

Formworks XD

Form Design User Guide

 **Formworks**



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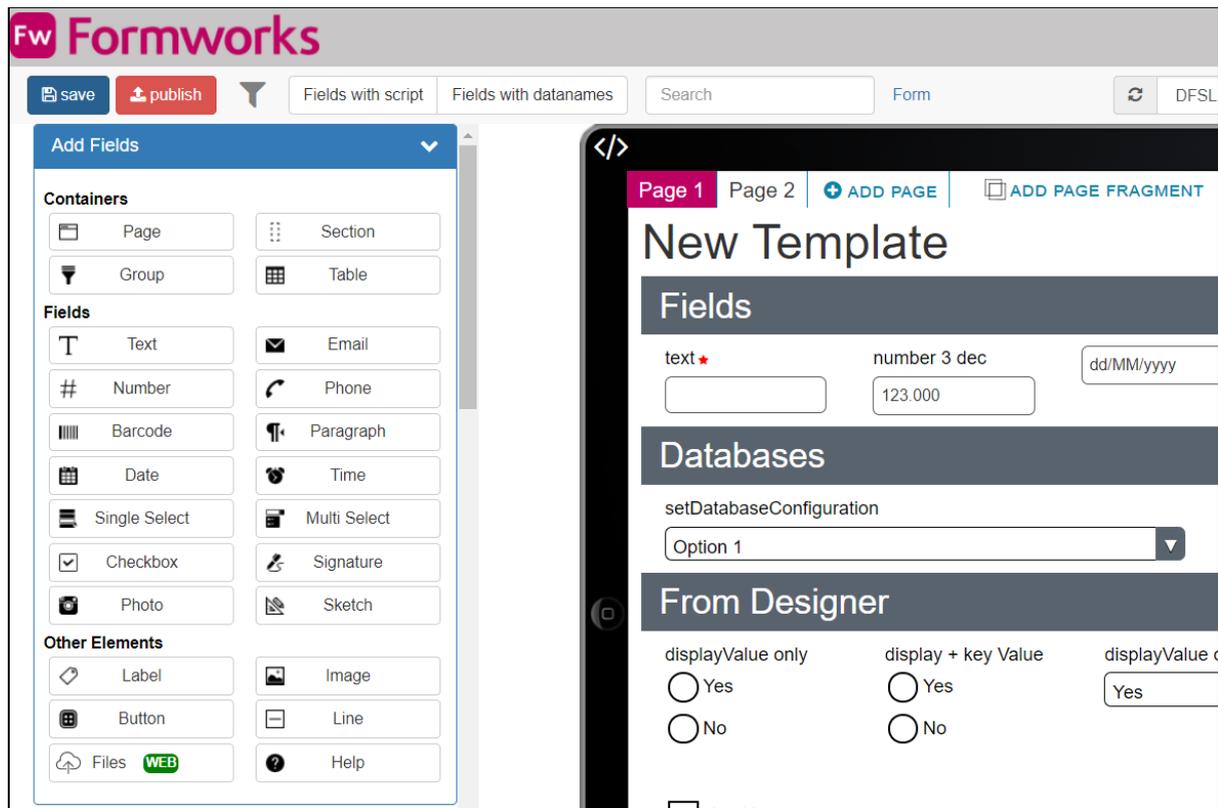
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Template Designer



The Template Designer provides access to:

- menu controls via a menu bar
- the elements required to create form templates - via the add fields panel
- a form design area that reflects how they are experienced on the FW App and Web.

Menu Bar

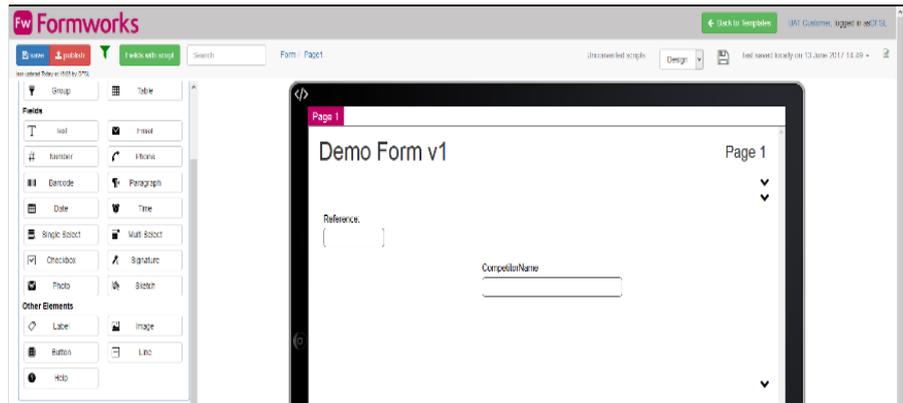
The menu bar provides the functionality to Save and Publish templates and additionally to search and filter elements present on the template.



Fields with script

Selecting Fields with script removes from the display, all elements that do not contain script in their events. Elements remain in their screen layout position.

Selecting Fields with script again, returns the screen to its original display.



Fields with Datanames

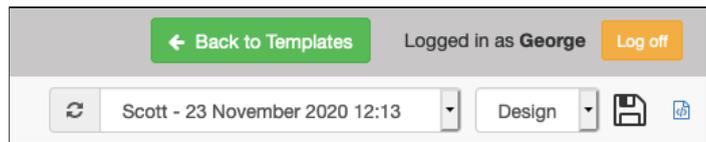
Selecting Fields with Datanames removes from the display, all elements that do not contain a Dataname.

Search

Template elements can be searched on any part of an element name, Alias name or Title property. Simply type the full name or any part in the Search field and only matching elements will be displayed.

Saving Templates

Templates are saved using the red save button on the left of the bar..

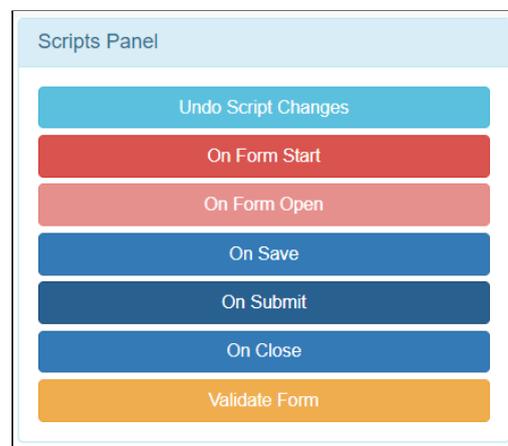


The save history can be viewed in the drop down list and the user can switch between versions.

A 'local' backup of the template, without saving changes to the server, can be completed by selecting the disk (Save) icon. This will create a single backup that can be used to undo changes made to the templates design.

Switch between design and edit mode

Selecting Edit mode, enables designed templates to be viewed as a webform that a User would experience. If testing scripting functions in Edit mode, only scripting written in Javascript will work. Form level events can be run while in Edit mode.



Add Fields Panel

The Add Fields panel contains all the elements used to design and build forms. This is divided into three areas, Containers, Fields and Other Elements.

Containers

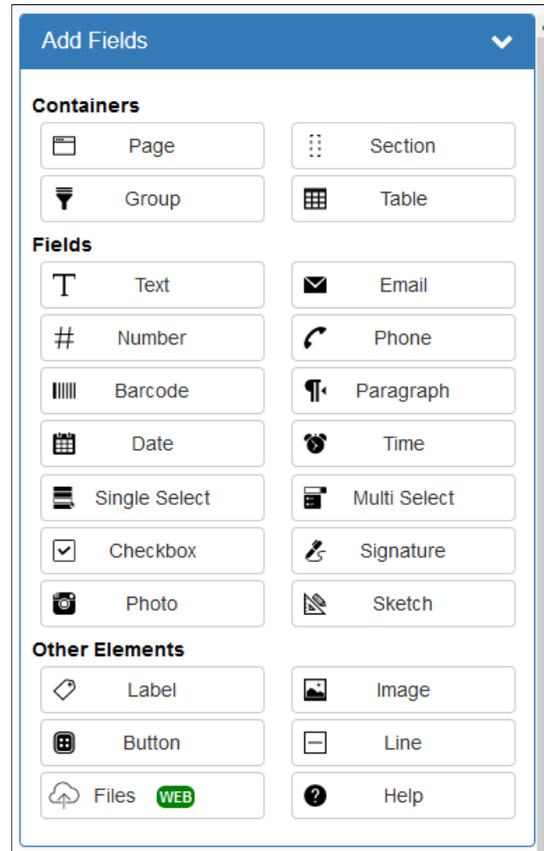
These are elements that contain other elements. A page element is required as a container for all elements. A page must contain at least one section, though normally it is better for design and form organisation to have more than one section. Sections, groups and tables can contain all the other fields.

Fields

Fields or elements are used to enter data, take photographs, draw sketches and capture barcodes.

Other Elements

These are used to place captions, logos and lines on forms to better illustrate it. Help icons can be used to provide context sensitive help or links and buttons can be used to act as a trigger for scripts, automating your forms.



Elements / Fields

Overview

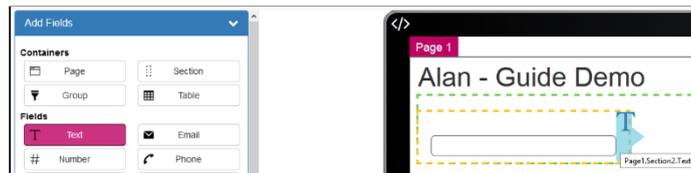
The terms Elements and Fields are interchangeable in regards to constructing a Formworks Template and both terms are used frequently to describe the elements that comprise a normal template.

Formworks has an object model that most people with a passing knowledge of Visual Basic or Visual Studio will be familiar with. If not, it helps to think of all the elements that comprise a form as being very similar, with a few different properties that give them their specific purpose. For example, all elements, Pages, Sections, Groups, Tables, Text Boxes etc., can all be hidden, revealed, disabled for input, enabled, contain validation script etc. Some elements, such as Containers, contain other elements. For example, a Page element can contain a number of Section elements, whilst a Section element can contain Group elements or Text box elements. But virtually all the elements that you use in the construction of your form have the same basic properties. They have a Title, a Name etc. Those elements used to capture user input all have Value properties. If you think of them in this way, you only need to concern yourself with the variations of the particular element you are working with.

Placing Elements on your template

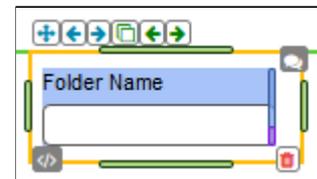
To place an element on a template:

- Click the element type, text box, single select list element etc., required
- Move the cursor to the location on the template. A blue 'arrow' symbol will display when either side of the half-way point on an existing element. The arrow also indicates the type of element being placed, in this capture, a text box.



Deleting Elements

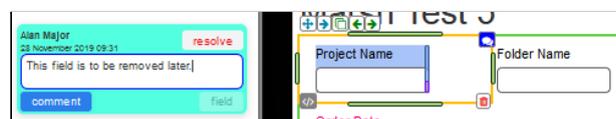
To delete an element, first select it, then click on the red dustbin icon at the bottom left of the element. Delete confirmation is requested.



Comments - Adding comments to your elements and resolving them

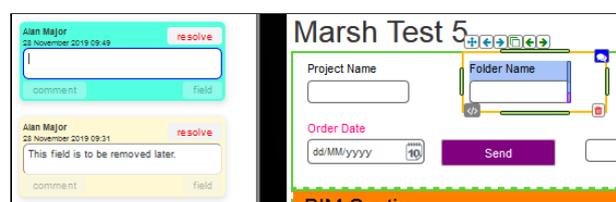
It is often useful to be able to add comments against an element, for example, a reminder to make a change to it, or remove it later. You can do this by first selecting the element, then the 'Comment' icon in the element's top, right corner (see above screenshot).

This will display the Comments dialogue box. When the element linked to a comment box is selected, the comment box will appear in blue.

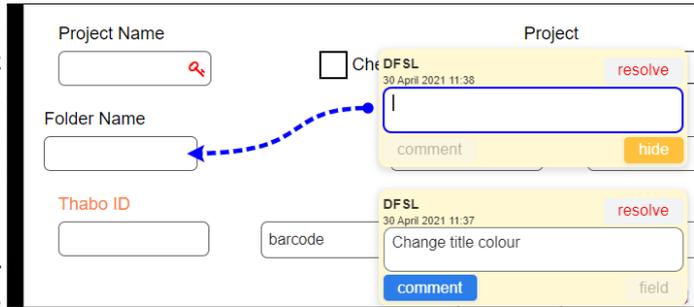


Other 'unselected' comments boxes will appear in yellow. Currently, you can't make amendments to a comment once it has been created, and you can only make one comment box per element. The

comments boxes can be dragged around the screen and placed at will, though it is worth noting that if you create more than one comment box, from different elements, the boxes will sit on top of each other, covering prior comment boxes, until they are arranged.



If you are uncertain which screen element the comment box relates to, selecting the amber "Field" button at the bottom right of the comment box, will draw a dotted, arrow line between the comment box and the screen element.



If the comment box is no longer required, select the "Resolve" icon at the top right of the comment box, to remove it.

To toggle the visibility of all comments boxes, use the double comment bubble icon at the top right of the designer window. This will appear clear white when comments are hidden and blue when they are visible.



Element Tool Bar

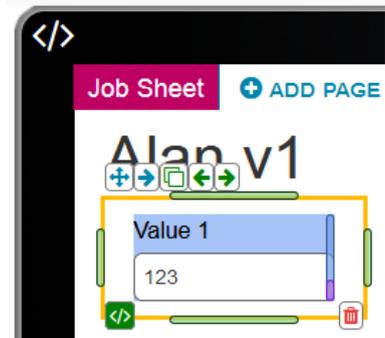
The Element Tool Bar becomes visible when you select any element. Depending on the location of the selected element, the toolbar icons provide the options of moving anywhere, moving left, moving right, copying anywhere, copying left and copying right.



To move or copy anywhere - select the appropriate icon then move your cursor to the position the element is required on the form.

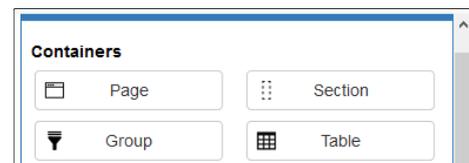
Scripting

Scripting functionality is available for all elements, including forms, sections and even the line element. The Scripting Window is available for an element, by selecting the element, then clicking the `</>` symbol that usually appears as white text on a green background, at the bottom right of the element, (top left for a form). Scripting is beyond the scope of this guide and is covered in detail in the Formworks Scripting Guide.



Containers

The containers section of the Add Fields panel provides four primary elements used in the construction of your forms, that are used to contain other elements/fields.



Forms

The Form object can be considered the highest level container. All templates have a Form level 'container/object' and this has properties and events which are unique. These include events such as `OnStart` and `OnOpen` which fire at different points in the form loading process and `OnSubmitAndConfirm` and `OnValidate` which form part of the submission process. Events are covered in greater detail in the Formworks Scripting Guide.

Page

All templates contain at least one Page level container object and the first, Page 1, is created by default when you create a new template. Similar to the Form object, Pages have events such as `OnValidate` that can contain script instructions to assist and validate user input.

Section

All templates contain at least one Section level container and the first is inserted by default when a new template is created. Sections are the most common container element and are used to divide your form horizontally into meaningful areas.

Group

Groups are optional containers. They can only contain other groups or non-container elements, such as text boxes. They are used primarily to group elements into vertical groupings.

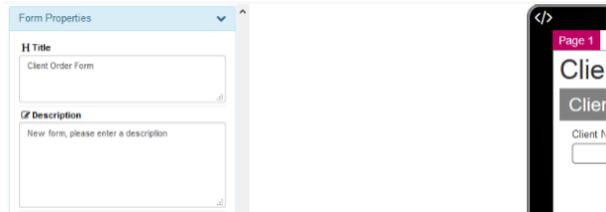
Table

Tables are a new construct. Each cell in a table functions similar to a Group container element and can contain other elements, such as text boxes and single selection elements.

Forms

Forms are the highest level container object. This is where you set all Form level properties, such as the Title of your Form, a Description to appear in the user device folder, Reference Text from the contents of user forms to appear on the users device, how the user device handles the availability

of submitted data, audio settings, databases and default font sizes. To access the Form level settings, click on the black border around the design area.



Form Properties

Title

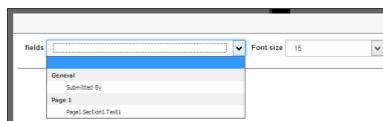
The Title of the template, as it appears in the Templates and other Formworks portal screens and user devices. It is highly recommended to add a version number to your title, i.e., Client Surveys v1.0.

Description

This text appears on user devices, beneath the template Title.

Reference Text

Selecting the Edit reference text button opens a dialogue box that lets you insert text and fields that can display on the



device and the Export History screen. Usually this consists of fields from the template, for example, the Client Name. When you select a field, you have the option to Add it to the Reference text. You can also set the Reference text font size.

After form submission

This provides three options to control user device access to data after they have submitted a form.

- Form data is hidden on device (default)
- Form data is viewable on device
- Form data is editable on device.

Prefilling options

The metadata button provides access to the metadata config screen. Form metadata is used during the pre-filling process - and enables assigned (pre-filled) forms to include custom meta tags (e.g. location, due date, work order etc) to help App users manage their workload. For further information see Form Pre-Filling.

If you tick **Only allow prefilled forms**, it will prevent users from starting forms from the Blank Templates folder on their device.

If you tick **Disable Deleting of Prefilled Forms**, it prevents prefilled forms from being deleted on the users input device.

Platform(s)

This control enables you to select the platform that your templates are to run on. Currently there are three options that include iPad, Web Forms and both.

Element Name

This is the full path name for the form

Name

This is the Template Name

Max Image Size

This option has two settings; Small and Standard. This sets the default image size for uploading photos for the entire template. The difference in sizes is between 1024 and 640. Individual photo elements can have their own setting, of either Form Default, Small or Standard.

Audio

The facility to record Audio clips is a licensable feature, so may not be available to you unless you have contracted for it. For further information refer to the Audio section at the end of this guide.

Allow audio for this form

If you have this feature, you can use this option to select audio for individual forms.

Max # clips

Indicates the maximum number of audio clips that can be recorded against an individual form.

Max time

Indicates the maximum recording time in minutes for each individual audio recording, in minutes. Zero (0) indicates that no time limit has been enforced.

Allow user to delete audio clips

This is ticked by default. To prevent users deleting audio recordings, remove the tick from this checkbox option.

PDF Map Zoom

Use this list box to produce a map at the end of the PDF output. The presence of the map and the scale, depend on the option chosen. Selections range from None to 20.

Databases

Select local databases here, to link to your form. You use script code to use these within your forms. More information on using databases within templates can be found in the Formworks Scripting Guide.

Choose Icon

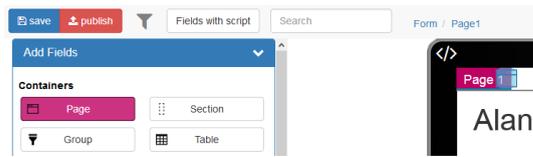
You can upload a square icon here, to display against your templates on the users device. This is a fast aid to recognising different templates, for example, where different clients are involved, a clients' icon could be displayed against the templates and forms on the users' device.

Font Size

This represents the font size to be used throughout the template. Font sizes range from 12 to 20, with 16 being the default size. Changing the default form size here will not automatically change all the font sizes of existing fields on the template.

Page

Page elements are the highest level containers and are required for every form. Your template can contain multiple Pages and each can contain any of the other element types, but must always contain at least one Section container element to build a valid form. Blank templates come with the Page 1 element as default.



To place a new Page element on a template, select the Page icon on the containers panel, place your cursor next to an existing Page element and click with your mouse. You can also select the 'Add Page' button at the top of the Form Design screen on the right.

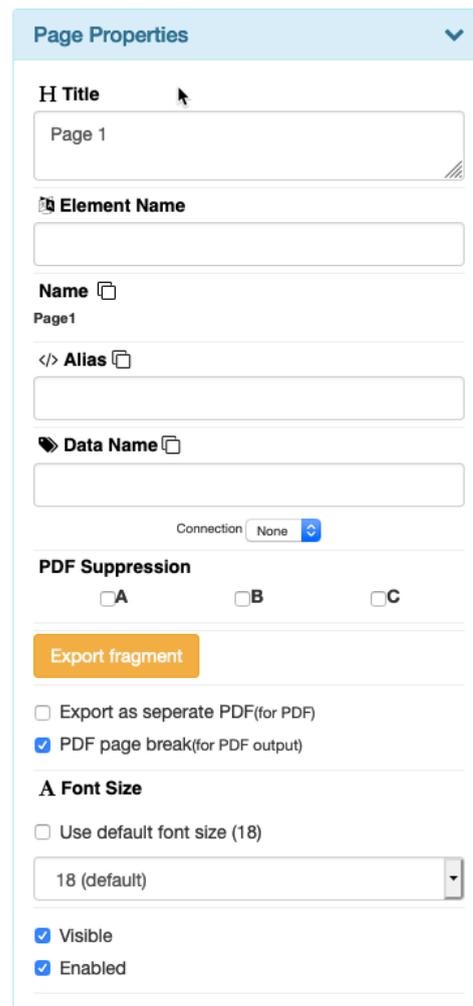


To access the Page elements tool bar, click on the page and the tool bar will appear at the top right of the screen. Using the tool bar you can perform standard moving instructions, plus access page level events for scripting, using the `</>` icon.

Page Properties

You access the Page Properties panel by selecting the Page area of the template. This is at the top of the screen, near the Form title. In the capture, this is Client Order Form.

You can hide and reveal or enable and disable all the other elements on a Page element with a single script instruction. Hiding and revealing Page elements is a convenient way to restrict the fields a user can enter data into. For example, based on the selection the user makes from a list box, Page 2 could be hidden or revealed.



Editing the Page Name

There are two methods of editing the Page Name. Either select the Page Properties by clicking near the Form Title, as above. Or you can select the Page Title and edit it directly, as it appears on the screen:



Element Name, Alias and PDF Suppression

Work as standard for all elements. Please refer to Field (Elements) - Common Properties, later in this document for further information.

Export as separate PDF (for PDF)

This option causes the selected page to export as a separate PDF. It will not form part of the 'main' PDF and will be named according to the page selected, for example, "All Fields Test v2.1_Alan Major_30987_Page 1.pdf". This method does not 'amalgamate' pages. Every page marked "Export as separate PDF (for PDF)", will be generated as a separate PDF. All unselected pages will be grouped together in the main PDF export.

PDF Page Break

By default, form pages break automatically in the output PDF. Deselecting this option, removes automatic breaks between form template pages on the output PDF.

Export fragment

This option allows you to copy the current page to another template:

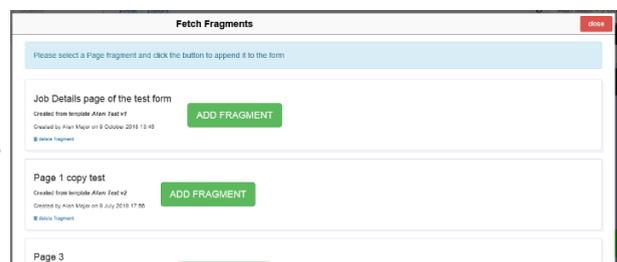
1. Select the Export fragment button
2. Enter a descriptive name, for example, Job Details page of the test form.

To use the copy of the page, or page fragment, select the ADD PAGE FRAGMENT option at the top of any template.



Add Page Fragment

When the ADD PAGE FRAGMENT option is selected, a list of page fragments will be displayed. Select the fragment that you wished placed in the template. For this reason you should use memorable, descriptive names for your page fragments.



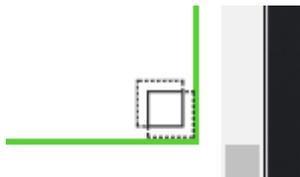
Add Section Fragment

You can add a section fragment at the end of a page, by selecting the ADD SECTION FRAGMENT option at the bottom of the page screen. Next to this is an option to simply insert a new section at this point. To insert a group fragment, you must have a section selected. The add group fragment button displays as 2 boxes (see below):

digital | field solutions



ADD SECTION | ADD SECTION FRAGMENT



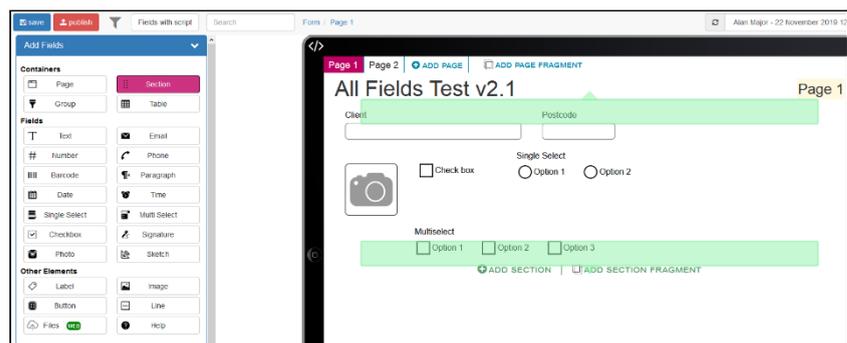
Section

A template must contain at least one section and one is included by default in a new template.

Sections always span the entire horizontal width of the template. They can contain any other element except Pages and other section elements.

You would normally use Sections to break your template into

meaningful horizontal areas. For example, the first Section could be Job Details, the second Client Details and the next Works to be undertaken, for example, Site Survey or Purchase order details. The final section could be Sign Off and Signatures. Within each of these sections you would place appropriate elements to record input data, like client name and address or signature and date elements.



Hiding and Revealing Sections

Similar to the Page element, it is common practise to hide and reveal sections to restrict which elements are visible to a user dependent on options the user selects. For example, if the user selects property type Bungalow, options relating to flats or houses could be placed in a different section and hidden, preventing erroneous user input.

Section Properties

As with all elements, selecting a section causes the sections properties to be displayed on the left side of the Template Designer window.

Title, Element Name, Alias, Dataname, PDF Suppression

Please refer to Field (Elements) - Common Properties, later in this document for further information.

Description

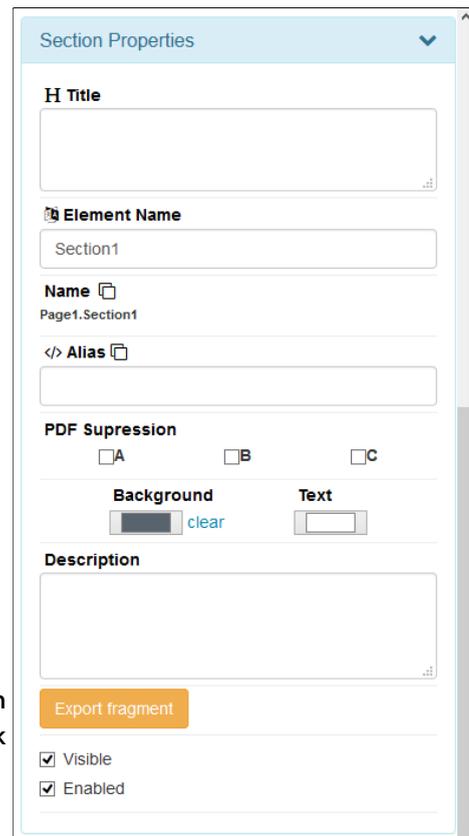
Provides a subtitle in the section header.

Export fragment

This allows you to create a fragment, or copy of the section. At the end of the section, at the bottom right hand corner, you have an icon that allows you to insert a group fragment at the end of the section.

Visible

You can set the initial visibility and enablement of an entire section using the Hidden and Enabled check boxes on the sections property panel.



Hiding a section within script, causes the horizontal space occupied by the section to be reclaimed on PDF output. Unless you are developing Web forms, this is not the case with Group elements.

Enabled

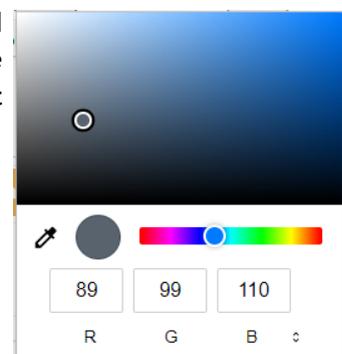
By default, sections are enabled, but you can change the enabled state in script. Disabling a section disables all the fields within the section.

Background & Text

These options change the background and



text colours for the section header bar. You can later amend these colours in script, if required. Selecting either of the colour controls on the Template Designer, displays a colour pallet dialogue control like this.

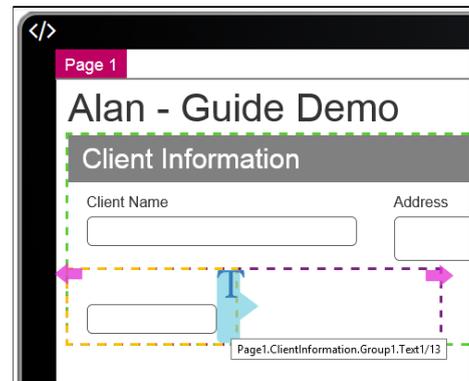
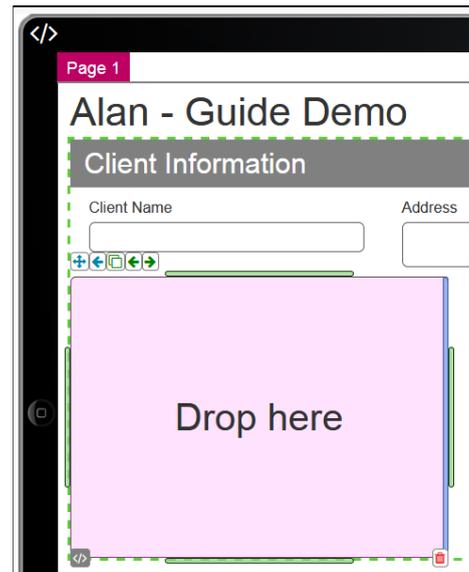


Groups

Groups are container elements that allow you to position other elements vertically. Groups can contain any element type, other than Page or Section. These are both higher level containers.

When you initially place a group on a template it will appear as in the first screen capture here. You can then add elements to the group, such as text boxes, as demonstrated in the second screen capture. The main use of group container elements is to arrange elements vertically, for example, placing a Print Name element directly beneath a signature element.

You access a group elements Tool bar by selecting it. The Tool bar will then appear at the top left of the group element.



Group Properties

As with any element, selecting a group displays its properties on the left side of the Template Designer window.

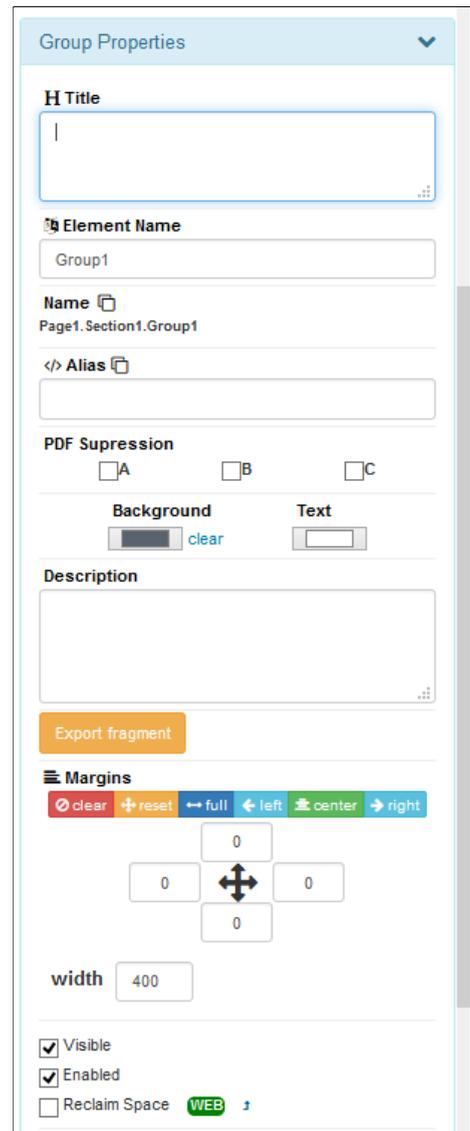
In the Properties panel you can set the Title, Element Name, Alias, Dataname, PDF Suppression, Margins and width of the group.

As with Sections, the Group header background and text colours can be changed and a header subtitle can be added via the description field.

Groups can be saved as fragments for re-use using the Export Fragment button.

You can also specify the initial visibility and enablement of the group, including any elements contained within the group. But this can subsequently be changed using script within the template.

With Web forms only, the space occupied by a group can be recovered when it is hidden, similar to section elements.



Group Fragments

To insert a group fragment, first select a section within the template. At the bottom right corner of the section, you will see a copy icon (2 overlapping pages).

When you select this icon a window will display with previously created group fragments that you can insert at the end of the section, then move to a location of your choice.



Table

Introduction

A table functions similarly to an Excel worksheet tab. The two main reasons for using tables are to assist in laying out your template and to provide a framework that permits easy calculations of elements within columns and rows. These would need to be handled within script.

Tables can contain multiple rows and columns. Both rows and columns can be visible or hidden. Each cell of the table can contain multiple Formworks elements, such as text boxes and labels. But a cell cannot contain group elements and at present, tables, columns, rows and cells do not support colour attributes. Cells are referenced by column number, then row and are numbered starting with 1.

Within the Template Designer you can add and delete and set the visible and enabled properties of columns and rows. In script you can only set the visible and enabled properties.

Within script, columns and rows are numbered from a base of one and a cell can possess a value that matches the first element within that cell. For this reason you may wish to restrict cells to only contain one element. Further details regarding scripting table elements is included in the Scripting Guide.

Table Properties

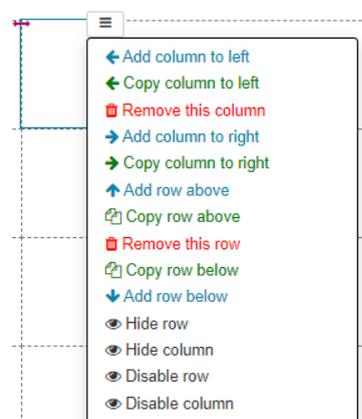
By default a table of 4 columns and 4 rows is added to your template. With the table element selected, you can use the options on the left of the screen, to show the title of the table, the column headings and whether the table borders are visible. If you were only using the table



to assist with form layout, you could leave the table title, column headings and table borders invisible.

Changing the Table Design

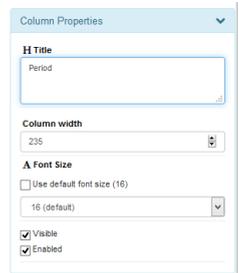
To edit the general structure of a table, select an individual cell in an appropriate column or row. A small menu icon of three parallel lines will appear. Select the menu icon and a menu of options to enhance your table will appear.



Column Properties

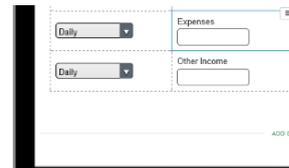
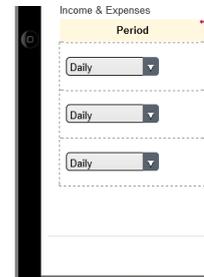
To access the column properties, for example, to add column header labels, you must first select the Show table headers option within the Table Properties panel.

Columns are hidden using the pop-up menu, available by selecting an individual cell within the column.



Cell Properties

Selecting an individual cell provides access to both the pop-up Table Design Menu and font size options.



Fields (Elements)

Common Properties

For the purposes of working with Formworks, the terms Fields and Elements are identical. Although specific elements have unique properties, most share a number of common properties. These are detailed here:

Title

The heading to display above the element. This could be hidden if you wish to place the element in a table or place a descriptive label to the side of the element instead of having a description above.

Element Name

When combined with the elements containers, the Element Name is unique. But it only needs to be unique within the container – section, group, table cell that contains it. This is how the element will be identified in XML and CSV output.

Alias

A name to uniquely identify the element within a template, within script. This acts as a shortcut instead of using the fully qualified name. It must not start with a number or contain spaces.

Data Name

This name can be used to link the element to an external database system. It must be unique.

PDF Suppression

You can select a range of three suppression 'levels'. For example, you can suppress any elements from PDF output, by placing a tick against "A", on the element's properties, and then selecting, "A" in the export. In this way, up to four PDF's can be generated with different output – the original, standard PDF plus three (A, B and C) versions. When PDF Suppression is applied to text boxes, single select lists, multi-select lists, photo and checkbox elements etc. Neither the horizontal nor vertical space they originally occupied is reclaimed and other elements are printed in their original locations.

Colour

The colour of the elements Text property, as it would appear on the input device/screen. This applies to the title property of the field only.

The screenshot shows the 'Text Properties' configuration panel. It includes the following sections and controls:

- H Title:** A text input field containing 'Client'.
- Element Name:** A text input field containing 'Client'.
- Name:** A text input field containing 'Page10.Section1.Client'.
- Alias:** A text input field.
- Data Name:** A text input field.
- Connection:** A dropdown menu set to 'None'.
- PDF Suppression:** Three checkboxes labeled 'A', 'B', and 'C', all currently unchecked.
- Text:** A color selection button.
- Data Type:** A dropdown menu set to 'Text'.
- Unique key:** An unchecked checkbox.
- Uppercase:** A checked checkbox with a 'web' icon.
- Valid Pattern:** A checked checkbox with a 'web' icon.
- Content is JSON:** An unchecked checkbox.
- Margins:** A control with 'clear', 'reset', 'full', 'left', 'center', and 'right' options, and a central crosshair icon.
- width:** A text input field containing '450'.
- content-width:** A text input field containing '450'.
- Font Size:** A dropdown menu set to '18 (default)'. A checked checkbox 'Use default font size (18)' is visible above it.
- Show title:** A checked checkbox.
- Visible:** A checked checkbox.
- Enabled:** A checked checkbox.
- Mandatory:** An unchecked checkbox with a 'web' icon.

Margins

You can set the Margin or border around your elements, either by dragging the appropriate border on the template design area, or by entering the numeric value directly into the Margins area of the properties panel. In the same way, you can set the width of the element and the content width – the actual input area.

Font Size

Font sizes range from 12 to 20 point, with 16 as the default.

Show title

The option of hiding the title of an element can be used where you want to place the element's name to the side or beneath the element. Currently Formworks only supports placing an element title above the element. But by unticking the Show title box, you could place a label describing the element, left or right of the element. But this option is also useful when the element is contained within a table.

Visible

This option sets the initial visibility of an element. For example, you could set an entire section to initially be hidden, then display it when a user makes a specific selection from a list box.

Enabled

Sets the initial enabled state of the element, when the form is first loaded onto the users device.

Mandatory

Sets the element as being mandatory/required. This forces user input prior to form submission.

Text Boxes (Text, Email, Number, Phone & Barcode)

Overview

Although in theory you could use a text box to record as much information as a paragraph field, in practice you would consider the visible area/size of the text box to be the limiting factor. So for example, you would use a text box to record Job Numbers, References, Client Names, Forenames, Surnames and Postcodes, etc.

Text Properties

To view any elements properties, select the element with the mouse, then view the property panel on the left of the screen. Most of the text box properties, Title, Element Name, Alias, Data Name and PDF Suppression, are standard between elements, and you can review these in the Common Properties chapter.

PDF Suppression

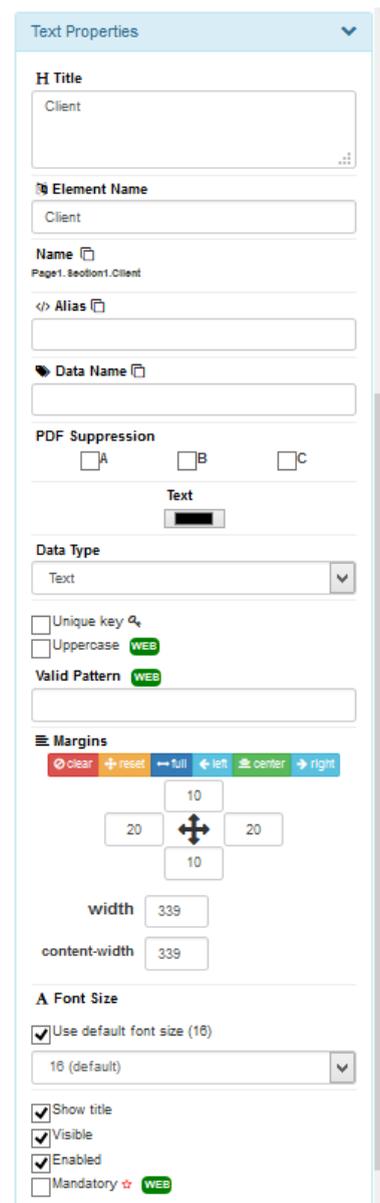
It is worth noting that when PDF Suppression is applied to a text box, the resulting space is not reclaimed, and other fields remain in their original position on the PDF output.

Text Colour

You can change the colour of the title property of the text box using the Text option. This does not change the colour of the text entered in the text box on the user's device.

Data Type

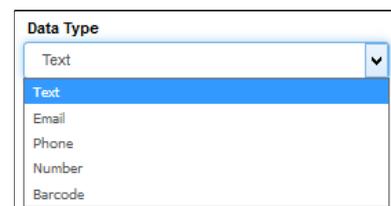
The Data Type option is unique to text boxes. Selecting the appropriate type of input for the element assists in validating user input and automatically loads the correct keyboard on the user's device. The Number, Email, Phone and Barcode elements are



shortcut options to selecting the Data Type here. The Barcode option creates an element that employs the camera on a user's device to convert a standard barcode to a number.

The various types of text field accept a range of characters

- Text field, accepts all characters
- Number field accepts: -123457890.e
- Phone, accepts: -(+)0123456789
- Email: must have an @ followed by a . at least 2 characters after otherwise it will fail the validation process.



Unique key

You select this option if this field is the primary index to be used when searching for forms in the Reporting Hub. This field should be unique per form, not per client. So examples might be a Job Reference or Order Number.

Upper Case & Valid Pattern (Webforms Only)

These options set text fields to upper case only or to conform to specific text patterns.



The image shows a configuration panel with two options: 'Uppercase' and 'Valid Pattern'. Both options have a green 'WEB' icon to their right. Below these options is an empty text input field.

Colours

You can set the colour of a text box's background within script, by placing an instruction similar to this in the template's OnStart event:

```
textBox.color = "green"; (red, green, blue, yellow, indigo, orange, violet). Hex format colour codes are also supported, using the format element.color = "#9E978E";. RGB colour codes are supported using the format element.color = "rgb(255,0,0)";
```

Single Select (Radio buttons & List boxes)

A Single select element can either be represented as radio buttons (horizontal or



vertical) or a list box. Radio buttons are suitable when fewer options are used, for example Yes / No. Where more options are involved, a list box is probably more appropriate. At its most basic, a simple list of display values are used. But if you wish to return a different value to a back-end system, than is displayed to a user, then the return values are entered between square braces, as in this example.

Colours

Colours can only be applied to Single Select elements (lists and radio buttons) via the Template Designer. You place the colour required in curly braces to the left of the value to be displayed.

If in addition to using colours in your list box, you wish to return a different



value to the display value, you must place the return value in square braces as the first part of the option line. In this example, G is the return value, green is the display colour for that option and Go is the display value.

Formworks also supports Hex format colour codes for more flexibility. These are



represented with the Hex code preceded by a # character, within curly braces:

Dynamic List Boxes

It is possible to create dynamically populated lists and lists that can be maintained by clients, rather than hard coded into the Template using the Template Designer. These are covered in detail in the Formworks Scripting Guide. Note that dynamic lists do not currently support colours.

Export Values

Single select fields can display either the return value or display value in a csv export.



For PDF exports, only the display value can be shown for radio and multi selects, however, the return value can be shown for drop downs.

Paragraph

Whilst both text boxes and paragraph elements can record free-format text, it is better to use text boxes to record only the amount of information they are capable of displaying to the user. So you would use a text box for say, a Job Number or a client's name and use a paragraph element to record the client's address and comments.

Another advantage of Paragraph elements is that the Formworks PDF output automatically formats and inserts page breaks to ensure everything typed into a paragraph element is reproduced on the output PDF.

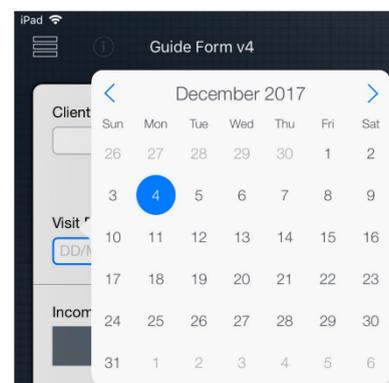
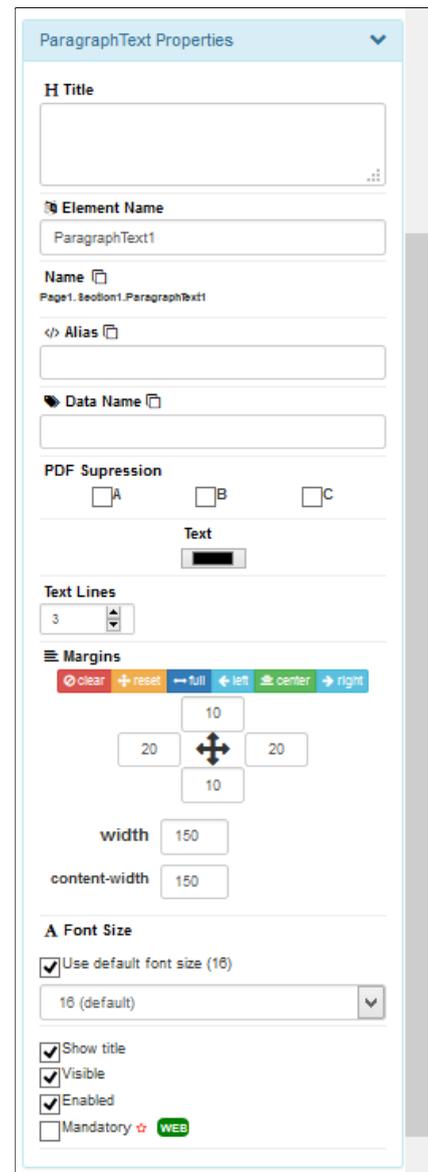
In addition to the standard properties, the paragraph element includes the option of specifying how many lines of text input is displayed on the user's device.

If necessary, you can use script to restrict the number of characters entered into either a text box or paragraph element.

Date & Time

These two elements share the same standard properties, i.e., margins, width and content-width, as the other elements. Whilst you could enter date and time values into a text box, there are a number of advantages to using date and time elements:

- The keyboard on the user's device is automatically changed to the numeric input version.
- A calendar pick list is available to the user to quickly select dates.
- User Input is automatically validated, preventing incorrect characters and inappropriate values. For example all dates and times are checked to ensure they are valid entries.
- Dates: A range of formats can be entered which are then converted to a standard YYYY-MM-DD format on leaving the field. Accepted input formats include:
 - 18051960 -> 1960-05-18
 - 180560 -> 1960-05-18
 - 600518 -> 1960-05-18
 - 19600518 -> 1960-05-18

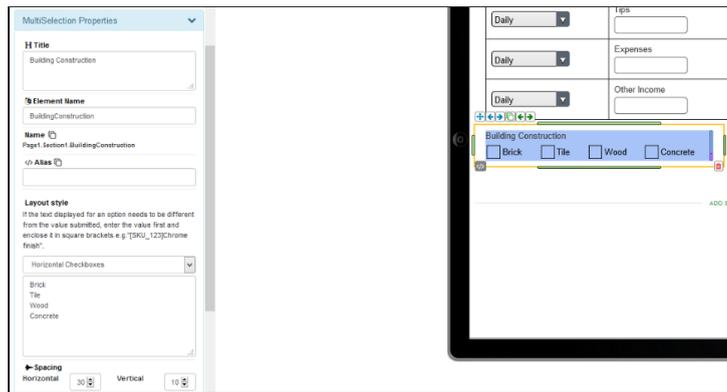


- Time fields accept 24 hour times and users can simply type in 4 numbers, and they will be converted to a 24 hour time on exiting the field:
 - 0930 -> 09:30
 - 1234 -> 12:34
- Using script, date ranges can be enforced, preventing a user from selecting or entering dates prior to or after a specified range.

Multiselect

Multiselect elements are used where multiple values can be allocated to the same field. For example, the outer construction of a property could be both brick and tile.

Similar to Single Select elements, Multiselect elements contain a list of options (display values), but unlike Single Select elements, all of these options are available to select.



Return values can be different to display values - by typing the return values in square brackets in front of the display value listing, e.g. [sq]Square

Multiselect elements are only available as horizontal and vertical check boxes. List boxes are not supported.

You can set the horizontal spacing of horizontal checkbox lists and the vertical spacing of vertical checkbox lists.

Webforms only - Colours for Multiselect items can be set using curly braces in the item lists e.g. {green}Go . Refer to single select section for further info)

Setting Export Values

Multi select fields can display either the return value or display value in a csv export.

For PDF exports, only the display value can be shown for multi selects

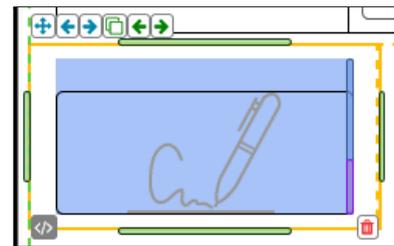


Checkbox

The Checkbox element is used when an option can only be true or false. For example, "Do you want us to contact you?" Placing a tick in the checkbox indicates true. If you receive XML output, the value of this element could also be null, indicating that the checkbox was selected, then unselected.

Signature

Signature elements can be used to capture a signature on the user's device, using either a stylus or a finger. The date and time of the signature is automatically recorded and using script, the device's geolocation can also be recorded. It is common practice to have a "Date of Signing" date element auto-populated when a signature is entered - this is achieved via script.



Properties for this element are standard, with the addition of the 'User can type' property.

This feature is available for web only and allows users to type their name.



Photo

Using the Photo element, provides the device user with the functionality to either activate their device's camera, or access their camera roll of stored images. These can then be 'marked-up' if required and embedded into their form. Mark-up is not available on web forms on small devices e.g. mobile phones.

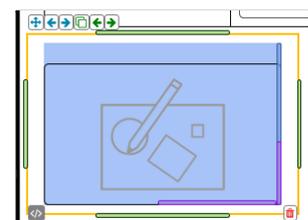


To display full size reproductions of photos at the end of the output PDF, place a textbox on the template, with its name property set to PDF_Show_Images.

In addition to the standard properties, the Photo element has the option of setting the size of the images captured to the Form default, set at template level, or Small or Standard. More information on this property can be found in the Form Properties chapter.

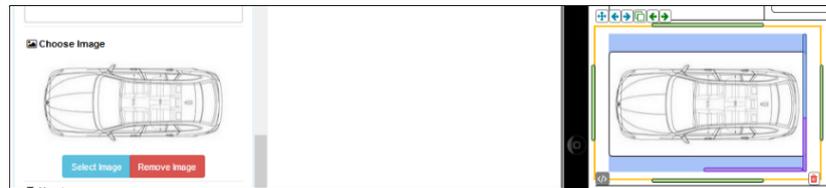
Sketch

This element provides users with a sketching tool. This includes the functionality to add text, colours, arrows, characters and stamps to the sketch and an eraser to remove mistakes.



In addition to the default option, whereby the device user has to create their Sketch from a blank, checkered screen, you have the facility to upload an image to act as a background or guide to the user completing the sketch. For example, a garage handling vehicle repairs, could upload an image of

a vehicle and the user could indicate by arrows etc., the exact location of the work that needs to be undertaken on a vehicle.



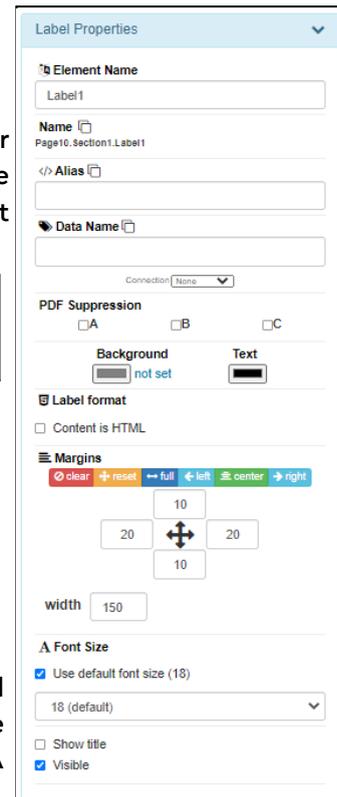
If the Sketch element doesn't provide the exact functionality required, you can employ another sketching tool, save the output to the camera roll and upload these images via the Photo element.

The Sketch feature is not currently available on Web Forms for smaller devices e.g. mobile phones.

Other Elements

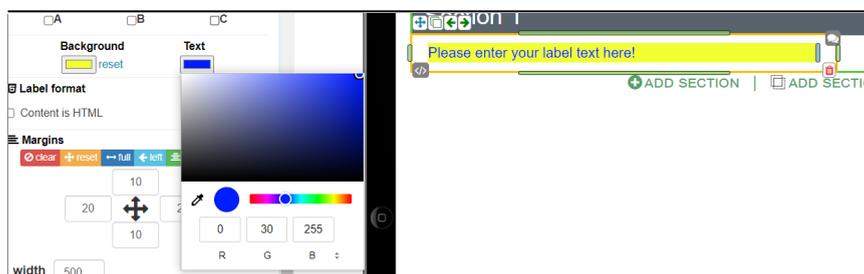
Label

Label elements are used to include text information in your template. You type within the element to enter the text to be displayed, as in the capture here. In fact, anywhere that text displays in a yellow field like this supports direct input.



Formworks supports different colours for the text and background of labels. To change the colour, select either the Background or Text buttons on the Label Properties panel. A colour pallet like the one below will display.

To switch between RGB, HSL or HEX tap on the 'R G B' option at the bottom of the colour picker.

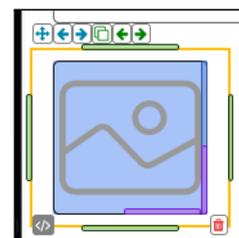


To clear the background colour, if this has been set to something other than clear, select the 'clear' link next to the Background colour button.

The 'Content is HTML' option is currently only supported for Web-Forms.

Image

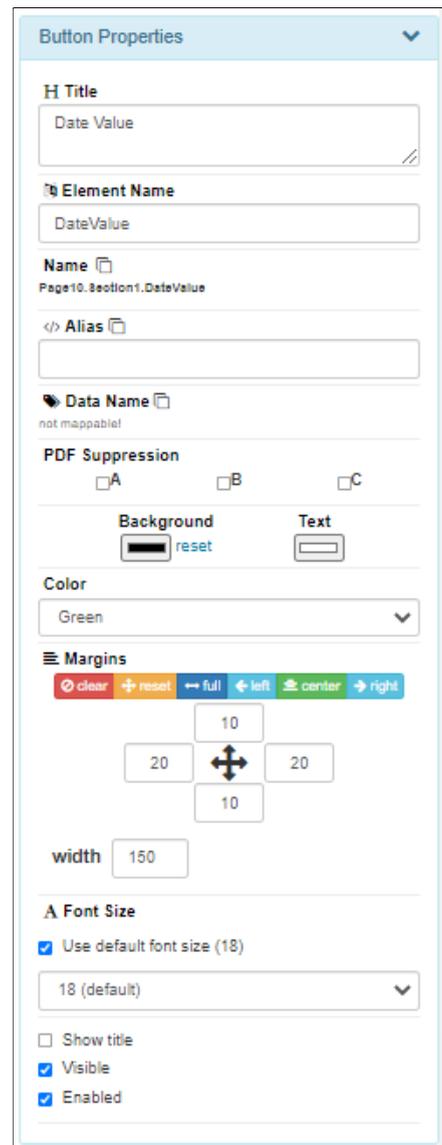
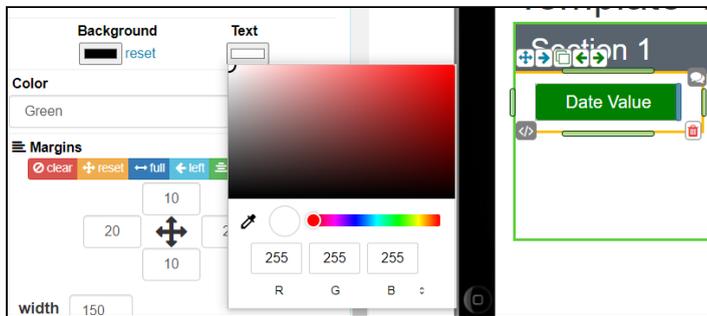
You can use this element to place a company logo on your template, or any other image that you wish to reproduce. For example, you could upload an image of a piece of text, if fonts and colours were an important consideration.



Button

The Button element can contain script that is activated by the user touching a button on the form. If required, the button could be hidden and the script it contains activated by a script command. Buttons are useful for containing the script to calculate large amounts of mathematical or logical functions. Using a button, the script can be run once, rather than having a lengthy update process happening with say each keystroke.

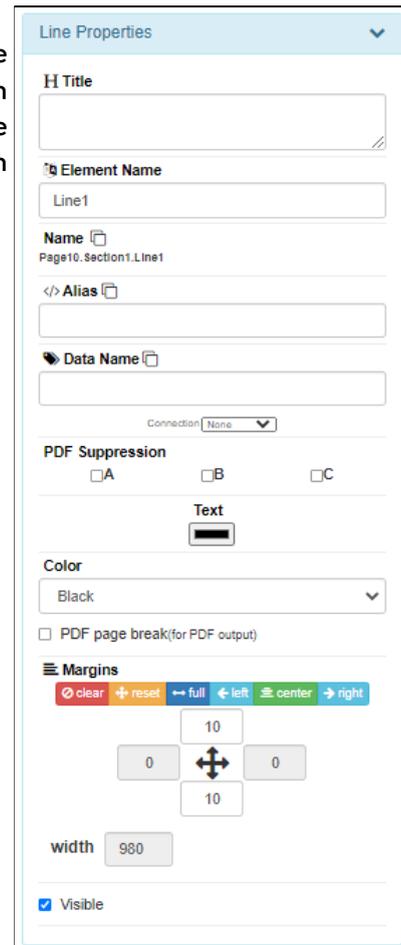
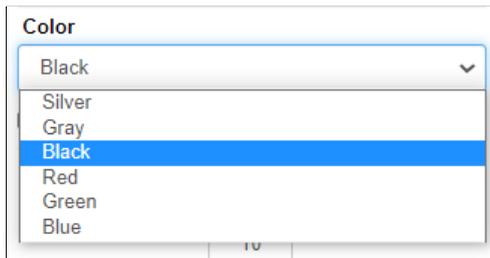
Similar to Labels (see above), button Background and Text colours can be set either from the pallet that is made visible by clicking the Background and Text buttons (see capture below), or from the Color list box.



Line

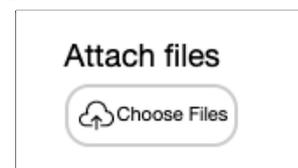
The Line element creates a horizontal line across the entire width of the template. You would use this to assist in breaking your template into logical sections. In addition, the Line element can be used to force a page break within Formworks standard PDF Form Layout output.

A selection of colours are available to change the line colour to, by default the colour is set to Black.



Files Upload (web only)

This option allows the user to select a file from their device. It is currently only available within a Web Form environment.

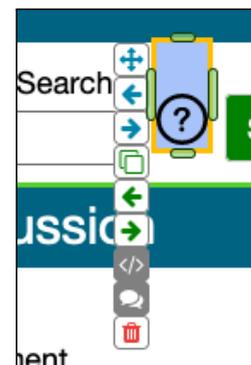


Help Button

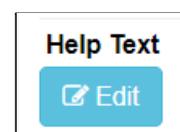
The Help element appears as a question mark (?) on a user's form template.

Either directly enter text (via the properties panel) that will be displayed to the user when they touch the "?" character, or dynamically populate the Help element using script. This means the help text that you display to the user can be dependent on other conditions within their form.

The Help element can also be populated (both directly from the designer and dynamically within script) with an Internet URL or the location of say a PDF or Word document in a cloud store. These would be displayed to the device user via their default reader.

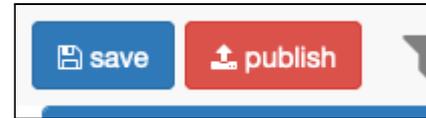


To populate the Help text via the designer, select the 'Edit' button under the Help Properties.



Publishing Templates

Templates should be published before starting to collect live data. Another duplicate template based on the original published version can easily be created if further amendments are needed.



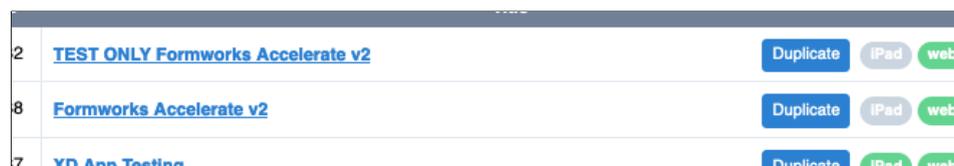
When templates are submitted, data is retained for a period (30 days post submission as standard) within the Formworks portal and can be re-exported. If a template remains in Design mode and any changes are made to the fields/elements that capture data, then all data that has been submitted is considered 'test' data, and is deleted.

There are some types of changes that can be made to a template, after it has been published. The template will only permit these without affecting processed data, and you have to select the Publish button again to implement these. The types of change currently include:

- Scripting
- Form Reference text
- Metadata
- Enabling and disabling fields
- Changing the visibility property of fields (hiding and revealing)
- Changing mandatory property of fields
- Amending Data Names and Aliases
- Amending text field data types, (i.e., change a data type from text to number).
- Updating the options in list boxes.
- Adding/Removing databases.
- Updating images within an image field.
- Updating the template icon image.
- Amending the pdf suppression fields.

For In Design forms, changes that only affect the appearance of a template, script amendments, and the methods used to export form data will not cause test data to be deleted. But field changes, such as adding or deleting a text box will delete previously submitted test data and forms in progress. For this reason it is strongly recommended that before the template is released into live data use it is published.

You can easily create a new template based on a previously published version and eventually



'retire' the original template. You can create a duplicate template from the Templates screen, by selecting the blue Duplicate button on the templates list screen.

Prefilling / Prepopulating Form Data

Introduction

You use prefilling to pre-populate forms with data and assign them to specific users based on the users Formworks account email address.

You accomplish this by generating either a CSV or JSON template file against the Formworks form template, prefilling as many of the fields as required and then uploading the file to the Formworks portal. The forms will synchronise with the Device or Webform user's account when they next connect to the portal.

Form pre-filling functionality is accessed via "Import" or "Test Import" (for In Design forms) on the templates list screen:

Designing	Retire or Delete	Test Import	
Designing	Retire or Delete	Test Import	
Published	Retire or Delete	Import	

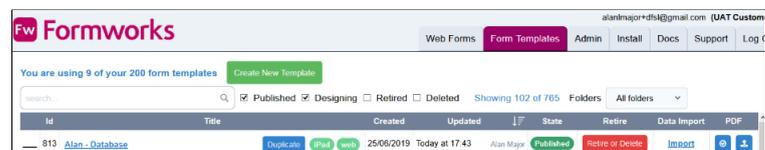
Rules and Requirements

There are rules and requirements involved in creating the prefill file:

- A unique client reference value must be entered for each form. This reference can only exist once.
- The Unique Client Reference value cannot appear twice in the same upload batch. So for example you cannot reallocate a form by deleting the original and inserting a new form with the same Unique Client Reference, in the same upload batch. You would need to delete the form in one batch, and insert the updated information in a subsequent batch.
- A Formworks users account email address must be provided, so the form can be correctly allocated to them.
- If values for date, time, check boxes and number fields are prefilled, the values must be consistent with the field type. So alpha characters cannot be used to prefill numeric fields.
- Date values must be in the ISO format: YYYY-MM-DD
- Time values must be in the ISO format: HH:MM
- If values for a multi-selection field is prefilled, the prefill value must match one of the values supported by the Formworks template. If a key value is available this must be used in the prefill instead of the display value.
- If values for single selection listbox fields are prefilled, they do not need to match values hard coded into the forms template. Please note that if a value does not match a hard coded option, the prefill option will not be available to reselect from the dropdown list. Display or key value must match if the single select field is set to a radio button format.
- If any line / entry in a prefill file import fails, the entire file is rejected by Formworks.

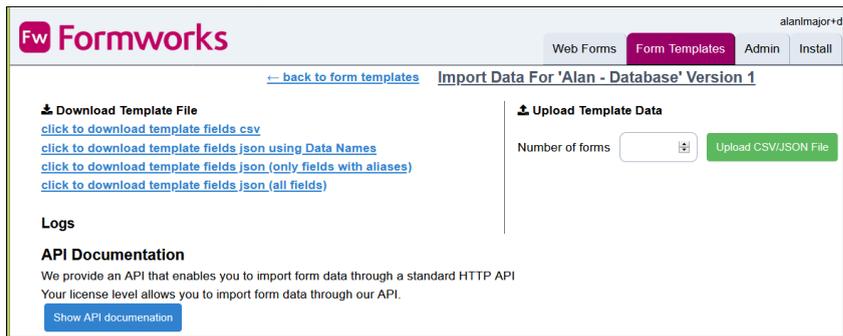
Manually importing CSV Prefill files

1. From the Templates tab, select the blue (Test) Import link in



the Data Import column, to access the Test Import screen.

- From the **Download Template File** area, select the type of template download type you wish to prefill. Various options are available, including the standard CSV template and the recent JSON additions, which include the option of using Data Names instead of field names, only including fields that have an alias, or as with the CSV option, to produce a JSON template that includes all fields.

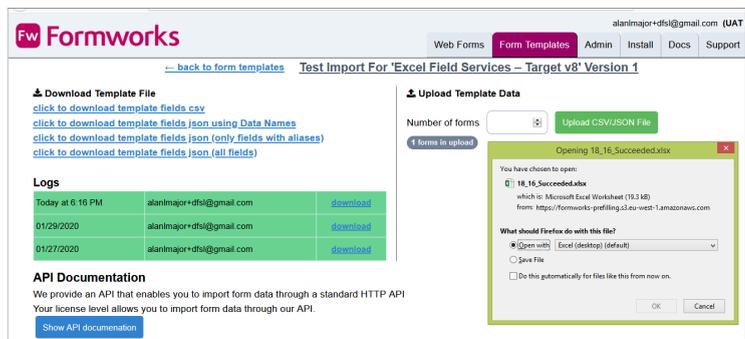


- Open the template file and enter your prefill data against the required fields.
- Save the template file.
- If you know how many forms should be in the upload file, you can enter this in the Number of forms field, prior to uploading your prefill data, however it is not necessary.

- Select the green **Upload CSV/JSON File** button

- Browse to the completed prefill file and click **Open**.

- The system will notify you if the file has been successfully uploaded or if there has been errors and how many forms were included in the upload file.



- You can open the log file that the system produces to check the results of the upload, or view details of any errors.

Logs

You can view and download all previously uploaded prefill files in the Logs section for up to 30 days. Green files have been successfully uploaded, red files were rejections.

Deleting prefilled forms

Once you have created a prefilled form, it is not possible to overwrite its data with a subsequent upload. The Unique Client Reference field prevents the system from accepting new data to a 'live' form. To 're-allocate' a form to a different user, or change the data in any of its fields, you must first delete the original prefill form.

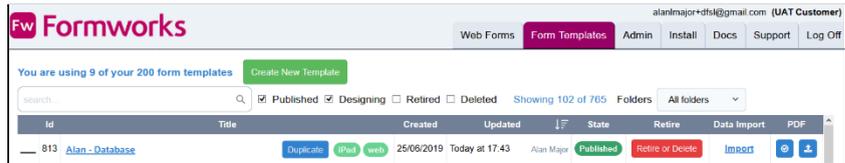
	A	B	C	D	E	F
1	Your Reference	Assigned User	Page1.ClientInformation.ClientName	Page1.ClientInformation.Multiselect	Page1.ClientInformation.ClientAddress	ToDelete
2	A1	alan.major@di	Client Name	Option 1	4 LHR	TRUE
3						

To delete a prefilled form, follow the above steps to generate a prefill file, and in the ToDelete field on the spreadsheet (last field), enter the value true. This is shown for a CSV file, in the screen capture.

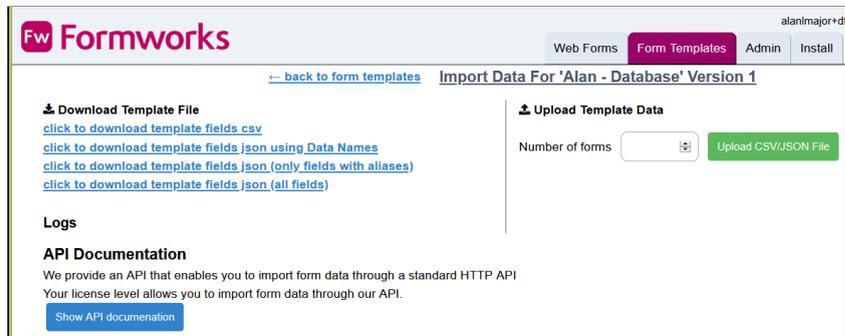
Once this file has been uploaded, you can upload new data against the same Unique Client Reference.

Prefilling Form Data Via Web service

To access the information required to import form data using the web service, select the Form Templates tab and Click the blue (Test) Import button in the Data Import column. This will take you to the Data Import screen.



From the Data Import screen, you can either download the CSV template for the form template, or upload a previously prepared CSV prefill file, or



access the API Documentation if you wish to use the web-service interface. Manually prefilling forms has been covered in the previous chapters.

To use the web-service interface, select the blue Show API documentation button.

Clicking the Show API documentation button will display a scrollable screen similar to this.

API Documentation

We provide an API that enables you to import form data through a standard HTTP API
Your license level allows you to import form data through our API.

Authentication

All requests to FormWorks API services must be authenticated with an HTTP Authorization Header or a querystring key/value
Your API key is _____ You click [here](#) to go to your Admin page

HTTP Header : Authorization:Bearer
Querystring : bearer=

Request and Response formats

The api caters for both XML & JSON payloads.
For GET requests the following HTTP facets are used for content negotiation

Accept Header
Accept:application/json
Accept:text/xml
File Extensions
<http://www.formworks.uk.com/api/v1/import.json>
<http://www.formworks.uk.com/api/v1/import.xml>

API Methods

GET api/{version}/import.{ext}

Returns a list of templates that the auth token can manage import data for.
Included in the data for each form are the urls for further action upon that form :

FieldsLink - returns information on all fields in a form

Selecting the appropriate links display form and field structures for documents as required by the web-service interface.

Both JSON and XML import formats are supported.

For further information you can refer to the Formworks v4 Web Service Guide. This details how you can employ the Fiddler II utility to assist in testing your web-service imports.

API Methods

GET api/{version}/import.{ext}

Returns a list of templates that the auth token can manage import data for.

Included in the data for each form are the urls for further action upon that form :

1. **FieldsLink** - returns information on all fields in a form
2. **SampleLink** - returns an docs-example of valid POST data to import data into a form
3. **PostLink** - this is the url that imported data must be POSTED to

api/v1/import.json

```

[[
  {
    "id": "4a162cec-ffff-4d68-b333-3193b894f1e8",
    "title": "Customer Contact & Visiting Form",
    "created": "2812-09-12T13:46:34.09",
    "users": [
      {
        "user1@formworks.co.uk",
        "user2@formworks.co.uk",
        "user3@formworks.co.uk",
        "user4@formworks.co.uk"
      }
    ],
    "fieldsLink": "http://www.formworks.uk.com/api/v1/import/formFields/4a162cec-ffff-4d68-b333-3193b894f1e8.json",
    "sampleLink": "http://www.formworks.uk.com/api/v1/import/formSample/4a162cec-ffff-4d68-b333-3193b894f1e8.json",
    "postLink": "http://www.formworks.uk.com/api/v1/import/importForms/4a162cec-ffff-4d68-b333-3193b894f1e8.json"
  }, {
    "id": "fa39fed2-78ea-486f-ffff-27ed9ef4841",
    "title": "Energy Survey Form #1",
    "created": "2812-02-03T14:38:58.017",
    "users": [
      {
        "user1@formworks.co.uk",
        "user2@formworks.co.uk",
        "user3@formworks.co.uk",
        "user4@formworks.co.uk"
      }
    ],
    "fieldsLink": "http://www.formworks.uk.com/api/v1/import/formFields/fa39fed2-78ea-486f-ffff-27ed9ef4841.json",
    "sampleLink": "http://www.formworks.uk.com/api/v1/import/formSample/fa39fed2-78ea-486f-ffff-27ed9ef4841.json",
    "postLink": "http://www.formworks.uk.com/api/v1/import/importForms/fa39fed2-78ea-486f-ffff-27ed9ef4841.json"
  }, {
    "id": "b1698598-ffff-4b16-89b5-74c68c9ee81",
    "title": "Energy Survey Form #1",
  }
]]

```

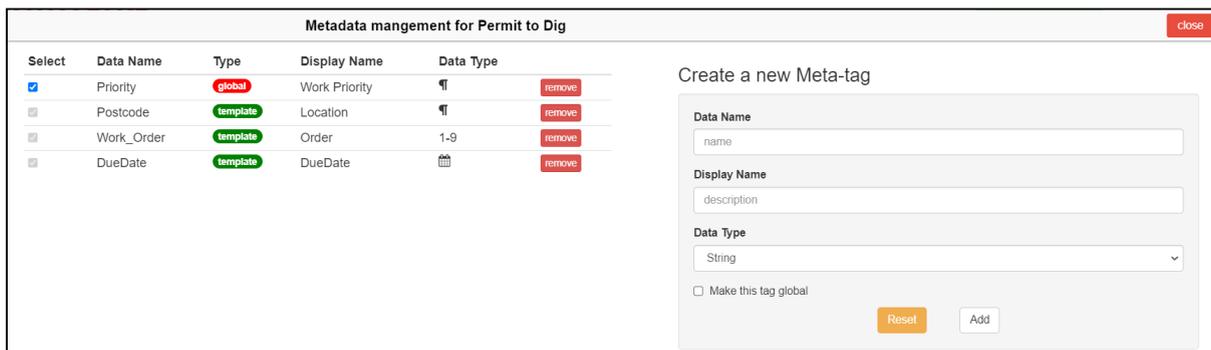
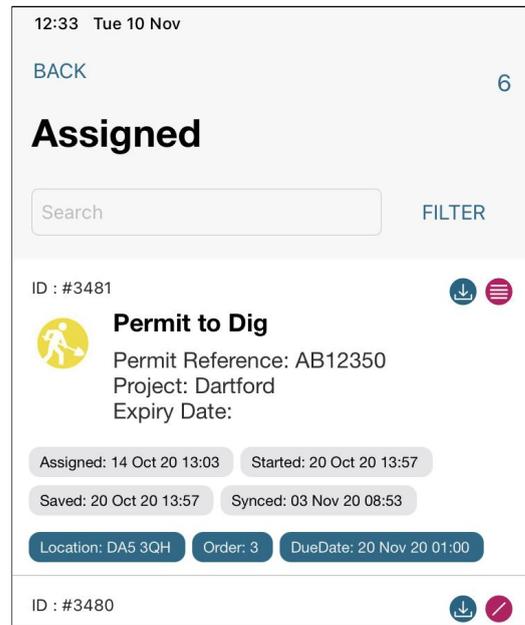
Pre-filling Form Metadata

Metadata can be included in the pre-filling process and is designed to assist Formworks App users with job and case management. Metadata can be customised and typical examples could include:

- Duedate
- Location
- Work order
- Priority

The metadata shows as blue tags in the folder listings on the App and are designed to assist users with work prioritisation.

The metadata management console (below) is accessed via the form properties menu within the designer.



Both Template specific and global meta-tags can be created. Global metatags are available across forms and will display in the available list in the console.

Once added to a template, the prefill csv templates are automatically updated to include the metadata fields. The metadata column names are prefixed "meta." as per the screenshot below.

	A	B	C	D	E	F	
1	Your Reference	Assigned User	meta.Postcode	meta.Work_Order	meta.DueDate	meta.Priority	Page1
2							
3							

Audio Clips

Introduction

A device user can record multiple Audio Clips that automatically link to a Formworks form. These can be used, for example, to record a verbal witness statement to substantiate the text, photo and signature data capture that has always been available using a Formworks template.

Audio Clips are uploaded to the Formworks portal when a form is saved or submitted.

The Formworks template designer is used to activate Audio capabilities and define how many Audio Clips may be attached to a form and how long each recording can be.

Within the Form properties control panel, Designers can configure how many Audio Clips a user can link to a form, the maximum length and whether they can be deleted.

Audio clips are a licensable feature.

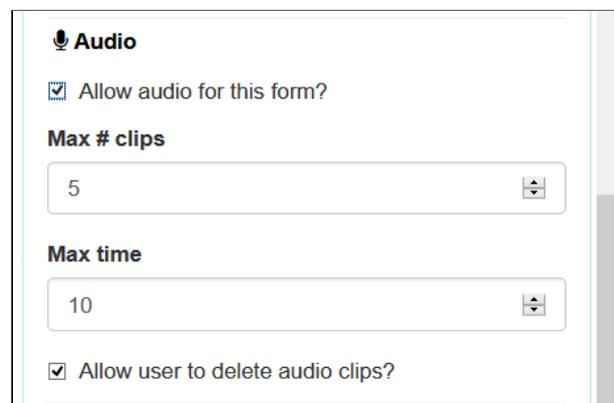
Audio Clips on the Template Designer

From the Template Designer, select the black outline of the iPad to load Form Properties on the left, scroll down to Audio.

Select **Allow audio for this form?** When this option is enabled, three further settings will appear beneath the check box:

Max # clips defines the maximum number of separate Audio clips that the form user can record. The device user is issued with a warning if they try to exceed this number.

Max time defines how long each individual Audio Clip can be. Recording is prevented beyond this period setting and the user is notified. The default is set to '0' with no limit on the length of time, subject to memory on device.



Audio

Allow audio for this form?

Max # clips

5

Max time

10

Allow user to delete audio clips?

Allow user to delete audio clips? Selecting this option enables users to delete audio clips from their device. To prevent the deletion of audio clips, remove the tick from the checkbox.

Export of Audio Clips

The Formworks App records and stores Audio Clips as MP 4 files. These use approximately 1 MB per minute of recording.

Audio clips are submitted from the device as a package with the form data, synced with the Formworks portal and then exported.

Because of the size of audio files, Email is not recommended as a suitable export mechanism.

Suitably configured (s)FTP, Web service or SQL Bridge exports would be appropriate. (See Formworks Admin User Guide for setting up exports)

Formworks Cloud Hub

The Formworks Cloud Hub, which utilises clients' MS Azure storage, provides a shrink wrapped option to store, search for, play and download Audio Clips. Within the CloudHub, audio files are stored alongside their associated form template within the 'Audio' button.

