QA - Challenge
Testing APIs with Postman

1 - Please provide your reference number
— — — — — —

2 - Have you used Postman before?
Yes

3 - Have you used Swagger before?
Yes

4 - Get endpoint parameters for Login DE
path: /auth/login
Headers:
   device-os(required) - string
   app-locale(required) - string
   x-api-key(required) - string
   correlation-id(optional) - string
Body:
   {
   "username": "string",
   "password": "string"
   }

5 - Workspace
Is a common working area that can group api projects, this is useful for teammates to work together.

6 - Collection
With collections Postman allow us to group requests organized into folders. Is very useful when duplicating API schemas , making a set of Mocks, and for documentation.

7 - Environment
Set of variables that can be used on Postman requests, helps in maintaining a single point of configuration for variables that are used across multiple requests.

8 - Sandbox and Test Scripts
Sandbox is a JavaScript execution environment where tests scripts can run. Test scripts allow the user to add dynamic behavior to requests and collections.

9 - Collection Runner
In the Collection Runner it is possible to run all the requests inside a collection, it's also possible to initialize a database. Runs API tests and generates reports for measuring test performance

10 - Monitor
Are based on collections. Can schedule periodically requests, or collections, relying on test scripts and can make use of environment for variables.
Also generates reports for measuring test performance

11 - Newman

Is a command line collection runner. Allows to run and test collections directly from the command line. Can be easily integrated with continuous integration servers.

12 - Create necessary Environments (10%)
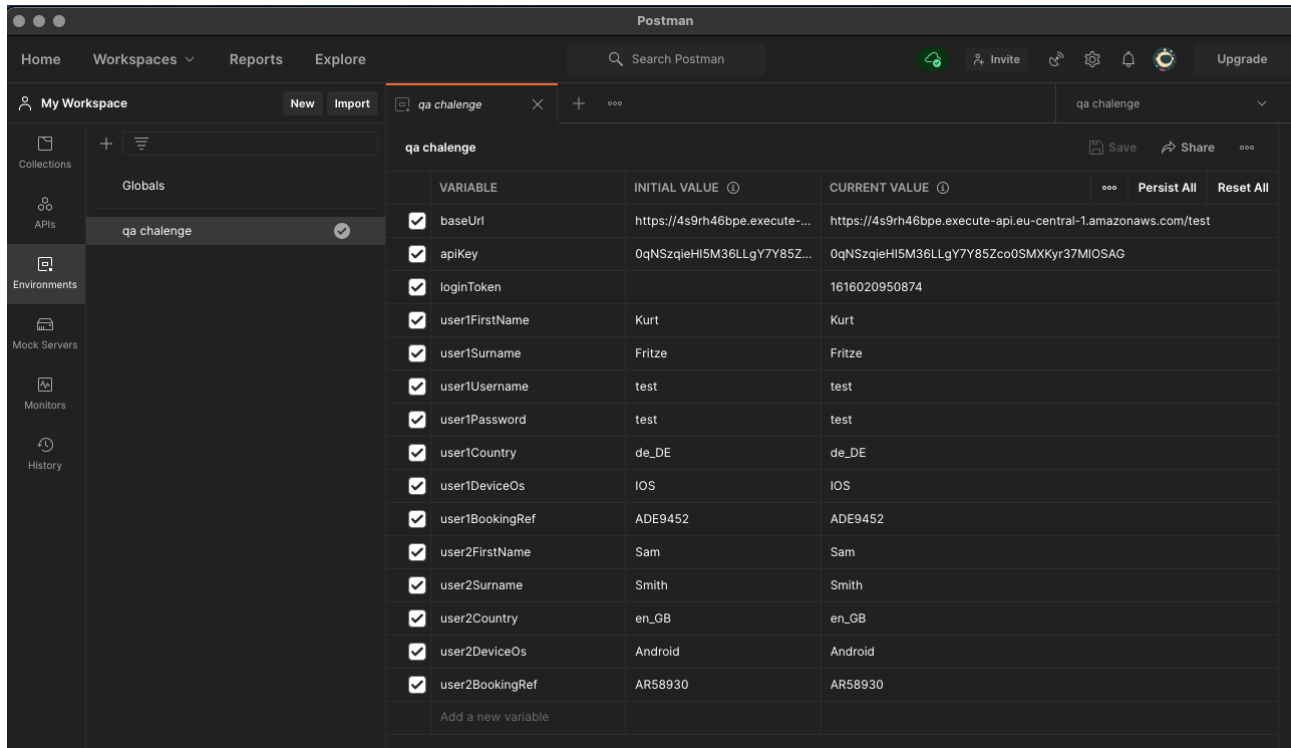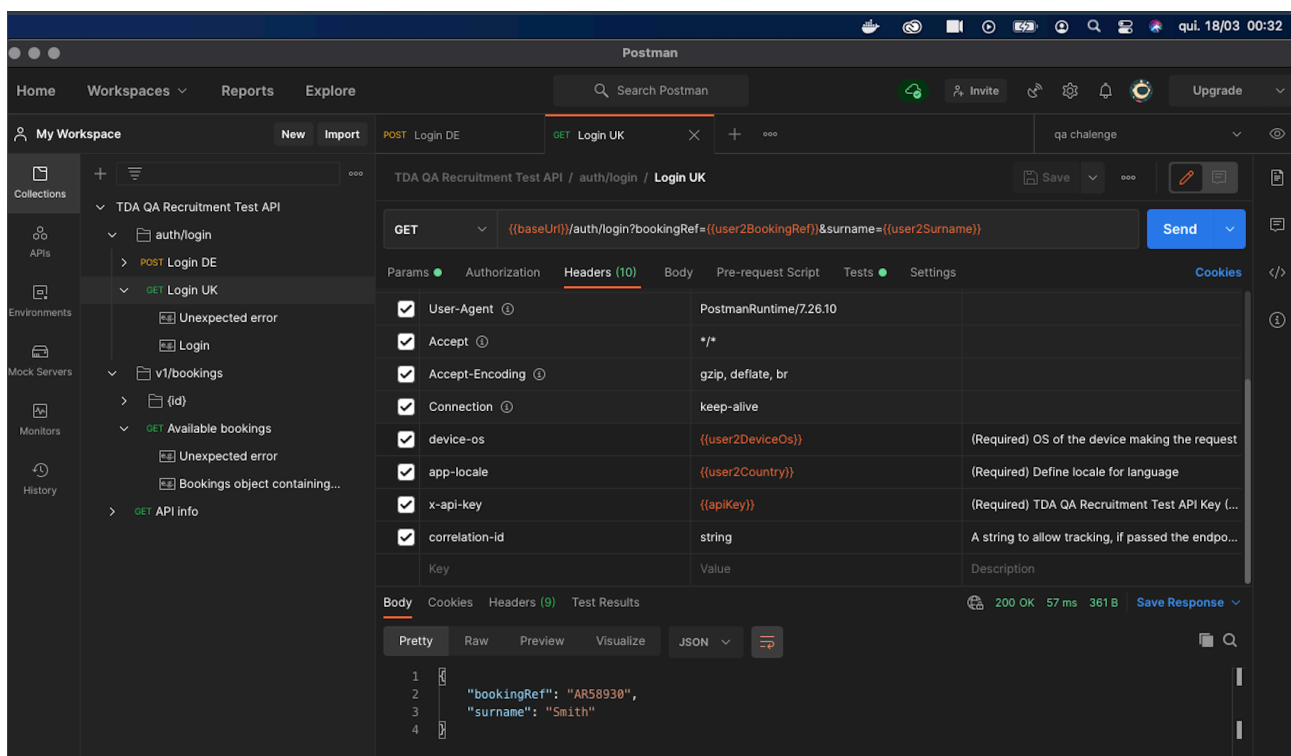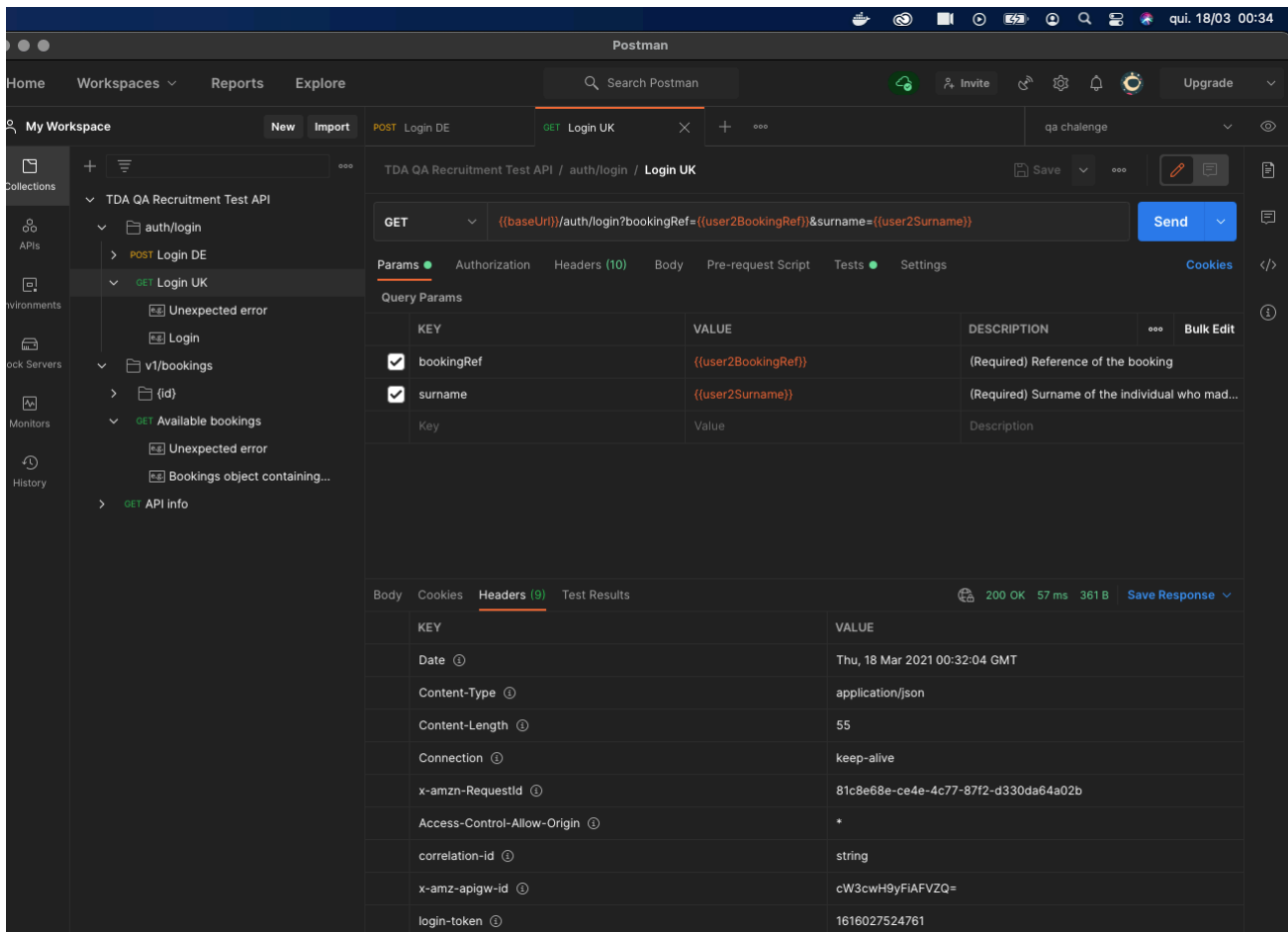

13 - Create a Collection (20%)

Files on *qa_exercice* folder in https://github.com/Neighborhooder/pythonExercices

14 - Did you use the import functionality to create the collection?

Yes

15 - Reading response results in postman (2%)

16 - Analyze and improve testing requirements for the following scenario (6%)
He could have:
 - Tried incorrect login scenarios,
 - Use different payloads in order to look for different response codes,
 - Use incorrect different data types on body to see how do server handles it
 - Verify if the schema matches expected structure
 - Performance testing, validating the response time
 - Load testing, evaluate the capacity to handle multiple requests in a short period of time
 - Security testing, by for example trying to SQL injection and verify if there isn't data leakage

17 - Test the APIs (35%)

Healthcheck
path: /healthcheck

Scenario #1 - Happy path for Deutchland

Request sent:
Headers:
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: string
Body:
(empty)

Expected result:
Response code: 200

Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: string
Body:
```
{
   "apiVersion": "1.0.0",
   "market": "DE",
   "status": {
      "health": "HEALTHY",
      "uptime": 9150334723
}
```

Actual Result:
Response code: 200
Response time: 57ms

Response headers:
Date: Wed, 16 Mar 2021 08:32:36 GMT
Content-Type: application/json
Content-Length: 114
Connection: keep-alive
x-amzn-RequestId: 1e38167d-87bc-4c87-842f-bd8f2228207d
Access-Control-Allow-Origin: *
x-amz-apigw-id: cVW2NG8tliAFdFQ=
Response body:
```
{
   "apiVersion": "1.0.0",
   "market": "DE",
   "status": {
      "health": "HEALTHY",
      "uptime": null
}
```

Test Report: NOK
- The response header is missing a "correlation-id" field with the same information of the request
- The response body should have an integer value coming in the "uptime" field with the time that the API is up in milliseconds

Scenario #2: Happy path for United Kingdom

Request sent:
Headers:
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: string
Body:
(empty)

Expected result:
response code: 200

Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: string
Body:
```
{
    "apiVersion": "1.0.0",
    "market": "UK",
    "status": {
        "health": "HEALTHY",
        "uptime": 9150334723
}
```

Actual Result:
response code: 200
response time: 245ms

Response headers:
Date: Wed, 16 Mar 2021 08:40:12 GMT
Content-Type: application/json
Content-Length: 90
Connection: keep-alive
x-amzn-RequestId: dfd1fde2-ba52-4322-988b-931221868aaa
Access-Control-Allow-Origin: *
x-amz-apigw-id: cVY5qEY7FiAFWQQ=
Response body:
```
{
    "market": "UK",
    "stetus": {
        "health": "UNSTABLE",
        "uptime": 35434
    }
}
```

Test Report: NOK
- The response header is missing a "correlation-id" field with the same information of the request
- The response body "status" field is misspelled (stetus) and can lead to errors in the future for the api users
- The response body is missing an "apiVersion" field containing the API version

Scenario #3: Invalid API key - UK

Request sent:
Headers:
app-locale: en_GB
x-api-key: anInvalidAPIKeyG0esWere
correlation-id: string
Body:
(empty)

Expected result:
response code: 403
body:
{
   "code": 403,
   "message": "Forbidden"
}

Actual Result:
response code: 403
response time: 257ms

response body:
{
   "code": 403,
   "message": "Forbidden"
}

Test Report: OK

Scenario #4: Invalid API key - DE

Request sent:
Headers:
app-locale: de_DE
x-api-key: anInvalidAPIKeyG0esWere
correlation-id: string
Body:
(empty)

Expected result:
response code: 403
body:
{
   "code": 403,
   "message": "Forbidden"
}

Actual Result:
response code: 403
response time: 55ms

response body:
{
   "code": 403,

"message": "Forbidden"
}

Test Report: OK

Scenario #5: Invalid app-locale header

Request sent:
Headers:
app-locale: pt_PT
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: string
Body:
(empty)

Expected Result:
response code: 400
body:
{
      "code": 400,
      "message": "Bad Request"
}

Actual Result:
response code: 400
response time: 69ms

response body:
{
      "code": 400,
      "message": "Bad Request"
}

Test Report: OK

Auth - Login Deutchland
path: /auth/login

Scenario #1 - Happy path

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
Content-Type: application/json
Body:
```
{
    "username": "test",
    "password": "test"
}
```

Expected result:
response code: 200
Request headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
Body:
{}

Actual Result:
response code: 200
response time: 59ms

Response headers:
Date: Wed, 16 Mar 2021 09:30:16 GMT
Content-Type: application/json
Content-Length: 2
Connection: keep-alive
x-amzn-RequestId: f444df48-096b-418a-bad6-3a68a7d3f354
Access-Control-Allow-Origin: *
correlation-id: (empty)
x-amz-apigw-id: cVW2NG8tliAFdFQ=
login-token: 1615993673998
Response body:
{}

Test Report: NOK
- The response header "correlation-id" shouldn't be retrieved if that header isn't sent in request

Scenario #2 - Happy path with correlation-id string sent in header with special characters

Request sent:
Headers
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: some>String
Content-Type: application/json
Body
```
{
    "username": "test",
    "password": "test"
}
```

Expected result:
Response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
correlation-id: some>String
Body:
{}

Actual Result:
response code: 500
response time: 79ms

Response headers:
Date: Wed, 16 Mar 2021 09:30:16 GMT
Content-Type: application/json
Content-Length: 79
Connection: keep-alive
x-amzn-RequestId: be47cc2d-ea69-4331-ba04-16853912d6fc
Access-Control-Allow-Origin: *
correlation-id: some>String
x-amz-apigw-id: cVmgJEmpliAFp3w=
Response body:
```
{
    "error": {
        "code": 500,
        "message": "Internal Server Error"
    }
}
```

Test Report: NOK
- The server should be able to handle the "correlation-id" header having special characters since it should allows strings

Scenario #3 - Login with incorrect credentials

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
Body:
```
{
    "username": "test",
    "password": "wrongPassword"
}
```

Expected result:
Response code: 401 Unauthorized
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
    "error": {
      "code": 401,
      "message": "Unauthorized"
    }
}
```

Actual Result:
response code: 401
response time: 56ms

Response headers:
Date: Wed, 16 Mar 2021 10:03:10 GMT
Content-Type: application/json
Content-Length: 71
Connection: keep-alive
x-amzn-RequestId: 68dcafc6-d9e6-473f-a61f-1c2a5c17c117
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cVnZwEzpFiAFnFw=

Response body:
```
{
    "error": {
      "code": 401,
      "message": "Unauthorissed"
    }
}
```

Test Report: NOK
- Error message should be "Unauthorized" and not "Unauthorissed"

Scenario #4 - Login with invalid body request

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
Body:
{
    "username": "test"
}

Expected result:
Response code: 400 Bad Request
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amzn-ErrorType: BadRequestException
x-amz-apigw-id: ...
Access-Control-Allow-Methods: ...
Body:
{
    "error": {
        "code": 400,
        "message": "Invalid request body"
    }
}

Actual Result:
response code: 400
response time: 58ms

Response Headers:
Date: Wed, 16 Mar 2021 10:22:13 GMT
Content-Type: application/json
Content-Length: 49
Connection: keep-alive
x-amzn-RequestId: 68dcafc6-d9e6-473f-a61f-1c2a5c17c117
Access-Control-Allow-Origin: *
x-amz-apigw-id: cVpyzEUtliAFp3w=
x-amzn-ErrorType: BadRequestException
Access-Control-Allow-Methods: GET,OPTIONS
Response Body:
{
    "error": {
        "code": 400,
        "message": "Invalid request body"
    }
}

Test Report: OK

Scenario #5 - Login with invalid Content-type in headers

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/xml
Body:
```
{
    "username": "test",
    "password": "test"
}
```

Expected result:
Response Code: 406 Not Acceptable
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
Access-Control-Allow-Headers: ...
x-amz-apigw-id: ...
Access-Control-Allow-Methods: ...
Body:
```
{
    "error": {
        "code": 406,
        "message": "Not Acceptable"
    }
}
```

Actual Result:
response code: 500
response time: 199ms

Response Headers:
Date: Wed, 16 Mar 2021 10:22:13 GMT
Content-Type: application/json
Content-Length: 50
Connection: keep-alive
x-amzn-RequestId: ae784a0a-e349-495d-9d53-ba49edcb49d0
Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-Api-Key,X-Amz-Security-Token,app-locale,device-os,correlation-id,login-token
Access-Control-Allow-Origin: *
x-amz-apigw-id: cVridFrjliAFgMw=
x-amzn-ErrorType: InternalServerErrorException
Access-Control-Allow-Methods: GET,OPTIONS
Response body:
```
{
    "code": 500,
    "message": "Internal server error"
}
```

Test Report: NOK
- Response Code should be 406 and response body accordingly

Auth - Login UK
path: /auth/login

Scenario #1 - Happy path

Request sent:
Headers:
device-os: Android
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
Body:
(empty)

Expected result:
response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
correlation-id: someString
Parameters:
bookingRef: AR58930
surname: Smith
Body:
```
{
    "bookingRef": "AR58930",
    "surname": "Smith"
}
```

Actual Result:
Response code: 200
Response time: 55ms

Response headers:
Date: Wed, 17 Mar 2021 19:42:12 GMT
Content-Type: application/json
Content-Length: 55
Connection: keep-alive
x-amzn-RequestId: a7958c10-0f5a-4c1c-bdd5-c2bab478f9a4
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cVW2NG8tliAFdFQ=
login-token: 1616010132744
Response body:
```
{
    "bookingRef": "AR58930",
```

```
        "surname": "Smith"
}
```

Test Report: OK

Scenario #2 - Login with wrong app-locale

Request sent:
-Headers-
device-os: android
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
Parameters:
bookingRef: AR58930
surname: Smith
Body:
(empty)

Expected result:
response code: 401
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
    "error": {
        "code": 401,
        "message": "Bad Request"
    }
}
```

Actual Result:
Response code: 400
Response time: 53ms

Response headers:
Date: Wed, 17 Mar 2021 19:51:17 GMT
Content-Type: application/json
Content-Length: 55
Connection: keep-alive
x-amzn-RequestId: 83e0c194-ccb8-4d34-abc4-112738396ac5
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWOUWEtKFiAFuDw=
Response Body:
```
{
    "error": {
        "code": 401,
        "message": "Bad Request"
    }
```

}

Test Report: NOK
- Although the response body is displaying the correct response code, the response code of the request is incorrect, it should be a 401.

Scenario #3 - Login with user from another country

Request sent:
Headers:
device-os: IOS
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
Parameters:
bookingRef: ADE9452
surname: Fritze
Body:
(empty)

Expected result:
Response code: 401
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
{
   "error": {
      "code": 401,
      "message": "Unauthorised"
   }
}

Actual Result:
response code: 401
response time: 54ms

Response headers:
Date: Wed, 17 Mar 2021 20:00:18 GMT
Content-Type: application/json
Content-Length: 70
Connection: keep-alive
x-amzn-RequestId: ff6b384b-57b5-46a7-a32e-1761b83622cc
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWPo4GJ4FiAFrcw==
Response body:
{
  {
    "error": {

```
      "code": 401,
      "message": "Unauthorised"
    }
}
```

Test Report: OK

BookingAvailable bookings
path: /v1/bookings

Scenario #1 - Happy Path - Available booking UK

Request sent:
Headers:
device-os: Android
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616011997661
Body:
(empty)

Expected result:
response code: 200
headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
   "bookings": [
      {
         "bookingRef": "...",
         "startDate": "...",
         "endDate": "...",
         "country": "...",
         "lead": {}
      }
   ]
}
```

Actual Result:
Response code: 200
Response time: 67ms

Response headers:
Date: Wed, 17 Mar 2021 20:13:17 GMT
Content-Type: application/json
Content-Length: 55
Connection: keep-alive
x-amzn-RequestId: e2e421fb-6af8-4bc3-93ed-bf074dffb56c
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWSQdHFlFiAFY7w==
Response body:
```
{
    "bookings": [
        {
            "bookingRef": "AR58930",
            "startDate": "2019-05-12",
            "endDate": "2019-05-27",
            "country": "Spain",
            "lead": {}
        }
    ]
}
```

Test Report: OK

Scenario #2 - Happy Path - Available booking DE

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616012654653
Body:
(empty)

Expected result:
Response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
    "bookings": [
        {
            "bookingRef": "...",
            "startDate": "...",
            "endDate": "...",
            "country": "...",
            "lead": {}
```

```
        }
    ]
}
```

Actual Result:
Response code: 200
Response time: 67ms

Response headers:
Date: Wed, 17 Mar 2021 20:13:17 GMT
Content-Type: application/json
Content-Length: 55
Connection: keep-alive
x-amzn-RequestId: e2e421fb-6af8-4bc3-93ed-bf074dffb56c
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWSQdHFlFiAFY7w==
Response body:
```
{
    "bookings": [
        {
            "bookingRef": "AR58930",
            "startDate": "2019-05-12",
            "endDate": "2019-05-27",
            "country": "Spain",
            "lead": {}
        }
    ]
}
```

Test Report: OK

Scenario #3 - Available booking with incorrect login-token

Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 123
Body:
(empty)

Expected result:
response code: 401 Unauthorised
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString

Body:
```
{
   "error": {
      "code": 401,
      "message": "Unauthorised"
   }
}
```

Actual Result:
Response code: 401
Response time: 67ms

Response headers:
Date: Wed, 17 Mar 2021 20:50:30 GMT
Content-Type: application/json
Content-Length: 70
Connection: keep-alive
x-amzn-RequestId: dec0e72d-37f7-4768-bede-f5a077aef772
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWW_eEdqliAFufA==
Response body:
```
{
   "error": {
      "code": 401,
      "message": "Unauthorised"
   }
}
```

Test Report: OK
Notes:
- The same scenario was executed for UK returning similar results

Booking - Booking Info
path: /v1/bookings/{id}

Scenario #1 - Happy Path - Booking Info UK

path: /v1/bookings/AR58930
Request sent:
Headers:
device-os: Android
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616011997661
Body:
(empty)

Expected result:
Response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
    "bookingRef": "...",
    "status": "...",
    "startDate": "...",
    "endDate": "....",
    "flights": [
        {
            "flightOperator": "...",
            "departureDatetime": "...",
            "departureAirport": "...",
            "arrivalDatetime": "...",
            "arrivalAirport": "...",
            "type": "..."
        }
    ],
    "accomodation": [
        {
            "id": "...",
            "name": "....",
            "country": "...",
            "startDate": "...",
            "endDate": "...",
            "rooms": [
                {
                    "roomType": "...",
                    "guests": [
                        {
                            "fullName": "...",
                            "firstName": "...",
                            "lastName": "...",
                            "lead": boolean
                        }
                    ],
                    "roomNumbers": [
                        "..."
                    ]
                }
            ]
        }
    ]
}
```

Actual Result:
Response code: 200
Response time: 65ms

Response headers:
Date: Wed, 17 Mar 2021 21:10:00 GMT

Content-Type: application/json
Content-Length: 1500
Connection: keep-alive
x-amzn-RequestId: 641bb285-ad9a-4862-aa02-516f369cc105
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWZ2UEeHFiAFkcw==
Response body:

```
{
    "bookingRef": "AR58930",
    "status": "pre",
    "startDate": "2019-05-12",
    "endDate": "2019-05-27",
    "flights": [
        {
            "flightOperator": "TUI",
            "departureDatetime": "2019-05-12T23:10:00+00:00",
            "departureAirport": "LTN",
            "arrivalDatetime": "2019-05-13T00:40:00+01:00",
            "arrivalAirport": "PMI",
            "type": "INBOUND"
        },
        {
            "flightOperator": "TUI",
            "departureDatetime": "2019-05-27T18:20:00+01:00",
            "departureAirport": "PMI",
            "arrivalDatetime": "2019-05-27T20:00:00+00:00",
            "arrivalAirport": "LTN",
            "type": "OUTBOUND"
        }
    ],
    "accomodation": [
        {
            "id": "AC45934",
            "name": "Hotel de la palma",
            "country": "Mallorca",
            "startDate": "2019-05-13",
            "endDate": "2019-05-27",
            "rooms": [
                {
                    "roomType": "ECO_LIGHT",
                    "guests": [
                        {
                            "fullName": "Sam Smith",
                            "firstName": "Sam",
                            "lastName": "Smith",
                            "lead": false
                        },
                        {
                            "fullName": "Debby Smith",
                            "firstName": "Debby",
                            "lastName": "Smith",
                            "lead": false
                        }
                    ],
                    "roomNumbers": [
                        "6B"
                    ]
                }
            ]
        }
    ]
```

```
      }
   ]
}
```

Test Report: OK

Scenario #2 - Happy Path - Booking Info DE

path: /v1/bookings/ADE9452
Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616011997661
Body:
(empty)

Expected result:
response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString
Body:
```
{
   "bookingRef": "...",
   "status": "...",
   "startDate": "...",
   "endDate": "....",
   "flights": [
      {
         "flightOperator": "...",
         "departureDatetime": "...",
         "departureAirport": "...",
         "arrivalDatetime": "...",
         "arrivalAirport": "...",
         "type": "..."
      }
   ],
   "accomodation": [
      {
         "id": "...",
         "name": "....",
         "country": "...",
         "startDate": "...",
         "endDate": "...",
         "rooms": [
            {
               "roomType": "...",
```

```json
            "guests": [
                {
                    "fullName": "...",
                    "firstName": "...",
                    "lastName": "...",
                    "lead": boolean
                }
            ],
            "roomNumbers": [
                "..."
            ]
        }
      ]
    }
  ]
}
```

Actual Result:
Response code: 200
Response time: 65ms

Response headers:
Date: Wed, 17 Mar 2021 22:15:10 GMT
Content-Type: application/json
Content-Length: 4852
Connection: keep-alive
x-amzn-RequestId: 14fcac95-5dd4-4a5d-93b5-8144251f5606
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWjZQGqpliAFaxw==

Response Body:
```json
{
    "bookingRef": "ADE9452",
    "status": "POST",
    "startDate": "2018-07-06",
    "endDate": "2018-07-24",
    "flights": [
        {
            "flightOperator": "TUI",
            "departureDatetime": "2018-07-06T12:10:00+02:00",
            "departureAirport": "MUC",
            "arrivalDatetime": "2018-07-06T13:50:00+02:00",
            "arrivalAirport": "FCO",
            "type": "INBOUND"
        },
        {
            "flightOperator": "TUI",
            "departureDatetime": "2018-07-12T10:00:00+02:00",
            "departureAirport": "FCO",
            "arrivalDatetime": "2018-07-12T10:20:00+02:00",
            "arrivalAirport": "FLR",
            "type": "INTERMEDIATE"
        },
        {
            "flightOperator": "TUI",
            "departureDatetime": "2018-07-18T11:40:00+02:00",
            "departureAirport": "FLR",
            "arrivalDatetime": "2018-07-18T12:00:00+02:00",
            "arrivalAirport": "MXP",
            "type": "INTERMEDIATE"
```

```json
        },
        {
            "flightOperator": "TUI",
            "departureDatetime": "2018-07-24T15:20:00+02:00",
            "departureAirport": "MXP",
            "arrivalDatetime": "2018-07-24T16:00:00+02:00",
            "arrivalAirport": "MUC",
            "type": "OUTBOUND"
        }
    ],
    "accomodation": [
        {
            "id": "AC05939",
            "name": "Hotel de la rome",
            "country": "Italy",
            "startDate": "2018-07-06",
            "endDate": "2018-07-12",
            "rooms": [
                {
                    "roomType": "DELUX",
                    "guests": [
                        {
                            "fullName": "Kurt Fritze",
                            "firstName": "Kurt",
                            "lastName": "Fritze",
                            "lead": "true"
                        },
                        {
                            "fullName": "Emma Fritze",
                            "firstName": "Emma",
                            "lastName": "Fritze",
                            "lead": false
                        },
                        {
                            "fullName": "Mila Fritze",
                            "firstName": "Mila",
                            "lastName": "Fritze",
                            "lead": false
                        },
                        {
                            "fullName": "Anna Fritze",
                            "firstName": "Anna",
                            "lastName": "Fritze",
                            "lead": false
                        }
                    ],
                    "roomNumbers": [
                        15,
                        14
                    ]
                }
            ]
        },
        {
            "id": "AC05939",
            "name": "Hotel de la rome",
            "country": "Italy",
            "startDate": "2018-07-12",
            "endDate": "2018-07-18",
            "rooms": [
```

```json
        {
          "roomType": "DELUX",
          "guests": [
            {
              "fullName": "Kurt Fritze",
              "firstName": "Kurt",
              "lastName": "Fritze",
              "lead": true
            },
            {
              "fullName": "Emma Fritze",
              "firstName": "Emma",
              "lastName": "Fritze",
              "lead": false
            }
          ],
          "roomNumbers": [
            142
          ]
        },
        {
          "roomType": "STANDARD",
          "guests": [
            {
              "fullName": "Mila Fritze",
              "firstName": "Mila",
              "lastName": "Fritze",
              "lead": false
            },
            {
              "fullName": "Anna Fritze",
              "firstName": "Anna",
              "lastName": "Fritze",
              "lead": false
            }
          ],
          "roomNumbers": [
            138
          ]
        }
      ]
    },
    {
      "id": "AC05939",
      "name": "Hotel de la rome",
      "country": "Italy",
      "startDate": "2018-07-18",
      "endDate": "2018-07-24",
      "rooms": [
        {
          "roomType": "DELUX",
          "guests": [
            {
              "fullName": "Kurt Fritze",
              "firstName": "Kurt",
              "lastName": "Fritze",
              "lead": true
            },
            {
              "fullName": "Emma Fritze",
```

```
                    "firstName": "Emma",
                    "lastName": "Fritze",
                    "lead": false
                },
                {
                    "fullName": "Mila Fritze",
                    "firstName": "Mila",
                    "lastName": "Fritze",
                    "lead": false
                },
                {
                    "fullName": "Anna Fritze",
                    "firstName": "Anna",
                    "lastName": "Fritze",
                    "lead": false
                }
            ],
            "roomNumbers": [
                "8C",
                "2B"
            ]
        }
    ]
  }
 ]
}
```

Test Report: NOK
- there are some accomodation.rooms.guests.lead values coming as a string, they should be boolean
- some of the roomNumbers fields are coming as integers, they should be strings

Scenario #3 - Booking Info using UK booking ref and DE app-locale

path: /v1/bookings/ADE9452
Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616011997661
Body:
(empty)

Expected result:
response code: 404 No Content
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
correlation-id: someString

Body:
```
{
    "error": {
        "code": 404,
        "message": "No Booking found for given bookingRef and locale"
    }
}
```

Actual Result:
Response code: 404
Response time: 243ms

Response headers:
Date: Wed, 17 Mar 2021 22:35:02 GMT
Content-Type: application/json
Content-Length: 106
Connection: keep-alive
x-amzn-RequestId: b8390091-1fc6-4290-a616-585d9833af94
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWmTfFv7liAFliw==

Body:
```
{
    "error": {
        "code": 404,
        "message": "No Booking found for given bookingRef and locale"
    }
}
```

Test Report: OK

Scenario #4 - Booking Info using DE booking ref and UK app-locale

path: /v1/bookings/AR58930
Request sent:
Headers:
device-os: Android
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616020950874
Body:
(empty)

Expected result:
response code: 204 No Content
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...

correlation-id: someString
Body:
```
{
    "error": {
        "code": 404,
        "message": "No Booking found for given bookingRef and locale"
    }
}
```

Actual Result:
response code: 204 No Content
response time: 58ms

Response headers:
Date: Wed, 17 Mar 2021 22:42:49 GMT
Content-Type: application/json
Content-Length: 0
Connection: keep-alive
x-amzn-RequestId: 73f28e88-e680-49a6-bedd-a8a9c5feb3d1
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWncfHUNliAFQOA==
Response body:
(empty)

Test Report: NOK
- Response Code should be 404 and response body accordingly

Bookings - Weather
path: /v1/bookings/{id}/weather

Scenario #1 - Happy path - UK user

Path: /v1/bookings/AR58930/weather
Request sent:
Headers:
device-os: Android
app-locale: en_GB
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616020950874
Body:
(empty)

Expected result:
Response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...

Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
correlation-id: someString
Parameters:
bookingRef: AR58930
surname: Smith
Body:
```
{
    "weather": [
      {
          "startDate": "...",
          "endDate": "...",
          "weatherStations": [
             {
                 "id": "...",
                 "city": "...",
                 "country": "...",
                 "temperatureUnit": "...",
                 "speedUnit": "...",
                 "weatherData": [
                    {
                        "date": "...",
                        "temperatureMin": "...",
                        "temperatureMax": "...",
                        "temperatureWater": "...",
                        "windDirection": "...",
                        "windSpeed": integer,
                        "chanceOfRain": integer,
                        "icon": "..."
                    }
                 ]
             }
          ]
      }
    ]
}
```

Actual Result:
Response code: 200
Response time: 55ms

Response headers:
Date: Wed, 17 Mar 2021 22:50:26 GMT
Content-Type: application/json
Content-Length: 6918
Connection: keep-alive
x-amzn-RequestId: 9eed19c8-50e4-4696-8385-345544ccef3f
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWoj-E3iFiAFSBQ=
login-token: 1616010132744
Response body:
```
{
    "weather": [
      {
          "startDate": "2019-05-12",
          "endDate": "2019-05-27",
          "weatherStations": [
             {
                 "id": "WS64353",
```

```json
"city": "Palma",
"country": "Spain",
"temperatureUnit": "CELCIUS",
"speedUnit": "MPH",
"weatherData": [
    {
        "date": "2019-05-12",
        "temperatureMin": "15",
        "temperatureMax": "29",
        "temperatureWater": "19",
        "windDirection": "WW",
        "windSpeed": 10,
        "chanceOfRain": 5,
        "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
    },
    {
        "date": "2019-05-13",
        "temperatureMin": "17",
        "temperatureMax": "30",
        "temperatureWater": "19",
        "windDirection": "SW",
        "windSpeed": 6,
        "chanceOfRain": 0,
        "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
    },
    {
        "date": "2019-05-14",
        "temperatureMin": "24",
        "temperatureMax": "37",
        "temperatureWater": "21",
        "windDirection": "S",
        "windSpeed": 3,
        "chanceOfRain": 2,
        "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
    },
    {
        "date": "2019-05-15",
        "temperatureMin": "22",
        "temperatureMax": "37",
        "temperatureWater": "22",
        "windDirection": "SE",
        "windSpeed": 4,
        "chanceOfRain": 10,
        "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
    },
    {
        "date": "2019-05-16",
        "temperatureMin": "23",
        "temperatureMax": "34",
        "temperatureWater": "22",
        "windDirection": "SE",
        "windSpeed": 6,
        "chanceOfRain": 22,
        "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
    },
    {
        "date": "2019-05-17",
        "temperatureMin": "20",
        "temperatureMax": "30",
        "temperatureWater": "22",
```

```json
      "windDirection": "E",
      "windSpeed": 9,
      "chanceOfRain": 40,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-18",
      "temperatureMin": "26",
      "temperatureMax": "35",
      "temperatureWater": "22",
      "windDirection": "E",
      "windSpeed": 5,
      "chanceOfRain": 34,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-19",
      "temperatureMin": "26",
      "temperatureMax": "34",
      "temperatureWater": "22",
      "windDirection": "SW",
      "windSpeed": 5,
      "chanceOfRain": 20,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-20",
      "temperatureMin": "27",
      "temperatureMax": "38",
      "temperatureWater": "24",
      "windDirection": "SW",
      "windSpeed": 2,
      "chanceOfRain": 5,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-21",
      "temperatureMin": "22",
      "temperatureMax": "33",
      "temperatureWater": "22",
      "windDirection": "SW",
      "windSpeed": 10,
      "chanceOfRain": 12,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-22",
      "temperatureMin": "18",
      "temperatureMax": "29",
      "temperatureWater": "19",
      "windDirection": "S",
      "windSpeed": 5,
      "chanceOfRain": 5,
      "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
   },
   {

      "date": "2019-05-23",
      "temperatureMin": "15",
      "temperatureMax": "29",
      "temperatureWater": "18",
```

```
            "windDirection": "SW",
            "windSpeed": 10,
            "chanceOfRain": 5,
            "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
        },
        {
            "date": "2019-05-24",
            "temperatureMin": "25",
            "temperatureMax": "29",
            "temperatureWater": "19",
            "windDirection": "SW",
            "windSpeed": 10,
            "chanceOfRain": 7,
            "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
        },
        {
            "date": "2019-05-25",
            "temperatureMin": "24",
            "temperatureMax": "27",
            "temperatureWater": "20",
            "windDirection": "W",
            "windSpeed": 7,
            "chanceOfRain": 5,
            "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
        },
        {
            "date": "2019-05-26",
            "temperatureMin": "26",
            "temperatureMax": "34",
            "temperatureWater": "21",
            "windDirection": "W",
            "windSpeed": 10,
            "chanceOfRain": 5,
            "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
        },
        {
            "date": "2019-05-27",
            "temperatureMin": "24",
            "temperatureMax": "31",
            "temperatureWater": "19",
            "windDirection": "W",
            "windSpeed": 6,
            "chanceOfRain": 5,
            "icon": "http://www.tui.co.uk/storage/images/icons/weather/sun.jpg"
        }
      ]
    }
   ]
  }
 ]
}
```

Test Report: OK

Scenario #2 - Happy path - DE user

Path:/v1/bookings/AR58930/weather
Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616020950874
Body:
(empty)

Expected result:
Response code: 200
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
correlation-id: someString
Parameters:
bookingRef: AR58930
surname: Smith
Body:
```
{
    "weather": [
       {
          "startDate": "...",
          "endDate": "...",
          "weatherStations": [
             {
                "id": "...",
                "city": "...",
                "country": "...",
                "temperatureUnit": "...",
                "speedUnit": "...",
                "weatherData": [
                   {
                      "date": "...",
                      "temperatureMin": "...",
                      "temperatureMax": "...",
                      "temperatureWater": "...",
                      "windDirection": "...",
                      "windSpeed": integer,
                      "chanceOfRain": integer,
                      "icon": "..."
                   }
                ]
             }
          ]
       }
    ]
}
```

Actual Result:
Response code: 200
Response time: 55ms

Response headers:
Date: Wed, 17 Mar 2021 23:00:25 GMT
Content-Type: application/json
Content-Length: 14981
Connection: keep-alive
x-amzn-RequestId: f6633061-a0a5-4e2e-93d5-35a394c3a6ea
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWqBbEfOliAFnnw=
login-token: 1616010132744

Body: OK

Test Report: OK
Notes:
- In this scenario the body is very extensive and I've decided that since the response was well formed there is no reason to put it here

Scenario #3 - Weather using UK booking ref and DE app-locale

Path: /v1/bookings/AR58930/weather
Request sent:
Headers:
device-os: IOS
app-locale: de_DE
x-api-key: 0qNSzqieHI5M36LLgY7Y85Zco0SMXKyr37MIOSAG
correlation-id: someString
Content-Type: application/json
login-token: 1616020950874
Body:
(empty)

Expected result:
response code: 204 No Content
Headers:
Date: ...
Content-Type: application/json
Content-Length: ...
Connection: ...
x-amzn-RequestId: ...
Access-Control-Allow-Origin: ...
x-amz-apigw-id: ...
login-token: ...
correlation-id: someString
Body:
(empty)

Actual Result:
response code: 204
response time: 60ms

Response headers:
Date: Wed, 17 Mar 2021 23:07:58 GMT
Content-Type: application/json
Content-Length: 0
Connection: keep-alive
x-amzn-RequestId: b9f6729a-fa17-4f35-b260-93a4a568f7f0
Access-Control-Allow-Origin: *
correlation-id: someString
x-amz-apigw-id: cWrIWHwnliAFSlQ=
login-token: 1616010132744
Body:
(empty)

Test Report: OK
Notes:
- A similar scenario was executed with UK booking ref and DE app-locale, retrieving the same results.

18-Validate headers for all requests (20%)
I already did that in the previous answer.

19 - Do you want to try the advanced section? *
Yes

20 - Ensure that only necessary endpoints are called for each environment in collection runner
I am going to skip this one because I am short of time.

21 - Run the collection in newman

```
→ qa_chalenge git:(main) ✗ newman run Collection_TDA_QA_Recruitment_Test\ API.json -e environment_qa_chalenge.json
newman

TDA QA Recruitment Test API

□ auth/login
↳ Login DE
  POST https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/auth/login [200 OK, 311B, 305ms]

  [
    '1616031551470'

  ]

↳ Login UK
  GET https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/auth/login?bookingRef=AR58930&surname=Smith [200 OK, 361B, 59ms]

  [
    '1616031551592'

  ]

□ v1/bookings / {id}
↳ Booking Info
  GET https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/v1/bookings/AR58930 [200 OK, 1.74KB, 62ms]

↳ Weather
  GET https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/v1/bookings/AR58930/weather [200 OK, 7.03KB, 60ms]

□ v1/bookings
↳ Available bookings
  GET https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/v1/bookings [200 OK, 700B, 58ms]

→ API info
  GET https://4s9rh46bpe.execute-api.eu-central-1.amazonaws.com/test/healthcheck [200 OK, 344B, 57ms]
```

	executed	failed
iterations	1	0
requests	6	0
test-scripts	2	0
prerequest-scripts	0	0
assertions	0	0

```
total run duration: 742ms

total data received: 8.77KB (approx)

average response time: 100ms [min: 57ms, max: 305ms, s.d.: 91ms]

→ qa_chalenge git:(main) ✗ █
```

22 - Feedback
I really enjoy doing this challenge! It made a good overview about API testing with postman, and even if I don't succeed this was already worth it. A way to improve it maybe would be making it less extensive and more diversified.