

ASTUDIO Assessment - Laravel Project

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This repository demonstrates a Laravel-based application for managing Projects, Timesheets, and dynamic attributes (EAV). It includes user authentication (via Laravel Passport), RESTful APIs, and advanced filtering (both on core fields and EAV attributes).

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Requirements

- PHP ^8.1
 - Composer
 - MySQL
 - Laravel ^10.*
 - [Laravel Passport](#)
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Setup Instructions

1. Clone the Repository (or unzip the attached code file)

```
git clone https://github.com/mhdhusamtakaji/astudio-  
assessment.git  
cd astudio-assessment
```

2. Install Dependencies

```
composer install
```

3. Create and Configure .env

- Copy `.env.example` → `.env`
- Update your database credentials (DB_DATABASE, DB_USERNAME, DB_PASSWORD, etc.)
- Make sure APP_URL is set to something like <http://127.0.0.1:8000>

4. Generate App Key

```
php artisan key:generate
```

5. Run Migrations

```
php artisan migrate
```

6. Install Passport

```
php artisan passport:install
```

This command creates the encryption keys and OAuth client entries needed by Passport.

7. Seed the Database

```
php artisan db:seed
```

This populates a test user, example projects, attributes, and timesheets (optional) into your database.

8. Serve the Application

```
php artisan serve
```

By default, the application will be available at `http://127.0.0.1:8000`.

Database Migrations & Seeders

- **Migrations** create the schema for:
 - users, projects, timesheets, project_user, attributes, attribute_values.
 - **Seeders** (via `db:seed`) create:
 - A test user with known credentials (see below).
 - Sample projects (Project A, Project B).
 - Common attributes (department, start_date, end_date).
 - An optional timesheet linking the test user to Project A.
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Authentication

- **Laravel Passport** is used for token-based authentication.
- **Register:** POST `/api/register`
- **Login:** POST `/api/login`
- **Logout:** POST `/api/logout` (requires token in Authorization: Bearer <token> header)

Once logged in, you'll receive an `accessToken`. Include this token as a **Bearer token** in the `Authorization` header for all subsequent **protected** endpoints.

API Documentation

Here's a brief overview of the major endpoints.

All **protected** routes require `Authorization: Bearer <token>`.

1. Auth Endpoints

<i>Method</i>	<i>URI</i>	<i>Description</i>
<i>POST</i>	/api/register	Create a new user (public)
<i>POST</i>	/api/login	User login, returns token (public)
<i>POST</i>	/api/logout	Revoke current token (requires auth)

2. Projects Endpoints

<i>Method</i>	<i>URI</i>	<i>Description</i>
<i>GET</i>	/api/projects	List projects, optional filters
<i>GET</i>	/api/projects/{id}	Show details of a single project + EAV data
<i>POST</i>	/api/projects	Create a new project, can set EAV attributes
<i>PUT</i>	/api/projects/{id}	Update project fields and EAV attributes
<i>DELETE</i>	/api/projects/{id}	Delete a project and its EAV data

3. Timesheets Endpoints

<i>Method</i>	<i>URI</i>	<i>Description</i>
<i>GET</i>	/api/timesheets	List timesheets belonging to the authenticated user
<i>GET</i>	/api/timesheets/{id}	Show a single timesheet (must own it)
<i>POST</i>	/api/timesheets	Create a new timesheet for the authenticated user + project
<i>PUT</i>	/api/timesheets/{id}	Update a timesheet (must own it)
<i>DELETE</i>	/api/timesheets/{id}	Delete a timesheet (must own it)

4. Attributes Endpoints

<i>Method</i>	<i>URI</i>	<i>Description</i>
<i>GET</i>	/api/attributes	List all Attributes
<i>GET</i>	/api/attributes/{id}	Show a single Attribute
<i>POST</i>	/api/attributes	Create a new Attribute
<i>PUT</i>	/api/attributes/{id}	Update an existing Attribute
<i>DELETE</i>	/api/attributes/{id}	Delete an Attribute and any related rows

Filtering

You can filter projects based on:

1. **Native columns:** name, status, created_at, etc.
2. **EAV attributes:** e.g., department, start_date.

Example:

```
GET /api/projects?filters[name][like]=Project&filters[department][=]=IT
```

- Filters where `projects.name LIKE "%Project%"` and the EAV attribute with `name department equals IT`.

Supported operators: =, >, <, LIKE.

Example Requests/Responses

1. Register (public):

```
POST /api/register
{
  "first_name": "John",
  "last_name": "Doe",
  "email": "john@example.com",
  "password": "secret",
  "password_confirmation": "secret"
}
```

2. Login (public):

```
POST /api/login
{
  "email": "john@example.com",
  "password": "secret"
}
```

Response:

```
{
  "message": "Login successful.",
  "user": {
    "id": 2,
    "first_name": "John",
    "last_name": "Doe",
    "email": "john@example.com",
    ...
  },
  "token": "some-long-access-token"
}
```

3. Create Project (requires auth):

```
POST /api/projects
Headers: Authorization: Bearer <token>

{
  "name": "Project C",
  "status": "In Progress",
  "attributes": [
    { "attribute_id": 1, "value": "IT" },
    { "attribute_id": 2, "value": "2025-01-01" }
  ]
}
```

4. Filter Projects:

```
GET /api/projects?filters[status][=]=Open&filters[department][like]=IT
```

5. Create Timesheet (requires auth):

```
POST /api/timesheets
{
  "task_name": "Fix Bugs",
  "date": "2025-05-10",
  "hours": 4,
  "project_id": 1
}
```

Must be owned by the logged-in user.

Test Credentials

After running migrations and seeders, you have a test user:

- **Email:** test@demo.com
- **Password:** password

Use these credentials to log in (POST /api/login) and access protected endpoints quickly.

Postman Collections

We've included two **JSON** files in the repository for easy testing:

1. **Postman Collection:** astudio-assessment.postman_collection.json
 - Contains all requests for Auth, Projects, Timesheets, Attributes, with placeholders for the token.
2. **Postman Environment:** astudio-assessment.postman_environment.json
 - Defines environment variables like {{base_url}} and {{token}}.

How to use:

1. Import both .json files in Postman.
2. Select the environment (astudio-assessment.postman_environment).
3. Update the base_url variable if needed (e.g., http://127.0.0.1:8000/api).
4. Go to "Auth → Login User" request, fill in the credentials (or use the existing ones).

5. Click **Send**, and store the returned token in the environment variable: `{{token}}`.
6. You can now test all protected endpoints with `Bearer {{token}}`.

License

This project is provided as part of the ASTUDIO assessment.

Thank you for reviewing this project! If you have any questions or feedback, feel free to open an issue on the GitHub repository or contact the contributor.

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