

# XMLGenerator—A Data Dumper for GE Smallworld

XMLGenerator is a lightweight application that exports records from a `ds_collection` to a text file, optionally where a specified geometry field is on or within the current view bounds. The output format is a form of XML encapsulating attributes, geometries, and joins. It is not GML compliant, however, being terser in content.

Supported physical and derived field types include User Defined Scalar, String, Integer, Float, Boolean, and Date categories. Supported geometry field types include area, chain, point, text, simple\_area, simple\_chain, and simple\_point. Join fields, including text joins, are supported.

Load XMLGenerator into a Smallworld session at the Magik prompt as follows:

```
load_file("d:\xmlgenerator.magik")
```

XMLGenerator requires a `graphics_system` as a parameter for initialization. Typically, in Smallworld 3.3 professional activity session, this is obtained as follows:

```
g << gis_program_manager.applications[:professional]
```

In earlier versions of Smallworld, you would normally use the following:

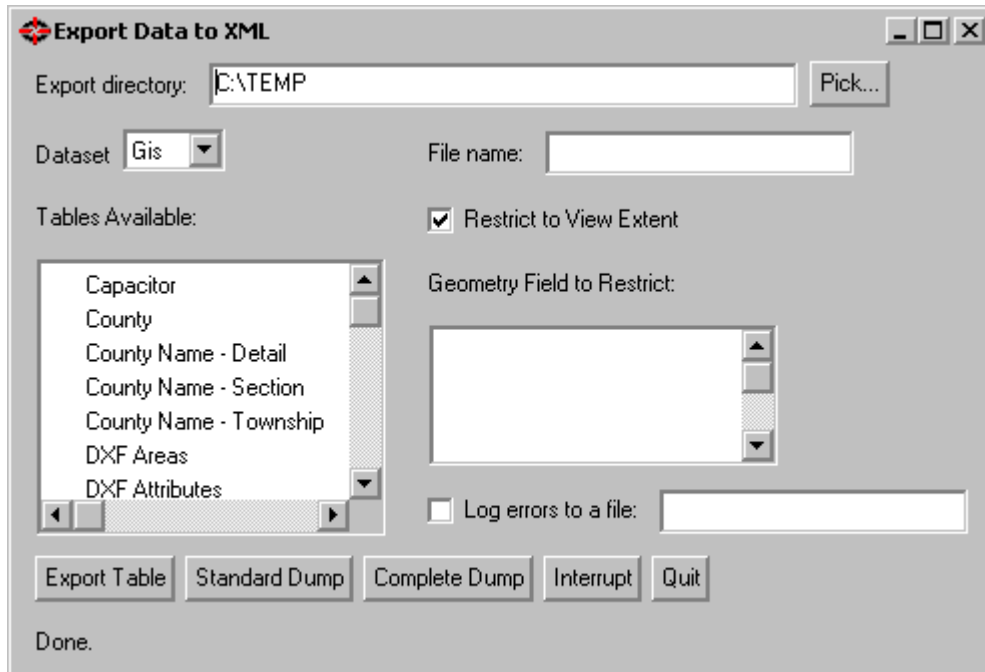
```
g << gis_program_manager.applications[:gis]
```

## Using the XMLGenerator GUI

XMLGenerator has an optional GUI that allows the user to select specific tables to export. There is a `graphics_system` method to launch the GUI, which may be assigned to a menu entry:

```
g.launch_xmlgenerator()
```

The GUI appears as follows:



Select the desired partition using the “Dataset” choice item. Tables available for export will be listed below. When a table is selected, a list of available geometry fields is displayed. When the “Restrict to View Extent” option is checked, the selected geometry field is used to restrict the export to the bounds of the current view. The “Export Table” button performs the individual table export.

The “Standard Dump” and “Complete Dump” buttons require no selection of tables or geometry fields or specification of filenames. The “standard” dump exports all tables that are currently visible within the view; file names are determined by the partition and table names, and records are restricted to the view extents using the first geometry field encountered having the highest ranking in the following hierarchy:

area ← highest  
 chain  
 point  
 simple\_area  
 simple\_chain  
 simple\_point  
 text ← lowest

The “complete” dump exports all records in all user tables.

By default, export errors are ignored. When the “Log errors to a file” option is checked, any errors are recorded to the specified file in the export directory. The “Interrupt” button halts the export process, and the “Quit” button closes the GUI.

## Using XMLGenerator at the Magik Prompt

Dumps may also be performed at the Magik prompt without invoking the GUI. This allows automation of the process. XMLGenerator is initialized as follows:

```
x << xmlgenerator.new(g)
```

where G is the graphics\_system obtained as described earlier. An alternate methods that attempts to find the appropriate graphics system is:

```
x << xmlgenerator.new_for_session()
```

Tables available in the current session may be listed to a file:

```
x.list_tables(a_filename)
```

Each line of the output file is of the format:

```
A_PARTITION_NAME,A_TABLE_NAME
```

Geometry field names associated with a table may be listed to a file:

```
x.list_geoms(a_partition_name, a_table_name,  
a_filename)
```

To set the output directory for dumps:

```
x.set_output_dir(a_path)
```

To dump a single table:

```
x.dump_table(a_partition_name, a_table_name, _optional  
a_filename, a_restrict_option)
```

where A\_RESTRICT\_OPTION is either `_false` (default), `_true`, or a geometry name. If the option is `_false`, the entire table is dumped. If it is a geometry name, the table is restricted by that geometry field to either the bounds or the view or to the area specified by method `set_extents()` (see below). If it is `_true`, a default geometry field is identified as in the “standard” dump.

To set the restriction boundary to a region other than the view extents:

```
x.set_extents(xmin, ymin, xmax, ymax)
```

To clear the extents:

```
x.clear_extents()
```

The “standard” dump is invoked as follows:

```
x.standard_dump()
```

and the “complete” dump:

```
x.complete_dump()
```

Dump processes may be interrupted using the `interrupt_engine()` method, and the status may be monitored using the `.status_string` property. Reporting options may be set as follows:

```
x.set_report_option(_optional option, log_file)
```

OPTION may be one of the following values:

- :cmd—status and errors are reported to the command window (default)
- :cmdfile—status and errors are reported to the command window and errors are additionally written to LOG\_FILE
- [the :gui and :guifile options are for internal use only]

The following is an example of a Visual Basic 6.0 application using the CLI commands:

```
Private Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)
```

```
Private Sub Command1_Click()
```

```
    ' Smallworld Automation must be installed as described in
    ' the Smallworld Automation documentation.
    ' An open Smallworld session must be active and the TICS
    ' server started using ole_admin.start().

    ' Set up Variables

    Dim App As SmallApplication
    Dim Magik As SmallConnection
    Dim MagikRep As SmallObject
    Dim XMLGenerator As SmallObject
    Dim x As Object
    Dim Temp As String

    ' Establish Connection

    Set App = New SmallApplication
    Set Magik = App.Connect

    ' Load XMLGenerator

    Set XMLGenerator = Magik.GetMagikObject("xmlgenerator")
    If XMLGenerator Is Nothing Then
        Set MagikRep = Magik.GetMagikObject("magik_rep")
        MagikRep.load_file ("d:\0home\test\ps\xmlgenerator.magik")
        Set XMLGenerator = Magik.GetMagikObject("xmlgenerator")
    End If
```

```

Set x = XMLGenerator.new_for_session

' **** Example of activating the GUI

' x.activate

' **** Examples of using CLI methods

' List tables and geoms for a table

x.list_tables "d:\0home\temp\tables.txt"
x.list_geoms "arizona_gas", "parcel", "d:\0home\temp\geoms.txt"

' Export table using given extents

x.set_output_dir "d:\0home\temp"
x.set_extents 43890994#, 389911810#, 43895029#, 389914420#
x.dump_table "arizona_gas", "parcel", Nothing, "extent"
Wait_For_It x

' Standard dump using view extent

x.clear_extents
x.standard_dump
Wait_For_It x

' Complete dump with error logfile

x.set_report_option ":cmdfile", "errors.txt"
x.complete_dump

' Wait a few seconds, get the status_string, and interrupt

Sleep 10000
Temp = x.status_string 'Should be something other than "Done."
x.interrupt_engine
Temp = x.status_string 'Should be "Done."

' Disconnect

Magik.Disconnect
Set Magik = Nothing

End Sub

Private Sub Wait_For_It(ByVal x As Object)

Dim IsDone
Do
    Sleep 2000
    IsDone = (x.status_string = "Done.")
Loop While Not IsDone

End Sub

```