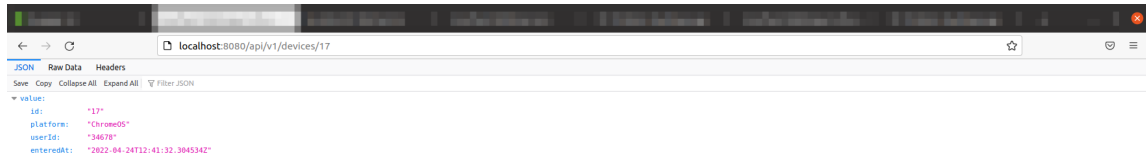**Testing object: device-api**

Let's check our endpoints.
We have the following resources for our service:
- /api/v1/devices
- /api/v1/devices/{deviceID}

According to the Swagger UI spec we have the following requests:

GET ListDevicesV1 - List of devices

This request returns list of each devices in given pages

Code 200 - A successful response

POST CreateDeviceV1 - Create a device

Input restriction
userId: [1 : 9223372036854775807]

Code 200 - A successful response
Code 400 - Bad Request

GET DescribeDeviceV1 - Describe a device

This request returns information about device{id}

Input restriction
id: [1 : 2147483647]

Code 200 - A successful response
Code 400 - Bad Request
Code 404 - Not Found
Code 500 - Internal server error

```
betkin@lws:~$ curl -v -X 'GET'    'http://localhost:8080/api/v1/devices/5'    -H '
accept: application/json'; echo
Note: Unnecessary use of -X or --request, GET is already inferred.
*    Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> GET /api/v1/devices/5 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 17:40:26 GMT
< Content-Type: application/json
< Content-Length: 100
< Connection: keep-alive
< Grpc-Metadata-Content-Type: application/grpc
<
* Connection #0 to host localhost left intact
{"value":{"id":"5","platform":"Windows","userId":"52352","enteredAt":"2021-11-09
T13:53:07.152502Z"}}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'GET'    'http://localhost:8080/api/v1/devices/555555555
55555555555555555555555555555555'    -H 'accept: application/json'; echo
Note: Unnecessary use of -X or --request, GET is already inferred.
*    Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> GET /api/v1/devices/55555555555555555555555555555555555555555 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 400 Bad Request
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 17:42:31 GMT
< Content-Type: application/json
< Content-Length: 171
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":3,"message":"type mismatch, parameter: device_id, error: strconv.ParseUi
nt: parsing \"55555555555555555555555555555555555555555\": value out of range","d
etails":[]}
betkin@lws:~$
```

DELETE RemoveDeviceV1 - Remove a device

This request removes device{id}

Input restriction
id: [1 : 2147483647]

Code 200 - A successful response (if we have ""found": true" in response'
body!!!)
Code 400 - Bad Request

Code 500 - Internal Server Error


```
{"found":false}betkin@lws:~$ curl -v -X 'DELETE' 'http://localhost:8080/api/v1/d
evices/2147483647'   -H 'accept: application/json'; echo
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> DELETE /api/v1/devices/2147483647 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 18:40:45 GMT
< Content-Type: application/json
< Content-Length: 15
< Connection: keep-alive
< Grpc-Metadata-Content-Type: application/grpc
<
* Connection #0 to host localhost left intact
{"found":false}
betkin@lws:~$
```



```
betkin@lws:~$ curl -v -X 'DELETE' 'http://localhost:8080/api/v1/devices/21474836
47'   -H 'accept: application/json'; echo
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> DELETE /api/v1/devices/2147483647 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 18:49:56 GMT
< Content-Type: application/json
< Content-Length: 15
< Connection: keep-alive
< Grpc-Metadata-Content-Type: application/grpc
<
* Connection #0 to host localhost left intact
{"found":false}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'DELETE' 'http://localhost:8080/api/v1/devices/21474836
4799999999999999999999'   -H 'accept: application/json'; echo
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> DELETE /api/v1/devices/21474836479999999999999999999999 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 400 Bad Request
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 18:52:03 GMT
< Content-Type: application/json
< Content-Length: 162
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":3,"message":"type mismatch, parameter: device_id, error: strconv.ParseUi
nt: parsing \"21474836479999999999999999999999\": value out of range","details":[
]}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'DELETE' 'http://localhost:8080/api/v1/devices/21474836
48'   -H 'accept: application/json'
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> DELETE /api/v1/devices/2147483648 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 500 Internal Server Error
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 18:48:44 GMT
< Content-Type: application/json
< Content-Length: 86
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":13,"message":"2147483648 is greater than maximum value for Int4","detail
betkin@lws:~$
```

PUT UpdateDeviceV1 - Update a device

This request update device{id}

Input restriction
id: [1 : 2147483647]

Code 200 - A successful response (if we have ""found": true" in response'
body!!!)
Code 400 - Bad Request
Code 500 - Internal Server Error

```
betkin@lws:~$ curl -v -X 'PUT'    'http://localhost:8080/api/v1/devices/24'    -H
'accept: application/json'   -H 'Content-Type: application/json'   -d '{
  "platform": "NewDigitalOS",
  "userId": "35"
}'; echo
*    Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> PUT /api/v1/devices/24 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
> Content-Type: application/json
> Content-Length: 50
>
* upload completely sent off: 50 out of 50 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 19:08:01 GMT
< Content-Type: application/json
< Content-Length: 16
< Connection: keep-alive
< Grpc-Metadata-Content-Type: application/grpc
<
* Connection #0 to host localhost left intact
{"success":true}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'PUT'    'http://localhost:8080/api/v1/devices/214748364
7'   -H 'accept: application/json'   -H 'Content-Type: application/json'   -d '{

  "platform": "NewDigitalOS",
  "userId": "35"
}'; echo
*    Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> PUT /api/v1/devices/2147483647 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
> Content-Type: application/json
> Content-Length: 50
>
* upload completely sent off: 50 out of 50 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 19:11:30 GMT
< Content-Type: application/json
< Content-Length: 17
< Connection: keep-alive
< Grpc-Metadata-Content-Type: application/grpc
<
* Connection #0 to host localhost left intact
{"success":false}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'PUT'    'http://localhost:8080/api/v1/devices/214748364
8'   -H 'accept: application/json'   -H 'Content-Type: application/json'   -d '{

  "platform": "NewDigitalOS",
  "userId": "35"
}'; echo
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> PUT /api/v1/devices/2147483648 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
> Content-Type: application/json
> Content-Length: 50
>
* upload completely sent off: 50 out of 50 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 500 Internal Server Error
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 19:12:43 GMT
< Content-Type: application/json
< Content-Length: 86
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":13,"message":"2147483648 is greater than maximum value for Int4","detail
s":[]}
betkin@lws:~$
```

```
betkin@lws:~$ curl -v -X 'PUT'    'http://localhost:8080/api/v1/devices/24'
-H 'accept: application/json'   -H 'Content-Type: application/json'   -d '{
  "platform": "NewDigitalOS",
  "userId": "9223372036854775808"
}'; echo
*   Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> PUT /api/v1/devices/24 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
> Content-Type: application/json
> Content-Length: 67
>
* upload completely sent off: 67 out of 67 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 500 Internal Server Error
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 19:23:07 GMT
< Content-Type: application/json
< Content-Length: 95
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":13,"message":"9223372036854775808 is greater than maximum value for I
nt8","details":[]}
betkin@lws:~$
```

```
{"success":true}
betkin@lws:~$ curl -v -X 'PUT'    'http://localhost:8080/api/v1/devices/24'
-H 'accept: application/json'   -H 'Content-Type: application/json'   -d '{
  "platform": "NewDigitalOS",
  "userId": ""
}'; echo
*    Trying 127.0.0.1:8080...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8080 (#0)
> PUT /api/v1/devices/24 HTTP/1.1
> Host: localhost:8080
> User-Agent: curl/7.68.0
> accept: application/json
> Content-Type: application/json
> Content-Length: 48
>
* upload completely sent off: 48 out of 48 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 400 Bad Request
< Server: nginx/1.20.2
< Date: Sun, 24 Apr 2022 19:32:56 GMT
< Content-Type: application/json
< Content-Length: 91
< Connection: keep-alive
<
* Connection #0 to host localhost left intact
{"code":3,"message":"proto: (line 3:13): invalid value for uint64 type: \"\""
,"details":[]}
betkin@lws:~$
```

Results of the research tour

We have tested the basic functionality of the service. No critical or blocker bugs found.
*There is a mismatch between the actual and declared data types for the **id** field. The range of valid values for this field is from 1 to 2147483647.*