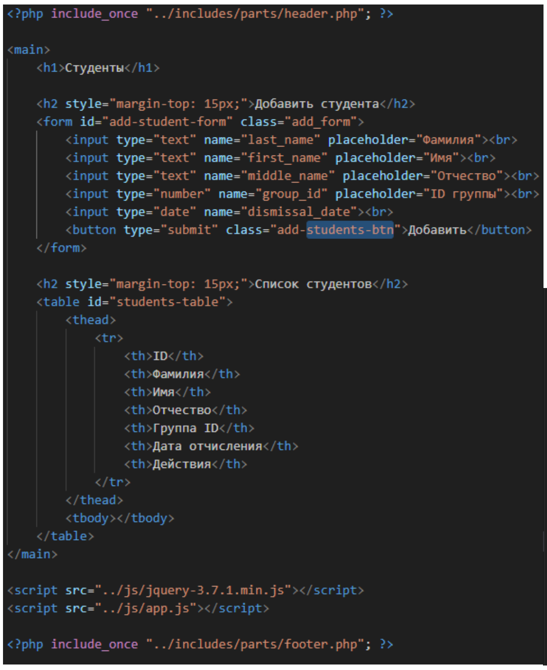
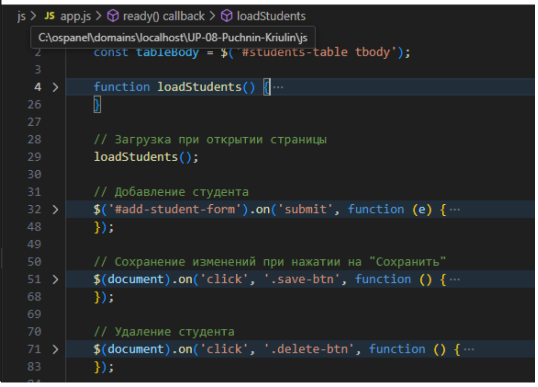
Реализация взаимодействия алгоритмов программы

Разделить проект на backend и frontend для каждой страницы:

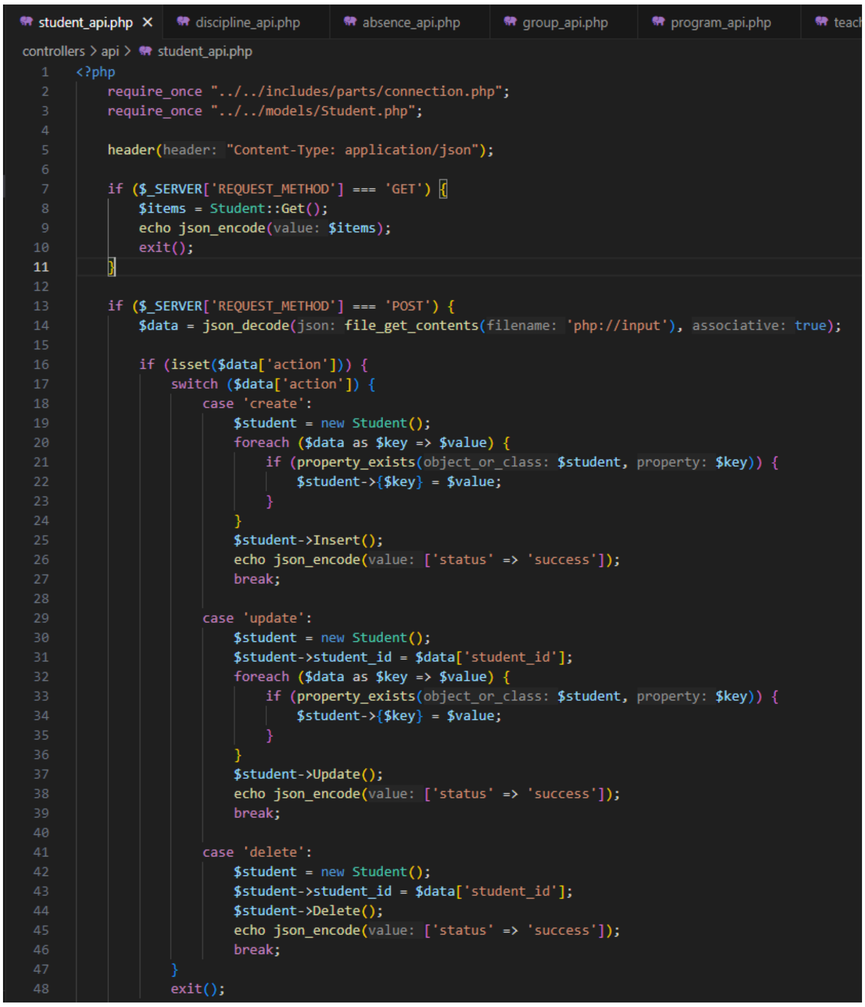
Students.php:



```
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Студенты</h1>

    <h2 style="margin-top: 15px;">Добавить студента</h2>
    <form id="add-student-form" class="add_form">
        <input type="text" name="last_name" placeholder="Фамилия"><br>
        <input type="text" name="first_name" placeholder="Имя"><br>
        <input type="text" name="middle_name" placeholder="Отчество"><br>
        <input type="number" name="group_id" placeholder="ID группы"><br>
        <input type="date" name="dismissal_date"><br>
        <button type="submit" class="add-students-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список студентов</h2>
    <table id="students-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>Фамилия</th>
                <th>Имя</th>
                <th>Отчество</th>
                <th>Группа ID</th>
                <th>Дата отчисления</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

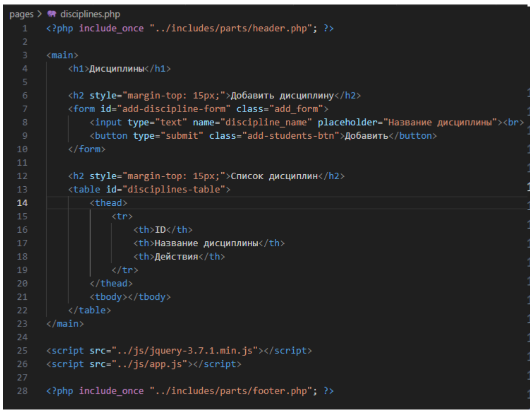

js > app.js > ready() callback > loadStudents
C:\ospanel\domains\localhost\UP-08-Puchnin-Kriulin\js

```
    const tableBody = $('#students-table tbody');

    function loadStudents() {…
    }

    // Загрузка при открытии страницы
    loadStudents();

    // Добавление студента
    $('#add-student-form').on('submit', function (e) {…
    });

    // Сохранение изменений при нажатии на "Сохранить"
    $(document).on('click', '.save-btn', function () {…
    });

    // Удаление студента
    $(document).on('click', '.delete-btn', function () {…
    });
```

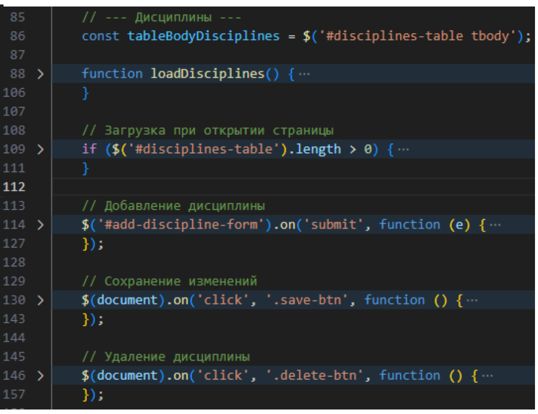


```
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/Student.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        $items = Student::Get();
        echo json_encode(value: $items);
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $student = new Student();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $student, property: $key)) {
                            $student->{$key} = $value;
                        }
                    }
                    $student->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $student = new Student();
                    $student->student_id = $data['student_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $student, property: $key)) {
                            $student->{$key} = $value;
                        }
                    }
                    $student->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $student = new Student();
                    $student->student_id = $data['student_id'];
                    $student->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
```

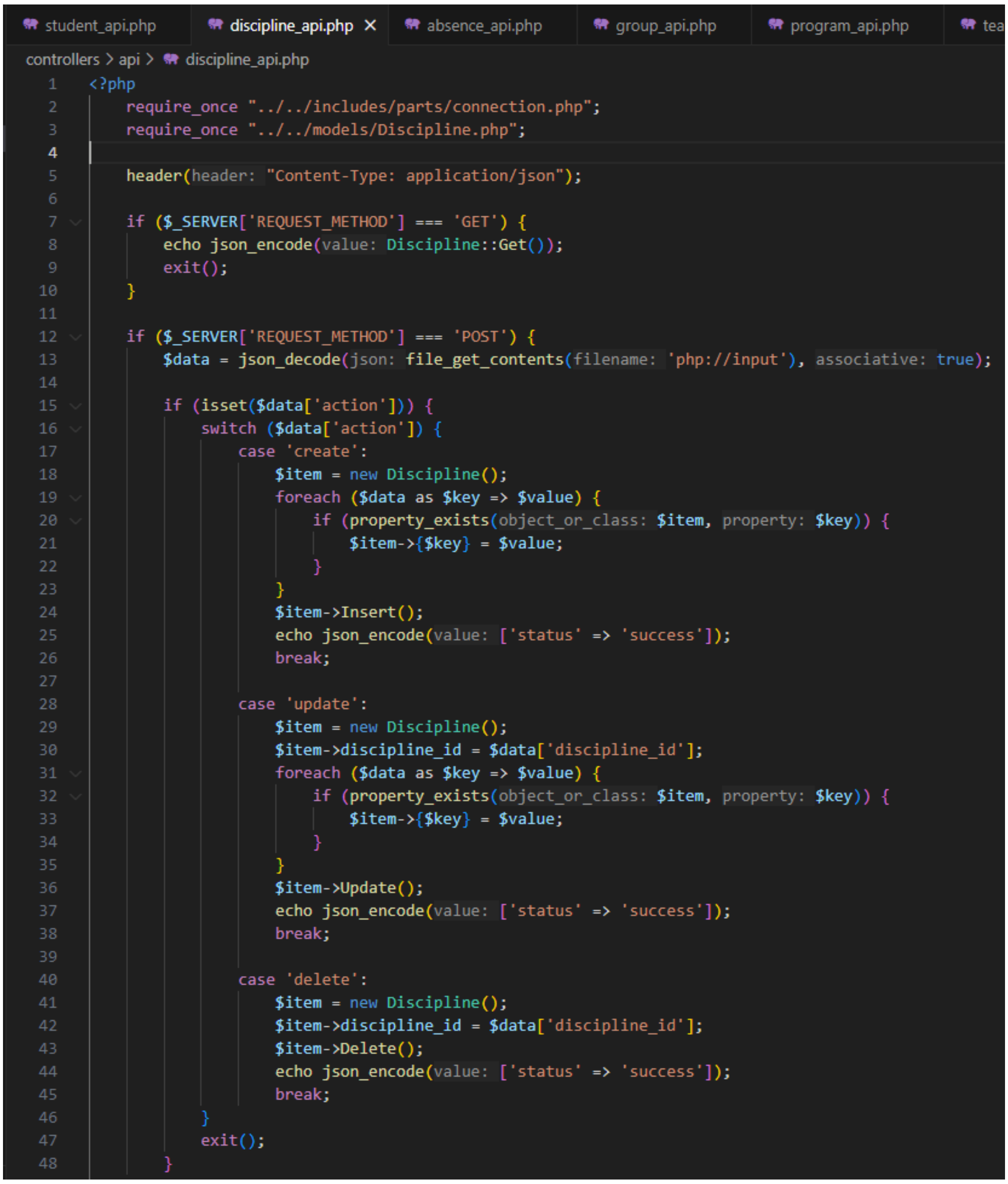
Disciplines.php:



```
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Дисциплины</h1>

    <h2 style="margin-top: 15px;">Добавить дисциплину</h2>
    <form id="add-discipline-form" class="add_form">
        <input type="text" name="discipline_name" placeholder="Название дисциплины"><br>
        <button type="submit" class="add-students-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список дисциплин</h2>
    <table id="disciplines-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>Название дисциплины</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

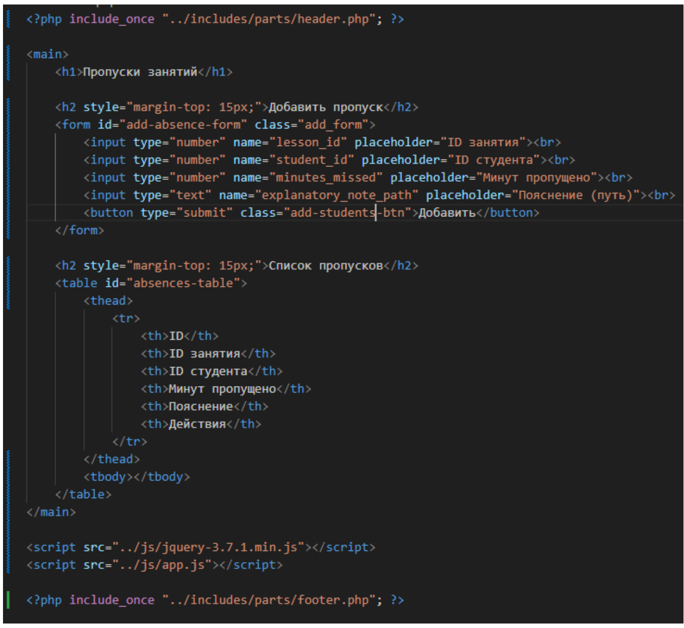


```
// --- Дисциплины ---
const tableBodyDisciplines = $('#disciplines-table tbody');

function loadDisciplines() { ···
}

// Загрузка при открытии страницы
if ($('#disciplines-table').length > 0) { ···
}

// Добавление дисциплины
$('#add-discipline-form').on('submit', function (e) { ···
});

// Сохранение изменений
$(document).on('click', '.save-btn', function () { ···
});

// Удаление дисциплины
$(document).on('click', '.delete-btn', function () { ···
});
```

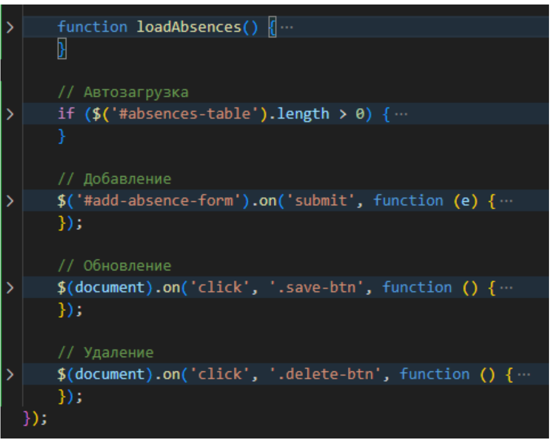


```
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/Discipline.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        echo json_encode(value: Discipline::Get());
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $item = new Discipline();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $item = new Discipline();
                    $item->discipline_id = $data['discipline_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $item = new Discipline();
                    $item->discipline_id = $data['discipline_id'];
                    $item->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
        }
```

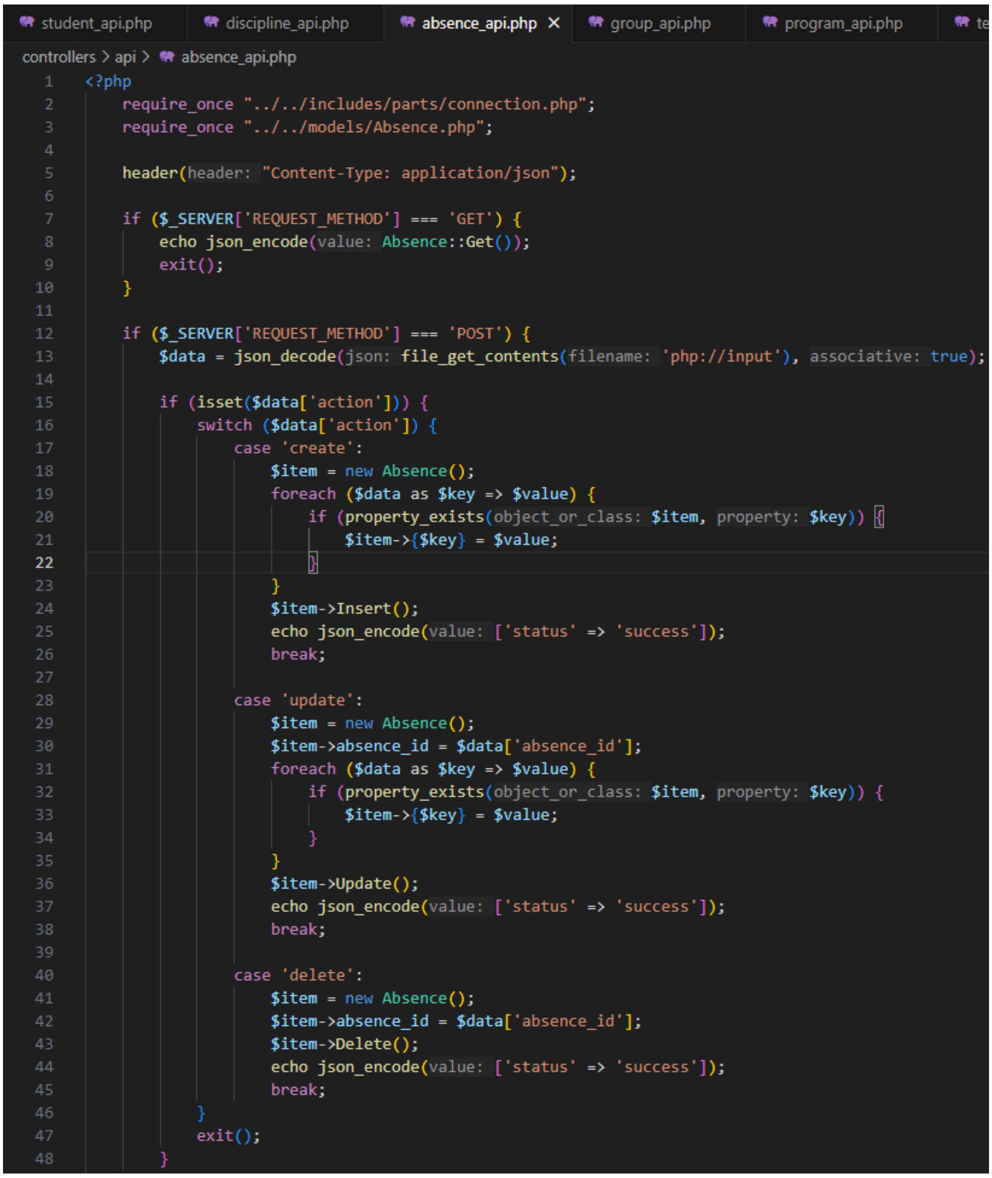
Absences.php:



```html
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Пропуски занятий</h1>

    <h2 style="margin-top: 15px;">Добавить пропуск</h2>
    <form id="add-absence-form" class="add_form">
        <input type="number" name="lesson_id" placeholder="ID занятия"><br>
        <input type="number" name="student_id" placeholder="ID студента"><br>
        <input type="number" name="minutes_missed" placeholder="Минут пропущено"><br>
        <input type="text" name="explanatory_note_path" placeholder="Пояснение (путь)"><br>
        <button type="submit" class="add-students-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список пропусков</h2>
    <table id="absences-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>ID занятия</th>
                <th>ID студента</th>
                <th>Минут пропущено</th>
                <th>Пояснение</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

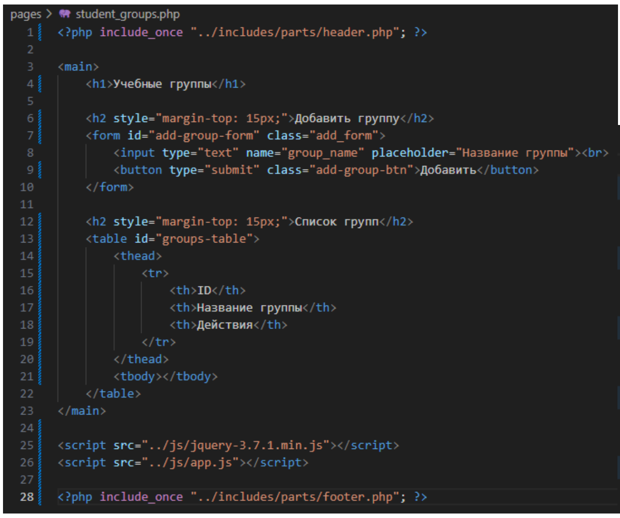


```javascript
    function loadAbsences() {⋯
    }

    // Автозагрузка
    if ($('#absences-table').length > 0) {⋯
    }

    // Добавление
    $('#add-absence-form').on('submit', function (e) {⋯
    });

    // Обновление
    $(document).on('click', '.save-btn', function () {⋯
    });

    // Удаление
    $(document).on('click', '.delete-btn', function () {⋯
    });
});
```

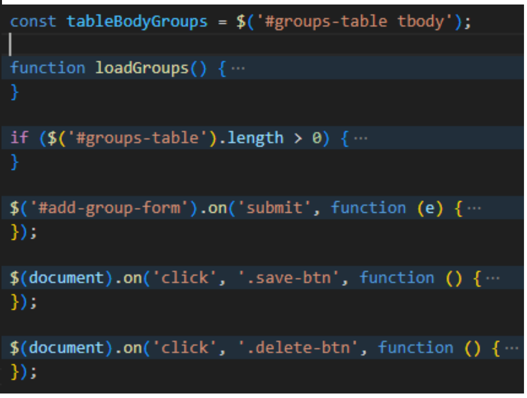


```php
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/Absence.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        echo json_encode(value: Absence::Get());
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $item = new Absence();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $item = new Absence();
                    $item->absence_id = $data['absence_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $item = new Absence();
                    $item->absence_id = $data['absence_id'];
                    $item->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
        }
```

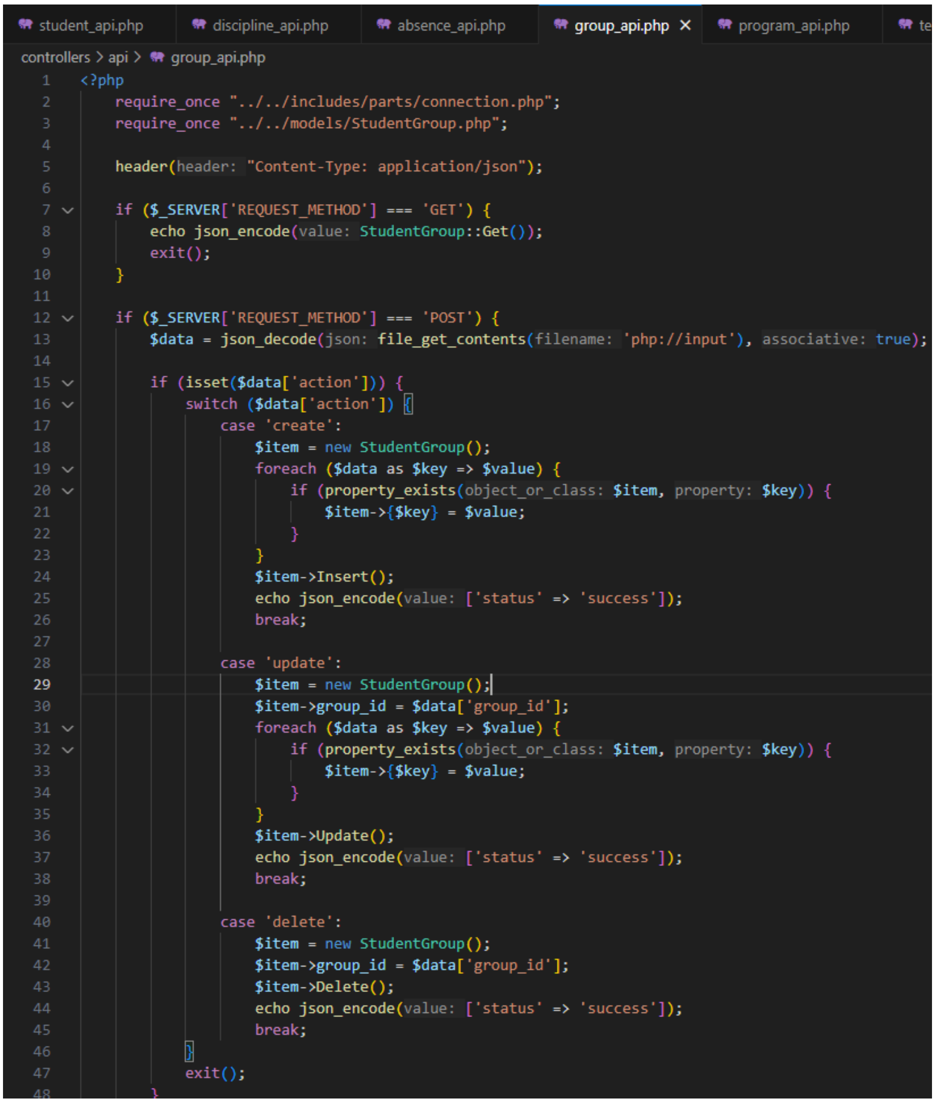
StudentGroups.php



```
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Учебные группы</h1>

    <h2 style="margin-top: 15px;">Добавить группу</h2>
    <form id="add-group-form" class="add_form">
        <input type="text" name="group_name" placeholder="Название группы"><br>
        <button type="submit" class="add-group-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список групп</h2>
    <table id="groups-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>Название группы</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

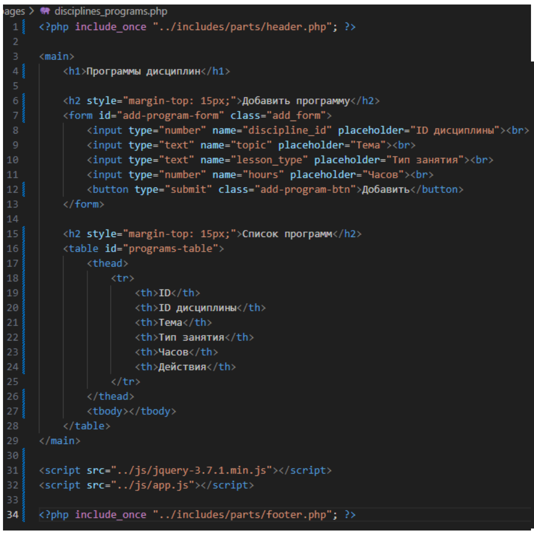


```
const tableBodyGroups = $('#groups-table tbody');

function loadGroups() {…
}

if ($('#groups-table').length > 0) {…
}

$('#add-group-form').on('submit', function (e) {…
});

$(document).on('click', '.save-btn', function () {…
});

$(document).on('click', '.delete-btn', function () {…
});
```

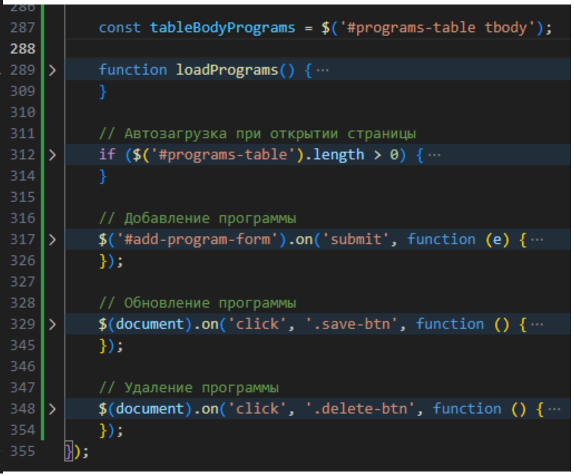


```
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/StudentGroup.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        echo json_encode(value: StudentGroup::Get());
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $item = new StudentGroup();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $item = new StudentGroup();
                    $item->group_id = $data['group_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $item = new StudentGroup();
                    $item->group_id = $data['group_id'];
                    $item->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
        }
```

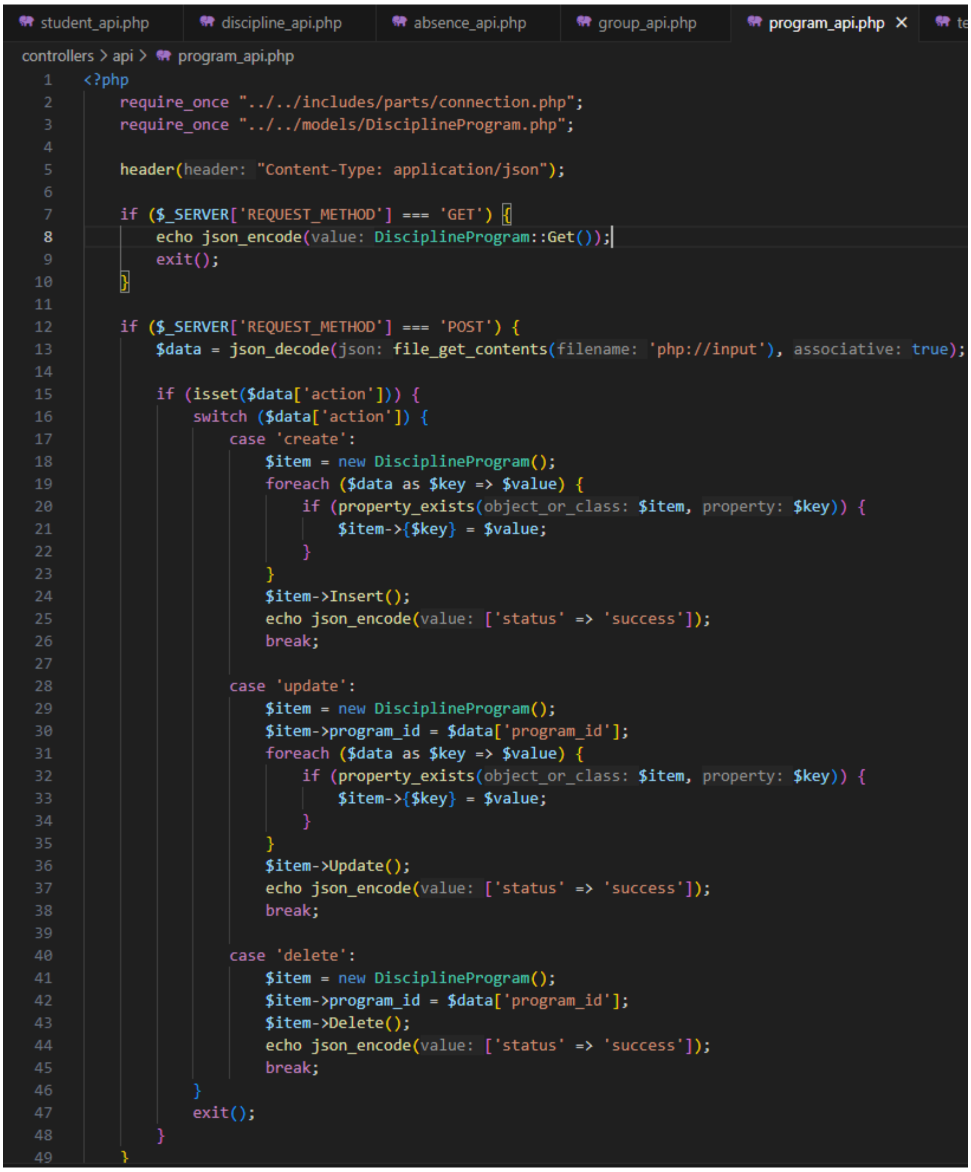
Discipline_programs.php:



```
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Программы дисциплин</h1>

    <h2 style="margin-top: 15px;">Добавить программу</h2>
    <form id="add-program-form" class="add_form">
        <input type="number" name="discipline_id" placeholder="ID дисциплины"><br>
        <input type="text" name="topic" placeholder="Тема"><br>
        <input type="text" name="lesson_type" placeholder="Тип занятия"><br>
        <input type="number" name="hours" placeholder="Часов"><br>
        <button type="submit" class="add-program-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список программ</h2>
    <table id="programs-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>ID дисциплины</th>
                <th>Тема</th>
                <th>Тип занятия</th>
                <th>Часов</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

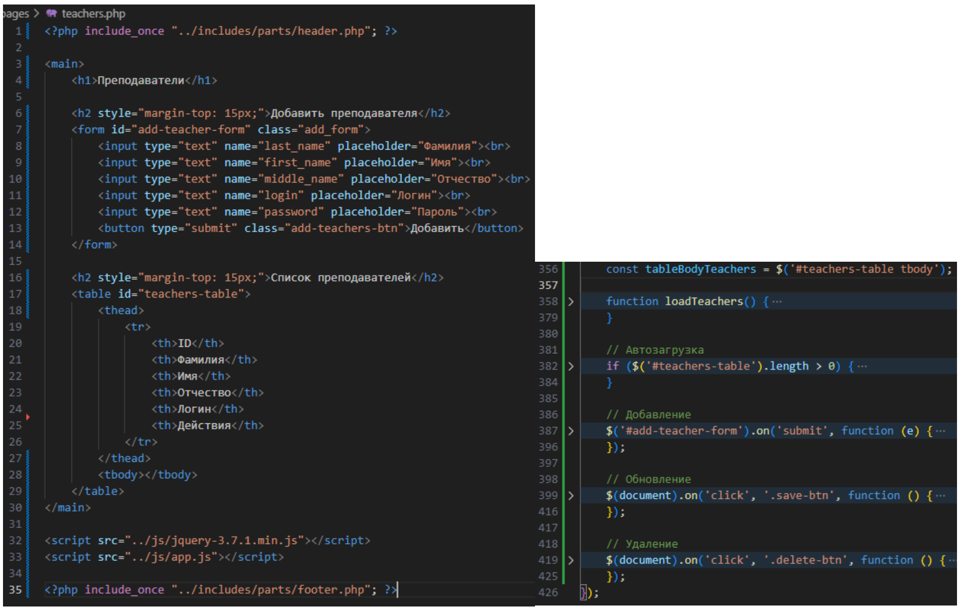


```
    const tableBodyPrograms = $('#programs-table tbody');

    function loadPrograms() {⋯
    }

    // Автозагрузка при открытии страницы
    if ($('#programs-table').length > 0) {⋯
    }

    // Добавление программы
    $('#add-program-form').on('submit', function (e) {⋯
    });

    // Обновление программы
    $(document).on('click', '.save-btn', function () {⋯
    });

    // Удаление программы
    $(document).on('click', '.delete-btn', function () {⋯
    });
});
```



```
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/DisciplineProgram.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        echo json_encode(value: DisciplineProgram::Get());
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $item = new DisciplineProgram();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $item = new DisciplineProgram();
                    $item->program_id = $data['program_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $item = new DisciplineProgram();
                    $item->program_id = $data['program_id'];
                    $item->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
        }
    }
```

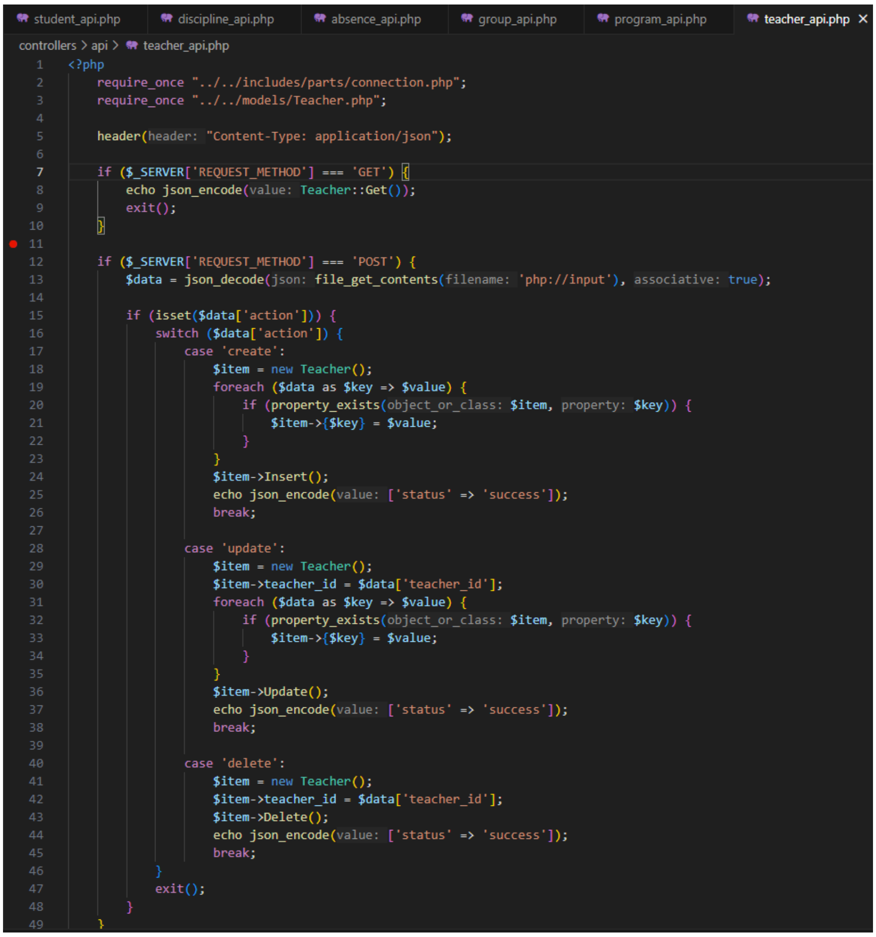
Teachers.php:



ages > teachers.php

```
<?php include_once "../includes/parts/header.php"; ?>

<main>
    <h1>Преподаватели</h1>

    <h2 style="margin-top: 15px;">Добавить преподавателя</h2>
    <form id="add-teacher-form" class="add_form">
        <input type="text" name="last_name" placeholder="Фамилия"><br>
        <input type="text" name="first_name" placeholder="Имя"><br>
        <input type="text" name="middle_name" placeholder="Отчество"><br>
        <input type="text" name="login" placeholder="Логин"><br>
        <input type="text" name="password" placeholder="Пароль"><br>
        <button type="submit" class="add-teachers-btn">Добавить</button>
    </form>

    <h2 style="margin-top: 15px;">Список преподавателей</h2>
    <table id="teachers-table">
        <thead>
            <tr>
                <th>ID</th>
                <th>Фамилия</th>
                <th>Имя</th>
                <th>Отчество</th>
                <th>Логин</th>
                <th>Действия</th>
            </tr>
        </thead>
        <tbody></tbody>
    </table>
</main>

<script src="../js/jquery-3.7.1.min.js"></script>
<script src="../js/app.js"></script>

<?php include_once "../includes/parts/footer.php"; ?>
```

```
    const tableBodyTeachers = $('#teachers-table tbody');

    function loadTeachers() {···
    }

    // Автозагрузка
    if ($('#teachers-table').length > 0) {···
    }

    // Добавление
    $('#add-teacher-form').on('submit', function (e) {···
    });

    // Обновление
    $(document).on('click', '.save-btn', function () {···
    });

    // Удаление
    $(document).on('click', '.delete-btn', function () {···
    });
});
```



controllers > api > teacher_api.php

```
<?php
    require_once "../../includes/parts/connection.php";
    require_once "../../models/Teacher.php";

    header(header: "Content-Type: application/json");

    if ($_SERVER['REQUEST_METHOD'] === 'GET') {
        echo json_encode(value: Teacher::Get());
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] === 'POST') {
        $data = json_decode(json: file_get_contents(filename: 'php://input'), associative: true);

        if (isset($data['action'])) {
            switch ($data['action']) {
                case 'create':
                    $item = new Teacher();
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Insert();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'update':
                    $item = new Teacher();
                    $item->teacher_id = $data['teacher_id'];
                    foreach ($data as $key => $value) {
                        if (property_exists(object_or_class: $item, property: $key)) {
                            $item->{$key} = $value;
                        }
                    }
                    $item->Update();
                    echo json_encode(value: ['status' => 'success']);
                    break;

                case 'delete':
                    $item = new Teacher();
                    $item->teacher_id = $data['teacher_id'];
                    $item->Delete();
                    echo json_encode(value: ['status' => 'success']);
                    break;
            }
            exit();
        }
    }
```

Что было сделано: реализовано AJAX-взаимодействие между фронтендом и бэкендом. Был создан универсальный **app.js**, который работает с несколькими таблицами: **Students**, **Disciplines**, **Absences**, **StudentGroups**, **DisciplinePrograms** и **Teachers**. Все данные подгружаются динамически через **JSON API**, добавление, редактирование и удаление записей происходит без перезагрузки страницы. В результате все действия выполняются асинхронно, что обеспечивает плавный пользовательский интерфейс и разделение логики между **frontend** и **backend**.