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REST-API Guide

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REST-API Guide

Developer Guide

Introduction

You may push SMIL scripts and media files into a player using a REST API as documented in the attachment.

IAdea firmware contains several Android architectural improvements to make IAdea devices robust to operate 24/7 with your APP. This guide provides all resources needed to get your APP up and run on IAdea devices as well as provide you some next steps options that can potentially provision your APP out of factory to save tremendous effort for large quantity deployment.

Software requirements

- Restlet client extension tool or REST API client of your choice

Table of Contents

Naming

- The REST API can be accessed via prefix

```
http://(device_ip):8080/v2/
```

appended by API call. For example, for API

```
POST oauth2/token
```

the actual HTTP request should be sent to (device_ip) at port 8080, with content similar to:

```
POST /v2/oauth2/token HTTP/1.1
Host: (device_ip)
Content-Type: application/x-www-form-urlencoded;charset=UTF-8

grant_type=password&username=...
```

Authentication

Oauth2/token

- Description: Turn on /off
- Http request: POST
- Input: multi-part form

Parameter	Function
grant_type	Must be the string "password"
username	User name requesting access, admin by default
password	The password configured on player. Leave this field empty by default.

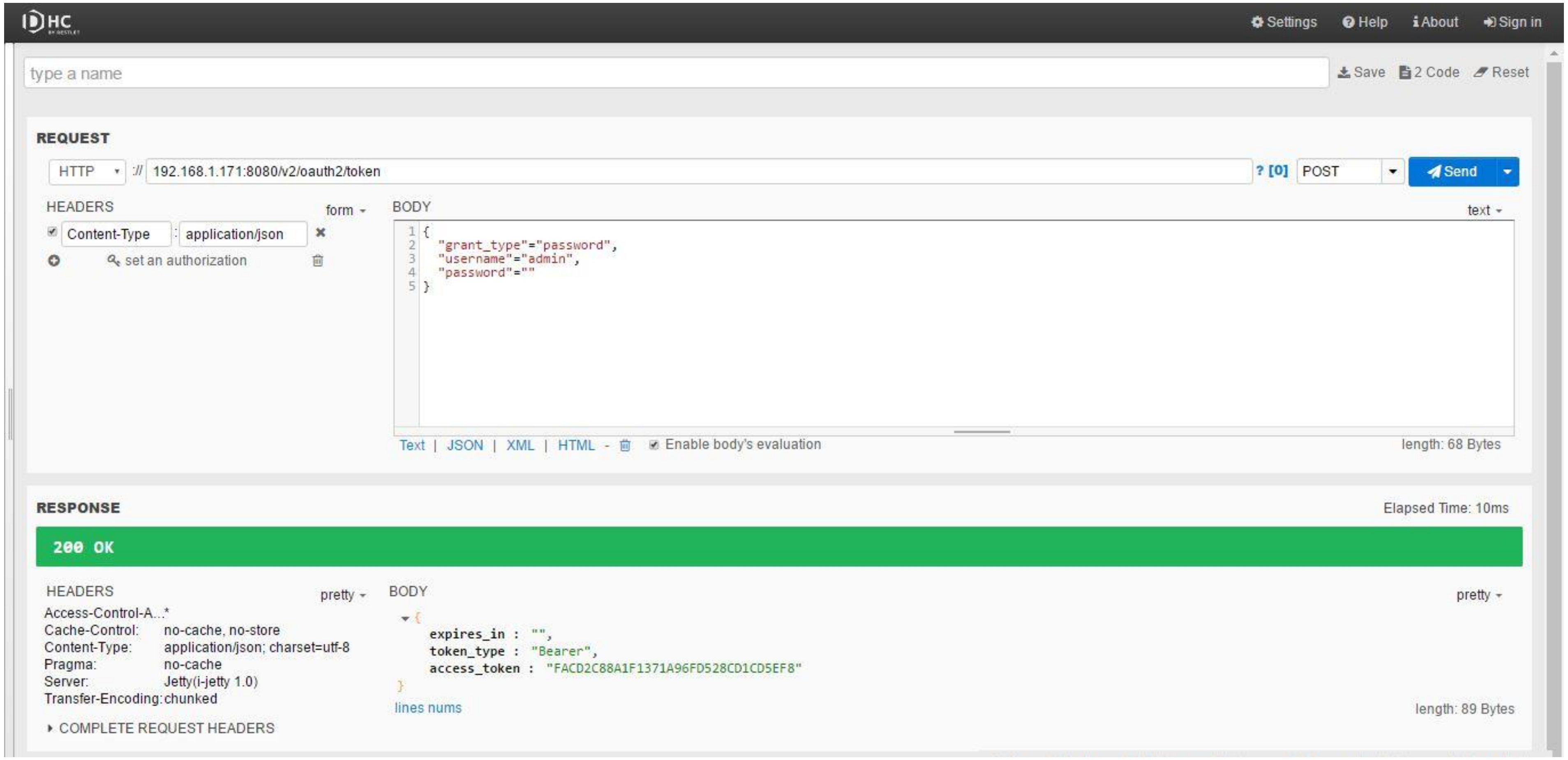
➢ **Output**: JSON

Parameter	Function
access_token	Authorization token for further API access
token_type	Always "Bearer"
expires_in	Number of seconds before access_token expires. If this field is returned as an empty string, then the access token does not expire.

Using Access Token

- Access token must be sent in the access_token query parameter or an Authorization: Bearer HTTP header.
- Request with query parameter GET /v2/path/resource?access_token=access_token HTTP/1.1 HOST: player_ip
- Request with HTTP header GET/v2/path/resource HTTP/1.1 HOST: player_ip Authorization: Bearer access_token

➢ Practical: Get the token of device



REQUEST

HTTP :// 192.168.1.171:8080/v2/oauth2/token ? [0] POST

HEADERS

Content-Type : application/json

set an authorization

BODY

```
{
  "grant_type"="password",
  "username"="admin",
  "password"=""
}
```

Enable body's evaluation

length: 68 Bytes

RESPONSE

Elapsed Time: 10ms

200 OK

HEADERS

```
Access-Control-A...*
Cache-Control:     no-cache, no-store
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

BODY

```
{
    expires_in : "",
    token_type : "Bearer",
    access_token : "FACD2C88A1F1371A96FD528CD1CD5EF8"
}
```

length: 89 Bytes

Media Transfer

➢ Media Transfer- POST files/new

- ➢ **Description**: Create a file under *http://(device_ip):8080/user-data* download path

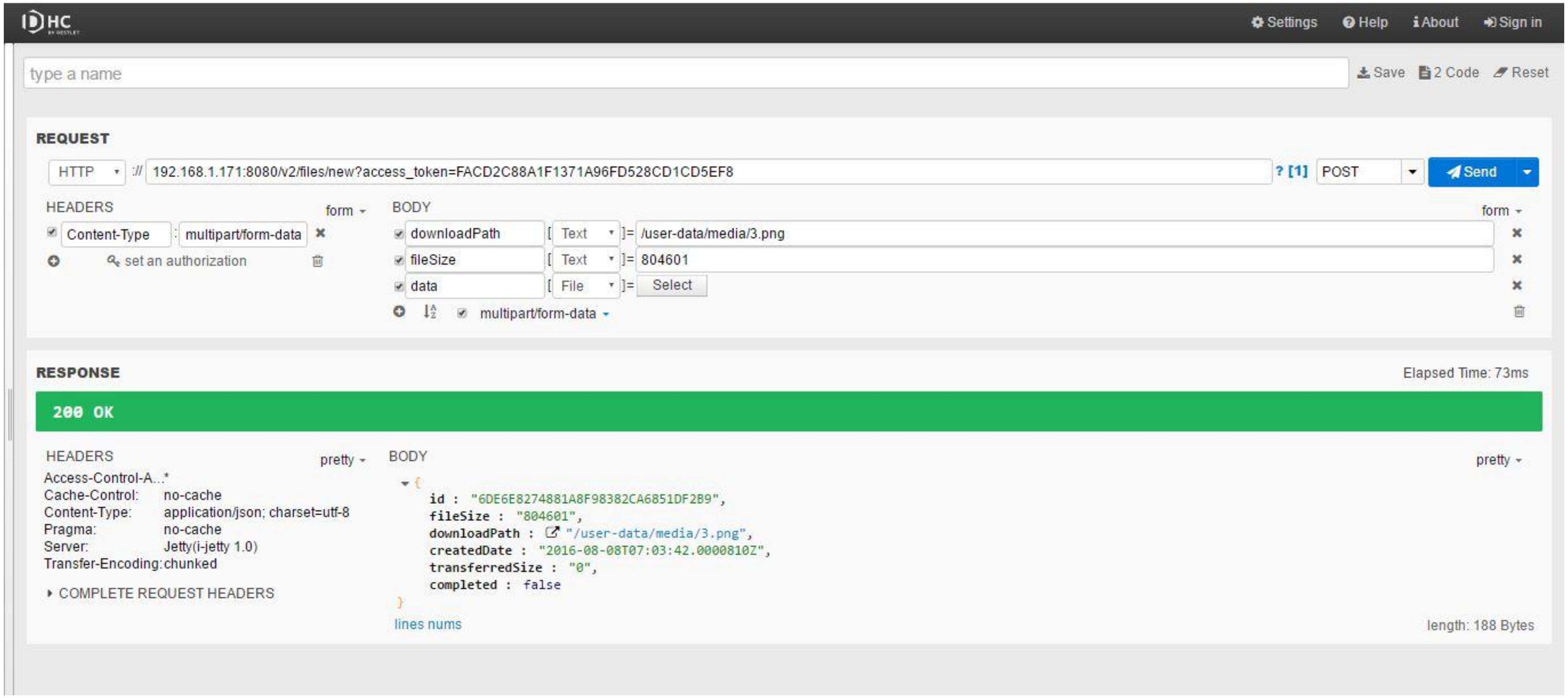
- ➢ **Input:** JSON or multi-part form

Parameter	Function
downloadPath	Path of file, must start with prefix /user-data/
fileSize	Size of file; if provided file can be uploaded in separate chunks
data	File encoded in multipart/form-data
Etag	(Optional) User-supplied unique string for version identification; default empty string
mimeType	(Optional) MIME type of the file; default empty string
modifiedDate	(Optional) ISO8601-encoded date time string indicating modified date time; default empty string

➢ **Output:** JSON

Parameter	Function
id	String for identifying the file in subsequent operations
downloadPath	Path of file to append after http://(device_ip):8080
fileSize	Size of file
Etag	Unique string for version identification
mimeType	MIME type of the file
modifiedDate	ISO8601-encoded date time string indicating modified date time; default empty string
transferredSize	Size uploaded into the player
Completed	Boolean (true or false) indicating whether file upload has completed

➢ **Practical:** Upload the file to device



```
HTTP :// 192.168.1.171:8080/v2/files/new?access_token=FACD2C88A1F1371A96FD528CD1CD5EF8   POST
```

HEADERS

Content-Type	multipart/form-data

BODY

downloadPath	Text	/user-data/media/3.png
fileSize	Text	804601
data	File	Select

multipart/form-data

Elapsed Time: 73ms

200 OK

HEADERS

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

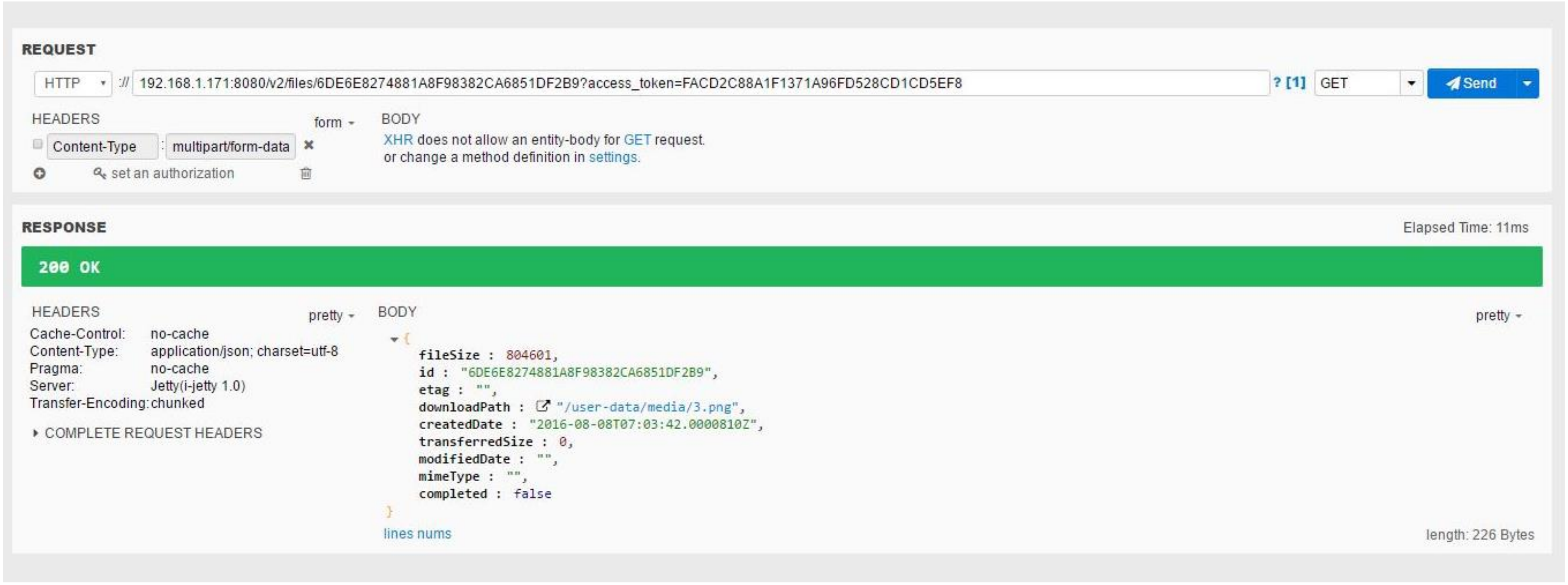
BODY

```
{
   id : "6DE6E8274881A8F98382CA6851DF2B9",
   fileSize : "804601",
   downloadPath : "/user-data/media/3.png",
   createdDate : "2016-08-08T07:03:42.000810Z",
   transferredSize : "0",
   completed : false
}
```

length: 188 Bytes

➢ Media Transfer- GET files/id

- ➢ **Description:** Get file information
- ➢ **Input:** None
- ➢ **Output:** JSON
- ➢ **Practical:** Get file information by ID



REQUEST

HTTP :// 192.168.1.171:8080/v2/files/6DE6E8274881A8F98382CA6851DF2B9?access_token=FACD2C88A1F1371A96FD528CD1CD5EF8 ? [1] GET Send

HEADERS form

Content-Type : multipart/form-data

set an authorization

BODY

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE Elapsed Time: 11ms

200 OK

HEADERS pretty

```
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
{
    fileSize : 804601,
    id : "6DE6E8274881A8F98382CA6851DF2B9",
    etag : "",
    downloadPath : "/user-data/media/3.png",
    createdDate : "2016-08-08T07:03:42.000081OZ",
    transferredSize : 0,
    modifiedDate : "",
    mimeType : "",
    completed : false
}
```

lines nums

length: 226 Bytes

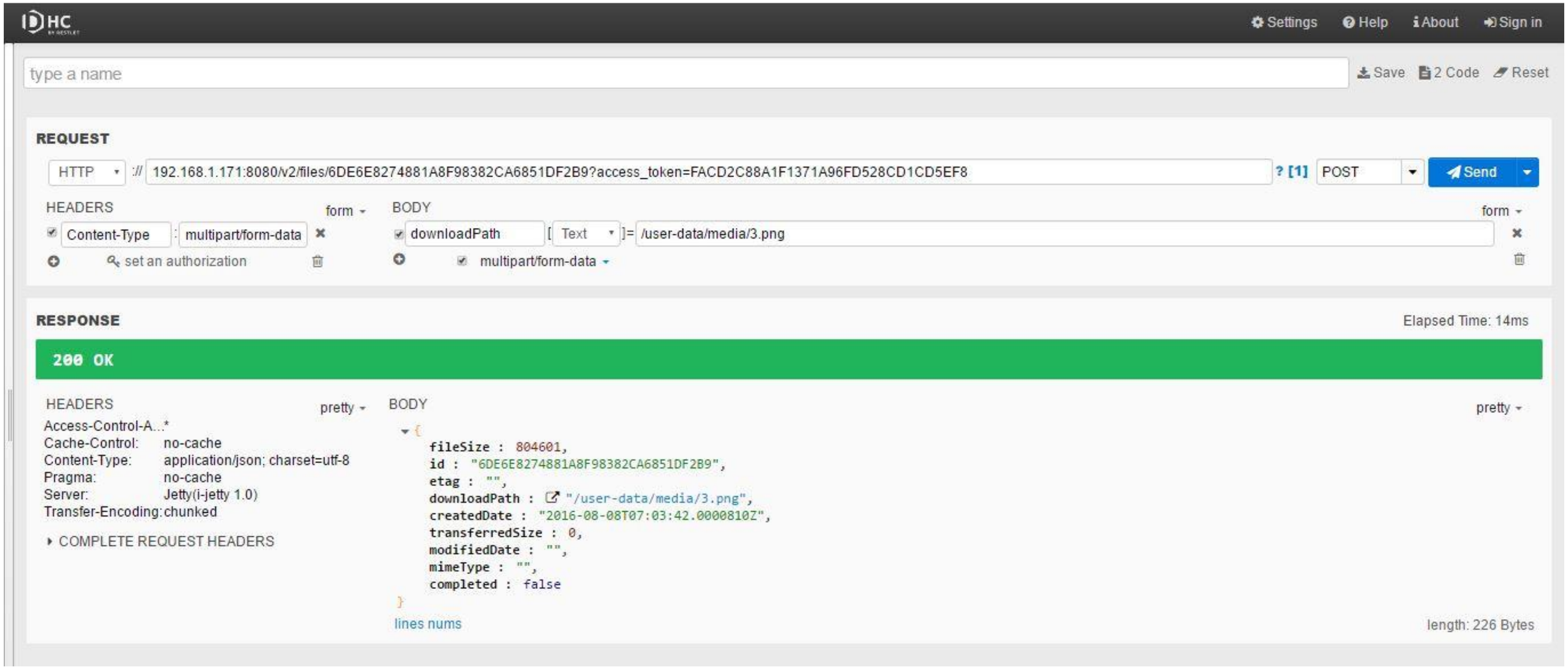
Media Transfer- POST files/id

- **Description:** Get file information
- **Http request:** POST
- **Input:** JSON or multi-part form

Parameter	Function
seek	(Optional) Offset from beginning of file to replace data. Default 0
data	(Optional) File encoded in multipart/form-data
downloadPath	Path of file, must start with prefix /user-data/
etag	(Optional) User-supplied unique string for version identification; default empty string
mimeType	(Optional) MIME type of the file; default empty string
modifiedDate	(Optional) ISO8601-encoded date time string indicating modified date time; default empty string

- **Output:** JSON

➢ **Practical:** Get file information by ID



REQUEST

HTTP :// 192.168.1.171:8080/v2/files/6DE6E8274881A8F98382CA6851DF2B9?access_token=FACD2C88A1F1371A96FD528CD1CD5EF8 POST

HEADERS form

Content-Type : multipart/form-data

BODY form

downloadPath [Text]= /user-data/media/3.png

multipart/form-data

RESPONSE Elapsed Time: 14ms

200 OK

HEADERS pretty

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
{
    fileSize : 804601,
    id : "6DE6E8274881A8F98382CA6851DF2B9",
    etag : "",
    downloadPath : "/user-data/media/3.png",
    createdDate : "2016-08-08T07:03:42.000081OZ",
    transferredSize : 0,
    modifiedDate : "",
    mimeType : "",
    completed : false
}
```

length: 226 Bytes

➢ Media Transfer- POST files/find

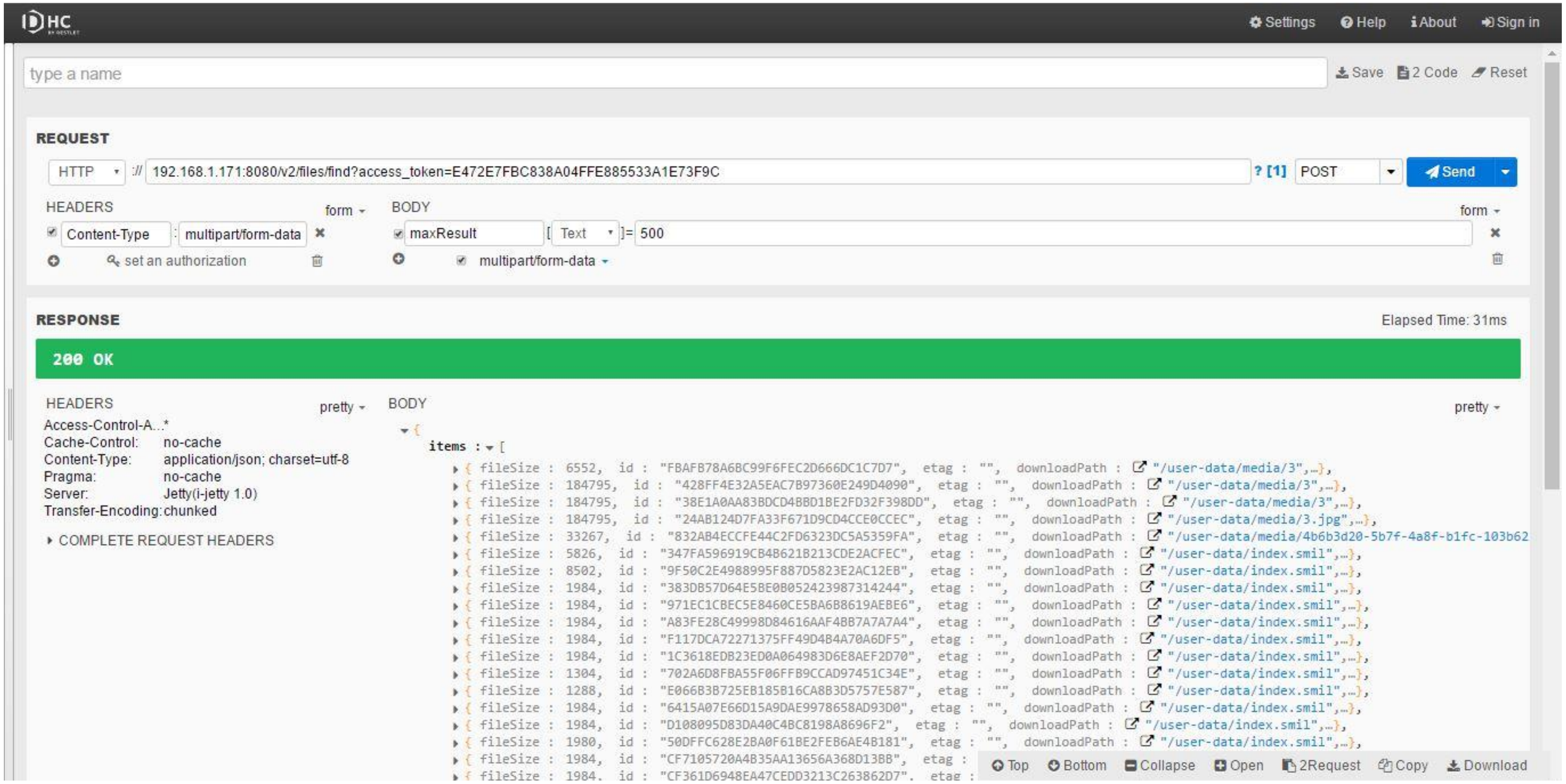
- **Description:** List files on the system
- **Input:** JSON or multi-part form

Parameter	Function
maxResults	(Optional) Max number of file records to return
pageToken	(Optional) Continuation record
query	(Optional) Reserved

- **Output:** JSON

Parameter	Function
nextPageToken	null of an identifier for report continuation
items	Array of *FileResource* structures

➢ **Practical:** List the file in device and set maximum to 500



REQUEST

```
HTTP :// 192.168.1.171:8080/v2/files/find?access_token=E472E7FBC838A04FFE885533A1E73F9C   ? [1]   POST   Send
```

HEADERS

Content-Type	multipart/form-data

BODY

maxResult	Text	500

multipart/form-data

RESPONSE

Elapsed Time: 31ms

200 OK

HEADERS

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

COMPLETE REQUEST HEADERS

BODY

```
{
  items : [
    { fileSize : 6552,  id : "FBAFB78A6BC99F6FEC2D666DC1C7D7",  etag : "",  downloadPath : "/user-data/media/3",…},
    { fileSize : 184795,  id : "428FF4E32A5EAC7B97360E249D4090",  etag : "",  downloadPath : "/user-data/media/3",…},
    { fileSize : 184795,  id : "38E1A0AA83BDCD4BBD1BE2FD32F398DD",  etag : "",  downloadPath : "/user-data/media/3",…},
    { fileSize : 184795,  id : "24AB124D7FA33F671D9CD4CCE0CCEC",  etag : "",  downloadPath : "/user-data/media/3.jpg",…},
    { fileSize : 33267,  id : "832AB4ECCFE44C2FD6323DC5A5359FA",  etag : "",  downloadPath : "/user-data/media/4b6b3d20-5b7f-4a8f-b1fc-103b62
    { fileSize : 5826,  id : "347FA596919CB4B621B213CDE2ACFEC",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 8502,  id : "9F50C2E4988995F887D5823E2AC12EB",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "383DB57D64E5BE0B052423987314244",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "971EC1CBEC5E8460CE5BA6B8619AEBE6",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "A83FE28C49998D84616AAF4BB7A7A7A4",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "F117DCA72271375FF49D4B4A70A6DF5",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "1C3618EDB23ED0A064983D6E8AEF2D70",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1304,  id : "702A6D8FBA55F06FFB9CCAD97451C34E",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1288,  id : "E066B3B725EB185B16CA8B3D5757E587",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "6415A07E66D15A9DAE9978658AD93D0",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "D108095D83DA40C4BC8198A8696F2",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1980,  id : "50DFFC628E2BA0F61BE2FEB6AE4B181",  etag : "",  downloadPath : "/user-data/index.smil",…},
    { fileSize : 1984,  id : "CF7105720A4B35AA13656A368D13BB",  etag :
    { fileSize : 1984,  id : "CF361D6948EA47CEDD3213C263862D7",  etag :
```

➢ Media Transfer- POST files/delete

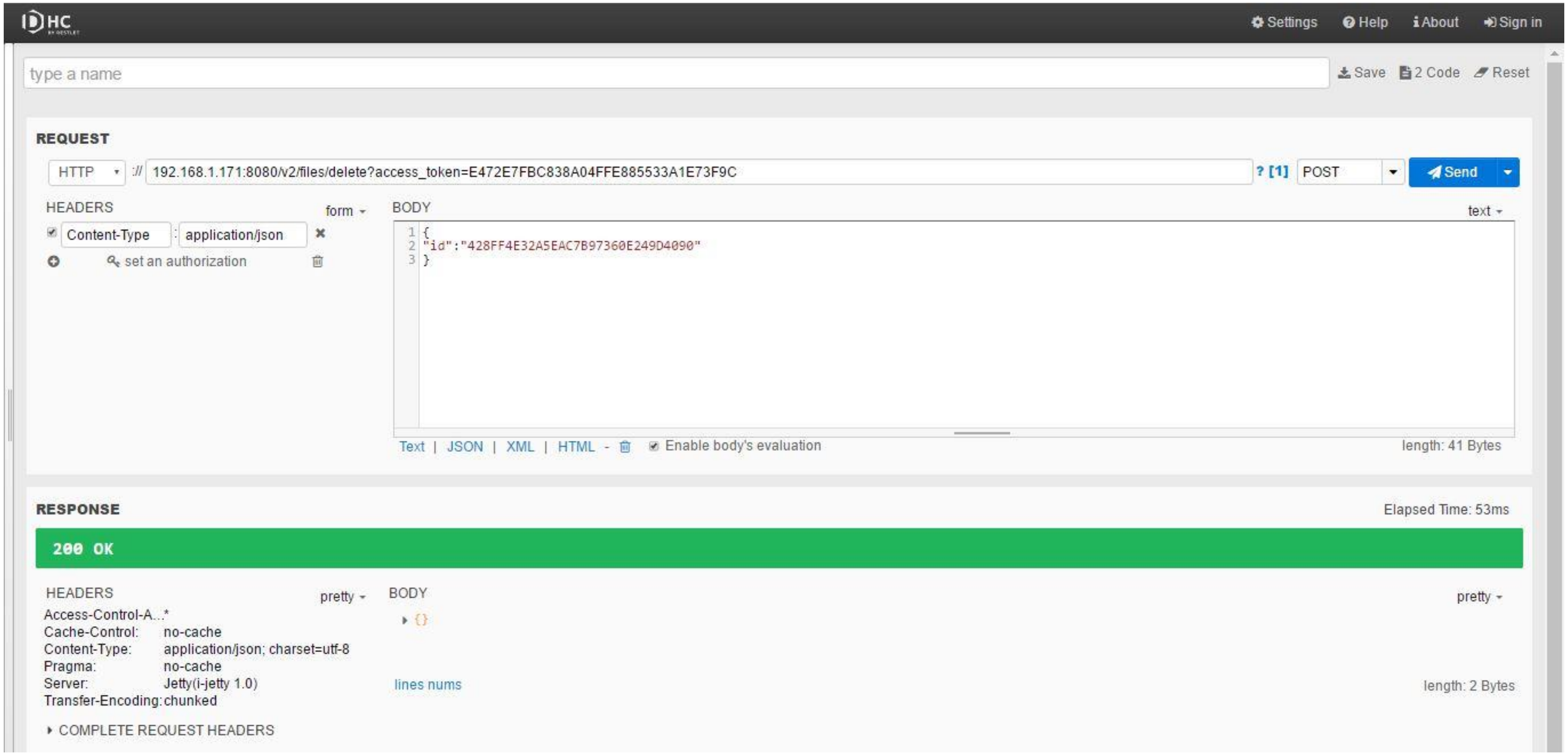
- ➢ **Description:** Delete a file
- ➢ **Input:** JSON or multi-part form

Parameter	Function
id	ID string of file returned by files/new

- ➢ **Output:** JSON

Parameter	Function
null	null

➢ **Practical:** delete the file by ID



REQUEST

HTTP :// 192.168.1.171:8080/v2/files/delete?access_token=E472E7FBC838A04FFE885533A1E73F9C

POST Send

HEADERS form

Content-Type : application/json

set an authorization

BODY text

```
{
"id":"428FF4E32A5EAC7B97360E249D4090"
}
```

Text | JSON | XML | HTML - Enable body's evaluation length: 41 Bytes

RESPONSE Elapsed Time: 53ms

200 OK

HEADERS pretty

```
Access-Control-A...*
Cache-Control:      no-cache
Content-Type:       application/json; charset=utf-8
Pragma:             no-cache
Server:             Jetty(i-jetty 1.0)
Transfer-Encoding:  chunked
```

BODY pretty

{}

lines nums length: 2 Bytes

COMPLETE REQUEST HEADERS

Playback

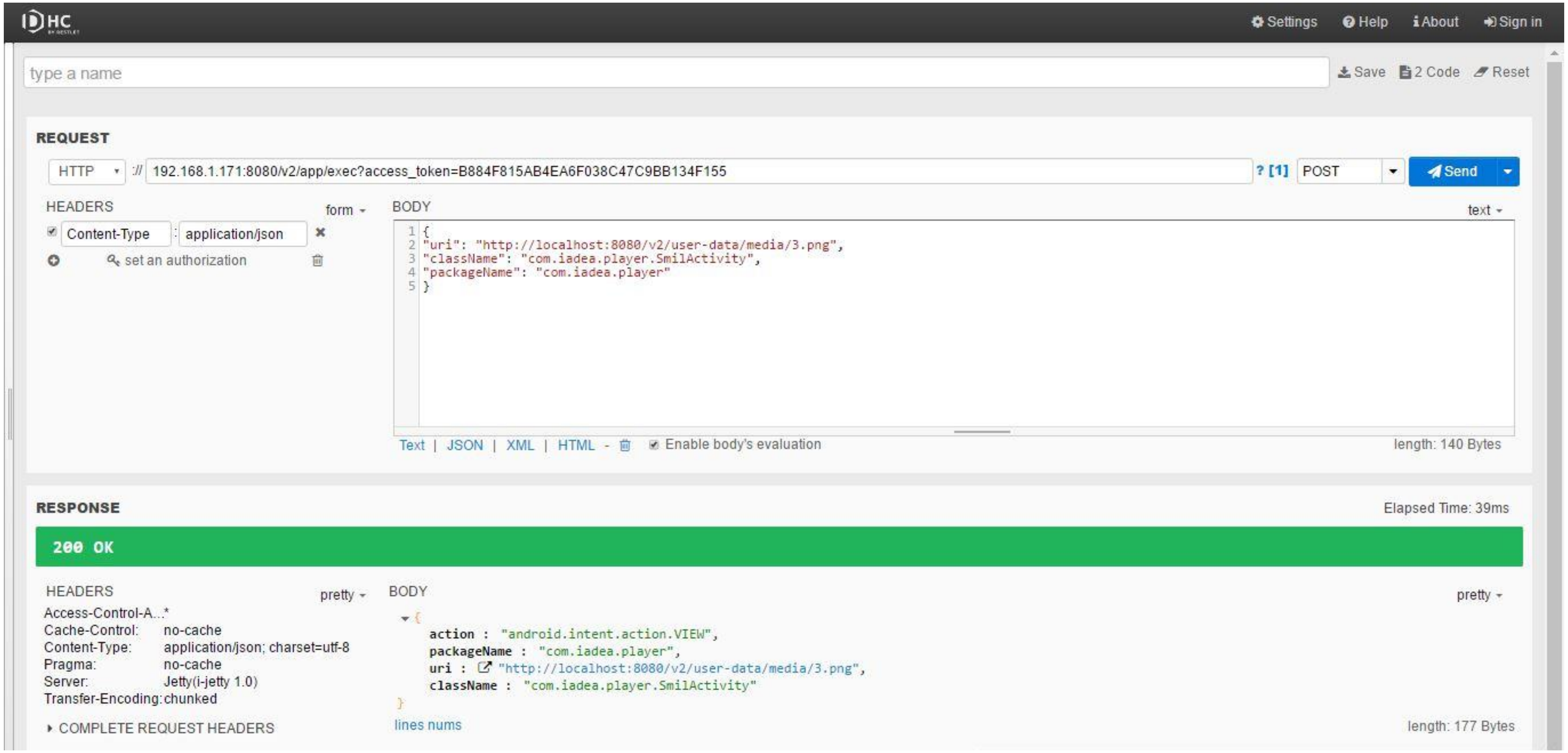
- Playback- POST app/exec
  - **Description:** Play Content once
  - **Input:** JSON

Parameter	Function
uri	Location of content. May be http://localhost:8080/v2/user-data/...
packageName	Android package to launch
className	Android class name
action	Android action
type	(Optional) Android intent type
extras	(Optional) Array of Android intent extra parameters

- **Output:** JSON

Parameter	Function
Uri	Location of content. May be http://localhost:8080/user-data/...
packageName	(Optional) Android package to launch
className	(Optional) Android class name
Action	(Optional) Android action
Type	(Optional) Android intent type

➢ **Practical:** Play the content set in URL



```
POST 192.168.1.171:8080/v2/app/exec?access_token=B884F815AB4EA6F038C47C9BB134F155
```

HEADERS

Content-Type : application/json

BODY

```
{
"uri": "http://localhost:8080/v2/user-data/media/3.png",
"className": "com.iadea.player.SmilActivity",
"packageName": "com.iadea.player"
}
```

length: 140 Bytes

Elapsed Time: 39ms

200 OK

HEADERS

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

BODY

```
{
  action : "android.intent.action.VIEW",
  packageName : "com.iadea.player",
  uri : "http://localhost:8080/v2/user-data/media/3.png",
  className : "com.iadea.player.SmilActivity"
}
```

length: 177 Bytes

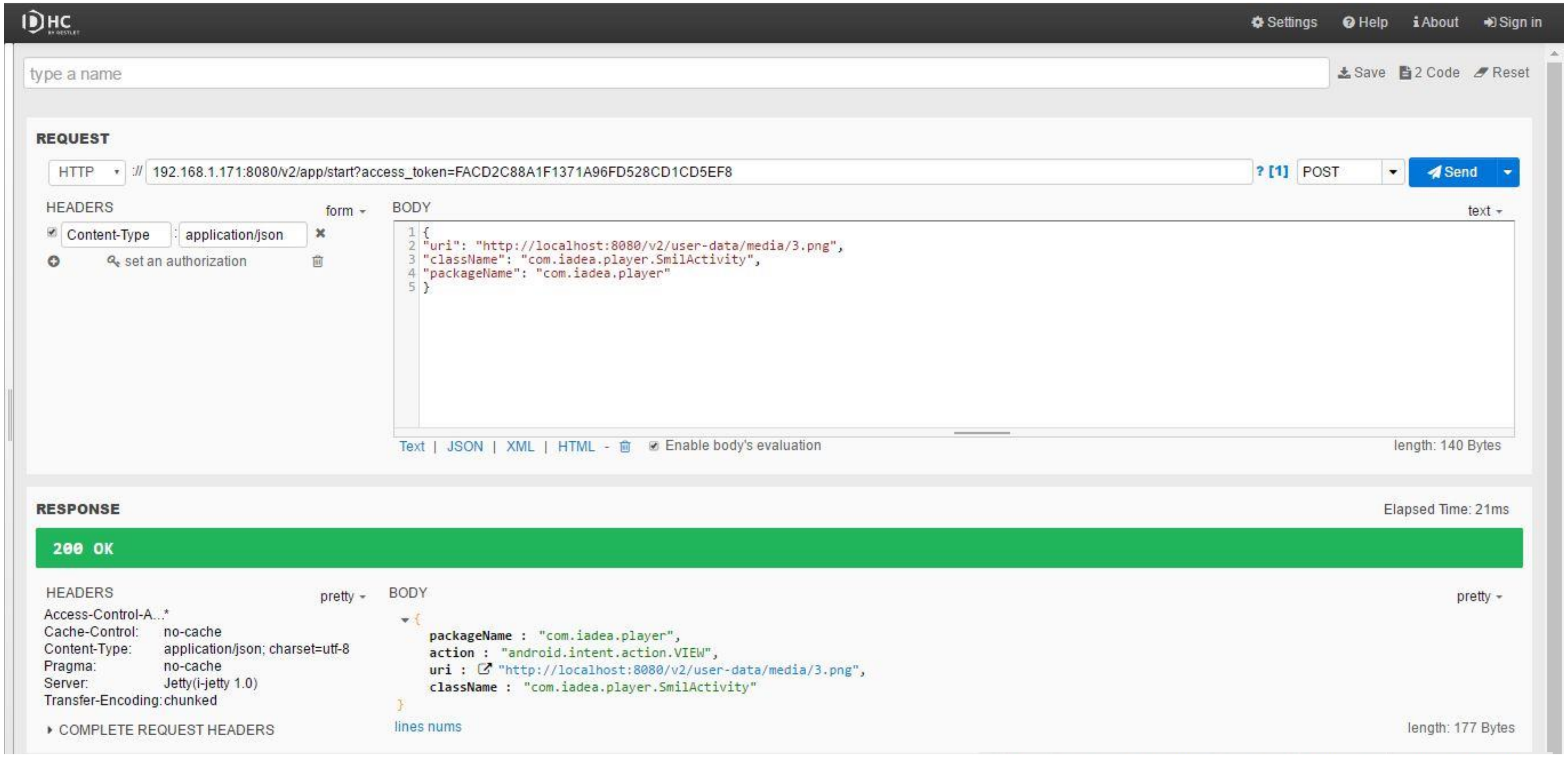
- Playback- POST app/start
  - **Description:** Play Content once
  - **Input:** JSON

Parameter	Function
uri	Location of content. May be http://localhost:8080/v2/user-data/...
packageName	Android package to launch
className	Android class name
action	(Optional) Android action
type	(Optional) Android intent type
extras	(Optional) Array of Android intent extra parameters

➢ **Output:** JSON

Parameter	Function
uri	Location of content. May be http://localhost:8080/v2/user-data/...
packageName	Android package to launch
className	Android class name
action	(Optional) Android action
type	(Optional) Android intent type

- **Practical:** Set the default content



POST 192.168.1.171:8080/v2/app/start?access_token=FACD2C88A1F1371A96FD528CD1CD5EF8

Content-Type : application/json

```
{
"uri": "http://localhost:8080/v2/user-data/media/3.png",
"className": "com.iadea.player.SmilActivity",
"packageName": "com.iadea.player"
}
```

length: 140 Bytes

Elapsed Time: 21ms

200 OK

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

```
{
    packageName : "com.iadea.player",
    action : "android.intent.action.VIEW",
    uri : "http://localhost:8080/v2/user-data/media/3.png",
    className : "com.iadea.player.SmilActivity"
}
```

length: 177 Bytes

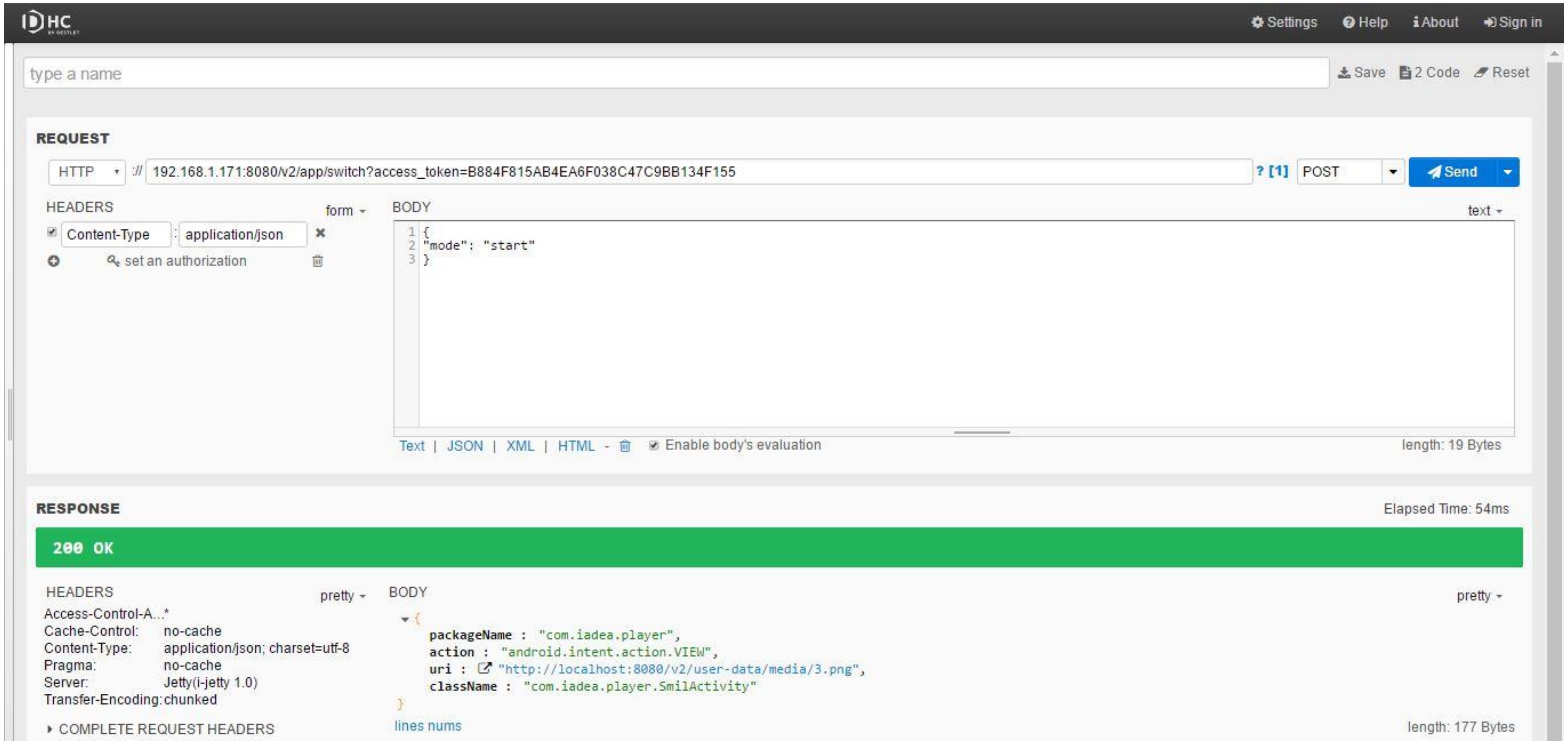
- Playback-POST app/switch
  - **Description:** Switch to play default Content
  - **Input:** JSON

Parameter	Function
mode	Set to "start" to play default content
ifModifiedSince	(Optional) Switch to content if it is modified after this ISO8601 date/time

  - **Output:** JSON

Parameter	Function
uri	Location of content. May be http://localhost:8080/v2/user-data/...
packageName	(Optional) Android package to launch
className	(Optional) Android class name
action	(Optional) Android action
type	(Optional) Android intent type

➢ **Practical:** Switch to play the default content



POST ://192.168.1.171:8080/v2/app/switch?access_token=B884F815AB4EA6F038C47C9BB134F155

Content-Type : application/json

```
{
"mode": "start"
}
```

length: 19 Bytes

Elapsed Time: 54ms

200 OK

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

```
{
  packageName : "com.iadea.player",
  action : "android.intent.action.VIEW",
  uri : "http://localhost:8080/v2/user-data/media/3.png",
  className : "com.iadea.player.SmilActivity"
}
```

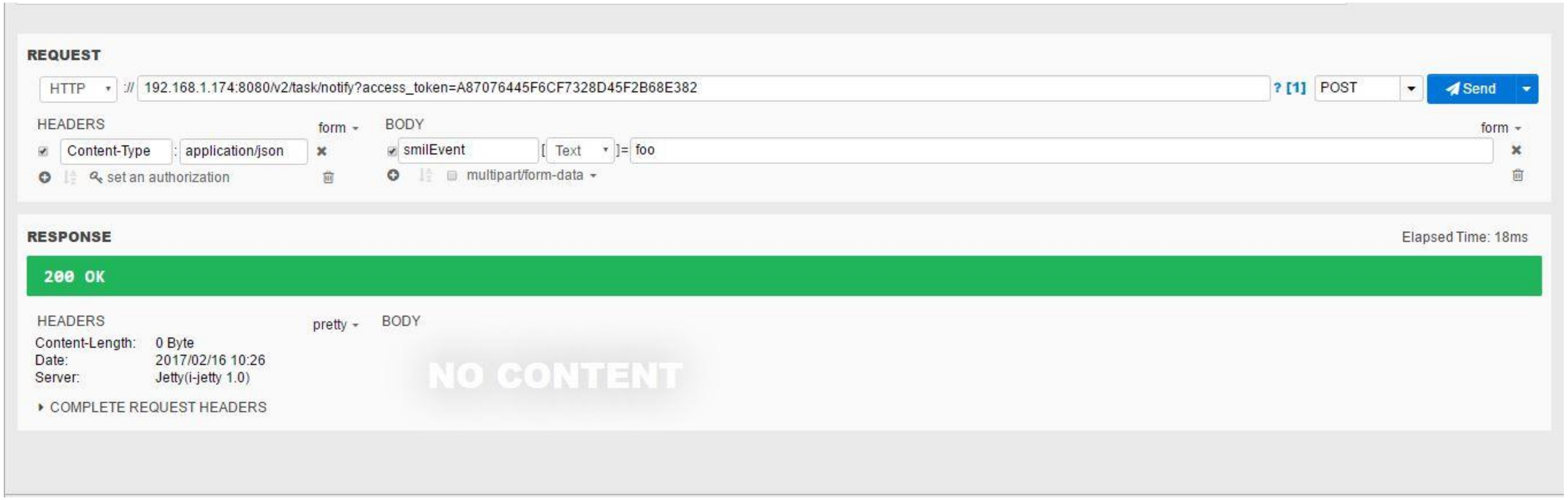
length: 177 Bytes

- Playback- POST v2/task/notify
  - **Description:** Network event Trigger
  - **Input:** JSON

Parameter	Function
smilEvent	foo

- **Output:** none
- **Note:** if user needs more than one trigger, please use different name of function e.g. foo1,foo2…etc.

➢ **Practical:**



REQUEST

HTTP :// 192.168.1.174:8080/v2/task/notify?access_token=A87076445F6CF7328D45F2B68E382 ? [1] POST Send

HEADERS form
Content-Type : application/json
set an authorization

BODY form
smilEvent [Text]= foo
multipart/form-data

RESPONSE Elapsed Time: 18ms

200 OK

HEADERS pretty
Content-Length: 0 Byte
Date: 2017/02/16 10:26
Server: Jetty(i-jetty 1.0)
COMPLETE REQUEST HEADERS

BODY

NO CONTENT

Hardware Management

Hardware Management- POST hardware/display

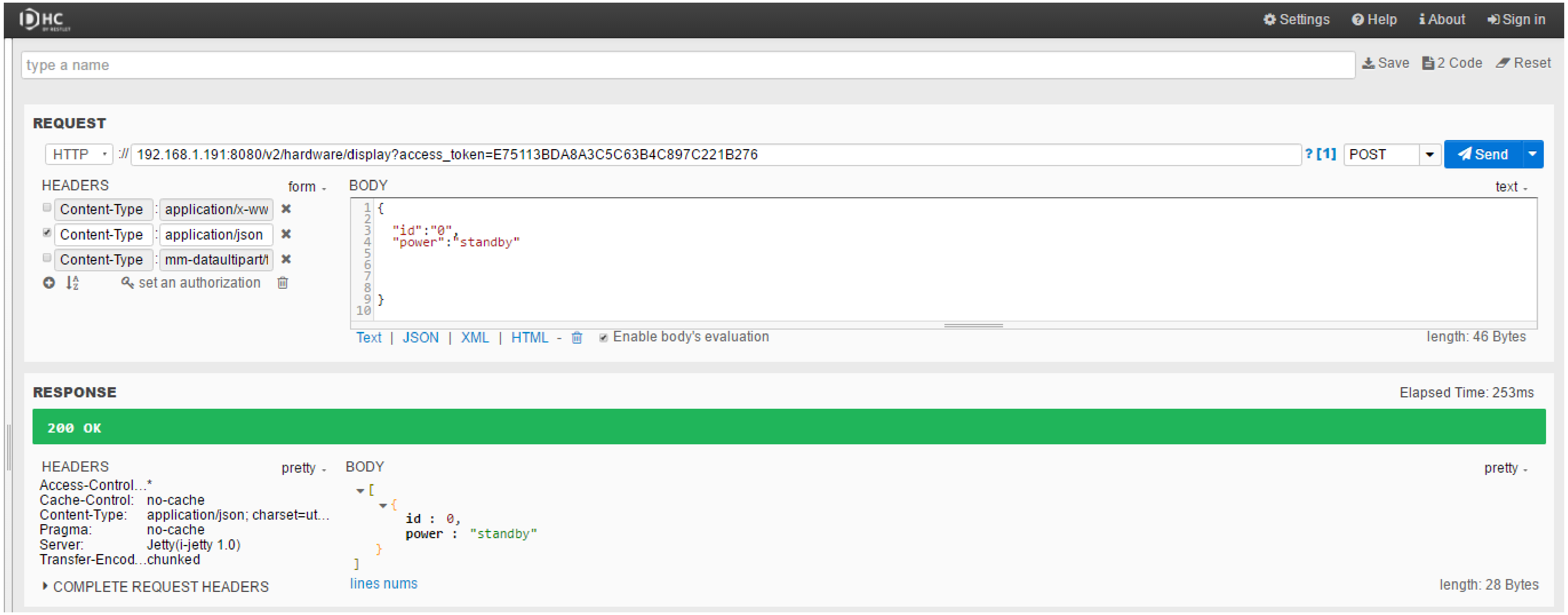
- **Description:** Turn on/off display
- **Input:** JSON or multi-part form

Parameters	Function
Id	the display id ,always set to "0" (refer to number zero)
Power	Set to "on" to turn on display ; Set to "standby" to turn off display

- **Output:** JSON

Parameters	Function
Id	the display id.
Power	return current display setting.

➢ **Practical:** Turn off display



HTTP :// 192.168.1.191:8080/v2/hardware/display?access_token=E75113BDA8A3C5C63B4C897C221B276 POST

HEADERS form

☐	Content-Type	application/x-ww
☑	Content-Type	application/json
☐	Content-Type	mm-dataultipart/

set an authorization

BODY text

```
{
  "id":"0",
  "power":"standby"
}
```

length: 46 Bytes

Elapsed Time: 253ms

200 OK

HEADERS pretty

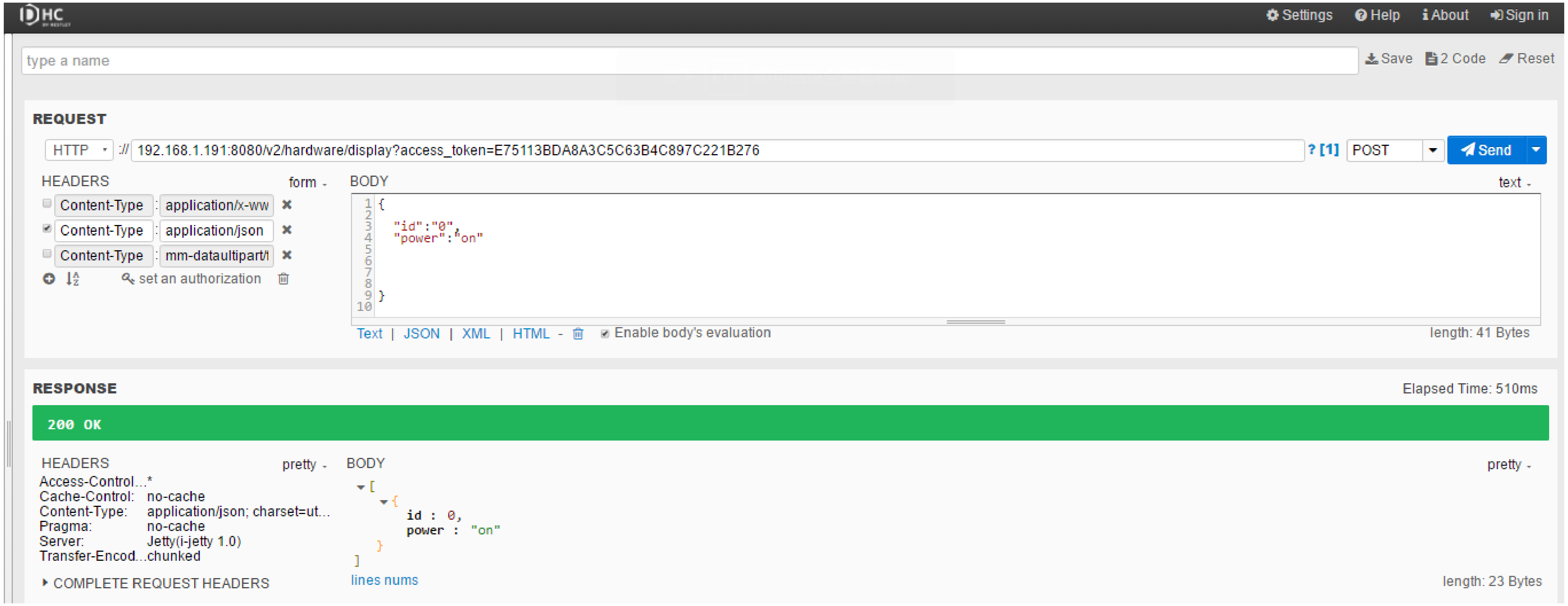
```
Access-Control...*
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

BODY pretty

```
[
  {
    id : 0,
    power : "standby"
  }
]
```

length: 28 Bytes

➢ **Practical:** Turn on display



REQUEST

HTTP :// 192.168.1.191:8080/v2/hardware/display?access_token=E75113BDA8A3C5C63B4C897C221B276 POST Send

HEADERS form

☐	Content-Type	application/x-ww
✓	Content-Type	application/json
☐	Content-Type	mm-dataultipart/f

set an authorization

BODY text

```
{

  "id":"0",
  "power":"on"





}
```

Text | JSON | XML | HTML - ✓ Enable body's evaluation length: 41 Bytes

RESPONSE Elapsed Time: 510ms

200 OK

HEADERS pretty

```
Access-Control...*
Cache-Control:    no-cache
Content-Type:     application/json; charset=ut...
Pragma:           no-cache
Server:           Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
[
  {
    id : 0,
    power : "on"
  }
]
```

lines nums length: 23 Bytes

➢ Hardware Management- POST hardware/rs232

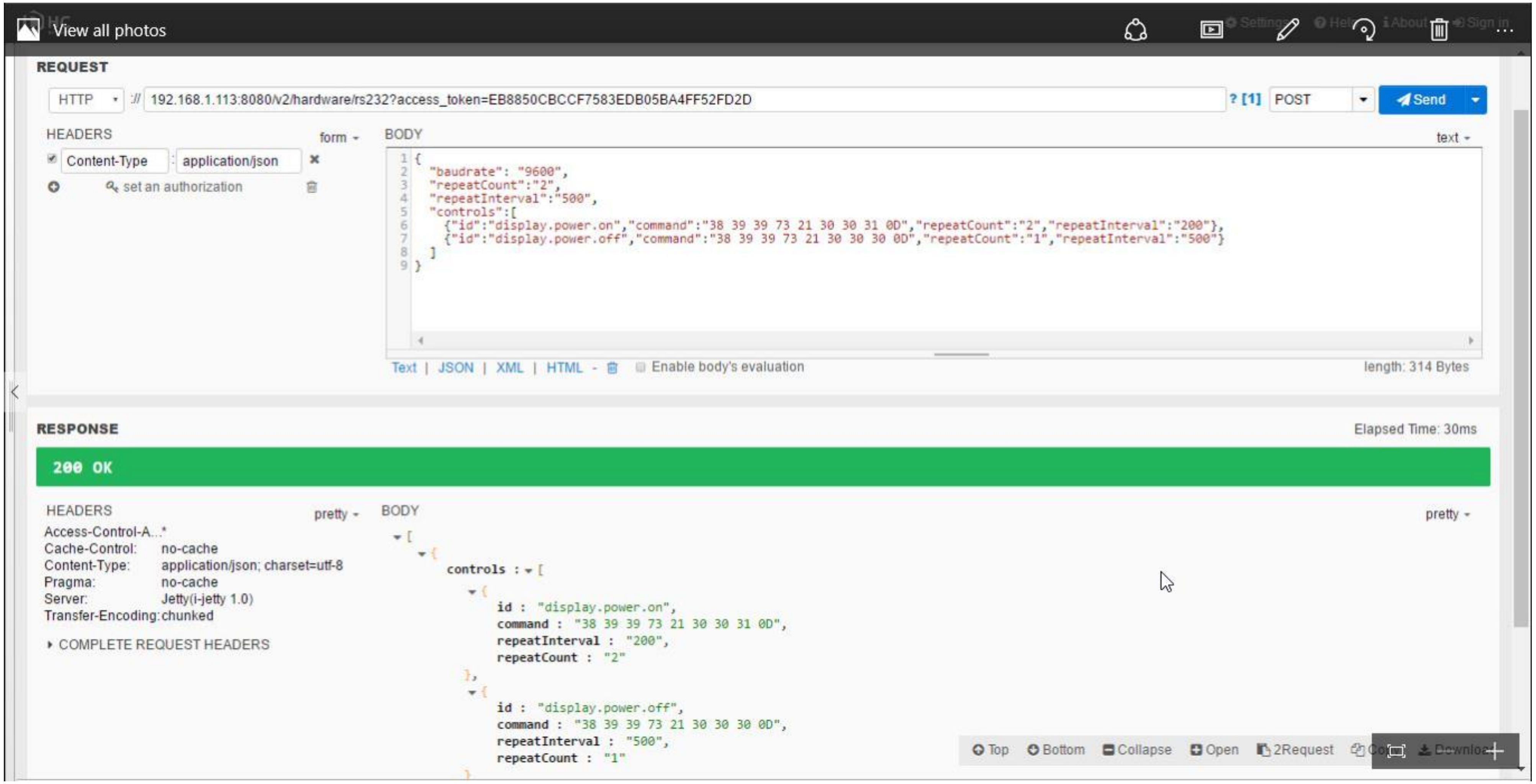
- ➢ **Description:** Send serial command through RS232 port.
- ➢ **Input:** JSON or multi-part form

Parameters	Function
baudrate	the external RS232 device baud rate setting, e.g. 9600,38400,115200.
repeatCount	set default(global) repeat count, defines how many times user like to repeat sending the RS232 command
repeatInterval	set default(global) repeat internal while repeat sending RS232 commands if configured
controls	defines individual control id and its correspond RS232 command, repeatCount and repeatInterval. When repeatCount and repeatInterval not defined, default setting will be appliedE.g. 'controls': player only receive hexadecimal code with end character. [{'id':'display.power.on','command':'38 39 39 73 21 30 30 31','repeatCount':'2','repeatInterval':'200'}, {'id':'display.power.off','command':'38 39 39 73 21 30 30 31','repeatCount':'1','repeatInterval':'500'}]}

➢ **Output:** JSON

Parameter	Function
controls	returns the control id configured
repeatInterval	return the repeat interval configured
repeatCount	return the repeat count configured
baudrate	return the baud rate configured

➢ **Practical:** send serial command through RS232 port



```
POST 192.168.1.113:8080/v2/hardware/rs232?access_token=EB8850CBCCF7583EDB05BA4FF52FD2D
```

HEADERS

Content-Type : application/json

BODY

```
{
  "baudrate": "9600",
  "repeatCount":"2",
  "repeatInterval":"500",
  "controls":[
    {"id":"display.power.on","command":"38 39 39 73 21 30 30 31 0D","repeatCount":"2","repeatInterval":"200"},
    {"id":"display.power.off","command":"38 39 39 73 21 30 30 30 0D","repeatCount":"1","repeatInterval":"500"}
  ]
}
```

length: 314 Bytes

RESPONSE

Elapsed Time: 30ms

200 OK

HEADERS

```
Access-Control-A...*
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

BODY

```
[
  {
    controls : [
      {
        id : "display.power.on",
        command : "38 39 39 73 21 30 30 31 0D",
        repeatInterval : "200",
        repeatCount : "2"
      },
      {
        id : "display.power.off",
        command : "38 39 39 73 21 30 30 30 0D",
        repeatInterval : "500",
        repeatCount : "1"
      }
```

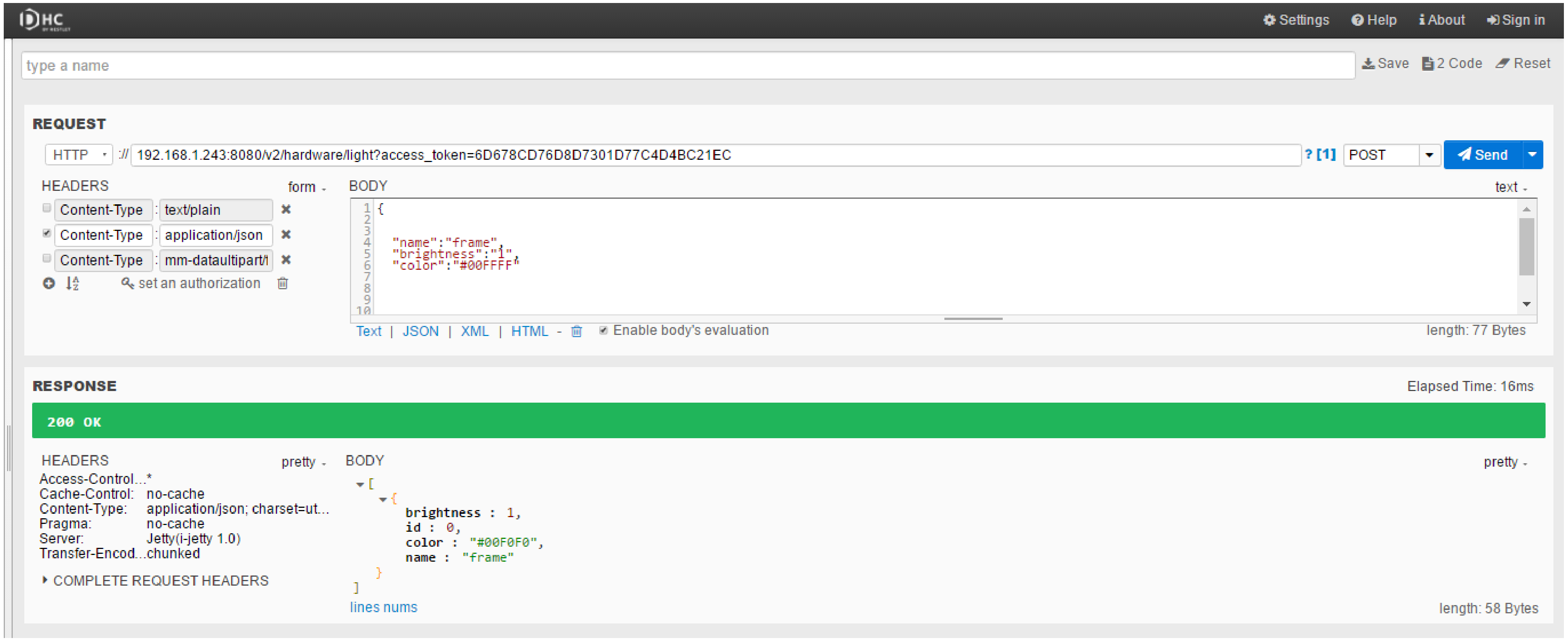
- Hardware Management- POST hardware/light/
  - **Description:** Control GPO through GPIO board and light bar on digital signboard
  - **Input:** JSON or multi-part form

Parameter	Function
Name	name for touch buttons: touchButtonN where N = A, B, C, X, Y, Z, L1, L2, R1, R2, … name for general purpose output: GPOn where n = 0, 1, 2, 3, … name for LED light-bar on digital signboard: frame
Brightness	brightness level: 0...1, set to "0" to turn off light(GPO) ; set to "1" to turn on light(GPO).
Color	color string is common HTML color value, 6-digit hex color code : “#RRGGBB” ; To turn off LED, set color code as "#000000".If the digital signboard supports only 12 bit color input, such as IAdea digital signboard XDS-1078, signboard will return the supported color code. For example, if set "#FF0000", device will return "#F00000".

- **Output:** JSON

Paremeter	Function
Id	return interface id
Name	return interface name
Brightness	return brightness level
Color	return color value if available

➢ **Practical:** Turn on light bar on digital signboard.



REQUEST

HTTP :// 192.168.1.243:8080/v2/hardware/light?access_token=6D678CD76D8D7301D77C4D4BC21EC ? [1] POST Send

HEADERS form

☐	Content-Type	text/plain
☑	Content-Type	application/json
☐	Content-Type	mm-dataultipart/f

set an authorization

BODY text

```
{


  "name":"frame",
  "brightness":"1",
  "color":"#00FFFF"
```

Text | JSON | XML | HTML - ☑ Enable body's evaluation length: 77 Bytes

RESPONSE Elapsed Time: 16ms

200 OK

HEADERS pretty

```
Access-Control...*
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
[
  {
    brightness : 1,
    id : 0,
    color : "#00F0F0",
    name : "frame"
  }
]
```

lines nums length: 58 Bytes

Hardware Management- POST hardware/videoOut

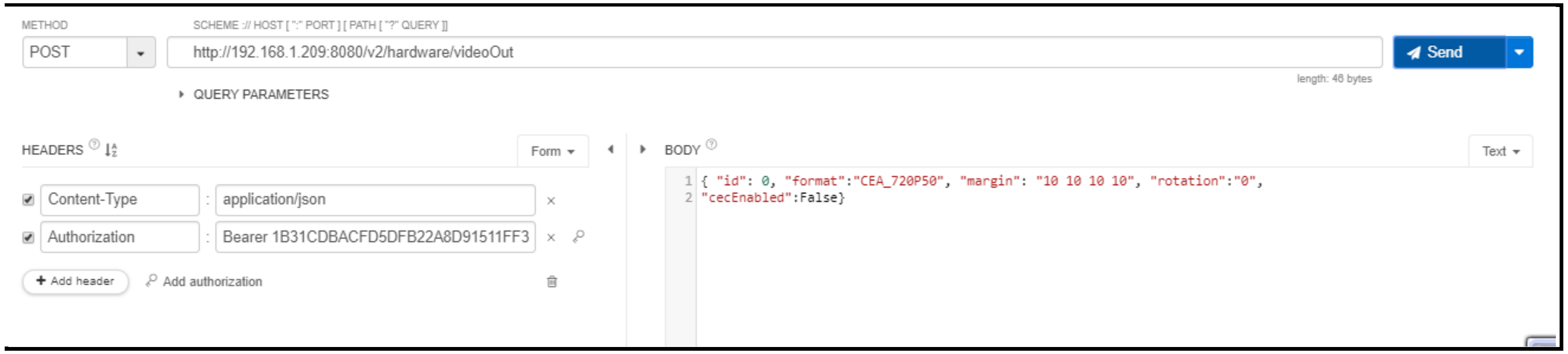
- **Description:** Control HDMI-out settings on device
- **Input:** JSON or multi-part form

Parameter	Function
id	the display id ,always set to "0" (refer to number zero)
rotation	Rotation-string: “0|90|180|270” (rotate specified degrees clockwise) Rotation-string: “auto” (rotate according to accelerometer)
format	The resolution setting on device MBR-1100, XMP-6250/6400, XDS-1078 support: AUTO/CEA_480P60/CEA_576P50/CEA_720P60/CEA_720P50/CEA_1080P60/CEA_1080P50 XMP-7300 support: AUTO/CEA_480P60/CEA_576P50/CEA_720P60/CEA_720P50/CEA_1080P60/CEA_1080P50/CEA_2160P60/CEA_2160P50/CEA_2160P30
margin	The space around content to compensate display’s overscanning Value: “{number}%” or “{number}px”
cecEnabled	True: Enable CEC, False: Disable CEC
hdcpEnabled	True: Enable HDCP, False: Disable HDCP

- **Output:** JSON

Paremeter	Function
Id	return display id
Format	return the solution settings
Margin	return the space around content
Rotation	return screen orientation setting
cecEnabled	return CEC status
hdcpEnabled	return HDCP status

- **Practical:** The HDMI-out settings on device



METHOD: POST

SCHEME :// HOST [":" PORT] [PATH ["?" QUERY]]: http://192.168.1.209:8080/v2/hardware/videoOut

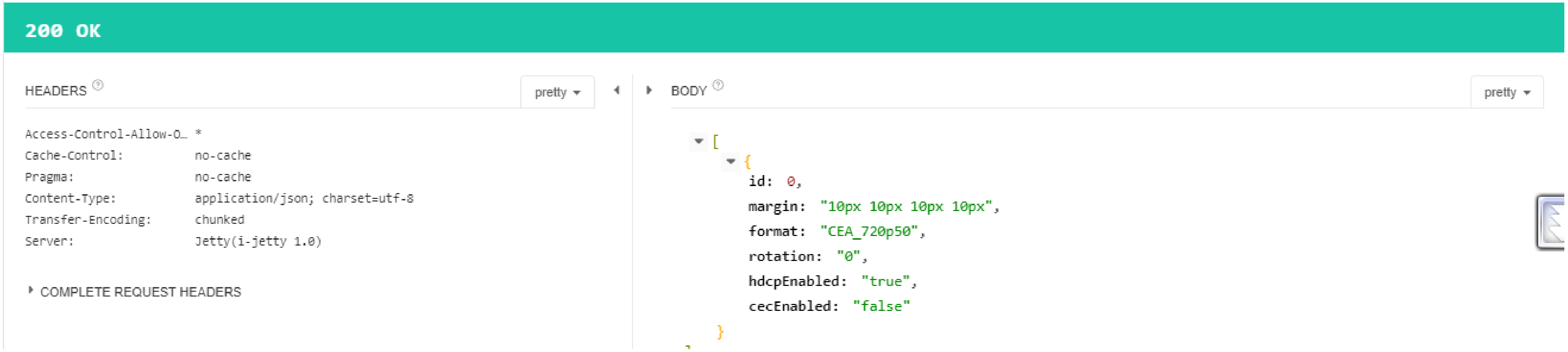
length: 46 bytes

HEADERS

Content-Type	application/json
Authorization	Bearer 1B31CDBACFD5DFB22A8D91511FF3

BODY

```
{ "id": 0, "format":"CEA_720P50", "margin": "10 10 10 10", "rotation":"0",
"cecEnabled":False}
```



200 OK

HEADERS

```
Access-Control-Allow-O…  *
Cache-Control:           no-cache
Pragma:                  no-cache
Content-Type:            application/json; charset=utf-8
Transfer-Encoding:       chunked
Server:                  Jetty(i-jetty 1.0)
```

BODY

```
[
  {
    id:  0,
    margin:  "10px 10px 10px 10px",
    format:  "CEA_720p50",
    rotation:  "0",
    hdcpEnabled:  "true",
    cecEnabled:  "false"
  }
]
```

➢ Hardware Management- - POST hardware/audioOut

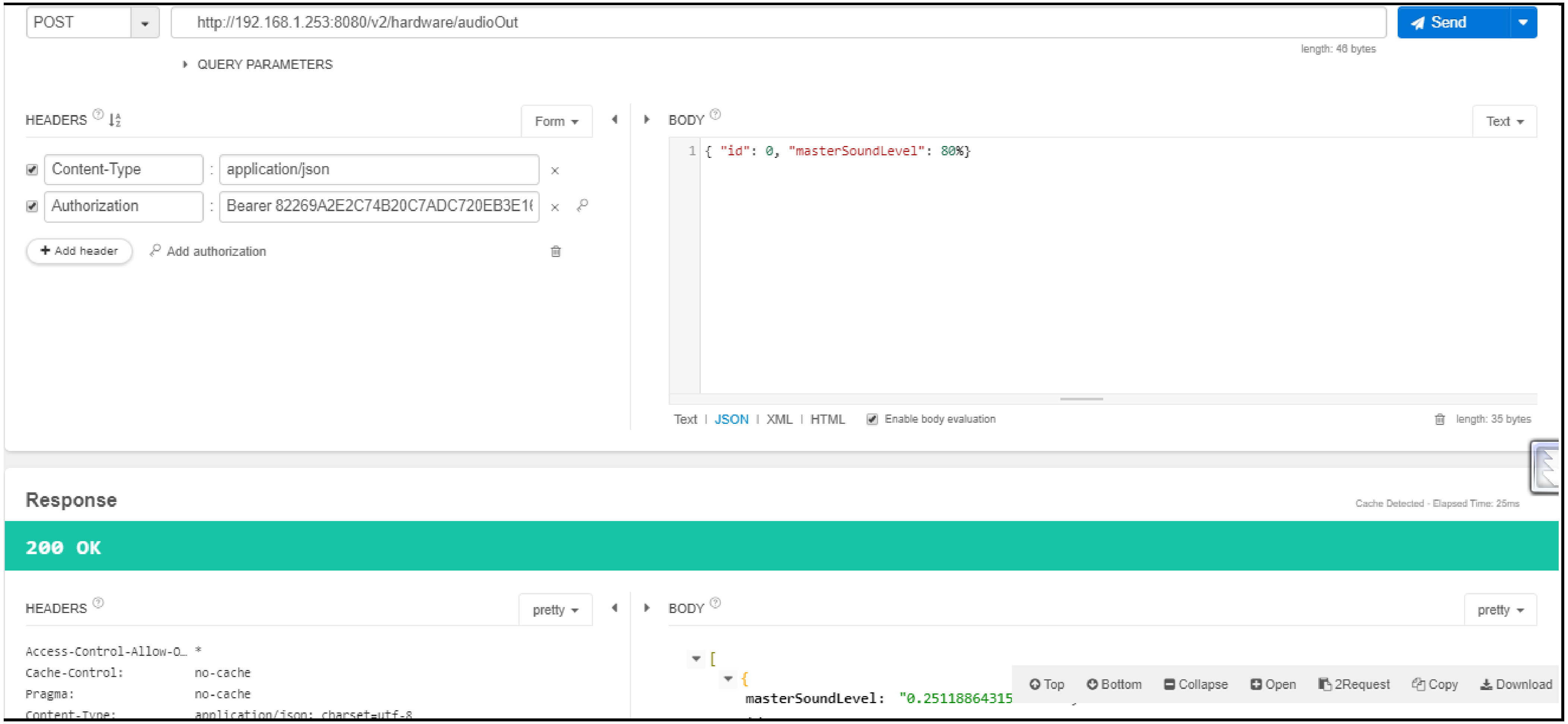
- ➢ **Description:** The sound level on device
- ➢ **Input:** JSON or multi-part form

Parameter	Function
id	the display id ,always set to "0" (refer to number zero)
masterSound Level	soundLevel: “mute” or “0.0..100.0%” or 0..1.0 or -number..0dB Note: All numbers are in logarithmic scale, i.e. no logarithmic function should be applied to these numbers

- ➢ **Output:** JSON

Paremeter	Function
Id	return display id
soundLevel	return value of sound level

➢ **Practical:** Set the sound level on device


POST http://192.168.1.253:8080/v2/hardware/audioOut

HEADERS

Content-Type : application/json

Authorization : Bearer 82269A2E2C74B20C7ADC720EB3E1(

BODY

```
{ "id": 0, "masterSoundLevel": 80%}
```

Response

200 OK

HEADERS

```
Access-Control-Allow-O… *
Cache-Control:          no-cache
Pragma:                 no-cache
Content-Type:           application/json; charset=utf-8
```

BODY

```
[
  {
    masterSoundLevel: "0.25118864315
```

Hardware Management- how to send hardware REST-APIs Without access token

- For the RESTAPIs under hardware management, you can use them without getting the token in advance. This method is limited to use in the **HTML or Android app** which will run on IAdea device.
- The examples to call the REST-API of light bar on XDS-1078 without access token.
  1. Leave the token to be blank. Sample Code Download

     POST http://localhost:8080/v2/hardware/light?access_token=
  2. Remove ‘?access_token =‘ from command. Sample Code Download

     POST http://localhost:8080/v2/ hardware/light
- Supported model and firmware version:
  - MBR-1100 & XMP-6200 (TBC)
  - XMP6250 & XMP-6400 (1.2.93.621 or later)
  - XDS-1078 (1.2.91.624 or later)

System Management

➢ System Managment- POST task/importConfiguration

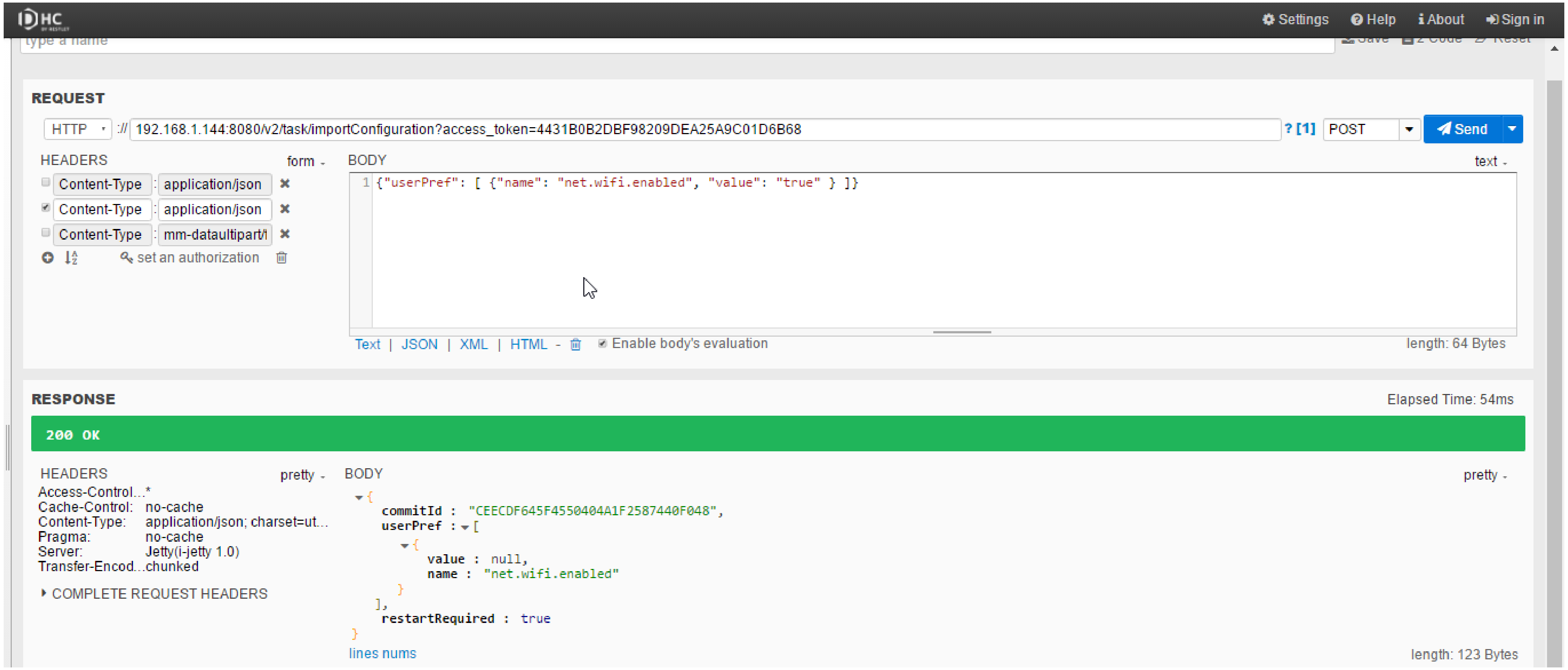
- ➢ **Description:** Import new configuration to player
- ➢ **Input:** JSON or multi-part form

Parameter	Function
userPref	new configuration object ex. {"userPref": [{"name": "string", "value": "string" },{...}] } Parameter refer Device configuration

- ➢ **Output:** JSON

Parameter	Function
commitId	return the ID to be committed when commitConfiguration
userPref	return newly imported configuration
restartRequired	true/false , if restart is required for changes to take effect, restartRequired is true

➢ **Practical:** Import new configuration to player



```
192.168.1.144:8080/v2/task/importConfiguration?access_token=4431B0B2DBF98209DEA25A9C01D6B68
```

☐ Content-Type	application/json
☑ Content-Type	application/json
☐ Content-Type	mm-dataultipart/f

```
{"userPref": [ {"name": "net.wifi.enabled", "value": "true" } ]}
```

length: 64 Bytes

Elapsed Time: 54ms

200 OK

```
Access-Control...*
Cache-Control:    no-cache
Content-Type:     application/json; charset=ut...
Pragma:           no-cache
Server:           Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

```
{
    commitId : "CEECDF645F4550404A1F2587440F048",
    userPref : [
        {
            value : null,
            name : "net.wifi.enabled"
        }
    ],
    restartRequired : true
}
```

length: 123 Bytes

System Managment- POST task/commitConfiguration

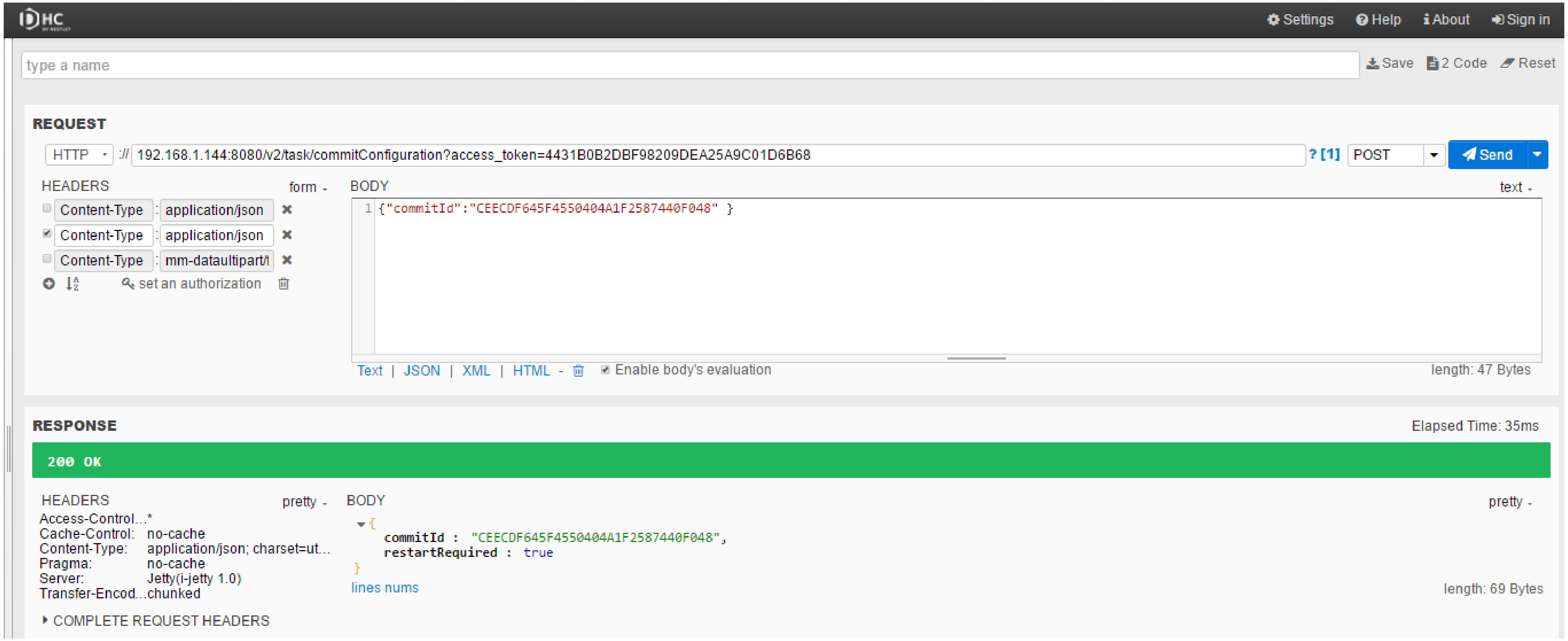
- **Description:** Commit new configuration to player
- **Input:** JSON or multi-part form

Parameter	Function
commitId	the ID returned when importConfiguration

- **Output:** JSON

Parameter	Function
commitId	return the ID just committed
restartRequired	true/false , if restart is required for changes to take effect, restartRequired is true

➢ **Practical:** Commit configuration to new player



REQUEST

HTTP :// 192.168.1.144:8080/v2/task/commitConfiguration?access_token=4431B0B2DBF98209DEA25A9C01D6B68 POST Send

HEADERS form

☐	Content-Type	application/json
☑	Content-Type	application/json
☐	Content-Type	mm-dataultipart/i

set an authorization

BODY text

```
{"commitId":"CEECDF645F4550404A1F2587440F048" }
```

Text | JSON | XML | HTML - ☑ Enable body's evaluation length: 47 Bytes

RESPONSE Elapsed Time: 35ms

200 OK

HEADERS pretty

```
Access-Control...*
Cache-Control:    no-cache
Content-Type:     application/json; charset=ut...
Pragma:           no-cache
Server:           Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
{
  commitId : "CEECDF645F4550404A1F2587440F048",
  restartRequired : true
}
```

lines nums length: 69 Bytes

System Managment- GET task/exportConfiguration

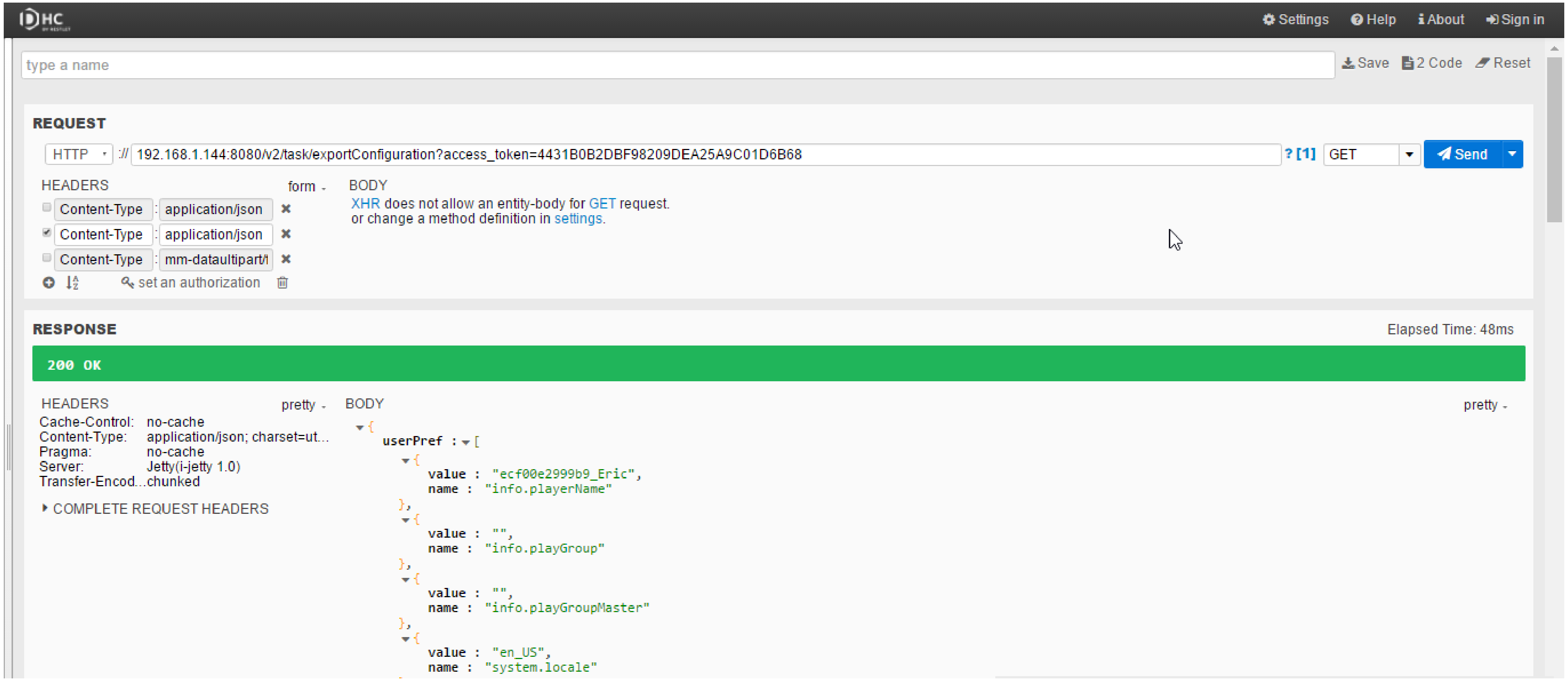
- **Description:** Get configuration from player
- **Input:** JSON or multi-part form

Parameter	Function
null	null

- **Output:** JSON

Parameter	Function
userPref	return the player configuration { "userPref":[{"value":"", "value";""},{...}...] }

➢ **Practical:** Get configuration from player



REQUEST

HTTP :// 192.168.1.144:8080/v2/task/exportConfiguration?access_token=4431B0B2DBF98209DEA25A9C01D6B68 GET Send

HEADERS form BODY

☐	Content-Type	application/json
☑	Content-Type	application/json
☐	Content-Type	mm-dataultipart/f

set an authorization

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE Elapsed Time: 48ms

200 OK

HEADERS pretty

```
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

COMPLETE REQUEST HEADERS

BODY pretty

```
{
  userPref : [
    {
      value : "ecf00e2999b9_Eric",
      name : "info.playerName"
    },
    {
      value : "",
      name : "info.playGroup"
    },
    {
      value : "",
      name : "info.playGroupMaster"
    },
    {
      value : "en_US",
      name : "system.locale"
```

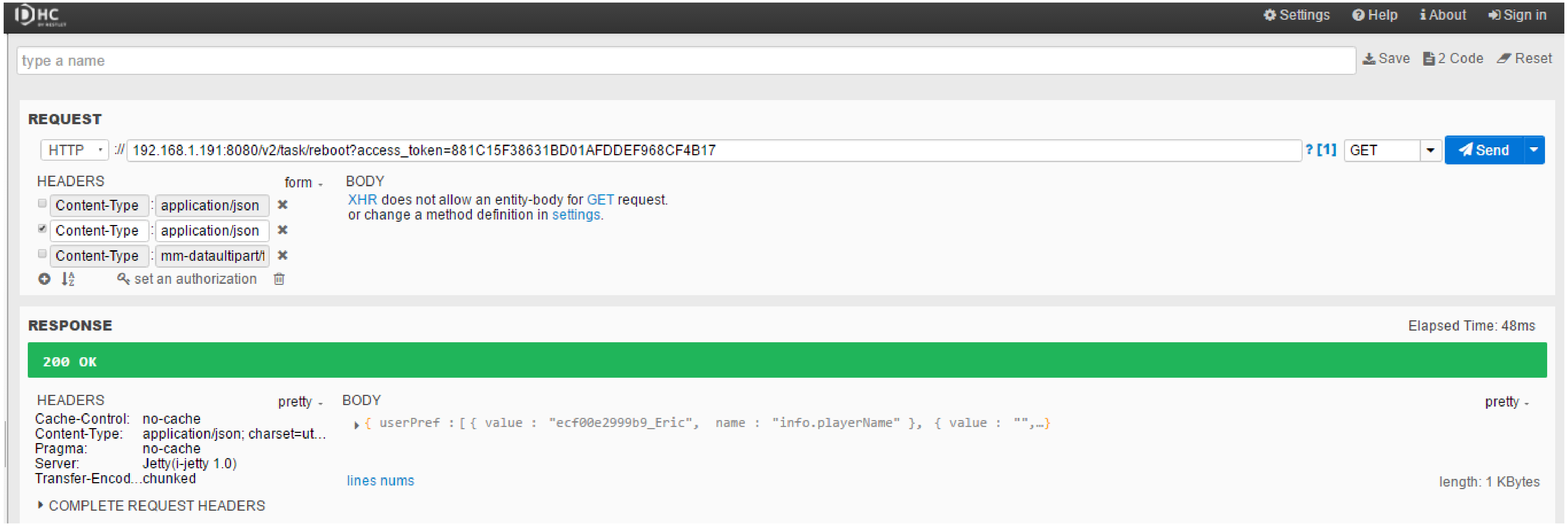
- System Managment- POST/ task/reboot
  - **Description:** Reboot player immediately
  - **Input:** JSON or multi-part form

Parameter	Function
Null	Null

  - **Output:** JSON

Parameter	Function
Null	Null

➢ **Practical:** Reboot player immediately



REQUEST

HTTP :// 192.168.1.191:8080/v2/task/reboot?access_token=881C15F38631BD01AFDDEF968CF4B17 ? [1] GET Send

HEADERS form

☐	Content-Type	application/json
☑	Content-Type	application/json
☐	Content-Type	mm-dataultipart/i

set an authorization

BODY

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE Elapsed Time: 48ms

200 OK

HEADERS pretty

```
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

BODY pretty

```
{ userPref : [ { value : "ecf00e2999b9_Eric",  name : "info.playerName" }, { value : "",…}
```

lines nums

length: 1 KBytes

COMPLETE REQUEST HEADERS

System Managment- GET task/screenshot

- **Description:** Get screenshot from player
- **Input:** JSON or multi-part form

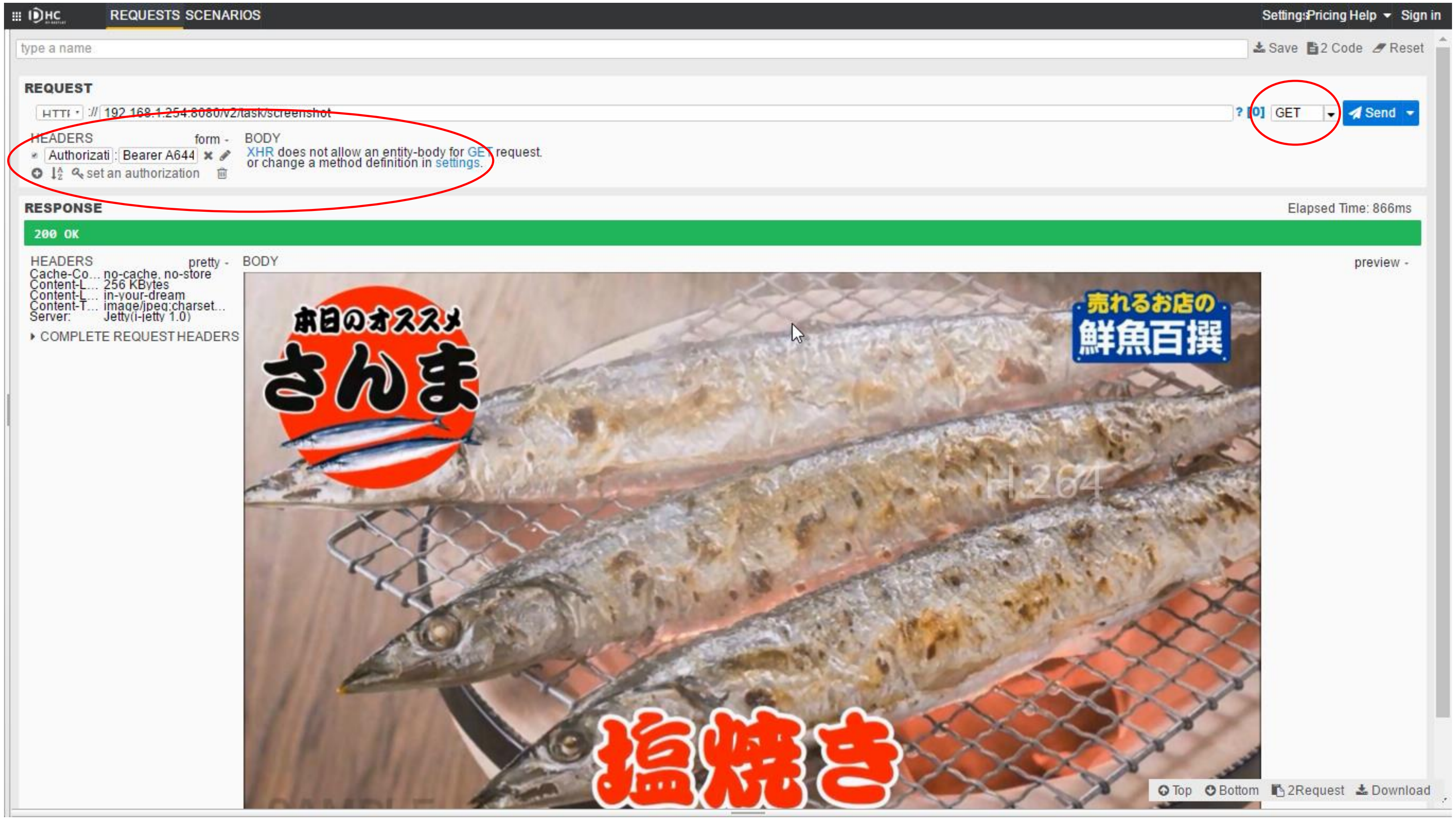
Parameter	Function
Authorization	Verify correctness of player’s “"token_type”&” access_token” format as below “Bearer player’s access_token”

Notice: There is a space between “token_type” and “access token”

- **Output:** JSON

Parameter	Function
Null	Null

➢ **Practical:** Get screenshot from player



REQUESTS SCENARIOS

Settings Pricing Help Sign in

type a name

Save 2 Code Reset

REQUEST

HTTP :// 192.168.1.254:8080/v2/task/screenshot

GET Send

HEADERS form -

Authorizati : Bearer A644

set an authorization

BODY

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE

Elapsed Time: 866ms

200 OK

HEADERS pretty -

```
Cache-Co... no-cache, no-store
Content-L... 256 KBytes
Content-L... in-your-dream
Content-T... image/jpeg;charset...
Server:      Jetty(i-jetty 1.0)
```

COMPLETE REQUEST HEADERS

BODY

preview -

System Managment- POST app/settings/com.iadea.console/new

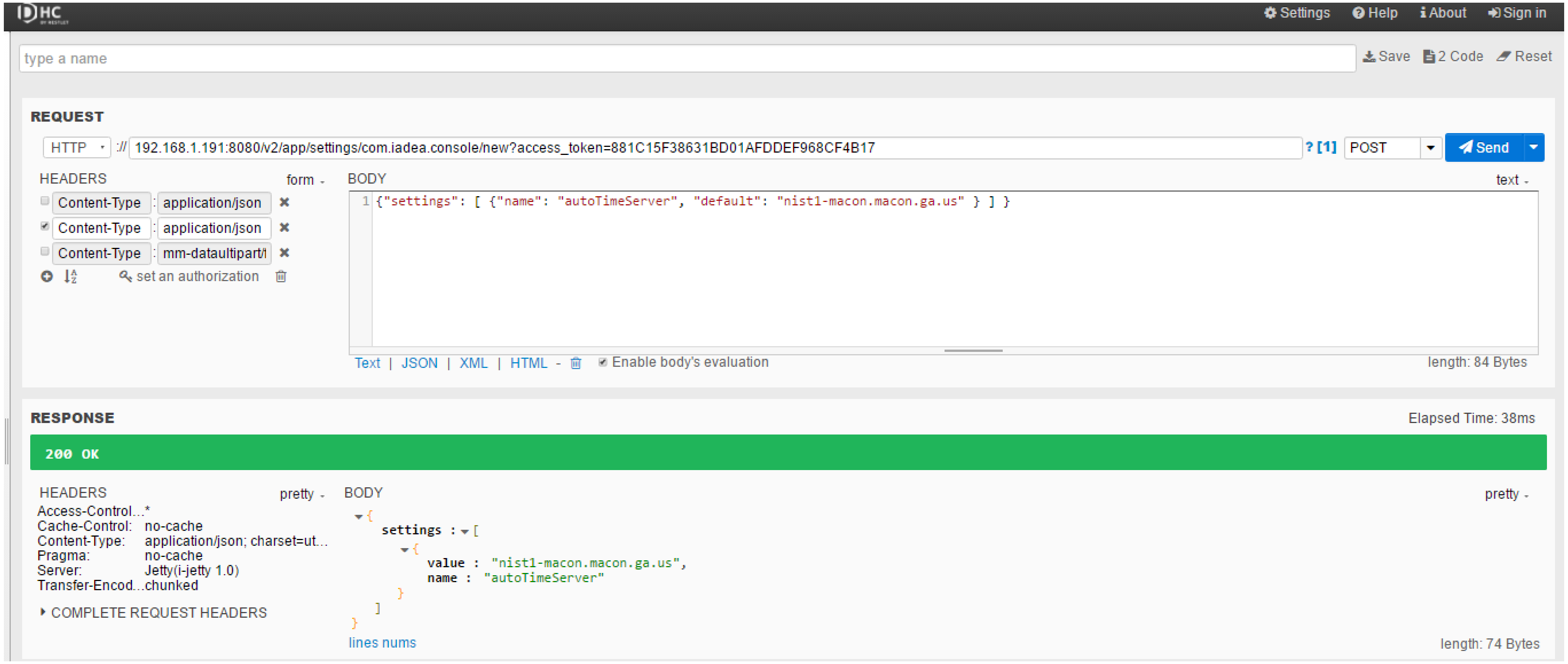
- **Description:** Add time server configuration
- **Input:** JSON

Parameter	Function
Settings	new setting object ex. {"settings": [{"name": "autoTimeServer", "default": "ntp://host{:port}" }] } "name" : must be autoTimeServer "default" : default | ntp://host{:port} set to default player synchronize time with pool.ntp.org, otherwise synchronize with specified ntp host

- **Output:** JSON

Parameter	Function
Value	return the default value configured above
Name	return name

➢ **Practical:** Add time server configuration



REQUEST

```
HTTP ://192.168.1.191:8080/v2/app/settings/com.iadea.console/new?access_token=881C15F38631BD01AFDDEF968CF4B17   POST
```

HEADERS

☐	Content-Type	application/json
✓	Content-Type	application/json
☐	Content-Type	mm-dataultipart/f

BODY

```
{"settings": [ {"name": "autoTimeServer", "default": "nist1-macon.macon.ga.us" } ] }
```

length: 84 Bytes

RESPONSE

Elapsed Time: 38ms

200 OK

HEADERS

```
Access-Control...*
Cache-Control:    no-cache
Content-Type:     application/json; charset=ut...
Pragma:           no-cache
Server:           Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

BODY

```
{
   settings : [
      {
         value : "nist1-macon.macon.ga.us",
         name : "autoTimeServer"
      }
   ]
}
```

length: 74 Bytes

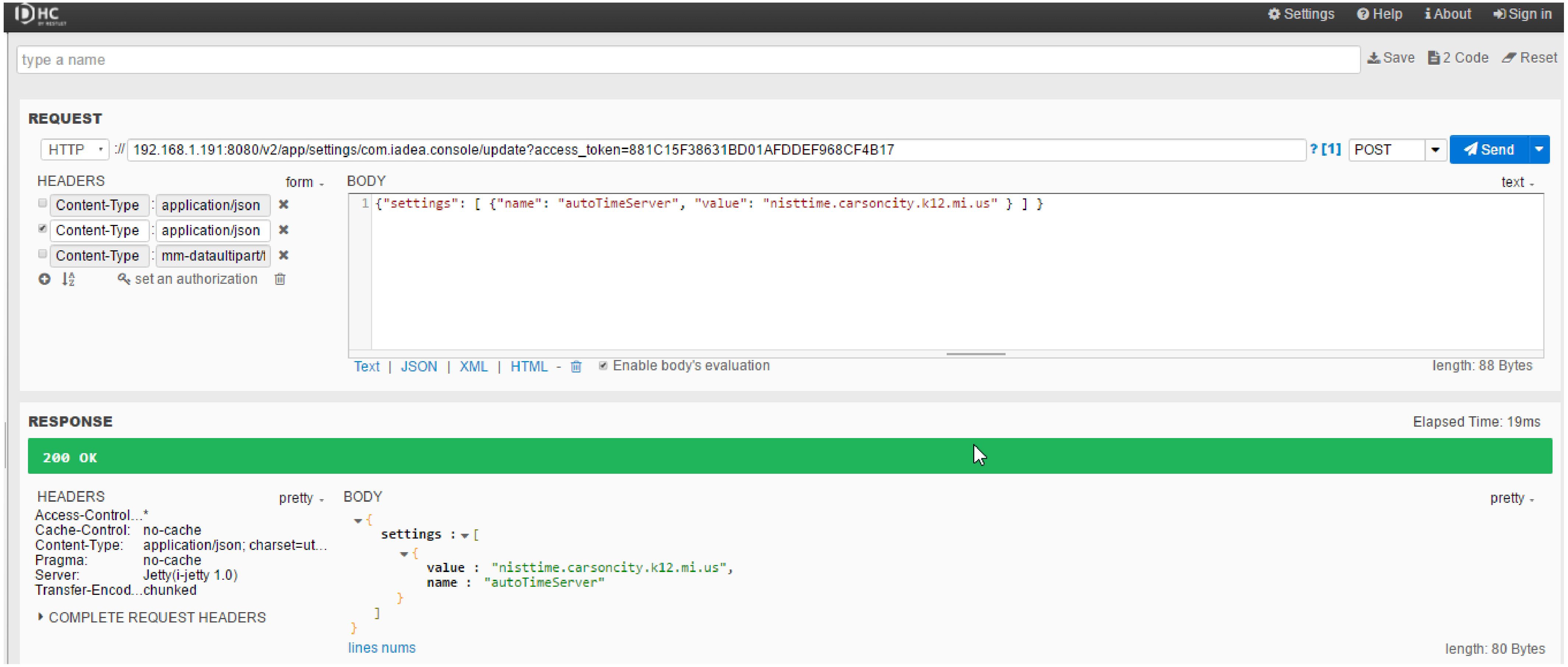
- System Managment- POST app/settings/com.iadea.console/update
  - **Description:** Update time server configuration
  - **Input:** JSON

Parameter	Function
Settings	new setting object ex. {"settings": [{"name": "autoTimeServer", "value": "ntp://host{:port}" }] } "name" : must be autoTimeServer "value" : default | ntp://host{:port} set to default player synchronize time with pool.ntp.org, otherwise synchronize with specified ntp host

- **Output:** JSON

Parameter	Function
Value	return the default value configured above
Name	return name

➢ **Practical:** Update time server configuration



```
://192.168.1.191:8080/v2/app/settings/com.iadea.console/update?access_token=881C15F38631BD01AFDDEF968CF4B17
```

Content-Type	application/json
Content-Type	application/json
Content-Type	mm-dataultipart/f

```
{"settings": [ {"name": "autoTimeServer", "value": "nisttime.carsoncity.k12.mi.us" } ] }
```

length: 88 Bytes

Elapsed Time: 19ms

200 OK

```
Access-Control...*
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

```
{
  settings : [
    {
      value : "nisttime.carsoncity.k12.mi.us",
      name : "autoTimeServer"
    }
  ]
}
```

length: 80 Bytes

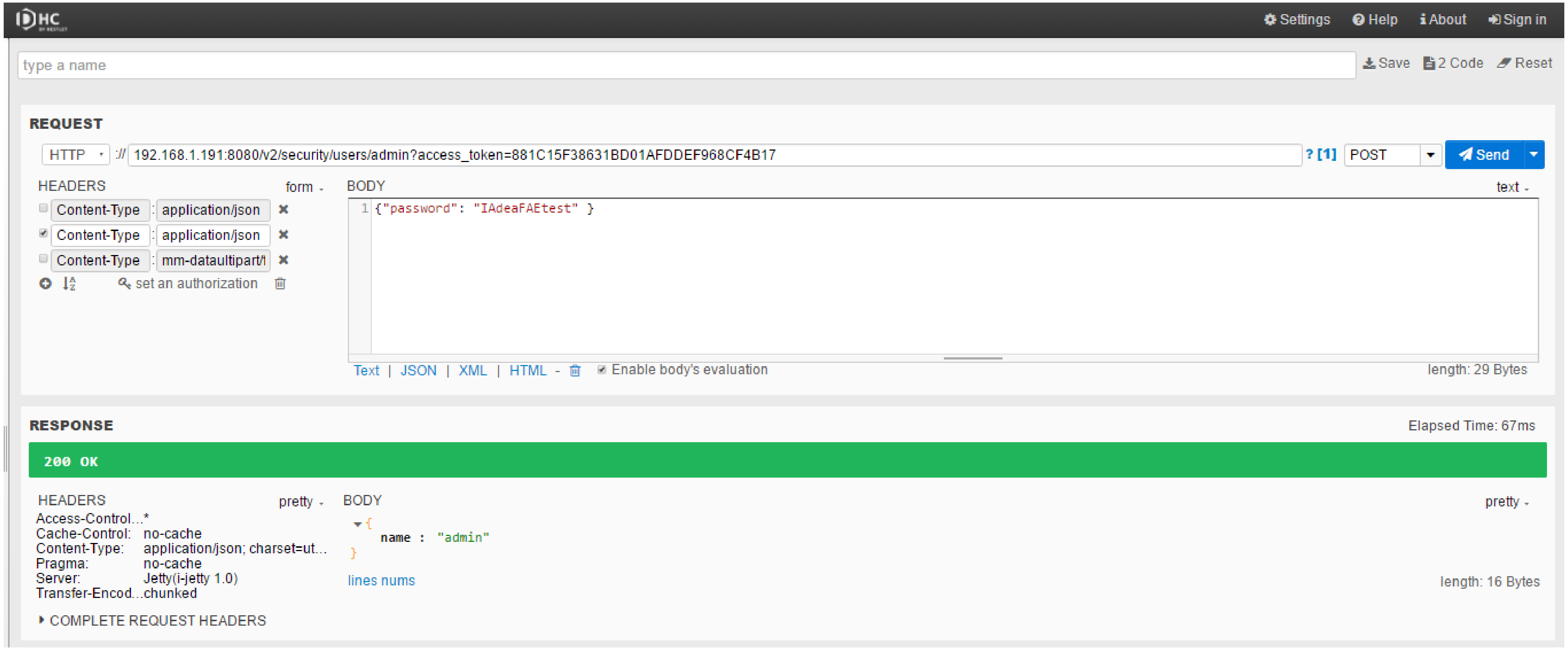
- System Managment- POST security/users/admin
  - **Description:** Update device password
  - **Input:** JSON

Parameter	Function
Password	String

- **Output:** JSON

Parameter	Function
Name	return admin by default

- **Practical:** Update device password



REQUEST

HTTP :// 192.168.1.191:8080/v2/security/users/admin?access_token=881C15F38631BD01AFDDEF968CF4B17 ? [1] POST

HEADERS form

☐	Content-Type	application/json
✓	Content-Type	application/json
☐	Content-Type	mm-dataultipart/i

BODY text

```
{"password": "IAdeaFAEtest" }
```

✓ Enable body's evaluation length: 29 Bytes

RESPONSE Elapsed Time: 67ms

200 OK

HEADERS pretty

```
Access-Control...*
Cache-Control:   no-cache
Content-Type:    application/json; charset=ut...
Pragma:          no-cache
Server:          Jetty(i-jetty 1.0)
Transfer-Encod...chunked
```

BODY pretty

```
{
   name : "admin"
}
```

length: 16 Bytes

System Information

System Information- GET system/firmwareInfo

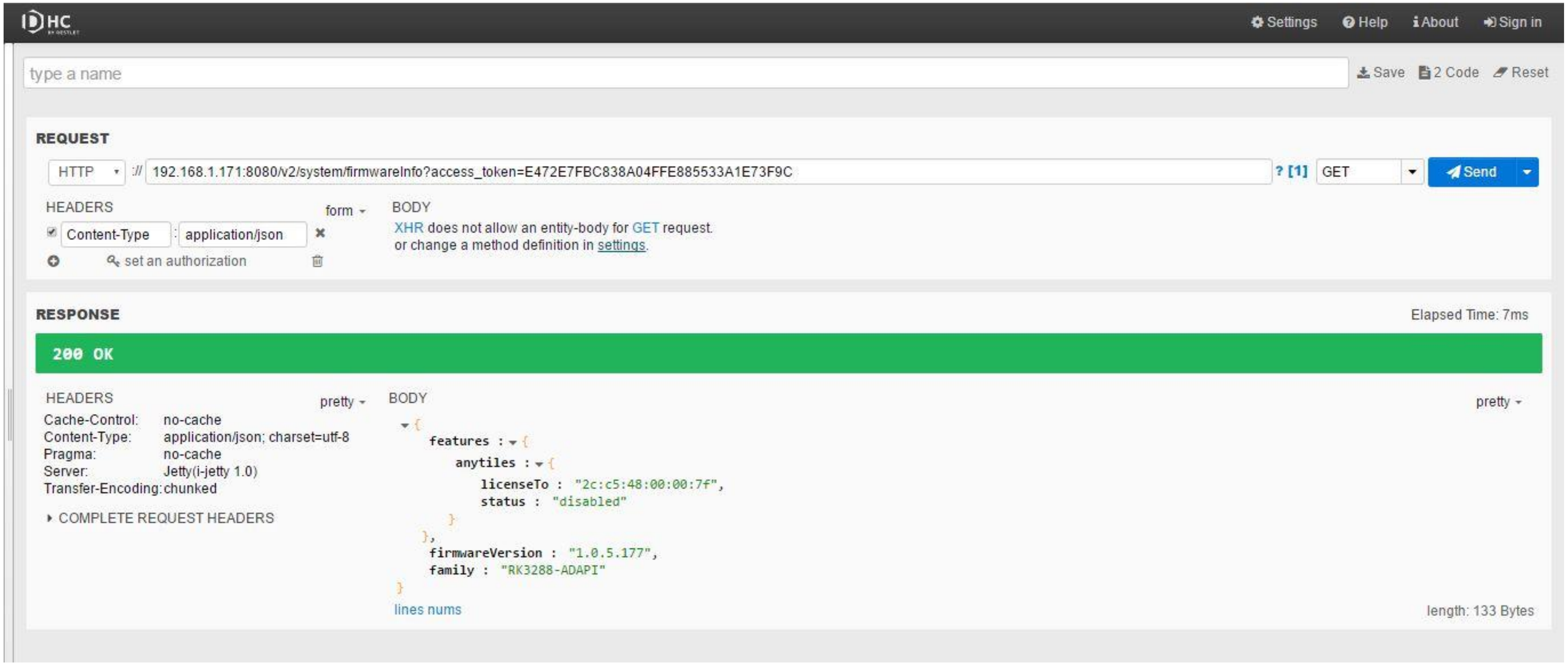
- **Description:** Get firmware information from player
- **Input:** null

Parameter	Function
Null	Null

- **Output:** JSON

Parameter	Function
firmware version	Device firmware version information
family	Product model family , such as "AML8726M3-ADAPI"

➢ **Practical:**



```
192.168.1.171:8080/v2/system/firmwareInfo?access_token=E472E7FBC838A04FFE885533A1E73F9C
```

Content-Type : application/json

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

Elapsed Time: 7ms

200 OK

```
Cache-Control:      no-cache
Content-Type:       application/json; charset=utf-8
Pragma:             no-cache
Server:             Jetty(i-jetty 1.0)
Transfer-Encoding:  chunked
```

```
{
   features : {
      anytiles : {
         licenseTo : "2c:c5:48:00:00:7f",
         status : "disabled"
      }
   },
   firmwareVersion : "1.0.5.177",
   family : "RK3288-ADAPI"
}
```

length: 133 Bytes

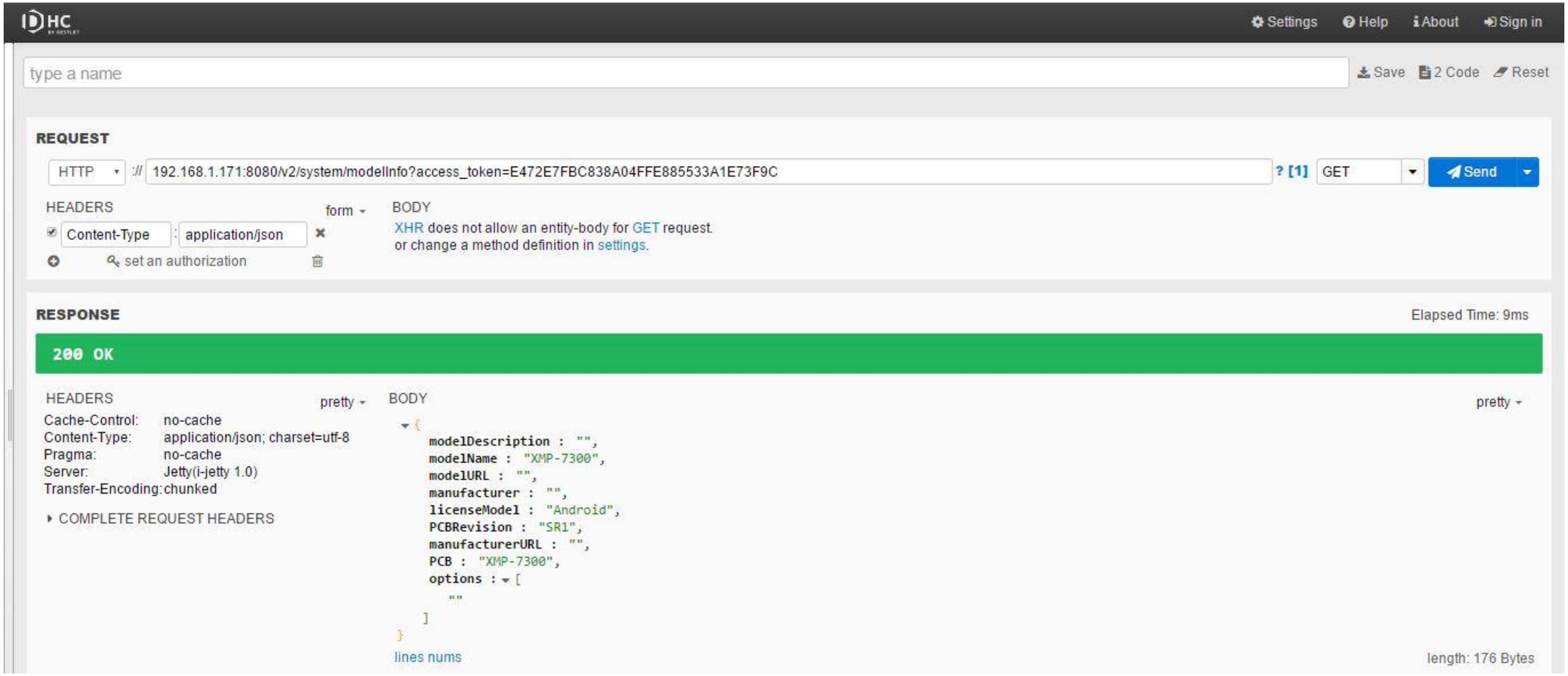
- System Information- GET system/modelInfo
  - **Description:** Get player model name and other manufacturer use only information
  - **Input:** null

Parameter	Function
Null	Null

- **Output:** JSON

Parameter	Function
modelName	**Device model name**

➢ **Practical:** Get the system information on device



```
HTTP ://192.168.1.171:8080/v2/system/modelInfo?access_token=E472E7FBC838A04FFE885533A1E73F9C   GET
```

HEADERS form

Content-Type : application/json

BODY

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE   Elapsed Time: 9ms

200 OK

HEADERS pretty

```
Cache-Control:      no-cache
Content-Type:       application/json; charset=utf-8
Pragma:             no-cache
Server:             Jetty(i-jetty 1.0)
Transfer-Encoding:  chunked
```

BODY pretty

```
{
    modelDescription : "",
    modelName : "XMP-7300",
    modelURL : "",
    manufacturer : "",
    licenseModel : "Android",
    PCBRevision : "SR1",
    manufacturerURL : "",
    PCB : "XMP-7300",
    options : [
        ""
    ]
}
```

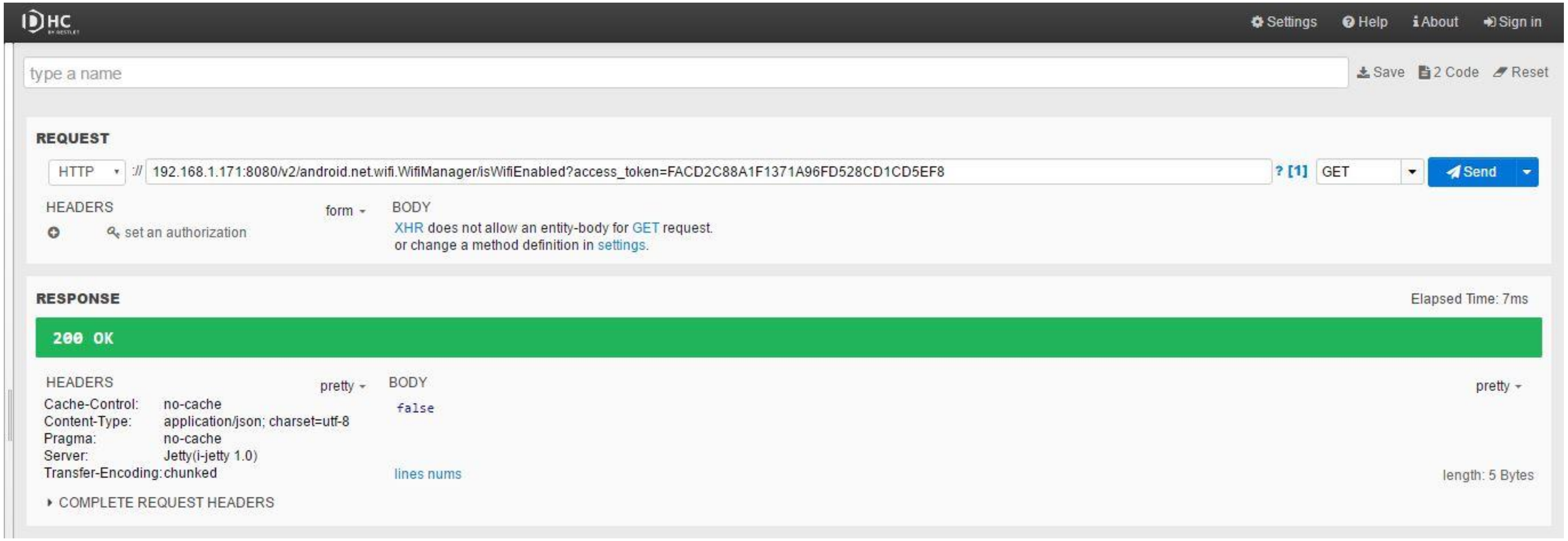
length: 176 Bytes

- System Information- GET android.net.wifi.WifiManager/isWiFiEnabled
  - **Description:** Get Wi-Fi enable/disable information
  - **Input:** null

Parameter	Function
Null	Null

- **Output:** True/False

➢ **Practical:** Checking WiFi Status



REQUEST

HTTP :// 192.168.1.171:8080/v2/android.net.wifi.WifiManager/isWifiEnabled?access_token=FACD2C88A1F1371A96FD528CD1CD5EF8 ? [1] GET Send

HEADERS form BODY

set an authorization

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

RESPONSE Elapsed Time: 7ms

200 OK

HEADERS pretty

```
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

BODY pretty

```
false
```

lines nums length: 5 Bytes

COMPLETE REQUEST HEADERS

System Information- GET android.net.wifi.WifiManager/get ConnectionInfo

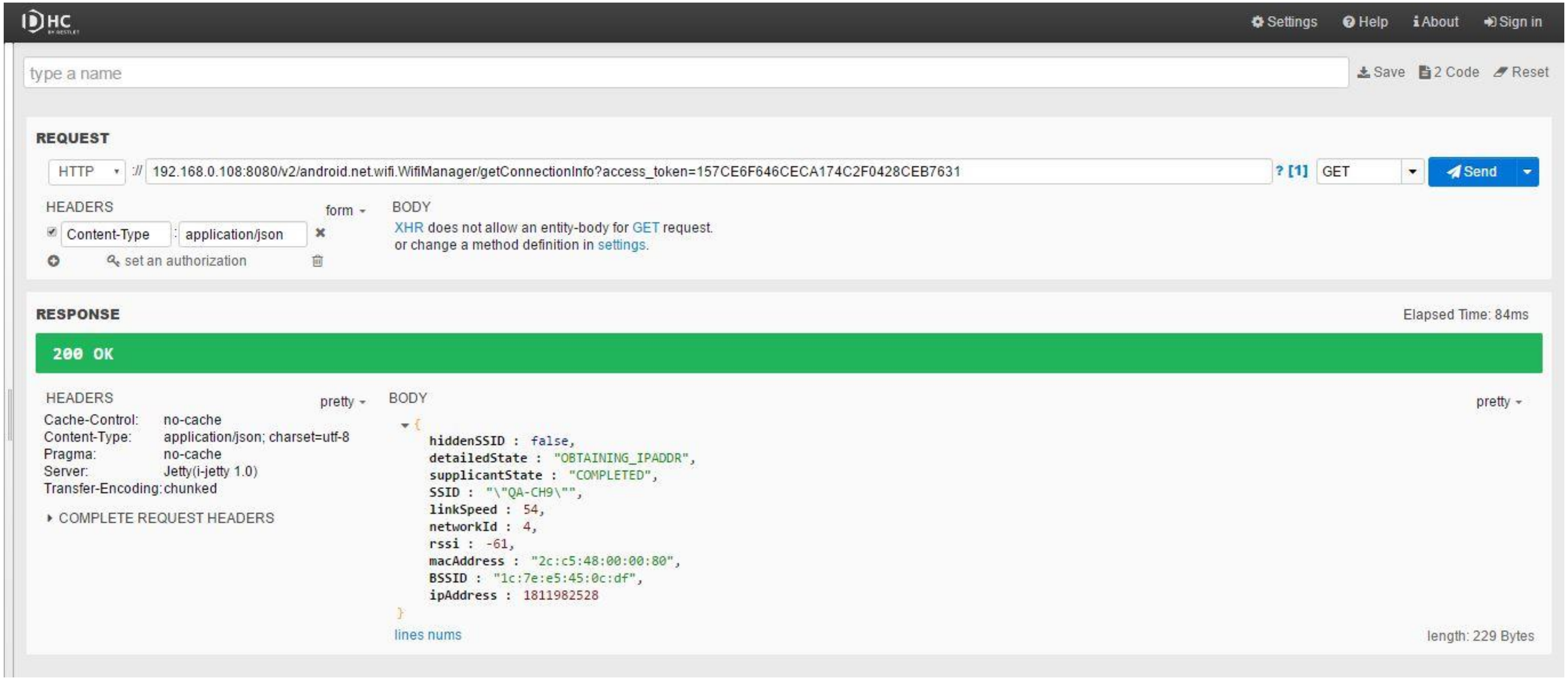
- **Description:** Get Wi-Fi information
- **Input:** null

Parameter	Function
Null	Null

- **Output:** JSON

Parameter	Function
BSSID	BSSID
detailedState	Detailed State
hiddenSSID	Whether SSID is hidden
ipAddress	IP Address
linkSpeed	Link Speed
macAddress	MAC Address
networkId	Network ID
rssi	RSSI info
SSID	SSID
supplicantState	Supplicant State

➢ **Practical:** Get the information of network connection



```
192.168.0.108:8080/v2/android.net.wifi.WifiManager/getConnectionInfo?access_token=157CE6F646CECA174C2F0428CEB7631
```

GET

HEADERS (form)

Content-Type : application/json

BODY

XHR does not allow an entity-body for GET request.
or change a method definition in settings.

Elapsed Time: 84ms

200 OK

HEADERS (pretty)

```
Cache-Control:     no-cache
Content-Type:      application/json; charset=utf-8
Pragma:            no-cache
Server:            Jetty(i-jetty 1.0)
Transfer-Encoding: chunked
```

BODY (pretty)

```
{
    hiddenSSID : false,
    detailedState : "OBTAINING_IPADDR",
    supplicantState : "COMPLETED",
    SSID : "\"QA-CH9\"",
    linkSpeed : 54,
    networkId : 4,
    rssi : -61,
    macAddress : "2c:c5:48:00:00:80",
    BSSID : "1c:7e:e5:45:0c:df",
    ipAddress : 1811982528
}
```

length: 229 Bytes

- System Information- GET android.net.ethernet.EthernetManager/getSavedEthConfig
  - **Description:** Get Ethernet information
  - **Input:** null

Parameter	Function
Null	Null

  - **Output:** JSON

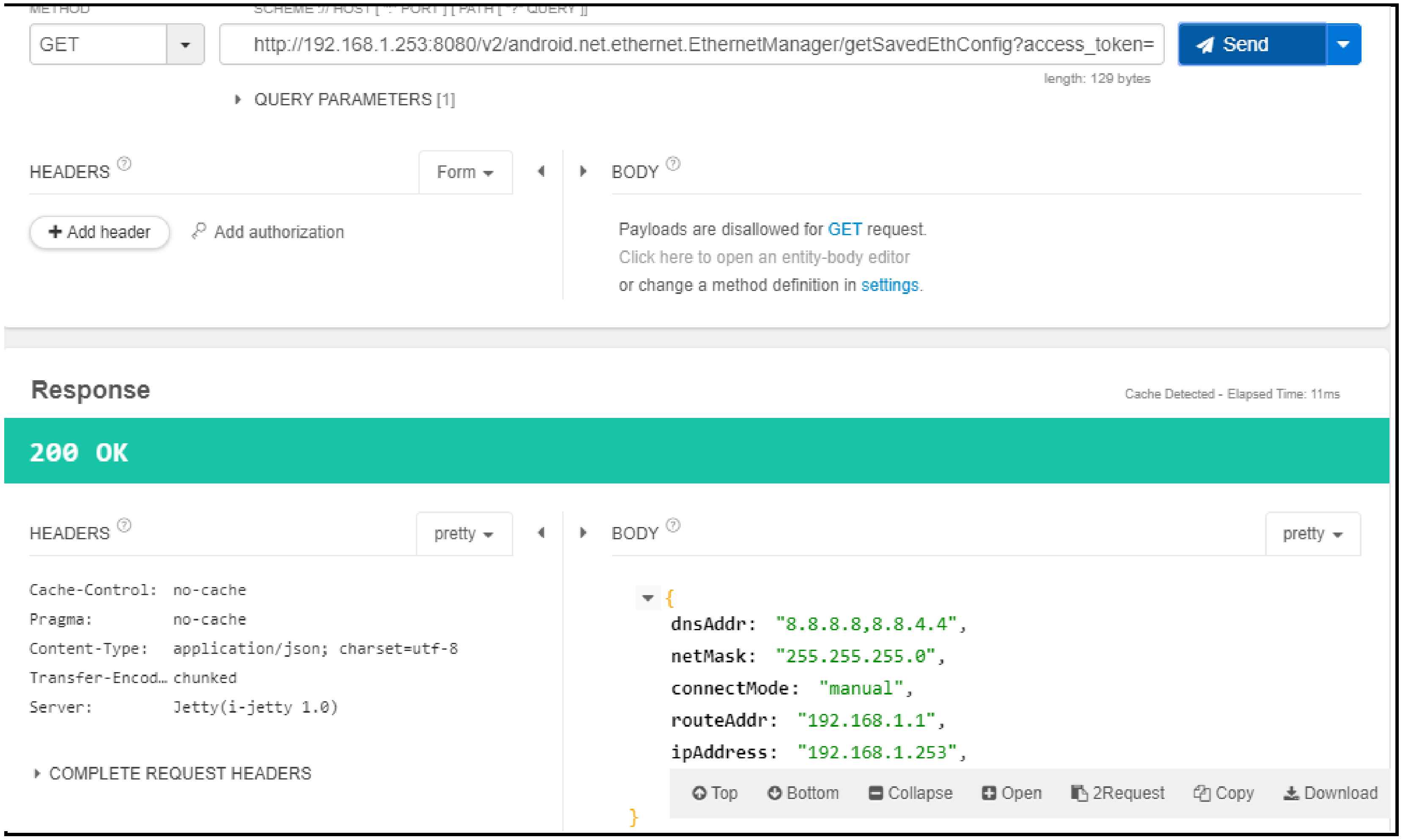
Parameter	Function
dnsAddr	Returns the DNS 1 and DNS 2 in Static IP settings
netmask	Returns net mask Address in Static IP settings
connectMode	Returns ‘DHCP’ or ‘manual’(Static IP)
ipAddress	Returns the IP address in Static IP settings
ifName	Returns the interface name from the saved configuration

Note. The parameters listed above except connectMode are all for Static IP.

If device is via DHCP, you will see connectMode: DHCP, then please go next command

GET android.net.ethernet.EthernetManager/getDhcpInfo

➢ **Practical:** Get the Ethernet information of network connection via Static IP



```
http://192.168.1.253:8080/v2/android.net.ethernet.EthernetManager/getSavedEthConfig?access_token=
```

Payloads are disallowed for GET request.
Click here to open an entity-body editor
or change a method definition in settings.

200 OK

```
Cache-Control:    no-cache
Pragma:           no-cache
Content-Type:     application/json; charset=utf-8
Transfer-Encod…   chunked
Server:           Jetty(i-jetty 1.0)
```

```
{
  dnsAddr: "8.8.8.8,8.8.4.4",
  netMask: "255.255.255.0",
  connectMode: "manual",
  routeAddr: "192.168.1.1",
  ipAddress: "192.168.1.253",
}
```

- System Information- GET android.net.ethernet.EthernetManager/getDhcpInfo
  - **Description:** Get Ethernet information (via DHCP)
  - **Input:** null

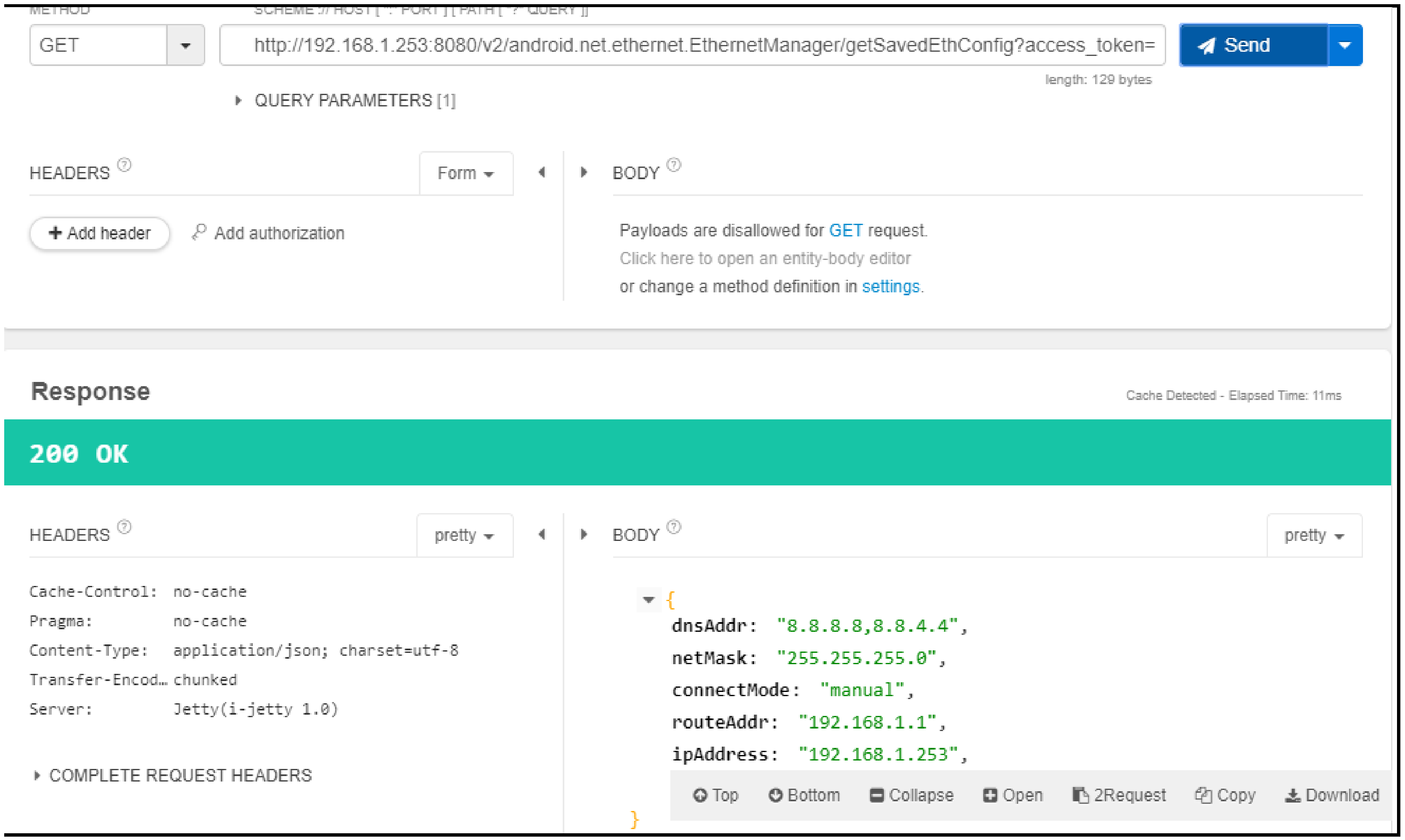
Parameter	Function
Null	Null

  - **Output:** JSON

Parameter	Function
dns1	Returns the IP address of DNS 1
dns2	Returns the IP address of DNS 2
leaseDuration	Returns the duration that a device reserves an IP address on your network.
serverAddress	Returns IP Address of DHCP server
gateway	Returns the IP address of gateway
netmask	Returns Net mask Address
ipAddress	Returns the IP address of IAdea device

Note. After getting the info, you'll have to convert IPV4 to string. To convert IPV4 to string, please refer this article : https://gist.github.com/werbet/2643813

➢ **Practical:** Get the Ethernet information of network connection via DHCP



```
http://192.168.1.253:8080/v2/android.net.ethernet.EthernetManager/getSavedEthConfig?access_token=
```

Payloads are disallowed for GET request.
Click here to open an entity-body editor
or change a method definition in settings.

200 OK

```
Cache-Control:   no-cache
Pragma:          no-cache
Content-Type:    application/json; charset=utf-8
Transfer-Encod…  chunked
Server:          Jetty(i-jetty 1.0)
```

```
{
  dnsAddr:  "8.8.8.8,8.8.4.4",
  netMask:  "255.255.255.0",
  connectMode:  "manual",
  routeAddr:  "192.168.1.1",
  ipAddress:  "192.168.1.253",
}
```

Content Security Policy

- As a developer you can specify the Content Security Policy through a HTTP response header called Content-Security-Policy.

- To allow inline scripts and all scripts loaded from IAdea players, please whitelist http://localhost:8080 to your web application.

- For further information about Content Security Policy, please refer to the page below. https://developer.mozilla.org/en-US/docs/Web/HTTP/CSP

IAdea

REST-API Guide

Developer Guide

Technical Spec

White Paper

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4/8/2020

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REST-API tutorial