

Studio User Manual

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Formcentric for CoreMedia: Studio User Manual

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1. Introduction

“Formcentric for CoreMedia™” extends the CoreMedia Content Cloud to include a powerful form editor with which you can create and edit any type of web-based form. The CAE integration also included with the product is used to ensure the dynamic display and processing of the forms that you create.

1.1. Overview of functions

Form elements: Formcentric supports all of the form elements defined in the HTML standard, such as input fields, drop-down lists or buttons. Other form elements are also provided, such as a *Captcha*, *Calculated Value* or *Summary*.

Multi-page forms: Detailed or complex forms can be split up over multiple form pages. The form user can then page back and forth between the individual form pages in order to change or add the data they have entered.

Conditions: With the help of conditions, you can design your forms so that the state of individual form elements can be modified dynamically based on the input entered by the user and even entire form pages can be shown or hidden.

Field validators: A range of validators are available to you for validating user input. You specify the validator to use for a form field (if any) directly on the editing screen for the corresponding form field. Most validators will also give you the option of configuring additional settings to adjust the validator more precisely to your individual requirements. As a rule, all validation of input takes place on the server, to avoid form data manipulation.

Default field values: You can give input fields default values, which may be fixed, variable or user-specific.

Freely-definable actions: By selecting a processing mode (action) in the Editor, you can decide how the form data will be processed after submission. Out of the box, Formcentric comes complete with actions for sending data by email and for outputting data to an Excel file. Other actions, customised to suit special requirements, can be developed with the help of an easy-to-use programming interface (API).

Security: Formcentric contains a security servlet filter as a safeguard against cross-site scripting (XSS) attacks and cross-site request forgery (XSRF) attacks. This filter removes illegal HTML tags, CSS and scripts from the form data submitted. The filter also checks to confirm that the form data contains a valid XSRF token.

1.2. Terminology

This manual makes use of the following terms:

Term	Description
Form	An HTML web form displayed in a web browser.

Term	Description
Form elements	All of the elements used when constructing a form (input fields, drop-down lists, check boxes, captchas, etc.).
Form data	The data entered into the form by the user.
Form author	The person that creates and edit forms.
User	The person that fills out a form.
Editor	The form editor in CoreMedia Studio
Frontend	The website created with the CoreMedia Content Cloud.

2. Editing interface

In the Formcentric Editor, the editing interface is split over three screens:

- Form [1]
- Actions [2]
- Settings [3]

You create and manage your forms on the *Form* screen. You specify how the data entered by users should be processed on the *Actions* screen. You define properties that apply to the whole form you are creating on the *Settings* screen. Click the name of the screen to switch to working on that screen.

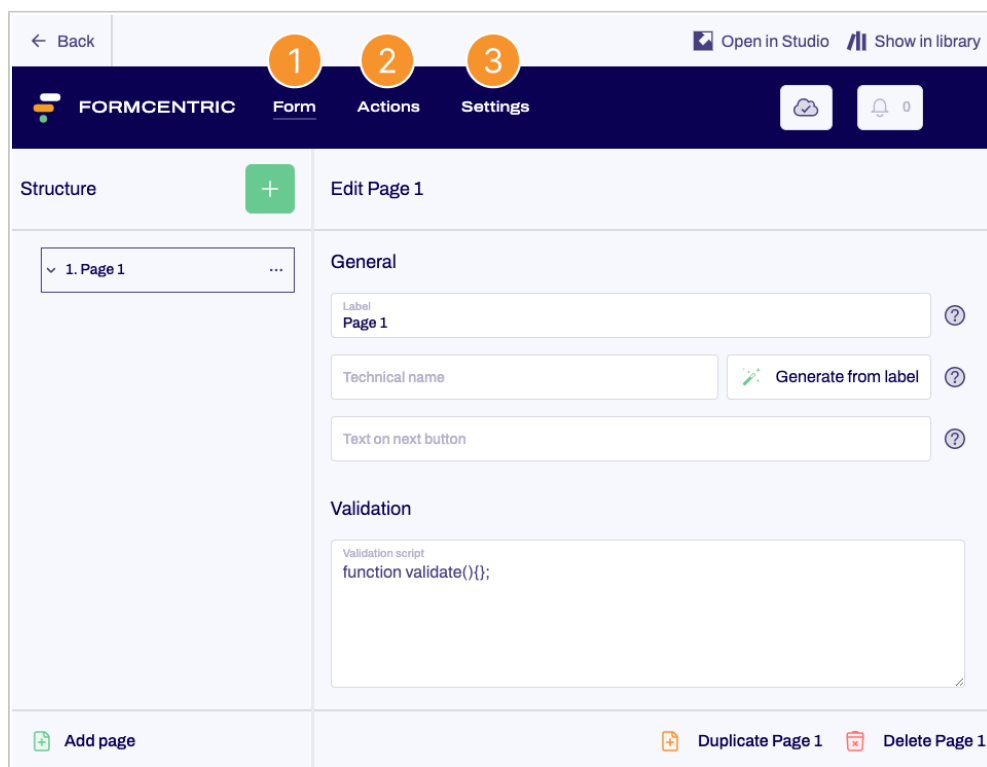


Figure 2.1. Editing interface

Above the editing interface, you have the functions *Back* [4], *Open in Studio* [5] and *Open in library* [6].

Use *Back* to go back to the CoreMedia Studio user interface. Click *Open in Studio* to open the form you are currently editing on a new tab in CoreMedia Studio. Click *Open in library* to open the CoreMedia Studio Library and display the location where the form is currently stored.

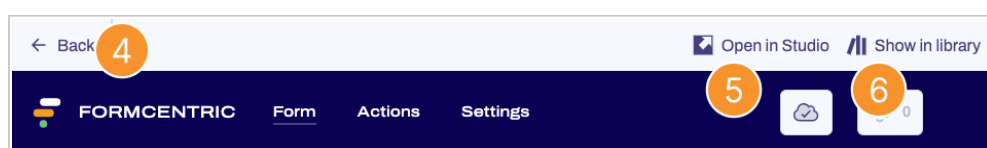


Figure 2.2. Menu tabs

2.1. General

2.1.1. Checking the forms created

The Editor checks the forms you create while their details are being entered. If any form elements are incomplete or have errors, these are marked with a red dot in the form tree.

At the top right of the Editor screen, a bell icon also shows you the current state of your form. If the form has errors, the bell is coloured red and the number of errors is displayed.

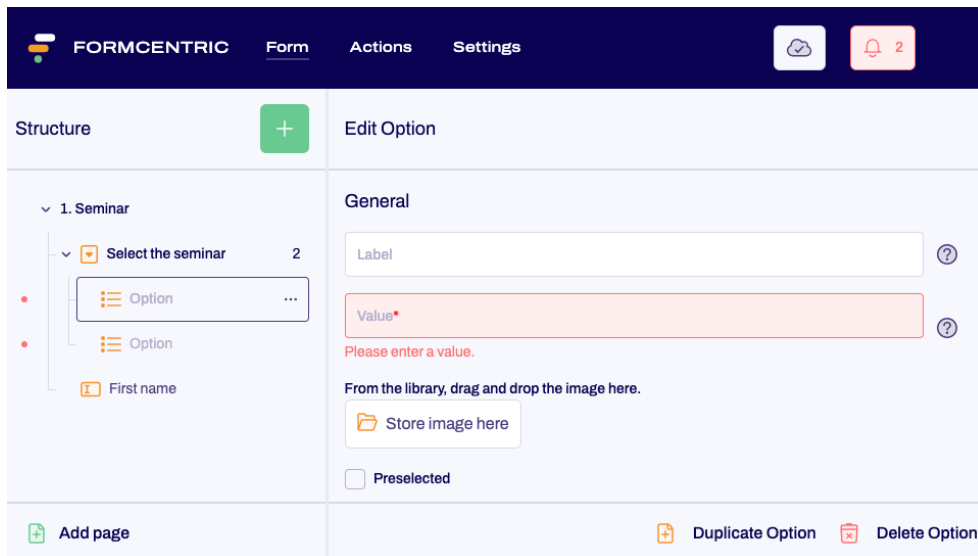


Figure 2.3. An error marked on the screen

Clicking the bell opens a dialog that lists all of these errors. You can click one of these errors to jump directly to the affected form element.

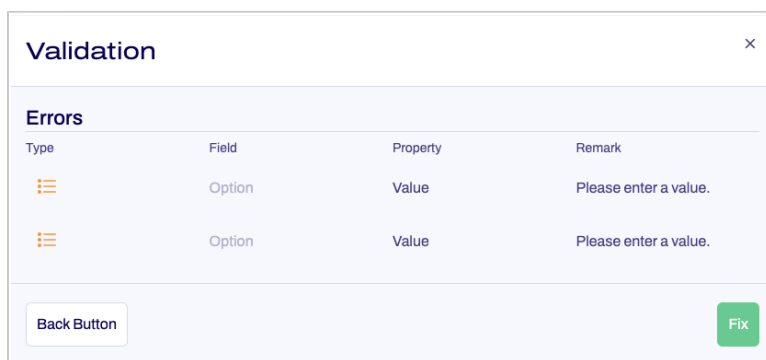


Figure 2.4. Error in form

2.1.2. Autosave

All changes that you make to a form are saved automatically by Formcentric. This lets you concentrate on your work and means you do not have to worry about making regular saves. The cloud icon shown on the right indicates whether the form is currently saved. You can also click the cloud icon to save the form manually.

2.1.3. Predefined form elements

Predefined form elements – such as phone number, email address, file upload, etc. – give you a way to create your forms more quickly. You can add these form elements to your form with just a single click. The validation required for each of these form elements is already activated and you can start adding your details immediately.

2.1.4. Drag-and-drop

To make it easier for you to create your forms, you can use drag-and-drop to move individual form elements and even entire form pages around in the form tree. You can also move form elements from one form page to another. You can change the order of form elements and form pages simply by dragging these elements and pages to a different position in the form tree.

2.1.5. Preview

Within the CoreMedia Studio workspace, the preview shows you the current version of your form, which you can then try out at any time.

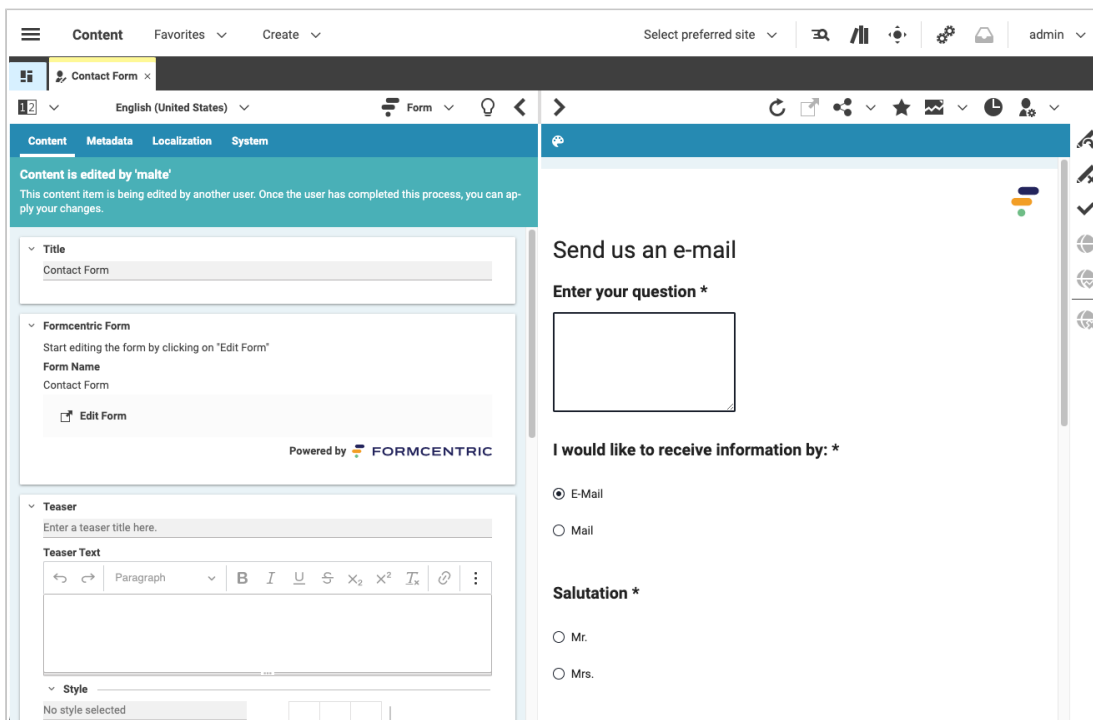


Figure 2.5. CoreMedia Studio preview

3. Form screen

You use the *Form* screen to edit the form with all of its form elements (input fields, drop-down lists, etc.).

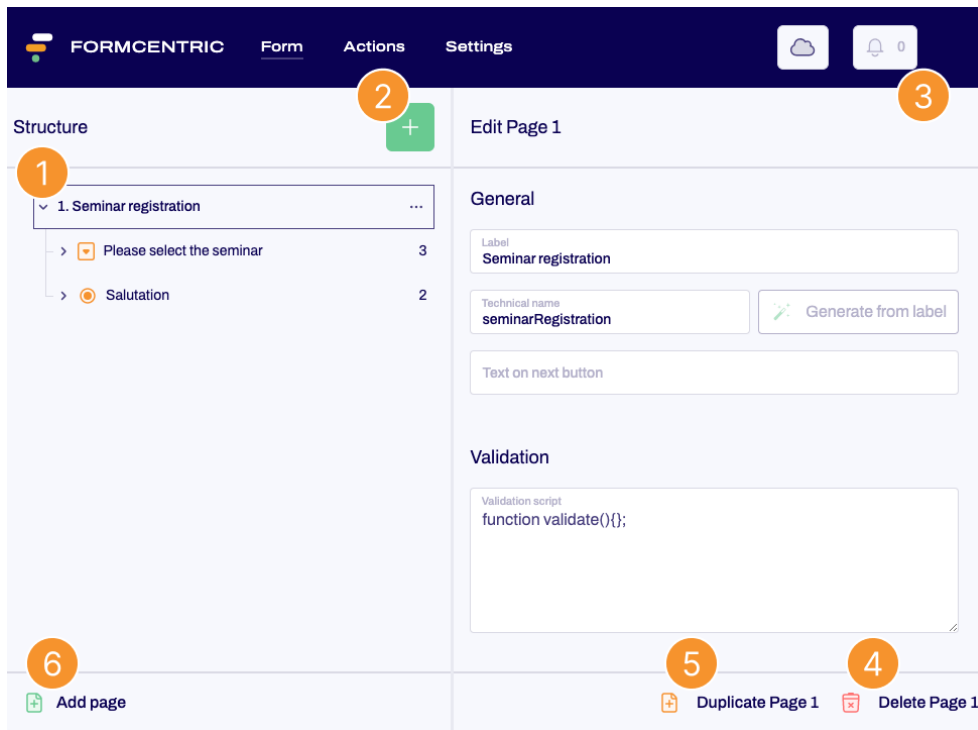


Figure 3.1. Editor

Click the green add (+) icon [2] in the *Structure* area to display a list of all of the form elements available to you. Click a form element to add it to your form. This new element is inserted underneath the form element currently selected in the form tree [1]. Click *Add page* [6] at the bottom of the screen to add another page to your form. This is also added to the form tree.

The bell icon [3] at the top right shows you how many form elements in your form (if any) are incomplete or have errors. If conflicts are present, the bell is coloured red. Clicking the bell opens a dialog that lists all of these errors. You can click one of these errors to jump directly to the affected form element.

You edit the properties for pages and form elements on the right-hand side. If you click *Duplicate* [5] or *Delete* [4] below this editing area, then you will duplicate or delete the form element that you currently have open.

3.1. Form tree

The form tree that is displayed on the left-hand side of the *form* screen shows the form structure. Each form element and each page is represented here. This lets you keep an eye on your form structure as you are editing. You can change the order of form elements or

form pages whenever you want to. To do so, simply drag and drop the element or page to a different position in the form tree.

Additional actions are available for all elements shown in the form tree. To show available actions, move the mouse over a form element or a page and click the context menu link to open the context menu. You can also open the context menu by right-clicking the element or page.

The following actions are available for *form elements*:

Copy: Copies the form element and places it on the clipboard

Paste: Pastes a form element from the clipboard

Cut: Cuts the form element and places it on the clipboard

Duplicate: Creates a copy of the form element and adds it to the form directly underneath this element

Delete: Deletes the form element

Move to: Moves the form element to a different page

The following actions are available for *form pages*:

Copy: Copies the form page and places it on the clipboard

Insert: Pastes a form page from the clipboard

Cut: Cuts the form page and places it on the clipboard

Paste page after: Adds a new form page after this one

Duplicate: Creates a copy of the form page and adds it to the form directly underneath this page

Delete page content: Deletes all the form elements on this form page

Delete: Deletes the form page

3.2. Page properties

Click the page name in the form tree to display the properties for this form page.

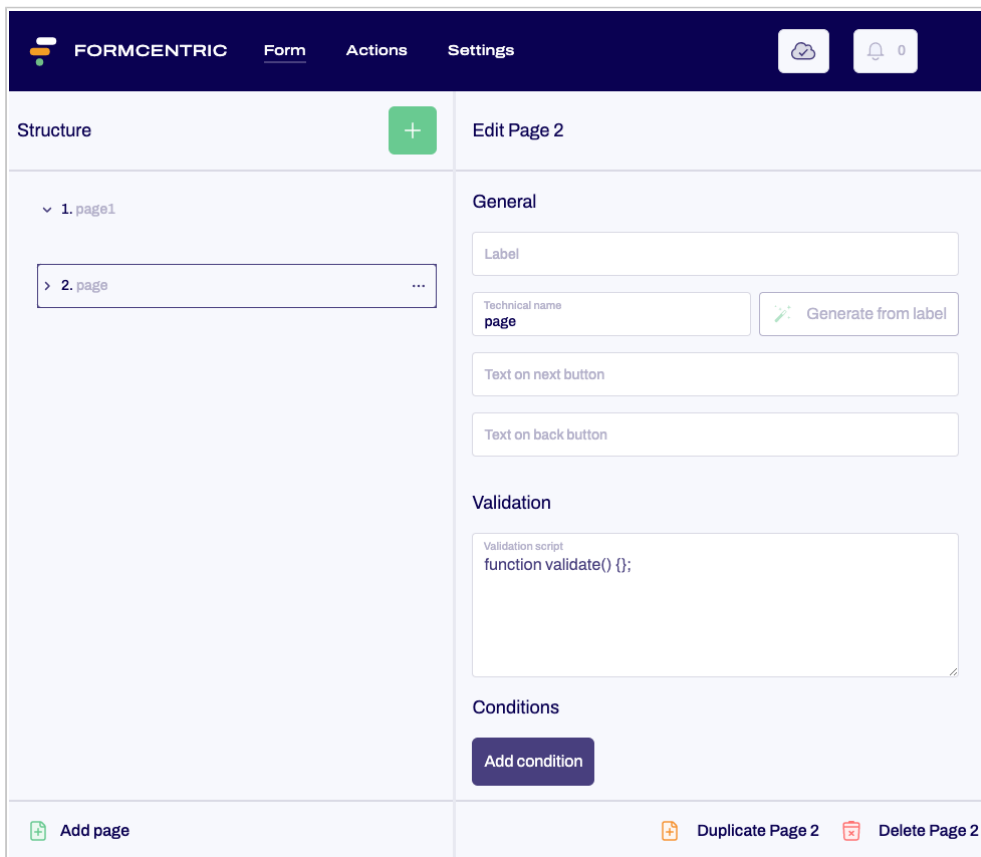


Figure 3.2. Page properties

With multi-page forms, the user is shown ‘Next’ and ‘Back’ buttons. The user can use these buttons to navigate between the individual form pages.

Forms can consist of as many pages as necessary and even empty pages are possible.

If a form page should only be displayed if the user has made specific kinds of input on the previous pages of the form, you can define a condition to provide this functionality (see Section 3.2.3, “Conditions”).

The page properties area is split over the following three sections: *General*, *Validation* and *Conditions*.

3.2.1. General

You define general page settings in the *General* section.

Label: Enter the text of the label to be displayed on the form page.

Technical name: Enter a technical name for the form page. This is necessary to ensure that the form page can be uniquely identified internally. You can only use a technical name once within your form. Start the name with a letter and do not use any special characters. The technical name must not be the same as any of the identifiers listed under Appendix A, *Reserved identifiers*.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Text on next text: This text is displayed on the ‘Next’ button for the currently selected form page that is part of a multi-page form. This piece of text is not used for forms that have only one page.

Text on back text: This text is displayed on the ‘Back’ button for the currently selected form page that is part of a multi-page form.

3.2.2. Validation

In the *Validation* section, you can enter JavaScript that is used to validate the data input into the form. Unlike the validation that only checks user input for a single form field, this tab gives you the option of checking input for multiple form fields at the same time and creating relationships between these fields.

Each new form that you create is provided with the empty method *validate()* in the *Validation script* field. This is a JavaScript function that is executed every time the form is submitted. You can input your own validation logic into this function.



Figure 3.3. Page properties – “Validation” section

Please note: if the form data contains errors, the function must return a statement to the form user that clearly describes the error. If no error was determined during validation, then the script must return an empty string (""). In this case, the form data is considered to be correct and is sent for processing.

When creating the validation script, you can use all of the operations and functions available in JavaScript. For handling date values and drop-down lists, the functions *parseDate*, *parseAge* and *isSelected* are also available.

The function *parseDate(date format, date)* converts a character string into a JavaScript object of the *Date* type. For the first parameter, specify the underlying date format; for the second parameter, give the date value.

```
parseDate("dd/MM/yyyy", "18/12/1969");
```

The function *parseAge(date format, date)* calculates a person’s age based on the birth date that the person enters into the form. For the first parameter, specify the underlying date format; for the second parameter, give the date value.

```
parseAge("dd/MM/yyyy", "18/12/1969");
```

You can use the function *isSelected(selection, option)* to check whether the user has chosen a specific option from a selection field (single choice, multiple choice or a drop-down list). For the first parameter, specify the technical name of the selection field; for the second parameter, specify the option value (not its label).

```
isSelected(newsletter, "Yes");
```

Access to form values is provided using variables that are made available to you automatically. If you have defined an input field with the technical name *email*, for example, you can access the user input directly by using the *email* variable. You can access the current page number value with the *pageId* variable.

If, for example, you want to ensure that the user can only enter a value in the field for the postcode (technical name *postcode*) if the user has also entered something into the field for the town (technical name *town*), then you can set this up by using the following function:

```
function validate () {  
  if (town != "" && postcode == "") {  
    return "Please also enter a postcode.";  
  }  
}
```

The following example shows you a validation script that can be used to ensure that only people aged 16 years or older can subscribe to a newsletter. Younger people can only submit the form without subscribing to the newsletter.

Alongside the input field for the date of birth (technical name *birthday*), the form also includes a drop-down list (technical name *newsletter*) with the option *Yes* for subscribing to this newsletter.

```
function validate () {  
  var age = parseAge("dd/MM/yyyy", birthday);  
  
  if (isSelected(newsletter, "Yes") && age < 16) {  
    return "You must be at least 16 years old to subscribe  
    to the newsletter.";  
  }  
}
```

The validation script is executed as soon as the user moves to a different form page or submits the form.

3.2.3. Conditions

In the *Conditions* section, you can use conditions to design your forms so that form pages are shown or hidden based on the input entered by the user. Since the first page in a form cannot be hidden, this function is only available from the second form page onwards.


Figure 3.4. Page condition

To add a new condition, click *Add condition*.

If: Specify the trigger for this condition, so that this page will not be displayed when the user clicks the ‘Next’ button on the previous page.

If the page hidden in this way is the last page of the form, then the form will be submitted when the user clicks the ‘Next’ button.

Configuration of the condition follows the same procedure as for Section 3.3.16, “Condition”.



Take care to ensure that *calculated values* always return a value if you use them within a condition. If field input is used to calculate the value, then you must ensure that the form fields involved are set as required fields.

Then: In this drop-down list, you can specify the action the system should take if the above-mentioned condition is satisfied and the user clicks the ‘Next’ button on the previous page.

This list only displays form pages where the *Technical name* field is filled out.

3.3. Form elements

Various form elements are available to you for creating your forms.

On the *Form* screen, click the green plus sign [+] in the *Structure* area. A dialog opens, listing all of the available form elements. Click a form element to add it to your form. You edit the properties for form elements on the right-hand side.

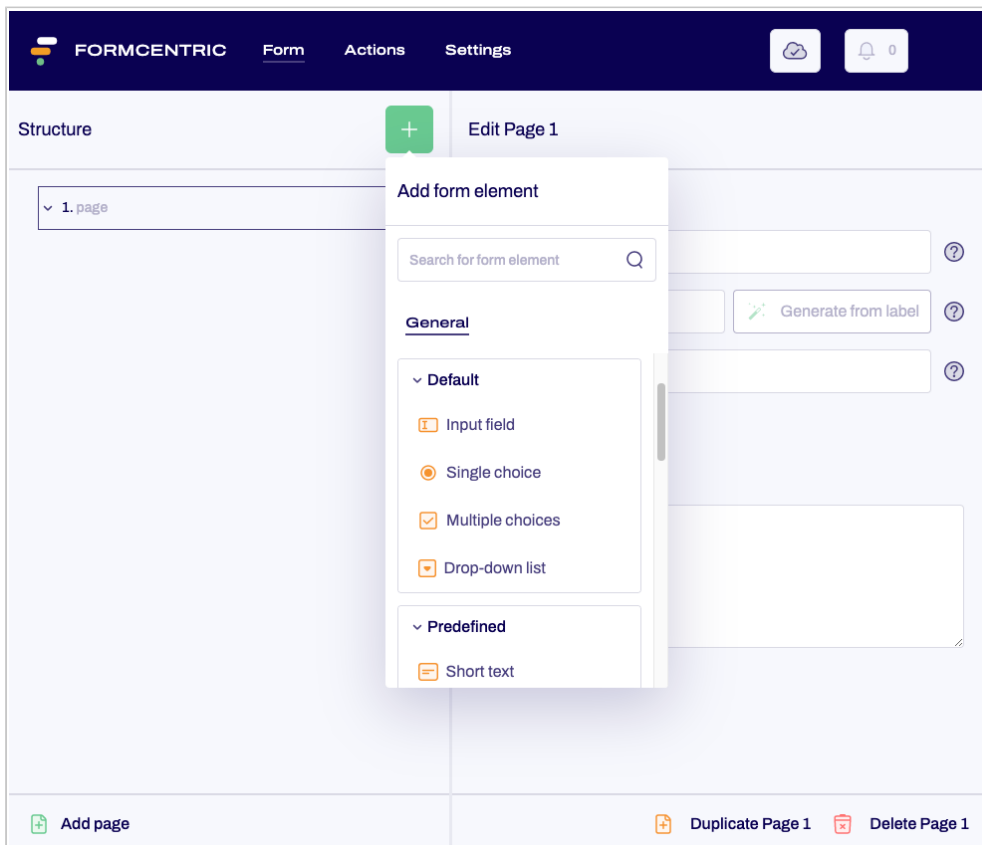


Figure 3.5. Add form element

The following section describes all of the form elements in detail.

3.3.1. Input field

You use the *input field* form field to add a single-line input field to your form. This field is suitable for entering short pieces of text, such as name and address details, as well as numbers. You can select all of the validation options available in Formcentric.

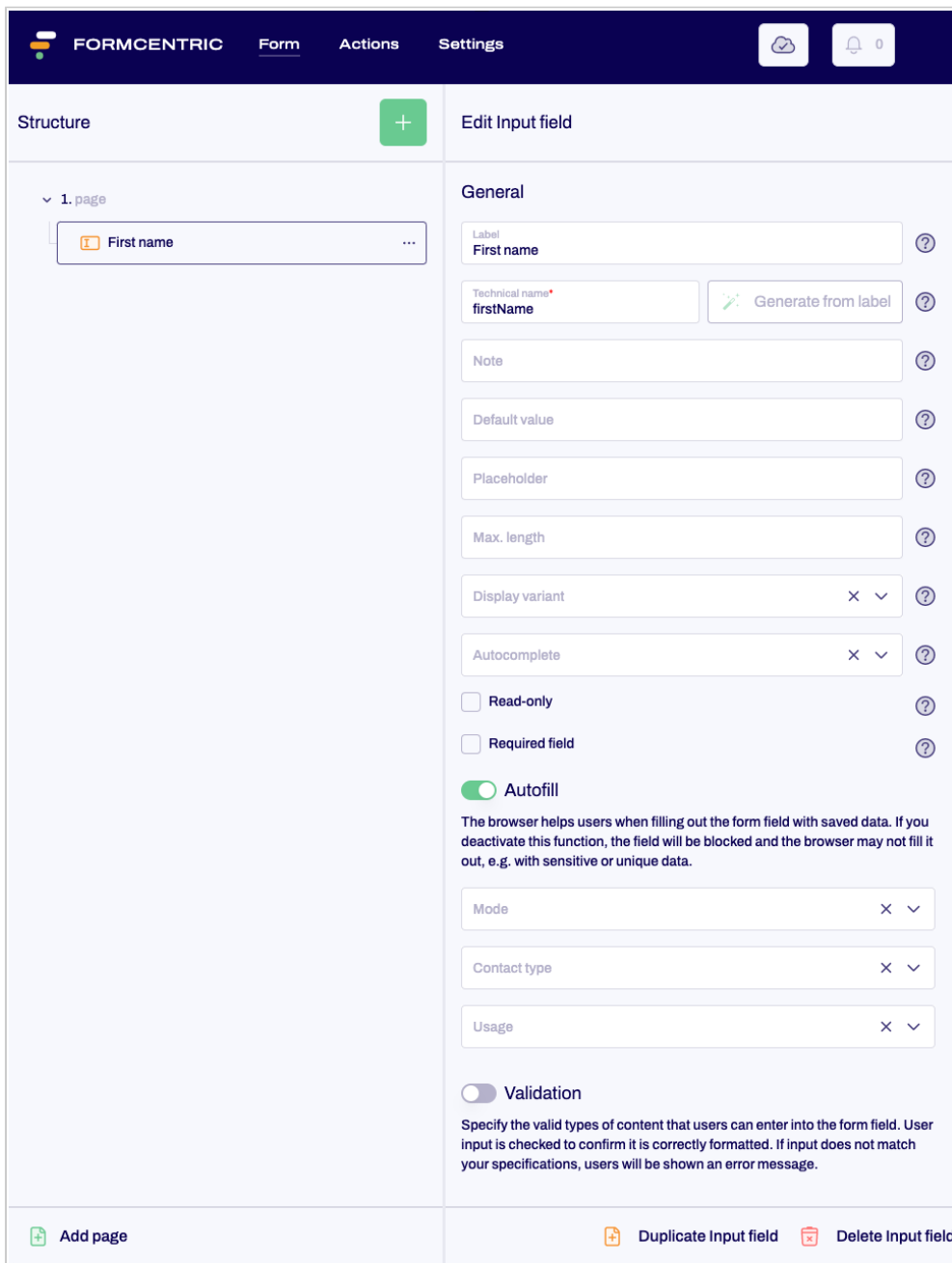


Figure 3.6. Input field

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the input field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match

an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example. By default, the note is placed underneath the form field.

Default value: In this field, you can enter a piece of text that is displayed in the input field when the user accesses the form for the first time. Alternatively, you can make use of a variable here. This could insert the date automatically into the input field, for example (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the input field. This placeholder text disappears as soon as the user starts typing into the form field.

Max. length: You can use this field to specify a maximum number of characters that the user may enter into the input field.

Display variant: Select one of the available display variants here, so as to specify how the input field is displayed in the form. The variants available are specified on a per-project basis.

Autocomplete: In this field, you can select a data source that will help users fill out the form field by auto-completing text in this field for them. As soon as the user starts typing into the form field, the system displays a list of possible hits from the data source, from which the user can select the entry to use. Formcentric provides you with default data sources containing country names in German and English.

If you select the *German country names* or *English country names* data source, two fields appear: *Key* and *Value*. You can adjust how autocomplete works with the *chars* parameter that you enter for *Key* and the *number* parameter that you enter for *Value*. If you enter *chars* and the number 2, for example, then auto-completion starts after the second letter is entered.

Read-only: If you check *Read-only*, users will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details,

and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: If you activate the validation slider (move it to the right), a drop-down list appears. From this list, pick a validator to specify the format to be used for the text that the user enters into the input field. For example, the *Email* validator checks to confirm that a valid email address has been entered into the field.

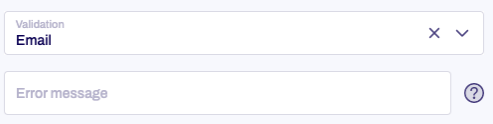
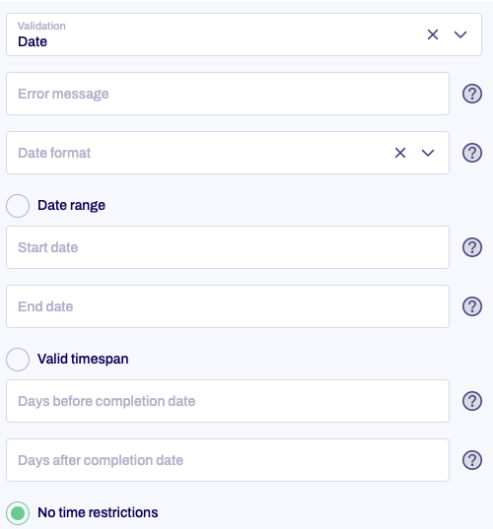
The screenshot displays the 'Edit Input field' configuration interface in Formcentric. On the left, the 'Structure' sidebar shows a tree view with '1. Page 1' expanded, containing a field named 'First name'. The main configuration area is divided into two sections: 'General' and 'Validation'. The 'General' section includes fields for 'Label' (First name), 'Technical name' (firstName), 'Note', 'Default value', 'Placeholder', 'Max. length', 'Display variant', and 'Autocomplete'. It also features checkboxes for 'Read-only' and 'Required field', and a toggle for 'Autofill'. The 'Validation' section, indicated by an orange arrow, is currently enabled and lists several validation rules: 'Email', 'Date', 'Number', 'Regular expression', and 'Postcode'. At the bottom of the interface, there are three action buttons: 'Add page', 'Duplicate Input field', and 'Delete Input field'.

Figure 3.7. Validation

If the input made into the form does not match the rule(s) you specify here, then an error message is displayed.

Formcentric includes standard validators for *email addresses*, *dates*, *numbers*, *postcodes*, *numbers of characters*, *IBANs*, *EU VAT registration numbers*, *BICs*, *telephone numbers* and *matching values*. In addition, you also have the option of using a regular expression to check

user input. This is useful for checking data such as customer numbers, etc. The corresponding validator is already activated for predefined form elements.

<p>Email</p>	<p>The email validator checks to confirm that the user has entered a valid email address.</p>  <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p>
<p>Date</p>	<p>This validator checks to see if the value input is a date. In addition, you can also limit the entry of the date to a certain period of time. This is useful when a meeting can only be scheduled between two specific dates, for example.</p>  <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Date format: Select the format that must be used when entering the date.</p> <p>The following placeholders can be used in the format string:</p> <ul style="list-style-type: none"> y Year MM Month of the year with leading zero d Day of the month H Hour of the day (0-23)

- m Minute of the hour
- s Second of the minute

The drop-down list already contains a list of commonly-used data formats. You can either use these directly or modify them to suit your personal requirements.

By default, the format *dd/MM/yyyy* is applied.



Enter a piece of placeholder text to be displayed in the input field that shows the correct date format to use. In this way, you can avoid unnecessary error messages and help the user fill out the form correctly.

Date range: Specify a date range here if the user needs to enter a date that lies within a specified period of time.

Date from: Select the start date for this period of time.

Date to: Select the end date for this period of time.

Valid timespan: The values entered here limit the date entered by the user to a number of days before or after the form completion date.

Days before completion date: Enter the earliest date before the form completion date that can be entered by the user, expressed as the number of days before the completion date.

Days after completion date: Enter the latest date after the form completion date that can be entered by the user, expressed as the number of days after the completion date.

To only allow dates in the past, for example, use the *Days after completion date* parameter and enter either '0' (the user can also enter the completion date itself) or '-1' (the user cannot enter the completion date itself).

No time restrictions: If you select *No time restrictions*, then the user will be able to enter any date.

Number	This validator checks to see if the value input by the user is a valid number. You can also specify a range of numbers that the value entered by the user must match.
--------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

Min. value: Specify the smallest number that the user is allowed to enter.

Max. value: Specify the largest number that the user is allowed to enter.

Integers only: Select *Integers only* if you want to prevent the user from entering decimal numbers.

Regular expression

This validator checks to see whether the character string entered by the user matches a specified pattern. This pattern, which the letters and numbers entered by the user must match, is defined using something called a 'regular expression'.

A regular expression (which can also be abbreviated as regexp or regex) is a character string that uses syntactical rules to define character string entities.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

RegEx: In this field, you can enter or select a regular expression that defines the input format you require. The drop-down list already contains regular expressions suitable for a range of common applications. You can either use these directly or modify them to suit your personal requirements.

You will find a short guide to the authoring of regular expressions at the following URL: https://en.wikipedia.org/wiki/Regular_expression

Postcode

This validator checks to see if the user input is a valid postcode.



Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

Country: Select the country for which the postcode should be validated.

Country selection: If your form contains a drop-down list (see Section 3.3.4, “Drop-down list”) with a country selection, you can select the corresponding form field here. The postcode must then come from the country that the user selected from that list. If both a country and a country selection have been made, then the country selection has priority.



Please note that the *Value* fields for the entries in the drop-down list must contain the valid country codes according to ISO 3166 (e.g. *DE* for Germany). The countries cannot be validated without valid country codes.

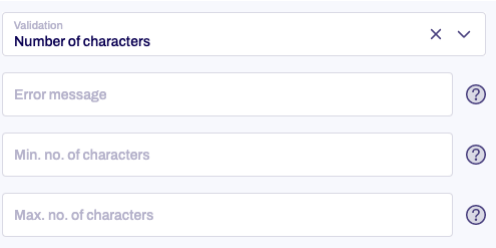
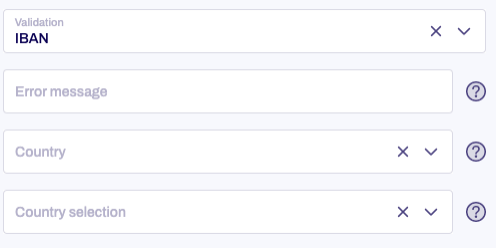
The postcode validator supports the formats used in the countries listed below:

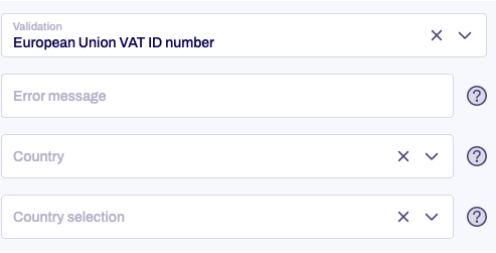
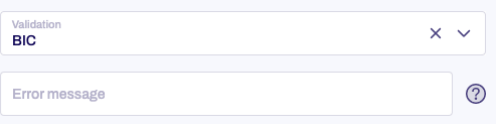
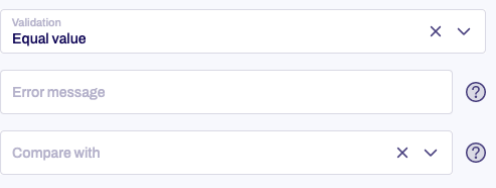
Albania (AL), Austria (AT), Belgium (BE), Bosnia and Herzegovina (BA), Bulgaria (BG), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), French Guiana (GF), Germany (DE), Greece (GR), Guadeloupe (GP), Hungary (HU), Iceland (IS), Ireland (IE), Italy (IT), Kosovo (RS-KM), Latvia (LV), Liechtenstein (LI), Lithuania (LT), Luxembourg (LU), Macedonia (MK), Malta (MT), Martinique (MQ), Moldavia (MD), Montenegro (ME), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Réunion (RE), Romania (RO), Serbia (RS), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), Tunisia (TN), Turkey (TR), Ukraine (UA), United Kingdom (UK)

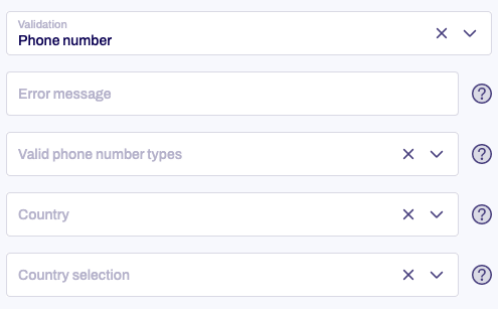

If the country code is not listed, than the postcode is not validated.

Number of characters

This validator checks the number of characters entered.

	 <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Minimum no. of characters: Enter the minimum number of characters that the user must enter into the input field.</p> <p>Maximum no. of characters: Enter the maximum number of characters that the user may enter into the input field.</p>
IBAN	<p>This validator checks to see if the user input is a valid International Bank Account Number (IBAN).</p>  <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Country: If the format for the IBAN entered must match the IBAN format for a specific country, select that country here. If you do not select a country, the validator only checks to see if the value entered matches the standard IBAN format.</p> <p>Country selection: If your form contains a drop-down list (see Section 3.3.4, “Drop-down list”) with a country selection, you can select the corresponding form field here. In this case, the format of the IBAN entered must match the format that is valid in the country which the user has selected from the drop-down list. If both a country and a country selection have been made, then the country selection has priority.</p>
European Union VAT registration number	<p>This validator checks to confirm that user input matches the structure of an EU VAT registration number.</p>

	 <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Country: If the format for the EU VAT registration number entered must match the format for a specific country, select that country here. If you do not select a country, the validator only checks to see if the value entered matches the standard EU VAT registration number format.</p> <p>Country selection: If your form contains a drop-down list (see Section 3.3.4, “Drop-down list”) with a country selection, you can select the corresponding form field here. In this case, the format of the EU VAT registration number entered must match the format that is valid in the country which the user has selected from the drop-down list. If both a country and a country selection have been made, then the country selection has priority.</p>
BIC	<p>This validator checks to see if the user input is a valid international Bank Identifier Code (BIC).</p>  <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p>
Equal value	<p>This validator compares two input fields and checks to confirm that the input in both of these field is identical.</p>  <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to</p>

	<p>the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Compare with: Select a second input field whose value will be compared with the first input field. The validator then checks to confirm that the two input fields have matching input.</p>
Phone number	<p>This validator checks to see if the user input is a valid phone number. You can also specify phone number types and/or specify that the phone number must come from a specific country.</p> <div data-bbox="443 573 943 880" style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;">  </div> <p>Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.</p> <p>Valid phone number types: Select the valid phone number types from this list. The phone number entered must then match these types. If you do not select any phone number types, the phone number is not validated.</p> <p>The following formats are supported: Fixed line (FIXED_LINE), mobile (MOBILE), fixed line or mobile (FIXED_LINE_OR_MOBILE), toll-free (TOLL_FREE), premium rate (PREMIUM_RATE), shared cost (SHARED_COST), VOIP (VOIP), personal number (PERSONAL_NUMBER), pager (PAGER), universal access numbers (UAN), voicemail (VOICEMAIL), unknown (UNKNOWN).</p> <div data-bbox="443 1552 1278 1823" style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;">  <p>For some countries, the <i>fixed line</i> and <i>mobile</i> types may be ambiguous. In these cases, you may also need to select the <i>fixed line or mobile</i> type in order to ensure that validation executes correctly. The <i>fixed line or mobile</i> phone number type is not a combination of <i>fixed line</i> and <i>mobile</i>, but is a separate phone number type.</p> </div> <p>Country: Select a country here if the phone number must come from a specific country.</p> <p>Country selection: If your form contains a drop-down list (see Section 3.3.4, “Drop-down list”) with a country selection, then you can</p>

select the corresponding form field here. The phone number entered must then come from the country that the user selected from that list. If both a country and a country selection have been made, then the country selection has priority.

Please note that the *Value* fields for the entries in the drop-down list must contain the valid country codes according to ISO 3166 (e.g. *DE* for Germany).

User input cannot be validated without valid country codes.

Duplicating an input field: Click *Duplicate Input field* to add a copy of this form field to your form.

Deleting an input field: Click *Delete Input field* to delete the form field.

3.3.2. Single choice

A *single choice* field offers your user several options to choose from. The user can select only one of these options, however: if the user picks a second option, then the option previously chosen is unselected. The individual options are displayed as radio buttons.

The screenshot shows the Formcentric Studio interface. The top navigation bar includes 'FORMCENTRIC', 'Form', 'Actions', and 'Settings'. The main area is split into two panes. The left pane, titled 'Structure', shows a tree view with '1. page' expanded to reveal a 'Salutation' field. The right pane, titled 'Edit Single choice', contains configuration options for the selected field. These options include: 'Label' (Salutation), 'Technical name*' (singleChoice_1) with a 'Generate from label' button, 'Note', 'Preselection', an image upload section with a 'Store image here' button, 'Display variant' (dropdown), 'Data source' (dropdown), and a 'Required field' checkbox. At the bottom of the right pane, there are buttons for 'Duplicate Single choice' and 'Delete Single choice'. The bottom of the left pane has an 'Add page' button.

Figure 3.8. Single choice

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the single choice field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example. By default, the note is placed directly underneath the label.

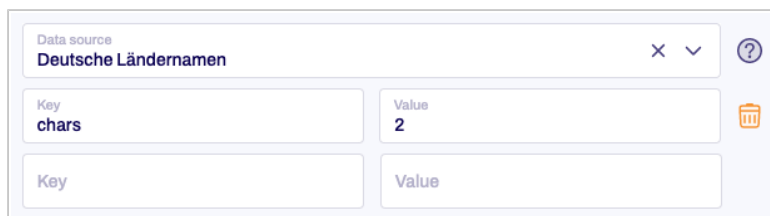
Preselection: If you have linked your single choice field to a data source (see below), then you can specify that one option from the data source is preselected when the form is first accessed. Enter the *value* for the corresponding option here.

Let’s assume that you have added the data source *Deutsche Ländernamen - Country names in German* and you would like the option ‘Deutschland’ to be preselected. In the *Country names in German* data source, the values for the options match the country codes according to ISO 3166. This means that you need to enter *DE* here for Germany.

Store image here: You can add an image here from the Library that will be shown together with the select field. Simply use drag-and-drop to move it here from the Library.

Display variant: Select one of the available display variants here, so as to specify how the single choice field is displayed in the form.

Data source: Use this setting to select a data source with a list of existing options that you can link to and use for the options in your single choice field. The available options are not accessed from the data source until the user accesses the form.



Key	Value
chars	2

Figure 3.9. Data source

The table gives you the option of entering additional parameters to pass to the data source. The available parameters will depend on the data source selected. The data sources available are specified in the form’s paragraph style sheet.

Formcentric provides you with two default data sources, *Deutsche Ländernamen - Country names in German* and *Englische Ländernamen - Country names in English*. These do not require any parameters.

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

An input field appears when you check the required field box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Duplicating a single choice field: Click *Duplicate Single choice* to add a copy of this single choice field to your form.

Deleting a single choice field: Click *Delete Single choice* to delete the single choice field.

Adding options: Once you have added a single choice field to your form, you then need to specify the individual options that are displayed for this form element. To do this, click to select the single choice in the form tree and then click the plus symbol [+] to add your options. You edit the properties for the options on the right-hand side.

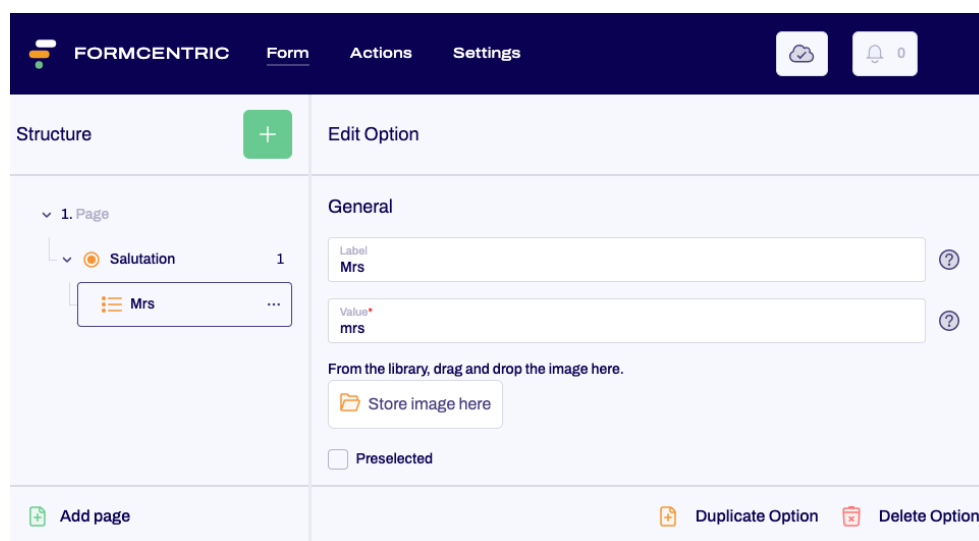


Figure 3.10. Edit option

Label : Enter the text to be shown for the option.

Value : Enter a value for the option. Please note that this identifier must be unique. This value is submitted with the form when the user picks this option.

If you specify “EMPTY_VALUE” as the value here, then this option will be ignored in later processing steps, even if selected by the user. This function can be used if you want to add a “Please select” option, for example.

Store image here: You can add an image here from the Library that will be shown together with the option. Simply use drag-and-drop to move it here from the Library.

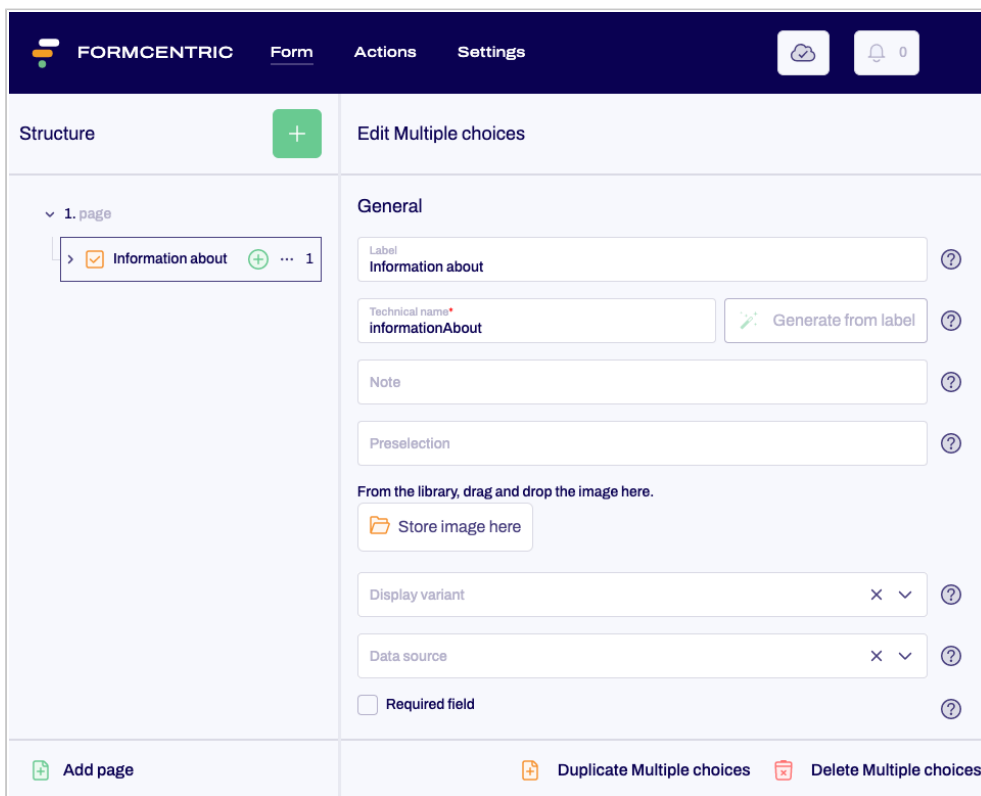
Preselected : If you check this check box, then the option will be preselected.

Duplicate option: Click *Duplicate Option* to add a copy of this form element to your form.

Delete option: Click *Delete Option* to delete the form element.

3.3.3. Multiple choice

A *multiple choice* field again offers your user several options to choose from. This time, however, the user can pick more than one option. Each option is shown as a check box.



The screenshot displays the Formcentric Studio interface for editing a 'Multiple choice' field. The top navigation bar includes 'FORMCENTRIC', 'Form', 'Actions', and 'Settings', along with notification and user icons. The left sidebar shows the 'Structure' tree with a page containing one field named 'Information about'. The main panel is titled 'Edit Multiple choices' and contains the following configuration options:

- General**
 - Label:** Information about
 - Technical name:** informationAbout (with a 'Generate from label' button)
 - Note:** (empty)
 - Preselection:** (empty)
 - Image:** A placeholder box with the text 'From the library, drag and drop the image here.' and a 'Store image here' button.
 - Display variant:** (dropdown menu)
 - Data source:** (dropdown menu)
 - Required field:** (checkbox, currently unchecked)

At the bottom of the panel, there are three buttons: 'Add page', 'Duplicate Multiple choices', and 'Delete Multiple choices'.

Figure 3.11. Multiple choice

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the multiple choice field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example. By default, the note is placed directly underneath the label.

Preselection: If you have linked your multiple choice field to a data source (see below), then you can specify that one option from the data source is preselected when the form is first accessed. Enter the *value* for the corresponding option here.

Let's assume that you have added the data source *Deutsche Ländernamen - Country names in German* and you would like the option 'Deutschland' to be preselected. In the *Country names in German* data source, the values for the options match the country codes according to ISO 3166. This means that you need to enter *DE* here for Germany.

Store image here: You can add an image here from the Library that will be shown together with the select field. Simply use drag-and-drop to move it here from the Library.

Display variant: Select one of the available display variants here, so as to specify how the multiple choice field is displayed in the form.

Data source: Use this setting to select a data source with a list of existing options that you can link to and use for the options in your multiple choice field. The available options are not accessed from the data source until the user accesses the form.

Figure 3.12. Data source

The table gives you the option of entering additional parameters to pass to the data source. The available parameters will depend on the data source selected. The data sources available are specified in the form's paragraph style sheet.

Formcentric provides you with two default data sources, *Deutsche Ländernamen - Country names in German* and *Englische Ländernamen - Country names in English*. These do not require any parameters.

Required field: Check *Required field* if this form field must be filled out when completing the form. An '*' will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

An input field appears when you check the required field box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Duplicating a multiple choice field: Click *Duplicate Multiple choices* to add a copy of this form field to your form.

Deleting a multiple choice field: Click *Delete Multiple choices* to delete the form field.

Adding options: Once you have added a multiple choice field to your form, you then need to specify the individual options that are displayed for this form element. To do this, click to select the multiple choice in the form tree and then click the plus symbol [+] to add your options. You edit the properties for the options on the right-hand side.

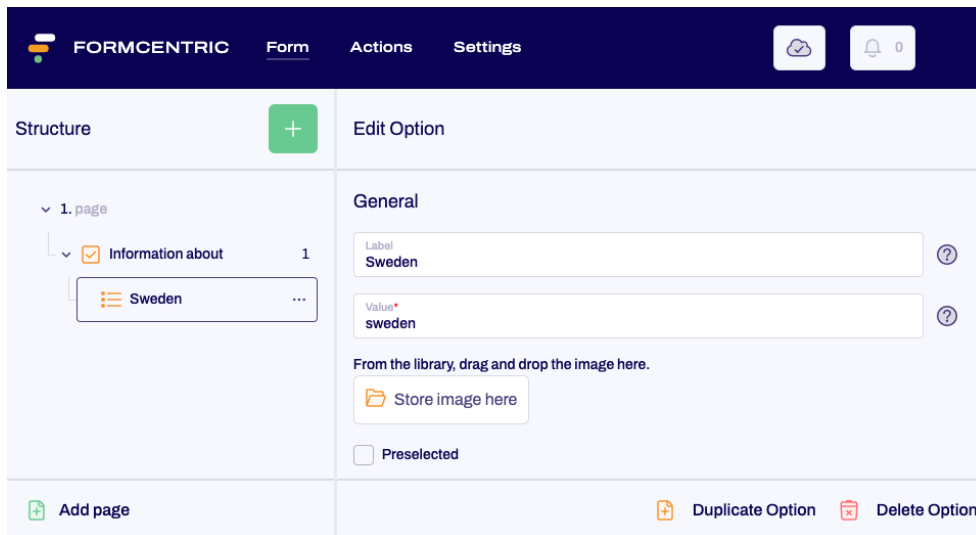


Figure 3.13. Edit option

Label : Enter the text to be shown for the option.

Value : Enter a value for the option. Please note that this identifier must be unique. This value is submitted with the form when the user picks this option.

If you specify “EMPTY_VALUE” as the value here, then this option will be ignored in later processing steps, even if selected by the user. This function can be used if you want to add a “Please select” option, for example.

Store image here: You can add an image here from the Library that will be shown together with the option. Simply use drag-and-drop to move it here from the Library.

Preselected : If you check this check box, then the option will be preselected.

Duplicate option: Click *Duplicate Option* to add a copy of this form element to your form.

Delete option: Click *Delete Option* to delete the form element.


3.3.4. Drop-down list

With a *drop-down list*, you offer your user one or more options in the form of a drop-down menu of options. The individual options are not displayed until the user actually clicks to select the drop-down list. You can allow your user to pick just one or multiple options. You configure this in the list settings.

Figure 3.14. Drop-down list

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the drop-down list.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.

 The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is placed underneath the form field.

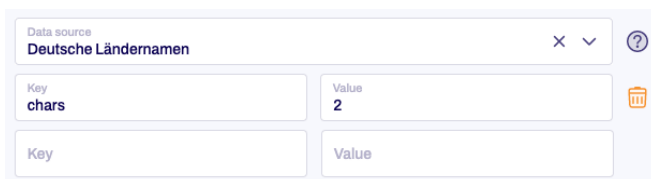
Preselection: If you have linked your drop-down list to a data source (see below), then you can specify that one option from the data source is preselected when the form is first accessed. Enter the *value* for the corresponding option here.

Let's assume that you have added the data source *Deutsche Ländernamen - Country names in German* and you would like the option 'Deutschland' to be preselected. In the *Country names in German* data source, the values for the options match the country codes according to ISO 3166. This means that you need to enter *DE* here for Germany.

Store image here: You can add an image here from the Library that will be shown together with the drop-down list. Simply use drag-and-drop to move it here from the Library.

Display variant: Select one of the available display variants here, so as to specify how the drop-down list is displayed in the form.

Data source: Use this setting to select a data source with a list of existing options that you can link to and use for the options in your drop-down list. The available options are not accessed from the data source until the user accesses the form.



Data source Deutsche Ländernamen		X	?
Key chars	Value 2		
Key	Value		

The table gives you the option of entering additional parameters to pass to the data source. The available parameters will depend on the data source selected.

Formcentric provides you with two default data sources, *Deutsche Ländernamen - Country names in German* and *Englische Ländernamen - Country names in English*. These do not require any parameters.

All of the countries supplied by this data source can be used in conjunction with the input field's postcode validator (seeSection 3.3.1, "Input field"). The data sources available are specified in the form's paragraph style sheet.

Required field: Check *Required field* if this form field must be filled out when completing the form. An *** will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Multiple choice: Check *Multiple choices* if the user is allowed to pick multiple options.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details,

and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “Autofill”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Duplicating a drop-down list: Click *Duplicate Drop-down list* to add a copy of this form field to your form.

Deleting a drop-down list: Click *Delete Drop-down list* to delete the form field.

Adding options: Once you have added a drop-down list to your form, you then need to specify the individual options that are displayed for this form element. To do this, click to select the drop-down list in the form tree and then click the plus symbol [+] to add your options. You edit the properties for the options on the right-hand side.

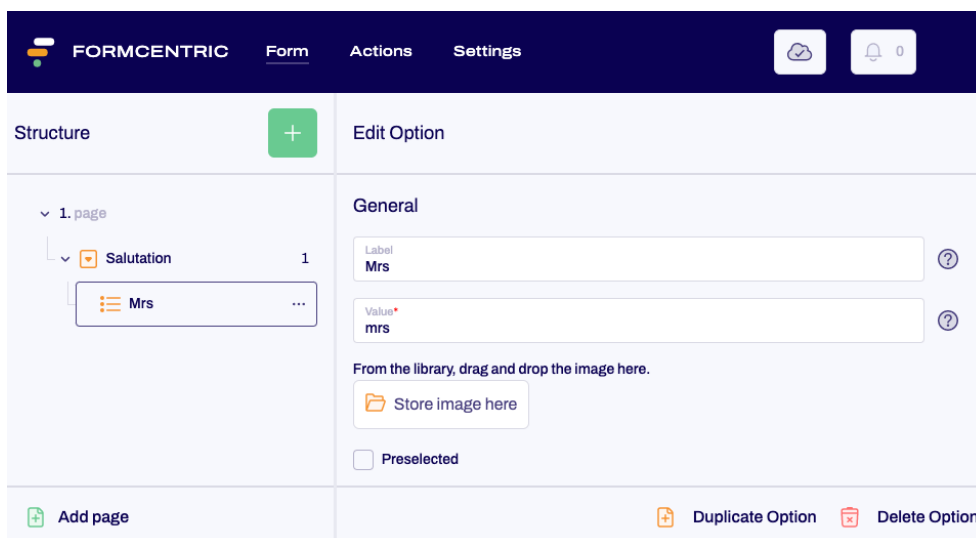


Figure 3.15. Edit option

Label : Enter the text to be shown for the option.

Value : Enter a value for the option. Please note that this identifier must be unique. This value is submitted with the form when the user picks this option.

If you specify “EMPTY_VALUE” as the value here, then this option will be ignored in later processing steps, even if selected by the user. This function can be used if you want to add a “Please select” option, for example.

Store image here: You can add an image here from the Library that will be shown together with the option. Simply use drag-and-drop to move it here from the Library.

Preselected : If you check this check box, then the option will be preselected.

Duplicate option: Click *Duplicate Option* to add a copy of this form element to your form.

Delete option: Click *Delete Option* to delete the form element.

3.3.5. Short text

You use the predefined *short text* form field to add a single-line input field to your form that does not require any further validation. This element is ideal for short user responses such as entering a first and last name.

Figure 3.16. Short text

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is displayed directly underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can make use of a variable here. This could insert the date automatically into the form field, for example (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.

Max. length: You can use this field to specify a maximum number of characters that the user may enter into the form field.



For this form element, you can define display variants in the configuration as well as autocomplete sources that provide the user with help when filling out the form. The autocomplete sources and display variants will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Duplicating a short text: Click *Duplicate Short text* to add a copy of this form field to your form.

Deleting a short text: Click *Delete Short text* to delete this form field.

3.3.6. Long text

You use the predefined *long text* form field (previously known as a ‘textarea’ field) to add a multi-line input field to your form, which can also contain line breaks. This field is ideal for comments or messages, for example.

Figure 3.17. Long text

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match

an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is placed underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can add a variable here. This could insert the date automatically into the form field, for example (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.

Max. length: You can use this field to specify a maximum number of characters that the user may enter into the form field.

Rows: You use this field to set the height of the form field. If you enter the value ‘5’, for example, then the form field will be displayed so that five lines of text will be visible at any one time.

Columns: You use this field to set the width of the form field. If you enter the value ‘30’, for example, then the form field will be shown word-wrapped to about 30 characters per line.



You can define display variants for this form element in the configuration. These will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Display variant: Select one of the available display variants here, so as to specify how the input field is displayed in the form. The variants available are specified on a per-project basis.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Duplicating a long text: Click *Duplicate Long text* to add a copy of this form field to your form.

Deleting a long text: Click *Delete Long text* to delete this form field.


3.3.7. Email address

You use the predefined *email address* form field to add a form field to your form that will check the text entered by the user, so as to confirm that the email address entered is valid in terms of its format.

Figure 3.18. Email

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.

 The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is placed underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can add a variable here (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.



You can define display variants for this form element in the configuration. These will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An ‘*’ will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: The *Validation* option is checked by default.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if their input does not match the format that is required for a valid email address.

Duplicating an email address: Click *Duplicate Email address* to add a copy of this form field to your form.

Deleting an email address: Click *Delete Email address* to delete this form field.

3.3.8. Number

You use the predefined *number* form field to add a form field to your form that only accepts numerical input from the user. If required, you can define criteria for this number that further restrict user input.

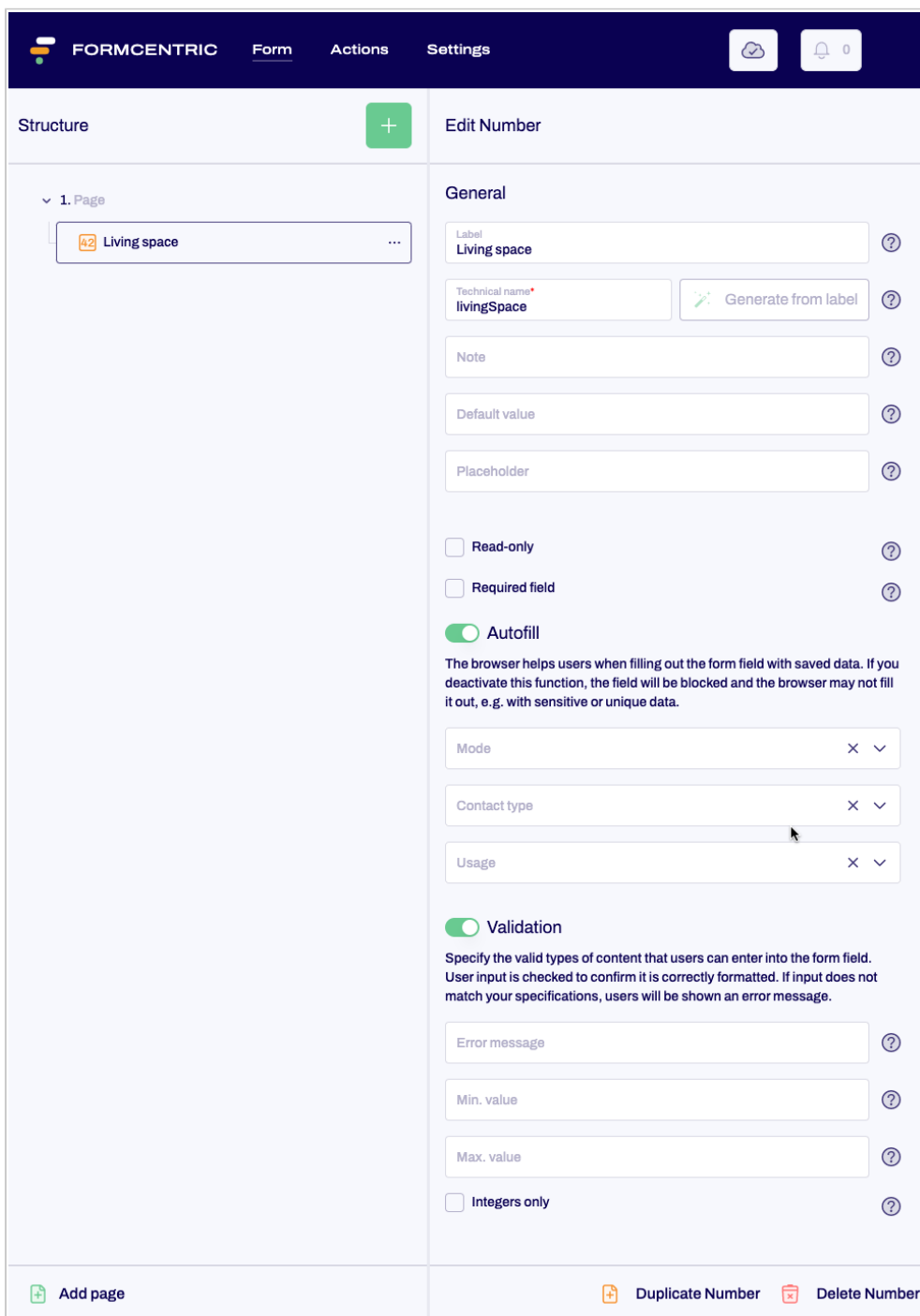


Figure 3.19. Number

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is placed underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can add a variable here (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.



For this form element, you can define display variants in the configuration as well as autocomplete sources that provide the user with help when filling out the form. The autocomplete sources and display variants will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: The *Validation* option is checked by default. You can configure various settings here.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

Min. value: Specify the smallest number that the user is allowed to enter.

Max. value: Specify the largest number that the user is allowed to enter.

Integers only: Select *Integers only* if you want to prevent the user from entering decimal numbers.

Duplicating a number: Click *Duplicate Number* to add a copy of this form field to your form.

Deleting a number: Click *Delete Number* to delete this form field.

3.3.9. Phone number

You use the predefined *phone number* form field to add a form field to your form that only accepts a phone number as input from the user. If required, you can define criteria for this phone number that further restrict user input.

The screenshot shows the 'Edit Phone number' configuration interface in Formcentric. The top navigation bar includes 'FORMCENTRIC', 'Form', 'Actions', and 'Settings'. The left sidebar shows the 'Structure' view with a tree containing '1. page' and a 'Phone number' field. The main configuration area is titled 'Edit Phone number' and contains several sections:

- General:**
 - Label: Phone number
 - Technical name: phoneNumber
 - Note
 - Default value
 - Placeholder
- Read-only:**
- Required field:**
- Autofill:**
 - The browser helps users when filling out the form field with saved data. If you deactivate this function, the field will be blocked and the browser may not fill it out, e.g. with sensitive or unique data.
- Mode:** Mode
- Contact type:** Contact type
- Usage:** Usage
- Validation:**
 - Specify the valid types of content that users can enter into the form field. User input is checked to confirm it is correctly formatted. If input does not match your specifications, users will be shown an error message.
- Error message:** Error message
- Valid phone number types:** Valid phone number types
- Country:** Country
- Country selection:** Country selection

At the bottom, there are buttons for 'Add page', 'Duplicate Phone number', and 'Delete Phone number'.

Figure 3.20. Phone number

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information, such as instructions about filling out the field.

By default, the note is displayed directly underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can add a variable here (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.



You can define display variants for this form element in the configuration. These will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: The *Validation* option is checked by default. You can configure various settings here.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

Valid phone number types: Select the valid phone number types from this list. The phone number entered must then match these types. If you do not select any phone number types, the phone number is not validated.

Country: Select a country here if the phone number must come from a specific country.

Country selection: If your form contains a drop-down list (see Section 3.3.4, “Drop-down list”) with a country selection, then you can select the corresponding form field here. The phone number entered must then come from the country that the user selected from that drop-down list. If both a country and a country selection have been made, then the country selection has priority.

Please note that the *Value* fields for the entries in the drop-down list must contain the valid country codes according to ISO 3166 (e.g. *DE* for Germany).

User input cannot be validated without valid country codes.

Duplicating a phone number: Click *Duplicate Phone number* to add a copy of this form field to your form.

Deleting a phone number: Click *Delete Phone number* to delete this form field.

3.3.10. Date

You use the predefined *date* form field to add a form field to your form that only accepts a date as input from the user. You can also specify additional requirements for the date, such as setting a date range: the date entered by the user must then be within this period.

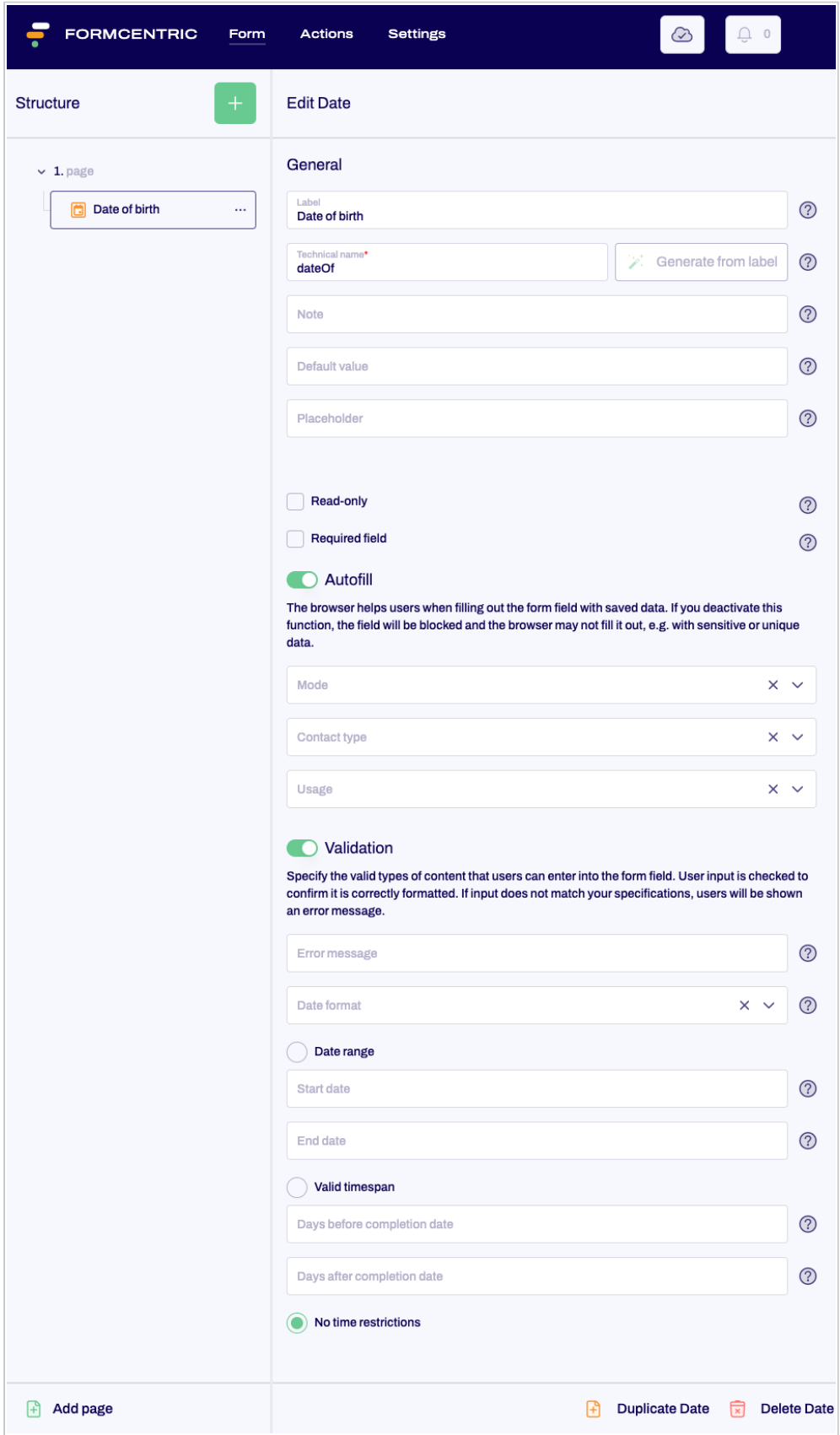


Figure 3.21. Date

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about filling out the field, for example.

By default, the note is placed directly underneath the form field.

Default value: In this field, you can enter a piece of text that is shown in the form field when the user accesses the form for the first time. Alternatively, you can add a variable here (see Section 3.4, “Variables”).

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the form field. This placeholder text disappears as soon as the user starts typing into the form field.



For this form element, you can define display variants in the configuration as well as autocomplete sources that provide the user with help when filling out the form. The autocomplete sources and display variants will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Read-only: If you check *Read-only*, the user will not be able to change the text in the form field. Use this setting if you want to enter predefined variables into this form field (see Section 3.4, “Variables”).

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details,

and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “Autofill”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: The *Validation* option is checked by default. You can configure various settings here.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This is shown to the user if the form field has not been filled out according to the rule(s) you have set.

Date format: Specify the format in which the date must be entered.

Date range: Specify a set of start/end dates: the date entered must be between these dates.

Valid timespan: Enter values here to restrict the date entered by the user to a number of days before or after the form completion date.

No time restrictions: If you select *No time restrictions*, then users will be able to enter any date.

Duplicating a date: Click *Duplicate Date* to add a copy of this form field to your form.

Deleting a date: Click *Delete Date* to delete this form field.

3.3.11. Password

You use the predefined *password* form field to add a password field to your form. Characters entered by the user are not shown but are represented by a line of dots. This gives the user a degree of privacy as they enter their password.

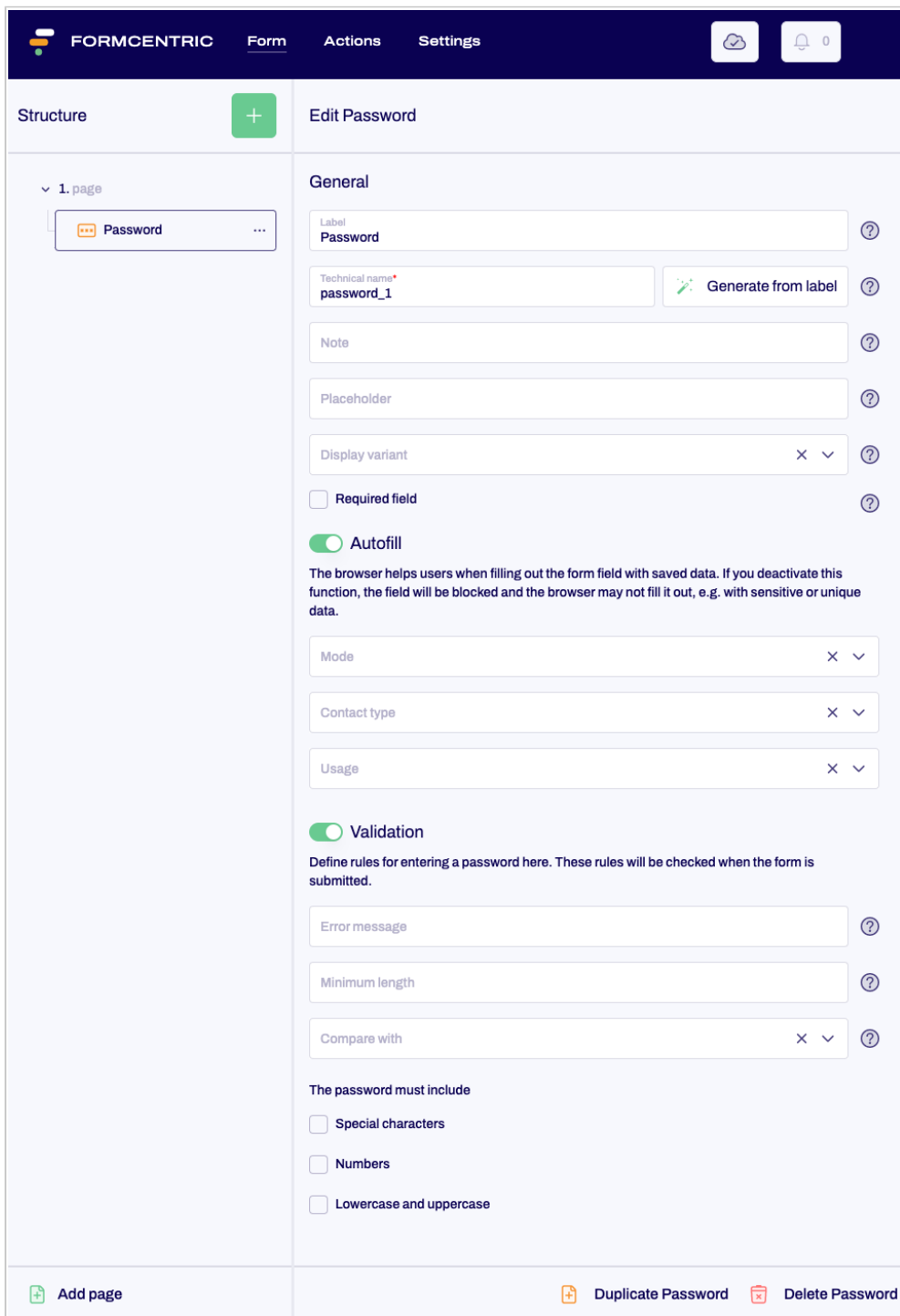


Figure 3.22. Password

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be instructions about how to pick a secure password, for example.

By default, the note is placed underneath the form field.

Placeholder: In this field, you can enter a piece of placeholder text that is displayed in the input field. This placeholder text disappears as soon as the user starts typing into the form field.

Display variant: Select one of the available display variants here, so as to specify how the form field is displayed in the form. The variants available are specified on a per-project basis.

Required field: Check *Required field* if this form field must be filled out when completing the form. An “*” will then be added to the end of the label, marking this form field as a required field. The user will then be unable to submit the form or move to the next page (if this is a multi-page form) if they have not completed this form field properly.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select ‘Shipping’ or ‘Invoice’ if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for ‘Usage’ (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate “*Autofill*”. To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Validation: The *Validation* option is checked by default. You can configure various settings here.

Error message: An input field appears when you check the Required field box. Enter some text here for the error message that is displayed if the user tries to skip filling out this form field.

Minimum length: Specify the minimum number of characters that must be used for the password.

Compare with: Select a second form field to compare with the input from this first form field.

Password must include: Check the relevant checkbox if the password must include special characters, numbers and/or lowercase/uppercase letters.

Duplicating a password: Click *Duplicate Password* to add a copy of this form field to your form.

Deleting a password: Click *Delete Password* to delete this form field.


3.3.12. Upload file

You use the *upload file* form element to add an upload area to your form that the user can use to upload one or more files. Depending on the action selected, uploaded files are either sent as an email attachment or stored in the web server's file system.

Figure 3.23. Upload file

Label: Enter the text of the label that is displayed next to the form field. By default, the label is placed above the form field.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.

 The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your upload area that gives the user additional information. This could be information about the maximum file size allowed, for example.

By default, the note is displayed directly underneath the upload area.



You can define display variants for this form element in the configuration. These will be shown in the editing area as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Required field: Check *Required field* if at least one file must be uploaded when completing the form. An ‘*’ will then be added to the end of the label for the upload file field, marking it as a required field. The user will then be unable to submit the form until they have uploaded a file.

Error message: An input field appears when you check the *Required field* box. Enter some text here for the error message that is displayed if the user does not upload a file.

Multiple files: Check *Multiple files* if you want to allow your user to upload more than one file.

Upload files automatically: Check *Upload files automatically* if files should be uploaded automatically as soon as the user has selected them. If this box is not checked, then selected files are uploaded only when the user actually clicks the *Upload* field.

Validation: The *Validation* option is checked by default. You can configure various settings here.

Error message: Enter some text here for an error message that should be displayed instead of the standard error message. This error message is shown to the user if they attempt to upload a file that does not meet the criteria you have specified above.

Max. file size (kB): Specify the maximum file size here. The default maximum file size is set at 50 MB.



We recommend that you always limit the file size. Otherwise, you may run into problems with data traffic handling if several users attempt to upload large files at the same time.

Max. number of files: Use this to specify how many files the user can upload simultaneously.

Valid file types: Specify which kinds of files the user is allowed to upload. If you make no selections here, then any file type is allowed.

Duplicating an upload file field: Click *Duplicate Upload file* to add a copy of this form field to your form.

Deleting an upload file field: Click *Delete Upload file* to delete this form field.

3.3.13. Hidden field

A *hidden field* is a form element that is not displayed on the actual form. Use hidden fields to access additional information about your user.

If a hidden field is assigned the variable `serverDate`, for example, this lets you find out the time and the date when the form was accessed.

Information contained in hidden fields is sent together with the values from the other form fields when the form is submitted.

The screenshot shows the Formcentric 'Edit Hidden field' configuration page. On the left, a 'Structure' sidebar shows a tree view with '1. page' containing a 'Time' field. The main area is titled 'Edit Hidden field' and contains a 'General' section with the following fields: 'Label' (Time), 'Technical name' (hiddenField_1), 'Value', and 'Data source'. There is also an 'Autofill' section with a toggle and explanatory text. At the bottom, there are buttons for 'Add page', 'Duplicate Hidden field', and 'Delete Hidden field'.

Figure 3.24. Hidden field

Label: Enter a piece of descriptive text that will be sent together with the value from the hidden field. This helps you to distinguish one data item from another when checking your submissions.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Value: Enter a value for the information that you want to receive from your hidden field – such as the `serverDate` variable, for example. You can add one or more variables, depending on the information that you need (see Section 3.4, “Variables”).

Data source: Select a data source here that determines the value of the hidden field dynamically at runtime, i.e. at the exact moment when the user accesses the form.



Data source	
Deutsche Ländernamen	
Key	Value
chars	2
Key	Value

The table gives you the option of entering additional parameters to pass to the data source. The available parameters will depend on the data source selected. The *Deutsche Ländernamen - Country names in German* and *Englische Ländernamen - Country names in English* data sources do not require any parameters.

Autofill: You can use the *Autofill* function to improve the auto-fill functionality offered by the browser. Browsers save form data entered previously like addresses and payment details, and then offer these as suggestions for other forms with the same types of fields. To improve the quality of these suggestions, you can tell the browser about the kinds of information that are expected for a specific field. In this way, you can ensure that browsers make appropriate suggestions for auto-completing form fields, which also helps the user to fill out the forms faster.

Mode: Select 'Shipping' or 'Invoice' if this form field is part of a shipping address or an invoice address.

Contact type: Select an appropriate contact type here if users are expected to input a fixed-line or mobile phone number, fax or pager number, or an email address into this form field. Specifying a contact type will affect the selection offered to you for 'Usage' (see below). This field is optional and can be left empty.

Usage: Specify the kinds of information entered into this form field.

If you want to stop the browser saving sensitive data and offering this as an autofill suggestion, then you can deactivate "Autofill". To do so, move the slider to the left.



As of this writing, the autofill function is not supported by all web browsers. For an overview of browser compatibility, please see <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/autocomplete>.

Duplicating a hidden field: Click *Duplicate Hidden field* to add a copy of this form element to your form.

Deleting a hidden field: Click *Delete Hidden field* to delete this form field.

3.3.14. Calculated value

You use the *calculated value* form element to calculate a value from the input that the user enters into the form. The value is calculated using JavaScript code.

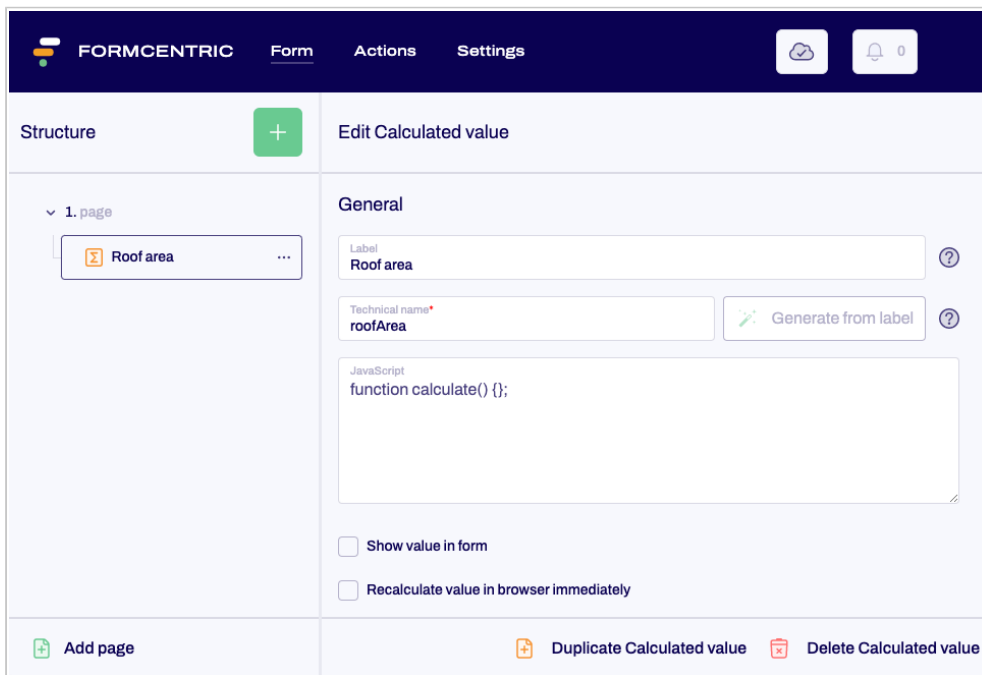



Figure 3.25. Calculated value

Label: Enter a piece of text to use as the label for the value. This label will then be shown in the summary, for example.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.

 The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

JavaScript: Enter the JavaScript code for calculating the value inside the brackets for the JavaScript ‘calculate()’ function. This JavaScript calculate() function is executed whenever the user moves from one page to another in the form or clicks the submit button.

If you would like to calculate the age of a person for a given date of birth – so as to then be able to use this in a condition, for example – then you can achieve this with the following function. In your form, include an input field (technical name: *birthdate*) in which users are asked to enter their date of birth.

```
function calculate() { return parseAge("yyyy/MM/dd", birthdate); }
```



You can define display variants for this form element in the configuration. Please see the Developer Manual for instructions. These will be shown as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Show value in form: Check *Show value in form* to have the result of executing the JavaScript code, i.e. the calculated value, displayed in the form.

Recalculate value in browser immediately: Check *Recalculate value in browser immediately* to have the value recalculated in real time. The value is then recalculated whenever the user enters input into a form field that is relevant for the calculation made by the JavaScript code. If you do not check this box, then the value is not (re)calculated until the user moves to another page in the form or clicks the submit button.

Tip: Check *Recalculate value in browser immediately* if you are linking the value to a condition. This ensures that the condition will work properly.

Duplicating a calculated value: Click *Duplicate Calculated value* to add a copy of this form element to your form.

Deleting a calculated value: Click *Delete Calculated value* to delete this form field.

3.3.15. Captcha

You use this form element to add a “CAPTCHA” (acronym for “Completely Automated Public Turing test to tell Computers and Humans Apart”) to the form. Captchas are used to ensure that the form is being filled out by a human and not by an automated system.

Figure 3.26. Captcha

Label: Enter the text of the label that is displayed next to the captcha.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for tech-

nical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your form field that gives the user additional information. This could be information about why captchas are being used, for example.

Error message: An alternative error message that is output instead of the standard error message.

Duplicating a captcha: Click *Duplicate Captcha* to add a copy of this form element to your form.

Deleting a captcha: Click *Delete Captcha* to delete this form field.

3.3.16. Condition

You use the *condition* form element to change the state of individual form elements based on the input that the user makes elsewhere in your form. This turns your form into a dynamic form. This flexibility offers a number of advantages. For example, you can have the form show form fields to the user only if these are relevant. Any form fields that are not relevant will be hidden.

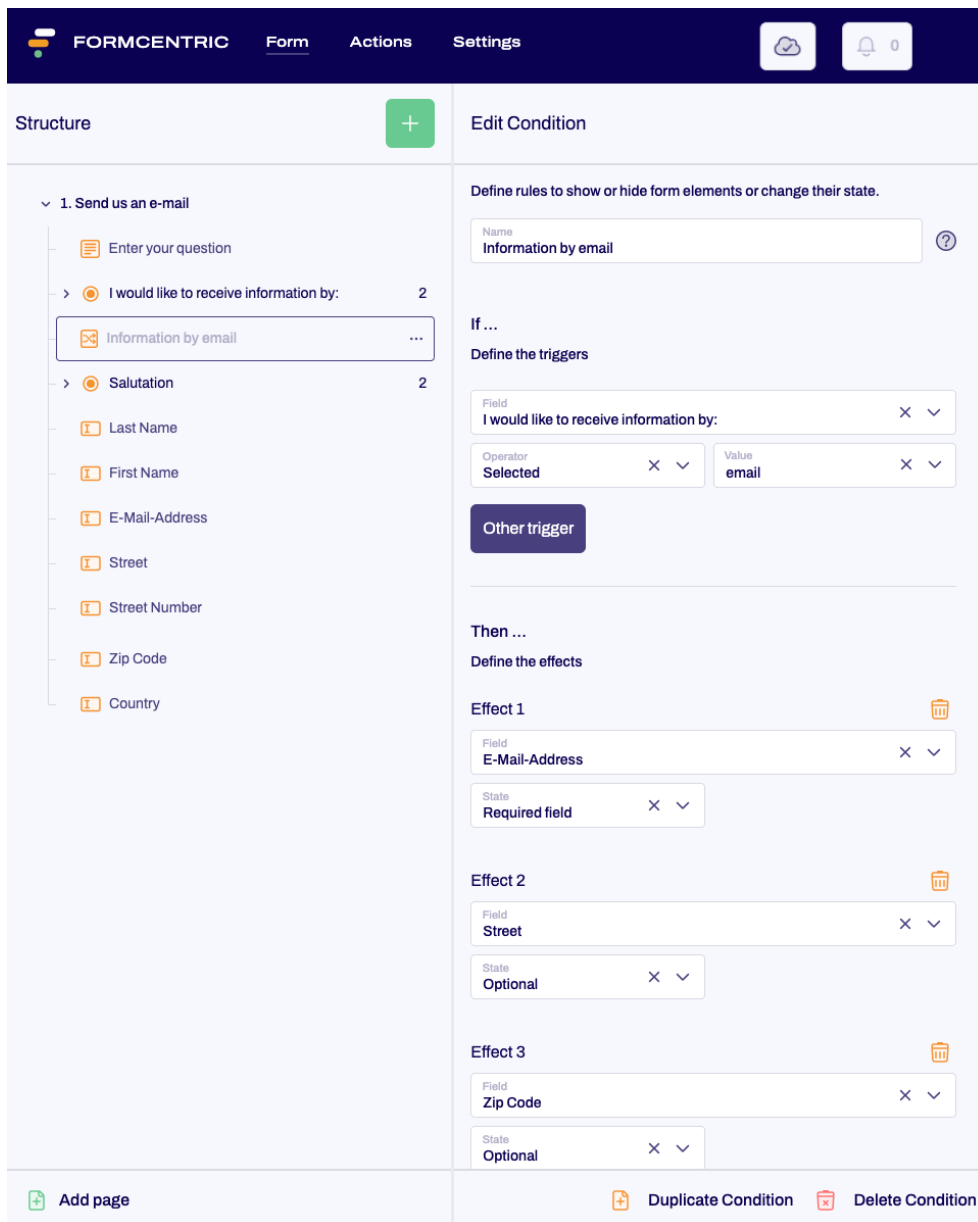
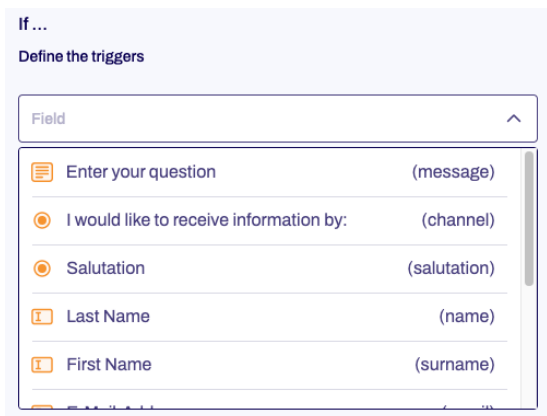


Figure 3.27. Condition

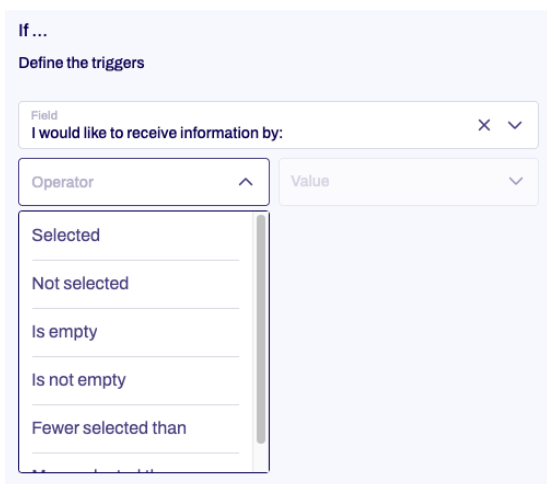
Name: Enter a name for the condition to help you identify it later. The name is shown only in the form tree.

If: Specify the trigger for the condition so that the outcome takes place as specified in the *Then* section.

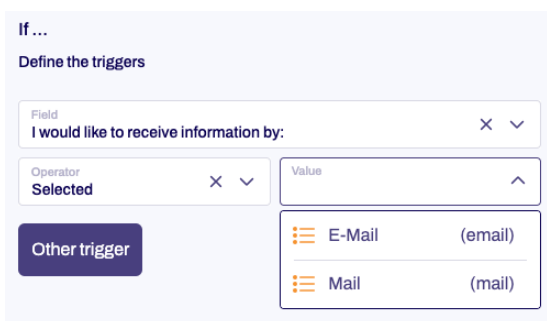
From *Field*, select the form element that you want to include in the condition that you have just created.



You use the *Operator* column to specify the logical operator for the condition. This is then applied to the comparison value specified in the *Value* column. The operators offered to you here will depend on the field content and whether the field is a selection field or a text input field.



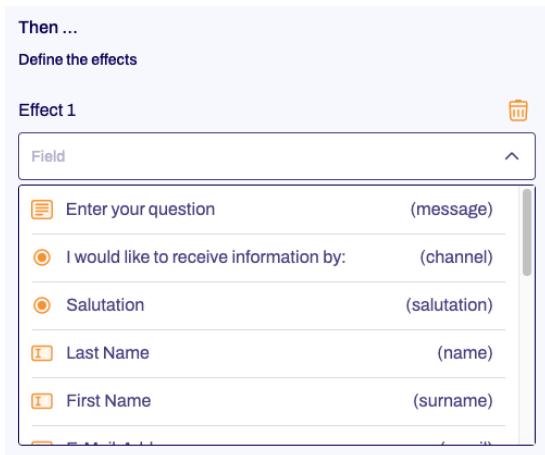
In the *Value* column, enter the comparison value or – in the case of a drop-down list – select the corresponding option.



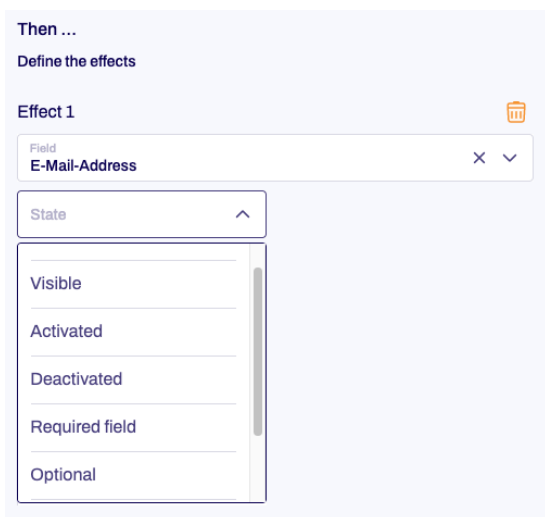
If you define multiple triggers, then you need to specify whether one or all triggers must be activated for the outcome to happen specified in *Then*.

Then: Under *Then*, you specify which action is carried out when the criterion specified under *If* has been met.

Select the form element from *Field* that will be referenced by the trigger that you have specified in the *If* step.



In *State*, select the outcome that should happen when the criteria for the trigger are fulfilled. You can choose from several states here, depending on the form element selected.



If the condition is not fulfilled, the form field is automatically given the opposite state. As an example: if a form field should be shown when a certain option is selected, then the form field is automatically hidden instead (hide = opposite of show) if this option has not been selected.



Please note: You can only specify the states *Optional/Required field* and *Editable/Read-only* for form elements that do not have their *Required field* or *Read-only* checkboxes checked.

Hidden form fields are also hidden on the summary pages and in any emails that are sent. Values from deactivated form fields are ignored.

Duplicating a condition: Click *Duplicate Condition* to add a copy of this form element to your form.

Delete condition: Click *Delete Condition* to delete this form element.

3.3.17. Paragraph

You use the *paragraph* form element to add a block of text anywhere in your form. This is a read-only piece of text that cannot be changed by the user. This can be used to offer advice or give explanations, for example.

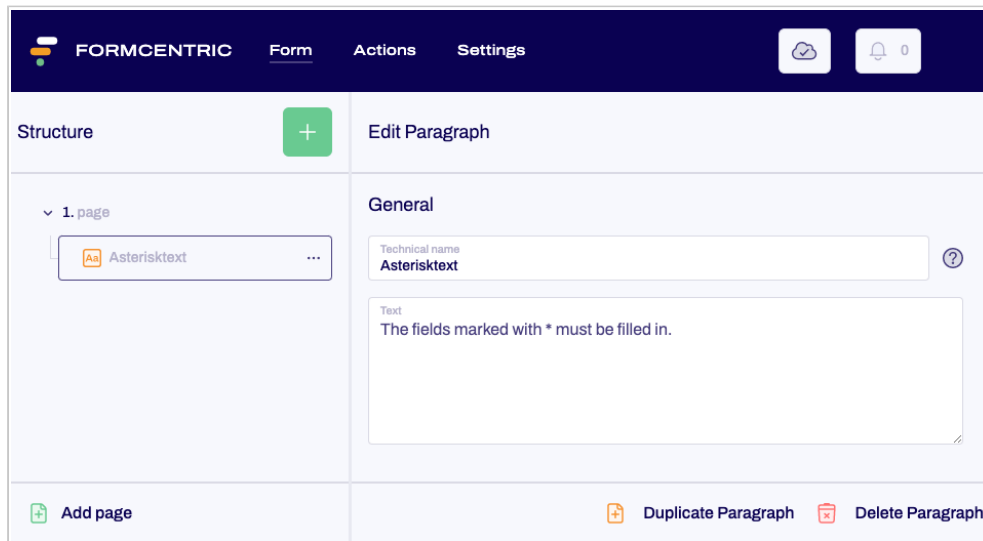



Figure 3.28. Paragraph

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.

 The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Text: Enter a piece of text here to be displayed in your form. You can use Section 3.5, “mark-down” to format the text.

Display variant: Select one of the available display variants here, so as to specify how the form field is displayed in the form. The variants available are specified on a per-project basis.

Duplicating a paragraph: Click *Duplicate Paragraph* to add a copy of this form element to your form.

Deleting a paragraph: Click *Delete Paragraph* to delete this form element.

3.3.18. Button

You use the *button* form element to include a JavaScript action in your form. This action is executed when the user clicks the button.

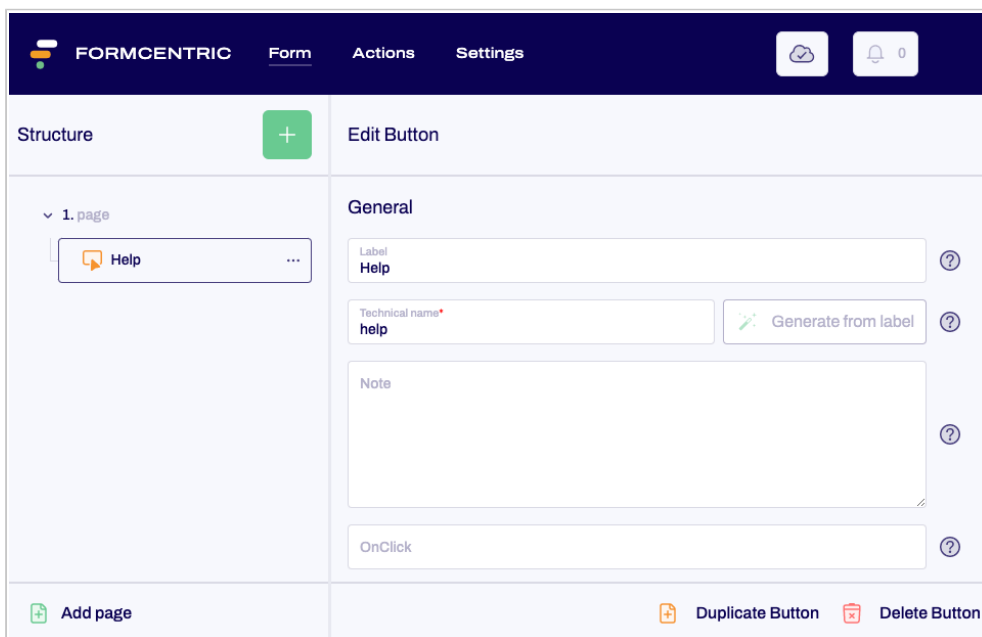


Figure 3.29. Button

Label: Enter a piece of text to be displayed on the button.

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Note: Here you have the option of adding some text to your button that gives the user additional information.

OnClick: To specify what should happen when the button is clicked, use the event handler *onclick* here, so as to respond to the click with JavaScript.



You can define display variants for this form element in the configuration. Please see the Developer Manual for instructions. These will be shown as drop-down lists, in the same way as for the input field form element, for example. Please see the Developer Manual for instructions.

Duplicating a button: Click *Duplicate Button* to add a copy of this form element to your form.

Deleting a button: Click *Delete Button* to delete this form element.

3.3.19. Layout

You use the *layout* form element to combine multiple form elements into a single group. You can then assign a display variant to this group, so as to create a two-column layout, for example. You can also nest one layout inside another.

To define a group, add the layout form element at the beginning and end of the form elements in the form tree that you want to combine into a group.

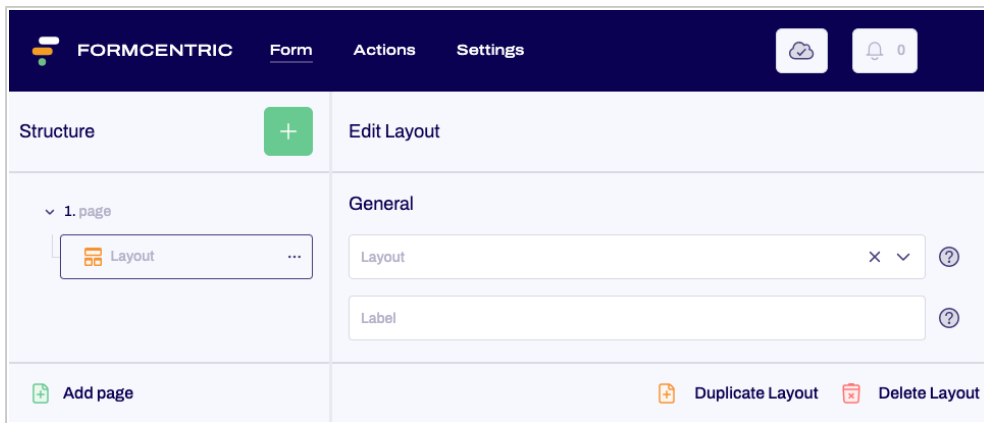


Figure 3.30. Layout

Layout: You use this field to select the available display variants and therefore specify how the group should be displayed within your form. The variants available are specified on a per-project basis.

Label: You can use this field to enter an optional piece of label text. Whether (and where) the label is displayed in the form depends on the layout selected.

Duplicating a layout: Click *Duplicate Layout* to add a copy of this form element to your form.

Deleting a layout: Click *Delete Layout* to delete this form element.

3.3.20. Summary

The *summary* form element presents an overview of all of the items of data that the user has entered into the form. You can use the summary to create a 'Check your input' page as the last page in your form, for example, which lists all of the input that the user has entered. The user can then check the accuracy of the data here and correct their input as required. The user can use the 'Back' button to go to the relevant form page and make any necessary changes.

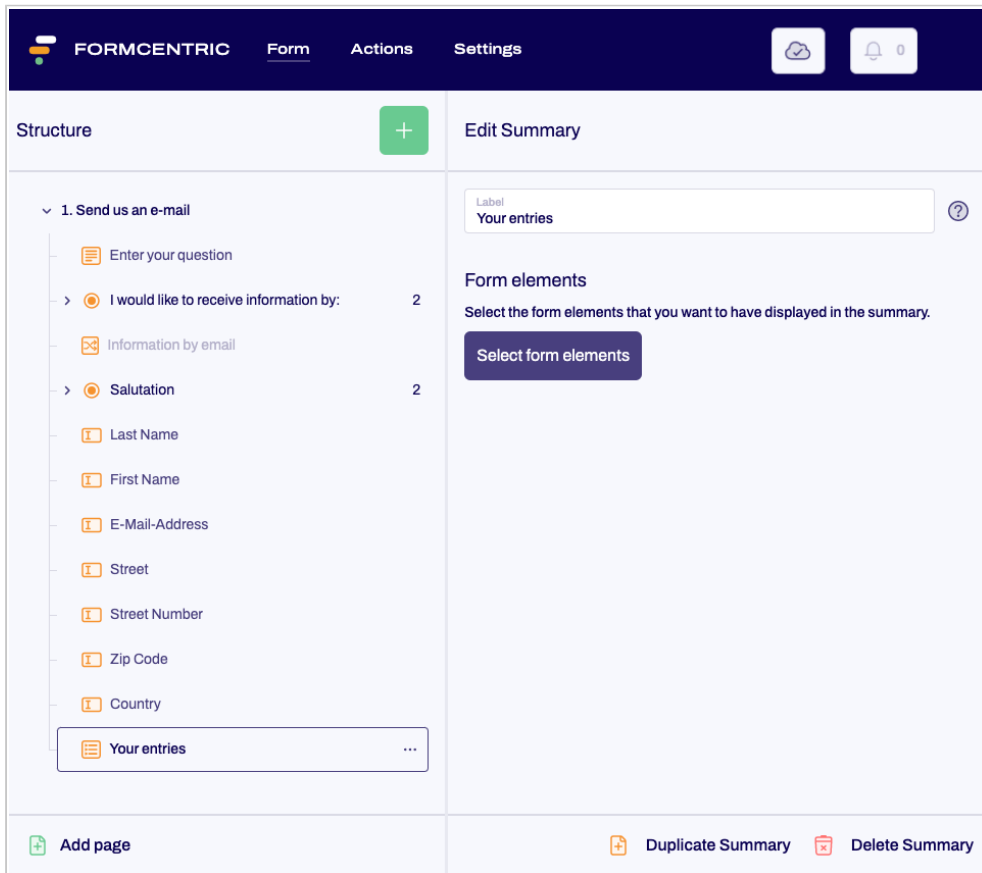


Figure 3.31. Summary

Label: Enter the text of the label that is displayed together with the summary.

Select form elements: Click *Select form elements* and choose the form elements that you want to have displayed in the summary. In the summary, the form elements will be displayed in the order in which they are listed here. If you want to use a different order, you can use drag-and-drop to rearrange your form elements. Use *Select all* to select all of the elements in one go. Use *Unselect all* to cancel this selection. Click the green button at the bottom right to confirm your selection.

Select form elements
×

Select all

<input checked="" type="checkbox"/> First Name	surname	☐☐
<input checked="" type="checkbox"/> Last Name	name	☐☐
<input checked="" type="checkbox"/> E-Mail-Address	email	☐☐
<input type="checkbox"/> Enter your question	message	☐☐
<input type="checkbox"/> I would like to receive inform...	channel	☐☐
<input type="checkbox"/> Salutation	salutation	☐☐
<input type="checkbox"/> Street	street	☐☐

Cancel Button
Select 3 elements

 If you select a form element for the summary and then change its technical name later, this element is automatically removed from the summary. Accordingly, you will need to select the form element again to have it included in the summary.

If you make no selections in this list, then the user is simply shown the values for all form elements that would normally be included in the summary. If you want to have form elements of the *password* or *hidden field* type displayed, then you will need to select these explicitly.

 *Paragraph* elements can be included in the summary if you assign a name to the element beforehand.

Hide empty fields: If you check *Hide empty fields*, then the summary will only show the form fields where the user has entered something into the field or selected something from the field. Empty form fields will not be shown.

Duplicating a summary: Click *Duplicate Summary* to add a copy of this form element to your form.

Deleting a summary: Click *Delete Summary* to delete this form element.

3.3.21. Document

You use the *document* form element to embed CoreMedia documents into your form. You can embed an image between two input fields, for example.

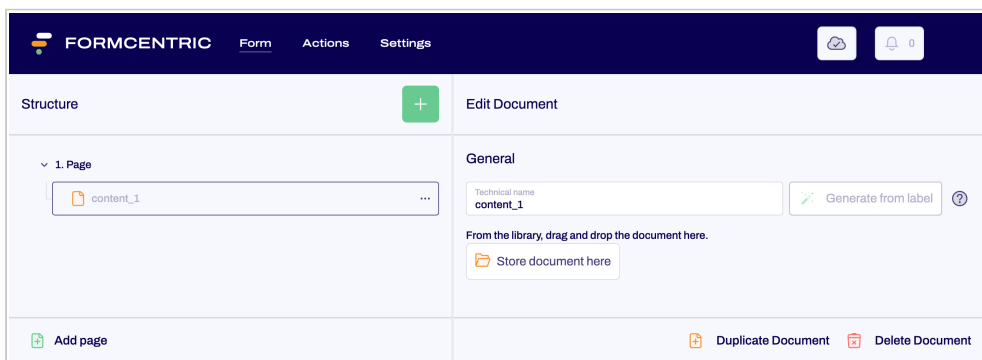


Figure 3.32. Document

Technical name: Each form element that is added to a form is automatically assigned a unique name – known as the ‘technical name’ – by Formcentric. This is necessary for technical reasons, to ensure that the form element can be properly identified and processed. The name is based on the designator for the form element and can be changed if required.



The technical name is a required field. The technical name must start with a letter and must not contain any special characters. In addition, the name must not match an identifier that is listed under Appendix A, *Reserved identifiers*. A technical name can be used only once within a form.

Generate from label: Alternatively, you can generate a technical name from the label. To do this, click *Generate from label*.

Store document here: Simply use drag-and-drop to move the CoreMedia document from the Library and insert it into your form.

Duplicating a document: Click *Duplicate Document* to add a copy of this form element to your form.

Deleting a document: Click *Delete Document* to delete this form element.

3.4. Variables

You can draw on a range of variables when setting default values for input fields. These variables are replaced with a value when the form is displayed. As one example, you can set a field to have the current date as a default value by entering the variable `$$clientDate` into the field’s default value setting. Variables must always be specified using the format `$$name-of-the-variable`.

All variables can be combined with additional text or other variables. The following variables are available to you as standard.

Variable	Description
date	The date, in the time zone UTC±0, on which the user completed the form. The output format is determined by the browser language configured by the user (example: UK English = 30/03/2014).

Variable	Description
time	The time, in the time zone UTC±0, at which the user completed the form. The output format is determined by the browser language configured by the user (example: UK English = 18:36).
serverDate	The date, in the server's time zone, on which the user completed the form. The date references the server time zone. The output format is determined by the browser language configured by the user (example: UK English = 30/05/2013).
serverTime	The time, in the server's time zone, at which the user completed the form. The time references the server time zone. The output format is determined by the browser language configured by the user (example: UK English = 17:33).
clientDate	The date, in the user's time zone, on which the user completed the form. The output format is determined by the browser language configured by the user (example: UK English = 30/05/2013).
clientTime	The time, in the client's time zone, at which the user completed the form. The output format is determined by the browser language configured by the user (example: UK English = 17:33).
timezone	The time zone that the user has configured for their browser (example: Europe/London).
language	The language configured for the user's browser. This is given in the form of the country code (de, en, etc.).
ip	The IP address assigned to the user's computer by their provider.
remoteUser	Name with which the user logged in to your website. Please note: This variable is available only if the login was handled by the deployed Application Server.
principal	Name of the authenticated user (from the principal object). Please note: This variable is available only if the login was handled by the deployed Application Server or JAAS is being used.
userAgent	Identification string supplied by the user's browser.
referrer	The URL used to access the web page containing the form (also known as the referrer page or the history page in browser jargon). A relative or absolute URL is given as the value.

As an example, if you want to use the date and time to set a default value for a field, then you can achieve this by entering the following in the *Value* field:

Input: `${clientDate} ${clientTime}`

Output: `30/03/2014 18:36`

3.5. markdown

Markdown is a simple mark-up language that you can use to add formatting and links to pieces of plain text. Markdown is available as standard in the following areas:

- Paragraph
- Note text
- Confirmation text

Examples of common kinds of markdown formatting are shown in the following table:

Formatting	Text as input	Text as displayed
Bold	Example for text in **bold type**	Example for text in bold type
Italic	Example for text in <i>_italic type_</i>	Example for text in <i>italic type</i>
Numbered lists	1. Element 1 2. Element 2	1. Element 1 2. Element 2
Bulleted lists	* Element 1 * Element 2	• Element 1 • Element 2
Headings	# Heading level 1 ## Heading level 2 ### Heading level 3	Heading level 1 Heading level 2 Heading level 3
Links	[Link text](http://sample-url.com) {param1=value1,...,paramN=valueN}	<u>Link text</u>

For full details of the formatting options available with markdown, please visit <https://commonmark.org/>.

4. Actions screen

On the *Actions* screen, you specify how the data entered by the user should be processed. Various actions are available to you, which you can add to your form either individually or as combinations.

If you want to send the data that has been entered as an email, for example, you simply select the *send as email* action.

If there is no condition present that would prevent the action being executed, then the action is executed when the user clicks the submit button. For multi-page forms, the submit button is located on the last page of the form.

On the *Actions* screen, click the green plus sign [+] in the *Structure* area. A dialog opens, listing all of the available actions. Click an action to add it to the form. You edit the properties for the actions on the right-hand side.

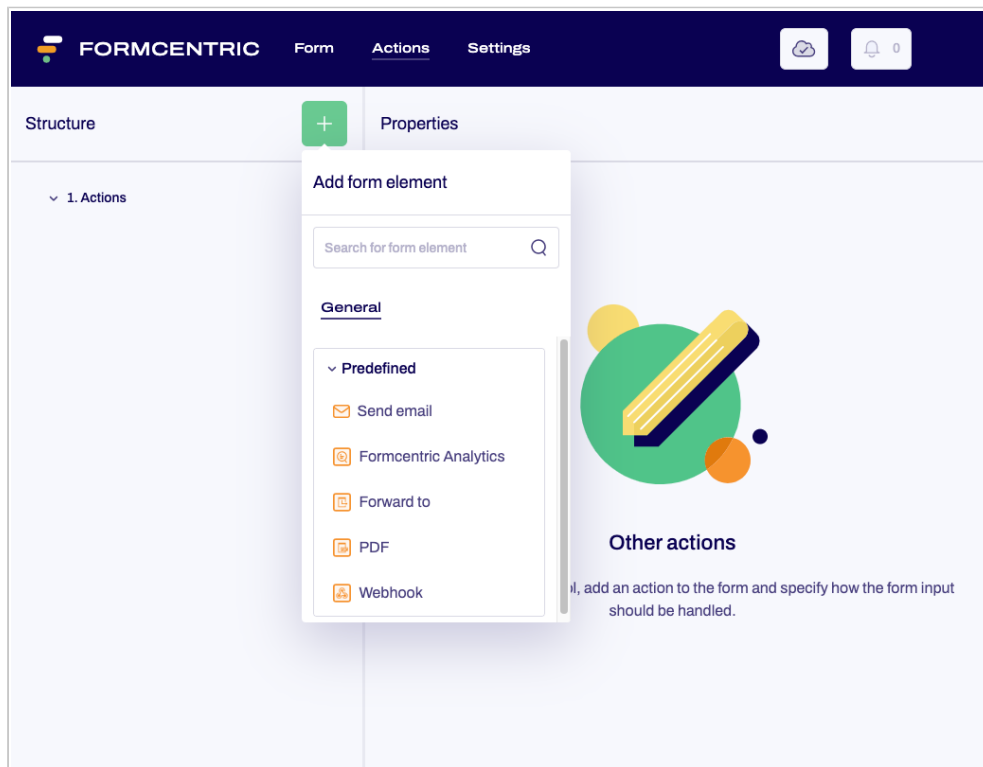


Figure 4.1. Adding an action

The following section describes all of the actions in detail.

4.1. Send email

The *send email* action collects all of the data entered into the form and sends it as an email attachment to any number of recipients.

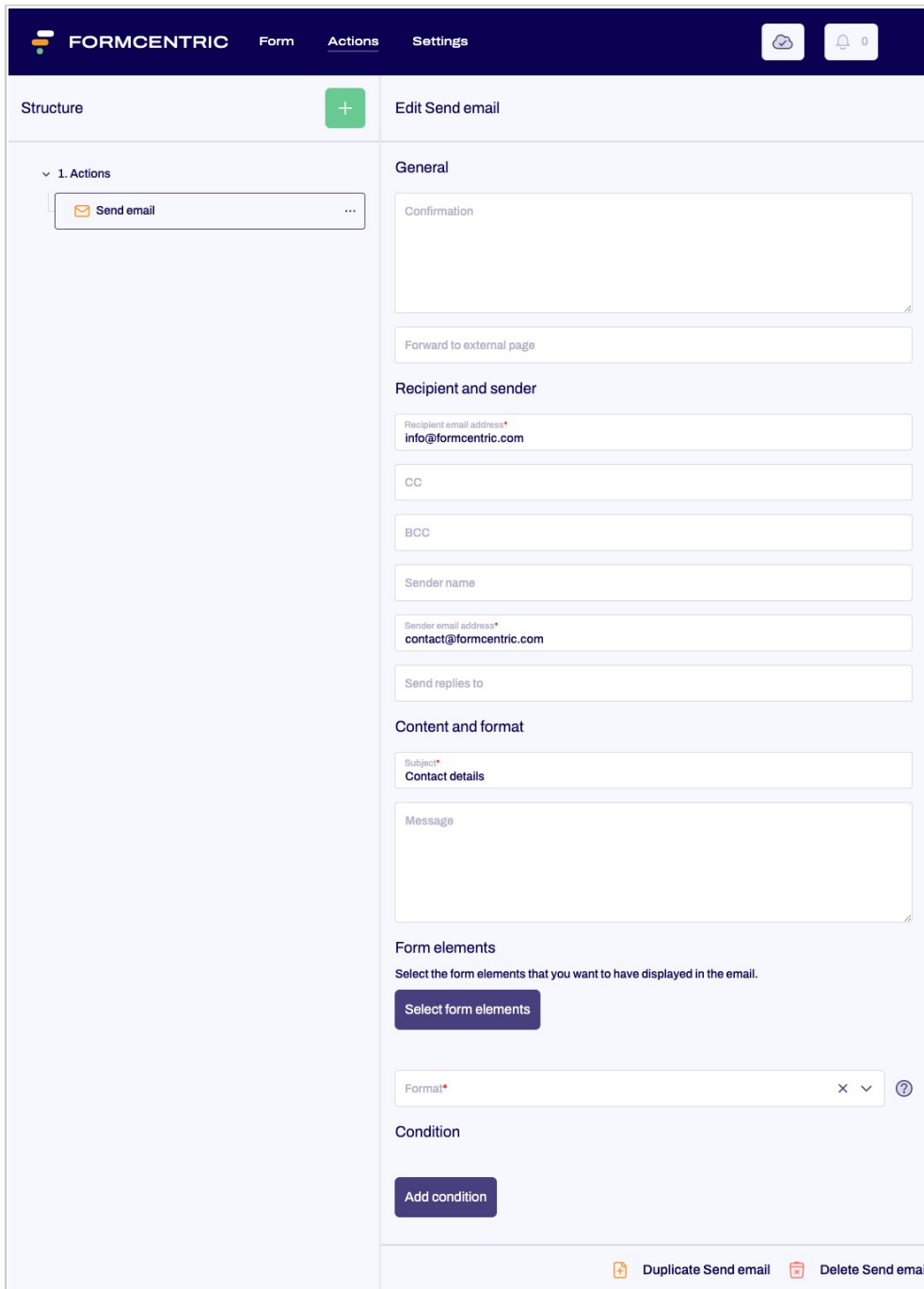


Figure 4.2. Send email action

4.1.1. General

Confirmation: Enter the confirmation message that is shown to the user on the web page after the form has been submitted.

Forward to external page: Instead of showing a confirmation text, this option lets you forward the user to a different web page instead. To do so, enter the full URL of the target page into this field.

4.1.2. Recipient and sender

Recipient email address: Enter one or more comma-separated email addresses to which the data entered by the user will be sent.

CC: Enter one or more comma-separated email addresses to which a copy of the data entered by the user will be sent.

BCC: Enter one or more comma-separated email addresses to which a blind copy of the data entered by the user will be sent. These email addresses are not visible to other recipients.

Sender name: Enter the name to be displayed as the sender.

Sender email address : Enter the email address to be used as the sender.

Send replies to: If answers to the email from this action should be sent to an address that is different to the sender email address, then you can enter this email address here. Use commas to separate multiple email addresses.

4.1.3. Content and format

Subject: Enter the subject here that is displayed to the user when they receive the mail.

Message: Enter a piece of text to be added to the body of the email, in addition to the form data.

Select form elements: Click *Select form elements*. A dialog field appears. Select the form elements that you want to have displayed in the mail. Use *Select all* to select all of the elements in one go. Use *Unselect all* to cancel this selection. If required, you can use drag-and-drop to change the order of the selected form elements. Click the green button at the bottom right to confirm your selection.

If you do not make a specific selection here, then the default behaviour is to include all form input from the form elements that are to be included in the email. If you want to have fields of the *password* or *hidden field* type displayed, then you will need to select these explicitly.



Paragraph elements can be included in the email if you assign a name to the element beforehand.

Confirm your selection to close the dialog field. You can now see the form elements that you have selected in the editing area. You can click the recycle bin on the right to delete individual form elements from your selection.

Hide empty form fields: Select *Hide empty form fields* to ensure that only completed form fields are included in the email.

Format: This field lets you specify whether the email should be sent in HTML format or as a plain text message.

Format	Description
HTML	Creates an HTML mail with the specified message text and the selected form values.

Format	Description
	The form values are added automatically as a simple list (label : value) at the end of the message text.
Text	Creates a plain text mail with the specified message text and the selected form values. The form values are added automatically as a simple list (label : value) at the end of the message text.
FreeMarker (text)	Creates a plain text email. When this format option is selected, the message text is interpreted and executed as a FreeMarker template. With this format option, the form values must be added manually to the message text.
FreeMarker (HTML)	Creates an HTML email. When this format option is selected, the message text is interpreted and executed as a FreeMarker template. With this format option, the HTML code and form values must be added manually to the message text.

4.1.4. Condition

Add condition: Use this field to specify any user input for which this action should be or should not be executed. To do this, proceed as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order for the action not to be executed or to be executed.

4.2. Formcentric Analytics

Use the *Formcentric Analytics* action if you want to store and analyse the form data with the help of Formcentric Analytics.

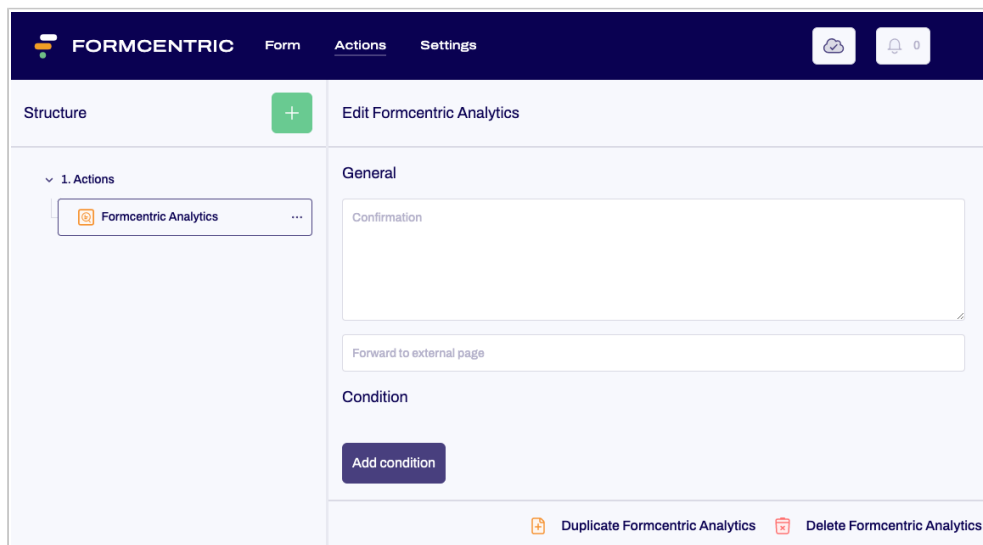



Figure 4.3. Formcentric Analytics action

Confirmation: Enter the confirmation message that is shown to the user on the web page after the form has been submitted. You can use Section 3.5, “markdown” to format the text.

Forward to external page: Instead of showing a confirmation text, this option lets you forward the user to a different web page instead. To do so, enter the full URL of the target page into this field.

Add condition: Use this field to specify any user input for which this action should be or should not be executed. To do this, proceed as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order for the action not to be executed or to be executed.

 You can test the action while you are still editing the form and then use Form-centric Analytics to view the entries submitted. However, please note that these entries will be removed once you have finished editing the form. Entries from previous versions of the form are not deleted, of course.

4.3. Forward to

Use the *forward to* action if you want to forward the user to a different page after the form has been submitted. You can reference an external address or a CoreMedia document here.

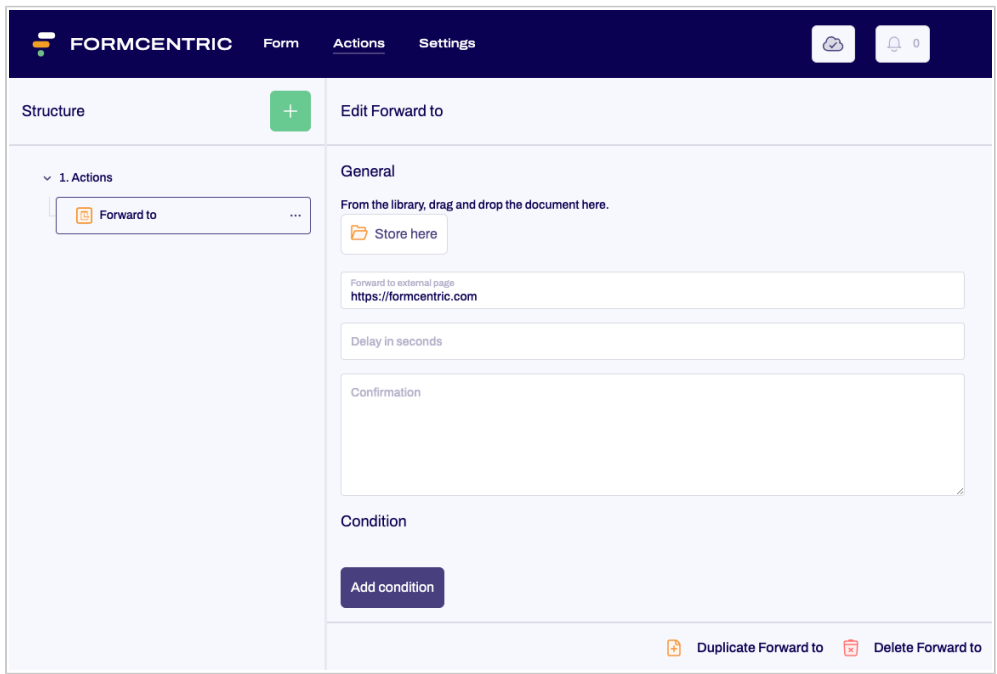


Figure 4.4. Forward to action

Store here - Forward to internal page: If you want to forward the user to a CoreMedia document after submitting the form, then you can specify the corresponding document here. Simply use drag-and-drop to move it to *Store here* from the Library.

Forward to external page: If you want to forward the user to an external website after submitting the form, then you can specify the URL for the corresponding website here. You can also use Formcentric variables (see Section 3.4, “Variables”).

Delay in seconds: Specify how long to wait in seconds before forwarding the user to the target address.

Confirmation: Enter the confirmation message that is shown to the user on the web page after the form has been submitted. Apart from the form data, the variables `_url` and `_delay` are also available, which can be used to display the target address or the delay time.

Add condition: Use this field to specify any user input for which this action should be or should not be executed. To do this, proceed as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order for the action not to be executed or to be executed.

4.4. PDF

The *PDF* action lets you fill a PDF document containing interactive or editable form fields with the form data from your web form. This means the user can then download a PDF file containing their data.

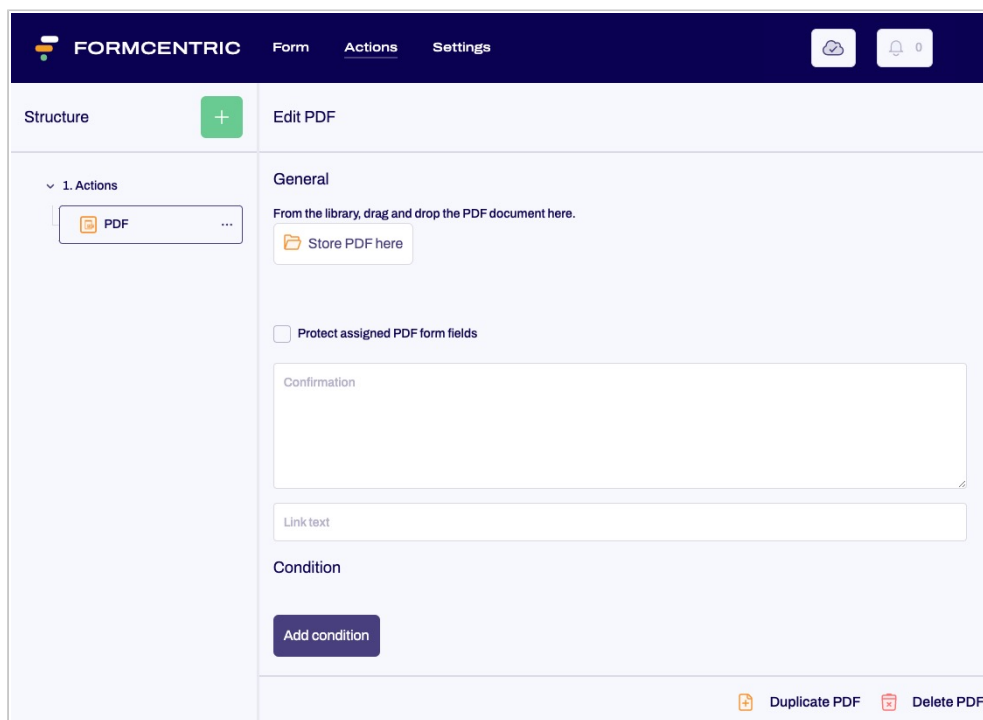


Figure 4.5. PDF action

Store PDF here: Store your PDF template that has been prepared for filling out here. You can then map this PDF to your web form. Simply use drag-and-drop to move it here from the Library.

Mapping: Once you have stored a PDF document, you then need to map the form elements from the Formcentric web form to the form elements in the PDF document.

Protect assigned PDF form fields: Check this check box to specify that the data items mapped to the PDF form are write-protected and cannot be edited.

Confirmation: Enter the confirmation message that is shown to the user on the web page after the form has been submitted.

Link text: Enter the text for the download link, which the end user can click to download the generated PDF document. Leave this field empty if the PDF filename should be used as the link text.

Add condition: Use this field to specify any user input for which this action should be or should not be executed. To do this, proceed as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order for the action not to be executed or to be executed.

4.5. Webhook

You use the *Webhook* action to send form input directly to a specified URL or compatible web application as soon as a form has been completed.

This offers a straightforward approach to integrating third-party services such as Slack, Zapier or your own backend system.

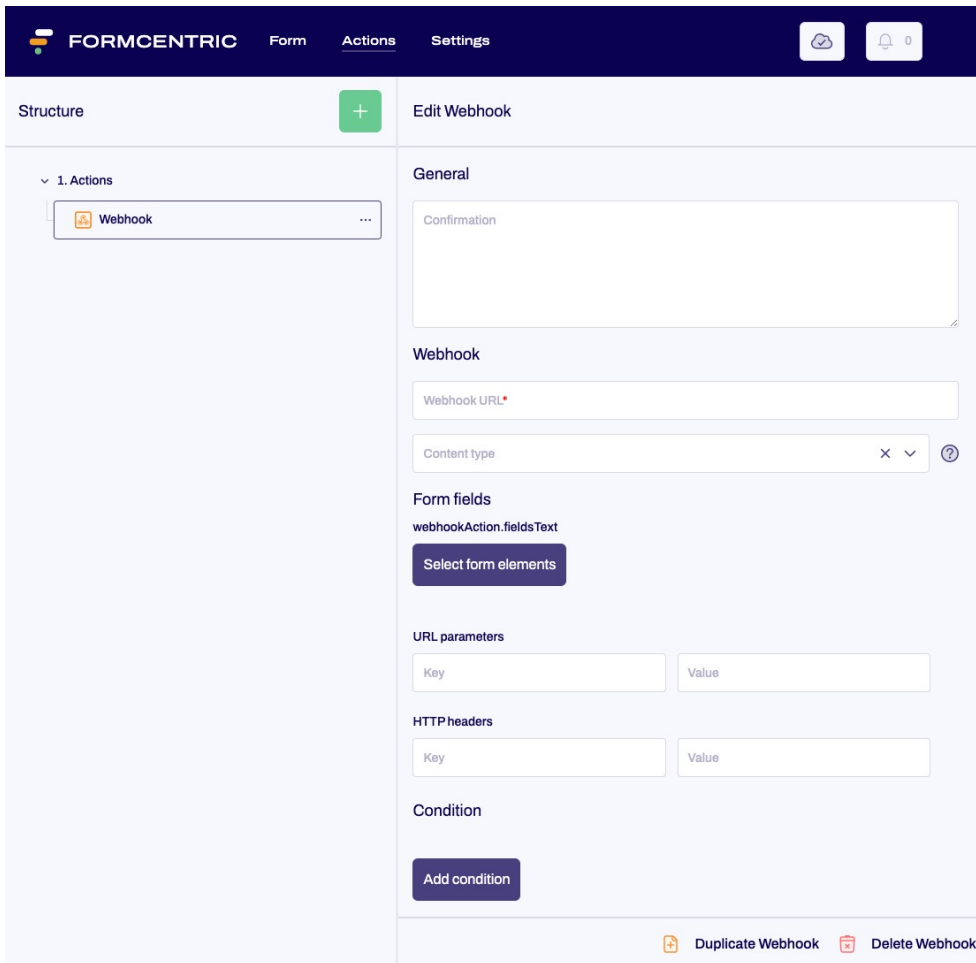


Figure 4.6. Webhook

Webhook URL: Enter the URL to which the request should be sent.

The Webhook URL utilises the following format:

```
https://www.mydomain.com/path
```

The use of secure HTTP (HTTPS) is not mandatory but is strongly recommended. For security reasons, a local address (such as *localhost*, *127.0.0.1*, etc.) cannot be specified.

Content type: Select the format for the Webhook request. The following formats are supported:

Format	Description
application-json	Send the form data in JSON format in the body of the HTTP request.
application-x-www-form-urlencoded	Sends the form data as a URL-encoded data record separated by & characters in the body of the HTTP request.
multipart-form-data	Sends the form data as a multipart HTTP request. Use this content type if the form data to be sent contains file attachments.

Elements: Select the form fields whose data is to be sent to the Webhook endpoint.

URL parameters: Any additional parameters you want to append to the Webhook URL. When specifying parameter values, you can make use of form values and form variables by specifying the value as a placeholder with the format `${fieldName}` or `${variableName}`.

HTTP headers: You can specify user-defined HTTP headers that are to be used when sending the data to the specified Webhook endpoint. When specifying a header value, you can again use form values and form variables in the same way as when specifying the URL parameters.

Add condition: Use this field to specify any user input for which this action should be or should not be executed. To do this, proceed as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order for the action not to be executed or to be executed.

5. Settings screen

On the *Settings* screen, you can give your form a name, and also specify the labels that will be used for the cancel and submit buttons. You can also activate saving for form input on this tab as well as configuring the settings for the double opt-in function.

The screenshot shows the 'Settings' screen in the Formcentric interface. The top navigation bar includes the Formcentric logo, 'Form', 'Actions', and 'Settings' tabs, along with a refresh icon and a notification bell icon showing 0 notifications. The main content area is divided into two columns: 'General' and 'Button label'. The 'General' column contains a 'Form name' field with the value 'Contact form', a 'Comment' text area, and a 'Usage' section with two unchecked checkboxes: 'Auto-save and resume' and 'Collect form statistics'. At the bottom of the 'General' column is a 'Double opt-in' toggle switch, which is currently turned on, with a sub-note: 'Activate double opt-in to ensure that users have access to the email address that they have specified in the form.' The 'Button label' column contains two text input fields: 'Text on cancel button' with the value 'Cancel' and 'Text on submit button' with the value 'Submit'.

Figure 5.1. Settings screen

5.1. General

Form name: Enter a memorable name for your form that you can use to identify it later. This name is used when displaying the form within the Formcentric Analytics web interface.

Display variant: Select one of the available display variants here, so as to specify how the form is displayed. The variants available are specified on a per-project basis.

Comment: You can also include a comment here. This comment is for internal use only and is not displayed on the form itself.

5.2. Button label

Text on cancel button: Enter a piece of text here that will be displayed on the cancel button for your form.

Text on submit button: Enter a piece of text here that will be displayed on the submit button for your form.

5.3. Usage

Auto-save and resume: If you activate *Auto-save and resume*, then the user can stop filling out the form at any time and continue with the form later on, without losing any of the data already entered. Form input is saved until the user has filled out the form in full and submitted it. This option is especially useful for multi-page forms.

Collect form statistics: If you activate *Collect form statistics* and have a Formcentric licence that includes Formcentric Analytics, then statistical metrics for this form will be collected and processed for reports. You can view these reports in the Formcentric Analytics Reporting application and drill down further into reports on form user behaviour.



When you activate *Collect form statistics*, then statistics will start to be collected and sent to Formcentric Analytics even while you are editing the form. However, please note that this data will be deleted once you have finished editing the form. Data from previous versions and data collected after form completion is not deleted, of course.

5.4. Double opt-in

With *Double opt-in*, you can activate and configure the double opt-in feature (also known as email confirmation) for users. This functionality lets you verify that the user has access to the email address that was entered into the form. To enable this verification, an additional step is added to the form, in which the user is sent a confirmation link. This link must be accessed in order to complete form entry successfully. In addition, this means that the actions you have configured are not executed until the user has accessed the link that was sent in the email.

Move the double opt-in slider to the right to activate email confirmation for this form. Complete the fields as listed here. All of the input that you enter here will be validated. If you deactivate double opt-in, no validation is made. Input that you have already made into the fields is saved and can be used later on, as required.

Figure 5.2. Double opt-in

Recipient email address : Select the form element into which the user must enter their email address. Please note that the drop-down list only includes the predefined ‘Email address’ form element as well as input fields for which email validation has been activated. Input fields are only accepted if these fields are defined as required fields.

Sender name: Enter the name to be displayed as the sender.

Sender email address : Enter the email address to be used as the sender for the confirmation mail. Note that the email address must be valid, otherwise an error will be generated.

Subject: Enter the subject here that is displayed to the user when they receive the mail.

Message: Enter the text of the email here. Include the $\${url}$ variable anywhere in your email text to add the confirmation link that the user needs to click. If you do not use the variable, the link is appended automatically to the end of the email message you have entered. Regardless of the *Email format* that you select, you can always format your message using FreeMarker markup.

Confirmation: When you activate double opt-in, the user will be shown a new intermediate page when the form has been filled out in full. The user must now respond to the email that they have been sent. Enter a piece of text here that will be displayed on this intermediate page. You can use Section 3.5, “markdown” to format the text.

Format: Specify whether the email is sent to the user in HTML format or as a plain text message.

Deactivate double opt-in if: Use this field to specify any user input for which the double opt-in feature will not be used.

The condition can be created as described in Section 3.3.16, “Condition”.

If you define multiple triggers, then you need to specify whether only one or all triggers must be fulfilled in order to deactivate double opt-in.

Appendix A. Reserved identifiers

For technical reasons, the technical name given to a form element must not match any of the following reserved identifiers:

`abstract, action, arguments, array, await, boolean, break, byte, case, catch, char, constructor, currentpage, currentpagenode, date, else, enum, eval, export, extends, false, final, finally, float, for, form, formdata, formvariables, function, goto, hasownproperty, if, implements, import, in, infinity, instanceof, int, interface, isfinite, isnan, isprototypeof, let, long, math, nan, native, new, nil, null, number, object, package, pagecount, pageelements, private, propertyisenumerable, protected, prototype, resolvedcaptchas, return, select-edelements, self, short, static, string, super, switch, synchronized, target, this, throw, throws, tolocalestring, tosource, toString, transient, true, try, typeof, undef, undefined, unwatch, valueof, var, view, void, volatile, watch, while, with, yield`