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□□□□	□□□□□□ IL□ Expression□ AOP□ DI□ IoC
□□□□	ASP.NET Core□□□□□□ Filter□ DI□□□□
□□□□	EF Core□□□□□□□□□□
□□□□	□□□□□□ CAP□ Saga□□□□□□
□□□□	□□□□□□ DDD□ CQRS□ EventBus□□□□□□
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- ValueTask VS Task □□□□□□□□□□
- Span<T> / Memory<T> □□□□□□□□
- ref struct □ stackalloc □ fixed □□□□□□
- □□□□□□□□□□□□□□□□□□
- unsafe □□□□□□□□
- GC.Collect() □ GC.WaitForPendingFinalizers() □□□
- WeakReference □□□□□□□□
- □□□□ Object Pool□□□□□□
- □□□□ MemoryBarrier□□ Volatile □□

□□ .NET □□□□□□ CLR □□

- .NET Core □ .NET Framework □□□
- GC □□□□□□□□□□□□□□
- JIT □□□□□□□□
- AOT □□ vs JIT □□□□□
- AppDomain □□□□□□□□□□
- Assembly □□□□□□ Load, LoadFrom, LoadFile□

- `IL` `Type.Load`, `Type.GetType`
- `Reflection`
- `IL` `ldloc`, `stloc`, `callvirt`
- `C#` `IL`

async/await

async/await

- `async/await` `IAsyncStateMachine`
- `ConfigureAwait(false)`
- `SynchronizationContext` `TaskScheduler`
- `ValueTaskSource` `ValueTask`
- `await` `IAsyncResult`
- `AsyncLocal<T>`
- `task.Result` `UI`
- `ValueTask` `Task`

in/out

- `in/out`
- `where T : class, new(), interface, struct`
- `CLR`
- `MethodInfo.MakeGenericMethod()`
- `Expression Tree`
- `System.Runtime.CompilerServices.Unsafe`
- `MethodImpl(MethodImplOptions.AggressiveInlining)`
- `ConditionalWeakTable<TKey, TValue>`

ConcurrentDictionary

- `ConcurrentDictionary<TKey, TValue>`
- `ConcurrentQueue<T>` `Channel<T>`
- `SortedSet<T>` `SortedList<TKey, TValue>` `SortedDictionary<TKey, TValue>`
- `ArrayPool<T>` / `BufferPool`
- `ReadOnlySpan<T>` `ReadOnlyMemory<T>`
- `RingBuffer`
- `Lock-Free Queue`
- `Paging + Lazy<T>`

ConcurrentDictionary

- `DDD`
- CQRS `Event Sourcing`
- Mediator
- `vs DI`
- `Double-check Locking`
- `AOP`
- `vs - vs Prism IEventAggregator`
- `Prism MEF Autofac Modules`

IOCs

- ASP.NET Core `Microsoft.Extensions.DependencyInjection` `Transient`
`Scoped` `Singleton`
- `IOC`
- `Service Locator`
- `Ambient Context`
- `DI AOP` `Autofac + Interceptor`
- `IServiceProvider` `IServiceScopeFactory`
-

.NET Core

- `P/Invoke` `DllImport`
- `C/C++`
- `COM Interop` `Windows`
- `NativeAOT` `.NET`
- `C#`
- `RuntimeInformation.IsOSPlatform(OSPlatform.Windows)`
- `System.Runtime.InteropServices`
- `x86/x64/ARM`

- `TCP/UDP Socket` `SocketAsyncEventArgs`
- `HttpClient`
- `HttpMessageHandler`
- `gRPC` `.NET`
- `SignalR` `WebSocket vs Server-Sent Events`
- `Kestrel` `Web`
- `RPC`
- `MemoryPool<byte>`

##

- `PerfView` `GC`
- `dotTrace / dotMemory` `CPU`
- `VisualVM / ANTS Memory Profiler` `Java`
- `dotnet-counters` `dotnet-trace`
- `DiagnosticSource`
- `ThreadPool.GetAvailableThreads`
- `MiniDump`
- `ETW` `Event Tracing for Windows`

ASP.NET Core

- `Mock` `Moq` `NSubstitute`
- `xUnit / NUnit / MSTest`
- `TestServer` `ASP.NET Core`
- `coverlet` `Visual Studio` `JetBrains Rider`

ASP.NET Core

ASP.NET Core

- `ASP.NET Core` `Middleware Pipeline`
- `Middleware`
- `Use`, `Run`, `Map`
- `IApplicationBuilder` `IHostApplicationLifetime`
- `RequestDelegate`
- `PipelineBuilder`
- `DI`
- `HttpContext.Features`

ASP.NET Core

- `IConfiguration` `appsettings.json` `Environment Variables` `Command Line`
- `IOptions<T>` `Named Options`
- `IConfigureOptions<T>` `IPostConfigureOptions<T>`
- `AddOptions().PostConfigure(...)`
- `ConfigurationProvider`
- `Secret Manager`
- `IOptionsMonitor<T>` vs `IOptionsSnapshot<T>`

JSON

JSON XML Binary

- System.Text.Json VS Newtonsoft.Json
- JsonSerializer.Deserialize<T>(…) JSON JsonConvert
- DataContractSerializer VS XmlSerializer
- BinaryFormatter
- MemoryPack / MessagePack
- System.Text.Json Source Generation
- Utf8JsonReader / JsonDocument

LINQ

- IEnumerable<T> VS IQueryable<T>
- LINQ Select / Where / GroupBy
- Expression Tree
- Expression Delegate
- ExpressionVisitor
- EF Core SQL
- AsParallel() PLINQ
- Partitioner

- dotnet publish --self-contained, --runtime
- AOT .NET
- Single File
- Trimming PublishTrimmed
- Docker
- ReadyToRun
- deps.json
- AssemblyLoadContext
- Linux .NET Core

- CAP BASE
- REST, gRPC, Message Queue
- Consul, etcd, Kubernetes
- 2PC, Saga, TCC
- Dapper / Entity Framework Core Repository
- Event Sourcing Snapshotting
- CAP
- MassTransit / Rebus / Cap
- Serilog

EF Core

ORM

- EF Core Query Pipeline
- DetailedErrors SensitiveDataLogging
- ChangeTracker
- Include, ThenInclude, Load
- AsNoTracking()
- ValueConverter ValueComparer
- FromSqlRaw
- Interceptors SQL
- RelationalTypeMapping

C#

C# 9/10/11/12

- record class
- init
- required C# 11
- global using file-scoped namespace C# 10
- with record
- nint / Half / Primary Constructor C# 12
- Lambda Return Type params any type C# 12
- raw string literal ""
- source generator
- partial methods hook

- RBAC vs ABAC
- API vs Redis
- vs
- ID Snowflake vs IdGenerator
- Channel<T> vs BackgroundService
- AppDomain / AssemblyLoadContext

- MediatR CQRS
- AutoMapper DTO Entity
- FluentValidation
- Serilog
- Polly

- Refit REST
- MassTransit CAP
- ImageSharp / SkiaSharp
- ImageSharp.Web CDN
- IdentityServer OAuth2



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Orleans	<input type="checkbox"/> <input type="checkbox"/> Actor <input type="checkbox"/> <input type="checkbox"/>
Akka.NET	<input type="checkbox"/> <input type="checkbox"/> Scala <input type="checkbox"/> Actor <input type="checkbox"/> <input type="checkbox"/>
CAP	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Entity Framework Core	ORM <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Serilog	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Polly	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MediatR	CQRS <input type="checkbox"/> <input type="checkbox"/>
FluentValidation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Xunit / Moq / FluentAssertions	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SignalR	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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