



- > Graphical User Interface
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Creating Objects

Objects (more precisely, instances of objects) are created using the system function `WC`.

For example, to create a Form:

```
'F' WC 'Form' 'Hello World'
```



GUI Objects created with `WC` are also namespaces and have a nameclass of 9. You can therefore create functions and variables inside your GUI objects.

GUI Objects are manipulated using Properties, Methods and Events. These are reported by the system commands `)PROPS`, `)METHODS` and `)EVENTS`. See below.

Referencing Properties

You may reference the property of an object using exactly the same syntax as you would use to reference a variable in that object.

For example:

```
F.Caption
Hello World
F.Caption ← F.Caption
F.Caption
dlroW olleH
```

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Normal namespace path rules apply, so the following are all equivalent:

```

#.F.Caption←'Hello World'
)CS F

#.F
  Caption←'Hello World'
  :With 'F'
    Caption←'Hello World'
    ...
  :EndWith

```

The `)PROPS` system command may be used to list the Properties of an object. The list of properties is also given by the PropList property.

The Event Property

When the user interacts with a GUI object, it generates an event. Events are typically attached to callback functions. For example, to set the action of a MouseUp event on a Form `F` to execute the callback function `UP`:

```

F.onMouseUp←'UP'
F.onMouseUp

#.UP

```

The `)EVENTS` system command may be used to list the Events exposed by an object. The list of events is also given by the EventList property.

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Invoking Methods

You may invoke an object's method using exactly the same syntax as you would use to call a function in that object.

For example, to invoke the Close method of a Form, you can use the expression:

```
F.Close
```

Similarly, to execute the IDNToDate method of a Calendar object named *F.CAL*, you can use the expression:

```
F.CAL.IDNToDate 36525  
2000 1 1 5
```

The *)METHODS* system command may be used to list the Methods of an object. The list of methods is also given by the MethodList property.

)PROPS System Command

The *)PROPS* system command lists the Properties of the object associated with the current space.

For example:

```
[CS 'BB'[WC'BrowseBox'  
)PROPS  
BrowseFor      Caption ChildList      Data      Event  
EventList      HasEdit KeepOnClose      MethodList  
PropList       StartIn Target Translate      Type
```

)EVENTS System Command

The *)EVENTS* system command lists the Events that may be generated by the object associated with the current space.

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For example:

```
□CS 'BB'□WC'BrowseBox'  
  )EVENTS  
Close   Create   FileBoxCancel   FileBoxOK
```

)METHODS System Command

The `)METHODS` system command lists the Methods that apply to the object associated with the current space.

For example:

```
□CS 'F'□WC'Form'  
  )METHODS  
Animate ChooseFont   Detach   GetFocus   GetTextSize  
Wait
```

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