

# Difference between byte vs Byte data types in C# [duplicate]

Asked 9 years, 7 months ago   Active 4 years, 11 months ago   Viewed 30k times



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This question already has an answer here:

[What is the difference between String and string in C#?](#) 65 answers



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I noticed that in C# there are both a **byte** and **Byte** data type. They both say they are of type **struct System.Byte** and represent an 8-digit unsigned integer.

So I am curious as to what the difference if any is between the two, and why you would use one over the other.

Thanks!

[c#](#)[byte](#)

asked Mar 10 '10 at 9:28

[jaywon](#)

5,647

10

34

46

**marked** as duplicate by [nawfal](#), [nvoigt](#), [giammin](#), [G Gordon Worley III](#), [avs099](#) Dec 26 '13 at 15:56

This question has been asked before and already has an answer. If those answers do not fully address your question, please [ask a new question](#).

## 8 Answers



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The `byte` keyword is an alias for the `System.Byte` data type.

They represent the same data type, so the resulting code is identical. There are only some differences in usage:



- You can use `byte` even if the `System` namespace is not included. To use `Byte` you have to have a `using System;` at the top of the page, or specify the full namespace `System.Byte`.
- There are a few situations where C# only allows you to use the keyword, not the framework type, for example:

```
enum Fruits : byte // this works
{
    Apple, Orange
}

enum Fruits : Byte // this doesn't work
{
    Apple, Orange
}
```

edited Nov 11 '14 at 15:02



Jodrell

27.9k 3 61 107

answered Mar 10 '10 at 9:47



Guffa

585k 84 606 900



25



`byte` and `System.Byte` in C# are identical. `byte` is simply syntactic sugar, and is recommended by StyleCop (for style guidelines).

answered Mar 10 '10 at 9:30



Adam Maras

21.7k 5 57 86

2 In fact `byte` is called an alias of `System.Byte` – Patrick Peters Mar 10 '10 at 9:32



8



No difference. `byte` is alias to `System.Byte`, the same way `int` is alias to `System.Int32`, `long` to `System.Int64`, `string` to `System.String`, ...

answered Mar 10 '10 at 9:30



Darin Dimitrov

882k 234 3084 2795



6



C# has a number of aliases for the .NET types. `byte` is an alias for `Byte` just as `string` is an alias for `String` and `int` is an alias for `Int32`. I.e. `byte` and `Byte` are the same actual type.

answered Mar 10 '10 at 9:30

[Brian Rasmussen](#)**101k** 32 198 297

6



Nothing, the lowercase one is a keyword which is an alias for the `Byte` type.

This is pure syntactic sugar.

answered Mar 10 '10 at 9:30

[Gerrie Schenck](#)**17.7k** 18 62 95

4



They are generally the same.

answered Mar 10 '10 at 9:30

[Auril](#)**2,256** 1 22 37

1



`byte` is a built-in data type in C#.

`System.Byte` is a struct that represent a `byte` and provides extra methods like `Parse` and `TryParse`.

`byte` is alias of `System.Byte` struct. Different .NET languages have different aliases based on the semantics of the particular language, but they all map to specific types in the .NET framework.

answered Mar 10 '10 at 9:49

[ata](#)**7,132** 5 34 60



also when using reflection ,,,

1

```
Type t=Type.GetType("System.Byte"); //works
```



```
Type t=Type.GetType("System.byte"); //doesn't work, I can see no way to use "byte"  
directly here without converting it to "Byte"
```

edited Apr 27 '11 at 17:38



[bstpierre](#)

21.3k 14 56 99

answered Apr 26 '11 at 20:36



[Colin](#)

16 3

- 
- 3 There is no "converting it to Byte" concept. **byte** and `System.Byte` are 100% identical. There is no difference whatsoever. This is unlike Java where they are actually discrete classes. – [Kirk Woll](#) Apr 26 '11 at 21:20
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