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Technical Note

# Demystifying Dispose

*Author(s): R&D Department*

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## Overview

The purpose of this document is to provide you with basic information on the **IDisposable.Dispose** method and to advise you to call **Dispose** (when it exists) on objects that you instantiate.

## What is Dispose

**Dispose** is a method whose purpose is to allow resource cleanup, much like C++ destructors, but without freeing the objects' memory. The **Dispose** method is never called directly by the .NET garbage collector.

**Dispose** is the ideal place to perform any cleanup that needs to be done in a timely fashion, like closing database connections, closing files, releasing bitmaps, etc. Unmanaged resources should be released using **Dispose**, because the garbage collector has no knowledge of anything not allocated on the managed heap. For example, a **File** object that encapsulates a 2 MB data file reports only its managed size (i.e. the size of the managed object) to the garbage collector. The garbage collector has no knowledge of the 2 MB of unmanaged data, thus will not collect it from memory. By calling **Dispose**, you tell the **File** object that you are finished with it, and it will release the file itself and any locks placed on it.

## Conclusion

When you write code that uses an object that defines a **Dispose** method, you should make sure that the object's **Dispose** method is called when you are finished with the object. You can do this with the C# **using** statement or by implementing a *try/finally* block in other languages that target the common language runtime.

The whole purpose of the **IDisposable** interface is to signal to you that this class allocates system resources that should be released promptly; the **Dispose** method enables you to tell the object that it is time to release those system resources.

Call **Dispose** on objects that you create that have a **Dispose** method: do not wait for the garbage collector.

## References

### **IDisposable.Dispose** Method

[http://msdn2.microsoft.com/en-gb/library/system.idisposable.dispose\(VS.80\).aspx](http://msdn2.microsoft.com/en-gb/library/system.idisposable.dispose(VS.80).aspx)

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<http://blogs.msdn.com/clyon/archive/2004/09/21/232445.aspx>

.NET GC Best Practice -- ALWAYS Call Dispose

<http://weblogs.asp.net/pwilson/archive/2004/02/20/77435.aspx>