

# System.UInt64 Structure

```
[ILAsm]
.class public sequential sealed serializable UInt64 extends
System.ValueType implements System.IComparable, System.IFormattable,
System.IComparable`1<unsigned int64>, System.IEquatable`1<unsigned int64>

[C#]
public struct UInt64: IComparable, IFormattable, IComparable<UInt64>,
IEquatable<UInt64>
```

## 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:

- CLSCompliantAttribute(false)

## Implements:

- **System.IComparable**
- **System.IFormattable**
- **System.IComparable<System.UInt64>**
- **System.IEquatable<System.UInt64>**

## Summary

Represents a 64-bit unsigned integer.

## Inherits From: System.ValueType

**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.UInt64` data type represents integer values ranging from 0 to positive 18,446,744,073,709,551,615 (hexadecimal 0xFFFFFFFFFFFFFFFF).

# UInt64.MaxValue Field

```
[ILAsm]  
.field public static literal unsigned int64 MaxValue =  
18446744073709551615  
  
[C#]  
public const ulong MaxValue = 18446744073709551615
```

## Summary

Contains the maximum value for the `System.UInt64` type.

## Description

The value of this constant is 18,446,744,073,709,551,615 (hexadecimal 0xFFFFFFFFFFFFFFFF).

# 1 UInt64.MinValue Field

2 [ILAsm]

3 .field public static literal unsigned int64 MinValue = 0

4 [C#]

5 public const ulong MinValue = 0

## 6 Summary

7 Contains the minimum value for the `System.UInt64` type.

## 8 Description

9 The value of this constant is 0.

10

# UInt64.CompareTo(System.Object) Method

```
[ILAsm]  
.method public final hidebysig virtual int32 CompareTo(object value)  
  
[C#]  
public int CompareTo(object value)
```

## Summary

Returns the sort order of the current instance compared to the specified `System.Object`.

## Parameters

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

## Return Value

The return value is a negative number, zero, or a positive number reflecting the sort order of the current instance as compared to *value*. For non-zero return values, the exact value returned by this method is unspecified. The following table defines the return value:

Return Value	Description
A negative number	Current instance < <i>value</i> .
Zero	Current instance == <i>value</i> .
A positive number	Current instance > <i>value</i> , or <i>value</i> is a null reference.

## Description

[*Note:* This method is implemented to support the `System.IComparable` interface.]

1   **Exceptions**

2

3

Exception	Condition
<b>System.ArgumentException</b>	<i>value</i> is not a <i>System.UInt64</i> and is not a null reference.

4

5

6

# UInt64.CompareTo(System.UInt64) Method

```
[ILAsm]  
.method public final hidebysig virtual int32 CompareTo(unsigned int64  
value)  
  
[C#]  
public int CompareTo(ulong value)
```

## Summary

Returns the sort order of the current instance compared to the specified `System.UInt64`.

## Parameters

Parameter	Description
<i>value</i>	The <code>System.UInt64</code> to compare to the current instance.

## Return Value

The return value is a negative number, zero, or a positive number reflecting the sort order of the current instance as compared to *value*. For non-zero return values, the exact value returned by this method is unspecified. The following table defines the return value:

Return Value	Description
A negative number	Current instance < <i>value</i> .
Zero	Current instance == <i>value</i> .
A positive number	Current instance > <i>value</i> .

## Description

[*Note:* This method is implemented to support the `System.IComparable<UInt64>` interface.]



# UInt64.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 value and type.

## Parameters

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

## Return Value

`true` if *obj* represents the same value and type as the current instance. If *obj* is a null reference or is not an instance of `System.UInt64`, returns `false`.

## Description

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



# UInt64.Equals(System.UInt64) Method

```
[ILAsm]  
.method public hidebysig virtual bool Equals(unsigned int64 obj)  
  
[C#]  
public override bool Equals(ulong obj)
```

## Summary

Determines whether the current instance and the specified `System.UInt64` represent the same value.

## Parameters

Parameter	Description
<i>obj</i>	The <code>System.UInt64</code> to compare to the current instance.

## Return Value

`true` if *obj* represents the same value as the current instance; otherwise, `false`.

## Description

[*Note:* This method is implemented to support the `System.IEquatable<UInt64>` interface.]

# UInt64.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()`.]

# 1 UInt64.Parse(System.String) Method

```
2 [ILAsm]  
3 .method public hidebysig static unsigned int64 Parse(string s)  
4 [C#]  
5 public static ulong Parse(string s)
```

## 6 Summary

7 Returns the specified System.String converted to a System.UInt64 value.

## 8 Type Attributes:

- 9 · CLSCompliantAttribute(false)

## 10 Parameters

Parameter	Description
s	A System.String containing the value to convert. The string is interpreted using the System.Globalization.NumberStyles.Integer style.

## 14 Return Value

16 The System.UInt64 value obtained from s.

## 17 Description

18 This version of System.UInt64.Parse is equivalent to System.UInt64.Parse(s,  
19 System.Globalization.NumberStyles.Integer, null).

20 The string s is parsed using the formatting information in a  
22 System.Globalization.NumberFormatInfo initialized for the current system culture.

23 [Note: For more information, see  
24 System.Globalization.NumberFormatInfo.CurrentInfo.]

28 This method is not CLS-compliant. For a CLS-compliant alternative use  
29 System.Single.Parse(System.String).

## Exceptions

Exception	Condition
<b>System.ArgumentNullException</b>	s is a null reference.
<b>System.FormatException</b>	s is not in the correct style.
<b>System.OverflowException</b>	s represents a number greater than <code>System.UInt64.MaxValue</code> or less than <code>System.UInt64.MinValue</code> .

## Example

This example demonstrates parsing a string to a `System.UInt64`.

[C#]

```
using System;
public class UInt64ParseClass {
    public static void Main() {
        string str = " 100 ";
        Console.WriteLine("String: \"{0}\" <UInt64> {1}", str, UInt64.Parse(str));
    }
}
```

The output is

```
String: " 100 " <UInt64> 100
```

# UInt64.Parse(System.String, System.Globalization.NumberStyles) Method

```
[ILAsm]  
.method public hidebysig static unsigned int64 Parse(string s, valuetype  
System.Globalization.NumberStyles style)  
  
[C#]  
public static ulong Parse(string s, NumberStyles style)
```

## Summary

Returns the specified `System.String` converted to a `System.UInt64` value.

## Type Attributes:

- `CLSCompliantAttribute(false)`

## Parameters

Parameter	Description
<i>s</i>	A <code>System.String</code> containing the value to convert. The string is interpreted using the style specified by <i>style</i> .
<i>style</i>	Zero or more <code>System.Globalization.NumberStyles</code> values that specify the style of <i>s</i> . Specify multiple values for <i>style</i> using the bitwise OR operator. If <i>style</i> is a null reference, the string is interpreted using the <code>System.Globalization.NumberStyles.Integer</code> style.

## Return Value

The `System.UInt64` value obtained from *s*.

## Description

This version of `System.UInt64.Parse` is equivalent to `System.UInt64.Parse(s, style, null)`.

The string *s* is parsed using the formatting information in a `System.Globalization.NumberFormatInfo` initialized for the current system culture.  
[Note: For more information, see

1     System.Globalization.NumberFormatInfo.CurrentInfo.]

2  
3  
4  
5     This method is not CLS-compliant. For a CLS-compliant alternative use  
6     System.Single.Parse(System.String, System.Globalization.NumberStyles).

## 7   Exceptions

Exception	Condition
<b>System.ArgumentNullException</b>	s is a null reference.
<b>System.FormatException</b>	s is not in the correct style.
<b>System.OverflowException</b>	s represents a number greater than System.UInt64.MaxValue or less than System.UInt64.MinValue.

# 1    **UInt64.Parse(System.String,** 2    **System.IFormatProvider) Method**

```
3    [ILAsm]  
4    .method public hidebysig static unsigned int64 Parse(string s, class  
5    System.IFormatProvider provider)  
  
6    [C#]  
7    public static ulong Parse(string s, IFormatProvider provider)
```

## 8    **Summary**

9       Returns the specified System.String converted to a System.UInt64 value.

## 10   **Type Attributes:**

- 11       ·    CLSCompliantAttribute(false)

## 12   **Parameters**

Parameter	Description
<i>s</i>	A System.String containing the value to convert. The string is interpreted using the System.Globalization.NumberStyles.Integer style.
<i>provider</i>	A System.IFormatProvider that supplies a System.Globalization.NumberFormatInfo containing culture-specific formatting information about <i>s</i> .

## 16   **Return Value**

18       The System.UInt64 value obtained from *s*.

## 19   **Description**

20       This version of System.UInt64.Parse is equivalent to System.UInt64.Parse(*s*,  
21       System.Globalization.NumberStyles.Integer, *provider*).

22       The string *s* is parsed using the culture-specific formatting information from the  
23       System.Globalization.NumberFormatInfo instance supplied by *provider*. If *provider* is  
24       null or a System.Globalization.NumberFormatInfo cannot be obtained from *provider*,  
25       the formatting information for the current system culture is used.  
26

This method is not CLS-compliant. For a CLS-compliant alternative use `System.Single.Parse(System.String, System.IFormatProvider)`.

#### Exceptions

Exception	Condition
<b>System.ArgumentNullException</b>	s is a null reference.
<b>System.FormatException</b>	s is not in the correct style.
<b>System.OverflowException</b>	s represents a number greater than <code>System.UInt64.MaxValue</code> or less than <code>System.UInt64.MinValue</code> .



# UInt64.Parse(System.String, System.Globalization.NumberStyles, System.IFormatProvider) Method

```
[ILAsm]  
.method public hidebysig static unsigned int64 Parse(string s, valuetype  
System.Globalization.NumberStyles style, class System.IFormatProvider  
provider)  
  
[C#]  
public static ulong Parse(string s, NumberStyles style, IFormatProvider  
provider)
```

## Summary

Returns the specified `System.String` converted to a `System.UInt64` value.

## Type Attributes:

- `CLSCompliantAttribute(false)`

## Parameters

Parameter	Description
<i>s</i>	A <code>System.String</code> containing the value to convert. The string is interpreted using the style specified by <i>style</i> .
<i>style</i>	Zero or more <code>System.Globalization.NumberStyles</code> values that specify the style of <i>s</i> . Specify multiple values for <i>style</i> using the bitwise OR operator. If <i>style</i> is a null reference, the string is interpreted using the <code>System.Globalization.NumberStyles.Integer</code> style.
<i>provider</i>	A <code>System.IFormatProvider</code> that supplies a <code>System.Globalization.NumberFormatInfo</code> containing culture-specific formatting information about <i>s</i> .

## Return Value

The `System.UInt64` value obtained from *s*.

**Description**

The string *s* is parsed using the culture-specific formatting information from the `System.Globalization.NumberFormatInfo` instance supplied by *provider*. If *provider* is null or a `System.Globalization.NumberFormatInfo` cannot be obtained from *provider*, the formatting information for the current system culture is used.

This method is not CLS-compliant. For a CLS-compliant alternative use `System.Single.Parse(System.String, System.Globalization.NumberStyles, System.IFormatProvider)`.

**Exceptions**

Exception	Condition
<b>System.ArgumentNullException</b>	<i>s</i> is a null reference.
<b>System.FormatException</b>	<i>s</i> is not in the correct style.
<b>System.OverflowException</b>	<i>s</i> represents a number greater than <code>System.UInt64.MaxValue</code> or less than <code>System.UInt64.MinValue</code> .

# UInt64.ToString(System.IFormatProvider)

## Method

```
[ILAsm]  
.method public final hidebysig virtual string ToString(class  
System.IFormatProvider provider)  
  
[C#]  
public string ToString(IFormatProvider provider)
```

### Summary

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

### Parameters

Parameter	Description
<i>provider</i>	A <code>System.IFormatProvider</code> that supplies a <code>System.Globalization.NumberFormatInfo</code> containing culture-specific formatting information.

### Return Value

A `System.String` representation of the current instance formatted using the general format specifier, ("G"). The string takes into account the formatting information in the `System.Globalization.NumberFormatInfo` instance supplied by *provider*.

### Description

This version of `System.UInt64.ToString` is equivalent to `System.UInt64.ToString("G", provider)`.

If *provider* is null or a `System.Globalization.NumberFormatInfo` cannot be obtained from *provider*, the formatting information for the current system culture is used.

# UInt64.ToString(System.String, System.IFormatProvider) Method

```
[ILAsm]  
.method public final hidebysig virtual string ToString(string format,  
class System.IFormatProvider provider)  
  
[C#]  
public string ToString(string format, IFormatProvider provider)
```

## Summary

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

## Parameters

Parameter	Description
<i>format</i>	A <code>System.String</code> containing a character that specifies the format of the returned string.
<i>provider</i>	A <code>System.IFormatProvider</code> that supplies a <code>System.Globalization.NumberFormatInfo</code> instance containing culture-specific formatting information.

## Return Value

A `System.String` representation of the current instance formatted as specified by *format*. The string takes into account the formatting information in the `System.Globalization.NumberFormatInfo` instance supplied by *provider*.

## Description

If *provider* is null or a `System.Globalization.NumberFormatInfo` cannot be obtained from *provider*, the formatting information for the current system culture is used.

If *format* is a null reference, the general format specifier "G" is used.

[Note: For a detailed description of formatting, see the `System.IFormattable` interface.

This method is implemented to support the `System.IFormattable` interface.

]

The following table lists the characters that are valid for the `System.UInt64` type.

Format Characters	Description
"C", "c"	Currency format.
"D", "d"	Decimal format.
"E", "e"	Exponential notation format.
"F", "f"	Fixed-point format.
"G", "g"	General format.
"N", "n"	Number format.
"P", "p"	Percent format.
"X", "x"	Hexadecimal format.

## Exceptions

Exception	Condition
<b>System.FormatException</b>	<i>format</i> is invalid.

# 1 UInt64.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 value of the current instance.

## 8 Return Value

9  
10 A `System.String` representation of the current instance formatted using the general  
11 format specifier, ("G"). The string takes into account the current system culture.

## 12 Description

13 This method is equivalent to `System.UInt64.ToString(null, null)`.

14  
15 [*Note:* This method overrides `System.Object.ToString`.]  
16  
17  
18

# UInt64.ToString(System.String) Method

```
[ILAsm]  
.method public hidebysig instance string ToString(string format)  
  
[C#]  
public string ToString(string format)
```

## Summary

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

## Parameters

Parameter	Description
<i>format</i>	A <code>System.String</code> that specifies the format of the returned string. [Note: For a list of valid values, see <code>System.UInt64.ToString(System.String, System.IFormatProvider)</code> .]

## Return Value

A `System.String` representation of the current instance formatted as specified by *format*. The string takes into account the current system culture.

## Description

This method is equivalent to `System.UInt64.ToString(format, null)`.

If *format* is a null reference, the general format specifier "G" is used.

## Exceptions

Exception	Condition
<code>System.FormatException</code>	<i>format</i> is invalid.

## Example

```

1      This example demonstrates converting a System.UInt64 to a string.
2
3      [C#]

4      using System;
5      public class UInt64ToStringExample {
6          public static void Main() {
7              UInt64 i = 64;
8              Console.WriteLine(i);
9              String[] formats = {"c", "d", "e", "f", "g", "n", "p", "x" };
10             foreach(String str in formats)
11                 Console.WriteLine("{0}: {1}", str, i.ToString(str));
12         }
13     }

```

14 The output is

```

15
16 64
17
18
19 c: $64.00
20
21
22 d: 64
23
24
25 e: 6.400000e+001
26
27
28 f: 64.00
29
30
31 g: 64
32
33
34 n: 64.00
35
36
37 p: 6,400.00 %
38
39
40 x: 40
41

```

42