

sMart 6.0 Generic File Import Format

Introduction

Netavis sMart Data Warehouse also provides sensor-independent generic interfaces for all data types (Generic sMart Age & Gender, Generic sMart Frequency, etc.). In order for the files to be processed they need to be uploaded via the Data Sources – Import menu item or directly to the upload directory under %DWH_HOME%/import outlined in the table below:

Sensor	File format	Upload directory	Data types
Generic sMart Age & Gender	CSV	/generic-age/pending	Age & Gender
Generic sMart Frequency	CSV	/generic/pending	Frequency
Generic sMart NPR	CSV	/generic-npr/pending	Cars
Generic sMart Turnover	CSV	/generic-turnover/pending	Turnover
Generic sMart VMS	CSV	/generic-vms/pending	VMS
Generic sMart Wireless	CSV	/generic-wireless/pending	Dwell Time, Frequency

Data format

These files can contain tags and data lines. Tags always start with '#' (pound sign) and are meant for configuration, while data lines include the values separated with ',' (comma) characters.

Common tags

Tag name	Mandatory	Description
#ETLOverwrite	No	If tag is present in file, then data will overwrite any existing data for the same time and sensor.
#Columns(...)	Yes	Mandatory list of column names, defining the input data type and order. The available columns can differ in each data specific import (see sections below for details). Columns names are not case sensitive so both options are valid. Examples: #Columns(Date,SensorName,Value) #Columns(date,sensorname,value) Columns order has no restrictions. Examples: #Columns(sensorname,VALUE,Date) #Columns(value,SensorName,date) Each column can only be listed once. If any mandatory columns are missing, then import will fail. If the number of columns and number of data values is not equal, then the import will also fail.

Supported date formats

YYYY-MM-DD HH:mm

YYYY-MM-DD HH:mm:ss (used as reference in this document)

YYYY-MM-DD HH:mm:ss±hh:mm

Generic sMart Age & Gender

Available Column Names for **#Columns** tag:

Name	Mandatory	Description	sMart Version
Date	Yes	Date in a supported date format	5.0
SensorName	Yes	Name of source sensor the data belongs to. Parameter value is case sensitive. Prohibited characters: ';' (comma) ';' (semicolon)	5.0
Value	No	Numeric value. If not provided then default Value=1 is applied.	5.0
Age	Yes	Age or Age range parameter. Parameter consists of two numeric values concatenated with '-' or one numeric value. Valid values: 21-30 16	5.0
Gender	Yes	Gender parameter. Parameter consists of one alphabetical character. Available options: - F → Female - M → Male - f → Female - m → Male	5.0
AttentionTime	No	Attention time duration in seconds	6.0
DwellTime	No	Attention time duration in seconds	6.0
SensorId	No	Smart specific sensor identification. Not expected to be provided by 3rd party users. The information is included when file is exported from sMart. Parameter is a composite key: hostId + cameraId + fieldId + customId + typeId	5.0

Age & Gender example

#Columns(Date,SensorName,Age,Gender,Value)

2018-05-28 15:46:13,Main entrance,21-30,M,1

2018-05-28 15:47:22,Main entrance,21-30,F,1

2018-05-28 15:48:23,Main entrance,21-30,m,1

2018-05-28 15:49:45,Main entrance,21-30,f,1

2018-05-28 15:52:12,Main entrance,27,M,1

Age & Gender overwrite example

#ETLOverwrite

#Columns(Date,SensorName,Age,Gender,Value)

2018-05-28 15:46:13,Main entrance,21-30,M,1

2018-05-28 15:47:22,Main entrance,21-30,F,1

2018-05-28 15:48:23,Main entrance,21-30,m,1

2018-05-28 15:49:45,Main entrance,21-30,f,1

2018-05-28 15:52:12,Main entrance,27,M,1

Age and Gender with Attention and Dwell time example

#Columns(Date,SensorName,Age,Gender,AttentionTime,DwellTime,Value)

2018-05-28 15:46:13,Main entrance,21-30,M,3,9,1

2018-05-28 15:47:22,Main entrance,21-30,F,4,12,1

2018-05-28 15:48:23,Main entrance,21-30,m,3,15,1

2018-05-28 15:49:45,Main entrance,21-30,f,2,6,1

2018-05-28 15:52:12,Main entrance,27,M,5,20,1

Generic sMart Frequency

Available Column Names for **#Columns** tag:

Name	Mandatory	Description
Date	Yes	Date in a supported date format
SensorName	Yes	Name of source sensor the data belongs to. Parameter value is case sensitive. Prohibited characters: ' ' (comma) ';' (semicolon)
Value	No	Numeric value. If not provided then default Value=1 is applied.
SensorId	No	Smart specific sensor identification. Not expected to be provided by 3rd party users. The information is included when file is exported from sMart. Parameter is a composite key: hostId + cameraId + fieldId + customId + typeId

Frequency example

#Columns(Date,SensorName,Value)

2018-05-12 08:00,MainEntrance,123

2018-05-12 08:00,SecondEntrance,53

2018-05-12 09:00,MainEntrance,345

2018-05-12 09:00,SecondEntrance,68

2018-05-12 10:00,MainEntrance,380

2018-05-12 10:00,SecondEntrance,91

Generic sMart NPR

Available Column Names for **#Columns** tag:

Name	Mandatory	Description
Date	Yes	Date in a supported date format
SensorName	Yes	Name of source sensor the data belongs to. Parameter value is case sensitive. Prohibited characters: ' ' (comma) ';' (semicolon)
Value	No	Numeric value. If not provided then default, Value=1 is applied.
Country	Yes	Parameter expected as ISO-3 country code unless #VehicleCountryCode tag is present. In case of tag is present, then country parameter expected as international vehicle code. Example (Austria): - ISO-3 code : AUT - Vehicle code: A Parameter is NOT case sensitive → 'aut' is supported.
Region	No	Text parameter. Name of region. Value can be an abbreviation or full name or empty. Prohibited characters: ' ' (comma) ';' (semicolon) Parameter is case sensitive!
NumberPlate	No	License plate text parameter. Prohibited characters: ' ' (comma) ';' (semicolon) If Region column not available, then sMart tries to extract region info from NumberPlate. It is possible only if NumberPlate is provided with delimiters and Country is not empty. Supported delimiters: '-' (hyphen) ' ' (space) Example: - Valid → W 382 4C or W-382-4C - Invalid → W3824C In case of #EnableTracking tag present, then NumberPlate based hash is stored as object occurrence. In case of #EnableTracking is not present and Region column is present, then NumberPlate column is ignored. Parameter is NOT case sensitive → 'w-382-4c' supported!

ListName	No	List name text parameter. This parameter can be used as a category for car detection. (For example: whitelist, blacklist) Prohibited characters: • ',' (comma) • ';' (semicolon) Parameter is case sensitive!
SensorId	No	Smart specific sensor identification. Not expected to be provided by 3rd party users. The information is included when file is exported from sMart. Parameter is a composite key: hostId + cameraId + fieldId + customId + typeId

Note: NPR dwell time calculation via Generic Interface is supported with a corresponding virtual sensor configuration.

Special tags:

Tag name	Description
#VehicleCountryCode	Importer will expect vehicle codes for countries instead of default ISO-3
#EnableTracking	In case of NumberPlate column present, then value is used for hash generation and stored as object occurrence. This data can be used for calculating Returning Customers or Unique Visitors. This setting is equal to the one for NPR sensors in Sensor Explorer: "Store Object Occurrences". If tag is present in file, then it has higher priority than sensor configuration.

NPR example

```
#Columns(Date,SensorName,Country,Region,Value)
2018-05-28 15:46:13,iCat NPR,AUT,W,1
2018-05-28 15:47:22,iCat NPR,HUN,,1
2018-05-28 15:48:23,iCat NPR,AUT,WB,1
2018-05-28 15:49:45,iCat NPR,AUT,WU,1
```

NPR CSV vehicle code example

```
#VehicleCountryCode
#Columns(Date,SensorName,Country,Region,Value)
2018-05-28 15:46:13,iCat NPR,A,Wien,1
2018-05-28 15:47:22,iCat NPR,H,,1
2018-05-28 15:48:23,iCat NPR,A,Wiener Neustadt-Land,1
2018-05-28 15:49:45,iCat NPR,A,Wien-Umgebung,1
```

NPR CSV tracking example

```
#EnableTracking
#Columns(Date,SensorName,Country,NumberPlate)
2018-05-28 15:46:13,iCat NPR,AUT,W 3824c
2018-05-28 15:47:22,iCat NPR,HUN,GRK745,
2018-05-28 15:48:23,iCat NPR,AUT,WB4808A
```

2018-05-28 15:49:45,iCat NPR,AUT,WU 318 gS
 2018-05-28 15:52:12,iCat NPR,HUN,GRK-745
 2018-05-28 15:52:12,iCat NPR,HUN,GrK 745

NPR CSV list names example

#Columns(Date,SensorName,Country,NumberPlate,ListName)
 2018-05-28 15:46:13,iCat NPR,AUT,W 3824c,white list
 2018-05-28 15:47:22,iCat NPR,HUN,GRK745,white list
 2018-05-28 15:48:23,iCat NPR,AUT,WB4808A,
 2018-05-28 15:49:45,iCat NPR,AUT,WU 318 gS,
 2018-05-28 15:52:12,iCat NPR,HUN,GRK-745,black list

Generic sMart Turnover

Available Column Names for #Columns tag:

Name	Mandatory	Description
Date	Yes	Date in a supported date format
Location	Yes	Name of turnover location/source the data belongs to. Parameter value is case sensitive. Prohibited characters: ' ' (comma) ';' (semicolon)
Turnover	Yes	Decimal value. The amount of turnover.
Transactions	No	Numeric value. Number of transactions. If not provided then default, Transactions=1 is applied.
SensorId	No	Smart specific sensor identification. Not expected to be provided by 3rd party users. The information is included when file is exported from sMart. Parameter is a composite key: hostId + cameraId + fieldId + customId + typeId

Turnover Daily CSV example

#Columns(Date;Location;Turnover,Transactions)
 2019-03-08 00:00,Sales Department,85.15,3
 2019-03-09 00:00,Sales Department,32,1
 2019-03-10 00:00,Sales Department,201.99,4

Turnover detailed CSV example

#Columns(Date;Location;Turnover)
 2019-03-08 10:01:13,Sales Department,12.15
 2019-03-08 10:22:47,Sales Department,33
 2019-03-08 10:51:46,Sales Department,201.99

Generic sMart VMS

Available Column Names for **#Columns** tag:

Name	Mandatory	Description
Date	Yes	Date in a supported date format

SensorType	Yes	Numeric value. Type of VMS sensor/component. Available type codes:	
		Code	VMS event
		6	User logged out
		7	User logged in
		8	Connection lost to Camera
		9	Connection restored to Camera
		16	Configuration changed by user
		20	Degraded Image saving
		22	Disk subsystem failure
		23	Generic Malfunction
		31	Connection lost to Host
		32	Connection restored to Host
		33	Connection lost to IO device
		34	Connection restored to IO device
		35	Digital Camera failure
		36	Archive export
		37	Archive access
		38	Recording switched off
		39	Recording switched on
		40	Camera PTZ changed
		41	IO Device port change
		42	Connection lost to external device
		43	Connection restored to external device
		Data with unknown type code will be ignored.	
VmsHost	Yes	Mandatory text parameter. Unique VMS host identifier expected.	

Value	No	Numeric value. If not provided then default, Value=1 is applied.
UserId	No	Text parameter. User identifier related to VMS event.
UserName	No	Text parameter. User name related to VMS event.
DeviceId	No	Text parameter. Device identifier related to VMS event. For example: Camera, Server, I/O Device, External Device, etc.
DeviceName	No	Text parameter. Device name related to VMS event.

VMS CSV example

```
#Columns(Date,SensorType,VmsHost,Value)
2018-05-28 15:00:00,6,vmsServer12,1
2018-05-28 15:00:00,7,vmsServer12,1
2018-05-28 15:00:00,36,vmsServer12,3
2018-05-28 15:00:00,23,vmsServer12,1
2018-05-28 15:00:00,37,vmsServer12,3
```

VMS Details CSV example

```
#Columns(Date,SensorType,VmsHost,Value,UserName,UserId,DeviceName,DeviceId)
2018-05-28 15:00:00,6,vmsServer12,1,UserA,1,,
2018-05-28 15:00:00,7,vmsServer12,1,UserA,1,,
2018-05-28 15:00:00,36,vmsServer12,3,UserA,1,CameraA,2
2018-05-28 15:00:00,23,vmsServer12,1,,,,
2018-05-28 15:00:00,37,vmsServer12,3,UserB,2,CameraB,3
```

VMS GUID CSV example

```
#Columns(Date,SensorType,VmsHost,Value,UserName,UserId,DeviceName,DeviceId)
2018-05-28 15:00:00,6,vmsServer12,1,UserA,30C4EF1C-0E95-4CFB-A963-52D610D158FC,,
2018-05-28 15:00:00,7,vmsServer12,1,UserA,30C4EF1C-0E95-4CFB-A963-52D610D158FC,,
2018-05-28 15:00:00,36,vmsServer12,3,UserA,30C4EF1C-0E95-4CFB-A963-52D610D158FC,CameraA,40C4EF1C-0E95-4CFB-A963-52D610D158DA
2018-05-28 15:00:00,23,vmsServer12,1,,,,
2018-05-28 15:00:00,37,vmsServer12,3,UserB,5CC4EF1C-0E95-4CFB-A963-52D610D158BA,CameraB,B5C4EF1C-0E95-4C88-A963-52D610D158DA
```

Generic sMart Wireless

Available Column Names for **#Columns** tag:

Name	Mandatory	Description
Date	Yes	Date in a supported date format
SensorName	Yes	Name of source sensor the data belongs to. Parameter value is case sensitive. Prohibited characters: ';' (comma) ';' (semicolon)

Value	No	Numeric value. If not provided then default, Value=1 is applied.
ObjectId	Yes / No	Text parameter. Object identification.
DwellTime	No / Yes	Dwell time duration in minutes. Numeric parameter. If DwellTime column is present, then no automatic dwell time calculation applied.
SensorId	No	Smart specific sensor identification. Not expected to be provided by 3rd party users. The information is included when file is exported from sMart. Parameter is a composite key: hostId + cameraId + fieldId + customId + typeId

Special tags:

Tag name	Description
#EnableDwellTime	If tag is present, then system tries to calculate dwell times based on ObjectId and Date columns. Dwell time is calculated only inside one file. No support for calculating over multiple files

Wireless data CSV example

```
#Columns(Date,SensorName,ObjectId,Value)
2018-05-28 15:46:13,Wireless sensor,WSDASDKAASDSA,1
2018-05-28 15:47:22,Wireless sensor,LKMNBDSAOPSDS,1
2018-05-28 15:48:23,Wireless sensor,POIUYTREWQASD,1
2018-05-28 15:49:45,Wireless sensor,QWTREWYUIOPOI,1
2018-05-28 15:52:12,Wireless sensor,KLJHGFDSASDFG,1
```

Wireless dwell time CSV example

```
#Columns(Date,SensorName,ObjectId,DwellTime)
2018-05-28 15:00:00,Wireless sensor,WSDASDKAASDSA,15
2018-05-28 15:00:00,Wireless sensor,LKMNBDSAOPSDS,120
2018-05-28 15:00:00,Wireless sensor,POIUYTREWQASD,30
2018-05-28 16:00:00,Wireless sensor,QWTREWYUIOPOI,60
2018-05-28 16:00:00,Wireless sensor,KLJHGFDSASDFG,90
```

Dwell time calculation Example

```
#EnableDwellTime
#Columns(Date,SensorName,ObjectId)
2018-05-28 15:15:49,Wireless sensor,WSDASDKAASDSA
2018-05-28 15:16:00,Wireless sensor,LKMNBDSAOPSDS
2018-05-28 15:17:00,Wireless sensor,WSDASDKAASDSA
2018-05-28 15:19:00,Wireless sensor,LKMNBDSAOPSDS
2018-05-28 15:21:00,Wireless sensor,WSDASDKAASDSA
```

Dwell time statistics example

```
#Columns(Date,SensorName,DwellTime,Value)
2018-05-28 15:00:00,Wireless sensor,1,10
2018-05-28 15:00:00,Wireless sensor,2,5
2018-05-28 15:00:00,Wireless sensor,3,3
2018-05-28 16:00:00,Wireless sensor,1,8
2018-05-28 16:00:00,Wireless sensor,2,4
2018-05-28 16:00:00,Wireless sensor,3,2
```

Notes:

Value: number of the object counted. For example, the following data specifies that 10 objects were detected for 1 minute; 5 object were detected for 2 minutes:

```
#Columns(Date,SensorName,DwellTime,Value)
2018-05-28 15:00:00,Wireless sensor,1,10
2018-05-28 15:00:00,Wireless sensor,2,5
```

Also note that the dwell time is going to be counted into the time period when the detection started.

Additional resources

- Netavis sMart Data Warehouse Installation Guide
- Netavis sMart Data Warehouse Configuration Guide (German)
- Netavis sMart Data Warehouse Sensor Integrations
- Netavis sMart Data Warehouse Basic Configuration Cheat Sheet