

PyStateComposer Tango Python Class

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PyStateComposer Class Identification :

Contact : at null - null
 Class Family :
 Platform :
 Bus :
 Manufacturer :
 Manufacturer ref. :

PyStateComposer Class Inheritance :

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

PyStateComposer Class Description :

This device requires [Fandango module](#) to be available in the PYTHONPATH.

PyStateComposer(Dev4Tango,DynamicDS) allows to create a new composed State or Attributes using the State and Attributes from a list of devices:

- When a new Device is added the composer subscribes to its State changes.
- If it is not able to subscribe to events, then a polling thread is started.

- relies on PyTango_utils package to provide DynamicAttributes and DynamicStates.
- Either StatePolicy or DynamicStates property can be used to compose the State.
- StatePolicy uses the same format than Soleil's composer, the default policy is generated the first time the composer is launched

PyStateComposer Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
DynamicAttributes	Attributes and formulas to create for this device. This Tango Attributes will be generated dynamically using this syntax: AllPressures=DevVarDoubleArray([XAttr(dev+`/Pressure`) or 0 for dev in DEVICES])	String[]	none
DynamicStates	This property will allow to declare new States dynamically based on dynamic attributes changes: FAULT=any([s==FAULT for s in STATES]) ON=1	String[]	none
DynamicStatus	Each line generated by this property code will be added to status	String[]	none
CheckDependencies	This property manages if dependencies between attributes are used to check readability.	boolean	False
PollingCycle	Default period for polling all device states.	int	3000
UseEvents	This property allows to enable/disable events management.	String[]	`false`
DevicesList	A list of device names, wildcards like domain/family/ * are allowed. If this property is not initialized DeviceNameList is read instead.	String[]	none
IgnoreList	A list of device names, wildcards like domain/family/ * are allowed. The devices in this list will not be used to compose the state.	String[]	none
SubComposers	A list of composer device names from which devices/states lists will be imported.	String[]	none
StatePolicy	A list of States and its priority. this property is not used if DynamicStates has been initialized.	String[]	none
SortLists	A property to control whether DEVICES/STATES lists will be sorted or not	boolean	True

LogLevel	This property selects the log level (DEBUG/INFO/WARNING/ERROR)	String	`WARNING`
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PyStateComposer Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
AddDevice	DEV_STRING	DEV_VOID	OPERATOR	None.
RemoveDevice	DEV_STRING	DEV_VOID	OPERATOR	None.
UpdateStatePolicy	DEV_VOID	DEV_VOID	OPERATOR	Updates the way State is computed

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	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
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	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command AddDevice :

AddDevice Definition		
Input Argument	Tango::DEV_STRING	Device to add to the composing
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command RemoveDevice :

RemoveDevice Definition		
Input Argument	Tango::DEV_STRING	Device to remove
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command UpdateStatePolicy :

Updates the way State is computed

UpdateStatePolicy Definition		
Input Argument	Tango::DEV_VOID	Reloads StatePolicy from the database
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

PyStateComposer Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
VersionNumber	false	false	Scalar	READ	Tango::DEV_STRING	EXPERT	Version number and release note
StatesList	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	States of subscribed devices.

DevicesList	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	Devices actually subscribed.
DevStates	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	A list with device/state pairs .

There is no dynamic attribute defined.

Attribute VersionNumber :

Version number and release note

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
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	Not set

Attribute StatesList :

States of subscribed devices.

Attribute Definition	
Attribute Type	Spectrum (2048)
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	
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	Not set

Attribute DevicesList :

Devices actually subscribed.

Attribute Definition	
	Spectrum (2048)

Attribute Properties	
label	

Attribute Event Criteria	
Periodic	Not set

Attribute Type	
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

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

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	Not set

Attribute DevStates :

A list with device/state pairs .

Attribute Definition	
Attribute Type	Spectrum (2048)
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	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	

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

delta_time	
delta_val	

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

There is no state defined