

System.MulticastDelegate Class

```
[ILAsm]
.class public abstract serializable beforefieldinit MulticastDelegate
extends System.Delegate

[C#]
public abstract class MulticastDelegate: Delegate
```

Assembly Info:

- *Name:* mscorlib
- *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- *Version:* 4.0.0.0
- *Attributes:*
 - CLSCompliantAttribute(true)

Summary

Represents a multicast delegate; that is, a delegate that can have more than one element in its invocation list.

Inherits From: System.Delegate

Library: BCL

Description

`System.MulticastDelegate` is a special class. Compilers and other tools can derive from this class, but you cannot derive from it explicitly. The same is true of the `System.Delegate` class.

In addition to the methods that delegate types inherit from `System.MulticastDelegate`, the common language infrastructure provides two special methods: `BeginInvoke` and `EndInvoke`.

A `System.MulticastDelegate` has a linked list of delegates, called an invocation list, consisting of one or more elements. When a multicast delegate is invoked, the delegates in the invocation list are called synchronously in the order in which they appear. If an error occurs during execution of the list then an exception is thrown.

MulticastDelegate(System.Object, System.String) Constructor

```
[ILAsm]  
.method family hidebysig specialname rtspecialname instance void  
.ctor(object target, string 'method') cil managed  
  
[C#]  
protected MulticastDelegate (object target, string method)
```

Summary

Initializes a new instance of the `System.MulticastDelegate` class.

Parameters

Parameter	Description
<i>target</i>	The object on which <i>method</i> is defined.
<i>method</i>	The name of the method for which a delegate is created.

Description

This constructor cannot be used in application code. To create a delegate by specifying the name of an instance method, use an overload of the `System.Delegate.CreateDelegate` method that specifies a method name and a target object. For example, the `System.Delegate.CreateDelegate` method overload creates a delegate for an instance method with a specified name.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions</code> .

	ReflectionPermissionFlag.MemberAccess.
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MulticastDelegate(System.Type, System.String) Constructor

```
[ILAsm]  
.method family hidebysig specialname rtspecialname instance void  
.ctor(class System.Type target, string 'method') cil managed  
  
[C#]  
protected MulticastDelegate (Type target, string method)
```

Summary

Initializes a new instance of the `System.MulticastDelegate` class.

Parameters

Parameter	Description
<i>target</i>	The type of object on which <i>method</i> is defined.
<i>method</i>	The name of the static method for which a delegate is created.

Description

This constructor cannot be used in application code. To create a delegate by specifying the name of a static method, use an overload of the `System.Delegate.CreateDelegate` method that specifies a method name but does not specify a target object. For example, the `System.Delegate.CreateDelegate` method overload creates a static delegate for a method with a specified name.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions</code> .

	ReflectionPermissionFlag.MemberAccess
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MulticastDelegate.CombineImpl(System.Delegate) Method

```
[ILAsm]  
.method family hidebysig virtual final instance class System.Delegate  
CombineImpl(class System.Delegate follow) cil managed  
  
[C#]  
protected override sealed Delegate CombineImpl (Delegate follow)
```

Summary

Combines this `System.Delegate` with the specified `System.Delegate` to form a new delegate.

Parameters

Parameter	Description
<i>follow</i>	The delegate to combine with this delegate.

Return Value

A delegate that is the new root of the `System.MulticastDelegate` invocation list.

Exceptions

Exception	Condition
System.ArgumentException	<i>follow</i> does not have the same type as this instance.
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

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MulticastDelegate.Equals(System.Object) Method

```
[ILAsm]  
.method public hidebysig virtual final instance bool Equals(object obj)  
cil managed  
  
[C#]  
public override sealed bool Equals (object obj)
```

Summary

Determines whether this multicast delegate and the specified object are equal.

Parameters

Parameter	Description
<i>obj</i>	The object to compare with this instance.

Return Value

true if *obj* and this instance have the same invocation lists; otherwise, false.

Description

Two delegates are equal if they are not null and are of exactly the same type, their invocation lists contain the same number of elements, and every element in the invocation list of the first delegate is equal to the corresponding element in the invocation list of the second delegate.

Two invocation list elements are equal if they invoke the same instance method on the same target instance, or they invoke the same static method.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
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**System.Security.Permissions.
ReflectionPermission**

when invoked late-bound through mechanisms such as
System.Type.InvokeMember. Associated enumeration:
System.Security.Permissions.
ReflectionPermissionFlag.MemberAccess

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MulticastDelegate.GetHashCode() Method

```
[ILAsm]  
.method public hidebysig virtual final instance int32 GetHashCode() cil  
managed  
  
[C#]  
public override sealed int GetHashCode ()
```

Summary

Returns the hash code for this instance.

Return Value

A 32-bit signed integer hash code.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

MulticastDelegate.GetInvocationList()

Method

```
[ILAsm]  
.method public hidebysig virtual final instance class System.Delegate[]  
GetInvocationList() cil managed  
  
[C#]  
public override sealed Delegate[] GetInvocationList ()
```

Summary

Returns the invocation list of this multicast delegate, in invocation order.

Return Value

An array of delegates whose invocation lists collectively match the invocation list of this instance.

Description

The array contains a set of delegates, each with an invocation list of one entry. Invoking these delegates sequentially, in the order they appear in the array, produces the same results as invoking the current instance.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

MulticastDelegate.GetMethodImpl() Method

```
[ILAsm]  
.method family hidebysig virtual instance class  
System.ReflectionMethodInfo GetMethodImpl() cil managed  
  
[C#]  
protected override System.Reflection.MethodInfo GetMethodImpl ()
```

Summary

Returns a static method represented by the current `System.MulticastDelegate`.

Return Value

A static method represented by the current `System.MulticastDelegate`.

Description

If the `System.MulticastDelegate` represents multiple methods, only one method is returned. It is implementation-specific which method is returned.

MulticastDelegate.op_Equality(System.MulticastDelegate, System.MulticastDelegate) Method

```
[ILAsm]  
.method public hidebysig specialname static bool op_Equality(class  
System.MulticastDelegate d1, class System.MulticastDelegate d2) cil  
managed  
  
[C#]  
public static bool op_Equality (MulticastDelegate d1, MulticastDelegate  
d2)
```

Summary

Determines whether two `System.MulticastDelegate` objects are equal.

Parameters

Parameter	Description
<i>d1</i>	The left operand.
<i>d2</i>	The right operand.

Return Value

`true` if *d1* and *d2* have the same invocation lists; otherwise, `false`.

Description

Two delegates are equal if they are not `null` and are of exactly the same type, their invocation lists contain the same number of elements, and every element in the invocation list of the first delegate is equal to the corresponding element in the invocation list of the second delegate.

Two invocation list elements are equal if they invoke the same instance method on the same target instance, or they invoke the same static method.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this

	member was invoked with a late-binding mechanism.
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2 Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

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MulticastDelegate.op_Inequality(System.MulticastDelegate, System.MulticastDelegate) Method

```
[ILAsm]
.method public hidebysig specialname static bool op_Inequality(class
System.MulticastDelegate d1, class System.MulticastDelegate d2) cil
managed

[C#]
public static bool op_Inequality (MulticastDelegate d1, MulticastDelegate
d2)
```

Summary

Determines whether two `System.MulticastDelegate` objects are not equal.

Parameters

Parameter	Description
<i>d1</i>	The left operand.
<i>d2</i>	The right operand.

Return Value

true if *d1* and *d2* do not have the same invocation lists; otherwise, false.

Description

Two delegates are equal if they are not null and are of exactly the same type, their invocation lists contain the same number of elements, and every element in the invocation list of the first delegate is equal to the corresponding element in the invocation list of the second delegate.

Two invocation list elements are equal if they invoke the same instance method on the same target instance, or they invoke the same static method.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this

	member was invoked with a late-binding mechanism.
--	---

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2 Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

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MulticastDelegate.RemoveImpl(System.Delegate) Method

```
[ILAsm]  
.method family hidebysig virtual final instance class System.Delegate  
RemoveImpl(class System.Delegate 'value') cil managed  
  
[C#]  
protected override sealed Delegate RemoveImpl (Delegate value)
```

Summary

Removes an element from the invocation list of this `System.MulticastDelegate` that is equal to the specified delegate.

Parameters

Parameter	Description
<i>value</i>	The delegate to search for in the invocation list.

Return Value

If *value* is found in the invocation list for this instance, then a new `System.Delegate` without *value* in its invocation list; otherwise, this instance with its original invocation list.

Exceptions

Exception	Condition
System.MemberAccessException	Cannot create an instance of an abstract class, or this member was invoked with a late-binding mechanism.

Permissions

Permission	Description
System.Security.Permissions.ReflectionPermission	when invoked late-bound through mechanisms such as <code>System.Type.InvokeMember</code> . Associated enumeration: <code>System.Security.Permissions.ReflectionPermissionFlag.MemberAccess</code>

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