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Top 16 Libraries in .NET

With Alternatives

Entity Framework Core

A widely-popular and easy to use Object-relational Mapping library, it provides you with a convenient way to build a comprehensive data access layer that can connect to virtually any relational or non-relational databases.

Alternative?

Dapper

Serilog



Write structured logging on a wide range of outputs (sinks) with the ability to write your own sink.

Distinguish between the levels of logs and fine grain the formatting for your logs to match your logging requirements.

Alternative?

NLog

Fluent Validation



Apply seamless and easy validations on models and entities with strongly-typed validation rules based on the Fluent API.

Alternative?

.NET Data Annotations

(System.ComponentModel.DataAnnotations)

System.Text.Json

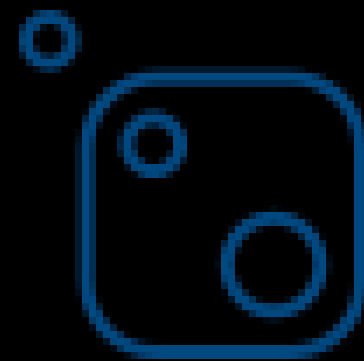


The ultimate replacement for the top downloaded NuGet Package - Newtonsoft.

STJ is a .NET built-in high-performance library to easily convert between JSON and .NET Objects, create and parse JSON Objects, query JSON objects using LINQ and provide formatting HTTP Responses.

Alternative?

NewtonSoft.json



OpenApi for Swagger Documentation

Starting from .NET 8, you can use **Microsoft.AspNetCore.OpenApi** to make your RESTful APIs discoverable by generating OpenAPI Specification file.

Visualize and test your APIs through Swagger UI on browser without having to call other libraries.

Alternative?

NSwag or (Swashbuckle for versions prior to .NET 8)



Mapster

Rely on a simple yet powerful, blazing-fast, configuration-based library to handle the objects mapping for you.

Mapster supports Fluent API, Nested Mappings, Immutable Collections.

Alternative?

AutoMapper



Refit

Handle and manage all the API Calls to other web services with a clean interface and simplified implementation for interceptors.

Refit was inspired by the widely-popular Android/Java Retrofit library, and now considered as **the Retrofit of .NET**

Alternative?

RestSharp



StackExchange

Redis

A highly-reliable and scalable solution for Distributed Caching, Streaming and Messaging.

Redis is an in-memory data store that can store different formats of data structures, like strings, hashes, dictionaries, lists and others.

Alternative?

NCache



MediatR

Decouple your intra communicating components by introducing a Mediator object to handle all communications.

With the support of requests, responses, separation of commands and queries (CQRS), notifications and events, you can easily implement the Mediator Design Pattern.

Alternative?

Brighter



Hangfire

Create and manage different types of background jobs, including fire-and-forget, delayed, batches and others.

Hangfire is your best library to run background jobs in .NET including ASP.NET Core and other service applications

Alternative?

Quartz.NET

Polly



A widely popular library to make your .NET app resilient and reliable against transient-faulty situations.

Apply fluent API based policies like retry, circuit breaker, timeout, fallback and others.

.NET 8 introduced Polly v8, a new simplified API based on Polly under Microsoft.Extensions.Http.Resilience and

Microsoft.Extensions.Resilience

xUnit.net



Support your test-driven development approach with tests that are tailored towards Facts and Theories with the support of range of input data.

This great testing tool and library enables you to run your tests on multiple .NET frameworks, to check your code compatibility with your targeting versions.

Alternative?

NUnit



FluentAssertions

A comprehensive set of extension methods that helps you easily assert your TDD or BDD tests using simple and intuitive Fluent syntax.

With FluentAssertions you can write cleaner tests through natural sounding extension methods

Alternative?

Shouldly



NSubstitute

Easily build strongly-typed substitutes or mocks for your classes and interfaces and use them in your AAA (Arrange-Act-Assert) style unit tests

Alternative?

JustMock



BenchmarkDotNet

A powerful library that enables you to test the performance of methods and produce benchmarks with actionable measures.

It is the perfect tool to experiment, explore and compare the performance of the different language features within .NET

Alternative?

NBench

SignalR

Now part of ASP.NET Core, SignalR enables you to easily implement server to client async notifications using the WebSockets as the main technology, besides Server-Sent Events and Long Polling for fallback.

SignalR is heavily used in online gaming, chatting apps, real-time dashboards and collaboration software

Alternative?

Socket.IO-client for .NET

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