

Package ‘mscstts’

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Type Package

Version 0.6.4

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://azure.microsoft.com/en-us/products/ai-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/jhudsl/mscstts>

BugReports <https://github.com/jhudsl/mscstts/issues>

RoxygenNote 7.3.2

Imports httr, jsonlite, tuneR

Depends R (>= 2.10)

NeedsCompilation no

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ms_create_ssml	Create SSML for Passing to Synthesize
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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://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/overview

Value

A character string of the text and SSML markup

Examples

```
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)
```

ms_get_tts_key	<i>Find API Key for Microsoft Text To Speech (TTS) or Cognitive Services</i>
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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://learn.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 `\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_get_tts_token	<i>Get Microsoft Text To Speech (TTS) or Cognitive Services Token from API Key</i>
------------------	--

Description

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

Usage

```
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://learn.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

```
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

```
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

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

`ms_list_voices`*List Voices*

Description

List Voices

Usage

```
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://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/overview
...	Additional arguments to send to GET

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)
```

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_locale_df()
```

ms_locales_df	<i>Detailed Names of Microsoft Locales and Voices</i>
---------------	---

Description

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

ms_locale_names	<i>Names of Microsoft Locales</i>
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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	<i>Read Synthesized output</i>
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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	<i>Get Microsoft Text To Speech (TTS) or Cognitive Services Token from API Key</i>
---------------	--

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-160kbitrate-mono-mp3",  
    "audio-24khz-96kbitrate-mono-mp3", "audio-24khz-48kbitrate-mono-mp3"),
```



```

    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 language and gender.
output_format	Format of the output, see https://learn.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://learn.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

```
## 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

```
## 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)
```

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