

SettingsManager Tango Java Class

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SettingsManager Class Identification :

Contact : at esrf.fr - accelerator-control
 Class Family : Archiving
 Platform : All Platforms
 Bus : Not Applicable
 Manufacturer : none
 Manufacturer ref. :

SettingsManager Class Inheritance :

- [Tango::DeviceImpl](#)
 - SettingsManager

SettingsManager Class Description :

This idea is to standardize and centralize the settings management for the control system. It will have to be accessible from client applications and servers written in C++, Java or Python.

The most flexible system to store the settings is to use files on disk.

Users will be able to manage sub system, copies or edition (device/attribute renaming).

All settings files will be store under a \$SETTINGS_ROOT directory.

A subdirectory will be created for each accelerator system.

To be accessible from all languages, a TANGO class will manage read, write and apply settings for attributes.

Each instance of this class will manage a system (SRRF, RIPS, LINAC, ...) files under its own subdirectory fixed by a TANGO property.

This class will be able to:

- Write a settings file with an optional list of attribute as input argument. This class will be responsible

to do not write above its subdirectory.

- Get file content to preview file with string as output argument.

- Apply settings to attributes.

- Read a settings file and return content in a pipe (att1 name, att1 value, att2 name, att2 value, ...)

SettingsManager Properties :

Class Properties			
Name	Description	Type	Default Value
RootPath	Root path for all settings systems	String	none

Device Properties			
Name	Description	Type	Default Value
SettingsFilePath	Path under the RootPath to read/write settings file.	String	none
DefaultAttributeList	Default attribute list to generate settings file if no attributes sent in WriteSettingsFile command	String[]	none
SettingsTimeout	timeout to write settings on specified devices in milliseconds.	int	3000
Debug	Add trace mode if true	boolean	false

SettingsManager Class Commands				
Name	Input type	Output type	Level	Description
				This command gets the device state

State	DEV_VOID	DEV_STATE	OPERATOR	(stored in its device_state data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its device_status data member) and returns it to the caller.
GetSettingsFileContent	DEV_STRING	DEV_STRING	OPERATOR	read the specified file content
GenerateSettingsFile	DEVVAR_STRINGARRAY	DEV_VOID	OPERATOR	the device will generate a settings file for specified attributes
ApplySettings	DEV_STRING	DEV_VOID	OPERATOR	Apply settings from specified file to attributes.
Reset	DEV_VOID	DEV_VOID	OPERATOR	Reset ALARM state on device
FileExists	DEV_STRING	DEV_BOOLEAN	OPERATOR	Check if specified file exists.
DeleteFile	DEV_STRING	DEV_VOID	OPERATOR	Delete specified file.
RenameFile	DEVVAR_STRINGARRAY	DEV_VOID	OPERATOR	Rename source file to target name.
GetFileList	DEV_STRING	DEVVAR_STRINGARRAY	OPERATOR	Get the file and directory list in specified path.

Command State :

This command gets the device state (stored in its device_state data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none
Output Argument	Tango::DEV_STATE	Device state
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	1000	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its device_status data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none
Output Argument	Tango::CONST_DEV_STRING	Device status
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetSettingsFileContent :

read the specified file content



GetSettingsFileContent Definition		
Input Argument	Tango::DEV_STRING	Specified file name.
Output Argument	Tango::DEV_STRING	The specified file content
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GenerateSettingsFile :

the device will generate a settings file for specified attributes

GenerateSettingsFile Definition		
Input Argument	Tango::DEVVAR_STRINGARRAY	This array must contain file name. If no attributes are defined as property, it must contain attribute names. It can also contain author names and comments. Each element needs to start with: FILE: for file name ATTRIBUTE: for each attribute name AUTHOR: for author name COMMENTS: for comments
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command ApplySettings :

Apply settings from specified file to attributes.

ApplySettings Definition		
Input Argument	Tango::DEV_STRING	The specified file name
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command Reset :

Reset ALARM state on device

Reset Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command FileExists :

Check if specified file exists.

FileExists Definition		
Input Argument	Tango::DEV_STRING	File name
Output Argument	Tango::DEV_BOOLEAN	true if specified file exists, false otherwise
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DeleteFile :

Delete specified file.

DeleteFile Definition		
Input Argument	Tango::DEV_STRING	File name
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command RenameFile :

Rename source file to target name.

RenameFile Definition		
Input Argument	Tango::DEVVAR_STRINGARRAY	Source file name Target file name
Output Argument	Tango::DEV_VOID	

DefaultAttributes	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	attribute list from property.
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There is no dynamic attribute defined.

Attribute SettingsPath :

Path where settings files are read and write.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	Settings path
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute LastGeneratedFile :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	1000
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	Last generated file
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute LastAppliedFile :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING

Attribute Properties	
label	Last applied file
unit	
standard unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
	Not

Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	1000
Memorized	Not set
Read allowed for	All states

display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Absolute Change	set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute DefaultAttributes :

The default attribute list from property.

Attribute Definition	
Attribute Type	Spectrum (512)
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	1000
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false

Push Archive event by user code	false
Push DataReady event by user code	false

SettingsManager Class States	
Name	Description
ON	The device is ready to apply settings.
ALARM	The device has applied settings, but at least one attribute apply has failed.