

The module <WebCfg> of subsystems “User Interfaces”

<i>Module:</i>	WebCfg
<i>Name:</i>	The system configurator (Web)
<i>Type:</i>	User Interfaces
<i>Source:</i>	ui_WebCfg.so
<i>Version:</i>	1.5.3
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<i>Description:</i>	Provides the WEB-based configurator of the OpenSCADA system.
<i>License:</i>	GPL

Contents table

The module <WebCfg> of subsystems “User Interfaces”	1
Description	2
1. Basic elements	4
2. Commands	4
3. Lists	5
4. Tables	5
5. Images	6

Description

The WebCfg module provides the configurator of the OpenSCADA system. Configurator is based on Web-technologies. For configurator working it is enough the usual WEB-Browser. The operability of the module <WebCfg> was tested in conjunction with modules <Transport.Sockets> and <Protocol.HTTP> on the following Web-browsers:

- Mozilla;
- Firefox;
- Konqueror;
- Opera;
- IE.

The module is based on the language of management interface of OpenSCADA system, and thus provides a uniform configuration interface. Updating of the module may be required only in the case of updating the specification of the language of management.

In addition to the belonging of the module to the OpenSCADA system, it also belongs, is a module, to the module transport protocol <HTTP>. Actually, the call ~ [Web Cfg](#) makes from of HTTP. The call is made through enhanced communication mechanism through exported in module ~ [Web Cfg](#) features: HttpGet and HttpSet.

The interface of the module is implemented by means of the language XHTML 1.0 Transitional with inclusions of the JavaScript.

Using the module starts with the opening session, the user authentication of the user module by the protocol HTTP (Protocol.HTTP) (Fig. 1). For the operation of the authentication and session saving mechanism the browser must allow Cookies.

The image shows a web interface for OpenSCADA. At the top, the text "OpenSCADA" is displayed in a large, bold, yellow font against a dark gray background. Below this, there is a login form with a blue header bar that says "Login to system". The form contains two input fields: "User name" and "Password", both with white text labels and white input boxes. Below the input fields are two buttons: "Enter" and "Clean", both with gray backgrounds and black text. The entire form is enclosed in a blue border.

Fig.1. User authentication.

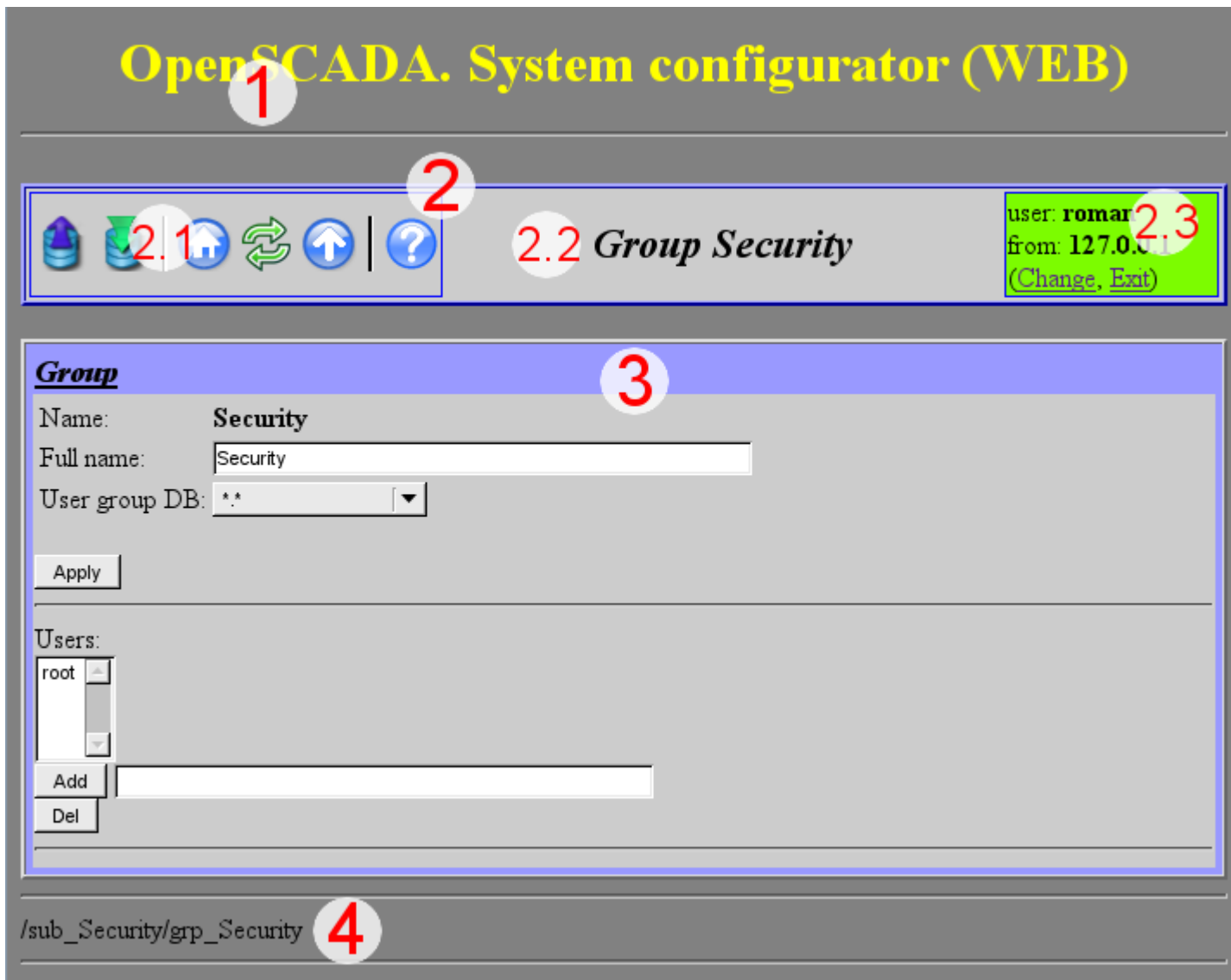


Fig.2. Structure of the operating window of the user.

After authenticating the user enters the operating window (Fig.2), which consists of the following parts:

- 1.Header – contains the name of the module.
- 2.Control Panel. Consists of:
 - 2.1.Navigator – serves the navigation functions through the tree of pages.
 - 2.2.The name of the node.
 - 2.3.User of the System – Displays the current user of the session, his address and lets you to change the user.
- 3.Workplace field – contains the configuration settings of language of management interface, starting with the root tabs to the end elements.
- 4.Footer – contains the address of current page.

Addressing of the pages begins with an element of second-level URL. This is due to the fact that the first-level element is used to identify the module of user Web-interface. For example URL: <http://localhost.localdomain:10002/WebCfg//Functions> can be deciphered as call of the first-level page “Functions” of the Web module <WebCfg> on the host localhost.localdomain through the port 10002.

The control tools are divided into: basic, commands, lists, tables and images. All four types are displayed by individual units not depending on their location in the description.

1. Basic elements

The basic elements include: information elements, the field for input of the values, the elements of combo box, flags. To set the new values of the basic elements the group method is used, for this there is a button <Accept> on the form. In the case of the absence of an element name, the basic element connects to the previous one. Examples of basic elements, with connections, is shown in Fig.3.

The screenshot shows a window titled "IO" with the following parameters and their connection dropdowns:

- Input pressure setpoint (ata): Free
- Output flow (tones/h): Local, KWS1.Fi
- Output pressure (ata): Free
- Output pipe cutset (m2): Free
- Output pipe length (m): Free
- Input flow's noise: Local, noisePP3.out
- Norm density of environs (kg/m3): Free
- Calc frequency (Hz): Free
- Output pressure laged: Free
- Input flow laged: Free

An "Apply" button is located at the bottom left of the window.

Fig.3. The basic elements and their connections.

2. Commands

Commands are the elements for the transfer of the certain instructions of the action to the node and for the organization of the links on the page. Commands may contain parameters. The parameters are formed from the basic elements. Example of the commands with the parameters is shown in Fig.4.

The screenshot shows a window titled "Export" with the following parameters:

- (Archive: [dropdown], Begin: 8 6 2009, 15 36 17, End: 8 6 2009, 15 36 17, Type: [dropdown], To file: [text field])

Fig.4. Command.

3. Lists

Lists contain a group of basic elements of the same type. For operations on elements of a list the additional buttons are added. In addition, through the elements of a list the moving operations to other pages are carried out. To move the button “Go” is added. Lists can be indexed. Example of the list with the moving is shown in Fig.5.



Fig.5. The list.

4. Tables

The tables contain values of basic elements. Type of the basic element is defined separately for each column. Example of the table is shown in Fig.6.

IO:

Id	Name	Type	Mode	Hide	Default	
Fi	Input flow (tones/h)	Real	Output	<input type="checkbox"/>	0	<input type="checkbox"/>
Pi	Input pressure (ata)	Real	Input	<input type="checkbox"/>	1	<input type="checkbox"/>
Fo	Output flow (tones/h)	Real	Input	<input type="checkbox"/>	0	<input type="checkbox"/>
Po	Output pressure (ata)	Real	Output	<input type="checkbox"/>	1	<input type="checkbox"/>
dP	Pressure differential (kPa)	Real	Output	<input type="checkbox"/>	0	<input type="checkbox"/>
Sdf	Diaphragm cutset (m2)	Real	Input	<input type="checkbox"/>	0.1	<input type="checkbox"/>
So	Output pipe cutset (m2)	Real	Input	<input type="checkbox"/>	0.2	<input type="checkbox"/>
lo	Output pipe length (m)	Real	Input	<input type="checkbox"/>	10	<input type="checkbox"/>
Q0	Norm density of environs (kg/m3)	Real	Input	<input type="checkbox"/>	1	<input type="checkbox"/>
f_frq	Calc frequency (Hz)	Real	Input	<input checked="" type="checkbox"/>	100	<input type="checkbox"/>
Pot	Output pressure laged	Real	Output	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>
Fit	Input flow laged	Real	Output	<input checked="" type="checkbox"/>	0	<input type="checkbox"/>

Apply

Add row Insert row Delete row Move up row Move down row

Fig.6. Table.

5. Images

The images are designed to transmit graphic information into the configurators. Example of the image is shown in Fig. 7.

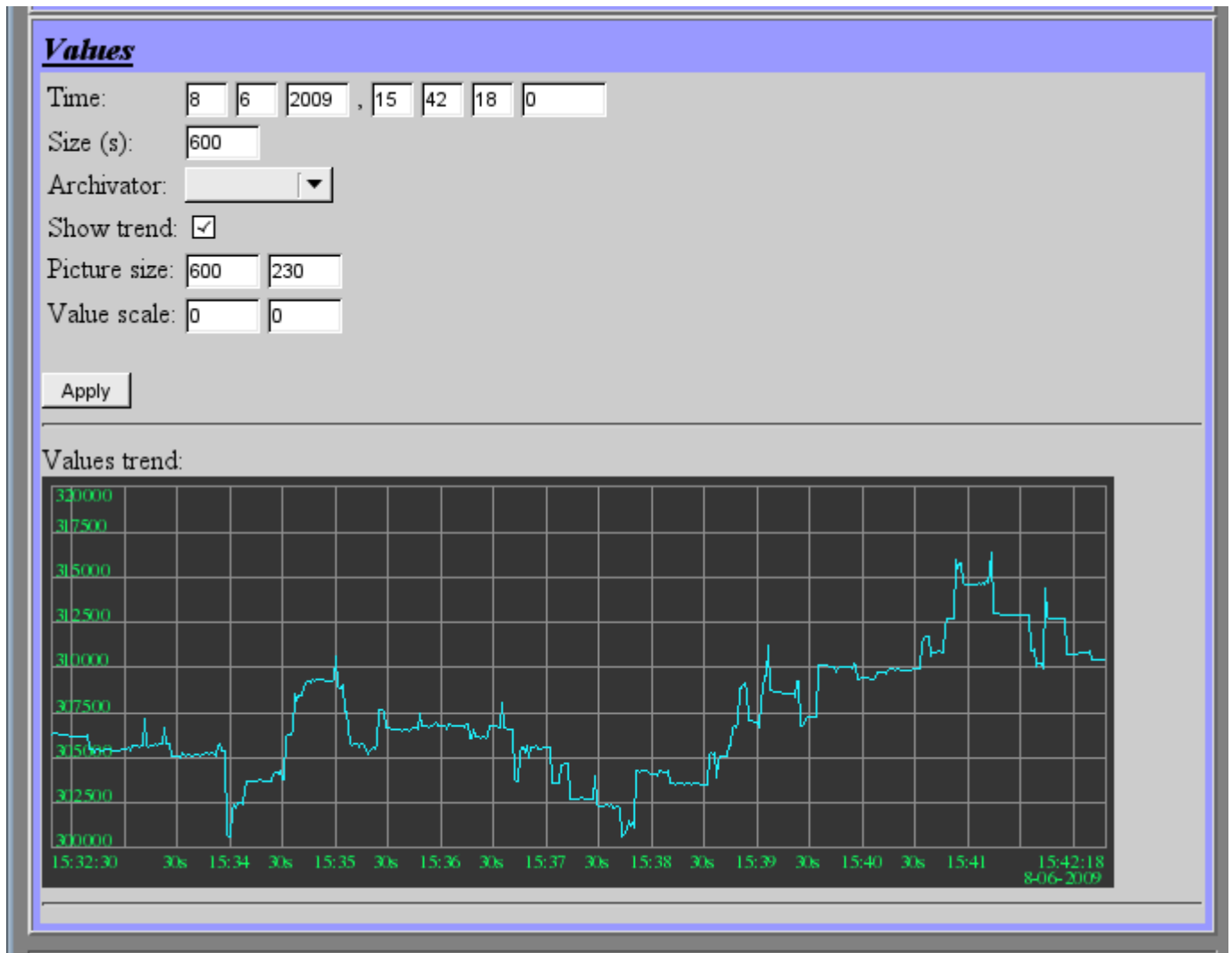


Fig.7. Image.