# Package ‘mscstts’

October 13, 2022

<table>
<thead>
<tr>
<th>Type</th>
<th>Package</th>
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<tbody>
<tr>
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<td>0.6.3</td>
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<tr>
<td>Title</td>
<td>R Client for the Microsoft Cognitive Services 'Text-to-Speech' REST API</td>
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<tr>
<td>Description</td>
<td>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 <a href="https://azure.microsoft.com/services/cognitive-services/">https://azure.microsoft.com/services/cognitive-services/</a> in order to obtain a (free) API key. Without an API key, this package will not work properly.</td>
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<td>License</td>
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<td>Suggests</td>
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<tr>
<td>URL</td>
<td><a href="https://github.com/muschellij2/mscstts">https://github.com/muschellij2/mscstts</a></td>
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<td>RoxygenNote</td>
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<td>httr, jsonlite, tuneR</td>
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ms_create_ssml

Create SSML for Passing to Synthesize

Description

Create SSML for Passing to Synthesize

Usage

```r
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/overview
**ms_get_tts_key**

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

**Value**

A character string of the text and SSML markup

**Examples**

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

---

**Usage**

```r
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/overview](https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview)

**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 `api_key = Sys.getenv("MS_TTS_API_KEY1"),` or `api_key = Sys.getenv("MS_TTS_API_KEY2")`


Examples

```r
res = ms_get_tts_key(error = FALSE)
```

---

**ms_get_tts_token**  
*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_get_tts_token(api_key = NULL, region = ms_regions())
ms_auth_url(region = ms_regions())
ms_expired_token(token = NULL)
```

Arguments

- **api_key**: Microsoft Cognitive Services API key
- **region**: Subscription region for your key. See [https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview#reference-docs](https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview#reference-docs)
- **token**: An authentication of class `token`, likely from `ms_get_tts_token`

Value

A list of the request, and token

Examples

```r
if (ms_valid_tts_key()) {
    token = ms_get_tts_token()
}
```
**ms_language_to_ms_name**

*Language and Gender to Microsoft Voice Name*

**Description**

Language and Gender to Microsoft Voice Name

**Usage**

```r
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/overview](https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview)
- `...`: Additional arguments to send to GET
ms_locales

Value

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

Examples

## Not run:
if (ms_have_tts_key()) {
  res = ms_list_voices()
}

## End(Not run)

## Not run:
res = ms_list_voices(region = "eastus")

## End(Not run)

---

<table>
<thead>
<tr>
<th>ms_locales</th>
<th>Locales for Microsoft Translate</th>
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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_locale_df()
Detailed Names of Microsoft Locales and Voices

Usage

ms_locales_df

Format

A data.frame with 2 columns:

- `locale` full name with Microsoft Server Speech Text to Speech Voice in there
- `display_name` short display name
- `local_name` local name
- `short_name` shorter than locale name, but has language code as well
- `gender` gender of the voice
- `code` the 5 character language code, separated by a hyphen, also referred to as a locale
- `sample_rate` sample rate (in Hz) of the voice
- `voice_type` Standard or Neural

Names of Microsoft Locales

Description

Names of Microsoft Locales

Usage

ms_locale_names

Format

A data.frame with 2 columns:

- `code` the 5 character language code, separated by a hyphen, also referred to as a locale
- `language` the name of the language
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
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",
                    "audio-16khz-32kbitrate-mono-mp3", "raw-24khz-16bit-mono-pcm",
                    "riff-24khz-16bit-mono-pcm", "audio-24khz-16kbitrate-mono-mp3",
                    "audio-24khz-96kbitrate-mono-mp3", "audio-24khz-48kbitrate-mono-mp3"),
  output_content = NULL,
  output_language = NULL,
  output_gender = c("Female", "Male"),
  output_voice = NULL)
ms_synthesize

    escape = FALSE,
    region = NULL,
    api = c("tts", "bing"),
    ...
)

ms_region(region = ms_regions())

ms_regions()

ms_set_region(region = ms_regions())

ms_synthesize_api_url(api = c("tts", "bing"), region = NULL)

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 lan-
            guage and gender.
    output_format Format of the output, see https://docs.microsoft.com/en-us/azure/cognitive-services/
                speech-service/how-to-migrate-from-bing-speech 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/overview#reference-docs
    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

### Usage

```r
## 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

```r
x = "asdf"
class(x) = "token"
print(x)
attr(x, "timestamp") = Sys.time()
print(x)
print(x, reveal = TRUE)
```
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