

xroom / zroom backend API manual

(updated 2020-07-12, version code 2)

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Prerequisites

Authentication

The platform currently uses SHA256 HMAC authentication algorithm. Three HTTP request headers participate in the authentication process: `x-random` is a salt (32 bytes minimum), `x-auth-id` is your internal identifier and `x-auth-key` is the hash computed based on the two above and your secret key. Both ID and secret can be found in the [dashboard](#), secret can also be regenerated at any moment.

The hash is computed directly from the salt using your API secret key. For your convenience in the dashboard there is a hash debugging tool: <https://zroom.app/en/api-manager>.

Versioning

You may send a header `x-api-version` indicating desired API version code. Starting from version 2 this header is obligatory.

API wrappers

We have started adding sample API wrappers for various programming languages: <https://github.com/xroom-app/api-wrappers>.

Data exchange

Requests are sent as HTTP POST with JSON payload, thus `Content-Type: application/json` header is expected. Endpoint URL is composed of a root URL and a collection name, for example `https://signal.zroom.app/api/room`. API method name to be called is passed directly in the payload:

```
{
  "method": "init",
  "data":
  {
    "id": "my-test-room",
    "key": "my-room-key"
  }
}
```

Data is returned as

```
{
  "isError": false,           // boolean showing if any error was intercepted
  "errMsg": null,           // possible execution error message
  "data":                     // data returned by the method itself
  {
    ...
  }
}
```

API hosts for various regions

<code>signal.zroom.app</code>	– EU server 01 (default)
<code>sfo-1.signal.zroom.app</code>	– US server 01

The region is configured in the back office on the domain level. Later we will add automatic demultiplexing for your API calls.

Collections

ROOM (URL example for EU server: <https://signal.zroom.app/api/room>)

Room identifier is combined from the domain name and a room name, e.g. chat.org/my-room

For rooms it is important to use the server (API host) where your room is located. xroom is built in a way information about rooms in one country is not copied to another country without necessity. This is both helpful techwise and makes it easier to comply with various local laws.

Method	Description	Input data	Output data
init	Initialize a room	<pre>{ id: str — room identifier type: ?uint — room type code, see below, 1 by default lock: ?bool — lock flag, false by default key: ?str — room password addHostKey: ?bool — request a predefined host key }</pre>	<pre>{ id: str — room identifier type: uint — room type code, see below isLocked: bool — room lock flag key: ?str — room password hostKey: ?str — a predefined host key }</pre>
destroy	Destroy an empty room	<pre>{ id: str — room identifier forceKick: ?bool — pass true to kick everyone before }</pre>	bool — whether operation was successful or not
kickOut	Kick out a user	<pre>{ id: str — room identifier peerId: str — peer identifier, pass "all" to kick everyone }</pre>	—
setLock	Set room locking	<pre>{ id: str — room identifier lock: bool — boolean lock flag }</pre>	—
setPassword	Set room password	<pre>{ id: str — room identifier password: str null — password string, pass null to reset }</pre>	—

		}	
list	List active rooms	{ domain: ?str — domain to filter by }	{ [domain-1]: { [domain-1/room-1]: ?RoomObject, ... }, [domain-2]: { [domain-2/room-1]: ?RoomObject, ... }, ... } RoomObject: { options: { type: uint, isLocked: bool, password: str }, clients: [PeerData] } PeerData: { id: str, type: uint }

booking (URL example for EU server: <https://signal.zroom.app/api/booking>)

Booking represents a reservation of a specific room until a specific time in the future. When a room is booked it is not possible to initialize it from the interface while the booking is valid. If let's say a room is booked for 10:00 and it is allowed for the speaker to be delayed up to 15 minutes an expiration time for this reservation has to be set to 10:15.

Method	Description	Input data	Output data
add	Add a booking	<code>domain: str</code> — domain name <code>roomName: str</code> — room name <code>validUntil: time</code> — time until the booking is valid, in JS format	—
remove	Remove a booking	<code>domain: str</code> — domain name <code>roomName: str</code> — room name	—
update	Update a booking	<code>domain: str</code> — domain name <code>roomName: str</code> — room name <code>validUntil: time</code> — time until the booking is valid	—
list	List bookings	<code>domain: str</code> — domain name	<code>[BookingObject]</code> <code>BookingObject: {</code> <code>domain: str</code> — domain name <code>roomName: str</code> — room name <code>validUntil: time</code> — time until the booking is valid <code>}</code>
get	Read a booking	<code>domain: str</code> — domain name <code>roomName: str</code> — room name	<code>BookingObject</code>

webhook (URL example for EU server: <https://signal.zroom.app/api/webhook>)

Webhooks allow you to trigger an external listener on a specific event. Currently the only supported event is a room creation.

Method	Description	Input data	Output data
add	Add a webhook	domain: str — domain name type: enum — webhook type: 'url' or 'robot' roomName: ?str — room name url: ?str — webhook URL for type 'url' robotId: ?uint — robot identifier for type 'robot'	<pre>{ id: uint — webhook identifier validated: bool — validation flag ('robot' type has 'true') }</pre>
remove	Remove a webhook	id: uint — webhook id	—
list	List webhooks	domain: str — domain name token: ?str — possible search token validated: ?bool — a validation flag to filter by	<pre>[WebhookObject] WebhookObject: { id: uint — webhook identifier domain: str — domain name roomName: ?str — room name url: ?str — webhook URL in case of type 'url' robotId: ?uint — robot identifier in case of type 'robot' }</pre>
validate	Validate a webhook	id: uint — webhook id	<pre>{ validated: bool — resulting validation flag }</pre>

Webhook validation request is an HTTP POST with JSON payload of `{event: "validation", signThis: String}` and an expected response is a string of `signThis` signed with domain's `webhookKey` using SHA256 algorithm.

Example:

```
{event: "validation", signThis: "c9002b50c6911daa18854e1ec25d5b47"}
+ secret "54ed8ea9722c38499ea8dbbeca19762e"
=> "b31ecd741c86f3abe01d93ebceb19b73cc2595bb5f5f3d4ba8328b3c37e6698b"
```


Appendix A: constant types

room types

Code	Type	Description
1	conference	All participants are equal, can talk and chat to each other
2	webinar	A host streams, the rest are watching and can chat with each other.

peer types

Code	Type
1	Conference host
2	Conference user
3	Webinar host
4	Webinar viewer

Appendix B: use case “booking a private room”

You want to be able to book a room for an event via the API so that no one could take it over while the corresponding booking is active. When the time comes you want to activate that room but need to distinguish its host from everyone else. Here’s what you need to do:

0. Configure your domain in the back office if you need to prohibit non-API room creation or to change plugins accessibility.
1. Call `booking/add` to book your room in advance.
2. When time comes, call `room/init` explicitly passing `addHostKey` parameter as true.
3. You will get `hostKey` in the response. Now the room is created but anyone joining it directly will not become a host.
4. Construct a host URL as `https://[room-id]?host-key=[hostKey]` and for the rest it’s just `https://[room-id]`.

If you need to set a password for participants simply pass `key` parameter in step 2.

Appendix C: webhook events and payloads

Payload field "event"	Description
validation	Webhook validation request. See details above in webhook API section.
roomCreated	<pre>{ id: number, event: 'roomCreated' domain: string roomName: string, options: { type: 1 2, // see room types above capacity: number, isLocked: boolean, password?: string, hostKey?: string } }</pre>
roomRemoved	<pre>{ id: number, event: 'roomRemoved', domain: string, roomName: string }</pre>