Fast, Faster... Async ASP.NET

Tiberiu Covaci

Level: Intermediate

Who am I?

- Tiberiu 'Tibi' Covaci
- Software engineer, 25 years experience
- Tech Lead for various projects
- MCT since 2004, teaching .NET
- MVP in Azure/ASP.NET
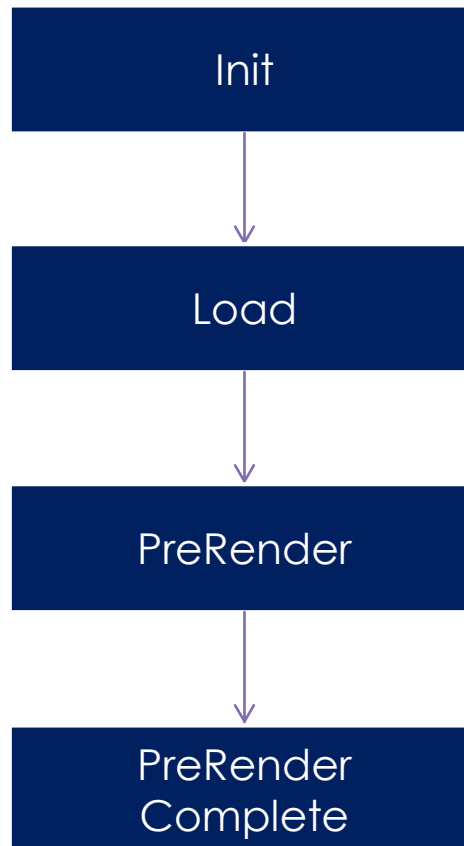- Telerik MVP & Insider
- Father & Geek
- @tibor19 #swetugg

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Agenda

- ASP.NET Page lifecycle
- Load test your application
- Asynchronous pages
- Async support in C# vNext

ASP.NET Page lifecycle

```
Init
  ↓
Load
  ↓
PreRender
  ↓
PreRender
Complete
```

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The Application.

DEMO

Sync vs Ansync

- Synchronous
    - Call method => Wait for result
    - One method at a time
    - Easy to program/understand
- Asynchronous
    - Call method => Return right away
    - Result / method completion provided via callback
    - Run several methods at the same time
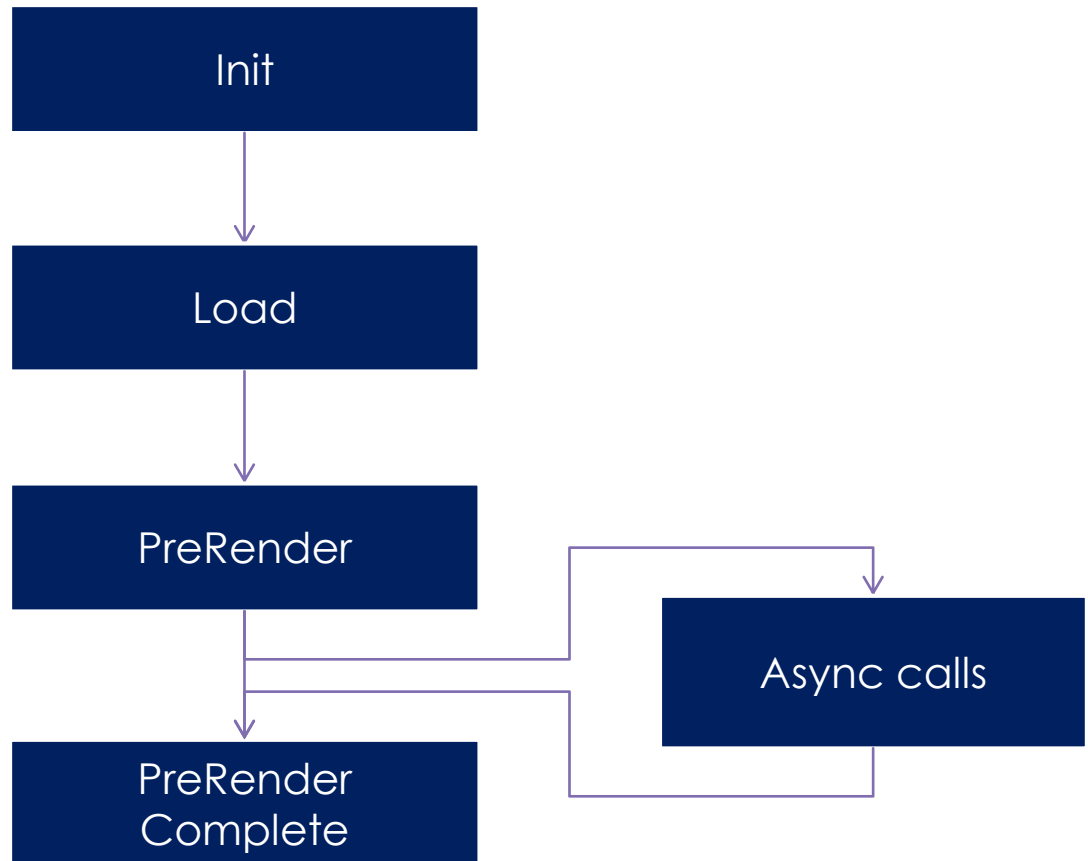   - Scalability
    - Harder to program

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EventHandler Delegate

- void Invoke(object sender, EventArgs e)
- IAsyncResult BeginInvoke(

  ▶object sender,

  ▶EventArgs e,

  ▶AsyncCallback cb,

  ▶object state)

- void EndInvoke(IAsyncResult ar)

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ASP.NET Async Page lifecycle

Asynchronizing the Application.

DEMO

Async support in C# vNext

- "Looks like" synchronous programming

- Uses Task/Task<T> behind the courtains

- Two new contextual keywords

  ▶ async marks a method as asynchrnous

  ▶ await yields control while waiting on a task to complete

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APM=>Async

```csharp
public static Task<SqlDataReader> ExecuteReaderAsync(SqlCommand cmd)
    {
        var tcs = new TaskCompletionSource<SqlDataReader>();
        cmd.BeginExecuteReader(iar =>
        {
            try
            {
                tcs.TrySetResult(cmd.EndExecuteReader(iar));
            }
            catch (Exception exc)
            {
                tcs.TrySetException(exc);
            }
        }, null);

        return tcs.Task;
    }
```

Modernizing the Application.

DEMO

Summary

- ASP.NET Page lifecycle
- Load test your application
- Asynchronous pages
- Async support in C# vNext

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Q & A

Thank-you!

- Please evaluate!

- Contact me by
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  - ▶ Twitter tibor19

And Don't Forget to Write!

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