

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>

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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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions

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)
```

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)
```

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

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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions

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")
```

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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions
token	An authentication of class token, likely from ms_get_token

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

Get List of Voices for Specified Region

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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions

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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions
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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")
```

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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions
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 https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/regions

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	<i>Speech Service supported Region Identifier</i>
--------	---

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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