

DirectShowLib.Utils Namespace

[Namespace hierarchy](#)

Classes

Class	Description
FilterGraphTools	A collection of methods to do common DirectShow tasks.

FilterGraphTools Class

A collection of methods to do common DirectShow tasks.

For a list of all members of this type, see [FilterGraphTools Members](#).

[System.Object](#) **DirectShowLib.Utls.FilterGraphTools**

```
public sealed class FilterGraphTools
```

Thread Safety

Public static (**Shared** in Visual Basic) members of this type are safe for multithreaded operations. Instance members are **not** guaranteed to be thread-safe.

Requirements

Namespace: [DirectShowLib.Utls](#)

Assembly: DirectShowLib.Utls (in DirectShowLib.Utls.dll)














See Also





[FilterGraphTools Members](#) | [DirectShowLib.Utls Namespace](#)

FilterGraphTools Members





[FilterGraphTools overview](#)

Public Static Methods

 AddFilterByDevicePath	Add a filter to a DirectShow Graph using its Moniker's device path
 AddFilterByName	Add a filter to a DirectShow Graph using its name
 AddFilterFromClsid	Add a filter to a DirectShow Graph using its CLSID
 ConnectFilters	Overloaded. Connect pins from two filters
 DisconnectAllPins	Disconnect pins of all the filters in a DirectShow Graph
 DisconnectPins	Disconnect all pins on a given filter
 FindFilterByClsid	Find a filter in a DirectShow Graph using its CLSID
 FindFilterByName	Find a filter in a DirectShow Graph using its name
 HasPropertyPages	Check if a DirectShow filter can display Property Pages
 IsThisComObjectInstalled	Check if a COM Object is available
 IsVMR7Present	Check if the Video Mixing Renderer 7 Filter is available
 IsVMR9Present	Check if the Video Mixing Renderer 9 Filter is available
 LoadGraphFile	Load a DirectShow Graph from

	a file
 RemoveAllFilters	Remove and release all filters from a DirectShow Graph
 RenderPin	Render a filter's pin in a DirectShow Graph
 SaveGraphFile	Save a DirectShow Graph to a GRF file
 ShowFilterPropertyPage	Display Property Pages of a given DirectShow filter

Public Instance Methods

 Equals (inherited from Object)	
 GetHashCode (inherited from Object)	
 GetType (inherited from Object)	
 ToString (inherited from Object)	










See Also






[FilterGraphTools Class](#) | [DirectShowLib.Utills Namespace](#)

FilterGraphTools Methods





The methods of the **FilterGraphTools** class are listed below. For a complete list of **FilterGraphTools** class members, see the [FilterGraphTools Members](#) topic.

Public Static Methods

 AddFilterByDevicePath	Add a filter to a DirectShow Graph using its Moniker's device path
 AddFilterByName	Add a filter to a DirectShow Graph using its name
 AddFilterFromClsid	Add a filter to a DirectShow Graph using its CLSID
 ConnectFilters	Overloaded. Connect pins from two filters
 DisconnectAllPins	Disconnect pins of all the filters in a DirectShow Graph
 DisconnectPins	Disconnect all pins on a given filter
 FindFilterByClsid	Find a filter in a DirectShow Graph using its CLSID
 FindFilterByName	Find a filter in a DirectShow Graph using its name
 HasPropertyPages	Check if a DirectShow filter can display Property Pages
 IsThisComObjectInstalled	Check if a COM Object is available
 IsVMR7Present	Check if the Video Mixing Renderer 7 Filter is available
 IsVMR9Present	Check if the Video Mixing Renderer 9 Filter is available

 LoadGraphFile	Load a DirectShow Graph from a file
 RemoveAllFilters	Remove and release all filters from a DirectShow Graph
 RenderPin	Render a filter's pin in a DirectShow Graph
 SaveGraphFile	Save a DirectShow Graph to a GRF file
 ShowFilterPropertyPage	Display Property Pages of a given DirectShow filter

Public Instance Methods

 Equals (inherited from Object)	
 GetHashCode (inherited from Object)	
 GetType (inherited from Object)	
 ToString (inherited from Object)	

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.AddFilterByDevicePath Method

Add a filter to a DirectShow Graph using its Moniker's device path

```
public static IBaseFilter AddFilterByDevicePath(  
    IGraphBuilder graphBuilder,  
    string devicePath,  
    string name  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

devicePath

a moniker path

name

the name to use for the filter in the graph

Return Value

an instance of the filter if the method successfully creates it, null if not

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if errors occur when the filter is add to the graph

Example

This sample shows how to programmatically add a NVIDIA Video decoder filter to a graph

```
string devicePath = @"@device:sw:{083863F1-70DE-11D0  
filter = FilterGraphTools.AddFilterByDevicePath(grap
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.AddFilterByName Method

Add a filter to a DirectShow Graph using its name

```
public static IBaseFilter AddFilterByName(  
    IGraphBuilder graphBuilder,  
    Guid deviceCategory,  
    string friendlyName  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

deviceCategory

the filter category (see DirectShowLib.FilterCategory)

friendlyName

the filter name (case-sensitive)

Return Value

an instance of the filter if the method successfully created it, null if not

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if errors occur when the filter is add to the graph

Example

This sample shows how to programmatically add a NVIDIA Video decoder filter to a graph

```
filter = FilterGraphTools.AddFilterByName(graphBuild
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.AddFilterFromClsid Method

Add a filter to a DirectShow Graph using its CLSID

```
public static IBaseFilter AddFilterFromClsid(  
    IGraphBuilder graphBuilder,  
    Guid clsid,  
    string name  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

clsid

a valid CLSID. This object must implement IBaseFilter

name

the name used in the graph (may be null)

Return Value

an instance of the filter if the method successfully created it, null if not

Remarks

You can use [IsThisComObjectInstalled](#) to check if the CLSID is valid before calling this method

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if errors occur when the filter is added to the graph

Example

This sample shows how to programmatically add a NVIDIA Video decoder filter to a graph

```
Guid nvidiaVideoDecClsid = new Guid("71E4616A-DB5E-4  
  
if (FilterGraphTools.IsThisComObjectInstalled(nvidia  
{  
    filter = FilterGraphTools.AddFilterFromClsid(graph  
}  
else  
{  
    // use another filter...  
}
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [IsThisComObjectInstalled](#)

FilterGraphTools.ConnectFilters Method

Connect pins from two filters

Overload List

Connect pins from two filters

[public static void ConnectFilters\(IGraphBuilder,IBaseFilter,string,IBa](#)

Connect pins from two filters

[public static void ConnectFilters\(IGraphBuilder,IPin,IPin,bool\);](#)

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.ConnectFilters Method (IGraphBuilder, IBaseFilter, String, IBaseFilter, String, Boolean)

Connect pins from two filters

```
public static void ConnectFilters(  
    IGraphBuilder graphBuilder,  
    IBaseFilter upFilter,  
    string sourcePinName,  
    IBaseFilter downFilter,  
    string destPinName,  
    bool useIntelligentConnect  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

upFilter

the upstream filter

sourcePinName

the upstream filter pin name

downFilter

the downstream filter

destPinName

the downstream filter pin name

useIntelligentConnect

indicate if the method should use DirectShow's Intelligent Connect

Remarks

If *useIntelligentConnect* is true, this method can add missing filters between the two pins.

If *useIntelligentConnect* is false, this method works only if the two media types are compatible.

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder, upFilter or downFilter are null
ArgumentException	Thrown if pin names are not found in filters
COMException	Thrown if pins can't connect

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [FilterGraphTools.ConnectFilters Overload List](#)

FilterGraphTools.ConnectFilters Method (IGraphBuilder, IPin, IPin, Boolean)

Connect pins from two filters

```
public static void ConnectFilters(  
    IGraphBuilder graphBuilder,  
    IPin sourcePin,  
    IPin destPin,  
    bool useIntelligentConnect  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

sourcePin

the source (upstream / output) pin

destPin

the destination (downstream / input) pin

useIntelligentConnect

indicates if the method should use DirectShow's Intelligent Connect

Remarks

If *useIntelligentConnect* is true, this method can add missing filters between the two pins.

If *useIntelligentConnect* is false, this method works only if the two media types are compatible.

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if <i>graphBuilder</i> , <i>sourcePin</i> or <i>destPin</i> are null
COMException	Thrown if pins can't connect

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utls Namespace](#) | [FilterGraphTools.ConnectFilters Overload List](#)

FilterGraphTools.DisconnectAllPins Method

Disconnect pins of all the filters in a DirectShow Graph

```
public static void DisconnectAllPins(  
    IGraphBuilder graphBuilder  
);
```

Parameters

graphBuilder
the IGraphBuilder interface of the graph

Remarks

This method doesn't throw an exception if an error occurs during pin disconnections

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if the method can't enumerate its filters

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.DisconnectPins Method

Disconnect all pins on a given filter

```
public static void DisconnectPins(  
    IBaseFilter filter  
);
```

Parameters

filter

the filter on which to disconnect all the pins

Remarks

Both input and output pins are disconnected

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if filter is null
COMException	Thrown if errors occurred during the disconnection process

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.FindFilterByClsid Method

Find a filter in a DirectShow Graph using its CLSID

```
public static IBaseFilter FindFilterByClsid(  
    IGraphBuilder graphBuilder,  
    Guid filterClsid  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

filterClsid

the CLSID to find

Return Value

an instance of the filter if found, null if not

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [FindFilterByName](#)

FilterGraphTools.FindFilterByName Method

Find a filter in a DirectShow Graph using its name

```
public static IBaseFilter FindFilterByName(  
    IGraphBuilder graphBuilder,  
    string filterName  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

filterName

the filter name to find (case-sensitive)

Return Value

an instance of the filter if found, null if not

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [FindFilterByClsid](#)

FilterGraphTools.HasPropertyPages Method

Check if a DirectShow filter can display Property Pages

```
public static bool HasPropertyPages(  
    IBaseFilter filter  
);
```

Parameters

filter

A DirectShow Filter

Return Value

true if the filter has Property Pages, false if not

Remarks

This method is intended to be used with [ShowFilterPropertyPage](#)

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if filter is null

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [ShowFilterPropertyPage](#)

FilterGraphTools.IsThisComObjectInstalled Method

Check if a COM Object is available

```
public static bool IsThisComObjectInstalled(  
    Guid clsid  
);
```

Parameters

clsid

The CLSID of this object

Return Value

true if the object is available, false if not

Example

This sample shows how to check if the MPEG-2 Demultiplexer filter is available

```
if (FilterGraphTools.IsThisComObjectInstalled(typeof  
{  
    // Use it...  
})
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.IsVMR7Present Method

Check if the Video Mixing Renderer 7 Filter is available

```
public static bool IsVMR7Present();
```

Return Value

true if VMR7 is present, false if not

Remarks

This method uses [IsThisComObjectInstalled](#) internally

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [IsThisComObjectInstalled](#)

FilterGraphTools.IsVMR9Present Method

Check if the Video Mixing Renderer 9 Filter is available

```
public static bool IsVMR9Present();
```

Return Value

true if VMR9 is present, false if not

Remarks

This method uses [IsThisComObjectInstalled](#) internally

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [IsThisComObjectInstalled](#)

FilterGraphTools.LoadGraphFile Method

Load a DirectShow Graph from a file

```
public static void LoadGraphFile(  
    IGraphBuilder graphBuilder,  
    string fileName  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

fileName

the file to be loaded

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
ArgumentException	Thrown if the given file is not a valid graph file
COMException	Thrown if errors occur during loading

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [SaveGraphFile](#)

FilterGraphTools.RemoveAllFilters Method

Remove and release all filters from a DirectShow Graph

```
public static void RemoveAllFilters(  
    IGraphBuilder graphBuilder  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if the method can't enumerate its filters

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#)

FilterGraphTools.RenderPin Method

Render a filter's pin in a DirectShow Graph

```
public static bool RenderPin(  
    IGraphBuilder graphBuilder,  
    IBaseFilter source,  
    string pinName  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

source

the filter containing the pin to render

pinName

the pin name

Return Value

true if rendering is a success, false if not

Remarks

This method assumes that the filter is part of the given graph

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder or source is null

Example

```
hr = graphBuilder.AddSourceFilter(@"foo.avi", "Source  
DsError.ThrowExceptionForHR(hr);  
  
if (!FilterGraphTools.RenderPin(graphBuilder, filter
```

```
{  
  // Something went wrong...  
}
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utls Namespace](#)

FilterGraphTools.SaveGraphFile Method

Save a DirectShow Graph to a GRF file

```
public static void SaveGraphFile(  
    IGraphBuilder graphBuilder,  
    string fileName  
);
```

Parameters

graphBuilder

the IGraphBuilder interface of the graph

fileName

the file to be saved

Remarks

This method overwrites any existing file

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if graphBuilder is null
COMException	Thrown if errors occur during the file creation

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utils Namespace](#) | [LoadGraphFile](#)

FilterGraphTools.ShowFilterPropertyPage Method

Display Property Pages of a given DirectShow filter

```
public static void ShowFilterPropertyPage(  
    IBaseFilter filter,  
    IntPtr parent  
);
```

Parameters

filter

A DirectShow Filter

parent

A hwnd handle of a window to contain the pages

Remarks

You can check if a filter supports Property Pages with the [HasPropertyPages](#) method.

Warning : This method is blocking. It only returns when the Property Pages are closed.

Exceptions

Exception Type	Condition
ArgumentNullException	Thrown if filter is null

Example

This sample shows how to check if a filter supports Property Pages and displays them

```
if (FilterGraphTools.HasPropertyPages(myFilter))  
{  
    FilterGraphTools.ShowFilterPropertyPage(myFilter,  
}
```

See Also

[FilterGraphTools Class](#) | [DirectShowLib.Utls Namespace](#) | [HasPropertyPages](#)

DirectShowLib.Utls Hierarchy

[System.Object](#)

[DirectShowLib.Utls.FilterGraphTools](#)

See Also

[DirectShowLib.Utls Namespace](#)