

# OpcArrayDimensions Members

**Namespace:** Opc.UaFx

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

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

## Constructors

### OpcArrayDimensions(UInt32[])

Initializes a new instance of the [OpcArrayDimensions](#) class with the **lengths** of dimensions to represent.

**C#**

```
public OpcArrayDimensions(params uint[] lengths)
```

#### Parameters

**lengths** [UInt32\[\]](#)

An array its items representing the lengths of the dimensions to represent.

## Properties

### Item[Int32]

Gets the length of the **dimension** specified.

**C#**

```
public uint this[int dimension] { get; }
```

#### Property Value

[UInt32](#)

The length of the specified **dimension**.

### Length

Gets the total number of elements in all the dimensions.

**C#**

```
public long Length { get; }
```

## Property Value

Int64

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

## Rank

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

C#

```
public int Rank { get; }
```

## Property Value

Int32

The rank (number of dimensions) or zero if there are no dimensions defined.

## Methods

### GetEnumerator()

Returns an enumerator that iterates through the dimensions.

C#

```
public IEnumerator<uint> GetEnumerator()
```

## Returns

IEnumerator<UInt32>

An enumerator that can be used to iterate through the dimensions.

### GetLength(Int32)

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

C#

```
public long GetLength(int dimension)
```

## Parameters

dimension Int32

A zero-based dimension of the array 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.

## Exceptions

[ArgumentOutOfRangeException](#)

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

# GetLowerBound(Int32)

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

**C#**

```
public long GetLowerBound(int dimension)
```

## Parameters

`dimension` [Int32](#)

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

## Returns

[Int64](#)

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

## Exceptions

[ArgumentOutOfRangeException](#)

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

# GetUpperBound(Int32)

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

**C#**

```
public long GetUpperBound(int dimension)
```

## Parameters

`dimension` [Int32](#)

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

## Returns

Int64

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

## Exceptions

ArgumentOutOfRangeException

The **dimension** is less than zero or equals to or greater than **Rank**.

# ToString()

Returns a string that represents the **OpcArrayDimensions**.

## C#

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

## Returns

String

A **String** representing the **OpcArrayDimensions**.

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