

System.IntPtr Structure

```
[ILAsm]
.class public sequential sealed serializable IntPtr extends
System.ValueType

[C#]
public struct IntPtr
```

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)

Summary

An implementation-specific type that is used to represent a pointer or a handle.

Inherits From: System.ValueType

Library: RuntimeInfrastructure

Thread Safety: This type is safe for multithreaded operations.

Description

The `System.IntPtr` type is designed to be an implementation-sized pointer. An instance of this type is expected to be the size of a `native int` for the current implementation.

For more information on the `native int` type, see Partition II of the CLI Specification.

[*Note:* The `System.IntPtr` type provides CLS-compliant pointer functionality.

`System.IntPtr` instances can also be used to hold handles.

The `System.IntPtr` type is CLS-compliant while the `System.UIntPtr` type is not. The `System.UIntPtr` type is provided mostly to maintain architectural symmetry with the `System.IntPtr` type.

]

IntPtr(System.Int32) Constructor

```
[ILAsm]  
public rtspecialname specialname instance void .ctor(int32 value)  
  
[C#]  
public IntPtr(int value)
```

Summary

Constructs a new `System.IntPtr` structure using the specified `System.Int32` containing a pointer or a handle.

Parameters

Parameter	Description
<i>value</i>	A <code>System.Int32</code> containing a pointer or a handle.

IntPtr(System.Int64) Constructor

```
[ILAsm]  
public rtspecialname specialname instance void .ctor(int64 value)  
  
[C#]  
public IntPtr(long value)
```

Summary

Constructs a new `System.IntPtr` structure using the specified `System.Int64` containing a pointer or a handle.

Parameters

Parameter	Description
<i>value</i>	A <code>System.Int64</code> containing a pointer or a handle.

Exceptions

Exception	Condition
System.OverflowException	The current platform is a 32-bit platform and the value of the current instance is greater than <code>System.Int32.MaxValue</code> or less than <code>System.Int32.MinValue</code> .

IntPtr.Zero Field

```
[ILAsm]  
.field public static initOnly valuetype System.IntPtr Zero  
  
[C#]  
public static readonly IntPtr Zero
```

Summary

Represents a pointer or handle that has been initialized as zero.

Description

[*Note:* The value of this field is not `null`, but is instead a pointer which has been assigned the value zero. Use this field to efficiently determine whether an instance of `System.IntPtr` has been set to a value other than zero. For example, if *ip* is a `System.IntPtr` instance, using *ip* `!= IntPtr.Zero` is more efficient than *ip* `!= new IntPtr(0)` to test if *ip* has been set to a value other than zero.

]

IntPtr.Equals(System.Object) Method

```
[ILAsm]  
.method public hidebysig virtual bool Equals(object obj)  
  
[C#]  
public override bool Equals(object obj)
```

Summary

Determines whether the current instance and the specified `System.Object` represent the same type and value.

Parameters

Parameter	Description
<i>obj</i>	The <code>System.Object</code> to compare to the current instance.

Return Value

true if *obj* is a `System.IntPtr` instance and has the same value as the current instance.
If *obj* is a null reference or is not an instance of `System.IntPtr`, returns false.

Description

[Note: The method overrides `System.Object.Equals.`]

IntPtr.GetHashCode() Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetHashCode()  
  
[C#]  
public override int GetHashCode()
```

Summary

Generates a hash code for the current instance.

Return Value

A `System.Int32` containing the hash code for the current instance.

Description

[*Note:* The algorithm used to generate the hash code is unspecified.]

[*Note:* This method overrides `System.Object.GetHashCode`.]

IntPtr.op_Equality(System.IntPtr, System.IntPtr) Method

```
[ILAsm]  
.method public hidebysig static specialname bool op_Equality(valuetype  
System.IntPtr value1, valuetype System.IntPtr value2)  
  
[C#]  
public static bool operator ==(IntPtr value1, IntPtr value2)
```

Summary

Determines whether the two specified instances of `System.IntPtr` represent the same value.

Parameters

Parameter	Description
<i>value1</i>	The first <code>System.IntPtr</code> to compare for equality.
<i>value2</i>	The second <code>System.IntPtr</code> to compare for equality.

Return Value

true if *value1* represents the same value as *value2*; otherwise, false.

IntPtr.op_Inequality(System.IntPtr, System.IntPtr) Method

```
[ILAsm]  
.method public hidebysig static specialname bool op_Inequality(valuetype  
System.IntPtr value1, valuetype System.IntPtr value2)  
  
[C#]  
public static bool operator !=(IntPtr value1, IntPtr value2)
```

Summary

Determines whether the two specified instances of `System.IntPtr` represent different values.

Parameters

Parameter	Description
<i>value1</i>	The first <code>System.IntPtr</code> to compare for inequality.
<i>value2</i>	The second <code>System.IntPtr</code> to compare for inequality.

Return Value

true if *value1* represents a different value than *value2*; otherwise, false.

IntPtr.ToInt32() Method

```
[ILAsm]  
.method public hidebysig instance int32 ToInt32()  
  
[C#]  
public int ToInt32()
```

Summary

Converts the value of the current instance to a `System.Int32`.

Return Value

A `System.Int32` containing the same value as the current instance.

Exceptions

Exception	Condition
System.OverflowException	The current platform is not a 32-bit platform and the value of the current instance is greater than <code>System.Int32.MaxValue</code> or less than <code>System.Int32.MinValue</code> .

IntPtr.ToInt64() Method

```
[ILAsm]  
.method public hidebysig instance int64 ToInt64()  
  
[C#]  
public long ToInt64()
```

Summary

Converts the value of the current instance to a `System.Int64`.

Return Value

A `System.Int64` containing the same value as the current instance.

IntPtr.ToPointer() Method

```
[ILAsm]  
.method public hidebysig instance class System.Void* ToPointer()  
  
[C#]  
unsafe public void* ToPointer()
```

Summary

Converts the value of the current instance to a pointer to void.

Type Attributes:

- CLSCompliantAttribute(false)

Return Value

A pointer to void.

Description

This member is not CLS-compliant. For a CLS-compliant alternative, use `System.IntPtr.ToInt32`.

[*Note:* A pointer to void points to memory containing data of an unspecified type.]

IntPtr.ToString() Method

```
[ILAsm]  
.method public hidebysig virtual string ToString()  
  
[C#]  
public override string ToString()
```

Summary

Returns a `System.String` representation of the value of the current instance.

Return Value

A `System.String` representation of the current instance.

Description

[Note: If `System.IntPtr.Size` for the current instance is 4, `System.IntPtr.ToString` is equivalent to `System.Int32.ToString()`; otherwise, this method is equivalent to `System.Int64.ToString()`.

This method overrides `System.Object.ToString`.

]

IntPtr.Size Property

```
[ILAsm]  
.property int32 Size { public hidebysig static specialname int32  
get_Size() }  
  
[C#]  
public static int Size { get; }
```

Summary

Gets the size in bytes of a pointer or a handle for the current implementation.

Property Value

A `System.Int32` containing the number of bytes of a pointer or handle for the current implementation. The value of this property is equal to the number of bytes contained by the `native int` type in the current implementation.

Description

This property is read-only.

For more information on the `native int` type, see Partition II of the CLI Specification.