

## DISCLAIMER

- Data model is presented in database diagram and available on day 2 of Event
- Application should implement N-Tier architecture:
  - Controller
  - Dto
  - Service
  - Repository
- In request/response are described DTO objects, it is not mandatory to follow those naming conventions in data model
- Test data are available on day 2 of Event
- Only complete endpoints will be considered in grading

## ASSUMPTIONS

- There is no real security layer (for now), but in every request expect /login user should send Authentication Bearer {token} header.
- All request fields are required (unless indicated otherwise).
- If a required request field is missing, the HTTP Response Code 400 (Bad Request) should be returned.
- The standard HTTP Response Code is 200 (OK) (unless indicated otherwise).
- The error HTTP Response Code is 500 (INTERNAL SERVER ERROR) (unless indicated otherwise).

## REQUIREMENTS

- The requirements for the application are specified using user stories below.
- User stories are related to F/M user stories, for maximum points all channels should be implemented (B/F/M)
- Higher number of correctly implemented stories means more points.

## US 1: As a user, I want to login in application

Frontend Application should have a public login page. To achieve login functionality next endpoints should be provided:

- /login - POST
  - To provide exact login

### REQUEST:

```
{  
    "username": "nmasic@agency04.com",  
    "password": "nmasic123!",  
    "termsAccepted": true,  
}  
  
- Username should be in valid email format  
- Password should:  
    - 8 characters minimum length  
    - Contain at least 1 number  
    - Contain at least 1 special sign (!?#$%^&*)
```

### RESPONSE:

200 OK

```
{  
    "token":  
        "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjM0NTY3ODkwi  
        iwiBmFtZSI6Ikpvag4gRG91IiwiaWF0IjoxNTE2MjM5MDIyfQ.Sf1KxwRJSMeKK  
        F2QT4fwpMeJf36FOk6yJV_adQssw5c"  
}
```

401 UNAUTHORIZED

```
{  
    "messages": [  
        "Invalid credentials",  
        "Username is not in correct format"  
    ]  
}
```

- X
- `/user/data` - **GET**
    - To fetch user data after successful login

**RESPONSE:**

**200 OK**

```
{  
    "firstName": "Nikola",  
    "lastName": "Masic",  
    "email": "nmasic@agency04.com",  
    "dob": "1992-06-18",  
    "location": {  
        "title": "Zagreb",  
        "country": "Croatia"  
    }  
}
```

**502 BAD GATEWAY**

- In case of error

X

## US 2: As a user, I want to use the Homepage!

After successful login, the user is redirected to the homepage. All elements on homepage are served via backend endpoints:

- /landing - GET
  - To fetch landing page main photos
  - Photos content are part of static resources (stored in separate files)

RESPONSE:

200 OK

```
{  
  "images": [  
    "data:image/png;base64,...",  
    "data:image/png;base64,...",  
    "data:image/png;base64,..."  
  ]  
}
```

400 BAD REQUEST

- If there is no static Landing photos initialized

- `/locations/popular/{count}` - **GET**
  - To fetch popular locations
  - Popular location is defined by number of actual bookings for any accommodation in location

#### REQUEST:

`{count}` Path Variable

#### RESPONSE:

**200 OK**

```
[{"id": 1, "title": "Dubrovnik", "propertiesCount": 36, "imageUrl": "https://picsum.photos/200/300"}, {"id": 2, "title": "Pariz", "propertiesCount": 123, "imageUrl": "https://picsum.photos/200/300"}, {"id": 3, "title": "Berlin", "propertiesCount": 43, "imageUrl": "https://picsum.photos/200/300"}, {"id": 4, "title": "Osaka", "propertiesCount": 1292, "imageUrl": "https://picsum.photos/200/300"}, {"id": 5, "title": "Sydney", "propertiesCount": 12, "imageUrl": "https://picsum.photos/200/300"}]
```

#### **404 NOT FOUND**

- If there is no location in system

#### **400 BAD REQUEST**

- If the count parameter value is greater than location count

- /accommodation/properties - **GET**
  - To fetch grouped accommodations for presenting in "See our properties" box

**REQUEST:**

**HEADER:**

X-Staycation-Location:All

**RESPONSE:**

200 OK

```
[  
  {  
    "type": "Hotel",  
    "propertiesCount": 23,  
    "imageUrl": "https://picsum.photos/200/300"  
  },  
  {  
    "type": "Apartment",  
    "propertiesCount": 33,  
    "imageUrl": "https://picsum.photos/200/300"  
  },  
  {  
    "type": "Resort",  
    "propertiesCount": 43,  
    "imageUrl": "https://picsum.photos/200/300"  
  },  
  {  
    "type": "Villa",  
    "propertiesCount": 65,  
    "imageUrl": "https://picsum.photos/200/300"  
  },  
  {  
    "type": "Cabin",  
    "propertiesCount": 54,  
    "imageUrl": "https://picsum.photos/200/300"  
  },  
  {  
    "type": "Mobile Home",  
    "propertiesCount": 77,  
    "imageUrl": "https://picsum.photos/200/300"  
  }]
```

**400 BAD REQUEST**

- If X-Staycation-Location header is not present

## US 3: As a user, I want to see popular locations

- Create to serve dynamic component for presenting popular locations
- Based on request, the response is created
- `/locations/popular` - **POST**

REQUEST:

```
{  
    "type": "ALL",  
    "value": ""  
}  
- Type: "ALL", "COUNTRY", "CITY", ACCOMMODATION  
- Value: Actual query value, for building response matrix:
```

TYPE	VALUE	RESPONSE
ALL	/	Response based on Countries
COUNTRY	"CRO"	Response based on croatian cities
CITY	"Zagreb"	Response based on Zagreb accommodations

- After successful picking of a city, next click should utilize the filter option! (Look US 4)

RESPONSE:

200 OK

HEADER - X-Total-Count: {value}  
- Total count of all accommodations in system for queried value

```
[  
    {  
        "type": "CITY",  
        "value": "Zagreb",  
        "imageUrl": "https://picsum.photos/200/300",  
        "propertiesCount": 22  
    }, ...  
]
```

204 NO CONTENT

- If for particular type there is no accommodation defined in system

## US 4: As a user, I want to utilize the filter option!

- On the homepage I have a filter section - I want to use it!

- /accommodation/location - **GET**

RESPONSE:

200 OK

```
[  
  {  
    "id": 1,  
    "title": "Mykonos",  
    "country": "Greece",  
  },  
  {  
    "id": 2,  
    "title": "Zlatar Bistrice",  
    "country": "Croatia"  
  }, ...  
]
```

204 NO CONTENT

- If there is no locations in DB

502 BAD GATEWAY

- /accommodation/filter - **GET**

**REQUEST:**

```
?location=33 Query Parameter - optional  
$checkIn=2022-07-10 Query Parameter - optional  
$checkOut=2022-07-20 Query Parameter - optional  
$people=2 Query Parameter - optional  
$type=HOTEL Query Parameter - mandatory
```

**RESPONSE:**

200 OK

```
[  
  {  
    "title": "Adama Mykonos Boutique Hotel",  
    "locationMark": "Mykonos",  
    "price": 75.00,  
    "categorisation": 4,  
    "image": "data:image/png;base64,..."  
  },  
  {  
    "title": "Poseidon Hotel Suites",  
    "locationMark": "Mykonos",  
    "price": 945.89,  
    "categorisation": 5,  
    "image": "data:image/png;base64,..."  
  }, ...  
]
```

204 NO CONTENT

- If there is no filter match

502 BAD GATEWAY

## US 5: As a user, I want to see the Accommodation details!

- I finally chose accommodation for booking! I want to see the details!
- `/accommodation/{id}` - **GET**

### REQUEST

`{id}` Path variable

### RESPONSE

**200 OK**

```
{  
    "title": "Poseidon Hotel Suites",  
    "subtitle": "Stay in the heart of Mýkonos City",  
    "description": "Lorem ipsum....",  
    "accommodationType": "HOTEL",  
    "images": [  
        "data:image/png;base64,...",  
        "data:image/png;base64,...",  
        "data:image/png;base64,..."  
    ],  
    "categorisation": 3,  
    "price": 345.00,  
    "personCount": 4,  
    "city": "Mykonos",  
    "freeCancellation": false  
}
```

### 404 NOT FOUND

- If there is no accommodation with `{id}`

- /accommodation/options/{id} - **PUT**
  - For fetching available options for booking

**REQUEST:**

```
(id) - Path Variable  
{  
    "checkIn": "2022-07-10",  
    "checkOut": "2022-07-20"  
}
```

**RESPONSE:**

200 OK

```
[  
    {  
        "title": "Standard duplex",  
        "Description": "Includes taxes and charges",  
        "tags": [  
            {  
                "name": "1 extra-large double bed"  
            },  
            {  
                "name": "Sea view"  
            },  
            {  
                "name": "Spa bath "  
            },  
            ...  
        ],  
        "personCount": 2,  
        "price": 954.00  
    }, ...  
]
```

**404 NOT FOUND**

- If there is no available option in timespan defined with checkIn and checkOut



- accommodation/recommendation/{id} - **GET**
  - For similar accommodation recommendation in system, based on accommodation type, popularity and location

#### REQUEST:

{id} - Path Variable

#### RESPONSE:

200 OK

```
{  
    "id": 1,  
    "title": "PenelopeVillage",  
    "city": "Nykones",  
    "minPricePerNight": 134.00,  
    "categorisation": 4,  
    "image": "data:image/png;base64,..."  
}
```

## US 6: As a user, I want to book the Accommodation

- I decided to book the option!
- /accommodation/booking - **POST**

### REQUEST:

```
{  
    "checkIn": "2022-07-10",  
    "checkOut": "2022-07-20",  
    "accommodationId": 22,  
    "user": {  
        "firstName": "Nikola",  
        "lastName": "Masic",  
        "email": "nmasic@ag04.com",  
        "dob": "1992-06-18"  
    },  
    "billier": {  
        "firstName": "John",  
        "lastName": "Doe",  
        "address": "Big Street 22, Rome, Italy"  
    },  
    "card": {  
        "number": "371449635398431",  
        "expDate": "08/23",  
        "cvv": "112"  
    },  
    "price": 600.00  
}  
- Price should be in format (nights x accommodationPrice)
```

### RESPONSE:

201 CREATED

### 204 NO CONTENT

- If option is booked in meantime (Not available anymore)

### 402 PAYMENT REQUIRED

- If CVV is missing
- If card expiration date is not in future

## Booking submit mailer

- System should on submitted booking send email confirmation to the user.
- On successful mail sent the booking status should be updated from "CREATED" to "SUBMITTED"
- On successful status change the new BookingHistory entry should be created with following data:

ATTRIBUTE	DESCRIPTION
BOOKING_CODE	Booking code (Key relation to unique booking key)
ENTRY_TIMESTAMP	Timestamp of successful status change
STATUS_FROM	Beginning action status
STATUS_TO	Ending action status

## Booking scheduler

- System should contain the scheduler for automatic confirmation of the booking
- Every 15 minutes (0 - 15 - 30 - 45) system should update all bookings in status "SUBMITTED" and put it to status "CONFIRMED"
- On successful status change the new BookingHistory entry should be created

## US 7: As a user, I want to edit my profile

- Since this is a serious application, one of the next updates will be the prepopulation of the Biller - with data from my profile. Let's have endpoints for maintenance on my profile data
- `/user/profile` - **GET**
  - For fetching the profile data

RESPONSE:

200 OK

```
{  
    "id": 1,  
    "firstName": "Nikola",  
    "lastName": "Masic",  
    "email": "nmasic@ag04.com",  
    "dob": "1992-06-18",  
    "location": {  
        "title": "Zagreb",  
        "countryIso": "CRO",  
        "postalCode": "10000",  
        "country": "Croatia"  
    },  
    "termsConditions": true  
}
```

- /user/profile - **PUT**
  - For updating the profile data

## REQUEST

```
{  
    "id": 1,  
    "firstName": "Nikola Updated",  
    "lastName": "Masic Updated",  
    "email": "nmasic@ag04.com",  
    "dob": "1992-06-18",  
    "location": {  
        "title": "Zagreb",  
        "postalCode": "10000",  
        "countryIso": "CRO",  
        "country": "Croatia"  
    },  
    "termsConditions": true  
}
```

## RESPONSE:

**202 ACCEPTED**

**HEADER - X-User-Updated: {id}**  
- The id of updated user

```
{  
    "id": 1,  
    "firstName": "Nikola Updated",  
    "lastName": "Masic Updated",  
    "email": "nmasic@ag04.com",  
    "dob": "1992-06-18",  
    "location": {  
        "title": "Zagreb",  
        "postalCode": "10000",  
        "countryIso": "CRO",  
        "country": "Croatia"  
    },  
    "termsConditions": true  
}
```

**400 BAD REQUEST**

- If you try update terms and conditions

~~V + B L~~

## US 8: As a user, I want to manage my bookings

- I need a review of my past bookings. Also, is there an option to cancel the booking?
- `/user/bookings` - **GET**
  - For fetching list of users bookings

### RESPONSE:

200 OK

```
[  
  {  
    "title": "Hotel Poseidon",  
    "city": "Mykonos",  
    "categorisation": 4,  
    "checkIn": "2021-07-10",  
    "checkOut": "2021-07-20",  
    "status": "CONFIRMED",  
    "image": "data:image/png;base64,...",  
    "code": "a81631c8-17e6-11ed-861d-0242ac120002"  
  },  
  ...  
]
```

204 NO CONTENT

- If there is no past bookings

CONTAINS A SCENARIO

- /user/bookings?code - GET
  - For fetching list of users bookings

**REQUEST:**

code - query parameter - mandatory

**RESPONSE:**

200 OK

```
[  
  {  
    "title": "Double deluxe",  
    "parentTitle": "Hotel Poseidon",  
    "city": "Mykonos",  
    "categorisation": 4,  
    "checkIn": "2021-07-10",  
    "checkOut": "2021-07-20",  
    "status": "CONFIRMED",  
    "image": "data:image/png;base64,...",  
    "code": "a81631c8-17e6-11ed-861d-0242ac120002",  
    "user": {  
      "firstName": "Nikola",  
      "lastName": "Masic"  
    },  
    "personCount": 4,  
    "totalCost": 2323.30  
  },  
  ]
```

**404 NOT FOUND**

- If there is no booking with this code

- `/user/bookings/{code}` - **DELETE**
  - For canceling the booking

**REQUEST:**

{code} Path Variable

**HEADER:**

X-Booking-Status: CANCEL

**RESPONSE:**

202 ACCEPTED

**HEADER:**

X-Canceled-Booking: {code}

- The code of booking which is canceled and for which the booking history is created

400 BAD REQUEST

- If the checkIn is in the past

## US 9: As a user, I want to manage my places

- Ok, I really like to travel, and in that case my apartment is free for renting. Maybe I can use Rich API to provide my own accommodation?
- `/user/accommodation` - **GET**
  - For fetching list of my accommodations

RESPONSE:

200 OK

```
[  
  {  
    "id": "1",  
    "title": "Tree House in My Garden",  
    "city": "Zagreb",  
    "image": "data:image/png;base64,...",  
    "Categorisation": "3",  
    "disclaimer": "Renting the entire unit"  
  }, ...  
]
```

404 NOT FOUND

- If there is no accommodations marked as a created via app

- /user/accommodation - **POST**
  - For inserting new accommodation in system
  - Customer inserted accommodations are marked with created via app flag.

#### REQUEST:

```
{  
    "title": "Nice and cozy boy room!",  
    "subtitle": "Rest in my room, my memories...",  
    "description": "Lorem ipsum....",  
    "categorisation": "1",  
    "typeId": "ROOM",  
    "location": {  
        "countryIso": "CRO",  
        "city": "Zagreb",  
        "postalCode": 10000  
    },  
    "images": [  
        {  
            "title": "image4k.jpeg",  
            "content": "data:image/png;base64,..."  
        }  
    ],  
    "capacity": 2,  
    "freeCancel": false,  
    "price": 45.00  
}
```

## RESPONSE

201 CREATED

```
{  
    "Id": 123,  
    "title": "Nice and cozy boy room!",  
    "subtitle": "Rest in my room, my memories...",  
    "description": "Lorem ipsum....",  
    "categorisation": "1",  
    "typeId": "ROOM",  
    "location": {  
        "countryIso": "CRO",  
        "city": "Zagreb",  
        "postalCode": 10000  
    },  
    "images": [  
        {  
            "title": "image4k.jpeg",  
            "content": "data:image/png;base64,..."  
        }  
    ],  
    "capacity": 2,  
    "freeCancel": false,  
    "price": 45.00  
}
```

400 BAD REQUEST

- If there is no added CATEGORISATION
- If there is no at least one image added
- If there is no at least subtitle or description added
- If there is a new City added with the existing postal code

- /user/accommodation/{id} - GET
  - Get accommodation by id

#### REQUEST:

```
{id} Path variable
```

#### RESPONSE

200 OK

```
{
    "Id": 123,
    "title": "Nice and cozy boy room!",
    "subtitle": "Rest in my room, my memories...",
    "description": "Lorem ipsum....",
    "categorisation": "1",
    "typeId": "ROOM",
    "location": {
        "countryIso": "CRO",
        "city": "Zagreb",
        "postalCode": 10000
    },
    "images": [
        {
            "title": "image4k.jpeg",
            "content": "data:image/png;base64,..."
        }
    ],
    "capacity": 2,
    "freeCancel": false,
    "price": 45.00
}
```

#### 400 BAD REQUEST

- If accommodation with desired id is not created via app

- /user/accommodation?id - **PUT**
  - For updating existing accommodation

## REQUEST

```
?id Query Parameter - Mandatory
{
    "title": "Nice and cozy boy room updated!",
    "subtitle": "Rest in my room, my memories...",
    "description": "Lorem ipsum....",
    "categorisation": "1",
    "typeId": "ROOM",
    "location": {
        "countryIso": "CRO",
        "city": "Zagreb",
        "postalCode": 10000
    },
    "images": [
        {
            "title": "image4k.jpeg",
            "content": "data:image/png;base64,..."
        }
    ],
    "capacity": 2,
    "freeCancel": false,
    "price": 45.00
}
```

## RESPONSE

200 OK

```
{  
    "Id": 123,  
    "title": "Nice and cozy boy room updated!",  
    "subtitle": "Rest in my room, my memories...",  
    "description": "Lorem ipsum....",  
    "categorisation": "1",  
    "typeId": "ROOM",  
    "location": {  
        "countryIso": "CRO",  
        "city": "Zagreb",  
        "postalCode": 10000  
    },  
    "images": [  
        {  
            "title": "image4k.jpeg",  
            "content": "data:image/png;base64,..."  
        }  
    ],  
    "capacity": 2,  
    "freeCancel": false,  
    "price": 45.00  
}
```

## 400 BAD REQUEST

- If there is no added CATEGORISATION
- If there is no at least one image added
- If there is no at least subtitle or description added
- If there is a new City added with the existing postal code

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ACOM

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- `/user/accommodation?id` - **DELETE**
  - For deleting user accommodation

**REQUEST:**

?id - Query parameter - mandatory

**RESPONSE**

200 OK

**400 BAD REQUEST**

- If booking exists for desired accommodation

## BONUS1: Register user data

- What about the rest of the users, can my friend also use this application?
- `/user/register POST`
  - For purpose of this user story system need some adjustments:
    - User table should store password (**MD5 hash**)
    - Real combination of user/password should be checked in `/login` endpoint
    - `/login` endpoint should be modified to accept MD5 hash of valid password (rules are the same)

### REQUEST

```
{  
    "firstName": "Marko",  
    "lastName": "Markovic",  
    "email": "mmarkovic@ag04.com",  
    "dob": "1993-06-18",  
    "location": {  
        "title": "Slavonski Brod",  
        "postalCode": "35000",  
        "country": "Croatia"  
    },  
    "termsConditions": true,  
    "password": "5f4dcc3b5aa765d61d8327deb882cf99",  
}
```

### RESPONSE

*201 CREATED*

```
{  
    "token":  
        "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjM0NTY3ODkWI  
        iwibmFtZSI6IkpvaG4gRG9lIiwiaWF0IjoxNTE2MjM5MDIyfQ.SflKxwRJSMeKK  
        F2QT4fwpMeJf36POk6yJV_adQssw5c"  
}
```

*409 CONFLICT*

- If user with the same email address already exists

## BONUS2: Deploy application on HEROKU

- Using the available resources online, deploy an application on HEROKU

### RESOURCES:

<https://devcenter.heroku.com/categories/deployment>