

## Introduction

This document provides the updated API test cases for the contract management module, based on the revised contract\_route.py. These tests are designed to verify the complete CRUD (Create, Read, Update, Delete) functionality for student contracts, which is now segregated by user roles ('Learning Advisor' and 'Manager').

The test cases are divided into role-specific features:

1. **Learning Advisor Features:** Covers all contract management actions a Learning Advisor can perform on the contracts they own.
2. **Manager Features:** Covers the read-only actions a Manager can perform across all contracts in the system.

## Testing Environment

- **Tool:** Postman
- **Base URL:** http://127.0.0.1:5000
- **Prerequisites:**
  - The application is running, and the database is seeded.
  - A valid JWT for a **Learning Advisor** (EM002) has been obtained and stored (e.g., as {{laToken}}).
  - A valid JWT for a **Manager** (EM003) has been obtained and stored (e.g., as {{managerToken}}).
  - A valid JWT for a **Teacher** (EM001) has been obtained for unauthorised access tests (e.g., as {{teacherToken}}).

## Learning Advisor Features

### Feature: Add Contract

- **Feature ID:** CON-001
- **Endpoint:** POST /contract/learningadvisor/add
- **Description:** Verifies a Learning Advisor's ability to create new student contracts.

Test Case ID	Description	Test Steps	Expected Result
CON-001-TC-001	Successful Creation	<ol style="list-style-type: none"> <li>1. Set method to POST.</li> <li>2. Set URL to {{baseUrl}}/contract/learningadvisor/add.</li> <li>3. Set Authorization header to Bearer {{laToken}}.</li> <li>4. Set Body to raw JSON with valid, unique data.</li> <li>5. Send request.</li> </ol>	<b>ER:</b> Status code is <b>201 Created</b> . The response body contains the new contract object.
CON-001-TC-002	Duplicate Contract	<ol style="list-style-type: none"> <li>1. Set method to POST.</li> <li>2. Set URL to {{baseUrl}}/contract/learningadvisor/add.</li> <li>3. Set Authorization header to Bearer {{laToken}}.</li> <li>4. Set Body to raw JSON for a student-course combination that already exists.</li> <li>5. Send request.</li> </ol>	<b>ER:</b> Status code is <b>409 Conflict</b> . The response body contains the message: Contract existed.
CON-001-TC-003	Non-existent Student ID	<ol style="list-style-type: none"> <li>1. Set method to POST.</li> <li>2. Set URL to {{baseUrl}}/contract/learningadvisor/add.</li> <li>3. Set Authorization header to Bearer {{laToken}}.</li> <li>4. Set Body to raw JSON with a student_id that does not exist (e.g., ST999).</li> </ol>	<b>ER:</b> Status code is <b>404 Not Found</b> . The response body contains the message:

		5. Send request.	Student not found.
<b>CON-001-TC-004</b>	Non-existent Course ID	1. Set method to POST. 2. Set URL to {{baseUrl}}/contract/learningadvisor/add. 3. Set Authorization header to Bearer {{laToken}}. 4. Set Body to raw JSON with a course_id that does not exist (e.g., C999). 5. Send request.	<b>ER:</b> Status code is <b>404 Not Found</b> . The response body contains the message: Course not found.
<b>CON-001-TC-005</b>	Unauthorised Access (Attempt by Teacher)	1. Set method to POST. 2. Set URL to {{baseUrl}}/contract/learningadvisor/add. 3. Set Authorization header to Bearer {{teacherToken}}. 4. Set Body to raw JSON with valid data. 5. Send request.	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access denied message.

- **Results**

Test Case ID	Result	Status	Notes
<b>CON-001-TC-001</b>	<ul style="list-style-type: none"> <li>• <b>500 Internal Server Error</b></li> <li>• "error": "Entity namespace for \"course\" has</li> </ul>	FAILED	CON-BUG-001

	no property \"course_id\", • "message": "Unexpected error occurred"		
<b>CON-001-TC-002</b>	Similar to the result of CON-001-TC-001	FAILED	CON-BUG-002
<b>CON-001-TC-003</b>	Similar to the result of CON-001-TC-001	FAILED	CON-BUG-003
<b>CON-001-TC-004</b>	Similar to the result of CON-001-TC-001	FAILED	CON-BUG-003
<b>CON-001-TC-005</b>	Similar to ER	PASSED	N/A

### Feature: Get All Contracts (Learning Advisor)

- **Feature ID:** CON-002
- **Endpoint:** GET /contract/learningadvisor/
- **Description:** Verifies retrieval of all contracts managed by the logged-in Learning Advisor.

Test Case ID	Description	Test Steps	Expected Result
<b>CON-002-TC-001</b>	Successful Retrieval	1. Set method to GET. 2. Set URL to {{baseUrl}}/contract/learningadvisor/. 3. Set Authorization header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a JSON array containing only the contracts associated with

			logged in employee.
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- **Results:**

Test Case ID	Result	Status	Notes
CON-002-TC-001	Similar to ER	PASSED	N/A

**Feature: Search, Update, & Delete Contract (Learning Advisor)**

- **Feature ID:** CON-003
- **Endpoints:** /contract/learningadvisor/search, /update, /delete
- **Description:** Verifies a Learning Advisor can manage contracts they own.

Test Case ID	Description	Test Steps	Expected Result
CON-003-TC-001	Successful Search	<ol style="list-style-type: none"> <li>1. Set method to GET.</li> <li>2. Set URL to {{baseUrl}}/contract/learningadvisor/search?id=CTR001.</li> <li>3. Set Authorization header to Bearer {{laToken}}.</li> <li>4. Send request.</li> </ol>	<b>ER:</b> Status code is <b>200 OK</b> . The response body contains the details of contract CT001.
CON-003-TC-002	Successful Update	<ol style="list-style-type: none"> <li>1. Set method to PUT.</li> <li>2. Set URL to {{baseUrl}}/contract/learningadvisor/update?id=CT001.</li> </ol>	<b>ER:</b> Status code is <b>200 OK</b> . The response

		3. Set Authorization header to Bearer {{laToken}}. 4. Set Body to raw JSON: { "payment_status": "Paid" }. 5. Send request.	contains the message: Contract updated successfully.
<b>CON-003-TC-003</b>	Successful Deletion	1. Set method to DELETE. 2. Set URL to {{baseUrl}}/contract/learningadvisor/delete?id=CT002. 3. Set Authorization header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>200 OK</b> . The response contains the message: Contract deleted successfully.
<b>CON-003-TC-004</b>	Attempt to Access Another Advisor's Contract	1. (Requires setup) Create a contract with a different LA. 2. Set method to GET. 3. Set URL to {{baseUrl}}/contract/learningadvisor/search?id=<other_advisor_contract_id>. 4. Set Authorization header to Bearer {{laToken}}. 5. Send request.	<b>ER:</b> Status code is <b>404 Not Found</b> . The response contains the message: Contract not found.

- **Results**

Test Case ID	Result	Status	Notes
<b>CON-003-TC-001</b>	N/A	N/A	N/A

CON-003-TC-002	N/A	N/A	N/A
CON-003-TC-003	N/A	N/A	N/A
CON-003-TC-004	Similar to ER	PASSED	N/A

## Manager Features

### Feature: Get All Contracts (Manager)

- **Feature ID:** CON-004
- **Endpoint:** GET /contract/manager/
- **Description:** Verifies a Manager can retrieve all contracts in the system.

Test Case ID	Description	Test Steps	Expected Result
CON-004-TC-001	Successful Retrieval	<ol style="list-style-type: none"> <li>1. Set method to GET.</li> <li>2. Set URL to {{baseUrl}}/contract/manager/.</li> <li>3. Set Authorization header to Bearer {{managerToken}}.</li> <li>4. Send request.</li> </ol>	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a JSON array containing <b>all</b> contracts in the system, regardless of the creating employee.

<b>CON-004-TC-002</b>	Unauthorised Access (Attempt by Learning Advisor)	1. Set method to GET. 2. Set URL to {{baseUrl}}/contract/manager/. 3. Set Authorization header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access denied message.
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- **Results:**

Test Case ID	Result	Status	Notes
CON-004-TC-001	Similar to ER	PASSED	N/A
CON-004-TC-002	Similar to ER	PASSED	N/A

### Feature: Search for Contract (Manager)

- **Feature ID:** CON-005
- **Endpoint:** GET /contract/manager/search
- **Description:** Verifies a Manager can retrieve any single contract by its ID.

Test Case ID	Description	Test Steps	Expected Result
<b>CON-005-TC-001</b>	Successful Search	1. Set method to GET. 2. Set URL to {{baseUrl}}/contract/manager/search?id=CTR001.	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a JSON object with the details of contract CT001.



		3. Set Authorization header to Bearer {{managerToken}}. 4. Send request.	
<b>CON-005-TC-002</b>	Search for Non-existent ID	1. Set method to GET. 2. Set URL to {{baseUrl}}/contract/manager/search?id=CT999. 3. Set Authorization header to Bearer {{managerToken}}. 4. Send request.	<b>ER:</b> Status code is <b>404 Not Found</b> . The response body contains the message: Contract not found.

- **Results:**

Test Case ID	Result	Status	Notes
<b>CON-005-TC-001</b>	Similar to ER	PASSED	N/A
<b>CON-005-TC-002</b>	Similar to ER	PASSED	N/A