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[Solved] What is the overhead of the C# 'fixed' statement on a managed unsafe struct containing fixed arrays?

 Eric Cosky ·  Jun 3, 2022



Eric Cosky

Guest

Jun 3, 2022

 #1

Eric Cosky Asks: *What is the overhead of the C# 'fixed' statement on a managed unsafe struct containing fixed arrays?*

I've been trying to determine what the true cost of using the *fixed* statement within C# for managed unsafe structs that contain fixed arrays. Please note I am not referring to unmanaged structs.

Specifically, is there a reason to avoid the pattern shown by 'MultipleFixed' class below? Is the cost of simply fixing the data non zero, near zero (== cost similar to setting & clearing a single flag when entering/exiting the fixed scope), or is it significant enough to avoid when possible?

Obviously, these classes are contrived to help explain the question. This is for a high usage data structure in an [XNA](#) game where the read/write performance of this data is critical, so if I need to fix the array and pass it around everywhere I'll do that, but if there is no difference at all I'd prefer to keep the `fixed()` local to the methods to help with keeping the function signatures slightly more portable to platforms that don't support unsafe code. (Yeah, it's some extra grunt code, but whatever it takes...)

```
unsafe struct ByteArray
{
    public fixed byte Data[1024];
}
```

```
class MultipleFixed
```



```

{
    data[index] = value;
}
}

unsafe bool Validate(ref ByteArray bytes, int index, byte expectedValue)
{
    fixed(byte* data = bytes.Data)
    {
        return data[index] == expectedValue;
    }
}

void Test(ref ByteArray bytes)
{
    SetValue(ref bytes, 0, 1);
    Validate(ref bytes, 0, 1);
}
}

class SingleFixed
{
    unsafe void SetValue(byte* data, int index, byte value)
    {
        data[index] = value;
    }

    unsafe bool Validate(byte* data, int index, byte expectedValue)
    {
        return data[index] == expectedValue;
    }

    unsafe void Test(ref ByteArray bytes)
    {
        fixed(byte* data = bytes.Data)
        {
            SetValue(data, 0, 1);
            Validate(data, 0, 1);
        }
    }
}

```

concerned only with pure managed code and the specific costs of using fixed in that context.

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calinmihaipavel Asks: *How to create an archive of the model in ASPNET with Entity Framework?*

I have a base class

Code:

```
public class Property
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.None)]
    public int Id { get; set; }
    ...
}
```

A child level 1

Code:

```
public class Apartament : Property
{
    public int GarageQuantity { get; set; }
    ...
}
```

And a child level 2

Code:

```
public class ArchiveApartament : Apartament
{
    public string DeletedBy { get; set; }
    public string DeletedAt { get; set; }
}
```

When I delete the `Apartament` model from database, I want to send the model to `ArchiveApartament` table.

How I'm doing that:

In the `DeleteConfirmed` `ActionResult`, I'm passing like this:



```
}  
ArchiveApartament? archive = apartament as ArchiveApartament;  
archive.DeletedBy = //somevalue;  
archive.DeletedAt = DateTime.UtcNow.ToString();  
await _context.AddAsync/archive);  
await _context.SaveChangesAsync();  
return RedirectToAction(nameof(Index));
```

But the action is not finalized, meaning that the Apartament row is not deleted.

I also understand that I'm violating the database Id because I'm passing a duplicated item. But what can solve this problem?

This could be also an architectural problem?

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How to debug URLSession POST Authentication Login Failure

SDGary · 1 minute ago · Technology Forum · Replies: 0

SDGary Asks: *How to debug URLSession POST Authentication Login Failure*

I am trying to mimic an HTTP Form POST in iOS to login to a server.

When I use Safari or Chrome and submit the login form outside of my app, I can login without issue. I am using Safari and Chrome dev tools to record/review the "correct" request and response headers, cookies and body during the GET and POST required to login.

When I run my app in Xcode, I use debug print statements or Instruments to review the headers, cookies and body.

The information presented in these two approaches have some differences. My question is: How do I determine what are real differences vs. different tools showing the same information in a slightly different format?

My code is below. The POST header returns status code = 419. The post body includes the text "Page Expired", which leads me to believe I am not handling tokens or cookies correctly.



Code overview:

1.
I press a UI button to invoke login(). This does a GET of login page, and saves the hidden _token form input from the response body. Cookies are saved to cookieStorage.
2.
I press a UI button to invoke loginPost(). This submits a form with a bogus email and password. I format headers and body. I expect to get an error indicating email is not registered. POST adds _token to body. This body seems to match Chrome dev tools for urlencode formatting. Status code 419 is returned..

Code

Code:

```
class LoginAPI {
    public let avLogin = "https://audiovault.net/login"

    // save response, data from last getHTMLPage() GET
    fileprivate var lastGetResponse: HTTPURLResponse? = nil
    fileprivate var lastGetData: String? = nil

    // test POST with saved values
    var loginToken = ""
    var cookies: [HTTPCookie] = []

    // MARK: Login
    func login() async -> String {
        // GET login page,
        let loginGetHTML = await self.getHTMLPage(url: self.avLogin)

        let loginToken = self.scrapeLoginToken(html: loginGetHTML)
        let cookies = self.getCookiesFromResponse(response: self.lastGetResponse)
        if let lastResponse = self.lastGetResponse,
            let lastURL = lastResponse.url {
            HTTPCookieStorage.shared.setCookies(cookies,
                for: lastURL, mainDocumentURL: nil)
        }
    }
}
```



```

self.cookies = cookies

// TO DO: add delay, then call loginPost(), and return Data as String
return ""
}

// MARK: POST Login form
func loginPost(url: String, loginToken: String, cookies: [HTTPCookie]) async {
    guard let loginURL = URL(string: url) else {return}

```

Cookies from GET response header, using print(response)

Code:

```

"Set-Cookie" = (
    "XSRF-TOKEN=eyJpdiI6Ijloa3h0SudaewtxY0ZHRElpYjZ4XC93PT0iLCJ2YWx1ZSI6I1l0XC9tVEU2ekNEOXplUXd1WHR"
    "audiovault_session=eyJpdiI6Ikp2MmRrVklxaUMrYTlTendjdHJcL1lBPT0iLCJ2YWx1ZSI6ImV6cnZyYUN2RDhEK0p"
);

```

Cookies from POST request header, using print(allHeaders):

Code:

```

["Cookie": "XSRF-TOKEN=eyJpdiI6Ijloa3h0SudaewtxY0ZHRElpYjZ4XC93PT0iLCJ2YWx1ZSI6I1l0XC9tVEU2ekNEOXpl

```

Note the POST request cookies are missing expiration, path, etc. Do I need to urlencode / reformat cookies?

Any debug help or direction would be appreciated!



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Regex Swift: How to find Two words OR Find Two words with a dash

Scott W

· 1 minute ago · Technology Forum · Replies: 0

Scott W Asks: *Regex Swift: How to find Two words OR Find Two words with a dash*

I have two regex patterns in Swift, both work for each case:

```
case twoWords = "(@\\w+\\s\\w+)"
```

```
case twoWordsWithDash = "@(\\w+\\s\\w+\\-\\w+)"
```

Question:

How can I combine these two regex patterns like they are in their respective strings, so the regex will configure EITHER twoWords or twoWordsWithDash??

What I want:

```
case twoWordsORtwoWordsWithDash = "(@\\w+\\s\\w+)|(\\w+\\s\\w+\\-\\w+)"
```

But this fails, that OR operator | doesn't seem to work..

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WYSWYG ISSUES IN WEB DEVELOPMENT

Zach · 1 minute ago · Technology Forum · Replies: 0

Zach Asks: *WYSWYG ISSUES IN WEB DEVELOPMENT*

Im still a young beginner in Development Web, and have an issue with my rich text editor I'm using TinyMCE,



I need help dear elders.

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Spark Structured Streaming Foreachbatch [pyspark]

user845466 · 1 minute ago · Technology Forum · Replies: 0

user845466 Asks: *Spark Structured Streaming Foreachbatch [pyspark]*

We are using spark Structured Streaming with foreachbatch to update records in delta table. The number of records part of each batch are random. We have 10000 record in kinesis stream but while creating micro batch it picks random number of records that is some time 800, 500 and some time . This takes long time in processing because ideally it should create 2 batch of 5000 each.

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