

ITIS – 6177 – System Integration

Azure Text to Speech API Documentation

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Text-to-Speech

Text-to-speech (TTS) is a type of assistive technology that reads digital text aloud. It's sometimes called "read aloud" technology or also called as Speech synthesis.

TTS may translate words on a computer or other digital device into audio with the click of a button or the touch of a finger. Deep neural networks are used in this engine to generate computer sounds practically indistinguishable from human recordings. When consumers engage with AI systems, neural text-to-speech greatly minimizes listening strain by articulating words clearly. TTS is extremely beneficial to children who have difficulty reading. It can, however, assist children with writing, editing, and even concentration.

Get Started

The project requires the **Key, Region, and Endpoint** information from the Azure cognitive service portal, which will be used in the program.

This was obtained by creating an account in the Azure portal
<https://azure.microsoft.com/en-us/services/cognitive-services/text-to-speech/>

Prerequisites:

Few setups that are required on the local system to run the application.

- **Express js** – This is required to run Api's and web server.

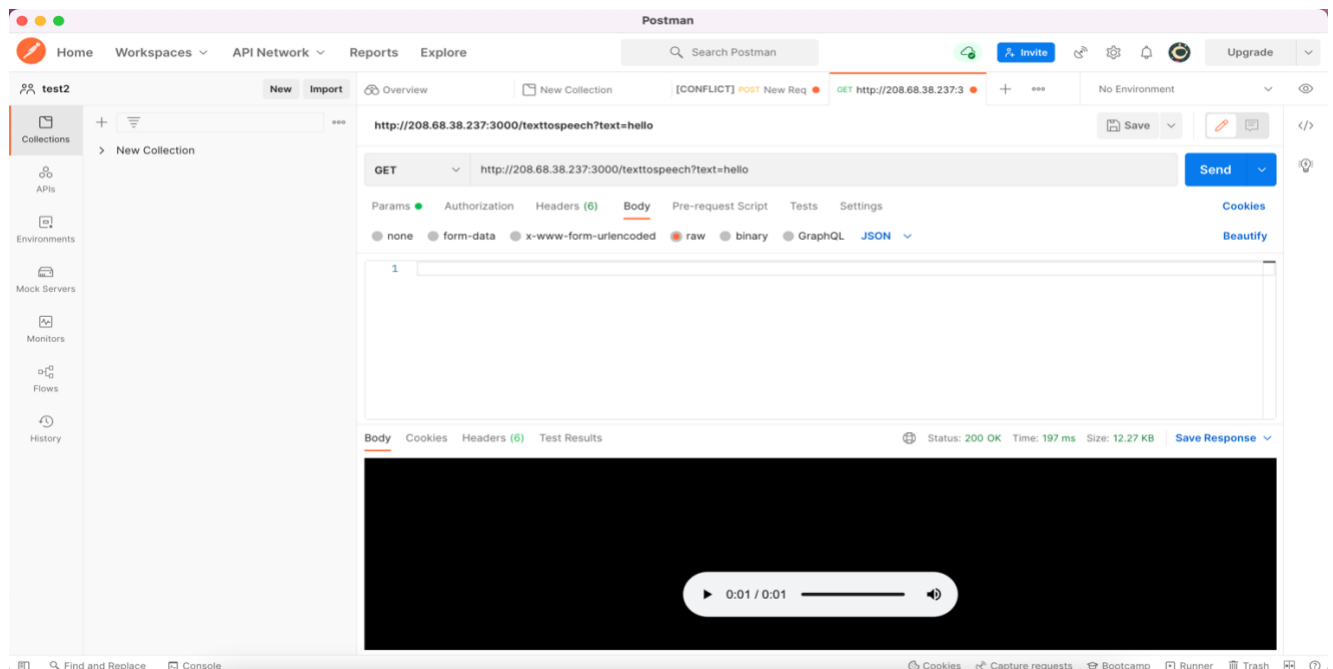
- **npm** – It is a Nodejs package manager.
- **NodeJS** – For JavaScript run engine.
- **Microsoft Azure** – For converting user's text to speech.
- **Postman** – Used for testing the API's

API Functions

Converting:

- Endpoint: <http://208.68.38.237:3000/texttospeech?text=hello>
- Method: Get

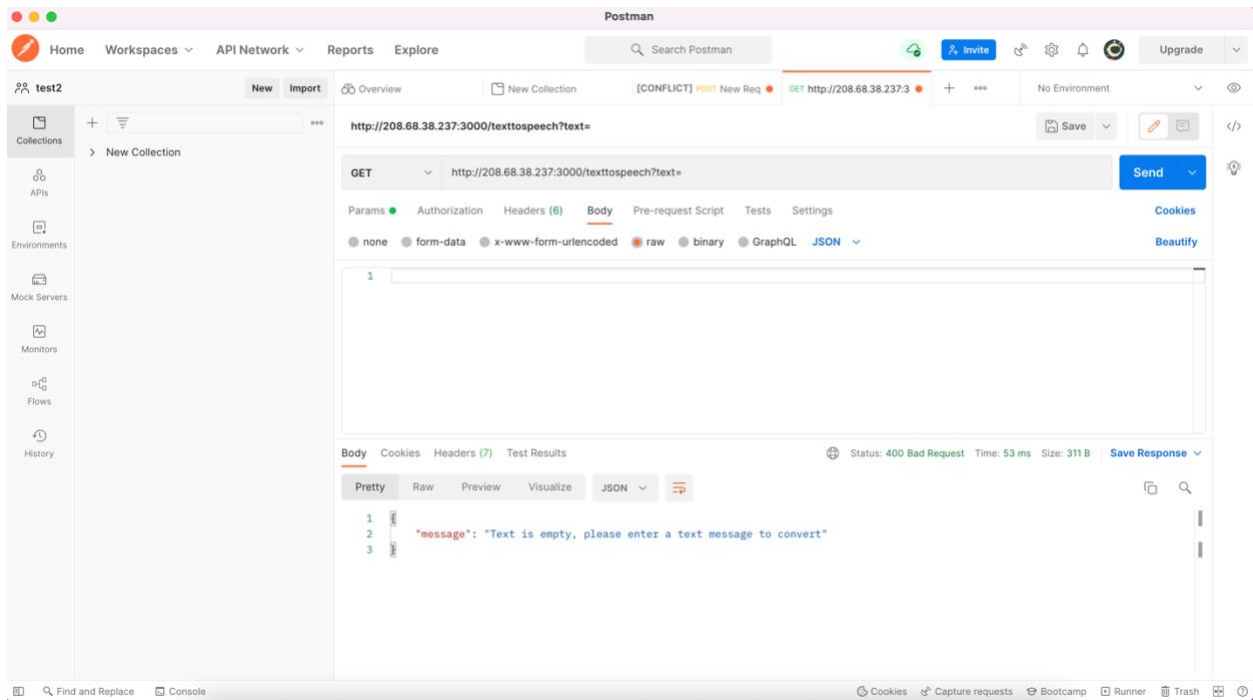
This translates the text provided into audio file. Deep neural networks are used in this engine to generate computer sounds practically indistinguishable from human recordings. When consumers engage with AI systems, neural text-to-speech lowers listening fatigue greatly thanks to its clear articulation of words.



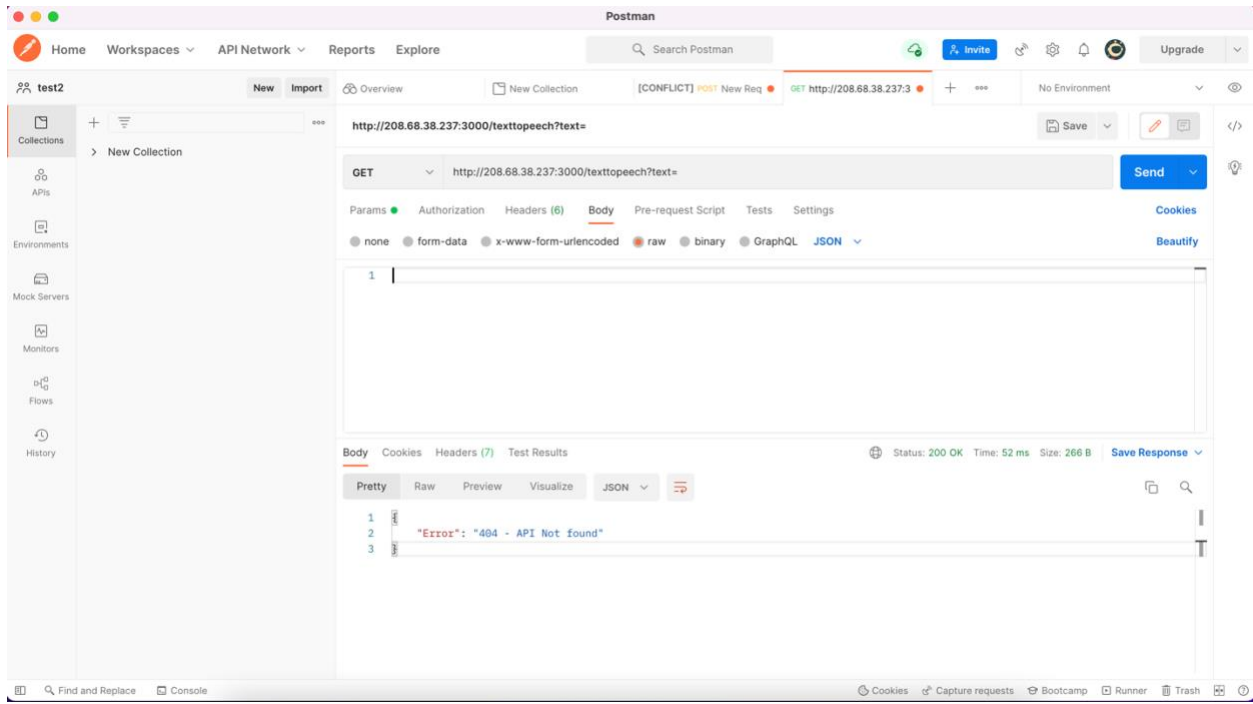
Special Cases:

When the text message is missing, it throws a 400-error status and displays the error message as “Text is empty, please enter a text message to convert”

- Endpoint: <http://208.68.38.237:3000/texttospeech?text=>
- Method: Get



When the URL provided is wrong it causes a 404-error status and displays the error message as “404 - API Not found”.



Troubleshooting

Common HTTP status codes

HTTP status code	Description	Possible reason
200	OK	The request was successful.
400	Bad Request	There is a missing, empty, or null argument. Or the value supplied to a mandatory or optional argument is incorrect
403	Unauthorized	The request has been denied. Verify that your key or token is legitimate and located in the relevant area. Make sure you're utilizing the Translator single-service resource rather than the Cognitive Services multi-service resource when managing your subscription in the Azure portal.
500	Bad Gateway	A problem on the network or on the server. Invalid headers may also be shown.

References and Important links:

Azure text-to-speech: <https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/text-to-speech>

GitHub: <https://github.com/ChandanAnanth/ITIS-6177-SystemIntegration-FinalProject-TextToSpeech>

DigitalOcean endpoint: <http://208.68.38.237:3000/texttospeech?text=Hi>

Setup Instructions: <https://github.com/ChandanAnanth/ITIS-6177-SystemIntegration-FinalProject-TextToSpeech/blob/main/README.md>