

Code_generator

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Chapter 1

Namespace Index

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Chapter 2

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2.1 Class List

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Chapter 3

Namespace Documentation

3.1 Package common

Classes

- enum [ErrorCode](#)
- class [Features](#)

3.1.1 Detailed Description

Common information that needs to be accessed across all the project

Author

Miguel Diaz

Version

0.1

3.2 Package configurator

Classes

- class [ConfigurationFile](#)
- class [PinConf](#)

3.2.1 Detailed Description

Configuration classes

Author

Miguel Diaz

Version

0.1

3.3 Package framework

3.3.1 Detailed Description

Framework information

Author

H112943

Version

0.1

3.4 Package gui

Classes

- class [AboutWindow](#)
- class [GpioConfWindow](#)
- class [MainGui](#)
- class [MainWindow](#)
- class [Messages](#)

3.4.1 Detailed Description

Author

Miguel Diaz

Version

0.1

3.5 Package microcontroller

Classes

- class [Microcontroller](#)
- class [Pin](#)

3.5.1 Detailed Description

[Microcontroller](#) related classes

Author

Miguel Diaz

Version

0.1

3.6 Package projectConfiguration

Classes

- class [ProjectSettings](#)

3.6.1 Detailed Description

Project settings and configuration files

Author

Miguel Diaz

Version

0.1

3.7 Package xmlCreator

Classes

- class [ConfXmlWriter](#)

3.7.1 Detailed Description

Create configuration XML

Author

Miguel Diaz

Version

0.1

3.8 Package xmlParser

Classes

- class [TestMain](#)
- class [XmlOpener](#)

3.8.1 Detailed Description

XML parser for microcontroller information and project settings

Author

Miguel Diaz

Version

0.1

Chapter 4

Class Documentation

4.1 gui.AboutWindow Class Reference

Public Member Functions

- [AboutWindow](#) ()

Static Public Member Functions

- static void [main](#) (String[] args)

4.1.1 Constructor & Destructor Documentation

4.1.1.1 AboutWindow()

```
gui.AboutWindow.AboutWindow ( )
```

Create the application.

4.1.2 Member Function Documentation

4.1.2.1 main()

```
static void gui.AboutWindow.main (
    String [] args ) [static]
```

About window main

Parameters

<i>args</i>	Init parameters
-------------	-----------------

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

- src/gui/AboutWindow.java

4.2 configurator.ConfigurationFile Class Reference

Static Public Attributes

- static final String [STR_PROJ_CONF_FILE](#) = "cgs"

4.2.1 Detailed Description

Configuration files properties

Author

Miguel Diaz

Version

0.1

4.2.2 Member Data Documentation

4.2.2.1 STR_PROJ_CONF_FILE

```
final String configurator.ConfigurationFile.STR_PROJ_CONF_FILE = "cgs" [static]
```

Public configuration file extension

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

- src/configurator/ConfigurationFile.java

4.3 xmlCreator.ConfXmlWriter Class Reference

Public Member Functions

- [ConfXmlWriter](#) ([Microcontroller](#) uC)
- void [addPin](#) ([PinConf](#) pin, int pinNum)
- [ErrorCode](#) [writeXml](#) (String fileName)

4.3.1 Detailed Description

Write a XML file

Author

Miguel Diaz

Version

0.1

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ConfXmlWriter()

```
xmlCreator.ConfXmlWriter.ConfXmlWriter (  
    Microcontroller uC )
```

Constructor

Parameters

<i>uC</i>	Microcontroller configuration
-----------	-------------------------------

4.3.3 Member Function Documentation

4.3.3.1 addPin()

```
void xmlCreator.ConfXmlWriter.addPin (  
    PinConf pin,  
    int pinNum )
```

Add a pin configuration to the file

Parameters

<i>pin</i>	Pin configuration
<i>pinNum</i>	Number of GPIO pin

4.3.3.2 writeXml()

```
ErrorCode xmlCreator.ConfXmlWriter.writeXml (
    String fileName )
```

Write the XML file

Parameters

<i>fileName</i>	Name of XML configuration file
-----------------	--------------------------------

Returns

Error status

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

- src/xmlCreator/ConfXmlWriter.java

4.4 common.ErrorCode Enum Reference

Public Attributes

- [NO_ERROR](#)
- [EX_ERROR](#)
- [FILE_READ_ERROR](#)
- [FILE_WRITE_ERROR](#)

Static Public Attributes

- static final String [STR_INVALID](#) = "STR_INVALID"

4.4.1 Detailed Description

Error codes enum

Author

Miguel Diaz

Version

0.1

4.4.2 Member Data Documentation

4.4.2.1 EX_ERROR

```
common.ErrorCode.EX_ERROR
```

Error during execution

4.4.2.2 FILE_READ_ERROR

```
common.ErrorCode.FILE_READ_ERROR
```

File reading error

4.4.2.3 FILE_WRITE_ERROR

```
common.ErrorCode.FILE_WRITE_ERROR
```

File writing error

4.4.2.4 NO_ERROR

```
common.ErrorCode.NO_ERROR
```

No error message

4.4.2.5 STR_INVALID

```
static final String common.ErrorCode.STR_INVALID = "STR_INVALID" [static]
```

Error string

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

- src/common/ErrorCode.java

4.5 common.Features Class Reference

Static Public Member Functions

- static void [verbosePrint](#) (String verboseMessage)
- static void [debugPrint](#) (String debugMessage)

Static Public Attributes

- static final boolean `DEBUG` = true
- static final boolean `VERBOSE` = true
- static final String `VERBOSE_STR` = "# "
- static final String `DEBUG_STR` = "#\$ "
- static final String `SW_VERSION` = VERSION_MAJOR + "." + VERSION_MINOR + "." + VERSION_PATCH
- static final String `VERSION_STATUS` = "Alpha"
- static final String `VERSION_NAME` = "Alderaan"

4.5.1 Detailed Description

Class that includes all project features

Author

Miguel Diaz

Version

0.1

4.5.2 Member Function Documentation

4.5.2.1 `debugPrint()`

```
static void common.Features.debugPrint (  
    String debugMessage ) [static]
```

Print Debug message to console

Parameters

<i>debugMessage</i>	Message to display
---------------------	--------------------

4.5.2.2 `verbosePrint()`

```
static void common.Features.verbosePrint (  
    String verboseMessage ) [static]
```

Print Verbose message to console

Parameters

<i>verboseMessage</i>	Message to display
-----------------------	--------------------

4.5.3 Member Data Documentation

4.5.3.1 DEBUG

```
final boolean common.Features.DEBUG = true [static]
```

Enables debug functions

4.5.3.2 DEBUG_STR

```
final String common.Features.DEBUG_STR = "$ " [static]
```

Debug messages indicator on system console

4.5.3.3 SW_VERSION

```
final String common.Features.SW_VERSION = VERSION_MAJOR + "." + VERSION_MINOR + "." + VERSION_PATCH [static]
```

Complete Software version

4.5.3.4 VERBOSE

```
final boolean common.Features.VERBOSE = true [static]
```

Enables console messages

4.5.3.5 VERBOSE_STR

```
final String common.Features.VERBOSE_STR = "$ " [static]
```

Verbose messages indicator on system console

4.5.3.6 VERSION_NAME

```
final String common.Features.VERSION_NAME = "Alderaan" [static]
```

Code name of the software version

4.5.3.7 VERSION_STATUS

```
final String common.Features.VERSION_STATUS = "Alpha" [static]
```

Status of the software version

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

- src/common/Features.java

4.6 gui.GpioConfWindow Class Reference

Public Member Functions

- [GpioConfWindow](#) ([Microcontroller](#) uCtrl)

Static Public Member Functions

- static void [main](#) (String[] args)

4.6.1 Detailed Description

Window for configuring GPIO pins

Author

Miguel Diaz

Version

0.1

4.6.2 Constructor & Destructor Documentation

4.6.2.1 GpioConfWindow()

```
gui.GpioConfWindow.GpioConfWindow (  
    Microcontroller uCtrl )
```

Create the GPIO configuration window and show it

Parameters

<i>uCtrl</i>	Microcontroller object containing all pin's information
--------------	---

4.6.3 Member Function Documentation

4.6.3.1 main()

```
static void gui.GpioConfWindow.main (
    String [] args ) [static]
```

Gpio configuration window main

Parameters

<i>args</i>	Init parameters
-------------	-----------------

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

- src/gui/GpioConfWindow.java

4.7 gui.MainGui Class Reference

Static Public Member Functions

- static void [main](#) (String[] args)
- static [ErrorCode](#) [loadProjectFile](#) (File inFile)
- static void [showErrorDialog](#) (String message)
- static void [showAboutWindow](#) ()
- static void [showGpioConfWindow](#) ()
- static void [setUC](#) ([Microcontroller](#) uC)
- static void [saveUc](#) ()

4.7.1 Detailed Description

Main GUI state machine

Author

Miguel Diaz

Version

0.1

4.7.2 Member Function Documentation

4.7.2.1 loadProjectFile()

```
static ErrorCode gui.MainGui.loadProjectFile (
    File inFile ) [static]
```

Load the project settings file

Parameters

<i>inFile</i>	Settings file
---------------	---------------

Returns

Error status

4.7.2.2 main()

```
static void gui.MainGui.main (
    String [ ] args ) [static]
```

Main function

Parameters

<i>args</i>	TBD
-------------	-----

4.7.2.3 saveUc()

```
static void gui.MainGui.saveUc ( ) [static]
```

Save the microcontroller's configuration to disk

4.7.2.4 setUC()

```
static void gui.MainGui.setUC (
    Microcontroller uC ) [static]
```

Set the project's microcontroller configuration

Parameters

<i>uC</i>	Microcontroller configuration
-----------	-------------------------------

4.7.2.5 showAboutWindow()

```
static void gui.MainGui.showAboutWindow ( ) [static]
```

Show about information window

4.7.2.6 showErrorDialog()

```
static void gui.MainGui.showErrorDialog (
    String message ) [static]
```

Show an error dialog

Parameters

<i>message</i>	Message to display
----------------	--------------------

4.7.2.7 showGpioConfWindow()

```
static void gui.MainGui.showGpioConfWindow ( ) [static]
```

Show the GPIOs configuration window

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

- src/gui/MainGui.java

4.8 gui.MainWindow Class Reference

Public Member Functions

- [MainWindow](#) ()
- void [setVisible](#) (boolean status)
- File [OpenFileChooser](#) (String initialPath, String title, FileNameExtensionFilter fileFilter)
- [ErrorCode](#) [setProjectInformation](#) (String projectName, String ucManufacturer, String ucName)

Static Public Member Functions

- static void [main](#) (String[] args)

Public Attributes

- JFrame **FrmCodeGenerator**

4.8.1 Detailed Description

Main application window

Author

Miguel Diaz

Version

0.1

4.8.2 Constructor & Destructor Documentation

4.8.2.1 MainWindow()

```
gui.MainWindow.MainWindow ( )
```

Create the application.

4.8.3 Member Function Documentation

4.8.3.1 main()

```
static void gui.MainWindow.main (
    String [ ] args ) [static]
```

Open main window

Parameters

<i>args</i>	To be determined
-------------	------------------

4.8.3.2 OpenFileDialog()

```
File gui.MainWindow.OpenFileChooser (
    String initialPath,
    String title,
    FileNameExtensionFilter fileFilter )
```

Open file chooser dialog and get the selected file

Parameters

<i>initialPath</i>	Path to search the file in
<i>title</i>	Dialog title
<i>fileFilter</i>	Extension filter

Returns

Selected file

4.8.3.3 setProjectInformation()

```
ErrorCode gui.MainWindow.setProjectInformation (
    String projectName,
    String ucManufacturer,
    String ucName )
```

Set Project's name in its label

Parameters

<i>projectName</i>	Project's name
<i>ucManufacturer</i>	Microcontroller's manufacturer
<i>ucName</i>	Microcontroller's model

Returns

Error status

4.8.3.4 setVisible()

```
void gui.MainWindow.setVisible (
    boolean status )
```

Set visibility of About window

Parameters

<i>status</i>	true if visible
---------------	-----------------

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

- src/gui/MainWindow.java

4.9 gui.Messages Class Reference

Static Public Member Functions

- static String **getString** (String key)

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

- src/gui/Messages.java

4.10 microcontroller.Microcontroller Class Reference

Public Member Functions

- [Microcontroller](#) (Document ucDoc)
- [ErrorCode](#) **processDocument** ()
- [ErrorCode](#) **loadPinsConf** (Document confDoc)
- [Pin](#) **getPin** (int pinNum)
- String **getUc_model** ()
- String **getUc_manufacturer** ()
- int **getUc_pinNum** ()
- int **getUc_gpioNum** ()
- int **getUc_portNum** ()
- [PinConf](#) **getConfiguredPin** (String gpioName)
- boolean **isValid** ()

Public Attributes

- String [] [Ports](#)
- [PinConf](#) [] [GpioCfgPin](#)

Static Public Attributes

- static final int **MAX_NUMBER_OF_PINS_PER_PORT** = 16

4.10.1 Detailed Description

[Microcontroller](#) related methods

Author

Miguel Diaz

Version

0.1

4.10.2 Constructor & Destructor Documentation

4.10.2.1 Microcontroller()

```
microcontroller.Microcontroller.Microcontroller (  
    Document ucDoc )
```

Constructor

Parameters

<i>ucDoc</i>	Document obtained from XML file
--------------	---------------------------------

4.10.3 Member Function Documentation

4.10.3.1 getConfiguredPin()

```
PinConf microcontroller.Microcontroller.getConfiguredPin (
    String gpioName )
```

Get the configuration of a pin

Parameters

<i>gpioName</i>	Name of the pin
-----------------	-----------------

Returns

[Pin](#) configuration

4.10.3.2 getPin()

```
Pin microcontroller.Microcontroller.getPin (
    int pinNum )
```

Get a pin's characteristics

Parameters

<i>pinNum</i>	Number of pin
---------------	---------------

Returns

[Pin's](#) characteristics

4.10.3.3 getUc_gpioNum()

```
int microcontroller.Microcontroller.getUc_gpioNum ( )
```

Get the number of GPIOs in the microcontroller

Returns

Number of GPIOs

4.10.3.4 `getUc_manufacturer()`

```
String microcontroller.Microcontroller.getUc_manufacturer ( )
```

Get the microcontroller's manufacturer

Returns

Microcontroller's manufacturer

4.10.3.5 `getUc_model()`

```
String microcontroller.Microcontroller.getUc_model ( )
```

Get the microcontroller's model

Returns

Microcontroller's model

4.10.3.6 `getUc_pinNum()`

```
int microcontroller.Microcontroller.getUc_pinNum ( )
```

Get the microcontroller's pins number

Returns

Number of pins

4.10.3.7 `getUc_portNum()`

```
int microcontroller.Microcontroller.getUc_portNum ( )
```

Get the number of ports in the microcontroller

Returns

Number of ports

4.10.3.8 isValid()

```
boolean microcontroller.Microcontroller.isValid ( )
```

Check if the microcontroller configuration is valid

Returns

true if valid

4.10.3.9 processDocument()

```
ErrorCode microcontroller.Microcontroller.processDocument ( )
```

Process the document obtained from XML file

Returns

Error status

4.10.4 Member Data Documentation

4.10.4.1 GpioCfgPin

```
PinConf [ ] microcontroller.Microcontroller.GpioCfgPin
```

Configured pins list

4.10.4.2 Ports

```
String [ ] microcontroller.Microcontroller.Ports
```

Ports name list

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

- src/microcontroller/Microcontroller.java

4.11 configurator.GPIO.Mode Enum Reference

Static Public Member Functions

- static [Mode getConfigFromString](#) (String conf)

Public Attributes

- **MODE_INPUT**
- **MODE_OUTPUT**
- **MODE_ALTERNATE_FUNCTION**
- **MODE_ANALOG**

Static Public Attributes

- static final String **STR_NAME** = "Mode"

4.11.1 Detailed Description

GPIO modes

Author

Miguel Diaz

Version

0.1

4.11.2 Member Function Documentation

4.11.2.1 getConfFromString()

```
static Mode configurator.GPIO.Mode.getConfFromString (  
    String conf ) [static]
```

Get the corresponding mode from its name as String

Parameters

<i>conf</i>	Configuration name
-------------	--------------------

Returns

Mode

4.11.3 Member Data Documentation

4.11.3.1 STR_NAME

```
static final String configurator.GPIO.Mode.STR_NAME = "Mode" [static]
```

Name as String

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

- src/configurator/GPIO/Mode.java

4.12 configurator.GPIO.OutLevel Enum Reference

Static Public Member Functions

- static [OutLevel](#) [getConfigFromString](#) (String conf)

Public Attributes

- **LOW**
- **HIGH**

Static Public Attributes

- static final String [STR_NAME](#) = "OutLevel"

4.12.1 Detailed Description

Pin's output/input level

Author

Miguel Diaz

Version

0.1

4.12.2 Member Function Documentation

4.12.2.1 getConfigFromString()

```
static OutLevel configurator.GPIO.OutLevel.getConfigFromString (  
    String conf ) [static]
```

Get the corresponding mode from its name as String

Parameters

<i>conf</i>	Configuration name
-------------	--------------------

Returns

level

4.12.3 Member Data Documentation

4.12.3.1 STR_NAME

```
static final String configurator.GPIO.OutLevel.STR_NAME = "OutLevel" [static]
```

Name as String

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

- src/configurator/GPIO/OutLevel.java

4.13 configurator.GPIO.OutType Enum Reference

Static Public Member Functions

- static [OutType](#) [getConfigFromString](#) (String conf)

Public Attributes

- **OTYPE_PUSH_PULL**
- **OTYPE_OPEN_DRAIN**
- **OTYPE_NOT_AVAILABLE**

Static Public Attributes

- static final String [STR_NAME](#) = "OutType"

4.13.1 Detailed Description

Pin's output type

Author

Miguel Diaz

Version

0.1

4.13.2 Member Function Documentation

4.13.2.1 getConfigFromString()

```
static OutType configurator.GPIO.OutType.getConfigFromString (
    String conf ) [static]
```

Get the corresponding output type from its name as String

Parameters

<i>conf</i>	Configuration name
-------------	--------------------

Returns

Output type

4.13.3 Member Data Documentation

4.13.3.1 STR_NAME

```
static final String configurator.GPIO.OutType.STR_NAME = "OutType" [static]
```

Name as String

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

- src/configurator/GPIO/OutType.java

4.14 microcontroller.Pin Class Reference

Public Member Functions

- [Pin](#) ()
- void [setFunc_vcc](#) (boolean funcState)
- boolean [getFunc_vcc](#) ()
- void [setFunc_gnd](#) (boolean funcState)
- boolean [getFunc_gnd](#) ()
- void [setFunc_gpio](#) (boolean funcState)
- boolean [getFunc_gpio](#) ()
- void [setFeat_int](#) (boolean featState)
- boolean [getFeat_int](#) ()
- void [setFeat_adc](#) (boolean featState)
- boolean [getFeat_adc](#) ()
- void [setFeat_uart](#) (boolean featState)

- boolean [getFeat_uart](#) ()
- void [setFeat_i2c](#) (boolean featState)
- boolean [getFeat_i2c](#) ()
- void [setFeat_spi](#) (boolean featState)
- boolean [getFeat_spi](#) ()
- void [setFeat_clock](#) (boolean featState)
- boolean [getFeat_clock](#) ()
- void [setFeat_timer](#) (boolean featState)
- boolean [getFeat_timer](#) ()
- void [setFeat_reset](#) (boolean featState)
- boolean [getFeat_reset](#) ()
- void [setInt](#) (String feature)
- String [getInt](#) ()
- void [setAdc](#) (String feature)
- String [getAdc](#) ()
- void [setUart](#) (String feature)
- String [getUart](#) ()
- void [setI2c](#) (String feature)
- String [getI2c](#) ()
- void [setSpi](#) (String feature)
- String [getSpi](#) ()
- void [setClock](#) (String feature)
- String [getClock](#) ()
- void [setReset](#) (String feature)
- String [getReset](#) ()
- void [setTimer](#) (String feature)
- String [getTimer](#) ()
- void [setName](#) (String pinName)
- String [getName](#) ()
- void [setNumber](#) (int pinNum)
- int [getNumber](#) ()
- void [setPort](#) (String pinPort)
- String [getPort](#) ()
- boolean [isValid](#) ()

Static Public Attributes

- static final boolean [ENABLE](#) = true
- static final boolean [DISABLE](#) = false
- static final boolean [DEF_FUNCTION](#) = DEF_BOOLEAN
- static final boolean [DEF_FEATURE_AV](#) = DEF_BOOLEAN
- static final String [DEF_FEATURE](#) = DEF_STRING
- static final String [DEF_NAME](#) = DEF_STRING
- static final int [DEF_NUMBER](#) = DEF_INT
- static final String [DEF_PORT](#) = DEF_STRING

4.14.1 Detailed Description

Basic pin object.

- [Pin](#) necessary characteristics:
 - Name
 - Number
- [Pin](#) optional characteristics:
 - Port
- [Pin](#) main functions:
 - VCC
 - GND
 - GPIO
- [Pin](#) features:
 - Interruption
 - ADC
 - UART
 - I2C
 - SPI
 - Clock
 - Reset

Author

Miguel Diaz

Version

0.1

4.14.2 Constructor & Destructor Documentation

4.14.2.1 `Pin()`

```
microcontroller.Pin.Pin ( )
```

Initialize all pin's characteristics and features to their default values

4.14.3 Member Function Documentation

4.14.3.1 getAdc()

```
String microcontroller.Pin.getAdc ( )
```

Get the pin's ADC name

Returns

Pin's ADC

4.14.3.2 getClock()

```
String microcontroller.Pin.getClock ( )
```

Get the pin's clock name

Returns

Pin's clock

4.14.3.3 getFeat_adc()

```
boolean microcontroller.Pin.getFeat_adc ( )
```

See if the pin has an ADC

Returns

Feature availability

4.14.3.4 getFeat_clock()

```
boolean microcontroller.Pin.getFeat_clock ( )
```

See if the pin supports a clock

Returns

Feature availability

4.14.3.5 `getFeat_i2c()`

```
boolean microcontroller.Pin.getFeat_i2c ( )
```

See if the pin has I2C

Returns

Feature availability

4.14.3.6 `getFeat_int()`

```
boolean microcontroller.Pin.getFeat_int ( )
```

See if the pin has an interruption

Returns

Feature availability

4.14.3.7 `getFeat_reset()`

```
boolean microcontroller.Pin.getFeat_reset ( )
```

See if the pin has a reset feature

Returns

Feature availability

4.14.3.8 `getFeat_spi()`

```
boolean microcontroller.Pin.getFeat_spi ( )
```

See if the pin has SPI

Returns

Feature availability

4.14.3.9 getFeat_timer()

```
boolean microcontroller.Pin.getFeat_timer ( )
```

See if the pin supports a timer

Returns

Feature availability

4.14.3.10 getFeat_uart()

```
boolean microcontroller.Pin.getFeat_uart ( )
```

See if the pin has a UART

Returns

Feature availability

4.14.3.11 getFunc_gnd()

```
boolean microcontroller.Pin.getFunc_gnd ( )
```

See if the pin is GND

Returns

Function availability

4.14.3.12 getFunc_gpio()

```
boolean microcontroller.Pin.getFunc_gpio ( )
```

See if the pin is GPIO

Returns

Function availability

4.14.3.13 `getFunc_vcc()`

```
boolean microcontroller.Pin.getFunc_vcc ( )
```

See if the pin is Vcc

Returns

Function availability

4.14.3.14 `getI2c()`

```
String microcontroller.Pin.getI2c ( )
```

Get the pin's I2C name

Returns

[Pin's I2C](#)

4.14.3.15 `getInt()`

```
String microcontroller.Pin.getInt ( )
```

Get the pin's interruption name

Returns

[Pin's interruption](#)

4.14.3.16 `getName()`

```
String microcontroller.Pin.getName ( )
```

Get the pin's name

Returns

[Pin's name](#)

4.14.3.17 `getNumber()`

```
int microcontroller.Pin.getNumber ( )
```

Get the pin's number

Returns

Pin's number

4.14.3.18 `getPort()`

```
String microcontroller.Pin.getPort ( )
```

Get the pin's port

Returns

Pin's port

4.14.3.19 `getReset()`

```
String microcontroller.Pin.getReset ( )
```

Get the pin's reset name

Returns

Pin's reset

4.14.3.20 `getSpi()`

```
String microcontroller.Pin.getSpi ( )
```

Get the pin's SPI name

Returns

Pin's SPI

4.14.3.21 `getTimer()`

```
String microcontroller.Pin.getTimer ( )
```

Get the pin's timer name

Returns

[Pin's timer](#)

4.14.3.22 `getUart()`

```
String microcontroller.Pin.getUart ( )
```

Get the pin's UART name

Returns

[Pin's UART](#)

4.14.3.23 `isValid()`

```
boolean microcontroller.Pin.isValid ( )
```

Check if the pin is correctly initialized

Returns

True if the pin is correctly initialized

4.14.3.24 `setAdc()`

```
void microcontroller.Pin.setAdc (
    String feature )
```

Set the pin's ADC

Parameters

<i>feature</i>	Pin's ADC
----------------	---------------------------

4.14.3.25 setClock()

```
void microcontroller.Pin.setClock (
    String feature )
```

Set the pin's clock

Parameters

<i>feature</i>	Pin's clock
----------------	-------------

4.14.3.26 setFeat_adc()

```
void microcontroller.Pin.setFeat_adc (
    boolean featState )
```

Set the pin's ADC feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.27 setFeat_clock()

```
void microcontroller.Pin.setFeat_clock (
    boolean featState )
```

Set the pin's Clock feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.28 setFeat_i2c()

```
void microcontroller.Pin.setFeat_i2c (
    boolean featState )
```

Set the pin's I2C feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.29 setFeat_int()

```
void microcontroller.Pin.setFeat_int (
    boolean featState )
```

Set the pin's interruption feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.30 setFeat_reset()

```
void microcontroller.Pin.setFeat_reset (
    boolean featState )
```

Set the pin's reset feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.31 setFeat_spi()

```
void microcontroller.Pin.setFeat_spi (
    boolean featState )
```

Set the pin's SPI feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.32 setFeat_timer()

```
void microcontroller.Pin.setFeat_timer (
    boolean featState )
```

Set the pin's timer feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.33 setFeat_uart()

```
void microcontroller.Pin.setFeat_uart (
    boolean featState )
```

Set the pin's UART feature

Parameters

<i>featState</i>	Feature availability
------------------	----------------------

4.14.3.34 setFunc_gnd()

```
void microcontroller.Pin.setFunc_gnd (
    boolean funcState )
```

Set the pin to GND status

Parameters

<i>funcState</i>	Function availability
------------------	-----------------------

4.14.3.35 setFunc_gpio()

```
void microcontroller.Pin.setFunc_gpio (
    boolean funcState )
```

Set the pin to GPIO status

Parameters

<i>funcState</i>	Function availability
------------------	-----------------------

4.14.3.36 setFunc_vcc()

```
void microcontroller.Pin.setFunc_vcc (
    boolean funcState )
```

Set the pin to Vcc status

Parameters

<i>funcState</i>	Function availability
------------------	-----------------------

4.14.3.37 setI2c()

```
void microcontroller.Pin.setI2c (
    String feature )
```

Set the pin's I2C

Parameters

<i>feature</i>	Pin's I2C
----------------	---------------------------

4.14.3.38 setInt()

```
void microcontroller.Pin.setInt (
    String feature )
```

Set the pin's interruption

Parameters

<i>feature</i>	Pin's interruption
----------------	------------------------------------

4.14.3.39 setName()

```
void microcontroller.Pin.setName (
    String pinName )
```

Set the pin's name

Parameters

<i>pinName</i>	Pin's name
----------------	----------------------------

4.14.3.40 setNumber()

```
void microcontroller.Pin.setNumber (
    int pinNum )
```

Set the pin's number

Parameters

<i>pinNum</i>	Pin's number
---------------	------------------------------

4.14.3.41 setPort()

```
void microcontroller.Pin.setPort (
    String pinPort )
```

Set the pin's port

Parameters

<i>pinPort</i>	Pin's port
----------------	------------

4.14.3.42 setReset()

```
void microcontroller.Pin.setReset (
    String feature )
```

Set the pin's reset

Parameters

<i>feature</i>	Pin's reset
----------------	-------------

4.14.3.43 setSpi()

```
void microcontroller.Pin.setSpi (
    String feature )
```

Set the pin's SPI

Parameters

<i>feature</i>	Pin's SPI
----------------	-----------

4.14.3.44 setTimer()

```
void microcontroller.Pin.setTimer (
    String feature )
```

Set the pin's timer

Parameters

<i>feature</i>	Pin's timer
----------------	-------------

4.14.3.45 setUart()

```
void microcontroller.Pin.setUart (
    String feature )
```

Set the pin's UART

Parameters

<i>feature</i>	Pin's UART
----------------	------------

4.14.4 Member Data Documentation

4.14.4.1 DEF_FEATURE

```
final String microcontroller.Pin.DEF_FEATURE = DEF_STRING [static]
```

Default value for pin's feature as not available

4.14.4.2 DEF_FEATURE_AV

```
final boolean microcontroller.Pin.DEF_FEATURE_AV = DEF_BOOLEAN [static]
```

Default value for pin's feature availability as not available

4.14.4.3 DEF_FUNCTION

```
final boolean microcontroller.Pin.DEF_FUNCTION = DEF_BOOLEAN [static]
```

Default value for pin's function as not enabled

4.14.4.4 DEF_NAME

```
final String microcontroller.Pin.DEF_NAME = DEF_STRING [static]
```

Default value for pin's name

4.14.4.5 DEF_NUMBER

```
final int microcontroller.Pin.DEF_NUMBER = DEF_INT [static]
```

Default value for pin's number

4.14.4.6 DEF_PORT

```
final String microcontroller.Pin.DEF_PORT = DEF_STRING [static]
```

Default value for pin's port

4.14.4.7 DISABLE

```
final boolean microcontroller.Pin.DISABLE = false [static]
```

Disable value for features and functions

4.14.4.8 ENABLE

```
final boolean microcontroller.Pin.ENABLE = true [static]
```

Enable value for features and functions

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

- src/microcontroller/Pin.java

4.15 configurator.PinConf Class Reference

Public Member Functions

- [PinConf](#) ([Pin](#) gpioPin)
- boolean [isValid](#) ()
- String [getPort](#) ()
- String [getPinName](#) ()
- [Mode](#) [getMode](#) ()
- void [setMode](#) ([Mode](#) mode)
- [OutType](#) [getOutType](#) ()
- void [setOutType](#) ([OutType](#) outType)
- [OutLevel](#) [getOutLevel](#) ()
- void [setOutLevel](#) ([OutLevel](#) level)
- [Speed](#) [getSpeed](#) ()
- void [setSpeed](#) ([Speed](#) speed)
- [Pull](#) [getPull](#) ()
- void [setPull](#) ([Pull](#) pull)
- boolean [isAv_Adc](#) ()
- boolean [isAv_altFunc](#) ()

Static Public Attributes

- static final [Mode DF_MODE](#) = Mode.MODE_INPUT
- static final [Speed DF_SPEED](#) = Speed.SPEED_FAST
- static final [OutType DF_OUTTYPE](#) = OutType.OTYPE_PUSH_PULL
- static final [OutLevel DF_OUT_LEVEL](#) = OutLevel.LOW
- static final [Pull DF_PULL](#) = Pull.PULL_NOT_AVAILABLE

4.15.1 Detailed Description

GPIO pin configuration

Author

Miguel Diaz

Version

0.1

4.15.2 Constructor & Destructor Documentation

4.15.2.1 PinConf()

```
configurator.PinConf.PinConf (  
    Pin gpioPin )
```

Constructor

Parameters

<i>gpioPin</i>	Pin information
----------------	-----------------

4.15.3 Member Function Documentation

4.15.3.1 getMode()

```
Mode configurator.PinConf.getMode ( )
```

Get the pin's mode configuration

Returns

Mode

4.15.3.2 getOutLevel()

```
OutLevel configurator.PinConf.getOutLevel ( )
```

Get the pin's output level

Returns

Pin's output level

4.15.3.3 getOutType()

```
OutType configurator.PinConf.getOutType ( )
```

Get the pin's output configuration

Returns

Output configuration

4.15.3.4 getPinName()

```
String configurator.PinConf.getPinName ( )
```

Get the pin's number

Returns

Pin's number

4.15.3.5 getPort()

```
String configurator.PinConf.getPort ( )
```

Get the pin's port

Returns

Port

4.15.3.6 getPull()

```
Pull configurator.PinConf.getPull ( )
```

Get the pin's pull resistor configuration

Returns

Pull Resistor configuration

4.15.3.7 getSpeed()

```
Speed configurator.PinConf.getSpeed ( )
```

Get the pin's speed

Returns

Speed

4.15.3.8 isAv_Adc()

```
boolean configurator.PinConf.isAv_Adc ( )
```

Check availability of ADC

Returns

True if ADC is available

4.15.3.9 isAv_altFunc()

```
boolean configurator.PinConf.isAv_altFunc ( )
```

Check the availability of alternate function

Returns

True if alternate function is available

4.15.3.10 isValid()

```
boolean configurator.PinConf.isValid ( )
```

Check if the GPIO pin is valid

Returns

True if valid

4.15.3.11 setMode()

```
void configurator.PinConf.setMode (
    Mode mode )
```

Set the pin's mode configuration

Parameters

<i>mode</i>	Mode
-------------	------

4.15.3.12 setOutLevel()

```
void configurator.PinConf.setOutLevel (
    OutLevel level )
```

Set the pin's output level

Parameters

<i>level</i>	Pin's output level
--------------	--------------------

4.15.3.13 setOutType()

```
void configurator.PinConf.setOutType (
    OutType outType )
```

Set the pin's output configuration

Parameters

<i>outType</i>	Output configuration
----------------	----------------------

4.15.3.14 setPull()

```
void configurator.PinConf.setPull (
    Pull pull )
```

Set the pull resistor configuration

Parameters

<i>pull</i>	Resistor configuration
-------------	------------------------

4.15.3.15 setSpeed()

```
void configurator.PinConf.setSpeed (
    Speed speed )
```

Set the pin's speed

Parameters

<i>speed</i>	Speed
--------------	-------

4.15.4 Member Data Documentation

4.15.4.1 DF_MODE

```
final Mode configurator.PinConf.DF_MODE = Mode.MODE_INPUT [static]
```

Default Pin mode

4.15.4.2 DF_OUT_LEVEL

```
final OutLevel configurator.PinConf.DF_OUT_LEVEL = OutLevel.LOW [static]
```

Default pin's output level

4.15.4.3 DF_OUTTYPE

```
final OutType configurator.PinConf.DF_OUTTYPE = OutType.OTYPE_PUSH_PULL [static]
```

Default pin's output type

4.15.4.4 DF_PULL

```
final Pull configurator.PinConf.DF_PULL = Pull.PULL_NOT_AVAILABLE [static]
```

Default pin's pull resistor

4.15.4.5 DF_SPEED

```
final Speed configurator.PinConf.DF_SPEED = Speed.SPEED_FAST [static]
```

Default pin's speed

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

- src/configurator/PinConf.java

4.16 projectConfiguration.ProjectSettings Class Reference

Public Member Functions

- [ProjectSettings](#) ()
- [ErrorCode processDocument](#) ()
- [ErrorCode openProjectFile](#) (File inFile)
- File [getConfFile](#) ()
- File [getUcFile](#) ()
- String [getProjectName](#) ()

4.16.1 Detailed Description

Project settings class

Author

Miguel Diaz

Version

0.1

4.16.2 Constructor & Destructor Documentation

4.16.2.1 ProjectSettings()

```
projectConfiguration.ProjectSettings.ProjectSettings ( )
```

Constructor

4.16.3 Member Function Documentation

4.16.3.1 getConfFile()

```
File projectConfiguration.ProjectSettings.getConfFile ( )
```

Get the project configuration file

Returns

Project configuration file

4.16.3.2 `getProjectName()`

```
String projectConfiguration.ProjectSettings.getProjectName ( )
```

Get the project's name

Returns

Project's name

4.16.3.3 `getUcFile()`

```
File projectConfiguration.ProjectSettings.getUcFile ( )
```

Get the project microcontroller file

Returns

Project microcontroller file

4.16.3.4 `openProjectFile()`

```
ErrorCode projectConfiguration.ProjectSettings.openProjectFile (
    File inFile )
```

Open the project settings file

Parameters

<i>inFile</i>	Project file
---------------	--------------

Returns

Error Status

4.16.3.5 `processDocument()`

```
ErrorCode projectConfiguration.ProjectSettings.processDocument ( )
```

Process the document obtained from the XML file

Returns

Error Status

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

- `src/projectConfiguration/ProjectSettings.java`

4.17 configurator.GPIO.Pull Enum Reference

Static Public Member Functions

- static [Pull](#) `getConfigFromString` (String *conf*)

Public Attributes

- **PULL_UP**
- **PULL_DOWN**
- **PULL_NOT_AVAILABLE**

Static Public Attributes

- static final String [STR_NAME](#) = "Pull"

4.17.1 Detailed Description

Pin's pull resistor

Author

Miguel Diaz

Version

0.1

4.17.2 Member Function Documentation

4.17.2.1 `getConfigFromString()`

```
static Pull configurator.GPIO.Pull.getConfigFromString (  
    String conf ) [static]
```

Get the corresponding [Pull](#) configuration from its name as String

Parameters

<i>conf</i>	Configuration name
-------------	--------------------

Returns

[Pull](#) configuration

4.17.3 Member Data Documentation

4.17.3.1 STR_NAME

```
static final String configurator.GPIO.Pull.STR_NAME = "Pull" [static]
```

Name as String

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

- src/configurator/GPIO/Pull.java

4.18 configurator.GPIO.Speed Enum Reference

Static Public Member Functions

- static [Speed](#) [getConfFromString](#) (String conf)

Public Attributes

- **SPEED_FAST**
- **SPEED_MEDIUM**
- **SPEED_HIGH**
- **SPEED_NOT_AVAILABLE**

Static Public Attributes

- static final String [STR_NAME](#) = "Speed"

4.18.1 Detailed Description

Pin's speed

Author

Miguel Diaz

Version

0.1

4.18.2 Member Function Documentation

4.18.2.1 getConfFromString()

```
static Speed configurator.GPIO.Speed.getConfFromString (  
    String conf ) [static]
```

Get the corresponding [Speed](#) configuration from its name as String

Parameters

<i>conf</i>	Configuration name
-------------	--------------------

Returns

[Speed](#)

4.18.3 Member Data Documentation

4.18.3.1 STR_NAME

```
static final String configurator.GPIO.Speed.STR_NAME = "Speed" [static]
```

Name as String

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

- `src/configurator/GPIO/Speed.java`

4.19 xmlParser.TestMain Class Reference

Static Public Member Functions

- static void [main](#) (String[] openOption)

4.19.1 Detailed Description

Dummy main class for testing the other classes

Author

Miguel Diaz

4.19.2 Member Function Documentation

4.19.2.1 main()

```
static void xmlParser.TestMain.main (  
    String [] openOption ) [static]
```

Main without GUI

Parameters

<i>openOption</i>	Options include:
-------------------	---------------------

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

- src/xmlParser/TestMain.java

4.20 xmlParser.XmlOpener Class Reference

Public Member Functions

- [XmlOpener](#) ()
- [ErrorCode OpenFile](#) (File inFile)
- Document [getParsedDoc](#) ()

Static Public Member Functions

- static String [getElementInfoFromDoc](#) (Document doc, String elementName)
- static String [getElementInfo](#) (Element element, String elementName)

4.20.1 Detailed Description

Open and process XML files

Author

H112943

Version

0.1

4.20.2 Constructor & Destructor Documentation

4.20.2.1 XmlOpener()

```
xmlParser.XmlOpener.XmlOpener ( )
```

Constructor

4.20.3 Member Function Documentation

4.20.3.1 getElementInfo()

```
static String xmlParser.XmlOpener.getElementInfo (
    Element element,
    String elementName ) [static]
```

Get an XML sub element information

Parameters

<i>element</i>	XML main element
<i>elementName</i>	Sub element's name

Returns

Sub element's information

4.20.3.2 getElementInfoFromDoc()

```
static String xmlParser.XmlOpener.getElementInfoFromDoc (
    Document doc,
    String elementName ) [static]
```

Get an XML element information

Parameters

<i>doc</i>	Document from XML file
<i>elementName</i>	Element's name

Returns

Element's information

4.20.3.3 getParsedDoc()

```
Document xmlParser.XmlOpener.getParsedDoc ( )
```

Get the parsed document AFTER opening the file

Returns

Parsed document

4.20.3.4 OpenFile()

```
ErrorCode xmlParser.XmlOpener.OpenFile (
    File inFile )
```

Open the XML file

Parameters

<i>inFile</i>	XML file
---------------	----------

Returns

Error code

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

- src/xmlParser/XmlOpener.java

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