System.FlagsAttribute Class

```
[ILAsm]
.class public serializable FlagsAttribute extends System.Attribute

[C#]
public class FlagsAttribute: Attribute
```

Assembly Info:

- *Name:* mscorlib
- *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- *Version:* 2.0.x.x
- *Attributes:*
  - CLSCompliantAttribute(true)

Type Attributes:

- AttributeUsageAttribute(AttributeTargets.Enum, AllowMultiple=false, Inherited=false)

Summary

Indicates that the `System.Enum` targeted by the current attribute is declared as a bit-field.

Inherits From: System.Attribute

Library: BCL

Thread Safety: All public static members of this type are safe for multithreaded operations. No instance members are guaranteed to be thread safe.

Description

The `System.FlagsAttribute` class provides the consumer of a `System.Enum` the information that the enumeration is to be used as a bit-field. Additionally, when formatting a `System.Enum`, using the `System.FlagsAttribute` causes a value that is a bitwise OR combination of multiple fields to print correctly.

[*Note:* Bit-fields are generally used for lists of elements that might occur in combination; whereas enumeration constants are generally used for lists of mutually exclusive elements. Therefore, bit-fields are designed to be combined with the bitwise OR operator to generate unnamed values, whereas enumerated constants are not. Languages vary in their usage of bit-fields compared to enumeration constants.

This attribute can only be applied to enumerations.

]

Example

The following example demonstrates the use of `System.FlagsAttribute` on the formatting of a `System.Enum`. With this attribute, the *Position* enumeration is used as a bit-field, and the value 3 (Top | Left) is considered a valid value for the enumeration when formatting. Without this attribute, the enumeration *Color* is not used as a bit-field, and the value 3 (Red | Blue) is not considered a valid value for the enumeration when formatting.

[C#]

```
using System;
[FlagsAttribute()]
public enum Position {

  Top = 0x1,
  Left = 0x2,
  Bottom = 0x4,
  Right = 0x8
}

//enum Color declared without FlagsAttribute
public enum Color {

  Red = 0x1,
  Blue = 0x2,
  Yellow = 0x4
}

public class enumFormat {

  public static void Main() {

    Position p = Position.Top | Position.Left;
    Console.WriteLine("Position: {0}", p);
    Color c = Color.Red | Color.Blue;
    Console.WriteLine("Color: {0}", c);
  }
}
```

The output is

```
Position: Top, Left


Color: 3
```

FlagsAttribute() Constructor

```
[ILAsm]
public rtspecialname specialname instance void .ctor()

[C#]
public FlagsAttribute()
```

Summary

Constructs a new instance of the `System.FlagsAttribute` class.