

# OpcDataVariableNode<T> Class

**Namespace:** Opc.UaFx

**Assemblies:** Opc.UaFx.Advanced.dll

Provides a generic implementation of the [OpcDataVariableNode](#) to represent complex data structures expose their information as complex data types, as well as components in the address space.

**C#**

```
public class OpcDataVariableNode<T> : OpcDataVariableNode, IOpcNode, IOpcNodeInfo
```

**Inheritance** [Object](#) > [OpcNode](#) > [OpcInstanceNode](#) > [OpcVariableNode](#) > [OpcDataVariableNode](#) > [OpcDataVariableNode<T>](#)

**Derived**

- [OpcDataTypeDictionaryNode](#)

**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](#).

## Constructors

Name	Description
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">IOpcNode</a> , <a href="#">OpcName</a> )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> specified as a child node of the <a href="#">parent</a> node given.
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">IOpcNode</a> , <a href="#">OpcName</a> , <a href="#">OpcNodeId</a> )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> and <a href="#">id</a> specified as a child node of the <a href="#">parent</a> node given.
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">IOpcNode</a> , <a href="#">OpcName</a> , <a href="#">OpcNodeId</a> , )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> and <a href="#">id</a> specified with the initial value defined by <a href="#">value</a> as a child node of the <a href="#">parent</a> node given.
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">IOpcNode</a> , <a href="#">OpcName</a> , )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> specified with the initial value defined by <a href="#">value</a> as a child node of the <a href="#">parent</a> node given.
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">OpcName</a> )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> specified.
<a href="#">OpcDataVariableNode`1</a> ( <a href="#">OpcName</a> , <a href="#">OpcNodeId</a> )	Initializes a new instance of the <a href="#">OpcDataVariableNode`1</a> class accessible by the <a href="#">name</a> and <a href="#">id</a> specified.

Name	Description
<code>OpcDataVariableNode`1(OpcName, OpcNodeId, )</code>	Initializes a new instance of the <code>OpcDataVariableNode`1</code> class accessible by the <code>name</code> and <code>id</code> specified with the initial value given by <code>value</code> .
<code>OpcDataVariableNode`1(OpcName, )</code>	Initializes a new instance of the <code>OpcDataVariableNode`1</code> class accessible by the <code>name</code> specified with the initial value given by <code>value</code> .

## Events

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

## Properties

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

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

Name	Description
ReadUserAccessLevelCallback	(Inherited from <a href="#">OpcVariableNode</a> )
ReadUserWriteAccessCallback	(Inherited from <a href="#">OpcNode</a> )
ReadValueRankCallback	(Inherited from <a href="#">OpcVariableNode</a> )
ReadVariableValueCallback	Gets or sets a callback used to read the variable value. (Inherited from <a href="#">OpcVariableNode</a> )
ReadWriteAccessCallback	(Inherited from <a href="#">OpcNode</a> )
ReferenceType	Gets a value which defines a pre-defined used <a href="#">ReferenceTypeId</a> as one of the members defined by the <a href="#">OpcReferenceType</a> enumeration to simplify querying standard reference types. (Inherited from <a href="#">OpcInstanceNode</a> )
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 <a href="#">OpcInstanceNode</a> )
Status	(Inherited from <a href="#">OpcVariableNode</a> )
SymbolicName	(Inherited from <a href="#">OpcNode</a> )
Tag	Gets or sets the object that contains additional user data about the node. (Inherited from <a href="#">OpcNode</a> )
Timestamp	(Inherited from <a href="#">OpcVariableNode</a> )
TypeDefinitionId	Gets or sets the identifier which identifies the node that defines the underlying node type from that this <a href="#">OpcInstanceNode</a> has been created. (Inherited from <a href="#">OpcInstanceNode</a> )
UserAccessLevel	Gets or sets a value which indicates in which ways the <a href="#">Value</a> 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 <a href="#">OpcVariableNode</a> )
UserWriteAccess	Gets or sets the value of the optional <a href="#">UserWriteAccessOpcAttribute</a> which exposes the possibilities of a client to write the attributes of the node taking user access rights into account. (Inherited from <a href="#">OpcNode</a> )
Value	Gets or sets the value of the data variable node.
Value	Gets or sets the value of the variable node which may be simple or complex. (Inherited from <a href="#">OpcVariableNode</a> )
ValueRank	(Inherited from <a href="#">OpcVariableNode</a> )
WriteAccess	Gets or sets the value of the optional <a href="#">WriteAccessOpcAttribute</a> which exposes the possibilities of a client to write the attributes of the node. (Inherited from <a href="#">OpcNode</a> )
WriteAccessLevelCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteArrayDimensionsCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteDataTypeCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteDescriptionCallback	(Inherited from <a href="#">OpcNode</a> )
WriteDisplayNameCallback	(Inherited from <a href="#">OpcNode</a> )
WritelsHistorizingCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteUserAccessLevelCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteUserWriteAccessCallback	(Inherited from <a href="#">OpcNode</a> )
WriteValueRankCallback	(Inherited from <a href="#">OpcVariableNode</a> )
WriteVariableValueCallback	Gets or sets a callback used to write the variable value. (Inherited from <a href="#">OpcVariableNode</a> )
WriteWriteAccessCallback	(Inherited from <a href="#">OpcNode</a> )

# Methods

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

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

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