Windows Framework and Library Catalog - Priority Order

A direct ingestion list for HyperShell. Main names are user-facing catalog labels; the final column identifies the package, SDK, assembly family, or metadata source your indexer should scan.

Official first	Rank meaning	Native separation
Index Microsoft and Windows sources before third-party packages.	Lower number = more foundational, irreplaceable, or useful to HyperShell.	Win32, COM, DirectX, and WDK entries are not ordinary CLR classes; keep them in a native/interop branch.

A. Official Windows and Microsoft Sources

Start here. These are the primary platform, framework, SDK, library, and API-family sources for the catalog.

#	Framework / library	Kind	Brief description	Primary index source
Required foundation				
1	Modern .NET Base Class Library	Framework libraries	The core C#/.NET API surface: types, collections, files, networking, reflection, diagnostics, threading, text, JSON, cryptography, and runtime services.	Microsoft.NETCore.App.Ref
2	Windows SDK - Win32 API	Native API family	The fundamental Windows desktop and system API: processes, threads, files, memory, services, windows, input, networking, security, devices, and operating-system integration.	Windows SDK + Microsoft.Windows.SDK.Win32Metadata
3	Windows Runtime (WinRT)	Runtime API family	Modern Windows APIs for storage, devices, media, notifications, networking, security, application services, and system integration, projected into C#.	Microsoft.Windows.SDK.NET.Ref / Windows.winmd
4	PowerShell SDK	Automation framework	Embeds the PowerShell engine and exposes runspaces, pipelines, commands, providers, jobs, remoting, parsing, streams, and session state.	System.Management.Automation
5	Windows App SDK	Windows application SDK	Microsoft's current desktop application platform, providing lifecycle, windowing, notifications, deployment, resources, and modern Windows features.	Microsoft.WindowsAppSDK
6	WinUI 3	Desktop UI framework	The modern native Windows UI framework included with the Windows App SDK, using XAML, Fluent controls, composition, input, and windowing APIs.	Microsoft.UI.Xaml and Microsoft.UI.*
7	Windows Presentation Foundation (WPF)	Desktop UI framework	A mature XAML desktop framework with controls, data binding, styling, graphics, documents, animation, and extensibility.	Microsoft.WindowsDesktop.App.Ref / PresentationFramework
8	Windows Forms	Desktop UI framework	A mature event-driven Windows desktop UI framework with extensive controls, designers, drawing, dialogs, and Win32 interoperability.	Microsoft.WindowsDesktop.App.Ref / System.Windows.Forms

#	Framework / library	Kind	Brief description	Primary index source
9	.NET Framework 4.x	Legacy Windows framework	The original Windows-only managed framework, required for cataloging older enterprise, desktop, web, WCF, workflow, remoting, and compatibility APIs.	.NET Framework reference assemblies
10	COM and OLE Automation	Component model	Windows component interoperability used by Office, Shell, ActiveX, automation servers, legacy applications, and many native Windows services.	COM type libraries + interop assemblies
11	WMI and CIM	Management framework	Queries and controls Windows hardware, services, processes, events, configuration, networking, storage, and management providers.	System.Management / Microsoft.Management.Infrastructure
12	Microsoft.Extensions	Application infrastructure	Reusable hosting, dependency injection, configuration, logging, options, caching, HTTP-client, diagnostics, and lifetime services.	Microsoft.Extensions.*
13	.NET Compiler Platform (Roslyn)	Compiler API	Parses, analyzes, generates, compiles, and transforms C# and Visual Basic code using syntax trees, semantic models, workspaces, and analyzers.	Microsoft.CodeAnalysis.CSharp and related packages
14	MSBuild	Build framework	Loads, evaluates, modifies, and builds .NET and Visual Studio projects, properties, items, targets, tasks, and solution graphs.	Microsoft.Build.*
15	NuGet Client SDK	Package-management API	Searches, downloads, resolves, restores, inspects, and extracts NuGet packages and their target-framework-specific assets.	NuGet.Protocol, NuGet.Packaging, NuGet.Frameworks
High-value official additions				
16	ASP.NET Core	Web framework	Microsoft's cross-platform web framework for HTTP services, Minimal APIs, MVC, Razor, Blazor, SignalR, authentication, middleware, and hosting.	Microsoft.AspNetCore.App.Ref
17	WebView2	Embedded browser framework	Embeds the Microsoft Edge Chromium engine in WinUI, WPF, WinForms, and native Windows applications.	Microsoft.Web.WebView2
18	Entity Framework Core	Data-access framework	A modern object-relational mapper for querying, tracking, updating, migrating, and modeling relational or provider-backed data.	Microsoft.EntityFrameworkCore.*
19	System.CommandLine	Command-line framework	Builds structured command-line applications with commands, options, arguments, parsing, validation, help, and completion.	System.CommandLine
20	Windows Shell APIs	Windows API family	Integrates with Explorer, known folders, file associations, shortcuts, property handlers, thumbnails, taskbar features, dialogs, and shell items.	Windows SDK / Win32 metadata

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21	Windows Networking APIs	Windows API family	Covers Winsock, WinHTTP, HTTP Server API, DNS, IP Helper, WLAN, Bluetooth networking, WebSockets, and network-state services.	Windows SDK / Win32 and WinRT metadata
22	Windows Security and Cryptography APIs	Windows API family	Provides identities, tokens, ACLs, credentials, certificates, CNG, DPAPI, SSPI, authentication, authorization, and secure storage.	Windows SDK / Win32 and WinRT metadata
23	Windows Diagnostics APIs	Windows API family	Provides Event Tracing for Windows, Event Log, performance counters, crash dumps, debugging, tracing, and system diagnostics.	Windows SDK / Microsoft.Diagnostics.*
24	DirectX	Graphics and compute APIs	Microsoft's native graphics, GPU compute, display, imaging, text, composition, audio, and low-latency rendering technologies.	Windows SDK: Direct3D, Direct2D, DirectWrite, DXGI, DirectML
25	Media Foundation	Media framework	Windows framework for media playback, capture, transforms, codecs, streaming, hardware acceleration, and audio/video pipelines.	Windows SDK / mf*.h and COM metadata
26	Core Audio and WASAPI	Audio API family	Low-level Windows audio endpoint, session, device, capture, render, volume, and exclusive/shared-mode APIs.	Windows SDK / Core Audio COM interfaces
27	Windows Storage and Deployment APIs	Windows API family	Covers file systems, volumes, virtual disks, cloud files, projected files, BITS, MSIX, AppX, installers, and package deployment.	Windows SDK / Win32 and WinRT metadata
28	Windows Device APIs	Windows API family	Discovers and communicates with hardware through SetupAPI, Configuration Manager, HID, USB, Bluetooth, sensors, location, printing, and portable-device APIs.	Windows SDK / Win32 and WinRT metadata
29	Open XML SDK	Document library	Creates, reads, validates, and modifies Word, Excel, and PowerPoint Open XML documents without automating Office.	DocumentFormat.OpenXml
30	.NET MAUI	Cross-platform UI framework	Builds shared C# applications for Windows, Android, iOS, and macOS; its Windows backend uses WinUI and the Windows App SDK.	Microsoft.Maui.*
Specialized, compatibility, and legacy				
31	Universal Windows Platform (UWP)	Legacy Windows app framework	The Windows 10/11 packaged application model using XAML and WinRT; still relevant for existing applications and API compatibility.	Windows SDK contracts / Windows.winmd
32	WinUI 2	UWP UI library	The maintained WinUI control library for UWP applications; separate from WinUI 3 and the Windows App SDK desktop model.	Microsoft.UI.Xaml 2.x

#	Framework / library	Kind	Brief description	Primary index source
33	Windows Driver Kit (WDK)	Driver-development SDK	Builds, packages, tests, signs, and debugs kernel-mode and user-mode Windows drivers using WDF and specialized driver models.	WDK, KMDF/UMDF headers, libraries, tools, metadata
34	Windows Communication Foundation (WCF)	Service framework	The .NET Framework service stack for SOAP, contracts, bindings, transports, duplex communication, security, and enterprise interoperability.	System.ServiceModel (.NET Framework)
35	Windows Workflow Foundation	Workflow framework	The .NET Framework model for long-running, declarative, state-machine, and activity-based business workflows.	System.Activities / System.Workflow.*
36	Managed Extensibility Framework (MEF)	Composition framework	Discovers and composes application extensions, plugins, exports, imports, and attributed components.	System.ComponentModel.Composition / System.Composition
37	TPL Dataflow	Concurrency library	Builds asynchronous producer-consumer pipelines from message blocks with buffering, parallelism, linking, and backpressure.	System.Threading.Tasks.Dataflow
38	CommunityToolkit.Mvvm	MVVM library	Lightweight Microsoft-supported MVVM primitives, observable properties, commands, messaging, validation, and source generators.	CommunityToolkit.Mvvm
39	Windows Community Toolkit	Windows UI toolkit	Adds controls, helpers, animations, converters, extensions, and utilities for modern Windows application frameworks.	CommunityToolkit.WinUI.*
40	ML.NET	Machine-learning framework	Builds and consumes machine-learning pipelines in .NET for classification, regression, recommendation, forecasting, and model evaluation.	Microsoft.ML.*
41	ONNX Runtime	Inference runtime	Runs ONNX machine-learning models with CPU, GPU, DirectML, and hardware-provider acceleration.	Microsoft.ML.OnnxRuntime
42	Microsoft Playwright	Browser automation library	Automates Chromium, Firefox, and WebKit for testing, scraping, browser workflows, screenshots, and network inspection.	Microsoft.Playwright
43	Microsoft Orleans	Distributed framework	Builds distributed applications with virtual actors, grains, clustering, persistence, timers, streams, and fault-tolerant activation.	Microsoft.Orleans.*
44	.NET Aspire	Distributed-app tooling	Coordinates development-time configuration, service discovery, telemetry, containers, resources, and local orchestration for distributed .NET applications.	Aspire.Hosting and integrations
45	Microsoft.Data.SqlClient	Database client library	The primary Microsoft SQL Server and Azure SQL client for commands, connections, transactions, bulk copy, encryption, and authentication.	Microsoft.Data.SqlClient

#	Framework / library	Kind	Brief description	Primary index source
46	Microsoft.Data.Sqlite	Database client library	A lightweight managed provider for using SQLite databases from .NET and Entity Framework Core.	Microsoft.Data.Sqlite
47	Azure SDK for .NET	Cloud service libraries	Official clients for Azure identity, storage, messaging, databases, monitoring, AI, deployment, and management services.	Azure.* packages
48	Microsoft Graph SDK	Cloud API library	Accesses Microsoft 365, Entra ID, users, mail, calendars, files, Teams, devices, and organizational data through Microsoft Graph.	Microsoft.Graph
49	Semantic Kernel	AI orchestration framework	Builds AI-assisted applications with model connectors, plugins, prompts, tool invocation, memory, agents, and workflow orchestration.	Microsoft.SemanticKernel.*
50	Windows Compatibility Pack	Compatibility library	Provides many Windows-specific and .NET Framework-era APIs to modern .NET applications where supported.	Microsoft.Windows.Compatibility

B. Secondary and Third-Party Sources

Add these after the official catalog is stable. Rankings favor Windows interoperability, terminal automation, broad utility, and reusable public APIs.

#	Framework / library	Kind	Brief description	Primary index source
Highest-value secondary sources				
1	Vanara	Windows interop library	Broad, organized .NET wrappers for Win32 functions, COM interfaces, structures, constants, Shell APIs, services, networking, security, and other Windows subsystems.	Vanara.PInvoke.*
2	TerraFX.Interop.Windows	Low-level Windows bindings	Very close-to-native .NET bindings for Windows SDK, Win32, COM, DirectX, and related interfaces with minimal abstraction.	TerraFX.Interop.Windows
3	Vortice.Windows	DirectX and media bindings	Managed bindings for Direct3D, DXGI, Direct2D, DirectWrite, WIC, DirectML, XAudio2, and other Windows graphics or multimedia APIs.	Vortice.*
4	Spectre.Console	Terminal UI library	Creates rich terminal output, tables, trees, prompts, progress displays, markup, live views, and structured command-line experiences.	Spectre.Console
5	Terminal.Gui	Terminal UI framework	Builds full-screen text user interfaces with windows, menus, controls, layouts, input handling, dialogs, and cross-platform terminal support.	Terminal.Gui
6	Avalonia	Cross-platform UI framework	A mature XAML-based .NET desktop and mobile UI framework with its own cross-platform rendering engine.	Avalonia.*
7	Uno Platform	Cross-platform UI framework	Builds applications across Windows, WebAssembly, mobile, macOS, and Linux using WinUI-style XAML and APIs.	Uno.*
8	FlaUI	Windows automation library	Wraps Microsoft UI Automation for inspecting and automating Win32, Windows Forms, WPF, UWP, and packaged applications.	FlaUI.Core and adapters
9	SSH.NET	Remote-access library	Provides SSH sessions, command execution, SFTP, SCP, port forwarding, keys, and remote shell functionality.	SSH.NET / Renci.SshNet
10	Newtonsoft.Json	JSON library	A mature JSON serializer with flexible converters, dynamic JSON trees, LINQ-to-JSON, schema support, and broad compatibility.	Newtonsoft.Json
11	Serilog	Logging library	Structured logging with message templates, enrichers, filtering, and a large ecosystem of console, file, database, and network sinks.	Serilog.*

#	Framework / library	Kind	Brief description	Primary index source
12	Polly	Resilience library	Adds retries, timeouts, circuit breakers, fallbacks, hedging, rate limiting, and resilience pipelines around unreliable operations.	Polly
13	Dapper	Data-access library	A lightweight, high-performance object mapper for executing SQL and mapping result sets to .NET objects.	Dapper
14	RestSharp	HTTP client library	A convenient REST client abstraction for requests, parameters, authentication, serialization, files, and responses.	RestSharp
15	Refit	Typed HTTP client library	Generates type-safe REST clients from C# interfaces and attributes, integrating naturally with HttpClient and dependency injection.	Refit
Broad application infrastructure				
16	ReactiveUI	Reactive MVVM framework	Combines MVVM with reactive programming for state, commands, activation, routing, validation, and event streams across multiple UI frameworks.	ReactiveUI.*
17	Prism	Application framework	Provides modularity, MVVM, commands, navigation, dialogs, events, dependency injection, and application composition for desktop and mobile UI frameworks.	Prism.*
18	FluentValidation	Validation library	Defines reusable strongly typed validation rules with fluent syntax, asynchronous checks, conditional rules, and structured error results.	FluentValidation
19	AutoMapper	Object-mapping library	Maps values between object models using conventions and explicit configuration, commonly used between domain, data, and transport types.	AutoMapper
20	MediatR	Messaging library	Implements in-process requests, commands, queries, notifications, pipeline behaviors, and decoupled handler dispatch.	MediatR
21	CsvHelper	CSV library	Reads and writes delimited text with mapping, type conversion, validation, culture support, and streaming records.	CsvHelper
22	YamlDotNet	YAML library	Parses, emits, serializes, and deserializes YAML documents and object graphs.	YamlDotNet
23	MessagePack-CSharp	Binary serialization library	Fast compact MessagePack serialization with attributes, resolvers, generated formatters, compression, and RPC-friendly payloads.	MessagePack
24	protobuf-net	Binary serialization library	Protocol Buffers implementation for .NET supporting contract-based serialization, schemas, inheritance, streams, and gRPC-related models.	protobuf-net

#	Framework / library	Kind	Brief description	Primary index source
25	MailKit and MimeKit	Email libraries	Creates, parses, sends, receives, and manages MIME email through SMTP, IMAP, POP3, authentication, and secure connections.	MailKit / MimeKit
26	MQTTnet	Messaging library	Implements MQTT clients and brokers for lightweight publish-subscribe messaging, retained messages, sessions, and encrypted connections.	MQTTnet
27	ImageSharp	Image-processing library	Fully managed image loading, resizing, transforming, drawing, pixel processing, metadata handling, and encoding.	SixLabors.ImageSharp
28	SkiaSharp	2D graphics library	Cross-platform .NET bindings to Skia for drawing, text, paths, images, surfaces, canvases, and GPU-backed rendering.	SkiaSharp
29	OpenCvSharp	Computer-vision library	Managed OpenCV bindings for image processing, video capture, detection, calibration, filtering, feature extraction, and matrix operations.	OpenCvSharp4.*
30	NAudio	Audio library	Provides Windows audio playback, recording, mixing, conversion, codecs, MIDI, WASAPI, Wave, and audio-file support.	NAudio
Specialized additions				
31	AngleSharp	HTML and CSS library	Standards-oriented HTML, CSS, DOM, selector, and web-document parsing for browser-like document processing.	AngleSharp.*
32	Html Agility Pack	HTML parser	Tolerant HTML parser for querying, scraping, modifying, and repairing real-world markup using XPath and DOM-style APIs.	HtmlAgilityPack
33	Quartz.NET	Scheduling framework	Runs persistent or in-memory jobs using calendars, triggers, cron expressions, listeners, clustering, and dependency injection.	Quartz
34	Hangfire	Background-job framework	Runs persistent background jobs, queues, continuations, retries, recurring work, dashboards, and distributed workers.	Hangfire.*
35	Autofac	Dependency-injection container	A feature-rich IoC container with modules, scopes, keyed services, decorators, interception, and advanced lifetime management.	Autofac
36	ClosedXML	Excel library	Creates and edits `.xlsx` workbooks through a high-level model for worksheets, cells, formulas, tables, formatting, and charts.	ClosedXML
37	QuestPDF	PDF generation library	Generates PDF documents from a fluent .NET layout API with text, tables, images, pagination, headers, footers, and reusable components.	QuestPDF

#	Framework / library	Kind	Brief description	Primary index source
38	SharpCompress	Archive library	Reads and writes multiple archive and compression formats including ZIP, TAR, GZip, BZip2, 7Zip, RAR reading, and streams.	SharpCompress
39	Math.NET Numerics	Numerical library	Provides vectors, matrices, statistics, distributions, optimization, interpolation, transforms, and numerical algorithms.	MathNet.Numerics
40	Silk.NET	Native multimedia bindings	Low-level .NET bindings for graphics, compute, windowing, input, audio, and native APIs such as Vulkan, OpenGL, OpenAL, and SDL.	Silk.NET.*
41	OpenTK	Graphics and compute library	Managed OpenGL, OpenAL, OpenCL, windowing, input, and mathematics APIs for graphics and technical applications.	OpenTK
42	MonoGame	Game framework	A cross-platform C# framework for game loops, graphics, input, audio, content pipelines, and real-time applications.	MonoGame.Framework.*
43	Veldrid	Graphics abstraction library	A portable graphics API over Direct3D, Vulkan, Metal, and OpenGL for command lists, resources, pipelines, shaders, and rendering.	Veldrid.*
44	xUnit.net	Testing framework	A widely used .NET unit-testing framework with facts, theories, fixtures, extensibility, and modern test-runner integration.	xunit
45	NUnit	Testing framework	A mature unit-testing framework with attributes, parameterized tests, assertions, fixtures, setup, teardown, and extensibility.	NUnit
46	Moq	Mocking library	Creates configurable dynamic mocks of interfaces and classes for interaction-based unit tests.	Moq
47	NSubstitute	Mocking library	Provides concise substitute objects, return configuration, argument matching, call verification, and test doubles.	NSubstitute
48	Fluent Assertions	Assertion library	Expresses readable test assertions for objects, collections, strings, exceptions, dates, tasks, and equivalency graphs.	FluentAssertions

Reference Index

Official documentation and project home pages used to verify the catalog categories.

Microsoft Windows developer platform overview: https://learn.microsoft.com/windows/apps/get-started/
Windows App SDK: https://learn.microsoft.com/windows/apps/windows-app-sdk/
WinUI 3: https://learn.microsoft.com/windows/apps/winui/winui3/
.NET API Browser: https://learn.microsoft.com/dotnet/api/
Windows SDK: https://learn.microsoft.com/windows/apps/windows-sdk/
Windows Driver Kit: https://learn.microsoft.com/windows-hardware/drivers/
PowerShell SDK: https://learn.microsoft.com/powershell/scripting/developer/windows-powershell
Roslyn SDK: https://learn.microsoft.com/dotnet/csharp/roslyn-sdk/
MSBuild API: https://learn.microsoft.com/visualstudio/msbuild/msbuild-api
NuGet Client SDK: https://learn.microsoft.com/nuget/reference/nuget-client-sdk
Avalonia documentation: https://docs.avaloniaui.net/
Uno Platform documentation: https://platform.uno/docs/
Spectre.Console: https://spectreconsole.net/
Terminal.Gui: https://gui-cs.github.io/Terminal.Gui/
Vanara: https://github.com/dahall/Vanara
TerraFX.Interop.Windows: https://github.com/terrafx/terrafx.interop.windows
Vortice.Windows: https://github.com/amerkoleci/Vortice.Windows