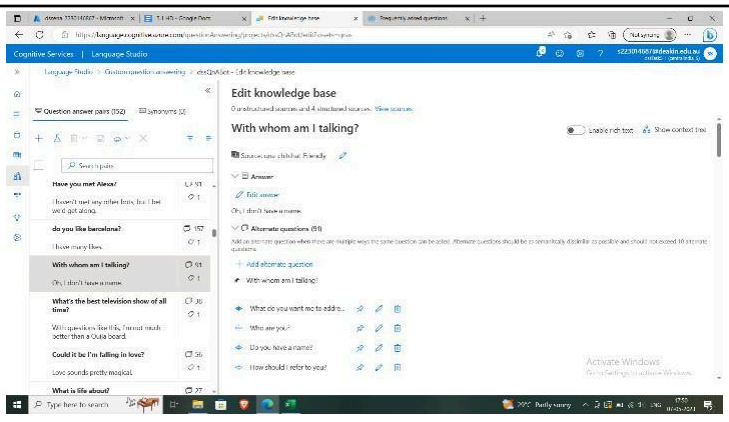


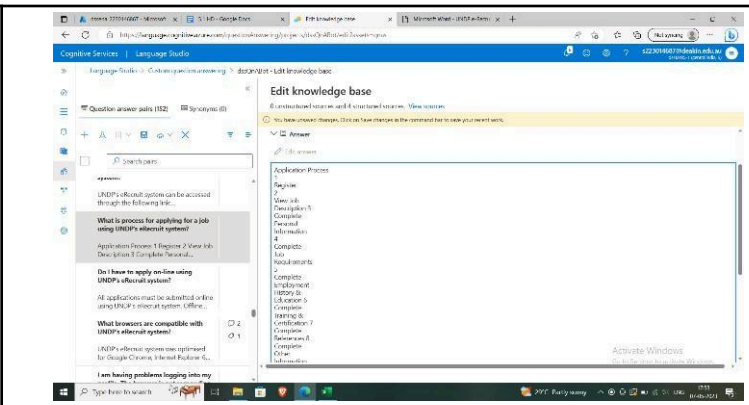


The Knowledge Base comprises of **152** Question-Answer Pairs. These Question Answer pairs can be edited and saved.

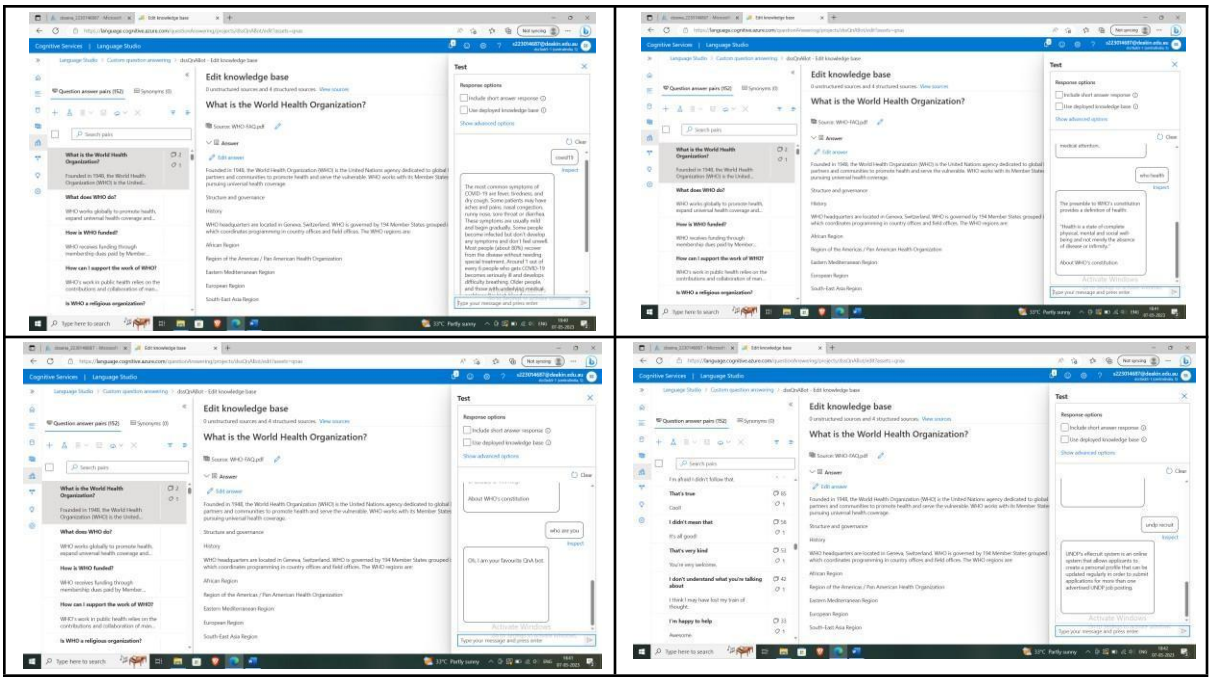
Edit the Question-answer pairs in Knowledge base as follows.

Method	Example Images
Edit Questions by adding alternate questions	

	
Edit Answers in knowledge base	

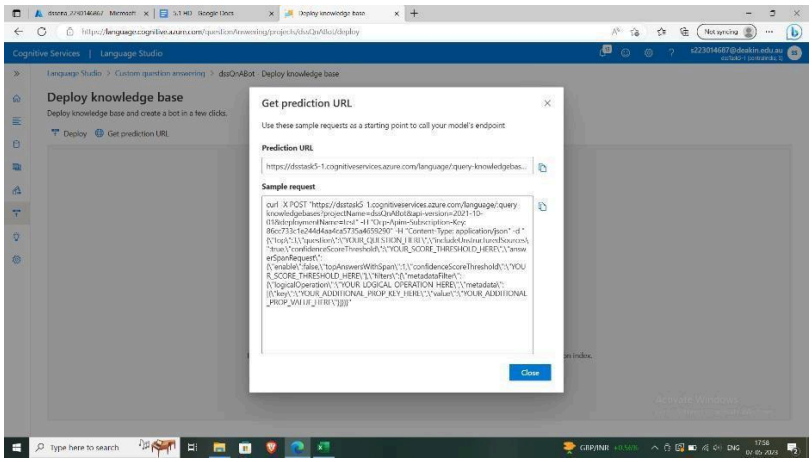


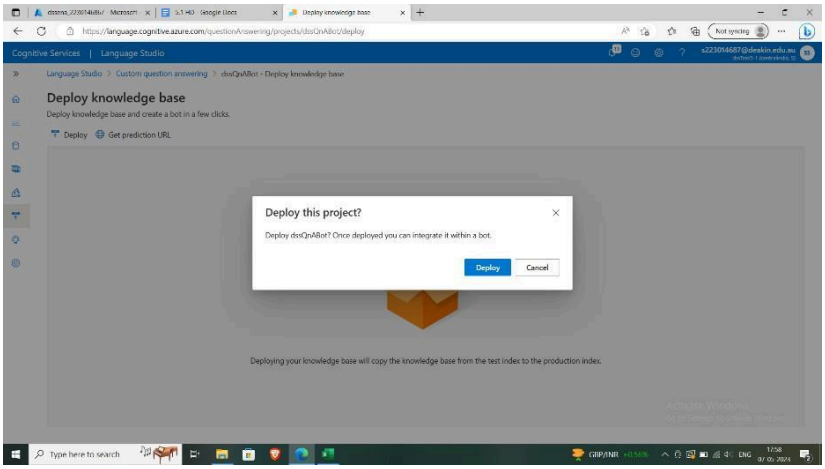
8. Test the knowledge base. The test results are shown in following images.

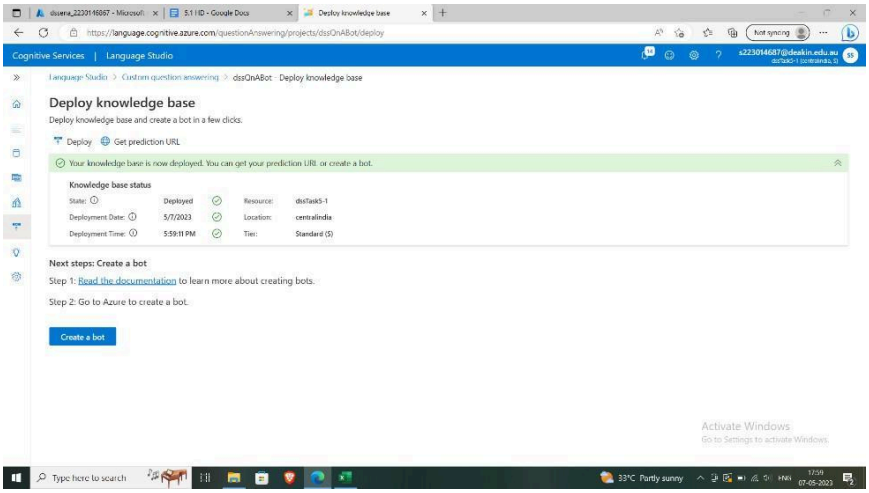


The knowledge base is saved successfully as all the results are same to answers in QnA pairs.

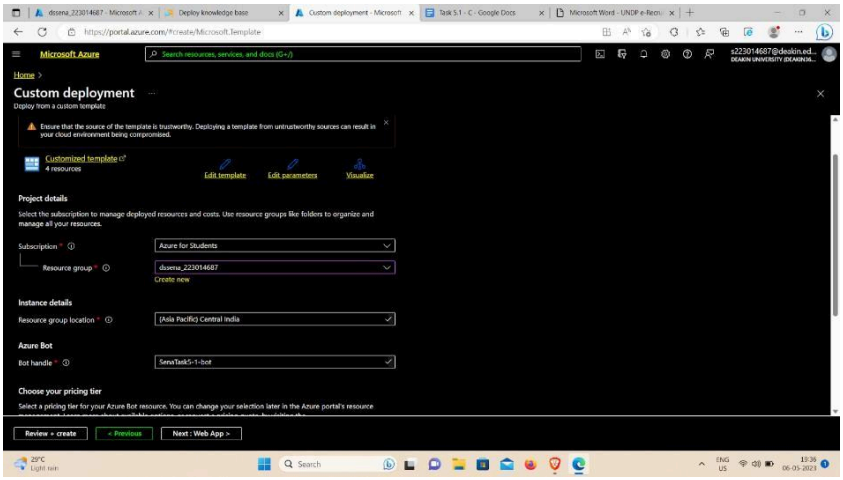
9. Deploy the knowledge base. Get the Prediction URL.



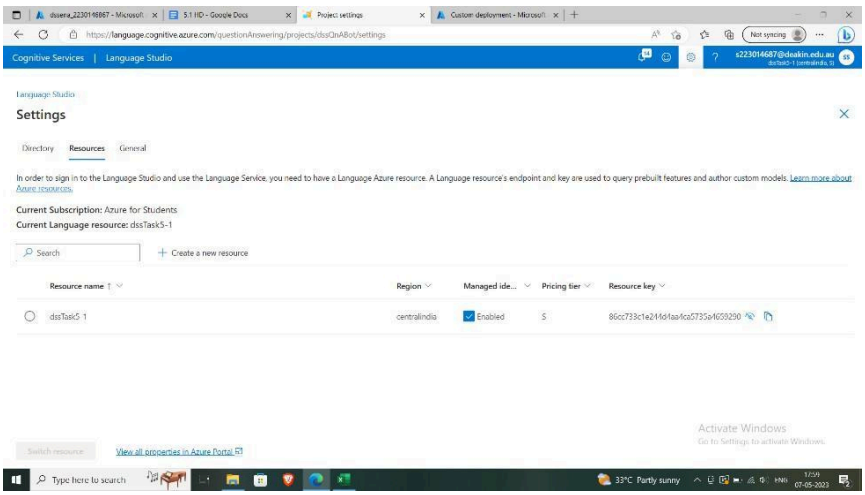


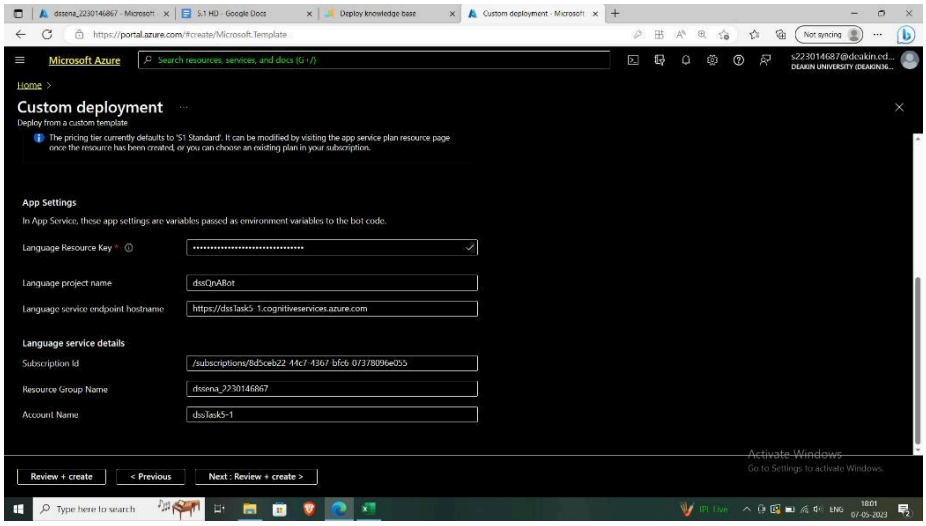


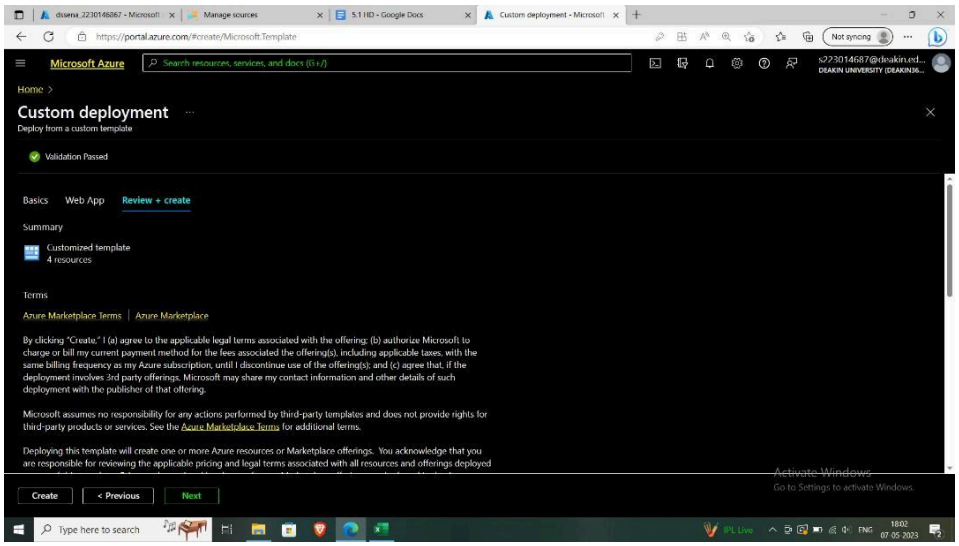
10. Click on Create a Bot which pops up the custom deployment in Azure Portal.



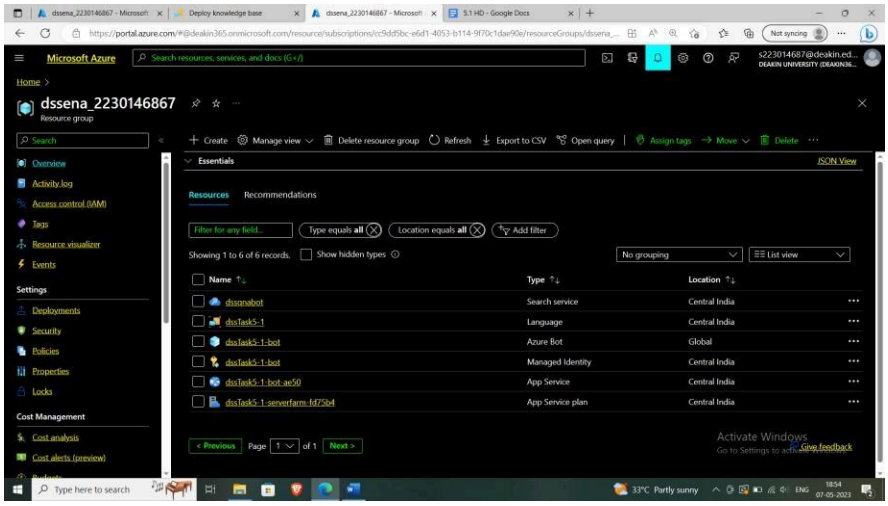
Specify the Language Resource Key which is available in Language Studio settings.



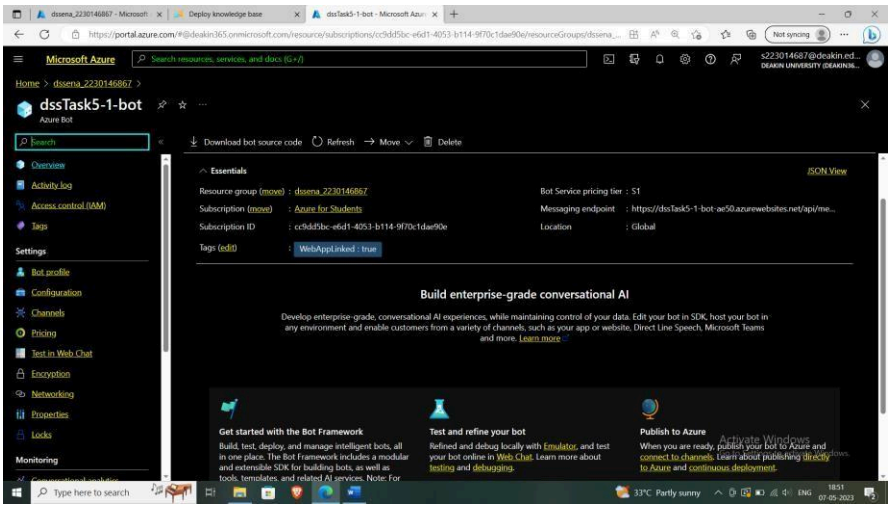


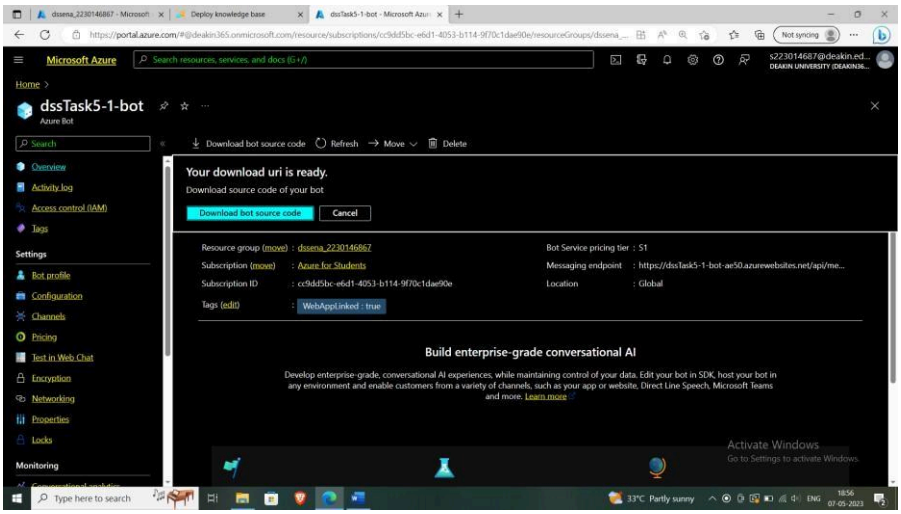


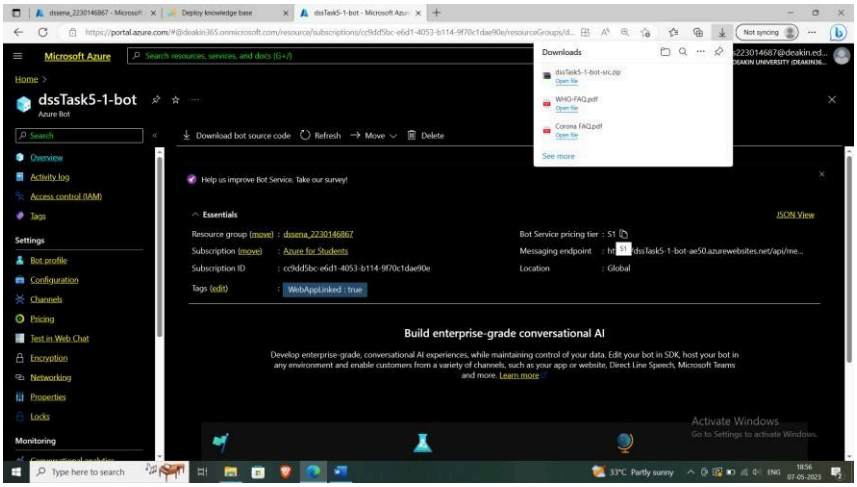
Click on the 'Create' button and the bot will be deployed.



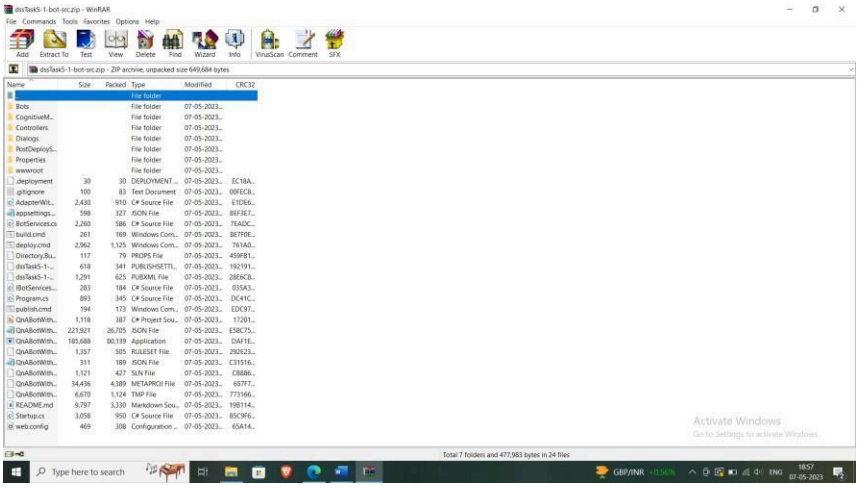
11. Bot is created. Click in Azure Bot and then download the bot source code. Test the bot in web chat [1].







The zip file has the following files and folders.



Test the bot using Test in Web Chat. The webchat works even for ‘alternate Questions’ and provides the edited answers too.

Type in some questions and the bot provides answers. For example, User

Question: “who health defn.”

Sent at May 7 at 6:57 PM
Just now

Bot said: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” 1 attachment.

Bot said:

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

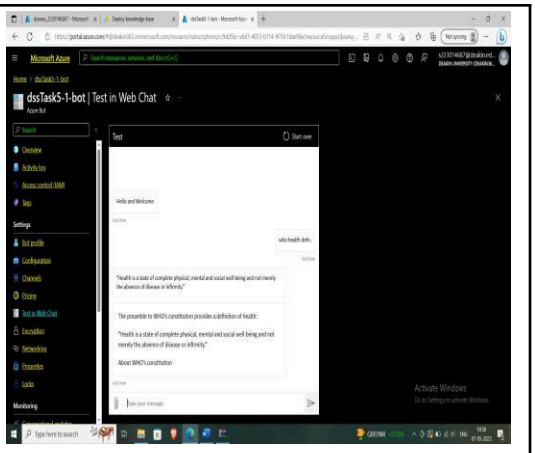
Bot attached:

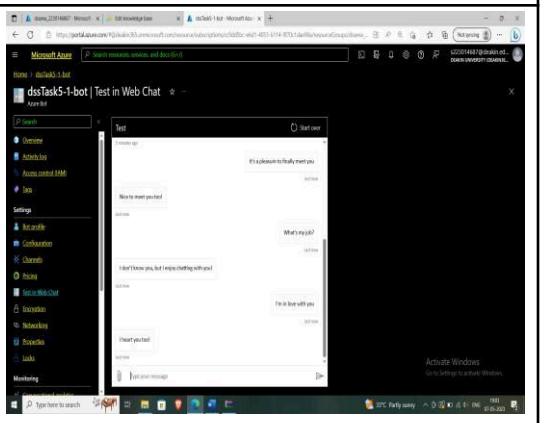
The preamble to WHO’s constitution provides a definition of health:

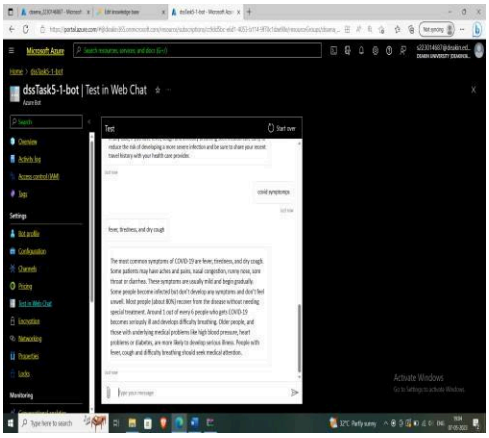
“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” About

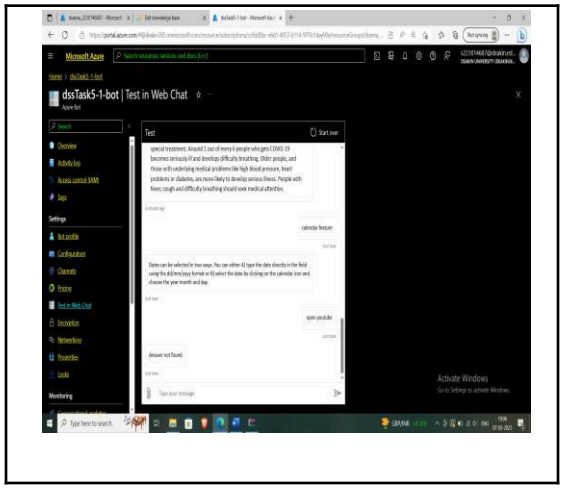
WHO’s constitution

The following are some results obtained from Test in web chat.

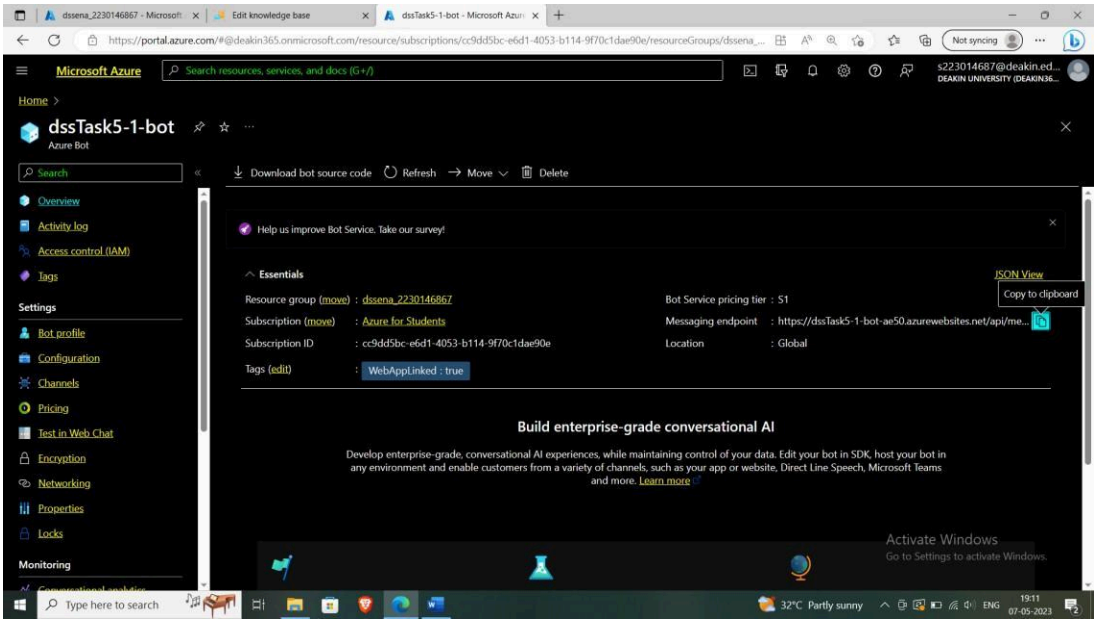




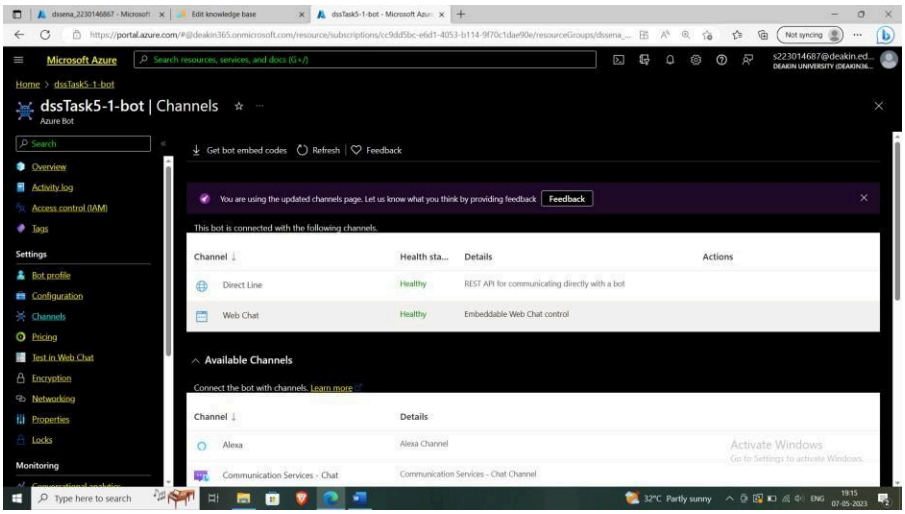




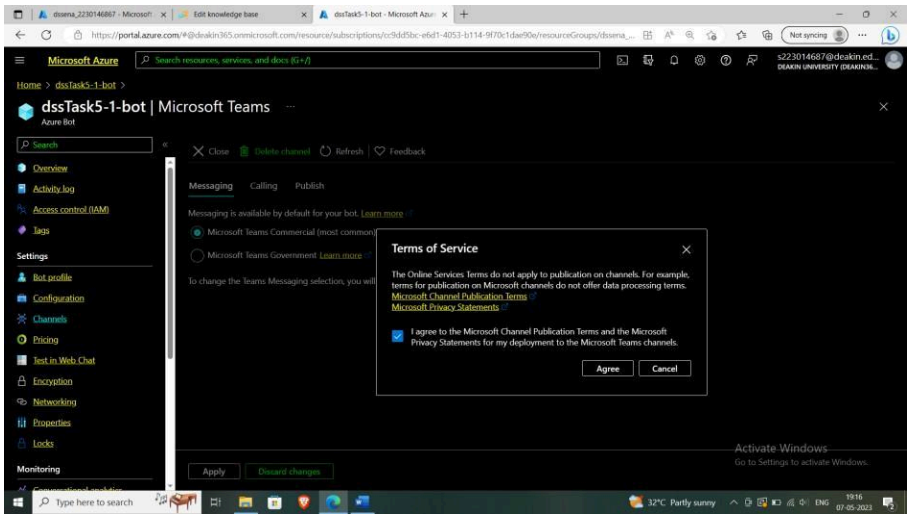
12. Select the ‘Connect to Channels’ button under Publish to Azure. The messaging endpoint is **https://dssTask5-1-bot-ae50.azurewebsites.net/api/messages**

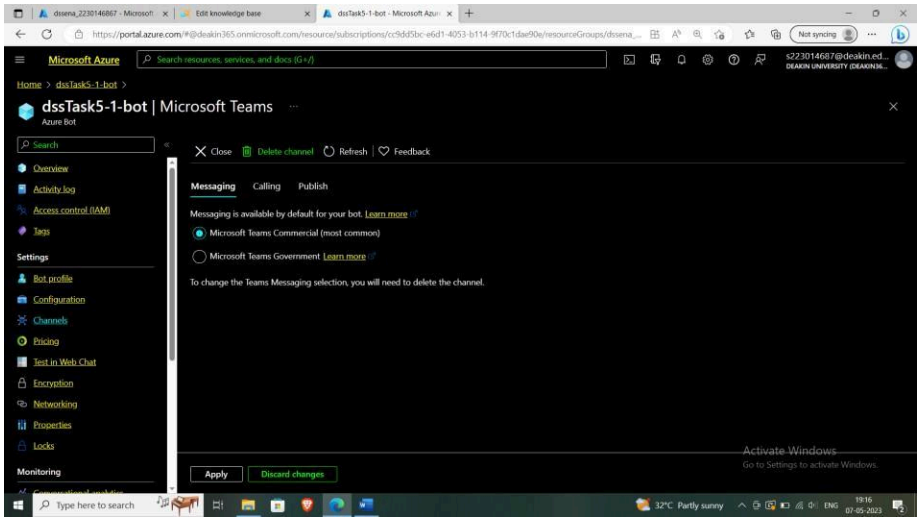


13. Click on channels. Then, publish the bot to Microsoft Teams Channel [1].

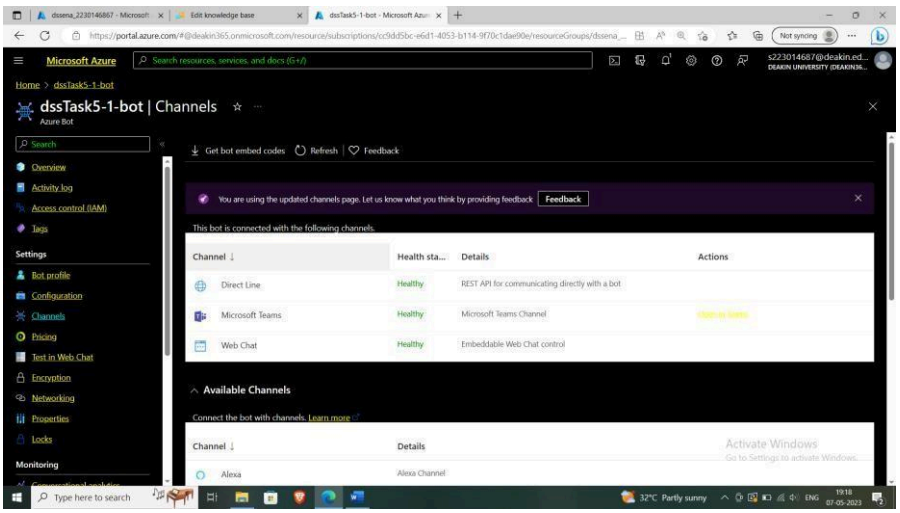


Agree to the Microsoft Teams Terms of Service to publish the bot.

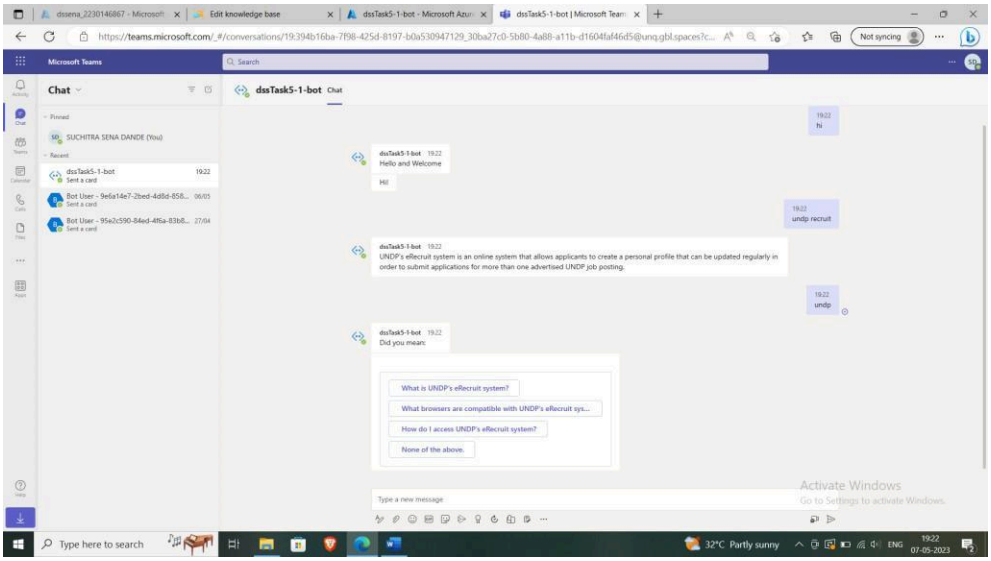


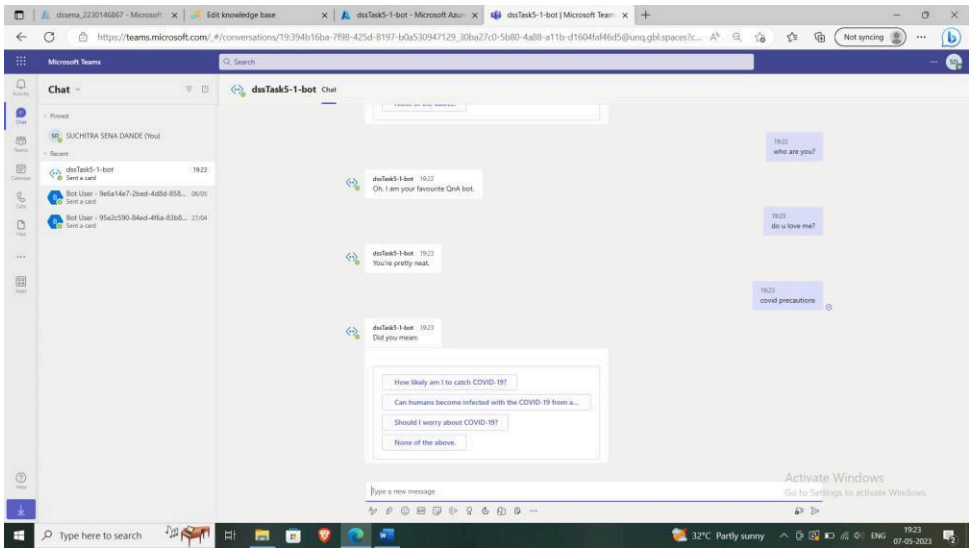


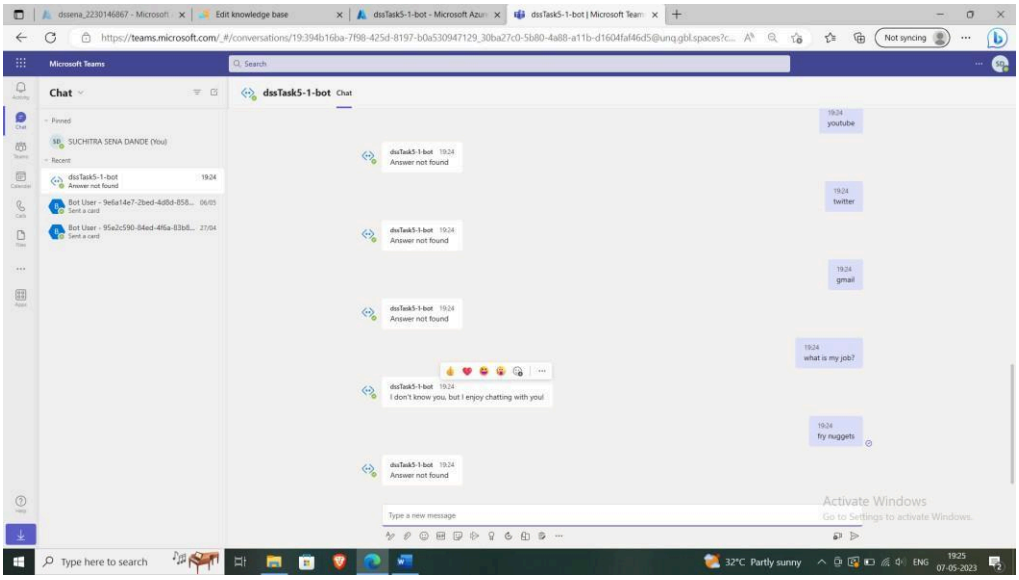
In the Actions, the bot is available along with Microsoft Teams link.

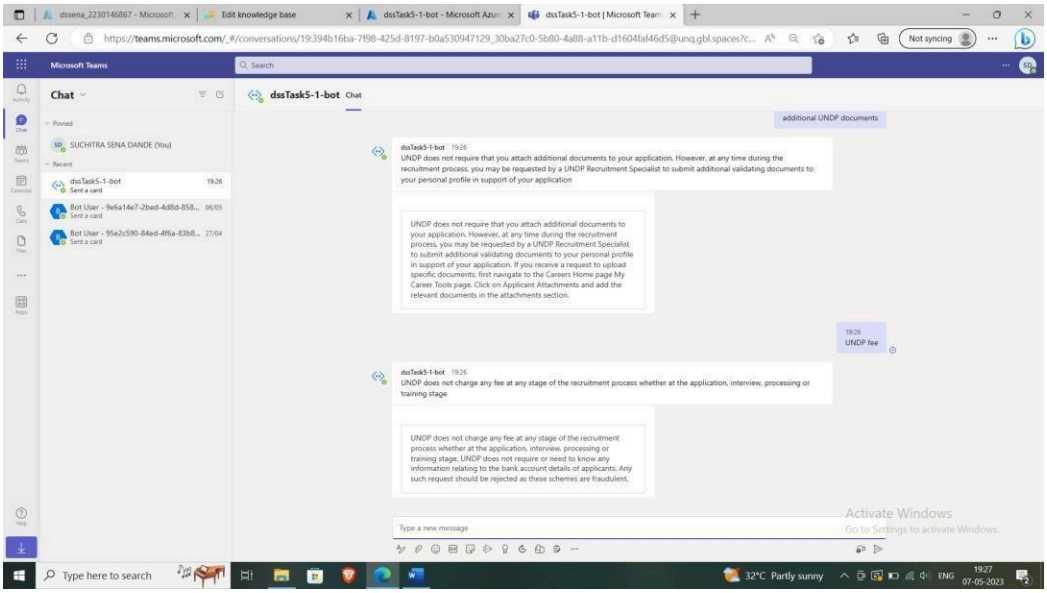


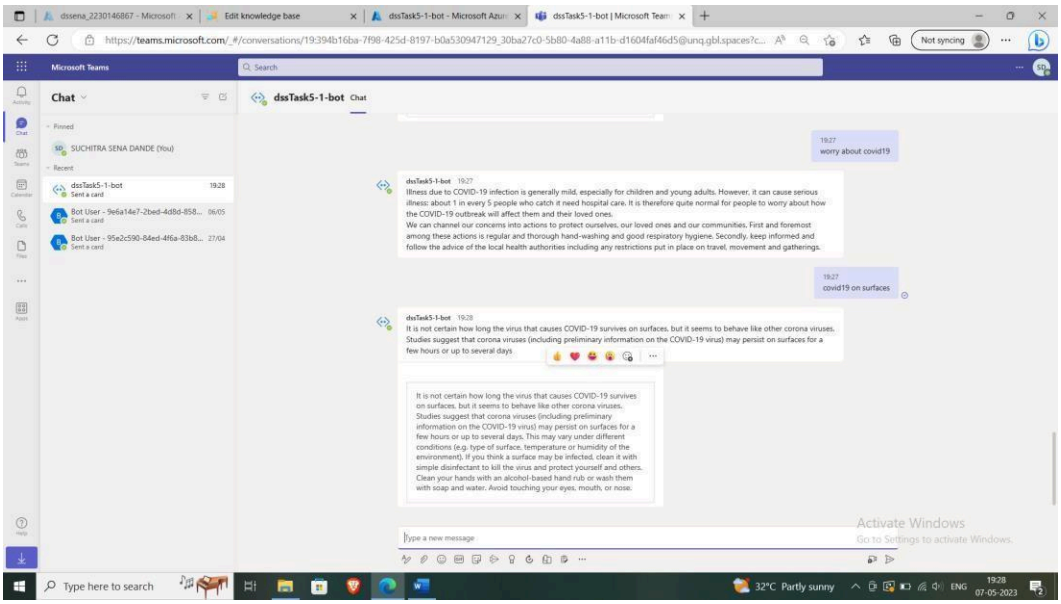
14. Click on Open in Teams and sign into Teams on web app. Then, test the bot in Microsoft Teams channel.






dssTask5-1-bot | Microsoft Teams
Edit knowledge base
dssTask5-1-bot - Microsoft Azure
Not syncing
Microsoft Teams
Search
Chat
dssTask5-1-bot Chat
SUCHITRA SENA DANDE (You)
Recent
dssTask5-1-bot
Answer not found
19:24
youtube
Answer not found
twitter
gmail
what is my job?
I don't know you, but I enjoy chatting with you!
fry nuggets
Type a new message
Activate Windows
Go to Settings to activate Windows.
Type here to search
32°C Partly sunny
ENG
19:25
07-05-2023


dssTask5-1-bot | Microsoft Teams
Edit knowledge base
dssTask5-1-bot - Microsoft Azure
Not syncing
Microsoft Teams
Search
Chat
dssTask5-1-bot Chat
SUCHITRA SENA DANDE (You)
Recent
dssTask5-1-bot
Sent a card
19:26
additional UNDP documents
UNDP does not require that you attach additional documents to your application. However, at any time during the recruitment process, you may be requested by a UNDP Recruitment Specialist to submit additional validating documents to your personal profile in support of your application
UNDP does not require that you attach additional documents to your application. However, at any time during the recruitment process, you may be requested by a UNDP Recruitment Specialist to submit additional validating documents to your personal profile in support of your application. If you receive a request to upload specific documents, first navigate to the Careers Home page My Career Tools page. Click on Applicant Attachments and add the relevant documents in the attachments section.
UNDP fee
UNDP does not charge any fee at any stage of the recruitment process whether at the application, interview, processing or training stage
UNDP does not charge any fee at any stage of the recruitment process whether at the application, interview, processing or training stage. UNDP does not require or need to know any information relating to the bank account details of applicants. Any such request should be rejected as these schemes are fraudulent.
Type a new message
Activate Windows
Go to Settings to activate Windows.
Type here to search
32°C Partly sunny
ENG
19:27
07-05-2023


dssTask5-1-bot | Microsoft Teams
Edit knowledge base
dssTask5-1-bot - Microsoft Azure
Not syncing
Microsoft Teams
Search
Chat
dssTask5-1-bot Chat
SUCHITRA SENA DANDE (You)
Recent
dssTask5-1-bot
Sent a card
19:28
worry about covid19
Illness due to COVID-19 infection is generally mild, especially for children and young adults. However, it can cause serious illness: about 1 in every 5 people who catch it need hospital care. It is therefore quite normal for people to worry about how the COVID-19 outbreak will affect them and their loved ones.
We can channel our concerns into actions to protect ourselves, our loved ones and our communities. First and foremost among these actions is regular and thorough hand-washing and good respiratory hygiene. Secondly, keep informed and follow the advice of the local health authorities including any restrictions put in place on travel, movement and gatherings.
covid19 on surfaces
It is not certain how long the virus that causes COVID-19 survives on surfaces, but it seems to behave like other corona viruses. Studies suggest that corona viruses (including preliminary information on the COVID-19 virus) may persist on surfaces for a few hours or up to several days
It is not certain how long the virus that causes COVID-19 survives on surfaces, but it seems to behave like other corona viruses. Studies suggest that corona viruses (including preliminary information on the COVID-19 virus) may persist on surfaces for a few hours or up to several days. This may vary under different conditions (e.g. type of surface, temperature or humidity of the environment). If you think a surface may be infected, clean it with simple disinfectant to kill the virus and protect yourself and others. Clean your hands with an alcohol-based hand rub or wash them with soap and water. Avoid touching your eyes, mouth, or nose.
Type a new message
Activate Windows
Go to Settings to activate Windows.
Type here to search
32°C Partly sunny
ENG
19:28
07-05-2023

It provides a default answer when questions are outside knowledge base. The questions and answers in the Knowledge Base are answered accurately.

The bot, which is published successfully, replies to user queries in the **Microsoft Teams channel**. The entire conversation channel is found in the link: https://teams.microsoft.com/_#/conversations/19:394b16ba-7f98-425d-8197-b0a530947129_30ba27c0-5b80-4a88-a11b-d1604faf46d5@unq.gbl.spaces?ctx=chat, which redirects to the following webpage.