Data Bridge Settings Guide

ACFA PSIM 1.1

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1 Introduction to the Data Bridge module Settings Guide

On the page:

- Purpose of the document
- General information on the Data Bridge module

1.1 Purpose of the document

The *Data Bridge module settings guide* provides comprehensive setup guidance for *Axxon PSIM* and *Axxon One* operators.

This guide contains:

1. General information on the *Data Bridge* module.
2. Information on how to configure the *Data Bridge* module.
3. Information on how to configure a parser to process XML packages received from the *Data Bridge* module.

1.2 General information on the Data Bridge module

The *Data Bridge* module is used to transfer data from *ACFA PSIM* to *Axxon One.*

There is a mechanism of getting text titles in *Axxon One*. It is used, for example, when working with POS devices. Information on how to configure and use this mechanism is given in *Axxon One* documentation the latest version of which can be found in AxxonSoft documentation repository. In *Axxon One* titles are overlaid on video and stored to the database. You can also search by titles.

> **Note**
>
> When configuring titles in *Axxon One*, select the **XML PROTOCOL** terminal type.

The **Data Bridge** object is a part of *ACFA PSIM*. It catches any events from the selected objects created in the *ACFA PSIM* hardware tree and sends them to *Axxon One*.

> **Note**
>
> To use the *Data Bridge* module, select the **Data Bridge** component in the **Application software** group when installing *ACFA PSIM*. The details on how to install *ACFA PSIM* are given in ACFA PSIM Installation Guide.

2 Licensing policy for the Data Bridge module

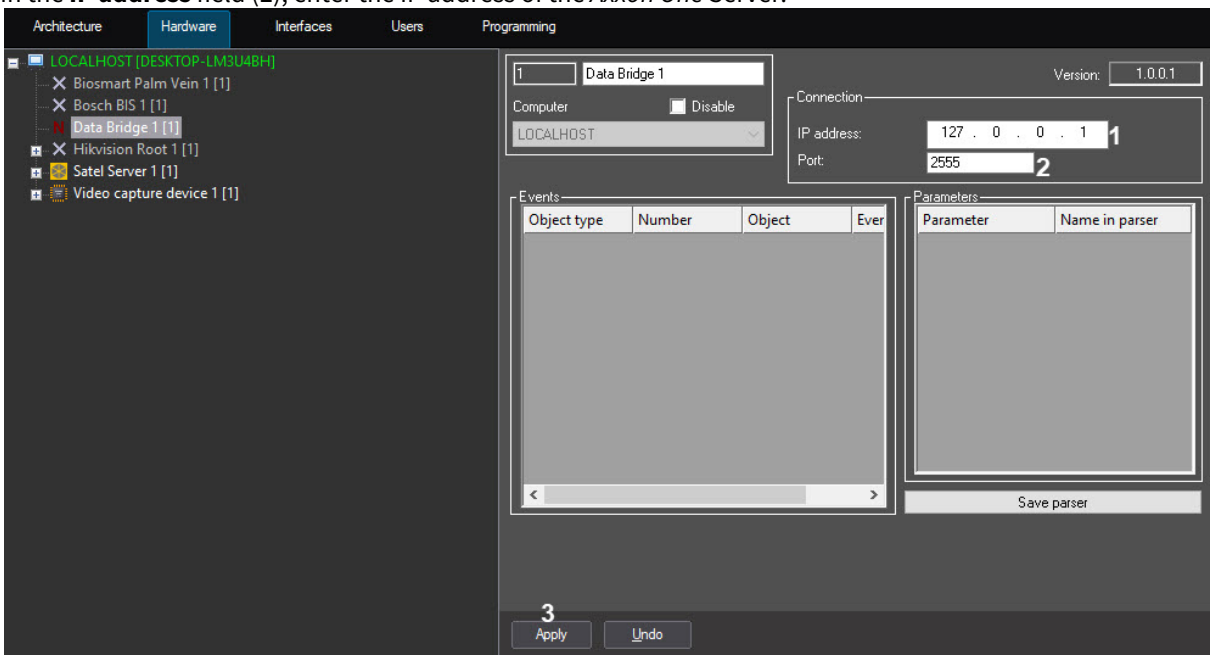
In *ACFA PSIM,* the *Data Bridge* module is not licensed. However, in *Axxon One*, the **Event source** object requires a license for each **Data Bridge** object in *ACFA PSIM*.

3 Configuring the Data Bridge module

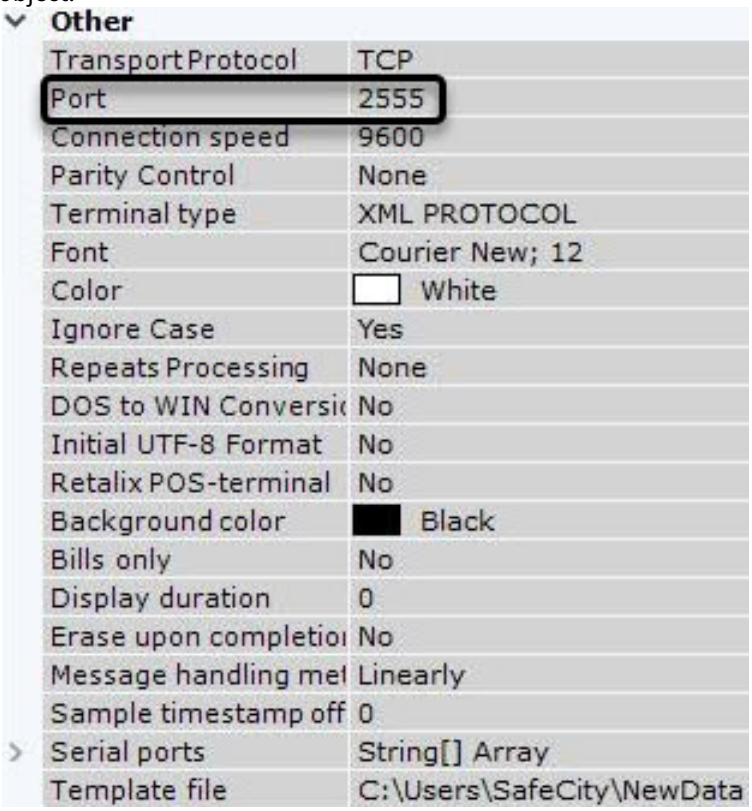
3.1 Configuring connection to the Axxon One Server

To configure connection to the *Axxon One* Server, do the following:

1. Go to the settings panel of the **Data Bridge** object, created on the basis of the **Computer** object on the **Hardware** tab of the **System settings** dialog window.
2. In the **IP address** field (**1**), enter the IP address of the *Axxon One* Server.



3. In the **Port** field (**2**), enter the port number specified in *Axxon Next* when configuring the **Event source** object.



4. Click the **Apply** button (**3**) to save the changes.

When the connection to the *Axxon One* Server is set, there will be **Connection set** message in the *Event Viewer* in *Axxon PSIM*.

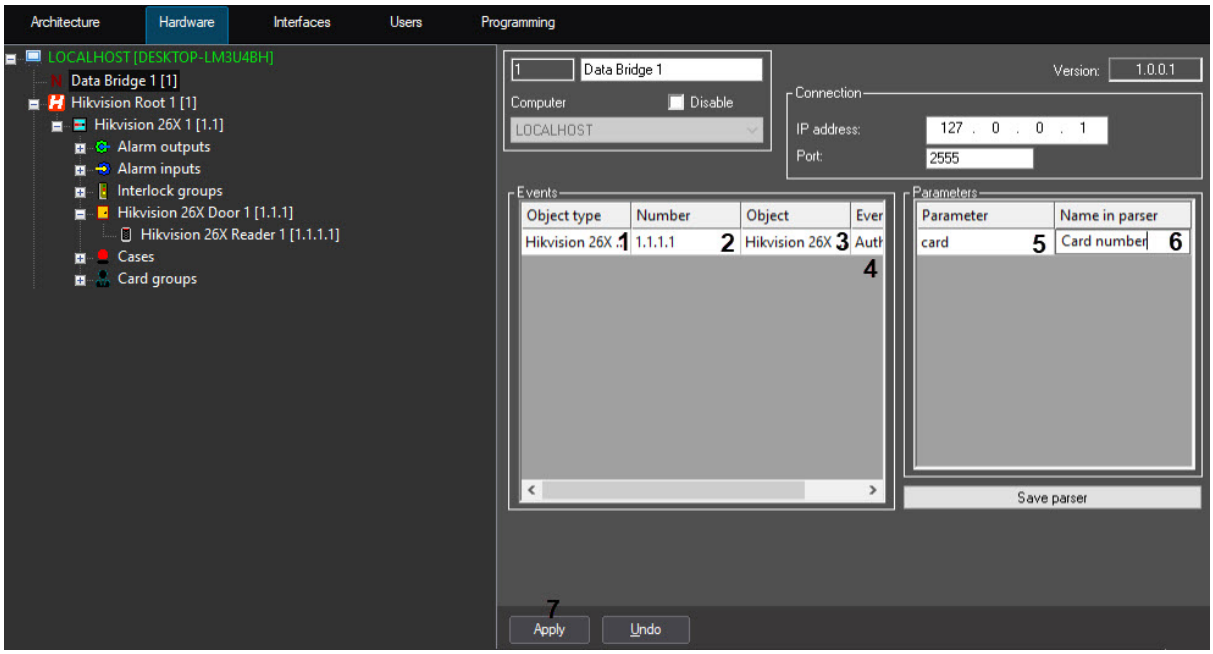
Connection to the *Axxon One* Server is now configured.

3.2 Selecting events to be sent to the Axxon One Server

To select the events that you want to send to the *Axxon One* Server, do the following:

1. Go to the settings panel of the **Data Bridge** object.
2. Left-click in the table area.
3. Press the "down" button on the keyboard. As a result, a new line will be added to the table.

4. In the **Object type** drop-down list (**1**), select a type of the object previously created in the system in order to send its events to *Axxon One*.

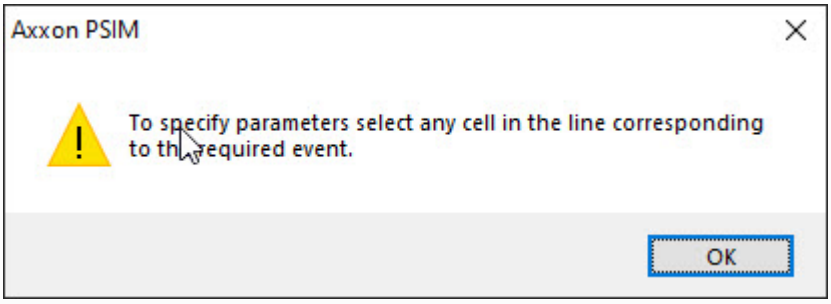


5. If events from a specific object of the selected type should be sent, from the **Number** drop-down list (**2**), select an identifier of the required object. As a result, the name of the created object will automatically display in the **Object** field (**3**). If a number is not selected, the events from all objects of the selected type created in the system will be sent.
6. From the **Event** drop-down list (**4**), select the event that should be sent to the *Axxon One* Server.
7. Select the required line in the **Events** table.
8. Specify all parameters of the selected event that should be sent in one of the following ways:
    a. From the **Parameter** drop-down list (**5**), select the name of the parameter. The description of the parameter that will display in captions in *Axxon One* will be specified in the **Name in parser** column (**6**). It's possible to change this description if required.

> **Attention!**
>
> The list of the available parameters and their description depends on the settings—see Adding event parameters to DDI file.

    b. In the **Parameter** field (**5**), enter the parameter name, and in the **Name in parser** field (**6**), enter the parameter description manually. The method of finding out the available parameters is given in Event parameters in the Debug window.

> **Note**
>
> To add a line to the **Parameters** table, it's required to select the corresponding event in the **Events** table. Otherwise, the warning message will display.



9. Repeat steps 2-7 for all required objects and events.
10. Click the **Apply** button (**7**) to save the changes.

The events that should be sent to the *Axxon One* Server are now selected.

4 Event parameters

4.1 Adding event parameters to DDI file

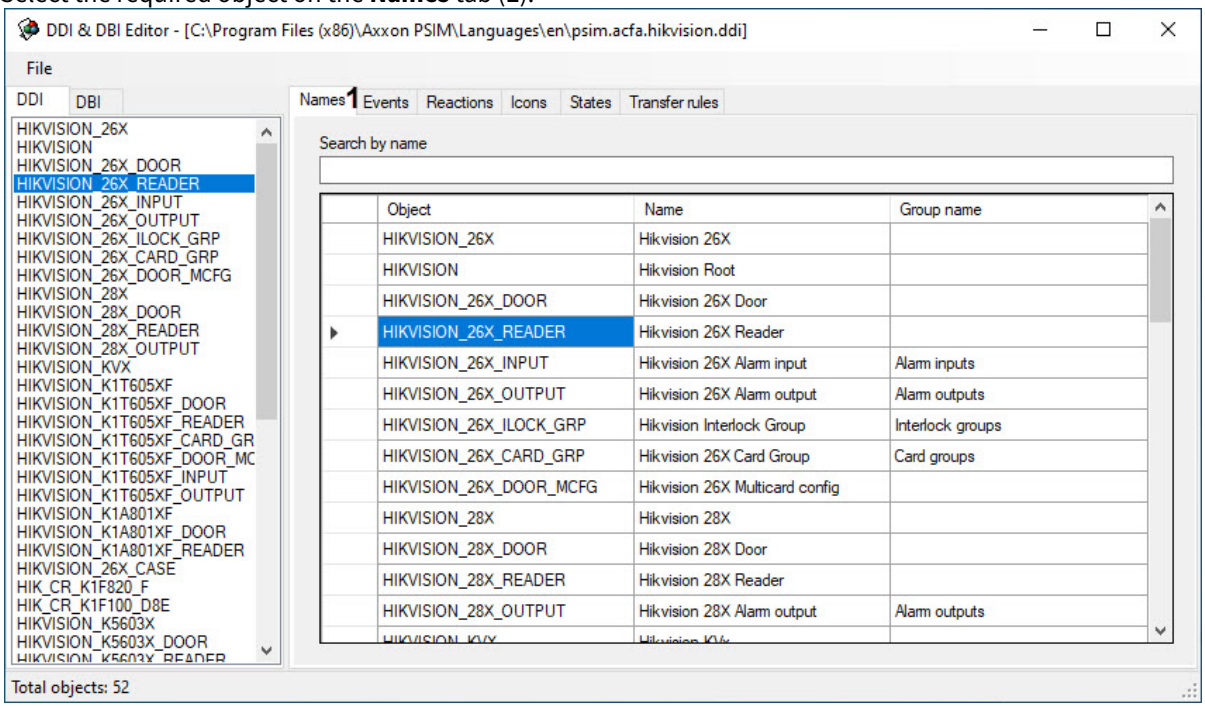
To add the event parameters to DDI file, use the *System configuration* ddi.exe utility. Working with this utility is described in the *Axxon PSIM software package. Administrator's Guide*, the latest version of which is available in AxxonSoft documentation repository.

To add the event parameter, do the following:

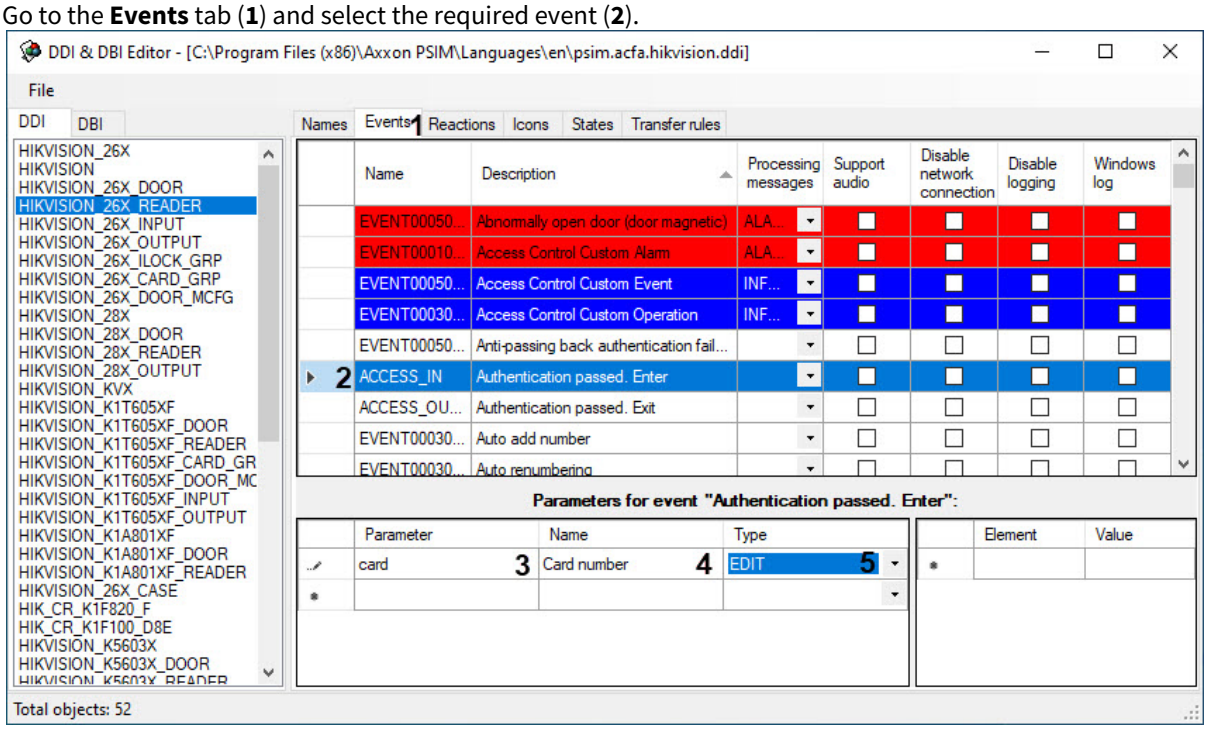
1. Shutdown *ACFA PSIM*.
2. Using the ddi.exe utility, open the .ddi file corresponding to the required integration module of *ACFA PSIM.*

> **Note**
>
> DDI files are located in the <*Axxon PSIM* installation directory>\Languages\en folder.

3. Select the required object on the **Names** tab (**1**).

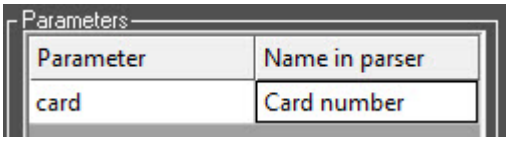


4. Go to the **Events** tab (**1**) and select the required event (**2**).



5. In the **Parameter** field, enter the parameter name displayed in the Debug window (**3**)—see Event parameters in the Debug window.
6. In the **Name** field, enter the parameter name in natural language (**4**).
7. From the **Type** drop-down list, select the parameter type: **EDIT** (text) *или* **COMBOBOX** (set of values) (**5**). If the **COMBOBOX** type is selected, specify the possible parameter values in the **Element** and **Value** columns.
8. Save the changes in the .ddi file.
9. Start *ACFA PSIM*.

The added parameter will be available for selection on the settings panel of the **Data Bridge** object when selecting the corresponding event in the **Events** column.



Attention!

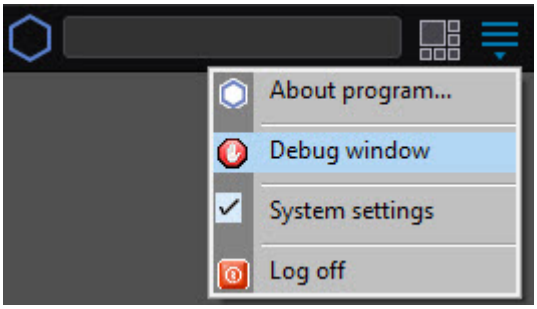
Changed DDI files will be overwritten when updating *ACFA PSIM*. So create backup copies of the changed DDI files before updating *ACFA PSIM* and place them into the *<Axxon PSIM* installation directory>\Languages\En folder after updating.

Adding the event parameters to the DDI file is completed.

4.2 Event parameters in the Debug window

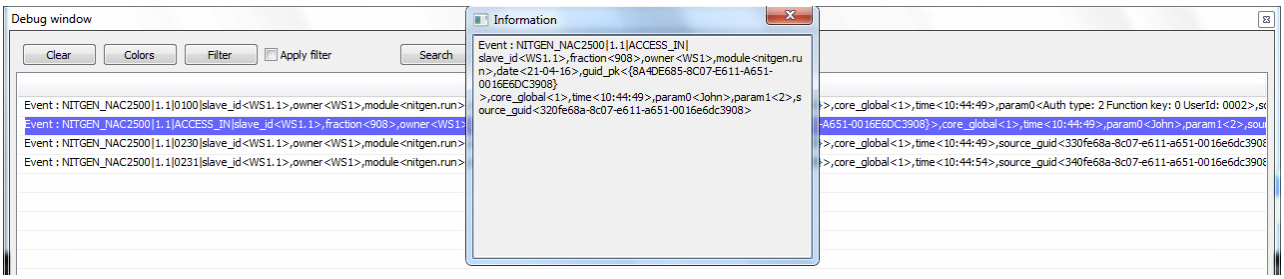
You can find out the available parameters of the required event using the Debug window in *Axxon PSIM* by generating the required event in the system. For more information on how to use this window, see Programming Guide (JScript). The latest version of this document is available in AxxonSoft documentation repository.

To open the Debug window, select the **Debug window** item in the menu of the main control panel in *Axxon PSIM*.



After that, generate a required event, e.g. put the access card to the reader, trigger an alarm, etc. When the event is displayed in the Debug window, right-click on it. The available event parameters will be displayed in the appeared window.

Below is an example of getting the parameters of the **ACCESS_IN** event from the **NAC2500** object that is a part of the *Nitgen* integration module.



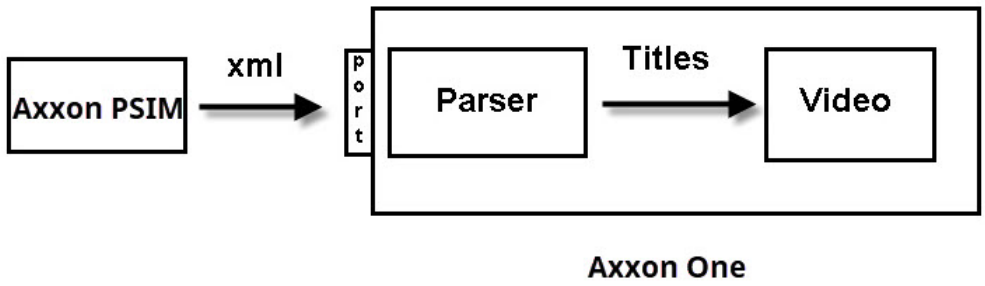
The following parameters can be extracted from the figure of the **ACCESS_IN** event:

1. card—the number of the access card that was put to the reader.
2. facility—the object code of the access card that was put to the reader.
3. param1—the identifier of the user to whom the access card that was put to the reader is assigned.

5 Configuring parser

5.1 General information on transferring data from Axxon PSIM to Axxon One

The data transfer using the **Data Bridge** object is shown in the figure below:



When the selected events come to the system, the **Data Bridge** object creates an XML package as described in Creating XML package on Axxon PSIM side and sends it to the IP address and port, specified when configuring the connection to the *Axxon One* Server.

The XML package, received on the *Axxon One* Server, is processed by the parser, described in Saving a parser. The titles, received after the parser processing, are overlaid on video in *Axxon One*.

5.2 Creating XML package on Axxon PSIM side

The following event parameters are sent in XML:

1. Number of the object from which the event is received.
2. Type of the object from which the event is received.
3. Name of the object from which the event is received.
4. Event name.
5. Set event parameters (from 0 to N).

Each event is sent in a separate TransactionBlock with the unique FunctionNumber parameter. FunctionNumber is specified automatically and is unique for each event among all **Data Bridge** objects in the system.

Lower limit of the value range of FunctionNumber is specified by the FunctionNumberMinValue registry key in the HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\AxxonSoft\PSIM registry section.

The sent XML packages look like:

```
<TransactionBlock>
    <TransactionDate>02.08.10</TransactionDate>
    <TransactionTime>19:53:51</TransactionTime>
    <FunctionNumber>1001</FunctionNumber>
    <FunctionName>Axxon PSIM Event ACCESS_IN</FunctionName>
    <ObjectId>1</ ObjectId >
    <ObjectType>Perco reader</ ObjectType >
```

```
    <ObjectName>Perco 1 reader</ ObjectName >
    <EventName>Access by ID</ EventName >
    <param1>0</param1>
    <param0>0</param0>
</TransactionBlock>
<TransactionBlock>
    <TransactionDate>02.08.10</TransactionDate>
    <TransactionTime>19:54:51</TransactionTime>
    <FunctionNumber>1002</FunctionNumber>
    <FunctionName>Axxon PSIM Event ACCESS_DENIED</FunctionName>
    <ObjectId>1</ ObjectId >
    <ObjectType>Perco reader</ ObjectType >
    <ObjectName>Perco 1 reader</ ObjectName >
    <EventName>Access forbidden</ EventName >
    <param1>0</param1>
    <param0>0</param0>
</TransactionBlock>
```

Attention!

The number and names of the parameters can differ depending on the **Data Bridge** object settings—see Selecting events to be sent to the Axxon One Server.

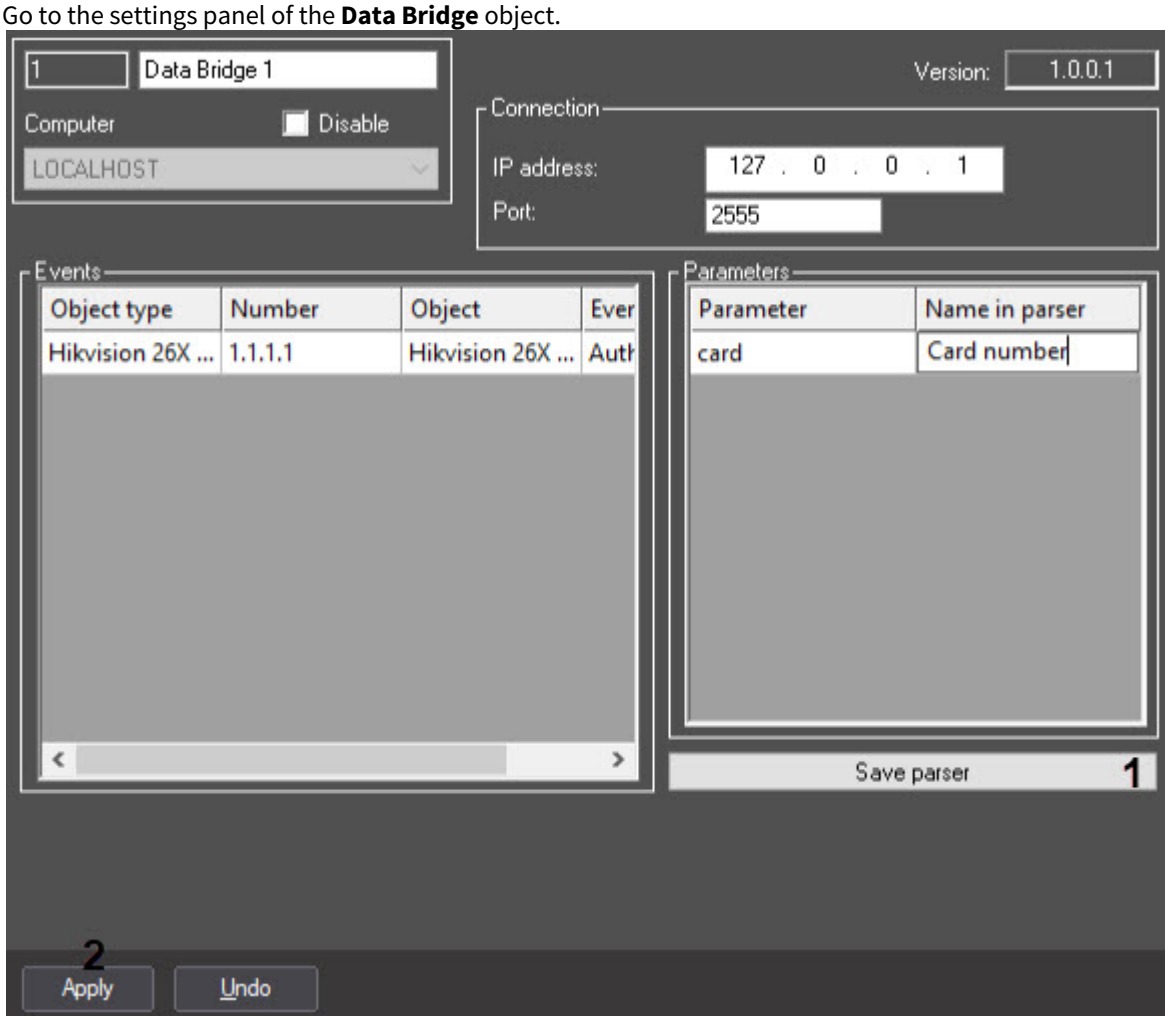
5.3 Saving a parser

A parser for the XML packages sent by the **Data Bridge** object to the *Axxon One* Server is selected by the user on the side of the *Axxon One* Server. The information on the parser selection is given in the *Axxon One* documentation—see AxxonSoft documentation repository.

Parser is a text file. It can be created manually or generated automatically.

To save the automatically generated parser in the local or network disk, do the following:

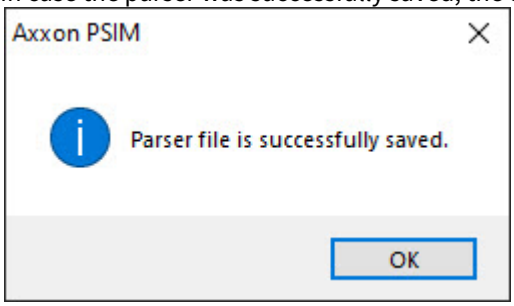
1. Go to the settings panel of the **Data Bridge** object.



2. Click the **Save parser** button (**1**).
3. In the standard Windows dialog box that opens, select the path for saving the parser file and specify its name.

> **Note**
>
> As the *Axxon PSIM* Server and the *Axxon One* Server usually locate on different computers, it's recommended to save the parser on the network resource to which both servers can access. In this case it will be possible to select a parser from the network folder on the *Axxon One* Server.

4. In case the parser was successfully saved, the confirmation window will be displayed. Click the **OK** button.



In the parser text for each event, a separate rule for display is specified. An example of the contents of this file is shown below:

```
[1001]

Object: < ObjectName >

Date: <TransactionDate>

Time: <TransactionTime>

Event: < EventName >

<Text 1, specified in the Parameters table>: <Parameter 1 specified in the Parameters table>

<Text 2, specified in the Parameters table>: <Parameter 2 specified in the Parameters table>

[1002]

Object: < ObjectName >

Date: <TransactionDate>

Time: <TransactionTime>

Event: < EventName >

<Text 3, specified in the Parameters table>: <Parameter 3 specified in the Parameters table>

<Text 4, specified in the Parameters table>: <Parameter 4 specified in the Parameters table>

[FUNCTIONNAME]

1001=Axxon PSIM event <Event name, e.g. ACCESS_IN>

1002=Axxon PSIM event <Event name, e.g. ACCESS_DENIED>
```

Note

The Object, Date, Time and Event words do not depend on the type of events and parameters and are always specified in the same way in the automatically generated parser.

Attention!

The number and names of the parameters can differ depending on the **Data Bridge** object settings—see Selecting events to be sent to the Axxon One Server.

Note

Additional information on how to create parsers for the titles received from POS terminals is available in the POS SDK documentation—see the latest version of the *POS PSIM* documentation in AxxonSoft documentation repository.