

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#]
```

```
1  using System;
2  class Boxer {
3      public static void Main() {
4          Console.WriteLine("Value is {0}.", 3.ToString());
5      }
6  }
7  The output is
8
9  Value is 3.
10
11
```

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
<i>obj</i>	The <code>System.Object</code> 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.`]

1 **ValueType.GetHashCode() Method**

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

6 **Summary**

7 Generates a hash code for the current instance.

8 **Return Value**

9
10 A `System.Int32` containing the hash code for the current instance.

11 **Description**

12 The algorithm used to generate the hash code is unspecified.

13
14 [*Note:* This method overrides `System.Object.GetHashCode.`]

1 **ValueType.ToString() Method**

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

6 **Summary**

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

9 **Return Value**

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

13 **Description**

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

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

17]
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