

Database

Group members:

Jichen Jiang

Linghao Zhao

Varun Reddy Pedditi

Zihe Wang

<https://github.com/aturret/CS-546-Final-Project>

Hotels

The hotel collection contains all registered hotels on our website. Only admin users can edit the information of hotels.

```
hotels =
{
  _id: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
  name: "DoubleTree by Hilton Hotel & Suites Jersey City",
  street: "455 Washington Blvd",
  city: "Jersey City",
  state: "New Jersey",
  zip_code: 07310,
  phone: "2014992400",
  email: "doubletreejc@hilton.com",
  Pictures:
["https://images.trvl-media.com/lodging/1000000/130000/125000/124946/a4319253_z.jpg"],
  rooms: ["d30a9b47-acb7-4396-84bf-343ae02971c",
          "3f9a293e-81fe-4fcb-bced-f000d013372a",],
  overall_rating: 4.8,
  facilities: ["Air-condition",
              "Wi-Fi",],
  managers: ["7115f254-c67b-47df-869e-57885e386358"],
  reviews: ["e58cebf9-61ea-44d4-810c-3d824de8df3e"]
}
```

Name	Type	Description
_id	ObjectId	A globally unique identifier

		to represent the hotel
name	string	The name of the hotel
street	string	The street of the hotel's address
city	string	The city of the hotel's address
state	string	The state of the hotel's address
zip_code	string	The zip code of the hotel's address
phone	string	The phone contact of the hotel
email	string	The email contact of the hotel
rooms	Array[ObjectId]	An array of references to all rooms of the hotel
overall_rating	number	The overall rating of the hotel (calculate by average rating of all reviews)
facilities	Array[string]	An array of the feature facilities e.g.Wi-Fi, gym, etc.
managers	Array[string]	An array of managers who can process room orders
reviews	Array[ObjectId]	An array of references to all reviews of the hotel

Rooms

The room collection stores all rooms. A hotel manager can edit rooms information of the corresponding hotel.

```
rooms =
{
  _id: "d30a9b47-acb7-4396-84bf-343ae02971c",
```

```

    hotel_id: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
    room_number: "201",
    room_type: "single room",
    orders: ["28d75344-e13b-488f-958f-88bdad98b19a"]
}

```

Name	Type	Description
_id	ObjectId	A globally unique identifier to represent the room
hotel_id	ObjectId	The reference ID of the hotel corresponding to the room.
room_number	string	The room number of the room
room_type	ObjectId	The type of the room
orders	Array[Object Id]	An array of orders corresponding to the the hotel

Room Type

The room type collection stores all room types. Each room needs a room type to decide its price. A manager of a hotel can add and edit room types.

```

room_type =
{
  _id: "240a14de-407c-45c5-bc85-9e6f3929e24d",
  hotel_id: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
  name: "single room",
  pictures:
["https://images.trvl-media.com/lodging/1000000/130000/125000/124946/b15169d8.jpg"],
  price: 150,
  rooms: ["d30a9b47-acb7-4396-84bf-343ae02971c"]
}

```

Name	Type	Description
_id	ObjectId	A globally unique identifier to represent the room
hotel_id	ObjectId	The ObjectId of the hotel
name	string	The type name of the room type
pictures	Array[string]	An array of urls of the picture which used to show the detail of the room on the room page.
price	number	The price of booking the room type
rooms	Array[ObjectId]	An array of references to rooms of the room type

Users

The users collection stores all users, including three types of users: normal, manager, and admin. Admin users can modify the type of a user.

```
user =
{
  _id: "7115f254-c67b-47df-869e-57885e386358",
  identity: "manager",
  username: "hiltonmanager01",
  hashed_password:
"$2y$10$XhtEhc5U6mRy6LUzW8pNdejR.5i6NvKb7Zu8Ii9V08OuHJvzL7Ihm",
  avatar:
"https://static.wikia.nocookie.net/jamescameronsavatar/images/e/e5/Avatar_
TWoW_Neytiri_Textless_Poster.jpg/revision/latest?cb=20221125232909",
  firstname: "hilton",
  lastname: "manager1",
  phone: "2014992400",
  email: "manager1@hilton.com",
  hotel: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
  orders: ["28d75344-e13b-488f-958f-88bdad98b19a"],
}
```

Name	Type	Description
_id	ObjectId	A globally unique identifier to represent the hotel
identity	string	The identity of the user: normal, manager, admin
username	string	The username of the user
hashed_password	string	The password when the user log in
avatar	string	The url of avatar of the user, which is shown on review page
firstname	string	The first name of the user
lastname	string	The last name of the user
phone	string	The phone contact of the user
email	string	The email contact of the user
hotel	ObjectId	The reference of the hotel which managed by the user (if the user is a manager)
orders	Array	An array that store the order_ids, as foreign key, which guests booked

Orders

The orders collection stores all orders. Each order has a corresponding room and a corresponding review. A user can also register one or more guests at the order, which is convenient for hotel managers to check the identity of guests who come to the hotel.

```
orders =
{
  _id: "28d75344-e13b-488f-958f-88bdad98b19a",
  hotel_id: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
```

```

room_id: "d30a9b47-acb7-4396-84bf-343ae02971c",
user_id: "7115f254-c67b-47df-869e-57885e386358",
checkin_date: "2023-10-05",
checkout_date: "2023-12-05",
guests: [{
  firstname: string,
  lastname: string
}],
order_price: number,
status: string,
review: "e58cebf9-61ea-44d4-810c-3d824de8df3e"
}

```

Name	Type	Description
_id	ObjectId	A globally unique identifier to represent the order
hotel_id	string	The reference ID of the room corresponding to the hotel
room_id	string	The reference ID of the room corresponding to the order
user_id	string	The reference ID of the room corresponding to the user
checkin_date	Date	The check in date of the order
checkout_date	Date	The check out date of the order
guest	Array[guest subdocuments]	An array of guest subdocument.
order_price	number	The price of the order. Locked when submitting the order. It will not change with the price of the corresponding room type.

status	string	The status of the order: e.g. pending, waiting, canceled, closed..
review	ObjectId	The corresponding review of the order

Guest

Guest is a sub-document of order collection. It is just for check the identity of a guest, since a guest might not be the user who booked the room himself.

```
orders =
{
  firstname: "Samuel",
  lastname: "Kim"
}
```

Name	Type	Description
firstname	string	The first name of the guest
lastname	string	The last name of the guest

Reviews

The reviews collection stores all reviews. Normal users can give upvote or downvote a review to decide its helpfulness. Managers of the corresponding hotel can reply to the review.

```
reviews =
{
  _id: "e58cebf9-61ea-44d4-810c-3d824de8df3e",
  user_id: "7115f254-c67b-47df-869e-57885e386358",
  hotel_id: "4634e6cc-cef1-4510-b2b3-25c6bf6bf16a",
  rating: 4.5,
  comment: "A pretty nice hotel. We will come again when we travel to New
York City.",
  hotel_reply: "Thank you! Welcome to come again!",
  upvote: 12,
  downvote: 0
}
```

Name	Type	Description
_id	ObjectId	A globally unique identifier to represent the review
user_id	ObjectId	The reference ID of the user who submitted the review
hotel_id	ObjectId	The reference ID of the hotel corresponding to the review
rating	number	The rating of the review
comment	string	The comment content of the review
hotel_reply	string	The reply to the review from the hotel
upvote	number	The number of votes that thinks this review is useful
downvote	number	The number of votes that thinks this review is not useful