SERVER SIDE MODULE

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Introduction

Your company “Formify Inc.” points you as a Web Developer to build a website which is possible for users to create form dynamically according to the question types such as short answer, paragraph, date input, multiple choice, dropdown and checkboxes. Users who created the form can share the form link to the user to submit a response of the form and also see all of the responses.

Description of Projects

There are 2 phases in this module. In the first phase, you will make the RESTFul API using Laravel Frameworks according to the provided documentation. In the second phase, you should build a frontend with the Interactive Maps using one of the provided Javascript Frameworks (React/Vue/Angular) and the data must come from the created RESTFul API.

You can find the provided media files to support your work:

- Postman collection and environment
- Api tests (to testing your endpoints automatically)
- Template GUI (to build frontend UI)
- Formify.sql (a database with structures and dummy data)

Phase 1 : RESTful API

In this phase, you should build a RESTful API using the Laravel framework according to the documentation below.

Ensure users can login using credentials below:

Name	**Email**	**Password**
User 1	user1@webtech.id	password1
User 2	user2@webtech.id	password2
User 3	user3@worldskills.org	password3

1. Authentication

You should create Login and Logout endpoints. The **accessToken must be generated by sanctum** and will be placed in the request headers **Authorization Bearer**.

Login

```
Endpoint     : [DOMAIN]/api/v1/auth/login

Description  : For user to log in the system

Method       : POST

Request      : Body (JSON):
               {
                   "email": "user1@webtech.id",
                   "password": "password1"
               }

Validation   : email:
                  -  required
                  -  valid email address
               password:
                  -  required
                  -  min 5 chars

Response     : If success:
               Headers:
                  -  Response status: 200

               Body (JSON):
               {
                   "message": "Login success",
                   "user": {
                       "name": "User 1",
                       "email": "user1@webtech.id",
                       "accessToken":
               "1|QnHFgF0C7ml2LkbDG5QDn34qvJoYGdpxoXy63Poi"
                   }
               }

               If invalid field:
               Headers:
                  -  Response status: 422

               Body (JSON):
               {
                   "message": "Invalid field",
```

```
    "errors": {
        "email": [
            "The email must be a valid email address."
        ],
        "password": [
            "The password field is required."
        ]
    }
}
```

If failed:

Headers:
- Response status: 401

Body (JSON):

```
{
    "message": "Email or password incorrect"
}
```

Logout

Endpoint : [DOMAIN]/api/v1/auth/logout

Description : For user to log out the system

Method : POST

Request : Headers:
- Authorization: “Bearer <accessToken>”

Response : **If success:**

Headers:
- Response status: 200

Body (JSON):

```
{
    "message": "Logout success"
}
```

If invalid token:

Headers:
- Response status: 401

Body (JSON):

```
{
```

```
    "message": "Unauthenticated."
}
```

2. Form

Users can manage (create, see all created forms, and see detail form) with questions to share to invited users based on email domain to submit.

Create a Form

```
Endpoint     : [DOMAIN]/api/v1/forms

Description  : For user to create new form

Method       : POST

Request      : Headers:
                  -  Authorization: “Bearer <accessToken>”

               Body (JSON):
               {
                 "name": "Stacks of Web Tech Members",
                 "slug": "member-stacks",
                 "allowed_domains": [ "webtech.id" ],
                 "description": "To collect all of favorite stacks",
                 "limit_one_response": true
               }

Validation   : name:
                  -  required
               slug:
                  -  required
                  -  unique
                  -  alphanumeric with special characters only dash “-”
                     and dot “.” and without space
               allowed_domains:
                  -  array

Response     : If success:
               Headers:
                  -  Response status: 200

               Body (JSON):
               {
                   "message": "Create form success",
                   "form": {
                       "name": "Stacks of Web Tech Members",
                       "slug": "member-stacks",
                       "description": "To collect all of favorite..",
                       "limit_one_response": true,
                       "creator_id": 1,
                       "id": 3
                   }
```

```
}
```

If invalid field:

```
Headers:
   -  Response status: 422

Body (JSON):
{
    "message": "Invalid field",
    "errors": {
        "name": [
            "The name field is required."
        ],
        "slug": [
            "The slug has already been taken."
        ],
        "allowed_domains": [
            "The allowed domains must be an array."
        ]
    }
}
```

If invalid token:

```
Headers:
   -  Response status: 401

Body (JSON)
{
    "message": "Unauthenticated."
}
```

Get all Forms

```
Endpoint     :  [DOMAIN]/api/v1/forms

Description  :  For users to get all of their created forms

Method       :  GET

Request      :  Headers:
                   -  Authorization: “Bearer <accessToken>”

Response     :  If success:
                Headers:
                   -  Response status: 200
```

Body (JSON):


```
{
    "message": "Get all forms success",
    "forms": [
        {
            "id": 1,
            "name": "Biodata - Web Tech Members",
            "slug": "biodata",
            "description": "To save web tech membe..",
            "limit_one_response": 1,
            "creator_id": 1
        },
        {
            "id": 2,
            "name": "HTML and CSS Skills - Quiz",
            "slug": "htmlcss-quiz",
            "description": "Fundamental web tests",
            "limit_one_response": 1,
            "creator_id": 1
        },
        {
            "id": 3,
            "name": "Stacks of Web Tech Members",
            "slug": "member-stacks",
            "description": "To collect all of favorit..",
            "limit_one_response": 1,
            "creator_id": 1
        }
    ]
}
```


If invalid token:

Headers:

- Response status: 401

Body (JSON):


```
{
    "message": "Unauthenticated."
}
```

Detail Form

Endpoint : [DOMAIN]/api/v1/forms/<form_slug>

Description : For invited users to get detail form

Method : GET

Request : -

Response : **If success:**

Headers:
- Response status: 200

Body (JSON):


```
{
    "message": "Get form success",
    "form": {
        "id": 1,
        "name": "Biodata - Web Tech Members",
        "slug": "biodata",
        "description": "To save web tech members data",
        "limit_one_response": 1,
        "creator_id": 1,
        "allowed_domains": [
            "webtech.id"
        ],
        "questions": [
            {
                "id": 1,
                "form_id": 1,
                "name": "Name",
                "choice_type": "short answer",
                "choices": null,
                "is_required": 1
            },
            {
                "id": 2,
                "form_id": 1,
                "name": "Address",
                "choice_type": "paragraph",
                "choices": null,
                "is_required": 0
            },
            {
                "id": 3,
                "form_id": 1,
```

```
                "name": "Born Date",
                "choice_type": "date",
                "choices": null,
                "is_required": 1
            },
            {
                "id": 4,
                "form_id": 1,
                "name": "Sex",
                "choice_type": "multiple choice",
                "choices": "Male,Female",
                "is_required": 1
            }
        ]
    }
}
```


If form slug invalid:

Headers:

- Response status: 404

Body (JSON):


```
{
    "message": "Form not found"
}
```


If user email domain not allowed to submit form:

Headers:

- Response status: 403

Body (JSON):


```
{
    "message": "Forbidden access"
}
```


If invalid token:

Headers:

- Response status: 401

Body (JSON):


```
{
    "message": "Unauthenticated."
}
```

3. Question

Users can manage questions (add and remove) from one of their created forms. Choices field must be required if the user selects multiple choice, dropdown, or checkboxes. There are 6 choice types:

1. Short answer (TextField)
2. Paragraph (TextArea)
3. Date (Input Date)
4. Multiple Choice (Radio) : with choices
5. Dropdown (Select) : with choices
6. Checkboxes (Checkboxes) : with choices

Add a Question

```
Endpoint     : [DOMAIN]/api/v1/forms/<form_slug>/questions

Description  : For user to add a question of a form

Method       : POST

Request      : Headers:
                  -  Authorization: “Bearer <accessToken>”

               Body (JSON):
               {
                 "name": "Most Favorite JS Framework",
                 "choice_type": "multiple choice",
                 "choices": [
                   "React JS",
                   "Vue JS",
                   "Angular JS",
                   "Svelte"
                 ],
                 "is_required": true
               }

Validation   : name:
                  -  required
               choice_type:
                  -  required
                  -  only: “short answer”, “paragraph”, “date”,
                     “multiple choice”, “dropdown”, or “checkboxes”
               choices
                  -  required if selected choice type is “multiple
                     choice”, “dropdown”, or “checkboxes”

Response     : If success:
               Headers:
                  -  Response status: 200

               Body (JSON):
```

```
{
    "message": "Add question success",
    "question": {
        "name": "Most Favorite JS Framework",
        "choice_type": "multiple choice",
        "is_required": true,
        "choices": "React JS,Vue JS,Angular JS,Svelte",
        "form_id": 3,
        "id": 10
    }
}
```


If invalid field:

Headers:

- Response status: 422

Body (JSON):


```
{
    "message": "Invalid field",
    "errors": {
        "name": [
            "The name field is required."
        ],
        "choice_type": [
            "The choice type field is required."
        ],
        "choices": [
            "The choices must be an array.",
            "The choices must be a string."
        ]
    }
}
```


If invalid form slug:

Headers:

- Response status: 404

Body (JSON):


```
{
    "message": "Form not found"
}
```


If try access another user form:

Headers:

- Response status: 403

Body (JSON):

```
{
    "message": "Forbidden access"
}
```

If invalid token:

```
Headers:
   -  Response status: 401

Body (JSON):
{
    "message": "Unauthenticated."
}
```

Remove a Question

```
Endpoint     :  [DOMAIN]/api/v1/forms/<form_slug>/questions/<question_id>

Description  :  For user to remove a question of a form

Method       :  DELETE

Request      :  Headers:
                   -  Authorization: “Bearer <accessToken>”

Response     :  If success:
                Headers:
                   -  Response status: 200

                Body (JSON):
                {
                    "message": "Remove question success"
                }

                If invalid form slug:
                Headers:
                   -  Response status: 404

                Body (JSON):
                {
                    "message": "Form not found"
                }

                If invalid question id:
                Headers:
                   -  Response status: 404
```

```
Body (JSON):
{
    "message": "Question not found"
}

If try access another user form:
Headers:
   -  Response status: 403

Body (JSON):
{
    "message": "Forbidden access"
}

If invalid token:
Headers:
   -  Response status: 401

Body (JSON):
{
    "message": "Unauthenticated."
}
```

4. Response

If the creator form sets the form with limit 1 response, then the invited user can't submit a response twice. Submit Response only can be accessed by users with an allowed domain of the user email. If the creator form does not fill allowed domains, it means that the form can be accessed by anyone/public.

For example:
An user with email "user3@worldskills.org" can't submit a response to the form with allowed domains webtech.id and inaskills.id, because worldskills.org can't be allowed to access the form.

Submit Response

```
Endpoint     :  [DOMAIN]/api/v1/forms/<form_slug>/responses

Description  :  For invited user to send response of a form

Method       :  POST

Request      :  Headers:
```

- Authorization: “Bearer <accessToken>”

Body (JSON):

```
{
    "answers": [
        {
            "question_id": 1,
            "value": "Ica Amalia"
        },
        {
            "question_id": 2,
            "value": "Bandung"
        },
        {
            "question_id": 3,
            "value": "2006-08-01"
        },
        {
            "question_id": 4,
            "value": "Female"
        }
    ]
}
```

Validation : answers
- array

[question value]
- required if sets true

Response : **If success:**

Headers:
- Response status: 200

Body (JSON):

```
{
    "message": "Submit response success"
}
```

If invalid field:

Headers:
- Response status: 422

Body (JSON):

```
{
    "message": "Invalid field",
    "errors": {
        "answers": [
            "The answers field is required."
        ]
```

```
    }
}
```

If user email domain not allowed to submit form:

```
Headers:
   -  Response status: 403

Body (JSON):
{
    "message": "Forbidden access"
}
```

If limited for 1 response then user submit twice:

```
Headers:
   -  Response status: 422

Body (JSON):
{
    "message": "You can not submit form twice"
}
```

If invalid token

```
Headers:
   -  Response status: 401

Body (JSON):
{
    "message": "Unauthenticated."
}
```

Get all Responses

```
Endpoint     :  [DOMAIN]/api/v1/forms/<form_slug>/responses

Description  :  For the creator see all responses

Method       :  GET

Request      :  Headers:
                   -  Authorization: “Bearer <accessToken>”

Response     :  If success:
                Headers:
                   -  Response status: 200

                Body (JSON):
```

```
{
    "message": "Get responses success",
    "responses": [
        {
            "date": "2022-10-24 01:47:14",
            "user": {
                "id": 1,
                "name": "User 1",
                "email": "user1@webtech.id",
                "email_verified_at": null
            },
            "answers": {
                "Name": "Budi Setiawan",
                "Address": "Jakarta, Indonesia",
                "Born Date": "2004-05-05",
                "Sex": "Male"
            }
        },
        {
            "date": "2022-10-24 02:03:27",
            "user": {
                "id": 2,
                "name": "User 2",
                "email": "user2@webtech.id",
                "email_verified_at": null
            },
            "answers": {
                "Name": "Ica Amalia",
                "Address": "Bandung",
                "Born Date": "2006-08-01",
                "Sex": "Female"
            }
        }
    ]
}
```


If form slug invalid:

Headers:

- Response status: 404

Body (JSON):


```
{
    "message": "Form not found"
}
```

If try access another user form:

Headers:

- Response status: 403

Body (JSON)

```
{
    "message": "Forbidden access"
}
```

If invalid token

Headers

- Response status: 401

Body (JSON)

```
{
    "message": "Unauthenticated."
}
```

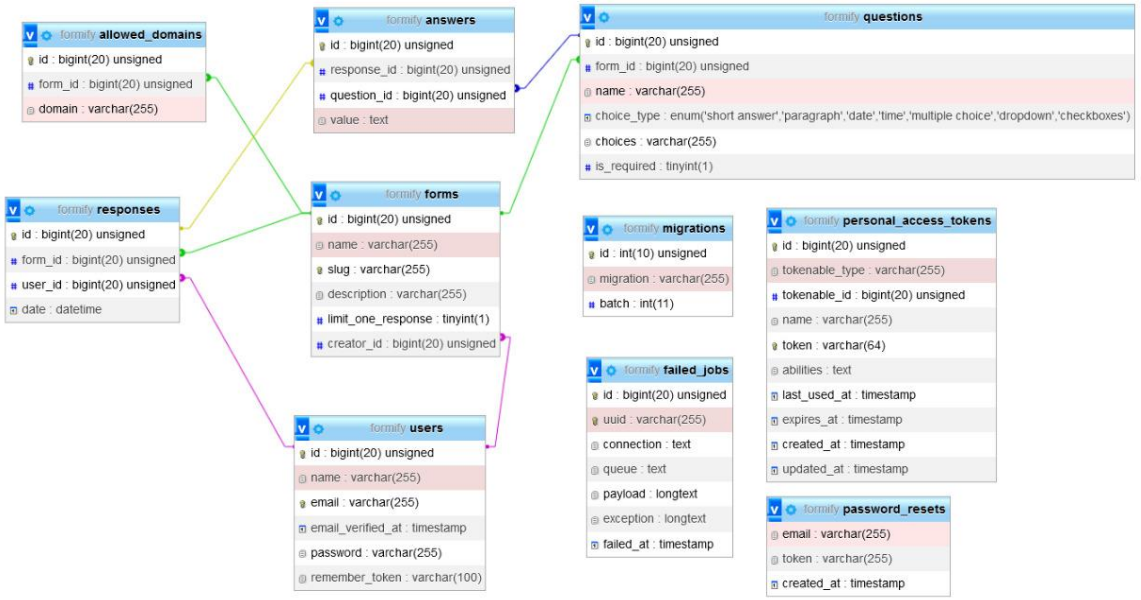
Phase 2 : Front-end Development

In this part, you should build a front-end application using one of the provided frameworks (vue js or react js). You can use the provided template gui on the media files to build the front-end ui.

Pages / Features	Description
Login and Logout	- User can login using the correct credentials (username and password) - Alert errors should be displayed when login failed - Users can log out by clicking the logout button on the navbar.
Home	- Users can see their list of created forms.
Create Form	- Form inputs displayed correctly (name, slug, description, allowed domains and limit to 1 response switch). Name and slug fields are required. - Users can create a form by filling in all of the required fields. - Alert errors should be displayed when failed.
Detail Form	**General:** - Form detail displayed correctly - Form link displayed correctly - User can copy form link **Questions:** - Questions displayed correctly - Question inputs should be disabled when has created - Users can add questions by filling in a question form and clicking the save button. - Choices input should be displayed when the user selects multiple choice, dropdown, or checkboxes. - Alert errors should be displayed when created failed. - Users can remove questions by clicking the remove button. **Responses:** - Table displayed correctly according to questions and responses. - Total responses count is displayed correctly.
Submit Form	- Form detail displayed correctly (name, description, and user email). - Questions with the form displayed correctly.

	- Users can submit by filling in all of the required forms and clicking the submit button. - Submit button should be disabled if there is a required form that hasn't been filled. - Users can't submit twice if the form is limited for 1 response. - Forbidden access page should be displayed when the user isn't invited to access that form.

ERD



Instructions

- Save your REST Api in the directory called **"SERVER_MODULE/backend"** and save it in the repository folder.
- Save your front-end app in the directory called **"SERVER_MODULE/frontend"** and save it in the repository folder.
- When developing the Frontend, you can **use/consume the provided REST API**.
- You should **build the frontend app to production mode** and **save the production files in the "SERVER_MODULE/frontend/build" folder** before you push it to the github repository.
- Make sure the **"/build"** folder **isn't written on the .gitgnore file**.
- You should commit and push your changes to the github repository at least every 30 minutes.

Marking Overview

Phase	Parts	Measurement	Judgment	Total
REST API	Database	1.00	0	1.00
	Authentication	1.50	0	1.50
	Form	3.50	0	3.50
	Question	2.50	0	2.50
	Response	5.00	0	5.00
	Framework	0	1.50	1.50
Front-end	Authentication	1.00	0	1.00
	Manage Forms	0.50	0	0.50
	Create Form	1.25	0	1.25
	Detail Form	6.00	0	6.00
	Submit Response	3.75	0	3.75
	General	0.50	0	0.50
	JS Quality	0	2.00	2.00
Total		**26.50**	**3.50**	**30.00**