System.UInt64 Structure

```
[ILASM]
.class public sequential sealed serializable UInt64 extends
System.ValueType implements System.IComparable,
System.IFormattable

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

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:

- CLSCompliantAttribute(false)

Implements:

- **System.IComparable**
- **System.IFormattable**

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).

UInt64.MinValue Field

[ILASM]
```
.field public static literal unsigned int64 MinValue = 0
```

[C#]
```
public const ulong MinValue = 0
```

Summary

Contains the minimum value for the **System.UInt64** type.

Description

The value of this constant is 0.

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
value	The **System.Object** to compare to the current instance.

Return Value

A **System.Int32** containing a value that reflects the sort order of the current instance as compared to *value*. The following table defines the conditions under which the return value is a negative number, zero, or a positive number.

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

Description

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

Exceptions

Exception	Condition

System.ArgumentException	*value* is not a **System.UInt64** and is not a null reference.

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
obj	The **System.Object** 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.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**.]

UInt64.Parse(System.String) Method

```
[ILASM]
.method public hidebysig static unsigned int64 Parse(string
s)

[C#]
public static ulong Parse(string s)
```

Summary

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

Type Attributes:

- CLSCompliantAttribute(false)

Parameters

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

Return Value

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

Description

This version of **System.UInt64.Parse** is equivalent to **System.UInt64.Parse**(*s*, **System.Globalization.NumberStyles.Integer**, **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 **System.Globalization.NumberFormatInfo.CurrentInfo**.]

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

Exceptions

Exception	Condition

System.ArgumentNullException	*s* is a null reference.
System.FormatException	*s* is not in the correct style.
System.OverflowException	*s* represents a number greater than **System.UInt64.MaxValue** or less than **System.UInt64.MinValue**.

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
s	A **System.String** containing the value to convert. The string is interpreted using the style specified by *style*.
style	Zero or more **System.Globalization.NumberStyles** values that specify the style of *s*. Specify multiple values for *style* using the bitwise OR operator. If *style* is a null reference, the string is interpreted using the **System.Globalization.NumberStyles.Integer** 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 **System.Globalization.NumberFormatInfo.CurrentInfo**.]

This method is not CLS-compliant. For a CLS-compliant alternative use

System.Single.Parse(**System.String**, **System.Globalization.NumberStyles**).

Exceptions

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

UInt64.Parse(System.String, System.IFormatProvider) Method

```
[ILASM]
.method public hidebysig static unsigned int64 Parse(string
s, class System.IFormatProvider provider)

[C#]
public static ulong Parse(string s, IFormatProvider
provider)
```

Summary

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

Type Attributes:

- CLSCompliantAttribute(false)

Parameters

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

Return Value

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

Description

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

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.IFormatProvider**).

Exceptions

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

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

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
System.ArgumentNullException	*s* is a null reference.
System.FormatException	*s* is not in the correct style.
System.OverflowException	*s* represents a number greater than **System.UInt64.MaxValue** or less than **System.UInt64.MinValue**.

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
provider	A **System.IFormatProvider** that supplies a **System.Globalization.NumberFormatInfo** 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
format	A **System.String** containing a character that specifies the format of the returned string.
provider	A **System.IFormatProvider** that supplies a **System.Globalization.NumberFormatInfo** 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
System.FormatException	*format* is invalid.

UInt64.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 formatted using the general format specifier, ("G"). The string takes into account the current system culture.

Description

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

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

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
format	A **System.String** that specifies the format of the returned string. [*Note:* For a list of valid values, see **System.UInt64.ToString**(**System.String**, **System.IFormatProvider**).]

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
System.FormatException	*format* is invalid.

Example

This example demonstrates converting a **System.UInt64** to a string.

[C#]

```
using System;
public class UInt64ToStringExample {
   public static void Main() {
      UInt64 i = 64;
      Console.WriteLine(i);
      String[] formats = {"c", "d", "e", "f", "g", "n",
"p", "x" };
      foreach(String str in formats)
         Console.WriteLine("{0}: {1}", str,
i.ToString(str));
   }
}
```

The output is

```
64


c: $64.00


d: 64


e: 6.400000e+001


f: 64.00


g: 64
```

```
n: 64.00


p: 6,400.00 %


x: 40
```