.NET Framework Class Library

The .NET Framework class library is a library of classes, interfaces, and value types that provide access to system functionality. It is the foundation on which .NET Framework applications, components, and controls are built. For an overview of the .NET Framework and its benefits, see Getting Started with the .NET Framework. For installation information, see Installing the .NET Framework.

The namespaces and namespace categories in the class library are listed in the following table and documented in detail in this reference.

Namespaces

Namespace	Description
Accessibility	The Accessibility and all of its exposed members are part of a managed wrapper for the Component Object Model (COM) accessibility interface.
Microsoft.Activities	The Microsoft.Activities namespaces contain types that support MSBuild and debugger extensions for Windows Workflow Foundation applications.
Microsoft.Build	The Microsoft.Build namespaces contain types that provide programmatic access to, and control of, the MSBuild engine.
Microsoft.CSharp	The Microsoft.CSharp namespaces contain types that support compilation and code generation of source code written in the C# language, and types that support interoperation betwen the dynamic language runtime (DLR) and C#.
Microsoft.JScript	The Microsoft.JScript namespaces contain classes that support compilation and code generation using the JScript language.
Microsoft.SqlServer.Server	The Microsoft.SqlServer.Server namespace contains classes, interfaces, and enumerations that are specific to the integration of the Microsoft .NET Framework common language runtime (CLR) into Microsoft SQL Server, and the SQL Server database engine process execution environment.
Microsoft.VisualBasic	The Microsoft.VisualBasic namespaces contain classes that support compilation and code generation using the Visual Basic language. Child namespaces contain types that provide services to the Visual Basic compiler and types that include support for the Visual Basic application model, the My namespace, lambda expressions, and code conversion.
Microsoft.VisualC	The Microsoft.VisualC namespaces contain types that support the Visual C++ compiler and types that implement the STL/CLR Library and the generic interface to the STL/CLR Library.
Microsoft.Win32	The Microsoft.Win32 namespaces provide types that handle events raised by the operating system, that manipulate the system registry, and that represent file and operating system handles.
Microsoft.Windows	The Microsoft.Windows namespaces contain types that support themes and preview in Windows Presentation Framework (WPF) applications.
System	

	The System namespace contains fundamental classes and base classes that define commonly-used value and reference data types, events and event handlers, interfaces, attributes, and processing exceptions.
System.Activities	The System.Activities namespaces contain all the classes necessary to create and work with activities in Window Workflow Foundation.
System.AddIn	The System.AddIn namespaces contain types used to identify, register, activate, and control add-ins, and to allow add-ins to communicate with a host application.
System.CodeDom	The System.CodeDom namespaces contain classes that represent the elements of a source code document and that support the generation and compilation of source code in supported programming languages.
System.Collections	The System.Collections namespaces contain types that define various standard, specialized, and generic collection objects.
System.ComponentModel	The System.ComponentModel namespaces contain types that implement the run-time and design-time behavior of components and controls. Child namespaces support the Managed Extensibility Framework (MEF), provide attribute classes that define metadata for ASP.NET Dynamic Data controls, and contain types that let you define the design-time behavior of components and their user interfaces.
System.Configuration	The System.Configuration namespaces contain types for handling configuration data, such as data in machine or application configuration files. Child namespaces contain types that are used to configure an assembly, to write custom installers for components, and to support a pluggable model for adding functionality to, or removing functionality from, both client and server applications.
System.Data	The System.Data namespaces contain classes for accessing and managing data from diverse sources. The top-level namespace and a number of the child namespaces together form the ADO.NET architecture and ADO.NET data providers. For example, providers are available for SQL Server, Oracle, ODBC, and OleDB. Other child namespaces contain classes used by the ADO.NET Entity Data Model (EDM) and by WCF Data Services.
System.Deployment	The System.Deployment namespaces contain types that support deployment of ClickOnce applications.
System.Device.Location	The System.Device.Location namespace allows application developers to easily access the computer's location by using a single API. Location information may come from multiple providers, such as GPS, Wi-Fi triangulation, and cell phone tower triangulation. The System.Device.Location classes provide a single API to encapsulate the multiple location providers on a computer and support seamless prioritization and transitioning between them. As a result, application developers who use this API do not need to tailor applications to specific hardware configurations.
System.Diagnostics	The System.Diagnostics namespaces contain types that enable you to interact with system processes, event logs, and performance counters. Child namespaces contain types to interact with code analysis tools, to support contracts, to extend design-time support for application monitoring and instrumentation, to log event data using the Event Tracing for Windows (ETW) tracing subsystem, to read to and write from event logs and collect performance data, and to read and write debug symbol information.
System.DirectoryServices	The System.DirectoryServices namespaces contain types that provide access to Active Directory from managed code.
System.Drawing	The System.Drawing parent namespace contains types that support basic GDI+ graphics functionality. Child namespaces support advanced two-dimensional and vector graphics functionality, advanced

	imaging functionality, and print-related and typographical services. A child namespace also contains types that extend design-time user-interface logic and drawing.
System.Dynamic	The System.Dynamic namespace provides classes and interfaces that support Dynamic Language Runtime.
System.EnterpriseServices	The System.EnterpriseServices namespaces contain types that define the COM+ services architecture, which provides an infrastructure for enterprise applications. A child namespace supports Compensating Resource Manager (CRM), a COM+ service that enables non-transactional objects to be included in Microsoft Distributed Transaction Coordinator (DTC) transactions. Child namespaces are described briefly in the following table and documented in detail in this reference.
System.Globalization	The System.Globalization namespace contains classes that define culture-related information, including language, country/region, calendars in use, format patterns for dates, currency, and numbers, and sort order for strings. These classes are useful for writing globalized (internationalized) applications. Classes such as StringInfo and TextInfo provide advanced globalization functionalities, including surrogate support and text element processing.
System.IdentityModel	The System.IdentityModel namespaces contain types that are used to provide authentication and authorization for .NET applications.
System.IO	The System.IO namespaces contain types that support input and output, including the ability to read and write data to streams either synchronously or asynchronously, to compress data in streams, to create and use isolated stores, to map files to an application's logical address space, to store multiple data objects in a single container, to communicate using anonymous or named pipes, to implement custom logging, and to handle the flow of data to and from serial ports.
System.Linq	The System.Linq namespaces contain types that support queries that use Language-Integrated Query (LINQ). This includes types that represent queries as objects in expression trees.
System.Management	The System.Management namespaces contain types that provide access to management information and management events about the system, devices, and applications instrumented to the Windows Management Instrumentation (WMI) infrastructure. These namespaces also contain types necessary for instrumenting applications so that they expose their management information and events through WMI to potential customers.
System.Media	The System.Media namespace contains classes for playing sound files and accessing sounds provided by the system.
System.Messaging	The System.Messaging namespaces contain types that enable you to connect to, monitor, and administer message queues on the network and to send, receive, or peek messages. A child namespace contains classes that can be used to extend design-time support for messaging classes.
System.Net	The System.Net namespaces contain classes that provide a simple programming interface for a number of network protocols, programmatically access and update configuration settings for the System.Net namespaces, define cache policies for web resources, compose and send e-mail, represent Multipurpose Internet Mail Exchange (MIME) headers, access network traffic data and network address information, and access peer-to-peer networking functionality. Additional child namespaces provide a managed implementation of the Windows Sockets (Winsock) interface and provide access to network streams for secure communications between hosts.
System.Numerics	The System.Numerics namespace contains numeric types that complement the numeric primitives, such as Byte, Double, and Int32, that are defined by the .NET Framework.
System.Printing	The System.Printing namespaces contain types that support printing, that provide access to the properties of print system objects and enable rapid copying of their property settings to another

	object of the same type, and that support the interconversion of managed System.PrintTicket objects and unmanaged GDI DEVMODE structures.
System.Reflection	The System.Reflection namespaces contain types that provide a managed view of loaded types, methods, and fields, and that can dynamically create and invoke types. A child namespace contains types that enable a compiler or other tool to emit metadata and Microsoft intermediate language (MSIL).
System.Resources	The System.Resources namespaces contain types that enable developers to create, store, and manage an application's culture-specific resources.
System.Runtime	The System.Runtime namespaces contain types that support an application's interaction with the common language runtime, and types that enable features such as application data caching, advanced exception handling, application activation within application domains, COM interop, distributed applications, serialization and deserialization, and versioning. Additional namespaces enable compiler writers to specify attributes that affect the run-time behavior of the common language runtime, define a contract for reliability between a set of code and other code that takes a dependency on it, and implement a persistence provider for Windows Communication Foundation (WCF).
System.Security	The System.Security namespaces contain classes that represent the .NET Framework security system and permissions. Child namespaces provide types that control access to and audit securable objects, allow authentication, provide crytographic services, control access to operations and resources based on policy, and support rights management of application-created content.
System.ServiceModel	The System.ServiceModel namespaces contain the types necessary to build Windows Communication Foundation (WCF) service and client applications.
System.ServiceProcess	The System.ServiceProcess namespaces contain types that enable you to implement, install, and control Windows service applications and extend design-time support for Windows service applications.
System.Speech	The System.Speech namespaces contain types that support speech recognition.
System.Text	The System.Text namespaces contain types for character encoding and string manipulation. A child namespace enables you to process text using regular expressions.
System.Threading	The System.Threading namespaces contain types that enable multithreaded programming. A child namespace provides types that simplify the work of writing concurrent and asynchronous code.
System.Timers	The System.Timers namespace provides the Timer component, which allows you to raise an event on a specified interval.
System.Transactions	The System.Transactions namespaces contain types that support transactions with multiple, distributed participants, multiple phase notifications, and durable enlistments. A child namespace contains types that describe the configuration options used by the System.Transactions types.
System.Web	The System.Web namespaces contain types that enable browser/server communication. Child namespaces include types that support ASP.NET forms authentication, application services, data caching on the server, ASP.NET application configuration, dynamic data, HTTP handlers, JSON serialization, incorporating AJAX functionality into ASP.NET, ASP.NET security, and web services.
System.Windows	The System.Windows namespaces contain types used in Windows Presentation Foundation (WPF) applications, including animation clients, user interface controls, data binding, and type conversion. System.Windows.Forms and its child namespaces are used for developing Windows Forms applications.

System.Workflow	The System.Workflow namespaces contain types used to develop applications that use Windows Workflow Foundation. These types provide design time and run-time support for rules and activities, to configure, control, host, and debug the workflow runtime engine.
System.Xaml	The System.Xaml namespaces contain types that support parsing and processing the Extensible Application Markup Language (XAML).
System.Xml	The System.Xml namespaces contain types for processing XML. Child namespaces support serialization of XML documents or streams, XSD schemas, XQuery 1.0 and XPath 2.0, and LINQ to XML, which is an in-memory XML programming interface that enables easy modification of XML documents.
UIAutomationClientsideProviders	Contains a single type that maps client automation providers.
XamlGeneratedNamespace	Contains compiler-generated types that are not intended to be used directly from your code.

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