

My Project

Generated by Doxygen 1.8.4

Mon Nov 10 2014 06:11:11

Contents

| | | |
|----------|---|----------|
| 1 | Hierarchical Index | 1 |
| 1.1 | Class Hierarchy | 1 |
| 2 | Class Index | 3 |
| 2.1 | Class List | 3 |
| 3 | Class Documentation | 5 |
| 3.1 | org.phylotastic.mapreducepruner.MapReducePruner Class Reference | 5 |
| 3.1.1 | Detailed Description | 5 |
| 3.1.2 | Member Function Documentation | 5 |
| 3.1.2.1 | main | 5 |
| 3.1.3 | Member Data Documentation | 5 |
| 3.1.3.1 | defaultConfigName | 5 |
| 3.1.3.2 | defaultNumTasks | 6 |
| 3.1.3.3 | environmentVarConfig | 6 |
| 3.1.3.4 | environmentVarTree | 6 |
| 3.1.3.5 | logger | 6 |
| 3.2 | org.phylotastic.mrpoption.MrpArgumentOption Class Reference | 6 |
| 3.2.1 | Detailed Description | 7 |
| 3.2.2 | Constructor & Destructor Documentation | 7 |
| 3.2.2.1 | MrpArgumentOption | 7 |
| 3.2.2.2 | MrpArgumentOption | 7 |
| 3.2.3 | Member Function Documentation | 7 |
| 3.2.3.1 | checkValue | 7 |
| 3.2.3.2 | getOption | 8 |
| 3.2.3.3 | getValue | 8 |
| 3.2.3.4 | setOption | 8 |
| 3.2.3.5 | setOption | 8 |
| 3.2.3.6 | setOption | 8 |
| 3.2.3.7 | setProperties | 9 |
| 3.2.3.8 | setProperties | 9 |
| 3.2.3.9 | setProperties | 9 |

| | | |
|----------|---|----|
| 3.2.3.10 | setValue | 9 |
| 3.2.3.11 | toString | 10 |
| 3.2.4 | Member Data Documentation | 10 |
| 3.2.4.1 | argumentName | 10 |
| 3.2.4.2 | hasIniVersion | 10 |
| 3.2.4.3 | iniName | 10 |
| 3.2.4.4 | iniSection | 10 |
| 3.3 | org.phylotastic.mapreducepruner.MrpConfig Class Reference | 10 |
| 3.3.1 | Detailed Description | 11 |
| 3.3.2 | Constructor & Destructor Documentation | 11 |
| 3.3.2.1 | MrpConfig | 11 |
| 3.3.3 | Member Function Documentation | 12 |
| 3.3.3.1 | getOptions | 12 |
| 3.3.3.2 | setOptions | 12 |
| 3.3.4 | Member Data Documentation | 13 |
| 3.3.4.1 | configFile | 13 |
| 3.3.4.2 | configIni | 13 |
| 3.3.4.3 | dataDir | 13 |
| 3.3.4.4 | dataPath | 13 |
| 3.3.4.5 | dataRootDir | 13 |
| 3.3.4.6 | defaultNameConfig | 13 |
| 3.3.4.7 | defaultNumTasks | 13 |
| 3.3.4.8 | environmentVarConfig | 13 |
| 3.3.4.9 | environmentVars | 13 |
| 3.3.4.10 | environmentVarTree | 14 |
| 3.3.4.11 | hashDepth | 14 |
| 3.3.4.12 | inputFile | 14 |
| 3.3.4.13 | numTasks | 14 |
| 3.3.4.14 | outputFile | 14 |
| 3.3.4.15 | pathSeparator | 14 |
| 3.3.4.16 | tempDir | 14 |
| 3.3.4.17 | treeUrl | 14 |
| 3.3.4.18 | workDir | 14 |
| 3.4 | org.phylotastic.mrpoption.MrpFileOption Class Reference | 14 |
| 3.4.1 | Detailed Description | 15 |
| 3.4.2 | Constructor & Destructor Documentation | 15 |
| 3.4.2.1 | MrpFileOption | 15 |
| 3.4.3 | Member Function Documentation | 16 |
| 3.4.3.1 | checkFile | 16 |
| 3.4.3.2 | getFile | 16 |

| | | |
|---------|---|----|
| 3.4.3.3 | getPath | 16 |
| 3.4.3.4 | setValue | 16 |
| 3.4.4 | Member Data Documentation | 16 |
| 3.4.4.1 | mustExist | 16 |
| 3.4.4.2 | mustRemove | 17 |
| 3.5 | org.phylotastic.mrpoption.MrpFolderOption Class Reference | 17 |
| 3.5.1 | Detailed Description | 17 |
| 3.5.2 | Constructor & Destructor Documentation | 18 |
| 3.5.2.1 | MrpFolderOption | 18 |
| 3.5.3 | Member Function Documentation | 18 |
| 3.5.3.1 | checkFolder | 18 |
| 3.5.3.2 | getFolder | 18 |
| 3.5.3.3 | getPath | 18 |
| 3.5.3.4 | setValue | 18 |
| 3.5.4 | Member Data Documentation | 19 |
| 3.5.4.1 | mustExist | 19 |
| 3.5.4.2 | mustRemove | 19 |
| 3.6 | org.phylotastic.mrpoption.MrpIntOption Class Reference | 19 |
| 3.6.1 | Detailed Description | 19 |
| 3.6.2 | Constructor & Destructor Documentation | 20 |
| 3.6.2.1 | MrpIntOption | 20 |
| 3.6.2.2 | MrpIntOption | 20 |
| 3.6.3 | Member Function Documentation | 20 |
| 3.6.3.1 | checkValue | 20 |
| 3.6.3.2 | getIntValue | 20 |
| 3.6.3.3 | setValue | 20 |
| 3.6.3.4 | setValue | 21 |
| 3.7 | org.phylotastic.mrpoption.MrpOption Class Reference | 21 |
| 3.7.1 | Detailed Description | 22 |
| 3.7.2 | Constructor & Destructor Documentation | 22 |
| 3.7.2.1 | MrpOption | 22 |
| 3.7.2.2 | MrpOption | 22 |
| 3.7.3 | Member Function Documentation | 22 |
| 3.7.3.1 | checkValue | 22 |
| 3.7.3.2 | getOption | 22 |
| 3.7.3.3 | getValue | 23 |
| 3.7.3.4 | hasValue | 23 |
| 3.7.3.5 | setOption | 23 |
| 3.7.3.6 | setProperties | 23 |
| 3.7.3.7 | setValue | 23 |

| | | |
|----------|---|----|
| 3.7.3.8 | toString | 23 |
| 3.7.4 | Member Data Documentation | 23 |
| 3.7.4.1 | description | 23 |
| 3.7.4.2 | logger | 24 |
| 3.7.4.3 | longOption | 24 |
| 3.7.4.4 | shortOption | 24 |
| 3.7.4.5 | value | 24 |
| 3.8 | org.phylotastic.mapreducepruner.MrpPass1Mapper Class Reference | 24 |
| 3.8.1 | Detailed Description | 24 |
| 3.8.2 | Member Function Documentation | 25 |
| 3.8.2.1 | map | 25 |
| 3.8.2.2 | setup | 26 |
| 3.8.3 | Member Data Documentation | 26 |
| 3.8.3.1 | core | 27 |
| 3.9 | org.phylotastic.mapreducepruner.MrpPass1Reducer Class Reference | 27 |
| 3.9.1 | Detailed Description | 27 |
| 3.9.2 | Member Function Documentation | 27 |
| 3.9.2.1 | reduce | 27 |
| 3.9.2.2 | setup | 28 |
| 3.10 | org.phylotastic.mapreducepruner.MrpPass2Mapper Class Reference | 28 |
| 3.10.1 | Detailed Description | 29 |
| 3.10.2 | Member Function Documentation | 29 |
| 3.10.2.1 | map | 29 |
| 3.10.2.2 | setup | 30 |
| 3.11 | org.phylotastic.mapreducepruner.MrpPass2Reducer Class Reference | 30 |
| 3.11.1 | Detailed Description | 31 |
| 3.11.2 | Member Function Documentation | 31 |
| 3.11.2.1 | reduce | 31 |
| 3.11.2.2 | setup | 32 |
| 3.12 | org.phylotastic.mapreducepruner.MrpPass3Mapper Class Reference | 32 |
| 3.12.1 | Detailed Description | 33 |
| 3.12.2 | Member Function Documentation | 33 |
| 3.12.2.1 | map | 33 |
| 3.12.2.2 | setup | 34 |
| 3.13 | org.phylotastic.mapreducepruner.MrpPass3Reducer Class Reference | 34 |
| 3.13.1 | Detailed Description | 35 |
| 3.13.2 | Member Function Documentation | 35 |
| 3.13.2.1 | reduce | 35 |
| 3.13.2.2 | setup | 36 |
| 3.14 | org.phylotastic.mrpoption.MrpPathOption Class Reference | 36 |

| | |
|--|----|
| 3.14.1 Detailed Description | 37 |
| 3.14.2 Constructor & Destructor Documentation | 37 |
| 3.14.2.1 MrpPathOption | 37 |
| 3.14.3 Member Function Documentation | 37 |
| 3.14.3.1 getPath | 37 |
| 3.14.3.2 isLocal | 37 |
| 3.14.3.3 setValue | 38 |
| 3.15 org.phylotastic.mapreducepruner.MrpResult Class Reference | 38 |
| 3.15.1 Detailed Description | 38 |
| 3.15.2 Constructor & Destructor Documentation | 38 |
| 3.15.2.1 MrpResult | 38 |
| 3.15.3 Member Function Documentation | 38 |
| 3.15.3.1 addFile | 38 |
| 3.15.3.2 getFilePaths | 39 |
| 3.15.3.3 process | 39 |
| 3.15.3.4 setEnviron | 39 |
| 3.15.3.5 writeResult | 39 |
| 3.16 org.phylotastic.mapreducepruner.MrpRun Class Reference | 40 |
| 3.16.1 Detailed Description | 40 |
| 3.16.2 Constructor & Destructor Documentation | 40 |
| 3.16.2.1 MrpRun | 40 |
| 3.16.3 Member Function Documentation | 40 |
| 3.16.3.1 run | 40 |
| 3.17 org.phylotastic.mrpoption.MrpUrlOption Class Reference | 41 |
| 3.17.1 Detailed Description | 42 |
| 3.17.2 Constructor & Destructor Documentation | 42 |
| 3.17.2.1 MrpUrlOption | 42 |
| 3.17.2.2 MrpUrlOption | 42 |
| 3.17.3 Member Function Documentation | 42 |
| 3.17.3.1 checkValue | 42 |
| 3.17.3.2 setValue | 42 |
| 3.18 org.phylotastic.mrpmpath.PathNode Class Reference | 43 |
| 3.18.1 Detailed Description | 43 |
| 3.18.2 Constructor & Destructor Documentation | 43 |
| 3.18.2.1 PathNode | 43 |
| 3.18.2.2 PathNode | 44 |
| 3.18.2.3 PathNode | 44 |
| 3.18.3 Member Function Documentation | 44 |
| 3.18.3.1 compareTo | 44 |
| 3.18.3.2 equals | 44 |

| | | |
|-----------|--|----|
| 3.18.3.3 | fromString | 45 |
| 3.18.3.4 | getLabel | 45 |
| 3.18.3.5 | getLength | 45 |
| 3.18.3.6 | getName | 45 |
| 3.18.3.7 | hashCode | 45 |
| 3.18.3.8 | setLabel | 46 |
| 3.18.3.9 | setLength | 46 |
| 3.18.3.10 | setName | 46 |
| 3.18.3.11 | toString | 46 |
| 3.19 | org.phylotastic.mrppath.PathNodeInternal Class Reference | 46 |
| 3.19.1 | Detailed Description | 47 |
| 3.19.2 | Constructor & Destructor Documentation | 47 |
| 3.19.2.1 | PathNodeInternal | 47 |
| 3.19.2.2 | PathNodeInternal | 47 |
| 3.19.2.3 | PathNodeInternal | 47 |
| 3.19.3 | Member Function Documentation | 48 |
| 3.19.3.1 | fromString | 48 |
| 3.19.3.2 | getTipCount | 48 |
| 3.19.3.3 | setTipCount | 48 |
| 3.20 | org.phylotastic.mrppath.PathNodeSet Class Reference | 48 |
| 3.20.1 | Detailed Description | 49 |
| 3.20.2 | Constructor & Destructor Documentation | 49 |
| 3.20.2.1 | PathNodeSet | 49 |
| 3.20.3 | Member Function Documentation | 49 |
| 3.20.3.1 | addNode | 49 |
| 3.20.3.2 | fromString | 49 |
| 3.20.3.3 | getSet | 49 |
| 3.20.3.4 | getSize | 50 |
| 3.20.3.5 | toString | 50 |
| 3.20.4 | Member Data Documentation | 50 |
| 3.20.4.1 | mTipSet | 50 |
| 3.21 | org.phylotastic.mrptree.Tree Class Reference | 50 |
| 3.21.1 | Detailed Description | 51 |
| 3.21.2 | Constructor & Destructor Documentation | 51 |
| 3.21.2.1 | Tree | 51 |
| 3.21.3 | Member Function Documentation | 51 |
| 3.21.3.1 | addNode | 51 |
| 3.21.3.2 | addNode | 51 |
| 3.21.3.3 | addNode | 51 |
| 3.21.3.4 | addNode | 51 |

| | | |
|-----------|--|----|
| 3.21.3.5 | addNode | 52 |
| 3.21.3.6 | getNode | 52 |
| 3.21.3.7 | getRoot | 52 |
| 3.21.3.8 | hasNode | 52 |
| 3.21.3.9 | rootTheTree | 53 |
| 3.21.3.10 | setChild | 53 |
| 3.21.3.11 | toNewick | 53 |
| 3.22 | org.phylotastic.mrptree.TreeNode Class Reference | 53 |
| 3.22.1 | Detailed Description | 54 |
| 3.22.2 | Constructor & Destructor Documentation | 54 |
| 3.22.2.1 | TreeNode | 54 |
| 3.22.2.2 | TreeNode | 54 |
| 3.22.2.3 | TreeNode | 54 |
| 3.22.3 | Member Function Documentation | 54 |
| 3.22.3.1 | addChild | 54 |
| 3.22.3.2 | compareTo | 55 |
| 3.22.3.3 | equals | 55 |
| 3.22.3.4 | getID | 55 |
| 3.22.3.5 | getLength | 55 |
| 3.22.3.6 | getName | 56 |
| 3.22.3.7 | getNodeName | 56 |
| 3.22.3.8 | getParent | 56 |
| 3.22.3.9 | hasChildren | 56 |
| 3.22.3.10 | hashCode | 56 |
| 3.22.3.11 | hasParent | 56 |
| 3.22.3.12 | isRootNode | 57 |
| 3.22.3.13 | setAsRootNode | 57 |
| 3.22.3.14 | setID | 57 |
| 3.22.3.15 | setLength | 57 |
| 3.22.3.16 | setName | 57 |
| 3.22.3.17 | setParent | 57 |
| 3.22.3.18 | toNewick | 58 |
| 3.22.3.19 | toString | 58 |

Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

| | |
|---|----|
| Comparable | |
| org.phylotastic.mrppath.PathNode | 43 |
| org.phylotastic.mrppath.PathNodeInternal | 46 |
| org.phylotastic.mrptree.TreeNode | 53 |
| org.phylotastic.mapreducepruner.MapReducePruner | 5 |
| org.phylotastic.mapreducepruner.MrpConfig | 10 |
| org.phylotastic.mrpoption.MrpOption | 21 |
| org.phylotastic.mrpoption.MrpArgumentOption | 6 |
| org.phylotastic.mrpoption.MrpFileOption | 14 |
| org.phylotastic.mrpoption.MrpFolderOption | 17 |
| org.phylotastic.mrpoption.MrpIntOption | 19 |
| org.phylotastic.mrpoption.MrpPathOption | 36 |
| org.phylotastic.mrpoption.MrpUrlOption | 41 |
| org.phylotastic.mapreducepruner.MrpResult | 38 |
| org.phylotastic.mrppath.PathNodeSet | 48 |
| org.phylotastic.mrptree.Tree | 50 |
| Configured | |
| org.phylotastic.mapreducepruner.MrpRun | 40 |
| Mapper | |
| org.phylotastic.mapreducepruner.MrpPass1Mapper | 24 |
| org.phylotastic.mapreducepruner.MrpPass2Mapper | 28 |
| org.phylotastic.mapreducepruner.MrpPass3Mapper | 32 |
| Reducer | |
| org.phylotastic.mapreducepruner.MrpPass1Reducer | 27 |
| org.phylotastic.mapreducepruner.MrpPass2Reducer | 30 |
| org.phylotastic.mapreducepruner.MrpPass3Reducer | 34 |
| Tool | |
| org.phylotastic.mapreducepruner.MrpRun | 40 |

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

| | |
|---|----|
| org.phylotastic.mapreducepruner.MapReducePruner | 5 |
| org.phylotastic.mrpoption.MrpArgumentOption | 6 |
| org.phylotastic.mapreducepruner.MrpConfig | 10 |
| org.phylotastic.mrpoption.MrpFileOption | 14 |
| org.phylotastic.mrpoption.MrpFolderOption | 17 |
| org.phylotastic.mrpoption.MrpIntOption | 19 |
| org.phylotastic.mrpoption.MrpOption | 21 |
| org.phylotastic.mapreducepruner.MrpPass1Mapper | 24 |
| org.phylotastic.mapreducepruner.MrpPass1Reducer | 27 |
| org.phylotastic.mapreducepruner.MrpPass2Mapper | 28 |
| org.phylotastic.mapreducepruner.MrpPass2Reducer | 30 |
| org.phylotastic.mapreducepruner.MrpPass3Mapper | 32 |
| org.phylotastic.mapreducepruner.MrpPass3Reducer | 34 |
| org.phylotastic.mrpoption.MrpPathOption | 36 |
| org.phylotastic.mapreducepruner.MrpResult | 38 |
| org.phylotastic.mapreducepruner.MrpRun | 40 |
| org.phylotastic.mrpoption.MrpUrlOption | 41 |
| org.phylotastic.mrppath.PathNode | 43 |
| org.phylotastic.mrppath.PathNodeInternal | 46 |
| org.phylotastic.mrppath.PathNodeSet | 48 |
| org.phylotastic.mrptree.Tree | 50 |
| org.phylotastic.mrptree.TreeNode | 53 |

Chapter 3

Class Documentation

3.1 org.phylotastic.mapreducepruner.MapReducePruner Class Reference

Static Public Member Functions

- static void [main](#) (String[] args) throws IOException, Exception

Static Protected Attributes

- static String [defaultConfigName](#) = "configBik.ini"
- static int [defaultNumTasks](#) = 10
- static String [environmentVarConfig](#) = "PHYLOTASTIC_MAPREDUCE_CONFIG"
- static String [environmentVarTree](#) = "PHYLOTASTIC_MAPREDUCE_TREE"
- static Logger [logger](#)

3.1.1 Detailed Description

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.1.2 Member Function Documentation

3.1.2.1 static void org.phylotastic.mapreducepruner.MapReducePruner.main (String[] args) throws IOException, Exception
[inline], [static]

Parameters

| | |
|-------------|---|
| <i>args</i> | the command line arguments passed through to main() |
|-------------|---|

Exceptions

| | |
|----------------------------|--|
| <i>java.io.IOException</i> | |
|----------------------------|--|

3.1.3 Member Data Documentation

3.1.3.1 String org.phylotastic.mapreducepruner.MapReducePruner.defaultConfigName = "configBik.ini" [static],
[protected]

default name for the configuration file

3.1.3.2 `int org.phylotastic.mapreducepruner.MapReducePruner.defaultNumTasks = 10` `[static], [protected]`

default number of tasks to split the mappers/reducers over

3.1.3.3 `String org.phylotastic.mapreducepruner.MapReducePruner.environmentVarConfig = "PHYLOTASTIC_MAPREDUCE_CONFIG"` `[static], [protected]`

environment variable that specifies the name of the config file

3.1.3.4 `String org.phylotastic.mapreducepruner.MapReducePruner.environmentVarTree = "PHYLOTASTIC_MAPREDUCE_TREE"` `[static], [protected]`

environment variable that specifies the name of the tree url

3.1.3.5 `Logger org.phylotastic.mapreducepruner.MapReducePruner.logger` `[static], [protected]`

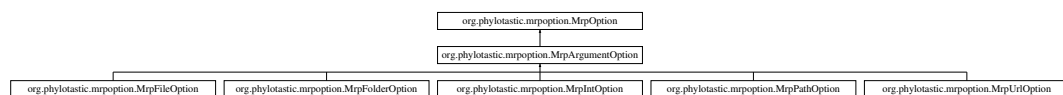
default logger

The documentation for this class was generated from the following file:

- `MapReducePruner.java`

3.2 org.phylotastic.mrpoption.MrpArgumentOption Class Reference

Inheritance diagram for `org.phylotastic.mrpoption.MrpArgumentOption`:



Public Member Functions

- [MrpArgumentOption](#) ()
- [MrpArgumentOption](#) (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)
- void [setProperties](#) (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)
- void [setProperties](#) (String _description, String _shortOption, String _longOption, String _argumentName)
- void [setProperties](#) (String _iniSection, String _iniName)
- Option [getOption](#) ()
- void [setOption](#) (Ini configIni) throws Exception
- void [setOption](#) (CommandLine _cmdLine) throws Exception
- void [setOption](#) (Ini configIni, CommandLine _cmdLine) throws Exception
- void [setValue](#) (String _value)
- void [checkValue](#) () throws IllegalArgumentException
- String [getValue](#) ()
- String [toString](#) ()

Protected Attributes

- String [argumentName](#)
- Boolean [hasIniVersion](#)
- String [iniSection](#)
- String [iniName](#)

Additional Inherited Members

3.2.1 Detailed Description

Class [MrpArgumentOption](#)

This class extends the [MrpOption](#) class with the possibility to implement cli options with arguments like the path of an inputfile: "-input inputdir\input.txt"

Within that scope it also extends that class with the possibility to implement ini file options; since those by default are argument options like: "[Main]" "input = inputdir\input.txt"

Not all cli options need to have counterparts in the ini file

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.2.2 Constructor & Destructor Documentation

3.2.2.1 `org.phylotastic.mrpoption.MrpArgumentOption.MrpArgumentOption ()` [\[inline\]](#)

default constructor

3.2.2.2 `org.phylotastic.mrpoption.MrpArgumentOption.MrpArgumentOption (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)` [\[inline\]](#)

full constructor

Parameters

| | |
|----------------------------|---|
| <code>_description</code> | cli: option description |
| <code>_shortOption</code> | cli: short option (name) |
| <code>_longOption</code> | cli: long option (name) |
| <code>_argumentName</code> | cli: argument name |
| <code>_iniSection</code> | ini: the section name for the value in the ini file |
| <code>_iniName</code> | ini: the key for the value in the ini file |

3.2.3 Member Function Documentation

3.2.3.1 `void org.phylotastic.mrpoption.MrpArgumentOption.checkValue ()` throws `IllegalArgumentException` [\[inline\]](#)

check if a correct value was specified for this.option;
otherwise throws an `IllegalArgumentException`

Exceptions

| | |
|---------------------------------|--|
| <i>IllegalArgumentException</i> | |
|---------------------------------|--|

3.2.3.2 Option org.phylotastic.mrpoption.MrpArgumentOption.getOption () [inline]

create and return an org.apache.commons.cli Option object for this config value

Returns

a org.apache.commons.cli Option object for this.option

3.2.3.3 String org.phylotastic.mrpoption.MrpArgumentOption.getValue () [inline]

Returns

the attribute value of this.option

3.2.3.4 void org.phylotastic.mrpoption.MrpArgumentOption.setOption (Ini configIni) throws Exception [inline]

Set the value of this config value by reading it from a specified ini file

Parameters

| | |
|------------------|--|
| <i>configIni</i> | ini: the path to the (config.)ini file |
|------------------|--|

Exceptions

| | |
|----------------------------|--|
| <i>java.lang.Exception</i> | |
|----------------------------|--|

3.2.3.5 void org.phylotastic.mrpoption.MrpArgumentOption.setOption (CommandLine _cmdLine) throws Exception [inline]

Set the value of this config value by reading it from a cli command line parser

Parameters

| | |
|-----------------|---|
| <i>_cmdLine</i> | org.apache.commons.cli CommandLine object |
|-----------------|---|

Exceptions

| | |
|------------------|--|
| <i>Exception</i> | |
|------------------|--|

3.2.3.6 void org.phylotastic.mrpoption.MrpArgumentOption.setOption (Ini configIni, CommandLine _cmdLine) throws Exception [inline]

Set the value of this config value by reading it both from:

- a specified ini file and
- a specified cli command line parser

If both ini file and command line specify a value for the same option, the cli value overwrites the ini file value

Parameters

| | |
|------------------|---|
| <i>configIni</i> | ini: the path to the (config.)ini file |
| <i>_cmdLine</i> | org.apache.commons.cli CommandLine object |

Exceptions

| | |
|----------------------------|--|
| <i>java.lang.Exception</i> | |
|----------------------------|--|

3.2.3.7 void org.phylotastic.mrpoption.MrpArgumentOption.setProperties (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName) [inline]

set properties for a command line option with argument
use with default constructor

Parameters

| | |
|----------------------|--|
| <i>_description</i> | cli: option description |
| <i>_shortOption</i> | cli: short option (name) |
| <i>_longOption</i> | cli: long option (name) |
| <i>_argumentName</i> | cli: argument name |
| <i>_iniSection</i> | ini: the section name for the value in he ini file |
| <i>_iniName</i> | ini: the key for the value in the ini file |

3.2.3.8 void org.phylotastic.mrpoption.MrpArgumentOption.setProperties (String _description, String _shortOption, String _longOption, String _argumentName) [inline]

set properties for a command line only option with argument
use with default constructor

Parameters

| | |
|----------------------|--------------------------|
| <i>_description</i> | cli: option description |
| <i>_shortOption</i> | cli: short option (name) |
| <i>_longOption</i> | cli: long option (name) |
| <i>_argumentName</i> | cli: argument name |

3.2.3.9 void org.phylotastic.mrpoption.MrpArgumentOption.setProperties (String _iniSection, String _iniName) [inline]

set properties for an ini only -option
use with default constructor

Parameters

| | |
|--------------------|--|
| <i>_iniSection</i> | ini: the section name for the value in he ini file |
| <i>_iniName</i> | ini: the key for the value in the ini file |

3.2.3.10 void org.phylotastic.mrpoption.MrpArgumentOption.setValue (String _value) [inline]

This is the method that sets the actual attribute value for a specific config value (option)
Also this is the method that should be overridden in more specialised subclasses of MrpArgumentOption and not the setOption method(s)

Parameters

| | |
|---------------------|-------------------------------|
| <code>_value</code> | this.option's attribute value |
|---------------------|-------------------------------|

3.2.3.11 `String org.phylotastic.mrpoption.MrpArgumentOption.toString () [inline]`

Returns the string representation of this pathnode

Returns

this.Option as a string, like: "Option: -i, -input / [main]input: file path; path to input file"

3.2.4 Member Data Documentation**3.2.4.1** `String org.phylotastic.mrpoption.MrpArgumentOption.argumentName [protected]`

the cli name for the argument

3.2.4.2 `Boolean org.phylotastic.mrpoption.MrpArgumentOption.hasIniVersion [protected]`

indicator: option has yes/no a configBik.ini implementation

3.2.4.3 `String org.phylotastic.mrpoption.MrpArgumentOption.iniName [protected]`

the name (key) for the option in the ini file

3.2.4.4 `String org.phylotastic.mrpoption.MrpArgumentOption.iniSection [protected]`

the section name for the option in the ini file

The documentation for this class was generated from the following file:

- `MrpArgumentOption.java`

3.3 org.phylotastic.mapreducepruner.MrpConfig Class Reference**Public Member Functions**

- [MrpConfig](#) (String _nameConfig, int _numTasks, String _envConfig, String _envTree) throws IOException, Exception
- void [getOptions](#) (Options options)
- void [setOptions](#) (CommandLine cmdLine) throws FileNotFoundException, IOException, Exception

Public Attributes

- MrpOption [pathSeparator](#) = new MrpOption()
- MrpOption [environmentVars](#) = new MrpOption()
- MrpIntOption [numTasks](#) = new MrpIntOption()
- MrpIntOption [hashDepth](#) = new MrpIntOption()
- MrpUrlOption [treeUrl](#) = new MrpUrlOption()
- MrpFileOption [configFile](#) = new MrpFileOption(true, false)

- MrpFolderOption [workDir](#) = new MrpFolderOption(false, false)
- MrpPathOption [inputFile](#) = new MrpPathOption()
- MrpPathOption [outputFile](#) = new MrpPathOption()
- MrpArgumentOption [tempDir](#) = new MrpArgumentOption()
- MrpArgumentOption [dataRootDir](#) = new MrpArgumentOption()
- MrpArgumentOption [dataDir](#) = new MrpArgumentOption()
- MrpArgumentOption [dataPath](#) = new MrpArgumentOption()

Protected Attributes

- final String [defaultNameConfig](#)
- final int [defaultNumTasks](#)
- final String [environmentVarConfig](#)
- final String [environmentVarTree](#)
- Ini [configIni](#)

3.3.1 Detailed Description

Class [MrpConfig](#)

This class forms the central repository for all the configuration variables for the [MapReducePruner](#) proces. Within that framework it also is responsible for the specification and acceptance of the command line options as well as the configBik.ini options.

Options specified on the command line take precedence over any values that might be specified in the environment variables or in the config file. So if both command line and config file specify a value for the input file, like: cli: -input inputDir\input2.tree ini: input = inputDir\input1.tree the one from the command line will be used. So in this case: inputDir\input2.tree

For most command line options two versions are available, with either a long or a short option name. E.g. for the input file both: -i path-to-input-file and -input path-to-input-file are valid options.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.3.2 Constructor & Destructor Documentation

3.3.2.1 [org.phylotastic.mapreducepruner.MrpConfig.MrpConfig](#) ([String _nameConfig](#), [int _numTasks](#), [String _envConfig](#), [String _envTree](#)) throws [IOException](#), [Exception](#) [[inline](#)]

Construct a config object

The constructor receives three parameters:

- the default name for the configuration file (normally something like: configBik.ini) to be used in conjunction with the current workdir when no other configuration file has been specified
- the name of the environment variable that holds the the name of the configuration file to be used. Only when applicable; i.e. when running on a server
- the name of the environment variable that holds the the URL phylogenetic tree to be used. This URL forms a section name in the config file and defines what data folder is to be used. Only when applicable; i.e. when running on a server

It also creates the MrpOption objects for the following config values: (cli = command line option, ini = configBik.ini file option; the curly brackets are not part of the option value; just used to separate option and value)

- Use environment vars cli: -n -noenv Indicates that no environment variables should be used. Mostly the case when testing locally (i.e. not on a server)
- The path to the configuration file cli: -c {path to config file} -config {path to config file}
- The hasdepth value to be used for the encoding of the taxon name. cli: -h {integer value} -hashdepth {integer value} ini: [Main] hashDepth = {integer value}
- The the number of hadoop tasks to use for the processes cli: -n {integer value} -numTasks {integer value} ini: [Main] numTasks = {integer value}
- The url for the tree to be used cli: -u {url} ini: [Tree] url = {url}
- The path to the taxon input file cli: -i {path to input file} -input {path to input file} ini: [Main] input = {path to input file}
- The path to the newick tree output file cli: -o {path to output file} -output {path to output file} ini: [Main] output = {path to output file}
- The path to the dataroot directory (for the phylog. tree) cli: -r {path to root directory} -root {path to root directory} ini: [Main] root = {path to root directory}
- The path to the data directory (for the phylog. tree) cli: -d {path to data directory} -data {path to root directory} ini: [{url}] data = {path to data directory}
- The path to the directory to be used as the temp or output directory cli: -t {path to temp directory} -temp {path to temp directory} ini: [Main] temp = {path to temp directory}

Parameters

| | |
|--------------------------|--|
| <code>_nameConfig</code> | the default name for thre configuration file |
| <code>_numTasks</code> | the default number of tasks for the mr procsses |
| <code>_envConfig</code> | the name of the environment variable that holds the name of the config file |
| <code>_envTree</code> | the name of the environment variable that holds the url of the tree to be used |

Exceptions

| | |
|----------------------------------|--|
| <code>java.io.IOException</code> | |
|----------------------------------|--|

Set the properties for the MrpOptions to be used These properties also serve as the cli and ini4j option properties

3.3.3 Member Function Documentation

3.3.3.1 void org.phylotastic.mapreducepruner.MrpConfig.getOptions (Options options) [inline]

Adds the options for the various configuration values to the given Options object for a cli command line parser. These will be used by that command line parser to interpret the information that the user entered on the command line.

Parameters

| | |
|----------------------|----------------------|
| <code>options</code> | a cli Options object |
|----------------------|----------------------|

3.3.3.2 void org.phylotastic.mapreducepruner.MrpConfig.setOptions (CommandLine cmdLine) throws FileNotFoundException, IOException, Exception [inline]

Processes the command line and config file options. First it determines whether or not environment variables should be used. Based on that, it is determined which configuration file to use, whereupon the options in that file are checked and read into the various MrpOption objects for the config values. At the same time the command line input is parsed and any option values found there are also read into the MrpOption objects concerned. If for the same option, values are found boh in the config file and on the command line, than the config values are overwritten with those read from the command line.

Parameters

| | |
|----------------|--------------------------|
| <i>cmdLine</i> | a cli CommandLine object |
|----------------|--------------------------|

Exceptions

| | |
|--------------------------------------|--|
| <i>java.io.FileNotFoundException</i> | |
| <i>java.io.IOException</i> | |
| <i>java.lang.Exception</i> | |

3.3.4 Member Data Documentation

3.3.4.1 `MrpFileOption org.phylotastic.mapreducepruner.MrpConfig.configFile = new MrpFileOption(true, false)`

program option: path to config file

3.3.4.2 `Ini org.phylotastic.mapreducepruner.MrpConfig.configIni` [protected]

the ini4j object for the Ini file

3.3.4.3 `MrpArgumentOption org.phylotastic.mapreducepruner.MrpConfig.dataDir = new MrpArgumentOption()`

program option: name of data dir

3.3.4.4 `MrpArgumentOption org.phylotastic.mapreducepruner.MrpConfig.dataPath = new MrpArgumentOption()`

program option: path to data root/data dir

3.3.4.5 `MrpArgumentOption org.phylotastic.mapreducepruner.MrpConfig.dataRootDir = new MrpArgumentOption()`

program option: path to data root dir

3.3.4.6 `final String org.phylotastic.mapreducepruner.MrpConfig.defaultNameConfig` [protected]

default name for config file

3.3.4.7 `final int org.phylotastic.mapreducepruner.MrpConfig.defaultNumTasks` [protected]

default number of tasks

3.3.4.8 `final String org.phylotastic.mapreducepruner.MrpConfig.environmentVarConfig` [protected]

name of the environment variable for the config file

3.3.4.9 `MrpOption org.phylotastic.mapreducepruner.MrpConfig.environmentVars = new MrpOption()`

program option: use environment variables

3.3.4.10 `final String org.phylotastic.mapreducepruner.MrpConfig.environmentVarTree` `[protected]`

name of the environment variable for the tree url

3.3.4.11 `MrpIntOption org.phylotastic.mapreducepruner.MrpConfig.hashDepth = new MrpIntOption()`

program option: value of the hashDepth for the "taxon database"

3.3.4.12 `MrpPathOption org.phylotastic.mapreducepruner.MrpConfig.inputFile = new MrpPathOption()`

program option: path to input file

3.3.4.13 `MrpIntOption org.phylotastic.mapreducepruner.MrpConfig.numTasks = new MrpIntOption()`

program option: number of tasks to split the processes over

3.3.4.14 `MrpPathOption org.phylotastic.mapreducepruner.MrpConfig.outputFile = new MrpPathOption()`

program option: path to output file

3.3.4.15 `MrpOption org.phylotastic.mapreducepruner.MrpConfig.pathSeparator = new MrpOption()`

program value: file system path separator

3.3.4.16 `MrpArgumentOption org.phylotastic.mapreducepruner.MrpConfig.tempDir = new MrpArgumentOption()`

program option: path to temp dir

3.3.4.17 `MrpUrlOption org.phylotastic.mapreducepruner.MrpConfig.treeUrl = new MrpUrlOption()`

program option: the url for the "taxon database"

3.3.4.18 `MrpFolderOption org.phylotastic.mapreducepruner.MrpConfig.workDir = new MrpFolderOption(false, false)`

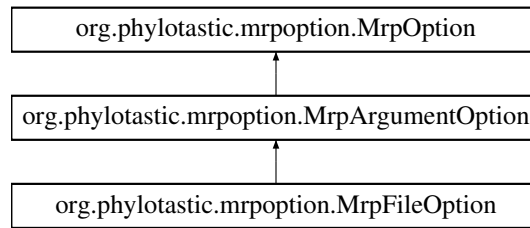
program option: path to work dir (user.dir)

The documentation for this class was generated from the following file:

- `MrpConfig.java`

3.4 `org.phylotastic.mrpoption.MrpFileOption` Class Reference

Inheritance diagram for `org.phylotastic.mrpoption.MrpFileOption`:



Public Member Functions

- [MrpFileOption](#) (Boolean `_mustExist`, Boolean `_mustRemove`)
- void [setValue](#) (String `_name`)
- void [checkFile](#) () throws `IllegalArgumentException`, `FileNotFoundException`
- File [getFile](#) ()
- String [getPath](#) ()

Protected Attributes

- Boolean [mustExist](#)
- Boolean [mustRemove](#)

Additional Inherited Members

3.4.1 Detailed Description

Class [MrpFileOption](#)

An implementation of the [MrpArgumentOption](#) class specialised in file name options. The constructor requires to indicate if it is mandatory that the specified file exist and also if a file that exists should be removed. The first mostly is the case for input files and the latter can be the case for certain test and/or output files.

The class can only be used for local file system locations, not for Hadoop filesystem paths

The class adds 2 boolean values to the constructor: `mustExist` and `mustRemove`. `MustExist` indicates that the file must exist; `mustRemove` indicates that the file should be deleted might it exists.

The class itself does not make any assumptions as to where the folder might exist. If the user does not specify the full path for the folder, the class depends on `java.io` and the local file system to complete the folder path to it's full length. This allows the user to specify folder names/paths that are somehow relative to the current work directory (`user.dir`)

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.4.2 Constructor & Destructor Documentation

3.4.2.1 `org.phylotastic.mrpoption.MrpFileOption.MrpFileOption (Boolean _mustExist, Boolean _mustRemove)` `[inline]`

Constructor

Parameters

| | |
|--------------------------|---|
| <code>_mustExist</code> | indication if the folder must exist (true) |
| <code>_mustRemove</code> | indication if the folder should be deleted (true) |

3.4.3 Member Function Documentation

3.4.3.1 `void org.phylotastic.mrpoption.MrpFileOption.checkFile () throws IllegalArgumentException, FileNotFoundException` [inline]

check if a correct file name was specified in the options;
in that case this should have a value and a file object

Exceptions

| | |
|--|--|
| <code>java.io.FileNotFoundException</code> | |
| <code>IllegalArgumentException</code> | |

3.4.3.2 `File org.phylotastic.mrpoption.MrpFileOption.getFile ()` [inline]

Return the (adress of the) file object

Returns

a (local) java.io.File object for this.file

3.4.3.3 `String org.phylotastic.mrpoption.MrpFileOption.getPath ()` [inline]

Return the full (absolute) path of the file

Returns

the full (absolute) path of the file

3.4.3.4 `void org.phylotastic.mrpoption.MrpFileOption.setValue (String _name)` [inline]

This is the method that sets the actual value for
the specific file.

Parameters

| | |
|--------------------|-----------------------|
| <code>_name</code> | the file path or name |
|--------------------|-----------------------|

3.4.4 Member Data Documentation

3.4.4.1 `Boolean org.phylotastic.mrpoption.MrpFileOption.mustExist` [protected]

indicator if the file must exist

3.4.4.2 Boolean org.phylotastic.mrpoption.MrpFileOption.mustRemove [protected]

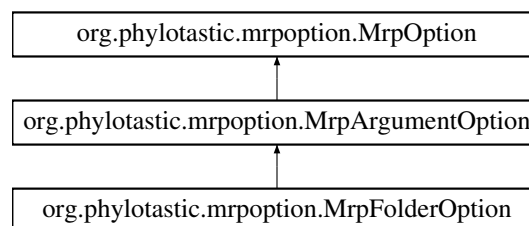
indicator if file must be removed if it exists

The documentation for this class was generated from the following file:

- MrpFileOption.java

3.5 org.phylotastic.mrpoption.MrpFolderOption Class Reference

Inheritance diagram for org.phylotastic.mrpoption.MrpFolderOption:



Public Member Functions

- [MrpFolderOption](#) (Boolean _mustExist, Boolean _mustRemove)
- void [setValue](#) (String _name)
- void [checkFolder](#) () throws IllegalArgumentException, FileNotFoundException, IOException
- File [getFolder](#) ()
- String [getPath](#) () throws IOException

Protected Attributes

- Boolean [mustExist](#)
- Boolean [mustRemove](#)

Additional Inherited Members

3.5.1 Detailed Description

Class [MrpFolderOption](#)

An implementation of the [MrpArgumentOption](#) class specialised in folder name options. The constructor requires to indicate if it is mandatory that the specified folder exist and also if a folder that exists should be removed. The first mostly is the case for input folders and the latter can be the case for certain test and/or output folders.

The class can only be used for local file system locations, not for Hadoop filesystem paths

The class adds 2 boolean values to the constructor: `mustExist` and `mustRemove`. `MustExist` indicates that the folder must exist; `mustRemove` indicates that the folder should be deleted if it exists.

The class itself does not make any assumptions as to where the folder might exist. If the user does not specify the full path for the folder, the class depends on `java.io` and the local file system to complete the folder path to its full length. This allows the user to specify folder names/paths that are somehow relative to the current work directory (`user.dir`)

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.5.2 Constructor & Destructor Documentation

3.5.2.1 `org.phylotastic.mrpoption.MrpFolderOption.MrpFolderOption (Boolean _mustExist, Boolean _mustRemove)` `[inline]`

Constructor

Parameters

| | |
|--------------------------|---|
| <code>_mustExist</code> | indication if the folder must exist (true) |
| <code>_mustRemove</code> | indication if the folder should be deleted (true) |

3.5.3 Member Function Documentation

3.5.3.1 `void org.phylotastic.mrpoption.MrpFolderOption.checkFolder ()` throws `IllegalArgumentException`, `FileNotFoundException`, `IOException` `[inline]`

check if a correct folder name was specified for this.options;
in that case this should have a value and a file object

Exceptions

| | |
|--|--|
| <code>java.io.FileNotFoundException</code> | |
| <code>IllegalArgumentException</code> | |

3.5.3.2 `File org.phylotastic.mrpoption.MrpFolderOption.getFolder ()` `[inline]`

Return the (adress of the) file object for the folder

Returns

a (local) `java.io.File` object for this.folder

3.5.3.3 `String org.phylotastic.mrpoption.MrpFolderOption.getPath ()` throws `IOException` `[inline]`

Return the full (absolute) path of the folder

Returns

the full (absolute) path of the folder

Exceptions

| | |
|--------------------------|--|
| <code>IOException</code> | |
|--------------------------|--|

3.5.3.4 `void org.phylotastic.mrpoption.MrpFolderOption.setValue (String _name)` `[inline]`

This is the method that sets the actual value for
the specific folder.

Parameters

| | |
|--------------------|----------------------|
| <code>_name</code> | the folder path/name |
|--------------------|----------------------|

Exceptions

| | |
|---------------------------------------|--|
| <code>IllegalArgumentException</code> | |
|---------------------------------------|--|

3.5.4 Member Data Documentation

3.5.4.1 Boolean org.phylotastic.mrpoption.MrpFolderOption.mustExist [protected]

indicator if the folder must exist

3.5.4.2 Boolean org.phylotastic.mrpoption.MrpFolderOption.mustRemove [protected]

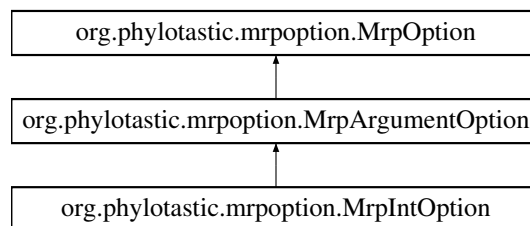
indicator if folder must be removed if it exists

The documentation for this class was generated from the following file:

- MrpFolderOption.java

3.6 org.phylotastic.mrpoption.MrpIntOption Class Reference

Inheritance diagram for org.phylotastic.mrpoption.MrpIntOption:



Public Member Functions

- [MrpIntOption](#) ()
- [MrpIntOption](#) (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)
- void [setValue](#) (String _value)
- void [setValue](#) (int _value)
- void [checkValue](#) () throws `IllegalArgumentException`
- int [getIntValue](#) ()

Additional Inherited Members

3.6.1 Detailed Description

Class [MrpIntOption](#)

An implementation of the [MrpArgumentOption](#) class for integer values.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.6.2 Constructor & Destructor Documentation

3.6.2.1 `org.phylotastic.mrpoption.MrplntOption.MrplntOption ()` `[inline]`

default constructor

3.6.2.2 `org.phylotastic.mrpoption.MrplntOption.MrplntOption (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)` `[inline]`

full constructor

Parameters

| | |
|----------------------------|--|
| <code>_description</code> | cli: option description |
| <code>_shortOption</code> | cli: short option (name) |
| <code>_longOption</code> | cli: long option (name) |
| <code>_argumentName</code> | cli: argument name |
| <code>_iniSection</code> | ini: the section name for the value in he ini file |
| <code>_iniName</code> | ini: the key for the value in the ini file |

3.6.3 Member Function Documentation

3.6.3.1 `void org.phylotastic.mrpoption.MrplntOption.checkValue ()` throws `IllegalArgumentException` `[inline]`

check if a correct integer value was specified for this.option;
otherwise@throw an `IllegalArgumentException`

Exceptions

| | |
|---------------------------------------|--|
| <code>IllegalArgumentException</code> | |
|---------------------------------------|--|

3.6.3.2 `int org.phylotastic.mrpoption.MrplntOption.getIntValue ()` `[inline]`

Return this.option value as integer

Returns

this.option value as an integer

3.6.3.3 `void org.phylotastic.mrpoption.MrplntOption.setValue (String _value)` `[inline]`

This is the method that sets the actual attribute
value for a specific config value (option)

Parameters

| | |
|---------------------|--|
| <code>_value</code> | |
|---------------------|--|

3.6.3.4 void org.phylotastic.mrpoption.MrpIntOption.setValue (int _value) [inline]

This is the method that sets the actual attribute value for a specific config value (option)

Parameters

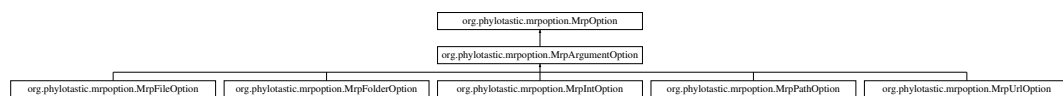
| | |
|---------------------|--|
| <code>_value</code> | |
|---------------------|--|

The documentation for this class was generated from the following file:

- MrpIntOption.java

3.7 org.phylotastic.mrpoption.MrpOption Class Reference

Inheritance diagram for org.phylotastic.mrpoption.MrpOption:



Public Member Functions

- [MrpOption](#) ()
- [MrpOption](#) (String _description, String _shortOption, String _longOption)
- void [setProperties](#) (String _description, String _shortOption, String _longOption)
- Option [getOption](#) ()
- void [setOption](#) (CommandLine _cmdLine) throws Exception
- void [setValue](#) (String _value)
- void [checkValue](#) () throws IllegalArgumentException
- String [getValue](#) ()
- Boolean [hasValue](#) ()
- String [toString](#) ()

Public Attributes

- String [description](#)
- String [shortOption](#)
- String [longOption](#)

Protected Attributes

- String [value](#) = ""

Static Protected Attributes

- static Logger [logger](#)

3.7.1 Detailed Description

Class [MrpOption](#)

This class contains methods and fields to maintain the data for an optional configuration value. This includes the data needed to implement the value as a command line option and/or as an ini.file option

The class mainly uses a default constructor and one or more specific setProperties methods This in order to not have to duplicate too many constructors in each of the descendant classes

The class uses commons.cli. Most of it's properties exist of cli option properties, like:

description: cli: option description shortOption: cli: short option (name), e.d. -c for configfile longOption: cli: long option (name), e.d. -config for configfile

The class can only be used for boolean type options; i.e. options without arguments values. So only for: -n don't use environment values not for -c configBik.ini path of config file to be used

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.7.2 Constructor & Destructor Documentation

3.7.2.1 `org.phylotastic.mrpoption.MrpOption.MrpOption ()` `[inline]`

default constructor

3.7.2.2 `org.phylotastic.mrpoption.MrpOption.MrpOption (String _description, String _shortOption, String _longOption)` `[inline]`

full constructor

Parameters

| | |
|---------------------------|--------------------------|
| <code>_description</code> | cli: option description |
| <code>_shortOption</code> | cli: short option (name) |
| <code>_longOption</code> | cli: long option (name) |

3.7.3 Member Function Documentation

3.7.3.1 `void org.phylotastic.mrpoption.MrpOption.checkValue ()` throws `IllegalArgumentException` `[inline]`

check if a correct value was specified for this.option;
otherwise@throws an `IllegalArgumentException`

Exceptions

| | |
|---------------------------------------|--|
| <code>IllegalArgumentException</code> | |
|---------------------------------------|--|

3.7.3.2 `Option org.phylotastic.mrpoption.MrpOption.getOption ()` `[inline]`

create and return an `org.apache.commons.cli Option` object
for this.option

Returns

the `org.apache.commons.cli Option` object

3.7.3.3 String org.phylotastic.mrpoption.MrpOption.getValue () [inline]**Returns**

the value of this.option

3.7.3.4 Boolean org.phylotastic.mrpoption.MrpOption.hasValue () [inline]**Returns**

true if this.option has a value specified for it

3.7.3.5 void org.phylotastic.mrpoption.MrpOption.setOption (CommandLine _cmdLine) throws Exception [inline]**Parameters**

| | |
|-----------------|---|
| <i>_cmdLine</i> | org.apache.commons.cli CommandLine object |
|-----------------|---|

Exceptions

| | |
|------------------|--|
| <i>Exception</i> | |
|------------------|--|

3.7.3.6 void org.phylotastic.mrpoption.MrpOption.setProperties (String _description, String _shortOption, String _longOption) [inline]

Method: setProperties

set the properties for a command line option without argument
use with default constructor

Parameters

| | |
|---------------------|--------------------------|
| <i>_description</i> | cli: option description |
| <i>_shortOption</i> | cli: short option (name) |
| <i>_longOption</i> | cli: long option (name) |

3.7.3.7 void org.phylotastic.mrpoption.MrpOption.setValue (String _value) [inline]**Parameters**

| | |
|---------------|------------------------------------|
| <i>_value</i> | the value to be set for the option |
|---------------|------------------------------------|

3.7.3.8 String org.phylotastic.mrpoption.MrpOption.toString () [inline]

Returns the string representation of this pathnode

Returns

this.Option as a string, like: "Option: -n, -noenv: do not use environment variables"

3.7.4 Member Data Documentation**3.7.4.1** String org.phylotastic.mrpoption.MrpOption.description

a short string description as used in the cli option

3.7.4.2 `Logger org.phylotastic.mrpoption.MrpOption.logger` `[static], [protected]`

a default logger for the option class

3.7.4.3 `String org.phylotastic.mrpoption.MrpOption.longOption`

the long version of the cli option (name)

3.7.4.4 `String org.phylotastic.mrpoption.MrpOption.shortOption`

the short version of the cli option (name)

3.7.4.5 `String org.phylotastic.mrpoption.MrpOption.value = ""` `[protected]`

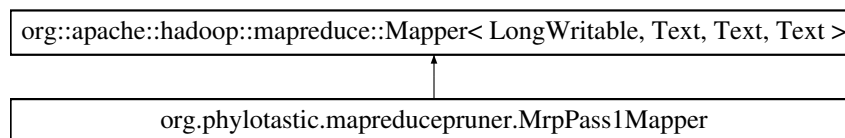
the value the user specified for the option

The documentation for this class was generated from the following file:

- `MrpOption.java`

3.8 `org.phylotastic.mapreducepruner.MrpPass1Mapper` Class Reference

Inheritance diagram for `org.phylotastic.mapreducepruner.MrpPass1Mapper`:



Classes

- class **Core**

Public Member Functions

- void `setup` (Context context) throws IOException, InterruptedException
- void `map` (LongWritable key1, Text taxon, Context context) throws IOException, InterruptedException

Protected Attributes

- final Core `core` = new Core()

3.8.1 Detailed Description

class: `Pass1Mapper`

a Mapper class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.8.2 Member Function Documentation

3.8.2.1 `void org.phylotastic.mapreducepruner.MrpPass1Mapper.map (LongWritable key1, Text taxon, Context context) throws IOException, InterruptedException` [inline]

method: map

Given a single taxon name as argument, this method reads in a file from a specified tree database. That file should contain one line: a "|" -separated list of nodes that describes the path, in pre-order indexed integers, from taxon to the root. The name of the file is an encoded version of the taxon name, that contains no chracters that are not allowed in a (Unix/Windows, etc.) file name.

Example:

```
Taxon      : parkia
Encoded    : 001888798bb50357c4ab8bea57ddfe81
File name  : /0/0/1/8/8/001888798bb50357c4ab8bea57ddfe81
Path       : 628:18|625:1|624:1|623:1|622:1|621:1|581:1|513:1|505:1| ..... |5:1|4:1|3:1|2:1|1:1
```

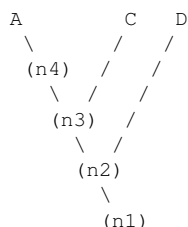
Each segment of that path is emitted as an (internal)node ID => taxon pair.
For example, for imaginary tree



if the taxons specified for extraction are A and C and D, Map-1() emits the records:

```
(=) A:Agoracea
n4  A
n3  A
n2  A
n1  A
(=) C:Catonacea
n3  C
n2  C
n1  C
(=) D:Draconacea
n2  D
n1  D
```

Representing the tree



where:

A,C and D are the labels or ID's of the taxons
Agoracea, Catonacea and Draconacea their respective names
n1, n2, ..., n4 are the internal nodes

Before being presented to the Reduce-1() method, the emitted records are sorted
if taxons were A and C and D, this results in the records:

```
(=) A:Agoracea
```

```
(=) C:Catonacea
(=) D:Draconacea
n1 A
n1 C
n1 D
n2 A
n2 C
n2 D
n3 A
n3 C
n4 A
```

Map is called once for each taxon name in the input file
 The name is encoded to the file location of the path file
 The path is read in and split up into it's constituent nodes
 For each node a record is written out for the reduce step;
 for the parkia example
 taxon: parkia
 path: 628:18|625:1|624:1|623:1|622:1| |5:1|4:1|3:1|2:1|1:1
 the output would be:
 (=) 628:18:parkia
 625:1 628:18
 623:1 628:18

 3:1 628:18
 2:1 628:18
 1:1 628:18

Parameters

| | |
|----------------|--|
| <i>key1</i> | the offset into the file (not used) |
| <i>taxon</i> | the name of the taxon to proces; like: "parkia" |
| <i>context</i> | the Hadoop output context for writing the result |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.8.2.2 void org.phylotastic.mapreducepruner.MrpPass1Mapper.setup (Context *context*) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each mapper task. So if 10 mappers were spawned for a job, then for each of those mappers it will be called once
 General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to mappers, etc.

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

3.8.3 Member Data Documentation

3.8.3.1 `final Core org.phylotastic.mapreducepruner.MrpPass1Mapper.core = new Core()` [protected]

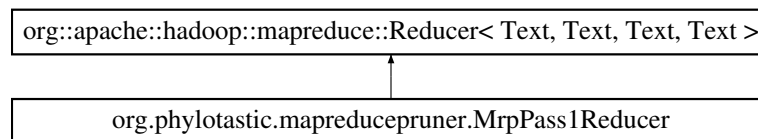
core mapper methods for pass1Mapper

The documentation for this class was generated from the following file:

- MrpPass1Mapper.java

3.9 org.phylotastic.mapreducepruner.MrpPass1Reducer Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpPass1Reducer:



Public Member Functions

- void [setup](#) (Reducer.Context context) throws IOException, InterruptedException
- void [reduce](#) (Text node, Iterable< Text > nodeTips, Context context) throws IOException, InterruptedException

3.9.1 Detailed Description

class: **Pass1Reducer**

a Reducer class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

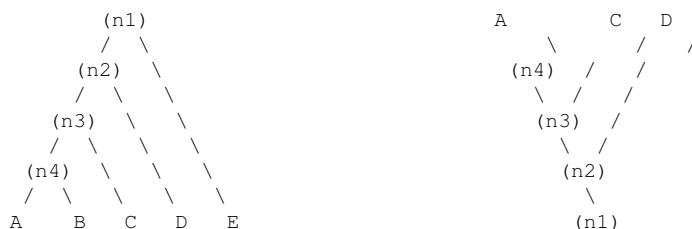
3.9.2 Member Function Documentation

3.9.2.1 `void org.phylotastic.mapreducepruner.MrpPass1Reducer.reduce (Text node, Iterable< Text > nodeTips, Context context)` throws IOException, InterruptedException [inline]

method: `reduce`

Given a node ID (as described for "map") as a key, and all the tips that have that node on their respective paths to the root, this method combines these to emit a concatenated list of all tips, then the node ID, then the tip count.

For example, for tree



```

if taxons are A and C and D, Reduce-1() receives the records:
(=)  {A:Agoracea,C:Catonacea,D:Draconacea}    // {} = iterable list
n1   {A,C,D}                                // {} = iterable list
n2   {A,C,D}                                // {} = iterable list
n3   {A,C}                                   // {} = iterable list
n4   {A}                                     // {} = iterable list

```

after processing Reduce-1() emits the records:

```

(=)      A:Agoracea
(=)      C:Catonacea
(=)      D:Draconacea
A,C,D    n1,3
A,C,D    n2,3
A,C      n3,2
A        n4,1

```

Parameters

| | |
|-----------------|---|
| <i>node</i> | the internal node |
| <i>nodeTips</i> | the external nodes with "node" in their path |
| <i>context</i> | the Hadoop output context for writing the results |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.9.2.2 void org.phylotastic.mapreducepruner.MrpPass1Reducer.setup (Reducer.Context *context*) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each reducer task. So if 10 reducers were spawned for a job, then for each of those reducers it will be called once

General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to reducers, etc.

The method has no real function here yet; it is added for completeness

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

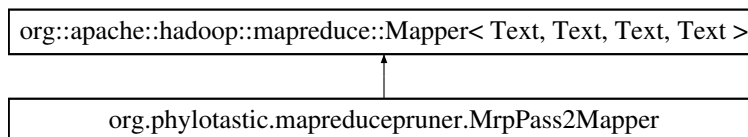
| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

The documentation for this class was generated from the following file:

- MrpPass1Reducer.java

3.10 org.phylotastic.mapreducepruner.MrpPass2Mapper Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpPass2Mapper:



Public Member Functions

- void [setup](#) (Context context) throws IOException, InterruptedException
- void [map](#) (Text tipSet, Text node, Context context) throws IOException, InterruptedException

3.10.1 Detailed Description

class: `Pass2Mapper`

Mapper class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.10.2 Member Function Documentation

3.10.2.1 void `org.phylotastic.mapreducepruner.MrpPass2Mapper.map (Text tipSet, Text node, Context context)` throws `IOException`, `InterruptedException` `[inline]`

method: `map`

For example, for tree



if taxons are A and C and D, Map-2() receives the records:

```

(=)      A:Agoracea
(=)      C:Catonacea
(=)      D:Draconacea
A,C,D    n1,3
A,C,D    n2,3
A,C      n3,2
  
```

in no particular following order

Map2 does not do any processing; it is only there to enable the Reduce2 process

after processing Map-2() emits the records:

```

(=)      A:Agoracea
(=)      C:Catonacea
(=)      D:Draconacea
A,C,D    n1,3
A,C,D    n2,3
A,C      n3,2
A        n4,1
  
```

Before being presented to the Reduce-2() method, the emitted records are sorted, giving

```
(=)      A:Agoracea
(=)      C:Catonacea
(=)      D:Draconacea
A        n4,1
A,C      n3,2
A,C,D    n1,3
A,C,D    n2,3
```

input format = key-value pairs !!

Parameters

| | |
|----------------|---|
| <i>tipSet</i> | the tipset or IDtext |
| <i>node</i> | the internal node(+ node count) |
| <i>context</i> | the Hadoop output context for writing the results |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.10.2.2 void org.phylotastic.mapreducepruner.MrpPass2Mapper.setup (Context *context*) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each mapper task. So if 10 mappers were spawned for a job, then for each of those mappers it will be called once

General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to mappers, etc.

The method has no real function here yet; it is added for completeness

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

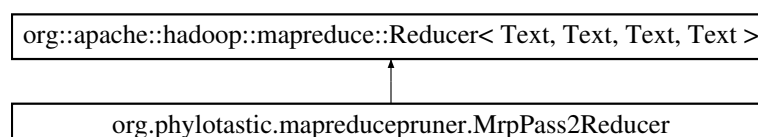
| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

The documentation for this class was generated from the following file:

- MrpPass2Mapper.java

3.11 org.phylotastic.mapreducepruner.MrpPass2Reducer Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpPass2Reducer:



Public Member Functions

- void [setup](#) (Reducer.Context context) throws IOException, InterruptedException
- void [reduce](#) (Text tipText, Iterable< Text > nodes, Context context) throws IOException, InterruptedException

3.11.1 Detailed Description

class: **Pass2Reducer**

Reducer class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.11.2 Member Function Documentation

3.11.2.1 void `org.phylotastic.mapreducepruner.MrpPass2Reducer.reduce (Text tipText, Iterable< Text > nodes, Context context)` throws IOException, InterruptedException [inline]

method: `reduce`

Given a concatenated list of tips, a node ID and the number of tips it subtends,
(like: A|B,n1,2).

In cases where a concatenated list of tips has multiple internal nodes associated with it, this means that there are unbranched internal nodes on the path from those tips to the root. Of those unbranched internals we want the MRCA of the tips, which we obtain by sorting the node IDs: since these are applied in pre-order, the highest node ID in the list is the MRCA.
(MRCA = Most recent common ancestor)

For example, for tree



if taxons are A and C and D, Reduce() receives the records:

```
(=)          {A:Agoracea,C:Catonacea,D:Draconacea}    // {} = iterable list
A            {n4,1}                                     // {} = iterable list
A,C          {n3,2}                                     // {} = iterable list
A,C,D        {n1,3; n2,3}                               // {} = iterable list
```

processing will:

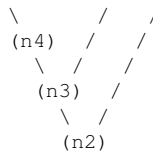
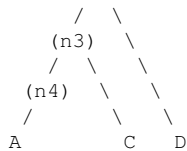
- neglect unbranched nodes in multi-node tiplist => like n1 for A,C,D
and regard only the MRCA (Most recent common ancestor) => like n2 for A,C,D
- add the branche length of neglected nodes to
that of their MRCA

after processing Reduce-2() emits the records:

```
(=)          A:Agoracea
(=)          C:Catonacea
(=)          D:Draconacea
A            n4,1
A,C          n3,2
A,C,D        n2,3
```

Representing the tree



**Parameters**

| | |
|----------------|---|
| <i>tipText</i> | the tipset or IDtext |
| <i>nodes</i> | the internal nodes that are on the path of the tipset |
| <i>context</i> | the Hadoop output context for writing the results |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.11.2.2 void org.phylotastic.mapreducepruner.MrpPass2Reducer.setup (Reducer.Context context) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each reducer task. So if 10 reducers were spawned for a job, then for each of those reducers it will be called once

General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to reducers, etc.

The method has no real function here yet; it is added for completeness

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

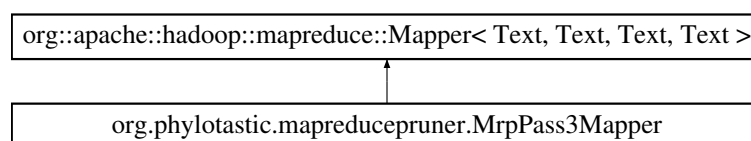
| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

The documentation for this class was generated from the following file:

- MrpPass2Reducer.java

3.12 org.phylotastic.mapreducepruner.MrpPass3Mapper Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpPass3Mapper:

**Public Member Functions**

- void [setup](#) (Context context) throws IOException, InterruptedException

- void [map](#) (Text tipText, Text nodeText, Context context) throws IOException, InterruptedException

3.12.1 Detailed Description

class: `Pass3Mapper`

Mapper class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.12.2 Member Function Documentation

3.12.2.1 void `org.phylotastic.mapreducepruner.MrpPass3Mapper.map` (Text *tipText*, Text *nodeText*, Context *context*) throws `IOException`, `InterruptedException` [inline]

method: `map`

Map-3 step prepares the data for the names to be re-attaches to their respective tip nodes and for any remaining internal nodes that subtend only 1 tip, to be removed.

For example, for tree



if taxons are A and C and D, Map-3() receives the records:

```
(=)      A:Agoracea
(=)      C:Catonacea
(=)      D:Draconacea
A        n4,1
A,C      n3,2
A,C,D    n2,3
```

in no perticular following order

processing will:

- split the tipsets into ID/node pairs
- split the name-item into an ID/name pair

after processing Map-3() emits the records:

```
labelOf(A)  A:Agoracea
labelOf(C)  C:Catonacea
labelOf(D)  D:Draconacea
labelOf(A)  n2,3
labelOf(C)  n2,3
labelOf(D)  n2,3
labelOf(A)  n3,3
labelOf(C)  n3,3
labelOf(A)  n4,1
```

instead of the `tipNode.toString()` value, now the integer value of `tipNode.getLabel()` is used as the key-part of the map output. `node.toString()` is the value-part. This is not a necessity for the process, but the label's integer value prefixed with zeroes to 6 positions (`String.format("%06d", node.getLabel())`) should give a cleaner sort result and therefore an easier to (manually) check output. It might also be of help for further processing of the result into a tree.

Before being presented to the Reduce-3() method, the emitted records are sorted, giving

```
A    n2,3
A    n3,2
A    n4,1
A    =A:Agoracea
C    n2,3
C    n3,2
C    =C:Catonacea
D    n2,3
D    =D:Draconacea
```

where it says A, C and D the integer labels of those nodes are meant.
like in the case of the parkia:

```
"000628      623:1"
"000628      625:1"
"000628      =628:18:parkia"
```

Parameters

| | |
|-----------------|---|
| <i>tipText</i> | the tipset or IDtext |
| <i>nodeText</i> | the internal node (+count) |
| <i>context</i> | the Hadoop output context for writing the results |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.12.2.2 void org.phylotastic.mapreducepruner.MrpPass3Mapper.setup (Context *context*) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each mapper task. So if 10 mappers were spawned for a job, then for each of those mappers it will be called once

General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to mappers, etc.

The method has no real function here yet; it is added for completeness

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

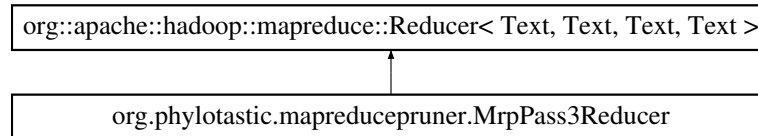
| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

The documentation for this class was generated from the following file:

- MrpPass3Mapper.java

3.13 org.phylotastic.mapreducepruner.MrpPass3Reducer Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpPass3Reducer:



Public Member Functions

- void [setup](#) (Reducer.Context context) throws IOException, InterruptedException
- void [reduce](#) (Text tipText, Iterable< Text > nodes, Context context) throws IOException, InterruptedException

3.13.1 Detailed Description

class: `Pass3Reducer`

Reducer class, an element of the Hadoop MapReduce framework

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.13.2 Member Function Documentation

3.13.2.1 void `org.phylotastic.mapreducepruner.MrpPass3Reducer.reduce (Text tipText, Iterable< Text > nodes, Context context)` throws IOException, InterruptedException `[inline]`

method: `reduce`

For example, for tree



if taxons are A and C and D, Reduce-3() receives:

```

A   {n2,3;n3,2;n4,1;=A:Agoracea}    // {} = iterable list
C   {n2,3;n3,2;=C:Catonacea}         // {} = iterable list
D   {n2,3;=D:Draconacea}             // {} = iterable list
  
```

where it lists the keys A, C and D the integer labels of those nodes are meant.

processing will:

- assemble the path "per tip"
- remove internal nodes that only subtend 1 tip
adding their branch length to that of the tip

after processing Reduce-3() emits the records:

```

A:Agoracea      n2,n3
C:Catonacea     n2,n3
D:Draconacea    n2
  
```

Representing the tree



```

      /      C:Catonacea      (n3)  /
     /          \          /
A:Agoracea      (n2)

```

further processing can then result in the Newick representation for the tree:

Parameters

| | |
|----------------|---|
| <i>tipText</i> | the key of the taxons external node |
| <i>nodes</i> | (all) the nodes on the taxons path |
| <i>context</i> | the Hadoop output context for writing the results |

Exceptions

| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |

3.13.2.2 void org.phylotastic.mapreducepruner.MrpPass3Reducer.setup (Reducer.Context context) throws IOException, InterruptedException [inline]

method: setup

This method is called once for each reducer task. So if 10 reducers were spawned for a job, then for each of those reducers it will be called once

General guideline is to add any task that is required to be done only once, like getting the path of the distributed cache, passing and getting parameters to reducers, etc.

The method has no real function here yet; it is added for completeness

Parameters

| | |
|----------------|--|
| <i>context</i> | a Hadoop context, giving access to data related to the pass1 job |
|----------------|--|

Exceptions

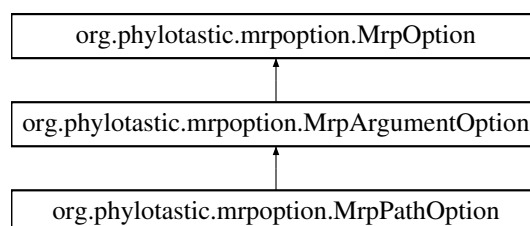
| | |
|-----------------------------|--|
| <i>IOException</i> | |
| <i>InterruptedException</i> | |

The documentation for this class was generated from the following file:

- MrpPass3Reducer.java

3.14 org.phylotastic.mrpoption.MrpPathOption Class Reference

Inheritance diagram for org.phylotastic.mrpoption.MrpPathOption:



Public Member Functions

- [MrpPathOption](#) ()
- void [setValue](#) (String _name)
- String [getPath](#) () throws IOException
- Boolean [isLocal](#) ()

Additional Inherited Members

3.14.1 Detailed Description

Class [MrpPathOption](#)

An implementation of the [MrpArgumentOption](#) class specialised in file and foldername options of items that can be either on the local file system or on the hadoop file system (hfs).

If the name starts with "/user/" the location is assumed to be on the (hfs) server and the name is returned "as is" In all other cases the location is assumed to be on the local file system and the name is returned as it's absolute path. This is the path string after resolving it against the current directory - if it's relative - resulting in a fully qualified path. This last is done so that the location can be used in a hfs "Path" object without hfs mistaking it for a location on the server.

Because of the nature of the options value, the class does not (yet?) provide methods for testing if the location exists and is of the right type (file or folder). This is up to the methods that use the pathOption.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.14.2 Constructor & Destructor Documentation

3.14.2.1 [org.phylotastic.mrpoption.MrpPathOption.MrpPathOption \(\)](#) [inline]

Constructor

3.14.3 Member Function Documentation

3.14.3.1 [String org.phylotastic.mrpoption.MrpPathOption.getPath \(\)](#) throws IOException [inline]

Return the path value.
If it is a file on the server - starts with "/user/" -
then return the value "as is"
Otherwise it is a location on the local file system
return it's full (absolute) path

Returns

the name or path of the file/folder as a string

Exceptions

| | |
|--------------------|--|
| <i>IOException</i> | |
|--------------------|--|

3.14.3.2 [Boolean org.phylotastic.mrpoption.MrpPathOption.isLocal \(\)](#) [inline]

indicates if the file is a local one
or one on a server

Returns

3.14.3.3 void org.phylotastic.mrpooption.MrpPathOption.setValue (String *_name*) [inline]

This is the method that sets the actual value for the specific file.

Parameters

| | |
|--------------|---------------------------------|
| <i>_name</i> | the file or folder path or name |
|--------------|---------------------------------|

The documentation for this class was generated from the following file:

- MrpPathOption.java

3.15 org.phylotastic.mapreducepruner.MrpResult Class Reference

Public Member Functions

- [MrpResult](#) ()
- void [setEnviron](#) (FileSystem *_hadoopFS*)
- void [process](#) (Path inputDir, Path outputFile) throws IOException
- void [addFile](#) (Tree tree, Path file) throws IOException
- void [writeResult](#) (String newick, Path outputFile) throws IOException
- List< Path > [getFilePaths](#) (Path directory, String filter) throws IOException

3.15.1 Detailed Description

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.15.2 Constructor & Destructor Documentation

3.15.2.1 org.phylotastic.mapreducepruner.MrpResult.MrpResult () [inline]

constructor

3.15.3 Member Function Documentation

3.15.3.1 void org.phylotastic.mapreducepruner.MrpResult.addFile (Tree *tree*, Path *file*) throws IOException [inline]

method: addFile Add the taxons in a given MR result file to the given tree

Parameters

| | |
|-------------|--|
| <i>tree</i> | the mrptree.tree to add the taxons to |
| <i>file</i> | the file to add the taxons from (Hadoop) |

Exceptions

| | |
|--------------------|--|
| <i>IOException</i> | |
|--------------------|--|

3.15.3.2 List<Path> org.phylotastic.mapreducepruner.MrpResult.getFilePaths (Path *directory*, String *filter*) throws IOException [inline]

Returns a list of File's in a given directory taking into account a filename filter

Parameters

| | |
|------------------|-------------------------------------|
| <i>directory</i> | the directory to list the file from |
| <i>filter</i> | the filter to apply |

Returns

the List of Hadoop paths for the files found

Exceptions

| | |
|----------------------------|--|
| <i>java.io.IOException</i> | |
|----------------------------|--|

3.15.3.3 void org.phylotastic.mapreducepruner.MrpResult.process (Path *inputDir*, Path *outputFile*) throws IOException [inline]

method: process

Process the mapreduce results into a newick tree and write that to a diskfile.

Parameters

| | |
|-------------------|--|
| <i>inputDir</i> | the Hadoop Path for directory with the result of the MapReduce process |
| <i>outputFile</i> | the Hadoop Path for the file where the resulting Newick tree is to be written to |

Exceptions

| | |
|--------------------|--|
| <i>IOException</i> | |
|--------------------|--|

3.15.3.4 void org.phylotastic.mapreducepruner.MrpResult.setEnviron (FileSystem *_hadoopFS*) [inline]

method: setEnviron

Parameters

| | |
|------------------|-------------------------------|
| <i>_hadoopFS</i> | the Hadoop file system to use |
|------------------|-------------------------------|

3.15.3.5 void org.phylotastic.mapreducepruner.MrpResult.writeResult (String *newick*, Path *outputFile*) throws IOException [inline]

Writes the given newick string to a specified disk file

Parameters

| | |
|-------------------|---------------------------------|
| <i>newick</i> | the Newick string to be written |
| <i>outputFile</i> | the file to write the string to |

Exceptions

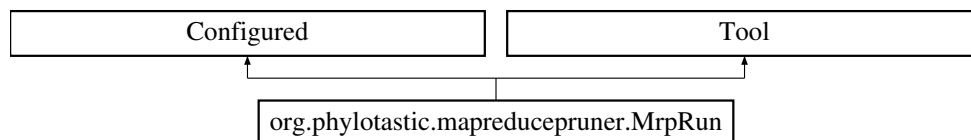
| | |
|--------------------|--|
| <i>IOException</i> | |
|--------------------|--|

The documentation for this class was generated from the following file:

- MrpResult.java

3.16 org.phylotastic.mapreducepruner.MrpRun Class Reference

Inheritance diagram for org.phylotastic.mapreducepruner.MrpRun:



Public Member Functions

- [MrpRun](#) ([MrpConfig](#) _config)
- [run](#) (String[] args) throws IOException, InterruptedException, ClassNotFoundException

3.16.1 Detailed Description

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.16.2 Constructor & Destructor Documentation

3.16.2.1 org.phylotastic.mapreducepruner.MrpRun.MrpRun (MrpConfig _config) [inline]

Parameters

| | |
|----------------|--|
| <i>_config</i> | the MrpConfig object holding the configuration variables (options) |
|----------------|--|

3.16.3 Member Function Documentation

3.16.3.1 int org.phylotastic.mapreducepruner.MrpRun.run (String[] args) throws IOException, InterruptedException, ClassNotFoundException [inline]

Method Run

This proces extracts a subset from an existing tree and removes any superfluous internal nodes. For instance taking the subset A, C, D from the imaginary tree:

```
A B C D E \\\ (n4) /// \\\ (n3) /// \\\ (n2) \\\ (n1)
```

step 1 (map-1/reduce-1) results in the tree:

A C D \ / / (n4) / / / / (n3) / / (n2) \ (n1)

with superfluous nodes like (n1) and (n4). In two further steps these nodes are removed, resulting in the tree:

A C D \ / / / / / (n3) / / (n2)

Step 2 (map-2/reduce-2) removes any unbranched internal nodes like (n1) Step 3 (map-3/reduce-3) removes any remaining internal nodes that subtend only 1 tip like (n4).

The names of the extracted taxons are carried all the way to reduce-3, where they are re-attached to the concerning (external) node, giving:

A:Agoracea \ \ C:Catonacea \ / (n3) D:Draconacea \ / (n2)

Parameters

| | |
|-------------|----------------------------------|
| <i>args</i> | arguments for the run (not used) |
|-------------|----------------------------------|

Returns

zero when run finished normally

Exceptions

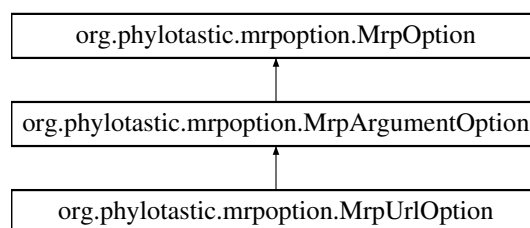
| | |
|--|--|
| <i>java.io.IOException</i> | |
| <i>java.lang.Interrupted-Exception</i> | |
| <i>java.lang.ClassNotFound-Exception</i> | |

The documentation for this class was generated from the following file:

- MrpRun.java

3.17 org.phylotastic.mrpoption.MrpUrlOption Class Reference

Inheritance diagram for org.phylotastic.mrpoption.MrpUrlOption:



Public Member Functions

- [MrpUrlOption](#) ()
- [MrpUrlOption](#) (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)
- void [setValue](#) (String _value)
- void [checkValue](#) () throws IllegalArgumentException

Additional Inherited Members

3.17.1 Detailed Description

Class [MrpUrlOption](#)

An implementation of the [MrpArgumentOption](#) class focused on URL values.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.17.2 Constructor & Destructor Documentation

3.17.2.1 `org.phylotastic.mrpoption.MrpUrlOption.MrpUrlOption ()` `[inline]`

default constructor

3.17.2.2 `org.phylotastic.mrpoption.MrpUrlOption.MrpUrlOption (String _description, String _shortOption, String _longOption, String _argumentName, String _iniSection, String _iniName)` `[inline]`

full constructor

Parameters

| | |
|----------------------------|---|
| <code>_description</code> | cli: option description |
| <code>_shortOption</code> | cli: short option (name) |
| <code>_longOption</code> | cli: long option (name) |
| <code>_argumentName</code> | cli: argument name |
| <code>_iniSection</code> | ini: the section name for the value in the ini file |
| <code>_iniName</code> | ini: the key for the value in the ini file |

3.17.3 Member Function Documentation

3.17.3.1 `void org.phylotastic.mrpoption.MrpUrlOption.checkValue ()` throws `IllegalArgumentException` `[inline]`

check if a correct URL value was specified for this.option;
otherwise@throw an `IllegalArgumentException`

Exceptions

| | |
|---------------------------------------|--|
| <code>IllegalArgumentException</code> | |
|---------------------------------------|--|

3.17.3.2 `void org.phylotastic.mrpoption.MrpUrlOption.setValue (String _value)` `[inline]`

This is the method that sets the actual value for
the specific url

Parameters

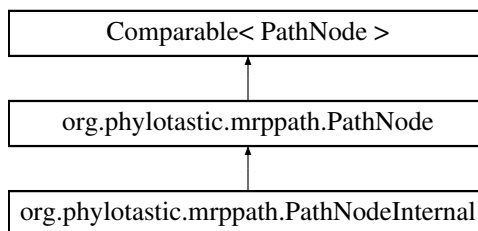
| | |
|---------------------|--|
| <code>_value</code> | the URL string to set as this.option's value |
|---------------------|--|

The documentation for this class was generated from the following file:

- `MrpUrlOption.java`

3.18 org.phylotastic.mrppath.PathNode Class Reference

Inheritance diagram for org.phylotastic.mrppath.PathNode:



Public Member Functions

- [PathNode](#) (String _string)
- [PathNode](#) (int label, double length)
- [PathNode](#) (int label, double length, String name)
- void [setLabel](#) (int label)
- int [getLabel](#) ()
- void [setLength](#) (double length)
- double [getLength](#) ()
- void [setName](#) (String name)
- String [getName](#) ()
- String [toString](#) ()
- int [compareTo](#) ([PathNode](#) that)
- boolean [equals](#) (Object _that)
- int [hashCode](#) ()

Static Public Member Functions

- static [PathNode fromString](#) (String node)

3.18.1 Detailed Description

Class: [PathNode](#)

The Pathnode class is a helper class for the map/reduce/pruner program. Pathnode objects help to store and convert nodes in the paths from the taxons to their root nodes.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.18.2 Constructor & Destructor Documentation

3.18.2.1 org.phylotastic.mrppath.PathNode.PathNode (String _string) [inline]

Constructor

Parameters

| | |
|----------------|---|
| <i>_string</i> | a string representation of the pathnode |
|----------------|---|

3.18.2.2 `org.phylotastic.mrppath.PathNode.PathNode (int label, double length)` [inline]

Constructor

Parameters

| | |
|---------------|---------------------------------------|
| <i>label</i> | the digital id for the pathnode |
| <i>length</i> | the distance to the node's parentnode |

3.18.2.3 `org.phylotastic.mrppath.PathNode.PathNode (int label, double length, String name)` [inline]

Constructor

Parameters

| | |
|---------------|---|
| <i>label</i> | the digital id for the pathnode |
| <i>length</i> | the distance to the node's parentnode |
| <i>name</i> | the name of the taxon this is the external node for |

3.18.3 Member Function Documentation

3.18.3.1 `int org.phylotastic.mrppath.PathNode.compareTo (PathNode that)` [inline]

`compareTo` implements (part of) the `Comparable` interface

Beware!

This `compareTo` is implemented "the wrong way around".
The result is that `PathNodeSets` will be sorted in
descending order instead of ascending order.

returns:

```
-1 if this node's label is larger then that node's label
 0 if this node's label is equal to that node's label
+1 if this node's label is less then that node's label
```

Parameters

| | |
|-------------|--|
| <i>that</i> | the PathNode to compare this.node with |
|-------------|--|

Returns

-1, 0 or +1 depending on the result

3.18.3.2 `boolean org.phylotastic.mrppath.PathNode.equals (Object _that)` [inline]

Return true if this node is equal to
the other node (i.e. has the same ID)

Parameters

| | |
|--------------------|---|
| <code>_that</code> | the object (PathNode) to compare with |
|--------------------|---|

Returns

true if both nodes are equal

3.18.3.3 `static PathNode org.phylotastic.mrppath.PathNode.fromString (String node) [inline],[static]`

Static variables: Static method: [fromString\(\)](#)

To create a pathnode from it's string representation

Parameters

| | |
|-------------------|---|
| <code>node</code> | the string representation of the node, like: 625:1 or 628:18:parkia |
|-------------------|---|

Returns

the [PathNode](#) created from the string

3.18.3.4 `int org.phylotastic.mrppath.PathNode.getLabel () [inline]`

Get this node's label

Returns

the digital id for the pathnode

3.18.3.5 `double org.phylotastic.mrppath.PathNode.getLength () [inline]`

Get this node's length
i.e. the length between it and its parent's node

Returns

the distance to the node's parentnode

3.18.3.6 `String org.phylotastic.mrppath.PathNode.getName () [inline]`

Return this (external) node's name

Returns

the name of the taxon this.node is the external node for

3.18.3.7 `int org.phylotastic.mrppath.PathNode.hashCode () [inline]`

Return this node's hashCode.
(algorithm = auto generated)

(When overriding "Equals" also
hashCode has to be overridden)

Returns

the [PathNode](#)'s hashCode

3.18.3.8 void org.phylotastic.mrppath.PathNode.setLabel (int *label*) [inline]

set this node's label (ID)

Parameters

| | |
|--------------|---------------------------------|
| <i>label</i> | the digital id for the pathnode |
|--------------|---------------------------------|

3.18.3.9 void org.phylotastic.mrppath.PathNode.setLength (double *length*) [inline]

Set this node's length
i.e. the length between it and its parent's node

Parameters

| | |
|---------------|---------------------------------------|
| <i>length</i> | the distance to the node's parentnode |
|---------------|---------------------------------------|

3.18.3.10 void org.phylotastic.mrppath.PathNode.setName (String *name*) [inline]

Set this (external) node's name

Parameters

| | |
|-------------|--|
| <i>name</i> | the name of the taxon this node is the external node for |
|-------------|--|

3.18.3.11 String org.phylotastic.mrppath.PathNode.toString () [inline]

Returns the string representation of this pathnode

Returns

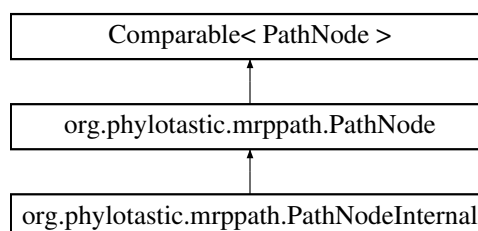
this.PathNode as a string, like: 625:1 or 628:18:parkia

The documentation for this class was generated from the following file:

- PathNode.java

3.19 org.phylotastic.mrppath.PathNodeInternal Class Reference

Inheritance diagram for org.phylotastic.mrppath.PathNodeInternal:



Public Member Functions

- [PathNodeInternal](#) (int label, double length)
- [PathNodeInternal](#) (int label, double length, int tipCount)
- [PathNodeInternal](#) ([PathNode](#) node, int tipCount)
- void [setTipCount](#) (int tipCount)
- int [getTipCount](#) ()
- String [toString](#) ()

Static Public Member Functions

- static [PathNodeInternal fromString](#) (String nodeString)

3.19.1 Detailed Description

Class [PathNodeInternal](#)

The [PathNodeInternal](#) class extends the [PathNode](#) class with the interger TipCount This count expresses how many (external) tip nodes have the particular (internal) node in their path.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.19.2 Constructor & Destructor Documentation

3.19.2.1 `org.phylotastic.mrppath.PathNodeInternal.PathNodeInternal (int label, double length)` `[inline]`

Constructor

Parameters

| | |
|---------------|---------------------------------------|
| <i>label</i> | the digital id for the pathnode |
| <i>length</i> | the distance to the node's parentnode |

3.19.2.2 `org.phylotastic.mrppath.PathNodeInternal.PathNodeInternal (int label, double length, int tipCount)` `[inline]`

Constructor

Parameters

| | |
|-----------------|--|
| <i>label</i> | the digital id for the pathnode |
| <i>length</i> | the distance to the node's parentnode |
| <i>tipCount</i> | the number of tip nodes this.PathNode is the external node for |

3.19.2.3 `org.phylotastic.mrppath.PathNodeInternal.PathNodeInternal (PathNode node, int tipCount)` `[inline]`

Constructor

Parameters

| | |
|-----------------|--|
| <i>node</i> | the pathnode containing the label and the length |
| <i>tipCount</i> | the number of tip nodes this.PathNode is the external node for |

3.19.3 Member Function Documentation

3.19.3.1 `static PathNodeInternal org.phylotastic.mrppath.PathNodeInternal.fromString (String nodeString)` `[inline]`, `[static]`

Static variables: Static method: [fromString\(\)](#)

To create a pathnode from it's string representation

Parameters

| | |
|-------------------|--|
| <i>nodeString</i> | the string representation of the node, like: 625:0.1,3 |
|-------------------|--|

Returns

the [PathNodeInternal](#) created from the string

3.19.3.2 `int org.phylotastic.mrppath.PathNodeInternal.getTipCount ()` `[inline]`

Get this node's tipcount

Returns

the number of tip nodes this.PathNode is the external node for

3.19.3.3 `void org.phylotastic.mrppath.PathNodeInternal.setTipCount (int tipCount)` `[inline]`

Set this node's tipcount

Parameters

| | |
|-----------------|--|
| <i>tipCount</i> | the number of tip nodes this.PathNode is the external node for |
|-----------------|--|

The documentation for this class was generated from the following file:

- PathNodeInternal.java

3.20 org.phylotastic.mrppath.PathNodeSet Class Reference

Public Member Functions

- [PathNodeSet](#) ()
- void [addNode](#) ([PathNode](#) node)
- int [getSize](#) ()
- TreeSet< [PathNode](#) > [getSet](#) ()
- String [toString](#) ()

Static Public Member Functions

- static [PathNodeSet](#) [fromString](#) (String listString)

Protected Attributes

- TreeSet< [PathNode](#) > [mTipSet](#)

3.20.1 Detailed Description

Class [PathNodeSet](#)

This class maintains a set of PathNodes in a (java.util.)TreeSet and contains some helper methods for it.

A java.util.TreeSet is used instead of a HashSet, because TreeSet implements the SortedSet<> interface; each pathNode added is inserted in it's correct place in the following order, according to it's (int) label. In order for this to work [PathNode](#) must implement the Comparable interface and so have an implemented compareTo() method.

PathNodeSets however need to be sorted in descending order and therefore [PathNode](#) implements a "wrong-way-around" compareTo() method.

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.20.2 Constructor & Destructor Documentation

3.20.2.1 `org.phylotastic.mrppath.PathNodeSet.PathNodeSet ()` [\[inline\]](#)

Constructor Creates an empty [PathNode](#) set

3.20.3 Member Function Documentation

3.20.3.1 `void org.phylotastic.mrppath.PathNodeSet.addNode (PathNode node)` [\[inline\]](#)

Add a node to this set

Parameters

| | |
|-------------|---|
| <i>node</i> | the PathNode to add to this.PathNodeSet |
|-------------|---|

3.20.3.2 `static PathNodeSet org.phylotastic.mrppath.PathNodeSet.fromString (String listString)` [\[inline\]](#),
[\[static\]](#)

Static variables: Static method: fromString

to create a filled [PathNodeSet](#) from a string representation, like: 628:18|625:1|624:1|623:1|622:1|621:1|581:1|513-:1|505:1| |5:1|4:1|3:1|2:1|1:1

Parameters

| | |
|-------------------|-------------------------------------|
| <i>listString</i> | the string version of the node list |
|-------------------|-------------------------------------|

Returns

the created [PathNodeSet](#)

3.20.3.3 `TreeSet<PathNode> org.phylotastic.mrppath.PathNodeSet.getSet ()` [\[inline\]](#)

Return the (reference to) this.java.util.TreeSet

Returns

the reference to the `TreeSet` that implements this [PathNodeSet](#)

3.20.3.4 `int org.phylotastic.mrppath.PathNodeSet.getSize ()` `[inline]`

Return the number of nodes in this set

Returns

the number of nodes in this.set

3.20.3.5 `String org.phylotastic.mrppath.PathNodeSet.toString ()` `[inline]`

Return a string representation of this.pathnodeset in which the nodes are separated by the "|" character

Returns

the [PathNodeSet](#) as a string

3.20.4 Member Data Documentation**3.20.4.1** `TreeSet<PathNode> org.phylotastic.mrppath.PathNodeSet.mTipSet` `[protected]`

Object variables:

The documentation for this class was generated from the following file:

- PathNodeSet.java

3.21 org.phylotastic.mrptree.Tree Class Reference**Public Member Functions**

- [Tree](#) ()
- void [addNode](#) ([TreeNode](#) _node)
- [TreeNode](#) [addNode](#) (int _nodeID, double _length, String _name)
- [TreeNode](#) [addNode](#) (int _nodeID, double _length)
- [TreeNode](#) [addNode](#) ([PathNode](#) _node)
- [TreeNode](#) [addNode](#) ([PathNodeInternal](#) _node)
- Boolean [hasNode](#) (int _nodeID)
- [TreeNode](#) [getNode](#) (int _nodeID)
- void [setChild](#) ([TreeNode](#) _parent, [TreeNode](#) _child)
- void [rootTheTree](#) ()
- [TreeNode](#) [getRoot](#) ()
- String [toNewick](#) ()

3.21.1 Detailed Description

Class [Tree](#)

Constructs a tree structure that can be used to construct a newick tree from

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.21.2 Constructor & Destructor Documentation

3.21.2.1 `org.phylotastic.mrptree.Tree.Tree ()` [\[inline\]](#)

Construct a [Tree](#) object

3.21.3 Member Function Documentation

3.21.3.1 `void org.phylotastic.mrptree.Tree.addNode (TreeNode _node)` [\[inline\]](#)

add a [TreeNode](#)

Parameters

| | |
|--------------------|--|
| <code>_node</code> | a TreeNode to add to this tree |
|--------------------|--|

3.21.3.2 `TreeNode org.phylotastic.mrptree.Tree.addNode (int _nodeID, double _length, String _name)` [\[inline\]](#)

Create a [TreeNode](#) and add it to this.tree

Parameters

| | |
|----------------------|---|
| <code>_nodeID</code> | the digital id for the treenode |
| <code>_length</code> | the distance to the node's parentnode |
| <code>_name</code> | the name of the taxon this is the external node for |

Returns

the created node

3.21.3.3 `TreeNode org.phylotastic.mrptree.Tree.addNode (int _nodeID, double _length)` [\[inline\]](#)

Create a [TreeNode](#) and add it to this.tree

Parameters

| | |
|----------------------|---------------------------------------|
| <code>_nodeID</code> | the digital id for the treenode |
| <code>_length</code> | the distance to the node's parentnode |

Returns

the created node

3.21.3.4 `TreeNode org.phylotastic.mrptree.Tree.addNode (PathNode _node)` [\[inline\]](#)

add a [TreeNode](#) from a ([MrpPath](#)) [PathNode](#)

Parameters

| | |
|--------------------|---|
| <code>_node</code> | the (external) PathNode to create a TreeNode of |
|--------------------|---|

Returns

the created node

3.21.3.5 [TreeNode](#) org.phylotastic.mrptree.Tree.addNode (PathNodeInternal _node) [inline]

add a [TreeNode](#) from an internal (MrpPath) PathNode

Parameters

| | |
|--------------------|---|
| <code>_node</code> | the internal PathNode to create a TreeNode of |
|--------------------|---|

Returns

the created node

3.21.3.6 [TreeNode](#) org.phylotastic.mrptree.Tree.getNode (int _nodeID) [inline]

Return the node with a specific key (label/ID)

Parameters

| | |
|----------------------|---|
| <code>_nodeID</code> | the nodeID for which a TreeNode is searched |
|----------------------|---|

Returns

the [TreeNode](#) with the requested nodeID

3.21.3.7 [TreeNode](#) org.phylotastic.mrptree.Tree.getRoot () [inline]

return the root node of the tree

Returns

the [TreeNode](#) that is the rootnode of this.tree

3.21.3.8 [Boolean](#) org.phylotastic.mrptree.Tree.hasNode (int _nodeID) [inline]

Check if the tree contains a node with a specific key (label/ID)

Parameters

| | |
|----------------------|---|
| <code>_nodeID</code> | the nodeID for which a TreeNode is searched |
|----------------------|---|

Returns

true if this.tree contains the requested node

3.21.3.9 void org.phylotastic.mrptree.Tree.rootTheTree () [inline]

Make this unrooted tree to a rooted tree by designating the (first) node with the lowest ID as the root node.

3.21.3.10 void org.phylotastic.mrptree.Tree.setChild ([TreeNode](#) _parent, [TreeNode](#) _child) [inline]

Add a node as a child to another treenode (the parent)

Parameters

| | |
|----------------------|--|
| <code>_parent</code> | the TreeNode to add the childnode to |
| <code>_child</code> | the TreeNode to add as a child |

3.21.3.11 String org.phylotastic.mrptree.Tree.toNewick () [inline]

return a newick representation of the tree

Returns

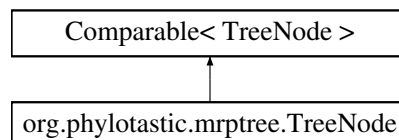
the Newickk string for this.tree

The documentation for this class was generated from the following file:

- [Tree.java](#)

3.22 org.phylotastic.mrptree.TreeNode Class Reference

Inheritance diagram for org.phylotastic.mrptree.TreeNode:

**Public Member Functions**

- [TreeNode](#) ()
- [TreeNode](#) (Integer _id, Double _length)
- [TreeNode](#) (Integer _id, Double _length, String _name)
- void [setID](#) (int _id)
- int [getID](#) ()
- void [setName](#) (String _name)
- String [getName](#) ()
- String [getNodeName](#) ()
- void [setLength](#) (Double _length)
- Double [getLength](#) ()
- void [setParent](#) ([TreeNode](#) _parentNode)
- [TreeNode](#) [getParent](#) ()
- Boolean [hasParent](#) ()
- void [addChild](#) ([TreeNode](#) _childNode)
- boolean [hasChildren](#) ()

- void [setAsRootNode](#) (boolean _value)
- Boolean [isRootNode](#) ()
- int [compareTo](#) ([TreeNode](#) that)
- boolean [equals](#) (Object _that)
- int [hashCode](#) ()
- String [toString](#) ()
- void [toNewick](#) (StringBuilder newickString)

3.22.1 Detailed Description

Class [TreeNode](#)

Used in combination with the [Tree](#) class to Construct a tree structure that can be used to construct a newick tree from

Author

(s); Carla Stegehuis, Rutger Vos Contributed to: Date: 3/11/'14 Version: V2.0

3.22.2 Constructor & Destructor Documentation

3.22.2.1 `org.phylotastic.mrptree.TreeNode.TreeNode ()` `[inline]`

Create a [Tree](#) node object

3.22.2.2 `org.phylotastic.mrptree.TreeNode.TreeNode (Integer _id, Double _length)` `[inline]`

Create a `TreeNode` object
mainly used for internal treenodes

Parameters

| | |
|----------------------|---------------------------------------|
| <code>_id</code> | the digital id for the treenode |
| <code>_length</code> | the distance to the node's parentnode |

3.22.2.3 `org.phylotastic.mrptree.TreeNode.TreeNode (Integer _id, Double _length, String _name)` `[inline]`

Create a `TreeNode` object
mainly used for external treenodes (tips or leafs)

Parameters

| | |
|----------------------|---|
| <code>_id</code> | the digital id for the treenode |
| <code>_length</code> | the distance to the node's parentnode |
| <code>_name</code> | the name of the taxon this is the external node for |

3.22.3 Member Function Documentation

3.22.3.1 `void org.phylotastic.mrptree.TreeNode.addChild (TreeNode _childNode)` `[inline]`

Add a given node as a child to this node

Parameters

| | |
|-------------------------|---|
| <code>_childNode</code> | the node that is to be added as a child |
|-------------------------|---|

3.22.3.2 `int org.phylotastic.mrptree.TreeNode.compareTo (TreeNode that)` [inline]

compareTo implements (part of) the Comparable interface

returns:

- 1 if this node's label is less then that node's label
- 0 if this node's label is equal to that node's label
- +1 if this node's label is larger then that node's label

Parameters

| | |
|-------------|--|
| <i>that</i> | the TreeNode to compare this.node with |
|-------------|--|

Returns

-1, 0 or +1 depending on the result

3.22.3.3 `boolean org.phylotastic.mrptree.TreeNode.equals (Object _that)` [inline]

Return true if this node is equal to the other node; i.e. has same values

Parameters

| | |
|--------------------|---|
| <code>_that</code> | the object (TreeNode) to compare with |
|--------------------|---|

Returns

true if both nodes are equal

3.22.3.4 `int org.phylotastic.mrptree.TreeNode.getID ()` [inline]

Return this node's digital ID

Returns

the integer id for the treenode

3.22.3.5 `Double org.phylotastic.mrptree.TreeNode.getLength ()` [inline]

Return the length of the distance between this (child) node and it's parent node

Returns

the distance to the node's parentnode

3.22.3.6 String org.phylotastic.mrptree.TreeNode.getName () [inline]

Return this node's name

Returns

the (external) node's taxon name

3.22.3.7 String org.phylotastic.mrptree.TreeNode.getNodeName () [inline]

Return this node's name; create a name from the node ID if the name is empty. Differentiates between internal and external nodes

Returns

the node's name

3.22.3.8 TreeNode org.phylotastic.mrptree.TreeNode.getParent () [inline]

Return the parent node of this.child node

Returns

the parent node for this.child node

3.22.3.9 boolean org.phylotastic.mrptree.TreeNode.hasChildren () [inline]

Return true if this node has children

Returns

true if this node has children

3.22.3.10 int org.phylotastic.mrptree.TreeNode.hashCode () [inline]

Return this node's hashCode.
(algorithm = auto generated)

(NB When overriding "Equals" also hashCode has to be overridden)

Returns

the [TreeNode](#)'s hashCode

3.22.3.11 Boolean org.phylotastic.mrptree.TreeNode.hasParent () [inline]

Return true if this node has a parent

Returns

true if this node has a parent

3.22.3.12 Boolean org.phylotastic.mrptree.TreeNode.isRootNode () [inline]

Return true if this node is
designated as the root node

Returns

true if this node is a root node

3.22.3.13 void org.phylotastic.mrptree.TreeNode.setAsRootNode (boolean _value) [inline]

Set the isRoot property to true or false

Parameters

| | |
|---------------|--|
| _value | the boolean value for te isRoot property |
|---------------|--|

3.22.3.14 void org.phylotastic.mrptree.TreeNode.setID (int _id) [inline]

Set this node's ditital ID (= label)

Parameters

| | |
|------------|---------------------------------|
| _id | the integer id for the treenode |
|------------|---------------------------------|

3.22.3.15 void org.phylotastic.mrptree.TreeNode.setLength (Double _length) [inline]

Set the length of the distance between
this (child) node and it's parent node

Parameters

| | |
|----------------|---------------------------------------|
| _length | the distance to the node's parentnode |
|----------------|---------------------------------------|

3.22.3.16 void org.phylotastic.mrptree.TreeNode.setName (String _name) [inline]

Set this node's name

Parameters

| | |
|--------------|----------------------------------|
| _name | the (external) node's taxon name |
|--------------|----------------------------------|

3.22.3.17 void org.phylotastic.mrptree.TreeNode.setParent (TreeNode _parentNode) [inline]

Set this node as a child of another node (parent)

Parameters

| | |
|--------------------------|------------------------------|
| <code>_parentNode</code> | the parentnode for this node |
|--------------------------|------------------------------|

3.22.3.18 void org.phylotastic.mrptree.TreeNode.toNewick (*String*Builder *newickString*) [inline]

Return a newick representation of this node
and this node's children and those node's children and ...
I.e. this method is recursive.

Parameters

| | |
|---------------------|--|
| <i>newickString</i> | a stringbuilder that the node's newick "string" will be added to |
|---------------------|--|

3.22.3.19 String org.phylotastic.mrptree.TreeNode.toString () [inline]

Return a string representation of this node

Returns

the node as a string

The documentation for this class was generated from the following file:

- `TreeNode.java`

Index

addChild
 org::phylotastic::mrptree::TreeNode, 54
addFile
 org::phylotastic::mapreducepruner::MrpResult, 38
addNode
 org::phylotastic::mrppath::PathNodeSet, 49
 org::phylotastic::mrptree::Tree, 51, 52
argumentName
 org::phylotastic::mrpoption::MrpArgumentOption, 10

checkFile
 org::phylotastic::mrpoption::MrpFileOption, 16
checkFolder
 org::phylotastic::mrpoption::MrpFolderOption, 18
checkValue
 org::phylotastic::mrpoption::MrpArgumentOption, 7
 org::phylotastic::mrpoption::MrpIntOption, 20
 org::phylotastic::mrpoption::MrpOption, 22
 org::phylotastic::mrpoption::MrpUrlOption, 42
compareTo
 org::phylotastic::mrppath::PathNode, 44
 org::phylotastic::mrptree::TreeNode, 55
configFile
 org::phylotastic::mapreducepruner::MrpConfig, 13
configIni
 org::phylotastic::mapreducepruner::MrpConfig, 13
core
 org::phylotastic::mapreducepruner::MrpPass1-
 Mapper, 26

dataDir
 org::phylotastic::mapreducepruner::MrpConfig, 13
dataPath
 org::phylotastic::mapreducepruner::MrpConfig, 13
dataRootDir
 org::phylotastic::mapreducepruner::MrpConfig, 13
defaultConfigName
 org::phylotastic::mapreducepruner::MapReduce-
 Pruner, 5
defaultNameConfig
 org::phylotastic::mapreducepruner::MrpConfig, 13
defaultNumTasks
 org::phylotastic::mapreducepruner::MapReduce-
 Pruner, 5
 org::phylotastic::mapreducepruner::MrpConfig, 13
description
 org::phylotastic::mrpoption::MrpOption, 23

environmentVarConfig
 org::phylotastic::mapreducepruner::MapReduce-
 Pruner, 6
 org::phylotastic::mapreducepruner::MrpConfig, 13
environmentVarTree
 org::phylotastic::mapreducepruner::MapReduce-
 Pruner, 6
 org::phylotastic::mapreducepruner::MrpConfig, 13
environmentVars
 org::phylotastic::mapreducepruner::MrpConfig, 13
equals
 org::phylotastic::mrppath::PathNode, 44
 org::phylotastic::mrptree::TreeNode, 55

fromString
 org::phylotastic::mrppath::PathNode, 45
 org::phylotastic::mrppath::PathNodeInternal, 48
 org::phylotastic::mrppath::PathNodeSet, 49

getFile
 org::phylotastic::mrpoption::MrpFileOption, 16
getFilePaths
 org::phylotastic::mapreducepruner::MrpResult, 39
getFolder
 org::phylotastic::mrpoption::MrpFolderOption, 18
getID
 org::phylotastic::mrptree::TreeNode, 55
getIntValue
 org::phylotastic::mrpoption::MrpIntOption, 20
getLabel
 org::phylotastic::mrppath::PathNode, 45
getLength
 org::phylotastic::mrppath::PathNode, 45
 org::phylotastic::mrptree::TreeNode, 55
getName
 org::phylotastic::mrppath::PathNode, 45
 org::phylotastic::mrptree::TreeNode, 55
getNode
 org::phylotastic::mrptree::Tree, 52
getNodeName
 org::phylotastic::mrptree::TreeNode, 56
getOption
 org::phylotastic::mrpoption::MrpArgumentOption, 8
 org::phylotastic::mrpoption::MrpOption, 22
getOptions
 org::phylotastic::mapreducepruner::MrpConfig, 12
getParent
 org::phylotastic::mrptree::TreeNode, 56
getPath
 org::phylotastic::mrpoption::MrpFileOption, 16
 org::phylotastic::mrpoption::MrpFolderOption, 18

- org::phylotastic::mrpoption::MrpPathOption, 37
- getRoot
 - org::phylotastic::mrptree::Tree, 52
- getSet
 - org::phylotastic::mrppath::PathNodeSet, 49
- getSize
 - org::phylotastic::mrppath::PathNodeSet, 50
- getTipCount
 - org::phylotastic::mrppath::PathNodeInternal, 48
- getValue
 - org::phylotastic::mrpoption::MrpArgumentOption, 8
 - org::phylotastic::mrpoption::MrpOption, 22
- hasChildren
 - org::phylotastic::mrptree::TreeNode, 56
- hasIniVersion
 - org::phylotastic::mrpoption::MrpArgumentOption, 10
- hasNode
 - org::phylotastic::mrptree::Tree, 52
- hasParent
 - org::phylotastic::mrptree::TreeNode, 56
- hasValue
 - org::phylotastic::mrpoption::MrpOption, 23
- hashCode
 - org::phylotastic::mrppath::PathNode, 45
 - org::phylotastic::mrptree::TreeNode, 56
- hashDepth
 - org::phylotastic::mapreducepruner::MrpConfig, 14
- iniName
 - org::phylotastic::mrpoption::MrpArgumentOption, 10
- iniSection
 - org::phylotastic::mrpoption::MrpArgumentOption, 10
- inputFile
 - org::phylotastic::mapreducepruner::MrpConfig, 14
- isLocal
 - org::phylotastic::mrpoption::MrpPathOption, 37
- isRootNode
 - org::phylotastic::mrptree::TreeNode, 56
- logger
 - org::phylotastic::mapreducepruner::MapReducePruner, 6
 - org::phylotastic::mrpoption::MrpOption, 23
- longOption
 - org::phylotastic::mrpoption::MrpOption, 24
- mTipSet
 - org::phylotastic::mrppath::PathNodeSet, 50
- main
 - org::phylotastic::mapreducepruner::MapReducePruner, 5
- map
 - org::phylotastic::mapreducepruner::MrpPass1Mapper, 25
- org::phylotastic::mapreducepruner::MrpPass2Mapper, 29
- org::phylotastic::mapreducepruner::MrpPass3Mapper, 33
- MrpArgumentOption
 - org::phylotastic::mrpoption::MrpArgumentOption, 7
- MrpConfig
 - org::phylotastic::mapreducepruner::MrpConfig, 11
- MrpFileOption
 - org::phylotastic::mrpoption::MrpFileOption, 15
- MrpFolderOption
 - org::phylotastic::mrpoption::MrpFolderOption, 18
- MrpIntOption
 - org::phylotastic::mrpoption::MrpIntOption, 20
- MrpOption
 - org::phylotastic::mrpoption::MrpOption, 22
- MrpPathOption
 - org::phylotastic::mrpoption::MrpPathOption, 37
- MrpResult
 - org::phylotastic::mapreducepruner::MrpResult, 38
- MrpRun
 - org::phylotastic::mapreducepruner::MrpRun, 40
- MrpUrlOption
 - org::phylotastic::mrpoption::MrpUrlOption, 42
- mustExist
 - org::phylotastic::mrpoption::MrpFileOption, 16
 - org::phylotastic::mrpoption::MrpFolderOption, 19
- mustRemove
 - org::phylotastic::mrpoption::MrpFileOption, 16
 - org::phylotastic::mrpoption::MrpFolderOption, 19
- numTasks
 - org::phylotastic::mapreducepruner::MrpConfig, 14
- org.phylotastic.mapreducepruner.MapReducePruner, 5
- org.phylotastic.mapreducepruner.MrpConfig, 10
- org.phylotastic.mapreducepruner.MrpPass1Mapper, 24
- org.phylotastic.mapreducepruner.MrpPass1Reducer, 27
- org.phylotastic.mapreducepruner.MrpPass2Mapper, 28
- org.phylotastic.mapreducepruner.MrpPass2Reducer, 30
- org.phylotastic.mapreducepruner.MrpPass3Mapper, 32
- org.phylotastic.mapreducepruner.MrpPass3Reducer, 34
- org.phylotastic.mapreducepruner.MrpResult, 38
- org.phylotastic.mapreducepruner.MrpRun, 40
- org.phylotastic.mrpoption.MrpArgumentOption, 6
- org.phylotastic.mrpoption.MrpFileOption, 14
- org.phylotastic.mrpoption.MrpFolderOption, 17
- org.phylotastic.mrpoption.MrpIntOption, 19
- org.phylotastic.mrpoption.MrpOption, 21
- org.phylotastic.mrpoption.MrpPathOption, 36
- org.phylotastic.mrpoption.MrpUrlOption, 41
- org.phylotastic.mrppath.PathNode, 43
- org.phylotastic.mrppath.PathNodeInternal, 46
- org.phylotastic.mrppath.PathNodeSet, 48
- org.phylotastic.mrptree.Tree, 50
- org.phylotastic.mrptree.TreeNode, 53
- org::phylotastic::mapreducepruner::MapReducePruner defaultConfigName, 5
- org::phylotastic::mapreducepruner::MapReducePruner defaultNumTasks, 5

- environmentVarConfig, 6
- environmentVarTree, 6
- logger, 6
- main, 5
- org::phylotastic::mapreducepruner::MrpConfig
 - configFile, 13
 - configIni, 13
 - dataDir, 13
 - dataPath, 13
 - dataRootDir, 13
 - defaultNameConfig, 13
 - defaultNumTasks, 13
 - environmentVarConfig, 13
 - environmentVarTree, 13
 - environmentVars, 13
 - getOptions, 12
 - hashDepth, 14
 - inputFile, 14
 - MrpConfig, 11
 - numTasks, 14
 - outputFile, 14
 - pathSeparator, 14
 - setOptions, 12
 - tempDir, 14
 - treeUrl, 14
 - workDir, 14
- org::phylotastic::mapreducepruner::MrpPass1Mapper
 - core, 26
 - map, 25
 - setup, 26
- org::phylotastic::mapreducepruner::MrpPass1Reducer
 - reduce, 27
 - setup, 28
- org::phylotastic::mapreducepruner::MrpPass2Mapper
 - map, 29
 - setup, 30
- org::phylotastic::mapreducepruner::MrpPass2Reducer
 - reduce, 31
 - setup, 32
- org::phylotastic::mapreducepruner::MrpPass3Mapper
 - map, 33
 - setup, 34
- org::phylotastic::mapreducepruner::MrpPass3Reducer
 - reduce, 35
 - setup, 36
- org::phylotastic::mapreducepruner::MrpResult
 - addFile, 38
 - getFilePaths, 39
 - MrpResult, 38
 - process, 39
 - setEnviron, 39
 - writeResult, 39
- org::phylotastic::mapreducepruner::MrpRun
 - MrpRun, 40
 - run, 40
- org::phylotastic::mrpoption::MrpArgumentOption
 - argumentName, 10
 - checkValue, 7
 - getOption, 8
 - getValue, 8
 - hasIniVersion, 10
 - iniName, 10
 - iniSection, 10
 - MrpArgumentOption, 7
 - setOption, 8
 - setProperties, 9
 - setValue, 9
 - toString, 10
- org::phylotastic::mrpoption::MrpFileOption
 - checkFile, 16
 - getFile, 16
 - getPath, 16
 - MrpFileOption, 15
 - mustExist, 16
 - mustRemove, 16
 - setValue, 16
- org::phylotastic::mrpoption::MrpFolderOption
 - checkFolder, 18
 - getFolder, 18
 - getPath, 18
 - MrpFolderOption, 18
 - mustExist, 19
 - mustRemove, 19
 - setValue, 18
- org::phylotastic::mrpoption::MrpIntOption
 - checkValue, 20
 - getIntValue, 20
 - MrpIntOption, 20
 - setValue, 20, 21
- org::phylotastic::mrpoption::MrpOption
 - checkValue, 22
 - description, 23
 - getOption, 22
 - getValue, 22
 - hasValue, 23
 - logger, 23
 - longOption, 24
 - MrpOption, 22
 - setOption, 23
 - setProperties, 23
 - setValue, 23
 - shortOption, 24
 - toString, 23
 - value, 24
- org::phylotastic::mrpoption::MrpPathOption
 - getPath, 37
 - isLocal, 37
 - MrpPathOption, 37
 - setValue, 38
- org::phylotastic::mrpoption::MrpUrlOption
 - checkValue, 42
 - MrpUrlOption, 42
 - setValue, 42
- org::phylotastic::mrppath::PathNode
 - compareTo, 44
 - equals, 44

- fromString, 45
- getLabel, 45
- getLength, 45
- getName, 45
- hashCode, 45
- PathNode, 43, 44
- setLabel, 45
- setLength, 46
- setName, 46
- toString, 46
- org::phylotastic::mrppath::PathNodeInternal
 - fromString, 48
 - getTipCount, 48
 - PathNodeInternal, 47
 - setTipCount, 48
- org::phylotastic::mrppath::PathNodeSet
 - addNode, 49
 - fromString, 49
 - getSet, 49
 - getSize, 50
 - mTipSet, 50
 - PathNodeSet, 49
 - toString, 50
- org::phylotastic::mrptree::Tree
 - addNode, 51, 52
 - getNode, 52
 - getRoot, 52
 - hasNode, 52
 - rootTheTree, 52
 - setChild, 53
 - toNewick, 53
 - Tree, 51
- org::phylotastic::mrptree::TreeNode
 - addChild, 54
 - compareTo, 55
 - equals, 55
 - getID, 55
 - getLength, 55
 - getName, 55
 - getNodeName, 56
 - getParent, 56
 - hasChildren, 56
 - hasParent, 56
 - hashCode, 56
 - isRootNode, 56
 - setAsRootNode, 57
 - setID, 57
 - setLength, 57
 - setName, 57
 - setParent, 57
 - toNewick, 58
 - toString, 58
 - TreeNode, 54
- outputFile
 - org::phylotastic::mapreducepruner::MrpConfig, 14
- PathNode
 - org::phylotastic::mrppath::PathNode, 43, 44
- PathNodeInternal
 - org::phylotastic::mrppath::PathNodeInternal, 47
- PathNodeSet
 - org::phylotastic::mrppath::PathNodeSet, 49
- pathSeparator
 - org::phylotastic::mapreducepruner::MrpConfig, 14
- process
 - org::phylotastic::mapreducepruner::MrpResult, 39
- reduce
 - org::phylotastic::mapreducepruner::MrpPass1-Reducer, 27
 - org::phylotastic::mapreducepruner::MrpPass2-Reducer, 31
 - org::phylotastic::mapreducepruner::MrpPass3-Reducer, 35
- rootTheTree
 - org::phylotastic::mrptree::Tree, 52
- run
 - org::phylotastic::mapreducepruner::MrpRun, 40
- setAsRootNode
 - org::phylotastic::mrptree::TreeNode, 57
- setChild
 - org::phylotastic::mrptree::Tree, 53
- setEnviron
 - org::phylotastic::mapreducepruner::MrpResult, 39
- setID
 - org::phylotastic::mrptree::TreeNode, 57
- setLabel
 - org::phylotastic::mrppath::PathNode, 45
- setLength
 - org::phylotastic::mrppath::PathNode, 46
 - org::phylotastic::mrptree::TreeNode, 57
- setName
 - org::phylotastic::mrppath::PathNode, 46
 - org::phylotastic::mrptree::TreeNode, 57
- setOption
 - org::phylotastic::mrpoption::MrpArgumentOption, 8
 - org::phylotastic::mrpoption::MrpOption, 23
- setOptions
 - org::phylotastic::mapreducepruner::MrpConfig, 12
- setParent
 - org::phylotastic::mrptree::TreeNode, 57
- setProperties
 - org::phylotastic::mrpoption::MrpArgumentOption, 9
 - org::phylotastic::mrpoption::MrpOption, 23
- setTipCount
 - org::phylotastic::mrppath::PathNodeInternal, 48
- setValue
 - org::phylotastic::mrpoption::MrpArgumentOption, 9
 - org::phylotastic::mrpoption::MrpFileOption, 16
 - org::phylotastic::mrpoption::MrpFolderOption, 18
 - org::phylotastic::mrpoption::MrpIntOption, 20, 21
 - org::phylotastic::mrpoption::MrpOption, 23
 - org::phylotastic::mrpoption::MrpPathOption, 38
 - org::phylotastic::mrpoption::MrpUrlOption, 42
- setup
 - org::phylotastic::mapreducepruner::MrpPass1-Mapper, 26

- org::phylotastic::mapreducepruner::MrpPass1-Reducer, [28](#)
- org::phylotastic::mapreducepruner::MrpPass2-Mapper, [30](#)
- org::phylotastic::mapreducepruner::MrpPass2-Reducer, [32](#)
- org::phylotastic::mapreducepruner::MrpPass3-Mapper, [34](#)
- org::phylotastic::mapreducepruner::MrpPass3-Reducer, [36](#)
- shortOption
 - org::phylotastic::mrpoption::MrpOption, [24](#)
- tempDir
 - org::phylotastic::mapreducepruner::MrpConfig, [14](#)
- toNewick
 - org::phylotastic::mrptree::Tree, [53](#)
 - org::phylotastic::mrptree::TreeNode, [58](#)
- toString
 - org::phylotastic::mrpoption::MrpArgumentOption, [10](#)
 - org::phylotastic::mrpoption::MrpOption, [23](#)
 - org::phylotastic::mrppath::PathNode, [46](#)
 - org::phylotastic::mrppath::PathNodeSet, [50](#)
 - org::phylotastic::mrptree::TreeNode, [58](#)
- Tree
 - org::phylotastic::mrptree::Tree, [51](#)
- TreeNode
 - org::phylotastic::mrptree::TreeNode, [54](#)
- treeUrl
 - org::phylotastic::mapreducepruner::MrpConfig, [14](#)
- value
 - org::phylotastic::mrpoption::MrpOption, [24](#)
- workDir
 - org::phylotastic::mapreducepruner::MrpConfig, [14](#)
- writeResult
 - org::phylotastic::mapreducepruner::MrpResult, [39](#)