

ITIS-6177-System Integration

Microsoft Azure Text Translator API

Technical Documentation

Pranusha Apuri (801273476)
papuri@uncc.edu

Introduction:

The Translator service's text translation feature is a cloud-based REST API that makes use of neural machine translation technology to offer rapid and accurate source-to-target text translation in real time for all languages that are supported.

Text translation features:

The following methods are supported by the Text Translation feature:

Languages:

Provides a list of the languages that can be used for dictionary lookup, transliteration, and translation.

Translate:

Translates a single source-language text into several target-language texts with just one request.

Transliterate:

Converts characters or letters of a source language to the corresponding characters or letters of a target language.

Detect:

Returns the identified language's source code along with a boolean variable indicating whether text translation and transliteration are supported for the detected language.

Dictionary lookup:

Returns equivalent words for the source term in the target language.

Dictionary example:

Returns grammatical structure and context examples for the source term and target term pair.

Implementation:

1.languages

This is used to get all the languages supported by API.

Method: Get

GET Request URL: <http://137.184.102.57:3002/languages>

Response:

Code Description

200 Success

400 Bad Request. Might be invalid input

500 Internal Server Error

Testing in Postman for GET request:

The screenshot shows the Postman interface for a GET request to `http://137.184.102.57:3002/languages`. The request is successful, returning a 200 OK status with a response time of 423 ms and a size of 80.21 KB. The response body is displayed in JSON format, showing a list of languages with their names, native names, and directions.

Query Params

| KEY | VALUE | DESCRIPTION |
|-----|-------|-------------|
| Key | Value | Description |

Body

```
1 {
2   "translation": {}
3   "af": {
4     "name": "Afrikaans",
5     "nativeName": "Afrikaans",
6     "dir": "ltr"
7   },
8   "am": {
9     "name": "Amharic",
10    "nativeName": "አማርኛ",
11    "dir": "ltr"
12  },
13  "ar": {
14    "name": "Arabic",
15    "nativeName": "العربية",
16    "dir": "rtl"
17  },
18  "as": {
19    "name": "Assamese",
20    "nativeName": "অসমীয়া",
21    "dir": "ltr"
22  }
```

2.translate

Method: POST

POST Request URL: <http://137.184.102.57:3002/translate>

Parameters required for POST request:

from(mandatory): from language

to(mandatory): translate to language

text(mandatory): text that is required to translate

Response:

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

Testing in Postman for POST request:

Search Postman

Invite

Overview

POST http://137.184.102.57: No Environment

Save

Send

POST http://137.184.102.57:3002/translate

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

none form-data x-www-form-urlencoded raw binary GraphQL

| | KEY | VALUE | DESCRIPTION | ... | Bulk Edit |
|-------------------------------------|------|--------------|-------------|-----|-----------|
| <input checked="" type="checkbox"/> | from | en | | | |
| <input checked="" type="checkbox"/> | to | es | | | |
| <input checked="" type="checkbox"/> | text | Hello World! | | | |
| | Key | Value | Description | | |

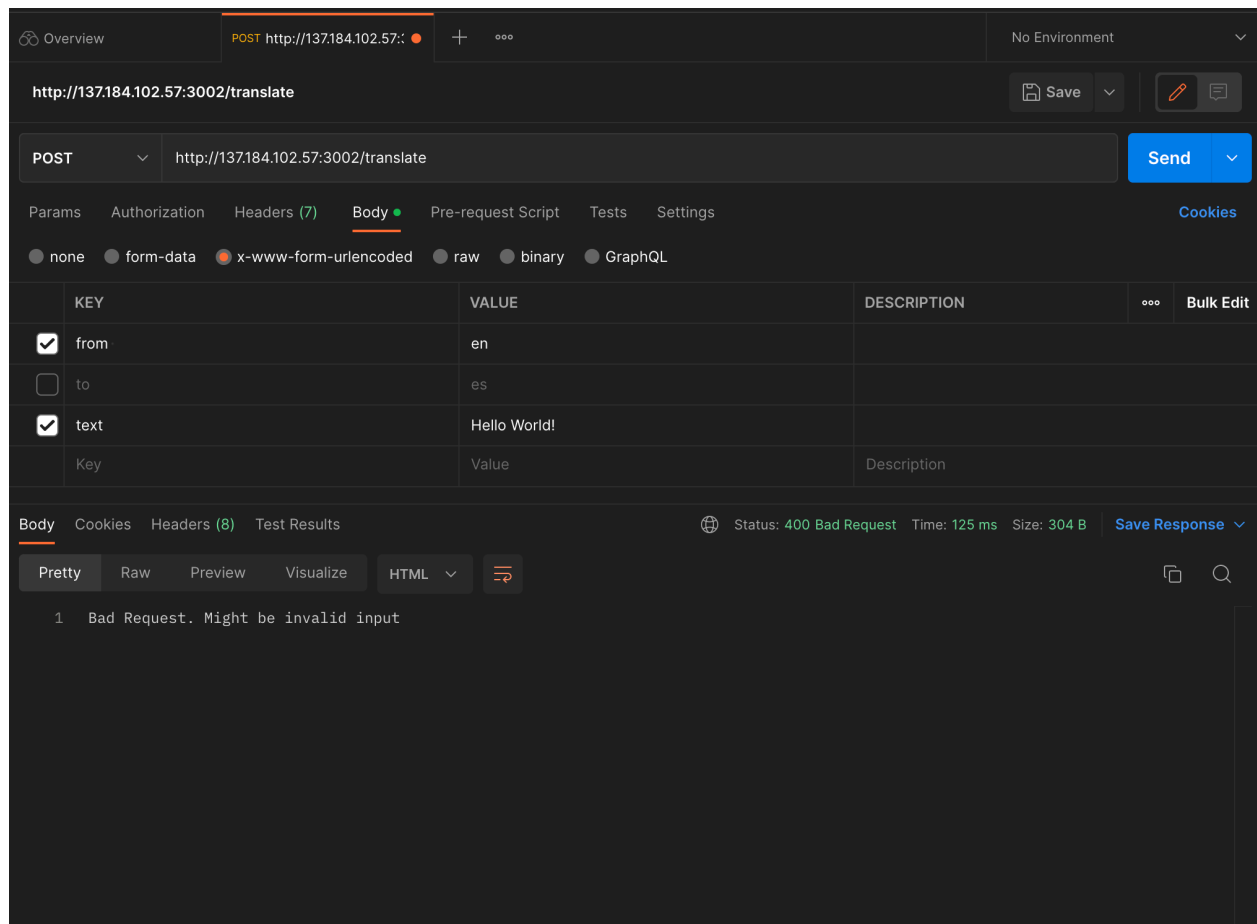
Body Cookies Headers (8) Test Results

Status: 200 OK Time: 168 ms Size: 502 B Save Response

Pretty Raw Preview Visualize HTML

```
1  [
2  {
3    "detectedLanguage": {
4      "language": "en",
5      "score": 1
6    },
7    "translations": [
8      {
9      "text": ";Hola mundo!",
10     "to": "es"
11     }
12   ]
13 }
14 ]
```

Response when one input is missing for POST request:



3.transliterate

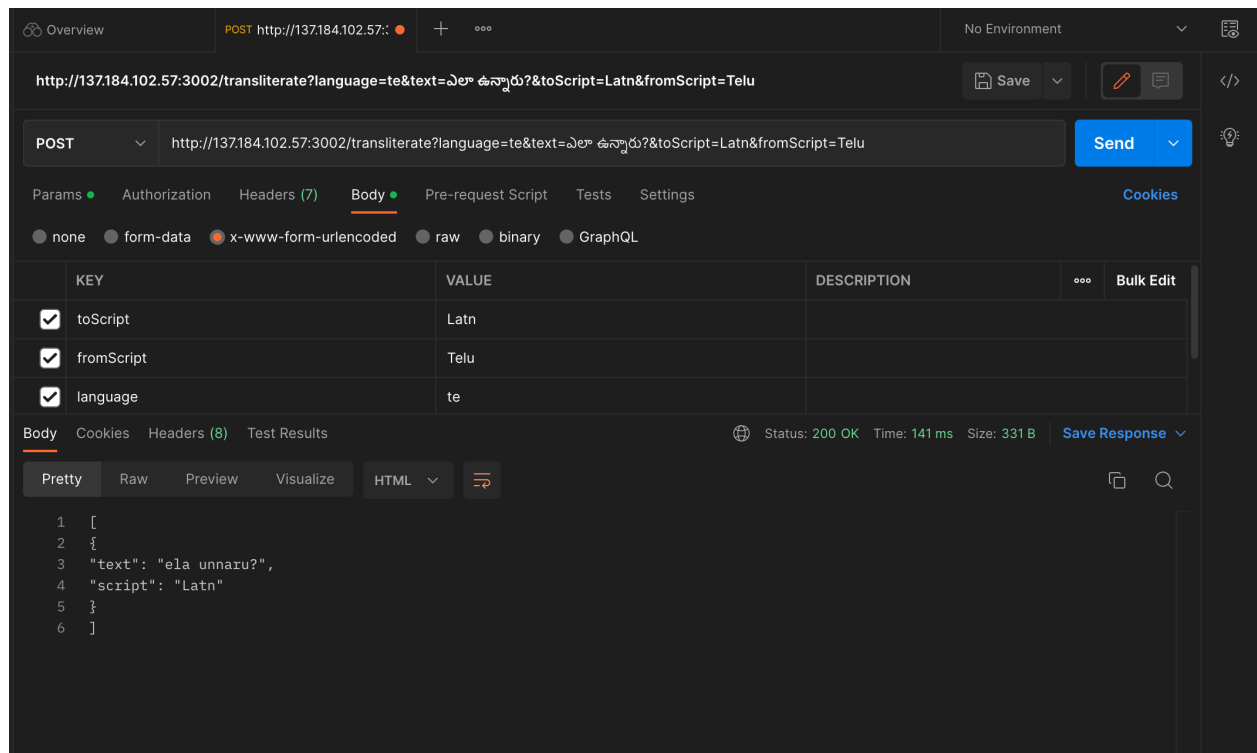
Map source language script or alphabet to a target language script or alphabet.

Method: POST

POST Request URL: <http://137.184.102.57:3002/transliterate>

Parameters required for POST request:

language(mandatory): source language
fromScript(mandatory): source script
toScript(mandatory): target script
text(mandatory): source text to transliterate



4.detect

Language detection without translation

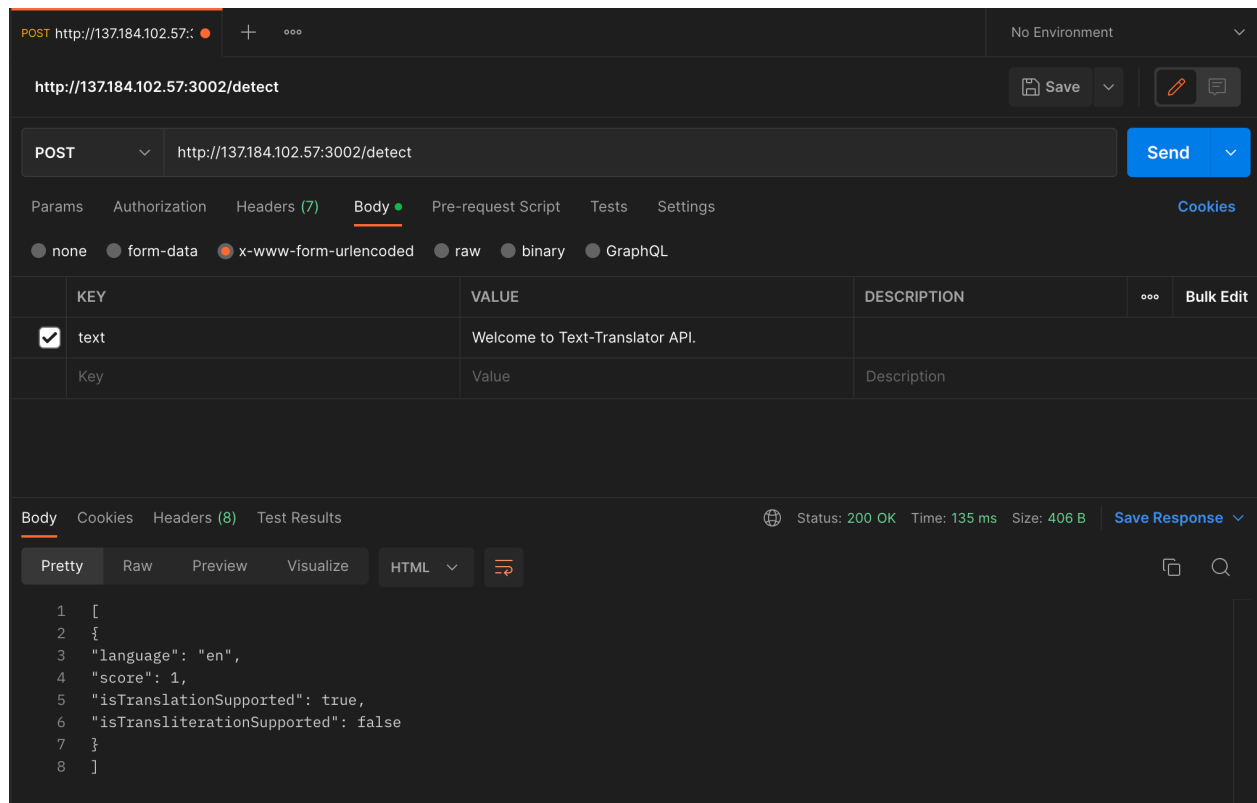
Method: POST

POST Request URL: <http://137.184.102.57:3002/detect>

Parameters required for POST request:

text(mandatory): to check whether the given text can be translated or not

Testing in Postman for POST request:



5.breaksentence

Sentence length without translation

Method: POST

POST Request URL: <http://137.184.102.57:3002/breaksentence>

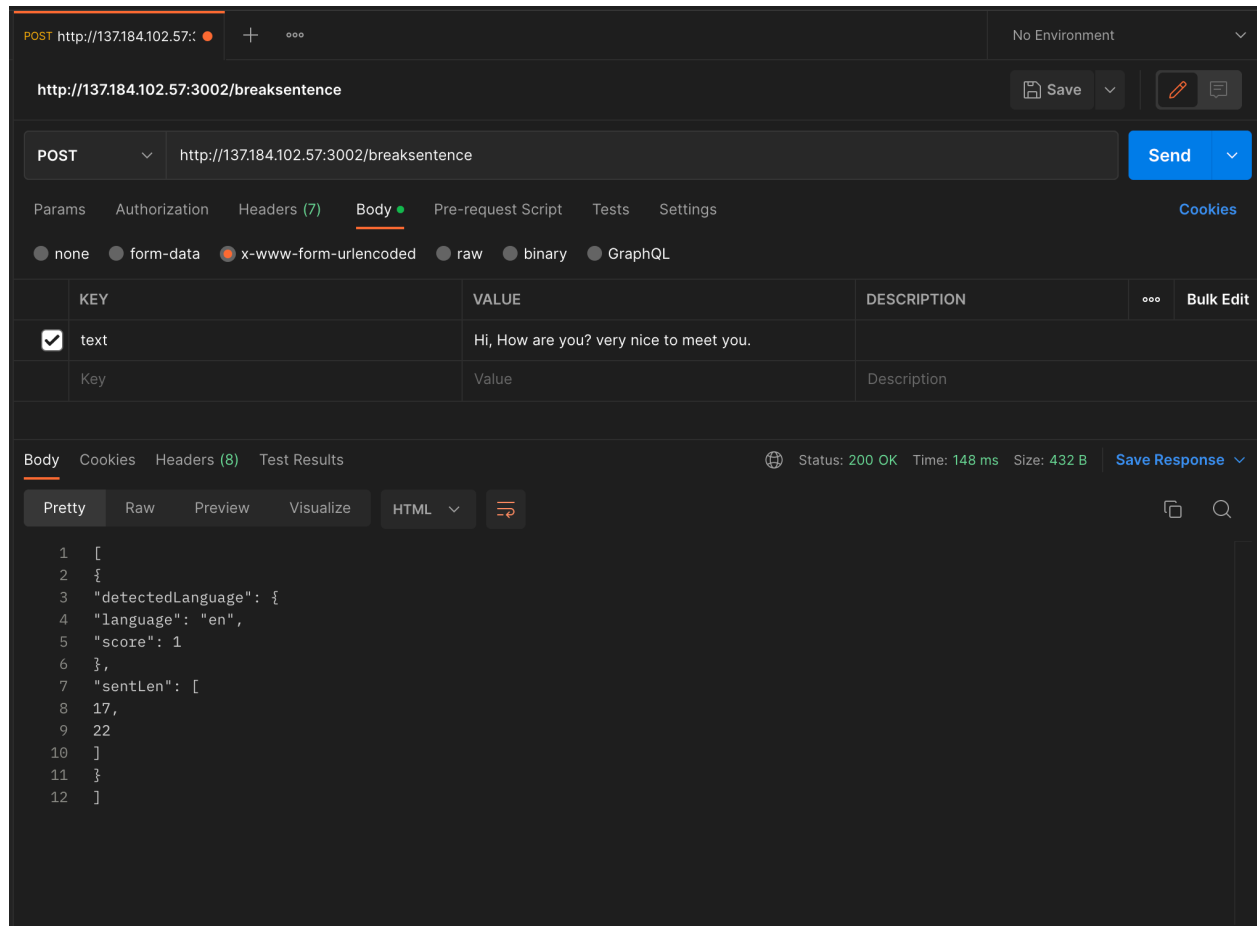
Parameters required for POST request:

text(mandatory): text input to get the sentence length

Response:

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

Testing in Postman for POST request:



6. dictionarylookup

Dictionary lookup (alternate translations)

Method: POST

POST Request URL: <http://137.184.102.57:3002/dictionarylookup>

Parameters required for POST request:

from: source language

to: target language

text: text to be translated and lookup

Response:

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

Testing in Postman for POST request:

The screenshot shows the Postman interface for a POST request to the URL `http://137.184.102.57:3002/dictionarylookup?from=en&to=es&text=Hello`. The request is configured with the following parameters:

| KEY | VALUE | DESCRIPTION |
|------|-------|-------------|
| from | en | |
| to | es | |
| text | Hello | |

The response is a JSON object, displayed in the "Body" tab. The status is 200 OK, with a response time of 151 ms and a size of 3.91 KB. The JSON response is as follows:

```
7  "normalizedTarget": "hola",
8  "displayTarget": "Hola",
9  "posTag": "NOUN",
10 "confidence": 0.9027,
11 "prefixWord": "",
12 "backTranslations": [
13   {
14     "normalizedText": "hello",
15     "displayText": "Hello",
16     "numExamples": 15,
17     "frequencyCount": 11878
18   },
19   {
20     "normalizedText": "hi",
21     "displayText": "Hi",
22     "numExamples": 15,
23     "frequencyCount": 8090
```

7. sentencelength

Translates the given text to target language and gets the length of the sentence

Method: POST

POST Request URL: <http://137.184.102.57:3002/sentencelength>

Parameters required for POST request:

To(mandatory): target language

text(mandatory): text that to get the sentence length

Response:

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

Testing in Postman for POST request:

POST http://137.184.102.57:3002/sentencelength

Save Send

POST http://137.184.102.57:3002/sentencelength

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

none form-data x-www-form-urlencoded raw binary GraphQL

| | KEY | VALUE | DESCRIPTION | ... | Bulk Edit |
|-------------------------------------|------|----------------------|-------------|-----|-----------|
| <input checked="" type="checkbox"/> | to | es | | | |
| <input checked="" type="checkbox"/> | text | I am going to school | | | |
| | Key | Value | Description | | |

Body Cookies Headers (8) Test Results Status: 200 OK Time: 184 ms Size: 727 B Save Response

Pretty Raw Preview Visualize HTML


```
1 [
2 {
3   "detectedLanguage": {
4     "language": "en",
5     "score": 1
6   },
7   "translations": [
8     {
9       "text": "Voy a la escuela",
10      "to": "es",
11      "sentLen": {
12        "srcSentLen": [
13          20
14        ],
15        "transSentLen": [
16          16
17        ]
18      }
19    }
20  ]
21 }
```

Executing with Swagger:

Link to open the swagger link: <http://137.184.102.57:3002/docs/>.

Click on any of them below to test the API.

← → ↻ Not Secure | 137.184.102.57:3002/docs/ ☆ ⚙️ 📄 ⓘ Update

 **Swagger**
Powered by SMARTBEAR

Text Translator ^{1.0.0}

[Base URL: 137.184.102.57:3002/]

Microsoft Azure Text-Translator API autogenerated by Swagger documentation.

Authorize 

default ^

- GET /languages
- POST /translate
- POST /transliterate
- POST /detect
- POST /breaksentence
- POST /dictionarylookup
- POST /sentencelength

1. languages

Click on try it out to get the list of all the languages.

GET /languages ^

Return the list of all languages

Parameters Try it out

No parameters

Responses Response content type: application/json

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

Click on execute to get the results below

Responses

Response content typeapplication/json

Curl

curl -X 'GET' \n'http://137.184.102.57:3002/languages' \n-H 'accept: application/json'

Request URL

http://137.184.102.57:3002/languages

Server response

CodeDetails

200

Response body

```
{  "translation": {    "af": {      "name": "Afrikaans",      "nativeName": "Afrikaans",      "dir": "ltr"    },    "am": {      "name": "Amharic",      "nativeName": "አማርኛ",      "dir": "ltr"    },    "ar": {      "name": "Arabic",      "nativeName": "العربية",      "dir": "rtl"    },    "as": {      "name": "Assamese",      "nativeName": "অসমীয়া",      "dir": "ltr"    },    "az": {      "name": "Azerbaijani"
```

Download

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 81869
content-type: text/html; charset=utf-8
date: Sat, 03 Dec 2022 21:41:58 GMT
etag: W/"13fed-iccKhbenJlvJLijAgAcQJDCWUzc"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

2. translate

Click on try it out to translate the text.

POST

/translate

Translate the text from the specified source language into the desired target language.

Parameters

Try it out

| Name | Description |
|------------------------|---|
| reqBody | request body |
| object | Example Value Model |
| (body) | <pre>{ "from": "en", "to": "es", "text": "Hello World!" }</pre> |
| Parameter content type | |
| application/json | |

Responses

Response content type

application/json

| Code | Description |
|------|-------------------------------------|
| 200 | Success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

click on execute to translate the text.

Responses

Response content type

application/json

Curl

```
curl -X 'POST' \
  'http://137.184.102.57:3002/translate' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "from": "en",
    "to": "es",
    "text": "Hello World!"
  }'
```

Request URL

http://137.184.102.57:3002/translate

Server response

Code

Details

200

Response body

```
[
  {
    "translations": [
      {
        "text": "¡Hola mundo!",
        "to": "es"
      }
    ]
  }
]
```

Download

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 147
content-type: text/html; charset=utf-8
date: Sat, 03 Dec 2022 21:45:56 GMT
etag: W/"93-BwMnQy7XR+Hn1DnwR8FFAgN95s"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

Code

Description

200

Success

400

Bad Request. Might be invalid input

500

Internal Server Error

3. transliterate

Click on try it out to transliterate the text.

POST

/transliterate

Map source language script or alphabet to a target language script or alphabet.

Parameters

Try it out

| Name | Description |
|-----------------------|--|
| reqBody object (body) | request body Example Value Model <pre>{ "language": "te", "fromScript": "Telu", "toScript": "Latn", "text": "ఎలా ఉన్నాడు?"}</pre> Parameter content type application/json |

Responses

Response content type application/json

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

click on execute to transliterate the text.

Responses

Response content type application/json

Curl

```
curl -X 'POST' \  'http://137.184.102.57:3002/transliterate' \  -H 'accept: application/json' \  -H 'Content-Type: application/json' \  -d '{  "language": "te",  "fromScript": "Telu",  "toScript": "Latn",  "text": "ఎలా ఉన్నాడు?"  }'
```

Request URL

```
http://137.184.102.57:3002/transliterate
```

Server response

| Code | Details |
|------|--|
| 200 | <div>Response body<pre>[{ "text": "ela unnaru?", "script": "Latn" }]</pre></div> <div>Response headers<pre>access-control-allow-origin: * connection: keep-alive content-length: 71 content-type: text/html; charset=utf-8 date: Fri, 09 Dec 2022 19:19:16 GMT etag: W/"43-pu6p4i23hs3bqVWmAcRLLEtAhM" keep-alive: timeout=5 x-powered-by: Express</pre></div> |

Responses

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

4. detect

Click on try it out to detect the text.

POST /detect

Language identification without translation

Parameters Try it out

| Name | Description |
|-----------------------------|---------------------------------------|
| reqBody object (body) | request body Example Value Model |

```
{  
  "text": "Welcome to Text-Translator API."  
}
```

Parameter content type
application/json

Responses Response content type application/json

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

click on execute to detect the text.

Responses Response content type: application/json

Curl

```
curl -X 'POST' \
  'http://137.184.102.57:3002/detect' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "text": "Welcome to Text-Translator API."
  }'
```

Request URL

http://137.184.102.57:3002/detect

Server response

| Code | Details |
|------|---|
| 200 | <p>Response body</p> <pre>[{ "language": "en", "score": 1, "isTranslationSupported": true, "isTransliterationSupported": false }]</pre> <p>Response headers</p> <pre>access-control-allow-origin: * connection: keep-alive content-length: 145 content-type: text/html; charset=utf-8 date: Sat, 03 Dec 2022 21:58:00 GMT etag: W/"91-sqlmKV5nWvz2vsfrJuDhMDhEfw" keep-alive: timeout=5 x-powered-by: Express</pre> |

Responses

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

5. breaksentence

Click on try it out to get the sentence length of the text after a break.

POST /breaksentence

Sentence length without translation

Parameters Try it out

| Name | Description |
|---------|--|
| reqBody | request body |
| object | Example Value Model |
| (body) | <pre>{ "text": "Hi, How are you? very nice to meet you." }</pre> |

Parameter content type

application/json

Responses Response content type: application/json

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Server Error |

click on execute to get the sentence length of the text after a break.

Responses

Response content typeapplication/json

Curl

```
curl -X 'POST' \
  'http://137.184.102.57:3002/breaksentence' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "text": "Hi, How are you? very nice to meet you."
  }'
```

Request URL

http://137.184.102.57:3002/breaksentence

Server response

| Code | Details |
|------|--|
| 200 | <div><div>Response body</div><div><pre>[{ "detectedLanguage": { "language": "en", "score": 1 }, "sentLen": [17, 22] }]</pre></div><div> Download</div></div> |

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 171
content-type: text/html; charset=utf-8
date: Sat, 03 Dec 2022 21:57:08 GMT
etag: W/"ab-102w5DQKz4W9fGzHNBw3ovDMS"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

6. dictionarylookup

Click on try it out to lookup the text.

POST /dictionarylookup

Dictionary lookup (alternate translations)

Parameters

Try it out

| Name | Description |
|-----------------------------|--|
| reqBody object (body) | request body |
| | Example Value Model |
| | <pre>{ "from": "en", "to": "es", "text": "Hello" }</pre> |
| | Parameter content type |
| | <div>application/json</div> |

Responses

Response content type application/json

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

click on execute to get the dictionary lookup of the text.

Responses

Response content type application/json

Curl

```
curl -X 'POST' \
'http://137.184.102.57:3002/dictionarylookup' \
-H 'accept: application/json' \
-H 'Content-Type: application/json' \
-d '{
  "from": "en",
  "to": "es",
  "text": "Hello"
}'
```

Request URL

http://137.184.102.57:3002/dictionarylookup

Server response

| Code | Details |
|------|--|
| 200 | <div>Response body<div><pre>[{ "normalizedSource": "hello", "displaySource": "Hello", "translations": [{ "normalizedTarget": "hola", "displayTarget": "Hola", "posTag": "NOUN", "confidence": 0.9027, "prefixWord": "", "backTranslations": [{ "normalizedText": "hello", "displayText": "Hello", "numExamples": 15, "frequencyCount": 11878 }, { "normalizedText": "hi", "displayText": "Hi", "numExamples": 15, "frequencyCount": 8090 }] }] }]</pre></div><div>Download</div></div> |

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 3744
content-type: text/html; charset=utf-8
date: Sat, 03 Dec 2022 21:53:55 GMT
etag: W/"ea0-nCDREHw/NTPqQ79bLoLQMhNU6A4"
keep-alive: timeout=5
x-powered-by: Express
```

7. sentencelength

Click on try it out to get the sentencelength

POST

/sentencelength

⌵

Translates the given text to target language and gets the length of the sentence

Parameters

Try it out

| Name | Description |
|------------------------|--|
| reqBody | request body |
| object | Example Value Model |
| (body) | <pre>{ "to": "es", "text": "I am going to school." }</pre> |
| Parameter content type | |
| application/json | |

Responses

Response content type

application/json

⌵

| Code | Description |
|------|-------------------------------------|
| 200 | success |
| 400 | Bad Request. Might be invalid input |
| 500 | Internal Sever Error |

click on execute to get the length the text.

Responses Response content type application/json

Curl

```
curl -X 'POST' \
'http://137.184.102.57:3002/sentencelength' \
-H 'accept: application/json' \
-H 'Content-Type: application/json' \
-d '{
  "to": "es",
  "text": "I am going to school."
}'
```

Request URL

<http://137.184.102.57:3002/sentencelength>

Server response

| Code | Details |
|------|--|
| 200 | <p>Response body</p> <pre>[{ "detectedLanguage": { "language": "en", "score": 1 }, "translations": [{ "text": "Voy a la escuela.", "to": "es", "sentLen": { "srcSentLen": [21], "transSentLen": [17] } }] }]</pre> <p>Response headers</p> <pre>access-control-allow-origin: * connection: keep-alive content-length: 466 content-type: text/html; charset=utf-8 date: Sat, 01 Dec 2022 21:52:28 GMT etag: W/"1d2-QTVngsL8GBiIbmegwRtP3TOIQ/I" keep-alive: timeout=5 x-powered-by: Express</pre> |

Responses

| Code | Description |
|------|-------------|
| 200 | SUCCESS |

References:

<https://learn.microsoft.com/en-us/azure/cognitive-services/translator/text-translation-overview>

<https://learn.microsoft.com/en-us/azure/cognitive-services/translator/text-translation-overview#text-translation-features>

<https://github.com/MicrosoftTranslator/Text-Translation-Code-Samples/tree/main/NodeJS-Code-Samples>