ontoCAT

April 20, 2011

`getAccession` *Returns accession of the ontology term*

Description

Returns accession string of the OntologyTerm object.

Usage

```
getAccession(object)
```

Arguments

`object`	instance of the `OntologyTerm` class

Value

Returns accession string of the ontology term.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

Malone J, Holloway E, Adamusiak T, Kapushesky M, Zheng J, Kolesnikov N, Zhukova A, Brazma A, Parkinson H: Modeling Sample Variables with an Experimental Factor Ontology. *Bioinformatics* 2010, **26**(8):1112–1118

Experimental Factor Ontology http://www.ebi.ac.uk/efo

Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
term <- getTermById(efo,"EFO_0000827")
getAccession(term)
```

`getAllTermChildren` *Returns all term's children*

Description

Returns all term's children. Term in the set is represented as the instance of the `OntologyTerm` class

Usage

```
getAllTermChildren(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology terms: each term in the set is the instance of the `OntologyTerm` class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getAllTermChildren(efo,"EFO_0000322")
```

getAllTermIds *Returns accessions of all ontology terms*

Description

Returns accessions of all loaded ontology terms

Usage

```
getAllTermIds(object)
```

Arguments

object	instance of the OntologyParser class

Value

Returns accession strings of all terms from loaded ontology.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getAllTermIds(efo)
```

`getAllTermParents` *Returns all term's parents*

Description

Returns all term's parents. Term in the set is represented as the instance of the `OntologyTerm` class

Usage

```
getAllTermParents(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology terms: each term in the set is the instance of the `OntologyTerm` class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getAllTermParents(efo,"EFO_0000322")
```

getAllTerms *Returns all ontology terms*

Description

Returns set of ontology terms, where each term is an instance of the OntologyTerm class.

Usage

```
getAllTerms(object)
```

Arguments

object	instance of the OntologyParser class

Value

Returns all terms from loaded ontology as objects of OntologyTerm class.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getAllTerms(efo)
```

`getDefinitions` *Returns set of ontology term's definitions*

Description

Returns set of ontology term's definitions if there are some

Usage

```
getDefinitions(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology term's definitions if there are some

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getDefinitions(efo,"EFO_0000322")
```

getEFOBranchRootIds *Returns all term's parents*

Description

Returns accessions of EFO branch roots. Function specific for EFO.

Usage

```
getEFOBranchRootIds(object)
```

Arguments

object	instance of the OntologyParser class

Value

Returns list of accessions.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getEFOBranchRootIds(efo)
```

`getEFOParser` *Returns an instance of the EFO ontology parser*

Description

Loads the latest EFO version on the fly, creating the inferred ontology classes.

Usage

```
getEFOParser()
```

Value

Returns an instance of the `OntologyParser` class.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo<-getEFOParser()
getEFOBranchRootIds(efo)
getTermParents(efo,"EFO_0001221")
isEFOBranchRoot(efo,"EFO_0000322")
searchTermPrefix(efo,"leuk")
getTermAndAllChildrenIds(efo,"EFO_0000318")
```

getLabel *Returns label of the ontology term*

Description

Returns label of the OntologyTerm object.

Usage

```
getLabel(object)
```

Arguments

object	instance of the OntologyTerm class

Value

Returns label of the ontology term.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
term <- getTermById(efo,"EFO_0000827")
getLabel(term)
```

`getOntologyAccession` *Returns ontology accession*

Description

Returns ontology accession

Usage

```
getOntologyAccession(object)
```

Arguments

`object`	instance of the `OntologyParser` class

Value

Returns ontology accession string.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getOntologyAccession(efo)
```

`getOntologyDescription` *Returns ontology description*

Description

Returns ontology description

Usage

```
getOntologyDescription(object)
```

Arguments

`object`	instance of the `OntologyParser` class

Value

Returns ontology description.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getOntologyDescription(efo)
```

`getOntologyParser` *Returns an instance of the ontology parser created from OWL or OBO file*

Description

Loads the ontology described in OWL or OBO format from the local file or on the fly by using URL, creates the inferred ontology classes.

Usage

```
getOntologyParser(pathToURI)
```

Arguments

`pathToURI`	a character string giving the URL or local name of the file to load ontology from

Value

Returns an instance of the `OntologyParser` class.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Experimental Factor Ontology http://www.ebi.ac.uk/efo

Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
ontologyParserFromURL <- getOntologyParser("http://efo.svn.sourceforge.net/viewvc/efo
getTermParents(ontologyParserFromURL,"EFO_0001221")
ontologyParserFromFile <- getOntologyParser("./ontoCAT/extdata/cell.obo")
getAllTermIds(ontologyParserFromFile)
```

`getRootIds` *Returns root terms of ontology*

Description

Returns accessions of root terms of the ontology. For some ontologies these functions might fail when the ontology used was not design to have root classes

Usage

```
getRootIds(object)
```

Arguments

`object`	instance of the `OntologyParser` class

Value

Returns list of accessions.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getRootIds(efo)
```

getRoots *Returns root terms of ontology*

Description

Returns root terms of the ontology. For some ontologies these functions might fail when the ontology used was not design to have root classes

Usage

```
getRoots(object)
```

Arguments

object	instance of the OntologyParser class

Value

Returns set of terms. Term in the set is the instance of OntologyTerm class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getRoots(efo)
```

`getSynonyms` *Returns set of ontology term's synonyms*

Description

Returns set of ontology term's synonyms if there are some

Usage

```
getSynonyms(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology term's synonymss if there are some

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getSynonyms(efo,"EFO_0000827")
```

`getTermAndAllChildrenIds` *Returns accessions of all term's parents and term itself*

Description

Returns accessions of term itself and all its children recursively.

Usage

```
getTermAndAllChildrenIds(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns list of accessions.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getTermAndAllChildrenIds(efo,"EFO_0000322")
```

getTermById *Returns ontology term*

Description

Returns ontology term as the instance of the OntologyTerm class

Usage

```
getTermById(object,id)
```

Arguments

object	instance of the OntologyParser class
id	accession string of the term of interest

Value

Returns ontology term: instance of the OntologyTerm class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getTermById(efo,"EFO_0000827")
```

`getTermChildren` *Returns direct children of term of interest*

Description

Returns set of direct children of the term of interest. Term in the set is represented as the instance of the `OntologyTerm` class

Usage

```
getTermChildren(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology terms: each term in the set is the instance of the `OntologyTerm` class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getTermChildren(efo,"EFO_0000322")
```

getTermNameById *Returns ontology term's label*

Description

Returns ontology term's label

Usage

```
getTermNameById(object,id)
```

Arguments

object	instance of the OntologyParser class
id	accession string of the term of interest

Value

Returns ontology term's label

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
getTermNameById(efo,"EFO_0000827")
```

`getTermParents` *Returns set of direct parents of the term of interest*

Description

Returns set of direct parents of the term of interest. Term in the set is represented as the instance of the `OntologyTerm` class

Usage

```
getTermParents(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology terms: each term in the set is the instance of the `OntologyTerm` class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getTermParents(efo,"EFO_0000827")
```

`getTreeDownTo` *Returns all term's parents*

Description

Returns set of terms that represent ontology "opened" down to specified term, hence displaying all its parents first and then a tree level, containing specified term. Term in the set is represented as the instance of the `OntologyTerm` class.

Usage

```
getTreeDownTo(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns set of ontology terms: each term in the set is the instance of the `OntologyTerm` class

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Experimental Factor Ontology http://www.ebi.ac.uk/efo

Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
getTreeDownTo(efo,"EFO_0000827")
```

hasTerm *Returns true if term is in ontology*

Description

Returns true if term is in the ontology

Usage

```
hasTerm(object,id)
```

Arguments

object	instance of the OntologyParser class
id	accession string of the term of interest

Value

Returns true or false

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
hasTerm(efo,"EFO_0000322")
```

`isEFOBranchRoot` *Returns true if term is the branch root in EFO*

Description

Returns true if term is the branch root in EFO. Function specific for EFO.

Usage

```
isEFOBranchRoot(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns true or false

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
isEFOBranchRoot(efo,"EFO_0000322")
```

`isRoot` *Returns true if term is the root in the ontology hierarchy*

Description

Returns true if term is the root in the ontology hierarchy

Usage

```
isRoot(object,id)
```

Arguments

`object`	instance of the `OntologyParser` class
`id`	accession string of the term of interest

Value

Returns true or false

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

`OntologyParser` and `OntologyTerm`

Examples

```
efo <- getEFOParser()
isRoot(efo,"EFO_0000322")
```

ontoCAR-package *The ontoCAT package provides a simple interface to the Experimental Factor Ontology (EFO) and to any other ontology described in OWL or OBO format.*

Description

The ontoCAT package provides a simple interface to the Experimental Factor Ontology (http://www.ebi.ac.uk/efo) and to any other ontology described in OWL or OBO format.

Package can load the ontology from a local file or on the fly from a URL and internally create the inferred ontology view. Experimental Factor Ontology (EFO) is the default ontology, loaded from: http://efo.svn.sourceforge.net/viewvc/efo/trunk/src/efoinowl/InferredEFOOWLview/EFO_inferred.owl. The package's methods allow to parse an ontology, search terms in it, find out term parents and children. The package is based on the Ontology Common API Tasks Java library (http://www.ontocat.org) as well as various other utilites methods and depends on rJava R package.

Details

Package:	ontoCAT
Type:	Package
Version:	1.0.0
Date:	2010-09-20
License:	Apache License
LazyLoad:	yes

Author(s)

Misha Kapushevsky, Pavel Kurnosov, Natalja Kurbatova

Maintainer: Natalja Kurbatova <natalja@ebi.ac.uk>

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

Malone J, Holloway E, Adamusiak T, Kapushesky M, Zheng J, Kolesnikov N, Zhukova A, Brazma A, Parkinson H: Modeling Sample Variables with an Experimental Factor Ontology. *Bioinformatics* 2010, **26**(8):1112–1118

Experimental Factor Ontology http://www.ebi.ac.uk/efo

Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

OntologyParser, OntologyTerm, getOntologyParser and getEFOParser

Examples

```
efo<-getEFOParser()
ontologyParser <- getOntologyParser("./ontoCAR/extdata/cell.obo")
```

`OntologyParser-class` *Class "OntologyParser"*

Description

Parsing and representation of ontology hierarchy

Accessing the ontologies

The appropriate way to access ontology is via the helper `getOntologyParser` function.

Accessing the EFO

The appropriate way to access EFO is via the helper `getEFOParser` function.

Slots

`ontologyParser`: Object of class `"jobjRef"` No user-serviceable parts inside. Maps to an internal Java OntologyParser object.

Methods

getAllTermChildren `signature(object = "OntologyParser", id = "character")`: Returns list of term's all children

getAllTermIds `signature(object = "OntologyParser")`: Returns list of all term accessions

getTermAllParents `signature(object = "OntologyParser", id = "character")`: Returns list of term's all parents

getAllTerms `signature(object = "OntologyParser")`: Returns list of all terms

getDefinitions `signature(object = "OntologyParser", id = "character")`: Returns set of term's definitions if there are some

getEFOBranchRootIds `signature(object = "OntologyParser")`: Returns set of branch root accessions. Method specific for EFO ontology

getOntologyAccession `signature(object = "OntologyParser")`: Returns parsed ontology accession

getOntologyDescription `signature(object = "OntologyParser")`: Returns parsed ontology description

getRootIds `signature(object = "OntologyParser")`: Returns list of root terms accessions, if there are any

getRoots `signature(object = "OntologyParser")`: Returns list of root terms, if there are any

getSynonyms `signature(object = "OntologyParser", id = "character")`: Returns set of term's synonyms if there are some

getTermAndAllChildrenIds `signature(object = "OntologyParser", id = "character")`: Returns list of accessions of term itself and all its children recursively

getTermById `signature(object = "OntologyParser", id = "character")`: Fetch term by accession. Returns external term representation if found in ontology, null otherwise

getTermChildren `signature(object = "OntologyParser", id = "character")`: Returns list of term's direct children

getTermNameById `signature(object = "OntologyParser", id = "character")`: Returns term's label by accession

getTermParents `signature(object = "OntologyParser", id = "character")`: Returns list of term's direct parents

getTreeDownTo `signature(object = "OntologyParser", id = "character")`: Returns set of terms that represent ontology "opened" down to specified term, hence displaying all its parents first and then a tree level, containing specified term

hasTerm `signature(object = "OntologyParser", id = "character")`: Check if term with specified accession exists in ontology

isEFOBranchRoot `signature(object = "OntologyParser", id = "character")`: Returns true if term is branch root of EFO. Method specific for EFO ontology

isRoot `signature(object = "OntologyParser", id = "character")`: Returns true if term is root of ontology

searchTerm `signature(object = "OntologyParser", id = "character")`: Searches for term in ontology by name

searchTermPrefix `signature(object = "OntologyParser", prefix = "character")`: Searches for prefix in ontology

Note

This package ships with the EFO OWL file, version released at the time of the package build. Provided EFO OWL file can be loaded as any other OWL or OBO file by using `getOntologyParser` function.

Another option is to load the latest EFO version on the fly by using `getEFOParser` function.

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

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Ontology Common API Tasks java library http://www.ontocat.org

Java sources and javadocs: http://sourceforge.net/projects/ontocat/files/

See Also

getOntologyParser,getEFOParser and OntologyTerm

Examples

```
ontologyParser <- getEFOParser()
getEFOBranchRootIds(ontologyParser)
getTermParents(ontologyParser,"EFO_0001221")
searchTermPrefix(ontologyParser,"leuk")
getTermAndAllChildrenIds(ontologyParser,"EFO_0000318")
searchTerm(ontologyParser,"thymus")
ontologyParser <- getOntologyParser("http://efo.svn.sourceforge.net/viewvc/efo/trunk/
ontologyParser <- getOntologyParser("./ontoCAT/extdata/cell.obo")
getAllTermIds(ontologyParser)
```

OntologyTerm-class *Class "OntologyTerm"*

Description

External view for an ontological terms in ontoCAT package

Objects from the Class

Don't create objects of this class. It is a wrapper around an internal Java representation.

Slots

`term`**:** Object of class `"jobjRef"` No user-serviceable parts inside.

Methods

getAccession `signature(object = "OntologyTerm")`: Returns accession of the term

getLabel `signature(object = "OntologyTerm")`: Returns description of the term

show `signature(object = "OntologyTerm")`: Displays term accession and description string

Author(s)

Tomasz Adamusiak

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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See Also

OntologyParser

Examples

```
ontologyParser <- getEFOParser()
term <- getTermById(ontologyParser,"EFO_0001221")
show(term)
getAccession(term)
getLabel(term)
```

---

searchTermPrefix *Searches for term by prefix in ontology*

Description

Searches the term by prefix in the ontology. Returns list of term's accessions.

Usage

```
searchTermPrefix(object,prefix)
```

Arguments

object	instance of the OntologyParser class
prefix	prefix to search for

Value

Returns list of accessions

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
searchTermPrefix(efo,"thy")
```

---

searchTerm *Searches term by its name in ontology*

Description

Searches the term by its name in the ontology. Returns list of term's accessions.

Usage

```
searchTerm(object,id)
```

Arguments

object	instance of the OntologyParser class
id	term's name or part of the name

Value

Returns list of accessions

Author(s)

Misha Kapushesky, Pavel Kurnosov, Natalja Kurbatova

References

Adamusiak T, Burdett T, van der Velde K J, Abeygunawardena N, Antonakaki D, Parkinson H and Swertz M: OntoCAT – a simpler way to access ontology resources. *Available from Nature Precedings* http://dx.doi.org/10.1038/npre.2010.4666.1 (2010)

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See Also

OntologyParser and OntologyTerm

Examples

```
efo <- getEFOParser()
searchTerm(efo,"thymus")
```

Index