

OpcNodeReference Members

Namespace: Opc.UaFx

Assemblies: Opc.UaFx.Advanced.dll, Opc.UaFx.Advanced.dll

The [OpcNodeReference](#) type exposes the following members.

Constructors

OpcNodeReference(IOpcNode)

Initializes a new instance of the [OpcNodeReference](#) class using the **node** specified.

C#

```
public OpcNodeReference(IOpcNode node)
```

Parameters

node [IOpcNode](#)

The [IOpcNode](#) instance its references are organized by the new [OpcNodeReference](#).

Exceptions

[ArgumentNullException](#)

The **node** is a null reference (Nothing in Visual Basic).

OpcNodeReference(IOpcNode, IEnumerable<OpcReference>)

Initializes a new instance of the [OpcNodeReference](#) class using the **node** and its **references** specified.

C#

```
public OpcNodeReference(IOpcNode node, IEnumerable<OpcReference> references)
```

Parameters

node [IOpcNode](#)

The [IOpcNode](#) instance its **references** are organized by the new [OpcNodeReference](#).

references [IEnumerable<OpcReference>](#)

A sequence of [OpcReference](#) instances belonging to the **node**.

Exceptions

ArgumentNullException

The `node` or `references` is a null reference (Nothing in Visual Basic).

OpcNodeReference(IOpcNode, OpcReference[])

Initializes a new instance of the `OpcNodeReference` class using the `node` and its `references` specified.

C#

```
public OpcNodeReference(IOpcNode node, params OpcReference[] references)
```

Parameters

`node` `IOpcNode`

The `IOpcNode` instance its `references` are organized by the new `OpcNodeReference`.

`references` `OpcReference[]`

An array of `OpcReference` instances belonging to the `node`.

Exceptions

ArgumentNullException

The `node` or `references` is a null reference (Nothing in Visual Basic).

OpcNodeReference(OpcNodeId)

Initializes a new instance of the `OpcNodeReference` class using the `nodeId` specified.

C#

```
public OpcNodeReference(OpcNodeId nodeId)
```

Parameters

`nodeId` `OpcNodeId`

The `OpcNodeId` which identifies the node its references are organized by the new `OpcNodeReference`.

Exceptions

ArgumentNullException

The `nodeId` is a null reference (Nothing in Visual Basic).

OpcNodeReference(OpcNodeId,

IEnumerable<OpcReference>)

Initializes a new instance of the [OpcNodeReference](#) class using the [nodeId](#) and its node specific [references](#) specified.

C#

```
public OpcNodeReference(OpcNodeId nodeId, IEnumerable<OpcReference> references)
```

Parameters

[nodeId](#) [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node its [references](#) are organized by the new [OpcNodeReference](#).

[references](#) [IEnumerable<OpcReference>](#)

A sequence of [OpcReference](#) instances belonging to the [nodeId](#).

Exceptions

[ArgumentNullException](#)

The [nodeId](#) or [references](#) is a null reference (Nothing in Visual Basic).

OpcNodeReference(OpcNodeId, OpcReference[])

Initializes a new instance of the [OpcNodeReference](#) class using the [nodeId](#) and its node specific [references](#) specified.

C#

```
public OpcNodeReference(OpcNodeId nodeId, params OpcReference[] references)
```

Parameters

[nodeId](#) [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node its [references](#) are organized by the new [OpcNodeReference](#).

[references](#) [OpcReference\[\]](#)

An array of [OpcReference](#) instances belonging to the [nodeId](#).

Exceptions

[ArgumentNullException](#)

The [nodeId](#) or [references](#) is a null reference (Nothing in Visual Basic).

Properties

Node

Gets the node to which the [References](#) belong to.

C#

```
public IOpcNode Node { get; }
```

Property Value

[IOpcNode](#)

The [IOpcNode](#) which is used as the source node of the [References](#) or a null reference (Nothing in Visual Basic) in case there this [OpcNodeReference](#) has been initialized using a [OpcNodeId](#) which identifies the node the [References](#) belong to.

NodeId

Gets the identifier of the node to which the [References](#) belong to.

C#

```
public OpcNodeId NodeId { get; }
```

Property Value

[OpcNodeId](#)

The [OpcNodeId](#) which identifies the node to which the [References](#) belong to.

References

Gets a collection of [OpcReference](#) instances which belong the node identified by the [NodeId](#) or referred to in the [Node](#) property.

C#

```
public OpcReferenceCollection References { get; }
```

Property Value

[OpcReferenceCollection](#)

An instance of the [OpcReferenceCollection](#) class which contains the [OpcReference](#) instances which belong to the node its references are maintained by this [OpcNodeReference](#).

Methods

From(IOpcNode)

Provides a new [OpcNodeReferenceSource](#) initialized with the `node` specified to construct [OpcNodeReference](#) instances using the `node` as the source node for the subsequent defined [OpcNodeReference](#) instances.

C#

```
public static OpcNodeReferenceSource From(IOpcNode node)
```

Parameters

`node` [IOpcNode](#)

The [IOpcNode](#) from which the references constructed originate from.

Returns

[OpcNodeReferenceSource](#)

A new instance of the [OpcNodeReferenceSource](#) class initialized with the `node` specified.

Exceptions

[ArgumentNullException](#)

The `node` is a null reference (Nothing in Visual Basic).

From(OpcNodeId)

Provides a new [OpcNodeReferenceSource](#) initialized with the `nodeId` specified to construct [OpcNodeReference](#) instances using the `nodeId` as the identifier of the source node for the subsequent defined [OpcNodeReference](#) instances.

C#

```
public static OpcNodeReferenceSource From(OpcNodeId nodeId)
```

Parameters

`nodeId` [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node from which the references constructed originate from.

Returns

[OpcNodeReferenceSource](#)

A new instance of the `OpcNodeReferenceSource` class initialized with the `nodeId` specified.

Exceptions

`ArgumentNullException`

The `nodeId` is a null reference (Nothing in Visual Basic).

To(IOpcNode)

Provides a bidirectional reference using the `targetNode` as the target of the reference. The reference created represents a `ParentToChild` and `ChildToParent` relation using `Organizes` as the type of reference.

C#

```
public static OpcBidirectionalReference To(IOpcNode targetNode)
```

Parameters

`targetNode` `IOpcNode`

The `IOpcNode` in which the reference constructed ceases.

Returns

`OpcBidirectionalReference`

A new instance of the `OpcBidirectionalReference` class initialized with the `targetNode` specified and setup using the `Organizes` in a bidirectional manner.

Exceptions

`ArgumentNullException`

The `targetNode` is a null reference (Nothing in Visual Basic).

To(IOpcNode, OpcNodeId)

Provides a bidirectional reference using the `targetNode` as the target of the reference. The reference created represents a `ParentToChild` and `ChildToParent` relation using the type of reference identified by the `referenceTypeId` specified.

C#

```
public static OpcBidirectionalReference To(IOpcNode targetNode, OpcNodeId referenceTypeId)
```

Parameters

`targetNode` `IOpcNode`

The `IOpcNode` in which the reference constructed ceases.

`referenceTypeId` `OpcNodeId`

The `OpcNodeId` which identifies the type of reference to represent between the `targetNode` and its opponent.

Returns

`OpcBidirectionalReference`

A new instance of the `OpcBidirectionalReference` class initialized with the `targetNode` specified and setup using the `referenceTypeId` passed in a bidirectional manner.

Exceptions

`ArgumentNullException`

The `targetNode` or `referenceTypeId` is a null reference (Nothing in Visual Basic).

To(IOpcNode, OpcReferenceType)

Provides a bidirectional reference using the `targetNode` as the target of the reference. The reference created represents a `ParentToChild` and `ChildToParent` relation using the `referenceType` as the type of reference.

C#

```
public static OpcBidirectionalReference To(IOpcNode targetNode, OpcReferenceType
referenceType)
```

Parameters

`targetNode` `IOpcNode`

The `IOpcNode` in which the reference constructed ceases.

`referenceType` `OpcReferenceType`

One of the members defined by the `OpcReferenceType` enumeration to use to setup the type of reference represented.

Returns

`OpcBidirectionalReference`

A new instance of the `OpcBidirectionalReference` class initialized with the `targetNode` specified and setup using the `referenceType` passed in a bidirectional manner.

Exceptions

ArgumentNullException

The **targetNode** is a null reference (Nothing in Visual Basic).

To(OpcNodeId)

Provides a bidirectional reference using the **targetNodeId** as the identifier of the target of the reference. The reference created represents a **ParentToChild** and **ChildToParent** relation using **Organizes** as the type of reference.

C#

```
public static OpcBidirectionalReference To(OpcNodeId targetNodeId)
```

Parameters

targetNodeId **OpcNodeId**

The **OpcNodeId** which identifies the node in which the reference constructed ceases.

Returns

OpcBidirectionalReference

A new instance of the **OpcBidirectionalReference** class initialized with the **targetNodeId** specified and setup using the **Organizes** in a bidirectional manner.

Exceptions

ArgumentNullException

The **targetNodeId** is a null reference (Nothing in Visual Basic).

To(OpcNodeId, OpcNodeId)

Provides a bidirectional reference using the **targetNodeId** as the identifier of target of the reference. The reference created represents a **ParentToChild** and **ChildToParent** relation using the type of reference identified by the **referenceTypeId** specified.

C#

```
public static OpcBidirectionalReference To(OpcNodeId targetNodeId, OpcNodeId referenceTypeId)
```

Parameters

targetNodeId **OpcNodeId**

The **OpcNodeId** which identifies the node in which the reference constructed ceases.

referenceTypeId **OpcNodeId**

The [OpcNodeId](#) which identifies the type of reference to represent between the target identified by the [targetNodeId](#) and its opponent.

Returns

[OpcBidirectionalReference](#)

A new instance of the [OpcBidirectionalReference](#) class initialized with the [targetNodeId](#) specified and setup using the [referenceTypeId](#) passed in a bidirectional manner.

Exceptions

[ArgumentNullException](#)

The [targetNodeId](#) or [referenceTypeId](#) is a null reference (Nothing in Visual Basic).

To(OpcNodeId, OpcReferenceType)

Provides a bidirectional reference using the [targetNodeId](#) as the identifier of the target of the reference. The reference created represents a [ParentToChild](#) and [ChildToParent](#) relation using the [referenceType](#) as the type of reference.

C#

```
public static OpcBidirectionalReference To(OpcNodeId targetNodeId, OpcReferenceType referenceType)
```

Parameters

[targetNodeId](#) [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node in which the reference constructed ceases.

[referenceType](#) [OpcReferenceType](#)

One of the members defined by the [OpcReferenceType](#) enumeration to use to setup the type of reference represented.

Returns

[OpcBidirectionalReference](#)

A new instance of the [OpcBidirectionalReference](#) class initialized with the [targetNodeId](#) specified and setup using the [referenceType](#) passed in a bidirectional manner.

Exceptions

[ArgumentNullException](#)

The [targetNodeId](#) is a null reference (Nothing in Visual Basic).

ToChild(IOpcNode)

Provides a unidirectional reference using the **targetNode** as the target of the reference. The reference created represents a **ParentToChild** relation using **Organizes** as the type of reference.

C#

```
public static OpcReference ToChild(IOpcNode targetNode)
```

Parameters

targetNode IOpcNode

The IOpcNode in which the reference constructed ceases.

Returns

OpcReference

A new instance of the OpcReference class initialized with the **targetNode** specified and setup using the **Organizes** in a unidirectional manner.

Exceptions

ArgumentNullException

The **targetNode** is a null reference (Nothing in Visual Basic).

ToChild(IOpcNode, OpcNodeId)

Provides a unidirectional reference using the **targetNode** as the target of the reference. The reference created represents a **ParentToChild** relation using the type of reference identified by the **referenceTypeId** specified.

C#

```
public static OpcReference ToChild(IOpcNode targetNode, OpcNodeId referenceTypeId)
```

Parameters

targetNode IOpcNode

The IOpcNode in which the reference constructed ceases.

referenceTypeId OpcNodeId

The OpcNodeId which identifies the type of reference to represent between the **targetNode** and its opponent.

Returns

OpcReference

A new instance of the [OpcReference](#) class initialized with the [targetNode](#) specified and setup using the [referenceTypeId](#) passed in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The [targetNode](#) or [referenceTypeId](#) is a null reference (Nothing in Visual Basic).

ToChild(IOpcNode, OpcReferenceType)

Provides a unidirectional reference using the [targetNode](#) as the target of the reference. The reference created represents a [ParentToChild](#) relation using the [referenceType](#) as the type of reference.

C#

```
public static OpcReference ToChild(IOpcNode targetNode, OpcReferenceType referenceType)
```

Parameters

[targetNode](#) [IOpcNode](#)

The [IOpcNode](#) in which the reference constructed ceases.

[referenceType](#) [OpcReferenceType](#)

One of the members defined by the [OpcReferenceType](#) enumeration to use to setup the type of reference represented.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the [targetNode](#) specified and setup using the [referenceType](#) passed in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The [targetNode](#) is a null reference (Nothing in Visual Basic).

ToChild(OpcNodeId)

Provides a unidirectional reference using the [targetNodeId](#) as the identifier of the target of the reference. The reference created represents a [ParentToChild](#) relation using [Organizes](#) as the type of reference.

C#

```
public static OpcReference ToChild(OpcNodeId targetNodeId)
```

Parameters

targetNodeId [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node in which the reference constructed ceases.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the **targetNodeId** specified and setup using the [Organizes](#) in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The **targetNodeId** is a null reference (Nothing in Visual Basic).

ToChild(OpcNodeId, OpcNodeId)

Provides a unidirectional reference using the **targetNodeId** as the identifier of target of the reference. The reference created represents a [ParentToChild](#) relation using the type of reference identified by the **referenceTypeId** specified.

C#

```
public static OpcReference ToChild(OpcNodeId targetNodeId, OpcNodeId referenceTypeId)
```

Parameters

targetNodeId [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node in which the reference constructed ceases.

referenceTypeId [OpcNodeId](#)

The [OpcNodeId](#) which identifies the type of reference to represent between the target identified by the **targetNodeId** and its opponent.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the **targetNodeId** specified and setup using the **referenceTypeId** passed in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The `targetNodeId` or `referenceTypeId` is a null reference (Nothing in Visual Basic).

ToChild(OpcNodeId, OpcReferenceType)

Provides a unidirectional reference using the `targetNodeId` as the identifier of the target of the reference. The reference created represents a `ParentToChild` relation using the `referenceType` as the type of reference.

C#

```
public static OpcReference ToChild(OpcNodeId targetNodeId, OpcReferenceType referenceType)
```

Parameters

`targetNodeId` `OpcNodeId`

The `OpcNodeId` which identifies the node in which the reference constructed ceases.

`referenceType` `OpcReferenceType`

One of the members defined by the `OpcReferenceType` enumeration to use to setup the type of reference represented.

Returns

`OpcReference`

A new instance of the `OpcReference` class initialized with the `targetNodeId` specified and setup using the `referenceType` passed in a unidirectional manner.

Exceptions

`ArgumentNullException`

The `targetNodeId` is a null reference (Nothing in Visual Basic).

ToParent(IOpcNode)

Provides a unidirectional reference using the `targetNode` as the target of the reference. The reference created represents a `ChildToParent` relation using `Organizes` as the type of reference.

C#

```
public static OpcReference ToParent(IOpcNode targetNode)
```

Parameters

`targetNode` `IOpcNode`

The `IOpcNode` in which the reference constructed ceases.

Returns

OpcReference

A new instance of the [OpcReference](#) class initialized with the [targetNode](#) specified and setup using the [Organizes](#) in a unidirectional manner.

Exceptions

ArgumentNullException

The [targetNode](#) is a null reference (Nothing in Visual Basic).

ToParent(IOpcNode, OpcNodeId)

Provides a unidirectional reference using the [targetNode](#) as the target of the reference. The reference created represents a [ChildToParent](#) relation using the type of reference identified by the [referenceTypeId](#) specified.

C#

```
public static OpcReference ToParent(IOpcNode targetNode, OpcNodeId referenceTypeId)
```

Parameters

[targetNode](#) [IOpcNode](#)

The [IOpcNode](#) in which the reference constructed ceases.

[referenceTypeId](#) [OpcNodeId](#)

The [OpcNodeId](#) which identifies the type of reference to represent between the [targetNode](#) and its opponent.

Returns

OpcReference

A new instance of the [OpcReference](#) class initialized with the [targetNode](#) specified and setup using the [referenceTypeId](#) passed in a unidirectional manner.

Exceptions

ArgumentNullException

The [targetNode](#) or [referenceTypeId](#) is a null reference (Nothing in Visual Basic).

ToParent(IOpcNode, OpcReferenceType)

Provides a unidirectional reference using the [targetNode](#) as the target of the reference. The reference

created represents a [ChildToParent](#) relation using the [referenceType](#) as the type of reference.

C#

```
public static OpcReference ToParent(IOpcNode targetNode, OpcReferenceType referenceType)
```

Parameters

[targetNode](#) [IOpcNode](#)

The [IOpcNode](#) in which the reference constructed ceases.

[referenceType](#) [OpcReferenceType](#)

One of the members defined by the [OpcReferenceType](#) enumeration to use to setup the type of reference represented.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the [targetNode](#) specified and setup using the [referenceType](#) passed in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The [targetNode](#) is a null reference (Nothing in Visual Basic).

ToParent(OpcNodeId)

Provides a unidirectional reference using the [targetNodeId](#) as the identifier of the target of the reference. The reference created represents a [ChildToParent](#) relation using [Organizes](#) as the type of reference.

C#

```
public static OpcReference ToParent(OpcNodeId targetNodeId)
```

Parameters

[targetNodeId](#) [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node in which the reference constructed ceases.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the [targetNodeId](#) specified and setup using the [Organizes](#) in a unidirectional manner.

Exceptions

ArgumentNullException

The `targetNodeId` is a null reference (Nothing in Visual Basic).

ToParent(OpcNodeId, OpcNodeId)

Provides a unidirectional reference using the `targetNodeId` as the identifier of target of the reference. The reference created represents a `ChildToParent` relation using the type of reference identified by the `referenceTypeId` specified.

C#

```
public static OpcReference ToParent(OpcNodeId targetNodeId, OpcNodeId referenceTypeId)
```

Parameters

`targetNodeId` `OpcNodeId`

The `OpcNodeId` which identifies the node in which the reference constructed ceases.

`referenceTypeId` `OpcNodeId`

The `OpcNodeId` which identifies the type of reference to represent between the target identified by the `targetNodeId` and its opponent.

Returns

`OpcReference`

A new instance of the `OpcReference` class initialized with the `targetNodeId` specified and setup using the `referenceTypeId` passed in a unidirectional manner.

Exceptions

ArgumentNullException

The `targetNodeId` or `referenceTypeId` is a null reference (Nothing in Visual Basic).

ToParent(OpcNodeId, OpcReferenceType)

Provides a unidirectional reference using the `targetNodeId` as the identifier of the target of the reference. The reference created represents a `ChildToParent` relation using the `referenceType` as the type of reference.

C#

```
public static OpcReference ToParent(OpcNodeId targetNodeId, OpcReferenceType referenceType)
```

Parameters

targetNodeId [OpcNodeId](#)

The [OpcNodeId](#) which identifies the node in which the reference constructed ceases.

referenceType [OpcReferenceType](#)

One of the members defined by the [OpcReferenceType](#) enumeration to use to setup the type of reference represented.

Returns

[OpcReference](#)

A new instance of the [OpcReference](#) class initialized with the **targetNodeId** specified and setup using the **referenceType** passed in a unidirectional manner.

Exceptions

[ArgumentNullException](#)

The **targetNodeId** is a null reference (Nothing in Visual Basic).

ToString()

Returns a string representing the information contained in the [OpcNodeReference](#).

C#

```
public override string ToString()
```

Returns

[String](#)

A string which describes the information in this [OpcNodeReference](#).

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