

Package ‘wordnet’

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Title WordNet Interface

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Imports rJava (>= 0.6-3)

SystemRequirements Java (>= 5.0), WNdb-3.0.tar.gz from wordnet.princeton.edu

Description An interface to WordNet using the Jawbone Java API to WordNet. WordNet is an on-line lexical reference system developed by the Cognitive Science Laboratory at Princeton University. Its design is inspired by current psycholinguistic theories of human lexical memory. English nouns, verbs, adjectives and adverbs are organized into synonym sets, each representing one underlying lexical concept. Different relations link the synonym sets.

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getDict	<i>Get Default Dictionary</i>
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Description

The package **wordnet** tries to locate a valid WordNet installation on start up by investigating the WNHOME environment variable and by trying default installation locations. On success it acquires a pointer to the actual WordNet dictionary and stores internally a reference to the dictionary instance. getDict returns this default reference.

Usage

```
getDict()
```

Details

You can manually point the package to the WordNet installation via [setDict](#).

Value

A dictionary instance.

Author(s)

Ingo Feinerer

References

- C. Fellbaum (1998). *WordNet: An Electronic Lexical Database*. Bradford Books. <http://wordnet.princeton.edu/>
- M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
if(initDict())
  getDict()
```

`getDictInstance` *Get a Dictionary Instance*

Description

Returns an instance to a WordNet dictionary.

Usage

```
getDictInstance()
```

Value

A dictionary object.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
if(initDict())  
  getDictInstance()
```

`getFilterTypes` *Get Available Filter Types*

Description

Get available filter types.

Usage

```
getFilterTypes()
```

Value

A character vector with available filter types.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
getFilterTypes()
```

<code>getIndexTerms</code>	<i>Get Index Terms</i>
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Description

Get index terms from a WordNet dictionary as specified by a filter.

Usage

```
getIndexTerms(pos, maxLimit, filter)
```

Arguments

<code>pos</code>	Part of speech type. Must be either "ADJECTIVE", "ADVERB", "NOUN", or "VERB".
<code>maxLimit</code>	Maximum number of results.
<code>filter</code>	A term filter (see getTermFilter).

Value

A list of index terms.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
if(initDict()) {  
  filter <- getTermFilter("StartsWithFilter", "car", TRUE)  
  getIndexTerms("NOUN", 5, filter)  
}
```

`getLemma`*Get Index Term Lemma*

Description

Retrieve the lemma (i.e., word) of an index term.

Usage

```
getLemma(indexterm)
```

Arguments

`indexterm` The index term whose lemma is returned.

Value

A character vector holding the index term lemma.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

See Also

[getIndexTerms](#)

Examples

```
if(initDict()) {  
  filter <- getTermFilter("StartsWithFilter", "car", TRUE)  
  terms <- getIndexTerms("NOUN", 5, filter)  
  sapply(terms, getLemma)  
}
```

getRelatedSynsets *Get Related Synsets for a Synset*

Description

Get related synsets for a given synset based on a pointer symbol.

Usage

```
getRelatedSynsets(synset, pointerSymbol)
```

Arguments

`synset` Basic synset.
`pointerSymbol` A symbol indicating the type of the related synsets. An overview is available at <http://wordnet.princeton.edu/man/wnsearch.3WN.html#sect4>.

Value

A list of synsets.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

See Also

[getSynsets](#)

Examples

```
if(initDict()) {  
  filter <- getTermFilter("ExactMatchFilter", "hot", TRUE)  
  terms <- getIndexTerms("ADJECTIVE", 5, filter)  
  synsets <- getSynsets(terms[[1]])  
  related <- getRelatedSynsets(synsets[[1]], "!")  
  sapply(related, getWord)  
}
```

`getSynonyms`*Get Synonyms for an Index Term*

Description

Get synonyms for a given index term.

Usage

```
getSynonyms(indexterm)
```

Arguments

`indexterm` The input index term.

Value

A character vector holding the synonyms for the given index term.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

See Also

[getIndexTerms](#)

Examples

```
if(initDict()) {  
  filter <- getTermFilter("ExactMatchFilter", "company", TRUE)  
  terms <- getIndexTerms("NOUN", 5, filter)  
  getSynonyms(terms[[1]])  
}
```

`getSynsets`*Get Synsets for an Index Term*

Description

Get synsets for a given index term.

Usage

```
getSynsets(indexterm)
```

Arguments

`indexterm` The input index term.

Value

A list of synsets.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

See Also

[getIndexTerms](#)

Examples

```
if(initDict()) {  
  filter <- getTermFilter("ExactMatchFilter", "hot", TRUE)  
  terms <- getIndexTerms("ADJECTIVE", 5, filter)  
  getSynsets(terms[[1]])  
}
```

getTermFilter	<i>Get a Term Filter</i>
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Description

Get a term filter.

Usage

```
getTermFilter(type, word, ignoreCase)
```

Arguments

type	Filter type. Available filters are "ContainsFilter", "EndsWithFilter", "ExactMatchFilter", "RegexFilter", "SoundFilter", "StartsWithFilter", and "WildcardFilter". Can also be a unique abbreviation of an available filter name.
word	Term to be matched.
ignoreCase	Indicates whether lower and upper case are distinguished.

Value

A term filter.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
if(initDict())
  getTermFilter("StartsWithFilter", "car", TRUE)
```

`getWord`*Get Synset Word*

Description

Get the words in a synset.

Usage

```
getWord(synset)
```

Arguments

`synset` The synset whose words are returned.

Value

A character vector holding the words.

Author(s)

Ingo Feinerer

References

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

See Also

[getSynsets](#)

Examples

```
if(initDict()) {  
  filter <- getTermFilter("ExactMatchFilter", "hot", TRUE)  
  terms <- getIndexTerms("ADJECTIVE", 5, filter)  
  synsets <- getSynsets(terms[[1]])  
  related <- getRelatedSynsets(synsets[[1]], "!")  
  sapply(related, getWord)  
}
```

initDict	<i>Initialize Dictionary</i>
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Description

Initializes the WordNet dictionary using the Jawbone Java API to WordNet.

Usage

```
initDict(pathData = "")
```

Arguments

pathData Path to the WordNet data files.

Details

In case the user supplied path is invalid the function tries to find the installation itself by investigating the WNHOME environment variable and by trying default installation locations.

Value

A logical value indicating whether a valid WordNet installation has been found.

Author(s)

Ingo Feinerer

References

C. Fellbaum (1998). *WordNet: An Electronic Lexical Database*. Bradford Books. <http://wordnet.princeton.edu/>

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
## Not run: initDict("/usr/local/WordNet-3.0/dict")
```

setDict	<i>Set Default Dictionary</i>
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Description

The package **wordnet** tries to locate a valid WordNet installation on start up by investigating the WNHOME environment variable and by trying default installation locations. On success it acquires a pointer to the actual WordNet dictionary and stores internally a reference to the dictionary instance. However, if this procedure does not work automatically in your environment, you can provide the path to the WordNet installation and set the internal default reference via this function.

Usage

```
setDict(pathData)
```

Arguments

pathData	Path to the WordNet data files.
----------	---------------------------------

Value

A dictionary instance.

Author(s)

Ingo Feinerer

References

C. Fellbaum (1998). *WordNet: An Electronic Lexical Database*. Bradford Books. <http://wordnet.princeton.edu/>

M. Wallace (2007). Jawbone Java WordNet API. <http://mfwallace.googlepages.com/jawbone.html>

Examples

```
## Not run: setDict("/usr/local/WordNet-3.0/dict")
```

synonyms

Get Synonyms for a Word

Description

Get synonyms for a given word.

Usage

```
synonyms(word, pos)
```

Arguments

word The input word.

pos Part of speech type. Must be either "ADJECTIVE", "ADVERB", "NOUN", or "VERB".

Value

A character vector holding the synonyms for the given word.

Author(s)

Ingo Feinerer

See Also

[getSynonyms](#)

Examples

```
if(initDict())
  synonyms("company", "NOUN")
```

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