

Package ‘ROpenFLUID’

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Type Package

Title R Interface to OpenFLUID Platform Framework for Modelling and Simulation of Landscapes

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Description Provides a collection of functions to load, parameterize, run and analyze OpenFLUID simulations within the GNU R environment.

URL <http://www.openfluid-project.org>

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Depends R (>= 2.6.2)

Suggests RUnit

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R topics documented:

OpenFLUID.addExtraObserversPaths	1
OpenFLUID.addExtraSimulatorsPaths	2
OpenFLUID.addVariablesExportAsCSV	3
OpenFLUID.createAttribute	4
OpenFLUID.getAttribute	4
OpenFLUID.getAttributes	5
OpenFLUID.getAttributesNames	6
OpenFLUID.getDefaultDeltaT	7
OpenFLUID.getExtraObserversPaths	8
OpenFLUID.getExtraSimulatorsPaths	8
OpenFLUID.getGeneratorParam	9
OpenFLUID.getGeneratorParamNames	10
OpenFLUID.getGeneratorParams	11

OpenFLUID.getGeneratorsVarNames	12
OpenFLUID.getModelGlobalParam	12
OpenFLUID.getModelGlobalParamNames	13
OpenFLUID.getModelGlobalParams	14
OpenFLUID.getObserverParam	15
OpenFLUID.getObserverParamNames	15
OpenFLUID.getObserverParams	16
OpenFLUID.getObserversIDs	17
OpenFLUID.getObserversPaths	18
OpenFLUID.getPeriodBeginDate	18
OpenFLUID.getPeriodEndDate	19
OpenFLUID.getSimulatorParam	20
OpenFLUID.getSimulatorParamNames	21
OpenFLUID.getSimulatorParams	21
OpenFLUID.getSimulatorsIDs	22
OpenFLUID.getSimulatorsPaths	23
OpenFLUID.getUnitsClasses	24
OpenFLUID.getUnitsIDs	24
OpenFLUID.getVersion	25
OpenFLUID.loadResult	26
OpenFLUID.loadResultFile	27
OpenFLUID.openDataset	27
OpenFLUID.openProject	28
OpenFLUID.printSimulationInfo	29
OpenFLUID.removeAttribute	29
OpenFLUID.removeModelGlobalParam	30
OpenFLUID.removeObserverParam	31
OpenFLUID.removeSimulatorParam	31
OpenFLUID.resetExtraObserversPaths	32
OpenFLUID.resetExtraSimulatorsPaths	33
OpenFLUID.runProject	33
OpenFLUID.runSimulation	34
OpenFLUID.setAttribute	35
OpenFLUID.setAttributes	36
OpenFLUID.setCurrentOutputDir	36
OpenFLUID.setDefaultDeltaT	37
OpenFLUID.setGeneratorParam	38
OpenFLUID.setGeneratorParams	38
OpenFLUID.setModelGlobalParam	39
OpenFLUID.setModelGlobalParams	40
OpenFLUID.setObserverParam	41
OpenFLUID.setObserverParams	41
OpenFLUID.setPeriodBeginDate	42
OpenFLUID.setPeriodEndDate	43
OpenFLUID.setSimulatorParam	44
OpenFLUID.setSimulatorParams	44
ROpenFLUID	45

```
OpenFLUID.addExtraObserversPaths
    Adds paths to search for observers
```

Description

Adds paths to search for observers

Usage

```
OpenFLUID.addExtraObserversPaths (paths)
```

Arguments

paths the colon separated paths to add

See Also

```
OpenFLUID.getObserversPaths
OpenFLUID.getExtraObserversPaths
OpenFLUID.resetExtraObserversPaths
```

Examples

```
## Not run:
OpenFLUID.addExtraObserversPaths("/first/path")
OpenFLUID.addExtraObserversPaths("/second/path:/third/path") ## on unix system
OpenFLUID.addExtraObserversPaths("/second/path;/third/path") ## on windows system
OpenFLUID.addExtraObserversPaths(c("/fourth/path", "/fifth/path"))

## End (Not run)
```

```
OpenFLUID.addExtraSimulatorsPaths
    Adds paths to search for simulators
```

Description

Adds paths to search for simulators

Usage

```
OpenFLUID.addExtraSimulatorsPaths (paths)
```

Arguments

paths the colon separated paths to add

See Also

OpenFLUID.getSimulatorsPaths
 OpenFLUID.getExtraSimulatorsPaths
 OpenFLUID.resetExtraSimulatorsPaths

Examples

```
## Not run:
OpenFLUID.addExtraSimulatorsPaths("/first/path")
OpenFLUID.addExtraSimulatorsPaths("/second/path:/third/path") ## on unix system
OpenFLUID.addExtraSimulatorsPaths("/second/path;/third/path") ## on windows system
OpenFLUID.addExtraSimulatorsPaths(c("/fourth/path", "/fifth/path"))

## End(Not run)
```

```
OpenFLUID.addVariablesExportAsCSV
```

Adds export of simulation variables as CSV files for a given units class

Description

Adds export of simulation variables as CSV files for a given units class

Usage

```
OpenFLUID.addVariablesExportAsCSV(ofblob, unitclass, unitid = NULL,
  varname = "*", precision = 0)
```

Arguments

ofblob the simulation definition blob
 unitclass the units class to add for simulation variables export
 unitid the unit ID (optional)
 varname the name of the variable(s) (optional)
 precision the number of digits of the variables (optional)

See Also

OpenFLUID.loadResult

Examples

```
## Not run:
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU")
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU", 1, "var1", precision=14)
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU", 2, "var1;var2")
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU", 2, c("var1", "var2"))
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU", c(3,5), c("var1", "var2"))
OpenFLUID.addVariablesExportAsCSV(ofsim, "TU", 1, "*")

## End(Not run)
```

```
OpenFLUID.createAttribute
```

Creates an attribute for all spatial units of a class, initialized with a default value

Description

Creates an attribute for all spatial units of a class, initialized with a default value

Usage

```
OpenFLUID.createAttribute(ofblob, unitclass, attrname, attrval)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
attrname	the attribute name
attrval	the default attribute value for alla units

See Also

```
OpenFLUID.getAttribute
OpenFLUID.setAttribute
OpenFLUID.removeAttribute
```

Examples

```
## Not run:
OpenFLUID.createAttribute(ofsim, "SU", "area", 1.0)
OpenFLUID.createAttribute(ofsim, "SU", "code", "NONE")

## End(Not run)
```

OpenFLUID.getAttribute

Returns an attribute value for a given spatial unit

Description

Returns an attribute value for a given spatial unit

Usage

```
OpenFLUID.getAttribute(ofblob, unitclass, unitid, attrname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
unitid	the unit ID
attrname	the name of the attribute

Value

the attribute value

See Also

```
OpenFLUID.createAttribute  
OpenFLUID.setAttribute  
OpenFLUID.removeAttribute
```

Examples

```
## Not run:  
val = OpenFLUID.getAttribute(ofsim, "SU", 18, "length")  
  
## End(Not run)
```

OpenFLUID.getAttributes

Returns attributes values for given spatial units and attributes names

Description

Returns attributes values for given spatial units and attributes names

Usage

```
OpenFLUID.getAttributes(ofblob, unitclass, unitids, attrnames,  
    unitidsAsRownames = TRUE)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
unitids	the vector of unit IDs
attrnames	the vector of names of the attributes
unitidsAsRownames	if TRUE rename row as unitids if FALSE add a column of unitids

Value

a data.frame (unitids x attrnames) of the attribute values

See Also

OpenFLUID.setAttributes

Examples

```
## Not run:  
valdf = OpenFLUID.getAttributes(ofsim, "SU", c(18,23), c("length", "width"))  
  
## End(Not run)
```

OpenFLUID.getAttributesNames

Returns all the attributes of an unit class

Description

Returns all the attributes of an unit class

Usage

```
OpenFLUID.getAttributesNames(ofblob, unitclass)
```

Arguments

ofblob	the simulation definition blob
unitclass	the class unit

Value

a vector of attributes names

See Also

OpenFLUID.getModelGlobalParamNames

OpenFLUID.getGeneratorParamNames

OpenFLUID.getSimulatorParamNames

OpenFLUID.getObserverParamNames

Examples

```
## Not run:  
varnames = OpenFLUID.getAttributesNames(ofsim, unitclass)  
  
## End(Not run)
```

```
OpenFLUID.getDefaultDeltaT
```

Returns the simulation time step

Description

Returns the simulation time step

Usage

```
OpenFLUID.getDefaultDeltaT(ofblob)
```

Arguments

ofblob the simulation definition blob

Value

the time step value in seconds

See Also

```
OpenFLUID.setDefaultDeltaT
```

Examples

```
## Not run:
deltat = OpenFLUID.getDefaultDeltaT(ofsim)

## End(Not run)
```

```
OpenFLUID.getExtraObserversPaths
```

Returns the added paths to search for observers

Description

Returns the added paths to search for observers

Usage

```
OpenFLUID.getExtraObserversPaths()
```

Value

a vector of paths

See Also

```
OpenFLUID.addExtraObserversPaths
OpenFLUID.getObserversPaths
OpenFLUID.resetExtraObserversPaths
```

Examples

```
## Not run:
paths = OpenFLUID.getExtraObserversPaths()

## End(Not run)
```

```
OpenFLUID.getExtraSimulatorsPaths
```

Returns the added paths to search for simulators

Description

Returns the added paths to search for simulators

Usage

```
OpenFLUID.getExtraSimulatorsPaths()
```

Value

a vector of paths

See Also

```
OpenFLUID.addExtraSimulatorsPaths
OpenFLUID.getSimulatorsPaths
OpenFLUID.resetExtraSimulatorsPaths
```

Examples

```
## Not run:
paths = OpenFLUID.getExtraSimulatorsPaths()

## End(Not run)
```

```
OpenFLUID.getGeneratorParam
```

Returns a generator parameter value

Description

Returns a generator parameter value

Usage

```
OpenFLUID.getGeneratorParam(ofblob, unitclass, varname, paramname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramname	the name of the parameter

Value

the parameter value

See Also

```
OpenFLUID.setGeneratorParam
```

Examples

```
## Not run:  
val = OpenFLUID.getGeneratorParam(ofsim, "SU", "var.flux", "fixedvalue")  
  
## End(Not run)
```

```
OpenFLUID.getGeneratorParamNames
```

Returns all the parameters of a generator

Description

Returns all the parameters of a generator

Usage

```
OpenFLUID.getGeneratorParamNames(ofblob, unitclass, varname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the name of the variable generated
varname	the name of the variable generated

Value

a vector of parameters names

See Also

OpenFLUID.getModelGlobalParamNames
 OpenFLUID.getSimulatorParamNames
 OpenFLUID.getObserverParamNames

Examples

```
## Not run:
varnames = OpenFLUID.getGeneratorParamNames(ofsim,"SU","var1")

## End(Not run)
```

```
OpenFLUID.getGeneratorParams
```

Returns generator parameter values

Description

Returns generator parameter values

Usage

```
OpenFLUID.getGeneratorParams(ofblob, unitclass, varname, paramnames)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramnames	the names of the parameters

Value

the parameter values

See Also

```
OpenFLUID.getModelGlobalParams
OpenFLUID.getObserverParams
OpenFLUID.getSimulatorParams
```

Examples

```
## Not run:
val = OpenFLUID.getGeneratorParams(ofsim, "SU", "var.flux", c("min", "max"))

## End(Not run)
```

```
OpenFLUID.getGeneratorsVarNames
```

Returns all the variables names generated by a generator

Description

Returns all the variables names generated by a generator

Usage

```
OpenFLUID.getGeneratorsVarNames(ofblob, unitclass)
```

Arguments

ofblob	the simulation definition blob
unitclass	the units class

Value

a vector of variables names

See Also

```
OpenFLUID.getSimulatorsIDs
OpenFLUID.getObserversIDs
```

Examples

```
## Not run:
varnames = OpenFLUID.getGeneratorsVarNames(ofsim, "SU")

## End(Not run)
```

```
OpenFLUID.getModelGlobalParam
```

Returns a model global parameter value

Description

Returns a model global parameter value

Usage

```
OpenFLUID.getModelGlobalParam(ofblob, paramname)
```

Arguments

ofblob	the simulation definition blob
paramname	the name of the parameter

Value

the parameter value

See Also

```
OpenFLUID.setModelGlobalParam  
OpenFLUID.removeModelGlobalParam
```

Examples

```
## Not run:  
val = OpenFLUID.getModelGlobalParam(ofsim, "gvalue")  
  
## End(Not run)
```

```
OpenFLUID.getModelGlobalParamNames
```

Returns all the global parameters

Description

Returns all the global parameters

Usage

```
OpenFLUID.getModelGlobalParamNames(ofblob)
```

Arguments

ofblob the simulation definition blob

Value

a vector of parameters names

See Also

OpenFLUID.getGeneratorParamNames

OpenFLUID.getSimulatorParamNames

OpenFLUID.getObserverParamNames

Examples

```
## Not run:
varnames = OpenFLUID.getModelGlobalParamNames (ofsim)

## End (Not run)
```

OpenFLUID.getModelGlobalParams

Returns model global parameters values

Description

Returns model global parameters values

Usage

```
OpenFLUID.getModelGlobalParams (ofblob, paramnames)
```

Arguments

ofblob the simulation definition blob

paramnames names of the parameters

Value

the parameter values

See Also

OpenFLUID.getGeneratorParams

OpenFLUID.getObserverParams

OpenFLUID.getSimulatorParams

Examples

```
## Not run:  
vals = OpenFLUID.getModelGlobalParams(ofsim, c("gvalueA", "gvalueB"))  
  
## End(Not run)
```

OpenFLUID.getObserverParam

Returns an observer parameter value

Description

Returns an observer parameter value

Usage

```
OpenFLUID.getObserverParam(ofblob, obsid, paramname)
```

Arguments

ofblob	the simulation definition blob
obsid	the observer ID
paramname	the name of the parameter

Value

the parameter value

See Also

```
OpenFLUID.setObserverParam  
OpenFLUID.removeObserverParam
```

Examples

```
## Not run:  
val = OpenFLUID.getObserverParam(ofsim, "my.observer", "value")  
  
## End(Not run)
```

```
OpenFLUID.getObserverParamNames
```

Returns all the parameters of an observer

Description

Returns all the parameters of an observer

Usage

```
OpenFLUID.getObserverParamNames (ofblob, obsid)
```

Arguments

ofblob	the simulation definition blob
obsid	the observer ID

Value

a vector of parameters names

See Also

```
OpenFLUID.getModelGlobalParamNames  
OpenFLUID.getGeneratorParamNames  
OpenFLUID.getSimulatorParamNames
```

Examples

```
## Not run:  
varnames = OpenFLUID.getObserverParamNames (ofsim,obsid)  
  
## End (Not run)
```

```
OpenFLUID.getObserverParams
```

Returns observer parameter values

Description

Returns observer parameter values

Usage

```
OpenFLUID.getObserverParams (ofblob, obsid, paramnames)
```

Arguments

ofblob the simulation definition blob
obsid the observer ID
paramnames names of the parameters

Value

the parameter values

See Also

OpenFLUID.getModelGlobalParams
OpenFLUID.getGeneratorParams
OpenFLUID.getSimulatorParams

Examples

```
## Not run:  
vals = OpenFLUID.getObserverParams(ofsim, "my.observer", c("valueA", "valueB"))  
  
## End(Not run)
```

OpenFLUID.getObserversIDs

Returns all the observers IDs called for the monitoring

Description

Returns all the observers IDs called for the monitoring

Usage

```
OpenFLUID.getObserversIDs(ofblob)
```

Arguments

ofblob the simulation definition blob

Value

a vector of observers IDs

See Also

OpenFLUID.getGeneratorsVarNames
OpenFLUID.getSimulatorsIDs

Examples

```
## Not run:  
varnames = OpenFLUID.getObserversIDs(ofsim)  
  
## End(Not run)
```

OpenFLUID.getObserversPaths

Returns the paths to search for observers

Description

Returns the paths to search for observers

Usage

```
OpenFLUID.getObserversPaths()
```

Value

a vector of paths

See Also

OpenFLUID.addExtraObserversPaths

OpenFLUID.getExtraObserversPaths

OpenFLUID.resetExtraObserversPaths

Examples

```
## Not run:  
paths = OpenFLUID.getObserversPaths()  
  
## End(Not run)
```

OpenFLUID.getPeriodBeginDate

Returns the simulation period begin date

Description

Returns the simulation period begin date

Usage

```
OpenFLUID.getPeriodBeginDate (ofblob)
```

Arguments

ofblob the simulation definition blob

Value

the begin date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

OpenFLUID.setPeriodBeginDate

OpenFLUID.getPeriodEndDate

OpenFLUID.setPeriodEndDate

Examples

```
## Not run:  
bdate = OpenFLUID.getPeriodBeginDate (ofsim)  
  
## End (Not run)
```

OpenFLUID.getPeriodEndDate

Returns the simulation period end date

Description

Returns the simulation period end date

Usage

```
OpenFLUID.getPeriodEndDate (ofblob)
```

Arguments

ofblob the simulation definition blob

Value

the end date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

OpenFLUID.setPeriodEndDate
OpenFLUID.getPeriodBeginDate
OpenFLUID.setPeriodBeginDate

Examples

```
## Not run:  
edate = OpenFLUID.getPeriodEndDate(ofsim)  
  
## End(Not run)
```

```
OpenFLUID.getSimulatorParam
```

Returns a simulator parameter value

Description

Returns a simulator parameter value

Usage

```
OpenFLUID.getSimulatorParam(ofblob, simid, paramname)
```

Arguments

ofblob the simulation definition blob
simid the simulator ID
paramname the name of the parameter

Value

the parameter value

See Also

OpenFLUID.setSimulatorParam
OpenFLUID.removeSimulatorParam

Examples

```
## Not run:  
val = OpenFLUID.getSimulatorParam(ofsim, "my.simulator", "coeff")  
  
## End(Not run)
```

OpenFLUID.getSimulatorParamNames

Returns all the parameters of a simulator

Description

Returns all the parameters of a simulator

Usage

```
OpenFLUID.getSimulatorParamNames(ofblob, simid)
```

Arguments

ofblob	the simulation definition blob
simid	the simulator ID

Value

a vector of parameters names

See Also

```
OpenFLUID.getModelGlobalParamNames  
OpenFLUID.getGeneratorParamNames  
OpenFLUID.getObserverParamNames
```

Examples

```
## Not run:  
varnames = OpenFLUID.getSimulatorParamNames(ofsim, simid)  
  
## End(Not run)
```

```
OpenFLUID.getSimulatorParams
```

Returns simulator parameter values

Description

Returns simulator parameter values

Usage

```
OpenFLUID.getSimulatorParams(ofblob, simid, paramnames)
```

Arguments

ofblob	the simulation definition blob
simid	the simulator ID
paramnames	names of the parameters

Value

the parameter values

See Also

OpenFLUID.getObserverParams

OpenFLUID.getSimulatorParams

Examples

```
## Not run:  
vals = OpenFLUID.getSimulatorParams(ofsim, "my.simulator", c("coeff", "coeff"))  
  
## End(Not run)
```

```
OpenFLUID.getSimulatorsIDs
```

Returns all the simulators IDs called by the model

Description

Returns all the simulators IDs called by the model

Usage

```
OpenFLUID.getSimulatorsIDs(ofblob)
```

Arguments

ofblob the simulation definition blob

Value

a vector of simulators IDs

See Also

OpenFLUID.getGeneratorsVarNames

OpenFLUID.getObserversIDs

Examples

```
## Not run:
varnames = OpenFLUID.getSimulatorsIDs (ofsim)

## End (Not run)
```

OpenFLUID.getSimulatorsPaths

Returns the paths to search for simulators

Description

Returns the paths to search for simulators

Usage

```
OpenFLUID.getSimulatorsPaths ()
```

Value

a vector of paths

See Also

OpenFLUID.addExtraSimulatorsPaths

OpenFLUID.getExtraSimulatorsPaths

OpenFLUID.resetExtraSimulatorsPaths

Examples

```
## Not run:
paths = OpenFLUID.getSimulatorsPaths ()

## End (Not run)
```

```
OpenFLUID.getUnitsClasses
```

Returns the existing units classes

Description

Returns the existing units classes

Usage

```
OpenFLUID.getUnitsClasses (ofblob)
```

Arguments

ofblob the simulation definition blob

Value

a vector of units classes

See Also

```
OpenFLUID.getUnitsIDs
```

Examples

```
## Not run:  
cls = OpenFLUID.getUnitsClasses(ofsim)  
  
## End(Not run)
```

```
OpenFLUID.getUnitsIDs
```

Returns the existing units IDs for a given units class

Description

Returns the existing units IDs for a given units class

Usage

```
OpenFLUID.getUnitsIDs (ofblob, unitclass)
```

Arguments

ofblob the simulation definition blob
unitclass the units class

Value

a vector of units IDs

See Also

OpenFLUID.getUnitsClasses

Examples

```
## Not run:  
ids = OpenFLUID.getUnitsIDs(ofsim, "SU")  
  
## End(Not run)
```

OpenFLUID.getVersion

Returns the OpenFLUID version

Description

Returns the OpenFLUID version

Usage

```
OpenFLUID.getVersion()
```

Value

the OpenFLUID version number

Examples

```
## Not run:  
v = OpenFLUID.getVersion()  
  
## End(Not run)
```

`OpenFLUID.loadResult`*Loads results as a dataframe, giving dataset informations*

Description

Loads results as a dataframe, giving dataset informations

Usage

```
OpenFLUID.loadResult(ofblob, unitclass, unitid, varname)
```

Arguments

<code>ofblob</code>	the simulation definition blob
<code>unitclass</code>	the unit class
<code>unitid</code>	the unit ID
<code>varname</code>	the variable name

Value

a dataframe containing the simulation results

See Also

```
OpenFLUID.loadResultFile
```

Examples

```
## Not run:  
resSU18 = OpenFLUID.loadResult(ofsim,"SU",18,"runoff")  
resRS1 = OpenFLUID.loadResult(ofsim,"RS",1,"waterlevel")  
  
## End(Not run)
```

```
OpenFLUID.loadResultFile
```

Loads results as a dataframe, giving output file name

Description

Loads results as a dataframe, giving output file name

Usage

```
OpenFLUID.loadResultFile(filepath)
```

Arguments

filepath the full path of file to load

Value

a dataframe containing the simulation results

See Also

```
OpenFLUID.loadResult
```

Examples

```
## Not run:  
resSU18 = OpenFLUID.loadResultFile("/path/to/output/SU18_full.out")  
resRS1 = OpenFLUID.loadResultFile("/path/to/output/RS1_waterlevel.out")  
  
## End(Not run)
```

```
OpenFLUID.openDataset
```

Opens a dataset and returns a simulation definition blob

Description

Opens a dataset and returns a simulation definition blob

Usage

```
OpenFLUID.openDataset(path)
```

Arguments

path the full path of the dataset to open

Value

a simulation definition blob

See Also

OpenFLUID.openProject
OpenFLUID.runSimulation

Examples

```
## Not run:  
ofsim = OpenFLUID.openDataset("/path/to/dataset")  
  
## End(Not run)
```

```
OpenFLUID.openProject
```

Opens a project and returns a simulation definition blob

Description

Opens a project and returns a simulation definition blob

Usage

```
OpenFLUID.openProject(path)
```

Arguments

path the full project to open

Value

a simulation definition blob

See Also

OpenFLUID.openDataset
OpenFLUID.runProject

Examples

```
## Not run:  
ofsim = OpenFLUID.openProject("/path/to/project")  
  
## End(Not run)
```

```
OpenFLUID.printSimulationInfo
```

Prints informations to screen about simulation definition blob

Description

Prints informations to screen about simulation definition blob

Usage

```
OpenFLUID.printSimulationInfo(ofblob)
```

Arguments

ofblob the simulation definition blob

Examples

```
## Not run:  
OpenFLUID.printSimulationInfo(ofsim)  
  
## End(Not run)
```

```
OpenFLUID.removeAttribute
```

Removes an attribute value for a given spatial unit

Description

Removes an attribute value for a given spatial unit

Usage

```
OpenFLUID.removeAttribute(ofblob, unitclass, attrname)
```

Arguments

ofblob the simulation definition blob
unitclass the unit class
attrname the name of the attribute

See Also

```
OpenFLUID.createAttribute  
OpenFLUID.getAttribute  
OpenFLUID.setAttribute
```

Examples

```
## Not run:  
OpenFLUID.removeAttribute(ofsim, "SU", "length")  
  
## End(Not run)
```

```
OpenFLUID.removeModelGlobalParam  
Removes a model global parameter value
```

Description

Removes a model global parameter value

Usage

```
OpenFLUID.removeModelGlobalParam(ofblob, paramname)
```

Arguments

ofblob	the simulation definition blob
paramname	the name of the parameter

See Also

```
OpenFLUID.getModelGlobalParam  
OpenFLUID.setModelGlobalParam
```

Examples

```
## Not run:  
OpenFLUID.removeModelGlobalParam(ofsim, "gvalue")  
  
## End(Not run)
```

OpenFLUID.removeObserverParam
Removes a observer parameter

Description

Removes a observer parameter

Usage

```
OpenFLUID.removeObserverParam(ofblob, obsid, paramname)
```

Arguments

ofblob	the simulation definition blob
obsid	the simulation observer id
paramname	the name of the parameter

See Also

OpenFLUID.getObserverParam
OpenFLUID.setObserverParam

Examples

```
## Not run:  
OpenFLUID.removeObserverParam(ofsim, "my.observer", "value")  
  
## End (Not run)
```

OpenFLUID.removeSimulatorParam
Removes a simulator parameter

Description

Removes a simulator parameter

Usage

```
OpenFLUID.removeSimulatorParam(ofblob, simid, paramname)
```


Arguments

ofblob	the simulation definition blob
simid	the simulation simulator id
paramname	the name of the parameter

See Also

OpenFLUID.getSimulatorParam
OpenFLUID.setSimulatorParam

Examples

```
## Not run:  
OpenFLUID.removeSimulatorParam(ofsim, "my.simulator", "coeff")  
  
## End (Not run)
```

OpenFLUID.resetExtraObserversPaths

Resets list of added paths to search for observers

Description

Resets list of added paths to search for observers

Usage

```
OpenFLUID.resetExtraObserversPaths ()
```

See Also

OpenFLUID.addExtraObserversPaths
OpenFLUID.getObserversPaths
OpenFLUID.getExtraObserversPaths

Examples

```
## Not run:  
OpenFLUID.resetExtraObserversPaths ()  
  
## End (Not run)
```

```
OpenFLUID.resetExtraSimulatorsPaths
```

Resets list of added paths to search for simulators

Description

Resets list of added paths to search for simulators

Usage

```
OpenFLUID.resetExtraSimulatorsPaths()
```

See Also

```
OpenFLUID.addExtraSimulatorsPaths
```

```
OpenFLUID.getSimulatorsPaths
```

```
OpenFLUID.getExtraSimulatorsPaths
```

Examples

```
## Not run:  
OpenFLUID.resetExtraSimulatorsPaths()  
  
## End(Not run)
```

```
OpenFLUID.runProject
```

Runs a project and returns a simulation definition blob

Description

Runs a project and returns a simulation definition blob

Usage

```
OpenFLUID.runProject(path, verbose = FALSE)
```

Arguments

path	the full path of the dataset to open
verbose	enable/disable verbose mode

Value

a simulation definition blob

See Also

```
OpenFLUID.runSimulation
OpenFLUID.openProject
```

Examples

```
## Not run:
ofsim = OpenFLUID.runProject("/path/to/dataset")
ofsim = OpenFLUID.runProject("/path/to/dataset", verbose=TRUE)

## End(Not run)
```

```
OpenFLUID.runSimulation
```

Runs a simulation from a simulation definition blob

Description

Runs a simulation from a simulation definition blob

Usage

```
OpenFLUID.runSimulation(ofblob, verbose = FALSE)
```

Arguments

ofblob	the simulation definition blob
verbose	enable/disable verbose mode

See Also

```
OpenFLUID.runProject
OpenFLUID.openProject
OpenFLUID.openDataset
```

Examples

```
## Not run:
OpenFLUID.runSimulation(ofsim)
OpenFLUID.runSimulation(ofsim, verbose=TRUE)

## End(Not run)
```

OpenFLUID.setAttribute

Sets an attribute value for a given spatial unit

Description

Sets an attribute value for a given spatial unit

Usage

```
OpenFLUID.setAttribute(ofblob, unitclass, unitid, attrname, attrval)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
unitid	the unit ID
attrname	the name of the attribute
attrval	the value of the attribute

See Also

OpenFLUID.createAttribute

OpenFLUID.getAttribute

OpenFLUID.removeAttribute

Examples

```
## Not run:  
OpenFLUID.setAttribute(ofsim,"SU",18,"length",12.3)  
OpenFLUID.setAttribute(ofsim,"SU",18,"CODE","ABC")  
  
## End(Not run)
```

`OpenFLUID.setAttributes`*Sets attributes values for given spatial units and attributes names*

Description

Sets attributes values for given spatial units and attributes names

Usage

```
OpenFLUID.setAttributes(ofblob, unitclass, attrvals)
```

Arguments

<code>ofblob</code>	the simulation definition blob
<code>unitclass</code>	the unit class
<code>attrvals</code>	the data.frame of values (unit id x attribute name)

See Also

```
OpenFLUID.getAttributes
```

Examples

```
## Not run:  
OpenFLUID.setAttributes(ofsim, "SU", data.frame("length"=c(1,2), "width"=c(3.2, 7.8), "unitid"  
## End(Not run)
```

`OpenFLUID.setCurrentOutputDir`*Sets the current output directory for simulations*

Description

Sets the current output directory for simulations

Usage

```
OpenFLUID.setCurrentOutputDir(path)
```

Arguments

<code>path</code>	the output directory path
-------------------	---------------------------

Examples

```
## Not run:
OpenFLUID.setCurrentOutputDir("/path/to/output")

## End(Not run)
```

```
OpenFLUID.setDefaultDeltaT
```

Sets the simulation time step

Description

Sets the simulation time step

Usage

```
OpenFLUID.setDefaultDeltaT(ofblob, deltat)
```

Arguments

ofblob	the simulation definition blob
deltat	the time step value in seconds

See Also

```
OpenFLUID.getDefaultDeltaT
```

Examples

```
## Not run:
OpenFLUID.setDefaultDeltaT(60)
OpenFLUID.setDefaultDeltaT(86400)

## End(Not run)
```

`OpenFLUID.setGeneratorParam`*Sets a generator parameter value*

Description

Sets a generator parameter value

Usage

```
OpenFLUID.setGeneratorParam(ofblob, unitclass, varname, paramname, paramval)
```

Arguments

<code>ofblob</code>	the simulation definition blob
<code>unitclass</code>	the unit class to which the generator is applied
<code>varname</code>	the variable name to which the generator is applied
<code>paramname</code>	the name of the parameter
<code>paramval</code>	the value of the parameter

See Also

```
OpenFLUID.getGeneratorParam
```

Examples

```
## Not run:  
OpenFLUID.setGeneratorParam(ofsim, "SU", "var.flux", "fixedvalue", 12.3)  
  
## End (Not run)
```

`OpenFLUID.setGeneratorParams`*Sets generator parameter values*

Description

Sets generator parameter values

Usage

```
OpenFLUID.setGeneratorParams(ofblob, unitclass, varname, paramvals)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramvals	the value of the parameters in a data.frame which column names are parameters names

See Also

OpenFLUID.setModelGlobalParams
 OpenFLUID.setObserverParams
 OpenFLUID.setSimulatorParams

Examples

```
## Not run:
OpenFLUID.setGeneratorParams(ofsim, "SU", "var.flux", data.frame("min"=0.0, "max"=1.0))

## End(Not run)
```

```
OpenFLUID.setModelGlobalParam
```

Sets a model global parameter value

Description

Sets a model global parameter value

Usage

```
OpenFLUID.setModelGlobalParam(ofblob, paramname, paramval)
```

Arguments

ofblob	the simulation definition blob
paramname	the name of the parameter
paramval	the value of the parameter

See Also

OpenFLUID.getModelGlobalParam
 OpenFLUID.removeModelGlobalParam

Examples

```
## Not run:  
OpenFLUID.setModelGlobalParam(ofsim, "gvalue", 37.2)  
  
## End(Not run)
```

```
OpenFLUID.setModelGlobalParams  
Sets model global parameter values
```

Description

Sets model global parameter values

Usage

```
OpenFLUID.setModelGlobalParams(ofblob, paramvals)
```

Arguments

ofblob	the simulation definition blob
paramvals	the values of the parameters in a data.frame which column names are parameters names

See Also

```
OpenFLUID.setModelGlobalParams  
OpenFLUID.setSimulatorParams  
OpenFLUID.setObserverParams
```

Examples

```
## Not run:  
OpenFLUID.setModelGlobalParams(ofsim, data.frame("gvalue1"=37.2, "gvalue2"=14.6))  
  
## End(Not run)
```

```
OpenFLUID.setObserverParam
```

Sets an observer parameter value

Description

Sets an observer parameter value

Usage

```
OpenFLUID.setObserverParam(ofblob, obsid, paramname, paramval)
```

Arguments

ofblob	the simulation definition blob
obsid	the simulation observer id
paramname	the name of the parameter
paramval	the parameter value

See Also

```
OpenFLUID.getObserverParam
OpenFLUID.removeObserverParam
```

Examples

```
## Not run:
OpenFLUID.setObserverParam(ofsim, "my.observer", "value", 3)

## End (Not run)
```

```
OpenFLUID.setObserverParams
```

Sets observer parameter values

Description

Sets observer parameter values

Usage

```
OpenFLUID.setObserverParams(ofblob, obsid, paramvals)
```

Arguments

ofblob	the simulation definition blob
obsid	the simulation observer id
paramvals	the values of the parameters in a data.frame which column names are parameters names

See Also

OpenFLUID.setModelGlobalParams
 OpenFLUID.setGeneratorParams
 OpenFLUID.setSimulatorParams

Examples

```
## Not run:
OpenFLUID.setObserverParams(ofsim, "my.observer", data.frame("valueA"=3, "valueB"=6.7))

## End(Not run)
```

```
OpenFLUID.setPeriodBeginDate
Sets the simulation period begin date
```

Description

Sets the simulation period begin date

Usage

```
OpenFLUID.setPeriodBeginDate(ofblob, begindate)
```

Arguments

ofblob	the simulation definition blob
begindate	the begin date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

OpenFLUID.getPeriodBeginDate
 OpenFLUID.setPeriodEndDate
 OpenFLUID.getPeriodEndDate

Examples

```
## Not run:
OpenFLUID.setPeriodBeginDate(ofsim, "1997-06-05 04:00:00")

## End(Not run)
```

OpenFLUID.setPeriodEndDate
Sets the simulation period end date

Description

Sets the simulation period end date

Usage

```
OpenFLUID.setPeriodEndDate(ofblob, enddate)
```

Arguments

ofblob	the simulation definition blob
enddate	the end date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

```
OpenFLUID.getPeriodEndDate
OpenFLUID.setPeriodBeginDate
OpenFLUID.getPeriodBeginDate
```

Examples

```
## Not run:
OpenFLUID.setPeriodEndDate(ofsim, "1997-06-05 16:07:17")

## End(Not run)
```

```
OpenFLUID.setSimulatorParam
```

Sets a simulator parameter value

Description

Sets a simulator parameter value

Usage

```
OpenFLUID.setSimulatorParam(ofblob, simid, paramname, paramval)
```

Arguments

ofblob	the simulation definition blob
simid	the simulation simulator id
paramname	the name of the parameter
paramval	the parameter value

See Also

```
OpenFLUID.getSimulatorParam  
OpenFLUID.removeSimulatorParam
```

Examples

```
## Not run:  
OpenFLUID.setSimulatorParam(ofsim, "my.simulator", "coeff", 3)  
  
## End (Not run)
```

```
OpenFLUID.setSimulatorParams
```

Sets a simulator parameter values

Description

Sets a simulator parameter values

Usage

```
OpenFLUID.setSimulatorParams(ofblob, simid, paramvals)
```

Arguments

<code>ofblob</code>	the simulation definition blob
<code>simid</code>	the simulation simulator id
<code>paramvals</code>	the values of the parameters in a data.frame which column names are parameters names

See Also

`OpenFLUID.setModelGlobalParams`
`OpenFLUID.setGeneratorParams`
`OpenFLUID.setObserverParams`

Examples

```
## Not run:
OpenFLUID.setSimulatorParams( ofsim, "my.simulator", data.frame("coeffA"=3, "coeffB"=3.3) )

## End(Not run)
```

ROpenFLUID

R Interface to OpenFLUID Platform Framework for Modelling and Simulation of Landscapes

Description

Provides a collection of functions to load, parameterize, run and analyze OpenFLUID simulations within the GNU R environment.

Details

Package:	ROpenFLUID
Type:	Package
Version:	
Date:	
License:	GPLv3
LazyLoad:	yes

Author(s)

Jean-Christophe Fabre <fabrejc@supagro.inra.fr>

Examples

```
## Not run:
# load OpenFLUID library
library("ROpenFLUID")

# add optional paths to search for simulators
OpenFLUID.addExtraSimulatorsPaths("/path/to/simulators")

# open an input dataset
ofsim = OpenFLUID.openDataset("/path/to/dataset")

# set the output dir
OpenFLUID.setCurrentOutputDir("/path/to/output")

# run the simulation
OpenFLUID.runSimulation(ofsim)

## End(Not run)
```