Code_generator

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Namespace Documentation

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- class Features

3.1.1 Detailed Description

Common information that needs to be accessed across all the project

Author

Miguel Diaz

Version

0.1

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Classes

- class AdcConf
- class ConfigurationFile
- class PinConf
- enum Selected

3.2.1 Detailed Description

Configuration classes

Author

Miguel Diaz

Version

0.1

3.3 Package framework

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- class AdcGenerator
- class CodeGenerator
- class Common
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3.3.1 Detailed Description

Framework information

Author

H112943

Version

0.1

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- class GpioConfWindow
- class MainGui
- class MainWindow
- class Messages

3.4.1 Detailed Description

Author

Miguel Diaz

Version

0.1

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Classes

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- 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

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Author

Miguel Diaz

Version

0.1

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Author

Miguel Diaz

Version

0.1

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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 Detailed Description

About Window, contains version and contact information

Author

ovd

4.1.2 Constructor & Destructor Documentation

4.1.2.1 AboutWindow()

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

Create the application.

4.1.3 Member Function Documentation

4.1.3.1 main()

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

About window main

Parameters

args	Init parameters

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

- src/gui/AboutWindow.java

4.2 microcontroller.Adc Class Reference

Public Member Functions

- Adc ()
- void setName (String name)
- String getName ()
- void addSample (String sample)
- int getSampleNum ()
- String getSample (int index)
- void addClock (String clock)
- int getClockNum ()
- String getClock (int index)
- void addJustification (String justification)
- int getJustificationNum ()
- String getJustification (int index)
- void addPrescaler (String prescaler)
- int getPrescalerNum ()
- String getPrescaler (int index)
- void addResolution (String resolution)
- int getResolutionNum ()
- String getResolution (int index)
- void addReference (String reference)
- int getReferenceNum ()
- String getReference (int index)
- void addChannel (AdcChannel channel)
- int getChannelNum ()
- AdcChannel getChannel (int index)
- boolean isValid ()

4.2.1 Constructor & Destructor Documentation

4.2.1.1 Adc()

```
microcontroller.Adc.Adc ( )
```

ADC instance constructor

4.2.2 Member Function Documentation

4.2.2.1 addChannel()

```
void microcontroller.Adc.addChannel (
            AdcChannel channel )
```

Add ADC's channel

Parameters

channel	Channel

4.2.2.2 addClock()

```
void microcontroller.Adc.addClock (
            String clock )
```

Add ADC supported clock source

Parameters

clock	Clock source

4.2.2.3 addJustification()

```
void microcontroller.Adc.addJustification (
```

```
            String justification )
```

Add ADC's supported bits justification

Parameters

justification	Bits justification

4.2.2.4 addPrescaler()

```
void microcontroller.Adc.addPrescaler (
            String prescaler )
```

Add ADC's supported clock prescaler

Parameters

prescaler	Clock prescaler

4.2.2.5 addReference()

```
void microcontroller.Adc.addReference (
            String reference )
```

Add ADC's supported voltage references

Parameters

reference	Voltage references

4.2.2.6 addResolution()

```
void microcontroller.Adc.addResolution (
            String resolution )
```

Add ADC's supported bits resolution

Parameters

resolution	bits resolution

4.2.2.7 addSample()

```
void microcontroller.Adc.addSample (
            String sample )
```

Add ADC supported samples

Parameters

sample	Sample definition

4.2.2.8 getChannel()

```
AdcChannel microcontroller.Adc.getChannel (
            int index )
```

Get ADC's channel

Parameters

index	Channel index

Returns

Channel

4.2.2.9 getChannelNum()

```
int microcontroller.Adc.getChannelNum ( )
```

Get ADC's number of channels

Returns

Number of channels

4.2.2.10 getClock()

```
String microcontroller.Adc.getClock (
            int index )
```

Get ADC's clock source

Parameters

index	Clock source index

Returns

Clock source

4.2.2.11 getClockNum()

```
int microcontroller.Adc.getClockNum ( )
```

Get ADCs number of clock sources

Returns

Number of clock sources

4.2.2.12 getJustification()

```
String microcontroller.Adc.getJustification (
            int index )
```

Get ADC's bits justification

Parameters

index	bits justification index

Returns

Bits justification

4.2.2.13 getJustificationNum()

```
int microcontroller.Adc.getJustificationNum ( )
```

Get ADC's number of supported justifications

Returns

Number of supported justifications

4.2.2.14 getName()

```
String microcontroller.Adc.getName ( )
```

Get ADCs instance name

Returns

Instance name

4.2.2.15 getPrescaler()

```
String microcontroller.Adc.getPrescaler (
            int index )
```

Get ADC's clock prescaler

Parameters

index	Clock prescaler index

Returns

Clock prescaler

4.2.2.16 getPrescalerNum()

```
int microcontroller.Adc.getPrescalerNum ( )
```

Get ADC's number of supported prescalers

Returns

Number of supported prescalers

4.2.2.17 getReference()

```
String microcontroller.Adc.getReference (
            int index )
```

Get ADC's voltage references

Parameters

index	Voltage references index

Returns

Voltage references

4.2.2.18 getReferenceNum()

```
int microcontroller.Adc.getReferenceNum ( )
```

Get ADC's number of supported voltage references

Returns

Number of supported voltage references

4.2.2.19 getResolution()

```
String microcontroller.Adc.getResolution (
            int index )
```

Get ADC's bits resolution

Parameters

index	bits resolution index

Returns

bits resolution

4.2.2.20 getResolutionNum()

```
int microcontroller.Adc.getResolutionNum ( )
```

Get ADC's number of supported bits resolutions

Returns

Number of supported bits resolutions

4.2.2.21 getSample()

```
String microcontroller.Adc.getSample (
            int index )
```

Get ADC's Sample definition

Parameters

index	sample definition index

Returns

Sample definition

4.2.2.22 getSampleNum()

```
int microcontroller.Adc.getSampleNum ( )
```

Get ADCs number of samples definitions

Returns

Number of samples definitions

4.2.2.23 isValid()

```
boolean microcontroller.Adc.isValid ( )
```

Check validity of ADC

Returns

True if valid

4.2.2.24 setName()

```
void microcontroller.Adc.setName (
            String name )
```

Set ADCs instance name

Parameters

name	Instance name

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

- src/microcontroller/Adc.java

4.3 configurator.ADC.AdcChannel Class Reference

Public Member Functions

- **AdcChannel** (String name, int pinIndex)
- String getName ()
- String getCodeName ()
- void setCodeName (String codeName)
- boolean isSelected ()
- void setSelected (boolean selected)
- int getPinIndex ()
- boolean isValid ()

Static Public Attributes

- static final String **INVALID_NAME** = ErrorCode.STR_INVALID
- static final int **INVALID_INDEX** = ErrorCode.INT_INVALID_INDEX

4.3.1 Member Function Documentation

4.3.1.1 getCodeName()

```
String configurator.ADC.AdcChannel.getCodeName ( )
```

Get ADC channel's code name

Returns

ADC channel's code name

4.3.1.2 getName()

```
String configurator.ADC.AdcChannel.getName ( )
```

Get ADC channel's name

Returns

ADC channel's name

4.3.1.3 getPinIndex()

```
int configurator.ADC.AdcChannel.getPinIndex ( )
```

Get ADC channel's pin index

Returns

4.3.1.4 isSelected()

```
boolean configurator.ADC.AdcChannel.isSelected ( )
```

Get ADC channel's selection

Returns

ADC channel's selection

4.3.1.5 isValid()

```
boolean configurator.ADC.AdcChannel.isValid ( )
```

Check channel validity

Returns

True if valid

4.3.1.6 setCodeName()

```
void configurator.ADC.AdcChannel.setCodeName (
            String codeName )
```

Set ADC channel's code name

Parameters

codeName	ADC channel's code name

4.3.1.7 setSelected()

```
void configurator.ADC.AdcChannel.setSelected (
            boolean selected )
```

Set ADC channel's selection

Parameters

selected	

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

- src/configurator/ADC/AdcChannel.java

4.4 configurator.AdcConf Class Reference

Public Member Functions

- AdcConf (Adc adc)
- Selected getSelected ()
- void setSelected (Selected selection)
- String getCodeName ()
- void setCodeName (String codeName)
- String getSample ()
- void setSample (String sample)
- String getClock ()
- void setClock (String clock)
- String getJustification ()
- void setJustification (String justification)
- String getPrescaler ()
- void setPrescaler (String prescaler)
- String getResolution ()
- void setResolution (String resolution)
- String getReference ()
- void setReference (String reference)
- void setChannels (Adc adc)

Public Attributes

- Adc **AdcFeatures**

Static Public Attributes

- static final Selected DF_SELECTED = Selected.NOT
- static final String **STR_NAME** = "name"
- static final String **STR_CODE_NAME** = "codeName"
- static final String **STR_SAMPLE** = "sample"
- static final String **STR_CLOCK** = "clock"
- static final String **STR_JUSTIFICATION** = "justification"
- static final String **STR_PRESCALER** = "prescaler"
- static final String **STR_RESOLUTION** = "resolution"
- static final String **STR_REFERENCE** = "reference"

4.4.1 Constructor & Destructor Documentation

4.4.1.1 AdcConf()

```
configurator.AdcConf.AdcConf (
            Adc adc )
```

ADC configuration constructor

Parameters

adc	ADC instance

4.4.2 Member Function Documentation

4.4.2.1 getClock()

```
String configurator.AdcConf.getClock ( )
```

Get ADC's configured clock

Returns

ADC's configured clock

4.4.2.2 getCodeName()

```
String configurator.AdcConf.getCodeName ( )
```

Get ADC's code name

Returns

ADC's code name

4.4.2.3 getJustification()

```
String configurator.AdcConf.getJustification ( )
```

Get ADC's configured justification

Returns

ADC's configured justification

4.4.2.4 getPrescaler()

```
String configurator.AdcConf.getPrescaler ( )
```

Get ADC's prescaler

Returns

ADC's prescaler

4.4.2.5 getReference()

```
String configurator.AdcConf.getReference ( )
```

Get ADC's configured reference

Returns

ADC's configured reference

4.4.2.6 getResolution()

```
String configurator.AdcConf.getResolution ( )
```

Get ADC's configured resolution

Returns

ADC's configured resolution

4.4.2.7 getSample()

```
String configurator.AdcConf.getSample ( )
```

Get ADC's configured samples

Returns

ADC's configured samples

4.4.2.8 getSelected()

```
Selected configurator.AdcConf.getSelected ( )
```

Get the ADC's selection

Returns

Selection

4.4.2.9 setChannels()

```
void configurator.AdcConf.setChannels (
            Adc adc )
```

Set ADC channels

Parameters

adc	ADC instance

4.4.2.10 setClock()

```
void configurator.AdcConf.setClock (
            String clock )
```

Set ADC's configured clock

Parameters

clock	ADC's configured clock

4.4.2.11 setCodeName()

```
void configurator.AdcConf.setCodeName (
            String codeName )
```

Set Get ADC's code name

Parameters

codeName	ADC's code name

4.4.2.12 setJustification()

```
void configurator.AdcConf.setJustification (
            String justification )
```

Set ADC's configured justification

Parameters

justification	ADC's configured justification

4.4.2.13 setPrescaler()

```
void configurator.AdcConf.setPrescaler (
            String prescaler )
```

Set ADC's prescaler

Parameters

prescaler	ADC's prescaler

4.4.2.14 setReference()

```
void configurator.AdcConf.setReference (
            String reference )
```

Set ADC's configured reference

Parameters

reference	ADC's configured reference

4.4.2.15 setResolution()

```
void configurator.AdcConf.setResolution (
            String resolution )
```

Set ADC's configured resolution

Parameters

resolution	ADC's configured resolution

4.4.2.16 setSample()

```
void configurator.AdcConf.setSample (
            String sample )
```

Get ADC's configured samples

Parameters

sample	ADC's configured samples

4.4.2.17 setSelected()

```
void configurator.AdcConf.setSelected (
```

```
            Selected selection )
```

Set the ADC's selection

Parameters

selection	Selection

4.4.3 Member Data Documentation

4.4.3.1 DF_SELECTED

```
final Selected configurator.AdcConf.DF_SELECTED = Selected.NOT  [static]
```

Default Pin's selection

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

- src/configurator/AdcConf.java

4.5 gui.AdcConfWindow Class Reference

Public Member Functions

- AdcConfWindow (Microcontroller uCtrl)

Static Public Member Functions

- static void main (String[ ] args)

4.5.1 Constructor & Destructor Documentation

4.5.1.1 AdcConfWindow()

```
gui.AdcConfWindow.AdcConfWindow (
            Microcontroller uCtrl )
```

Create the application.

Parameters

uCtrl	Microcontroller

4.5.2 Member Function Documentation

4.5.2.1 main()

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

Launch the application.

Parameters

args	General arguments

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

- src/gui/AdcConfWindow.java

4.6 framework.AdcGenerator Class Reference

Static Public Member Functions

- static String **getCfgArray** (Microcontroller uC)
- static String getElDefs (Microcontroller uC)
- static String getElements (Microcontroller uC)
- static String getIncludes (Microcontroller uC)
- static String **getCfgDefinitions** (Microcontroller uC)

Static Public Attributes

- static final String **STR_TKN_CFG_ARRAY** = "FWK_ADC_CFG_ARRAY"
- static final String **STR_TKN_ELEMENTS** = "FWK_ADC_ELEMENTS"
- static final String **STR_TKN_INC** = "FWK_ADC_INCLUDES"
- static final String **STR_TKN_CFG_DEFS** = "FWK_ADC_CFG_DEFINITIONS"
- static final String **STR_TKN_EL_DEFS** = "FWK_ADC_ELEMENTS_DEFINITIONS"

4.6.1 Member Function Documentation

4.6.1.1 getElDefs()

```
static String framework.AdcGenerator.getElDefs (
            Microcontroller uC )  [static]
```

Parameters

uC	Microcontroller used

Returns

Elements definitions as String

4.6.1.2 getElements()

```
static String framework.AdcGenerator.getElements (
            Microcontroller uC )  [static]
```

Parameters

uC	Microcontroller used

Returns

Elements list as String

4.6.1.3 getIncludes()

```
static String framework.AdcGenerator.getIncludes (
            Microcontroller uC )  [static]
```

Parameters

uC	Microcontroller used

Returns

Headers needed for GPIO module

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

- src/framework/AdcGenerator.java

4.7 configurator.GPIO.AltMode Enum Reference

Static Public Member Functions

- static AltMode getConfFromString (String conf)

Public Attributes

- ALT_MODE_ANALOG
- ALT_MODE_UART
- ALT_MODE_I2C
- ALT_MODE_SPI
- ALT_MODE_NONE
- ALT_MODE_MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "AltMode"

4.7.1 Detailed Description

GPIO modes

Author

Miguel Diaz

Version

0.1

4.7.2 Member Function Documentation

4.7.2.1 getConfFromString()

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

Get the corresponding mode from its name as String

Parameters

conf	Configuration name

Returns

Mode

4.7.3 Member Data Documentation

4.7.3.1 ALT_MODE_ANALOG

`configurator.GPIO.AltMode.ALT_MODE_ANALOG`

Analog

4.7.3.2 ALT_MODE_I2C

`configurator.GPIO.AltMode.ALT_MODE_I2C`

I2C

4.7.3.3 ALT_MODE_MAX_VALUE

`configurator.GPIO.AltMode.ALT_MODE_MAX_VALUE`

Maximum value for Mode enum

4.7.3.4 ALT_MODE_NONE

`configurator.GPIO.AltMode.ALT_MODE_NONE`

No alternate mode

4.7.3.5 ALT_MODE_SPI

`configurator.GPIO.AltMode.ALT_MODE_SPI`

SPI

4.7.3.6 ALT_MODE_UART

```
configurator.GPIO.AltMode.ALT_MODE_UART
```

UART

4.7.3.7 STR_NAME

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

Name as String

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

- src/configurator/GPIO/AltMode.java

4.8 framework.CodeGenerator Class Reference

Public Member Functions

- CodeGenerator (Microcontroller uC, ProjectSettings projectSettings)
- ErrorCode Generate ()

Static Public Attributes

- static final String **STR_TKN_CFG_DEFS_COMMON** = "FWK_GPIO_COMMON_DEFINITIONS"
- static final String **STR_TKN_CFG_DEFS_GPIO** = "FWK_GPIO_CFG_DEFINITIONS"

4.8.1 Detailed Description

Author

ovd

4.8.2 Constructor & Destructor Documentation

4.8.2.1 CodeGenerator()

```
framework.CodeGenerator.CodeGenerator (
            Microcontroller uC,
            ProjectSettings projectSettings )
```

Constructor

Parameters

uC	Project's microcontroller
projectSettings	Project's settings

4.8.3 Member Function Documentation

4.8.3.1 Generate()

```
ErrorCode framework.CodeGenerator.Generate ( )
```

Generate project's configuration files

Returns

Error code

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

- src/framework/CodeGenerator.java

4.9 configurator.GPIO.CodeName Enum Reference

Public Attributes

- CODE_NAME

Static Public Attributes

- static final String STR_NAME = "codeName"

4.9.1 Detailed Description

Author

Miguel Diaz

Version

0.1

4.9.2 Member Data Documentation

4.9.2.1 CODE_NAME

```
configurator.GPIO.CodeName.CODE_NAME
```

Code name for pin

4.9.2.2 STR_NAME

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

Name as String

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

- src/configurator/GPIO/CodeName.java

4.10 framework.Common Class Reference

Static Public Member Functions

- static String getInstallationFwkPath ()
- static void setInstallationFwkPath (String installationFwkPath)
- static String getProjectFwkPath ()
- static void setProjectFwkPath (String projectFwkPath)
- static String getCfgPath (String fwkPath, String cfgModule)
- static String getCfgFileCPath (String fwkPath, String cfgModule)
- static String getCfgFileHPath (String fwkPath, String cfgModule)
- static String getFrameworkCommonFilePath (String fwkPath)
- static String getFrameworkIncludesFilePath (String fwkPath)
- static String getCommonIncludes (Microcontroller uC)
- static String getCommonCfgDefinitions (Microcontroller uC)

Static Public Attributes

- static final String NL = "\r\n"
- static final String STR_GEN_CODE_NOTICE_HEADER
- static final String STR_GEN_CODE_NOTICE_FOOTER
- static final String STR_MODULE_GPIO = "gpio"
- static final String STR_MODULE_ADC = "adc"
- static final String STR_DEFINITION = "#define "
- static final String STR_INCLUDE = "#include "
- static final String STR_HEADER_EXT = ".h"

4.10.1 Detailed Description

Framework common fields and methods

Author

Miguel Diaz

Version

0.1

4.10.2 Member Function Documentation

4.10.2.1 getCfgFileCPath()

```
static String framework.Common.getCfgFileCPath (
             String fwkPath,
             String cfgModule )  [static]
```

Get GPIO configuration file path

Parameters

fwkPath	Framework folder path
cfgModule	Configuration module name

Returns

GPIO configuration file path

4.10.2.2 getCfgFileHPath()

```
static String framework.Common.getCfgFileHPath (
             String fwkPath,
             String cfgModule )  [static]
```

Get GPIO configuration header file path

Parameters

fwkPath	Framework folder path
cfgModule	Configuration module name

Returns

GPIO configuration header file path

4.10.2.3 getCfgPath()

```
static String framework.Common.getCfgPath (
            String fwkPath,
            String cfgModule )  [static]
```

Get configuration module files folder path

Parameters

fwkPath	Framework folder path
cfgModule	Configuration module name

Returns

Configuration files folder path

4.10.2.4 getCommonCfgDefinitions()

```
static String framework.Common.getCommonCfgDefinitions (
            Microcontroller uC )  [static]
```

Get Framework Common definitions

Parameters

uC	Microcontroller used

Returns

Common definitions needed for framework

4.10.2.5 getCommonIncludes()

```
static String framework.Common.getCommonIncludes (
            Microcontroller uC ) [static]
```

Get Framework common headers

Parameters

uC	Microcontroller used

Returns

Common headers needed for framework

4.10.2.6 getFrameworkCommonFilePath()

```
static String framework.Common.getFrameworkCommonFilePath (
            String fwkPath ) [static]
```

Get the framework common header path

Parameters

fwkPath	Framework folder path

Returns

Framework common header path

4.10.2.7 getFrameworkIncludesFilePath()

```
static String framework.Common.getFrameworkIncludesFilePath (
            String fwkPath ) [static]
```

Get the framework includes header path

Parameters

fwkPath	Framework folder path

Returns

Framework includes header path

4.10.2.8 getInstallationFwkPath()

```
static String framework.Common.getInstallationFwkPath ( )  [static]
```

Get installation framework path

Returns

installation framework path

4.10.2.9 getProjectFwkPath()

```
static String framework.Common.getProjectFwkPath ( )  [static]
```

Get project's framework path

Returns

project's framework path

4.10.2.10 setInstallationFwkPath()

```
static void framework.Common.setInstallationFwkPath (
            String installationFwkPath )  [static]
```

Set installation framework path

Parameters

installationFwkPath	installation framework path

4.10.2.11 setProjectFwkPath()

```
static void framework.Common.setProjectFwkPath (
            String projectFwkPath )  [static]
```

Set project's framework path

Parameters

projectFwkPath	project's framework path

4.10.3 Member Data Documentation

4.10.3.1 NL

```
final String framework.Common.NL = "\r\n"  [static]
```

Common implementation of New Line

4.10.3.2 STR_DEFINITION

```
final String framework.Common.STR_DEFINITION = "#define "  [static]
```

Macro definition String

4.10.3.3 STR_GEN_CODE_NOTICE_FOOTER

```
final String framework.Common.STR_GEN_CODE_NOTICE_FOOTER  [static]
```

Initial value:

```
= "// ################### " + Features.GENERATOR_NAME
            + " generator v" + common.Features.SW_VERSION + ": Generated code! #################" + NL
            + "// ######## Do NOT modify code between this footer and the header above #######"
```

Footer for indicating generated code

4.10.3.4 STR_GEN_CODE_NOTICE_HEADER

```
final String framework.Common.STR_GEN_CODE_NOTICE_HEADER  [static]
```

Initial value:

```
= "// ################## " + Features.GENERATOR_NAME
            + " generator v" + common.Features.SW_VERSION + ": Generated code! ################" + NL
            + "// ######## Do NOT modify code between this header and the footer below #######"
```

Header for indicating generated code

4.10.3.5 STR_HEADER_EXT

```
final String framework.Common.STR_HEADER_EXT = ".h"  [static]
```

Header file extension

4.10.3.6 STR_INCLUDE

```
final String framework.Common.STR_INCLUDE = "#include "  [static]
```

Include header file string

4.10.3.7 STR_MODULE_ADC

```
final String framework.Common.STR_MODULE_ADC = "adc"  [static]
```

GPIO module name

4.10.3.8 STR_MODULE_GPIO

```
final String framework.Common.STR_MODULE_GPIO = "gpio"  [static]
```

GPIO module name

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

- src/framework/Common.java

4.11 configurator.ConfigurationFile Class Reference

Static Public Attributes

- static final String STR_PROJ_CONF_FILE = "cgs"

4.11.1 Detailed Description

Configuration files properties

Author

Miguel Diaz

Version

0.1

4.11.2 Member Data Documentation

4.11.2.1 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

4.12 xmlCreator.ConfXmlWriter Class Reference

Public Member Functions

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

4.12.1 Detailed Description

Write a XML file

Author

Miguel Diaz

Version

0.1

4.12.2 Constructor & Destructor Documentation

4.12.2.1 ConfXmlWriter()

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

Constructor

Parameters

uC	Microcontroller configuration

4.12.3 Member Function Documentation

4.12.3.1 addPin()

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

Add a pin configuration to the file

Parameters

pin	Pin configuration
pinNum	Number of GPIO pin

4.12.3.2 writeXml()

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

Write the XML file

Parameters

fileName	Name of XML configuration file

Returns

Error status

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

- src/xmlCreator/ConfXmlWriter.java

4.13 common.ErrorCode Enum Reference

Public Attributes

- NO_ERROR
- EX_ERROR
- FILE_READ_ERROR
- FILE_WRITE_ERROR
- FILE_CONF_ERROR

Static Public Attributes

- static final String STR_INVALID = "STR_INVALID"
- static final int INT_INVALID_INDEX = -1

4.13.1 Detailed Description

Error codes enum

Author

Miguel Diaz

Version

0.1

4.13.2 Member Data Documentation

4.13.2.1 EX_ERROR

`common.ErrorCode.EX_ERROR`

Error during execution

4.13.2.2 FILE_CONF_ERROR

`common.ErrorCode.FILE_CONF_ERROR`

File configuration error

4.13.2.3 FILE_READ_ERROR

`common.ErrorCode.FILE_READ_ERROR`

File reading error

4.13.2.4 FILE_WRITE_ERROR

`common.ErrorCode.FILE_WRITE_ERROR`

File writing error

4.13.2.5 INT_INVALID_INDEX

```
final int common.ErrorCode.INT_INVALID_INDEX = -1  [static]
```

Invalid index

4.13.2.6 NO_ERROR

`common.ErrorCode.NO_ERROR`

No error message

4.13.2.7 STR_INVALID

```
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

4.14 common.Features Class Reference

Static Public Member Functions

- static void verbosePrint (String verboseMessage)
- static void debugPrint (String debugMessage)
- static void **initLog** ()

Static Public Attributes

- static final boolean DEBUG = true
- static final boolean VERBOSE = true
- static boolean **LOG_FILE** = 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 = "Dagobah"
- static final String **GENERATOR_NAME** = "Kamino"

4.14.1 Detailed Description

Class that includes all project features

Author

Miguel Diaz

Version

0.1

4.14.2 Member Function Documentation

4.14.2.1 debugPrint()

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

Print Debug message to console

Parameters

debugMessage	Message to display

4.14.2.2 verbosePrint()

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

Print Verbose message to console

Parameters

verboseMessage	Message to display

4.14.3 Member Data Documentation

4.14.3.1 DEBUG

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

Enables debug functions

4.14.3.2 DEBUG_STR

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

Debug messages indicator on system console

4.14.3.3 SW_VERSION

```
final String common.Features.SW_VERSION = VERSION_MAJOR + "." + VERSION_MINOR + "." + VERSION_PA↩
TCH  [static]
```

Complete Software version

4.14.3.4 VERBOSE

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

Enables console messages

4.14.3.5 VERBOSE_STR

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

Verbose messages indicator on system console

4.14.3.6 VERSION_NAME

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

Code name of the software version

4.14.3.7 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

4.15 gui.GpioConfWindow Class Reference

Public Member Functions

- GpioConfWindow (Microcontroller uCtrl)

Static Public Member Functions

- static void main (String[ ] args)

4.15.1 Detailed Description

Window for configuring GPIO pins

Author

Miguel Diaz

Version

0.1

4.15.2 Constructor & Destructor Documentation

4.15.2.1 GpioConfWindow()

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

Create the GPIO configuration window and show it

Parameters

uCtrl	Microcontroller object containing all pin's information

4.15.3 Member Function Documentation

4.15.3.1 main()

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

Gpio configuration window main

Parameters

args	Init parameters

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

- src/gui/GpioConfWindow.java

4.16 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 showAdcConfWindow ()
- static void setNewUC (Microcontroller uC)
- static void saveUc ()
- static ErrorCode generateCode ()

Static Public Attributes

- static File ProjectFile
- static String ProjectPath

4.16.1 Detailed Description

Main GUI state machine

Author

Miguel Diaz

Version

0.1

4.16.2 Member Function Documentation

4.16.2.1 generateCode()

```
static ErrorCode gui.MainGui.generateCode ( )  [static]
```

Generate source code files

Returns

Error code

4.16.2.2 loadProjectFile()

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

Load the project settings file

Parameters

inFile	Settings file

Returns

Error status

4.16.2.3 main()

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

Parameters

args	TBD

4.16.2.4 saveUc()

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

Save the microcontroller's configuration to disk

4.16.2.5 setNewUC()

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

Set the project's microcontroller configuration

Parameters

uC	Microcontroller configuration

4.16.2.6 showAboutWindow()

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

Show about information window

4.16.2.7 showAdcConfWindow()

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

Show the ADCs configuration window

4.16.2.8 showErrorDialog()

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

Show an error dialog

Parameters

message	Message to display

4.16.2.9 showGpioConfWindow()

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

Show the GPIOs configuration window

4.16.3 Member Data Documentation

4.16.3.1 ProjectFile

```
File gui.MainGui.ProjectFile  [static]
```

Project configuration file

4.16.3.2 ProjectPath

```
String gui.MainGui.ProjectPath  [static]
```

Project's location

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

- src/gui/MainGui.java

4.17 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

4.17.1 Detailed Description

Main application window

Author

Miguel Diaz

Version

0.1

4.17.2 Constructor & Destructor Documentation

4.17.2.1 MainWindow()

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

Create the application.

4.17.3 Member Function Documentation

4.17.3.1 main()

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

Open main window

Parameters

args	To be determined

4.17.3.2 OpenFileChooser()

```
File gui.MainWindow.OpenFileChooser (
            String initialPath,
```

```
            String title,
            FileNameExtensionFilter fileFilter )
```

Open file chooser dialog and get the selected file

Parameters

initialPath	Path to search the file in
title	Dialog title
fileFilter	Extension filter

Returns

Selected file

4.17.3.3 setProjectInformation()

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

Set Project's name in its label

Parameters

projectName	Project's name
ucManufacturer	Microcontroller's manufacturer
ucName	Microcontroller's model

Returns

Error status

4.17.3.4 setVisible()

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

Set visibility of About window

Parameters

status	true if visible

4.17.4 Member Data Documentation

4.17.4.1 FrmCodeGenerator

```
JFrame gui.MainWindow.FrmCodeGenerator
```

Frame for the main Window

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

- src/gui/MainWindow.java

4.18 gui.Messages Class Reference

Static Public Member Functions

- static String getString (String key)

4.18.1 Detailed Description

Messages window

Author

ovd

4.18.2 Member Function Documentation

4.18.2.1 getString()

```
static String gui.Messages.getString (
            String key )  [static]
```

Get String

Parameters

key	Key

Returns

String

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

- src/gui/Messages.java

4.19 microcontroller.Microcontroller Class Reference

Public Member Functions

- Microcontroller (Document ucDoc)
- ErrorCode processDocument ()
- ErrorCode loadPinsConf (Document confDoc)
- ErrorCode **loadAdcsConf** (Document confDoc)
- Pin getPin (int pinNum)
- String getUc_model ()
- String getUc_manufacturer ()
- int getUc_pinNum ()
- int getUc_gpioNum ()
- int getUc_portNum ()
- int getUc_adcNum ()
- int getUc_selectedPinsNum ()
- int getUc_selectedAdcsNum ()
- PinConf getConfiguredPin (String gpioName)
- boolean isValid ()

Public Attributes

- String[ ] Ports
- String[ ] Includes_Common
- String[ ] Includes_Gpio
- String[ ] Includes_Adc
- String[ ] Definitions_Common
- String[ ] Definitions_Gpio
- String[ ] Definitions_Adc
- PinConf[ ] GpioCfgPin
- String[ ] Adcs
- AdcConf[ ] AdcCfg

Static Public Attributes

- static final int MAX_NUMBER_OF_PINS_PER_PORT = 32
- static final int MAX_NUMBER_OF_ADCS = 16

4.19.1 Detailed Description

Microcontroller related methods

Author

Miguel Diaz

Version

0.1

4.19.2 Constructor & Destructor Documentation

4.19.2.1 Microcontroller()

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

Constructor

Parameters

ucDoc	Document obtained from XML file

4.19.3 Member Function Documentation

4.19.3.1 getConfiguredPin()

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

Get the configuration of a pin

Parameters

gpioName	Name of the pin

Returns

Pin configuration

4.19.3.2 getPin()

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

Get a pin's characteristics

Parameters

pinNum	Number of pin

Returns

Pin's characteristics

4.19.3.3 getUc_adcNum()

```
int microcontroller.Microcontroller.getUc_adcNum ( )
```

Get the number of ADCs in the microcontroller

Returns

Number of ADCs

4.19.3.4 getUc_gpioNum()

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

Get the number of GPIOs in the microcontroller

Returns

Number of GPIOs

4.19.3.5 getUc_manufacturer()

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

Get the microcontroller's manufacturer

Returns

Microcontroller's manufacturer

4.19.3.6 getUc_model()

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

Get the microcontroller's model

Returns

Microcontroller's model

4.19.3.7 getUc_pinNum()

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

Get the microcontroller's pins number

Returns

Number of pins

4.19.3.8 getUc_portNum()

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

Get the number of ports in the microcontroller

Returns

Number of ports

4.19.3.9 getUc_selectedAdcsNum()

```
int microcontroller.Microcontroller.getUc_selectedAdcsNum ( )
```

Get the total ADCs selected

Returns

Total of ADCs selected

4.19.3.10 getUc_selectedPinsNum()

```
int microcontroller.Microcontroller.getUc_selectedPinsNum ( )
```

Get the total pins selected

Returns

Total of pins selected

4.19.3.11 isValid()

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

Check if the microcontroller configuration is valid

Returns

true if valid

4.19.3.12 loadPinsConf()

```
ErrorCode microcontroller.Microcontroller.loadPinsConf (
            Document confDoc )
```

Load pins' configuration

Parameters

confDoc	Document with pins

Returns

Error Code

4.19.3.13 processDocument()

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

Process the document obtained from XML file

Returns

Error status

4.19.4 Member Data Documentation

4.19.4.1 AdcCfg

```
AdcConf [] microcontroller.Microcontroller.AdcCfg
```

Configured ADCs list

4.19.4.2 Adcs

```
String [] microcontroller.Microcontroller.Adcs
```

List of ADCs

4.19.4.3 Definitions_Adc

```
String [] microcontroller.Microcontroller.Definitions_Adc
```

List of definitions for ADC module

4.19.4.4 Definitions_Common

```
String [] microcontroller.Microcontroller.Definitions_Common
```

List of common definitions that will be available for all framework

4.19.4.5 Definitions_Gpio

```
String [] microcontroller.Microcontroller.Definitions_Gpio
```

List of definitions for GPIO module

4.19.4.6 GpioCfgPin

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

Configured pins list

4.19.4.7 Includes_Adc

```
String [] microcontroller.Microcontroller.Includes_Adc
```

List of Includes for ADC module

4.19.4.8 Includes_Common

```
String [] microcontroller.Microcontroller.Includes_Common
```

List of common includes that will be available for all framework

4.19.4.9 Includes_Gpio

```
String [] microcontroller.Microcontroller.Includes_Gpio
```

List of Includes for GPIO module

4.19.4.10 MAX_NUMBER_OF_ADCS

```
final int microcontroller.Microcontroller.MAX_NUMBER_OF_ADCS = 16  [static]
```

Maximum number of ADCs allowed

4.19.4.11 MAX_NUMBER_OF_PINS_PER_PORT

```
final int microcontroller.Microcontroller.MAX_NUMBER_OF_PINS_PER_PORT = 32  [static]
```

Maximum number of pins allowed in a single port

4.19.4.12 Ports

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

Ports name list

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

- src/microcontroller/Microcontroller.java

4.20 configurator.GPIO.Mode Enum Reference

Static Public Member Functions

- static Mode getConfFromString (String conf)

Public Attributes

- MODE_INPUT
- MODE_OUTPUT
- MODE_ALTERNATE_FUNCTION
- MODE_MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "Mode"

4.20.1 Detailed Description

GPIO modes

Author

Miguel Diaz

Version

0.1

4.20.2 Member Function Documentation

4.20.2.1 getConfFromString()

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

Get the corresponding mode from its name as String

Parameters

conf	Configuration name

Returns

Mode

4.20.3 Member Data Documentation

4.20.3.1 MODE_ALTERNATE_FUNCTION

```
configurator.GPIO.Mode.MODE_ALTERNATE_FUNCTION
```

Alternate function

4.20.3.2 MODE_INPUT

```
configurator.GPIO.Mode.MODE_INPUT
```

Input

4.20.3.3 MODE_MAX_VALUE

```
configurator.GPIO.Mode.MODE_MAX_VALUE
```

Maximum value for Mode enum

4.20.3.4 MODE_OUTPUT

```
configurator.GPIO.Mode.MODE_OUTPUT
```

Output

4.20.3.5 STR_NAME

```
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

4.21 configurator.GPIO.OutLevel Enum Reference

Static Public Member Functions

- static OutLevel getConfFromString (String conf)

Public Attributes

- LOW
- HIGH
- MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "OutLevel"

4.21.1 Detailed Description

Pin's output/input level

Author

Miguel Diaz

Version

0.1

4.21.2 Member Function Documentation

4.21.2.1 getConfFromString()

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

Get the corresponding mode from its name as String

Parameters

conf	Configuration name

Returns

level

4.21.3 Member Data Documentation

4.21.3.1 HIGH

`configurator.GPIO.OutLevel.HIGH`

High, logical 1, Vcc

4.21.3.2 LOW

`configurator.GPIO.OutLevel.LOW`

Low, logical 0, Ground

4.21.3.3 MAX_VALUE

`configurator.GPIO.OutLevel.MAX_VALUE`

Maximum value for OutLevel enum

4.21.3.4 STR_NAME

`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

4.22 configurator.GPIO.OutType Enum Reference

Static Public Member Functions

- static OutType getConfFromString (String conf)

Public Attributes

- OTYPE_PUSH_PULL
- OTYPE_OPEN_DRAIN
- OTYPE_NOT_AVAILABLE
- OTYPE_MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "OutType"

4.22.1 Detailed Description

Pin's output type

Author

Miguel Diaz

Version

0.1

4.22.2 Member Function Documentation

4.22.2.1 getConfFromString()

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

Get the corresponding output type from its name as String

Parameters

conf	Configuration name

Returns

Output type

4.22.3 Member Data Documentation

4.22.3.1 OTYPE_MAX_VALUE

`configurator.GPIO.OutType.OTYPE_MAX_VALUE`

Maximum value for OutType enum

4.22.3.2 OTYPE_NOT_AVAILABLE

`configurator.GPIO.OutType.OTYPE_NOT_AVAILABLE`

If the pin is configured as input

4.22.3.3 OTYPE_OPEN_DRAIN

`configurator.GPIO.OutType.OTYPE_OPEN_DRAIN`

Open Drain

4.22.3.4 OTYPE_PUSH_PULL

`configurator.GPIO.OutType.OTYPE_PUSH_PULL`

Push Pull, totem

4.22.3.5 STR_NAME

`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

4.23 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 setFunc_reset (boolean funcState)
- boolean getFunc_reset ()
- void setFunc_misc (boolean funcState)
- boolean getFunc_misc ()
- 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 instance, String channel)
- String getAdc ()
- String getAdcChannel ()
- 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 ()
- String getPortPin ()
- void setPortPin (String portPin)
- 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

4.23.1 Detailed Description

Basic pin object.

- Pin necessary characteristics:
  - Name
  - Number
- Pin optional characteristics:
  - Port
- Pin main functions:
  - VCC
  - GND
  - GPIO
  - RESET
  - MISC
- Pin features:
  - Interruption
  - ADC
  - UART
  - I2C
  - SPI
  - Clock
  - Reset

Author

Miguel Diaz

Version

0.1

4.23.2 Constructor & Destructor Documentation

4.23.2.1 Pin()

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

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

4.23.3 Member Function Documentation

4.23.3.1 getAdc()

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

Get the pin's ADC name

Returns

Pin's ADC

4.23.3.2 getAdcChannel()

```
String microcontroller.Pin.getAdcChannel ( )
```

Get the pin's ADC channel

Returns

Pin's ADC channel

4.23.3.3 getClock()

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

Get the pin's clock name

Returns

Pin's clock

4.23.3.4 getFeat_adc()

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

See if the pin has an ADC

Returns

Feature availability

4.23.3.5 getFeat_clock()

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

See if the pin supports a clock

Returns

Feature availability

4.23.3.6 getFeat_i2c()

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

See if the pin has I2C

Returns

Feature availability

4.23.3.7 getFeat_int()

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

See if the pin has an interruption

Returns

Feature availability

4.23.3.8 getFeat_reset()

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

See if the pin has a reset feature

Returns

Feature availability

4.23.3.9 getFeat_spi()

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

See if the pin has SPI

Returns

Feature availability

4.23.3.10 getFeat_timer()

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

See if the pin supports a timer

Returns

Feature availability

4.23.3.11 getFeat_uart()

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

See if the pin has a UART

Returns

Feature availability

4.23.3.12 getFunc_gnd()

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

See if the pin is GND

Returns

Function availability

4.23.3.13 getFunc_gpio()

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

See if the pin is GPIO

Returns

Function availability

4.23.3.14 getFunc_misc()

```
boolean microcontroller.Pin.getFunc_misc ( )
```

See if the pin is MISC

Returns

Function availability

4.23.3.15 getFunc_reset()

```
boolean microcontroller.Pin.getFunc_reset ( )
```

See if the pin is RESET

Returns

Function availability

4.23.3.16 getFunc_vcc()

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

See if the pin is Vcc

Returns

Function availability

4.23.3.17 getI2c()

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

Get the pin's I2C name

Returns

Pin's I2C

4.23.3.18 getInt()

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

Get the pin's interruption name

Returns

Pin's interruption

4.23.3.19 getName()

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

Get the pin's name

Returns

Pin's name

4.23.3.20 getNumber()

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

Get the pin's number

Returns

Pin's number

4.23.3.21 getPort()

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

Get the pin's port

Returns

Pin's port

4.23.3.22 getPortPin()

```
String microcontroller.Pin.getPortPin ( )
```

Get port pin number

Returns

port pin number

4.23.3.23 getReset()

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

Get the pin's reset name

Returns

Pin's reset

4.23.3.24 getSpi()

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

Get the pin's SPI name

Returns

Pin's SPI

4.23.3.25 getTimer()

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

Get the pin's timer name

Returns

Pin's timer

4.23.3.26 getUart()

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

Get the pin's UART name

Returns

Pin's UART

4.23.3.27 isValid()

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

Check if the pin is correctly initialized

Returns

True if the pin is correctly initialized

4.23.3.28 setAdc()

```
void microcontroller.Pin.setAdc (
            String instance,
            String channel )
```

Set the pin's ADC

Parameters

feature	Pin's ADC

4.23.3.29 setClock()

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

Set the pin's clock

Parameters

feature	Pin's clock

4.23.3.30 setFeat_adc()

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

Set the pin's ADC feature

Parameters

featState	Feature availability

4.23.3.31 setFeat_clock()

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

Set the pin's Clock feature

Parameters

featState	Feature availability

4.23.3.32 setFeat_i2c()

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

Set the pin's I2C feature

Parameters

featState	Feature availability

4.23.3.33 setFeat_int()

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

Set the pin's interruption feature

Parameters

featState	Feature availability

4.23.3.34 setFeat_reset()

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

Set the pin's reset feature

Parameters

featState	Feature availability

4.23.3.35 setFeat_spi()

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

Set the pin's SPI feature

Parameters

featState	Feature availability

4.23.3.36 setFeat_timer()

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

Set the pin's timer feature

Parameters

featState	Feature availability

4.23.3.37 setFeat_uart()

```
void microcontroller.Pin.setFeat_uart (
```

```
            boolean featState )
```

Set the pin's UART feature

Parameters

featState	Feature availability

4.23.3.38 setFunc_gnd()

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

Set the pin to GND status

Parameters

funcState	Function availability

4.23.3.39 setFunc_gpio()

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

Set the pin to GPIO status

Parameters

funcState	Function availability

4.23.3.40 setFunc_misc()

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

Set the pin to MISC status

Parameters

funcState	Function availability

4.23.3.41 setFunc_reset()

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

Set the pin to RESET status

Parameters

funcState	Function availability

4.23.3.42 setFunc_vcc()

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

Set the pin to Vcc status

Parameters

funcState	Function availability

4.23.3.43 setI2c()

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

Set the pin's I2C

Parameters

feature	Pin's I2C

4.23.3.44 setInt()

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

Set the pin's interruption

Parameters

feature	Pin's interruption

4.23.3.45 setName()

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

Set the pin's name

Parameters

pinName	Pin's name

4.23.3.46 setNumber()

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

Set the pin's number

Parameters

pinNum	Pin's number

4.23.3.47 setPort()

```
void microcontroller.Pin.setPort (
```

```
            String pinPort )
```

Set the pin's port

Parameters

pinPort	Pin's port

4.23.3.48 setPortPin()

```
void microcontroller.Pin.setPortPin (
            String portPin )
```

Set port pin number

Parameters

portPin	Port pin number

4.23.3.49 setReset()

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

Set the pin's reset

Parameters

feature	Pin's reset

4.23.3.50 setSpi()

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

Set the pin's SPI

Parameters

feature	Pin's SPI

4.23.3.51 setTimer()

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

Set the pin's timer

Parameters

feature	Pin's timer

4.23.3.52 setUart()

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

Set the pin's UART

Parameters

feature	Pin's UART

4.23.4 Member Data Documentation

4.23.4.1 DEF_FEATURE

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

Default value for pin's feature as not available

4.23.4.2 DEF_FEATURE_AV

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

Default value for pin's feature availability as not available

4.23.4.3 DEF_FUNCTION

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

Default value for pin's function as not enabled

4.23.4.4 DEF_NAME

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

Default value for pin's name

4.23.4.5 DEF_NUMBER

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

Default value for pin's number

4.23.4.6 DEF_PORT

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

Default value for pin's port

4.23.4.7 DISABLE

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

Disable value for features and functions

4.23.4.8 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

4.24 configurator.PinConf Class Reference

Public Member Functions

- PinConf (Pin gpioPin)
- boolean isValid ()
- String getPort ()
- String getPortPin ()
- String getPinName ()
- String getCodeName ()
- void setCodeName (String name)
- Selected getSelected ()
- void setSelected (Selected selection)
- Mode getMode ()
- void setMode (Mode mode)
- AltMode getAltMode ()
- void setAltMode (AltMode altMode)
- 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_Uart ()
- boolean isAv_I2c ()
- boolean isAv_Spi ()
- boolean isAv_altFunc ()

Static Public Attributes

- static final Selected DF_SELECTED = Selected.NOT
- static final Mode DF_MODE = Mode.MODE_INPUT
- static final AltMode DF_ALT_MODE = AltMode.ALT_MODE_NONE
- 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
- static final String DF_CODE_NAME = ""

4.24.1 Detailed Description

GPIO pin configuration

Author

Miguel Diaz

Version

0.1

4.24.2 Constructor & Destructor Documentation

4.24.2.1 PinConf()

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

Constructor

Parameters

gpioPin	Pin information

4.24.3 Member Function Documentation

4.24.3.1 getAltMode()

```
AltMode configurator.PinConf.getAltMode ( )
```

Get pin's alternative mode

Returns

Alternative mode

4.24.3.2 getCodeName()

```
String configurator.PinConf.getCodeName ( )
```

Get the pin's user selected name

Returns

pin's name

4.24.3.3 getMode()

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

Get the pin's mode configuration

Returns

Mode

4.24.3.4 getOutLevel()

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

Get the pin's output level

Returns

Pin's output level

4.24.3.5 getOutType()

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

Get the pin's output configuration

Returns

Output configuration

4.24.3.6 getPinName()

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

Get the pin's number

Returns

Pin's number

4.24.3.7 getPort()

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

Get the pin's port

Returns

Port

4.24.3.8 getPortPin()

```
String configurator.PinConf.getPortPin ( )
```

Get the port pin number

Returns

Port pin number

4.24.3.9 getPull()

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

Get the pin's pull resistor configuration

Returns

Pull Resistor configuration

4.24.3.10 getSelected()

```
Selected configurator.PinConf.getSelected ( )
```

Get the pin's selection

Returns

Selection

4.24.3.11 getSpeed()

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

Get the pin's speed

Returns

Speed

4.24.3.12 isAv_Adc()

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

Check availability of ADC

Returns

True if ADC is available

4.24.3.13 isAv_altFunc()

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

Check the availability of alternate function

Returns

True if alternate function is available

4.24.3.14 isAv_I2c()

```
boolean configurator.PinConf.isAv_I2c ( )
```

Check availability of I2C

Returns

True if I2C is available

4.24.3.15 isAv_Spi()

```
boolean configurator.PinConf.isAv_Spi ( )
```

Check availability of SPI

Returns

True if SPI is available

4.24.3.16 isAv_Uart()

```
boolean configurator.PinConf.isAv_Uart ( )
```

Check availability of UART

Returns

True id UART is available

4.24.3.17 isValid()

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

Check if the GPIO pin is valid

Returns

True if valid

4.24.3.18 setAltMode()

```
void configurator.PinConf.setAltMode (
            AltMode altMode )
```

Set pin's alternative mode

Parameters

altMode	Alternative mode

4.24.3.19 setCodeName()

```
void configurator.PinConf.setCodeName (
            String name )
```

Set the pin's user selected name

Parameters

name	Pin's name

4.24.3.20 setMode()

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

Set the pin's mode configuration

Parameters

mode	Mode

4.24.3.21 setOutLevel()

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

Set the pin's output level

Parameters

level	Pin's output level

4.24.3.22 setOutType()

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

Set the pin's output configuration

Parameters

outType	Output configuration

4.24.3.23 setPull()

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

Set the pull resistor configuration

Parameters

pull	Resistor configuration

4.24.3.24 setSelected()

```
void configurator.PinConf.setSelected (
            Selected selection )
```

Set the pin's selection

Parameters

selection	Selection

4.24.3.25 setSpeed()

```
void configurator.PinConf.setSpeed (
```

```
            Speed speed )
```

Set the pin's speed

Parameters

speed	Speed

4.24.4 Member Data Documentation

4.24.4.1 DF_ALT_MODE

```
final AltMode configurator.PinConf.DF_ALT_MODE = AltMode.ALT_MODE_NONE  [static]
```

Default Pin alternative mode

4.24.4.2 DF_CODE_NAME

```
final String configurator.PinConf.DF_CODE_NAME = ""  [static]
```

Default pin's code name

4.24.4.3 DF_MODE

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

Default Pin mode

4.24.4.4 DF_OUT_LEVEL

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

Default pin's output level

4.24.4.5 DF_OUTTYPE

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

Default pin's output type

4.24.4.6 DF_PULL

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

Default pin's pull resistor

4.24.4.7 DF_SELECTED

```
final Selected configurator.PinConf.DF_SELECTED = Selected.NOT  [static]
```

Default Pin's selection

4.24.4.8 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

4.25 projectConfiguration.ProjectSettings Class Reference

Public Member Functions

- ProjectSettings ()
- ErrorCode processDocument ()
- ErrorCode openProjectFile (File inFile)
- File getConfFile ()
- File getUcFile ()
- String getProjectName ()
- String getFrameworkPath ()

4.25.1 Detailed Description

Project settings class

Author

Miguel Diaz

Version

0.2

4.25.2 Constructor & Destructor Documentation

4.25.2.1 ProjectSettings()

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

Constructor

4.25.3 Member Function Documentation

4.25.3.1 getConfFile()

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

Get the project configuration file

Returns

Project configuration file

4.25.3.2 getFrameworkPath()

```
String projectConfiguration.ProjectSettings.getFrameworkPath ( )
```

Get the framework folder

Returns

framework folder

4.25.3.3 getProjectName()

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

Get the project's name

Returns

Project's name

4.25.3.4 getUcFile()

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

Get the project microcontroller file

Returns

Project microcontroller file

4.25.3.5 openProjectFile()

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

Open the project settings file

Parameters

inFile	Project file

Returns

Error Status

4.25.3.6 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

4.26 configurator.GPIO.Pull Enum Reference

Static Public Member Functions

- static Pull getConfFromString (String conf)

Public Attributes

- PULL_UP
- PULL_DOWN
- PULL_NOT_AVAILABLE
- PULL_MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "Pull"

4.26.1 Detailed Description

Pin's pull resistor

Author

Miguel Diaz

Version

0.1

4.26.2 Member Function Documentation

4.26.2.1 getConfFromString()

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

Get the corresponding Pull configuration from its name as String

Parameters

conf	Configuration name

Returns

Pull configuration

4.26.3 Member Data Documentation

4.26.3.1 PULL_DOWN

```
configurator.GPIO.Pull.PULL_DOWN
```

Pull Down

4.26.3.2 PULL_MAX_VALUE

```
configurator.GPIO.Pull.PULL_MAX_VALUE
```

Maximum value for Pull enum

4.26.3.3 PULL_NOT_AVAILABLE

```
configurator.GPIO.Pull.PULL_NOT_AVAILABLE
```

If the pin is configured as output, or there is no resistor available

4.26.3.4 PULL_UP

```
configurator.GPIO.Pull.PULL_UP
```

Pull Up

4.26.3.5 STR_NAME

```
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

4.27 configurator.Selected Enum Reference

Public Member Functions

- boolean getBoolean ()

Static Public Member Functions

- static Selected getConfFromString (String conf)
- static Selected getConfFromBoolean (Boolean conf)

Public Attributes

- NOT
- YES

Static Public Attributes

- static final String STR_NAME = "selected"

4.27.1 Detailed Description

Pin's selection

Author

Miguel Díaz

Version

0.1

4.27.2 Member Function Documentation

4.27.2.1 getBoolean()

```
boolean configurator.Selected.getBoolean ( )
```

Get the corresponding boolean from its selection

Returns

Selected pin state

4.27.2.2 getConfFromBoolean()

```
static Selected configurator.Selected.getConfFromBoolean (
            Boolean conf )  [static]
```

Get the corresponding mode from a boolean

Parameters

conf	Configuration value

Returns

Selected

4.27.2.3 getConfFromString()

```
static Selected configurator.Selected.getConfFromString (
            String conf )  [static]
```

Get the corresponding mode from its name as String

Parameters

conf	Configuration name

Returns

Selected

4.27.3 Member Data Documentation

4.27.3.1 NOT

```
configurator.Selected.NOT
```

Pin not selected

4.27.3.2 STR_NAME

```
final String configurator.Selected.STR_NAME = "selected"  [static]
```

Name as String

4.27.3.3 YES

```
configurator.Selected.YES
```

Pin selected

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

- src/configurator/Selected.java

4.28 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
- SPEED_MAX_VALUE

Static Public Attributes

- static final String STR_NAME = "Speed"

4.28.1 Detailed Description

Pin's speed

Author

Miguel Diaz

Version

0.1

4.28.2 Member Function Documentation

4.28.2.1 getConfFromString()

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

Get the corresponding Speed configuration from its name as String

Parameters

conf	Configuration name

Returns

Speed

4.28.3 Member Data Documentation

4.28.3.1 SPEED_FAST

`configurator.GPIO.Speed.SPEED_FAST`

Fast

4.28.3.2 SPEED_HIGH

`configurator.GPIO.Speed.SPEED_HIGH`

High

4.28.3.3 SPEED_MAX_VALUE

`configurator.GPIO.Speed.SPEED_MAX_VALUE`

Maximum value for Speed enum

4.28.3.4 SPEED_MEDIUM

`configurator.GPIO.Speed.SPEED_MEDIUM`

Medium

4.28.3.5 SPEED_NOT_AVAILABLE

`configurator.GPIO.Speed.SPEED_NOT_AVAILABLE`

Not all MCUs will have this setting

4.28.3.6 STR_NAME

```
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

4.29 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)

4.29.1 Detailed Description

Open and process XML files

Author

H112943

Version

0.1

4.29.2 Constructor & Destructor Documentation

4.29.2.1 XmlOpener()

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

Constructor

4.29.3 Member Function Documentation

4.29.3.1 getElementInfo()

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

Get an XML sub element information

Parameters

element	XML main element
elementName	Sub element's name

Returns

Sub elemen't information

4.29.3.2 getElementInfoFromDoc()

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

Get an XML element information

Parameters

doc	Document from XML file
elementName	Element's name

Returns

Element's information

4.29.3.3 getParsedDoc()

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

Get the parsed document AFTER opening the file

Returns

Parsed document

4.29.3.4 OpenFile()

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

Open the XML file

Parameters

inFile	XML file

Returns

Error code

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

- src/xmlParser/XmlOpener.java

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