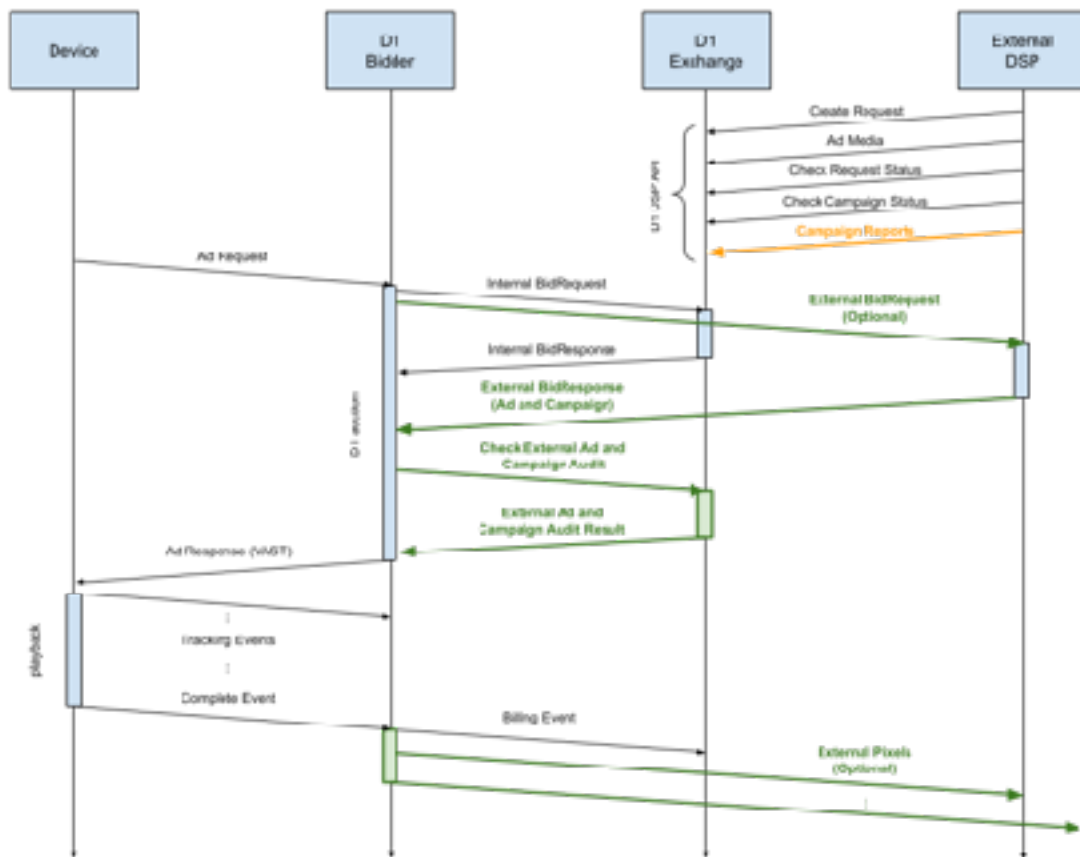


## **General procedure for connecting an external DSP via API**

1. Gain access to the DSP's personal account and the agency's DSP ID.
2. Check the agency's balance. If the balance is less than or equal to zero - campaigns are excluded from the auction.
3. Get a token to access the API.
4. Programmatically create a draft request for an advertising campaign.
5. Get a list of ad network devices and add the desired ones to the blacklist or whitelist.
6. Programmatically get an estimate of the cost of the campaign with specified parameters (audience, duration, territorial restrictions, etc.).
7. Programmatically set the maximum bid (max\_bid) in the draft.
8. Programmatically add advertising materials to the bid.
9. Programmatically send the application for approval.
10. Application must be approved by the advertising surface owner (SSP).
11. Periodically check the status of the application / promotional materials. If the application / promotional materials are rejected, obtain comments.
12. If the request is approved, an advertising campaign is created based on it (separate entity, campaign property of the approved request) and bidding is started.
13. (Optional) Retransmission of device requests for auction on the external DSP side.
14. Programmatically receive bidding progress reports and adjust the maximum bid and other campaign parameters (except for promotional materials).
15. Programmatically pause/continue playback or end the campaign.
16. The campaign automatically ends when the goal is reached, either in terms of number of plays/scope/views, budget, or time (end\_date).
17. Get a summary of the payout.

## Interaction scheme



## Authorization

There are two kinds of tokens: persistent and OAuth-like access and refresh tokens.

The authorization token is passed in the X-Authorization header.

An example of a request with an access token received during OAuth authorization:

```
curl \
  -H 'X-Authorization: Bearer <access_token>' \
  'https://api.dooh.one/api/v2/me/'
```

An example of a query with a persistent token:

```
curl \
  -H 'X-Authorization: Token <token>' \
  'https://api.dooh.one/api/v2/me/'
```

## Receiving a permanent token

At the moment you can get a permanent token only through Displ administrators.

## Getting access and refresh tokens

NB: access token lifetime is 30 minutes and refresh token lifetime is 2 hours.

Access and refresh tokens can be obtained by authorizing in the system with your login and password.

**POST /login/**

## Example

### JSON

```
curl \
-H 'content-type: application/json' \
-d '{
  "email": "<email>",
  "password": "<password>"
}' \
'https://api.dooh.one/api/v2/login/'
```

### Form urlencoded

```
curl \
-d
'email=<email_uri_encoded>&password=<password_uri_encoded>' \
'https://api.dooh.one/api/v2/login/'
```

### Response ( json)

```
{
  "refresh": "<refresh_token>",
  "access": "<access_token>"
}
```

### Checking access token

**POST /login/token/verify/**

Example

```
curl \
-H 'content-type: application/json' \
-d '{"token": "<access_token>"}' \
'https://api.dooh.one/api/v2/login/token/verify/'
200 OK – valid token
```

### Refresh access token

**POST /login/token/refresh/**

Example

```
curl \
-H 'content-type: application/json' \
-d '{"refresh": "<refresh_token>"}' \
'https://api.dooh.one/api/v2/login/token/refresh/'
If the request is successful, a new access token is returned
```

```
{
  "access": "<access_token>"
}
```

### Roles

The following roles exist in the system:

- dsp - DSP Administrator. Creates requests for advertising campaigns (purchase of airtime). Reviews / modifies parameters of ad campaigns being played. Inviting other DSP administrators.
- ssp\_admin - SSP administrator. Moderation of ad requests and campaigns. Granting DSP agencies access to device networks. Inviting SSP administrators, SSP moderators, and SSP observers.
- ssp\_approve - SSP moderator. Moderation of advertising applications and campaigns.
- ssp\_viewer - SSP observer. Viewing campaign data (only for devices to which this user has access).

The role must be sent in the x-adexchange-role header. For example:

```
curl \  
-H 'content-type: application/json' \  
-H 'x-adexchange-role: dsp' \  
-d '{"token": "<access_token>"}' \  
'https://api.dooh.one/api/v2/login/token/verify/'
```

## API Reference

Prod env: <https://api.dooh.one/api/v2/>

The format of data transfer is JSON.

Most API requests occur in the context of the agency DSP - the agency ID parameter is passed through the URL.

### Creating a request for an advertising campaign

By default, a request is created in the draft status. To pass the check, you need to add promotional materials to the request.

POST [/agency/<dsp\\_agency\\_id>/dsp/request/](https://api.dooh.one/api/v2/agency/<dsp_agency_id>/dsp/request/)

Request parameters

Parameter	Type	Default	Description
<b>name</b>	String, max length 128, required		Name of the advertising campaign
description	String		description
platform	Integer		advertising network ID

industry	<p>Object, Format:</p> <pre>{   "version": int,   "id": String }</pre>		<p>The category (industry) of the advertising campaign.</p> <p>Before use, it is worth clarifying whether the categories are used by the inventory provider and which version of the taxonomy is used.</p> <p>Now supported:</p> <ul style="list-style-type: none"> <li>● <b>version 1:</b> <a href="#">IAB Content Category Taxonomy 1.0</a></li> <li>● <b>version 2:</b> <a href="#">IAB Content Category Taxonomy 2.0</a></li> </ul> <p>Param format:</p> <pre>{   "version":   &lt;taxonomy_version&gt;,   "id": "&lt;taxonomy_id&gt;" }</pre> <p>Example,</p> <p>Arts &amp; Entertainment ver 1:</p> <pre>{   "version": 1,   "id": "IAB1" }</pre> <p>Arts and Crafts ver 2:</p> <pre>{   "version": 2,   "id": "248" }</pre>
advertiser	Integer		Advertiser Company /
interests	Array	[]	Interests and activities
life_stages	Array	[]	Standard of living
intents	Array	[]	Engagement
environments	Array	[]	environment

start_date	Date		Advertising Campaign Start Date. Format YYYY-MM-DD
end_date	Date		End date of the advertising campaign (inclusive). Format YYYY-MM-DD
time_range	IntegerRange, sec	[0, 86399]	The time period within the day when the ad campaign should be shown.  For example, from 12-00 to 14-00: [43200, 50400]
schedule	JSON	{ "mon": false, "tue": false, "wed": false, "thu": false, "fri": false, "sat": false, "sun": false }	Days of the week when the ad campaign should be shown.  By default, ads are displayed all days of the week.
ad_duration	Integer, sec	15	The duration of an advertisement. Used to estimate the cost and coverage of an advertising campaign.  Billing is based on the actual time of the
ad_rate_per_hour	Integer, sec	60	Frequency of displaying advertisements per hour (not more often than).  For example, 12 times per hour - not more often than once every 5 minutes

payment_model	String, variants: <ul style="list-style-type: none"> <li>• ad_plays</li> <li>• cpm</li> <li>• cpv</li> </ul>	ad_plays	Payment Model.  ad_plays - payment for the number of ad impressions.  cpm - payment for audience reach.  cpv - payment for specific views by the target
payment_model_limit	Integer	0	Maximum number of impressions/contacts/views depending on the selected payment model.
areas	[ <a href="#">Area</a> , ...]	[]	List of zones on the map with the sign to show advertising in this zone or not to show it.  For example, a zone around Moscow with a radius of 100 km: [ <pre> {   "title": "Moscow, Russia",   "action": "include",   "latitude": 55.75583,   "longitude": 37.61778,   "radius": 100 } </pre>
age	[Int, Int]	[0, 100]	CPV model only  Age from and to.  The default value is taken as no restrictions, i.e. ignored by filters.

gender	String, variants: <ul style="list-style-type: none"> <li>• all</li> <li>• male</li> <li>• female</li> </ul>	all	CPV model only  gender.
resolutions	[String, ...]	[]	Screen resolutions, for example: ["1920x1080", "1360x768"]
budget	Decimal	0	Campaign Budget.
max_bid	Decimal	0	Maximum bid  ad_plays - the cost of 1000 ad displays with ad_duration.  cpm - cost of 1000 potential contacts.  ad_plays - cost of 1 guaranteed targeted ad display with ad_duration

status	<p>Array</p> <p>example:</p> <pre>[   {     "id": 10,     "ssp_agency": 1,     "ssp_agency_name":     "Demo SSP",     "campaign": 26,     "status": 1   } ]</pre> <p>values status:</p> <p>1 - Pending Audit</p> <p>2 - Pre-Approved</p> <p>3 - Approved</p> <p>4 - Denied</p> <p>5 - Changed; Resubmission Requested</p> <p>6 - Expired</p>	[]	<p>List of request statuses of different inventory owners.</p> <p>After all the request parameters are filled in, including uploading advertising materials, the request must be transferred from draft status to awaiting_approval status. At this point, a notification about the new request is sent to the advertising network administrators (device owners). At the same moment, the list of devices selected by filters is frozen in the request.</p> <p>Other statuses affect only the display of the request in the DSP personal cabinet.</p>
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## Parameter Area

Parameter	Type	Default	Description
title	String, max length 128		Name of area
latitude	Float		latitude
longitude	Float		longitude
radius	Integer, km	10	Radius in km
action	String, variants: <ul style="list-style-type: none"> <li>● include</li> <li>● exclude</li> </ul>		Include or exclude a zone

## Request example

```
curl \
-i \
-H 'content-type: application/json' \
-H 'x-authorization: Bearer <access_token>' \
-H 'x-adexchange-role: dsp' \
-d '{
  "name": "Test Campaign 1",
  "start_date": "2021-03-01",
  "end_date": "2021-03-09",
  "time_range": [43200, 86399],
  "schedule": {"mon": true, "wed": true, "fri": true, "sun": true},
  "ad_duration": 10,
  "ad_rate_per_hour": 12,
  "payment_model": "cpv",
  "payment_model_limit": 1000,
  "areas": [{"title": "Moscow, Russia", "action": "include", "latitude": 55.75583, "longitude":
37.61778, "radius": 100}],
  "age": [18,65],
  "gender": "female",
  "resolutions": ["1920x1080"],
  "budget": 1000000
}' \
'https://api.dooh.one/api/v2/agency/2/dsp/request/'
```

If the request is successful, the server returns  
201 Created

```
{
  "id": 317,
  "name": "Test Campaign 1",
  "description": "",
  "start_date": "2021-03-01",
  "end_date": "2021-03-09",
  "time_range": [43200, 86399],
  "schedule": {
    "mon": true,
    "wed": true,
    "fri": true,
    "sun": true
  },
  "ad_duration": 10,
  "ad_rate_per_hour": 12,
  "payment_model": "cpv",
  "payment_model_limit": 1000,
  "areas": [{
    "id": 107,
    "sorting": 0,
    "title": "Moscow, Russia",
    "radius": 100,
    "latitude": 55.75583,
    "longitude": 37.61778,
    "action": "include"
  }],
  "age": [18, 65],
  "gender": "female",
  "resolutions": ["1920x1080"],
```

```

"budget": "1000000.0000",
"max_bid": "0.0000",
"status": [],
"owner": 2,
"owner_instance": {
  "id": 2,
  "name": "Test DSP Agency",
  "logo": null,
  "base_color": null,
  "background": null,
  "favicon": null,
  "country": null,
  "address": "",
  "currency": "USD",
  "balance": "0.00000000",
  "balance_in_currency": "0.0000",
  "phone": "",
  "email": ""
},
"created_by": {
  "id": 5,
  "username": "ak+dsp@test.ru",
  "first_name": "A",
  "last_name": "K",
  "father_name": "",
  "email": "ak+dsp@test.ru",
  "phone": "",
  "language": "en",
  "date_format": "Y-m-d",
  "time_format": 12
},
"modified_by": {
  "id": 5,
  "username": "ak+dsp@test.ru",
  "first_name": "A",
  "last_name": "K",
  "father_name": "",
  "email": "ak+dsp@test.ru",
  "phone": "",
  "language": "en",
  "date_format": "Y-m-d",
  "time_format": 12
},
"ctime": "2021-02-25T19:03:17.096735+03:00",
"mtime": "2021-02-25T19:03:17.096750+03:00",
"ads": [],
"platform": 6,
"campaign": null
}

```

### Getting the list of available advertising networks (agency profile)

The list of available advertising networks can be found in the agency profile - dsp\_networks property.

```

"dsp_networks": [
  {
    "id": 1,
    "name": "Test Network No1",

```

```

    "is_enabled": true,
    "device_count": 2
  },
  {
    "id": 6,
    "name": "parfum",
    "is_enabled": true,
    "device_count": 232
  }
],
...
}

```

### Obtaining an estimate of the cost of a campaign with specified parameters

GET /agency/<dsp\_agency\_id>/dsp/device/stats/

#### Request parameters

Parameter	Description
id	Request ID. For example, 317
platform	ad network ID. For example, 6
start_date	Advertising Campaign Start Date. For example, 2021-03-01
end_date	The end date of the advertising campaign. For example, 2021-03-09
time_range	The time period within the day when the ad campaign should be shown. For example,, 43200, 86399
schedule	Days of the week on which to show ads. Format: <mon>,<tue>,<wed>,<thu>,<fri>,<sat>,<sun> An indication that the day has been chosen: <b>true</b>  For example (for Monday, Wednesday, Friday, Sunday), true,,true,,true,,true
payment_model	Payment model For example, cpv

payment_model_limit	Maximum number of impressions/contacts/views depending on the selected payment model. For example, 10000
areas	Zones on the map. Format: <lon>x<lat>,<radius>,<action> Separator: ; For example, 30.31667x59.95,100,include;37.61778x55.75583,100,include
ad_duration	The estimated duration of the advertisement. For example, 10
ad_rate_per_hour	Frequency of advertisement showing. For example, 12
age_min	Minimum age. For example, 18
age_max	Maximum age. For example, 65
gender	gender.  For example, female
resolutions	A comma-separated list of resolutions, for example, 1920x1080,1360x768
budget	Campaign Budget. As when you create an request. For example, 1000000
is_deployed	Only consider devices available to display ads. For example, true

```
curl \
  -H 'content-type: application/json' \
  -H 'x-authorization: Bearer <access_token>' \
  -H 'x-adexchange-role: dsp' \ 'https://api.dooh.one/api/v2/agency/2/dsp/device/stats/?
id=317&areas=37.61778x55.75583%2C100%2Cinclude&payment_model_limit=1000&ad_duration=10&time_r
ange=43200%2C86399&ad_rate_per_hour=12&schedule=true%2C%2Ctrue%2C%2Ctrue%2C%2Ctrue&platforms=
6&age_min=18&age_max=64&gender=female&male_percentage_max=99&resolutions=1920x1080&start_date
=2021-03-01&end_date=2021-03-09&payment_model=cpv&budget=1000000&is_deployed=true'
```

## Response

```
{
  "payment_model": "cpv",
  "payment_model_coef": 1,
  "price": {
    "min": 7.0,
    "max": 7.0,
    "avg": 7.0
  },
  "currency": "RUB",
  "total_max_budget_in_currency": 2995.5,
  "target_budget_in_currency": 7000.0,
  "budget": {
    "value": 31103.3,
    "total": 31103.3
  },
  "impressions": {
    "value": 428.0,
    "total": 428.0,
    "acquired": 0
  },
  "inventory": {
    "value": 28,
    "total": 192,
    "excel_url": "<address_plan_download_url>"
  },
  "specs": [{
    "type": "monitor",
    "resolution": "1920x1080",
    "count": 28
  }]
}
```

Parameter	Description
price	The range of rates for <code>max_bid</code> .  If <code>max_bid</code> less then <code>price.min</code> , that campaign will never win an auction.
total_max_budget_in_currency	Maximum budget for a given goal ( <code>payment_model_limit</code> ).
target_budget_in_currency	Maximum budget for the selected devices.

plays	Shows.  <b>plays.value</b> - forecast for the number of impressions for the selected rules and budget.  <b>plays.total</b> - the possible maximum number of impressions for the selected rules at the maximum budget.
impressions	Depends on <code>payment_model</code> .  <code>ad_plays</code> , <code>cpm</code> - outreach (audience).  <code>cpv</code> - target audience views.  <b>impressions.value</b> - audience/ views forecast for the selected rules and budget.  <b>impressions.total</b> - maximum possible audience/ views for the selected rules at maximum budget.
inventory	Broadcasting points.  <b>inventory.value</b> - broadcast outlets available for this campaign. Based on the selected rules and budget.  <b>inventory.total</b> - all available broadcasting points under the selected rules and in case of maximum budget.  <b>inventory.excel_url</b> - link to download the address
specs	Device specification: types, resolutions, quantities.

### Getting a list of devices in the ad network

GET /agency/<dsp\_agency\_id>/dsp/device/?

platforms=<network\_id>&page=1&page\_size=20

#### Request parameters

Parameter	Type	Description
platform	integer	ID AD network

extended	string	<p>Extended output format</p> <p>The extended output adds device costs for different payment models.</p> <p>Example:</p> <pre>{   ...    "ad_plays_cost": {     "min": 150.0,     "max": 150.0   },   "cpm_cost": {     "min": 150.0,     "max": 150.0   },   "cpv_cost": {     "min": 7.5,     "max": 7.5   },   ... }</pre> <p>Values:</p> <ul style="list-style-type: none"> <li>• true</li> </ul>
----------	--------	---

### Response Parameters

Devices are provided on a page-by-page basis.

Parameter	Type	Description
count	int	Device count
next	url	URL next page
previous	url	URL previous page
results	list	Device list
results.id	int	Device ID
results.external_id	int	External Device ID ID on the device owner's network.
results.name	string	Device name
results.description	string	Description
results.resolution	string	Resolution Format: <width>x<height>

results.orientation	int	Screen orientation  Values: <ul style="list-style-type: none"> <li>• 1 - landscape</li> <li>• 2 - port</li> </ul>
results.is_deployed	bool	An indication of the device working or not
results.postal_code	string	Postal code (index)
results.country	string	Two-letter country code ISO 3166-1 alpha-2
results.city	string	City
results.street	string	Street
results.struct	string	Struct address
results.building	string	building
results.floor	int	floor
results.room	string	room
results.latitude	float	latitude  Used to display on the
results.longitude	float	longitude  Used to display on the
results.ad_plays_cost	object	<b>Expanded format</b>  Payment for a played clip with no guarantee of views or potential contacts.  The cost is per 1000 plays of a 1 second clip.  Currency must match the currency of the system  Format: <pre>{   "min": &lt;min_price&gt;,   "max": &lt;max_price&gt;</pre>

results.cpm_cost	object	<p><b>Expanded format</b></p> <p>Payment for potential contacts with no guarantee of views.</p> <p>The cost is quoted per 1,000 potential contacts.</p> <p>the currency must match the currency of the system</p> <p>Format:</p> <pre>{   "min": &lt;min_price&gt;,   "max": &lt;max_price&gt; }</pre>
results.cpv_cost	object	<p><b>Expanded format</b></p> <p>Payment for guaranteed views.</p> <p>The cost is indicated for 1 view of a clip with duration of 1 second.</p> <p>Currency should coincide with the currency of the system.</p> <p>Format:</p> <pre>{   "min": &lt;min_price&gt;,   "max": &lt;max_price&gt; }</pre>

### Example request

```
curl \
-X GET \
-H 'content-type: application/json' \
-H 'x-authorization: Bearer <token>' \
-H 'x-adexchange-role: dsp' \
'https://api.dooh.one/api/v2/agency/22/dsp/device/?platforms=29'
```

```
{
  "count": 1,
  "next": null,
  "previous": null,
```

```
"results": [{
  "id": 84,
  "external_id": 7482,
  "name": "Test Device # 7482",
  "fillrate": 0.0,
  "resolution": "2160x3840",
  "orientation": 2,
  "is_deployed": true,
  "description": "",
  "postal_code": "",
  "country": "RU",
  "city": "",
  "street": "",
  "struct": "",
  "building": "",
  "floor": null,
  "room": "",
  "latitude": 56.326944,
  "longitude": 44.0075,

  "ad_plays_cost": {
    "min": 150.0,
    "max": 150.0
  },
  "cpm_cost": {
    "min": 150.0,
    "max": 150.0
  },
  "cpv_cost": {
    "min": 7.5,
    "max": 7.5
  }
}]
}
```