

# PROBLEM STATEMENT

**Design a normalized relational database schema for an elearning platform.**

**Features:**

1. Offers multiple trainings
2. Details regarding each training: Modules, Topics, Final Test MCQ questions, and assignments
3. Cost orientation may differ for trainings based on dates
4. Offers multiple batches of a training
5. Basic details of users'
6. Multiple trainings enrolments
7. Store users' data for each training

## SOLUTION

Normalized relational database schema: [Design](#)

### 1. Offers multiple trainings

Tables: trainings, faqs

trainings	
id	int [primary key, auto increment]
heading	varchar(255)
sub_heading	varchar(255)
about	varchar(max)
table_of_content_link	varchar(255)
is_registration_active	tinyint
order	int
base_price	int
duration	int
created_at	timestamp
last_updated_at	timestamp

faqs	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
question	varchar(max)
answer	varchar(max)
order	int
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

## 2. Details regarding each training: Modules, Topics, Final Test MCQ questions, and assignments

**Tables:** modules, topics, final\_tests, final\_tests\_questions, assignments

modules	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
name	varchar(255)
order	int
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

topics	
id	int [primary key, auto increment]
module_id	int [foreign key, modules.id]
name	varchar(255)
content	varchar(max)

order	int
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

final_tests	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
total_questions	int
time_limit	int
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

final_tests_questions	
id	int [primary key, auto increment]
final_test_id	int [foreign key, final_tests.id]
question	varchar(max)
option_one	varchar(max)
option_two	varchar(max)
option_three	varchar(max)
option_four	varchar(max)
correct_option	enum (option_one, option_two_option_three, option_four)
order	int
is_active	tinyint
created_at	timestamp

last_updated_at	timestamp
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assignments	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
assignment_link	varchar(max)
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

### 3. Cost orientation may differ for trainings based on dates

**Table:** amounts

amounts	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
valid_till	timestamp
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

### 4. Offers multiple batches of a training

**Table:** batches

batches	
id	int [primary key, auto increment]
training_id	int [foreign key, trainings.id]
start_date	date

is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

## 5. Store basic user data

**Tables:** users, users\_details

users	
id	int [primary key, auto increment]
email	varchar(max)
password	varchar(max)
is_active	tinyint
created_at	timestamp
last_updated_at	timestamp

users_details	
id	int [primary key, auto increment]
user_id	int [foreign key, users.id]
f_name	varchar(255)
l_name	varchar(255)
phone_number	varchar(50)
created_at	timestamp
last_updated_at	timestamp

## 6. Multiple trainings enrolments

**Table:** trainings\_users

trainings_users	
id	int [primary key, auto increment]
user_id	int [foreign key, users.id]
batch_id	int [foreign key, batches.id]
registration_timestamp	timestamp
registration_amount	int
is_paid	tinyint
payment_timestamp	timestamp
payment_amount	int
utm_source	varchar(255)
utm_medium	varchar(255)
utm_campaign	varchar(255)
created_at	timestamp
last_updated_at	timestamp

## 7. Store users' data for each training

**Tables:** trainings\_users\_assignments, trainings\_users\_final\_test\_questions, trainings\_users\_final\_test\_summary

trainings_users_assignments	
id	int [primary key, auto increment]
training_user_id	int [foreign key, trainings_users.id]
assignment_id	int [foreign key, assignments.id]
submitted_url	varchar(max)
submission_timestamp	timestamp

created_at	timestamp
last_updated_at	timestamp

Trainings_users_final_test_questions	
id	int [primary key, auto increment]
training_user_id	int [foreign key, trainings_users.id]
final_test_question_id	int [foreign key, final_test_questions.id]
selected_option	enum (option_one, option_two_option_three, option_four)
created_at	timestamp
last_updated_at	timestamp