



Changes from P2 (Old ERD) to P3 (Updated Logical ERD)

Comparing the old P2 model with the new P3 logical ERD, the following improvements and modifications are observed:

1. Addition of Associative Entities for Many-to-Many Relationships

- New Table: **Teams_Freelancers**
 - Establishes a many-to-many relationship between **Teams** and **Freelancers**.
 - Previously, **FreelancerID** was directly linked to **Teams**, limiting flexibility.
 - Now, a freelancer can belong to multiple teams, and a team can have multiple freelancers.
- New Table: **Tasks_Freelancers**
 - Links **Tasks** and **Freelancers** as an associative entity.
 - Previously, tasks were directly assigned to freelancers.
 - Now, multiple freelancers can work on a single task, and a freelancer can work on multiple tasks.

2. Normalization and Entity Refinements

- **Reports** Table Updates
 - Added **AdminID (FK)** → Now explicitly linking reports to **AdminUsers**, indicating reports are generated by admins.
- **SubscriptionPlans** Table Updates
 - Added **AdminID (FK)** → Indicates an admin manages freelancer and client subscriptions.
 - Previously missing, now making admin roles more explicit.
- **Tasks** Table Updates
 - Now includes **ClientID (FK)** to show task ownership.
 - **MilestoneID (FK)** added to directly link tasks with milestones.

3. Strengthened Relationship Definitions

- Explicit Foreign Keys in P3
 - **TeamID (FK)** added to **Projects**, explicitly linking projects to teams.
 - **TaskID (FK)** added in **Milestones**, showing that a milestone is tied to a specific task.
 - **EventID (FK)** in **Notifications**, making notification triggers clearer.

4. Improved Payment and Fee Management

- Service Fees Now Directly Linked to Payments
 - Added **PaymentID (FK)** in **Service Fee** → Service fees are now deducted directly from payments.
 - In P2, service fees were loosely connected to transactions.
- Milestone Payments Now Tracked More Clearly
 - Added **MilestoneID (FK)** in **Payments** → Now showing that payments are made upon milestone completion.

5. Introduction of **Events** Entity

- New Table: **Events**
 - Introduced to track system events that trigger **Notifications**.
 - **EventID (PK)** ensures structured event logging.

6. Enhanced Data Integrity

- Stronger relationships prevent orphaned records.
- Payments and fees are now linked via foreign keys instead of indirect associations.
- Normalization reduces redundancy by ensuring data is stored efficiently.

SUBMITTED BY
GROUP 13