Webinar #1
7PM CEST
May 6

Topics:

- `ReadOnlySpan` **trick with** `byte[]`
- `SkipLocalsInit` **and** `Unsafe.SkipInit`

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About me

.NET freelancer/ trainer/ consultant/ speaker/ ...

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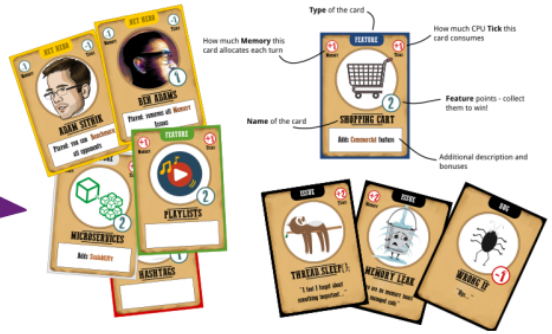
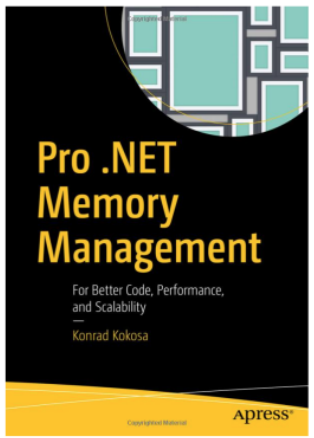


OutOfMemory card game

(still prototyping)

playoutofmemory.com



prodotnetmemory.com

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TooSlowException.com

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- what it is NOT...?

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  - in DEPTH explanation of the most important .NET GC parts

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  - **various levels** - from beginners to advanced ones

Today's agenda

Explaining my two recent infographics:

- **`ReadOnlySpan`** trick with **`byte[]`** - 🌶️🌶️🌶️🌶️
- **`SkipLocalsInit`** and **`Unsafe.SkipInit`** - 🌶️🌶️🌶️🌶️🌶️

ReadOnlySpan trick with byte[]

```
[Benchmark]
public byte Create1()
{
  var array = new byte[] { 1, 2, 3, 4 };
  return array[0];
}
```

Method	Mean	Allocated
Create1	6.9263 ns	32 B

```
[Benchmark]
public byte Create2()
{
    ReadOnlySpan<byte> array = new byte[] { 1, 2, 3, 4 };
    return array[0];
}
```

Method	Mean	Allocated
Create2	0.0178 ns	-

Did you know...? The byte array assigned to **ReadOnlySpan<byte>** is a magic C# compiler trick to not allocate array at all.

dotnetmemoryexpert.com

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  Trick spiciness: 🌶🌶🌶🌶

SkipLocalsInit and Unsafe.SkipInit

```
[SkipLocalsInit]
public bool TryDoSomething(out Guid value, out int consumed)
{
    Unsafe.SkipInit(out value);
    Unsafe.SkipInit(out consumed);
    if (DoMagic())
    {
        value = Guid.NewGuid();
        consumed = 16;
        return true;
    }
    return false;
}
```

Benchmark assumng DoMagic fails:

Method	Mean
Normal code	5.050 ns
SkipInit & attribute	3.243 ns

Did you know...? In C# you can relax the assigment requirement with **Unsafe.SkipInit** and also get rid of zero initialization with **SkipLocalsInit**.

dotnetmemoryexpert.com

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Thank you! Any questions?!