

Geometry: Physical Member

[Geometry](#)

Functions

afx_msg void **OSGeometryUI::SetPhysicalMemberUniqueId** (const VARIANT FAR &nPhyMembNo, const VARIANT FAR &szName)
Sets the unique string ID (GUID) for specified physical member.

afx_msg VARIANT **OSGeometryUI::GetPhysicalMemberUniqueId** (const VARIANT FAR &nSolidNo)
Returns the unique string ID (GUID) for specified physical member.

afx_msg VARIANT **OSGeometryUI::CreatePhysicalMember** (const VARIANT FAR &nAnalyticalMember, const VARIANT FAR &MemberList, const VARIANT FAR &MemberAttribute)
Creates a physical member from specified analytical members.

afx_msg VARIANT **OSGeometryUI::DeletePhysicalMember** (const VARIANT FAR &nPhyMembNo)
Deletes specified physical member from the currently loaded model.

afx_msg VARIANT **OSGeometryUI::GetAnalyticalMemberCountForPhysicalMember** (const VARIANT FAR &nPhyMembNo)
Returns the number of analytical member(s) for specified physical member.

afx_msg VARIANT **OSGeometryUI::GetAnalyticalMembersForPhysicalMember** (const VARIANT FAR &nPhyMembNo, const VARIANT FAR &nAnalyticalMember, VARIANT FAR &MemberList)
Returns the analytical member ID(s) for specified physical member.

afx_msg VARIANT **OSGeometryUI::GetLastPhysicalMemberNo** ()
Returns the number ID of the last added physical member.

afx_msg VARIANT **OSGeometryUI::GetNoOfSelectedPhysicalMembers** ()
Returns the number of selected Physical member(s) in the model.

afx_msg void **OSGeometryUI::GetSelectedPhysicalMembers** (VARIANT FAR &naPhyMembNos, const VARIANT &nIsSorted)

afx_msg void **OSGeometryUI::SelectPhysicalMember** (const VARIANT FAR &nPhyMembNo)
Highlights the specified physical member.

afx_msg void **OSGeometryUI::SelectMultiplePhysicalMembers** (const VARIANT FAR &naPhyMembNos)
Highlights the specified physical members.

afx_msg VARIANT **OSGeometryUI::GetPhysicalMemberCount** ()
Returns the number of physical member(s) in current model.

afx_msg void **OSGeometryUI::GetPhysicalMemberList** (VARIANT FAR &nPhyMemberList)
Returns all the existing physical member number ID(s) in current model.

afx_msg VARIANT **OSGeometryUI::GetPMemberCount** ()
Returns the number of PMembers defined with model.

Loading [MathJax]/extensions/MathZoom.js

afx_msg VARIANT **OSGeometryUI::CreatePMember** (const VARIANT FAR &nAnalyticalMember, const VARIANT FAR &MemberList, const VARIANT FAR &MemberAttribute)

This API has been deprecated. Please use the API **OSGeometryUI::CreatePhysicalMember** instead.

Detailed Description

These functions are related to operations of creating, adding, getting and deleting physical member(s).

Function Documentation

◆ CreatePhysicalMember()

```
VARIANT OSGeometryUI::CreatePhysicalMember ( const VARIANT FAR & nAnalyticalMembers,
                                            const VARIANT FAR & MemberList,
                                            const VARIANT FAR & MemberAttribute )
```

private

Creates a physical member from specified analytical members.

Note: This method is not supported for physical models

Parameters

- [in] **nAnalyticalMembers** The number of member(s) to be added
- [in] **MemberList** List of physical member IDs (array of type long) that would form the physical member to be created
- [in] **MemberAttribute** Reserved for future use, please input null for the time being.

Return values

<val> Id of the newly created physical member

0 Physical member creation failed

C++ Syntax

```
// Create a physical member with 2 analytical members
long MemberList[] = {1, 2};
long RetVal = OSGeometryUI::CreatePhysicalMember(2, MemberList, null);
```

VBA Syntax

```
'Create a physical member with 2 analytical members
Dim RetVal As Variant
Dim MemberList(1) As Long
MemberList(0) = 1
MemberList(1) = 4
RetVal = objOpenStaad.Geometry.CreatePhysicalMember(2, MemberList, Null)
```

◆ DeletePhysicalMember()

VARIANT OSGeometryUI::DeletePhysicalMember (const VARIANT FAR & nPhyMembNo)

private

Deletes specified physical member from the currently loaded model.

Note: This method is not supported for physical models

Parameters

[in] **nPhyMembNo** Long variable specifying Physical member number ID to be deleted.

Return values

1 Deletion of the specified physical member is successful

0 Deletion of the specified physical member is unsuccessful

C++ Syntax

```
// Delete physical member #1.  
bool RetVal = OSGeometryUI::DeletePhysicalMember(1);
```

VBA Syntax

```
'Delete physical member #1.  
Dim RetVal As Variant  
RetVal = objOpenStaad.Geometry.DeletePhysicalMember(1)
```

◆ GetAnalyticalMemberCountForPhysicalMember()

VARIANT

`OSGeometryUI::GetAnalyticalMemberCountForPhysicalMember (const VARIANT FAR & nPhyMembNo)` [private]

Returns the number of analytical member(s) for specified physical member.

Parameters

[in] **nPhyMembNo** Physical member ID.

Return values

<Val> The number of analytical member(s).

-1 General error.

C++ Syntax

```
// Count for the analytical member(s) in physical member #5.  
VARIANT nAnaMember = OSGeometryUI::GetAnalyticalMemberCountForPhysicalMember(5);
```

VBA Syntax

```
' Count for the analytical member(s) in physical member #5.  
Dim nAnaMember As VARIANT = OSGeometryUI.GetAnalyticalMemberCountForPhysicalMember(5)
```

See also

[OSGeometryUI::GetAnalyticalMembersForPhysicalMember](#)

- ◆ [GetAnalyticalMembersForPhysicalMember\(\)](#)

VARIANT

```
OSGeometryUI::GetAnalyticalMembersForPhysicalMember ( const VARIANT FAR & nPhyMembNo,
                                                    const VARIANT FAR & nAnalyticalMember,
                                                    VARIANT FAR &           MemberList )
```

private

Returns the analytical member ID(s) for specified physical member.

Parameters

- [in] **nPhyMembNo** Physical member number ID.
- [in] **nAnalyticalMember** The number of analytical member(s).
- [out] **MemberList** Analytical member ID(s) in VARIANT array.

Return values

- 0** OK.
- 107** Array of integer expected.
- 108** Array size is smaller than expected.

C++ Syntax

```
// Get the analytical member list for physical member #5.
VARIANT RetVal = OSGeometryUI::GetAnalyticalMembersForPhysicalMember(5, 0 &MemberList);
```

VBA Syntax

```
' Get the analytical member list for physical member #5.
Dim RetVal As VARIANT = OSGeometryUI.GetAnalyticalMembersForPhysicalMember(5, 0
    &MemberList)
```

- ◆ **GetLastPhysicalMemberNo()**

VARIANT OSGeometryUI::GetLastPhysicalMemberNo()

private

Returns the number ID of the last added physical member.

Return values

<Val> Number ID of the last physical member.

-1 General error.

C++ Syntax

```
// Get the last physical member.  
VARIANT nPhyMember = OSGeometryUI::GetLastPhysicalMemberNo();
```

VBA Syntax

```
' Get the last physical member.  
Dim nPhyMember As VARIANT = OSGeometryUI.GetLastPhysicalMemberNo()
```

See also

[OSGeometryUI::CreatePhysicalMember](#)

◆ [GetNoOfSelectedPhysicalMembers\(\)](#)

VARIANT OSGeometryUI::GetNoOfSelectedPhysicalMembers()

private

Returns the number of selected Physical member(s) in the model.

Return values

<Val> The number of selected Physical member(s) in the model.

-1 General error.

C++ Syntax

```
// Count for the selected Physical Member
VARIANT pMemberCount = OSGeometryUI::GetNoOfSelectedPhysicalMembers();
```

VBA Syntax

```
' Count for the selected Physical Member
Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
    Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
    objOpenStaad.GetSTAADFfile stdFile, "TRUE"
    If stdFile="" Then
        MsgBox"Bad"
        Set objOpenStaad = Nothing
        Exit Sub
    End If
    Dim retVal As Long
    retVal = objOpenStaad.Geometry.GetNoOfSelectedPhysicalMembers
    Set objOpenStaad = Nothing
End Sub
```

◆ **GetPhysicalMemberCount()**

VARIANT OSGeometryUI::GetPhysicalMemberCount()

private

Returns the number of physical member(s) in current model.

Return values

<Val> The number of physical member(s).

-1 General error.

C++ Syntax

```
// Count for the physical member(s)
VARIANT nPhyMember = OSGeometryUI::GetPhysicalMemberCount();
```

VBA Syntax

```
' Count for the physical member(s)
Dim nPhyMember As VARIANT = OSGeometryUI.GetPhysicalMemberCount()
```

See also

[OSGeometryUI::GetPhysicalMemberList](#)

[OSGeometryUI::DeletePhysicalMember](#)

[OSGeometryUI::CreatePhysicalMember](#)

◆ [GetPhysicalMemberList\(\)](#)

```
void OSGeometryUI::GetPhysicalMemberList ( VARIANT FAR & nPhyMemberList )
```

private

Returns all the existing physical member number ID(s) in current model.

Parameters

[out] **nPhyMemberList** Physical member number ID(s) in VARIANT array.

C++ Syntax

```
// Get the physical member list.  
OSGeometryUI::GetPhysicalMemberList(&nPhyMemberList);
```

VBA Syntax

```
' Get the physical member list.  
OSGeometryUI.GetPhysicalMemberList(&nPhyMemberList)
```

See also

[OSGeometryUI::GetPhysicalMemberCount](#)
[OSGeometryUI::DeletePhysicalMember](#)
[OSGeometryUI::CreatePhysicalMember](#)

◆ [GetPhysicalMemberUniqueId\(\)](#)

VARIANT OSGeometryUI::GetPhysicalMemberUniqueID (const VARIANT FAR & nPhyMembNo)

private

Returns the unique string ID (GUID) for specified physical member.

Parameters

[in] **nPhyMembNo** Physical member number ID.

Return values

<**VARIANT**> Unique string ID for specified physical member

The API would return an empty string if specified physical member < **nPhyMembNo** > is *not* found

C++ Syntax

```
// Get the unique ID of physical member #3.
string szName = OSGeometryUI::GetPhysicalMemberUniqueID(3);
```

VBA Syntax

```
' Get the unique ID of physical member #3.
Dim szName As VARIANT
szName= objOpenStaad.Geometry.GetPhysicalMemberUniqueID(3)
```

See also

[OSGeometryUI::SetPhysicalMemberUniqueID](#)

◆ GetPMemberCount()**VARIANT OSGeometryUI::GetPMemberCount ()**

private

Returns the number of PMembers defined with model.

Returns

The number of PMembers.

C++ Syntax

```
// Count for the meshed PMember
VARIANT pMemberCount = OSGeometryUI::GetPMemberCount();
```

VBA Syntax

```
' Count for the meshed PMember
Dim pMemberCount As VARIANT = OSGeometryUI.GetPMemberCount()
```

Loading [MathJax]/extensions/MathZoom.js

◆ GetSelectedPhysicalMembers()

```
void OSGeometryUI::GetSelectedPhysicalMembers ( VARIANT FAR & naPhyMembNos,
                                              const VARIANT & nIsSorted )
```

private

Parameters

[out] **naPhysicalMember** number ID(s) in VARIANT array

[in] **nIsSorted** Option whether naBeamNos array is sorted(1) or not(0)

C++ Syntax

```
// Get the sorted list of selected Physical member(s)
OSGeometryUI::GetSelectedPhysicalMembers(physicaMemberNoList,1);
```

VBA Syntax

```
' Get the sorted list of selected Physical member(s)
Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
    Set objOpenStaad = GetObject(, "StaadPro.OpenSTAAD")
    objOpenStaad.GetSTAADFfile stdFile, "TRUE"
    If stdFile="" Then
        MsgBox"Bad"
        Set objOpenStaad = Nothing
        Exit Sub
    End If
    Dim retVal As Long
    retVal = objOpenStaad.Geometry.GetNoOfSelectedPhysicalMembers()
    Dim selectedList() As Long
    ReDim selectedList(retVal - 1)
    objOpenStaad.Geometry.GetSelectedPhysicalMembers selectedList, 1
    Set objOpenStaad = Nothing
End Sub
```

◆ SelectMultiplePhysicalMembers()

```
void OSGeometryUI::SelectMultiplePhysicalMembers ( const VARIANT FAR & nPhyMembNos )
```

private

Highlights the specified physical members.

Parameters

[in] **nPhyMembNos** The physical member numbers (Type : Long).

C++ Syntax

```
// Select physical members #1,2.  
long nPhyMembNo [2] = { 1, 2 };  
OSGeometryUI::SelectPhysicalMember(nPhyMembNo);
```

VBA Syntax

```
' Select physical members #1,2.  
Option Explicit  
  
Sub Main  
    Dim objOpenStaad As Object  
    Dim stdFile As String  
    Dim nPhyMembNo(1) As Long  
  
    Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")  
    objOpenStaad.GetSTAADFile stdFile, "TRUE"  
    nPhyMembNo(0) = 1  
    nPhyMembNo(1) = 2  
    objOpenStaad.geometery.SelectMultiplePhysicalMembers(nPhyMembNo)  
End Sub
```

◆ SelectPhysicalMember()

```
void OSGeometryUI::SelectPhysicalMember ( const VARIANT FAR & nPhyMembNo )
```

private

Highlights the specified physical member.

Parameters

[in] **nPhyMembNo** The physical member number.

C++ Syntax

```
// Select physical member #2.  
OSGeometryUI::SelectPhysicalMember(2);
```

VBA Syntax

```
' Select physical member #2.  
Option Explicit  
  
Sub Main  
    Dim objOpenStaad As Object  
    Dim stdFile As String  
    Dim pPhyMembNo As Long  
  
    Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")  
    objOpenStaad.GetSTAADFfile stdFile, "TRUE"  
    pPhyMembNo = 2  
    objOpenStaad.geometery.SelectPhysicalMember(pPhyMembNo)  
End Sub
```

◆ SetPhysicalMemberUniqueId()

```
void OSGeometryUI::SetPhysicalMemberUniqueID ( const VARIANT FAR & nPhyMembNo,  
                                              const VARIANT FAR & szGUID )
```

private

Sets the unique string ID (GUID) for specified physical member.

Note: This method is not supported for physical models

Parameters

- [in] **nPhyMembNo** Long variable for holding Physical member number ID for which GUID is intended to be set
- [in] **szGUID** String variable for holding GUID to be set

C++ Syntax

```
//Set unique ID "ABCD123" for physical member #1.  
OSGeometryUI::SetPhysicalMemberUniqueID(1, "ABCD123");
```

VBA Syntax

```
'Set unique ID "ABCD123" for physical member #1.  
objOpenStaad.Geometry.GetPhysicalMemberUniqueID(1, "ABCD123")
```

See also

[OSGeometryUI::GetPhysicalMemberUniqueID](#)

© Copyright Bentley Systems, Inc. For more information, see <http://www.bentley.com>.