Autodesk MapGuide SDL Reader/Writer

The Autodesk® MapGuide SDL Reader and Writer modules allow FME to read and write SDL files. The SDL file format is an ASCII format used with AutoDesk's MapGuide and other World Wide Web map authoring tools.

Overview

SDL data can be either two-dimensional (2D) or three-dimensional (3D).

SDL files store both geometry and attributions. A logical SDL dataset consists of one or more files in the same directory with the extension `.sdl`. This extension is added to the basename of the SDL files.

The SDL reader and writer support the storage of *point*, *line*, and *polygon* geometric data in `.sdl` files. Output files contain only one geometry type to conform with MapGuide. The SDL format can also store features with no geometry. Features that have no geometry are referred to as having a geometry of none.

SDL Quick Facts

Format Type Identifier	SDL
Reader/Writer	Both
Licensing Level	Base
Dependencies	None
Dataset Type	Directory or File
Feature Type	File base name
Typical File Extensions	.sdl
Automated Translation Support	Yes
User-Defined Attributes	Yes
Coordinate System Support	No
Generic Color Support	No
Spatial Index	Never
Schema Required	Yes
Transaction Support	No
Geometry Type Attribute	sdl_type

Geometry Support				
Geometry	**Supported?**		**Geometry**	**Supported?**
aggregate	no		point	yes
circles	no		polygon	yes
circular arc	no		raster	no

Geometry Support				
Geometry	**Supported?**		**Geometry**	**Supported?**
donut polygon	yes		solid	no
elliptical arc	no		surface	no
ellipses	no		text	no
line	yes		z values	yes (reader only)
none	yes			

Reader Overview

The SDL reader first scans the directory it is given for SDL files that have been defined in the mapping file. The SDL reader then extracts features from the files one at a time, and passes them on to the rest of the FME for further processing. Optionally a single SDL file can be given as the dataset. In this case, only that SDL file is read.

Reader Directives

The directives processed by the SDL reader are listed below. The suffixes shown are prefixed by the current `<ReaderKeyword>` in a mapping file. By default, the `<Reader-Keyword>` for the SDL reader is `SDL`.

DATASET

Required/Optional: *Required*

The value for this keyword is the directory containing the SDL files to be read, or a single SDL file. A typical mapping file fragment specifying an input SDL dataset looks like:

```
SDL_DATASET /usr/data/sdl/92i080
```

IDs

Required/Optional: *Optional*

This specification is used to limit the available and defined SDL files read. The syntax of the `IDs` keyword is:

```
<ReaderKeyword>_IDs <baseName1>                                    \
                    <baseName2>                                    \
                    <baseNameN>
```

The basenames must match those used in `DEF` lines. The example below selects only the `roads` SDL file for input during a translation:

```
SDL_IDs roads
```

Writer Overview

The SDL writer outputs each feature type into a separate file in order to comply with AutoDesk MapGuide. Each feature has the following associations: vertices, a name, an ID, and a Universal Resource Locator (URL).

Writer Directives

The directives that are processed by the SDL writer are listed below. The suffixes shown are prefixed by the current <WriterKeyword>_ in a mapping file. By default, the <WriterKeyword> for the SDL writer is SDL.

DATASET

Required/Optional: *Required*

The value for this keyword is the name of the created SDL directory. If a directory of this name exists, it is replaced by the new SDL. A typical mapping file fragment specifying an output SDL dataset looks like:

```
SDL_DATASET /tmp
```

DEF

Required/Optional: *Required*

The SDL writer uses SDL_DEF lines to define files to write features to. A typical mapping file fragment specifying an output SDL file looks like:

```
SDL_DEF roads
```

Feature Representation

In addition to the generic FME feature attributes that FME Workbench adds to all features (see *About Feature Attributes* on page 7), special FME feature attributes direct the SDL writer as it renders the feature into the image. The most important of these is the sdl_type attribute, which controls the overall interpretation of the feature. The correct values for sdl_type are sdl_line, sdl_point, and sdl_polygon. The parameters specified for each of these are described in the following subsections, and the attributes common to each are given in the following table:

Attribute Name	Contents
sdl_url	Specifies a URL for the line, polygon or point. Required: No Default: NULL
sdl_name	Specifies an internal name for the line, polygon or point. Required: No Default: NULL
sdl_id	Specifies an ID for the line, polygon or point. Required: No Default: NULL

Lines

sdl_type: sdl_line

The SDL writer outputs a line object containing the points as specified in the input file. Also, the SDL writer outputs a URL, a name, and an ID number associated with the line object as attributes.

Points

sdl_type: sdl_point

The SDL writer will output a point object containing the points as specified in the input file. Also, the SDL writer will output a URL, a name, and an ID number associated with the point object as attributes.

Polygons

sdl_type: sdl_polygon

The SDL writer outputs a polygon object containing the points as specified in the input file. Also, the SDL writer outputs a URL, a name, and an ID number associated with the polygon object as attributes.