

UITool Control & Command Tools

Using Existing ArcGIS Commands

- ICommandBar(s) & ICommandItem
 - e.g., Editor commandbar
 - e.g., Zoom to full extent command

- ArcID Module in Normal.mxt

- Example: ArcID.Edit_SelectAll

```
Dim pCmdItem As ICommandItem
Set pCmdItem = _
CommandBars.Find( ArcID.Edit_SelectAll)

pCmdItem.Execute
```



VBA Developer Help for ArcMap
(Search Names and IDs in ArcMap on EDN)
http://resources.esri.com/help/9.3/arcgisdesktop/com/vb6_start.htm

ArcGIS Desktop Help for VBA developers

File Edit View Go Help

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Type in the search box to search for:

Select type: Found 102

File Menu Command NetworkAn Create Tur GeoDatab XML, sch TrackingA MOLE Libr GIS dicton GeoDatab IFeatureEx Geometry EventRun PersistStr ArcMap Ids GIS dicton NetworkAn MoleCore Command ArcMap Lib Edit Signat Plugin Inf QueryAs MapServe Customizn Applicatio Multithem System Lib Extension ArcDatab InternatTa Import Fro

Type	Caption	Command Category	GUID (CLSID / ProgID)	Sub Type	Parent
Toolbar	Main Menu	none	{1E739F39-643F-11D2-9496-08000EEBEC8}	none	none
Menu	File	File_Menu	{06599D23-6464-11D2-9496-08000EEBEC8}	none	Main Menu
Command	New	File_New	{119391D8-0235-11D2-8D20-08000EEBEC8}	1	File_Menu
Command	Open	File_Open	{119391D8-0235-11D2-8D20-08000EEBEC8}	2	File_Menu
Command	Save	File_Save	{119391D8-0235-11D2-8D20-08000EEBEC8}	3	File_Menu
Command	Save As	File_SaveAs	{119391D8-0235-11D2-8D20-08000EEBEC8}	4	File_Menu
Command	Save A Copy	File_SaveCopyAs	{119391D8-0235-11D2-8D20-08000EEBEC8}	12	File_Menu
Command	Add Data	File_AddData	{E1F29C08-4E08-11D2-8E2C-08000EEBEC8}	none	File_Menu
Menu	Add Data From GIS Portal	AddInternetData_Menu	{5843DFCE-BC3F-49F7-BB77-6C769484A5F0}	none	File_Menu
Command	Geography Network	IMS_ManageInternetDataURL	{C454EBAA-29FD-49C7-8F8F-842F9240B030}	3	AddInternetData_Menu
Command	(Add Data From GIS Portal)	{ IMS_AddInternetDataMenu }	{688BA697-84C8-4AC1-8CF8-6C88889085AA}	none	AddInternetData_Menu
Command	Add Website	IMS_NewInternetDataURL	{C454EBAA-29FD-49C7-8F8F-842F9240B030}	1	AddInternetData_Menu
Command	Manage Websites	IMS_ManageInternetDataURL	{C454EBAA-29FD-49C7-8F8F-842F9240B030}	2	AddInternetData_Menu
Command	Page and Print Setup	File_PageSetup	{119391D8-0235-11D2-8D20-08000EEBEC8}	5	File_Menu
Command	Print Preview	File_PrintPreview	{119391D8-0235-11D2-8D20-08000EEBEC8}	6	File_Menu
Command	Print	File_Print	{119391D8-0235-11D2-8D20-08000EEBEC8}	7	File_Menu
Command	Document Properties	File_Properties	{119391D8-0235-11D2-8D20-08000EEBEC8}	8	File_Menu
Command	Import from ArcView project	File_AVIImport	{60873A17-DE7B-11D3-9FD4-00C04F8C79E2}	none	File_Menu

UITool Controls

• Events

- CursorID
- ToolTip
- MouseDown
- MouseMove
- MouseUp

The values for *cursorID* are:

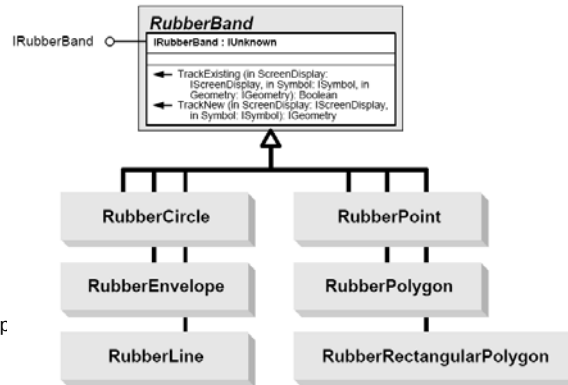
- | | | | |
|---|---|----|---|
| 0 |  | 6 |  |
| 1 |  | 7 |  |
| 2 |  | 8 |  |
| 3 |  | 9 |  |
| 4 |  | 10 |  |
| 5 |  | | |

```
Private Function UIToolC1_CursorID() As Variant
    UIToolC1_CursorID = 3
End Function
```

```
Private Sub UIToolC1_MouseDown( ByVal button As Long, _
    ByVal shift As Long, ByVal x As Long, ByVal y As Long)
    ...
End Sub
```

Defining an Area (Envelope) on Map

- RubberBand
 - TrackExisting
 - TrackNew



```
Dim pRubberEnv As IRubberBand
Set pRubberEnv = New RubberEnvelope
```

'Define an area using rubberband

Dim pEnv As IEnvelope

```
Set pEnv = pRubberEnv.TrackNew(pMxDoc.ActivatedView.ScreenDisplay, Nothing)
```

'Use the defined area to create a graphic element

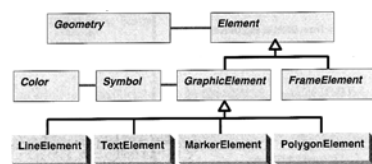
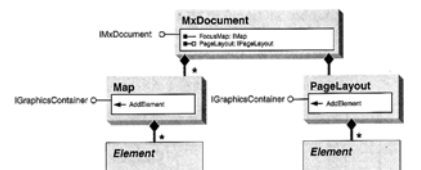
Dim pElem As IElement

Set pElem = New RectangleElement

pElem.Geometry = pEnv

Displaying Graphic Elements

- IGraphicsContainer
 - AddElement
 - DeleteElement
 - DeleteAllElements
 - Next
 - Reset



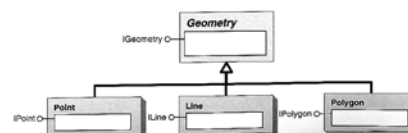
```
Dim pGC As IGraphicsContainer
Set pGC = pMxDoc.ActivatedView
```

'Set the symbol of pElem

- 'add pElem with default order

```
pGC.AddElement pElem, 0
```

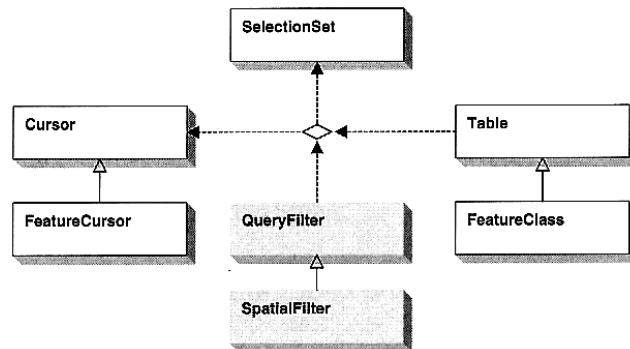
pMxDoc.ActivatedView.Refresh



Performing Spatial Query

- Cursor: a system that manages a group of records organized in rows.

```
Dim pCursor As ICursor
Set pCursor = pFClass.Search(Nothing, True)
Dim pFilter As IObjectFilter
Set pCursor = pFClass.Search(pFilter, False)
```



```
Dim pSFilter As ISpatialFilter
Set pSFilter = New SpatialFilter
Set pSFilter.Geometry = pEnv
pSFilter.SpatialRel = esriSpatialRelContains
```

```
Dim pFLayer As IFeatureLayer
Set pFLayer = pMxDoc.FocusMap.Layer(0)
```

```
Dim pCursor As IFeatureCursor
Set pFCursor = pFLayer.Search(pSFilter, False)
```

```
Dim pFeature As IFeature
Set pFeature = pFCursor.NextFeature
```

esriSpatialRelEnum Constants

Queryable Spatial Relationships.

Constant	Value	Description
esriSpatialRelUndefined	0	No Defined Spatial Relationship.
esriSpatialRelIntersects	1	Query Geometry Intersects Target Geometry.
esriSpatialRelEnvelopeIntersects	2	Envelope of Query Geometry Intersects Envelope of Target Geometry.
esriSpatialRelIndexIntersects	3	Query Geometry Intersects Index entry for Target Geometry (Primary Index Filter).
esriSpatialRelTouches	4	Query Geometry Touches Target Geometry.
esriSpatialRelOverlaps	5	Query Geometry Overlaps Target Geometry.
esriSpatialRelCrosses	6	Query Geometry Crosses Target Geometry.
esriSpatialRelWithin	7	Query Geometry is Within Target Geometry.
esriSpatialRelContains	8	Query Geometry Contains Target Geometry.
esriSpatialRelRelation	9	Query geometry IBE(Interior-Boundary-Exterior) relationship with target geometry.