

# Using EF Core in an ASP.NET Core API

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# Module Overview



Create an ASP.NET Core API project

Add in a controller for the Samurais

Wire up ASP.NET Core to SamuraiContext

Learn a few tricks for debugging and logging

Interact with controller methods to read and write data

Check out new feature designed to help using EF Core with Blazor



# Adding the ASP.NET Core Project

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# Adding a Samurai Controller to the Project

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# Wiring Up ASP.NET Core with EF Core

## ❖ Web API Project

1. Add references to projects with entities and DbContext
2. Build
3. Add controller (EF and API actions)  
*(This will add EF Core and other packages to csproj)*



# Wiring up the ASP.NET Core App with the DbContext

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# Running the Controller to See the Output

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# Wiring up ASP.NET Core with EF Core

## ❖ Web API Project

1. Add references to projects with entities and DbContext
2. Build
3. Add controller (EF & API actions) *(Adds EF Core & other packages to csproj)*

## ❖ Startup

4. Add services.DbContext with UseSqlServer to startup Configure()

## ❖ appsettings.json

5. Add connection string config
6. Add EF Core logging config

## ❖ DbContext

7. Add constructor that takes in DbContextOptions
8. Remove optionsBuilder from OnConfiguring
9. Clean up using statements



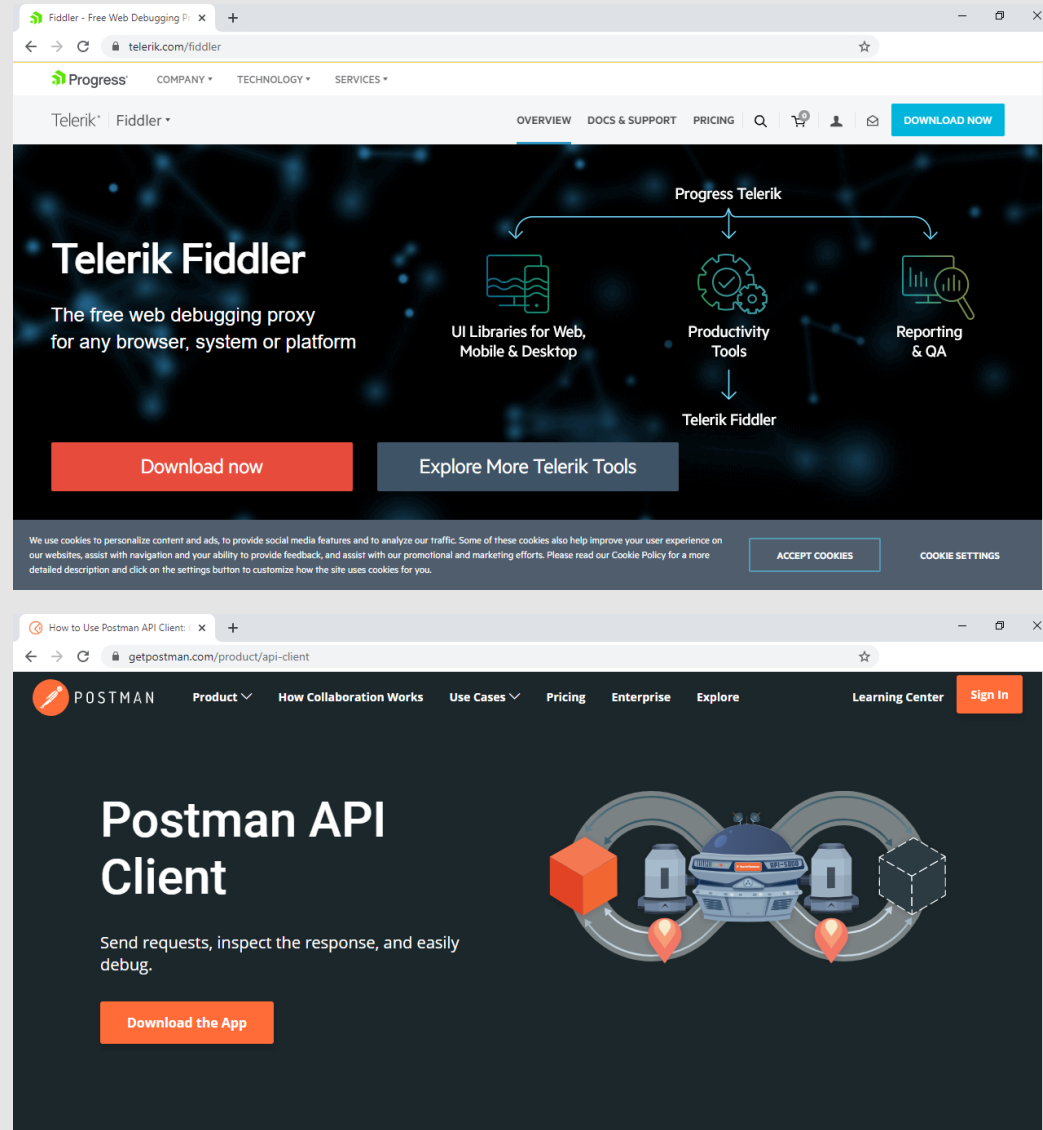
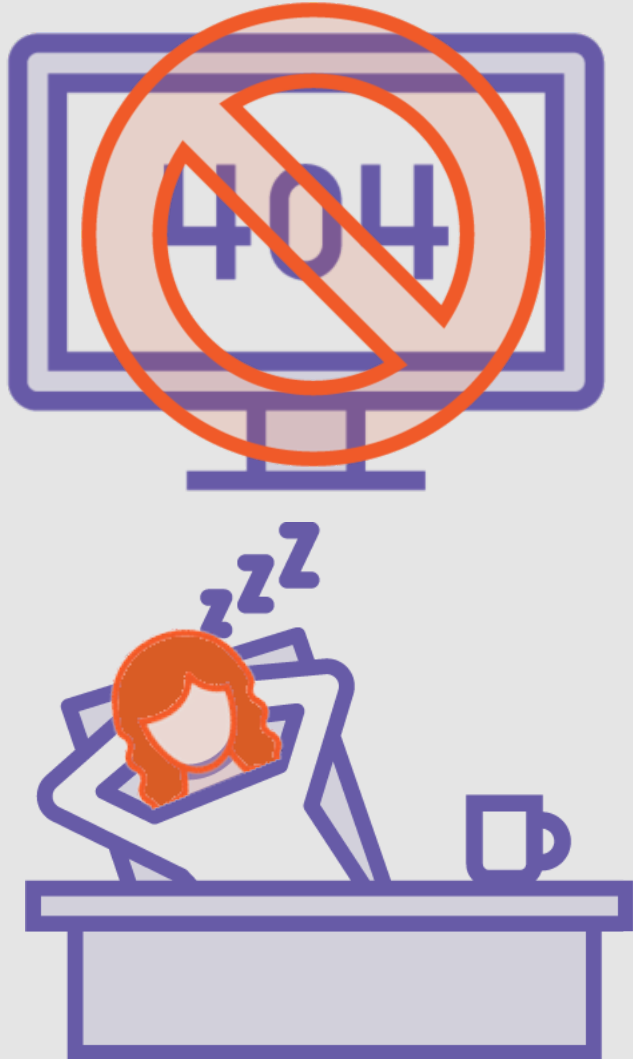


# Exploring and Debugging Insert, Update & Delete Controller Methods

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# How Will We Run the PUT POST & DELETE?



# EF Core 5 in Blazor Apps

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Why does Blazor have  
special needs when working  
using EF Core?



# Blazor Uses ASP.NET Core Infrastructure

```
public class Startup
{
    public Startup(IConfiguration configuration)
    {
        Configuration = configuration;
    }

    public IConfiguration Configuration { get; }

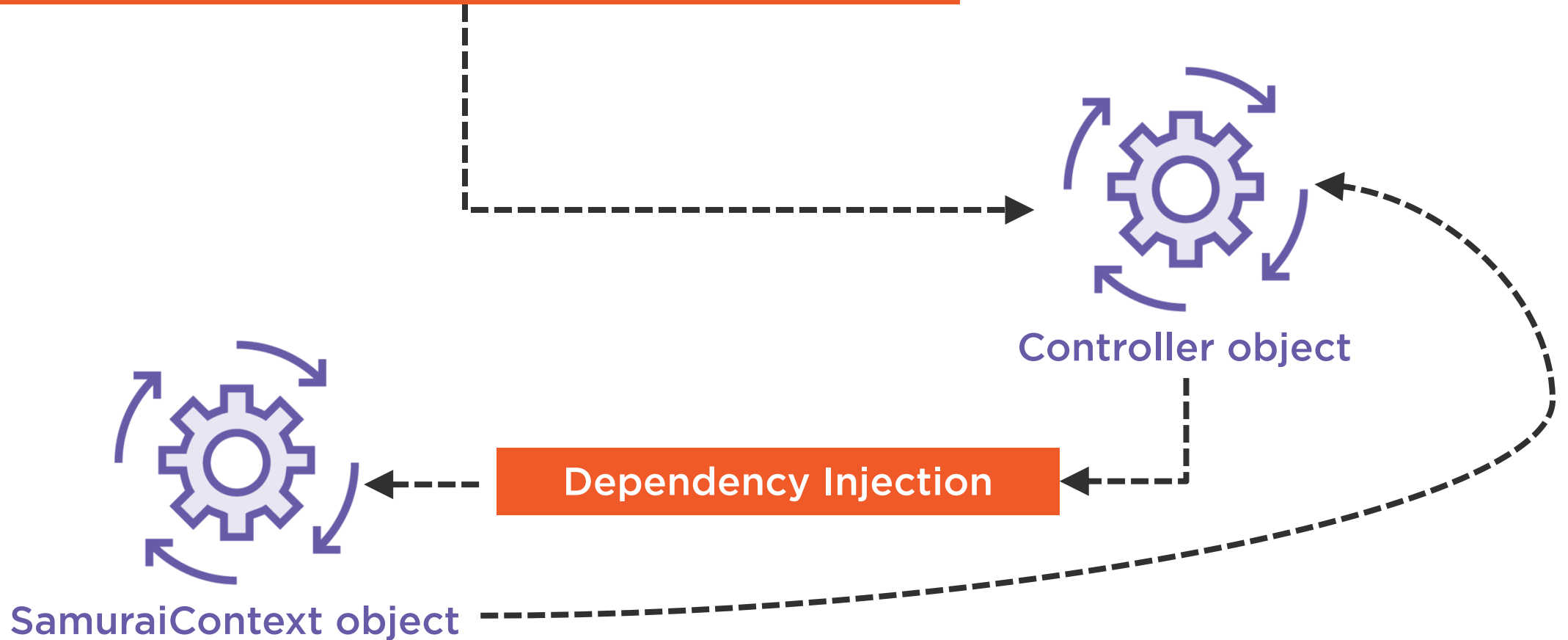
    public void ConfigureServices(IServiceCollection services)...

    public void Configure(IApplicationBuilder app, IWebHostEnvironment env)...
```



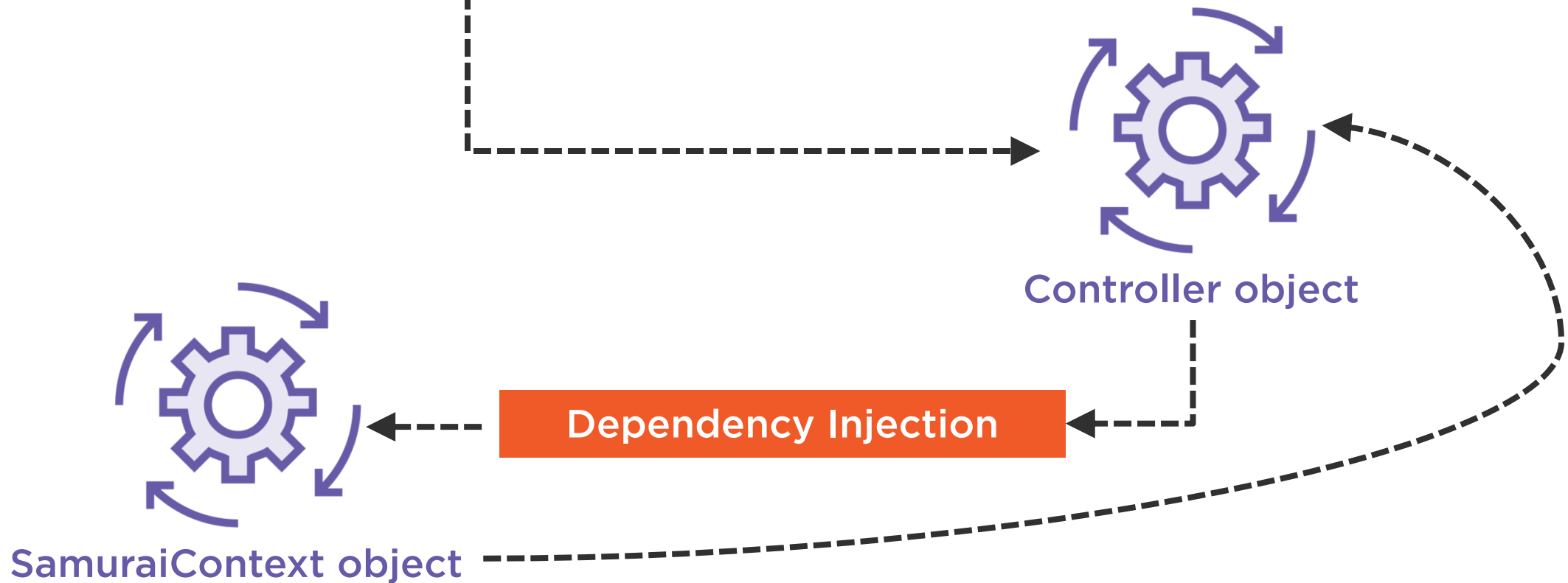
# DbContext per Web Request

<http://mydomain.com/api/Samurais/Add>

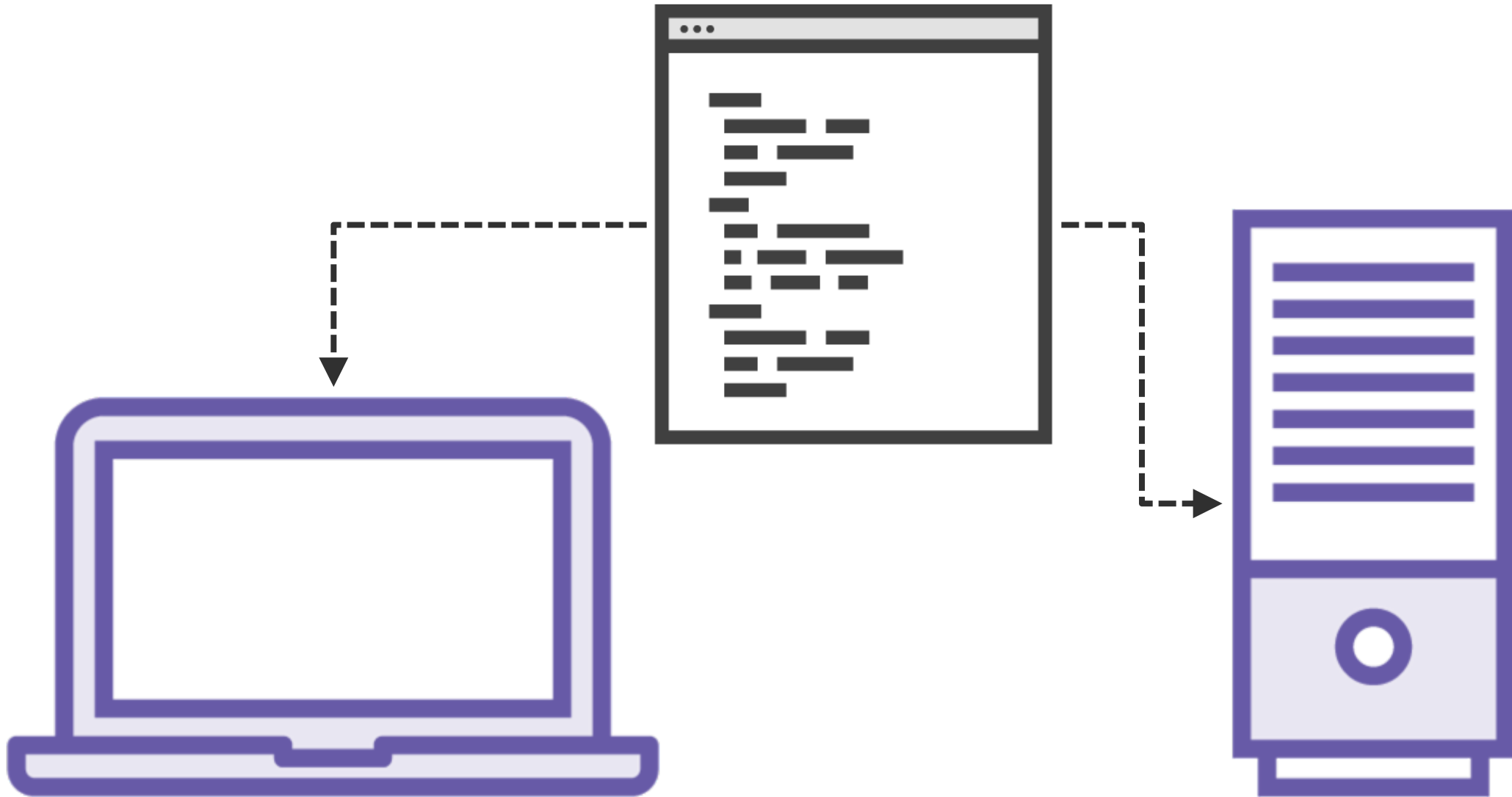


# DbContext per Web Request

<http://mydomain.com/api/Samurais/Add>

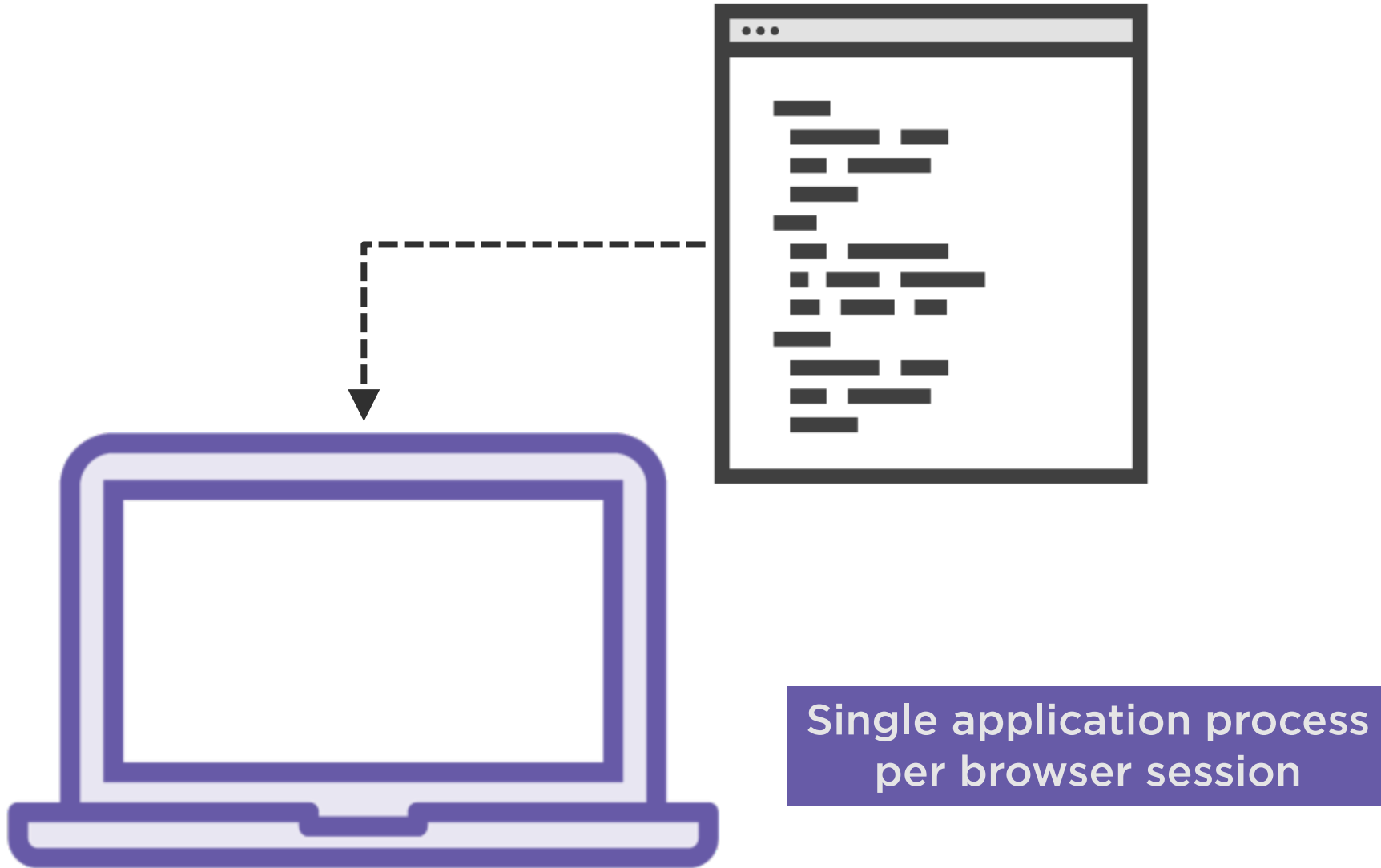


# Blazor Can Run C# Server Code in a Browser





# Blazor Can Run C# Server Code in a Browser



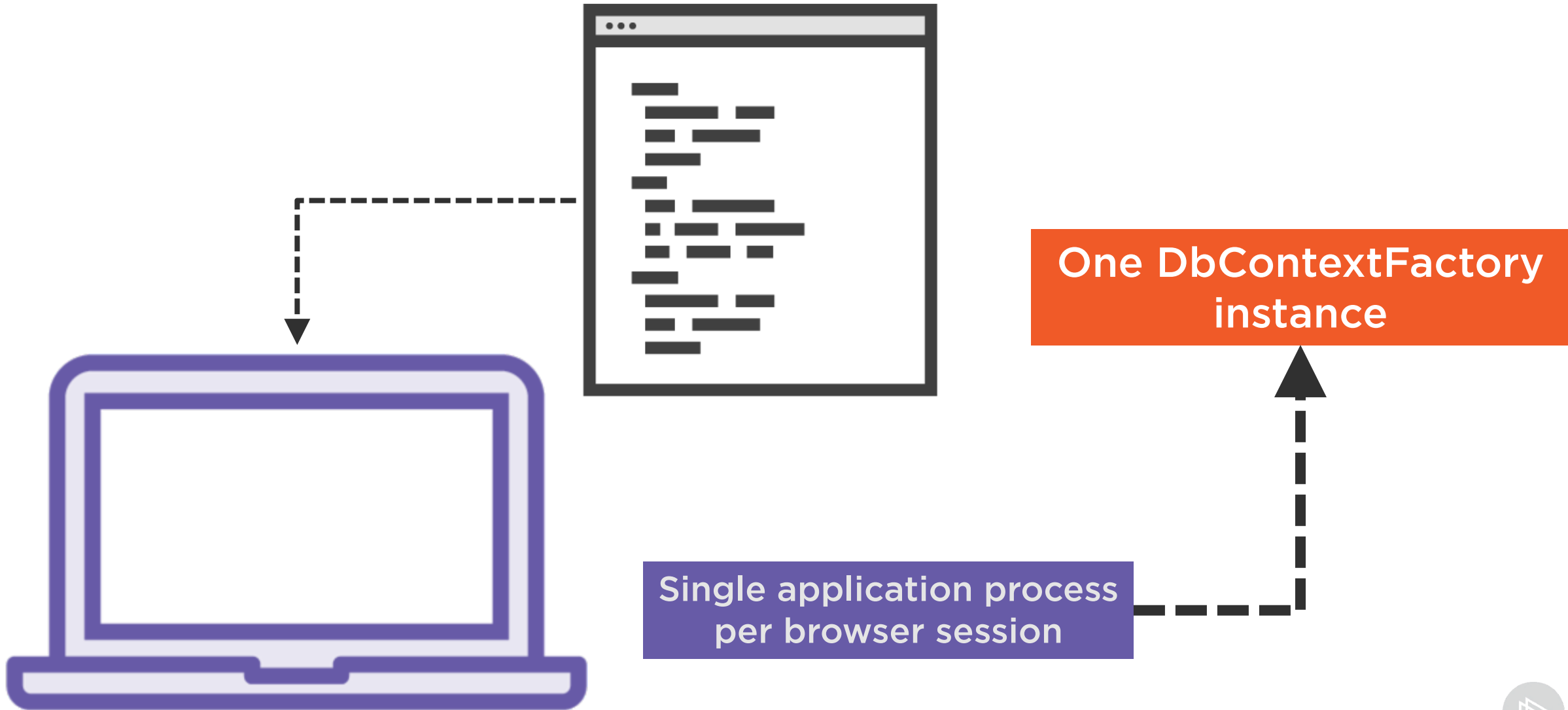
# `optionsBuilder.AddDbContextFactory()`

Meet AddDbContext's Cousin

Takes same details as **AddDbContext** parameters



# Blazor Can Run C# Server Code in a Browser



## Review

Created a new ASP.NET Core API project

Referenced Data & Domain projects,  
\*built\* the solution & created a controller

Modified startup, appsettings &  
DbContext to integrate API & EF Core

Learned about the logging integration

Learned how to use REST Client to send  
JSON to HTTP requests

Created a new method that uses our  
stored procedure and works with related  
data

Learned about working with Blazor

# Up Next!

Testing with the InMemory  
provider instead of a  
database



# Resources

Entity Framework Core on GitHub [github.com/dotnet/efcore](https://github.com/dotnet/efcore)

EF Core Documentation [docs.microsoft.com/ef](https://docs.microsoft.com/ef)

Visual Studio Code homepage: [code.visualstudio.com](https://code.visualstudio.com)

JSON View extension for Google Chrome: [bit.ly/jsonviewext](https://bit.ly/jsonviewext)

REST Client extension for Visual Studio Code (also find it in VS Code IDE)  
[marketplace.visualstudio.com/items?itemName=humao.rest-client](https://marketplace.visualstudio.com/items?itemName=humao.rest-client)

SOLID Principles for C# Developers Course  
[app.pluralsight.com/library/courses/csharp-solid-principles/table-of-contents](https://app.pluralsight.com/library/courses/csharp-solid-principles/table-of-contents)

Logging in .NET Core and ASP.NET Core  
<https://docs.microsoft.com/en-us/aspnet/core/fundamentals/logging>

Blazor Sample App  
[docs.microsoft.com/en-us/aspnet/core/blazor/blazor-server-ef-core](https://docs.microsoft.com/en-us/aspnet/core/blazor/blazor-server-ef-core)



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