

Formatting the JSON File

We detailed the process of formatting a JSON file to create a customized questionnaire form for the RTMIS system. The RTMIS system leverages the [Akvo Form Service](#) for generating initial JSON form structures. We explored the basic structure and components of the form JSON, as documented in the [Akvo React Form's README](#).

Additionally, we introduced specific customizations required for RTMIS, including the addition of **submission_types** at the form level and **three new parameters** at the question level: `default_value`, `disabled`, and `hidden`. These custom parameters are defined as objects based on the [submission_type](#), which is specified as an enumeration.

We provided a detailed example of the JSON structure incorporating these customizations and outlined the manual steps needed to add these custom parameters after generating the initial JSON form. By following this process, users can effectively format their JSON files to meet the requirements of RTMIS customized questionnaire forms.

Overview

The RTMIS system uses a JSON file to build a questionnaire form. This JSON file can be generated using an internal library called **Akvo Form Service**. For more information and to access the editor, visit the following link: <https://form-service.akvotest.org/forms>

In general, all components and formats in the form JSON are documented in the Akvo React Form's README file. You can find the documentation here: <https://github.com/akvo/akvo-react-form/blob/main/README.md>

However, for this project, we have added customizations at the form-level definition and at the question level. These customizations include the addition of `submission_types` at the form level, and three additional parameters at the question level: ``default_value``, ``disabled``, and ``hidden``. These parameters are defined as objects and depend on the ``submission_type``. The ``submission_type`` itself is an enum value and is defined as a constant. You can view the definition here: https://github.com/akvo/rtmis/blob/main/backend/api/v1/v1_forms/constants.py#L37-L48.

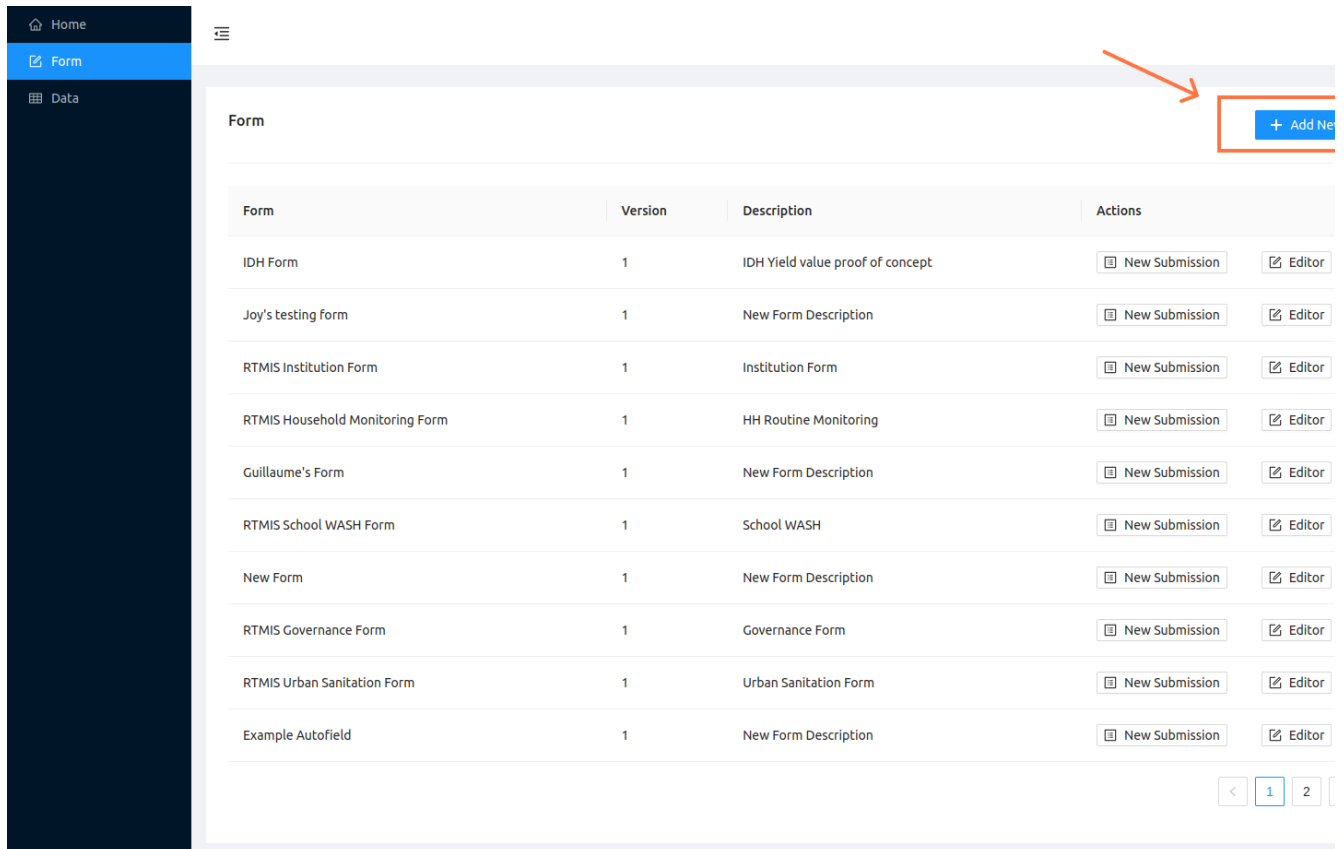
All the customizations will be added manually after the JSON form is generated with the **Akvo Form Service**.

Generate the JSON Form

Create a New Form

Go to Akvo Form Service: Open your browser and navigate to <https://form-service.akvotest.org/>

Access the Forms Menu: Click on the "Forms" menu and Click the "New" button to create a new form.



The screenshot shows the Akvo Form Service interface. On the left is a dark sidebar with navigation options: Home, Form (selected), and Data. The main content area is titled 'Form' and contains a table of existing forms. Each row in the table includes columns for 'Form', 'Version', 'Description', and 'Actions'. The 'Actions' column for each row contains two buttons: 'New Submission' and 'Editor'. A red box highlights a '+ Add New' button in the top right corner of the main content area, with a red arrow pointing to it. At the bottom right of the table, there are pagination controls showing '< 1 2 >'. The table data is as follows:

Form	Version	Description	Actions
IDH Form	1	IDH Yield value proof of concept	New Submission Editor
Joy's testing form	1	New Form Description	New Submission Editor
RTMIS Institution Form	1	Institution Form	New Submission Editor
RTMIS Household Monitoring Form	1	HH Routine Monitoring	New Submission Editor
Guillaume's Form	1	New Form Description	New Submission Editor
RTMIS School WASH Form	1	School WASH	New Submission Editor
New Form	1	New Form Description	New Submission Editor
RTMIS Governance Form	1	Governance Form	New Submission Editor
RTMIS Urban Sanitation Form	1	Urban Sanitation Form	New Submission Editor
Example Autofield	1	New Form Description	New Submission Editor

Update Title and Description: Modify the default title and description as needed.

Home
Form
Data

Form / Add New

Edit Form Translations Preview 1 Questions 0 Mandatory Questions 1 Question Groups Version 1

Form Name
School Wash Form

Form Description
School Wash

+ Insert group here

+ 1. Sed vitae vitae

+ Insert group here

Edit Default Group Question: Click the gear icon on the right side to update the default group question. Once done, click the gear icon again to exit edit mode.

Form / Add New

Edit Form Translations Preview 1 Questions 0 Mandatory Questions 1 Question Groups Version 1

Form Name
School Wash Form

Form Description
School Wash

+ Insert group here

+ 1. School: Location

+ Insert group here

* Question Group Name
School: Location

Question Group Description

Repeat this group

+ Insert group here

Edit questions: Click the pencil icon on the group question to edit or add questions.

The screenshot displays a form editor interface. On the left is a dark sidebar with navigation options: Home, Form, and Data. The main content area is titled 'Form / Add New'. At the top right of this area, there are statistics: 1 Questions, 0 Mandatory Questions, 1 Question Groups, and Version 1. Below these are buttons for 'Edit Form', 'Translations', and 'Preview'. The form fields are: 'Form Name' with the value 'School Wash Form', and 'Form Description' with the value 'School Wash'. Below the description is a section for questions, starting with a '+ Insert group here' button, followed by a question '1. School: Location'. A red box highlights a pencil icon next to the question title, and an orange arrow points from the sidebar towards this icon. To the right of the question are icons for visibility, deletion, and settings. Another '+ Insert group here' button is at the bottom of the question list.

Edit questions: For the default question, click the pencil icon and update the question type (e.g., option), fill in all necessary options, and click the pencil icon again to collapse the question.

[Edit Form](#)
🌐 Translations
👁️ Preview
1 Questions 0 Mandatory Questions 1 Question Groups Version 1 ⚙️ 📄

+ ✎ 1. School: Location 🗑️ 🔄

+ ✎ 1.1. New school registration or monitoring update? 🗑️ 🔄

[Setting](#) [Skip Logic](#)

* Question Name
 New school registration or monitoring update?

Question ID: 1718589962085

* Question Type
 Input

- input
- number
- cascade
- geo
- text
- date
- option
- multiple option

Required Data point name ⓘ

More Input Question Setting

[Edit Form](#)
🌐 Translations
👁️ Preview
1 Questions 0 Mandatory Questions 1 Question Groups Version 1 ⚙️ 📄

New school registration or monitoring update?

Question ID: 1718589962085

* Question Type
 option

Variable Name

Question Tooltip

Required Data point name ⓘ

More Option Question Setting

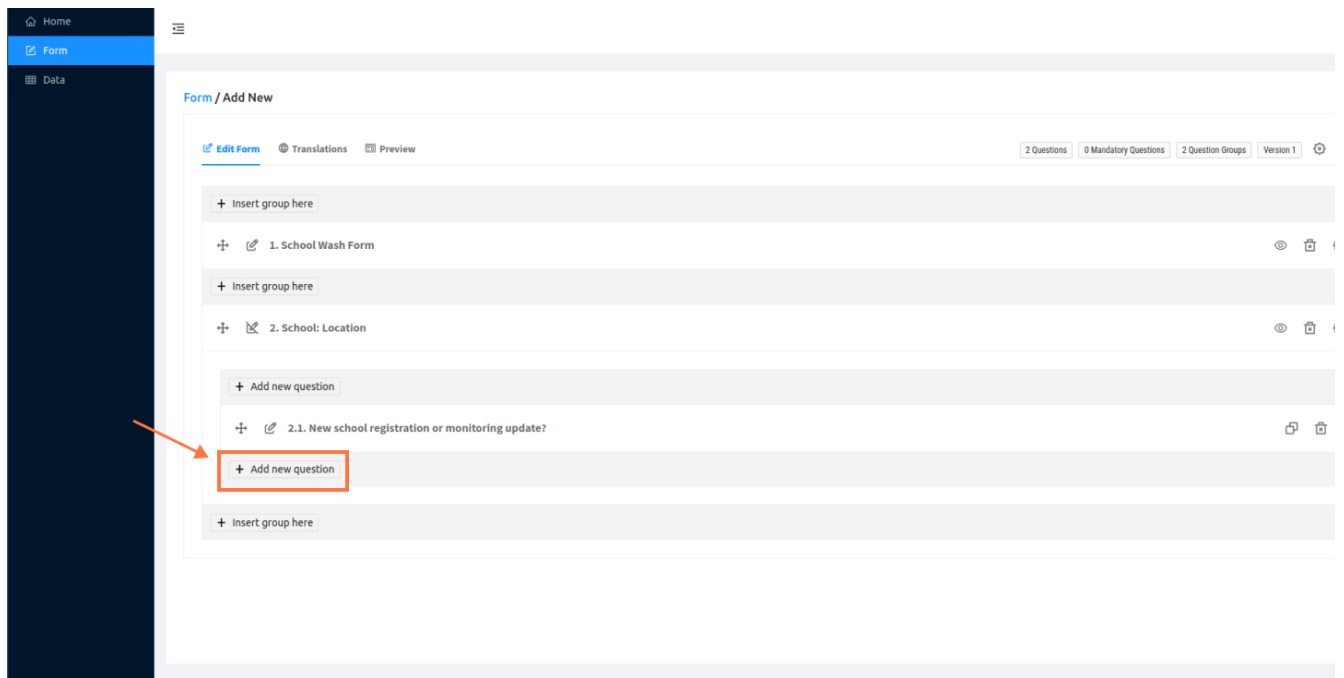
Allow Other

new	New	#	+	-	+	-
update	Update	#	+	-	+	-

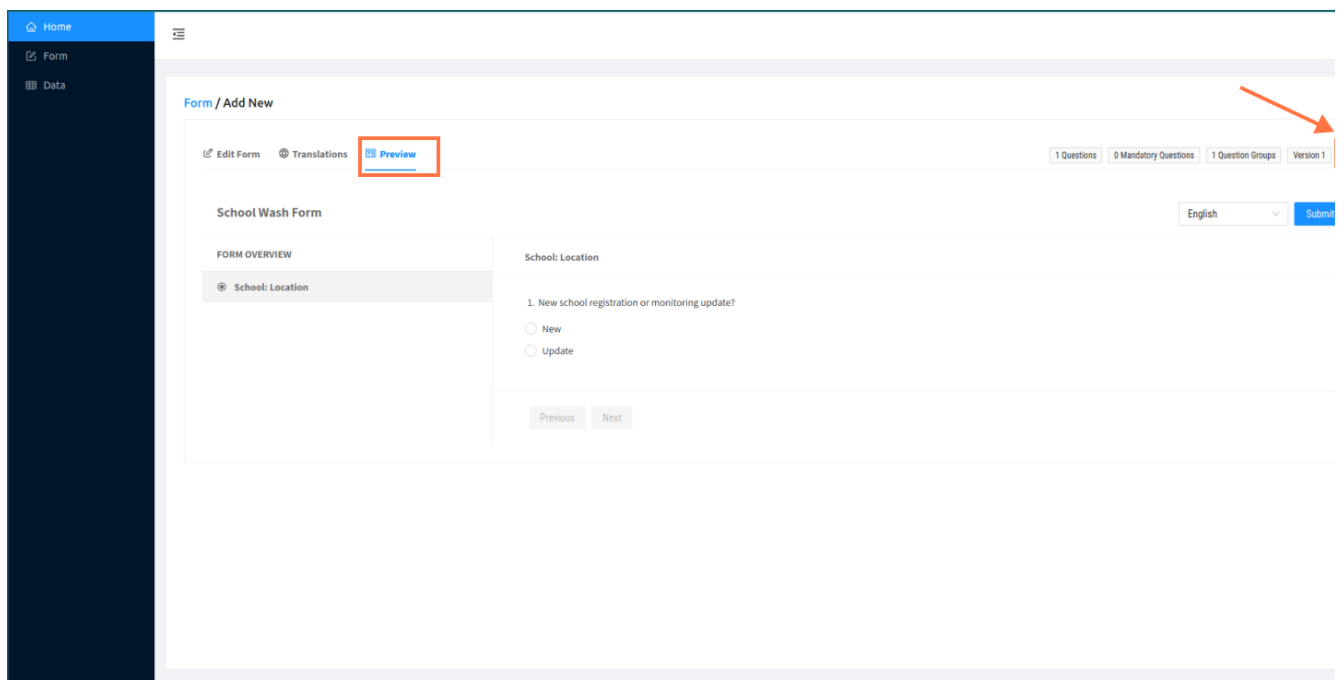
Stats Setting
 Add Stats Endpoint Here

+ ✎ Add new question

Add Questions: To add a new question, click "Add New Question" at the bottom to insert a new question **after the current one**, or click "Add New Question" at the top to insert before.



Preview and Save: Go to the "Preview" tab to review and evaluate the form settings. If everything is correct, click the "Save" button to store the current version of the form.



Download Akvo Form Service to RTMIS

- **Edit and Retrieve Form ID and Name**

- On the form list, click the "Edit" button for the form you created (e.g., School Wash Form).

Form	Version	Description	Actions
IDH Form	1	IDH Yield value proof of concept	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
Joy's testing form	1	New Form Description	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
RTMIS Institution Form	1	Institution Form	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
RTMIS Household Monitoring Form	1	HH Routine Monitoring	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
Guillaume's Form	1	New Form Description	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
RTMIS School WASH Form	1	School WASH	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
New Form	1	New Form Description	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
RTMIS Governance Form	1	Governance Form	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
RTMIS Urban Sanitation Form	1	Urban Sanitation Form	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>
Example Autofield	1	New Form Description	<input type="button" value="New Submission"/> <input type="button" value="Preview"/>

- Go to the "**Preview**" tab.
- Copy the ID from the last segment of the URL and the form name.

form-service.akvotest.org/forms/edit/1701757876668

Form / Edit / 1701757876668

RTMIS School WASH Form

FORM OVERVIEW

- School WASH: Data
- School: Location
- School Water Supply
- School Sanitation
- School Hygiene
- Menstrual Health

School WASH: Data

1. New school registration or monitoring update? New Update

2. Geolocation of school

Use My Location

Latitude Longitude

- Paste the ID and name into the designated file.

[backend/api/v1/v1_forms/management/commands/download_forms_from_afs.py#L8](#)
[C1-L13C2](#)

```

...
forms = [
    {
        "id": 1701757876668,
        "name": "RTMIS School WASH Form",
    },

```

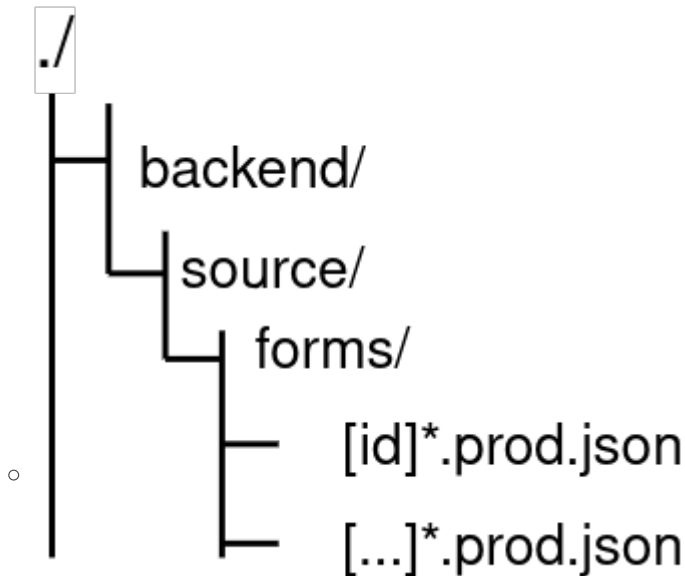
```
]
...
```

- **Download the Form**

- Run the command to download the form from Akvo Form Service into the RTMIS platform.

```
./dc-mobile.sh exec backend python manage.py download_forms_from_afs
```

- Once the download is complete, navigate to the directory `backend/source/forms/``.
- Locate the form by its ID with the suffix ``.prod`` and ``.json`` file extension (e.g., `1701757876668.prod.json``).



Customization Details

Form Level Customization

At the form level, we introduce a new parameter: `submission_types``. This parameter specifies the different types of submissions allowed for the form. The `submission_types`` parameter is defined as an enumeration, providing a set of predefined submission types that the form can handle.

id	Submission Type	Description
1	registration	Utilized through the Registration form
2	monitoring	Utilized through the Monitoring form
3	verification	Utilized through the Grade Claim form
4	certification	Utilized through the Grade Certification form

Question Level Customization

At the question level, we introduce three new parameters:

1. **default_value**: Specifies the default value for the question. This value will be pre-filled when the form is loaded.
2. **disabled**: A boolean parameter that indicates whether the question should be disabled (i.e., not editable) when the form is displayed.
3. **hidden**: A boolean parameter that indicates whether the question should be hidden from view when the form is displayed.

These parameters are defined as objects and their values depend on the `submission_type`.

Example JSON Structure

Here is an example structure of the JSON file with the added customizations:

```
{
  "id": 123456,
  "form": "School WASH Form",
  "description": "School WASH",
  "defaultLanguage": "en",
  "languages": ["en"],
  "version": 1,
  "type": 1,
  "translations": null,
  "submission_types": [
    "registration",
    "monitoring",
    "verification",
    "certification"
  ],
  "question_groups": [
    {
      "id": 1699354006534,
      "order": 1,
      "name": "school_location_group_question",
      "label": "School: Location",
      "repeatable": false,

```

```
"translations": null,
"questions": [
  {
    "id": 1699354006535,
    "order": 1,
    "name": "new_school_registration_monitoring_update",
    "label": "New school registration or monitoring update?",
    "short_label": null,
    "type": "option",
    "tooltip": {
      "text": "Entry of school data in RTMIS (first time) or update of monitoring data
(existing school)"
    },
    "required": true,
    "meta": false,
    "options": [
      {
        "order": 1,
        "label": "New",
        "value": "new"
      },
      {
        "order": 2,
        "label": "Update",
        "value": "update"
      },
      {
        "order": 3,
        "label": "Verification",
        "value": "verification"
      },
      {
        "order": 4,
        "label": "Certification",
        "value": "certification"
      }
    ],
    "default_value": {
      "submission_type": {
        "monitoring": "update",

```

```
        "registration": "new",
        "verification": "verification",
        "certification": "certification"
    }
}
},
{
    "id": 1699951210638,
    "order": 2,
    "name": "school_location",
    "label": "What is the location of the school?",
    "short_label": null,
    "type": "administration",
    "tooltip": {
        "text": "This question contains a list of possible school locations, starting with
the government area or district, down to the community."
    },
    "required": true,
    "meta": true,
    "disabled": {
        "submission_type": ["monitoring", "verification", "certification"]
    }
},
{
    "id": 1716283778,
    "order": 33,
    "name": "schools_achieved_required_outcomes",
    "label": "Have 100% of school achieved the required outcomes for this grade?",
    "short_label": null,
    "type": "option",
    "required": true,
    "meta": false,
    "options": [
        {
            "order": 1,
            "label": "Yes",
            "value": "yes",
            "color": "green"
        },
    ],
}
```

```
        "order": 2,  
        "label": "No",  
        "value": "no",  
        "color": "red"  
    }  
],  
"hidden": {  
    "submission_type": ["registration", "monitoring", "certification"]  
}  
}  
]  
}  
]
```

By following these steps, you can successfully format the JSON file to work with RTMIS as a customized questionnaire form.

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