REST API pagination project in Codeigniter 3

```
C:\xampp\htdocs\1_api\pgination_Cl\application\controllers\UsersController.php
Controller
                                                                    <?php
                                                                    defined('BASEPATH') OR exit('No direct script access allowed');
                                                                    class UsersController extends CI Controller {
                                                                        public function __construct() {
                                                                            parent::__construct();
                                                                            $this->load->model('UsersModel');
                                                                        // Function to return paginated users for the view
                                                                        public function viewPaginatedUsers() {
                                                                            // Get pagination parameters from query string
                                                                            $limit = $this->input->get('limit', TRUE) ?: 4; // default to 4
                                                                            $page = $this->input->get('page', TRUE) ?: 1;  // default to page 1
                                                                            $offset = ($page - 1) * $limit;
                                                                            // Get total number of users
                                                                            $total_users = $this->UsersModel->getTotalUsersCount();
                                                                            // Get paginated users
                                                                            $users = $this->UsersModel->getPaginatedUsers($limit, $offset);
                                                                            // Prepare pagination metadata
```

```
$total_pages = ceil($total_users / $limit);
    $current_page = (int)$page;
    // Prepare data for the view
    $data = array(
        'users' => $users,
        'current_page' => $current_page,
        'total_pages' => $total_pages
    );
    // Load the view
   $this->load->view('users_view', $data);
// Function to return paginated users as JSON
public function getPaginatedUsers() {
   // Get pagination parameters from query string
   $limit = $this->input->get('limit', TRUE) ?: 4; // default to 4
    $page = $this->input->get('page', TRUE) ?: 1;  // default to page 1
    $offset = ($page - 1) * $limit;
   // Get total number of users
    $total_users = $this->UsersModel->getTotalUsersCount();
   // Get paginated users
    $users = $this->UsersModel->getPaginatedUsers($limit, $offset);
    // Prepare pagination metadata
    $total_pages = ceil($total_users / $limit);
    $current_page = (int)$page;
```

```
// Prepare the response
                                                                            $response = array(
                                                                                 'status' => true,
                                                                                'total_users' => $total_users,
                                                                                 'total_pages' => $total_pages,
                                                                                 'current_page' => $current_page,
                                                                                 'data' => $users
                                                                            );
                                                                            // Output the response in JSON format
                                                                            $this->output
                                                                                 ->set_content_type('application/json')
                                                                                 ->set_output(json_encode($response));
                                                                    C:\xampp\htdocs\1_api\pgination_Cl\application\views\users_view.php
View part
                                                                    <!DOCTYPE html>
                                                                    <html lang="en">
                                                                        <meta charset="UTF-8">
                                                                        <meta name="viewport" content="width=device-width, initial-scale=1.0">
                                                                        <title>Paginated Users</title>
                                                                        <style>
                                                                            table {
                                                                                width: 50%;
                                                                                margin: 20px auto;
                                                                                border-collapse: collapse;
                                                                            table, th, td {
```

```
border: 1px solid black;
     th, td {
        padding: 8px;
        text-align: center;
  </style>
<body>
  <h2 style="text-align:center;">Paginated Users</h2>
  <?php if (!empty($users)) : ?>
  User ID
           User Name
           Email
        </thead>
     <?php foreach ($users as $user) : ?>
        <?= $user['userId'] ?>
           <?= $user['userName'] ?>
           <?= $user['password'] ?>
        <?php endforeach; ?>
```

```
<div style="text-align:center;">
                                                                        Page <?= $current_page ?> of <?= $total_pages ?>
                                                                        <!-- Pagination Links -->
                                                                        <a href="?page=<?= $current_page - 1 ?>" <?= $current_page <= 1 ? 'style="pointer-even</pre>
                                                                 grey;"' : '' ?>>Previous</a>
                                                                        <a href="?page=<?= $current_page + 1 ?>" <?= $current_page >= $total_pages ? 'style="p
                                                                 color: grey;"' : '' ?>>Next</a>
                                                                    </div>
                                                                    <?php else : ?>
                                                                    No users found.
                                                                    <?php endif; ?>
                                                                 </body>
                                                                 C:\xampp\htdocs\1_api\pgination_Cl\application\models\UsersModel.php
Model
                                                                 <?php
                                                                 defined('BASEPATH') OR exit('No direct script access allowed');
                                                                 class UsersModel extends CI_Model {
                                                                    public function getPaginatedUsers($limit, $offset) {
                                                                        // Fetch paginated data
                                                                        $query = $this->db->select('userId, userName, password')
                                                                                          ->limit($limit, $offset)
                                                                                          ->get('lfy_users');
                                                                        return $query->result_array();
```

```
public function getTotalUsersCount() {
                                                                           // Get total number of users for pagination
                                                                           return $this->db->count_all('lfy_users');
                                                                   $route['api/users'] = 'UsersController/getPaginatedUsers';
Route create
                                                                   $route['api/users/view'] = 'UsersController/viewPaginatedUsers';
Database create
                                                                   $active_group = 'default';
                                                                   $query_builder = TRUE;
                                                                   $db['default'] = array(
                                                                       'hostname' => 'localhost',
                                                                       'username' => 'root',
                                                                       'password' => '',
                                                                       'database' => 'busbooking',
                                                                       'dbdriver' => 'mysqli',
                                                                       'dbprefix' => '',
                                                                       'pconnect' => FALSE,
                                                                       'db debug' => (ENVIRONMENT !== 'production'),
                                                                       'cache on' => FALSE,
                                                                       'cachedir' => '',
                                                                       'char_set' => 'utf8',
                                                                       'dbcollat' => 'utf8 general ci',
                                                                       'swap_pre' => '',
                                                                       'encrypt' => FALSE,
                                                                       'compress' => FALSE,
                                                                       'stricton' => FALSE,
```

```
'failover' => array(),
                                                                        'save_queries' => TRUE
Call the page
Create database
                                                                       phpMyAdmin SQL Dump
                                                                     - version 5.2.1
                                                                     - https://www.phpmyadmin.net/
                                                                     -- Host: 127.0.0.1
                                                                     - Generation Time: Sep 11, 2024 at 09:12 AM
                                                                     -- Server version: 10.4.28-MariaDB
                                                                     -- PHP Version: 8.0.28
                                                                    SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
                                                                    START TRANSACTION;
                                                                    SET time_zone = "+00:00";
                                                                    /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
                                                                     /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
                                                                    /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
                                                                    /*!40101 SET NAMES utf8mb4 */;
                                                                     - Database: `busbooking`
```

```
Table structure for table `lfy_users`
CREATE TABLE `lfy_users` (
  `userId` int(11) NOT NULL,
  `userName` varchar(255) NOT NULL,
   `password` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
 - Dumping data for table `lfy_users`
INSERT INTO `lfy_users` (`userId`, `userName`, `password`) VALUES
(1, 'john_doe', 'password123'),
(2, 'jane_smith', 'pass1234'),
(3, 'mike_jones', 'mikepass'),
(4, 'emma_watson', 'emma456'),
(5, 'will_smith', 'will_pass'),
(6, 'julia_roberts', 'julia789'),
(7, 'tom_cruise', 'tom987'),
(8, 'kevin_durant', 'kdpass'),
(9, 'stephen_curry', 'curry123'),
(10, 'lebron_james', 'lebron789'),
(11, 'elon_musk', 'musk123'),
(12, 'bill_gates', 'billpass'),
(13, 'mark_zuckerberg', 'mark789'),
(14, 'sundar_pichai', 'google123'),
(15, 'tim_cook', 'applepass'),
(16, 'jeff_bezos', 'amazonpass'),
(17, 'warren_buffett', 'investor123'),
(18, 'larry_page', 'search456')
```

```
(19, 'sergey_brin', 'search789'),
                                                                     (20, 'jack_ma', 'alibaba123');
                                                                       - Indexes for dumped tables
                                                                       Indexes for table `lfy_users`
                                                                     ALTER TABLE `lfy_users`
                                                                       ADD PRIMARY KEY (`userId`);
                                                                      - AUTO_INCREMENT for dumped tables
                                                                      - AUTO_INCREMENT for table `lfy_users`
                                                                     ALTER TABLE `lfy_users`
                                                                       MODIFY `userId` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=21;
                                                                     COMMIT;
                                                                      /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
                                                                      /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
                                                                      /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
                                                                     http://localhost/1 api/pgination Cl/index.php/api/users
Call the page
```

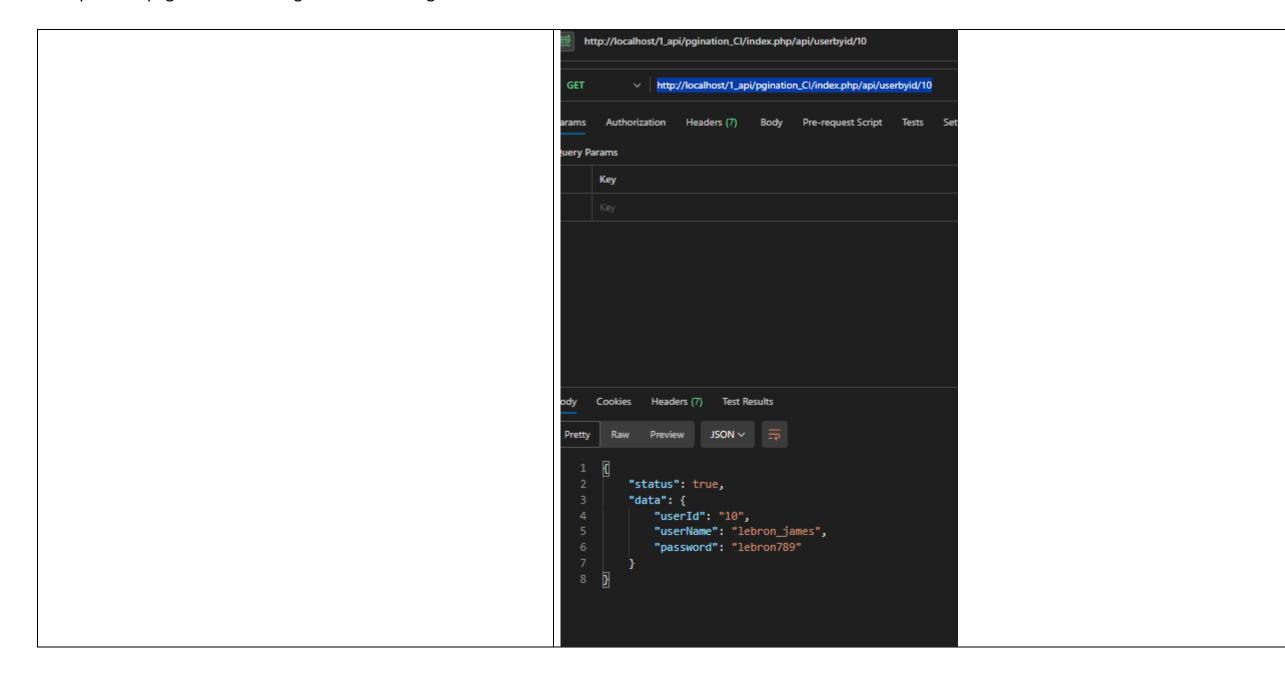
```
"status": true,
 "total_users": 20,
 "total_pages": 5,
 "current_page": 1,
▼ "data": [
   ₹ {
        "userId": "1",
        "userName": "john_doe",
        "password": "password123"
        "userId": "2",
        "userName": "jane_smith",
        "password": "pass1234"
        "userId": "3",
        "userName": "mike_jones",
        "password": "mikepass"
        "userId": "4",
        "userName": "emma_watson",
        "password": "emma456"
```

Call the view page	http:/	http://localhost/1_api/pgination_Cl/index.php/api/users/view			
		Paginated Users			
		User ID	User Name	Email	
		1	john_doe	password123	
		2	jane_smith	pass1234	
		3	mike_jones	mikepass	
		4	emma_watson	emma456	
			Page 1 of 5		
			Previous Next		
Check through postman	l i i i i i i i i i i i i i i i i i i i	http://localhost/ci3/index.php/userscontroller/getPaginatedUsers?limit=4&page=1 http://localhost/1_api/pgination_CI/index.php/api/users?limit=4&page=1			
Check through postman	l i i i i i i i i i i i i i i i i i i i			ge=1	

```
http://localhost/1_api/pgination_Cl/index.php/api/users?limit=4&page=2
 GET
            http://localhost/1_api/pgination_Cl/index.php/api/users?limit=4&page=2
arams Authorization Headers (7) Body Pre-request Script Tests Settings
Query Params
      Key
  ✓ limit
  ✓ page
     Cookies Headers (7) Test Results
        Raw Preview
                         JSON Y
           "total_pages": 5,
           "current_page": 2,
           "data": [
                   "userId": "5",
                   "userName": "will_smith",
                   "password": "will_pass"
               },
                   "userId": "6",
                   "userName": "julia_roberts",
                   "password": "julia789"
                   "userId": "7",
                   "userName": "tom_cruise",
                   "password": "tom987"
               },
```

	To call a specific user ID, you need to set up a method in your
	UsersController to handle requests for a specific user. Here's
	do it:
C:\xampp\htdocs\1_api\pgination_CI\application\controllers\UsersController.php	public function getUserById(\$userId) {
or framps (meason / 1_apr / pg mation _ or / app meation / controllers / costs source one). pmp	// Load the model
	<pre>\$this->load->model('UsersModel');</pre>
	// Get the user data
	<pre>\$user = \$this->UsersModel->getUserById(\$userId);</pre>
	// Check if user exists
	<pre>if (\$user) {</pre>
	// Prepare the response
	<pre>\$response = array(</pre>
	'status' => true, 'data' => \$user
);
	} else {
	// User not found
	<pre>\$response = array(</pre>
	'status' => false,
	'message' => 'User not found'
);
	}
	// Output the response in JSON format
	\$this->output
	<pre>->set_content_type('application/json')</pre>

	->set_output(json_encode(\$response)); }
C:\xampp\htdocs\1_api\pgination_CI\application\models\UsersModel.php	<pre>public function getUserById(\$userId) { \$query = \$this->db->where('userId', \$userId)->get('lfy_users'); return \$query->row_array(); // Fetch a single row }</pre>
Route create	<pre>\$route['api/userbyid/(:num)'] = 'UsersController/getUserById/\$1';</pre>
Call the view page	http://localhost/1_api/pgination_Cl/index.php/api/userbyid/1
	<pre></pre>
CALL THROGH POSTMAN	http://localhost/1_api/pgination_Cl/index.php/api/userbyid/10



share data between two C	Codelgniter projects using a REST API
	Step 1: Install CodeIgniter RESTful API Library
	You can use the <u>CodeIgniter Rest Server</u> library to easily set up RESTful APIs. Download or clone it into your fi
	<pre>bash Copy code git clone https://github.com/chriskacerguis/codeigniter-restserver.git</pre>
	Place the files in your application/libraries directory.
	To share data between two CodeIgniter projects using a REST API, you'll need to:
	 Set up one project as the API server that exposes specific data. Access the API from the second project by sending HTTP requests to the API server.
	Here's a guide to help you set it up:
	1. Set Up the API Server (First Codelgniter Project)
	Step 1: Install CodeIgniter RESTful API Library
	You can use the <u>CodeIgniter Rest Server</u> library to easily set up RESTful APIs. Download or clone it into your fi
	bash Copy code git globe https://github.com/chriskscorguis/godeigniter-restscoryer.git
	git clone https://github.com/chriskacerguis/codeigniter-restserver.git

To implement pagination in Codelgniter 3 for testing a REST API in Postman: Place the files in your application/libraries directory. **Step 2: Create a Controller for the API** Create an API controller that exposes the required data. php Copy code <?php defined('BASEPATH') OR exit('No direct script access allowed'); require APPPATH . '/libraries/REST_Controller.php'; class UsersAPI extends REST Controller { public function construct() { parent:: construct(); \$this->load->model('UsersModel');

// API to get all users

public function users get() {

// API to get a user by ID
public function user get(\$id) {

REST_Controller::HTTP_NOT_FOUND);

if (\$user) {

\$users = \$this->UsersModel->getAllUsers();

\$user = \$this->UsersModel->getUserById(\$id);

\$this->response(\$user, REST Controller::HTTP OK);

\$this->response(\$users, REST_Controller::HTTP_OK); // Send the data in JSON format

\$this->response(['status' => false, 'message' => 'User not found'],

Step 3: Update Routing

Add the following routes to your application/config/routes.php file:

```
php
Copy code
$route['api/users'] = 'usersAPI/users';
$route['api/users/(:num)'] = 'usersAPI/user/$1';
```

Step 4: Set Up the Model

```
php
Copy code
class UsersModel extends CI_Model {

   public function getAllUsers() {
        $query = $this->db->get('users');
        return $query->result_array();
   }

   public function getUserById($id) {
        $query = $this->db->get_where('users', ['userId' => $id]);
        return $query->row_array();
   }
}
```

Step 5: Test Your API

Your API is now available at:

- **Get all users**: http://your-server/api/users
- **Get a specific user**: http://your-server/api/users/{id}

Test these endpoints using Postman or curl.

2. Access the API from the Second Project (Second Codelgniter Project)

In the second project, you'll need to consume the API by making HTTP requests to the first project's API.

Step 1: Create an API Client

You can use CURL in CodeIgniter to make requests to the API.

```
php
Copy code
class ApiClient extends CI Controller {
    private $apiUrl = 'http://first-server/api/'; // The API base URL of the first CodeIgn.
    // Function to get all users from the API
    public function getUsers() {
        $url = $this->apiUrl . 'users';
        // Initialize cURL
        $curl = curl init($url);
        curl setopt($\overline{\sqrt{curl}}, CURLOPT RETURNTRANSFER, true);
        $response = curl exec($curl);
        curl close($curl);
        // Convert JSON response to an array
        $users = json decode($response, true);
        // Use the data as needed
        print r($users);
    // Function to get a user by ID from the API
    public function getUserById($id) {
        $url = $this->apiUrl . 'users/' . $id;
        // Initialize cURL
        $curl = curl init($url);
```

```
curl_setopt($curl, CURLOPT_RETURNTRANSFER, true);
$response = curl_exec($curl);
curl_close($curl);

// Convert JSON response to an array
$user = json_decode($response, true);

// Use the data as needed
print_r($user);
}
```

Step 2: Add Routes for API Client

In your second project, add the following routes in application/config/routes.php:

```
php
Copy code
$route['api-client/users'] = 'ApiClient/getUsers';
$route['api-client/users/(:num)'] = 'ApiClient/getUserById/$1';
```

Step 3: Test API Calls

In your second project, access the API using these URLs:

- **Get all users**: http://your-second-server/api-client/users
- **Get a user by ID**: http://your-second-server/api-client/users/{id}

3. Summary

- The first project exposes data via a REST API using UsersAPI controller.
- The second project consumes this data using ApiClient controller by making HTTP requests to the first project'

This way, you can share data between two CodeIgniter projects through a REST API.