

# OpcArgument Members

**Namespace:** Opc.UaFx

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

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

## Constructors

### OpcArgument(String)

Initializes a new instance of the [OpcArgument](#) class using the **name** of the argument to define an argument of the type [Object](#).

**C#**

```
public OpcArgument(string name)
```

#### Parameters

**name** [String](#)

The name of the argument.

### OpcArgument(String, OpcDataType)

Initializes a new instance of the [OpcArgument](#) class using the **name** and **dataType** of argument to define.

**C#**

```
public OpcArgument(string name, OpcDataType dataType)
```

#### Parameters

**name** [String](#)

The name of the argument.

**dataType** [OpcDataType](#)

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeId](#) of the argument to define.

### OpcArgument(String, OpcDataType, Boolean)

Initializes a new instance of the [OpcArgument](#) class using the **name** and **dataType** of argument to define.

**C#**

```
public OpcArgument(string name, OpcDataType dataType, bool isArray)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the OpcDataType enum to use to define the DataType and DataTypeeld of the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

## OpcArgument(String, OpcDataType, Boolean, Object, String)

Initializes a new instance of the OpcArgument class using the name, dataType, defaultValue and description of the argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, bool isArray, object defaultValue, string description)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the OpcDataType enum to use to define the DataType and DataTypeeld of the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

**defaultValue** Object

The value used in case there is no custom value specified for the argument.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcDataType, Boolean, String)

Initializes a new instance of the OpcArgument class using the name, dataType and description of the argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, bool isArray, string description)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeId](#) of the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcDataType, Object, String)

Initializes a new instance of the [OpcArgument](#) class using the **name**, **dataType**, **defaultValue** and **description** of the argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, object defaultValue, string description)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeId](#) of the argument to define.

**defaultValue** Object

The value used in case there is no custom value specified for the argument.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcDataType, String)

Initializes a new instance of the [OpcArgument](#) class using the **name**, **dataType** and **description** of the argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, string description)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeld](#) of the argument to define.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcDataType, UInt32[])

Initializes a new instance of the [OpcArgument](#) class using the **name** and **dataType** of argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, params uint[] arrayDimensions)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeld](#) of the argument to define.

**arrayDimensions** UInt32[]

The length for each dimension of an array value of the argument represented.

## OpcArgument(String, OpcDataType, UInt32[], Object, String)

Initializes a new instance of the [OpcArgument](#) class using the **name**, **dataType**, **defaultValue** and **description** of the argument to define.

### C#

```
public OpcArgument(string name, OpcDataType dataType, uint[] arrayDimensions, object defaultValue, string description)
```

## Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeId](#) of the argument to define.

**arrayDimensions** UInt32[]

The length for each dimension of an array value of the argument represented.

**defaultValue** Object

The value used in case there is no custom value specified for the argument.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcDataType, UInt32[], String)

Initializes a new instance of the [OpcArgument](#) class using the **name**, **dataType** and **description** of the argument to define.

**C#**

```
public OpcArgument(string name, OpcDataType dataType, uint[] arrayDimensions, string description)
```

### Parameters

**name** String

The name of the argument.

**dataType** OpcDataType

One of the members defined by the [OpcDataType](#) enum to use to define the [DataType](#) and [DataTypeId](#) of the argument to define.

**arrayDimensions** UInt32[]

The length for each dimension of an array value of the argument represented.

**description** String

The textual description of the use of the argument.

## OpcArgument(String, OpcNodeId)

Initializes a new instance of the [OpcArgument](#) class using the **name** and **dataTypeId** of argument to define.

**C#**

```
public OpcArgument(string name, OpcNodeId dataTypeId)
```

## Parameters

**name** String

The name of the argument.

**dataTypeId** OpcNodeId

The identifier ([DataTypeId](#)) of the [DataType](#) to use for the argument to define.

## Exceptions

[ArgumentNullException](#)

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

# OpcArgument(String, OpcNodeId, Boolean)

Initializes a new instance of the [OpcArgument](#) class using the **name** and **dataTypeId** of argument to define.

## C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, bool isArray)
```

## Parameters

**name** String

The name of the argument.

**dataTypeId** OpcNodeId

The identifier ([DataTypeId](#)) of the [DataType](#) to use for the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

## Exceptions

[ArgumentNullException](#)

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

# OpcArgument(String, OpcNodeId, Boolean, Object, String)

Initializes a new instance of the [OpcArgument](#) class using the **name**, **dataTypeId**, **defaultValue** and **description** of the argument to define.

## C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, bool isArray, object defaultValue, string description)
```

## Parameters

**name** String

The name of the argument.

**dataTypeId** OpcNodeId

The identifier (**DataTypeId**) of the **DataType** to use for the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

**defaultValue** Object

The value used in case there is no custom value specified for the argument.

**description** String

The textual description of the use of the argument.

## Exceptions

**ArgumentNullException**

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

# OpcArgument(String, OpcNodeId, Boolean, String)

Initializes a new instance of the **OpcArgument** class using the **name**, **dataTypeId** and **description** of the argument to define.

## C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, bool isArray, string description)
```

## Parameters

**name** String

The name of the argument.

**dataTypeId** OpcNodeId

The identifier (**DataTypeId**) of the **DataType** to use for the argument to define.

**isArray** Boolean

The value true, if the argument shall be an array; otherwise the value false.

**description** String

The textual description of the use of the argument.

## Exceptions

**ArgumentNullException**

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

## OpcArgument(String, OpcNodeId, Object, String)

Initializes a new instance of the `OpcArgument` class using the `name`, `dataTypeId`, `defaultValue` and `description` of the argument to define.

### C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, object defaultValue, string description)
```

### Parameters

`name` `String`

The name of the argument.

`dataTypeId` `OpcNodeId`

The identifier (`DataTypeId`) of the `DataType` to use for the argument to define.

`defaultValue` `Object`

The value used in case there is no custom value specified for the argument.

`description` `String`

The textual description of the use of the argument.

### Exceptions

`ArgumentNullException`

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

## OpcArgument(String, OpcNodeId, String)

Initializes a new instance of the `OpcArgument` class using the `name`, `dataTypeId` and `description` of the argument to define.

### C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, string description)
```

### Parameters

`name` `String`

The name of the argument.

`dataTypeId` `OpcNodeId`

The identifier (`DataTypeId`) of the `DataType` to use for the argument to define.



### description String

The textual description of the use of the argument.

### Exceptions

#### ArgumentNullException

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

## OpcArgument(String, OpcNodeId, UInt32[])

Initializes a new instance of the `OpcArgument` class using the `name` and `dataTypeId` of argument to define.

### C#

```
public OpcArgument(string name, OpcNodeId typeId, params uint[] arrayDimensions)
```

### Parameters

#### name String

The name of the argument.

#### dataTypeId OpcNodeId

The identifier (`DataTypeId`) of the `DataType` to use for the argument to define.

#### arrayDimensions UInt32[]

The length for each dimension of an array value of the argument represented.

### Exceptions

#### ArgumentNullException

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

## OpcArgument(String, OpcNodeId, UInt32[], Object, String)

Initializes a new instance of the `OpcArgument` class using the `name`, `dataTypeId`, `defaultValue` and `description` of the argument to define.

### C#

```
public OpcArgument(string name, OpcNodeId typeId, uint[] arrayDimensions, object defaultValue, string description)
```

### Parameters

#### name String

The name of the argument.

`dataTypeId` `OpcNodeId`

The identifier (`DataTypeId`) of the `DataType` to use for the argument to define.

`arrayDimensions` `UInt32[]`

The length for each dimension of an array value of the argument represented.

`defaultValue` `Object`

The value used in case there is no custom value specified for the argument.

`description` `String`

The textual description of the use of the argument.

## Exceptions

`ArgumentNullException`

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

# OpcArgument(String, OpcNodeId, UInt32[], String)

Initializes a new instance of the `OpcArgument` class using the `name`, `dataTypeId` and `description` of the argument to define.

## C#

```
public OpcArgument(string name, OpcNodeId dataTypeId, uint[] arrayDimensions, string description)
```

## Parameters

`name` `String`

The name of the argument.

`dataTypeId` `OpcNodeId`

The identifier (`DataTypeId`) of the `DataType` to use for the argument to define.

`arrayDimensions` `UInt32[]`

The length for each dimension of an array value of the argument represented.

`description` `String`

The textual description of the use of the argument.

## Exceptions

`ArgumentNullException`

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

# OpcArgument(String, Type)

Initializes a new instance of the [OpcArgument](#) class using the [name](#) and [type](#) of argument to define.

## C#

```
public OpcArgument(string name, Type type)
```

### Parameters

[name](#) [String](#)

The name of the argument.

[type](#) [Type](#)

The [Type](#) of argument.

### Exceptions

[ArgumentNullException](#)

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

# OpcArgument(String, Type, Object, String)

Initializes a new instance of the [OpcArgument](#) class using the [name](#), [type](#), [defaultValue](#) and [description](#) of the argument to define.

## C#

```
public OpcArgument(string name, Type type, object defaultValue, string description)
```

### Parameters

[name](#) [String](#)

The name of the argument.

[type](#) [Type](#)

The [Type](#) of argument.

[defaultValue](#) [Object](#)

The value used in case there is no custom value specified for the argument.

[description](#) [String](#)

The textual description of the use of the argument.

### Exceptions

[ArgumentNullException](#)

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

## OpcArgument(String, Type, String)

Initializes a new instance of the `OpcArgument` class using the `name`, `type` and `description` of the argument to define.

### C#

```
public OpcArgument(string name, Type type, string description)
```

### Parameters

`name` `String`

The name of the argument.

`type` `Type`

The `Type` of argument.

`description` `String`

The textual description of the use of the argument.

### Exceptions

`ArgumentNullException`

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

## Properties

### ArrayDimensions

Gets the length for each dimension of an array value of the argument represented.

### C#

```
public uint[] ArrayDimensions { get; }
```

### Property Value

`UInt32[]`

An empty array in case there the value of the argument represented is a scalar value; otherwise an `UInt32` array there each entry indicates a single dimension while the value of the entry defines the length of that dimension.

# ArrayLength

Gets the total number of elements in all the dimensions of the array value of the argument represented.

**C#**

```
public long ArrayLength { get; }
```

## Property Value

[Int64](#)

The total number of elements in all the dimensions of the array value of the argument represented; zero if there are no elements in the array.

# ArrayRank

Gets the rank (number of dimensions) of the array value of the argument represented. For example, a one-dimensional array returns 1, a two-dimensional array returns 2, and so on.

**C#**

```
public int ArrayRank { get; }
```

## Property Value

[Int32](#)

The rank (number of dimensions) of the array value of the argument represented.

# DataType

Gets the underlying built-in data type used by the argument.

**C#**

```
public OpcDataType DataType { get; }
```

## Property Value

[OpcDataType](#)

One of the members defined by the [OpcDataType](#) enumeration which defines the data type of the argument.

# DataTypeId

Gets the node identifier of the data type node identifying the type of argument.

**C#**

```
public OpcNodeId DataTypeId { get; }
```

## Property Value

[OpcNodeId](#)

An instance of the [OpcNodeId](#) which identifies the data type node representing the type of argument.

## DefaultValue

Gets the value of the argument that is by default used in case there is no custom value specified for the argument.

**C#**

```
public object DefaultValue { get; }
```

## Property Value

[Object](#)

The default value used by argument by definition.

## Description

Gets the textual description of the use of the argument represented.

**C#**

```
public OpcText Description { get; }
```

## Property Value

[OpcText](#)

A string which describes the use of the argument.

## Descriptions

Gets the [OpcArgumentGlobalization](#) instance used to control the localization and other globalization related tasks for the [Description](#) of the current attribute.

**C#**

```
public OpcArgumentGlobalization Descriptions { get; }
```

## Property Value

[OpcArgumentGlobalization](#)

An instance of the [OpcArgumentGlobalization](#) class used for the current [OpcArgument](#) to perform

localization tasks for its [Description](#).

## IsArray

Gets a value indicating whether the value of the argument represented is an array.

**C#**

```
public bool IsArray { get; }
```

### Property Value

Boolean

The value true if the value of the argument represented is an array; otherwise the false.

## Name

Gets the name of the argument.

**C#**

```
public string Name { get; }
```

### Property Value

String

A value which identifies the argument using a simple name.

### Remarks

The [String](#) used as the name of the argument does not rely on any naming-rules which typically apply to names in programming languages. Therefore it is possible to use whitespaces and special characters as well. There exists no restriction regarding the naming of an argument.

## Methods

### GetArrayLength(Int32)

Gets a 32-bit integer that represents the number of elements in the specified dimension of the array value of the argument.

**C#**

```
public long GetArrayLength(int dimension)
```

## Parameters

**dimension** [Int32](#)

A zero-based dimension of the array value whose length needs to be determined.

## Returns

[Int64](#)

A 32-bit integer that represents the number of elements in the specified dimension of the array value.

## Exceptions

[ArgumentOutOfRangeException](#)

The **dimension** is less than zero or equals to or greater than [ArrayRank](#).

[InvalidOperationException](#)

The value of the argument represented is not an array (see [IsArray](#)).

# GetArrayLowerBound(Int32)

Gets the index of the first element of the specified dimension in the array value of the argument.

**C#**

```
public long GetArrayLowerBound(int dimension)
```

## Parameters

**dimension** [Int32](#)

A zero-based dimension of the array value whose starting index needs to be determined.

## Returns

[Int64](#)

The index of the first element of the specified dimension in the array value.

## Exceptions

[ArgumentOutOfRangeException](#)

The **dimension** is less than zero or equals to or greater than [ArrayRank](#).

[InvalidOperationException](#)

The value of the argument represented is not an array (see [IsArray](#)).



# GetArrayUpperBound(Int32)

Gets the index of the last element of the specified dimension in the array value of the argument.

**C#**

```
public long GetArrayUpperBound(int dimension)
```

## Parameters

**dimension** [Int32](#)

A zero-based dimension of the array value whose upper bound needs to be determined.

## Returns

[Int64](#)

The index of the last element of the specified dimension in the array value, or -1 if the specified dimension is empty.

## Exceptions

[ArgumentOutOfRangeException](#)

The **dimension** is less than zero or equals to or greater than [ArrayRank](#).

[InvalidOperationException](#)

The value of the argument represented is not an array (see [IsArray](#)).



# Table of Contents

<b>Constructors</b>	1
OpcArgument(String)	1
OpcArgument(String, OpcDataType)	1
OpcArgument(String, OpcDataType, Boolean)	1
OpcArgument(String, OpcDataType, Boolean, Object, String)	2
OpcArgument(String, OpcDataType, Boolean, String)	2
OpcArgument(String, OpcDataType, Object, String)	3
OpcArgument(String, OpcDataType, String)	3
OpcArgument(String, OpcDataType, UInt32[])	4
OpcArgument(String, OpcDataType, UInt32[], Object, String)	4
OpcArgument(String, OpcDataType, UInt32[], String)	5
OpcArgument(String, OpcNodeid)	5
OpcArgument(String, OpcNodeid, Boolean)	6
OpcArgument(String, OpcNodeid, Boolean, Object, String)	6
OpcArgument(String, OpcNodeid, Boolean, String)	7
OpcArgument(String, OpcNodeid, Object, String)	8
OpcArgument(String, OpcNodeid, String)	8
OpcArgument(String, OpcNodeid, UInt32[])	9
OpcArgument(String, OpcNodeid, UInt32[], Object, String)	9
OpcArgument(String, OpcNodeid, UInt32[], String)	10
OpcArgument(String, Type)	11
OpcArgument(String, Type, Object, String)	11
OpcArgument(String, Type, String)	12
<b>Properties</b>	12
ArrayDimensions	12
ArrayLength	13
ArrayRank	13
DataType	13
DataTypeld	13
DefaultValue	14
Description	14
Descriptions	14
IsArray	15
Name	15
<b>Methods</b>	15
GetArrayLength(Int32)	15
GetArrayLowerBound(Int32)	16
GetArrayUpperBound(Int32)	17