

# SYSTEM INTEGRATION FINAL PROJECT DOCUMENTATION

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**API Name: MICROSOFT AZURE TRANSLATOR API**

This project is meant to translate the textual content of a certain language to any other specific language. There are two endpoints given for this project.

- Text Endpoint:** In this endpoint, the text which needs to be translated is given directly.
- Document Endpoint:** In this endpoint, the text which needs to be translated is sent by storing it in a document and this document is uploaded.

**Github Code:** [https://github.com/RitheshReddy99/SI\\_FinalProject](https://github.com/RitheshReddy99/SI_FinalProject)

**Swagger:** <http://147.182.204.228:3000/api-docs/>

The screenshot shows the Swagger UI interface for the Microsoft Azure Text Translator API. At the top, the URL is 147.182.204.228:3000/api-docs/. The title of the page is ITIS-6177-SI-FinalProject 1.0.0. Below the title, there is a brief description: "Microsoft Azure Text Translator" and links to "Rithesh Reddy - Website" and "Send email to Rithesh Reddy". On the right side of the header, there is a green "Authorize" button with a lock icon. The main content area is titled "Document" and lists four API endpoints:

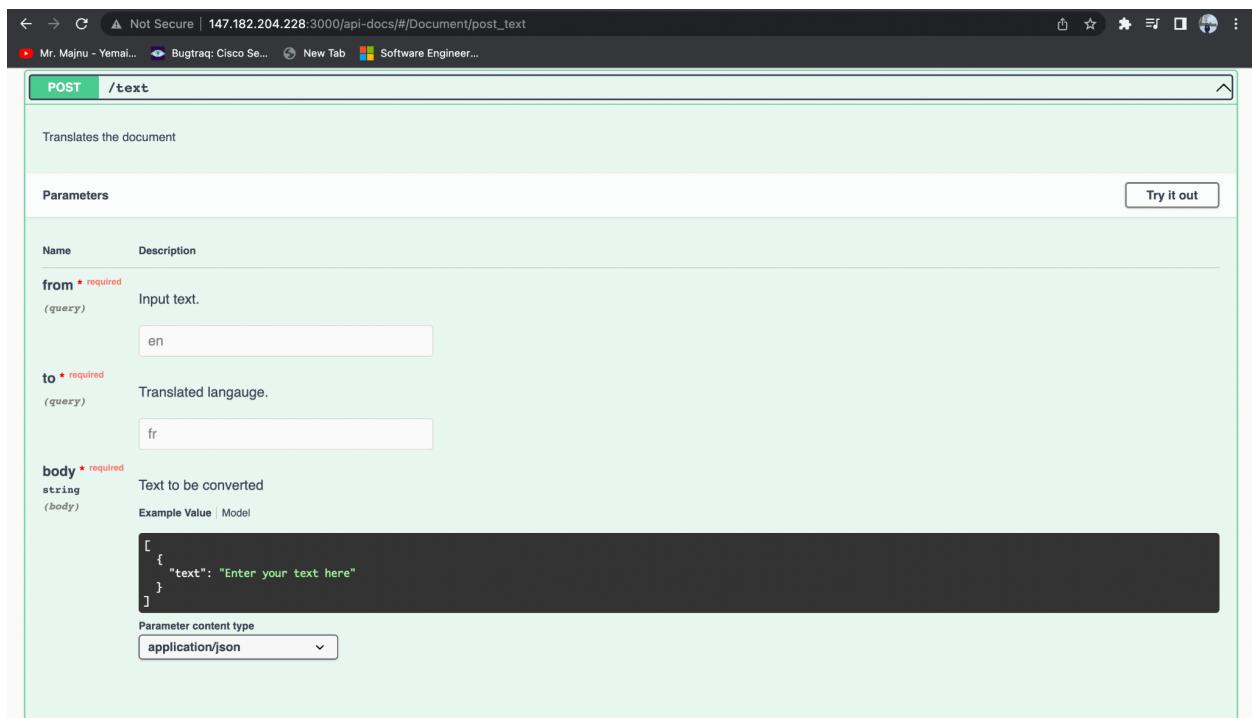
- POST /text**
- POST /text-detect**
- POST /document-translate**
- GET /doc-content**

In this project, there are 4 API Endpoints.

## 1. /text

- This /text endpoint is used to convert a given text of specific language to another specified language.
- Initially send a POST request to the URL-  
[http://147.182.204.228:3000/api-docs/#/Document/post\\_text](http://147.182.204.228:3000/api-docs/#/Document/post_text).
- This basically consists of 3 parameters. Two of them are request type(**from** and **to**) and other one is of body type(**textArr**).
- The **from** param consists of the language of the input and the **to** param specifies the language to which the input text must be translated to.
- In the **textArr** param of the body type, the input text which needs to be translated is provided.
- Then place the text to be translated within the body in the place of “**Enter your text here**”.
- For example consider the text as **[{"text": "Hello. How are you?"}]**.
- When you execute this, the translated text is displayed in the response body of server response section.

### • Swagger Parameters and Execution:



The screenshot shows the Swagger UI interface for the /text endpoint. At the top, the URL is 147.182.204.228:3000/api-docs/#/Document/post\_text. The method is POST and the path is /text. The description is "Translates the document".

**Parameters**

Name	Description
from * required (query)	Input text. en
to * required (query)	Translated language. fr
body * required string (body)	Text to be converted Example Value   Model [ { "text": "Enter your text here" } ]

Parameter content type: application/json

Try it out

**POST /text**

Translates the document

**Parameters**

Name	Description
<b>from * required</b> (query)	Input text.
en	
<b>to * required</b> (query)	Translated language.
fr	
<b>body * required</b> string (body)	Text to be converted
	<a href="#">Edit Value</a>   <a href="#">Model</a>
	[ { "text": "Hello. How are you?" } ]

[Cancel](#)

- **Swagger Response:**

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```
-H "Content-type: application/json"\n-d '[\n{\n"text": "Hello. How are you?"\n}\n]'
```

Request URL

<http://147.182.204.228:3000/text?from=en&to=fr>

Server response

Code	Details
200	<p>Response body</p> <pre>[  {  "translations": [  {  "text": "Bonjour. Comment vas-tu?",  "to": "fr"  }  ]  }]</pre> <p><a href="#">Copy</a> <a href="#">Download</a></p> <p>Response headers</p> <pre>access-control-allow-origin: *\nconnection: keep-alive\ncontent-length: 46\ncontent-type: application/json; charset=utf-8\ndate: Mon, 02 May 2022 02:05:20 GMT\netag: W/"42-xz3/tahOVdyGLPw4lPAhmMstjTE"\nkeep-alive: timeout=5\nx-powered-by: Express</pre>
<b>Responses</b>	
Code	Description
200	Document Translated successfully.
500	Message prompting error.

- **Postman:**

The screenshot shows the Postman interface with the following details:

- Scratch Pad:** The left sidebar shows a history of requests.
- Request:**
  - Method: POST
  - URL: <http://localhost:3000/text-translate?from=en&to=de&to=fr>
  - Body (JSON):

```

1 [
2   {
3     "text": "Hello. How are you?"
4   }
5 ]

```
- Response:**
  - Status: 200 OK
  - Time: 172 ms
  - Size: 333 B
  - Pretty JSON:

```

1 [
2   {
3     "translations": [
4       {
5         "text": "Bonjour. Comment vas-tu?",
6         "to": "fr"
7       }
8     ]
9   }
10 ]

```

## 2. /text-detect

- This /text-detect endpoint is used to detect the language of the text given.
- Initially send a POST request to the URL-  
[http://147.182.204.228:3000/api-docs/#/Document/post\\_text\\_detect](http://147.182.204.228:3000/api-docs/#/Document/post_text_detect).
- This endpoint consists of 1 parameter and this parameter is of type body(**textArr**).
- This **textArr** param is used to store the text for which the language needs to be found out.
- Then place the text to be translated within the body in the place of “**Enter your text here**”.
- For example consider the text as `[{"text": "Bonjour. Comment vas-tu?"}]`.
- When you execute this, the language of input text is displayed in the response body of server response section.

- **Swagger Parameters and Execution:**

The screenshot shows a Swagger API documentation interface for a `POST /text-detect` endpoint.

**Parameters:**

- body** (required, string): Text to be converted. Example value: 

```
[ { "text": "Enter your text here" } ]
```

. Parameter content type: application/json.

**Responses:**

- 200: Document language found.
- 500: Message prompting error.

**Responses (Preview):**

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The preview area shows the JSON input for the `body` parameter:

```
[ { "text": "Bonjour. Comment vas-tu?" } ]
```

- **Swagger Response:**

The screenshot shows a browser window with the following details:

- URL:** Not Secure | 147.182.204.228:3000/api-docs/#/Document/post\_text\_detect
- Request URL:** `http://147.182.204.228:3000/text-detect`
- Response content type:** application/json
- Responses:**
  - Code:** 200
  - Details:**
    - Response body:** A JSON array containing one element. The element has properties: "language": "fr", "score": 1, "isTranslationSupported": true, "isTransliterationSupported": false.
    - Response headers:** A list of HTTP headers including: access-control-allow-origin: \*, connection: keep-alive, content-length: 94, content-type: application/json; charset=utf-8, date: Wed, 20 Mar 2019 02:16:21 GMT, etag: W/"5e-WLxN12qAU9SOZ0imvdcJ2RNEh/g", keep-alive: timeout=5, x-powered-by: Express.

- **Postman:**

The screenshot shows the Postman application interface with the following details:

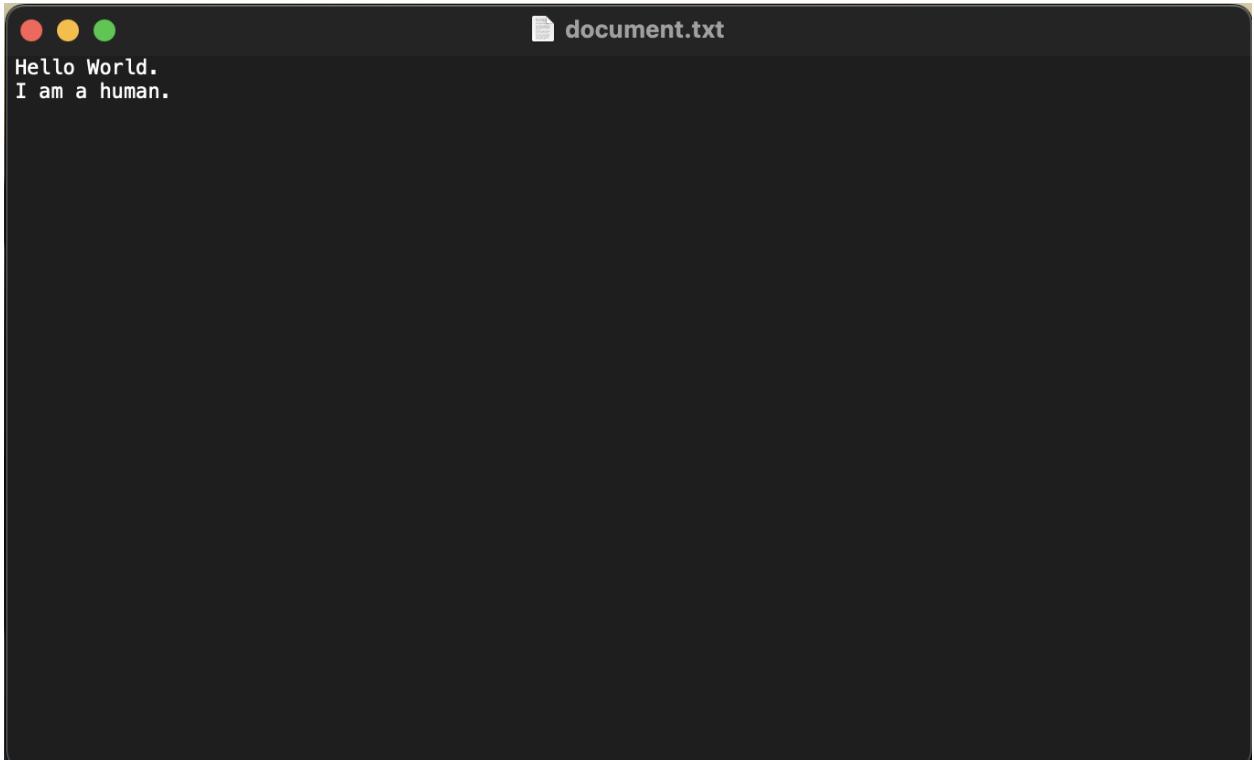
- Scratch Pad:** The main workspace where requests are defined.
- Request:**
  - Method:** POST
  - URL:** `http://localhost:3000/text-detect`
  - Body:** (raw) JSON
 

```
[{"text": "Bonjour. Comment vas-tu?"}]
```
- Response:**
  - Status:** 200 OK
  - Time:** 254 ms
  - Size:** 361 B
  - Body (Pretty):**

```
[{"language": "fr", "score": 1, "isTranslationSupported": true, "isTransliterationSupported": false}]
```

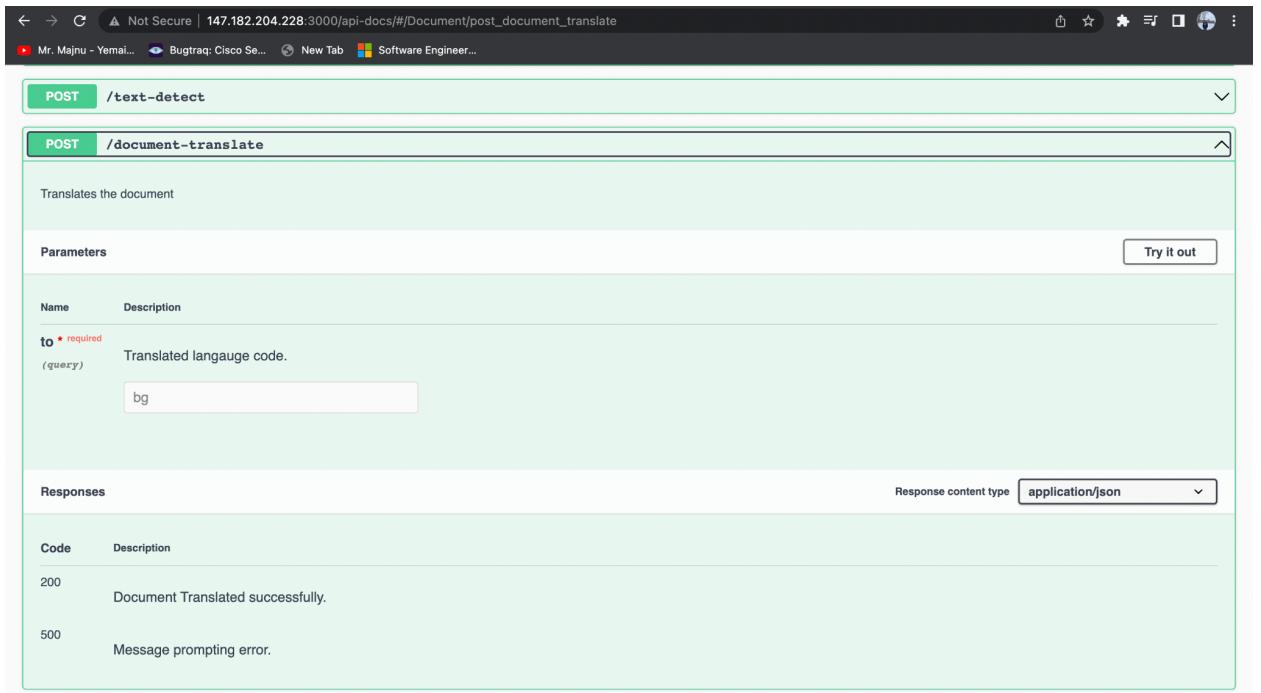
### 3. /document-translate

- This /document-translate endpoint is used to convert a static document which is in a certain language to any other specified language.
- For my project, the document is initially in English language and its name is **document.txt**.
- The content in this text document is



- Initially send a POST request to the URL-  
[http://147.182.204.228:3000/api-docs/#/Document/post\\_document\\_translate](http://147.182.204.228:3000/api-docs/#/Document/post_document_translate).
- This endpoint consists of 1 parameter and this parameter is of type query(**to**).
- This **to** param specifies the language to which the input text must be translated to.
- When this is executed, the entire document would be translated to the language mentioned in the above param.
- Upon successful translation, we could see the message “Translated the file” in the response body of server response section.

- **Swagger Parameters and Execution:**

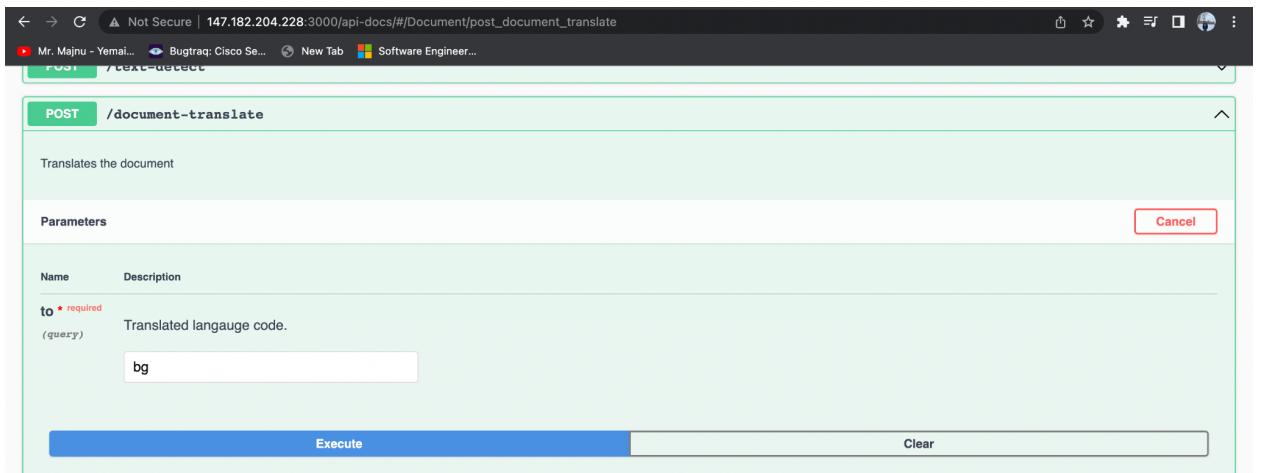


The screenshot shows the Swagger UI interface for a REST API. At the top, the URL is 147.182.204.228:3000/api-docs/#/Document/post\_document\_translate. Below the URL, there are tabs for 'POST /text-detect' and 'POST /document-translate'. The 'POST /document-translate' tab is active, showing the following details:

- Description:** Translates the document
- Parameters:**

Name	Description
<b>to</b> <small>required</small> (query)	Translated language code. Value: bg
- Responses:**

Code	Description
200	Document Translated successfully.
500	Message prompting error.
- Response content type:** application/json



This screenshot is similar to the one above, but it includes a prominent blue 'Execute' button at the bottom of the parameter section. The rest of the interface and data are identical to the first screenshot.

- **Swagger Responses:**

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**Responses**

**Curl**

```
curl -X 'POST' \
'http://147.182.204.228:3000/document-translate?to=bg' \
-H 'accept: application/json' \
-d ''
```

**Request URL**

```
http://147.182.204.228:3000/document-translate?to=bg
```

**Server response**

Code	Details
200	<b>Response body</b> Translated the file <a href="#">Download</a>
	<b>Response headers</b>
	access-control-allow-origin: * connection: keep-alive content-length: 10 content-type: text/html; charset=utf-8 date: Mon, 02 May 2022 02:21:15 GMT etag: W/"13-/skYjGNXIPwLSUPCkg5A4IqvewCA" keep-alive: timeout=5 x-powered-by: Express

**Responses**

Code	Description
200	Document Translated successfully.
500	Message prompting error.

- **Postman:**

Working locally in Scratch Pad. Switch to a Workspace

Scratch Pad

New Import Overview POST http://lo ● GET https://dr ● POST https://r ● POST http://lo ● POST http://lo ● GET http://loc ● + ... No Environment

http://localhost:3000/document?to=fr

POST http://localhost:3000/document-translate?to=bg

Params Authorization Headers (7) Body Pre-request Script Tests Settings Cookies

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> to	bg	
Key	Value	Description

Body Cookies Headers (8) Test Results

Pretty Raw Preview Visualize HTML

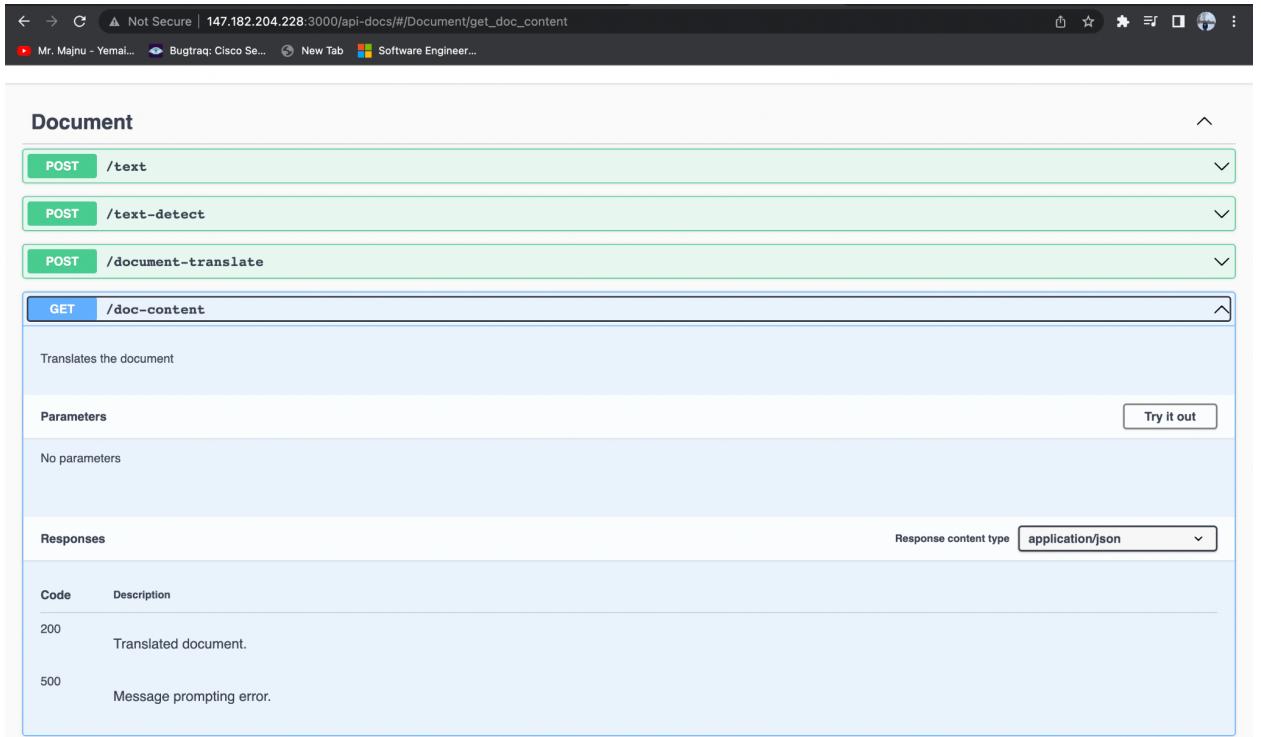
1 Translated the file

Status: 200 OK Time: 687 ms Size: 279 B Save Response

Find and Replace Console Runner Trash

## 4. /doc-content

- This /doc-content is used to retrieve the contents from the translated document.
- This endpoint doesn't have any parameters.
- Initially send a GET request to the URL -  
[http://147.182.204.228:3000/api-docs/#/Document/get\\_doc\\_content](http://147.182.204.228:3000/api-docs/#/Document/get_doc_content).
- This retrieves the translated content and prints it in the response body of server response section.
- **Swagger Execution:**



The screenshot shows the Swagger UI interface for the /doc-content endpoint. At the top, there's a browser header with the URL [http://147.182.204.228:3000/api-docs/#/Document/get\\_doc\\_content](http://147.182.204.228:3000/api-docs/#/Document/get_doc_content). Below the header, the main content area is titled "Document". It lists several API operations:

- POST /text
- POST /text-detect
- POST /document-translate
- GET /doc-content

The "GET /doc-content" operation is currently selected. Its details are shown below:

Translates the document

Parameters

No parameters

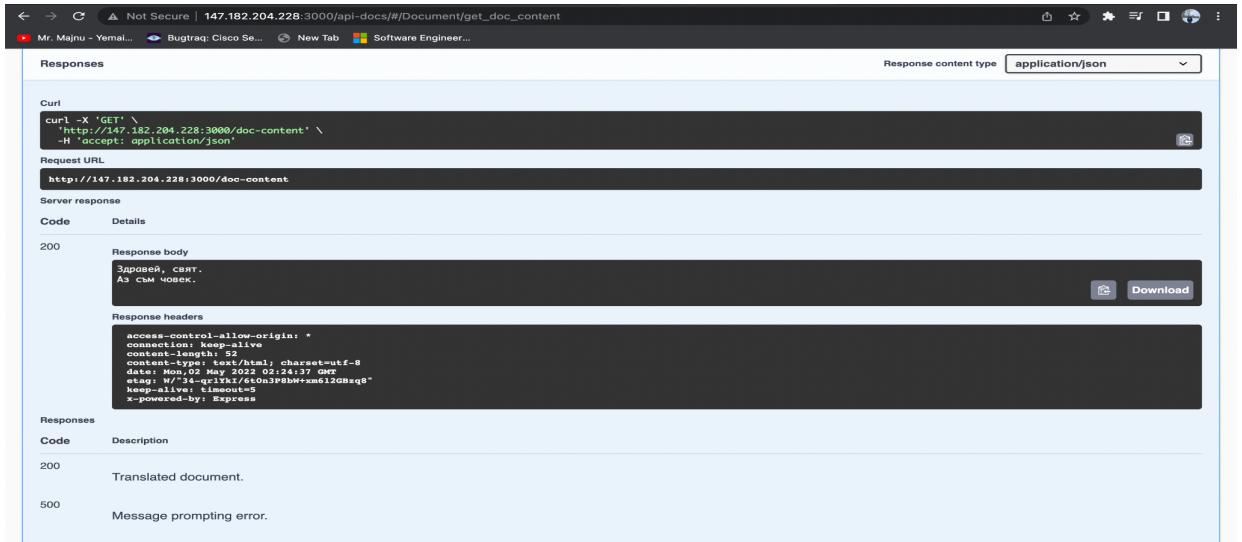
Responses

Response content type: application/json

Code	Description
200	Translated document.
500	Message prompting error.

A "Try it out" button is located in the top right corner of the "Responses" section.

- **Swagger Responses:**



The screenshot shows the detailed response for the /doc-content endpoint. At the top, there's a browser header with the URL [http://147.182.204.228:3000/api-docs/#/Document/get\\_doc\\_content](http://147.182.204.228:3000/api-docs/#/Document/get_doc_content). Below the header, the main content area is titled "Responses". It shows the curl command to make the request:

```
curl -X 'GET' \
'http://147.182.204.228:3000/doc-content' \
-H 'accept: application/json'
```

The "Request URL" is listed as <http://147.182.204.228:3000/doc-content>. The "Server response" section shows the response details:

Code: 200

Response body:  
Здравей, свят.  
Аз съм човек.

Response headers:  
access-control-allow-origin: \*  
connection: keep-alive  
content-length: 52  
content-type: text/html; charset=utf-8  
date: Mon, 02 May 2022 02:24:37 GMT  
etag: W/34-qrlkT2/6to3P8bW+xm612GBsq8\*  
last-modified: Mon, 02 May 2022 02:24:37 GMT  
x-powered-by: Express

Responses

Response content type: application/json

Code	Description
200	Translated document.
500	Message prompting error.

- **Postman:**

The screenshot shows the Postman interface in 'Scratch Pad' mode. On the left, there's a sidebar with 'Collections', 'APIs', 'Environments', 'Mock Servers', and 'Monitors'. The 'History' tab is selected. In the main area, a request is being made to 'http://localhost:3000/doc-content' via a GET method. The 'Params' tab is active, showing a single 'Key' entry. The 'Body' tab shows the response body, which includes two lines of Russian text: '1. Здравей, светъ.' and '2. Аз съм човек.' Below the response, it says 'Status: 200 OK Time: 177 ms Size: 312 B' and has a 'Save Response' button.

## Request Headers:

Name	Description
Ocp-Apim-Subscription-Key	Azure key for the translator
Content-Type	Content type of the header

## Status Codes:

Status Code	Meaning
200	Success
500	Error

## **Tools, Languages and Frameworks Used:**

- **Node JS** - Used for implementation of the API.
- **Npm** - Used for dependencies within the Node JS application.
- **Swagger** - Used for API documentation and testing.
- **Git** - Used for code evaluation.
- **Digital Ocean** - Used for deploying the project.

## **References:**

<https://azure.microsoft.com/en-us/services/cognitive-services/translator/>