# Package ‘mscstts’

**May 23, 2020**

**Type** Package  

**Version** 0.5.5  

**Title**  
R Client for the Microsoft Cognitive Services 'Text-to-Speech' REST API  

**Description**  
R Client for the Microsoft Cognitive Services 'Text-to-Speech' REST API, including voice synthesis. A valid account must be registered at the Microsoft Cognitive Services website <https://www.microsoft.com/cognitive-services/> in order to obtain a (free) API key. Without an API key, this package will not work properly.  

**License** GPL-3  

**Encoding** UTF-8  

**LazyData** true  

**Suggests** knitr, rmarkdown, covr, testthat (>= 2.1.0), rvest, xml2, zoo  

**URL** https://github.com/muschellij2/mscstts  

**BugReports** https://github.com/muschellij2/mscstts/issues  

**RoxygenNote** 7.1.0  

**Imports** httr, jsonlite, tuneR  

**NeedsCompilation** no  

**Author** John Muschelli [aut, cre] (<https://orcid.org/0000-0001-6469-1750>)  

**Maintainer** John Muschelli <muschellij2@gmail.com>  

**Repository** CRAN  

**Date/Publication** 2020-05-23 05:10:02 UTC  

---

**R topics documented:**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ms_create_ssml</td>
<td>2</td>
</tr>
<tr>
<td>ms_get_tts_key</td>
<td>3</td>
</tr>
<tr>
<td>ms_get_tts_token</td>
<td>4</td>
</tr>
<tr>
<td>ms_language_to_ms_name</td>
<td>4</td>
</tr>
</tbody>
</table>

---
ms_create_ssml

Create SSML for Passing to Synthesize

Description
Create SSML for Passing to Synthesize

Usage
ms_create_ssml(
  script,
  voice = NULL,
  gender = c("Female", "Male"),
  language = "en-US",
  escape = FALSE
)

ms_voice_info(voice, token = NULL, api_key = NULL, region = NULL)

Arguments
script A character vector of lines to be spoken
voice full voice name, usually from ms_language_to_ms_name. Will override language and gender.
gender Sex of the Speaker
language Language to be spoken, must be from ms_language_codes
escape Should non-standard characters be substituted? Should not be used if script has SSML tags
token An authentication token, base-64 encoded usually from ms_get_tts_token. If not provided, will be created from ms_get_tts_token
api_key Microsoft Cognitive Services API key, if token is not provided.
region Subscription region for your key. See https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech

Value
A character string of the text and SSML markup
ms_get_tts_key

**Examples**

- `ms_create_ssm('hey I really like things & dogs', escape = TRUE)`
- `ms_create_ssm('hey I really like things')`
- `ms_create_ssm('hey I <emphasis level="strong">really like</emphasis> things')`
- `ms_create_ssm('hey I <emphasis level="strong">really like</emphasis> things', escape = TRUE)`

---

**ms_get_tts_key**  
*Find API Key for Microsoft Text To Speech (TTS) or Cognitive Services*

**Description**

Determines if `option(ms_tts_key)` or `option(ms_tts_key)` is set. If not, it stops and returns an error. If so, returns the value.

**Usage**

- `ms_get_tts_key(api_key = NULL, error = TRUE)`
- `ms_have_tts_key(api_key = NULL)`
- `ms_set_tts_key(api_key)`
- `ms_valid_tts_key(api_key = NULL, region = ms_regions())`

**Arguments**

- `api_key`  
  Microsoft Cognitive Services API key
- `error`  
  Should the function error if `api_key = NULL`?
- `region`  
  Subscription region for your key. See [https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech](https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech)

**Value**

API key

**Note**

You can either set the API key using `option(ms_tts_key)` or have it accessible by `api_key = Sys.getenv("MS_TTS_API_KEY"), or `code(api_key = Sys.getenv("MS_TTS_API_KEY1")), or `code(api_key = Sys.getenv("MS_TTS_API_KEY2"))`

**Examples**

- `res = ms_get_tts_key(error = FALSE)`
ms_language_to_ms_name

Language and Gender to Microsoft Voice Name

Description

Language and Gender to Microsoft Voice Name

Usage

ms_language_to_ms_name(language = "en-US", gender = c("Female", "Male"))

ms_validate_language_gender(language = "en-US", gender = c("Female", "Male"))
Arguments

- **language**: A language code, see `ms_language_codes`
- **gender**: Either Male or Female, not all languages support both genders

Value

A character string of the name of the voice

Examples

```r
ms_language_to_ms_name()
ms_validate_language_gender()
```

---

**ms_list_voices** | **List Voices**

Description

List Voices

Usage

```r
ms_list_voices(token = NULL, api_key = NULL, region = NULL, ...)
```

Arguments

- **token**: An authentication token, base-64 encoded usually from `ms_get_tts_token`. If not provided, will be created from `ms_get_tts_token`
- **api_key**: Microsoft Cognitive Services API key, if token is not provided.
- **region**: Subscription region for your key. See [https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech](https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech)
- **...**: Additional arguments to send to `GET`

Value

A `data.frame` of the names and their long names.

Examples

```r
## Not run:
if (ms_have_tts_key()) {
  res = ms_list_voices()
}
## End(Not run)
```
ms_locales  

Locales for Microsoft Translate

Description
Locales for Microsoft Translate

Usage
ms_locales()
ms_locale_df()
ms_languages()
ms_language_codes()

Value
A list of Locales and the Speech Voices

Note
This is generated from the JSON output of ms_list_voices

Examples
ms_locales()

ms_read_synthesis  

Read Synthesized output

Description
Read Synthesized output

Usage
ms_read_synthesis(output)

Arguments
output List from ms_synthesize with elements output_format and content

Value
A Wave Object
Note

The tuneR package cannot read all different types of the output here.

---

**ms_synthesize**

`Get Microsoft Text To Speech (TTS) or Cognitive Services Token from API Key`

**Description**

Get Microsoft Text To Speech (TTS) or Cognitive Services Token from API Key

**Usage**

```r
ms_synthesize(
  script,
  token = NULL,
  api_key = NULL,
  gender = c("Female", "Male"),
  language = "en-US",
  voice = NULL,
  output_format = c("raw-16khz-16bit-mono-pcm", "raw-8khz-8bit-mono-mulaw",
                    "riff-8khz-8bit-mono-alaw", "riff-8khz-8bit-mono-mulaw",
                    "riff-16khz-16bit-mono-pcm", "audio-16khz-128kbitrate-mono-mp3",
                    "audio-16khz-64kbitrate-mono-mp3", "raw-24khz-16bit-mono-pcm",
                    "riff-24khz-16bit-mono-pcm", "audio-24khz-160kbitrate-mono-mp3",
                    "audio-24khz-96kbitrate-mono-mp3", "audio-24khz-48kbitrate-mono-mp3"),
  escape = FALSE,
  region = NULL,
  api = c("tts", "bing"),
  ...
)
```

**Arguments**

- `script`: A character vector of lines to be spoken
- `token`: An authentication token, base-64 encoded usually from `ms_get_tts_token`. If not provided, will be created from `ms_get_tts_token`
- `api_key`: Microsoft Cognitive Services API key, if token is not provided.
gender  Sex of the Speaker
language  Language to be spoken, must be from ms_language_codes
voice  full voice name, usually from ms_language_to_ms_name. Will override language and gender.
output_format  Format of the output, see https://docs.microsoft.com/en-us/azure/cognitive-services/speech/api-reference-rest/bingvoiceoutput for more information
escape  Should non-standard characters be substituted? Should not be used if script has SSML tags. See ms_create_ssml
region  Subscription region for your key. See https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-apis#text-to-speech
api  which API to authorize on, either tts for text to speech or bing for Bing text to speech API
...  Additional arguments to send to POST

Value
A list of the request, content, token, and ‘SSML’.

Note
The content is likely in a binary format and the output depends on the ‘output_format’ chosen. For example, if the ‘output_format’ is an ‘MP3’, then see below example

Examples
```r
## Not run:
if (ms_have_tts_key()) {
  res = ms_synthesize(
    script = "hey, how are you doing? I'm doing pretty good",
    output_format = "audio-16khz-128kbitrate-mono-mp3")
  tmp <- tempfile(fileext = ".mp3")
  writeBin(res$content, con = tmp)
  mp3 = tuneR::readMP3(tmp)
}

## End(Not run)
ms_regions()
```

print.token  Print method for token

Description
Print method for token
print.token

Usage

## S3 method for class 'token'
print(x, reveal = FALSE, ...)

reveal(x, ...)

Arguments

x an object used to select a method.
reveal Should the token be revealed
... further arguments passed to or from other methods

Examples

x = "asdf"
class(x) = "token"
print(x)
attr(x, "timestamp") = Sys.time()
print(x)

print(x, reveal = TRUE)
Index

GET, 5

ms_auth_url (ms_get_tts_token), 4
ms_create_ssml, 2, 8
ms_expired_token (ms_get_tts_token), 4
ms_get_tts_key, 3
ms_get_tts_token, 2, 4, 4, 5, 7
ms_have_tts_key (ms_get_tts_key), 3
ms_language_codes, 2, 5, 8
ms_language_codes (mslocales), 6
ms_language_to_ms_name, 2, 4, 8
ms_languages (mslocales), 6
ms_list_voices, 5, 6
ms_locale_df (mslocales), 6
mslocales, 6
ms_read_synthesis, 6
ms_region (mssynthesize), 7
ms_regions (mssynthesize), 7
ms_set_region (mssynthesize), 7
ms_set_tts_key (msget_tts_key), 3
mssynthesize, 6, 7
mssynthesize_api_url (mssynthesize), 7
ms_valid_tts_key (msget_tts_key), 3
ms_validate_language_gender
  (ms_language_to_ms_name), 4
ms_voice_info (mscreate_ssml), 2

POST, 8
print.token, 8

reveal (print.token), 8