## 1. Lease API Overview

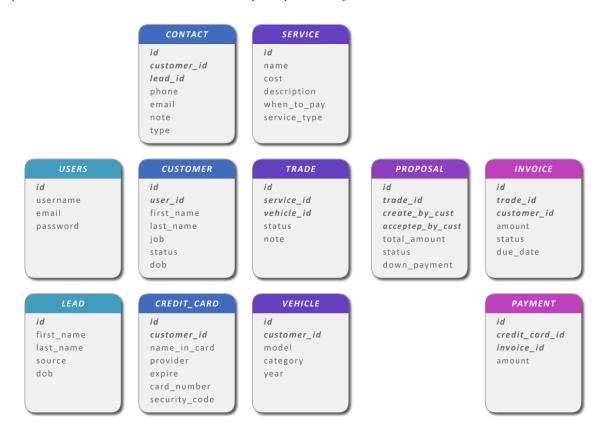
The Lease API is built for a lease company that focus on selling or leasing vehicles. The company doesn't own any vehicle but provides a platform for customers to offer their own vehicles to sell or lease and other clients to shop around.

The API is designer with Django REST API version 4.0.6, uses token authentication and is fully tested with Pytest 7.1.2 having over 300 tests for the models and the API.

# Model General Design

The model consist of 11 tables. Each User can log in into the system and he/she will have a related Customer if the user is non administrative. Each Customer can store Credit Card and Contact information. Contacts can be also created for leads which can only be accessed by administrative users.

A Customer can also create a Vehicle for which he can latter create a Trade using one of the available Services (lease or sell, although you may create other services). The Customer owning the Vehicle can latter make a Proposal for that Trade and other Customer may accept that Proposal or create a new one.



If the Trade is for a Service type sell, an Invoice is created after a proposal has been accepted with the amount defined in the Service. If the Trade is created for a Service type lease (which is expected to be the most common), an Invoice is created when the first proposal is submitted. This occurs before the acceptance because the vehicle's owner is being charge for the exposure.

Finally, the customers are supposed make a Payment with a Credit Card before the due\_date indicated in the Invoice. This completes the cycle around all the tables.

## 2. User

The User table uses the default User Django model. First you need to create a user so you can authenticate and access most of the API services.

## 2.1. Register User

```
https://www.domain.com/api/register/
Example request:
                                       Example response:
 "password": "Secret123*",
                                         "response": "successfully registered a new user.",
 "password2": "Secret123*",
                                        "user id": 1916,
 "first_name": "TestLastName",
""actusername",
 "first_name": "TestFirstName",
                                       "email": "TestEmail@gmail.com",
                                        "username": "testusername2",
                                         "customer id": 1811,
 "email": "testemail@gmail.com",
"job": "TestJob",
                                       "token": "5e01356d9fcd4de865b6be357a6c401b24a4a82d"
 "job": "TestJob",
                                       }
 "notes": "TestNote",
 "dob": 1970-03-04,
}
```

Please notice that a token is returned upon successful user registration. This token will be necessary for authentication of future requests.

## 2.2. Login User

```
POST https://www.domain.com/api/login/
```

A user that's already registered needs to provide his username and password to get a new token generated.

#### 2.3. Get User Details

GET https://www.domain.com/api/user/{user\_id}

Authorization: Token 5e01...

To get user details, the user needs to provide the Authorization Header with his Token. Each regular user can only get his own details. Staff and superusers can get any user details

## 2.4. Update User

PUT https://www.domain.com/api/user/{user\_id}

Authorization: Token 5e01...

To update the user details, the user needs to provide the Authorization Header with his Token. Each regular user can only update his own details. Staff and superusers can get any user details.

## 2.5. Update User Password

PUT https://www.domain.com/api/password\_update/{user\_id}

Authorization: Token 5e01...

A regular user can update his own password. Staff and superusers can update any password.

#### 2.6. Get User List

GET https://www.domain.com/api/users/

Authorization: Token 5e01...

Only staff and superusers can get the list of all users.

```
Example request:
                                       Example response:
                                         {
                                           "id": 1806,
}
                                           "username": "april599",
                                           "email": "april599@gmail.com",
                                           "first name": "April",
                                           "last name": "Smith",
                                           "is active": true,
                                           "customer id": 1796
                                         },
                                           "id": 1807,
                                           "username": "brandon686",
                                           "email": "brandon686@gmail.com",
                                           "first name": "Brandon",
                                           "last name": "Bell",
                                           "is active": false,
                                           "customer id": 1804
                                         }, ...
```

# 2.7. Delete User

DELETE https://www.domain.com/api/user/{user\_id}

Authorization: Token 5e01...

A regular user can delete his own user. Staff and superusers can delete any user. Deleting a user will also delete the related customer if any.

#### 2.8. Add User

```
POST https://www.domain.com/api/users/ Authorization: Token 5e01...
```

Only the superuser is allowed to create users using this method. It's suitable for adding users of any kind: regular, staff or superuser. Regular users are supposed to create their users by registering.

```
Example request:
                                         Example response:
  "password": "Secret123*",
                                           "id": 1917,
  "is superuser": false,
                                          "last login": null,
 "first name": "Lisa",
                                          "is superuser": false,
 "last name": "Thompson",
                                         "username": "lisa950",
  "username": "lisa950",
                                          "first_name": "Lisa",
  "email": "lisa950@gmail.com",
                                          "last_name": "Thompson",
 "is active": 1,
                                           "email": "lisa950@gmail.com",
                                           "is_staff": false,
                                           "is active": true,
                                           "date_joined": "2022-08-31T16:27:13.527005-04:00",
                                           "groups": [],
                                           "user_permissions": []
```

Please notice that when registering the request must specify the fields job, dob and notes which are not specified when adding. That's because those three fields are actually stored in the Customer table. When you create via register, a Customer is also created. On the contrary, creating a user via add only creates a record in the User table.

#### 2.9. User Search

GET https://www.domain.com/api/users/search/?username=lis Authorization: Token 5e01...

Only the staff and superuser are allowed to search users. Search can be made by *username*, *first\_name* and/or *last\_name*. Note that the response indicates customer\_id = 0 if there is the user has no related customer

# 3. Customer

The customer tables contains extra data for the non-administrative users such as job, notes and dob. Every customer must have a related user but administrative users don't have a customer.

#### 3.1. Create Customer

Customers can't be directly added using the API. To create a customer you need to register a user and the related customer will also be created.

#### 3.2. Get Customer Details

GET https://www.domain.com/api/customer/{customer\_id} Authorization: Token 5e01...

Each regular user can only get his own customer details. Staff and superusers can get any customer details.

## 3.3. Update Customer

PUT https://www.domain.com/api/customer/{customer\_id} Authorization: Token 5e01...

Each regular user can only update his own customer details. Staff and superusers can get any user customer details.

#### 3.4. Get Customer List

GET https://www.domain.com/api/customers/

Authorization: Token 5e01...

Only staff and superusers can get the list of all customers.

### 3.5. Delete Customer

DELETE https://www.domain.com/api/customer/{customer\_id}

Authorization: Token 5e01...

A regular user can delete his own customer. Staff and superusers can delete any customer. Deleting a customer will also delete the related user if any.

### 3.6. Customer Search

GET https://www.domain.com/api/users/search/?first\_name=ada

Authorization: Token 5e01...

Only the staff and superuser are allowed to search customer using the fields: *first\_name*, *last\_name*, *job* and *age*.

## 4. Vehicle

A customer may create any numbers of vehicles for himself in the system. Those vehicles can be latter used in trades. Staff and superuser can add vehicles for any customer.

#### 4.1. Add Vehicle

https://www.domain.com/api/vehicles/ Authorization: Token 5e01... Example request: Example response: { "customer": 1, { "id": 1, "make model": "MINI Roadster", "customer": 1, "make": "Toyota", "make": "Toyota", "model": "F150 Super Cab", "model": "F150 Super Cab", "category": "Van/MiniVan", "category": "Van/MiniVan", "machine make model": "Volvo G780B", "machine make model": "Volvo G780B", "machine make": "Case IH", "machine make": "Case IH", "machine model": "EH 5000 AC - 2", "machine model": "EH 5000 AC - 2", "machine category": "Wheel Loader", "machine category": "Wheel Loader", "year": 2005, "year": 2005, "machine\_year": 2001} "machine year": 2001}

#### 4.2. Get Vehicle Details

GET https://www.domain.com/api/vehicle/{vehicle\_id}

Authorization: Token 5e01...

Each regular user can only get details for his own vehicles. Staff and superusers can get details for any vehicle.

## 4.3. Update Vehicle

PUT https://www.domain.com/api/vehicle/{vehicle\_id}

Authorization: Token 5e01...

Each regular user can only update his own vehicle details. Staff and superusers can get any user vehicle details.

```
Example request:
                                           Example response:
{ "customer": 1,
                                           { "id": 1,
 "make_model": "MINI Roadster",
                                            "customer": 1,
 "make": "Toyota",
                                             "make": "Toyota",
 "model": "F150 Super Cab",
                                            "model": "F150 Super Cab",
 "category": "Van/MiniVan",
                                           "category": "Van/MiniVan",
                                           "machine_make_model": "Volvo G780B",
 "machine make model": "Volvo G780B",
 "machine make": "Case IH",
                                             "machine make": "Case IH",
 "machine model": "EH 5000 AC - 2",
                                            "machine model": "EH 5000 AC - 2",
 "machine_category": "Wheel Loader",
                                             "machine_category": "Wheel Loader",
                                             "year": 2005,
 "year": 2005,
 "machine year": 2001}
                                             "machine year": 2001}
```

#### 4.4. Get Vehicle List

GET https://www.domain.com/api/vehicles/

Authorization: Token 5e01...

A regular user can get the list of his own vehicles. Staff and superusers can get the list of all available vehicles.

#### 4.5. Delete Vehicle

```
DELETE https://www.domain.com/api/vehicle/{vehicle_id}

Authorization: Token 5e01...
```

A regular user can delete his own vehicle. Staff and superusers can delete any vehicle. Deleting a vehicle doesn't affect the customer or user but deleting a customer or user will also delete his vehicles.

# 4.6. Vehicle Search

```
GET https://www.domain.com/api/vehicles/search/?make=toy Authorization: Token 5e01...
```

Only the staff and superuser are allowed to search vehicles using the fields: make\_model, make, model, category, machine\_make\_model, machine\_make, machine\_model, machine\_category, year and machine\_year.

### 4.7. Vehicles for a Customer

```
GET https://.../api/vehicles_for_customer/{customer_id} Authorization: Token 5e01...
```

A user can get his own list of vehicles. Staff and superusers can get the list of vehicles for any customer. Examples request and response are same as previous.

## 5. Lead

Leads are potential customers that haven't registered yet into the system. Leads can be managed only by staff and superusers.

#### 5.1. Add Lead

#### 5.2. Get Lead Details

## 5.3. Update Lead

PUT https://www.domain.com/api/lead/{lead\_id}

Authorization: Token 5e01...

### Example request:

```
{ "first_name": "Taylor",
   "last_name": "Glenn",
   "source": "https://www.facebook.com",
   "notes": "Some notes",
   "dob": 1971-05-15}
```

### Example response:

```
{ "id": 1,
   "first_name": "Taylor",
   "last_name": "Glenn",
   "source": "https://www.facebook.com",
   "notes": "Some notes",
   "dob": 1971-05-15}
```

#### 5.4. Get Lead List

GET https://www.domain.com/api/leads/

Authorization: Token 5e01...

### 5.5. Delete Lead

DELETE https://www.domain.com/api/lead/{lead\_id}

Authorization: Token 5e01...

## 5.6. Lead Search

GET https://www.domain.com/api/leads/search/?first\_name=tay

Authorization: Token 5e01...

Leads can be searched by: first\_name, last\_name, source and notes.

# 6. Contact

A customer may create any numbers of contacts for himself in the system. Every contact record may contain a phone or an email. Staff and superusers can create contacts for any customer or lead. Contact type = 1 is for emails and type = 2 is for phones.

#### 6.1. Add Contact

```
POST https://www.domain.com/api/contacts/

Authorization: Token 5e01...
```

Any user can add a contact for himself. Staff and superusers can add contacts for any customer or for any lead.

```
Example request:
                                            Example response:
{ "customer": 1,
                                            { "id": 1,
 "lead ": "",
                                              "customer": 1,
 "phone": "",
                                              "lead ": "",
 "email": "james744@gmail.com",
                                             "phone": "",
 "note": "Some note",
                                             "email": "james744@gmail.com",
 "type": 1,
                                             "note": "Some note",
                                             "type": 1,
}
                                            }
```

#### 6.2. Get Contact Details

```
GET https://www.domain.com/api/contact/{contact_id} Authorization: Token 5e01...
```

Each regular user can only get details for his own contacts. Staff and superusers can get details for any contact.

### **6.3. Update Contact**

```
PUT https://www.domain.com/api/contact/{vehicle_id} Authorization: Token 5e01...
```

Each regular user can only update his own contact details. Staff and superusers can get any user customer details.

```
Example request:
                                             Example response:
                                             { "id": 1,
Example request:
                                               "customer": 1,
{ "customer": 1,
                                               "lead ": "",
  "lead ": "",
                                               "phone": "",
 "phone": "",
                                               "email": "james744@gmail.com",
  "email": "james744@gmail.com",
                                               "note": "Some note",
  "note": "Some note",
                                               "type": 1}
  "type": 1}
```

### 6.4. Get Contact List

```
GET https://www.domain.com/api/contacts/

Authorization: Token 5e01...
```

A regular user can get the list of his own contacts. Staff and superusers can get the list of all available contacts.

#### 6.5. Delete Contact

```
DELETE https://www.domain.com/api/contact/{contact_id} Authorization: Token 5e01...
```

A regular user can delete his own contact. Staff and superusers can delete any contact for a customer or lead. When deleting a customer or a lead, its related contacts also get deleted.

#### 6.6. Contact Search

GET https://www.domain.com/api/contacts/search/?email=jam Authorization: Token 5e01...

Only the staff and superuser are allowed to search contacts using the fields: *phone*, *email*, *note* and *type*.

### 6.7. Contacts for a Customer

```
GET https://.../api/contacts_for_customer/{customer_id} Authorization: Token 5e01...
```

Returns all available contacts for a given customer id. Return is similar to previous. Every customer is able to obtain the contacts for his customer. Staff and superusers can obtain contacts for any customer.

### 6.8. Contacts for a Lead

```
GET https://.../api/contacts_for_lead/{lead_id}

Authorization: Token 5e01...
```

Returns all available contacts for a given lead id. Only staff and superusers can obtain contacts for any lead.

# 7. Credit Card

A customer may create any numbers of credit cards for himself. Those credit cards can be latter used for payments. Staff and superuser can handle credits cards for any customer.

#### 7.1. Add Credit Card

```
Authorization: Token 5e01...
         https://www.domain.com/api/credit_cards/
Example request:
                                              Example response:
{ "customer": 1,
                                              { "id": 1,
  "name in card ": "josephroberts",
                                               "customer": 1,
 "provider": "Visa",
                                               "name in card ": "josephroberts",
                                               "provider": "Visa",
  "expire month": 8,
 "expire_year": 2027,
                                                "expire month": 8,
 "security code": "892",
                                               "expire year": 2027,
  "card number": "352929361782272"
                                               "security code": "892",
                                                "card number": "352929361782272"
                                              }
```

### 7.2. Get Card Details

GET https://www.domain.com/api/credit\_card/{card\_id}

Authorization: Token 5e01...

Each regular user can only get details for his own cards. Staff and superusers can get details for any card.

### 7.3. Update Card

PUT https://www.domain.com/api/credit\_card/{card\_id} Authorization: Token 5e01...

Each regular user can only update his own credit cards details. Staff and superusers can get any user card details.

```
Example request:
                                           Example response:
{ "customer": 1,
                                           { "id": 1,
  "make model": "MINI Roadster",
                                            "customer": 1,
  "make": "Toyota",
                                            "name in card ": "josephroberts",
  "model": "F150 Super Cab",
                                            "provider": "Visa",
  "category": "Van/MiniVan",
                                           "expire month": 8,
                                           "expire_year": 2027,
  "machine make model": "Volvo G780B",
  "machine make": "Case IH",
                                            "security code": "892",
  "machine_model": "EH 5000 AC - 2",
                                           "card number": "352929361782272"
  "machine category": "Wheel Loader",
  "year": 2005,
  "machine year": 2001}
```

#### 7.4. Get Card List

GET https://www.domain.com/api/credit\_cards/

Authorization: Token 5e01...

A regular user can get the list of his own credit cards. Staff and superusers can get the list of all available cards.

```
Example request:
                                      Example response:
{ "customer": 1,
                                      [{ "id": 1,
 "name in card ": "josephroberts",
                                    "customer": 1,
 "provider": "Visa",
                                       "name in card ": "josephroberts",
 "expire month": 8,
                                      "provider": "Visa",
 "expire year": 2027,
                                        "expire month": 8,
 "security_code": "892",
                                        "expire year": 2027,
 "card number": "352929361782272"
                                      "security code": "892",
                                        "card number": "352929361782272"
                                      } ... ]
```

#### 7.5. Delete Credit Card

```
DELETE https://www.domain.com/api/credit_card/{card_id}

Authorization: Token 5e01...
```

A regular user can delete his own credit card. Staff and superusers can delete any card. When deleting a user or customer, their related credit cards will also get deleted.

### 7.6. Credit Card Search

```
GET https://.../api/credit_cards/search/?name_in_car=jos Authorization: Token 5e01...
```

Only the staff and superuser are allowed to search credit cards using the fields: name\_in\_card, expire\_month, expire\_year and last\_four\_digits.

### 7.7. Credit Cards for a Customer

```
GET https://.../api/credit_cards_for_customer/{customer_id} Authorization: Token 5e01...
```

A user can get his own list of credit cards. Staff and superusers can get the list of cards for any customer. Examples request and response are same as previous.

## 8. Service

The system has two basic services which are lease and sale. Extra services can be added in this table. Services can only be created by staff and superusers. Regular users can only get or list services.

Service allow specifying if the invoice is to be created on the first trade (like in lease using when\_to\_pay = 1) or when any proposal is approved (like in sale using when\_to\_pay = 2). The variable service\_type can be set to 1 for type Lease or 2 for type Sale.

#### 8.1. Add Service

POST https://www.domain.com/api/services/

Authorization: Token 5e01...

Only staff and superusers can add services.

```
Example request:
```

```
{ "name": "Lease",
  "cost ": 923.54,
  "when to pay": 2,
  "service type": 1,
  "description": "some desc"}
```

### Example response:

```
{ "id": 1,
    "name": "Lease",
    "cost ": 923.54,
    "when to pay": 2,
    "service type": 1,
    "description": "some desc"}
```

#### 8.2. Get Service Details

GET https://www.domain.com/api/service/{service\_id}

Authorization: Token 5e01...

Any registered user can get a service details.

```
Example request:
```

### Example response:

```
{ "id": 1,
   "name": "Lease",
   "cost ": 923.54,
   "when_to_pay": 2,
   "service_type": 1,
   "description": "some desc"}
```

## 8.3. Update Service

PUT

https://www.domain.com/api/service/{service\_id}

Authorization: Token 5e01...

Only staff and superusers can edit services.

```
Example request:
```

```
{ "name": "Lease",
  "cost ": 923.54,
  "when to pay": 2,
  "service type": 1,
  "description": "some desc"}
```

### Example response:

```
{ "id": 1,
   "name": "Lease",
   "cost ": 923.54,
   "when to pay": 2,
   "service type": 1,
   "description": "some desc"}
```

#### 8.4. Get Service List

GET

https://www.domain.com/api/services/

Authorization: Token 5e01...

Any authenticated user can get the list of services.

Example request:

```
}
```

Example response:

```
[{ "id": 1,
    "name": "Lease",
    "cost ": 923.54,
    "when_to_pay": 2,
    "service_type": 1,
    "description": "some desc"}...]
```

## 8.5. Delete Service

DELETE

https://www.domain.com/api/service/{service\_id}

Authorization: Token 5e01...

Only staff and superadmins can delete services.

Example request:

Example response:

## 8.6. Service Search

GET https://.../api/services/search/?name=lea

Authorization: Token 5e01...

Is possible to search services using the fields: name, cost, when\_to\_pay, and service\_type.

# 9. Trade

A customer may create trades for any of his vehicles but he can't create two trades with the same service/vehicle combination. Staff and superusers also have this limitation, however, they can create trades for any customer. The status field in trades contains 1 for open, 2 for accepted and 3 for canceled.

### 9.1. Add Trade

```
POST https://www.domain.com/api/trades/

Authorization: Token 5e01...
```

A regular user can only add trades for his own vehicles. Staff and Superuser can add trades for any vehicle. All trades are created with status = 1 which means the trade is open.

#### 9.2. Get Trade Details

```
GET https://www.domain.com/api/trade/{trade_id} Authorization: Token 5e01...
```

Each regular user can only get details for his own trades. Staff and superusers can get details for any trade.

## 9.3. Update Trade

```
PUT https://www.domain.com/api/trade/{trade_id} Authorization: Token 5e01...
```

Each regular user can only update his own trade details. Staff and superusers can get any trade details.

### 9.4. Get Trade List

```
GET https://www.domain.com/api/trades/
Authorization: Token 5e01...
```

A regular user can get the list of his own trades. Staff and superusers can get the list of all available vehicles. Buyer (other customers) can get the list of all proposals (which include trades) but can't directly visualize trades.

## 9.5. Delete Trade

```
DELETE https://www.domain.com/api/trade/{trade_id}

Authorization: Token 5e01...
```

A regular user can delete his own trade. Staff and superusers can delete any trade. Deleting a trade doesn't affect the vehicle or service but will delete all proposals.

## 9.6. Trade Search

GET https://www.domain.com/api/trades/search/?status=2 Authorization: Token 5e01...

Only the staff and superuser are allowed to search trades using the fields: *note* and *status*.

## 9.7. Trades for a Vehicle

```
GET https://.../api/trades_for_vehicle/{vehicle_id}

Authorization: Token 5e01...
```

The user who owns the vehicle can get the list of all trades for a given vehicle. Staff and superusers can get the related trades for any vehicle.