

1 System.Text.ASCIIEncoding Class

```
2 [ILAsm]  
3 .class public serializable ASCIIEncoding extends System.Text.Encoding  
4 [C#]  
5 public class ASCIIEncoding: Encoding
```

6 Assembly Info:

- 7 • *Name:* mscorlib
- 8 • *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- 9 • *Version:* 2.0.x.x
- 10 • *Attributes:*
 - 11 ○ CLSCompliantAttribute(true)

12 Summary

13 Represents an ASCII character implementation of `System.Text.Encoding`.

14 Inherits From: System.Text.Encoding

15

16 **Library:** BCL

17

18 **Thread Safety:** All public static members of this type are safe for multithreaded operations.
19 No instance members are guaranteed to be thread safe.

20

21 Description

22 `System.Text.ASCIIEncoding` encodes characters as single 7-bit ASCII characters. This
23 encoding supports Unicode code points between U+0000 and U+007F, inclusive.

24

25 [*Note:* The limited range of code points supported by `System.Text.ASCIIEncoding`
26 makes ASCII inadequate for many internationalized applications.
27 `System.Text.UTF8Encoding` and `System.Text.UnicodeEncoding` provide encodings
28 that are more suitable for internationalized applications.]

29

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31

1 **ASCIIEncoding()** Constructor

```
2 [ILAsm]  
3 public rtspecialname specialname instance void .ctor()  
4 [C#]  
5 public ASCIIEncoding()
```

6 **Summary**

7 Constructs a new instance of the `System.Text.ASCIIEncoding` class.

8

1 ASCIIEncoding.GetByteCount(System.Char[], 2 System.Int32, System.Int32) Method

```
3 [ILAsm]  
4 .method public hidebysig virtual int32 GetByteCount(class System.Char[]  
5 chars, int32 index, int32 count)  
  
6 [C#]  
7 public override int GetByteCount(char[] chars, int index, int count)
```

8 Summary

9 Determines the exact number of bytes required to encode the specified range of the
10 specified array of characters as ASCII-encoded characters.

11 Parameters

Parameter	Description
<i>chars</i>	A System.Char array containing the characters to encode as ASCII-encoded characters.
<i>index</i>	A System.Int32 that specifies the first index of <i>chars</i> to encode.
<i>count</i>	A System.Int32 that specifies the number of elements in <i>chars</i> to encode.

13 Return Value

14 A System.Int32 containing the number of bytes required to encode the range in *chars*
15 from *index* to *index* + *count* - 1 as ASCII-encoded characters.

16 Description

17 [Note: This method overrides System.Text.Encoding.GetByteCount.]
18
19

20 Exceptions

Exception	Condition
System.ArgumentNullException	<i>chars</i> is null.
System.ArgumentOutOfRangeException	<i>index</i> < 0.

-or-

count < 0.

-or-

index and *count* do not specify a valid range in *chars* (i.e. (*index* + *count* - 1) > *chars.Length*).

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1 ASCII Encoding.GetBytesCount(System.String) 2 Method

```
3 [ILAsm]  
4 .method public hidebysig virtual int32 GetByteCount(string chars)  
5 [C#]  
6 public override int GetByteCount(string chars)
```

7 Summary

8 Determines the exact number of bytes required to encode the specified string as ASCII-
9 encoded characters.

10 Parameters

Parameter	Description
<i>chars</i>	A <code>System.String</code> to encode as ASCII-encoded characters.

11 12 Return Value

13 A `System.Int32` containing the number of bytes required to encode *chars* as ASCII-
14 encoded characters.

15 Description

16 [*Note:* This method overrides `System.Text.Encoding.GetBytesCount`.]
17
18

19 Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>chars</i> is null.

20

21

1 ASCIIEncoding.GetBytes(System.String, 2 System.Int32, System.Int32, System.Byte[], 3 System.Int32) Method

```
4 [ILAsm]  
5 .method public hidebysig virtual int32 GetBytes(string chars, int32  
6 charIndex, int32 charCount, class System.Byte[] bytes, int32 byteIndex)  
  
7 [C#]  
8 public override int GetBytes(string chars, int charIndex, int charCount,  
9 byte[] bytes, int byteIndex)
```

10 Summary

11 Encodes the specified range of the specified string into the specified range of the
12 specified array of bytes as ASCII-encoded characters.

13 Parameters

Parameter	Description
<i>chars</i>	A System.String to encode as ASCII-encoded characters.
<i>charIndex</i>	A System.Int32 that specifies the first index of <i>chars</i> from which to encode.
<i>charCount</i>	A System.Int32 that specifies the number of elements in <i>chars</i> to encode.
<i>bytes</i>	A System.Byte array to encode.
<i>byteIndex</i>	A System.Int32 that specifies the first index of <i>bytes</i> to encode into.

14

15 Return Value

16 A System.Int32 whose value equals the number of bytes encoded into *bytes* as ASCII-
17 encoded characters.

18 Description

19 Every System.Char object in *chars* that is encoded into *bytes* and that does not have an
20 ASCII equivalent (i.e. has a code point greater than U+007f) will be encoded as a
21 question mark ('?').

22

23 [Note: This method overrides System.Text.Encoding.GetBytes.]

24

25

1 Exceptions

Exception	Condition
System.ArgumentException	$(bytes.Length - byteIndex) < charCount.$
System.ArgumentNullException	$chars$ is null. -or- $bytes$ is null.
System.ArgumentOutOfRangeException	$charIndex < 0.$ -or- $charCount < 0.$ -or- $(chars.Length - charIndex) < charCount.$ -or- $byteIndex < 0.$ -or- $byteIndex \geq bytes.Length.$

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1 ASCIIEncoding.GetBytes(System.Char[], 2 System.Int32, System.Int32, System.Byte[], 3 System.Int32) Method

```
4 [ILAsm]  
5 .method public hidebysig virtual int32 GetBytes(class System.Char[] chars,  
6 int32 charIndex, int32 charCount, class System.Byte[] bytes, int32  
7 byteIndex)  
  
8 [C#]  
9 public override int GetBytes(char[] chars, int charIndex, int charCount,  
10 byte[] bytes, int byteIndex)
```

11 Summary

12 Encodes the specified range of the specified array of characters into the specified range
13 of the specified array of bytes as ASCII-encoded characters.

14 Parameters

Parameter	Description
<i>chars</i>	A System.Char array containing the characters to encode as ASCII-encoded characters.
<i>charIndex</i>	A System.Int32 that specifies the first index of <i>chars</i> to encode.
<i>charCount</i>	A System.Int32 that specifies the number of elements in <i>chars</i> to encode.
<i>bytes</i>	A System.Byte array to encode.
<i>byteIndex</i>	A System.Int32 that specifies the first index of <i>bytes</i> to encode into.

15 16 Return Value

17 A System.Int32 whose value equals the number of bytes encoded into *bytes* as ASCII-
18 encoded characters.

19 Description

20 Every System.Char object in *chars* that is encoded into *bytes* and that does not have an
21 ASCII equivalent (i.e. has a code point greater than U+007f) will be encoded as a
22 question mark ('?').
23

24 [Note: This method overrides System.Text.Encoding.GetBytes.]

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3 Exceptions

Exception	Condition
System.ArgumentException	$(bytes.Length - byteIndex) < charCount.$
System.ArgumentNullException	$chars$ is null. -or- $bytes$ is null.
System.ArgumentOutOfRangeException	$charIndex < 0.$ -or- $charCount < 0.$ -or- $(chars.Length - charIndex) < charCount.$ -or- $byteIndex < 0.$ -or- $byteIndex > bytes.Length.$

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1 ASCIIEncoding.GetCharCount(System.Byte[], 2 System.Int32, System.Int32) Method

```
3 [ILAsm]  
4 .method public hidebysig virtual int32 GetCharCount(class System.Byte[]  
5 bytes, int32 index, int32 count)  
  
6 [C#]  
7 public override int GetCharCount(byte[] bytes, int index, int count)
```

8 Summary

9 Determines the exact number of characters that will be produced by decoding the
10 specified range of the specified array of bytes as ASCII-encoded characters.

11 Parameters

Parameter	Description
<i>bytes</i>	A System.Byte array to decode as ASCII-encoded characters.
<i>index</i>	A System.Int32 that specifies the first index in <i>bytes</i> to decode.
<i>count</i>	A System.Int32 that specifies the number elements in <i>bytes</i> to decode.

13 Return Value

14 A System.Int32 whose value equals the number of characters a call to
15 System.Text.ASCIIEncoding.GetChars will produce if presented with the specified
16 range of *bytes*.

17
18 [Note: This value does not take into account the state in which the current instance was
19 left following the last call to System.Text.ASCIIEncoding.GetChars. This contrasts with
20 System.Text.Decoder.GetChars, which maintains state information across calls.]
21
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23 Description

24 [Note: This method overrides System.Text.Encoding.GetCharCount.]
25
26

27 Exceptions

Exception	Condition
System.ArgumentNullException	<i>bytes</i> is null.
System.ArgumentOutOfRangeException	<i>index</i> < 0. -or- <i>count</i> < 0. -or- (<i>bytes.Length</i> - <i>index</i>) < <i>count</i> .

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1 ASCIIEncoding.GetChars(System.Byte[], 2 System.Int32, System.Int32, System.Char[], 3 System.Int32) Method

```
4 [ILAsm]  
5 .method public hidebysig virtual int32 GetChars(class System.Byte[] bytes,  
6 int32 byteIndex, int32 byteCount, class System.Char[] chars, int32  
7 charIndex)  
  
8 [C#]  
9 public override int GetChars(byte[] bytes, int byteIndex, int byteCount,  
10 char[] chars, int charIndex)
```

11 Summary

12 Decodes the specified range of the specified array of bytes into the specified range of
13 the specified array of characters as ASCII-encoded characters.

14 Parameters

Parameter	Description
<i>bytes</i>	A System.Byte array to decode as ASCII-encoded characters.
<i>byteIndex</i>	A System.Int32 that specifies the first index of <i>bytes</i> from which to decode.
<i>byteCount</i>	A System.Int32 that specifies the number elements in <i>bytes</i> to decode.
<i>chars</i>	A System.Char array of characters to decode into.
<i>charIndex</i>	A System.Int32 that specifies the first index of <i>chars</i> to store the decoded bytes.

15 16 Return Value

17 A System.Int32 whose value equals the number of characters decoded into *chars* as
18 ASCII-encoded characters.

19 Description

20 [Note: This method overrides System.Text.Encoding.GetChars.
21
22 System.Text.ASCIIEncoding.GetChars can be used to determine the exact number of
23 characters that will be produced for a specified range of bytes. Alternatively, the
24 System.Text.ASCIIEncoding.GetMaxCharCount method can be used to determine the
25 maximum number of characters that will be produced for a specified number of bytes,

1 regardless of the actual byte values.
2
3]

4 Exceptions

Exception	Condition
System.ArgumentException	$(chars.Length - charIndex) < byteCount.$
System.ArgumentNullException	$bytes$ is null. -or- $chars$ is null.
System.ArgumentOutOfRangeException	$byteIndex < 0.$ -or- $byteCount < 0.$ -or- $(bytes.Length - byteIndex) < byteCount.$ -or- $charIndex < 0.$ -or- $charIndex > chars.Length.$

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1 2 ASCIIEncoding.GetMaxByteCount(System.Int 3 32) Method

```
4 [ILAsm]  
5 .method public hidebysig virtual int32 GetMaxByteCount(int32 charCount)  
6 [C#]  
7 public override int GetMaxByteCount(int charCount)
```

8 Summary

9 Returns the maximum number of bytes required to encode the specified number of
10 characters as ASCII-encoded characters, regardless of the actual character values.

11 Parameters

Parameter	Description
<i>charCount</i>	A <code>System.Int32</code> that specifies the number of characters to encode as ASCII-encoded characters.

12 13 Return Value

14 A `System.Int32` containing the maximum number of bytes required to encode
15 *charCount* characters as ASCII-encoded characters.

16 Description

17 [Note: This method overrides `System.Text.Encoding.GetMaxByteCount`.
18

19 Use this method to determine a minimum buffer size for byte arrays passed to the
20 `System.Text.ASCIIEncoding.GetBytes` or `System.Text.Encoding.GetBytes` method
21 for the current instance. Using this minimum buffer size can help ensure that buffer
22 overflow exceptions do not occur.
23

24]

25 Exceptions

Exception	Condition
<code>System.ArgumentOutOfRangeException</code>	<i>charCount</i> < 0.

26

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1
2 **ASCIIEncoding.GetMaxCharCount(System.Int**
3 **32) Method**

```
4 [ILAsm]  
5 .method public hidebysig virtual int32 GetMaxCharCount(int32 byteCount)  
6 [C#]  
7 public override int GetMaxCharCount(int byteCount)
```

8 **Summary**

9 Gets the maximum number of characters produced by decoding a specified number of
10 bytes as ASCII-encoded characters, regardless of the actual byte values.

11 **Parameters**

Parameter	Description
<i>byteCount</i>	A System.Int32 that specifies the number of bytes to decode as ASCII-encoded characters.

12
13 **Return Value**

14 A System.Int32 containing the maximum number of characters that would be produced
15 by decoding *byteCount* bytes as ASCII-encoded characters.

16 **Description**

17 [Note: This method overrides System.Text.Encoding.GetMaxCharCount.
18
19 Use this method to determine the minimum buffer size for character arrays passed to
20 the System.Text.ASCIIEncoding.GetChars or the System.Text.Encoding.GetChars
21 methods. Using this minimum buffer size can help ensure that buffer overflow
22 exceptions do not occur.

23
24]

25 **Exceptions**

Exception	Condition
System.ArgumentOutOfRangeException	<i>byteCount</i> < 0.

1 ASCIIEncoding.GetString(System.Byte[], 2 System.Int32, System.Int32) Method

```
3 [ILAsm]  
4 .method public hidebysig virtual string GetString(class System.Byte[]  
5 bytes, int32 byteIndex, int32 byteCount)  
  
6 [C#]  
7 public override string GetString(byte[] bytes, int byteIndex, int  
8 byteCount)
```

9 Summary

10 Decodes the specified range of the specified array of bytes as a string of ASCII-encoded
11 characters.

12 Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.
<i>byteIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>bytes</i> from which to decode.
<i>byteCount</i>	A <code>System.Int32</code> that specifies the number of elements in <i>bytes</i> to decode.

14 Return Value

15 A `System.String` object containing the decoded representation of the range in *bytes*
16 from *byteIndex* to *byteIndex* + *byteCount* - 1 as ASCII-encoded characters.

17 Description

18 [Note: This method overrides `System.Text.Encoding.GetString`.]
19
20

21 Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>bytes</i> is null.
<code>System.ArgumentOutOfRangeException</code>	<i>byteIndex</i> < 0.

	<p>-or-</p> <p><i>byteCount</i> < 0.</p> <p>-or-</p> <p><i>(bytes.Length - byteIndex) < byteCount.</i></p>
--	--

1

2

1 ASCIIEncoding.GetString(System.Byte[]) 2 Method

```
3 [ILAsm]  
4 .method public hidebysig virtual string GetString(class System.Byte[]  
5 bytes)  
  
6 [C#]  
7 public override string GetString(byte[] bytes)
```

8 Summary

9 Decodes the specified array of bytes as a string of ASCII-encoded characters.

10 Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.

11 12 Return Value

13 A `System.String` containing the decoded representation of *bytes* as ASCII-encoded
14 characters.

15 Description

16 [*Note:* This method overrides `System.Text.Encoding.GetString`.]
17
18

19 Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>bytes</i> is null.

20
21