Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Institute of Computer Technology

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Sub: EADC (Enterprise Application Development for Cloud)

Branch: CBA

Batch:61

----------PRACTICAL 05----------

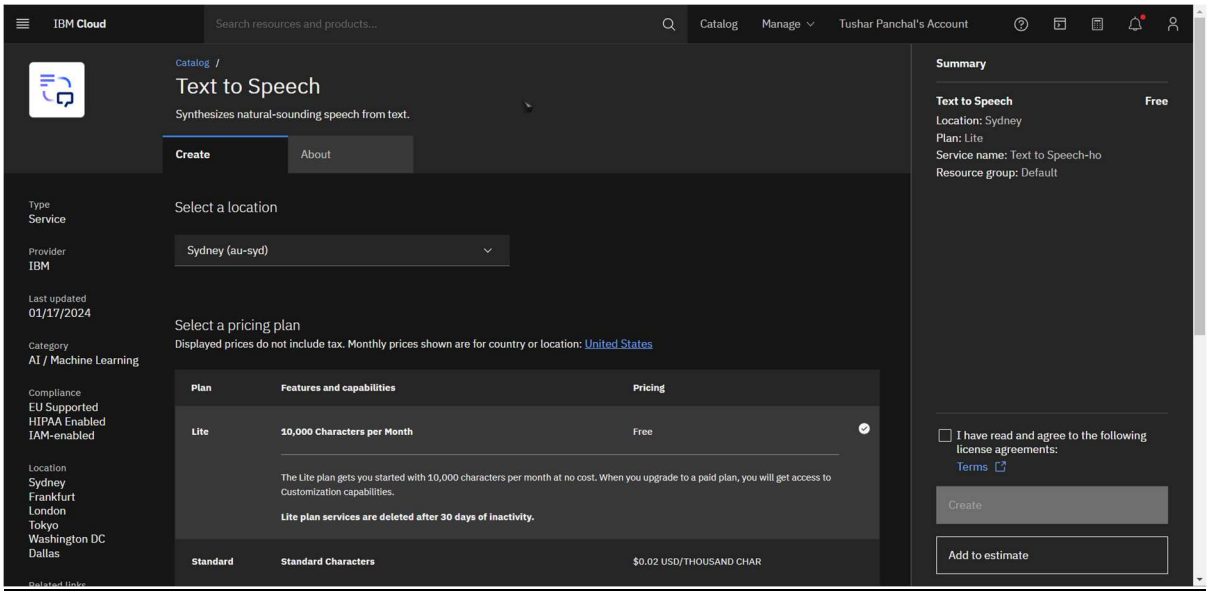
❖ Question :

A multinational company, GlobalCom, is exploring the integration of Watson REST APIs into its customer service platform to enhance user experience and improve language support. As part of the testing phase, the development team is tasked with performing various tasks using the Watson APIs.

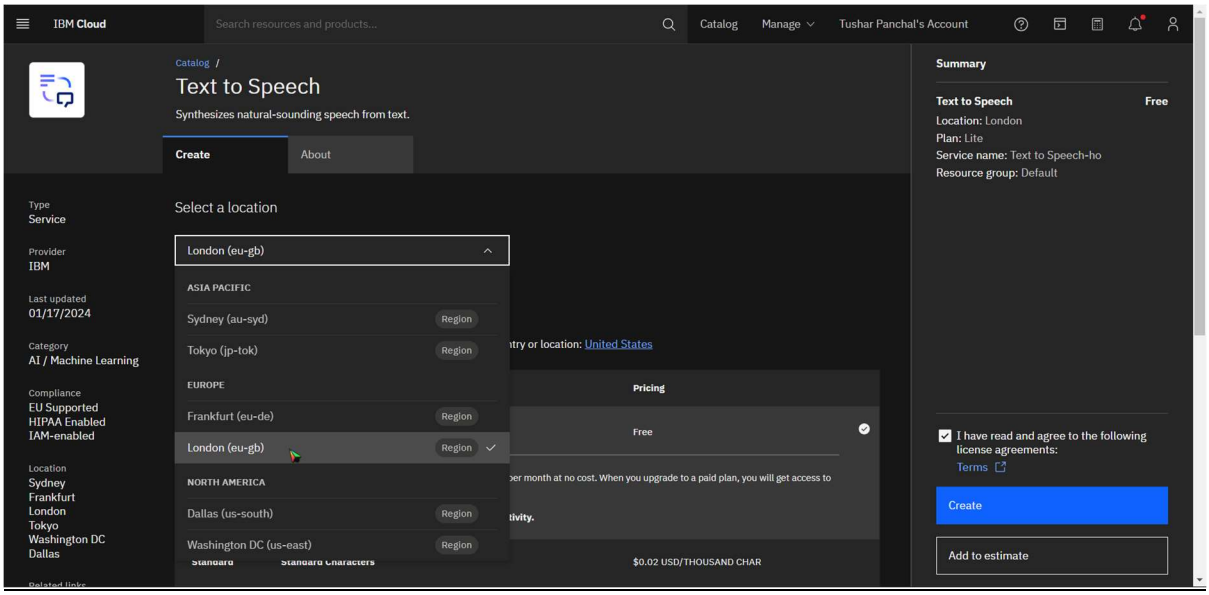
Task 1:
Imagine you are a developer at GlobalCom. Your first task is to synthesize US English input to audio using Watson's Text-to-Speech API.
Task 2:
Continuing with the development process, the team is required to synthesize the same US English input to audio, but this time using the voice en US_AllisonV3Voice and explicitly requesting audio in the default Ogg format.
Task 3:
In further testing, the team needs to synthesize Spanish input to an audio file.
Task 4:
The team is now tasked with translating a phrase, "Hello, How are you?" from English to Hindi using Watson's Language Translator API.
Task 5:
Continuing with language support, the team aims to demonstrate document translation capabilities. Develop a scenario where a user uploads a text file containing information in English, and the system translates the entire document into another language, excluding English.

First of all create a Text to speech service in IBM cloud :

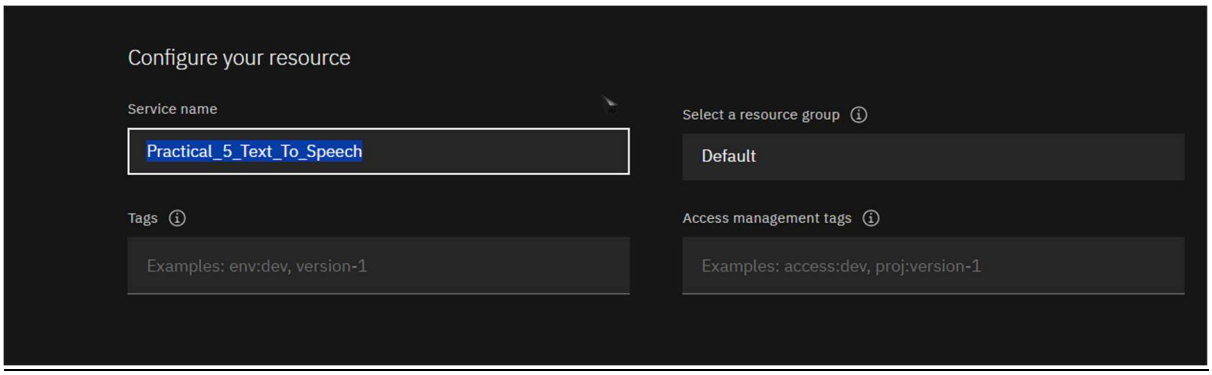
Search for the service text to speech in IBM cloud catalog & configure service name and then hit create :

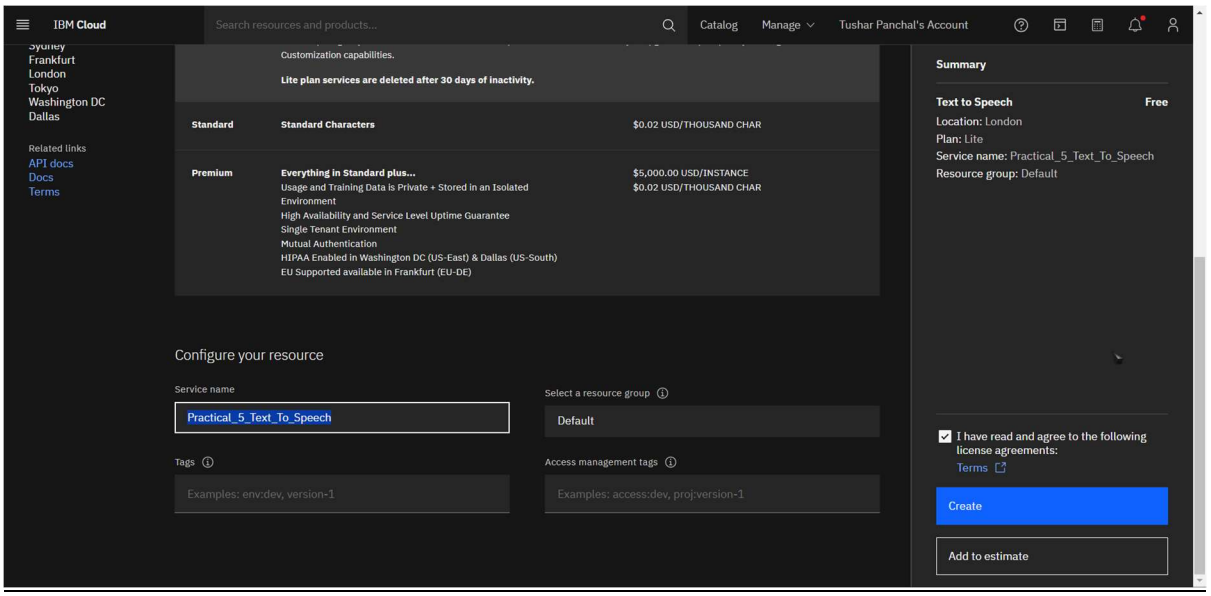


Select location I selected London here as you can see :



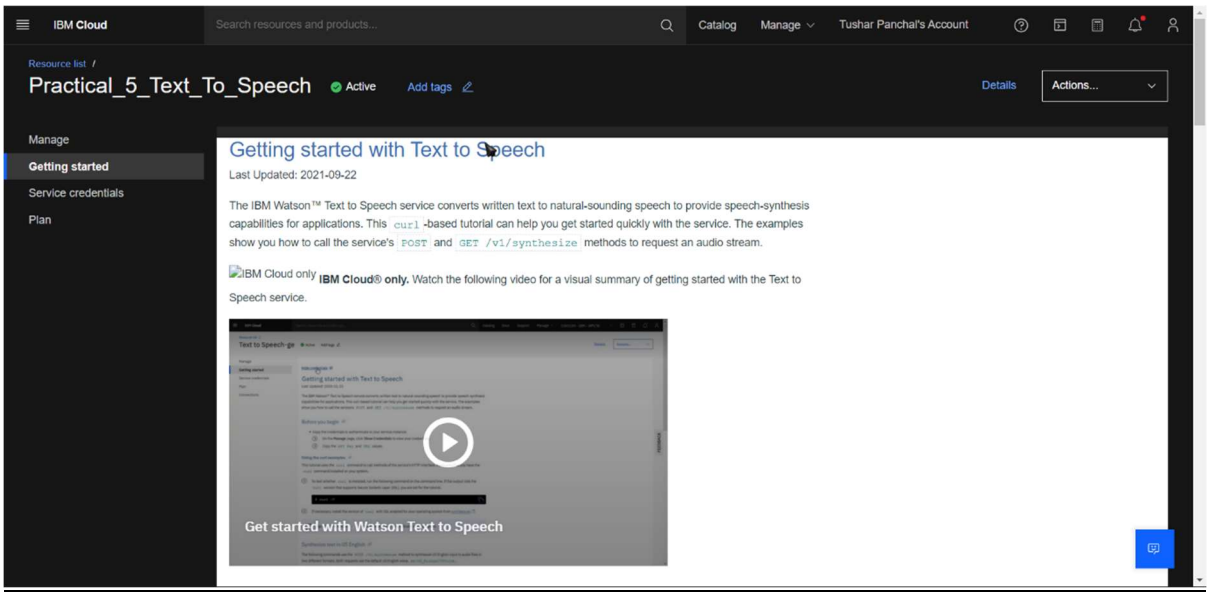
Then I name it as you can see below :



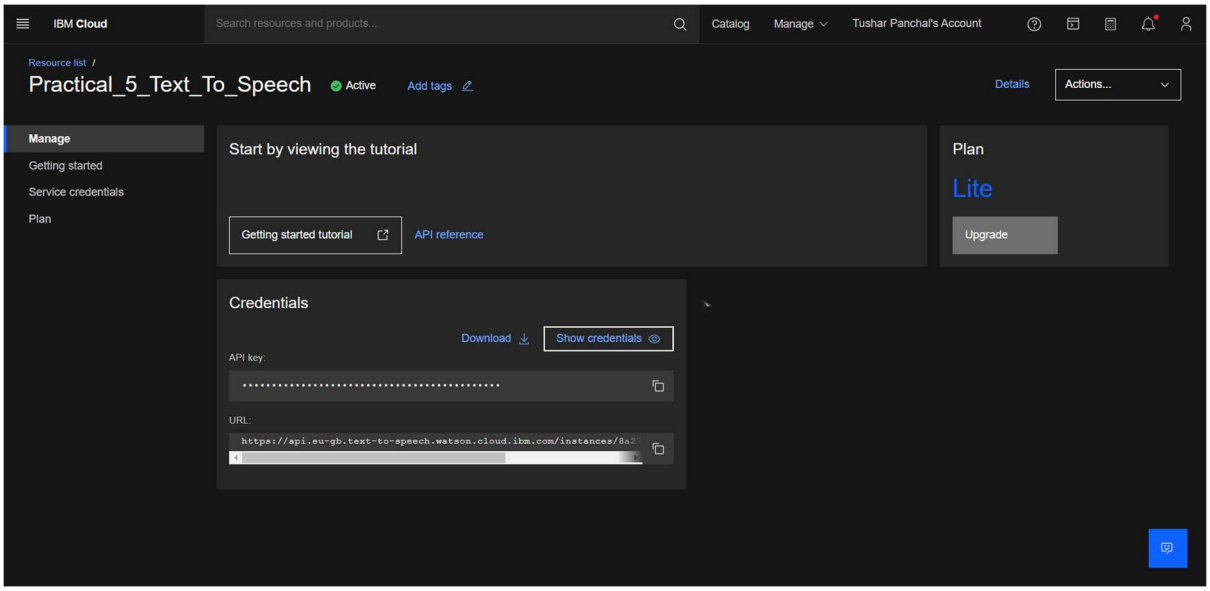


Then simply hit create button

as you can see our service has been created

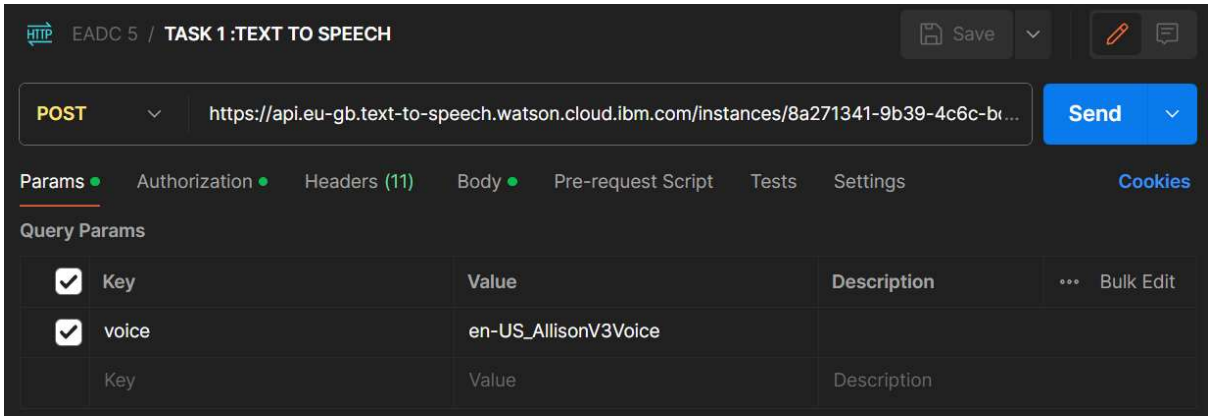


TASK 1 : Imagine you are a developer at GlobalCom. Your first task is to synthesize US English input to audio using Watson's Text-to-Speech API.

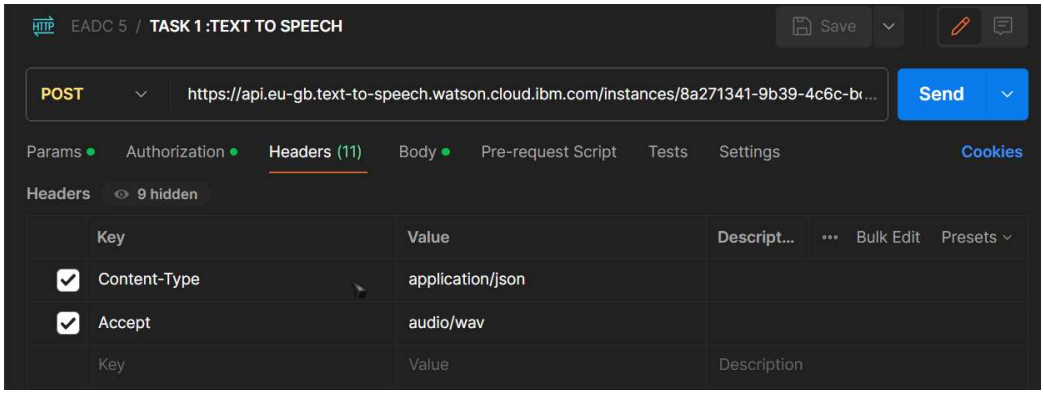


From this I used api key and url to postman

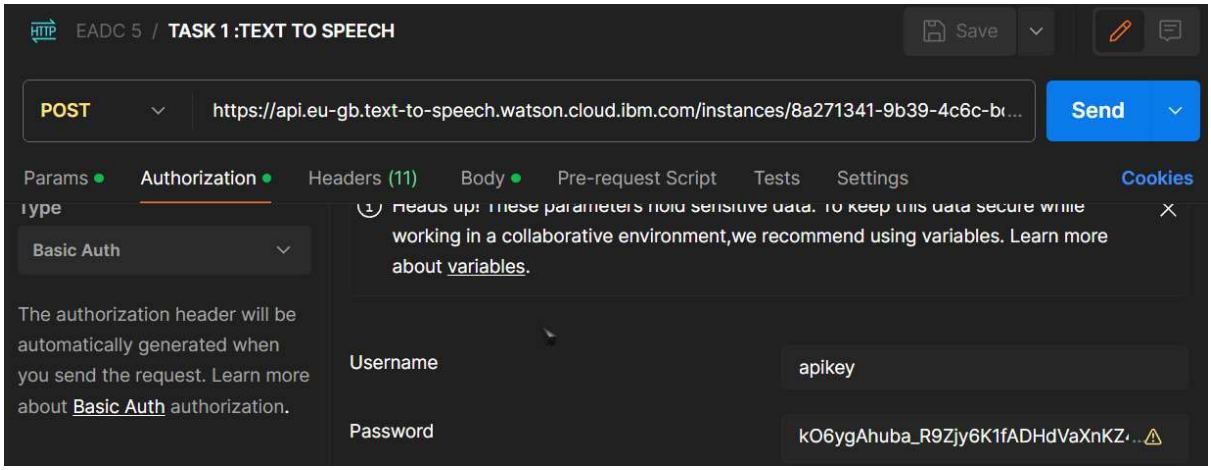
Go to postman interface and set parms as you can see below :



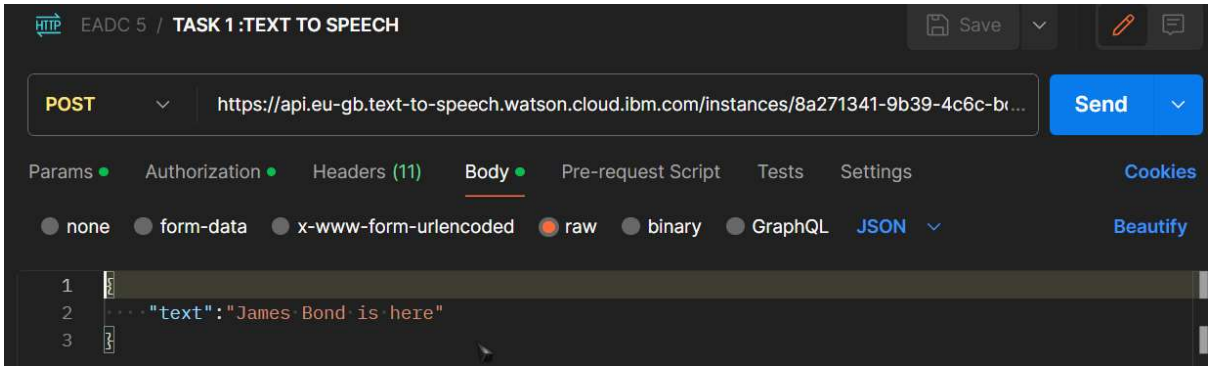
Then in headers set content-type and accept values :



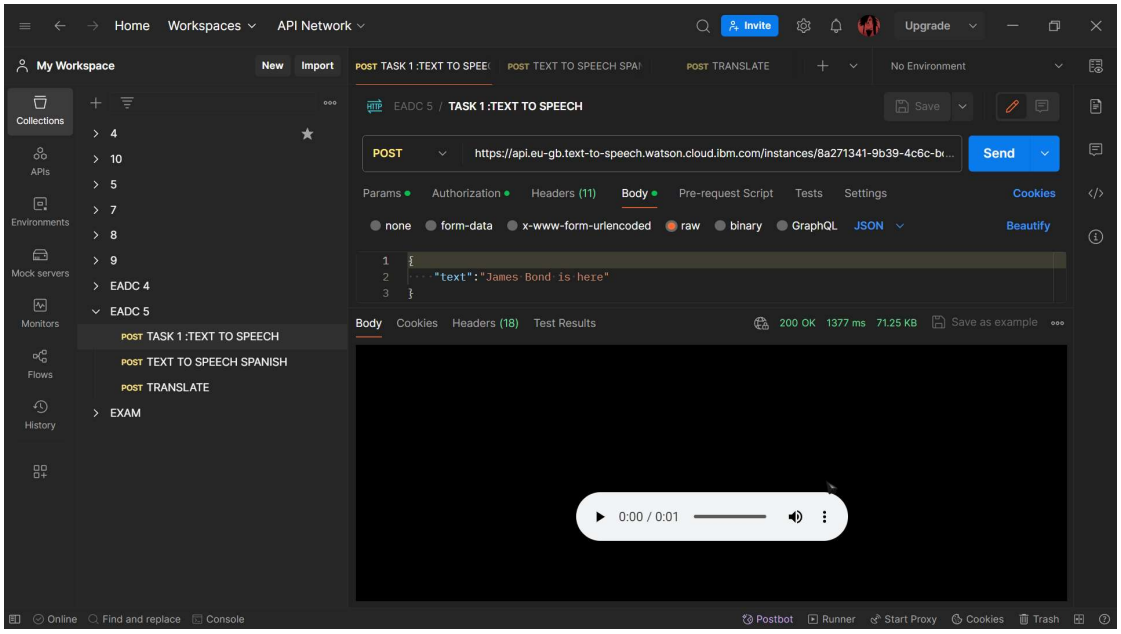
In authorization enter your api key that you have been get from IBM cloud text to speech service :



In body part select raw and json format and type your text to conver into audio :



Now send request and you will get an audio output :

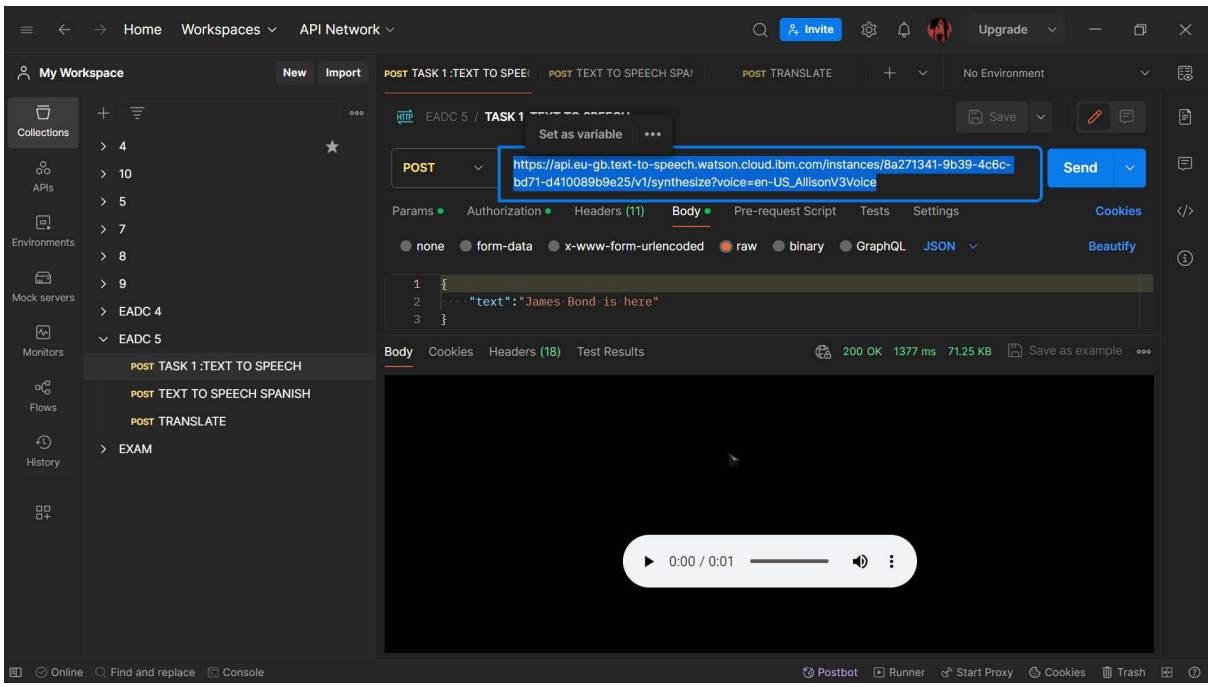


TASK 2 : Continuing with the development process, the team is required to synthesize the same US English input to audio, but this time using the voice en US_AllisonV3Voice and explicitly requesting audio in the default Ogg format.

Add this endpoint in your url to get **US_AllisonV3Voice** female voice output :

https://api.eu-gb.text-to-speech.watson.cloud.ibm.com/instances/8a271341-9b39-4c6c-bd71-d410089b9e25/v1/synthesize?voice=en-US_AllisonV3Voice

as you can see here we get audio output in female voice **US_AllisonV3Voice :**

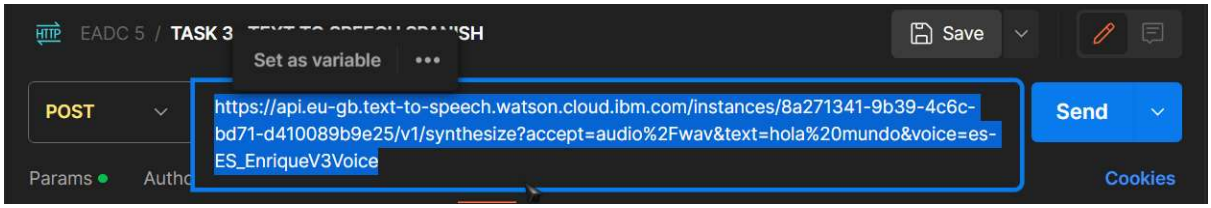


» TASK 3 : In further testing, the team needs to synthesize Spanish input to an audio file.

Open text to Speech service and than Go on text in spanish in ibm cloud pak for data than copy from url :

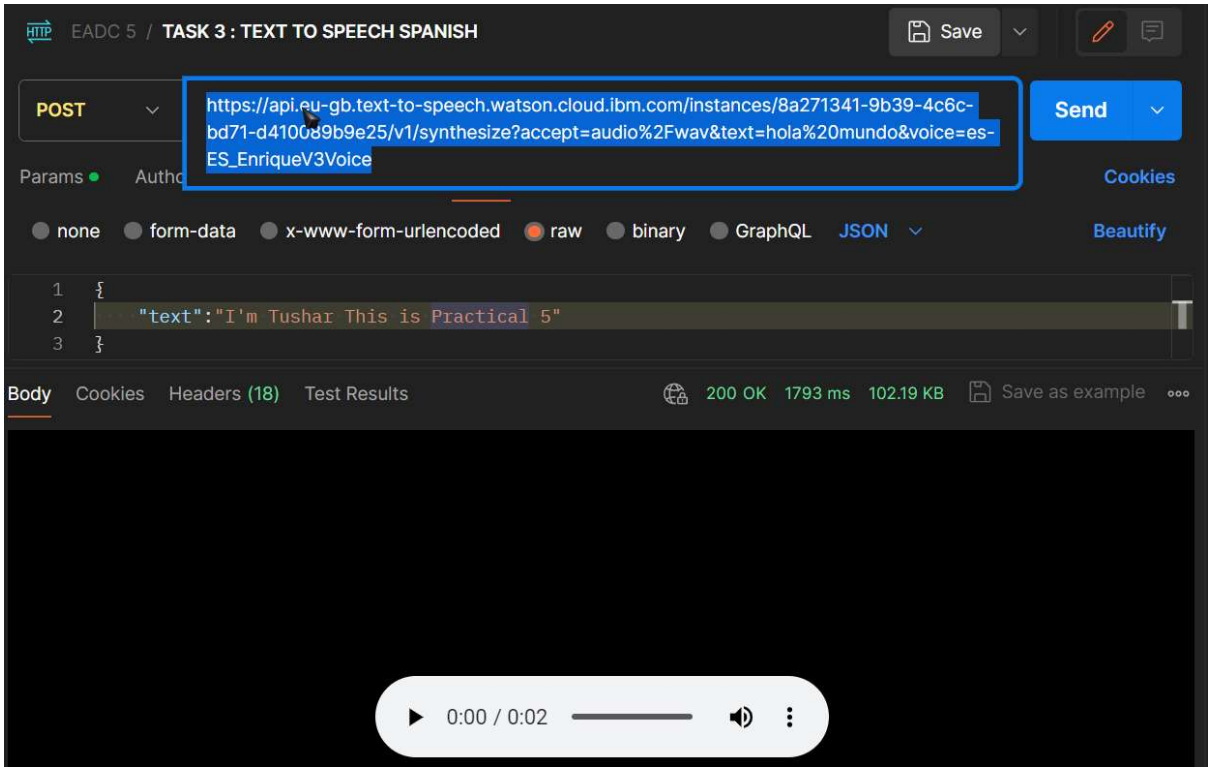
Than copy url from manage than after that select url to translate from spanish on above IBM cloud pak for data:

https://api.eu-gb.text-to-speech.watson.cloud.ibm.com/instances/8a271341-9b39-4c6c-bd71-d410089b9e25/v1/synthesize?accept=audio%2Fwav&text=hola%20mundo&voice=es-ES_EnriqueV3Voice



then set parms , authorization & set Headers , body as raw (json) same as Question 1 .

send request & you will get a Spanish audio file of English text :



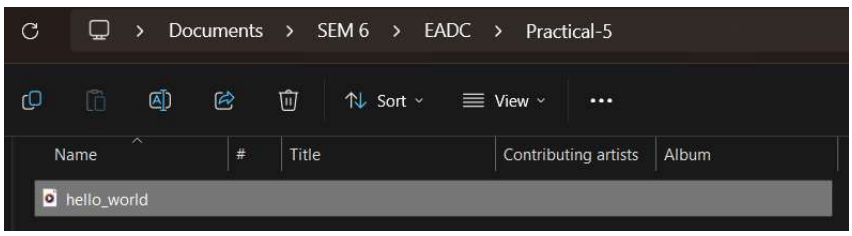
If you want to download audio file you need to run below command in your command prompt enter your api key and url as same in your service you get :

command :

```
curl -X POST -u "apikey:kO6ygAhuba_R9Zjy6K1fADHdVaXnKZ4E2PuUHybGVK0K" --header "Content-Type: application/json" --header "Accept: audio/wav" --data "{\"text\":\"I am gonna be king of the pirates\"}" --output hello_world.wav https://api.eu-gb.text-to-speech.watson.cloud.ibm.com/instances/8a271341-9b39-4c6c-bd71-d410089b9e25/v1/synthesize
```

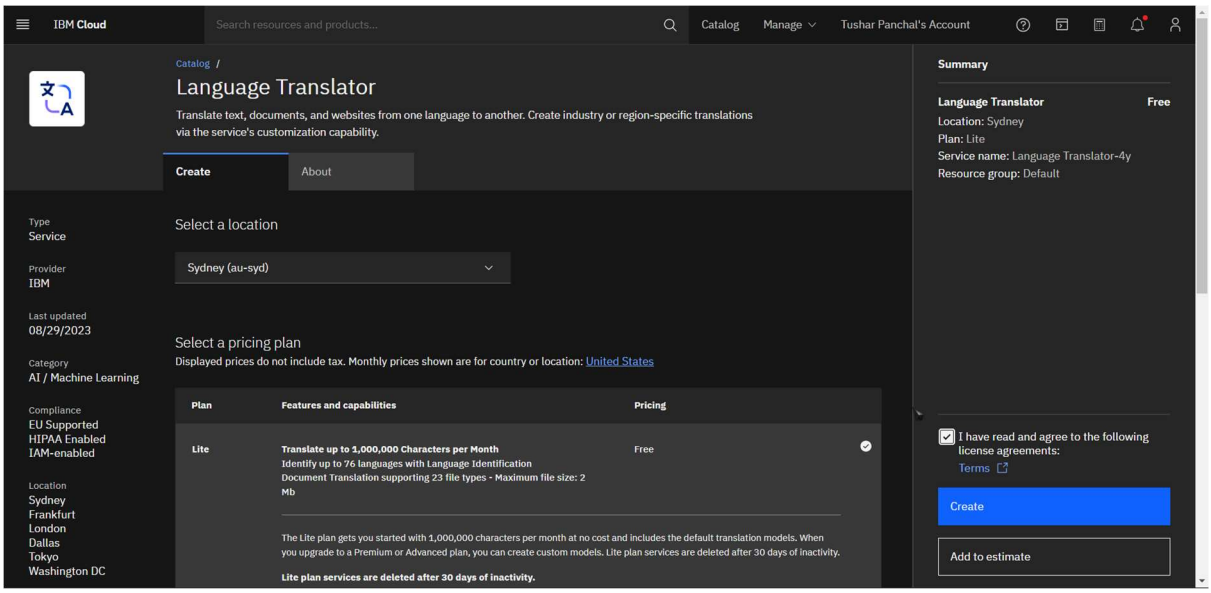
```
C:\Users\Tushar\Documents\SEM 6\EADC\Practical-5>curl -X POST -u "apikey:kO6ygAhuba_R9Zjy6K1fADHdVaXnKZ4E2PuUHybGVK0K" --head
er "Content-Type: application/json" --header "Accept: audio/wav" --data "{\"text\":\"I am gonna be king of the pirates\"}" --
output hello_world.wav https://api.eu-gb.text-to-speech.watson.cloud.ibm.com/instances/8a271341-9b39-4c6c-bd71-d410089b9e25/v
1/synthesize
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 89278    0 89234  100    44  52304     25  0:00:01  0:00:01 --:--:-- 52362
```

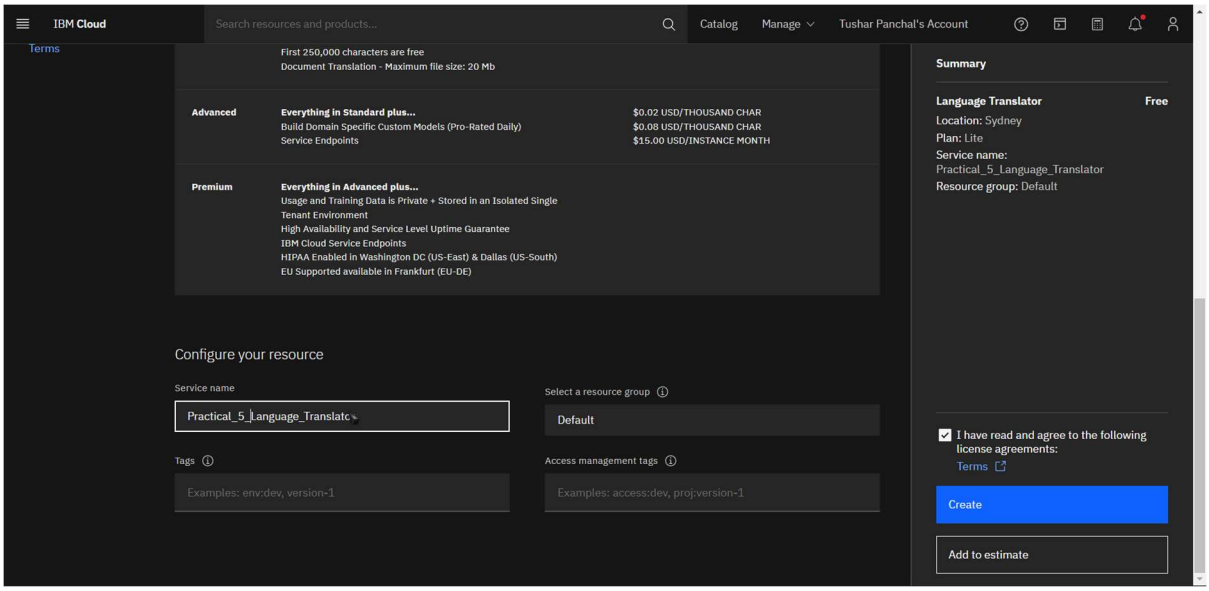
As you can see here I get audio file :



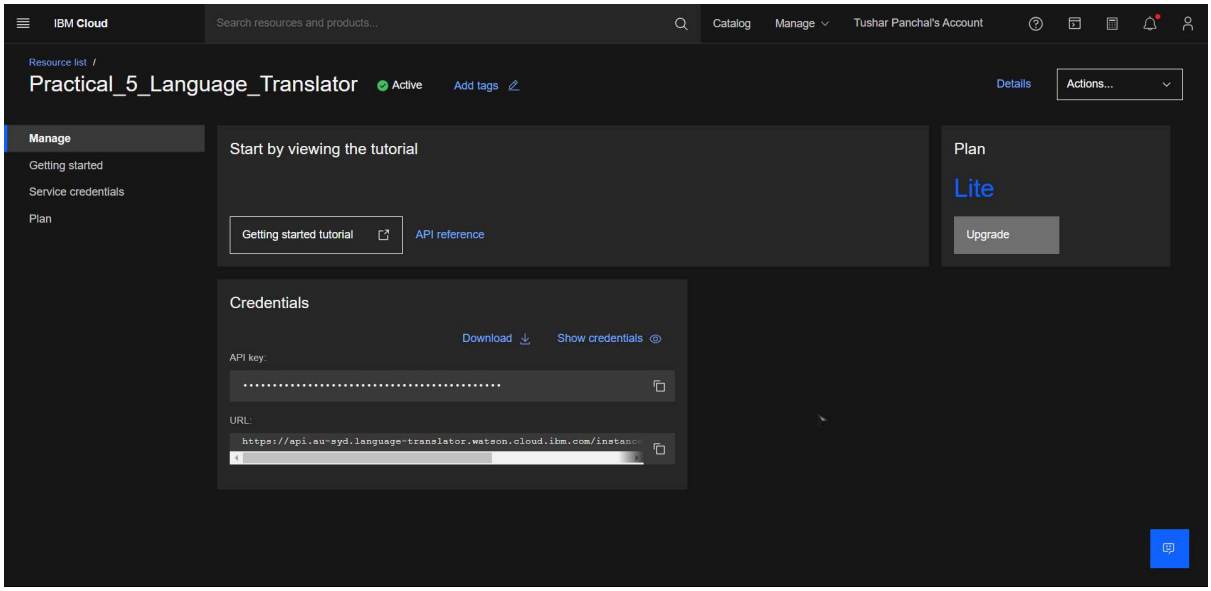
TASK 4 : The team is now tasked with translating a phrase, "Hello, How are you?" from English to Hindi using Watson's Language Translator API.

Search for the service Language Translator in IBM cloud catalog & configure service name and then hit create :





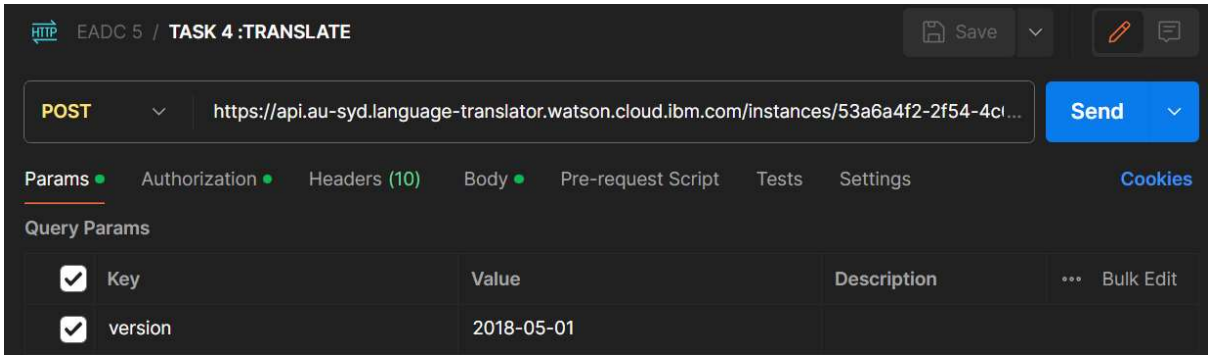
Then simply hit create button
as you can see our service has been created



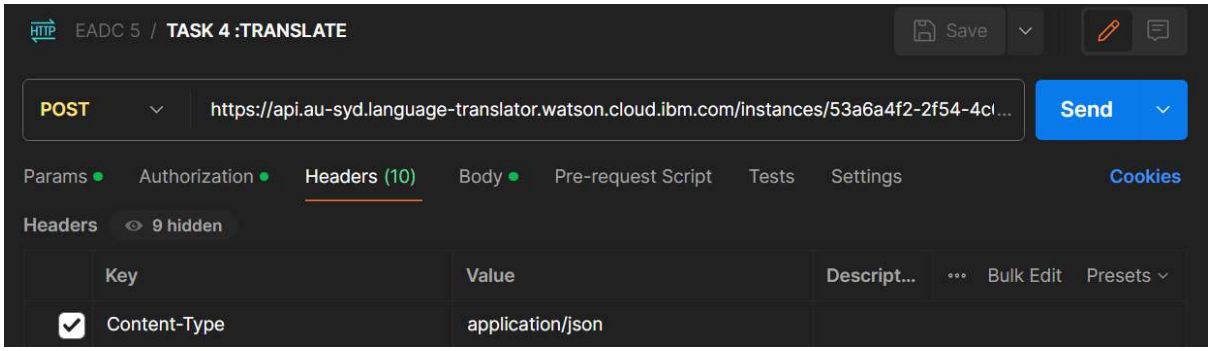
From this I used api key and url to postman.

https://api.au-syd.language-translator.watson.cloud.ibm.com/instances/53a6a4f2-2f54-4c68-bd75-d265dee567c2/v3/translate?version=2018-05-01

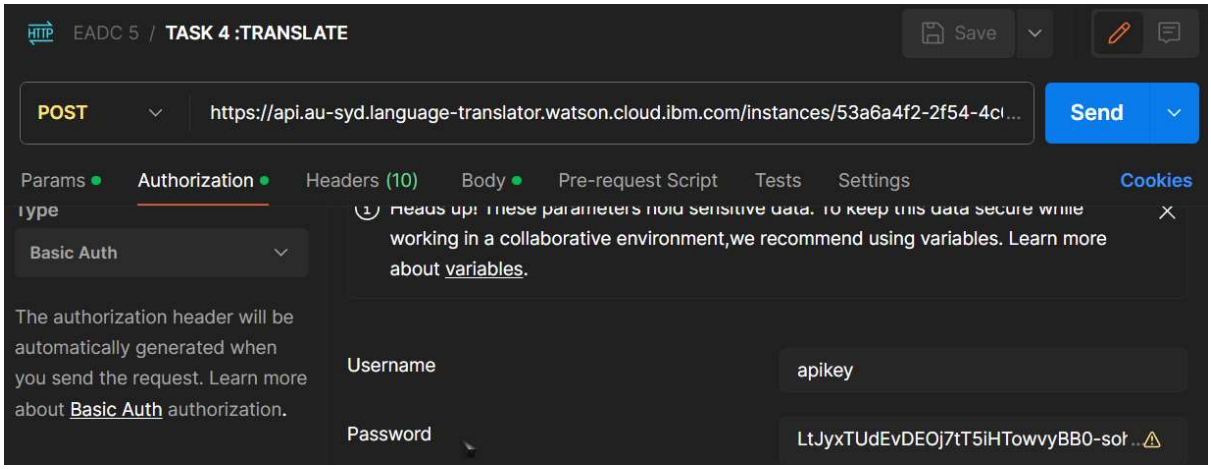
Go to postman interface and set parms as you can see below :



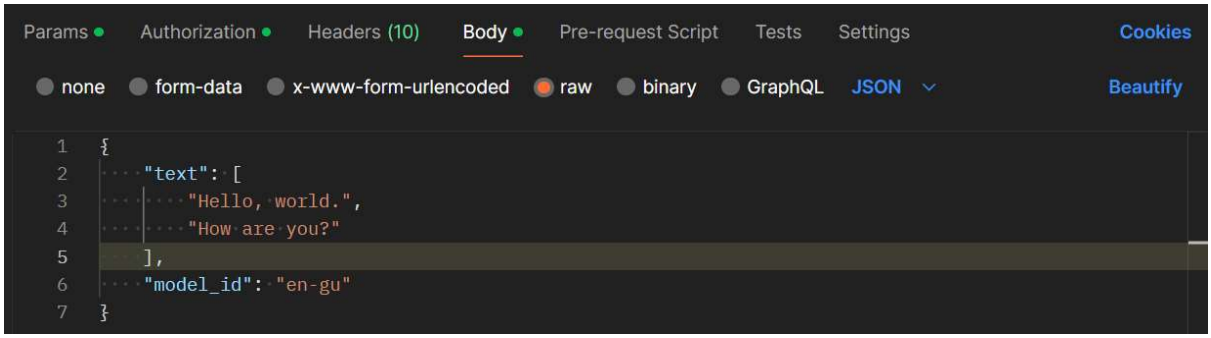
Then in headers set content-type and accept values :



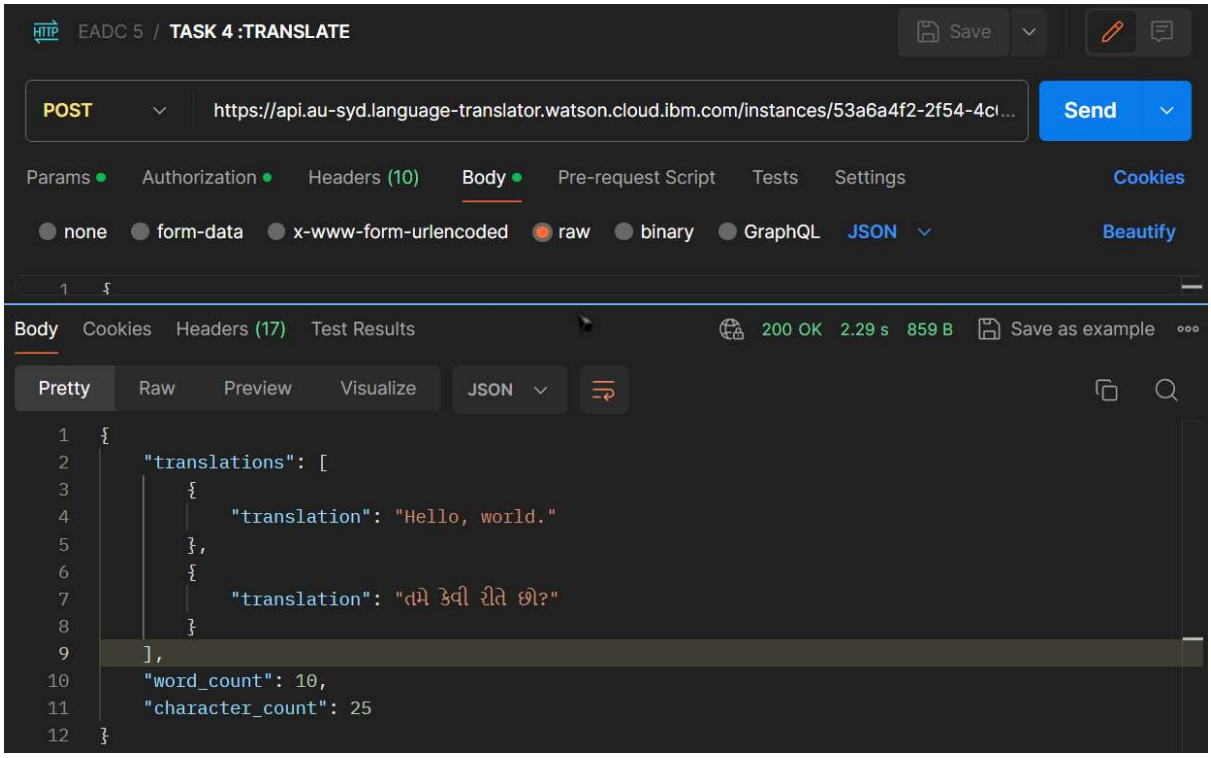
In authorization enter your api key that you have been get from IBM cloud text to speech service :



In body part select raw and json format and type your text & type wanted language in model id to translate it into audio :

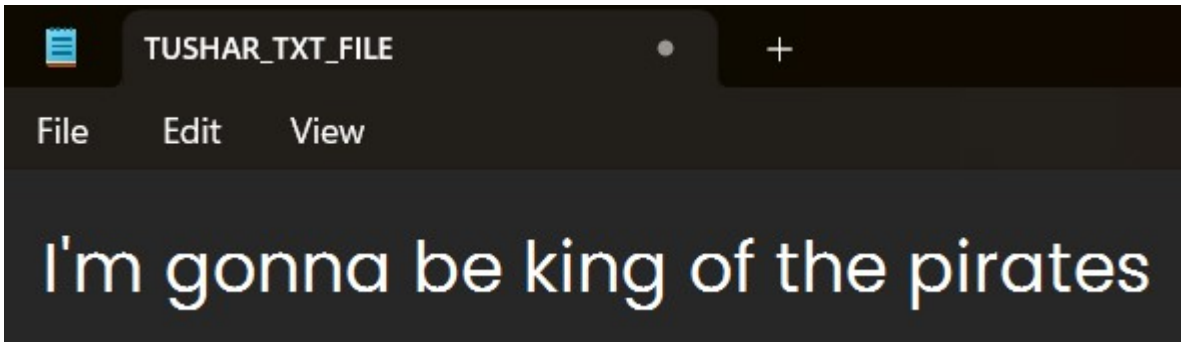


Now send request and you will get an audio output (Gujarati Langauge) :



- **TASK 5 : Continuing with language support, the team aims to demonstrate document translation capabilities. Develop a scenario where a user uploads a text file containing information in English, and the system translates the entire document into another language, excluding English.**

- **Make a simple text file :**



Open command prompt and run below command to translate our text file into our desired language set in command :

command :

```
curl -X POST --user "apikey:LtJyxTUdEvDEOj7tT5iHTowvyBB0-sohSASnT8sa8IQP" --form "file=@TUSHAR_TXT_FILE.txt" --form "source=en" --form "target=hi" https://api.au-syd.language-translator.watson.cloud.ibm.com/instances/53a6a4f2-2f54-4c68-bd75-d265dee567c2/v3/documents?version=2018-05-01
```

```
C:\Users\Tushar\Documents\SEM 6\EADC\Practical-5>curl -X POST --user "apikey:LtJyxTUdEvDEOj7tT5iHT
owvyBB0-sohSASnT8sa8IQP" --form "file=@TUSHAR_TXT_FILE.txt" --form "source=en" --form "target=hi"
https://api.au-syd.language-translator.watson.cloud.ibm.com/instances/53a6a4f2-2f54-4c68-bd75-d265
dee567c2/v3/documents?version=2018-05-01
{
  "document_id" : "3d92acb3-458a-4142-b2c4-b106972142fe",
  "filename" : "TUSHAR_TXT_FILE.txt",
  "model_id" : "en-hi",
  "source" : "en",
  "target" : "hi",
  "status" : "processing",
  "created" : "2024-02-24T17:40:29Z"
}
C:\Users\Tushar\Documents\SEM 6\EADC\Practical-5>
```

After running above command change document id in new command that we have been get from previous command we run already :

command :

```
curl -X GET --user "apikey:LtJyxTUdEvDEOj7tT5iHTowvyBB0-sohSASnT8sa8IQP" --output "TUSHAR_NEW_TEXT_FILE.txt" "https://api.au-syd.language-translator.watson.cloud.ibm.com/instances/53a6a4f2-2f54-4c68-bd75-d265dee567c2/v3/documents/3d92acb3-458a-4142-b2c4-b106972142fe/translated_document?version=2018-05-01"
```

```
C:\Users\Tushar\Documents\SEM 6\EADC\Practical-5>curl -X GET --user "apikey:LtJyxTUdEvDEOj7tT5iHTo
wvyBB0-sohSASnT8sa8IQP" --output "TUSHAR_NEW_TEXT_FILE.txt" "https://api.au-syd.language-translato
r.watson.cloud.ibm.com/instances/53a6a4f2-2f54-4c68-bd75-d265dee567c2/v3/documents/3d92acb3-458a-4
142-b2c4-b106972142fe/translated_document?version=2018-05-01"
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   108  100   108    0     0    134      0 --:--:-- --:--:-- --:--:--   134

C:\Users\Tushar\Documents\SEM 6\EADC\Practical-5>
```

As you can see below we get our output in our desired Language that we have specified in command (hindi) :