

# Package ‘mscstts’

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**Type** Package

**Version** 0.6.2

**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/services/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/muschelli2/mscstts>

**BugReports** <https://github.com/muschelli2/mscstts/issues>

**RoxygenNote** 7.1.1

**Imports** httr, jsonlite, tuneR

**Depends** R (>= 2.10)

**NeedsCompilation** no

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ms_create_ssml	<i>Create SSML for Passing to Synthesize</i>
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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 <a href="#">ms_language_to_ms_name</a> . Will override language and gender.
gender	Sex of the Speaker
language	Language to be spoken, must be from <a href="#">ms_language_codes</a>
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 <a href="#">ms_get_tts_token</a> . If not provided, will be created from <a href="#">ms_get_tts_token</a>
api_key	Microsoft Cognitive Services API key, if token is not provided.
region	Subscription region for your key. See <a href="https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview">https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview</a>

**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

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


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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 <a href="https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview">https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview</a>

**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>
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---

## 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 <a href="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</a>
token	An authentication of class token, likely from <a href="#">ms_get_tts_token</a>

## 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 <a href="#">ms_language_codes</a>
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 <a href="#">ms_get_tts_token</a> . If not provided, will be created from <a href="#">ms_get_tts_token</a>
api_key	Microsoft Cognitive Services API key, if token is not provided.
region	Subscription region for your key. See <a href="https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview">https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/overview</a>
...	Additional arguments to send to <a href="#">GET</a>

**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

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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

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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 <a href="#">ms_get_tts_token</a> . If not provided, will be created from <a href="#">ms_get_tts_token</a>
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 <a href="#">ms_language_codes</a>
voice	full voice name, usually from <a href="#">ms_language_to_ms_name</a> . Will override language and gender.
output_format	Format of the output, see <a href="https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/how-to-migrate-from-bing-speech">https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/how-to-migrate-from-bing-speech</a> for more information
escape	Should non-standard characters be substituted? Should not be used if script has SSML tags. See <a href="#">ms_create_ssml</a>
region	Subscription region for your key. See <a href="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</a>
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 <a href="#">POST</a>

### 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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