Automation Server

Reference Manual

KISTERS

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KISTERS

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Chapter I:

Commands

1 Commands

The KISTERS Automation Server (short: KAS) is a tool for batch-processing files.

Currently, these command are available:

Note: The order in which these commands have to be given to `KAS.exe` is as follows:

- `LOAD_SETTINGS` (optional but recommended, if no settings file is provided, defaults will be used)
- `LOG` (optional)
- one of the other commands (`CONVERT`, `CONVERT_AND_EXECUTE_XML`, `CONVERT2D`, `COPY_REFENCED_FILES`, `EVALUATE_BREP_COMPLEXITY`, `EVALUATE_TESSELLATION_DEGENERATION`, `STRUCTURE_COMPARE` or `GENERATE_SCREENSHOT`)

1.1 CONVERT

Converts assemblies and monolithic 3D files to monolithic 3D files.

```
KAS.exe CONVERT <INPUT> <OUTPUT> <FORMATS>
```

Optionally, the original files can be collected and saved to one collection with the parameter `COPY_REFERENCED_FILES`.

```
KAS.exe CONVERT <INPUT> <OUTPUT> <FORMATS> COPY_REFERENCED_FILES
<COPY OUTPUT>
```

Parameters	Description
INPUT	Directory path and file name of the input file
OUTPUT	Directory path and file name of the output file(s) For single format, no file extension will be added, if you want one, you have to include it in the file name. For multi format, the extension will be added.

FORMATS	Use comma for separation when using multiple formats:
	`3DVS`
	`3MF`
	`ACIS`
	`FBX`
	`GLTF`
	`IFC`
	`IGES`

Parameters	Description
	JT OBJ PARASOLID PDFPRC PRC STEP STL U3D VRML VSXML

Examples:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT "D:
\Test.prt" "D:\Test" "3DVS,PDFPRC"
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT "D:
\Test.prt" "D:\Test.3dvs" "3DVS"
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT "D:
\Test.prt" "D:\Test.3dvs" "3DVS" COPY_REFERENCED_FILES "D:
\Copies_of_original_files\"
```

1.2 CONVERT_AND_EXECUTE_XML

Available as of 2022.5.

Loads assemblies and monolithic 3D files, applies XML commands and exports monolithic 3D files.

```
KAS.exe CONVERT_AND_EXECUTE_XML <INPUT> <XML-API-FILE> <OUTPUT>
<FORMATS>
```

Optionally, the original files can be collected and saved to one collection with the parameter `COPY_REFERENCED_FILES`.

```
KAS.exe CONVERT_AND_EXECUTE_XML <INPUT> <XML-API-FILE> <OUTPUT>
<FORMATS> COPY_REFERENCED_FILES <COPY OUTPUT>
```

Parameters	Description
INPUT	Directory path and file name of the input file
XML-API-FILE	Directory path and file name of the xml file (XML API documentation: XML API...)
OUTPUT	Directory path and file name of the output file(s) For single format, no file extension will be added, if you want one, you have to include it in the file name. For multi format, the extension will be added.

Parameters	Description
FORMATS	Use comma for separation when using multiple formats: 3DVS 3MF ACIS FBX GLTF IFC IGES JT OBJ PARASOLID PDFPRC PRC STEP STL U3D VRML VSXML

Examples:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT_AND_EXECUTE_XML
 "D:\Test.prt" "D:\Test\commands.xml" "D:\Test.3dvs" "3DVS"

"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT_AND_EXECUTE_XML
"D:\Test.prt" "D:\Test\commands.xml" "D:\Test.3dvs" "3DVS"
COPY_REFERENCED_FILES "D:\Copies_of_original_files\"
```

1.3 CONVERT2D

Available as of 2019.0.340.

Converts 2D files to 2D files.

```
KAS.exe CONVERT2D <INPUT> <OUTPUT> <FORMATS>
```

Parameters	Description
INPUT	Directory path and file name of the input file
OUTPUT	Directory path and file name of the output file(s) For single format, the file must include the file extension.

Parameters	Description
	For multi format, the extension will be added.
FORMATS	Use comma for separation when using multiple formats: 3DVS PDF CGM DWF DXF GBR PLT SVG

Examples:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT2D "D:
\Test.dxf" "D:\Test" "3DVS,PDF"
"C:\Program Files\Kisters\ViewStation\KAS.exe" CONVERT2D "D:
\Test.dxf" "D:\Test.3dvs" "3DVS"
```

1.4 COPY_REFERENCED_FILES

Coming soon.

1.5 EVALUATE_BREP_COMPLEXITY

Evaluates the geometries in the model and prints log messages whether a geometry node contains simple BREP, simple/complex NURBS, or no BREP (tessellation only). A geometry node containing NURBS is considered "complex NURBS" if the number of control points is greater than the tool setting: `NodeComplexity.MaxNumControlPointsForSimpleNURBS` (default: 1000). This method is called before automatic export to identify and avoid exporting expensive models.

```
KAS.exe EVALUATE_BREP_COMPLEXITY <INPUT>
```

Parameters	Description
INPUT	Directory path and file name of the input file

Examples:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe"
EVALUATE_BREP_COMPLEXITY "D:\testFiles\Test.CATProduct"
```

1.6 EVALUATE_TESSELLATION_DEGENERATION

Coming soon.

1.7 GENERATE_SCREENSHOT

Generates a screenshot of 3D and 2D files.

```
KAS.exe GENERATE_SCREENSHOT <INPUT> <OUTPUT> <FORMATS>
```

Parameters	Description
INPUT	Directory path and file name of the input file
OUTPUT	Directory path and file name of the output file(s) For single format, the file must include the file extension. For multi format, the extension will be added.
FORMATS	Export formats: PNG JPG BMP PDF TIFF WMF

Example:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe"
GENERATE_SCREENSHOT "D:\Test.prt" "D:\Test" "PNG,JPG"
"C:\Program Files\Kisters\ViewStation\KAS.exe"
GENERATE_SCREENSHOT "D:\Test.prt" "D:\Test.png" "PNG"
```

1.8 LOAD_SETTINGS

Initially the default settings will be loaded. With this setting you can reference a settings file, which will overwrite the defaults.

```
KAS.exe LOAD_SETTINGS <FILENAME> <COMMANDS>
```

Parameters	Description
FILENAME	File name of the settings file to use.
COMMANDS	Any other command except LOAD_SETTINGS.

Example:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" LOAD_SETTINGS "D:
\Settings.xml" CONVERT "D:\Test.prt" "D:\Test" "3DVS,PDFPRC"
```

1.9 LOG

Available as of 2022.7.

Generates a log file of the conversion.

```
KAS.exe LOG <FILENAME> <COMMANDS>
```

Parameters	Description
FILENAME	File name of the log file to use.
COMMANDS	Any other command except `LOG` and `LOAD_SETTINGS`.

Example:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" LOAD_SETTINGS "D:
\Settings.xml" LOG "D:\Log\convert.log" CONVERT "D:\Test.prt"
"D:\Test" "3DVS,PDFPRC"
```

1.10 STRUCTURE_COMPARE

Available as of 2024.3.317.

Compares the structure of two models. The result will be provided in the chosen format.

```
KAS.exe STRUCTURE_COMPARE <INPUT1> <INPUT2> <OUTPUT> <FORMAT>
```

Parameters	Description
INPUT	Directory path and file name of the input files (1 and 2).
OUTPUT	Directory path and file name of the output file.
FORMAT	Choose one: ▪ `TXT` ▪ `CSV` ▪ `HTML` ▪ `JSON` ▪ `XML`

Example:

```
"C:\Program Files\Kisters\ViewStation\KAS.exe" STRUCTURE_COMPARE
"D:\Model1.CATPart" "D:\Model2.3dvs" "D:\CompareResult.csv"
"CSV"
```

Chapter II:

Extensions

2 Extensions

The following extensions are currently available on request:

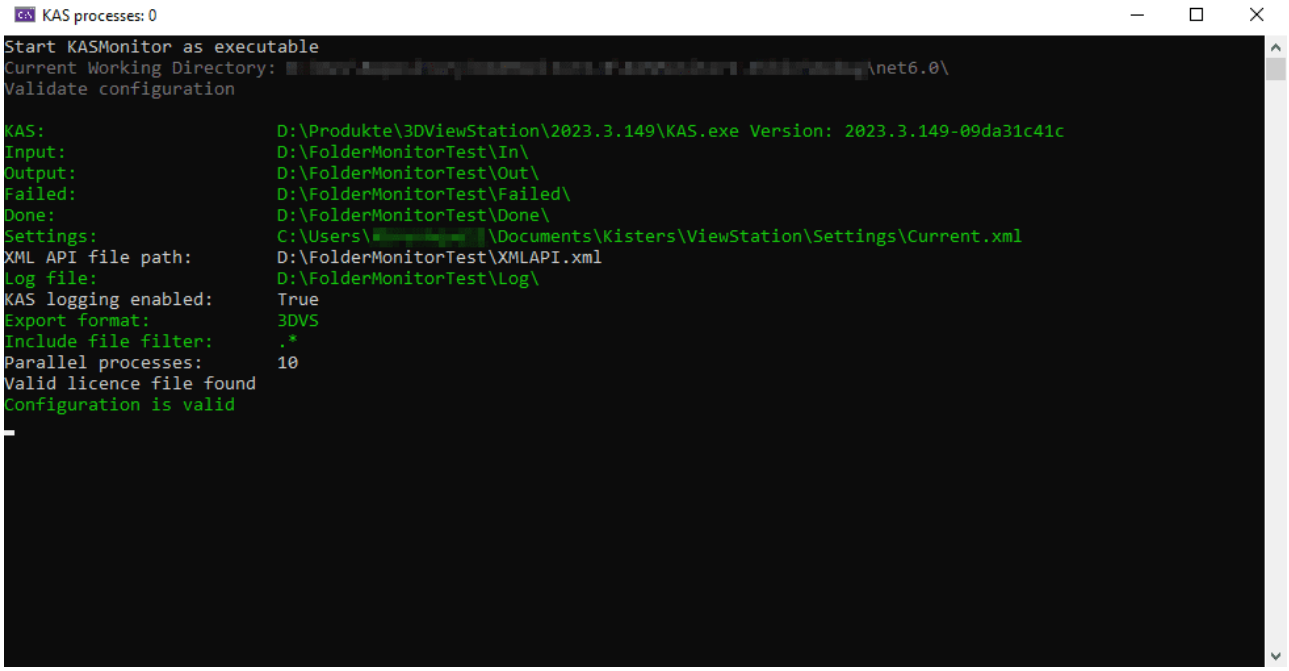
- KAS Monitor 12

2.1 KAS Monitor

Current Version: 1.0.3.0

Overview

The Folder Monitoring and Conversion Tool is a Windows service that monitors a designated input directory for newly created files and converts them using the KAS application. The tool supports parallel processing, logging, and conversion of specific file formats. It also includes a special case handling the extraction and conversion of files from ZIP archives.



Settings

The settings are defined in an `appsettings.json` file next to the KAS monitor.

The tool is configured with the following settings:

- kas: Path to the KAS executable file.
- settings: Path to the configuration settings file for KAS.
- input: Path to the directory where incoming files are monitored.
- output: Path to the directory where successfully converted files are stored.
- done: Path to the directory in which the original data is stored after a successful conversion.
- failed: Path to the directory where files that encountered conversion errors are moved.
- log file location: Path to the directory where log files are stored.
- format: The target format for conversion (e.g., "3DVS").
- include file filter: Expression pattern to filter files for conversion.
- number of processes: The maximum number of parallel conversion processes.
- kas logging enabled: Defines whether the KAS should write a separate log file.
- xml api file path: Applies XML commands during the conversion process

Conversion Process

The tool performs the following steps:

- Continuously monitors the input directory for new files.
- Upon detecting a new file, it initiates the conversion process using the KAS application.
- If conversion is successful:
  - Moves the original file to the done folder and maintains the structure.
  - Moves the converted file to the output directory.
- In case of a conversion error:
  - Moves the original file to the failed directory.
- In case of file is ignored due to filter:
  - Move the original file to the output directory.

Special Case (ZIP Archive)

- If a ZIP archive is detected in the input directory:
  - Extracts the contents of the ZIP archive.
  - Creates a directory in the output directory with the ZIP archive's name (excluding ".zip").
  - If the directory already exists through a previous process, the converted data will be stored within that folder accordingly.
- Recursively processes each file within the extracted directory:
  - Converts the file using the KAS application.
  - Places the converted file in the corresponding directory within the output directory.
  - Moves the original file to the done folder and maintains the structure.

Conclusion

The Folder Monitoring and Conversion Tool streamlines file conversion tasks by monitoring the input directory, performing conversions using KAS, and managing successful and failed conversions. With parallel processing, logging, and customizable settings, the tool enhances workflow efficiency. It also handles the special case of ZIP archive extraction and conversion while managing import settings for PLMXML assemblies.