JET Workflow

Making Work Simpler

DOCUMENTATION

FEBRUARY 20, 2024

7-NETWORK PTE LTD

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ABOUT JET

What is JET?

Jet

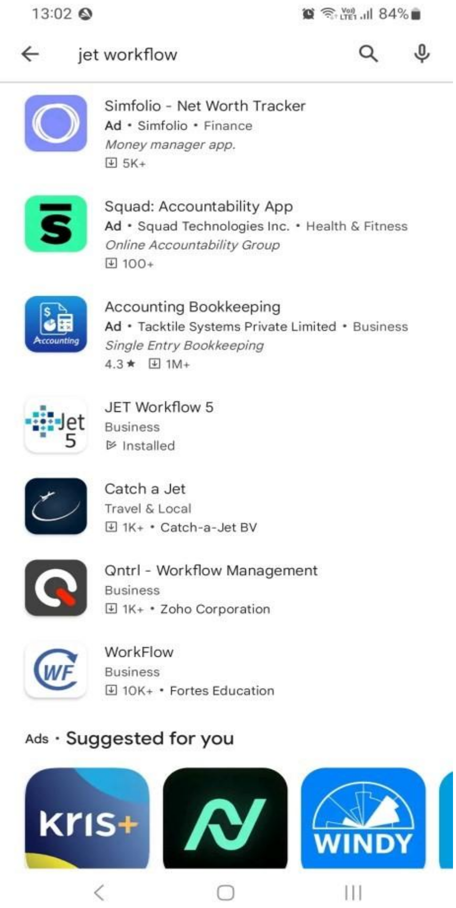
We all know that hiring developers can be costly, that's why we've created JET, a just-in-time enterprise tool that will instantly bring your idea to life.

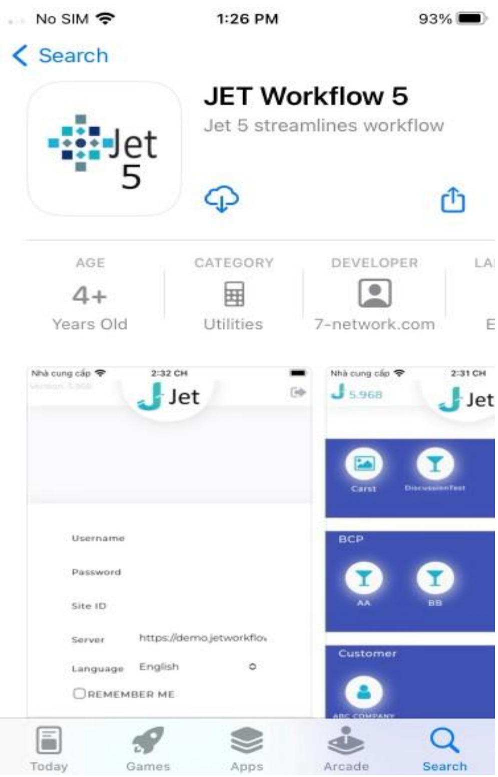
JET is developed with the aim of helping your organization to simply and effectively create web and mobile applications without the need for expensive and time-consuming code-based programming. JET, the one-stop data-management system created to save your business time, money and stress.

To learn more: **Creating web mobile apps within minutes (https://www.linkedin.com/pulse/create-web-mobile-apps-minutes-put-your-ideas-action-instantly-chong)**

Our Mobile Application

Android:
Step 1 : Go to Google Play Store.
Step 2 : Search "Jet WorkFlow 5".
Step 3: Install the App by clicking on the install button





IOS:

Step 1 : Go to App Store.

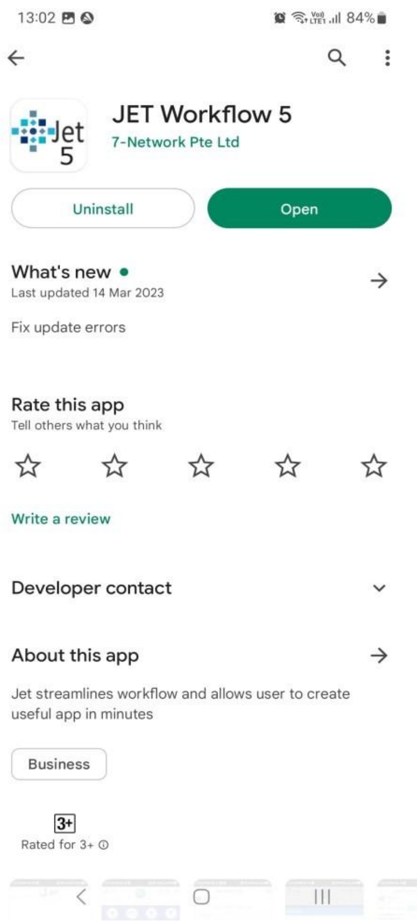
Step 2 : Search “Jet WorkFlow 5”.

Step 3: Install the App by clicking on the GET icon

What can I use JET for??

Information Management

Helping a company to keep track of some information (Example: password, confidential information etc.). You can create a form with users having limited access to the information.
(Example: user only allowed to read access only, modify/edit access etc.).



- Collect research data
- Keep track of travel expenses
- Events management
- Logistics
- Task lists (daily, weekly.)

DMS (Document Management System)

An office can contain many physical documents, and it is often hard to instantly find information within those documents. This data can be stored digitally for quick access once entered into JET. JET will make it easier for you to search for the information you need using its filter/search functions. Example:

- Data Entry for temporary staff
- Information Guides
- Stocks that company have
- Prices of the item

CRM (Customer Relationship Management)

Keeping track of customer information. Time and date to meet customer, servicing date, etc. Example:

- Schedule for the day with customer
- Item delivery for the customer
- Item received from the customer
- Training schedule with customer
- Service schedule with customer

Inventory Management

For users having a hard time finding items in the office, JET can be used to keep track of your company's inventory in an organised manner. Example:

- Keep track of stocks shortage
- Location of item being stored (Example: Number the drawer where the item is stored.) Cost of the item
- Scan barcode for serial number

For more info see https://www.jetworkflow.com

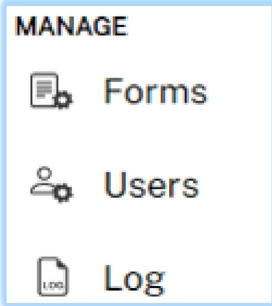
ADMINISTRATION

Creating User

Step 1:

Click on the 

icon to enter the User List Page



Step 2 :

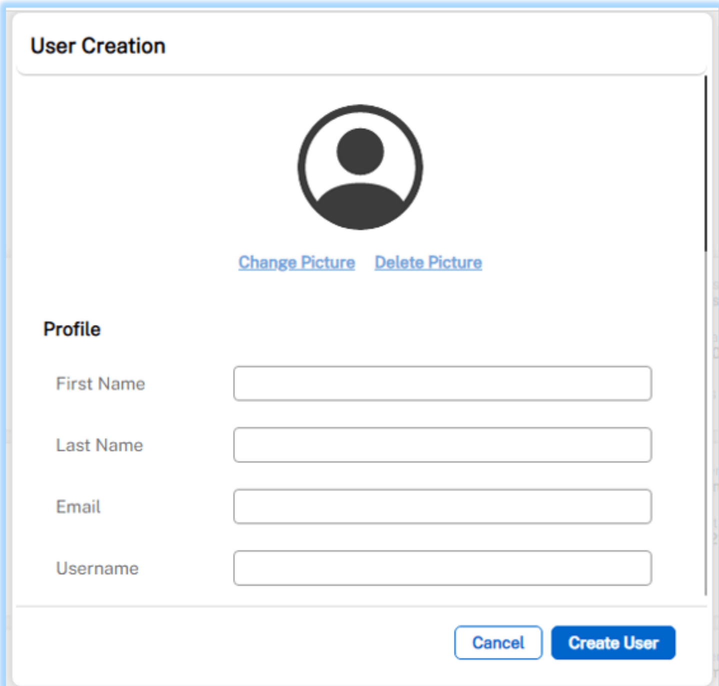
At the User List page, click on 

Step 3:

User Creation page will appear, key in the details and click on 

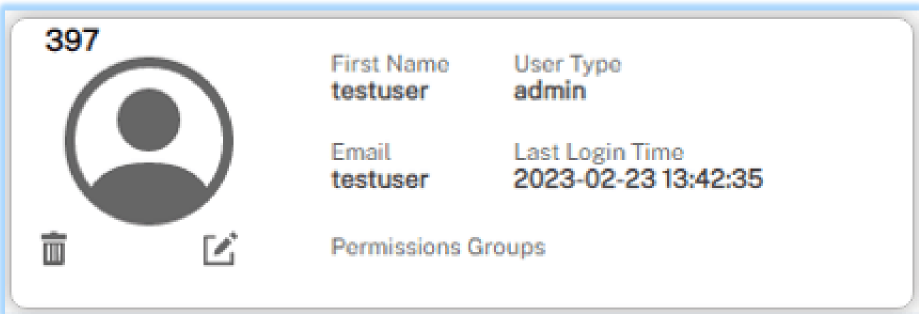
Note

- **Password:** Requires at least 6 characters (Numeric, alphabet, special character)
- **User Type:** Grants admin or normal user rights
- **Permission Group:** Select the group the user belongs to



Step 4:

The new user is created and will show in the User List page.

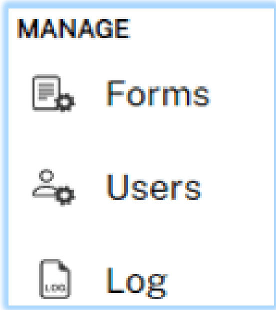


Creating a permission group in JET

Step 1:

Click on the icon 

to enter the User List Page



Step 2:

At the User List page, click on 

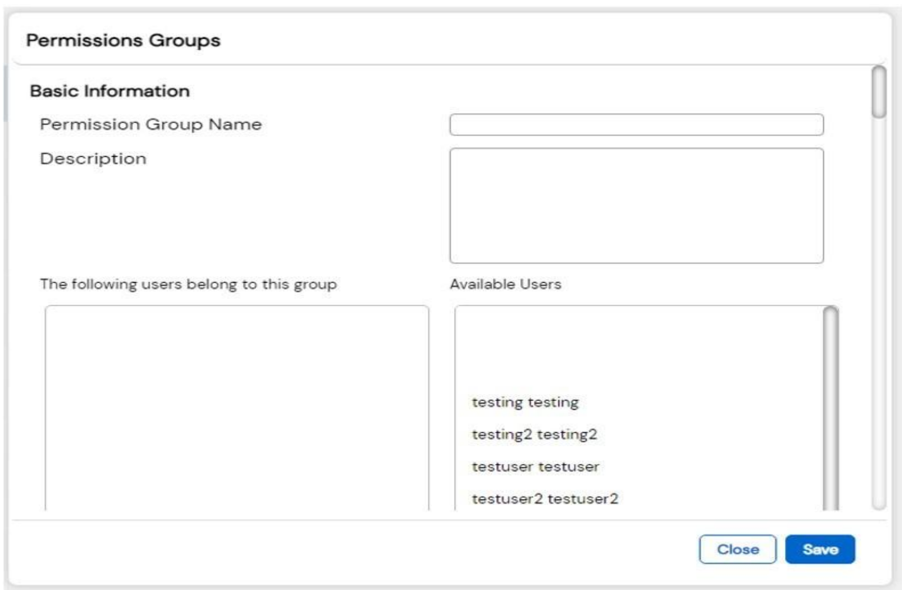
at the top right hand corner of your screen to create a group.

Step 3:

Click on Create Group 

Step 4:

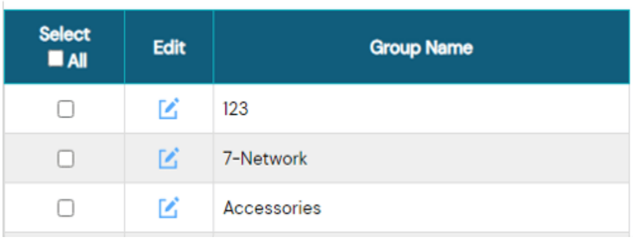
Enter a group name and description.



Step 5:

You will then be required to set up your Permission Groups' access levels.

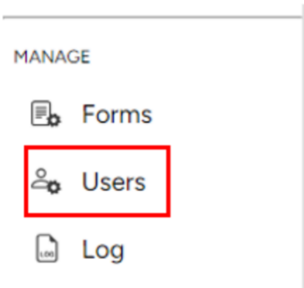
Step 6:
The group will be created in the Permission Group page.



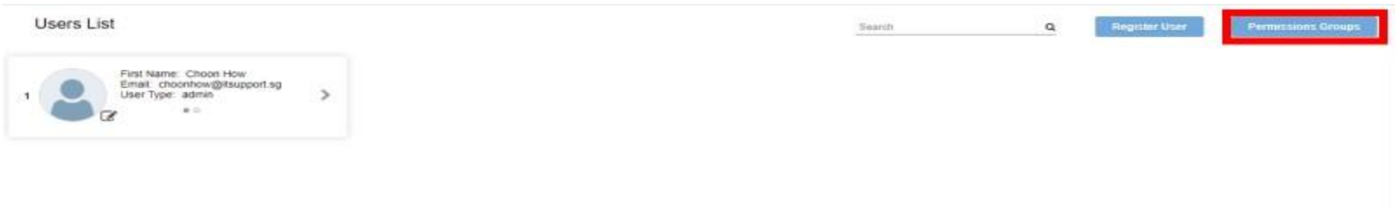
Registering a User?

Create a user group (Example: Demo Users)

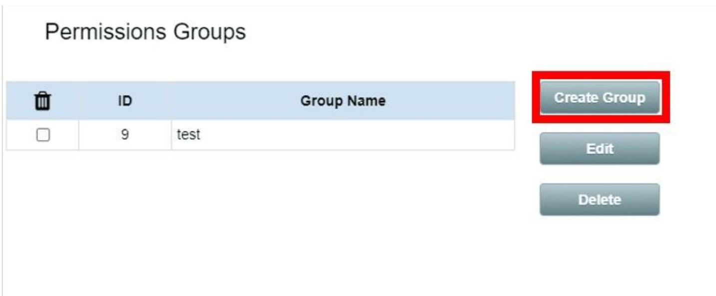
Step 1:
Click on the Users icon to enter the User List page.



Step 2:
Click on Permission Group to create a group.

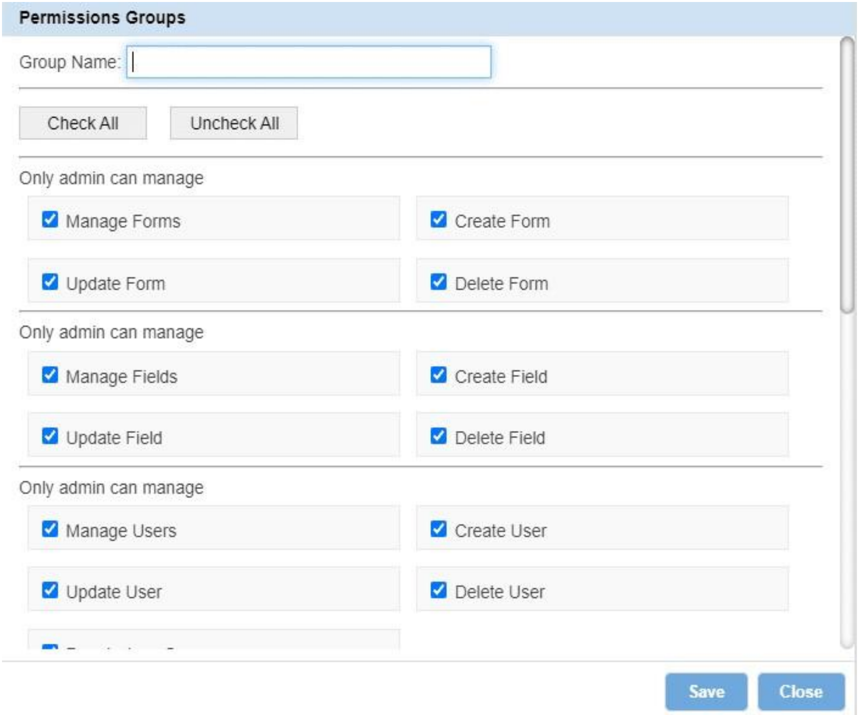


Step 3:
Click on Create Group.



Step 4:

You will then be required to set up your Permission Groups' access levels. Enter the Group Name and check the boxes corresponding to the access levels that need to be given to the users of this group. Click on Save (Example: You can create a group named "Demo Users" with access to only Create Forms.) [Scroll down the page to view more access levels to be enabled or disabled.]

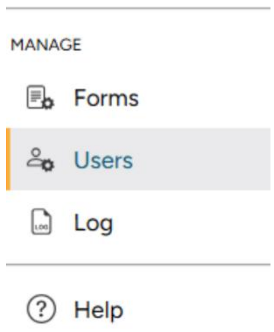


Step 5:

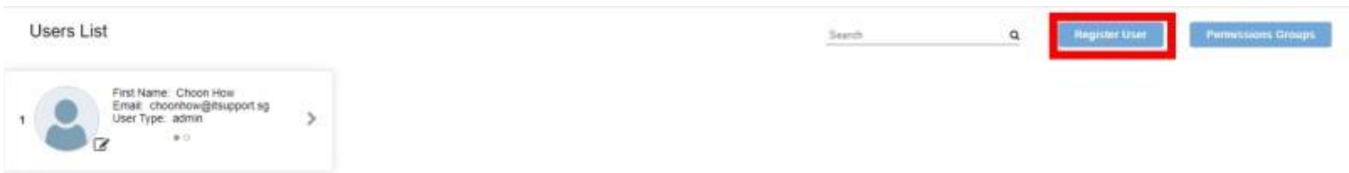
The group will be created in the Permission Group page.

Assign users to group

Step 1:
Click on the Manage Users icon to enter the User List page.



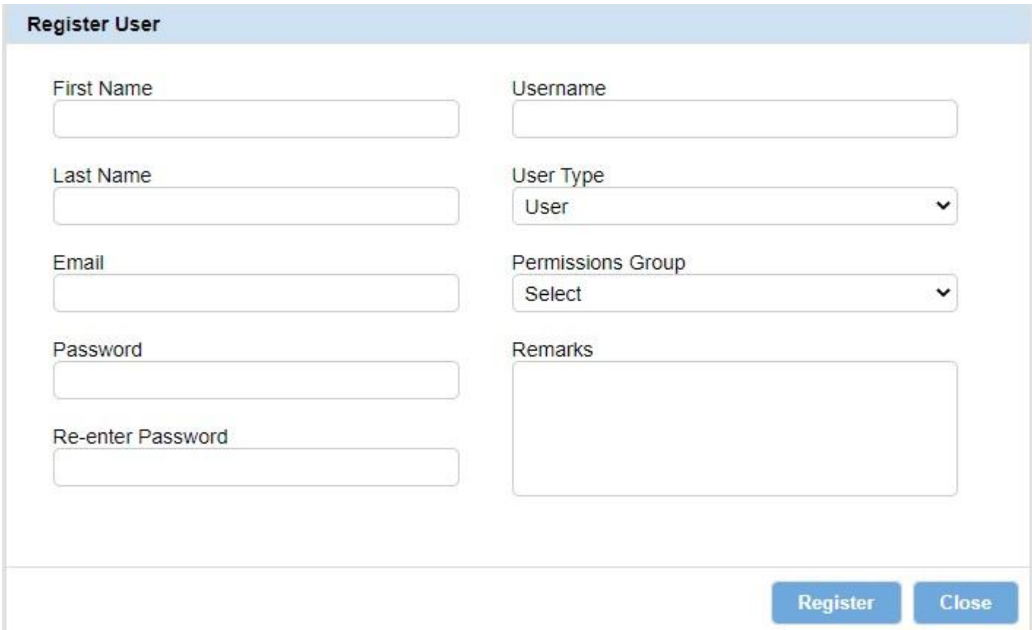
Step 2: At the User List page, click on Register User to add user.



Step 3:

The register page will appear, key in the field and click on Register.
(Example: Glenn Strife, Permission group: Mobile Users)

1. **Note**: Password: Requires 6 characters (Numeric, alphabet, special character)
2. **User Type**:
   i. User — He will only be able to add data if there is no permission group given.
   ii. Admin — Have full access to edit and delete.
3. **Permission Group**: Select the group the user can access or modify.



Step 4:
The new user is created and will show on the User List page.

CREATING AN APP

Step-by-Step

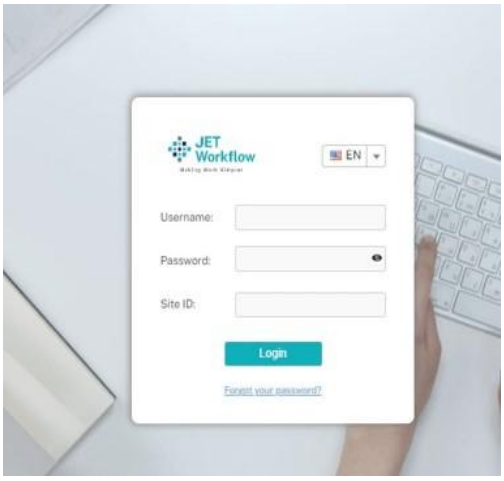
1. **Login**

Login to JET doesn't require any software installation – you can login to JET with any internet browser

Step 1:

Enter the URL address that was setup for your Jet Server to go into the Jet Login Page. In our example, we use our demo website https://demo.jetworkflow.com(https://demo.jetworkflow.com)

Step 2: Key in your login details.

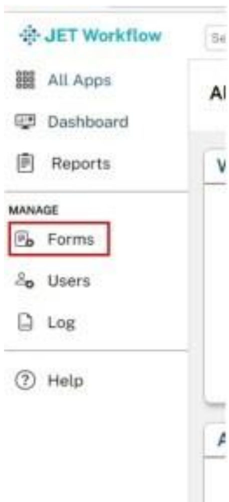


2. **Add Form**

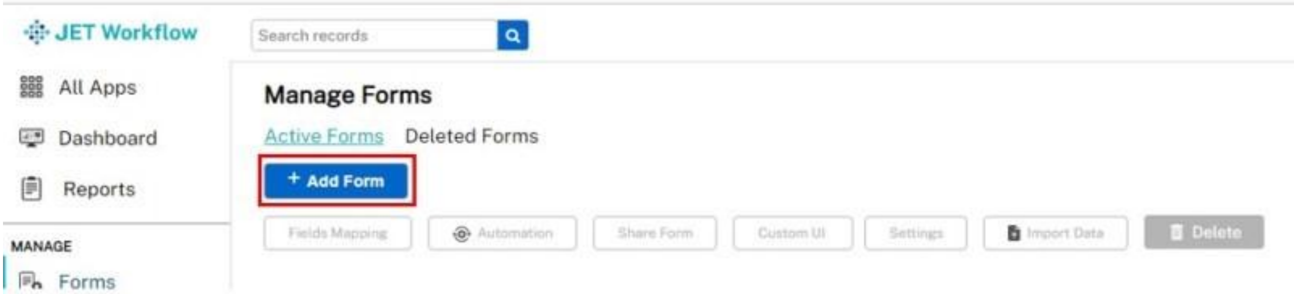
Create a form, define the fields and it is ready to use immediately. Use drop-down list, calendar dates, and file-upload capability, ability to collect data and import it to any application for further processing.

Step 1:

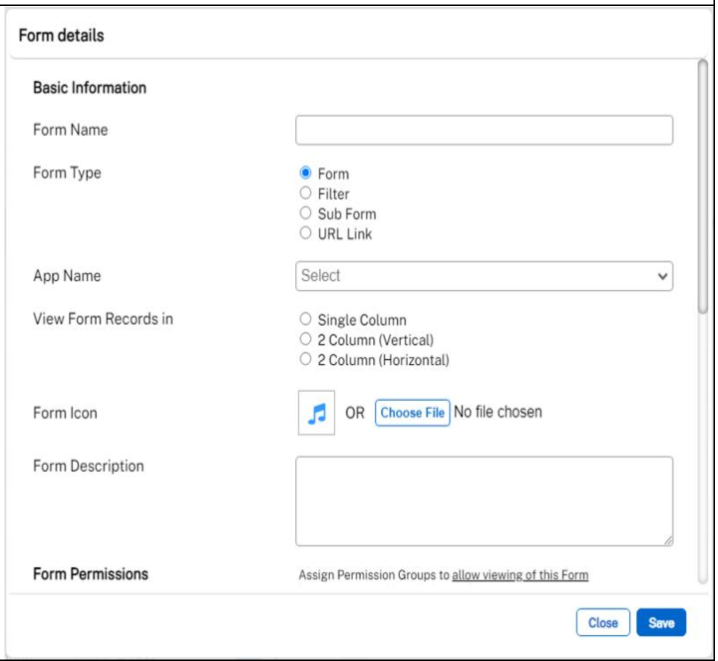
To create new forms, click on the Manage icon on the left side of the screen



Step 2:
Click on Add Form.



Step 3:
Form Details will pop up, fill in the field and click on Save.



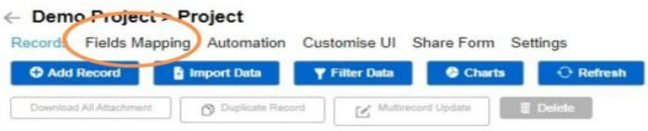
Forms Details	Description
Form Name	Name of the form
Form Type	Form: Default Form. Filter: Enables the Form to be displayed on the left navigation bar, and allows searches within individual Data entries. Sub Form: Supporting form to further expand records. URL Link: Redirects to external link
Filter Field Name	(Viewable only after selecting Filter) Name Display of the filter on left navigation bar
Forms Details	Description
Parent Form	(Viewable only after selecting Sub Form) Chooses the form that this sub form will be a part of

Form URL	(Viewable only after selecting URL Form) URL of the form
App name	Name of the group that this form belongs to
Column mode	Choices of 1. Single Column 2. 2 Column (Vertical) 3. 2 Column (Horizontal)
Form Icon	Allows the user to customize the form icon by choosing from existing list or uploading their own icon
Form Description	This will serve as a description of what this form is about
Form Permissions	Selects the permission groups that would be allowed to see this form
Record Accessibility	Public Access: Everyone can see all the records in the form Owner Access: Only the submitter can see his own records. Owner Group Access: Only the users belonging to the permission group can see the record.

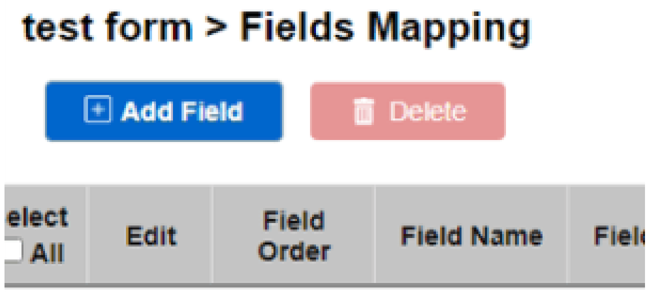
Note: You can change the form type which will reveal various field options described on the right.

3. Add Field

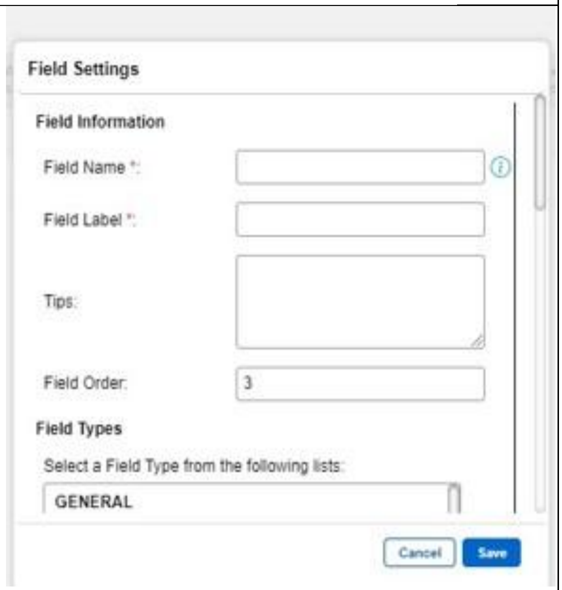
Step 1: Once the Form is created, click on the form itself and then click on Field Mapping.



Step 2: Click on the Add Field button.



Step 3:
Field Details will be shown, fill in the field and click on Save



1. Field Name: A name identifying the column in a database record.
2. Field Label: A descriptive word or phrase for a field in a record, such as ‘surname’,‘postcode’, etc.
3. Tips: This will show a description of what this field does.
4. Field Order: Determines the order in which the field will appear in the form.
5. Field Types: Each field type has each use. (The table on the left is to show the descriptionof each field type)
6. Required: Check the checkbox for requirement of input for the field.
7. Read Only: Check the checkbox to make this field read only.
8. Allow Multiedit: Allows user to edit the same field on multiple records at once.
9. Unique Value: Check the checkbox to ensure the values are unique within the records.
10. Allow Duplicate Value: Check the checkbox to give you the option to keep the value even ifthe value is not unique, but VIII must be checked.
11. Field Masking: Depicts a format the user has to follow to input value (for text field type only)
12. Min Length: The minimum amount of characters to put in the field.
13. Max Length: The maximum amount of characters to put in the field.

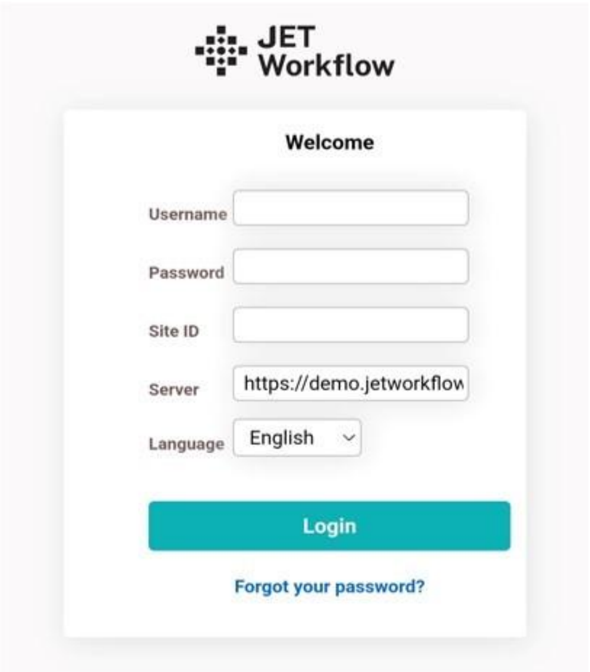
Field Permissions: Choose the permission group that is allowed to access this field.

NOTE: You can drag the row of field name to arrange the order.
Please go to Field Types to see the list of field types.

Step 4:
Go back to the main page, you will see the form that you created. Click the new form created. (Can click on the Back button until you reach the home page.)

4. **Login to mobile app.**

Step 1: On the JET app, and login with the same account details.



Step 2: The forms that you created on the website will be shown in the mobile app.

Filter Form?

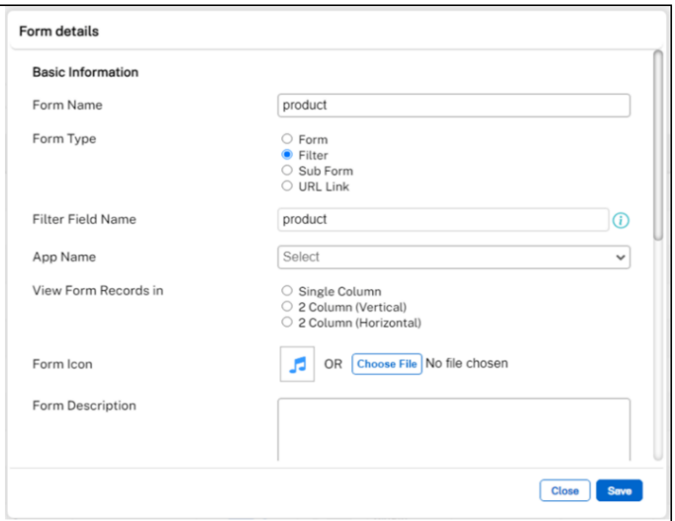
Once Filter form is selected, designate one of the field name as the filter field name. When another form uses a relation(list) field to point to this filter form, the field will appear on the left side of the form with a drop down list. This would allow the user to filter the display on the form based on the dropdown list.

Step 1: Create a filter form

- Click on 

- Select 'Filter' under Form Type Key in filter field name.
- Note that Filter Field Name has to be the same as the Field Name **IN** your filter form.

Eg. If 'Filter Field Name' set in Form Details is 'product',



A Field should also be added with the Field Name 'product'

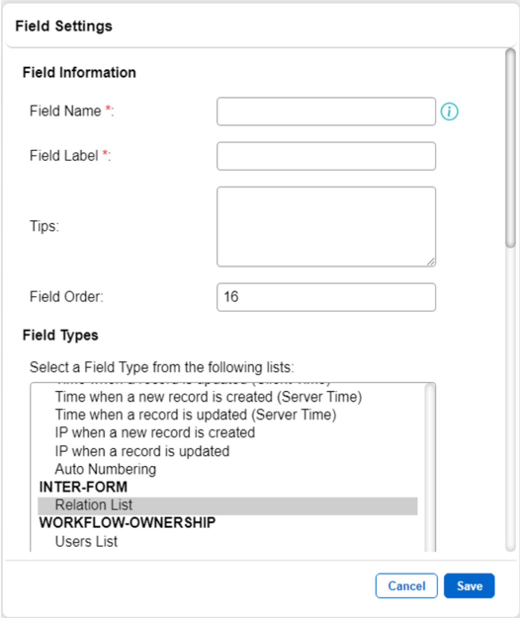
Step 2: Add in required fields in filter

- Add in the data that you want to filter in the main form to ensure that each record added is a data found in the main form's data.

Step 3: Link main form to filter form

- Select the field mapping in the **main form** that you want link the filter to.
- Change the field type to 

- On Listbox Source, select the filter form that you have created
- On show field, select the field that you want to filter



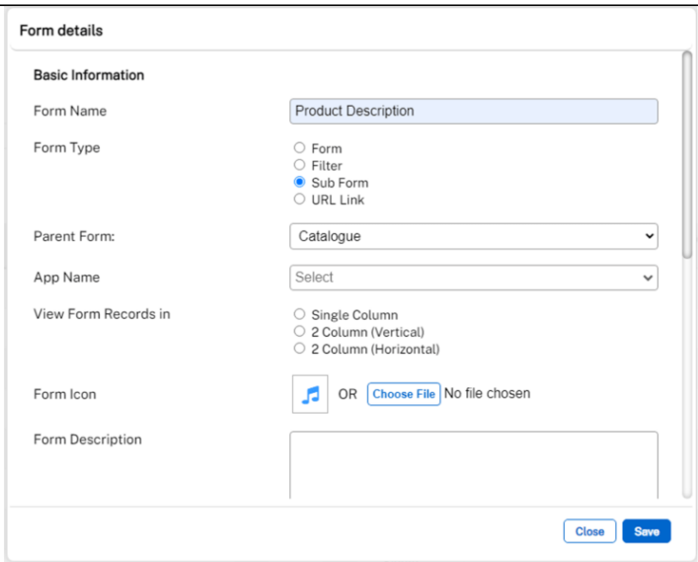
Sub Form?

Select a parent form from the existing forms. This Sub Form would then provide each record on the parent form with its own individual forms.

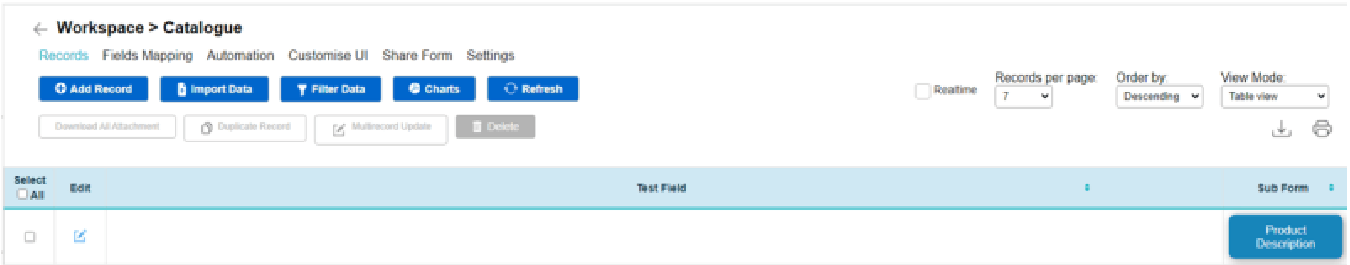
Step 1: Click on 

Step 2: Select 'Sub Form' under Form Type

Step 3: Select your Parent Form



Your Sub Form will appear in the Parent Form once you have added at least one record in the Parent Form, as shown below.



Take note that the above steps can be repeated if you want to add more than one sub form to the parent form.

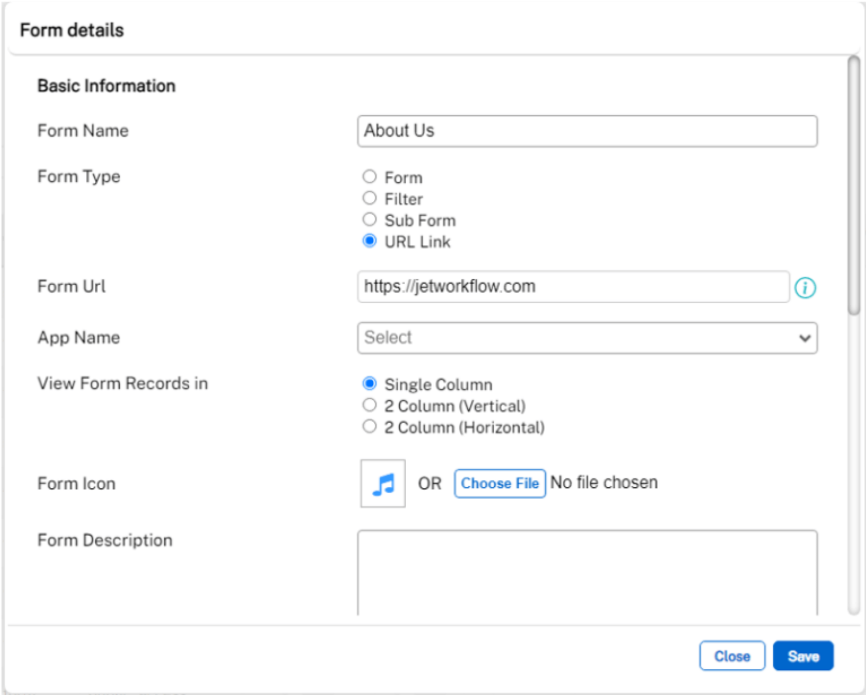
URL FORM

Select a parent form from the existing forms. This Sub Form would then provide each record on the parent form with its own individual forms.

Step 1: Click on 

Step 2: Select ‘URL Form’ under Form Type

Step 3: Select the website that you want link the form to under Form URL



Customized Form

You can insert html codes to customize your own page that will show up when any user clicks on the form.

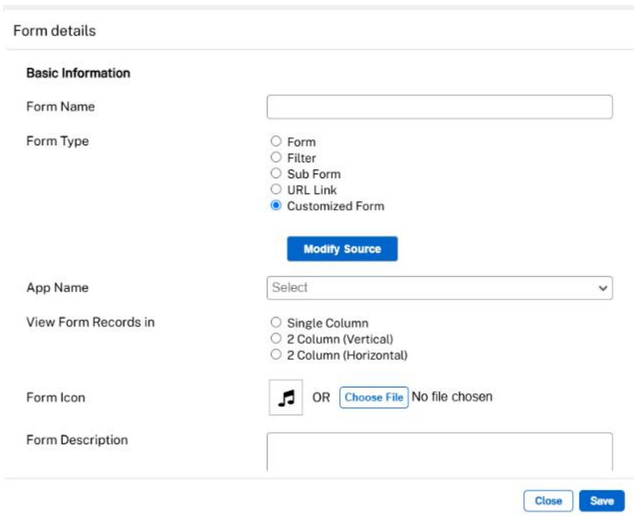
Step 1: Click on 

Step 2: Select ‘Customized Form’ under Form Type

Step 3: Click on Modify Source

Step 4: Enter the code you want, it can be html.

Step 5: Open the form from the main page to see the page you created with the code



Under Customized form, the below is how you can send an API.

```
jetRequest(
    {
        method: "httpRequest",
        url: "https://jsonplaceholder.typicode.com/posts",
        requestMethod: "POST",
        body: '{"title":"foo","body":"bar","userId":1}'
     },
    {},
    (data) => {
        console.log(data);
    },
    (error) => {
        console.error('Request failed:', error.message);
    }
);
```

Method – Delares the method used which in this example, its "httpRequest"
URL – URL for the API.
requestMethod – transport protocol
body – assigns values to various part of the send request.

Field Types

Each field type has its own function. Here is the extensive list:

Text	Any characters can be keyed into this text field.
Relation (list)	Choose another form's field that it is related
Static Dropdown	A dropdown box with your own set options.
Dynamic Dropdown	A dropdown box with your own set of options where you are able to save new entry options.
Numeric	Only numbers can be keyed into the field.
Currency	Store Currency value.
Date	Ability to select a date or key in manually.
Data Time	Ability to select date and time manually.
Email	To input email addresses (must include @/com/.sg , etc.).
GPS	Shows the current location.

GPS Insert	Inputs current GPS location on new record save.
GPS Update	Auto stores current GPS location on record save.
Long text	Allows characters to be keyed onto the next line.
Text Header	Allow display of text without input.
Body Text	Allow display of large text volume without input.
File	Allows you to attach file (excel, word, text, etc.).
Image from Upload	Allows you to upload images from your device. .
Timestamp Insert	Inputs the timestamp of record save.
Timestamp Update	Auto stores timestamp of record save.
Image Low	Low resolution image on mobile camera.
Image Medum	Medium resolution image on mobile camera.
Image High	High resolution image on mobile camera.
Barcode QR scan	Allows you to scan barcodes.
Checkbox	Allows you to indicate a True or False value.
URL/UNC	Redirects to a new page upon clicking on the link.
Chat Room	Chat room. (Discussion room)
Resource	Allows you to upload multiples files, add file description, upload date & time, delete files, etc.
Username Insert	Updates the Username when a record is created.
Username Update	Updates the Username when a record is updated.
Text	Any characters can be keyed into this text field.
IP Insert	Updates the IP address when a record is created.
IP Update	Updates the IP address when a record is updated.
Time	Allows you to indicate a time.
Signature	Allows you to submit a signature.
Free Drawing	Allows you to create drawings for illustration.
Video Upload	Saves and allows play of video from JET server.
Video URL	Upload video from external URL.
Auto Numbering	This is a record ID number that would automatically increase in value when a new record is added.

Users List	Allows you to choose from the users list.
Permission Groups List	Allows you to choose from the permission groups list.
Owner User	Assign access to a record to another user.
Owner Group	Assign access to a record to another permission group.
Memo	This allows the user to insert long paragraphs of text
Display QR	This allows to display a field value as QR code.

Field Description:

Chat Room

This field can only be used once it is added as a record into a form.
Note: The chat room will not work if it is opened while on the popup to create a **record**.
After creating a record, you can access it by looking at the records of the form and clicking the "Chat Room" button under the appropriate field.

User - Record Ownership

In order to make use of this, this field type should be selected during field creation.
It would not work properly if it was changed from another field type

Relational Dropdown List

A relational dropdown list consists of two dropdown list.
We will call the two dropdown list parent and child dropdown lists.

When the user select a different option for the parent dropdown list, the child dropdown list will show a different set of options based on the selected choice of the parent dropdown list.

In this example, the parent dropdown list contains a list of country names and the child dropdown which display the state of the country will display the choices based on the country you have selected.

Step 1: We first create a form to contain all the country and state information

- Create a form named “Master”
- Add two fields, Country and State
- Add the data into this form

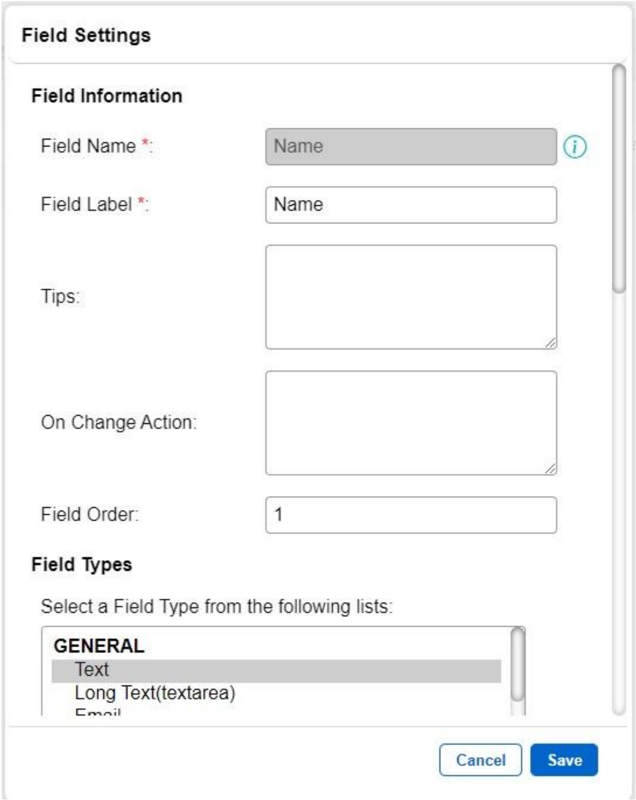
master > Fields Mapping **Form ID: 474**

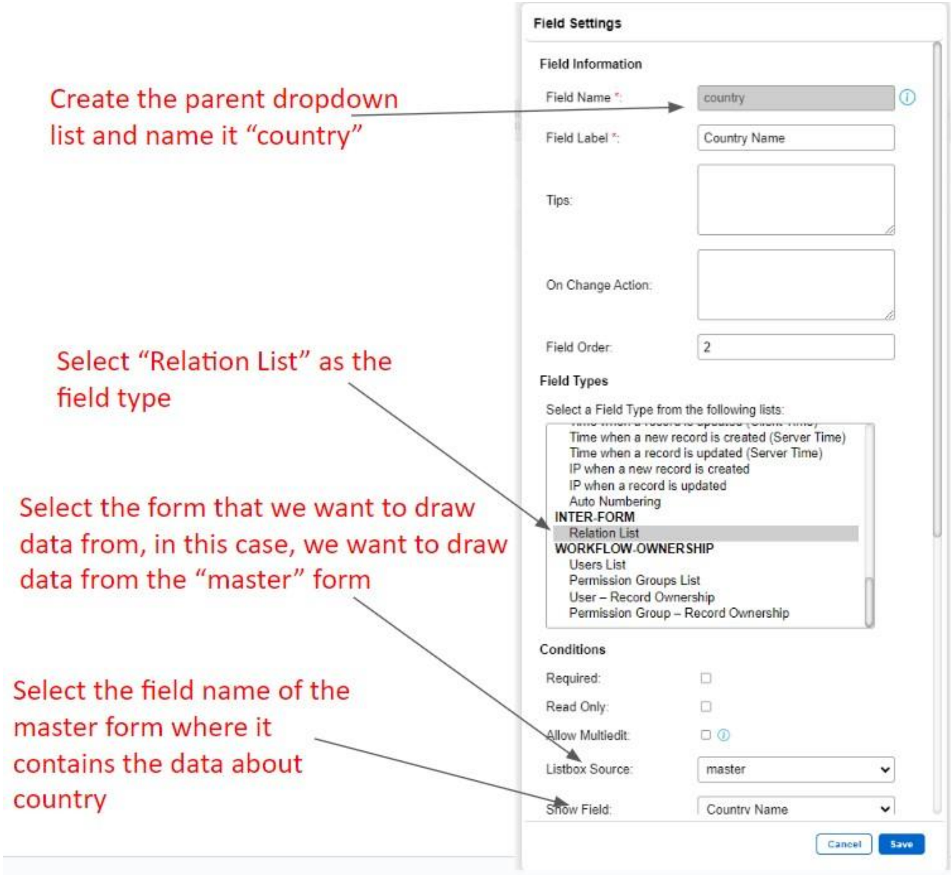
Add Field Delete

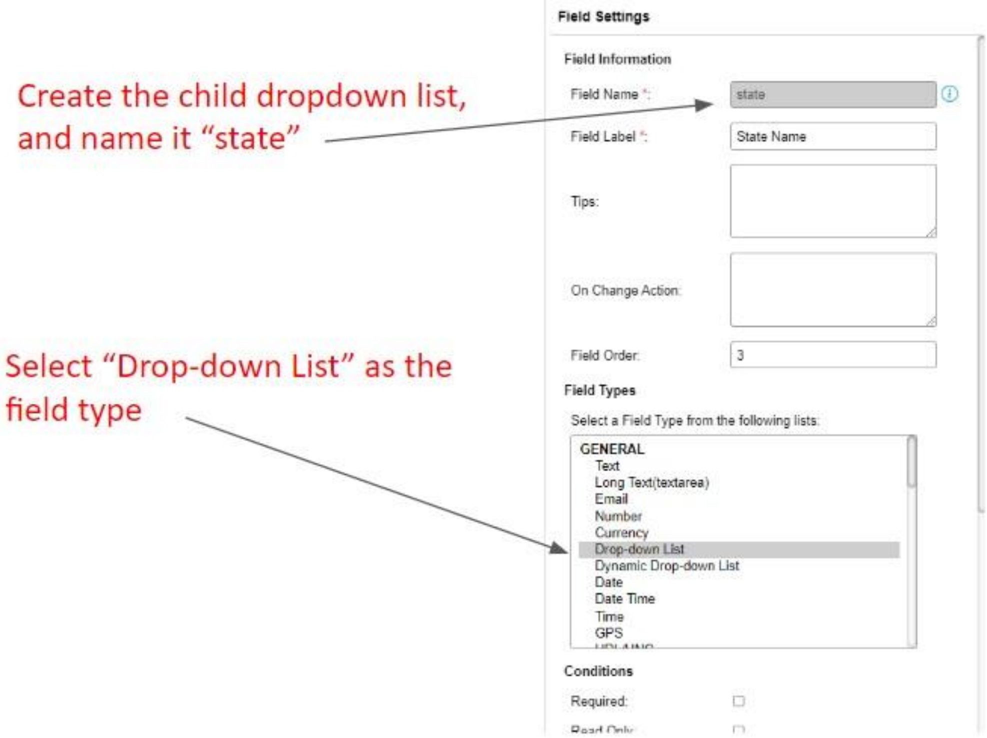
Select All	Edit	Field Order	Field Name	Field Label	Required	Allow Multiedit	Read Only	Unique Value	Alphanumeric Sort	Same value	Listbox ID	Listbox Show Field	Field Type
		1	countryname	Country Name	0	0	0	0	0	0	0		Dynamic Dropdown
		2	statename	Name of State	0	0	0	0	0	0	0		text

Select All	Edit	Country Name	Name of State
		India	Bombay
		India	Chenai
		China	Fujian
		Malaysia	KL
		China	Shanghai
		Singapore	Jurong
		China	Guangzhou

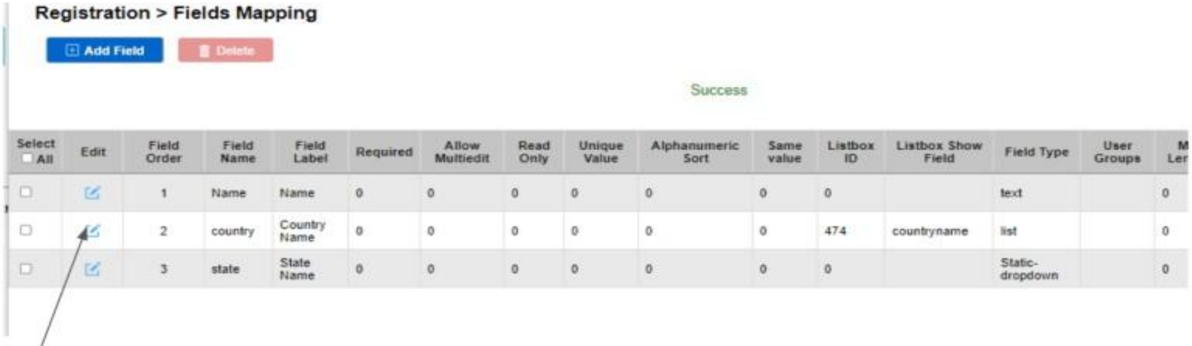
Step 2. Next, we create the user form, in this case, we are creating a registration form. For this demo, we are only creating three fields.




Create the parent dropdown list and name it "country"
Select "Relation List" as the field type
Select the form that we want to draw data from, in this case, we want to draw data from the "master" form
Select the field name of the master form where it contains the data about country
Field Settings
Field Information
Field Name *:
country
Field Label *:
Country Name
Tips:
On Change Action:
Field Order:
2
Field Types
Select a Field Type from the following lists:
Time when a new record is created (Server Time)
Time when a record is updated (Server Time)
IP when a new record is created
IP when a record is updated
Auto Numbering
INTER-FORM
Relation List
WORKFLOW-OWNERSHIP
Users List
Permission Groups List
User – Record Ownership
Permission Group – Record Ownership
Conditions
Required:
Read Only:
Allow Multiedit:
Listbox Source:
master
Show Field:
Country Name
Cancel
Save


Create the child dropdown list, and name it "state"
Select "Drop-down List" as the field type
Field Settings
Field Information
Field Name *:
state
Field Label *:
State Name
Tips:
On Change Action:
Field Order:
3
Field Types
Select a Field Type from the following lists:
GENERAL
Text
Long Text(textarea)
Email
Number
Currency
Drop-down List
Dynamic Drop-down List
Date
Date Time
Time
GPS
Conditions
Required:

The field mapping for the registration form should now look like this.

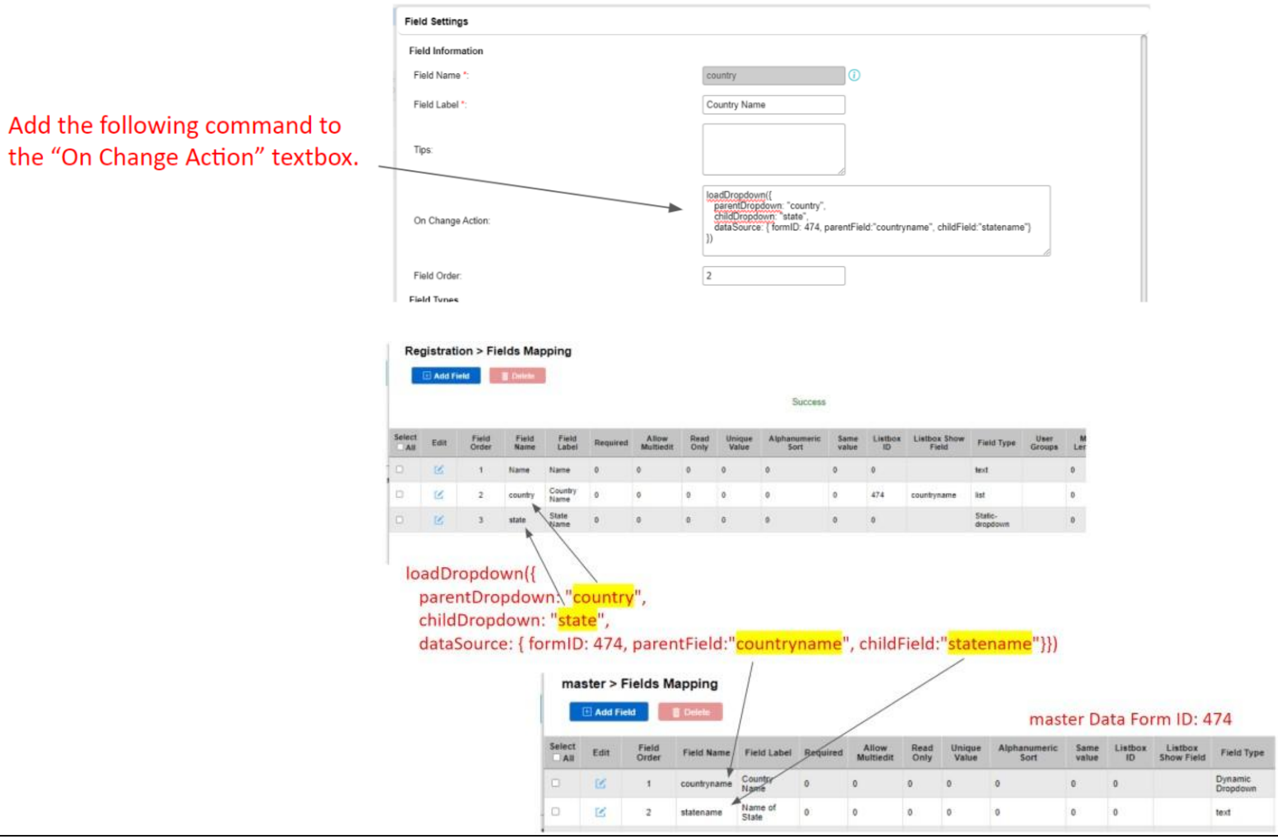


Click to edit the country field type again.

Step 3: There are some additional commands required to make the relational dropdown list work properly.

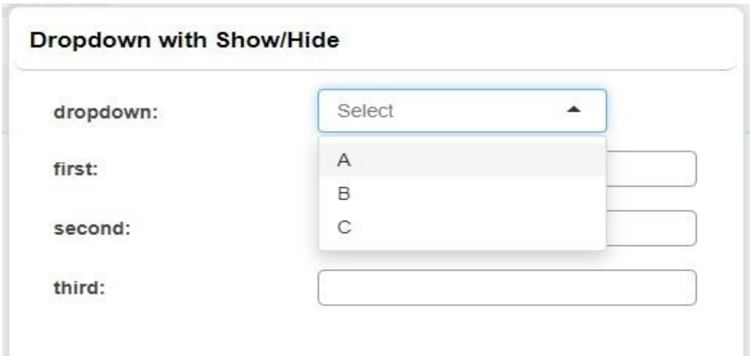
```
loadDropdown({
    parentDropdown: "country",
    childDropdown: "state",
    dataSource: { formID: 474, parentField:"countryname", childField:"statename"}
})
```

This command indicates the parent and child dropdown fieldname of the registration form, with the data coming from the relative parentField and childField of the Master form.



Dropdown with Show/Hide

Upon selecting different options for the Dropdown List, we can hide or show the other fields in the same form.
In this example, the dropdown list consists of 3 options, A, B, C.



Step 1: We first create a form with a dropdown list and a few other fields.

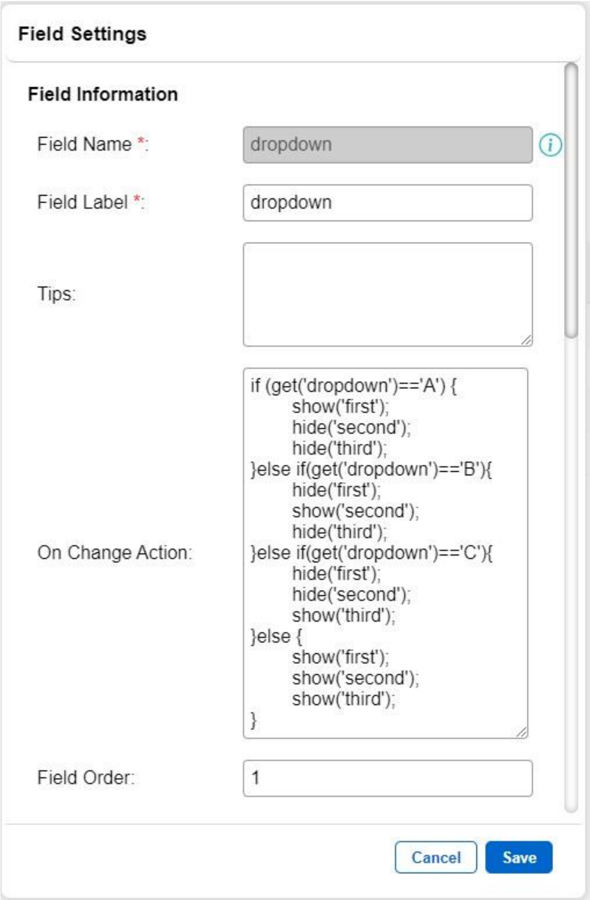
- Create a form named “Dropdown with Show/Hide”
- Add a dropdown field with options A,B,C
- Add 3 other fields.

Dropdown with Show/Hide > Fields Mapping **Form ID: 458**

Add Field Delete

Select All	Edit	Field Order	Field Name	Field Label	Required	Allow Multiedit	Read Only	Unique Value	Alphanumeric Sort	Same value	Listbox ID	Listbox Show Field	Field Type
☐		1	dropdown	dropdown	0	0	0	0	0	0	0		Static-dropdown
☐		2	first	first	0	0	0	0	0	0	0		text
☐		3	second	second	0	0	0	0	0	0	0		text
☐		4	third	third	0	0	0	0	0	0	0		text

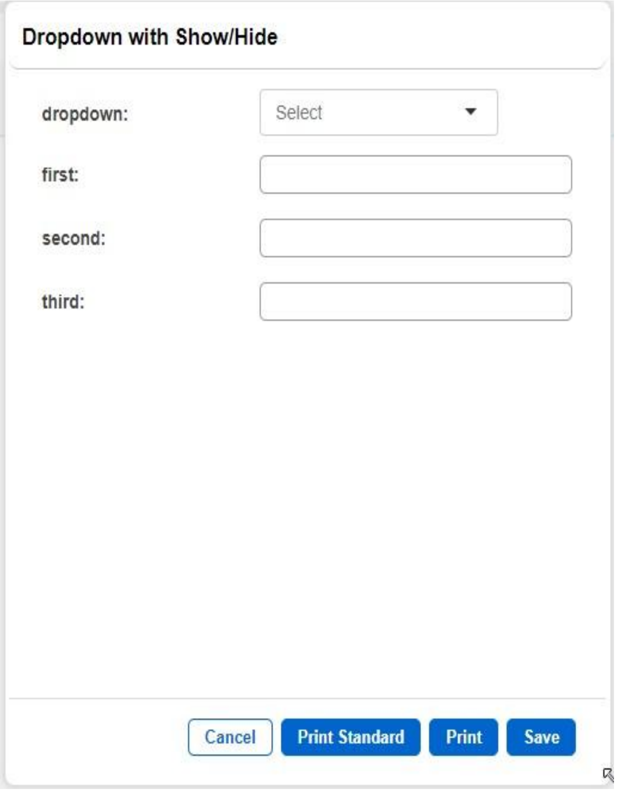
Step 2. Next, we need to edit the dropdown field.




```
if (get('dropdown')=='A') {
        show('first');
        hide('second');
        hide('third');
}else if(get('dropdown')=='B'){
        hide('first');
        show('second');
        hide('third');
}else if(get('dropdown')=='C'){
        hide('first');
        hide('second');
        show('third');
}else {
        show('first');
        show('second');
        show('third');
}
```

This is what we need to add to the On Change Action portion of the dropdown field.

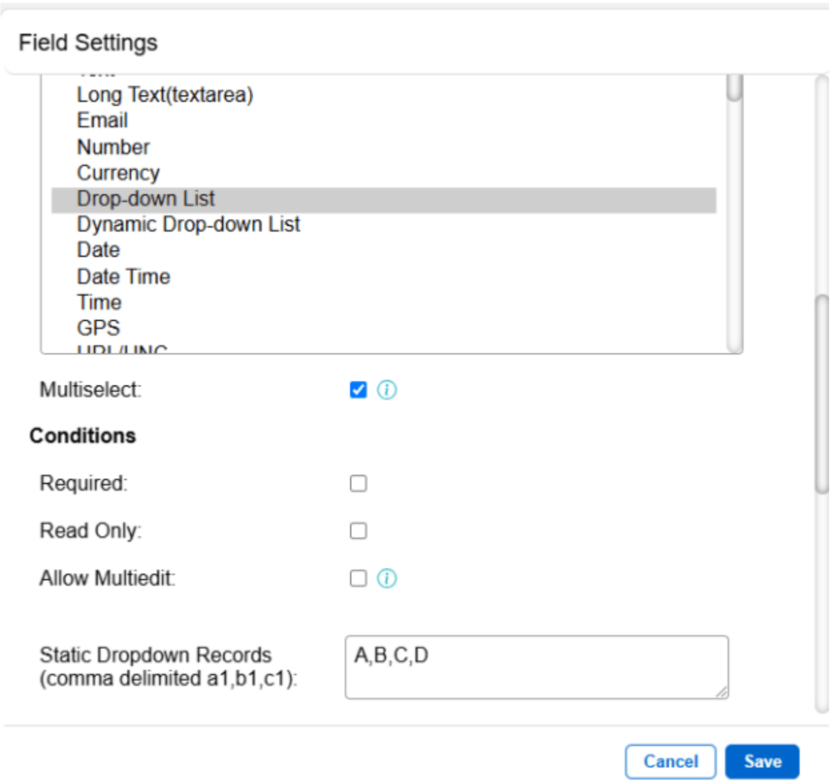
- In our example, we use the field name of our dropdown list field which is ‘dropdown’ as part of the condition within the if else statements.
- ‘first’, ‘second’, ‘third’ are the field names of the other fields. Depending on how you want to show or hide the field, put the fieldname within the Show or Hide functions.
- Other than the selectable option, we also need to take care of the scenario where no options are picked. Hence under the last else statement, it will show all 3 fields.



Multi-Select Dropdown option

This is an option that can be applied to the static dropdown field type.

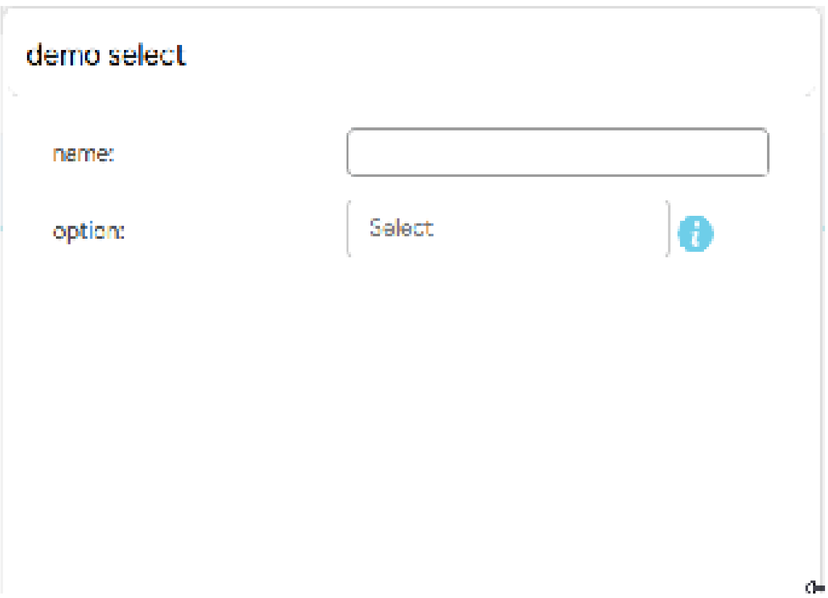
Edit field mappings:



1. Select Drop-down List
2. Tick Multiselect checkbox.
3. Enter the selectable options for this dropdown field.

Add/Edit record:

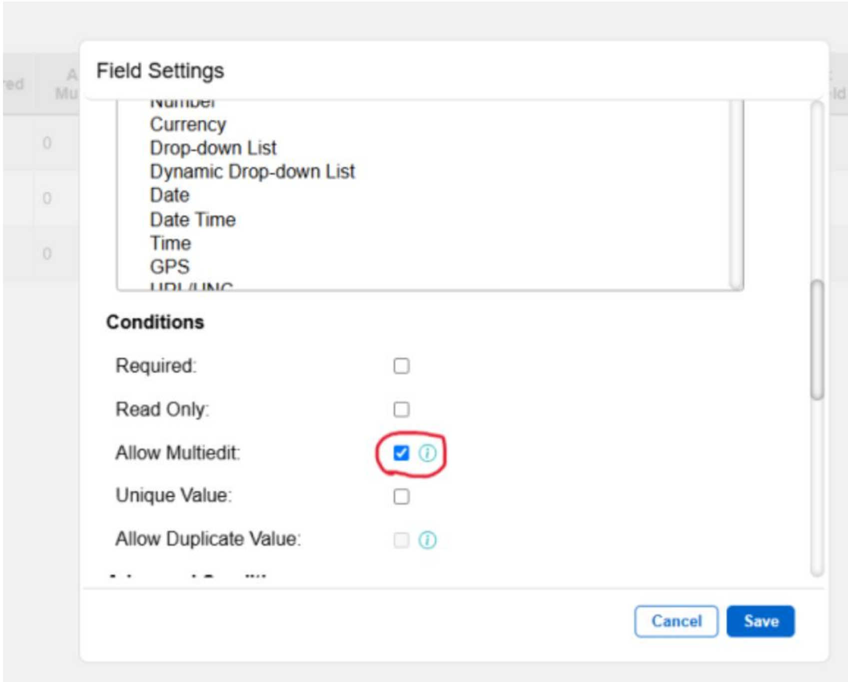
After the field is created, you can select multiple options when add/edit records.



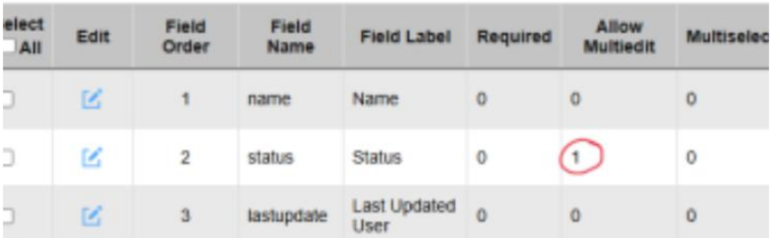
Multi-Record Update

This feature allows the user to update multiple records at the same time.

1. Tick the checkbox for Allow Multiedit when you are adding or editing a field.

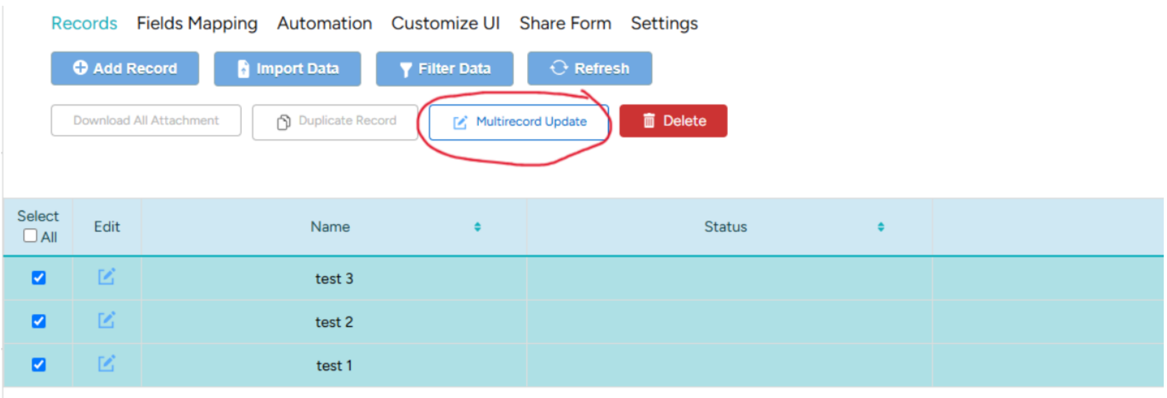


2. You will see on the field mappings that it is enabled.

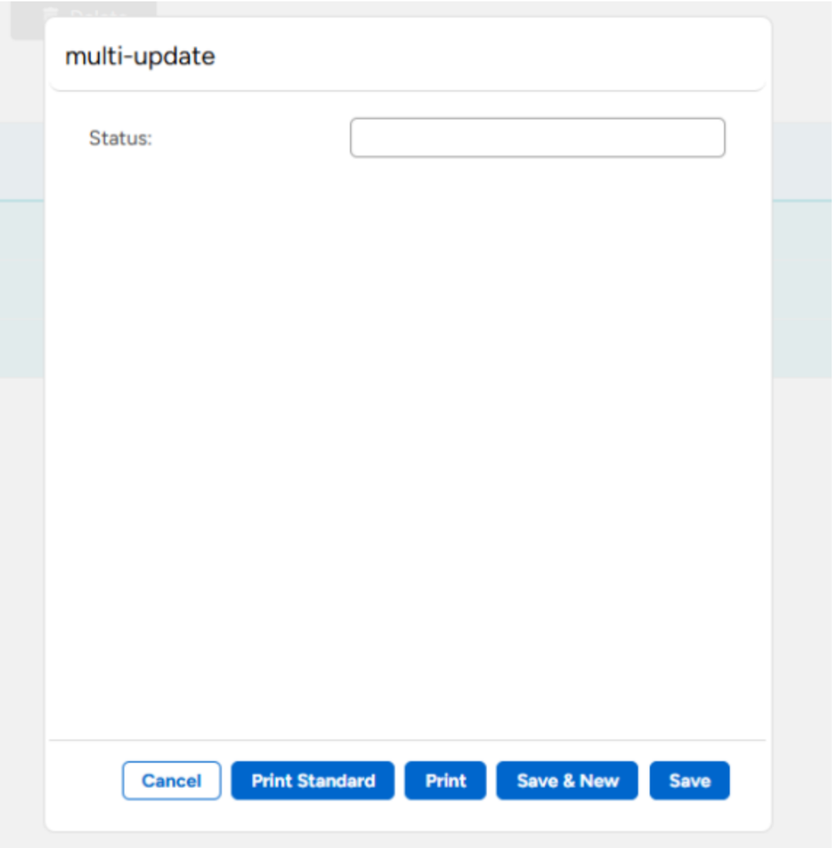


elect All	Edit	Field Order	Field Name	Field Label	Required	Allow Multiedit	Multiselec
		1	name	Name	0	0	0
		2	status	Status	0	1	0
		3	lastupdate	Last Updated User	0	0	0

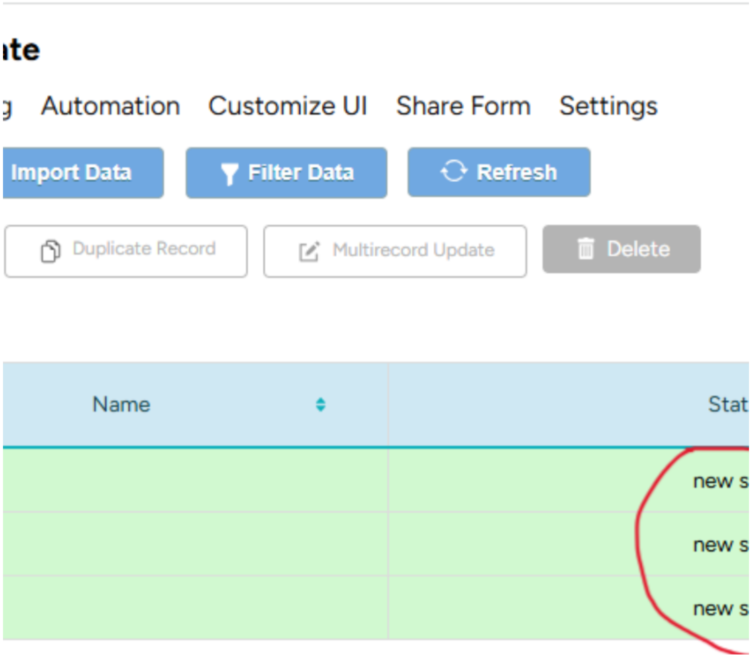
3. Select the records that you want to edit at the same time and click on Multirecord Update button.



4. Enter the field value that you want to update to.



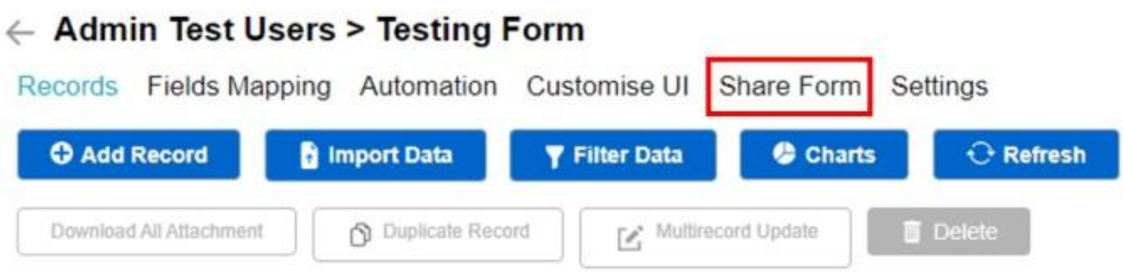
5. You will see that all the records you selected will have that field's value all updated to the same value.



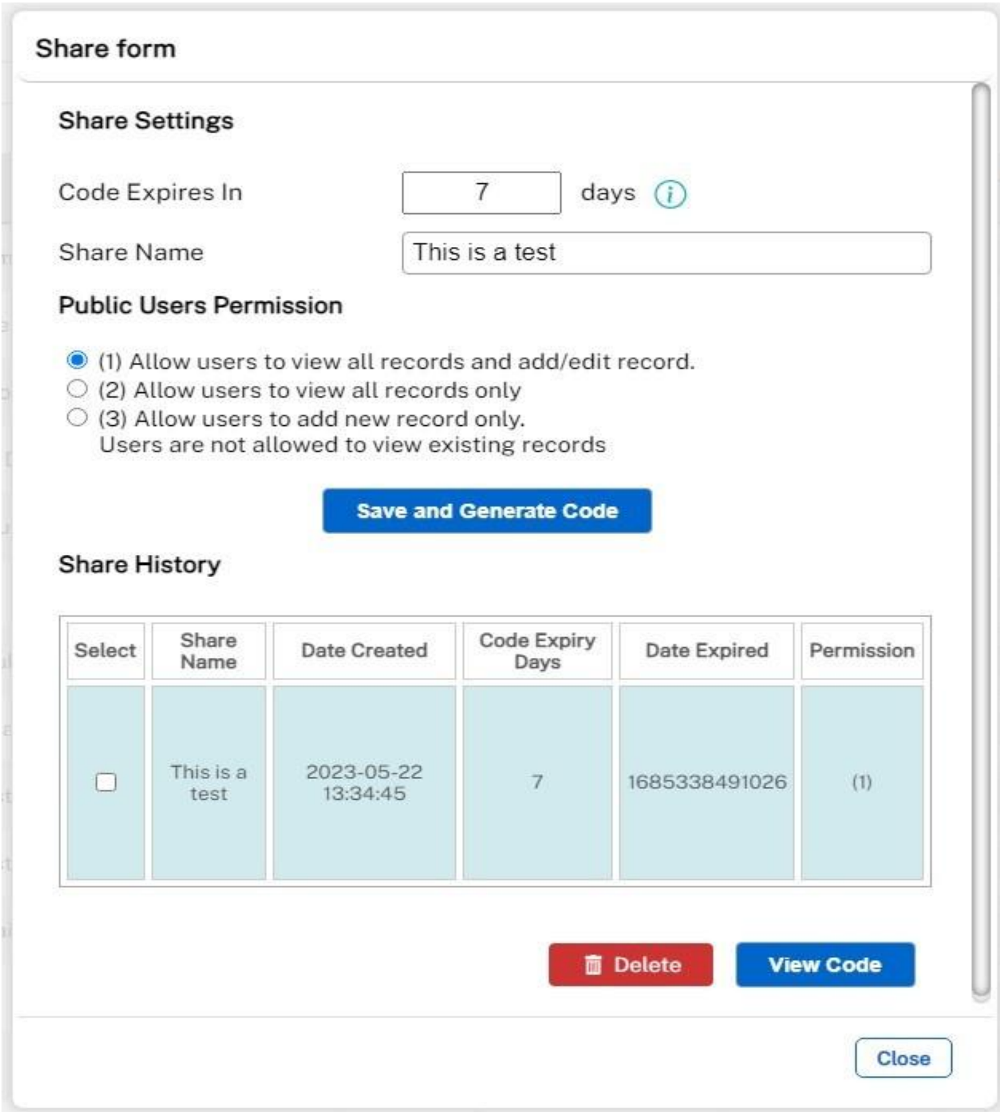
Share Form

We can share the forms to allow easy viewing or input to the form without the need to login to JET. This can be useful when doing things like survey or feedbacks.

Step 1: Click on Share Form

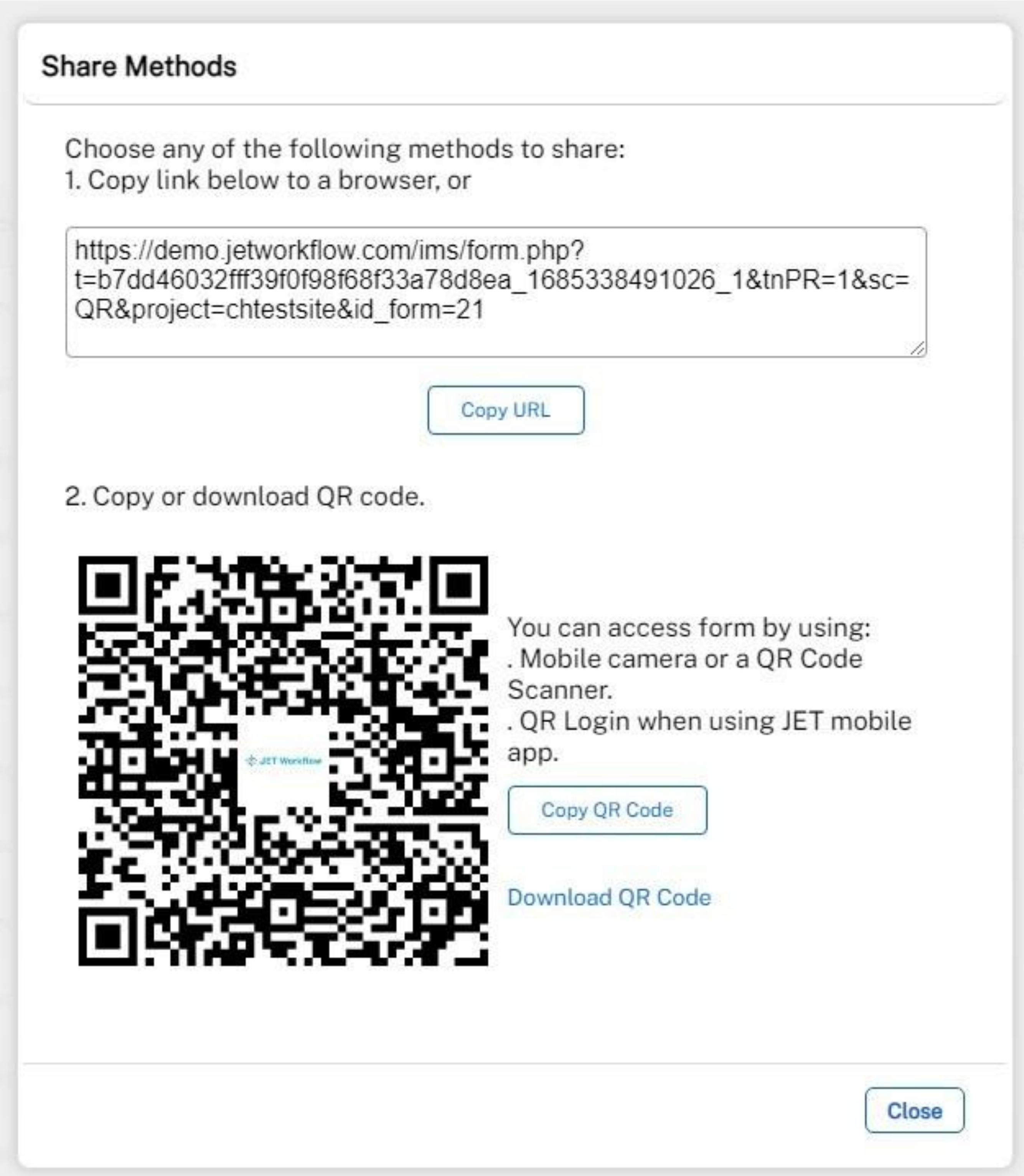


Step 2: Update the user permissions and no of days along with the share name



Step 3: Tick a share and click on view Code.

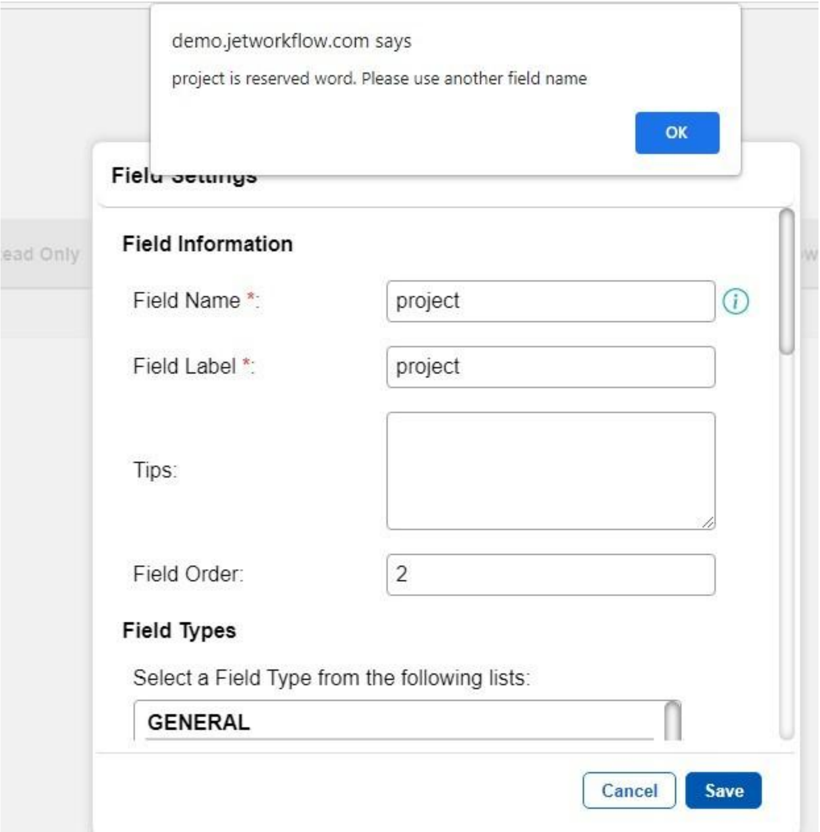
You can then use either the URL or QR code to share to other people.



Reserved Words

Reserved Words are words that users should not be using in the field names.

- "project"
- "sc"
- "id_form"
- "id_record"
- "video"
- "owner"
- "description"



If any of the above words are used in the Field Name, upon the user clicking save, there would be a popup message warning the user that the name is reserved.

Note that this applies regardless of upper- or lower-case versions of the word.

BASIC FUNCTIONS

Adding Data

On Website:

Step 1:

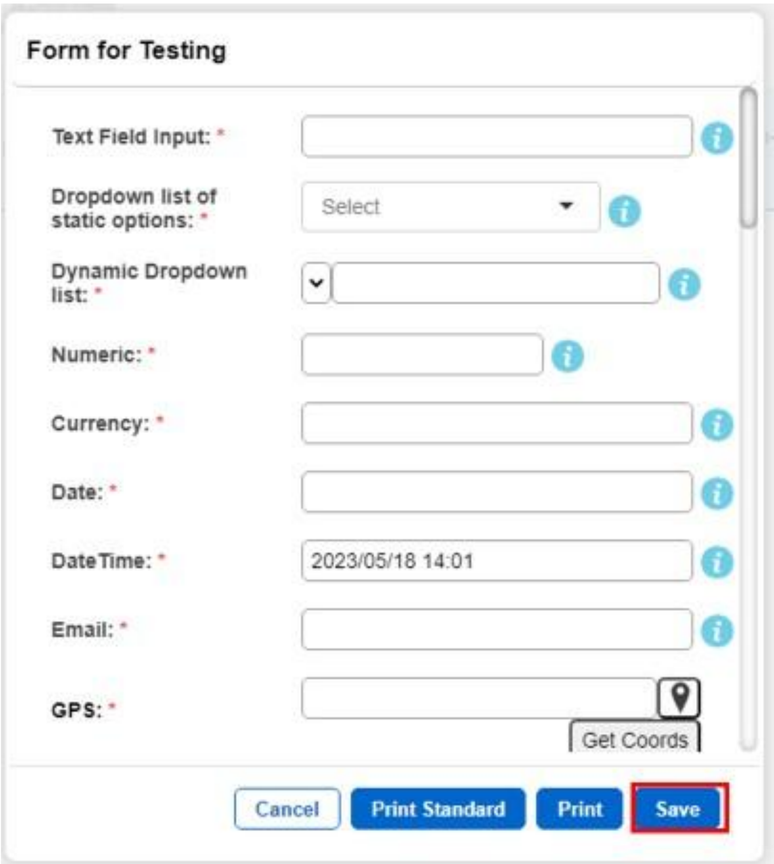
Go to the form you desire to edit.

Step 2:

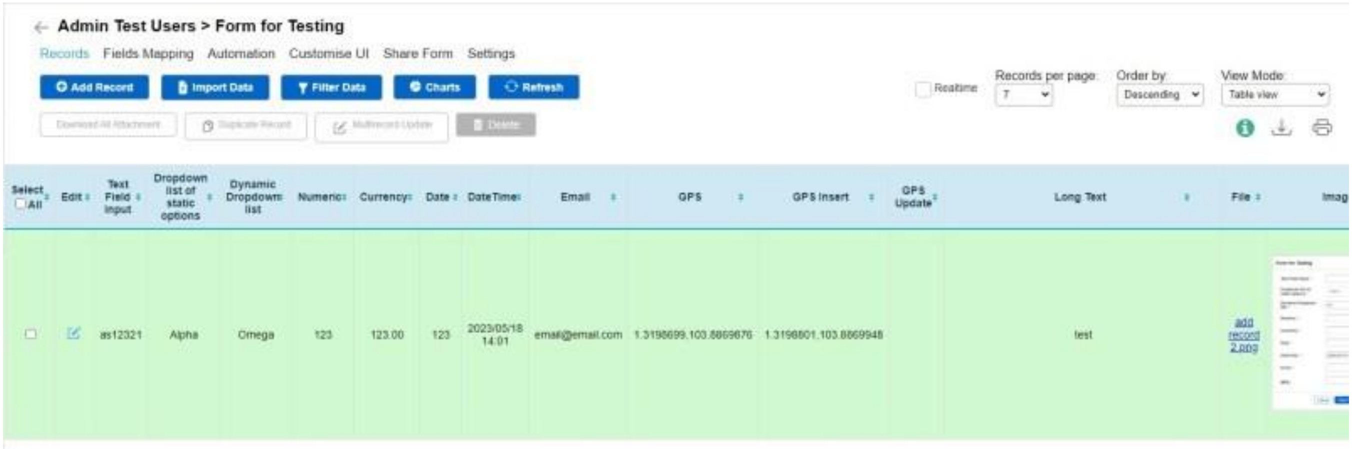
Click on “Add Record”

Step 3:

Fill in the fields and click on “Save”.



Step 4:
The new data would be stored accordingly.



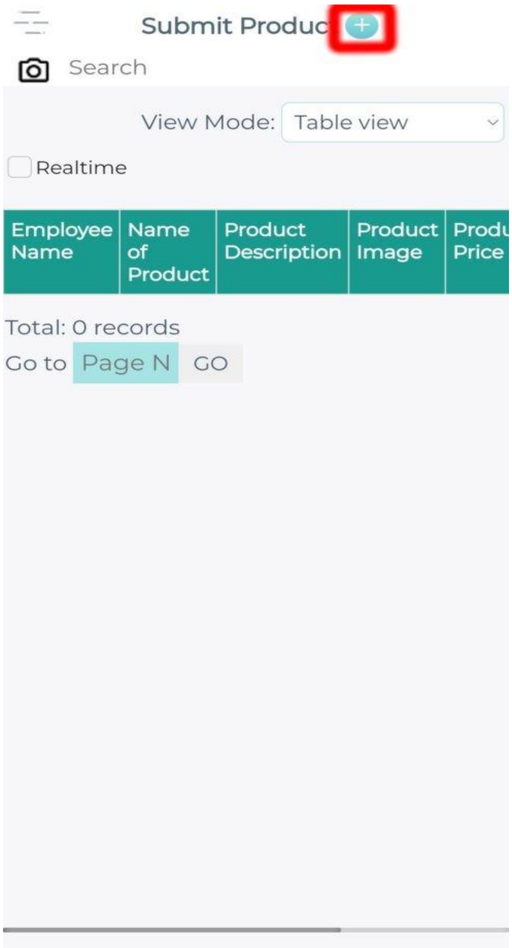
On Mobile - Android:

Step 1:

Go to the form you desire to edit.

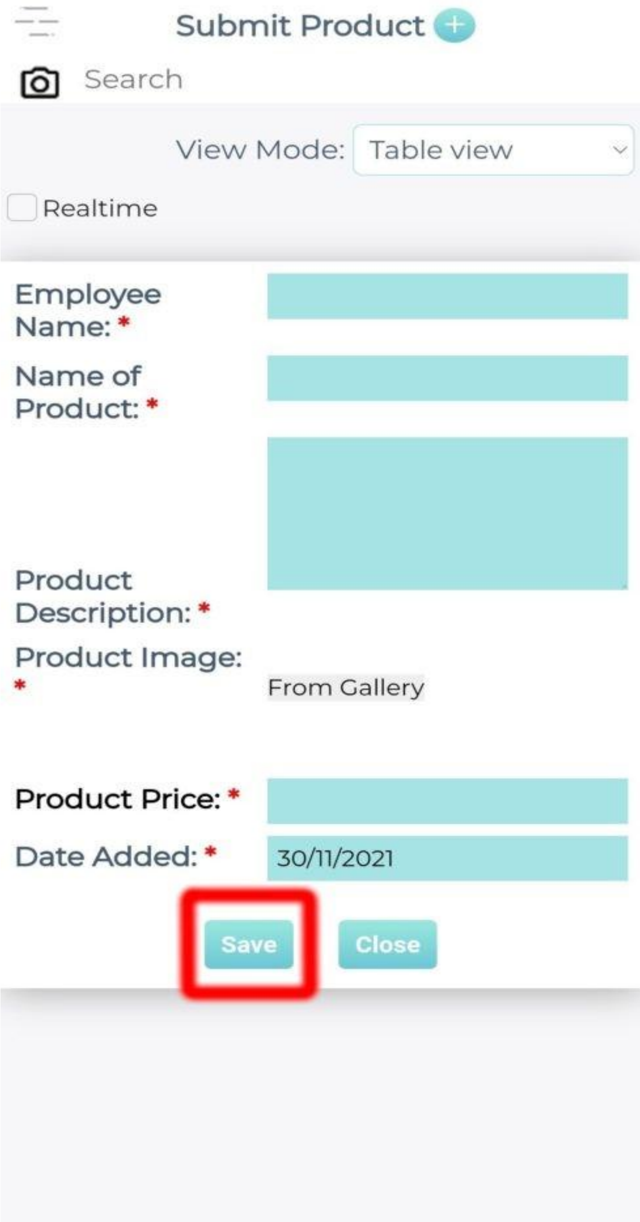
Step 2:

Click on the (+) button as shown.



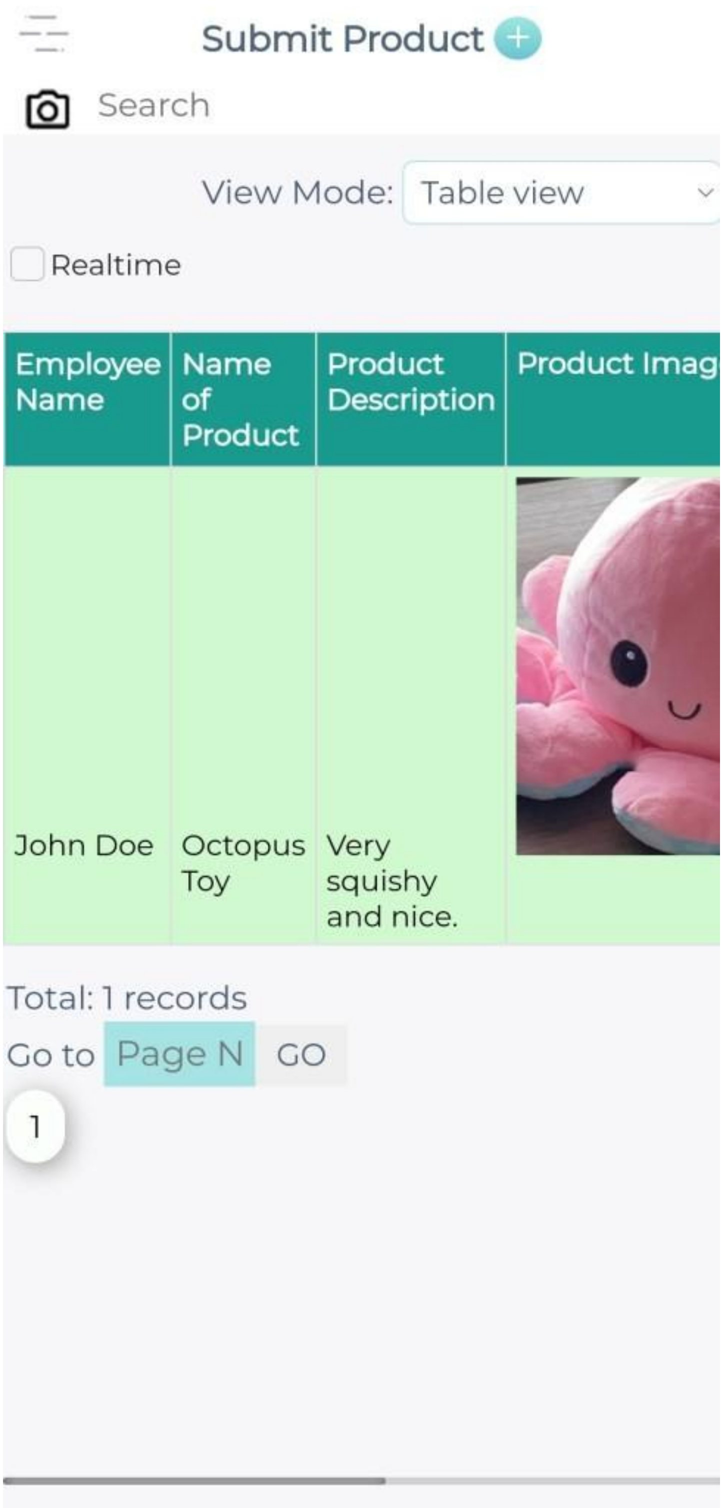
Step 3:

Fill in the fields and click on “Save”.



Step 4:

The new data would be saved accordingly.

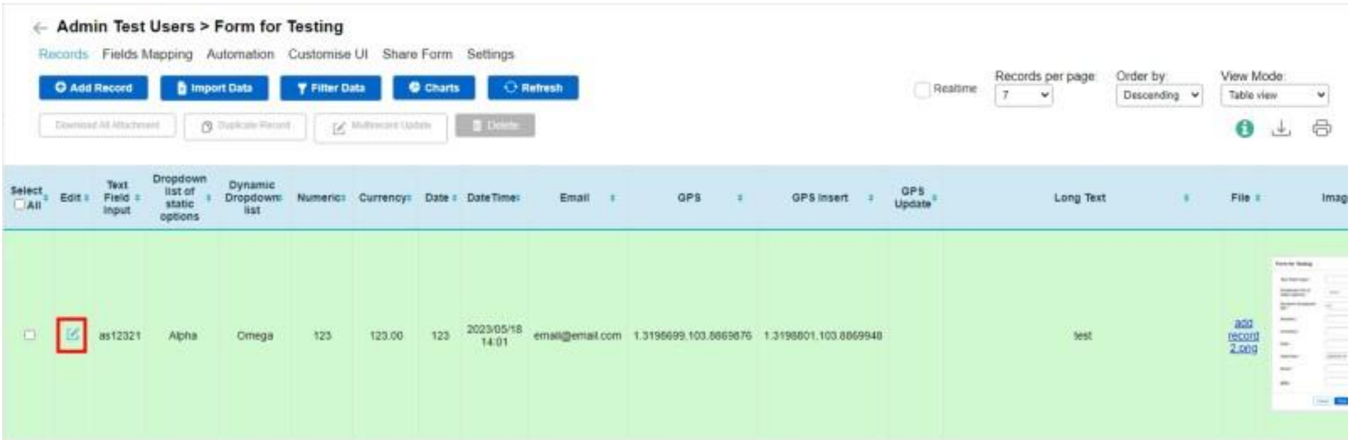


Editing Data

On Website:

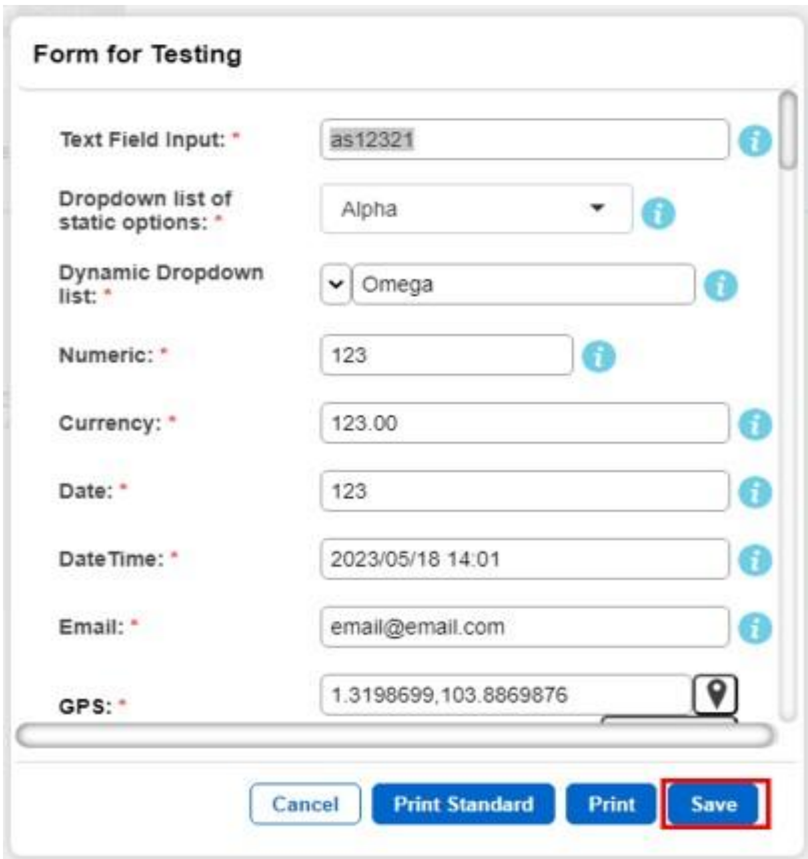
Step 1:

Go to the form that you want to edit. Either Double click on the record or Click on the “Edit” icon next to the data.



Step 2:

Modify the values that you want and click on “Save”.

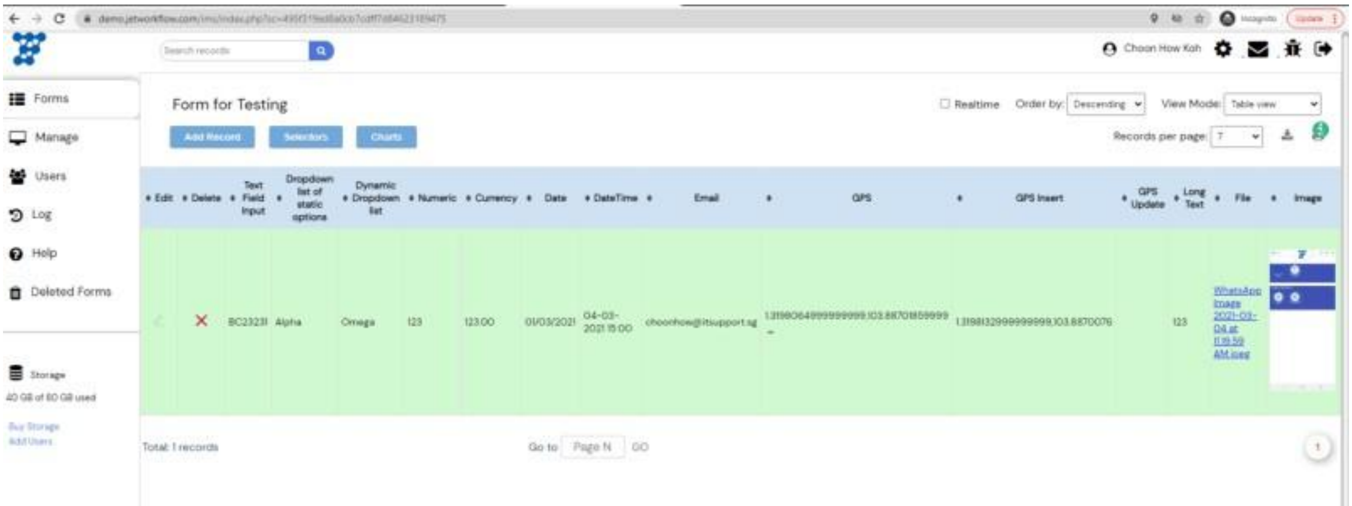


Step 3:

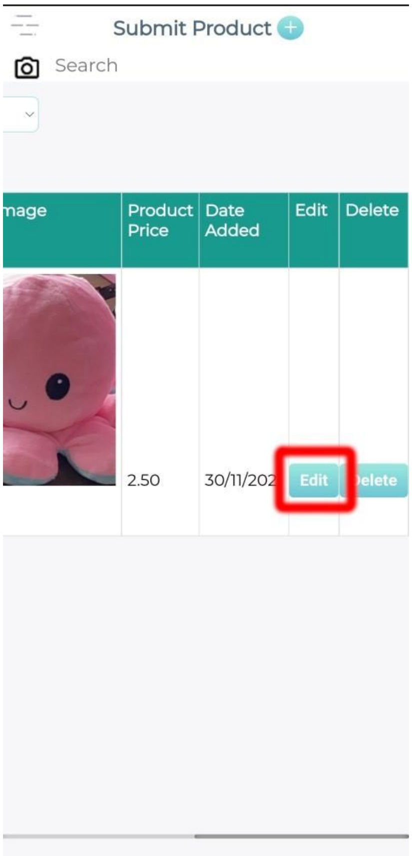
The new data would be updated accordingly.

On Mobile - Android:

Step 1:

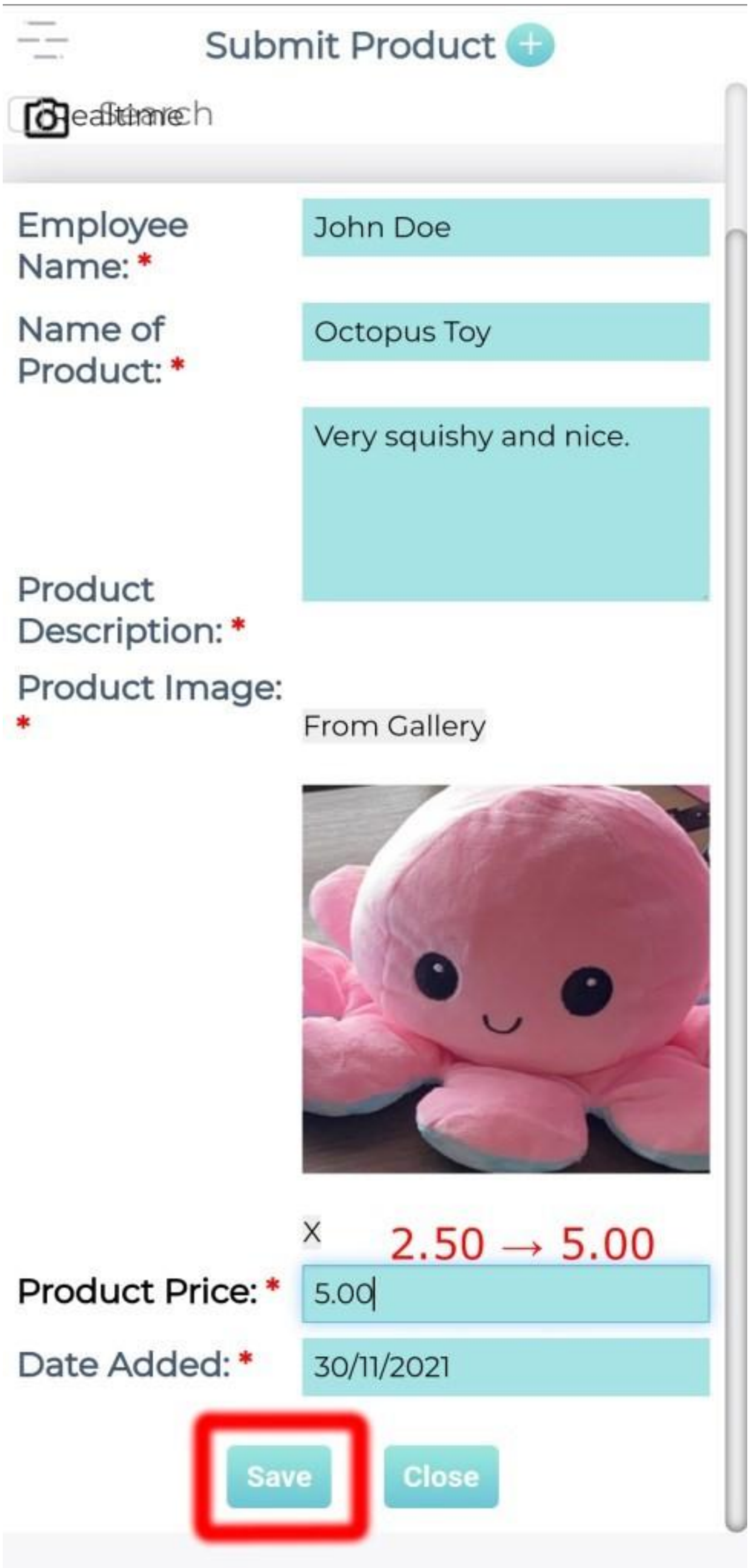


Go to the form that you want to edit. Either Double click on the record or scroll to the right and Click on the “Edit” icon next to the data.



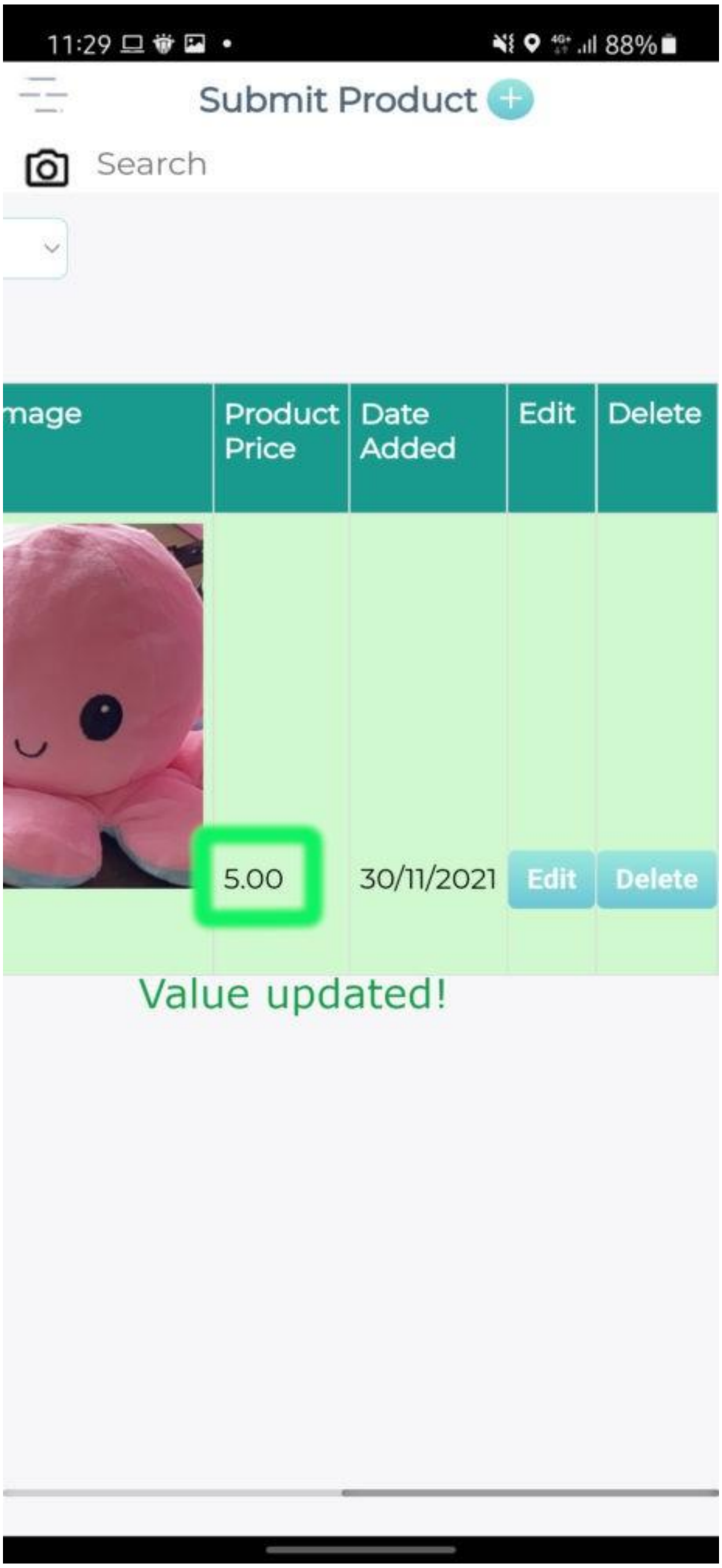
Step 2:

Modify the values that you want and click on “Save”.



Step 3:

The new data would be uploaded accordingly.

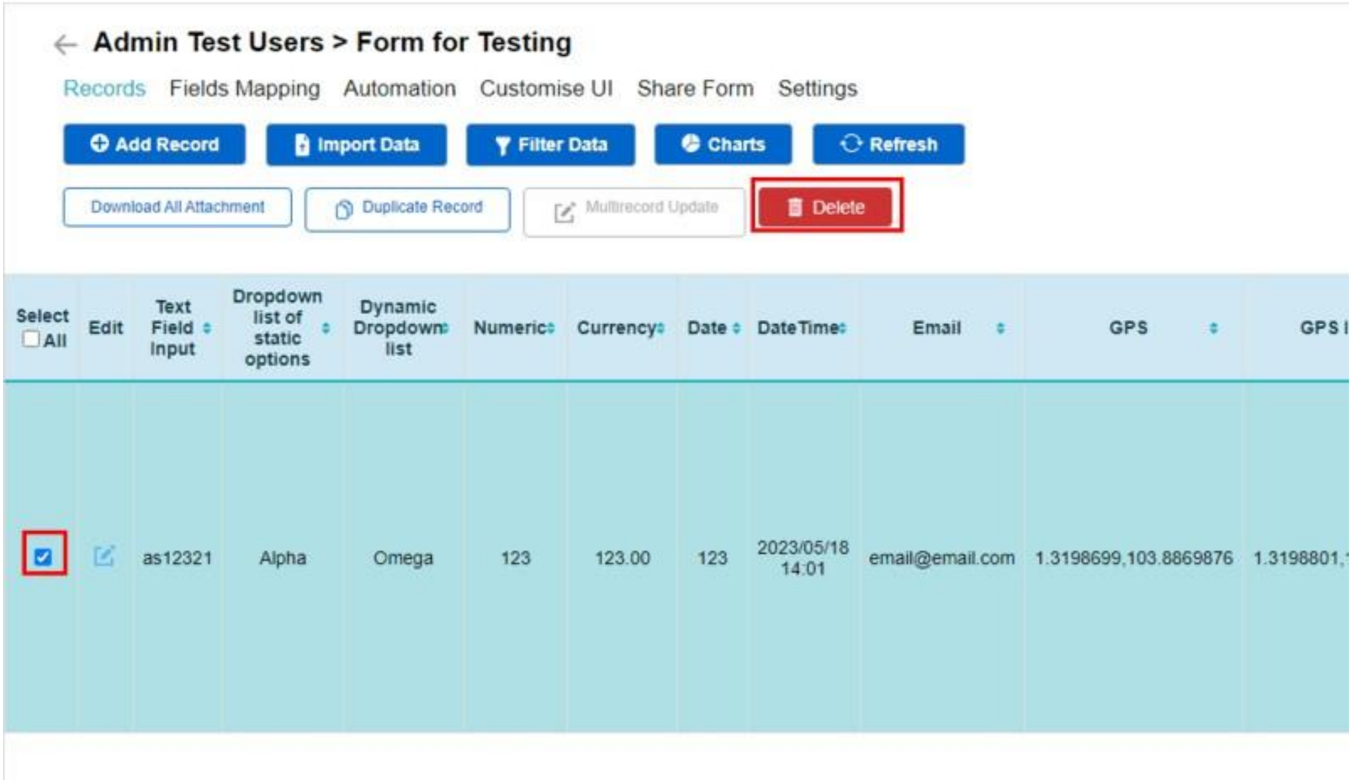


Delete Data

On Website:

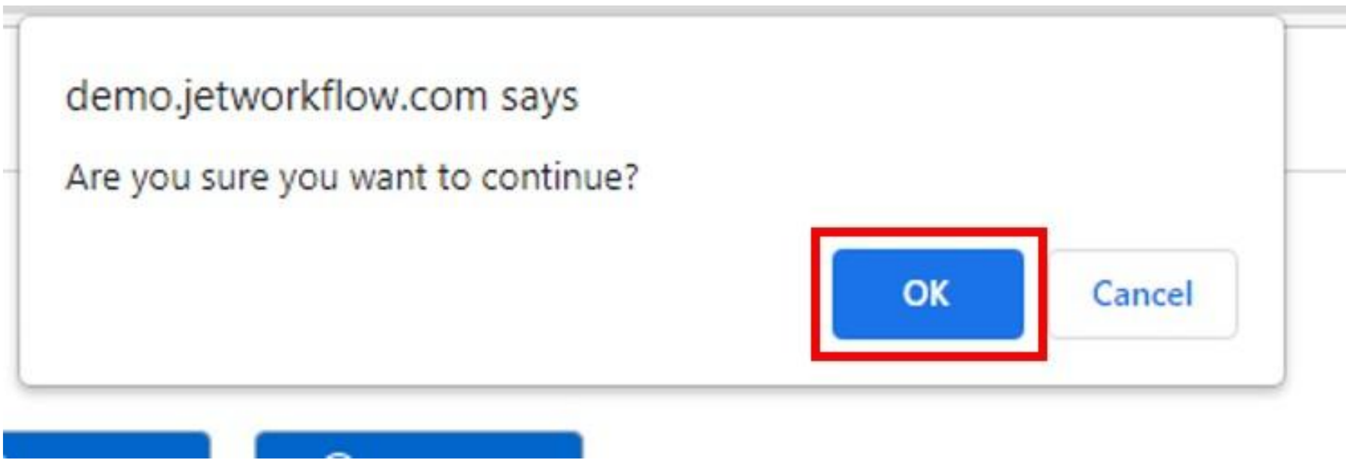
Step 1:

Select the checkbox and the delete button will be enabled.



Step 2:

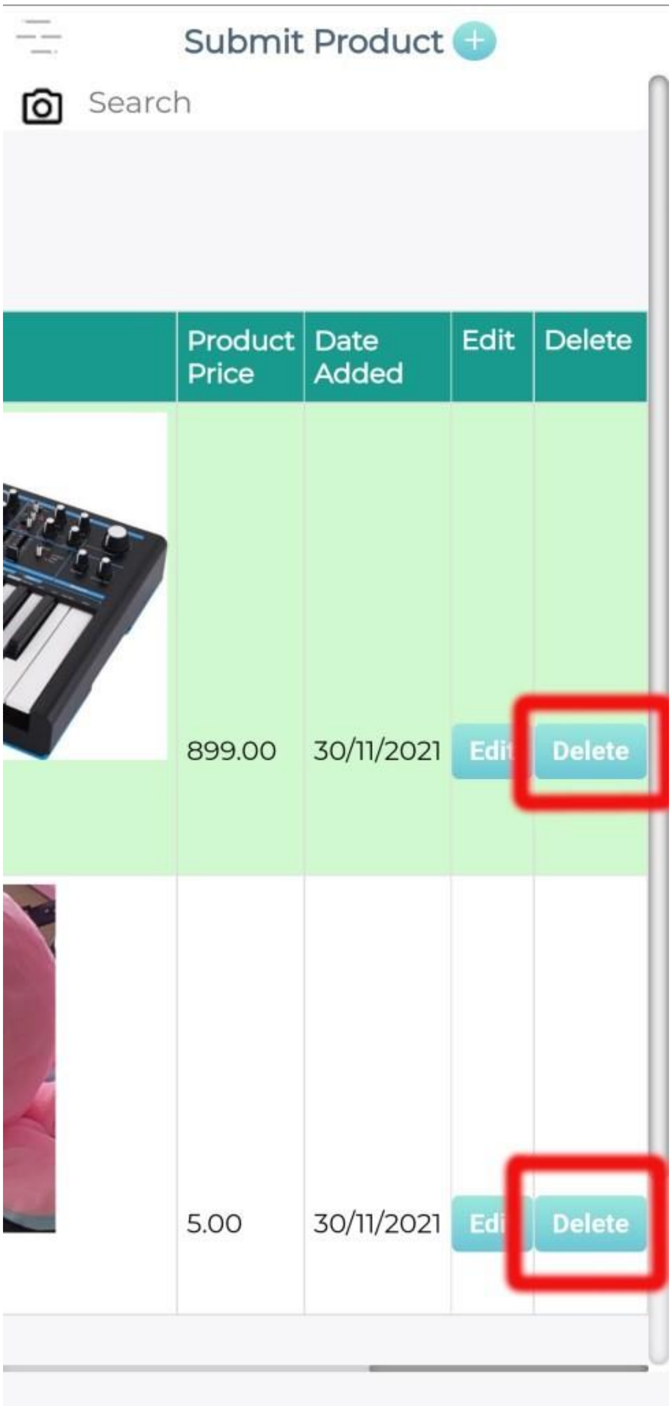
A prompt will pop out. Click on “OK”. The data would then be deleted.



On Mobile - Android:

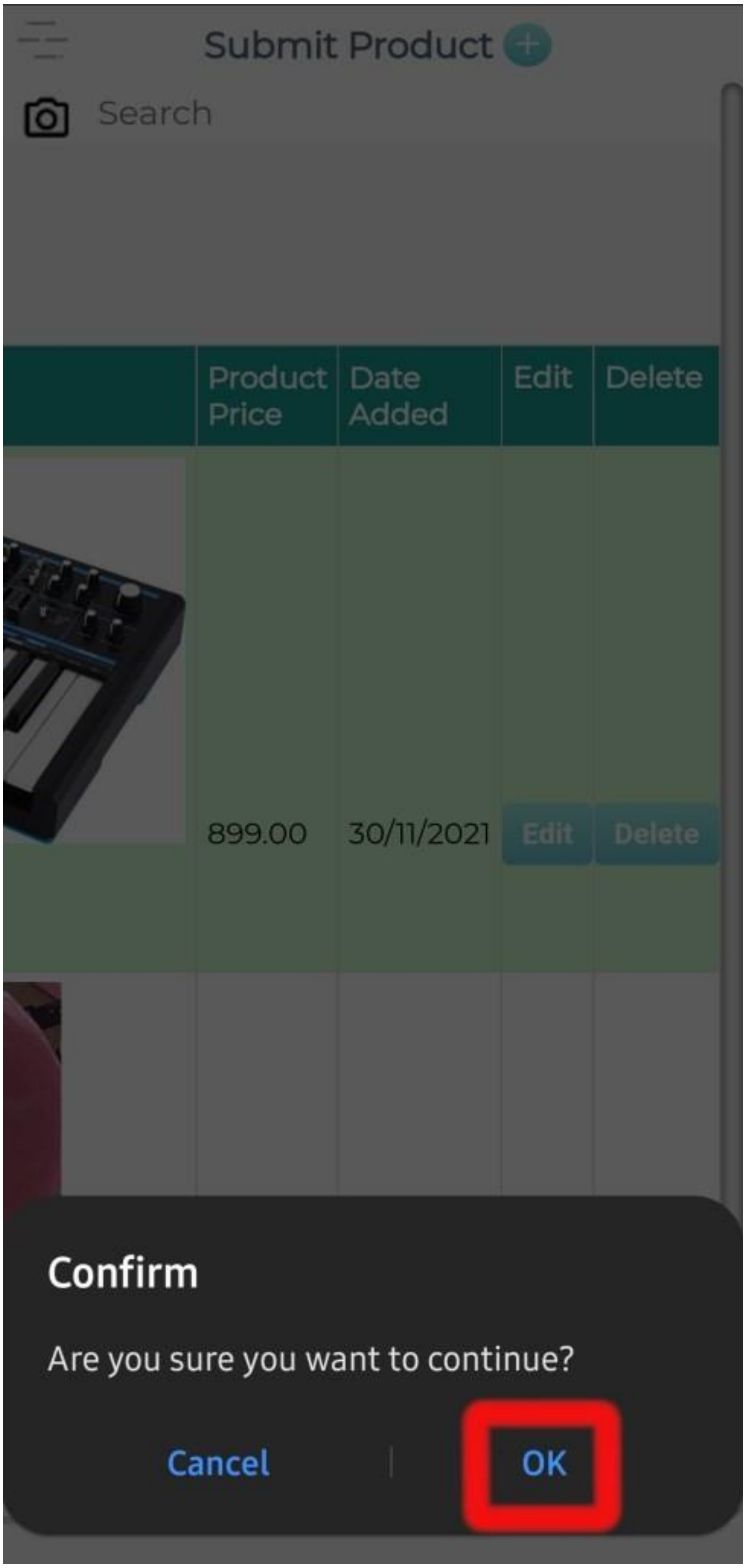
Step 1:

Click on the “Delete” button in the row of the data to delete it.



Step 2:

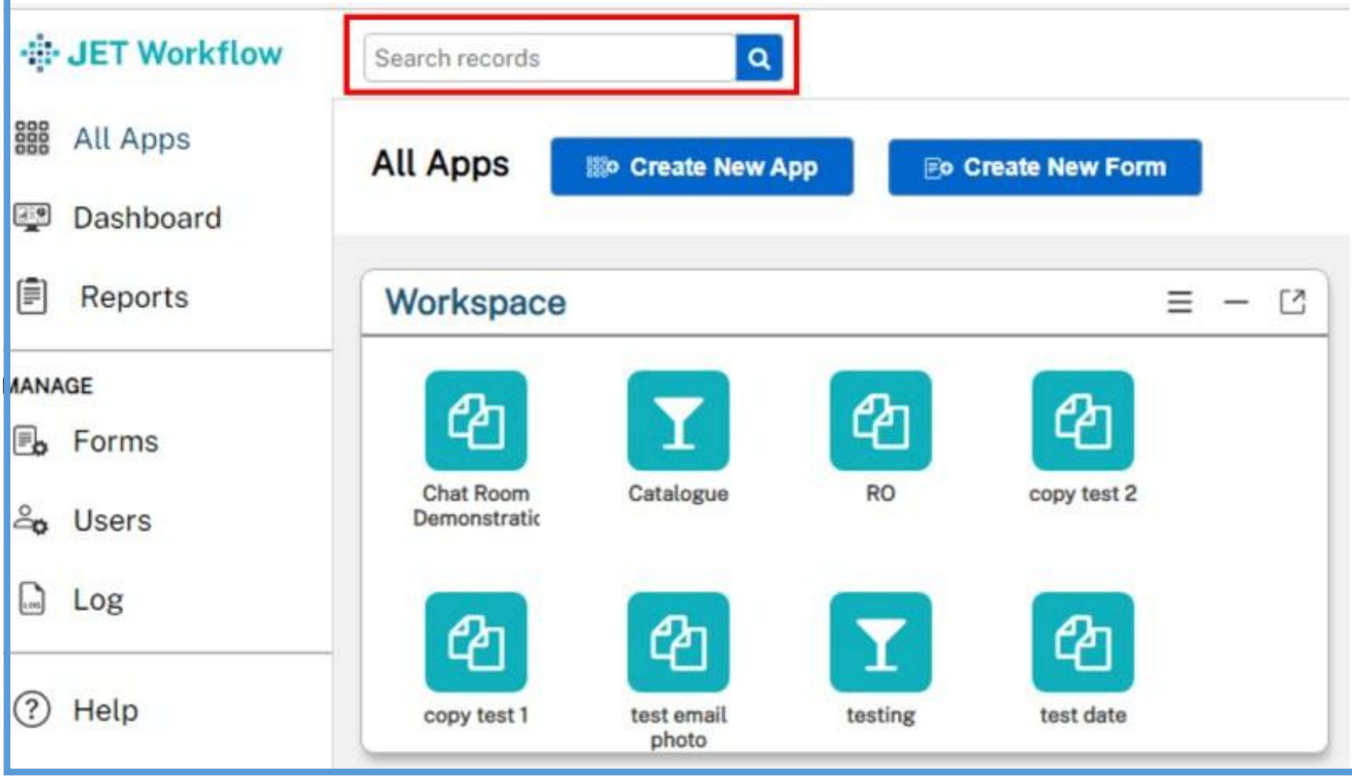
Click on the “Delete” button in the row of the data to delete it. The data would then be deleted.



Search Data

On Website:

Search data from the “Search Records” bar on the top of the main page.

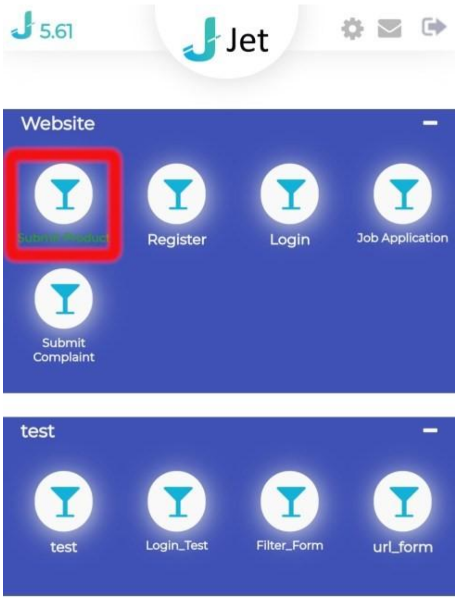


On Mobile (No global search):

Android:

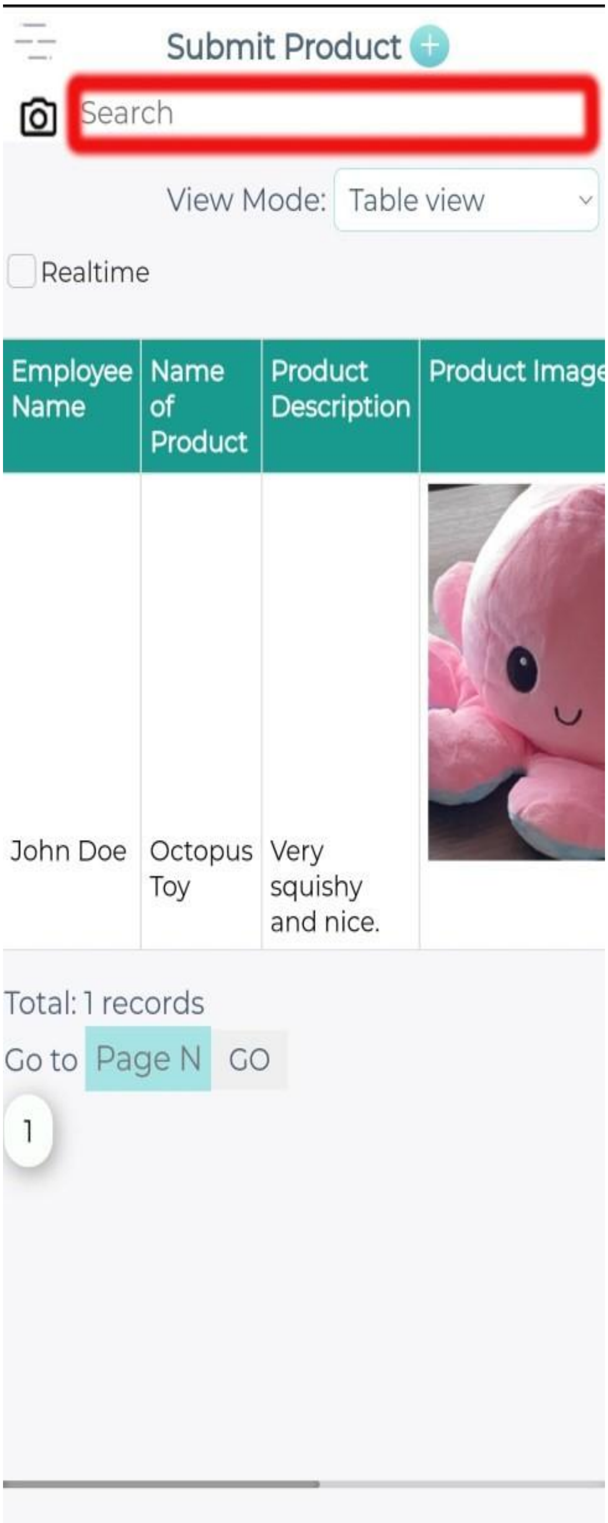
Step 1:

Enter the form of choice.



Step 2:

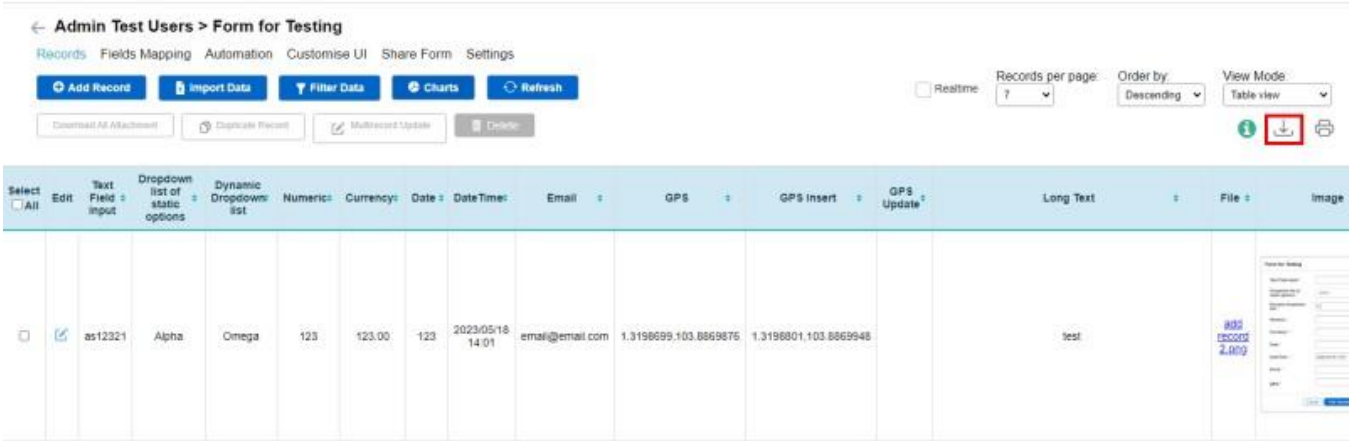
Search records using the search field at the top of the page.



Export Data

On Website:

You can export out the data, by clicking on the Export icon beside the "Records per page" dropwown list" in your desired form. It will then be exported into CSV File.

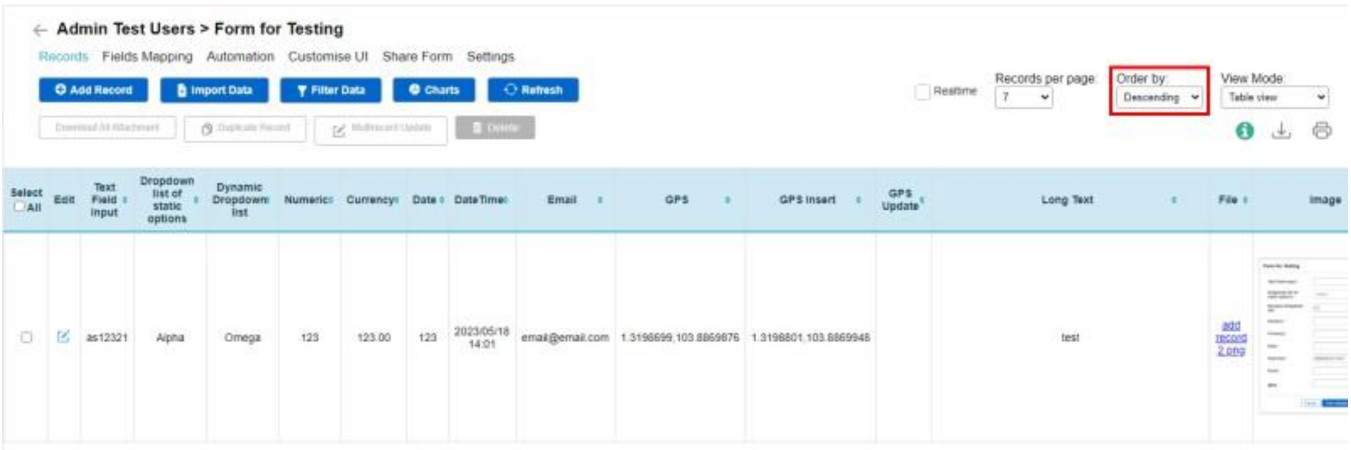


This feature is not available on mobile yet.

Sort Data

On Website:

You would be able to sort data according to submission dates by either ascending or descending order on the top right hand corner.

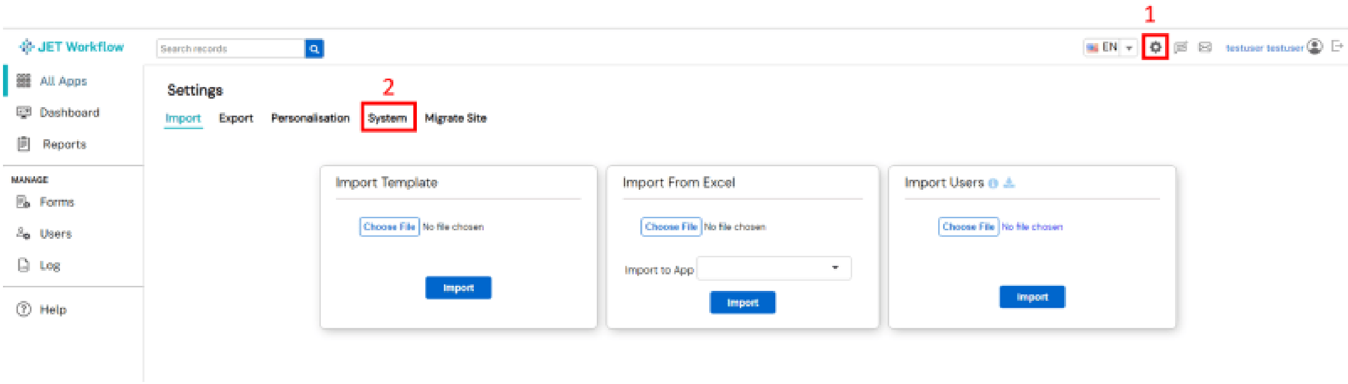


This feature is not available on mobile yet.

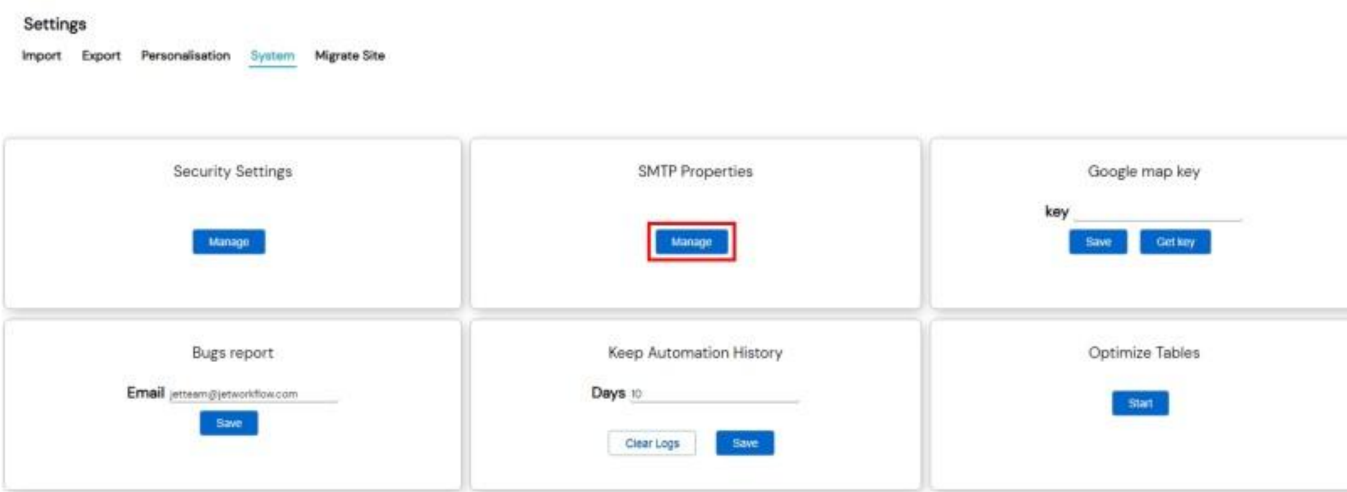
SMTP Server Setup

Step 1: Click on Settings button.

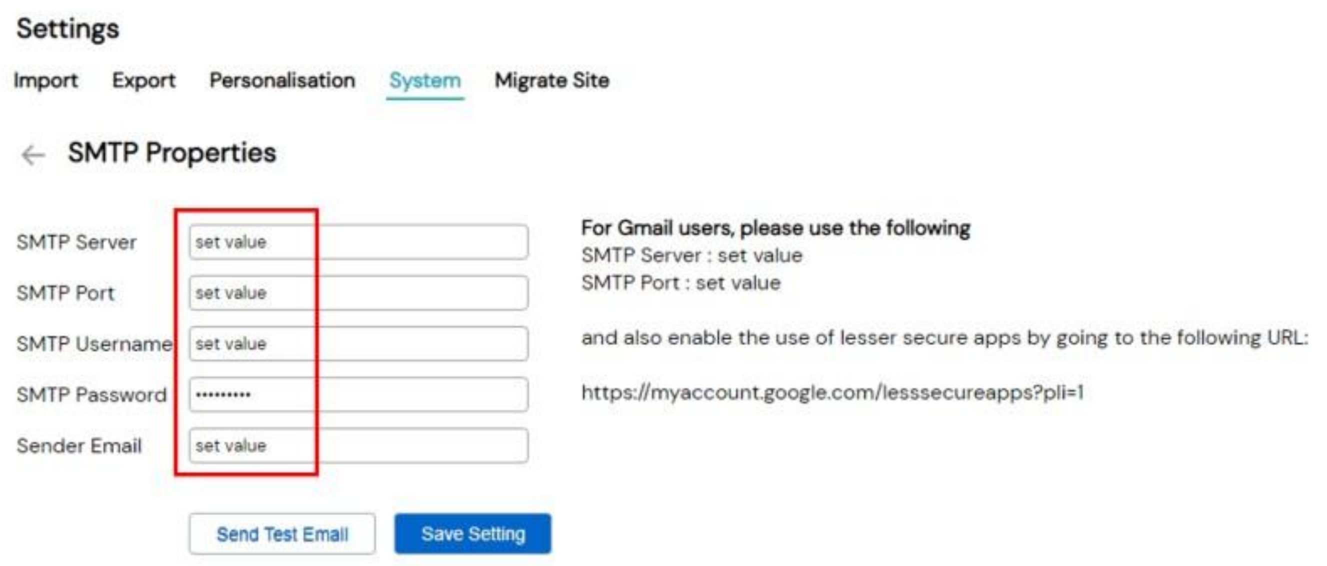
Step 2: Click on System.



Step 3: Click on Manage button under SMTP Properties



Step 4: Fill in your SMTP details accordingly.



The following are the definitions of the fields:

1. SMTP Mail Server
2. SMTP Port Number
3. Username
4. Password
5. Sender's Email

Note: If you wish to use the Gmail SMTP server, please go to https://www.myaccount.google.com/lesssecureapps?pli=1 and enable 'less secure apps'. Alternatively, use another SMTP server like SendInBlue or SendGrid.

Note: If you find that you are not receiving any emails, please use a dedicated 3rd party SMTP serve

ADVANCED FUNCTION

Inter-Form Relation

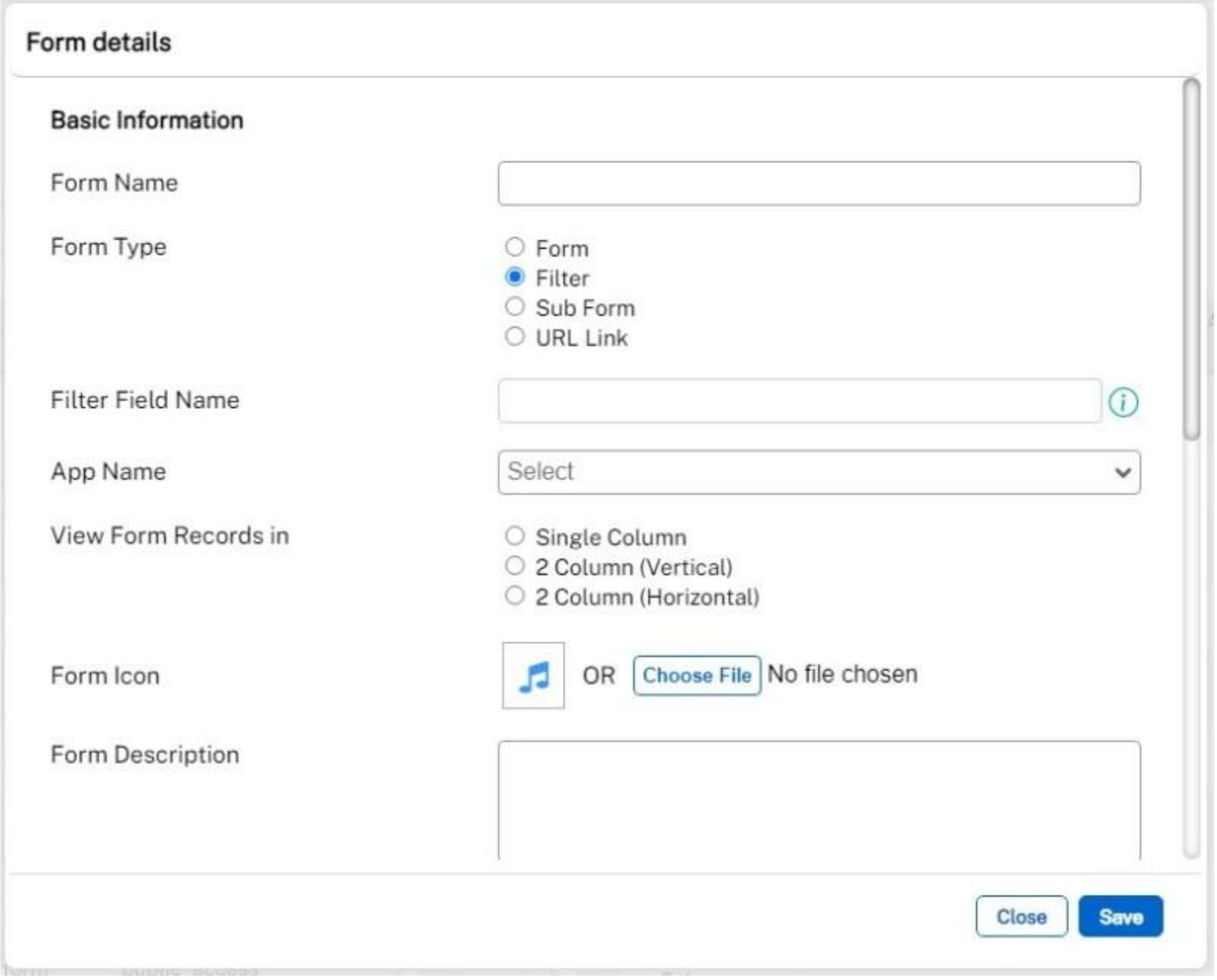
What is inter-form relation?

It allows you to use data from another form onto current form. In the main form, when add/edit data, you will be able to choose the field data (whose data is linked/contained within the form) from the sub form. When there is a new data added to the sub form, the corresponding field in the main form will also be updated.

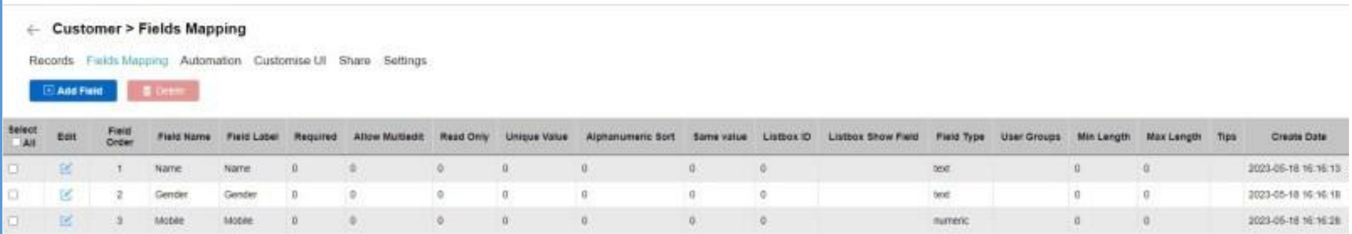
How to create relationship between 2 forms?

Create a Customer form (Form Type: Filter)

Step 1: Create a Customer form as filter.



Creating inter-form relation



← Customer > Fields Mapping

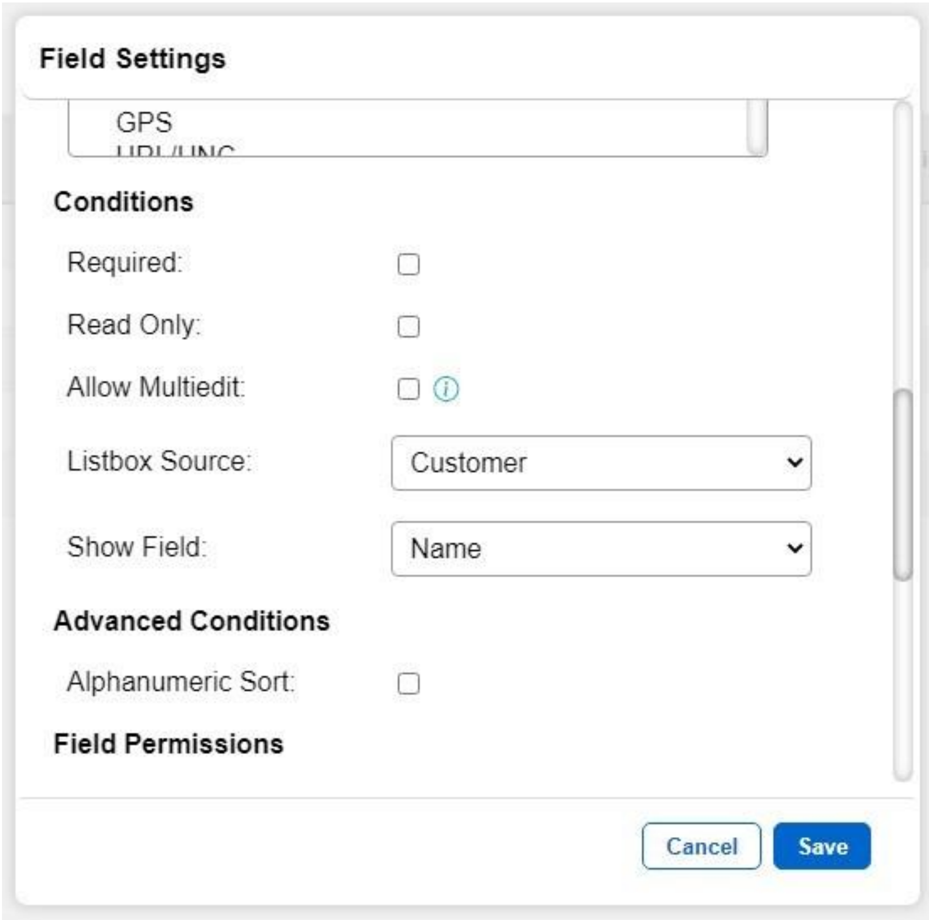
Records Fields Mapping Automation Customise UI Share Settings

Add Field Delete

Select All	Edit	Field Order	Field Name	Field Label	Required	Allow Multiedit	Read Only	Unique Value	Alphanumeric Sort	Same value	Listbox ID	Listbox Show Field	Field Type	User Groups	Min Length	Max Length	Tips	Create Date
		1	Name	Name	0	0	0	0	0	0	0		text		0	0		2023-05-18 16:16:13
		2	Gender	Gender	0	0	0	0	0	0	0		text		0	0		2023-05-18 16:16:18
		3	Mobile	Mobile	0	0	0	0	0	0	0		numeric		0	0		2023-05-18 16:16:28

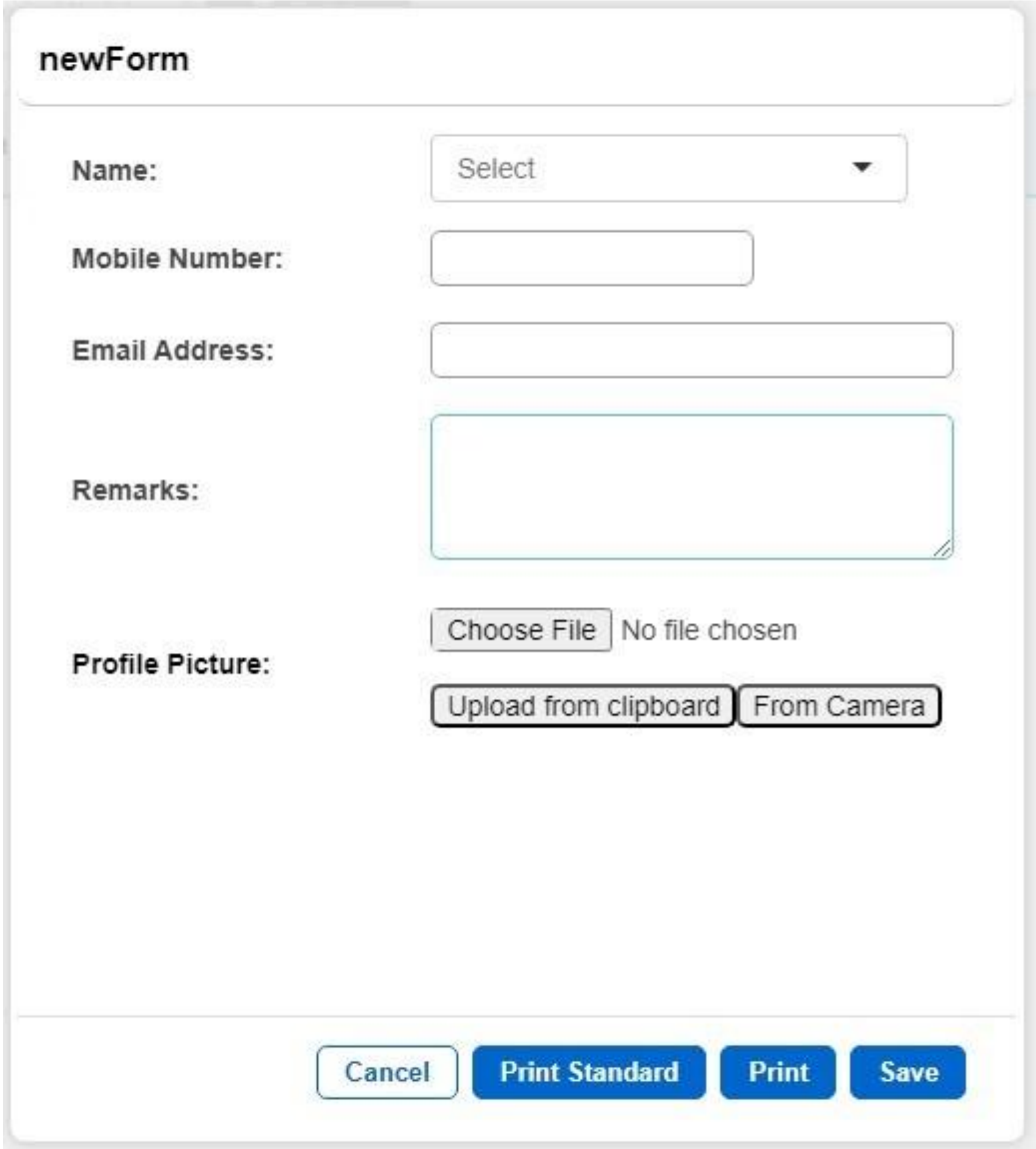
Step 2: Add in the fields to the Customer form.

Step 3: Add in data to the Customer form.



Step 4 Go to Manage form > click on field mapping for newForm. Add in Customer Field. (Field type: Relation (list), Listbox Source: Customer, Show Field: Name.)

Note: Listbox Source> select the Form name. Show Field is to select the Field Name in the Form.



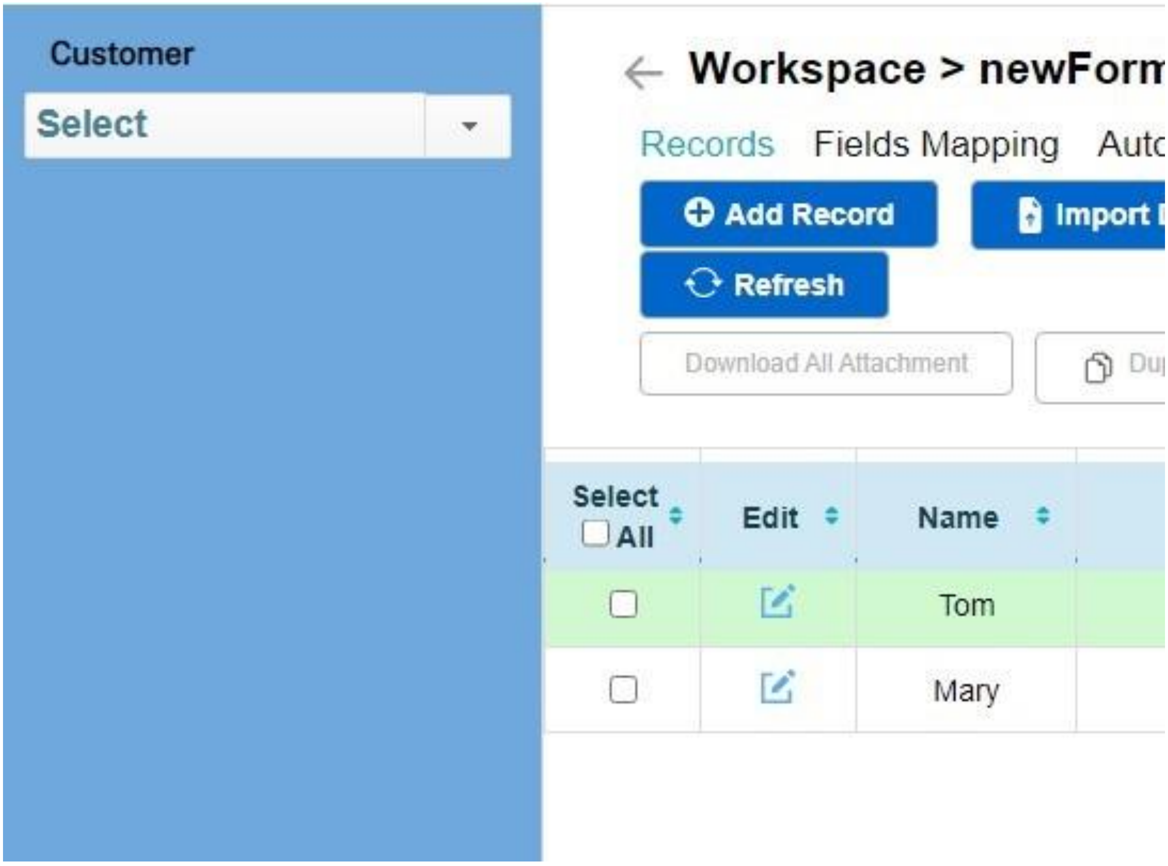
Step 5 Go to the new Form, edit any of the data and under the Customer Field you will be able to select data that is contained in Customer Form.

Add Mobile Number to main form.

Step 6 Change Mobile Number field to relation(list) and point to Customer form Mobile field.

Explanation on filter on the left navigation bar

When the form Field Type is Filter, the left navigation bar will show the Form search bar. Which allows you to search data within the form itself or search data from a form that has an interform relation.

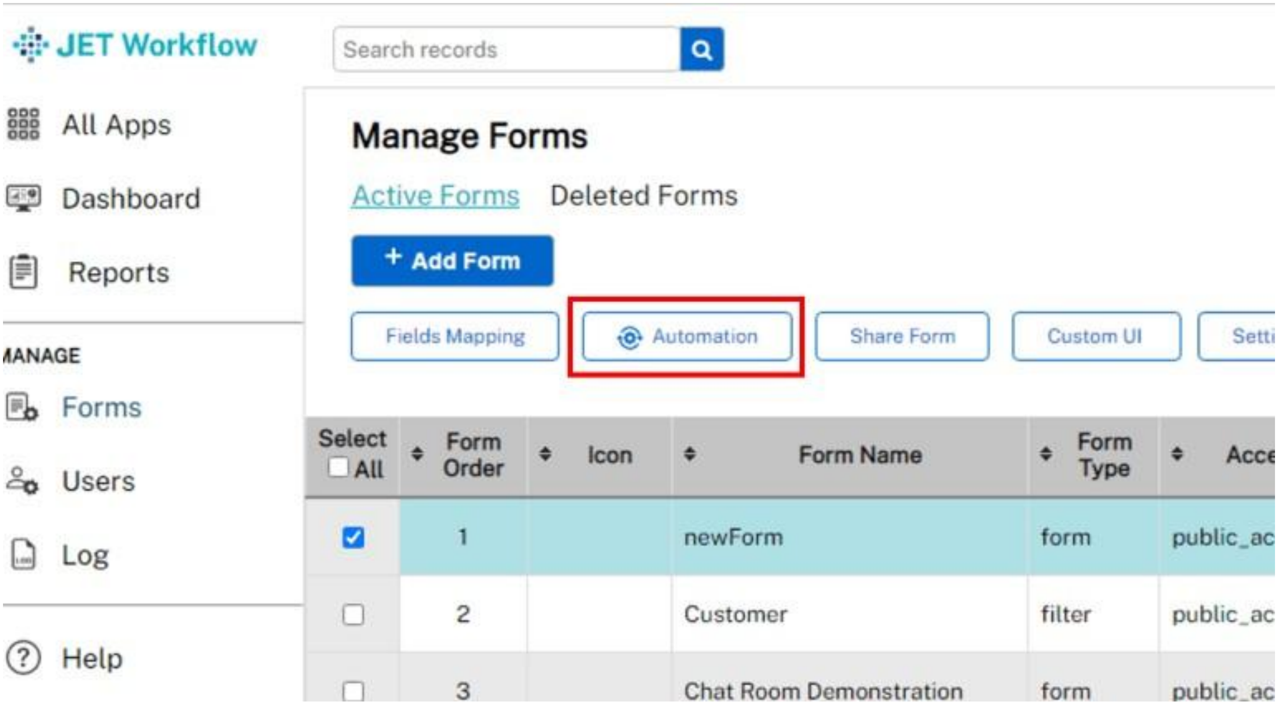


Automation

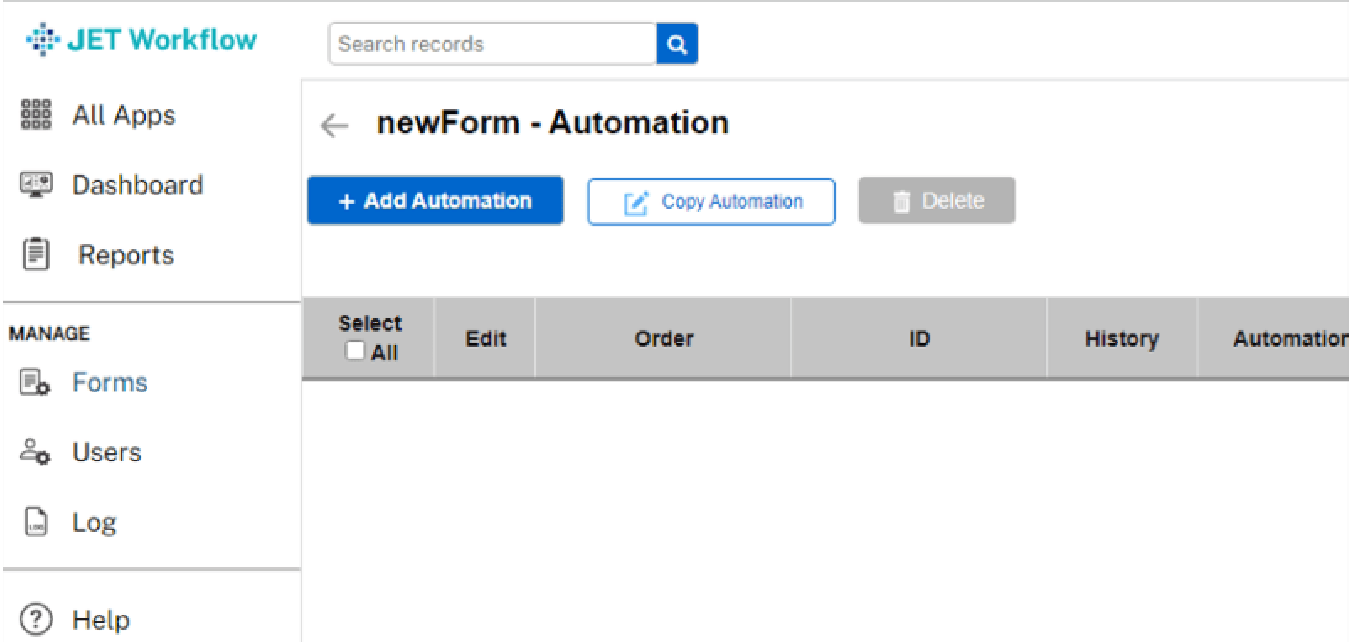
How to set up Automation

Step 1:

Click on “Forms” and the form you would like to add automation to. Then, the “Automation” button would be enabled on top.

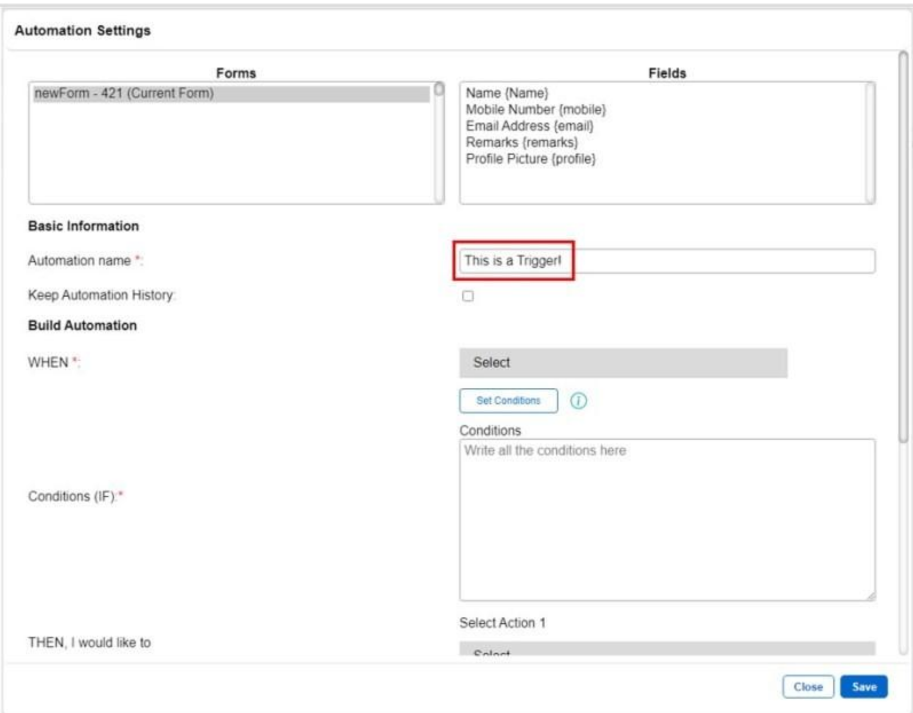


Step 2:
Click on “Add Automation”.



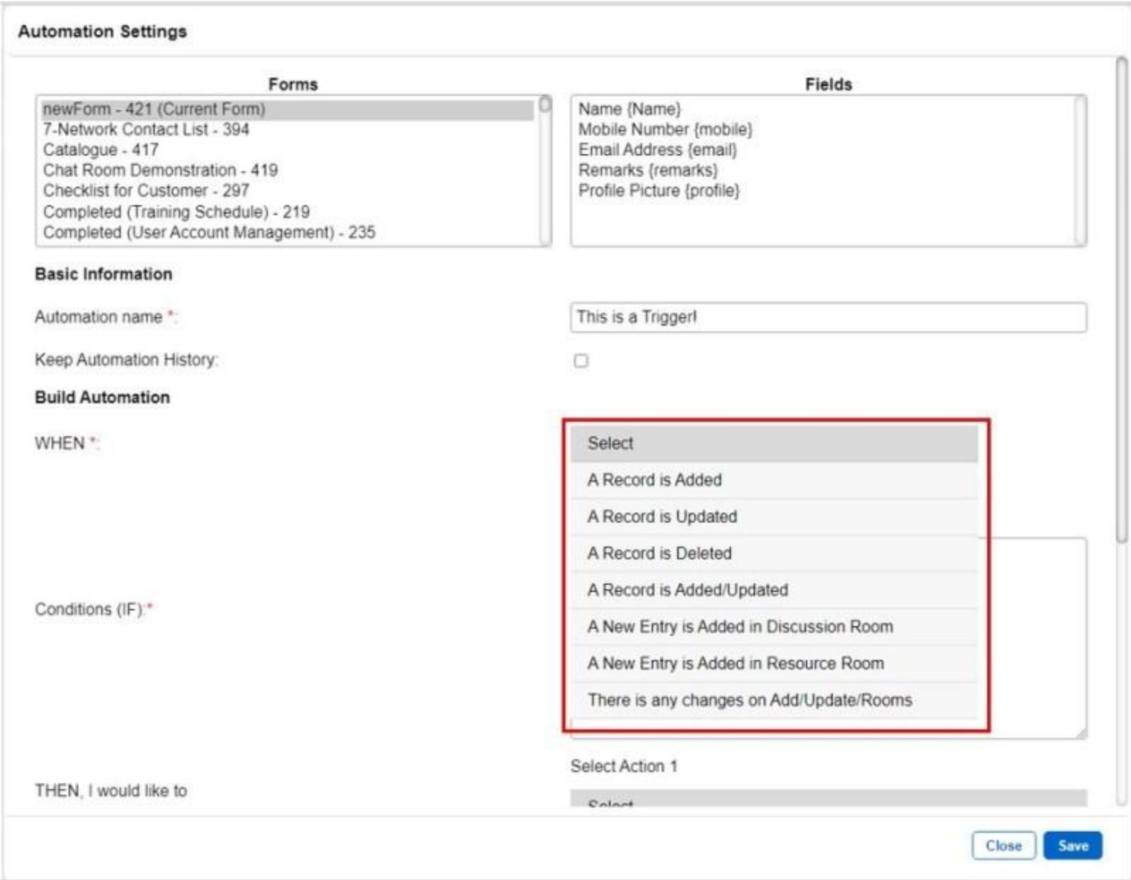
Step 3:

Fill in the Automation Name with a meaningful name for the automation.



Step 4:

Click on Event Type and there would be a list of events to pick from.



Step 5:

A Record is Added	Automation will check upon the action of Add Record
A Record is Updated	Automation will check upon the action of Update Record
A Record is Deleted	Automation will check upon the action of Delete Record
A Record is Added/Updated	Automation will check upon the action of Add or Update Record
A New Entry is Added in Discussion Room	Automation will check upon the action of new chat entry to Discussion Room
A New Entry is Added in Resource Room	Automation will check upon the action of new file upload entry to Resource Room
There is any changes on Add/Update/Rooms	Automation will check upon the action of new file upload entry to Resource Room or Add Record or Update Record

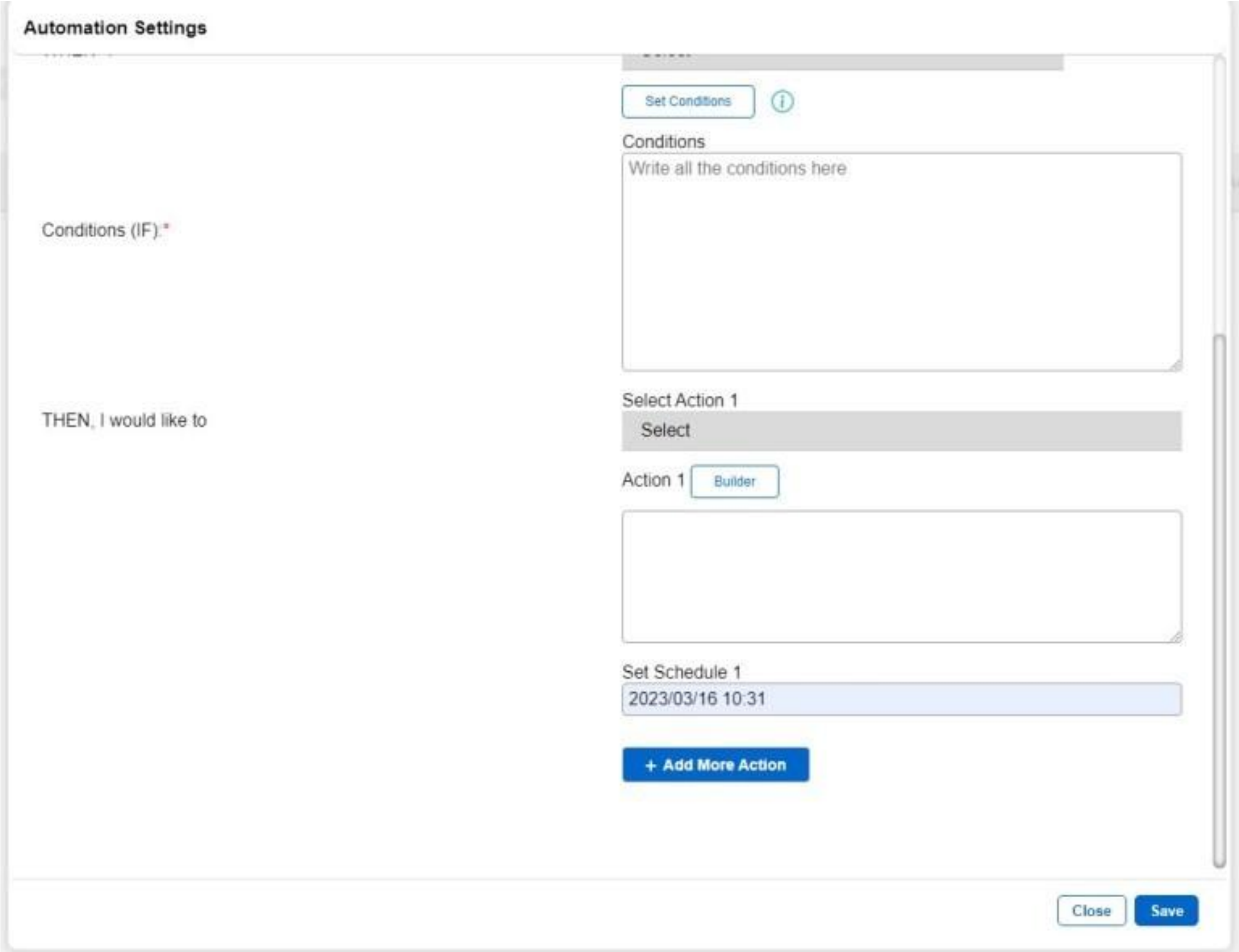
Under the Conditions section, we define when the trigger will meet the condition to activate.

Examples of Conditions:
Value of field 1 is more than 1
Value of field 2 is less than field 3
Value of field 2 is not equal to field 3
Value of field 11 is more than the addition of field 12 and field 13
Text Value of stringField 1 is equal to 'stringExample'
Numeric field is equal to 14
Checkbox 1 is checked and Checkbox 2 is unchecked
Date and Time field is more than 22/09/2013
Date and Time field 1 is more than Date and Time field 2
Date and Time field is less than '23/10/2018 15:12 PM'

Step 6:
Now you can define what actions the trigger will use after the conditions are fulfilled. Please note that you can fill in up to 10 actions for a single trigger.

Send Email	Send an email to target recipient complete with subject
Send Notification	Send a notification through JET Workflow app
Activate a popup dialog	Raises a popup with a customized message.
Auto Create New Record	Creation of new Record in another form
Auto Update existing record	Update existing Record in another form
Auto Delete existing record	Delete existing Record in another form
Copy Record to another form	Copy a record to another form
Move Record to another form	Move a record to another form
Delete Current Record	Delete only the current record that the automation is activated for
Copy All Records to another form	Copy all records to another form
Move All Records to another form	Move all records to another form
Auto Delete All Records in this form	Delete all records in this form
Set Current Event Value	Define the current value of the fields in this form
Send GET Request	Sends field data via API using GET method
Send POST Request	Sends field data via API using POST method
Run SQL command in MySQL database	Run SQL command in MySQL database
Run SQL command in MSSQL database	Run SQL command in MSSQL database
Run SQL command in Oracle database	Run SQL command in Oracle database
Run HTML file or string	Run HTML code
Run Javascript code	Run Javascript code
Run CSS code	Run CSS code

Step 7:
You can set a time for the action schedule. Please take note that this is only valid for Send Email, Send Notifications and Send SMS actions.



How to use Automation:

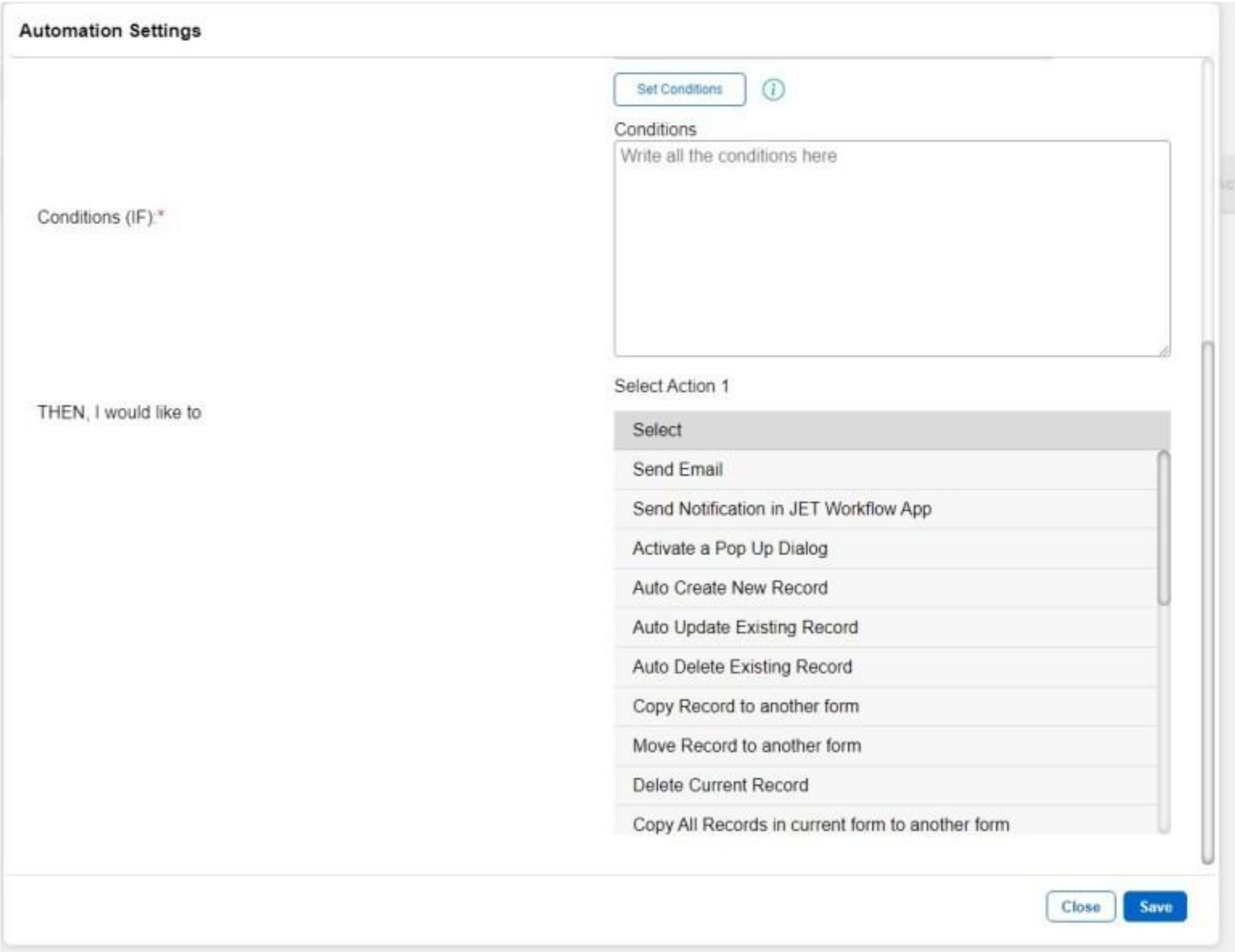
Send Email

Send an email to target recipient complete with subject.

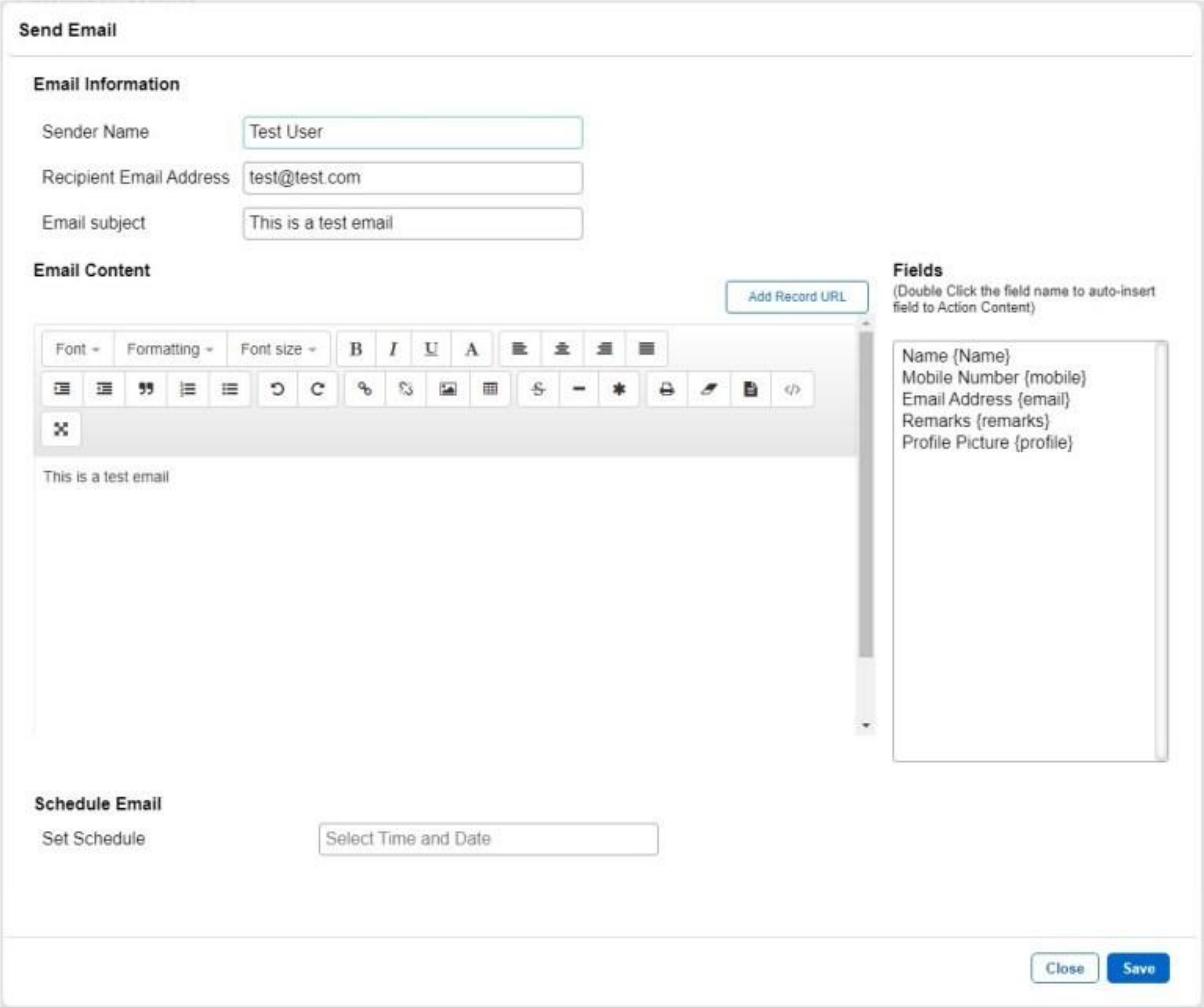
Step 1: Skip this step if you have already configured your **SMTP** settings. **An SMTP Server is required.**

If you do not have an SMTP relay/server, please check out this article: How to Setup SMTP settings(https://jetworkflow.com/documentation/how-to-setup-smtp-settings/), on how to configure your SMTP settings before moving on.

Step 2: Select "Send email" as Action Type as shown below.



Step 3: Fill in the pop up box that appears with all the necessary fields, and press the “Save” button.

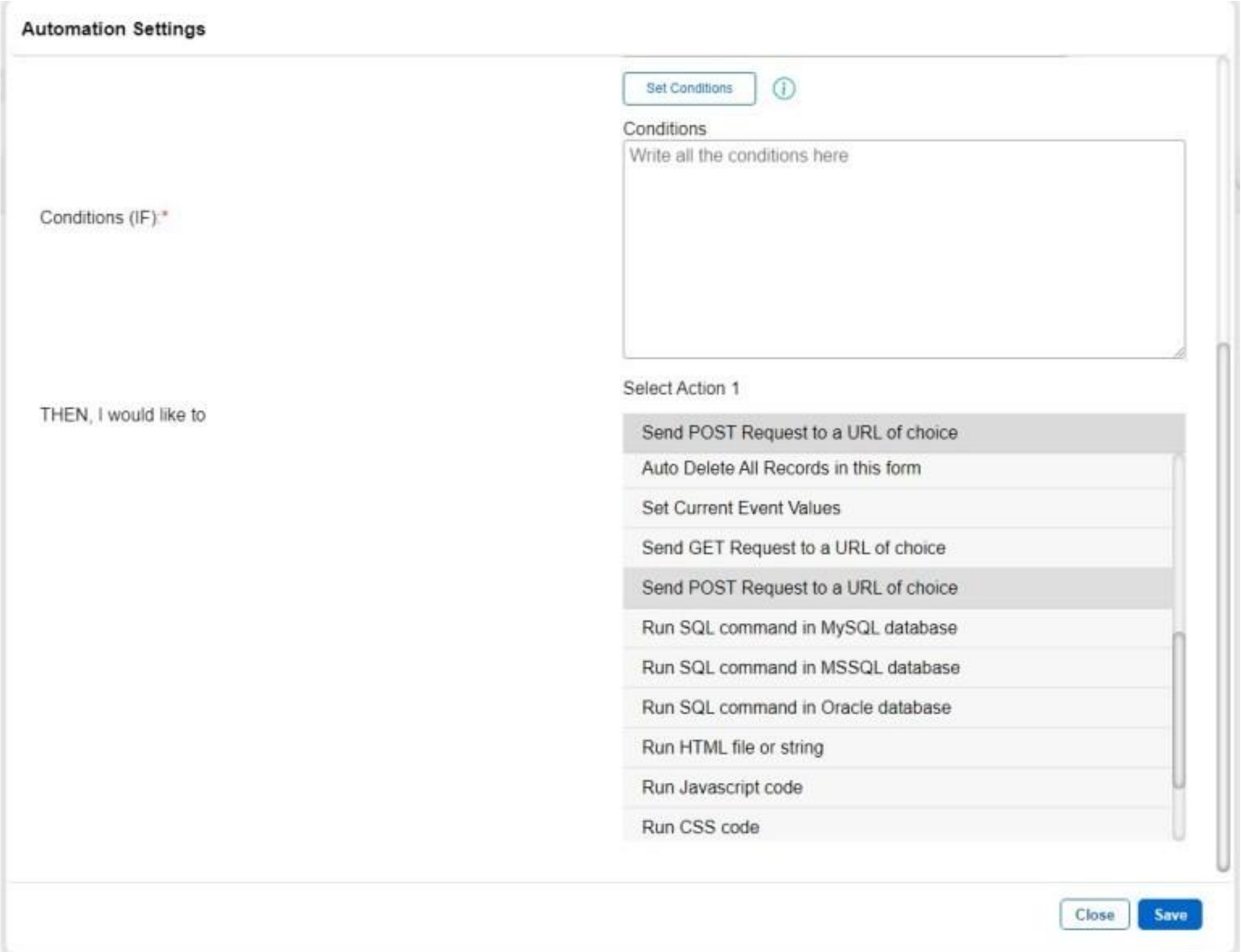


Result: After this action is activated, an email will be sent to the recipient email.

Http request

Sends a GET request to a URL of choice.

Step 1: Select “Send GET Request” or “Send POST Request” as Action Type as shown below.

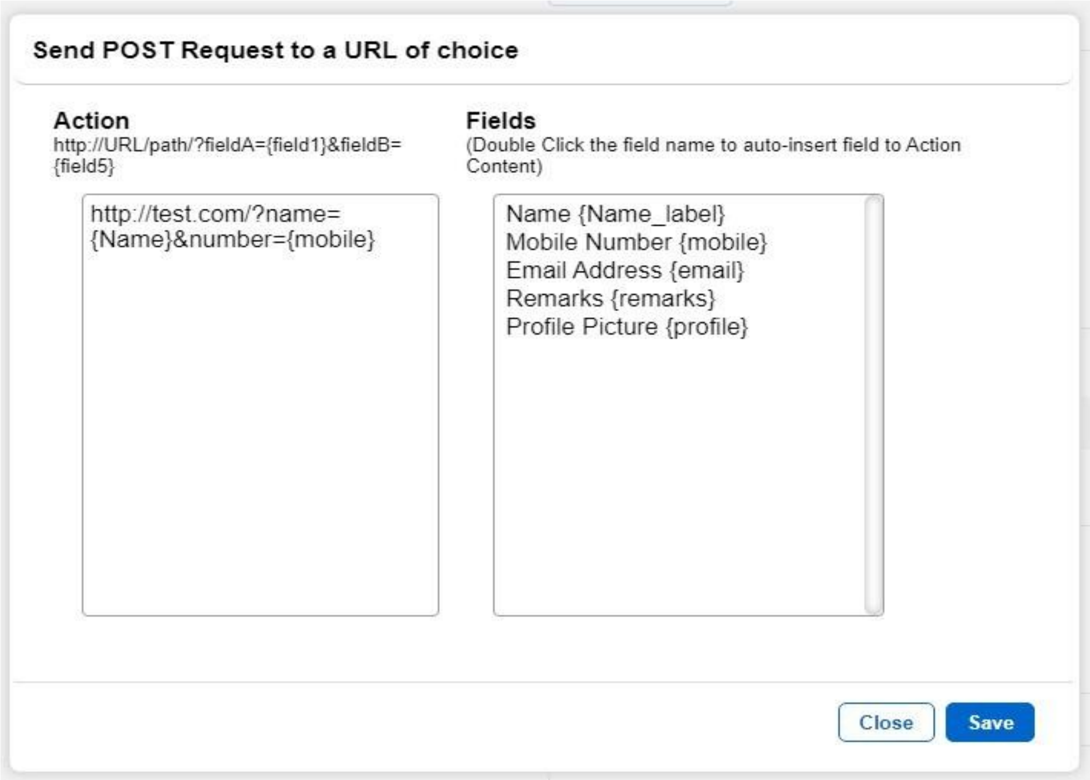


Step 2: Fill in the pop up box that appears with a valid URL in the field, and press the “Save” button.
The fields should be in the format of:

```
http://URL/path/?fieldA={field1}&fieldB={field5}
```

, where the data sent is in the format of:

```
{
    "fieldA": {field1},
    "fieldB": {field5}
}
```

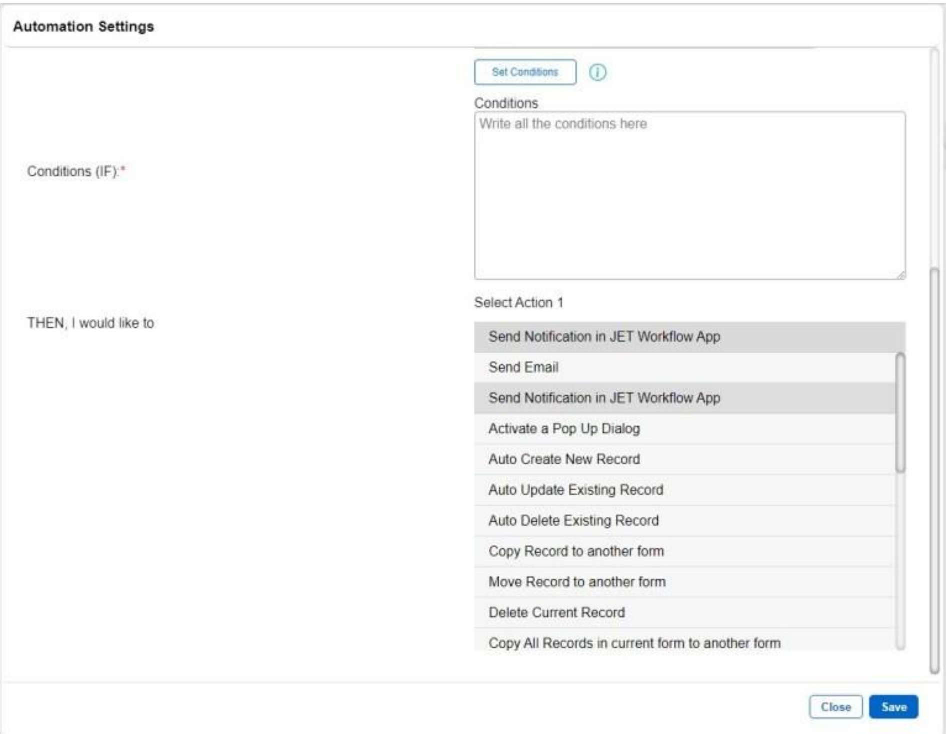


Result: After this action is activated, a GET or POST request will be sent to the URL with the data supplied.

Send Notification

Send a notification through JET Workflow app

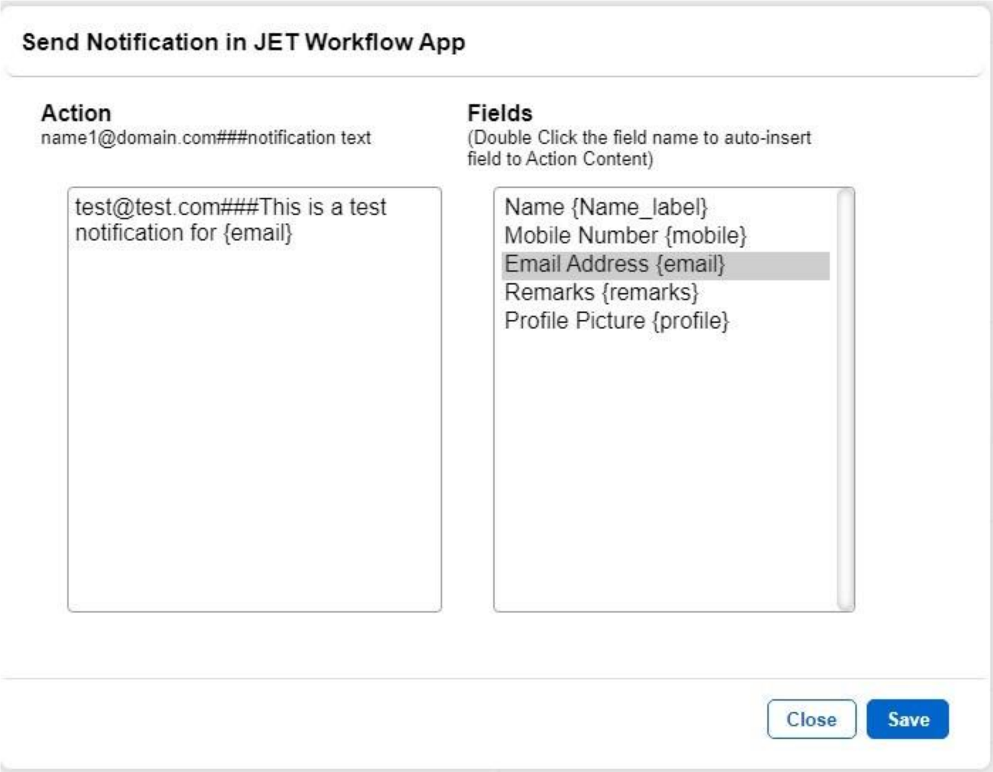
Step 1: Select "Send Notification" as Action Type as shown below.



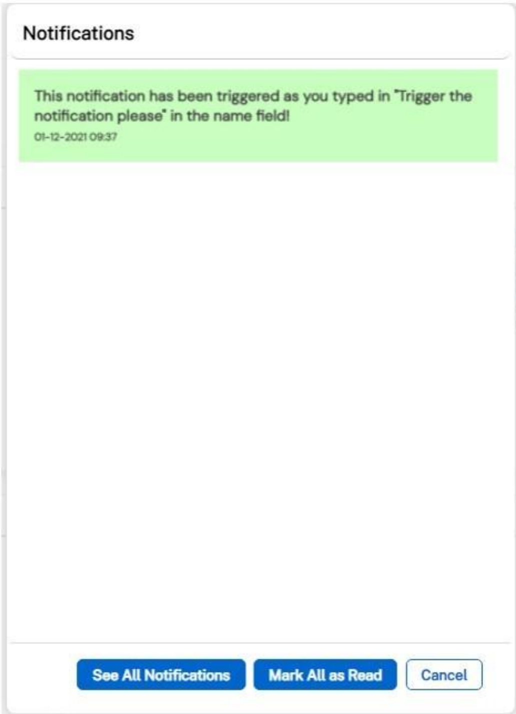
Step 2: Fill in the pop up box that appears with all the field with a notification text in the field, and press the “Save” button.

The format of the field should be as follows:

`[Email]###[Message Content]`



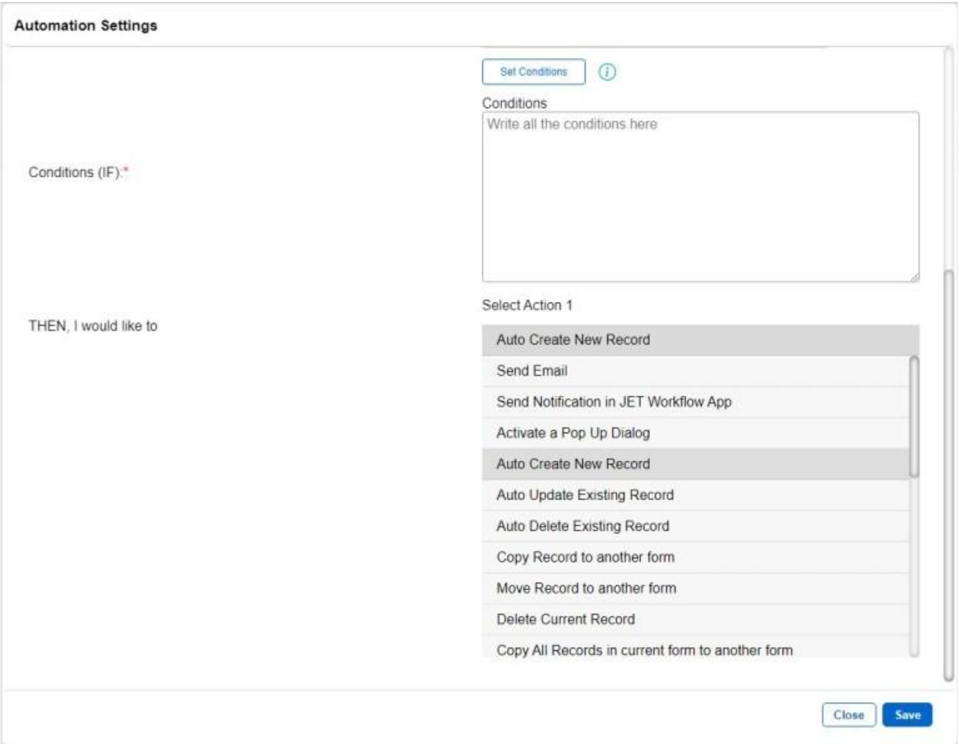
Result: After this action is activated, you will receive a notification in the JET app.



Auto Create New Record

Creation of new record

Step 1: Select “Auto Create new record” as Action Type as shown below.



Step 2: Fill in the “Action” field, and press the “Save” button.
The format of the field should be as follows:

```
formID=[Form ID of choice] SET [Field Name 1]=[Value];[Field Name 2]=[Value] ...
```

Result: After this action is activated, a record will be added to the form of choice, defined by the formID.

Find: How to find Form IDs

Step 1: On the Automations page, click on the “Add Automation” button on the top right corner.

Step 2: The Form IDs of your forms will be displayed on the top left side of the popup.

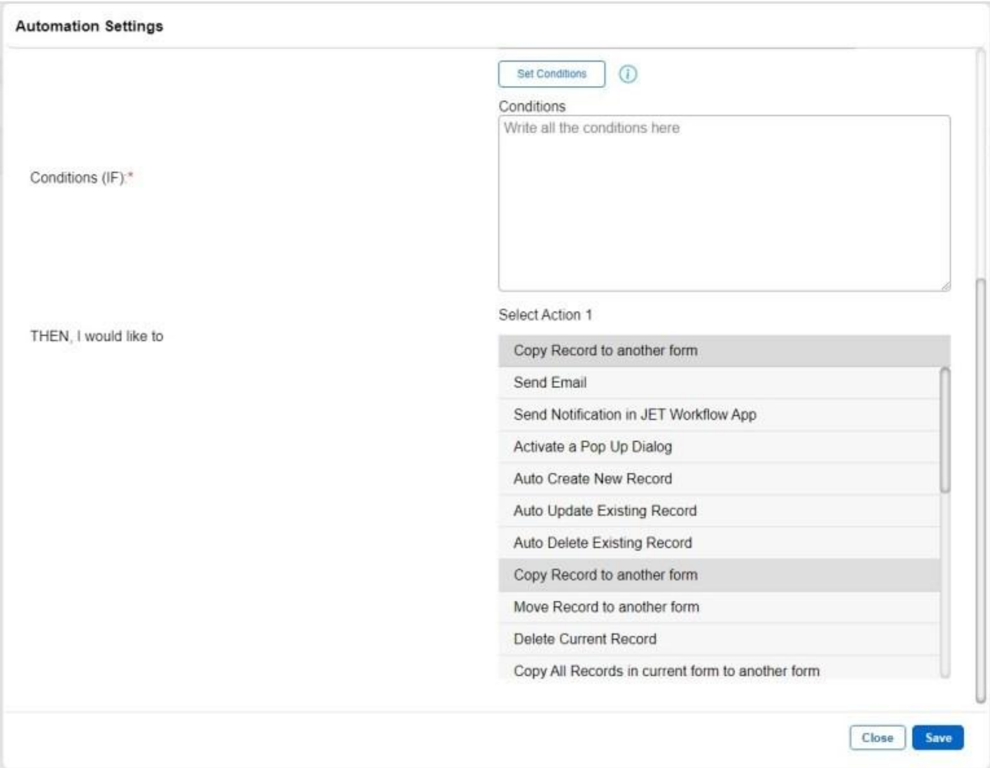
Result: From the above example, we can see that the IDs of the forms are labelled beside the assigned form in the format:

```
[Form Name] - [Form ID]
```

Note: Currently there is no other way to access form IDs.

Copy record to form

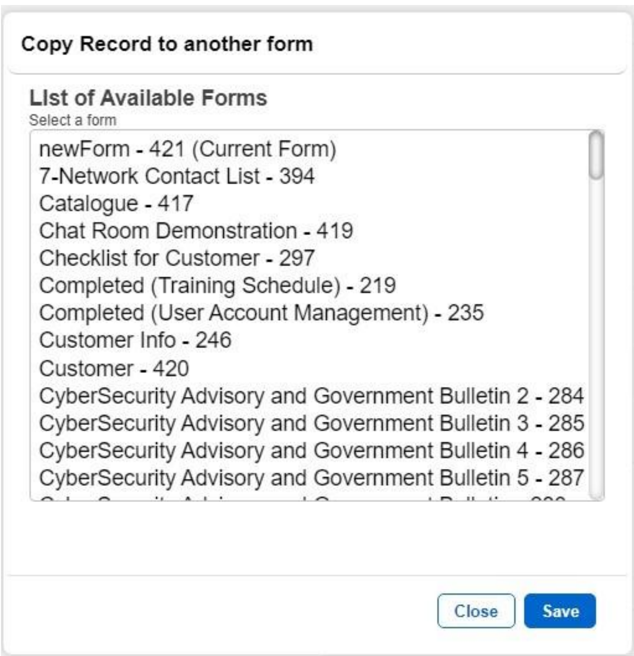
Step 1: Select “Copy record to form” as Action Type as shown below.



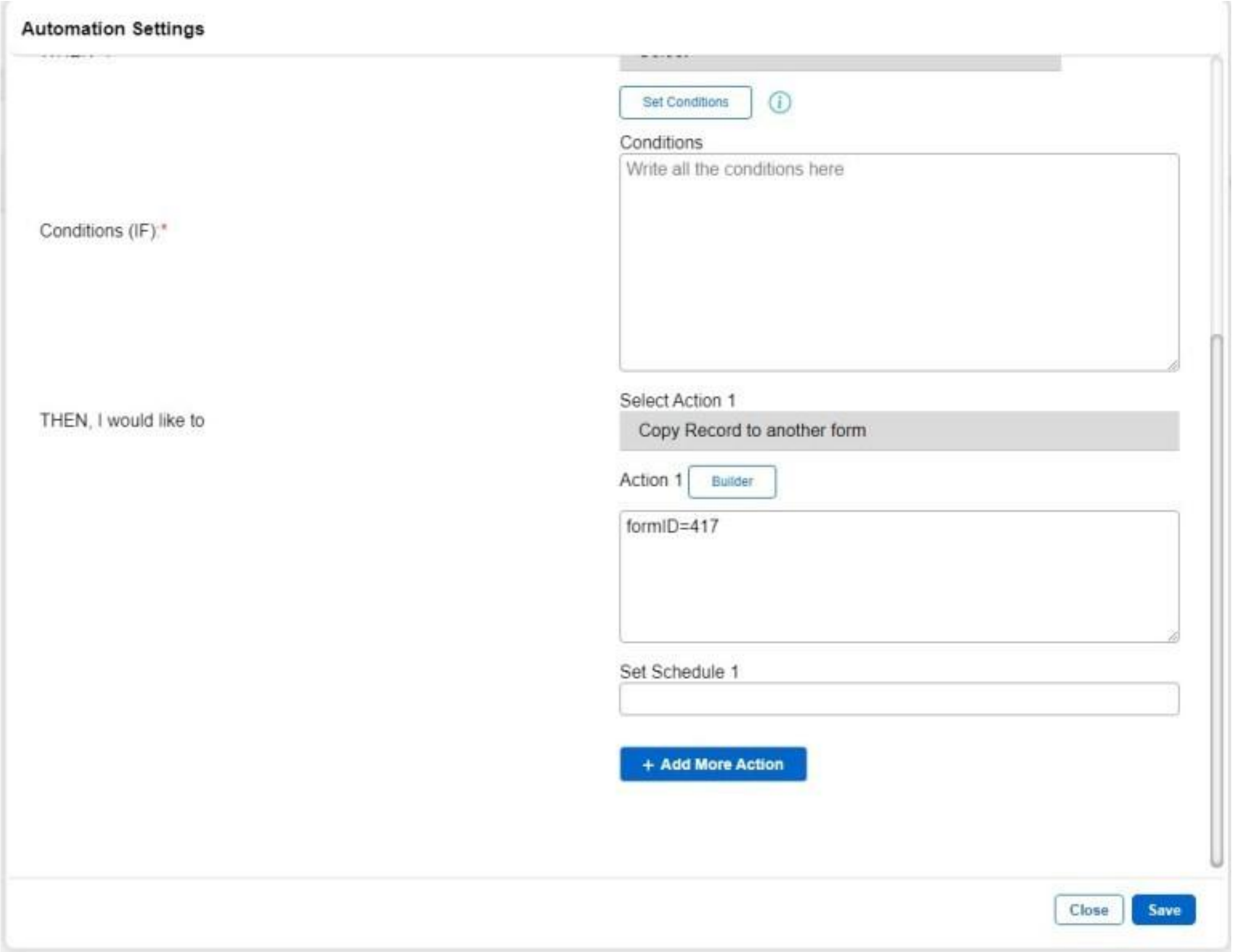
Step 2: Select the form that you would like to copy to in the popup that appears. Alternatively, type:

```
formID=[formID of form of choice]
```

into the Action field.



Step 3: Your Action should now look something like this. Click the "Save" button.

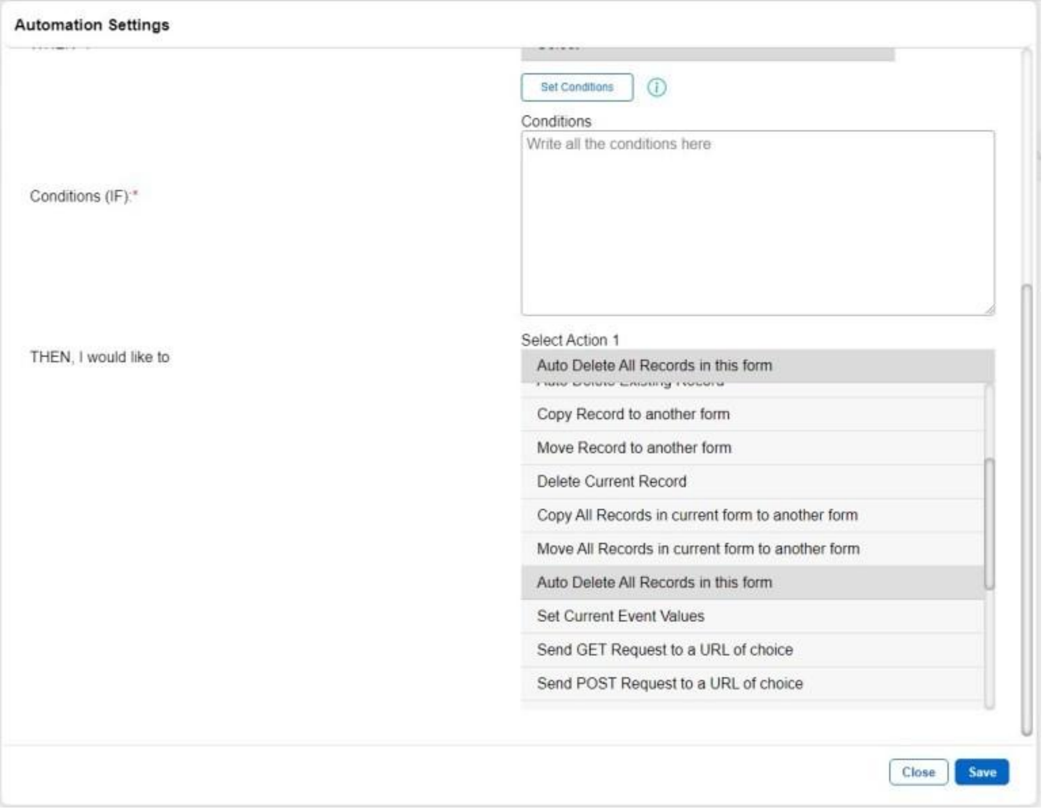


Note: The fields in the form that activates this action should have the **same field names** as the fields in the target form. The fields of the original form that do not match the fields of the target form will be left blank in the copied record.

Result: After this action is activated, a record will be copied to the form of choice, defined by the formID.

Auto Delete all Records

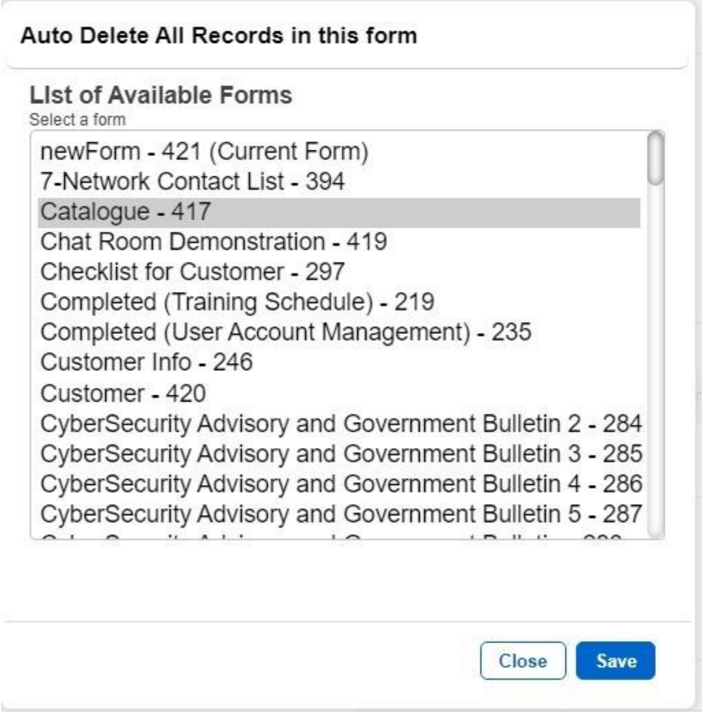
Step 1: Select “Auto Delete All Records” as Action Type as shown below.



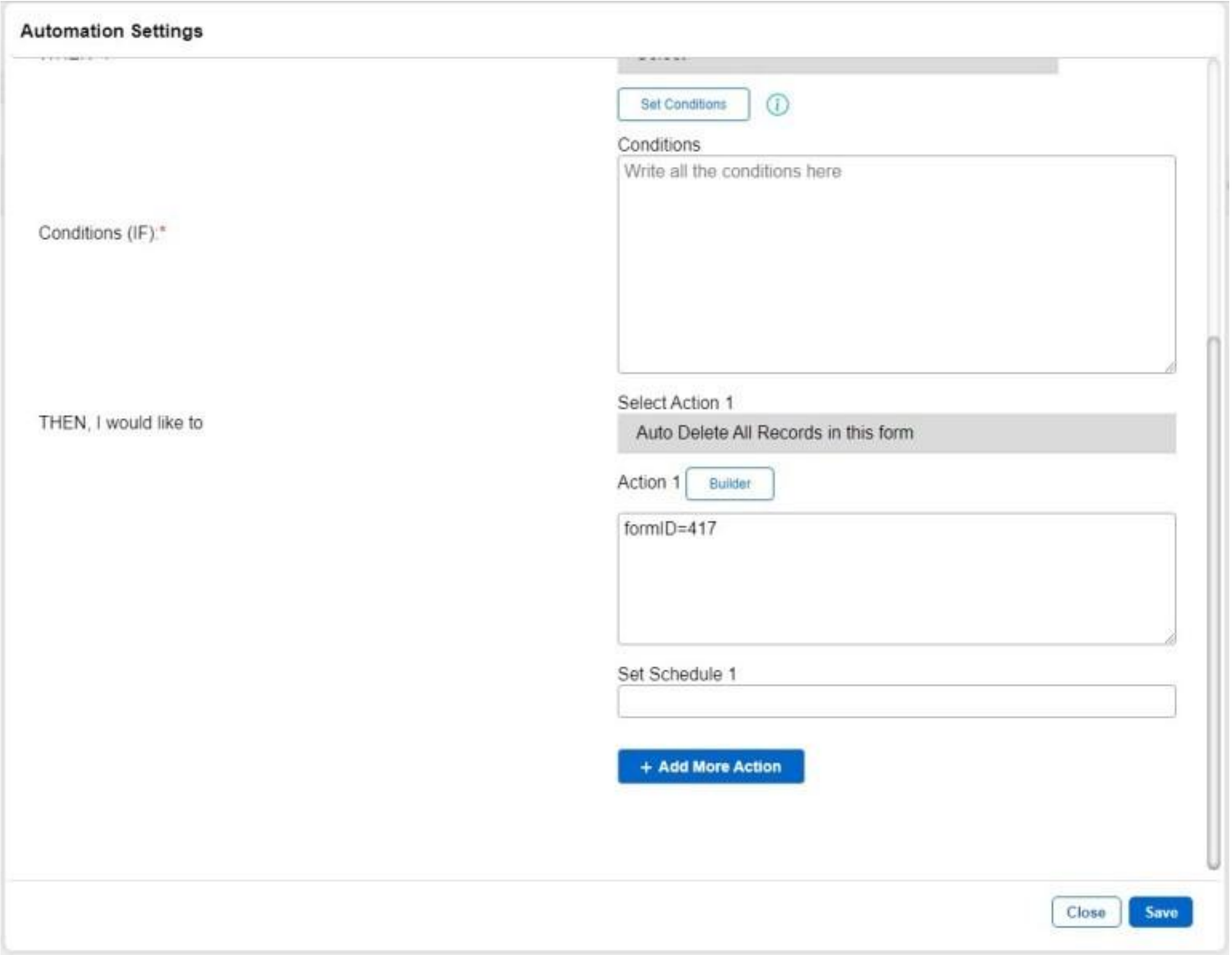
Step 2: Select the form that you would like to delete all records from in the popup that appears. Alternatively, type:

```
formID=[formID of form of choice]
```

into the Action field.



Step 3: Your Action should now look something like this. Click the “Save” button.

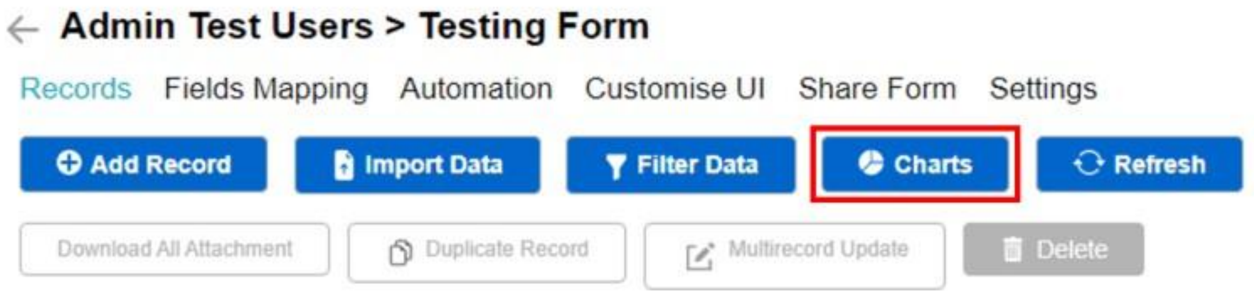


Result: After the action is activated, the form has no more records left.

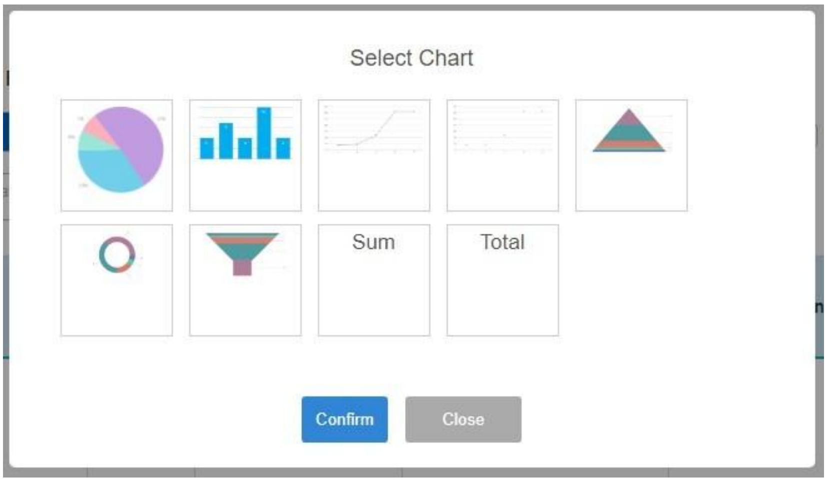
Charts

To help users visualize data and gain insights from it without the need for manual coding.

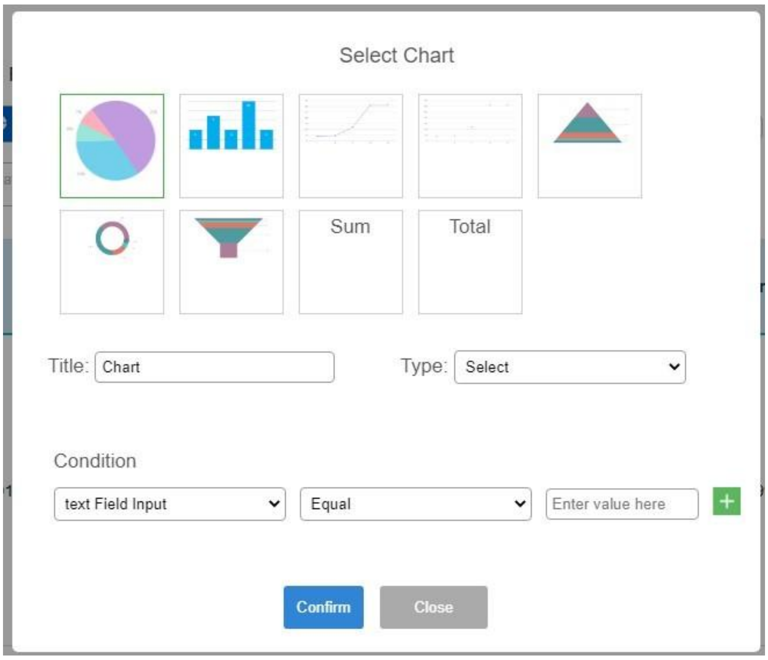
Step 1: Click on Charts



Step 2: Select the type of chart



Step 3: Enter the required details



Type:

1. X/Y: Assigning field values to either the X or Y axis of the chart.
2. 1 column auto group count: This groups up all the same items and show a representation of the distribution of the field values across the form.
3. Date Auto Calculation: This allows the above result in 2. to be further categorized by date.
4. Multiple Column Total Sum: This will sum up all the records for each date.

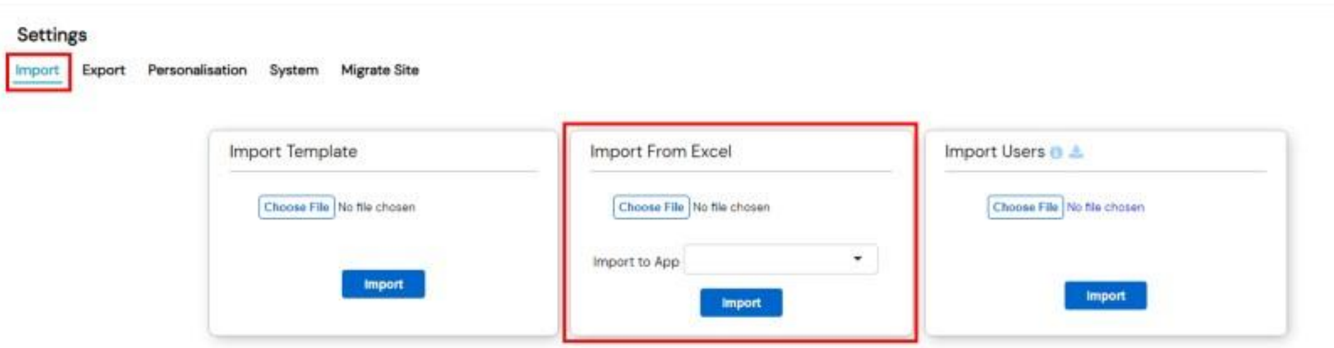
Condition:
This will allow the user to control what is being used to generate the chart.

Import from Excel

Import from an existing Excel spreadsheet

Step 1: Click on Settings icon to enter the setting page

Step 2: Go to Import and choose an Excel file and click Import button



The Imported Excel file will then appear as a new form with the data inside.

Text Formatting

By default Jet Workflow uses a standard black font on all displays.
If you actually need some of the text to be of a different color, bold, you can still do so Here are some of the examples where we can do some text formatting.

```
<blue>text</blue>

<brown>text</brown>

<blue>text</blue>

<cyan>text</cyan>

<green>text</green>

<red>text</red>

<yellow>text</yellow>

<large>text</large>

<small>text</small>
```

Form API

In order for 3rd party applications to interact with JET WorkFlow directly, we use API.

For different purpose, we have different APIs.

**Note that the API URLs on this page are samples and will not work at all.

Create New Record

https://demo.jetworkflow.com/ims/jetapi.php?method=addRecord&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&field1=text1&field2=text2

- addRecord — this indicates that the API is to create a new record
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- field1/field2 — this is the field name of the form that we want to assign the value to.
- text1/text2 — this is the value that we want to assign to the field.

Get Records

https://demo.jetworkflow.com/ims/jetapi.php?method=getRecords&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname

- getRecords — this indicates that the API is to retrieve records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site

Search Records

https://demo.jetworkflow.com/ims/jetapi.php?method=search&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&field1=text1&field2=text2

- search — this indicates that the API is to search for records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- field1/field2 — this is the field name of the form that we are using to search the records.
- text1/text2 — this is the value that we want to search for. (Note that this is usually a unique value in this field)

Update Record

https://demo.jetworkflow.com/ims/jetapi.php?method=updateRecord&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&id_record=12345&field1=text1

- updateRecord — this indicates that the API is to update a record.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- id_record — this is the ROW_ID that is return by a previous search record API.
- field1 — this is the field name of the form that we want to update.
- text1 — this is the value that we want to update to field1.

Search & Update Record

https://demo.jetworkflow.com/ims/jetapi.php?method=searchUpdate&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&S_field1=text1&field2=text2

- searchUpdate — this indicates that the API is to search & update records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- S_field1 — this is the field used to search the records. Replace field1 with the field name you need.
- text1 — this is the value you want to search for.
- field2 — this is the field you want to update.
- text2 — this is the value of the field you want to update.

Create Sub Record

https://demo.jetworkflow.com/ims/jetapi.php?method=addSubRecord&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&S_field1=text1&field2=text2

- addSubRecord — this indicates that the API is to create a new sub record
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- S_field1 — this is the unique field used to search the parent record. Replace field1 with the field name you need.
- text1 — this is the value of the parent record field you want to search for.
- field2 — this is the sub record field you want to add.
- text2 — this is the value of the sub record field you want to add.

Get Sub Record

https://demo.jetworkflow.com/ims/jetapi.php?method=getSubRecords&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&P_field1=text1&C_field2=text2

- getSubRecords — this indicates that the API is to retrieve sub records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- P_field1 — this is the unique field used to search the parent record. Replace field1 with the field name you need.
- text1 — this is the value of the parent record field you want to search for.
- C_field2 — this is the sub record field you want to search for.
- text2 — this is the value of the sub record field you want to search for.

Search & Update Sub Record

https://demo.jetworkflow.com/ims/jetapi.php?method=searchUpdateSubRecords&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&S_field1=text1&field2=text2

- searchUpdateSubRecords — this indicates that the API is to search & update sub records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- S_field1 — this is the unique field used to search the sub record. Replace field1 with the field name you need.
- text1 — this is the value of the subrecord field you want to search for.
- field2 — this is the sub record field you want to update.
- text2 — this is the value of the sub record field you want to update.

Delete Record

https://demo.jetworkflow.com/ims/jetapi.php?method=deleteRecord&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&id_record=12345

- deleteRecord— this indicates that the API is to delete a record.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site
- id_record — this is the ROW_ID that is return by a previous search record API

Search & Delete Records

https://demo.jetworkflow.com/ims/jetapi.php?method=searchAndDelete&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectnameS_field1=text1

- searchAndDelete— this indicates that the API is to search & delete records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- S_field1 — this is the field used to search the records. Replace field1 with the field name you need.
- text1 — this is the value you want to search for.

Search & Delete Child Records

https://demo.jetworkflow.com/ims/jetapi.php?method=searchAndDeleteChildRecords&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname

- searchUpdateSubRecords — this indicates that the API is to search & update sub records.
- key — this is the unique key for the form.
- id_form — this indicates which from in the site
- project — this indicates which site.
- P_field1 — this is the unique field used to search the parent record. Replace field1 with the field name you need.
- text1 — this is the value of the parent record field you want to search for.
- C_field2 — this is the sub record field you want to search for.
- text2 — this is the value of the sub record field you want to search for.

Get Site Logo

https://demo.jetworkflow.com/ims/jetapi.php?method=getProjectLogo&project=projectname

- getProjectLogo — This allows us to retrieve the Site Logo.
- project — this indicates the site where we are getting the Site Logo from.

Limits & Pages

https://demo.jetworkflow.com/ims/jetapi.php?method=getRecords&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&&limit=10&page=1

Append

&limit=<value1>&page=<value2>

to the end of a GET API url.

- value1 – the number of records to display.
- value2 – the page of records to display.

For example,

&limit=10&page=1 means that it will return the first set of 10 records.

&limit=15&page=3 means that it will return the 3rd set of 15 records.

Results will be similiar to the below example after running the API.

**Note that even without the additional limits/pages, the API will still return the pagination option. The example below shows how the pagination would look like if we did not run the API with limits/pages.


```
{
  "data": [
    {
      "ROW_ID": 1,
      "test": "this is a new test"
    },
    {
      "ROW_ID": 2,
      "test": "test3"
    }
  ],
  "field_labels": {
    "test": "test"
  },
```

```
  "pagination": {
    "total_records": 2,
    "current_page": 1,
    "records_per_page": 1000000,
    "total_pages": 1
  }
}
```


Create Multiple Records at once

https://demo.jetworkflow.com/ims/jetapi.php?method=addRecordsBatch&key=a4bd0efeff4f4ed6fcf68453ca92f123&id_form=209&project=projectname

For creating multiple records at the same time, we need to submit the POST API with JSON payload

Below shows an example of a JSON payload. The example shows how you can add 3 records with 2 field values each. If you need to add more records, you can increase it accordingly.

```
 {
    "records": [
        {
            "field1": "value1",
            "field2": "value1"
        },
        {
            "field1": "value4",
            "field2": "value1"
        },
        {
            "field1": "value7",
            "field2": "value1"
        }
    ]
}
```

Multiple Delete

https://demo.jetworkflow.com/ims/jetapi.php?method=deleteRecord&key=fraroprijepip6uspl7ostlklcirust&id_form=9999&project=projectname&id_record=1,2,3

For delete record API, usually it would only allow you to delete a single record by specifying a single record id.

Instead of just id_record=1

you can use id_record=1,2,3

where the record id can be retrieved from a separate GET API results.

In this way, you can delete multiple records at once.

Multiple Sub Records

https://demo.jetworkflow.com/ims/jetapi.php?method=addSubRecordsBatch&key=a4bd0efeff4f4ed6fcf68453ca92f123&id_form=209&project=projectname&P_parentField1=testC

Similar to creating multiple records at the same time, for creating multiple sub records at the same time, we need to submit the POST API with JSON payload

- id_form – form id of the parent form
- P_ – prefix required to indicate that its for the parent form.
- parentField1 – field name of a unique field in the parent form

Below shows an example of a JSON payload. The example shows how you can add 3 records with 2 field values each. If you need to add more records, you can increase it accordingly.

```
{
    "records": [
        {
            "field1": "value1",
            "field2": "value1"
        },
        {
            "field1": "value4",
            "field2": "value1"
        },
        {
            "field1": "value7",
            "field2": "value1"
        }
    ]
}
```

User Details Export

When 3rd party applications are being used, there will be times when JET user account details is required.

APIs deal with the record level data but not user account.

A simple call to the function below would be able to retrieve the details required.

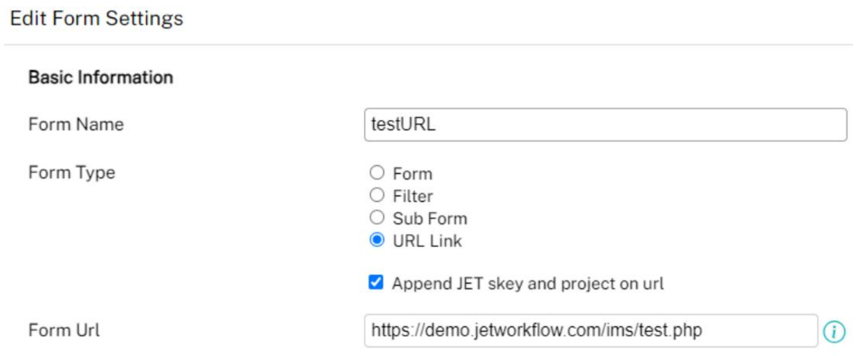
Getting username

https://demo.jetworkflow.com/ims/jetapi.php?method=getUserDetails&project=testsite&skey=123456789

- project — this indicates which site.
- skey — session key generated from an existing login.

In this example, what we need is the site ID and also the session key.

Getting skey



Select URL Link while editing form settings.

Make sure to tick “Append JET skey and project on url”

In the Form Url field, enter the website url where you need to export the user details to.

In the example above, the url used is our own test url for this.

All you need to do is to go to your main forms page and click on the form created above.

https://demo.jetworkflow.com/ims/test.php?skey=123456789&project=testsite

This will result in a new tab being open with a similar url to the above.

```php
<?php
$url =
'https://demo.jetworkflow.com/ims/jetapi.php?method=getUserDetails&project='.$_GET['project'].'&skey='.$_GET['skey'];
echo 'URL: '.$url.'<br>';
?>
```

In the target url, it will need to call back with the method getUserDetails to get the information wanted.

You can replace https://demo.jetworkflow.com/ims/ with the url of where your JET Workflow is installed at.

```
{"status":"success","message":"success","username":"testuser","id_user":"1"}
```

You will get the above return message and you can now retrieve the username from here.

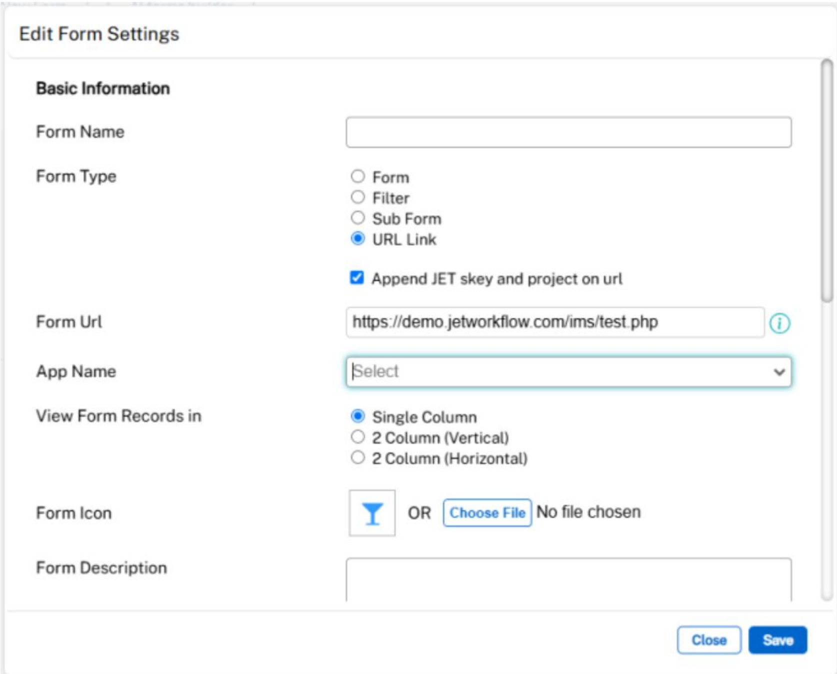
**Take note that you will need to use your own methods to capture the required data based on how your own website is created.

**The session key will only last 2 hours from the time of last generation.

External Retrieval of Username

This is done in order to retrieve the username of the current login user for use in an external front facing web application.

Creating the form

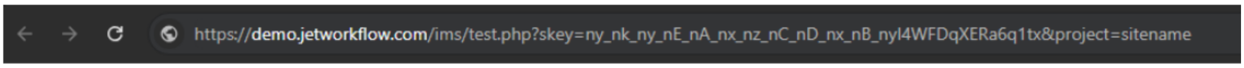


1. Select URL Link option.
2. Tick the checkbox for "Append JET skey and project on url"
3. Fill in the form URL.

In this screenshot example, we use a file called 'test.php' on the demo server.

Once the form is created, you can click on the form to open the url.

Generating the URL




```
https://demo.jetworkflow.com/ims/test.php?skey=ny_nk_ny_nE_nA_nx_nz_nC_nD_nx_nB
_nyI4WFDqXERa6q1tx&project=sitename
```

The generated url would be something like the above.

1. skey – This is a randomly generated key that is generated when the user clicks on the form.
2. project – This is the site id of the current site you are login to.

This will allow the URL link to receive the values from the two parameters above.

https://demo.jetworkflow.com/ims/jetapi.php?method=getUserDetails&project=sitename&skey=ny_nk_ny_nE_nA_nx_nz_nC_nD_nx_nB_nyI4WFDqXERa6q1tx

With both the skey and project values, you can generate a new url to retrieve the username from Jet WorkFlow.

Note that the above url example is based on our demo server's URL.

So if you have JET WorkFlow hosted separately, you can replace **demo.jetworkflow.com/ims/** with **your.website.com/JET/**

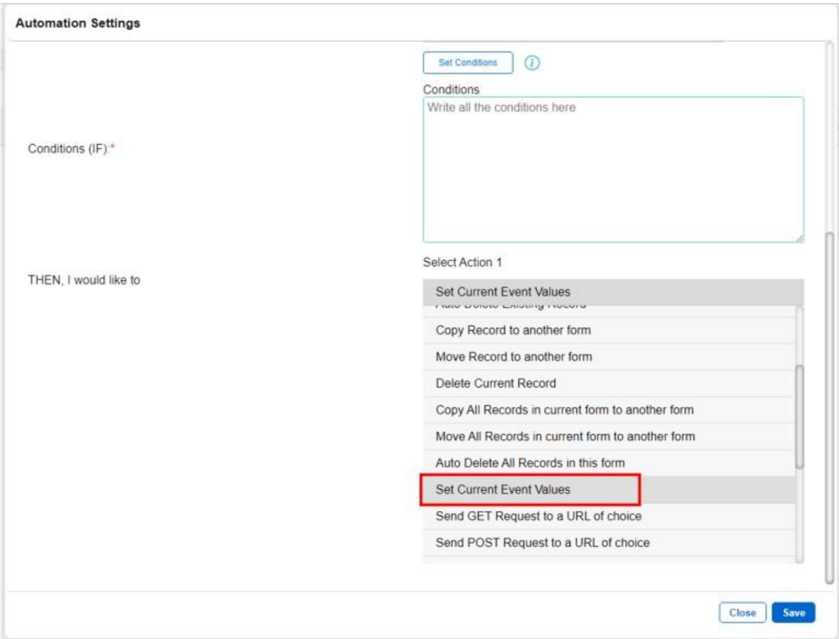
AUTOMATION PARAMETERS

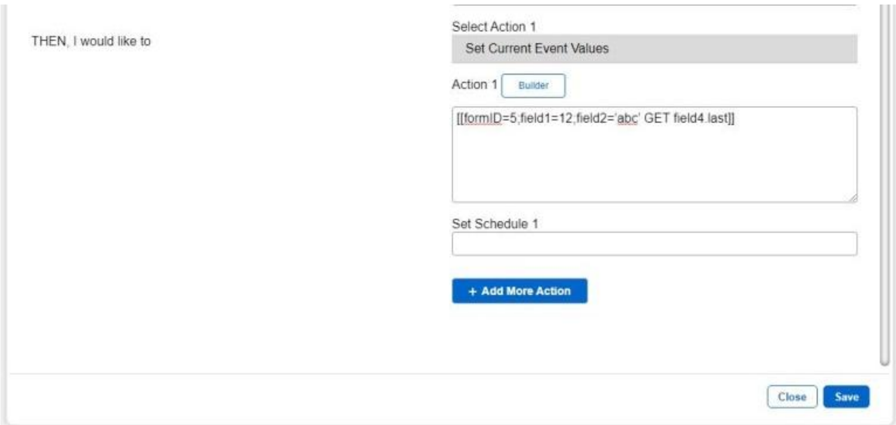
Field Value Selection

Step 1: Go to Forms > Automation> Add Automation> Select Action Type and choose 'Set current event values'

Step 2: We can use the below value.

```
[[formID=5;field1=12;field2='abc' GET field4.last]]
```





In this example, the different parts of this line can be explained below.

- formID — this indicates which form we want to retrieve the value from.
- field1 / field2 — this indicates which record in the target form we are looking for.
- GET — this tells JET that we will be getting values from this record.
- field4.last — this will retrieve the particular field value in the record selected.

Note: that field1 / field2 / field4 can be replaced by other field names where necessary. While using it in 'Set current event values' is the most direct way of using this method, it can also be used in other action types.

Field Value Formatting

When you add/edit any record's text field, you can use the following formatting.

```
<blue>text</blue>
<brown>text</brown>
<blue>text</blue>
<cyan>text</cyan>
<green>text</green>
<red>text</red>
<yellow>text</yellow>
<large>text</large>
<small>text</small>
```

After adding the above, you can see something like this appearing in the form display.

text text text text text text text text size text text

Total Count of a Form

In the automation action box, you can add the following.

```
[[formID=4 GET field1.count]]
```

This will return the total count of the form.

Total Sum of Field

In the automation action box, you can add the following.

```
[[formID=11 GET field1.sum]
```

This will return the total sum of a single field across all records.

Minimum Value of Field

In the automation action box, you can add the following.

```
[[formID=11 GET field1.min]]
```

This will return the minimum value of a single field across all records.

Maximum Value of Field

In the automation action box, you can add the following.

```
[[formID=4 GET field1.max]]
```

This will return the maximum value of a single field across all records

Average Value of Field

In the automation action box, you can add the following.

```
[[formID=4 GET field1.avg]]
```

This will return the average value of a single field across all records.

Site Name

When creating or editing automations, you can make use of the parameter below.

```
{sitename}
```

This will return the current site name directly.

Login User

When creating or editing automations, you can make use of the parameter below.

```
{siteusername}
```

This will return the username of the current login account that activates this trigger.

Login User Email

When creating or editing automations, you can make use of the parameter below.

```
{siteuseremail}
```

This will return the email address of the current login account that activates this trigger.

Owner Email

When creating or editing automations, you can make use of the parameter below.

```
(^getemail('{owner}')^)
```

Depending on the selected user from the Owner User Field, this will return the email address of the selected user account.

Permission Group

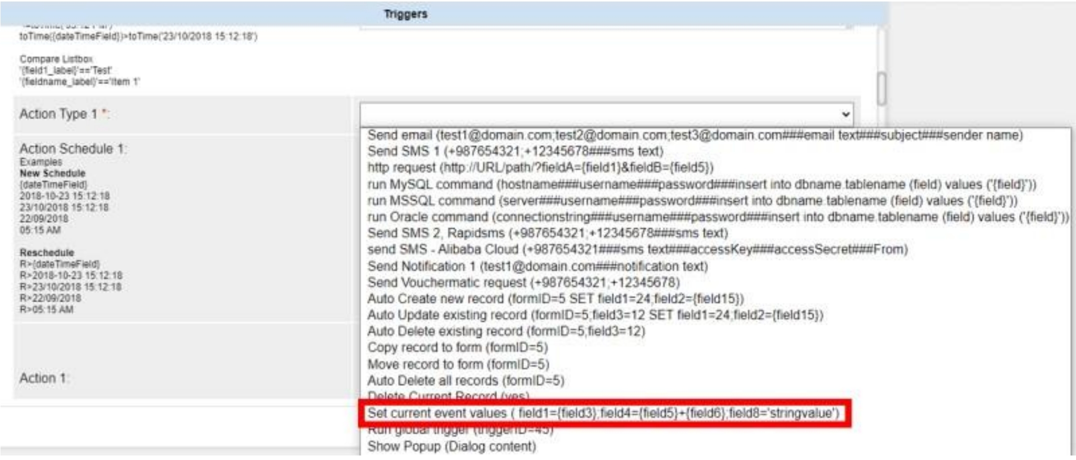
When creating or editing triggers, you can make use of the parameter below.

```
hasGroups('PermissionGroup1','PermissionGroup2')
```

This allows the trigger to know if the current user is a part of a specific permission group.
Take note that this function will only work if your form is using Owner Group Access.

Date Time Addition

Step 1: Go to Manage Forms > Triggers > Add Triggers > Select Action Type and choose ‘Set current event values’



Step 2: We can use the below value.

`field1=calcTime('+7 day')`

You can replace '+7 day' with other values.
'+13 minute'
'+11 month'
'+11 hour'
'+7 year'

Email Image

When editing email within automation, you can make use of the parameter below.

`emailImage('{field}')`

where {field} is an image field within the form.

This will allow the email sent to include the image as part of the email.

CheckBox Condition

When creating or editing automations, you can make use of the condition parameter below.

`isChecked('{field}')`

where {field} is a checkbox field.

This will check if the checkbox field is currently ticked.

Usage of Time Fields

On this page, we show how we can make use of Time field in automations

We have a function toTime which will convert the field or time value to seconds.

Converting to seconds will not give a user-friendly value, so we need to minus off another time value to get a logical answer.

Dividing the final seconds value by 60s, 60mins, 24hrs will give corresponding values in time.

```
(toTime('{Out}')-toTime('09:00 AM'))/(60*60)
```

This calculates the time from 9am till the ending time which is represented by '{Out}'

It then returns the value in hours.

Note that this is usually used in the actions portion of automation.

```
(toTime('{Out}')-toTime('09:00 AM'))/(60*60*24)
```

This shows the same time as the previous one except that it returns the time in days.

```
((toTime('{Out}')-toTime('09:00 AM'))/(60*60))>8
```

This can also be used in the conditions portion of automation. In this case, it will only perform the automation if the calculated time is more than 8 hours.

Parent Form Updates

This serves to allow automations in the subform to update the parent record in the parent form.
A specific use case would be the last updated time.
The action "Auto Update Existing Record" should be used with the below.

```
formID=123;ID_ROW=getParentId() SET field1='{field2}'
```

- ID_ROW – to define the ID of the target record.
- getParentId() – retrieves the id of the parent record.
- field1 – field name of the target form
- field2 – field name of the current form

This will allow us to update the parent record with any values from the records within the subform that falls under the parent record.

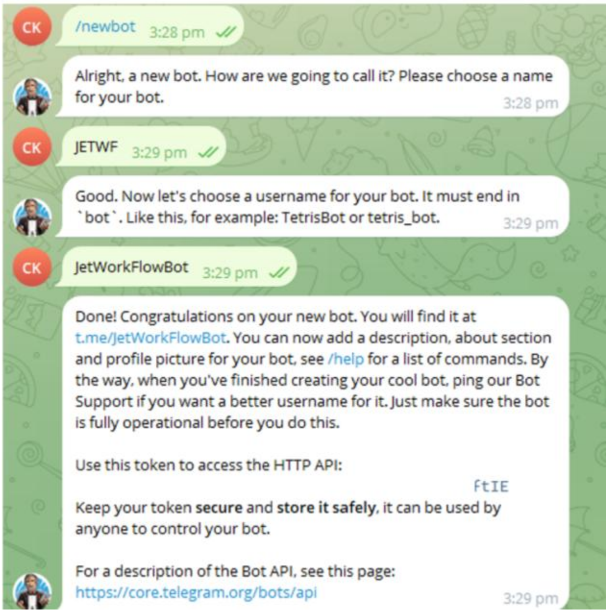
3rd Party API

How to use Telegram API with Jet WorkFlow

We will need to create a telegram bot in order to generate the chat id required for the telegram API to work.

Create a Telegram Bot

Go to the Telegram app (https://telegram.org/) and search for BotFather.
Start a chat with BotFather and use the '/newbot' command to create a new bot.
BotFather will guide you through naming your bot and will provide a bot token (API key) which you will need later.



Send a Message Using the API

https://api.telegram.org/bot<your-bot-token>/sendMessage?chat_id=<chat id>&text=<yourtext>

You can use either HTTP GET or POST to run the API.

These are the parameters you need.

- 'your-bot-token': The bot token we get during the bot creation process.
- 'chat_id': The chat or user ID to send the message to.
- 'text': The message text you want to send.

How to get Chat ID

In order to get the chat_id required to send message, you will need to first send a message to the bot we created earlier.

Next we need to run the below url in your browser.

Fill in the bot token that you get during the bot creation.

https://api.telegram.org/bot<your-bot-token>/getUpdates


```
{
  "ok": true,
  "result": [
    {
      "update_id": 134175931,
      "message": {
        "message_id": 2,
        "from": {
          "id": 1629867834,
          "is_bot": false,
          "first_name": "        ",
          "last_name": "    ",
          "language_code": "en"
        },
        "chat": {
          "id": 1234567890,
          "first_name": "        ",
          "last_name": "    ",
          "type": "private"
        },
        "date": 1729669310,
        "text": "hi"
      }
    }
  ]
}
```


In this example, the chat id is 1234567890

And using it in the sendMessage API, it will be like this.

https://api.telegram.org/bot<your-bot-token>/sendMessage?chat_id=1234567890&text=hello

And since we are going to be using this in automation, we can do something like the below, where {name} is the field name of the form we are using.

https://api.telegram.org/bot<your-bot-token>/sendMessage?chat_id=1234567890&text={name}

Other Features

Form Management

Add, Edit, Delete Forms

- Click on Forms Forms .
- Click on + Add Form to add new form.
- Click on the form you want to edit and click on Settings that appears to edit the form.
- Click on the form you want to delete and click on Delete at the top of the page to delete the form.

Drag and drop to arrange form order

- Drag and drop the form to arrange the order of the forms to display in home page.

Select All	Form Order	Icon	Form Name	Form Type	Access Level	Automation History	Custom UI	Form Column	Filter Field Name	Parent Form	Ask delete reason	Make chart	Date Created	Group name
	1		newForm	form	public_access			Single Column				None	2023-05-18 16:38:28	Workspace
	2		Customer	filter	public_access			Single Column	Name			None	2023-05-18 16:15:57	Workspace
	3		Chat Room Demonstration	form	public_access			Single Column				None	2023-05-18 13:08:22	Workspace
	4		Product Description	subform	public_access			Single Column		Catalogue		None	2023-05-17 09:53:37	Workspace
	5		Catalogue	form	public_access			Single Column				None	2023-05-17 09:52:32	Workspace
	6		RO	form	public_access			Single Column				None	2023-05-[illegible]	Workspace

[Data Management](#)

Add, Edit, Delete Data

- Click on any Form.
- Click on Add Record to add new data.
- Click on in the row of the data to edit the data.
- Click on Delete at the top after selecting the record to delete the data.

Export Data

- Click on any Form. Click on beside the print icon ( ) to export data. (Exported file will be in CSV file format.)

User Management

Add, Edit, Delete User

- Click on User List Users .
- Click on + Add User to add new user.
- Click on on the user profile to edit the user.
- Click on on the user profile to delete the user.

Add, Edit, Delete Group

- Click on User List Users .
- Click on Groups to enter the Permissions Group page.
- Click on Add Permission Group to add new group.
- Tick the group you want to edit and click on to edit the group.

- Tick the groups you want to delete and click on 

to delete the group.

Form access rights

1. Group with only read permission

Create a Permission Group that only have Forms accessibility
(Example: Permission Group Name: Read Access)

2. User with only read permission

Edit the user in User List, select the Permission Group that is read only access (For this case is the Read Access Group.)

3. The following details are examples that can be created in the Group Permission

Add/Create access only

Admin Permission
Select to allow Select All Clear All

Forms	☐ View Manage Form	☑ Create Form
	☐ Edit Form Settings	☐ Delete Form
Fields	☐ View Manage Field	☑ Create Field
	☐ Edit Field	☐ Delete Field
Users	☐ View Manage Users	☑ Create User
	☐ Edit User	☐ Delete User
Permission Group	☑ View Permission Group Page	
Settings	☐ View Manage Settings	

User Permission
Select to allow Select All Clear All

Records	☐ View History	☑ Create Record
	☐ Edit Record	☐ Delete Record

Modify access only

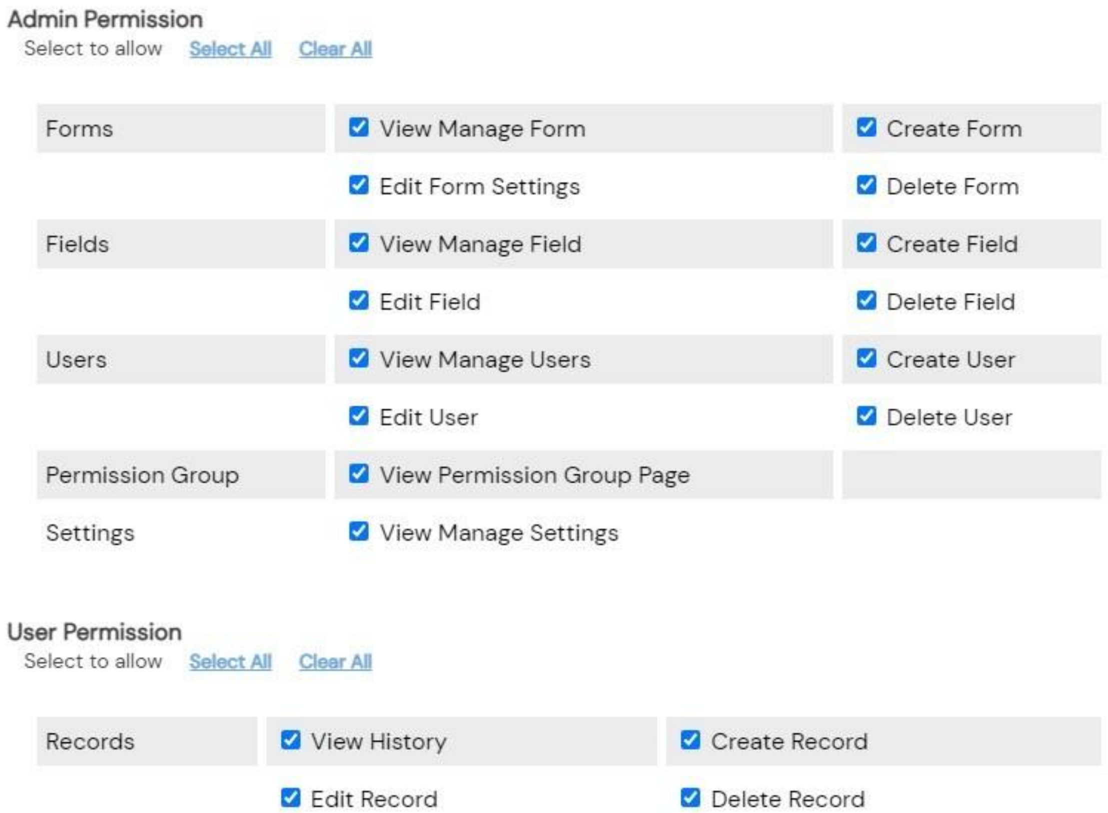
Admin Permission
Select to allow Select All Clear All

Forms	☐ View Manage Form	☑ Create Form
	☑ Edit Form Settings	☑ Delete Form
Fields	☐ View Manage Field	☑ Create Field
	☑ Edit Field	☑ Delete Field
Users	☐ View Manage Users	☑ Create User
	☑ Edit User	☑ Delete User
Permission Group	☑ View Permission Group Page	
Settings	☐ View Manage Settings	

User Permission
Select to allow Select All Clear All

Records	☐ View History	☑ Create Record
	☑ Edit Record	☑ Delete Record

Full access



Admin Permission

Select to allow Select All Clear All

Forms	☑ View Manage Form	☑ Create Form
	☑ Edit Form Settings	☑ Delete Form
Fields	☑ View Manage Field	☑ Create Field
	☑ Edit Field	☑ Delete Field
Users	☑ View Manage Users	☑ Create User
	☑ Edit User	☑ Delete User
Permission Group	☑ View Permission Group Page	
Settings	☑ View Manage Settings	

User Permission

Select to allow Select All Clear All

Records	☑ View History	☑ Create Record
	☑ Edit Record	☑ Delete Record

Known Issues & Solutions

This page will list known issues & solutions or perhaps workaround for them.
This is to address issues related to your production environment which JET would not be able to resolve.

Unable to click UNC links.

This is restricted by the web browser. You will need to identify the method by which each browser can allow this.

Chrome

Chrome has an extension on its web store that will help on this.
Search the web store for the below.

```
Enable local file links
```

Edge

Edge allows you to use extension from Chrome Web Store.
Search the web store for the below.

```
Enable local file links
```

Firefox

Firefox allows you to control Local file links via GPO
Replace the url below with your own JET url if you have hosted it on your own cloud service.

```
Software\Policies\Mozilla\Firefox\LocalFileLinks\1 = "https://demo.jetworkflow.com"
```

Blank page on website after updating MySQL version.

Usual practices for updating MySQL version involves exporting the database from the previous MySQL version and import into the new one.
So you may encounter a blank page when you try to access the website again.
In this case, it is likely that you may have missed the import of one or more of the databases.

Blank page on website after updating Php version

Take note that as of this writing, JET versions 5.04 and before are only compatible with php version 7.4
So you will get blank pages if you are trying to use any php version that is 8 and above.
Do note that we are working on this and it would be updated here once its done.

LINUX

How to setup JET (Linux)

Install Lamp Server

Installing Lamp server will install php web services and mysql onto your linux server. Please type in the following command in your linux console.

```
$ sudo apt-get install lamp-server^
```

```
administrator@ubuntu:/$
administrator@ubuntu:/$ sudo apt-get install lamp-server^_
```

You will be prompted Y/n. Select Y to proceed with the installation.

```
  perl-base
Suggested packages:
  www-browser apache2-doc apache2-suexec-pristine | apache2-suexec-custom php-pear
  tinyca perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl make open
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libaio1 libapache2-mod-php libapa
  libaprutil1-ldap libcgi-fast-perl libcgi-pm-perl libencode-locale-perl libevent-
  libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl
  libsodium23 libtimedate-perl liburi-perl mysql-client-5.7 mysql-client-core-5.7
  mysql-server-core-5.7 php-common php-mysql php7.2-cli php7.2-common php7.2-json
The following packages will be upgraded:
  libldap-2.4-2 libldap-common libperl5.26 perl perl-base perl-modules-5.26
6 upgraded, 42 newly installed, 0 to remove and 126 not upgraded.
Need to get 27.0 MB/34.9 MB of archives.
After this operation, 187 MB of additional disk space will be used.
Do you want to continue? [Y/n] _
```

Note: You may be required to get the latest list of available packages and their versions for your OS first. To do this, run:

```
$ sudo apt-get update
```

Resetting mysql password

Use the commands below.

```
$ sudo mysql -u root
mysql> use mysql;
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'password123';
mysql> exit
$ sudo service mysql restart
```

Replace "password123" with a password of your choice

Update permissions of the web service folder

Run the commands below to navigate to the /var/www folder and update the permissions of the web service folder:

```
$ cd /var/www
$ sudo chmod a=rwx html
```

Symbolic links for data drive

Skip the previous step if you are doing this.
This is meant for if you have a separate Data disk from the OS disk.

Step 1: Backup /var/www/html to /data/application

```
$ sudo cp -avr /var/www/html/. /data/application
```

Step 2: Remove the html folder.

```
$ sudo rm -r /var/www/html
```

Step 3: Create a symbolic link.

```
$ sudo ln -sfn /data/application /var/www/html
```

Step 4: Update folder permissions

```
sudo chmod a=rwx /data/application/
```

Pre-requisites (php 7.4 example)

- **Install the Linux zip utility**
```
$ sudo apt-get install unzip
$ sudo service apache2 restart
```

- **Install the php zip PHP**
```
$ sudo apt-get install php7.4-zip
$ sudo service apache2 restart
```

- **Install the xmlrpc module in PHP**
```
$ apt-get install php7.4-xmlrpc
$ sudo service apache2 restart
```

- **Install the xml module in PHP**
```
$ sudo apt-get install php7.4-xml
$ sudo service apache2 restart
```

- **Install the curl module in PHP**
```
$ sudo apt-get install php7.4-curl
$ sudo service apache2 restart
```

- **Increase the file upload limit in PHP**
  - Access php.ini on your PHP installation
  - Edit the following line with the appropriate value. In this example, I set it as 100M for both.
```
upload_max_filesize = 100M
post_max_size = 100M
```
  - Restart the Apache service
```
$ sudo service apache2 restart
```

- **Increase Memory Limit in PHP**
  - Access php.ini on your PHP installation
  - Edit the following line with the appropriate value based on your server ram allocation.

    ```
    memory_limit = 500M
    ```

  - Restart the Apache service.

    ```
    $ sudo service apache2 restart
    ```

Transfer the installer file into /var/www/html

Download and transfer the installer.php file to /var/www/html

Run the installer.php file on a web browser in the same network

Enter SQL credentials and Company ID.
Company ID can be retrieved from the email where you are issued when you purchased JET.

Create your default console login

Login to the console with the credentials you created above

After login, you can begin to create your sites and start using JET

FAQ (Linux)

The information provided is mainly meant to address issues in Linux as it is the most commonly used server OS to run JET.
If you have issues in Windows Server OS, please feel free to contact us. We will update the information accordingly once we confirmed.

How to hide server default page or the root directory from the root of your website?

By default, the root of your website will show the server default page or the root directory. We would want to hide this from the normal users.

Step 1: Run the following commands:

```
$ sudo a2enmod rewrite
$ sudo systemctl restart apache2
```

Step 2: Edit the default config file:

If you wish to edit files from the graphical interface, add the following lines to the config file, which can be found at
/etc/apache2/sites-enabled/000-default.conf

```
<VirtualHost *:80>
Redirect permanent /
https://www.yourdomain.com/
RedirectMatch ^/$ /JET/
</VirtualHost>
<VirtualHost *:443>
RedirectMatch ^/$ /JET/
</VirtualHost>
```

If you wish to edit files from the shell, follow the below steps:

Step 2.1: Open the default config file in vi

```
$ sudo vi /etc/apache2/sites-enabled/000-default.conf
```

Step 2.2: Add the below lines into this file

1. Press the key “i” on your keyboard to enter edit/insert mode onvi.
2. Insert the below text to the file:
3.

```
<VirtualHost *:80>
Redirect permanent /
https://www.yourdomain.com/
RedirectMatch ^/$ /JET/
</VirtualHost>
<VirtualHost *:443>
RedirectMatch ^/$ /JET/
</VirtualHost>
```

Step 2.3: Save the file and quit vi

1. Press the “Esc” key on your keyboard to exit edit/insert modeon vi.
2. Type “:wq” to write the changes to the config file and quit.

How to ensure that the URL is not case sensitive?

For example, https://www.url.com/TEST should be the same as https://www.url.com/tesT and https://www.url.com/test.

Step 1: Edit the config file:

If you wish to edit files from the graphical interface, add the following lines to the config file, which can be found at /etc/apache2/apache2.conf

```
LoadModule speling_module
/usr/lib/apache2/modules/mod_spelin
g.so
<IfModule mod_speling.c>
CheckSpelling On
CheckCaseOnly On
</IfModule>
```

If you wish to edit files from the shell, follow the below steps:

Step 1.1: Open the default config file in vi

```
$ sudo vi /etc/apache2/apache2.conf
```

Step 1.2: Add the below lines into this file

1. Press the key "i" on your keyboard to enter edit/insert mode onvi.
2. Insert the below text to the file:
3.

```
LoadModule speling_module
/usr/lib/apache2/modules/mod_spelin
g.so
<IfModule mod_speling.c>
CheckSpelling On
CheckCaseOnly On
</IfModule>
```

Step 1.3: Save the file and quit vi

1. Press the "Esc" key on your keyboard to exit edit/insert modeon vi.
2. Type ":wq" to write the changes to the config file and quit.

Step 2: Restart the apache services

```
$ sudo service apache2 reload
```

How to setup auto OS updates in Linux?

Step 1: Create an account at https://ubuntu.com
Step 2: Copy and save the token from https://ubuntu.com/pro/dashboard
Step 3: Run the following commands on the server.

```
1. sudo snap remove canonical-livepatch
2. sudo snap install canonical-livepatch
3. sudo apt update
4. sudo apt install ubuntu-advantage-tools
5. sudo ua attach <token>
```

Replace <token> with the token copied in Step 2.
After this is completed, your Linux server will automatically install essential updates in the background which will take effect the next time you restart the server.

How to enable crontab in linux?

What is crontab? [Click here to find out]

Step 1: Open the crontab file to edit

```
$ sudo crontab -e
```

This will open the crontab file with the default editor vi

Step 2: Edit this file:

Step 2.1: Enter Edit/Insert mode on vi

1. Press the key “i” on your keyboard to enter edit/insert mode onvi.
2. Add the below line to the file:
3.

```
* * * * * php -f /var/www/html/JET/scheduler.php
```

Step 2.2: Save the file and quit vi

1. Press the “Esc” key on your keyboard to exit edit/insert modeon vi.
2. Type “:wq” to write the changes to the crontab file and quit.

Step 3: Restart crontab

```
$ sudo /etc/init.d/cron restart
```

How do I make JET more secure in Linux?

Step 1: Open the hosts file in vi

[How to use vi?]

```
$ sudo vim /etc/hosts.allow
```

Step 2: Add the following lines to his file:

```
sshd:localhost:allow
sshd:192.168.0.:allow
sshd:111.111.111.111:allow
sshd:ALL:deny
```

Replace 111.111.111.111 with your own public IP

You can add multiple lines of this to allow more IPs to have access.

Step 3: Restart sshd

```
$ systemctl restart sshd
```

Step 4: Create a new user

For example, we want to create a new user 'jetuser'

```
$ sudo adduser jetuser
$ usermod -aG sudo jetuser
```

Step 5: Edit the sshd config file

```
$ sudo vim /etc/ssh/sshd_config
```

Update the following line to disable root login:

```
PermitRootLogin no
```

Step 6: Restart sshd

```
$ systemctl restart sshd
```

How do I fix the timeout issue when there is a lot of data?

This can occur if there is a lot of record in the form and you are exporting the form data.

Step 1: Edit the file

```
$ sudo vim /etc/php/7.2/apache2/php.ini
```

Locate the following:

```
max_input_time = 60
max_execution_time = 60
default_socket_timeout = 60
```

Change the numbers from 60 to 3600. This will increase the time given for the timeout to occur.

Step 2: Restart apache

```
$ sudo systemctl restart apache2
```

My OS partition ran out of space! What do I do?

Step 1: Delete files in /var/log/journal

```
$ sudo journalctl --vacuum-
```

Step 2: Remove update files

```
$ sudo apt-get autoclean
```

Step 3: Remove any unused packages

```
$ sudo apt autoremove
```

My data disk is gone after I restart the server

This can happen if Auto mount was not setup properly or there was a change in config due to cloud hosting updates.

Step 1: Confirm that the data disk is not mounted.

```
$ sudo df -TH
```

Step 2: Check for unmounted disk

```
$ sudo lsblk
```

Step 3: Mount the partition with the disk partition you found in Step 2, for example: /dev/vdb1

```
$ sudo mount /dev/vdb1 /data
```

Step 4: Check for Partition UUID

```
$ sudo blkid /dev/vdb1
```

[root@ecs-test-0001 ~]# blkid /dev/vdb1
/dev/vdb1: UUID="0b3040e2-1367-4abb-841d-ddb0b92693df" TYPE="ext4?

Step 5: Update fstab file

```
$ sudo vim /etc/fstab
```

Enter the below line at the end of the file.
UUID=0b3040e2-1367-4abb-841d-ddb0b92693df /data ext4 defaults 0 2

How do I update php/apache

You will need to do this to keep the system up to date and be protected from vulnerabilities
In this example, php 7.4 branch is the latest php version.

Step 1: Add PPA

```
$ sudo apt install software-properties-common
$ sudo add-apt-repository ppa:ondrej/php
$ sudo add-apt-repository ppa:ondrej/apache2
$ sudo apt update
```

Step 2: Install latest php/apache

```
$ sudo apt install php7.4
$ sudo apt install apache2
```

Step 3: Install php Extensions using the following syntax

```
$ sudo apt install php7.4-extension_name
```

Step 4: There are some common php extensions that we can install.

```
$ sudo apt install php7.4-common php7.4-mysql php7.4-xml php7.4-xmlrpc
php7.4-curl php7.4-gd php7.4-imagick php7.4-cli php7.4-dev php7.4-imap
php7.4-mbstring php7.4-opcache php7.4-soap php7.4-zip php7.4-intl -y
```

Step 5: Restart apache and check the versions to confirm

```
$ sudo systemctl restart apache2
$ sudo php -v
$ sudo apache2 -v
```

Take note that if you have changed some config files, you will have to check through all of those files to ensure that you still retain your customized config.

Apache/PHP version hiding?

When remote requests are sent to your Apache web server, by default, various information such as the php version, is sent along in server-generated documents back to the client.
The following steps would help to hide these information to protect your web server.

Apache:
Step 1: Run the following commands depending on which OS your server is using.

For Debian/Ubuntu systems:

```
$ sudo vi /etc/apache2/apache2.conf
```

For RHEL/CentOS systems

```
$ sudo vi /etc/httpd/conf/httpd.conf
```

Step 2: Add/modify the following lines.

```
ServerTokens Prod
ServerSignature Off
```

Step 3: Restart the Apache service

```
$ sudo systemctl restart apache2
```

PHP:
Step 1: Edit php.ini

```
expose_php = off
```

How to migrate MYSQL database?

MySQL database is normally located in the System Disk of the Linux partition.
As you use JET, the data will grow and it may exceed the limits of the System Disk partition.
As such, you should move the MySQL database to the data disk.
The below steps is based on Ubuntu Linux servers but it should be more or less the same in other Linux servers as well.
Do adjust for any differences and if you are not sure, you can contact the Cloud provider for further assistance.

Note: It is advisable to do a backup of the database before proceeding with the below. (SQL file backups are recommended)

Step 1: Verify the directory of MySQL database.

```
$ sudo mysql -u root -p
```

Enter the MySQL password.

```
mysql> select @@datadir;
```

The output will determine the MySQL database directory which is usually /var/lib/mysql/

Step 2: Stop MySQL service

```
$ sudo systemctl stop mysql
```

This will stop the service.

```
$ sudo systemctl status mysql
```

This will allow you to confirm the status of the service.

Step 3: Copy MySQL database to another location

```
$ sudo rsync -av /var/lib/mysql /data/database
```

In this case, /data/database folder is where I want to copy to.

Step 4: Rename the old database folder

```
$ sudo mv /var/lib/mysql /var/lib/mysql.bak
```

This will save the backup temporarily until we confirm that the MySQL migration is successful.

Step 5: Point the MySQL service to the new directory.

```
$ sudo vi /etc/mysql/mysql.conf.d/mysqld.cnf
```

Edit this file using vi.

```
$ datadir=/data/database/mysql
```

Locate the “datadir=” line and update it with the new path.

Step 6: Configure AppArmor Access Control Rules

```
$ sudo vi /etc/mysql/mysql.conf.d/mysqld.cnf
```

Edit this file using vi.

```
alias /var/lib/mysql/ -> /data/database/mysql/
```

Add this line and save.

```
$ sudo systemctl restart apparmor
```

Restart AppArmor service.

Step 7: Restart MySQL service

```
$ sudo mkdir /var/lib/mysql/mysql -p
```

Create a dummy folder in place of the default MySQL directory.

```
$ sudo systemctl start mysql
```

Start MySQL service.

```
$ sudo systemctl start mysql
```

Confirm that the service has started.

Step 8: Step 7 may sometimes fail if you took the chance to upgrade MySQL while the service is down.

In this case, you will need to re-initialize your database with this command:

```
mysql_install_db
```

before starting from step 3 again.

Step 9: Verify the directory of MySQL database again.

```
$ sudo mysql -u root -p
```

Enter the MySQL password.

```
mysql> select @@datadir;
```

The output will determine the MySQL database directory which is /data/database/

Step 10: Cleanup of temporary files/folders.

Do this after verifying the data integrity of existing data.

```
$ sudo rm -Rf /var/lib/mysql.bak
```

Remove the old MySQL folder we previously rename.

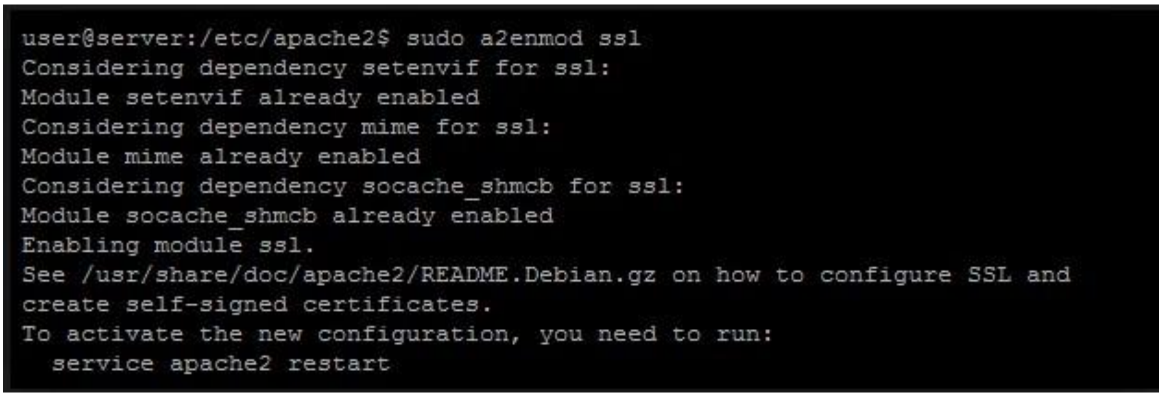
```
$ sudo systemctl restart mysql
```

Restart the service once more to confirm.

How to install SSL certificate in Linux

Enable SSL in Apache

```
$ sudo a2enmod ssl
```



```
user@server:/etc/apache2$ sudo a2enmod ssl
Considering dependency setenvif for ssl:
Module setenvif already enabled
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Module socache_shmcb already enabled
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and
create self-signed certificates.
To activate the new configuration, you need to run:
  service apache2 restart
```

Update config file

Step 1: Navigate to /etc/apache2/sites-enabled/

Step 2: Edit the file “000-default.conf”

Step 3: Comment out all existing lines inside with a ‘#’
Replace the filepaths shown above with the appropriate path that is used for your linux server.

Step 4: Add the below to the file.

```
<VirtualHost *:443>
ServerAdmin webmaster@localhost
DocumentRoot /var/www/html
ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combine
SSLEngine on
SSLCertificateFile /etc/ssl/certificate.crt
SSLCertificateKeyFile /etc/ssl/certificate.key
SSLCertificateChainFile /etc/ssl/chain.crt
</VirtualHost>
```

Step 5: Replace the filepaths shown above with the appropriate path that is used for your linux server.

```
ServerTokens Prod
ServerSignature Off
```

Restart the apache2 service

```
$ systemctl restart apache2
```

Note: The config file mentioned above may differ in different Linux servers.

Update Ciphersuite

Open the config file for apache2

```
sudo vim /etc/apache2/sites-enabled/000-default.conf
```

Insert the following within the VirtualHost 443 section

```
SSLCipherSuite      ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA:ECDHE-ECDSA-AES256-SHA:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384;DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384
SSLProxyCipherSuite      ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA:ECDHE-ECDSA-AES256-SHA:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384;DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384
SSLProtocol all -SSLv3 -TLSv1 -TLSv1.1
SSLProxyProtocol all -SSLv3 -TLSv1 -TLSv1.1
```

Restart the apache2 service

```
$ systemctl restart apache2
```

Php.ini config

Open the php.ini file

```
sudo vim /etc/php/*.*/apache2/php.ini
```

Take note that *.* is to be replaced with the php version that the server is currently installed with.
It can be 7.4, 8.0 or 8.1 based on the latest versions of php at this moment.

Update existing lines with the following

```
1. expose_php = Off
2. max_execution_time = 3600
3. max_input_time = 3600
4. post_max_size = 2000M
5. upload_max_filesize = 2000M
6. default_socket_timeout = 3600
7. session.cache_expire = 3600
8. date.timezone = Asia/Singapore
9. session.cookie_httponly = 1
10. session.use_only_cookies = 1
11. session.cookie_secure = 1
```

Note that 2000M and 3600 can be replaced with other values suitable for your server.
These values are picked to provide a longer timeout and larger file upload size.

Restart the apache2 service

```
$ systemctl restart apache2
```

Transfer of files to Linux

Install pscp in windows.

```
https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html
```

We need to install either Putty or just PSCP from the above link.
Once that is done, we can access the ‘pscp’ command from cmd.

PSCP command

```
pscp file.txt root@192.168.42.1:/var/www/html
```

- file.txt – the file that was to be transferred to linux
- root – the username of the account to use to transfer to linux
- 192.168.42.1 – the IP address of the linux machine (to be replaced with your own IP)
- /var/www/html – the file directory where you want to transfer your file to.

After entering the above command, you will be prompted to enter the password.

Issue that you may encounter on OS major version upgrade

OS upgrade is an overall upgrade of not just the OS but also the various software/services.

MySQL

If you have a second disk drive and had followed our guide to redirect MySQL to that location, you will encounter an issue during OS upgrade.
The OS upgrade will update your MySQL version and it will try to read into the default MySQL directory. It will then generate an error alert when it could not find it.
All we need to do in this case is to restore back the config so that it points to the default directory and we can setup for the second disk drive after the update is completed.

```
$ vim /etc/mysql/mysql.conf.d/mysqld.cnf
```

Edit the file above.
Ensure that the line containing datadir follows the below.

```
datadir = /var/lib/mysql
```

Apache2

During OS upgrade, it will prompt us if we want to replace the edited apache config files with the one from the new version.
As it is a version update, we would want to install the config files of the new version so that we do not miss out anything that may be added due to the new version.
We will then need to update the new config files with our required config.

Php

OS upgrade will always install the latest php with regards to the OS version you are updating to.
JET Workflow currently only works with php version 7.4
So there is a need to change the default running php version to 7.4

```
$ sudo add-apt-repository -y ppa:ondrej/php
$ sudo apt update
$ sudo apt install php7.4

$ sudo a2dismod php8.1
$ systemctl restart apache2

$ sudo a2enmod php7.4
$ sudo update-alternatives --set php /usr/bin/php7.4
$ sudo update-alternatives --set phar /usr/bin/phar7.4
$ sudo systemctl restart apache2
```

In the above, we assume that php 8.1 was installed due to OS upgrade.
If you have other php version installed, you can replace 8.1 with other version numbers.

Binlog files in MySQL taking up space

Sometimes there would be space taken up by MySQL log files.
To get rid of them, access the file below.

```
$ vim /etc/mysql/mysql.conf.d/mysqld.cnf
```

Add the below line to the end of the file.

```
binlog_expire_logs_seconds=3600
```

Restart MySQL service

```
$ Systemctl restart MySQL
```

How to open Firewall Ports

To get the whole thing to work, the http/https ports on the firewall should be open.

Depending on which firewall software your OS is installed with, the steps are different.

Firewalld

```
sudo firewall-cmd --zone=work --add-port=443/tcp --permanent
sudo firewall-cmd --zone=work --add-port=80/tcp --permanent
sudo firewall-cmd --reload
```

UFW

```
sudo ufw allow 80/tcp
sudo ufw allow 443/tcp
sudo ufw reload
```

Server Specifications

```
Recommended:

OS: Ubuntu (Linux)

CPU Core: 1

Ram: 2gb
```

Do take note that the above specifications are the minimum required that can run JET Workflow comfortably.

Depending on the scale of usage, you can adjust the CPU core and Ram accordingly.

How to update MySQL Version

When upgrading MySQL version, different version may have different changes to MySQL structure.

So there is a need to backup the database and re-import the database back into the new version.

Also to avoid conflicts and compatibility issues, it is recommended to fully remove the old version before installing the new one.

This also simplifies the management of the database

Step 1: Backup Database

$ sudo mysqldump --all-databases --single-transaction --quick --lock-tables=false -u root -p > backup.sql

Backup the current databases into a single file and keep it away from MySQL directories.

Step 2: Remove the old MySQL Version
Start off by removing all mysql packages from the system.

```
$ sudo apt-get remove --purge mysql-server mysql-client mysql-common mysql-server-core-* mysql-client-core-*
$ sudo apt clean
$ sudo apt autoclean
```

Reboot the server after this is done.

Step 3 : Download the MySQL APT Repository Configuration Package

```
$ wget https://dev.mysql.com/get/mysql-apt-config_0.8.33-1_all.deb
```

Note that as of the time when this document is written, the above file is the latest one.
It may be updated to a different file later on.

Step 4: Setup the Repository

```
$ sudo dpkg -i mysql-apt-config_0.8.33-1_all.deb

$ sudo apt update
```

There will be options for you to select.
Select the version of MySQL that you want to update to.

Step 5: Install and Setup MySQL Server

```
$ sudo apt install mysql-server -y
$ sudo mysql_secure_installation
```

There will be a few prompts which requires you to choose on top of setting a new password.

Note that you would have to use back the same password for the previous MySQL installation to avoid affecting the current Jet WorkFlow installation.

Enable password validation policy → (Choose Yes)
Remove anonymous users → (Choose Yes)
Disallow root login remotely → (Choose Yes)
Remove test database → (Choose Yes)
Reload privileges → (Choose Yes)
If you encounter any issue here, please seek your JET WorkFlow consultant.

Step 6: Restore the Database Backup

```
$ sudo mysql -u root -p < /path/to/your/backup.sql
```

Once the database is restored, you will be able to conitnue using JET Workflow.

FAQ (Windows)

This section is to address issues faced when JET is installed on windows server

When emails are not being sent.

- Open a browser page and run the page "…/JET/scheduler.php" without closing it.

How to install SSL Certificate in Windows (apache)

httpd.conf

Step 1: Uncomment the below lines

```
LoadModule ssl_module modules/mod_ssl.so
LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
Include conf/extra/httpd-vhosts.conf
```

Step 2: Replace <Directory /> with the following

```
<Directory />
    AllowOverride All
    Require all granted
</Directory>
```

Step 3: Replace last line of <Directory "${INSTALL_DIR}/www/"> with the following

```
Require all granted
```

Step 4: Replace <Directory "${SRVROOT}/cgi-bin"> with the following

```
<Directory "${SRVROOT}/cgi-bin">
    AllowOverride None
    Options None
    Require all granted
</Directory>
```

httpd-ssl.conf

Step 1: Replace SSLSessionCache with the below

```
SSLSessionCache
"shmcb:C:/<folder>/bin/apache/apache<version>/logs/ssl_scache(512000)"
```

<folder> is the root folder where you install your apache.

<version> is your apache version

Step 2: Replace <VirtualHost _default_:443> with the below

```
<VirtualHost _default_:443>
DocumentRoot "C:/<folder>/www"
ServerName demo.jetworkflow.com:443
ServerAdmin admin@example.com
ErrorLog "C:/<folder>/bin/apache/apache<version>/logs/error.log"
TransferLog "C:/<folder>/bin/apache/apache<version>/logs/access.log"
        <Directory "c:/<folder>/www/">
                Options +Indexes +Includes +FollowSymLinks +MultiViews
                AllowOverride All
                Require all granted
        </Directory>
```

<folder> is the root folder where you install your apache.
<version> is your apache version
In this example, we use our demo server URL demo.jetworkflow.com

Step 3: Update certificate lines

```
SSLCertificateFile "C:/<folder>/bin/apache/apache<version></version>/conf/key/certificate.crt"
SSLCertificateKeyFile "C:/<folder>/bin/apache/apache<version>/conf/key/certificate.key"
SSLCertificateChainFile "C:/<folder>/bin/apache/apache<version>/conf/key/ca_certificate.crt"
```

<folder> is the root folder where you install your apache.
<version> is your apache version
If your certificate is in a different folder, you can specify a different folder for this.

Step 4: Replace Customlog with the below

```
CustomLog "C:/<folder>/bin/apache/apache<version>/logs/ssl_request.log" \
          "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"
```

<folder> is the root folder where you install your apache.
<version> is your apache version

httpd-vhosts.conf

Step 1: Replace fully with the below.

```
<VirtualHost *:80>
  ServerName lc.jetworkflow.com
  DocumentRoot "c:/<folder>/www"
  <Directory "c:/<folder>/www/">
    Options +Indexes +Includes +FollowSymLinks +MultiViews
    AllowOverride All
    Require all granted
  </Directory>
</VirtualHost>
```

<folder> is the root folder where you install your apache.
<version> is your apache version
Restart the apache service after this.

Apache/php version hiding

Update ServerSignature and ServerTokens with the following.

```
ServerSignature Off
ServerTokens Prod
```

How to hide server default page or the root directory from the root of your website?

Edit the httpd-vhosts.conf file

```
<VirtualHost *:80>
Redirect permanent / https://www.yourdomain.com/
RedirectMatch ^/$ /JET/
</VirtualHost>
```

Edit the httpd-ssl.conf file

```
<VirtualHost *:443>
RedirectMatch ^/$ /JET/
</VirtualHost>
```

Please add the Redirect and RedirectMatch lines into the existing lines.
Redirect will force your website to use https
RedirectMatch will redirect your root directory accordingly.

Security Updates (Apache)?

httpd.conf

Step 1: Uncomment the below lines.

```
LoadModule ssl_module modules/mod_ssl.so
LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
Include conf/extra/httpd-vhosts.conf
```

Step 2: Replace <Directory /> with

```
<Directory />
    AllowOverride All
    Require all granted
</Directory>
```

Step 3: Replace last line of <Directory “${INSTALL_DIR}/www/”> with

```
Require all granted
```

Step 4: Replace <Directory “${SRVROOT}/cgi-bin”> with

```
<Directory "${SRVROOT}/cgi-bin">
    AllowOverride None
    Options None
    Require all granted
</Directory>
```

httpd-ssl.conf

Update the below lines.

```
SSLCipherSuite      ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-
ECDSA-AES128-SHA:ECDHE-ECDSA-AES256-SHA:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-
SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384;DHE-RSA-AES128-GCM-
SHA256:DHE-RSA-AES256-GCM-SHA384
SSLProxyCipherSuite      ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-
SHA384:ECDHE-ECDSA-AES128-SHA:ECDHE-ECDSA-AES256-SHA:ECDHE-ECDSA-AES128-SHA256:ECDHE-
ECDSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384;DHE-RSA-
AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384
SSLProtocol all -SSLv3 -TLSv1 -TLSv1.1
SSLProxyProtocol all -SSLv3 -TLSv1 -TLSv1.1
```

php.ini

Update the below lines.

```
expose_php = Off
max_execution_time = 3600
max_input_time = 3600
post_max_size = 2000M
upload_max_filesize = 2000M
default_socket_timeout = 3600
session.cache_expire = 3600
date.timezone = Asia/Singapore
session.cookie_httponly = 1
session.use_only_cookies = 1
session.cookie_secure = 1
```

FAQ(JET)

What is JET Workflow?

JET is developed to help your organization simply and effectively create web and mobile applications without the need for expensive and time-consuming code-based programming.

What devices are compatible with JET Workflow?
JET Workflow is compatible with all Apple, Android, and Windows devices.

Who is Jet Workflow for?

The people who get the most out of Jet Workflow are business executives like department heads, senior managers, and process owners who want to automate repetitive processes. Applications can also be created without any coding so that all the users in the organization can utilize them through our web application and mobile apps.

What does JET stand for?
JET stands for (J)ust-In-Time (E)nterprise (T)ool.

What kinds of business applications do people usually set up?

Jet comes with over 20 pre-built applications for the most common apps. Some of these are: Order Forms, Feedback Form, Expense Management and Work Schedule.

How is the pricing like?

To know about pricing, click on https://jetworkflow.com/pricing/ or email us at sales@jetworkflow.com