

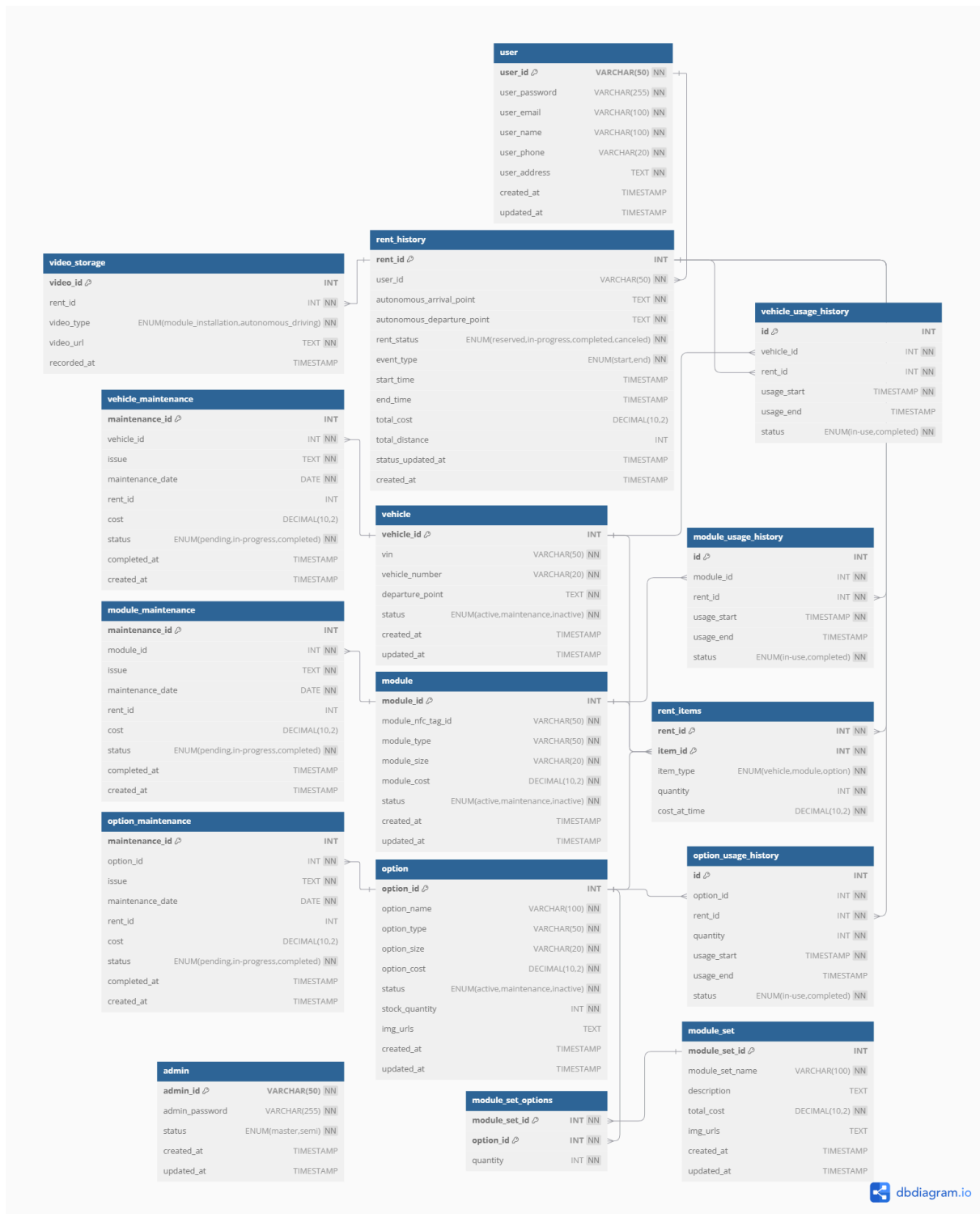


ERD/DB 설계과정

☰ 선택

업데이트 v2 updated 2025.01.17 02:00

변경사항 : API 연동규격서 모두 반영하여 ERD 생성



// **NEW** 사용자 정보 테이블 (User)

Table user {

user_id VARCHAR(50) [pk, not null] // 사용자 ID (고유)

user_password VARCHAR(255) [not null] // 비밀번호 (암호화 저장)

user_email VARCHAR(100) [unique, not null] // 이메일 (고유)

```

user_name    VARCHAR(100) [not null]    // 사용자 이름
user_phone   VARCHAR(20) [not null]     // 전화번호
user_address TEXT [not null]            // 사용자 주소
created_at   TIMESTAMP [default: `CURRENT_TIMESTAMP`]
updated_at   TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

// 🚗 차량 정보 테이블

```

Table vehicle {
  vehicle_id    INT [pk, increment]
  vin           VARCHAR(50) [unique, not null]
  vehicle_number VARCHAR(20) [unique, not null]
  departure_point TEXT [not null]
  status        ENUM('active', 'maintenance', 'inactive') [not null]
  created_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
  updated_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

// 🛠️ 모듈 정보 테이블

```

Table module {
  module_id    INT [pk, increment]
  module_nfc_tag_id VARCHAR(50) [unique, not null]
  module_type   VARCHAR(50) [not null]
  module_size   VARCHAR(20) [not null]
  module_cost   DECIMAL(10,2) [not null]
  status        ENUM('active', 'maintenance', 'inactive') [not null]
  created_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
  updated_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

// ⚙️ 옵션 정보 테이블

```

Table option {
  option_id    INT [pk, increment]
  option_name   VARCHAR(100) [not null]
  option_type   VARCHAR(50) [not null]
  option_size   VARCHAR(20) [not null]
  option_cost   DECIMAL(10,2) [not null]
  status        ENUM('active', 'maintenance', 'inactive') [not null]
}

```

```

stock_quantity INT [not null, default: 0]
img_urls       TEXT
created_at     TIMESTAMP [default: `CURRENT_TIMESTAMP`]
updated_at     TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

// 🏗️ 모듈 세트 정보 테이블

```

Table module_set {
  module_set_id INT [pk, increment]
  module_set_name VARCHAR(100) [unique, not null]
  description   TEXT
  total_cost    DECIMAL(10,2) [not null]
  img_urls      TEXT
  created_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
  updated_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

```

Table module_set_options {
  module_set_id INT [not null]
  option_id     INT [not null]
  quantity      INT [not null, default: 1]
  Indexes {
    (module_set_id, option_id) [pk]
  }
}

```

// 🚗 **대여 이력 테이블 (렌트 히스토리)**

```

Table rent_history {
  rent_id      INT [pk, increment]
  user_id      VARCHAR(50) [not null]
  autonomous_arrival_point TEXT [not null]
  autonomous_departure_point TEXT [not null]
  rent_status  ENUM('reserved', 'in-progress', 'completed', 'canceled') [not null]
  event_type   ENUM('start', 'end') [not null] // 렌트가 처음 시작됐는지('start'),
  start_time   TIMESTAMP
  end_time     TIMESTAMP
  total_cost   DECIMAL(10,2)
  total_distance INT
}

```

```

    status_updated_at TIMESTAMP [default: `CURRENT_TIMESTAMP`]
    created_at      TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

// 📦 대여 항목 관리 테이블

```

Table rent_items {
    rent_id      INT [not null]
    item_id      INT [not null]
    item_type    ENUM('vehicle', 'module', 'option') [not null]
    quantity     INT [not null, default: 1]
    cost_at_time DECIMAL(10,2) [not null]
    Indexes {
        (rent_id, item_id) [pk]
    }
}

```

// 🛠️ 정비 기록 테이블

```

Table vehicle_maintenance {
    maintenance_id INT [pk, increment]
    vehicle_id     INT [not null]
    issue          TEXT [not null]
    maintenance_date DATE [not null]
    rent_id        INT [null]
    cost           DECIMAL(10,2)
    status         ENUM('pending', 'in-progress', 'completed') [not null]
    completed_at   TIMESTAMP
    created_at     TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

```

Table module_maintenance {
    maintenance_id INT [pk, increment]
    module_id      INT [not null]
    issue          TEXT [not null]
    maintenance_date DATE [not null]
    rent_id        INT [null]
    cost           DECIMAL(10,2)
    status         ENUM('pending', 'in-progress', 'completed') [not null]
    completed_at   TIMESTAMP
}

```

```
created_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]  
}
```

```
Table option_maintenance {  
  maintenance_id INT [pk, increment]  
  option_id      INT [not null]  
  issue          TEXT [not null]  
  maintenance_date DATE [not null]  
  rent_id        INT [null]  
  cost           DECIMAL(10,2)  
  status         ENUM('pending', 'in-progress', 'completed') [not null]  
  completed_at   TIMESTAMP  
  created_at     TIMESTAMP [default: `CURRENT_TIMESTAMP`]  
}
```

// 📹 영상 기록 테이블

```
Table video_storage {  
  video_id      INT [pk, increment]  
  rent_id       INT [not null]  
  video_type    ENUM('module_installation', 'autonomous_driving') [not null]  
  video_url     TEXT [not null]  
  recorded_at   TIMESTAMP [default: `CURRENT_TIMESTAMP`]  
}
```

// 📈 사용 이력 테이블 (렌트 ID와 연결)

```
Table vehicle_usage_history {  
  id            INT [pk, increment]  
  vehicle_id    INT [not null]  
  rent_id       INT [not null]  
  usage_start    TIMESTAMP [not null]  
  usage_end      TIMESTAMP [default: NULL]  
  status        ENUM('in-use', 'completed') [not null]  
}
```

```
Table module_usage_history {  
  id            INT [pk, increment]  
  module_id     INT [not null]  
  rent_id       INT [not null]
```

```


usage_start    TIMESTAMP [not null]
usage_end      TIMESTAMP [default: NULL]
status         ENUM('in-use', 'completed') [not null]
}

```

```

Table option_usage_history {
  id            INT [pk, increment]
  option_id     INT [not null]
  rent_id       INT [not null]
  quantity      INT [not null]
  usage_start   TIMESTAMP [not null]
  usage_end     TIMESTAMP [default: NULL]
  status        ENUM('in-use', 'completed') [not null]
}

```

//  관리자 정보 테이블 (admin)

```

Table admin {
  admin_id      VARCHAR(50) [pk, not null]
  admin_password VARCHAR(255) [not null]
  status        ENUM('master', 'semi') [not null]
  created_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
  updated_at    TIMESTAMP [default: `CURRENT_TIMESTAMP`]
}

```

//  테이블 관계 설정

```

Ref: user.user_id < rent_history.user_id
Ref: rent_history.rent_id < rent_items.rent_id
Ref: vehicle.vehicle_id < rent_items.item_id
Ref: module.module_id < rent_items.item_id
Ref: option.option_id < rent_items.item_id
Ref: module_set.module_set_id < module_set_options.module_set_id
Ref: option.option_id < module_set_options.option_id
Ref: vehicle.vehicle_id < vehicle_maintenance.vehicle_id
Ref: module.module_id < module_maintenance.module_id
Ref: option.option_id < option_maintenance.option_id
Ref: rent_history.rent_id < video_storage.rent_id
Ref: rent_history.rent_id < vehicle_usage_history.rent_id
Ref: rent_history.rent_id < module_usage_history.rent_id

```

Ref: rent_history.rent_id < option_usage_history.rent_id
Ref: vehicle.vehicle_id < vehicle_usage_history.vehicle_id
Ref: module.module_id < module_usage_history.module_id
Ref: option.option_id < option_usage_history.option_id