

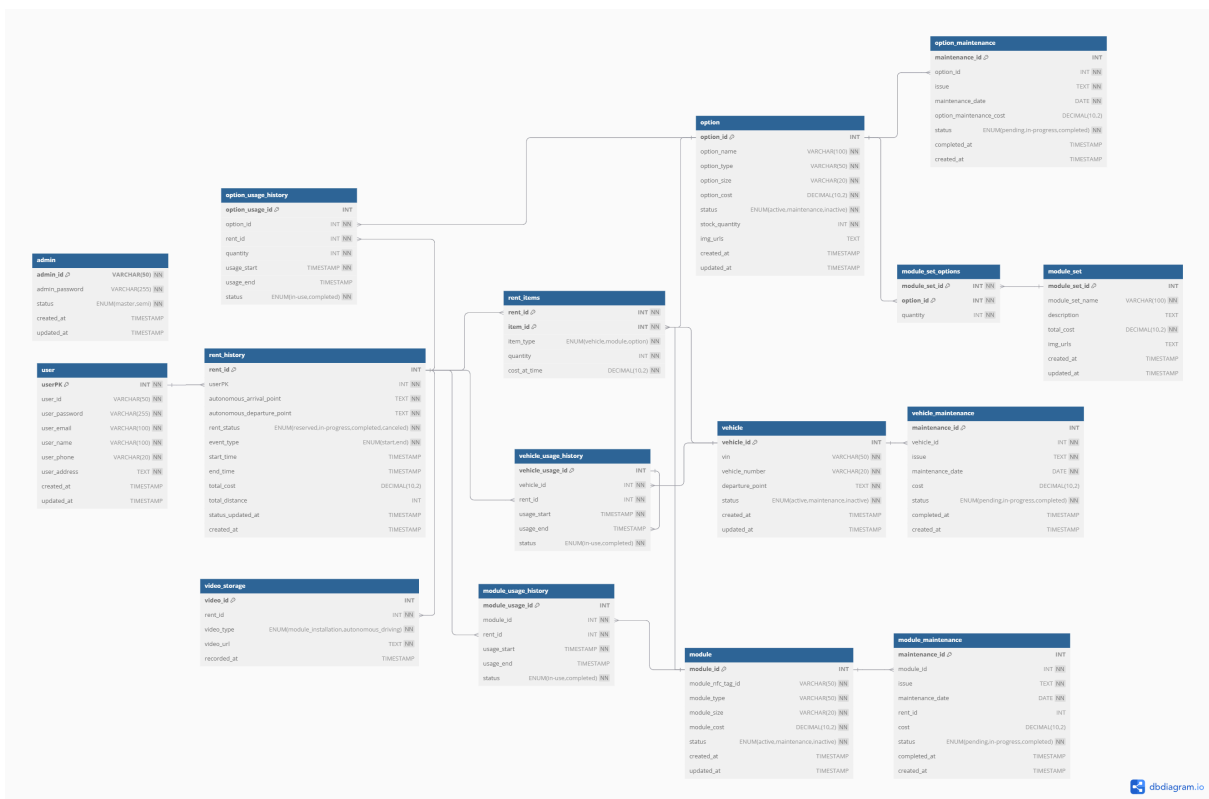


ERD/DB 설계과정

≡ 선택

업데이트 v3 updated 2025.01.17 10:56

변경사항 : API 연동규격서 모두 반영하여 ERD 생성



// **NEW** 사용자 정보 테이블 (User)

Table user {

userPK INT [pk, not null] //사용자 식별 ID (고유)

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

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] //이거 유지보수랑 왜 연결된거임?
  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]
  userPK INT [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]
  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]
  option_maintenance_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 {
  vehicle_usage_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 {
  module_usage_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 {  
  option_usage_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.userPK < rent_history.userPK  
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

Ref: "vehicle_usage_history"."vehicle_usage_id" < "vehicle_usage_history"."us