System.Runtime.InteropServices.FieldOffsetAttribute Class

```
[ILASM]
.class public sealed FieldOffsetAttribute extends
System.Attribute

[C#]
public sealed class FieldOffsetAttribute: Attribute
```

Assembly Info:

- *Name:* mscorlib
- *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- *Version:* 1.0.x.x
- *Attributes:*
  - CLSCompliantAttribute(true)

Type Attributes:

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

Summary

Indicates the physical position of a field within the unmanaged representation of a class or structure.

Inherits From: System.Attribute

Library: RuntimeInfrastructure

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 target objects for this attribute are non-static fields of classes and structures qualified with the **System.Runtime.InteropServices.StructLayoutAttribute** set to **System.Runtime.InteropServices.LayoutKind.Explicit**. All non-static fields within an object with an explicit layout are required to have this attribute. No static or constant fields within an object with explicit layout are allowed to have this attribute.

The physical layout of the data members of a class or structure is automatically arranged in managed memory. When a managed object

is passed as an argument to unmanaged code, the system creates its
unmanaged representation.
System.Runtime.InteropServices.StructLayoutAttribute provides
explicit control over this unmanaged representation.
System.Runtime.InteropServices.FieldOffsetAttribute indicates
the offset of a target data member within the unmanaged
representation of a class or structure.

If **System.Runtime.InteropServices.FieldOffsetAttribute**
instances on target fields of an exported object are set to overlap each
other, one field is overwritten by another field. For example, if an
integer field has the
System.Runtime.InteropServices.FieldOffsetAttribute set to 4,
and another integer field has the
System.Runtime.InteropServices.FieldOffsetAttribute set to 6,
the last two bytes of the unmanaged representation of the first integer
overlap the first two bytes of the second integer. In such a situation
writing to one of the fields might corrupt the data in the other.

[*Note:* See the
System.Runtime.InteropServices.StructLayoutAttribute class
overview for an example that uses
System.Runtime.InteropServices.FieldOffsetAttribute.]

Compilers are required to not preserve this type in metadata as a
custom attribute. Instead, compilers are required to emit it directly in
the file format, as described in Partition II of the CLI Specification.
Metadata consumers, such as the Reflection API, are required to
retrieve this data from the file format and return it as if it were a
custom attribute.

1 FieldOffsetAttribute(System.Int32)
2 Constructor

```
[ILASM]
public rtspecialname specialname instance void .ctor(int32
offset)

[C#]
public FieldOffsetAttribute(int offset)
```

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8 **Summary**

9 Constructs and initializes a new instance of the
10 **System.Runtime.InteropServices.FieldOffsetAttribute** class with
11 the specified field offset in the class or structure.

12 **Parameters**
13
14

Parameter	Description
offset	A **System.Int32** that specifies the offset in bytes from the beginning of the structure to the beginning of the field.

15
16 **Description**

17 If *offset* is negative, its value is interpreted as an unsigned
18 **System.Int64** value, and the system behavior is implementation-
19 defined.
20
21 The **System.Runtime.InteropServices.FieldOffsetAttribute.Value**
22 property of the new instance is initialized to *offset*.

23

FieldOffsetAttribute.Value Property

```
[ILASM]
.property int32 Value { public hidebysig specialname
instance int32 get_Value() }

[C#]
public int Value { get; }
```

Summary

Gets the offset from the beginning of the exported data object to the beginning of the target field.

Property Value

A **System.Int32** containing the offset from the beginning of the exported data object to the beginning of the target field.

Description

This property is read-only.