

.NET Common Language Runtime (CLR)

.NET CLR is a run-time environment that manages and executes the code written in any .NET programming language.

It converts code into native code which further can be executed by the CPU.

.NET CLR Functions

Following are the functions of the CLR.

- It converts the program into native code.
- Handles Exceptions
- Provides type-safety
- Memory management
- Provides security
- Improved performance
- Language independent
- Platform independent
- Garbage collection
- Provides language features such as inheritance, interfaces, and overloading for object-oriented programmings.

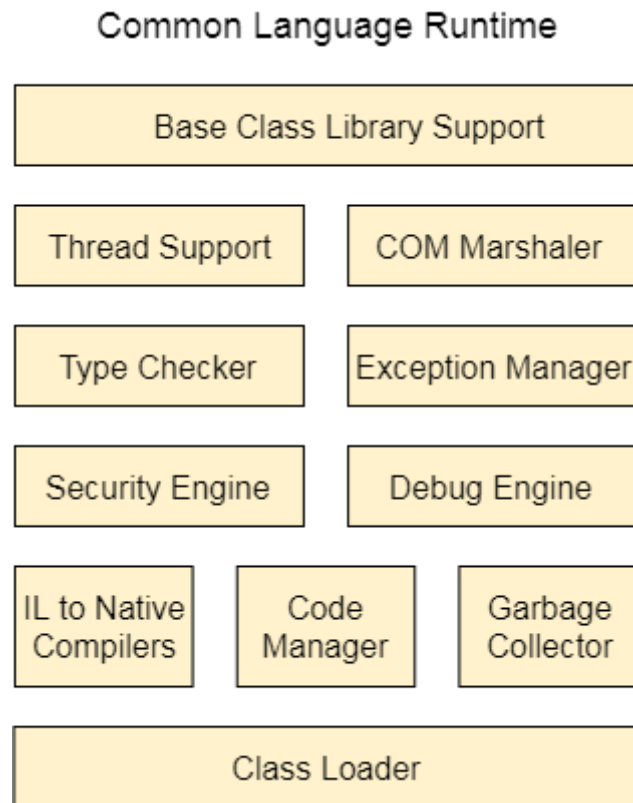
.NET CLR Versions

The CLR updates itself time to time to provide better performance.

.NET version	CLR version
1.0	1.0
1.1	1.1
2.0	2.0
3.0	2.0
3.5	2.0
4	4
4.5	4
4.6	4

.NET CLR Structure

Following is the component structure of Common Language Runtime.



Base Class Library Support

It is a class library that provides support of classes to the .NET application.

Thread Support

It manages the parallel execution of the multi-threaded application.

COM Marshaler

It provides communication between the COM objects and the application.

Type Checker

It checks types used in the application and verifies that they match to the standards provided by the CLR.

Code Manager

It manages code at execution run-time.

Garbage Collector

It releases the unused memory and allocates it to a new application.

Exception Handler

It handles the exception at runtime to avoid application failure.

ClassLoader

It is used to load all classes at run time.