

# Package ‘conrad’

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

**Version** 1.0.0.1

**Description** Convert text into synthesized speech and get a list of supported voices for a region. Microsoft's 'Cognitive Services Text to Speech REST' API <<https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/rest-text-to-speech?tabs=streaming>> supports neural text to speech voices, which support specific languages and dialects that are identified by locale.

**URL** <https://github.com/fhds1/conrad>

**BugReports** <https://github.com/fhds1/conrad/issues>

**License** MIT + file LICENSE

**Encoding** UTF-8

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ms_choose_voice	<i>Provide default voice when not provided</i>
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## Description

If 'voice' argument is not supplied to ms\_synthesize(), obtain full list of voices for a specified region and by default, use the first voice in that list.

## Usage

```
ms_choose_voice(
  api_key = NULL,
  gender = c("Female", "Male"),
  language = "en-US",
  region = "westus"
)
```

## Arguments

api_key	Microsoft Azure Cognitive Services API key
gender	Sex of speaker
language	Language to be spoken
region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>

## Value

List of gender, language, and full voice name

**Examples**

```
## Not run:
# Default voice whose gender is Female, language is English, and region is 'westus'
ms_choose_voice(gender = "Female", language = "en-US", region = "westus")

## End(Not run)
```

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ms_create_ssml	<i>Create Speech Synthesis Markup Language (SSML)</i>
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**Description**

Create Speech Synthesis Markup Language (SSML)

**Usage**

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

**Arguments**

script	A character vector of lines to be spoken
voice	Full voice name,
gender	Sex of the Speaker
language	Language to be spoken
escape	Should non-standard characters be substituted? Should not be used if script has SSML tags

**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)
```

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

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### Description

Determines if `option(ms_tts_key)` is set or key is stored in an environment variable (`MS_TTS_API_KEY`, `MS_TTS_API_KEY1`, `MS_TTS_API_KEY2`). If not found, stops and returns an error. If found, returns the value.

### Usage

```
ms_fetch_key(api_key = NULL, error = TRUE)
ms_exist_key(api_key = NULL)
ms_set_key(api_key)
ms_valid_key(api_key = NULL, region = "westus")
```

### Arguments

<code>api_key</code>	Microsoft Cognitive Services API key
<code>error</code>	Should the function error if <code>api_key = NULL</code> ?
<code>region</code>	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>

### Value

API key  
Logical vector, indicating whether user has API key.  
Logical vector, indicating whether API key is valid.

### Functions

- `ms_exist_key()`: Does user have API key?
- `ms_set_key()`: Set API Key as a global option
- `ms_valid_key()`: Check whether API key is valid

### 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

```
res = ms_fetch_key(api_key = NULL, error = FALSE)

# Don't provide api key but fetch it programmatically
ms_exist_key(api_key = NULL)

# Provide api key XXX
ms_exist_key(api_key = "XXX")

# Set api key XXX
ms_set_key(api_key = "XXX")

# Check whether API key is valid in westus
ms_valid_key(region = "westus")
```

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ms_get_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  
Check if token has expired

## Usage

```
ms_get_token(api_key = NULL, region = "westus")

ms_token_expired(token = NULL)
```

## Arguments

api_key	Microsoft Azure Cognitive Services API key
region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>
token	An authentication of class token, likely from <a href="#">ms_get_token</a>

## Value

A list of the request and token  
Logical vector, indicating whether token has expired

## Examples

```
# Get token where region is westus
token = ms_get_token(region = "westus")
```

```
# Check if token XXX has expired
ms_token_expired(token = "XXX")
```

---

ms_list_voice	<i>Get List of Voices for Specified Region</i>
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## Description

Obtains a full list of voices for a specific region.

## Usage

```
ms_list_voice(api_key = NULL, region = "westus")
```

## Arguments

api_key	Microsoft Azure Cognitive Services API key
region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>

## Details

For more info, see [Get a list of voices](#) from the Microsoft documentation.

## Value

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

## Examples

```
# List voices for westus
ms_list_voice(region = "westus")
```

```
# List voices for eastus
ms_list_voice(region = "eastus")
```

---

ms_region	<i>Check if provided region is supported by Speech service</i>
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---

**Description**

If region is supported, this function returns the region. If not supported, throws a warning message.

**Usage**

```
ms_region(region = conrad::region)
```

**Arguments**

region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>
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**Value**

Character vector of region

**Examples**

```
# Check if westus is supported
ms_region(region = "westus")
# Check if eastus is supported
ms_region(region = "eastus")
```

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ms_synthesize	<i>Convert Text to Speech</i>
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**Description**

Convert text to speech by using Speech Synthesis Markup Language (SSML)

**Usage**

```
ms_synthesize(
  script,
  region = "westus",
  api_key = NULL,
  token = NULL,
  gender = c("Female", "Male"),
  language = "en-US",
  voice = NULL,
  escape = FALSE
)
```

**Arguments**

script	A character vector of text to be converted to speech
region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>
api_key	Microsoft Azure Cognitive Services API key
token	An authentication token
gender	Sex of the speaker
language	Language to be spoken
voice	Full voice name
escape	Should non-standard characters be substituted?

**Details**

For more info, see Section [Convert text to speech](#) of the Microsoft documentation.

**Value**

An HTTP response in hexadecimal representation of binary data

**Examples**

```
# Convert text to speech
res <- ms_synthesize(script = "Hello world, this is a talking computer testing test",
                    region = "westus",
                    gender = "Female")
# Returns hexadecimal representation of binary data

# Create temporary file to store audio output
output_path <- tempfile(fileext = ".wav")
# Write binary data to output path
writeBin(res, con = output_path)
# Play audio in browser
# play_audio(audio = output_path)

# Delete temporary file
file.remove(output_path)
```

---

ms\_use\_voice

*Retrieve Gender, Full Voice Name, and Language associated with provided Voice*


---

**Description**

Verify whether given voice is compatible with specific region. If it is, provide the gender, full voice name, and language associated with given voice.



**Usage**

```
ms_use_voice(voice, api_key = NULL, region = "westus")
```

**Arguments**

voice	Full voice name ("Microsoft Server Speech Text to Speech Voice (XX, YY)")
api_key	Microsoft Azure Cognitive Services API key
region	Subscription region for API key. For more info, see <a href="https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions">https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions</a>

**Value**

List of gender, language, and full voice name

**Examples**

```
## Not run:
# Retrieve gender, full name, and language
ms_use_voice(voice = "Microsoft Server Speech Text to Speech Voice (en-US, JacobNeural)",
             region = "westus")

## End(Not run)
```

---

play_audio	<i>Play audio in a browser</i>
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**Description**

This uses HTML5 audio tags to play audio in your browser. Borrowed from `googleLanguageR::gl_talk_player()`.

**Usage**

```
play_audio(audio = "output.wav", html = "player.html")
```

**Arguments**

audio	The file location of the audio file. Must be supported by HTML5
html	The html file location that will be created host the audio

**Details**

For more info, see this [Mozilla documentation](#) detailing the `<audio>` HTML element.

**Value**

No return value, called for side effects

**Examples**

```
## Not run:  
# Opens a browser with embedded audio  
play_audio(audio = "output.wav")  
  
## End(Not run)
```

---

region

*Speech Service supported Region Identifier*

---

**Description**

This character vector contains region identifiers that support text to speech.

**Usage**

```
region
```

**Format**

```
region:  
A character vector
```

**Source**

<https://learn.microsoft.com/en-us/azure/cognitive-services/Speech-Service/regions>

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