OpcDataVariableNode Class

Namespace: Opc.UaFx
Assemblies: Opc.UaFx.Advanced.dll

Provides a node to represent complex data structures expose their information as complex data types, as well as components in the address space. This allows access to simple values as well as access to the whole information at once in a transactional context.

C#

```
public class OpcDataVariableNode : OpcVariableNode, IOpcNode, IOpcNodeInfo
```

Inheritance Object › OpcNode › OpcInstanceNode › OpcVariableNode › OpcDataVariableNode

Derived

- OpcConditionVariableNode
- OpcDataItemNode
- OpcDataVariableNode`1
- OpcTextVariableNode

Implements IOpcNode, IOpcNodeInfo

Remarks

The data variable node is a specialization of the OpcVariableNode there its reference type is HasComponent and its type definition is BaseDataVariable.

For example, the ServerStatus variable of the server object is modelled as a complex data variable having the ServerStatusDataType providing all information about the server status. But it also exposes the CurrentTime as a simple data variable, because a client may want to read only the current time of the server, and is not interested in the build information, etc.

Constructors

Name	Description
OpcDataVariableNode(IOpcNode, OpcName)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` specified as a child node of the `parent` node given.
OpcDataVariableNode(IOpcNode, OpcName, Object)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` specified with the initial value defined by `value` as a child node of the `parent` node given.
OpcDataVariableNode(IOpcNode, OpcName, OpcNodeId)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` and `id` specified as a child node of the `parent` node given.

Name	Description
OpcDataVariableNode(IOpcNode, OpcName, OpcNodeId, Object)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` and `id` specified with the initial value defined by `value` as a child node of the `parent` node given.
OpcDataVariableNode(OpcName)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` specified.
OpcDataVariableNode(OpcName, Object)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` specified with the initial value given by `value`.
OpcDataVariableNode(OpcName, OpcNodeId)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` and `id` specified.
OpcDataVariableNode(OpcName, OpcNodeId, Object)	Initializes a new instance of the OpcDataVariableNode class accessible by the `name` and `id` specified with the initial value given by `value`.

Events

Name	Description
AfterApplyChanges	Occurs after one or more changes on the node has been notified. (Inherited from OpcNode)
BeforeApplyChanges	Occurs before one or more changes on the node are notified. (Inherited from OpcNode)

Properties

Name	Description
AccessLevel	Gets or sets a value which indicates in which ways the Value attribute of the variable node can be accessed (read/write) and if it provides current and/or historic data. (Inherited from OpcVariableNode)
ArrayDimensions	Gets the number/lengths of dimensions for an array Value with one or more fixed dimensions. (Inherited from OpcVariableNode)
Category	Gets the NodeCategoryOpcAttribute which identifies the kind of node and is therefore used to classify the node regarding its use and purpose. (Inherited from OpcNode)
DataType	Gets or sets a value which defines a pre-defined used DataTypeId as one of the members defined by the OpcDataType enumeration to simplify querying standard data types. (Inherited from OpcVariableNode)
DataTypeId	Gets or stets the identifier which identifies the node that defines the type of data represented by the variable node. (Inherited from OpcVariableNode)
DefaultReferenceTypeId	Gets the default identifier which identifies the type that defines the underlying node reference within this OpcInstanceNode is referenced by its parent node. (Inherited from OpcInstanceNode)
DefaultReferenceTypeId	Gets the default identifier which identifies the type that defines the underlying node reference within this OpcInstanceNode is referenced by its parent node. (Inherited from OpcVariableNode)

Name	Description
DefaultTypeDefinitionId	Gets the default identifier which identifies the node that defines the underlying node type from that this OpcInstanceNode has been created.
DefaultTypeDefinitionId	Gets the default identifier which identifies the node that defines the underlying node type from that this OpcInstanceNode has been created. (Inherited from OpcInstanceNode)
DefaultTypeDefinitionId	Gets the default identifier which identifies the node that defines the underlying node type from that this OpcInstanceNode has been created. (Inherited from OpcVariableNode)
Description	Gets or sets the value of the optional DescriptionOpcAttribute which shall explain the meaning of the node. (Inherited from OpcNode)
Descriptions	Gets the OpcNodeGlobalization instance used to control the localization and other globalization related tasks for the Description attribute of the current node. (Inherited from OpcNode)
DisplayName	Gets or sets the value of the DisplayNameOpcAttribute which defines the localizable name of the node. (Inherited from OpcNode)
DisplayNames	Gets the OpcNodeGlobalization instance used to control the localization and other globalization related tasks for the DisplayName attribute of the current node. (Inherited from OpcNode)
HasPendingChanges	Gets a value indiciating whether there exists any pending change on the node. (Inherited from OpcNode)
HistoryConfiguration	(Inherited from OpcVariableNode)
Id	Gets the value of the NodeIdOpcAttribute which unambiguously identifies the node. (Inherited from OpcNode)
IsArray	Gets a value indicating whether the Value of the OpcVariableNode represented is an array. (Inherited from OpcVariableNode)
IsHistorizing	(Inherited from OpcVariableNode)
ModellingRuleId	Gets or sets the identifier which defines how the OpcInstanceNode is used for instantiation. (Inherited from OpcInstanceNode)
Name	Gets or sets the value of the BrowseNameOpcAttribute which defines the non-localizable human-readable name used when browsing the address space. (Inherited from OpcNode)
Namespace	(Inherited from OpcNode)
Parent	Gets the parent node of the node. (Inherited from OpcNode)
Parent	Gets the parent node of the node. (Inherited from OpcInstanceNode)
PendingChanges	Gets a value indicating the most recent changes performed on the node since their last notification. (Inherited from OpcNode)
QueryEventsCallback	Gets or sets a callback used to query any event information which belongs to the node. (Inherited from OpcNode)
ReadAccessLevelCallback	(Inherited from OpcVariableNode)
ReadArrayDimensionsCallback	(Inherited from OpcVariableNode)

Name	Description
ReadDataTypeCallback	(Inherited from OpcVariableNode)
ReadDescriptionCallback	(Inherited from OpcNode)
ReadDisplayNameCallback	(Inherited from OpcNode)
ReadIsHistorizingCallback	(Inherited from OpcVariableNode)
ReadUserAccessLevelCallback	(Inherited from OpcVariableNode)
ReadUserWriteAccessCallback	(Inherited from OpcNode)
ReadValueRankCallback	(Inherited from OpcVariableNode)
ReadVariableValueCallback	Gets or sets a callback used to read the variable value. (Inherited from OpcVariableNode)
ReadWriteAccessCallback	(Inherited from OpcNode)
ReferenceType	Gets a value which defines a pre-defined used ReferenceTypeId as one of the members defined by the OpcReferenceType enumeration to simplify querying standard reference types. (Inherited from OpcInstanceNode)
ReferenceTypeId	Gets or sets the identifier which identifies the node that defines the semantic of the reference between a source and a target node and generally reflects an operation between the two, such as “A contains B”. (Inherited from OpcInstanceNode)
Status	(Inherited from OpcVariableNode)
SymbolicName	(Inherited from OpcNode)
Tag	Gets or sets the object that contains additional user data about the node. (Inherited from OpcNode)
Timestamp	(Inherited from OpcVariableNode)
TypeDefinitionId	Gets or sets the identifier which identifies the node that defines the underlying node type from that this OpcInstanceNode has been created. (Inherited from OpcInstanceNode)
UserAccessLevel	Gets or sets a value which indicates in which ways the Value attribute of the variable node can be accessed (read/write) and if it provides current and/or historic data taking user access rights into account. (Inherited from OpcVariableNode)
UserWriteAccess	Gets or sets the value of the optional UserWriteAccessOpcAttribute which exposes the possibilities of a client to write the attributes of the node taking user access rights into account. (Inherited from OpcNode)
Value	Gets or sets the value of the variable node which may be simple or complex. (Inherited from OpcVariableNode)
ValueRank	(Inherited from OpcVariableNode)
WriteAccess	Gets or sets the value of the optional WriteAccessOpcAttribute which exposes the posibilities of a client to write the attributes of the node. (Inherited from OpcNode)
WriteAccessLevelCallback	(Inherited from OpcVariableNode)
WriteArrayDimensionsCallback	(Inherited from OpcVariableNode)
WriteDataTypeCallback	(Inherited from OpcVariableNode)
WriteDescriptionCallback	(Inherited from OpcNode)
WriteDisplayNameCallback	(Inherited from OpcNode)
WriteIsHistorizingCallback	(Inherited from OpcVariableNode)
WriteUserAccessLevelCallback	(Inherited from OpcVariableNode)
WriteUserWriteAccessCallback	(Inherited from OpcNode)
WriteValueRankCallback	(Inherited from OpcVariableNode)

Name	Description
WriteVariableValueCallback	Gets or sets a callback used to write the variable value. (Inherited from OpcVariableNode)
WriteWriteAccessCallback	(Inherited from OpcNode)

Methods

Name	Description
AddChild(OpcContext, OpcInstanceNode)	(Inherited from OpcInstanceNode)
AddNotifier(OpcContext, IOpcNode)	(Inherited from OpcNode)
ApplyChanges(OpcContext)	Notifies about changes performed on the node since the last notification and resets the pending changes to None. (Inherited from OpcNode)
ApplyChanges(OpcContext, Boolean)	Notifies about changes performed on the node (and optionally on its children) since the last notification and resets the pending changes to None. (Inherited from OpcNode)
AttributeValue(OpcAttribute)	Retrieves the value of the `attribute` specified. (Inherited from OpcNode)
AttributeValue``1(OpcAttribute)	Retrieves the value of the `attribute` specified. (Inherited from OpcNode)
Child(OpcContext, OpcName)	Retrieves the child node its Name property matches exactly the `name` specified. (Inherited from OpcNode)
Children(OpcContext)	Retrieves a sequence of all nodes organized as children of this node. (Inherited from OpcNode)
InitializeDefaults	Initializes the default values used by the node implementation represented / required. (Inherited from OpcNode)
InitializeDefaults	Initializes the default values used by the OpcInstanceNode. (Inherited from OpcInstanceNode)
InitializeDefaults	Initializes the default values used by the OpcVariableNode. (Inherited from OpcVariableNode)
IsChangePending(OpcNodeChanges)	(Inherited from OpcNode)
OnAfterApplyChanges(OpcNodeChangesEventArgs)	Raises the AfterApplyChanges event using the event data specified. (Inherited from OpcNode)
OnBeforeApplyChanges(OpcNodeChangesEventArgs)	Raises the BeforeApplyChanges event using the event data specified. (Inherited from OpcNode)
QueryEventsCore(OpcNodeContext, OpcEventCollection)	(Inherited from OpcNode)

Name	Description
ReadAttributeValueCore``1(OpcReadAttributeValueContext, OpcAttributeValue)	(Inherited from OpcNode)
ReadAttributeValueCore``1(OpcReadAttributeValueContext, OpcAttributeValue)	(Inherited from OpcVariableNode)
ReadValue(OpcReadVariableValueContext)	Reads the variable node value using the `context` specified. (Inherited from OpcVariableNode)
ReadVariableValue(OpcReadVariableValueContext)	(Inherited from OpcVariableNode)
ReadVariableValueCore(OpcReadVariableValueContext, OpcVariableValue)	Reads the value of the variable node using the `context` and `value` information specified. (Inherited from OpcVariableNode)
RemoveChild(OpcContext, OpcInstanceNode)	(Inherited from OpcInstanceNode)
RemoveNotifier(OpcContext, IOpcNode)	(Inherited from OpcNode)
RemoveNotifier(OpcContext, IOpcNode)	(Inherited from OpcInstanceNode)
ReportEvent(OpcContext, OpcEvent)	(Inherited from OpcNode)
UpdateChanges(OpcContext, OpcNodeChanges)	Notifies about the `changes` on behalf of the node and removes pending changes which intersect with the `changes` specified. (Inherited from OpcNode)
UpdateChanges(OpcContext, OpcNodeChanges, Boolean)	Notifies about the `changes` on behalf of the node (and optionally on its children) and removes pending changes which intersect with the `changes` specified. (Inherited from OpcNode)
WriteAttributeValueCore``1(OpcWriteAttributeValueContext, OpcAttributeValue)	(Inherited from OpcNode)
WriteAttributeValueCore``1(OpcWriteAttributeValueContext, OpcAttributeValue)	(Inherited from OpcVariableNode)
WriteValue(OpcWriteVariableValueContext, Object)	Writes the `value` to the variable node value using the `context` specified. (Inherited from OpcVariableNode)
WriteVariableValue(OpcWriteVariableValueContext, OpcVariableValue)	(Inherited from OpcVariableNode)
WriteVariableValueCore(OpcWriteVariableValueContext, OpcVariableValue)	Writes the value of the variable node using the `context` and `value` information specified. (Inherited from OpcVariableNode)

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