

TABLE DESIGN

◆ 1. REGISTRATIONS

Field Name	Data Type
registration_id	INT (PK, AUTO_INCREMENT)
name	VARCHAR(100)
email	VARCHAR(100) UNIQUE
phone	VARCHAR(15)
password_hash	VARCHAR(255)
user_role	ENUM('Admin','Trainer','Client')
registration_type	ENUM('Free','Paid')
verification_status	ENUM('Pending','Verified','Rejected')
registered_at	DATETIME

◆ 2. USERS

Field Name	Data Type
user_id	INT (PK, AUTO_INCREMENT)
registration_id	INT (FK → REGISTRATIONS.registration_id)
name	VARCHAR(100)
email	VARCHAR(100) UNIQUE
phone	VARCHAR(15)
password_hash	VARCHAR(255)
role	ENUM('Admin','Trainer','Client')
status	ENUM('Active','Inactive','Blocked')
age	INT (Client only, NULL allowed)
gender	ENUM('Male','Female','Other') (Client only)
height_cm	DECIMAL(5,2) (Client only)
weight_kg	DECIMAL(5,2) (Client only)
health_conditions	TEXT (Client only)
fitness_goal	VARCHAR(100) (Client only)
preferences	VARCHAR(100) (Client only)

Field Name	Data Type
specialization	VARCHAR(100) (Trainer only)
experience_years	INT (Trainer only)
certifications	TEXT (Trainer only)
availability_status	ENUM('Available','Unavailable') (Trainer only)
rating	DECIMAL(3,2) (Trainer only)
created_at	DATETIME

◆ 3. SUBSCRIPTION_PLANS

Field	Attributes
plan_id	INT (PK, AUTO_INCREMENT)
plan_name	VARCHAR(100)
duration_days	INT
price	DECIMAL(10,2)
features	TEXT
created_at	DATETIME

◆ 4. CLIENT_SUBSCRIPTIONS

Field	Attributes
subscription_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
plan_id	INT (FK → SUBSCRIPTION_PLANS.plan_id)
start_date	DATE
end_date	DATE
subscription_status	ENUM('Active','Expired','Cancelled')
amount_paid	DECIMAL(10,2)
created_at	DATETIME

◆ 5. PAYMENTS

Field Name	Data Type
payment_id	INT (PK, AUTO_INCREMENT)
user_id	INT (FK → USERS.user_id)
payment_for	ENUM('Subscription','Order')
reference_id	INT
amount	DECIMAL(10,2)
payment_method	ENUM('UPI','Card','Wallet','NetBanking','Cash')
payment_status	ENUM('Pending','Paid','Failed','Refunded')
transaction_ref	VARCHAR(100)
paid_at	DATETIME
created_at	DATETIME

◆ 6. TRAINING_PROGRAMS

Field	Attributes
program_id	INT (PK, AUTO_INCREMENT)
title	VARCHAR(100)
difficulty	ENUM('Beginner','Intermediate','Advanced')
program_type	ENUM('Online','Offline')
access_type	ENUM('Free','Paid')
duration_days	INT
trainer_id	INT (FK → USERS.user_id)
price	DECIMAL(10,2)
created_at	DATETIME
end_date	DATE

◆ 7. TRAINING_SESSIONS

Field	Attributes
session_id	INT (PK, AUTO_INCREMENT)
program_id	INT (FK)
trainer_id	INT (FK → USERS.user_id)
client_id	INT (FK → USERS.user_id)
session_mode	ENUM('Online','Offline')
session_date	DATE
session_time	TIME
session_status	ENUM('Scheduled','Completed','Cancelled')

◆ 8. PROGRESS_TRACKING

Field	Attributes
progress_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
program_id	INT (FK)
calories_burnt	INT
duration_minutes	INT
trainer_notes	TEXT
recorded_at	DATETIME
weight_kg	DECIMAL(5,2)
bmi	DECIMAL(5,2)
body_fat_percent	DECIMAL(5,2)
trainer_rating	INT
client_feedback	TEXT
goal_achieved	BOOLEAN

◆ 9. EQUIPMENT

Field	Attributes
equipment_id	INT (PK, AUTO_INCREMENT)
name	VARCHAR(100)
equipment_type	ENUM('Online','Offline')
usage_purpose	VARCHAR(100)
status	ENUM('Available','Maintenance','Unavailable')
serial_number	VARCHAR(50)

◆ 10. PROGRAM_EQUIPMENT

Field	Attributes
program_id	INT (FK)
equipment_id	INT (FK)
status	ENUM('Available','Occupied')
usage_notes	TEXT
PRIMARY KEY	(program_id, equipment_id)

◆ 11. VENDORS

Field	Attributes
vendor_id	INT (PK, AUTO_INCREMENT)
vendor_name	VARCHAR(100)
contact_email	VARCHAR(100)
phone	VARCHAR(15)
address	TEXT
vendor_status	ENUM('Active','Inactive')

◆ 12. PRODUCTS

Field	Attributes
product_id	INT (PK, AUTO_INCREMENT)
vendor_id	INT (FK)
name	VARCHAR(100)
category	VARCHAR(50)
price	DECIMAL(10,2)
stock_qty	INT
product_status	ENUM('Available','OutOfStock')
created_at	DATETIME

◆ 13. ORDERS

Field	Attributes
order_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
order_status	ENUM('Created','Paid','Cancelled','Delivered')
total_amount	DECIMAL(10,2)
created_at	DATETIME

◆ 14. ORDER_ITEMS

Field	Attributes
order_item_id	INT (PK, AUTO_INCREMENT)
order_id	INT (FK)
product_id	INT (FK)
quantity	INT

Field	Attributes
unit_price	DECIMAL(10,2)

◆ 15. RESOURCES

Field	Attributes
resource_id	INT (PK, AUTO_INCREMENT)
title	VARCHAR(100)
resource_type	ENUM('Video','PDF','Article')
access_type	ENUM('Free','Paid')
uploaded_by	ENUM('Trainer','Admin')
created_at	DATETIME

◆ 16. RESOURCE_ACCESS_LOG

Field	Attributes
log_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
resource_id	INT (FK)
accessed_at	DATETIME

◆ 17. PACKAGES

Field	Attributes
package_id	INT (PK, AUTO_INCREMENT)
package_name	VARCHAR(100)
description	TEXT
price	DECIMAL(10,2)
duration_days	INT

Field	Attributes
sessions_count	INT
created_at	DATETIME

◆ 18. TRAINER_SCORES

Field Name	Data Type
trainer_id	INT (FK → USERS.user_id)
average_rating	DECIMAL(3,2)
sessions_completed	INT
feedback_count	INT
experience_years	INT
availability_bonus	INT
total_score	DECIMAL(5,2)
recommendation_status	ENUM('Normal','Highly Recommended')
calculated_at	DATETIME

◆ 19. FEEDBACK

Field	Attributes
feedback_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
trainer_id	INT (FK → USERS.user_id, NULL)
program_id	INT (FK, NULL)
session_id	INT (FK, NULL)
rating	INT (1-5)
comments	TEXT
submitted_at	DATETIME

◆ 20. ADMIN_ACTIVITY_LOG

Field	Attributes
activity_id	INT (PK, AUTO_INCREMENT)
admin_id	INT (FK → USERS.user_id)
action_type	VARCHAR(100)
action_description	TEXT
affected_table	VARCHAR(50)
affected_record_id	INT
ip_address	VARCHAR(45)
created_at	DATETIME

◆ 21. NOTIFICATIONS

Field	Attributes
notification_id	INT (PK, AUTO_INCREMENT)
client_id	INT (FK → USERS.user_id)
message	TEXT
status	ENUM('Unread','Read')
created_at	DATETIME
notification_type	ENUM('Subscription','Payment','Session','Order','System')
priority	ENUM('Low','Normal','High')

◆ 22. DIET_PLANS

Field	Attributes
diet_id	INT (PK, AUTO_INCREMENT)
diet_name	VARCHAR(100)
goal_type	ENUM('Weight Loss','Weight Gain','Maintenance','Muscle Gain')
description	TEXT
calories_per_day	INT
duration_days	INT
created_by	ENUM('Trainer','Admin')

Field	Attributes
created_at	DATETIME

TABLE NORMALIZATION ($1NF \rightarrow 2NF \rightarrow 3NF$)

UNNORMALIZED FORM (UNF)

A single table containing registration details, user profiles, trainer details, client details, subscriptions, payments, training programs, sessions, feedback, orders, products, resources, and notifications.

Problems:

- Data redundancy
 - Repeating groups
 - Multiple values in single attributes
 - Update, insertion, and deletion anomalies
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FIRST NORMAL FORM (1NF)

- All attributes contain atomic values
 - Repeating groups removed
 - Separate tables created for Registrations, Users, Subscriptions, Payments, Training Programs, Sessions, Orders, Products, Resources, Feedback, and Notifications
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SECOND NORMAL FORM (2NF)

- Partial dependencies removed
 - Registration and authentication details moved to **REGISTRATIONS** table
 - User profile details moved to **USERS** table
 - Subscription plan details moved to **SUBSCRIPTION_PLANS** table
 - Payment details moved to **PAYMENTS** table
 - Order and product details separated into **ORDERS** and **ORDER_ITEMS** tables
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THIRD NORMAL FORM (3NF)

- Transitive dependencies removed
- User authentication data stored only in **REGISTRATIONS** table
- Trainer performance and recommendation data stored in **TRAINER_SCORES** table
- Feedback and ratings stored separately in **FEEDBACK** table
- Program, session, and progress data stored independently
- All non-key attributes depend only on their respective primary keys