

Back-end Tech Challenge

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Language	Java 8
Framework	Spring Boot
Database	H2 Database (In-Memory)
Build tool	Maven
Github link	https://github.com/MoMoZin/RestfulAPI-Spring.git

Check campsite availability

API Link: **/checkAvailability**

Type of call: GET

Expected Return: Default one month availability checking from today

Note: A link is embedded to check with Date range (Date of selected link as start date and plus one month as end date)

API Link: **/checkAvailabilitywithRange?startDate= yyyy-MM-dd&endDate=yyyy-MM-dd**

Type of call: GET

Expected Return: Availability checking based on provided date range. Both Start date and end date must be provided.

Validation: Input date type validation defined using Spring Validation

Note: A link is embedded to check with Date range (Date of selected link as start date and plus one month as end date) and a another link to view all available date

Search Booking

API Link: **/bookings**

Type of call: GET

Expected Return: The whole list of existing bookings

Note: A link is embedded to view booking of individual

API Link: **/bookings/{id}**

Type of call: GET

Expected Return: Booking search using provided booking ID

Validation: booking ID existence validation

Note: A link is embedded to view all existing booking

Reservation

API Link: **/reserve**

Type of call: POST

Body: {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2020-12-10", "departureDate": "2020-12-11"}

Validation: - Input date type validation defined using Spring Validation

- Provided date range validation

- Validate availability of the booking date before saving to avoid concurrency issue

Expected Return: If all validation passed, reservation will be created under given information and user will see booking ID and details of the booking.

Notes: A link to modify and cancel the booking is embedded upon successful reservation

API Link: **/reserve/{id}/modify**

Type of call: PUT

Body: {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2020-12-10", "departureDate": "2020-12-11"}

Validation: - Input date type validation defined using Spring Validation

- Provided date range validation
- Validate availability of the booking date before saving to avoid concurrency issue
- Validate the status of the booking
- booking ID existence validation

Expected Return: If all validation passed, reservation will be updated with new information and user will see the updated details of the booking.

Notes: A link to modify and cancel the booking is embedded upon successful update. User will be able to provide only the information they want to update. [e.g provide body as { "departureDate": "yyyy-MM-dd"}]

API Link: **/reserve/{id}/cancel**

Type of call: PUT

Validation: - Booking ID existence validation

- Booking Status validation
- Arrival Date validation (user cannot cancel the reservation that is in progress)

Expected Return: If all validation passed, reservation will be updated as Cancelled.

API Link: **/reserve/{id}/complete**

Validation: - Booking ID existence validation

- Booking Status validation

Expected Return: If all validation passed, reservation will be updated as Completed.

Note: Added this for check out process to complete the status of the booking

Test cases

Test Scenario	Test Case	Test Data	Expected Result	Error Message
Search campsite availability	Call http://localhost:8080/checkAvailability	Data available for one month date range	Default one month availability result from today	N.A
Search campsite availability	Call http://localhost:8080/checkAvailability	No available date for one month date range	Error message	No available date for one month from now!
Search campsite availability with date range	Call http://localhost:8080/checkAvailabilitywithRange?startDate=2020-12-11&endDate=2021-01-11	Data available for provided date range	Availability checking based on provided date range.	N.A
Search campsite availability with date range	Call http://localhost:8080/checkAvailabilitywithRange?startDate=2020-12-09&endDate=2020-12-10	No available date for provided date range	Error message	No available date for provided date range!
Search booking with ID	Call http://localhost:8080/bookings/1	Booking ID 1 exists	Booking search using provided booking ID	N.A
Search booking with ID	Call http://localhost:8080/bookings/9	Booking ID 9 does not exist	Error message	Booking ID 9 does not exists!
Make reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2020-12-15", "departureDate": "2020-12-17"}	Existing booking in database for provided date	Error message to avoid concurrency issue	Selected booking date is not available!
Make reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden",	Provided arrival date	Error message	Arrival date must be minimum one day ahead!

	"email": "thomasgolden@gmail.com", "arrivalDate": "2020-12-01", "departureDate": "2020-12-05"}	is in the past		
Make/Modify reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2020-12-09", "departureDate": "2020-12-13"}	Provided reservation duration is more than three day	Error message	Unable to reserve more than three days!
Make/Modify reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-09", "departureDate": "2021-01-10"}	Provided Arrival date is after a month	Error message	Reservation can only be done for a month in advance!
Make/Modify reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-03", "departureDate": "2021-01-01"}	Provided Departure date is before the arrival date	Error message	Departure date can not be later than arrival date!
Make reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-03", "departureDate": "2021-01-03"}	Provided arrival date and departure date are the same	Error message	Duration must be at least one day!
Make reservation	Call http://localhost:8080/reserve or http://localhost:8080/reserve/2/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-01", "departureDate": "2021-01-03"}	All given data are correct	Reservation will be created/updated under given information and user will see booking ID and details of the booking.	N.A
Make reservation	Call http://localhost:8080/reserve Provide body as {"firstName": "Ron", "lastName": "Weasley",	Total days across 2	Error Message	Unable to book more than three day in a row!

for consecutive bookings	"email": "ronweasley@gmail.com", "arrivalDate": "2020-12-10", "departureDate": "2020-12-13"} Compare with booking ID 2	bookings under same user exceed three day limit		
Make reservation for consecutive bookings	Call http://localhost:8080/reserve Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-03", "departureDate": "2021-01-03"} Compare with booking ID 3	Total days across 2 bookings under same user exceed three day limit	Error Message	Unable to book more than three day in a row!
Modify reservation	Call http://localhost:8080/reserve/1/modify Provide body as {"firstName": "Thomas", "lastName": "Golden", "email": "thomasgolden@gmail.com", "arrivalDate": "2021-01-03", "departureDate": "2021-01-03"} Compare with booking ID 3	Booking in database has COMPLETED status	Error message	You can't modify a reservation that is in the COMPLETED status!
Cancel reservation	Call http://localhost:8080/reserve/5/cancel	Booking ID 5 exists and status is Active	Reservation will be updated as Cancelled	N.A
Cancel reservation	Call http://localhost:8080/reserve/55/cancel	Booking ID 55 does not exist	Error message	Booking ID 55 does not exists!
Cancel reservation	Call http://localhost:8080/reserve/1/cancel	Booking ID 1 status is Completed	Error message	You can't complete a reservation that is in the COMPLETED status!
Cancel reservation	Call http://localhost:8080/reserve/2/cancel	Booking ID 1 status is Active but Arrival date is before today date	Error message	Unable to cancel the reservation that is already active!