VisualAPL in Visual Studio 2008 and 'Intellisense'

IntelliSense is Microsoft's implementation of autocompletion, best known for its use in the Microsoft Visual Studio integrated development environment. In addition to completing the symbol names the programmer is typing, IntelliSense serves as documentation and disambiguation for variable names, functions and methods using metadata-based reflection. To learn more about Intellisense go to: http://en.wikipedia.org/wiki/IntelliSense.

Open the interactive programming session in VisualAPL (called Cielo Explorer) from within Visual Studio 2008. From the clear session of Cielo Explorer, enter 'using System' to incorporate the basic features of Microsoft .Net into the session, which include Intellisense and a host of .Net namespaces.

As an example, create by assignment an object, dt, which is an instance of the DateTime class. By entering dt = System., Intellisense will provide a list of classes available within the System namespace. Entering dt = System.D will cause Intellisense to provide a subset of those classes with names which begin with D. Using the pointer or the scroll bar, the programmer can scroll to the selected class name, in this case DateTime and use the Enter keystroke to select this class. Intellisense will also provide the argument structure to instantiate an instance of the class, in this case (ccyy,mm,dd) and other options.

After the instance of the DateTime class is created, Intellisense will also provide information about the methods, properties and events associated with the selected class. In this case the AddDays method is selected by the programmer.

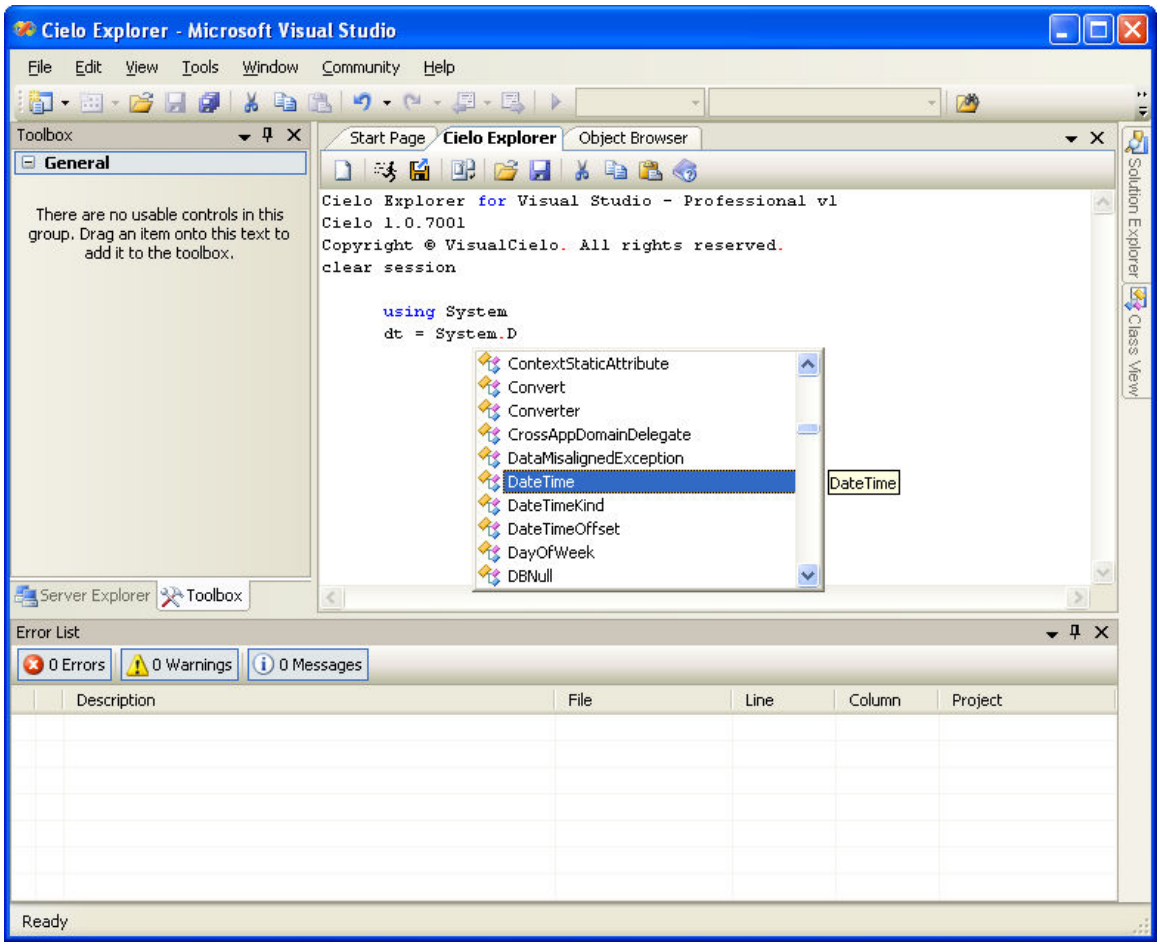
Intellisense will provide the argument and result structure for the class method. In this case the argument is a double, i.e. a possibly fractional number of days as the argument and an update to the DateTime object reflecting the addition of that number of days to the original DateTime object.

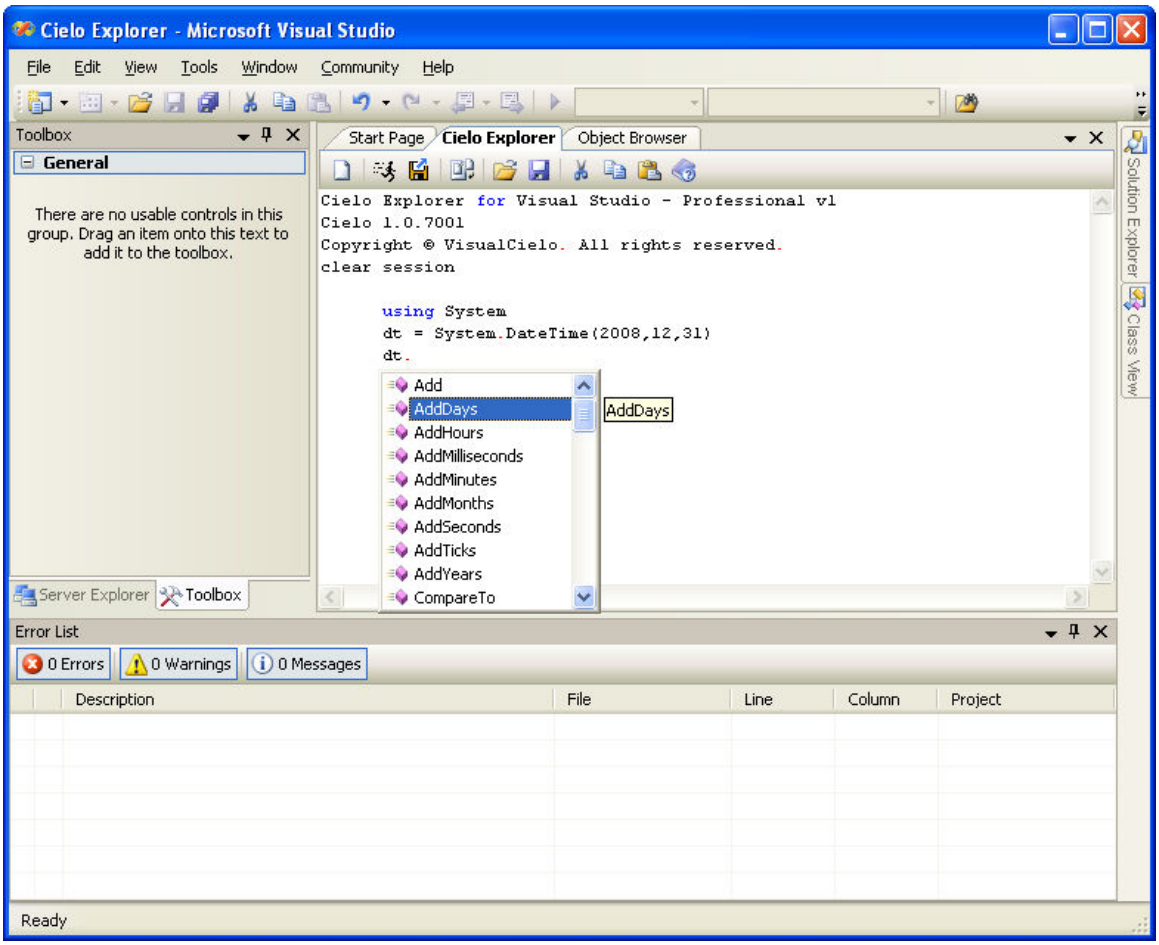
A further example is illustrated to format the result using the 'ToShortDateString()' method on the resulting DateTime object.

Review the screen shots provided below to see how the Microsoft Intellisense autocomplete functionality operates with any .Net language, such as VisualAPL. Many programmers find that Intellisense improves their productivity, however for those who don't, Visual Studio provides an option to turn off Intellisense.

With VisualAPL, Intellisense autocomplete is available for Microsoft classes and VisualAPL classes and objects. If desired, Intellisense can be used to select the methods, properties and events associated with a VisualAPL object. Check out the

last two screen shots to see this in action for the shape property of a VisualAPL integer vector.

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File Edit View Tools Window Community Help
Toolbox
General
There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.
Server Explorer
Toolbox
Start Page
Cielo Explorer
Object Browser
Cielo Explorer for Visual Studio - Professional v1
Cielo 1.0.7001
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clear session
using System
dt = System.DateTime(2008,12,31)
dt.
Add
AddDays
AddHours
AddMilliseconds
AddMinutes
AddMonths
AddSeconds
AddTicks
AddYears
CompareTo
AddDays
Solution Explorer
Class View
Error List
0 Errors
0 Warnings
0 Messages
Description
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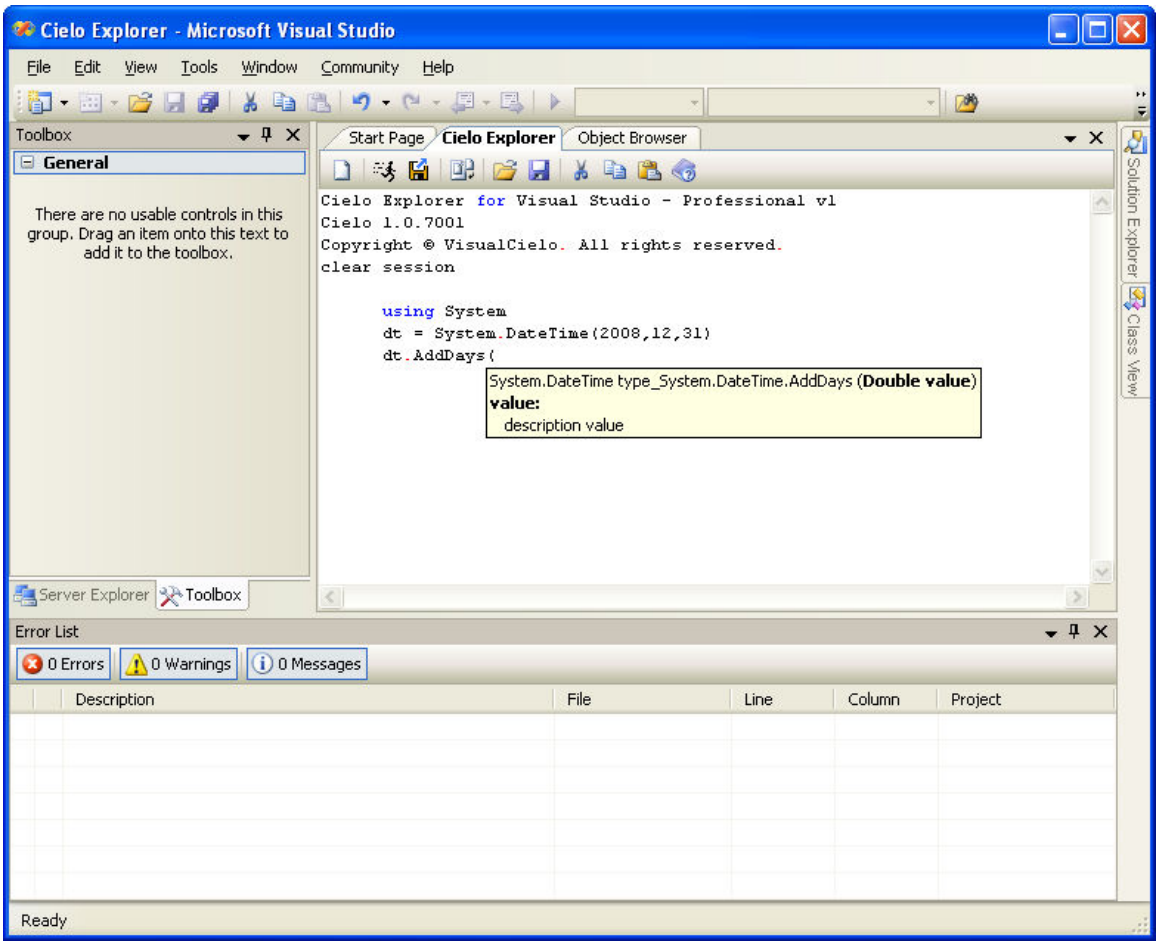
Project
Ready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Cielo Explorer
Object Browser
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Cielo 1.0.7001
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clear session
using System
dt = System.DateTime(2008,12,31)
dt.AddDays(
System.DateTime type_System.DateTime.AddDays (Double value)
value:
description value
Solution Explorer
Class View
Error List
0 Errors
0 Warnings
0 Messages
Description
File
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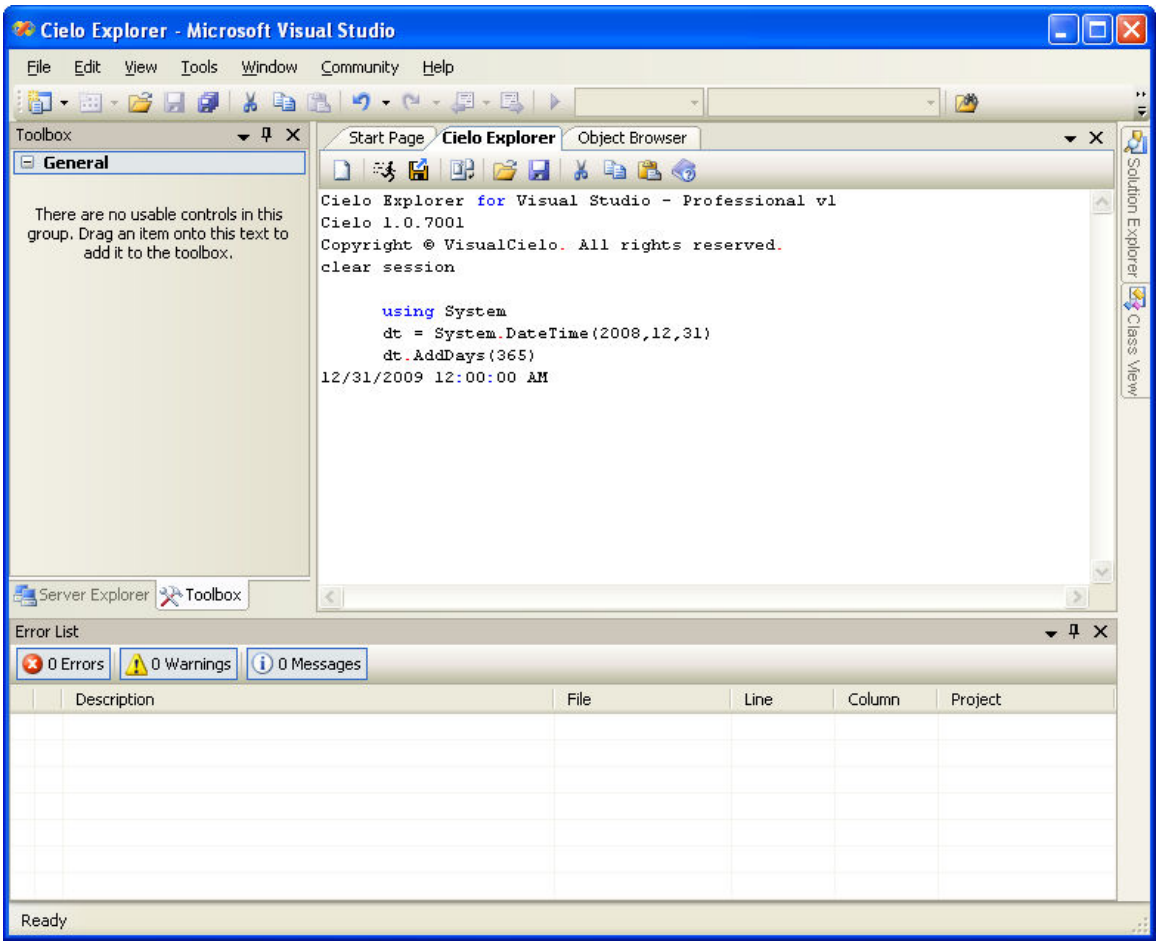
Ready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Cielo 1.0.7001
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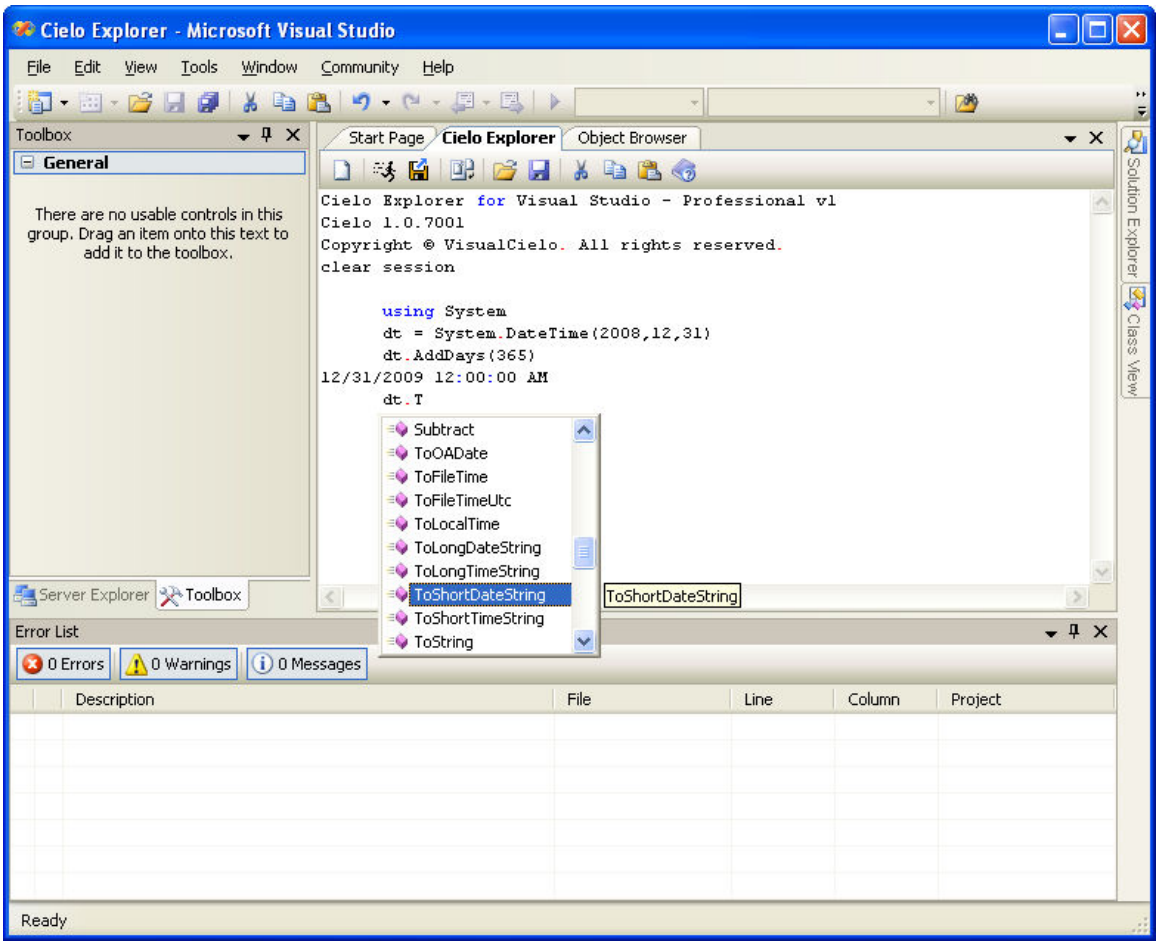
clear session
using System
dt = System.DateTime(2008,12,31)
dt.AddDays(365)
12/31/2009 12:00:00 AM
Solution Explorer
Class View
Error List
0 Errors
0 Warnings
0 Messages
Description
File
Line
Column
Project
Ready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clear session
using System
dt = System.DateTime(2008,12,31)
dt.AddDays(365)
12/31/2009 12:00:00 AM
dt.T
Subtract
ToOADate
ToFileTime
ToFileTimeUtc
ToLocalTime
ToLongDateString
ToLongTimeString
ToShortDateString
ToShortTimeString
ToString
ToShortDateString
Solution Explorer
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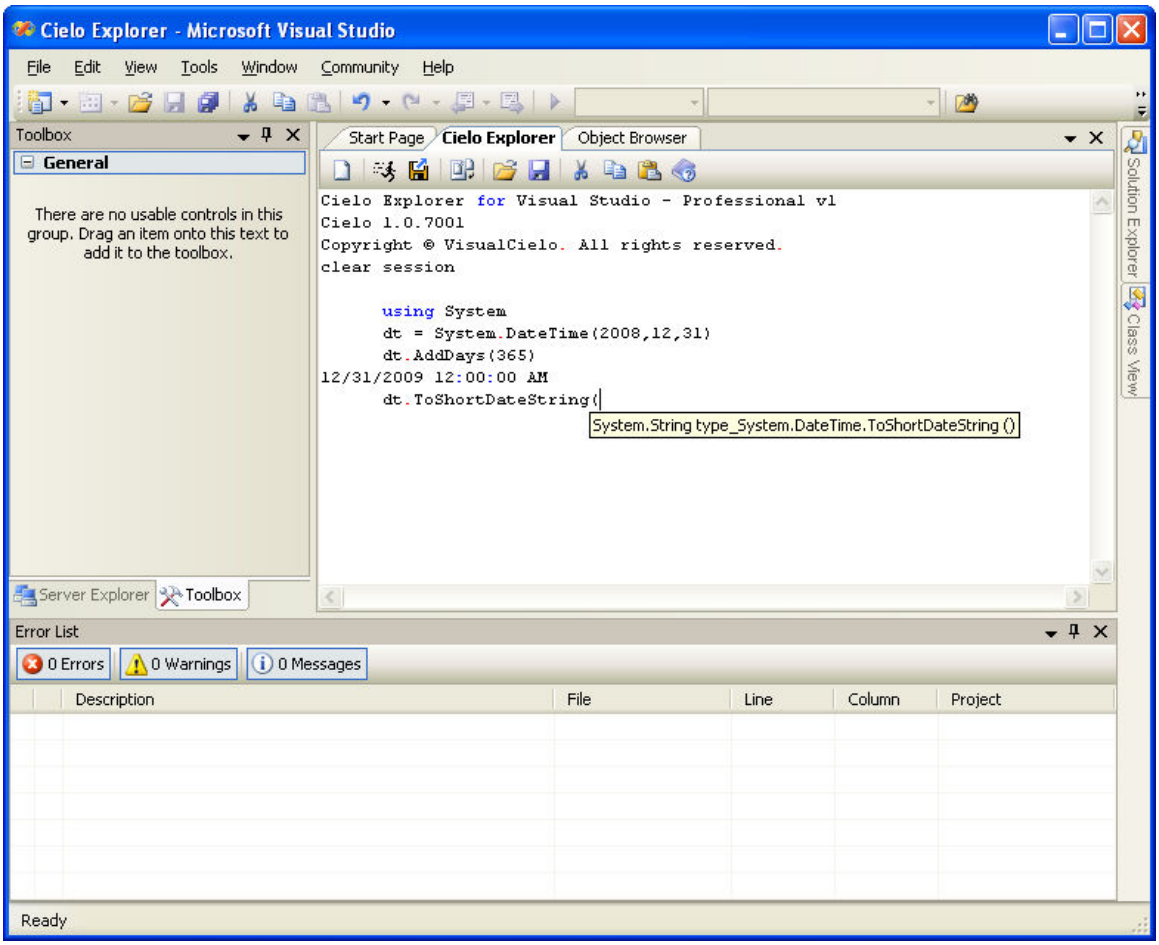
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clear session
using System
dt = System.DateTime(2008,12,31)
dt.AddDays(365)
12/31/2009 12:00:00 AM
dt.ToShortDateString(
System.String type_System.DateTime.ToShortDateString ()
Solution Explorer
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0 Warnings
0 Messages
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Column
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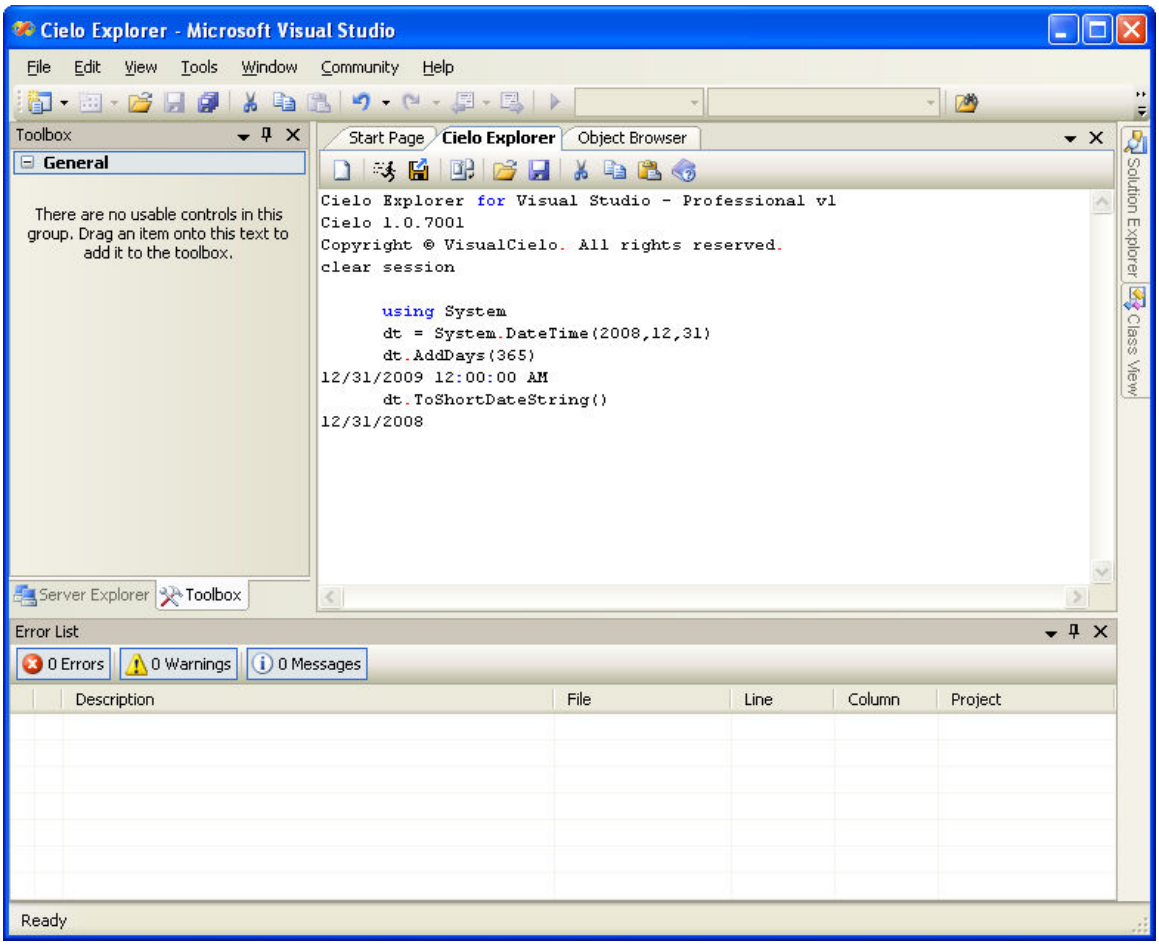
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Cielo 1.0.7001
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clear session
using System
dt = System.DateTime(2008,12,31)
dt.AddDays(365)
12/31/2009 12:00:00 AM
dt.ToShortDateString()
12/31/2008
Solution Explorer
Class View
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0 Errors
0 Warnings
0 Messages
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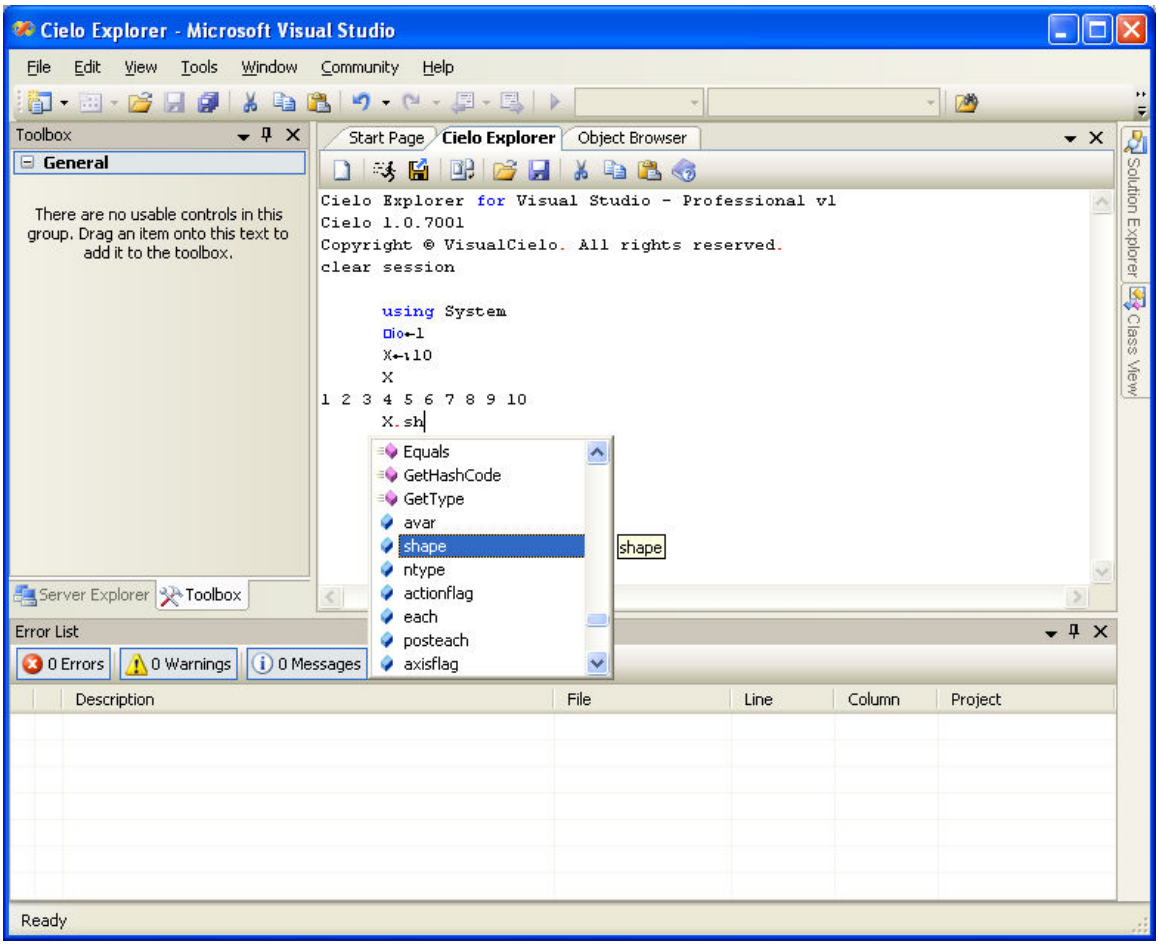
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clear session
using System
⎕io←1
X←⍳10
X
1 2 3 4 5 6 7 8 9 10
X.sh
Equals
GetHashCode
GetType
avar
shape
ntype
actionflag
each
posteach
axisflag
shape
Solution Explorer
Class View
Error List
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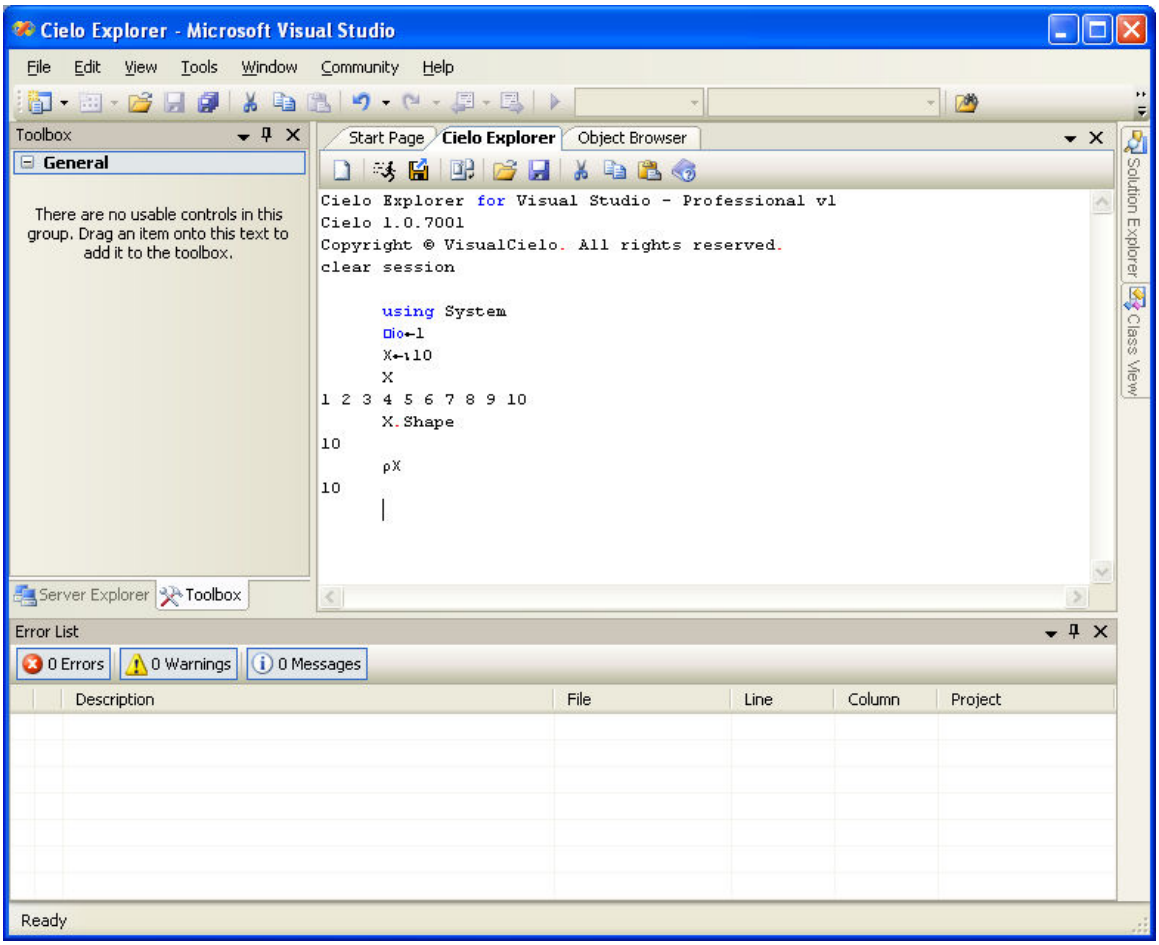
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Object Browser
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Cielo 1.0.7001
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clear session
using System
⎕io←1
X←↕10
X
1 2 3 4 5 6 7 8 9 10
X.Shape
10
⍴X
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Solution Explorer
Class View
Error List
0 Errors
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0 Messages
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Ready