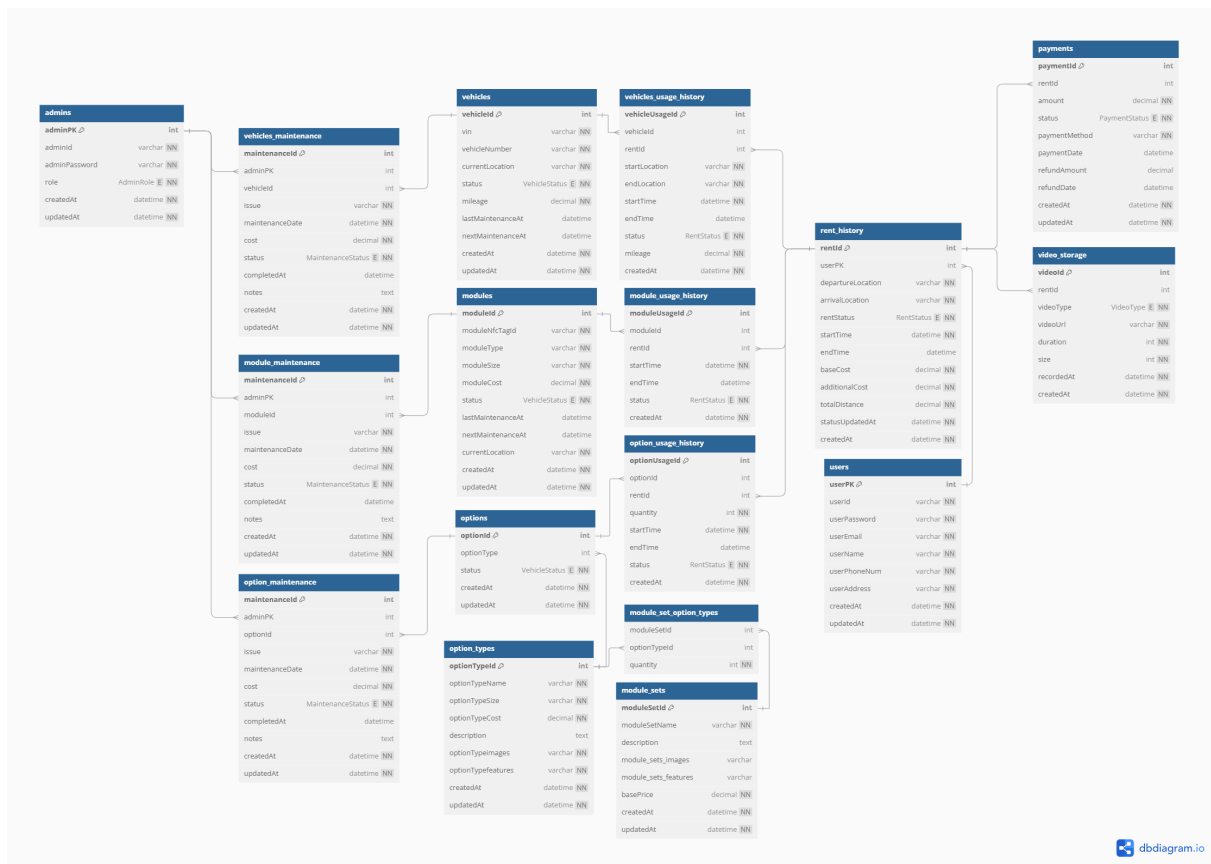




ERD/DB 설계과정

선택

업데이트 v5 updated 2025.01.22 21:39



변경사항 : module set options → module set option types 연동

```
// Enums
Enum UserStatus {
  active
  inactive
}
```

```
suspended  
}
```

```
Enum VehicleStatus {  
    active  
    inactive  
    maintenance  
}
```

```
Enum RentStatus {  
    reserved  
    in_progress  
    completed  
    canceled  
}
```

```
Enum MaintenanceStatus {  
    pending  
    in_progress  
    completed  
}
```

```
Enum AdminRole {  
    master  
    semi  
}
```

```
Enum VideoType {  
    module_installation  
    autonomous_driving  
}
```

```
Enum PaymentStatus {  
    pending  
    completed  
    failed  
    refunded  
}
```

// Users & Authentication

Table users {

userPK int [pk, increment]
userId varchar [unique, not null]
userPassword varchar [not null, note: 'encrypted']
userEmail varchar [unique, not null]
userName varchar [not null]
userPhoneNum varchar [not null]
userAddress varchar [not null]
createdAt datetime [not null, default: `now()`]

updatedAt datetime [not null]

indexes {

userId
userEmail
userPhoneNum

}

}

Table admins {

adminPK int [pk, increment]
adminId varchar [unique, not null]
adminPassword varchar [not null, note: 'encrypted']
role AdminRole [not null]
createdAt datetime [not null, default: `now()`]
updatedAt datetime [not null]

indexes {

adminId
role

}

}

// Vehicles

Table vehicles {

vehicleId int [pk, increment]

```

vin varchar [unique, not null]
vehicleNumber varchar [unique, not null]
currentLocation varchar [not null]
status VehicleStatus [not null, default: 'inactive']
mileage decimal [not null, default: 0]
lastMaintenanceAt datetime
nextMaintenanceAt datetime
createdAt datetime [not null, default: `now()`]
updatedAt datetime [not null]

indexes {
  vin
  vehicleNumber
  status
}
}

```

```

Table vehicles_maintenance {
  maintenancelid int [pk, increment]
  adminPK int [ref: > admins.adminPK]
  vehicleId int [ref: > vehicles.vehicleId]
  issue varchar [not null]
  maintenanceDate datetime [not null]
  cost decimal [not null, note: "cost >= 0"]
  status MaintenanceStatus [not null]
  completedAt datetime
  notes text
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    vehicleId
    status
    maintenanceDate
  }
}

```

```
// Modules & Options
```

```

Table modules {
  moduleId int [pk, increment]
  moduleNfcTagId varchar [unique, not null]
  moduleType varchar [not null]
  moduleSize varchar [not null]
  moduleCost decimal [not null, note: "moduleCost >= 0"]
  status VehicleStatus [not null]
  lastMaintenanceAt datetime
  nextMaintenanceAt datetime
  currentLocation varchar [not null]
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    moduleNfcTagId
    status
  }
}

```

```

Table options {
  optionId int [pk, increment]
  optionType int [ref: > option_types.optionTypeId]
  status VehicleStatus [not null]
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    status
  }
}

```

```

Table option_types {
  optionTypeId int [pk, increment]
  optionTypeName varchar [not null]
  optionTypeSize varchar [not null]
  optionTypeCost decimal [not null, note: "optionCost >= 0"]
  description text
  optionTypeimages varchar [not null]
}

```

```

optionTypefeatures varchar [not null]
createdAt datetime [not null, default: `now()`]
updatedAt datetime [not null]

indexes {
  optionTypeName
}
}

Table module_sets {
  moduleSetId int [pk, increment]
  moduleSetName varchar [not null]
  description text
  module_sets_images varchar
  module_sets_features varchar
  basePrice decimal [not null, note: "basePrice >= 0"]
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    moduleSetName
  }
}

Table module_set_option_types {
  moduleSetId int [ref: > module_sets.moduleSetId]
  optionTypeId int [ref: > option_types.optionTypeId]
  quantity int [not null, note: "quantity > 0"]

  indexes {
    (moduleSetId, optionTypeId)
  }
}

// Maintenance
Table module_maintenance {
  maintenancId int [pk, increment]

```

```

adminPK int [ref: > admins.adminPK]
moduleId int [ref: > modules.moduleId]
issue varchar [not null]
maintenanceDate datetime [not null]
cost decimal [not null, note: "cost >= 0"]
status MaintenanceStatus [not null]
completedAt datetime
notes text
createdAt datetime [not null, default: `now()`]
updatedAt datetime [not null]

indexes {
  moduleId
  status
  maintenanceDate
}
}

```

```

Table option_maintenance {
  maintenancelId int [pk, increment]
  adminPK int [ref: > admins.adminPK]
  optionId int [ref: > options.optionId]
  issue varchar [not null]
  maintenanceDate datetime [not null]
  cost decimal [not null, note: "cost >= 0"]
  status MaintenanceStatus [not null]
  completedAt datetime
  notes text
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    optionId
    status
    maintenanceDate
  }
}

```

```
// Rental & Usage
Table rent_history {
  rentId int [pk, increment]
  userPK int [ref: > users.userPK]
  departureLocation varchar [not null]
  arrivalLocation varchar [not null]
  rentStatus RentStatus [not null]
  startTime datetime [not null]
  endTime datetime
  baseCost decimal [not null, note: "baseCost >= 0"]
  additionalCost decimal [not null, default: 0, note: "additionalCost >= 0"]
  totalDistance decimal [not null, default: 0, note: "totalDistance >= 0"]
  statusUpdatedAt datetime [not null]
  createdAt datetime [not null, default: `now()`]

  indexes {
    userPK
    rentStatus
    startTime
    endTime
  }
}

// Payment
Table payments {
  paymentId int [pk, increment]
  rentId int [ref: > rent_history.rentId]
  amount decimal [not null, note: "amount > 0"]
  status PaymentStatus [not null]
  paymentMethod varchar [not null]
  paymentDate datetime
  refundAmount decimal [note: "refundAmount >= 0"]
  refundDate datetime
  createdAt datetime [not null, default: `now()`]
  updatedAt datetime [not null]

  indexes {
    rentId
  }
}
```



```

    status
    paymentDate
  }
}

// Usage History
Table vehicles_usage_history {
  vehicleUsageld int [pk, increment]
  vehicleId int [ref: > vehicles.vehicleId]
  rentId int [ref: > rent_history.rentId]
  startLocation varchar [not null]
  endLocation varchar [not null]
  startTime datetime [not null]
  endTime datetime
  status RentStatus [not null]
  mileage decimal [not null, note: "mileage >= 0"]
  createdAt datetime [not null, default: `now()`]

  indexes {
    vehicleId
    rentId
    status
    startTime
    endTime
  }
}

Table module_usage_history {
  moduleUsageld int [pk, increment]
  moduleId int [ref: > modules.moduleId]
  rentId int [ref: > rent_history.rentId]
  startTime datetime [not null]
  endTime datetime
  status RentStatus [not null]
  createdAt datetime [not null, default: `now()`]

  indexes {
    moduleId

```

```

    rentId
    status
    startTime
    endTime
  }
}

Table option_usage_history {
  optionUsageId int [pk, increment]
  optionId int [ref: > options.optionId]
  rentId int [ref: > rent_history.rentId]
  quantity int [not null, note: "quantity > 0"]
  startTime datetime [not null]
  endTime datetime
  status RentStatus [not null]
  createdAt datetime [not null, default: `now()`]

  indexes {
    optionId
    rentId
    status
    startTime
    endTime
  }
}

// Video Storage
Table video_storage {
  videoId int [pk, increment]
  rentId int [ref: > rent_history.rentId]
  videoType VideoType [not null]
  videoUrl varchar [not null]
  duration int [not null, note: "duration > 0"]
  size int [not null, note: "size > 0"]
  recordedAt datetime [not null]
  createdAt datetime [not null, default: `now()`]

  indexes {

```

```
rentId  
videoType  
recordedAt  
}  
}
```