ASP.NET Core Middleware: The Hidden Powerhouse of Your Web Apps

Middleware is the unsung hero of ASP.NET Core - the chain of components that quietly shapes every request/response. Here's what every senior dev should know:

🔗 The Pipeline Explained

Middleware components form a sequential pipeline where each:

✅ Can inspect/modify HttpContext

✅ Decides to pass control downstream

✅ Can short-circuit (like Static Files does)

⚡ Pro Tips

• Run() delegates are terminal - no next parameter

• Map/MapWhen create smart pipeline branches

• Order is everything (Auth before Endpoints!)

🚀 Advanced Patterns

▫ UseWhen for conditional pipeline rejoins

▫ Endpoint-aware middleware for targeted logic

▫ Async all the way for max throughput

💣 Common Pitfalls

❌ Blocking async calls (.Result) → deadlocks

❌ Capturing scoped services → memory leaks

❌ Swallowed exceptions → ghost bugs

I've just published a deep dive with diagrams, code samples, and battle-tested patterns: https://shorturl.at/9haWS

What's your favorite middleware hack?

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│      📥 Incoming Request         │
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│      🛡️ Exception Handling       │
│    First-line error protection   │
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┌─────────────────────────────────┐
│      🔒 HTTPS Redirection        │
│    Forces secure connections     │
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│         📁 Static Files          │
│    Short-circuits file requests  │
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┌─────────────────────────────────┐
│          🗺️ Routing              │
│       Endpoint selection         │
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│            🌐 CORS               │
│      Cross-origin policies       │
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┌─────────────────────────────────┐
│       🔑 Authentication          │
│          User identity           │
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│        🚦 Authorization          │
│        Permission checks         │
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┌─────────────────────────────────┐
│      ⚙️ Custom Middleware        │
│       Your business logic        │
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┌─────────────────────────────────┐
│      🖥️ Endpoint Execution       │
│      Controllers/Razor Pages     │
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┌─────────────────────────────────┐
│      📤 Outgoing Response        │
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