



Transformer Categories in FME



FME gives you complete flexibility to transform your data into the data model you need. A gallery of over 400 powerful transformers let you accurately restructure the schema of your data as it moves from the source to the destination.

CATEGORY	DESCRIPTION	EXAMPLE OPERATIONS
3D	Create and modify three-dimensional surface and solid geometries	<ul style="list-style-type: none"> ■ supporting CSG (Constructive Solid Geometry) Boolean operations between solids ■ converting the face, donut, or polygon of a feature to extrusion geometry ■ combining 3D components into one large 3D structure
Calculators	Calculate a value and supply it to a new attribute on a feature	<ul style="list-style-type: none"> ■ calculating areas, lengths, and volumes ■ reformatting date or time strings ■ calculating arithmetic expressions ■ generating points inside areas ■ calculating statistics from attributes ■ determining spatial relationships
Collectors	Merge or alter data on groups of features	<ul style="list-style-type: none"> ■ creating bounding boxes or convex hulls ■ finding the closest neighbor ■ merging feature attributes and geometry ■ testing for common segments ■ decomposing aggregates ■ combining attributes ■ managing aggregates
Coordinate Systems	Reproject data and handle coordinate system names/descriptions	<ul style="list-style-type: none"> ■ reprojecting spatial data ■ converting coordinate system descriptions
Database	Extract data from spatial or non-spatial databases and merge into a workflow	<ul style="list-style-type: none"> ■ querying spatial and non-spatial data in ESRI ArcSDE and Oracle Spatial ■ joining attributes from non-spatial databases, MySQL, PostGIS and SQLite to a feature ■ executing arbitrary SQL statements
Filters	Allow features to be routed to different destinations based on tests on feature geometry and/or attributes	<ul style="list-style-type: none"> ■ detecting changes or matches in features ■ removing duplicate features ■ routing data based on attribute values or geometry ■ sampling to create subsets of input features
Geometric Operators	Operate on the geometry of individual features or groups of features	<ul style="list-style-type: none"> ■ building area features ■ overlaying areas ■ clipping ■ dissolving features ■ connecting points in order ■ snapping ■ line labeling ■ line joining ■ intersecting ■ rubbersheeting ■ tiling features ■ computing topology
KML	Manipulate feature geometry and/or attributes for output using the OGCKML Writer	<ul style="list-style-type: none"> ■ Creating KML Tours ■ Creating KML Views ■ Regionating Data ■ Setting KML Symbology (Color, Opacity, Icon) ■ Setting KML Timestamps/Timespans ■ Setting KML Properties (Name, Description, Balloon)
Linear Referencing	Use linear referencing to create and apply measures to FME features	<ul style="list-style-type: none"> ■ calculating measures ■ setting measures on features ■ shortening line features ■ snipping vertices ■ create and apply measures to FME features
Lists	Use a list structure to handle multiple values for each attribute	<ul style="list-style-type: none"> ■ creating, exploding and searching attribute lists ■ extracting information from attribute lists
Point Cloud	Create, use, and output point cloud features	<ul style="list-style-type: none"> ■ evaluating components and filter points based on results ■ coercing geometries to/from point clouds ■ splitting, thinning, and combining point clouds
Rasters	Create, use or output raster data	<ul style="list-style-type: none"> ■ georeferencing rasters ■ converting vector features to rasters ■ mosaicking multiple rasters into a single raster feature ■ decomposing rasters into point features
Strings	Operate on character strings held in FME attributes	<ul style="list-style-type: none"> ■ extracting character encodings ■ searching ■ concatenating ■ changing case ■ replacing ■ splitting
Surfaces	Operate on data which defines a 2.5D surface	<ul style="list-style-type: none"> ■ generating contours or Digital Elevation Models (DEMs) ■ draping features ■ generating Triangulated Irregular Networks (TINs) ■ modeling surfaces ■ generating Voronoi diagrams
Web Services	Access web services via the HTTP protocol	<ul style="list-style-type: none"> ■ sending requests to web services and making results available to the FME infrastructure ■ creating or consuming GeoRSS/RSS/GeoJSON/JSON/KML/XML documents ■ geocoding
XML	Work with XML data	<ul style="list-style-type: none"> ■ mapping XML elements into features ■ using stylesheets to convert XML documents ■ querying collections of XML data ■ populating XML templates ■ fragmenting XML documents into smaller pieces

Get the complete list of transformers by visiting: www.safe.com/transformers

Access even more transformers, directly through FME Workbench, in the FME Store. You'll find many free and licensed Custom Transformers that can help you gain efficiency, additional functionality, and a head start on your spatial data transformation workflows.

Supported Formats in FME

- 1Spatial Internal Feature Format (IFF)
- Actian Ingres
- Actian Ingres Spatial
- Actian Ingres Vectorwise
- Additional Military Layers (AML)
- Adobe 3D PDF
- Adobe Flash (SWF)
- Adobe Geospatial PDF
- Adobe Illustrator - Avenza MAPublisher
- Adobe Illustrator EPS
- Aeronautical Information Exchange Model (AIXM versions 4.5, 5.x)
- Aircom ENTERPRISE Map Data/ASSET Data
- Amazon DynamoDB
- Amazon Redshift (Tech Preview)
- ARC Digitized Raster Graphics (ADRG)
- ARC Standard Raster Product (ASRP)
- ASPRS Lidar Data Exchange Format (LAS)
- ASTM E57
- Australian Asset Design and As Constructed (ADAC)
- Autodesk 3ds
- Autodesk AutoCAD Civil 3D
- Autodesk AutoCAD DWF
- Autodesk AutoCAD DWG/DXF++
- Autodesk AutoCAD Map 3D Object Data
- Autodesk AutoCAD RealDWG DWG/DXF
- Autodesk Infrastructure Modeler (FDO)
- Autodesk MapGuide Enterprise SDF
- Autodesk MapGuide SDF/SDL
- Autodesk Revit
- Autodesk VISION GINA
- B.C. MOEP
- Bathymetric Attributed Grid
- BC MoF Electronic Submission Framework - ESF
- Bentley Map XFM Design V8 (Tech Preview)
- Bentley MicroStation Design (V7, V8)
- Bentley MicroStation GeoGraphics
- Canadian Digital Elevation Data (CDED)
- CARIS CSAR
- CARIS NTX
- CARIS Spatial Archive (CSAR)
- CartoDB
- CITS Data Transfer Format (QLF)
- CityGML (1.x, 2.0)
- Collaborative Design Activity (COLLADA)
- Column Aligned Text (CAT)
- Comma Separated Value (CSV)
- Compressed ARC Digitized Raster Graphics (CADRG)*
- Controlled Image Base (CIB)
- CouchDB
- CUZK GML
- Danish DSFL
- Data File
- dBASE (DBF)
- Delorme GML
- DES
- Digital Line Graph (DLG)
- Digital Terrain Elevation Data (DTED)
- Directory and File Pathnames
- DirectX
- Dutch TOP10 GML
- EDIGéO
- Encapsulated PostScript (EPS)
- ER Mapper ECW
- ER Mapper ERS
- ERDAS IMAGINE
- ERDAS RAW
- Esri .hdr RAW Raster
- Esri ArcGIS Binary Grid (AIG)
- Esri ArcGIS Image Server
- Esri ArcGIS Layer++
- Esri ArcGIS Map++
- Esri ArcGIS Online Feature Service
- Esri ArcGIS Server Feature Service
- Esri ArcInfo Coverage
- Esri ArcInfo Export (E00)
- Esri ArcInfo Generate
- Esri ArcPad Exchange Format (AXF)
- Esri ArcSDE
- Esri ArcSDE Raster Catalog
- Esri ArcSDE Raster Map
- Esri ASCII Grid
- Esri Geodatabase (ArcSDE Geodb Raster Catalog)
- Esri Geodatabase (ArcSDE Geodb Raster Dataset)
- Esri Geodatabase (ArcSDE)++
- Esri Geodatabase (File Geodb API)
- Esri Geodatabase (File Geodb ArcObjects)++
- Esri Geodatabase (File Geodb Raster Catalog)
- Esri Geodatabase (File Geodb Raster Dataset)
- Esri Geodatabase (MDB)++
- Esri Geodatabase (XML)++
- Esri Mapping Specification for CAD (MSC)++
- Esri Shape++
- Esri-JSON (Esri JavaScript Object Notation)
- FalconView File
- FDO Providers Autodesk 2014
- FME Feature Store (FFS)
- FME Server Configuration
- Garmin GDB
- Garmin MapSource
- Garmin POI
- GeoConcept Map
- Geographic Data Files (GDF)
- Geographic Data Management System (GDMS)
- Geohash
- GeoJSON
- GeoRSS/RSS Feed
- GeoTIFF
- German AAA GML Exchange Format (NAS)
- GIF
- GML (Geography Markup Language v1, v2.1.2)
- GML SF-0 (Geography Markup Language Simple Features Level SF-0 Profile)
- Golden Software Surfer Binary Grid
- Google Cloud SQL
- Google Cloud SQL Spatial
- Google Earth (KML)
- Google Fusion Tables
- Google Fusion Tables Spatial
- Google Maps Engine Rasters
- Google Maps Engine Tables
- Google Spreadsheet
- Google WebP
- GPS eXchange Format (GPX)
- Graphic Technologies, Inc. (GTI) GTViewer
- Halliburton GeoGraphix CDF
- Hierarchical Data Format 4 (HDF4) ASTER and Hyperion
- IBM DB2
- IBM DB2 Spatial
- IBM Informix
- IDRISI Vector Format
- IFC
- INSPIRE GML
- Intergraph FRAMME Standard Exchange Format (SEF)
- Intergraph GeoMedia Access Warehouse
- Intergraph GeoMedia SQL Server Warehouse
- Intergraph MGE
- Intergraph Raster
- ISO8211
- ITT ENVI .hdr RAW Raster
- JDBC
- JPEG
- JPEG 2000
- JSON
- KML
- KommunGML (Sweden)
- KuntaGML (Finland)
- Land Victoria Incremental Update Format (IUF)
- Landmark Z-Map Grid
- Landmark Z-Map Vector
- LandXML
- Leica Independent Data Exchange Format (IDEX)
- LizardTech MrSID
- MapInfo MIF/MID
- MapInfo SpatialWare
- MapInfo TAB (MFAL)
- MapInfo TAB (MITAB)
- Maptech BSB Nautical Chart
- Marconi PlaNet
- MariaDB
- (MySQL compatible)
- MariaDB Spatial (MySQL compatible)
- Metria AutoKa Transfer File (FF)
- Microsoft Access
- Microsoft Bitmap (BMP)
- Microsoft Excel
- Microsoft MapPoint Web XML
- Microsoft SharePoint Lists
- Microsoft SQL Server
- Microsoft SQL Server Spatial
- Microsoft Windows Azure OGD1
- Microsoft Windows Azure SQL Database
- Microsoft Windows Azure SQL Database Spatial
- Microsoft Windows Azure Table
- Minecraft
- NEN 3610 (GML)
- Netezza
- Netezza Spatial
- Network Common Data Form (netCDF)
- NGA GEONet Names Server
- NITF (National Imagery Transmission Format)
- NLSF Topographic GML
- NMEA Automatic Identification System (AIS)
- NMEA GPS
- ODBC 3.x
- OGC GeoPackage
- OGC Open GeoSMS
- OGC Well Known Binary (WKB)
- OGC Well Known Text (WKT)
- OGR Virtual Dataset (VRT)
- OpenSceneGraph OSGB
- OpenStreetMap (OSM) XML
- Oracle
- Oracle Spatial GeoRaster
- Oracle Spatial Object++
- Oracle Spatial Point Cloud
- Oracle Spatial Relational
- Oracle SQL Loader
- OS (GB) MasterMap
- OS (GB) NTF
- OS VectorMap District
- OS VectorMap Local
- PCI Geomatics Database File (PCIDSK)
- PenMetrics GRD
- PNG
- Point Cloud XYZ
- Pointools POD
- PostGIS
- PostGIS Raster
- PostgreSQL
- Presagis .flt (OpenFlight)
- R Statistical Data (RDATA)
- R Statistical Data (RDATA) Raster
- Regional Geographic Information System (REGIS)
- RIEGL Laser Scan Database (RDB)
- RIEGL RDB Project
- S-57 (ENC) Hydrographic Data
- Salesforce
- SAS (Statistical Analysis System)
- Scalable Vector Graphics (SVG)
- SeabedML (GML)
- SEG-P1
- SEG-Y*
- SGI Image
- Shuttle Radar Topography Mission Height (SRTM HGT)
- Smallworld 3 and 4
- Socrata
- Spatial Archive and Interchange Format (SAIF)
- Spatial Data Transfer Standard (SDTS)
- SpatialLite
- SQLite
- SQLite Spatial (FDO)
- STAR-APIC Mercator MCF
- SuperMap Universal DataBase Engine (UDB) (Tech Preview)
- Swedish KF85
- Swiss INTERLIS (ili2fme)
- SWX Panorama Exchange
- Teradata (JDBC)
- Teradata Spatial (JDBC)
- Teradata Spatial (TPT API)
- Terrasolid TerraScan
- TetGen
- Text File
- TIFF
- TomTom POI
- Trimble JobXML
- Trimble SketchUp
- U.S. Census Bureau TIGER/GML and TIGER/Line
- U.S. Environmental Protection Agency (EPA) Geospatial Data
- UKOOA P1/90 Post Plot Positioning Data
- Vector Markup Language (VML)
- Vector Product Format (VPF) Coverage
- Vector Product Format Database (VPF_DB)
- Vertical Mapper Grid (NGrid)
- Virtual Reality Modeling Language (VRML)++
- VRML97
- Wavefront OBJ
- WFS (Web Feature Service)
- WMS (Web Map Service)
- World Meteorological Organization GRIB (GRIBdd Binary)
- X3D/VRML
- XML++
- XYZ ASCII
- Z-Map (ASCII)
- Z+F LaserControl ZFS

*Extra cost plug-in required

**Includes 3D support

Get the latest list of supported formats at www.safe.com/formats