System.ValueType Class

[ILAsm]

```
.class public abstract serializable ValueType extends System.Object
```

[C#]

```
public abstract class ValueType
```

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

Provides support for value types. This class is the base class for all value types.

Inherits From: System.Object

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

[*Note:* Data types are separated into value types and reference types. Value types are either stack-allocated or allocated inline in a structure. Reference types are heap-allocated. Both reference and value types are derived from the ultimate base class `System.Object`. In cases where a value type needs to act like an object, a wrapper that makes the value type look like a reference object is allocated on the heap, and the value type's value is copied into it. The wrapper is marked so that the system knows that it contains a value type. This process is known as boxing, and the reverse process is known as unboxing. Boxing and unboxing allow any type to be treated as an object.

]

Example

In the following example, the number 3 is boxed as a `System.Int32`, and `System.Int32.ToString` () is called.

[C#]

```
using System;
class Boxer {
  public static void Main() {
   Console.WriteLine("Value is {0}.", 3.ToString());
  }
}
```

The output is

```
Value is 3.
```

ValueType() Constructor

[ILAsm]

```
family rtspecialname specialname instance void .ctor()
```

[C#]

```
protected ValueType()
```

Summary

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

ValueType.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 a specified `System.Object` represent the same value.

Parameters

Parameter	Description
obj	The `System.Object` to compare the current instance to.

Return Value

`true` if *obj* and the current instance are of the same type and represent the same value; otherwise, `false`.

Description

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

ValueType.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

The algorithm used to generate the hash code is unspecified.

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

ValueType.ToString() Method

[ILAsm]

```
.method public hidebysig virtual string ToString()
```

[C#]

```
public override string ToString()
```

Summary

Returns a `System.String` representation of the fully-qualified name of the type of the current instance.

Return Value

A `System.String` representation of the fully-qualified name of the type of the current instance.

Description

[*Note:* This method overrides `System.Object.ToString`.

This method returns the `System.Type.FullName` property.

]