NextGIS Formbuilder documentation

Release 2.0

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Оглавление

INTRODUCTION

1.1 Program's function

NextGIS Formbuilder program is aimed to create, edit and configure forms, which are used in NextGIS Mobile/Collector for field data collection.

This documentation describes NextGIS Formbuilder version 3.0.

1.2 Licence

Formbuilder is licensed under GPL v.2[1].

1.3 System requirements

Operating System: Microsoft Windows 10 64bit and above.

1.4 Installation and launch

Download NextGIS unified installer from https://nextgis.com/nextgis-formbuilder/ and launch. Follow the installer steps. After downloading, use the shortcut, which appears on the desktop or in the Start menu.

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[1] https://docs.nextgis.com/docs_ngweb/source/appendix.html#ngw-gplv2

USER INTERFACE DESCRIPTION

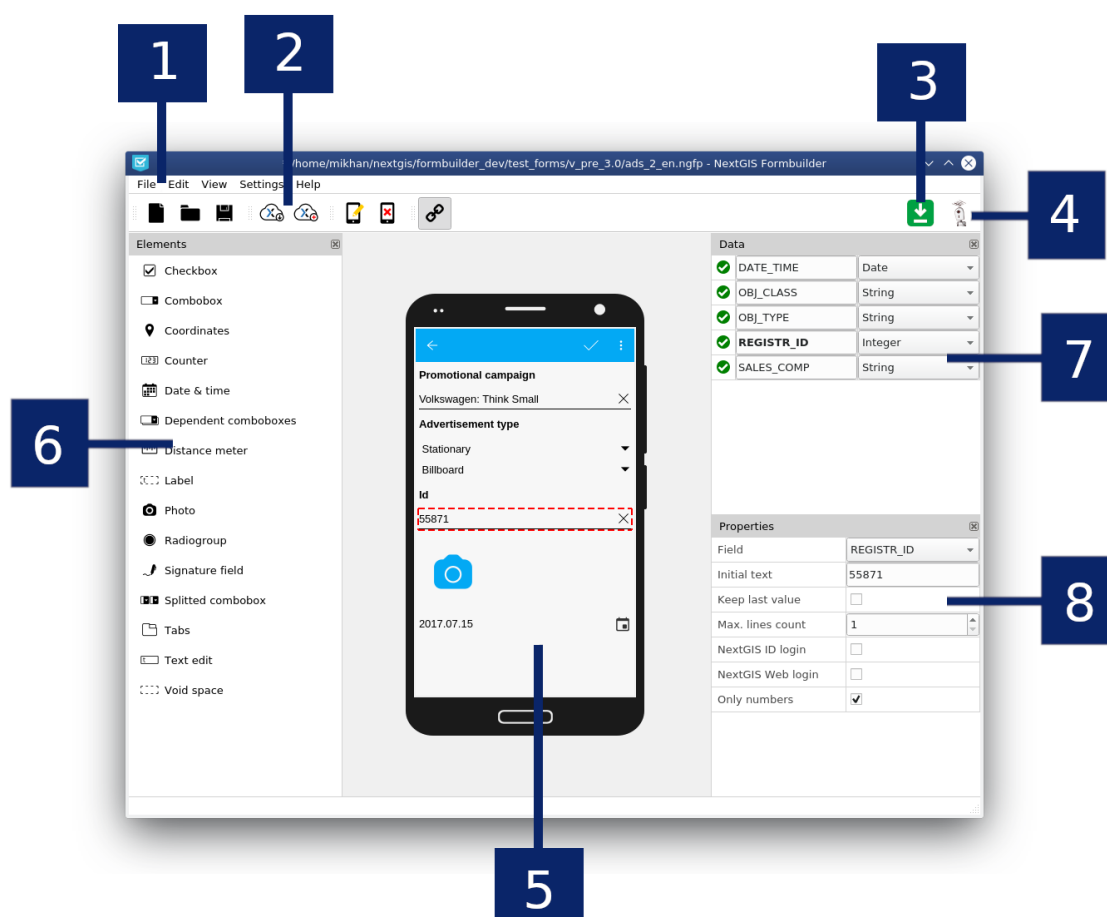The program looks like this by default: (Fig. **??**).

Рис.2.1: Formbuilder's GUI
Numbers show: 1 - main menu; 2 - main toolbar; 3 - "Updates available" icon; 4 - authorization button; 5 - "device" screen; 6 - "Controls" menu; 7 - "Data" menu; 8 - "Properties" menu.

You can change the position, size and visibility of the side menus:

- Hover your mouse cursor over the menu and press the left button to transfer it to a different place;

- Pull the menu's edges to change its width and height;

- Press the close button to hide menu. You can make it visible again in the main menu section "view".

2.1 Main menu

The main menu consists of the following submenus:

File

- **New**. Create a new blank project.

- **Open**. Open project from .ngfp file.

- **Save**. Save project to .ngfp file.

- **Save as...**. Save project to another .ngfp file.

- **Exit**. Exit application.

Edit

- **Download from NextGIS**. Download form (and data) from your web GIS by selecting an existing layer.

- **Upload to NextGIS**. Send a form to your web GIS with creating a new layer.

- **Form properties**. Edit the main properties of the form: form's name and geometry type of the layer.

- **Clear form**. Delete all controls from the form.

- **Bind elements to fields**. Turn on/off the automatic field creation mode. While the mode is ON when new controls are placed on the form, fields of a layer are automatically created and attached to the controls.

View

- **Toolbars**. Hide/show different menus and interface panels.

Settings

- **Language**. Choose interface language. Reload Formbuilder for changes to start working.

Help

- **View help**. Open the help page in browser.

- **Need commercial support?**. Open commercial support page in browser.

- **About**. Show About dialog. Also contains information about your account.

2.2 Main toolbar

Contains fast-access buttons to subsections of the main menu. Move the mouse over the button to see its name (in a popup message) and description (in the program's status bar below).

Note: Some toolbar buttons may be inaccessible, which is shown by a "lock" icon on the button. To get full access to all functions in the program: complete authorization, if subscribed you will gain access to a complete functionality.

2.3 "Updates available" icon

A green square icon with an arrow (the top right corner by default) will be shown only if updates are available (Windows and Mac OS only). If icon is not shown, then there are no updates, or the program failed to connect to the update server. Click on icon to update the program: Formbuidler will close (with a suggestion to save the project if there are changes) and update dialog will open. Follow the steps of the installation wizard. After the dialog finishes working, the program will restart automatically.

Alternatively, you can run the NextGIS update wizard as a separate program from the NextGIS installation directory.

2.4 Authorization

The button with the avatar image (the top right corner by default) allows you to sign in with NextGIS services and get the extended functionality of the program if you have a subscription. Press the button, then in the pop-up window press "Sign in". In the opened browser page enter login and password of your NextGIS ID, after that return to the program. Check that you have a "supported" account by clicking on the authorization button again.

To log off press the authorization button once again and press "Sign out" in the pop-up window.

Note: Authorization needs to be completed only once. The next time you start the program, you will sign in automatically. Please note that after launching the program it may take several seconds before the blocked functionality becomes available.

If you want to log into another account, sign out both in the program and in the browser.

2.5 On-premise Authorization

If you want to login via the on-premise, you must specify the appropriate Endpoint in the authorization settings (Main menu -> Settings -> Authorization) (Fig. **??**).
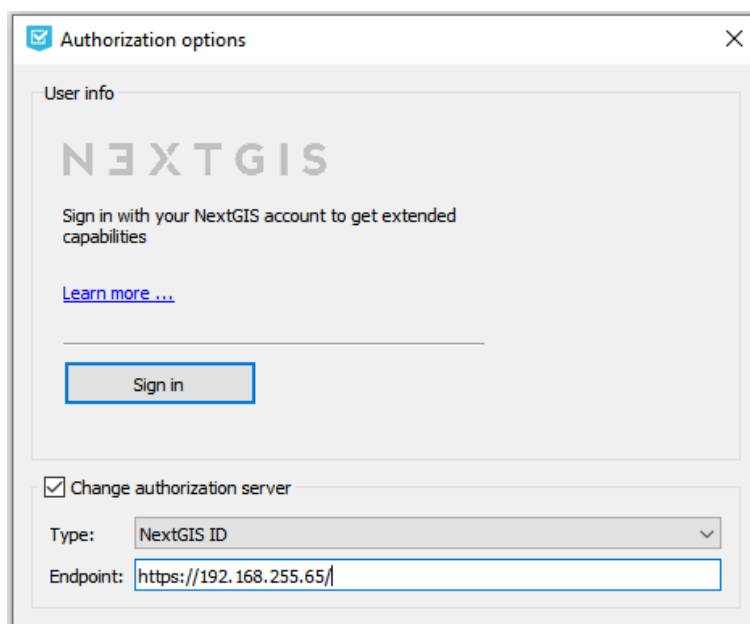

Рис.2.2: Adding your own authorization server

2.6 Device screen

This is a screen layout of the real device on which data will be collected in NextGIS Mobile/Collector. It is designed to create a form: i.e. for placing, moving and grouping the controls of which the form consists and with the help of which the data about one object of the layer will be entered at the moment of data collection. Controls in the form are arranged vertically, one after another. It is possible to group items by named tabs.

To *add* a control to the form - start dragging it with the cursor, while holding the left mouse button, from the "Controls" menu (left by default) - the cursor will take the form of a squeezed hand. Alternatively, you can quickly add a control to the end of the form by clicking on it one time with the left mouse button, pressing the Ctrl key in the Controls panel.

To *select* a control - click the left button on it once in the form. A red dotted frame will appear around the control.

To *move* a control - drag it by pressing the left button to any place on the form.

To *delete* an item, select it and press the Delete key on the keyboard. Deleting an item cannot be undone. Be aware of the fact that when you delete a control, the associated field(s) of the layer will also be deleted.

2.7 "Controls" menu

This menu contains a list of all available controls that can be created on the form. Hover the cursor over an item to see its description in a pop-up message.

To add a control to the form - start dragging it with the cursor, while holding the left mouse button, from the "Controls" menu (left by default) - the cursor will take the form of a squeezed hand. Alternatively, you can quickly add a control to the end of the form by clicking on it one time with the left mouse button, pressing the Ctrl key in the Controls panel.

Note: Some controls may be inaccessible, which is shown by a "lock" icon on the button. To get full access to all functions in the program: complete authorization, if subscribed you will gain access to a complete functionality.

2.8 "Data" menu

This menu contains a table of layer fields. In the Formbuilder program, only one form is edited in one project, tied to only one layer. Layer's field(s) are created automatically when controls are added to a form. A control may have from 0 to 2 related fields. To see what controls are attached to what fields - select the control: if any fields are attached to the control, they will be highlighted in bold in the table.

When creating controls for fields, their name, alias and type are automatically generated:

- **Name** cannot be changed;

- **Alias** can be changed in the corresponding text string in the table. Type a new name in this line, the changes will be saved automatically;

- **Type** can be changed in the corresponding drop-down list in the table. Select the required data type from the drop-down list - the changes will be saved automatically. Please note that the field type depends on the control itself and its properties (for example, the Date and Time control can save only "Date / Time" and "String" values at the time of data collection, but cannot store an "Integer" value). For some controls, you can change their properties so that the corresponding data types become available (for example to allow a text field to inout only numeric values — set the "Only numbers" property in the "Properties" menu table and change the data type of the field to "Integer" in the menu table "Data").

2.9 "Properties" menu

This menu contains the table of properties of the selected control. Select a control by clicking on it with the left mouse button. Change the properties in the table that appears - changes to the control will be saved automatically. Please note: a change in one property may entail a change in another property of this control due to their incompatibility or mutual influence on each other. Changing the properties of a control also leads to an increase or decrease in the number of available types for fields, associated with the control: you can track this in the "Data" menu table.

WORKING WITH THE PROGRAM

3.1 Creating a new local form

1. Run the program. Select File -> New;

2. Specify the type of geometry for the data to be collected. Select: Edit -> Form Properties and in the opened dialog select the type of geometry needed, then click OK;

3. Add the necessary controls to the form, arranging them in the desired order. If necessary, follow the additional steps (can be skipped):

   - choose different aliases for the fields and rename them, pick the necessary types in the "Data" menu.

   - set the control's properties in the "Properties" menu;

4. Save project to file. Select File -> Save and specify the path to the file. In result the file with the .ngfp extension is ready for uploading to NextGIS Mobile and for using it to collect data.

Note: To collect data on your mobile device follow the NextGIS Mobile instructions. After the collection is complete, you can receive the collected data as a separate file. In NextGIS Mobile, select: Main menu -> find the layer in which the data was collected -> action button with a layer (three dots) -> Share -> in the pop-up dialog select the method for obtaining the final file (ZIP archive with GeoJSON data).

3.2 Changing the local form

1. Run the program. Select: File -> Open. Specify the path to the file with the .ngfp extension;

2. Make the necessary changes to the form;

3. Save project to file. Select: File -> Save. The resulting file with the .ngfp extension can be uploaded to a mobile device as a *new* layer.

3.3 Creating a new form in NextGIS Web

1. Run the program. Create a new project or open an existing one from an .ngfp file;

2. Set the mode, which automatically creates fields, when controls are created. The button **"Bind elements to fields"** should be in pressed state;

3. Add the necessary controls to the form, arranging them in the desired order. If necessary, follow the additional steps (can be skipped):

    - choose different aliases for the fields and rename them, pick the necessary types in the "Data" menu.

    - set the control's properties in the "Properties" menu;

4. To send ready form to your web GIS, select: Edit -> Upload to NextGIS;

5. In the dialog that opens, specify the connection parameters and click the **"Connect"** button:

    - URL (name) of your web GIS, for example demo.nextgis.com;

    - select the "guest" checkbox if you want to connect to Web GIS without a login and password. Note: in this case, data collection by using the form may become unavailable - it all depends on the settings of NextGIS Web rights for the guest account;

    - login;

    - password.

6. In the list of resource groups that appear, select a resource group and click the **"Select"** button. In the dialog that opens after this (see Fig. **??**) , check the name of the new layer and the type of the geometry and change them if necessary.

In this dialog you can chose what resources to create in the WebGIS. By default, a **new vector layer** with the field structure, defined in the project, will be created in Web GIS, and the created **form** will be uploaded to it. You can add this layer as an item to an existing Collector project. In addition to that, you can also create:

- a new Collector project (a data collection **project** and a **basemap** will be created)

- a new **Web Map**

To do so, tick the corresponding settings in the dialog.

Click the **"Send"** button.

If it wasn't possible to create a layer (there is no connection to the Internet, the name of the layer is not unique, etc.), a corresponding message will appear.

If the name of the layer is not unique, you can change it either by selecting Edit -> Form Properties -> Name (by default the name is "Layer"), or when uploading the form to WebGIS.
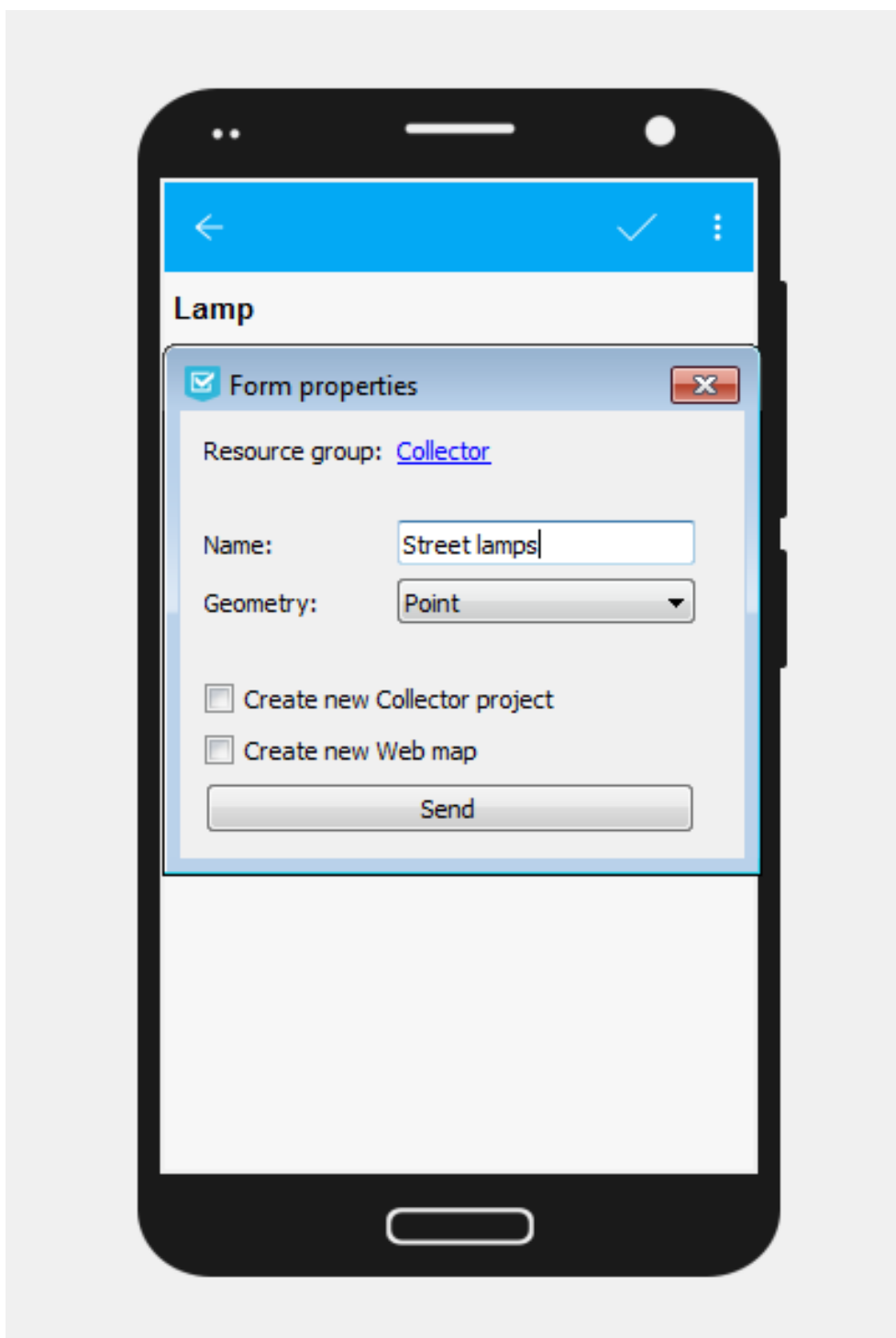
Рис.3.1: Form properties dialog

Note: To collect data on your mobile device follow the instructions of NextGIS Mobile/Collector. The data collected by using the form will be synchronized with the layer automatically.

3.4 Creating a new form in NextGIS Web using existed layer

1. Run the program. Select: Edit -> Download from NextGIS;

2. In the dialog that opens, specify the connection parameters and click the **"Connect"** button:

    - URL (name) of your web GIS, for example demo.nextgis.com;

    - select the "guest" checkbox if you want to connect to Web GIS without a login and password. Note: in this case, not all layers or resource groups may be visible - it all depends on the settings of NextGIS Web rights for the guest account;

    - login;

    - password.

3. In the resource list that appears, select a resource with the "Vector layer" type and click the **"Select"** button. If the connection is successful, the data structure of the layer will be uploaded, as well as the existing form (if it already exists for the selected layer);

4. Make changes to the form. If there is no form initially, but you need to create it for an existing field structure - turn off the automatic field creation mode: the button "Bind elements to fields" should be in *unpressed* state. Place controls on the form. After that, connect the the fields with these controls through the "Field Layer" property in the "Properties" menu of the control. As a result, in the "Data" menu all fields should have green "ok" markers, indicating that the fields are successfully connected with the controls, and the controls themselves should not have red markers with an exclamation mark.

5. Upload the modified form to NextGIS Web (see the section "Creating a New Form in NextGIS Web"). Please note that you cannot change existing resources this way; in any case, a new layer will be created and a form will be uploaded to it. If the layer you selected at the beginning had data, then this data will be copied to the new layer if fields match.

FORM CONTROLS

4.1 Tabs

Tabs grouping for other elements.

Properties:

- **Current page**. Current page which should be displayed by default.
- **Headers**. A list of header strings.

4.2 Date & time

An element which allows to pick a date, time or date&time value.

Properties:

- **Is current**. Automatically assigns current value during the data collecting process. Otherwise user will be able to pick it manually.
- **Type**. Type.
- **Initial value**. Initial fixed date/time value.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.

4.3 Distance meter

This element automatically measures distance between current position of the point and current position of the surveyor.

4.4 Dependent comboboxes

A pair of drop-down lists with predefined items. The item list of the dependent combobox depends on the items of the main combobox.

Properties:

- **Items**. Lists of items for both comboboxes.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.

4.5 Coordinates

An element which automatically saves current geographical coordinates in text format.

Properties:

- **Is hidden**. Do not show this element. The coordinates will be written to the layer's field(s) anyway.
- **CRS**. Coordinate Reference System.
- **Format**. The format of the string which will be written to the layer's field(s).

4.6 Label

An element which displays static text

Properties:

- **Text**. Displayed text.

4.7 Signature field

A field for signature.

4.8 Void space

Void space for making indents.

4.9 Radiogroup

A list with predefined items which allows the selection of only one value.

Properties:

- **Keep last value**. Whether to keep last entered value for this element during data collecting process.
- **Items**. A list of items (must have at least two items).

4.10 Splitted combobox

A drop-down list with predefined items splitted by two parts. Each item has an inner value for saving and a pair of displayed values. E.g. the collector will be able to see the same item but in different languages.

Properties:

- **Caption (left)**. Static text which will be placed above this element (at left).
- **Caption (right)**. Static text which will be placed above this element (at right).
- **Items**. A list of items.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.

4.11 Combobox

A drop-down list with predefined items which allows the selection of only one value.

Properties:

- **Items**. A list of items.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.
- **Own items**. User can add own items to this combobox.
- **Input with search**. Whether to show or not corresponding items during typing in this combobox.

4.12 Counter

An element which automatically adds values based on some predefined format.

Properties:

- **Increment**. The value which is added to the current counter's value each time user collects data about an object.
- **Initial value**. Initial value from which incrementing starts.
- **Prefix**. A text which is added before the counter's value. If this text is not void the counter writes its value as a string.
- **Suffix**. A text which is added after the counter's value. If this text is not void the counter writes its value as a string.
- **Prefix from list**. Prefix from list.
- **Suffix from list**. Suffix from list.

4.13 Average counter

An element which counts an average value from some amount of entered values.

Properties:

- **Number of values**. How many values a collector can enter to count an average value.

4.14 Text edit

An element for editing simple text or numbers.

Properties:

- **Initial text**. Initial text.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.
- **Max. lines count**. Maximum number of lines for this text edit.
- **NextGIS ID login**. The value in this text edit will be replaced with user's NextGIS ID login.
- **NextGIS Web login**. The value in this text edit will be replaced with user's login if the connection with NextGIS Web is established during the data collecting process.
- **Only numbers**. This element can accept only numbers.

4.15 Checkbox

An element which allows user to pick from two values: true or false.

Properties:

- **Initial value**. Initial value.
- **Keep last value**. Whether to keep last entered value for this element during data collecting process.
- **Text**. Displayed text

4.16 Photo

An element which allows to take photos with embedded camera or to add them from the gallery.

Properties:

- **Max. photo count**. Maximum number of photos.
- **Comment**. Comment under photo(s).

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