BAS-IP Link

BAS-IP Link

Exported on 06/29/2023

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Bas-IP Link is software for all BAS-IP equipment and realizes centralized access control in residential complexes and office centers with varying complexity. It allows you to flexibly manage all the functionality of the intercom system from anywhere in the world.

You can work with Link on any device: a computer, a tablet, or a smartphone running any operating system. Link is available as a cloud service, while still providing additional privacy, though it can be installed locally for ease of use. Also, the mobile app is available, but with limited features.

All features and options are described further:

The software works with:

- multi-apartment entrance panels: AA-01, AA-03, AA-05, AA-07, AA-07B, AA-07B2M, AA-07BC, AA-07BV, AA-07BD, AA-07E, AA-07FB, AA-07FB2M, AA-07FBC2M, AA-07FBV, AA-07FBV2M, AA-07MF, AA-09, AA-09B, AA-09BV, AA-09E, AA-11, AA-11B, AA-11BV, AA-11E, AA-11FBV, AA-11M, AA-12, AA-12B, AA-12FB, AA-12FB2M, AA-14FB, AA-14FB2M, AA-14FBS;
- multi-button entrance panels: BI-02, BI-02B, BI-02FB, BI-02FB2M, BI-04, BI-04B, BI-04FB, BI-04FB2M, BI-06, BI-06B, BI-06FB, BI-06FB2M, BI-08, BI-08B, BI-08FB, BI-08FB2M, BI-12, BI-12B, BI-12FB, BI-12FB2M, BA-04, BA-04BD, BA-04MD, BA-08, BA-08BD, BA-08MD, BA-12, BA-12BD, BA-12MD;
- individual entrance panel: AV-01, AV-01T, AV-01TE, AV-01D, AV-01ED, AV-01MD, AV-01MFD, AV-01BD, AV-01KD, AV-02, AV-02D, AV-02IDE, AV-02IDE, AV-02IPD, AV-03D, AV-03BD, AV-04AFD, AV-04ASD, AV-04FD, AV-04SD, AV-05FD, AV-05SD, AV-07T, AV-07B, AV-08FB;
- access controllers: CR-02BD;
- indoor video entry phone (monitors): AQ-07, AQ-07L, AQ-07LA, AQ-07LL, AK-10, AK-10L, AK-10LP, AT-07L, AT-10, AT-10L, AM-02, AZ-07LL, AU-04LA, SP-03, SP-03F.

1 Getting started

Further, you can find the basic information and first configuration instructions:

1.1 Software installation and launch

1.1.1 Hardware recommendations

- 64-bit processor with SLAT and Hyper-V support

> Whether your processor supports Intel virtualization technology can be found at https://www.intel.com/content/www/us/en/support/articles/000005486/processors.html

- If Linux: Kernel is not older than 3.10
- If Windows: 10 Pro or higher
- 8 GB RAM
- 100 GB HDD

1.1.2 General information

First, the Link must be installed and configured on a computer to work correctly and provide access in a web browser. It can be done with the help of:

- multiple Docker containers and deployed with Docker Compose;
- Virtualbox virtual machine image;

Further, you will find detailed installation steps for both methods.

There are several Link server variations, so before the installation choose the one that is required:

- Link without SIP and without web proxy;
- Link without SIP but with web proxy;
- Link with SIP but without web proxy;
- Link without SIP but with web proxy;

Versions with SIP are recommended only for Linux OS installation.

Versions with web proxy are recommended to use if Link is going to be used as a public server and the connection will be via secure https protocol.

Versions without web proxy are recommended to use if Link is going to be used in a local network and the connection will be via http protocol.

In the beginning, you get Link basic version, and further you can buy access to the Link License server to expand software functionality. More details about functionality can be provided with licenses you can find in the corresponding tab[1].

1.1.3 Installing Link under Linux using Docker

1. Install Docker for your distro. The example below uses the installation for Ubuntu.

```
# Remove old versions

sudo apt-get remove docker docker-engine docker.io containerd runc

# Configure the repo
## Update apt index and install dependencies

sudo apt-get update

sudo apt-get install \
    apt-transport-https \
    ca-certificates \
    curl \
    gnupg \
    lsb-release

## Add Docker GPG key

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o
/usr/share/keyrings/docker-archive-keyring.gpg

## Add repo

echo \
  "deb [arch=amd64 signed-by=/usr/share/keyrings/docker-archive-keyring.gpg]
https://download.docker.com/linux/ubuntu \
```

1 https://wiki.bas-ip.com/basiplinken/licenses-135956024.html

```
  $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /
dev/null


# Install Docker

sudo apt-get update

sudo apt-get install docker-ce docker-ce-cli containerd.io
```

2. Install docker-compose[2] for your distro.

```
# Download docker-compose

sudo curl -L "https://github.com/docker/compose/releases/download/1.29.2/
docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

# Grant execute permission for the file

sudo chmod +x /usr/local/bin/docker-compose

# Add symlink

sudo ln -s /usr/local/bin/docker-compose /usr/bin/docker-compose
```

3. Clone the necessary project from our GitHub[3] with the help of command.

```
git clone https://github.com/basip/link.git
```

4. Create the necessary volumes in advance, with help of the command:

```
docker volume create name
```

Name changes depending on the volume name to be created. The list of required volumes (with external: true values) you can find at the end of the docker-compose.yml file.

2 https://docs.docker.com/compose/install/
3 https://github.com/basip/link

```
198         - MYSQL_DATABASE=kamailio
199       volumes:
200         - sip-proxy-data:/var/lib/mysql
201       ports:
202         - "43306:3306/tcp"
203       logging:
204         driver: json-file
205         options:
206           max-size: "10m"
207           max-file: "5"
208       command: ["--innodb-buffer-pool-size=2G", "--innodb-log-file-size=256M"]
209   networks:
210     link-internal:
211       internal: true
212
213   volumes:
214     app-data: { external: true }
215     system-logs: { external: true }
216     app-storage: { external: true }
217     app-ssl-certs: { external: true }
218     device-broker-log: { }
219     device-broker-settings: { }
220     device-broker-app: { }
221     sip-proxy-data: {}
222     sip-proxy-app: {}
223     sip-node-app: {}
224     sip-proxy-log: {}
```

So, according to the example, the following commands must be done:

```
docker volume create app-data
docker volume create app-storage
docker volume create system-logs
docker volume create app-ssl-certs
```

If you are installing **a version with a web proxy:**

1. Copy the **env.example** file and name this copy as **.env**.
2. In the **.env** file you must enter the following data:
   - your Link server **address**, e.g. link.bas-ip.com[4] for HTTPS_DOMAIN field;
   - **production** for HTTPS_MODE field;

master link / with-sip / with-web-proxy / .env Go to file ···

basipdev LINK-718 feat: added docker-compose files for deploy basic/extended s... ··· Latest commit 3e64371 on 1 Oct 2021 History

1 contributor

2 lines (2 sloc) | 44 Bytes Raw Blame

```
1  HTTPS_DOMAIN=example.com
2  HTTPS_MODE=staging
```

These parameters are required for correct encryption certificates to work.

5. Go to the folder of the version you want to install. For example, for the version without SIP, the command is:

4 http://link.bas-ip.com

```
cd link/without-sip
```

6. Run the project.

```
docker-compose up -d
```

You can **improve the productivity of extensive projects** by doing the following Docker configuration:

Change the **userland-proxy** attribute to **false** in the docker configuration **/etc/docker/daemon.json** file. If there is no such file, then create it with the content

```
{"userland-proxy": false}
```

1.1.4 Used ports

The application uses the following ports:

- 5060 TCP/UDP: unencrypted SIP traffic port;
- 5061 TCP: port for SIP using TLS;
- 80 TCP: HTTP port;
- 443 TCP: HTTPS port;
- 6001 TCP: WebSocket port;
- 10000-20000 UDP: RTP ports for audio/video;
- 1883 TCP: unencrypted MQTT;
- 8883 TCP: encrypted MQTT;

If SIP proxies and nodes are running on more than one server with the Link server application, then the following ports must be forwarded to them:

- 48080: SIP proxy management port;
- 48081: SIP node management port;

1.2 Link version update

To update the Link using Docker you must:

1. Check the current version of the server (in the left low corner of the Login page in the Link web interface).
2. In the repository[5]check if there are no update peculiarities for the version you want to install. If there is, read the attached manual and complete the instructions.
3. Login to your server via SSH.

5 https://github.com/basip/link

4. Login as a superuser: **sudo su**, and enter the same password one more time.
5. Follow the directory where your Link is:

```
cd/home/link/
```

6. Choose the correct type of Link server. If you use the Link:
   a. with SIP, but not using the domain name (e.g. http://176.215.90.19[6], http://3.111.25.45[7]) perform:

   ```
   cd with-sip
   ```

   b. with SIP, and with domain name (e.g. https://preview.intercom.team[8]) perform:

   ```
   cd with-sip/with-web-proxy
   ```

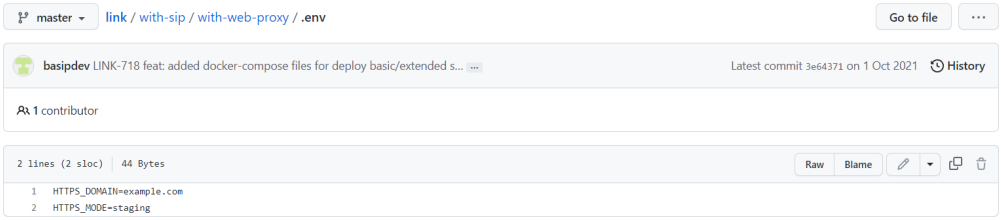
   c. without SIP, and without domain (simply management features) perform:

   ```
   cd without-sip
   ```

   d. without SIP, but with domain (simply management features + SSL) perform:

   ```
   cd without-sip/with-web-proxy
   ```

   If you use the Link with-web-proxy, make sure, that the **.env** file in the current directory still contains your changes: vi .env
   HTTPS_DOMAIN='your domain'
   HTTPS_MODE=production
   IMAGE=latest

   If there are no changes, please, write down your data.

   2. In case of updating from the **Link version lower than 1.2.126**, please, copy the **.env** file (as described in Step 4(see page 10)) and make changes after that: cp .env.example .env

7. Stop the current Link server with the command:

6 http://176.215.90.19/
7 http://3.111.25.45/
8 https://preview.intercom.team/

```
docker-compose down
```

It should be run in the directory with the corresponding type that you are use.

8. Update installation images from which the new Link version will be deployed:

```
docker-compose pull
```

9. Start your updated Link server in some seconds: docker-compose up -d

```
docker-compose up -d
```

10. As a result new version will start functioning. Make sure that all of your containers are started and running properly:

```
docker ps
```

11. Login to the Link using the previous IP/domain.

Info

If you have **trouble** running the Pull command because of the file on the machine with modifications that are not in Git, it is necessary to remove these changes and only then pull the update.

```
root@preview-intercom-team:/home/link/with-sip/with-web-proxy# git pull https://github.com/basip/link.git
From https://github.com/basip/link
 * branch            HEAD       -> FETCH_HEAD
Updating 5050463..14806c4
error: Your local changes to the following files would be overwritten by merge:
        with-sip/docker-compose.yml
        with-sip/with-web-proxy/docker-compose.yml
        without-sip/docker-compose.yml
        without-sip/with-web-proxy/docker-compose.yml
Please commit your changes or stash them before you merge.
Aborting
```

Try the following options:

- in this directory, run the following command with a dot at the end followed by a space. This will clean up any changes

```
git checkout.
```

- for force reset perform:

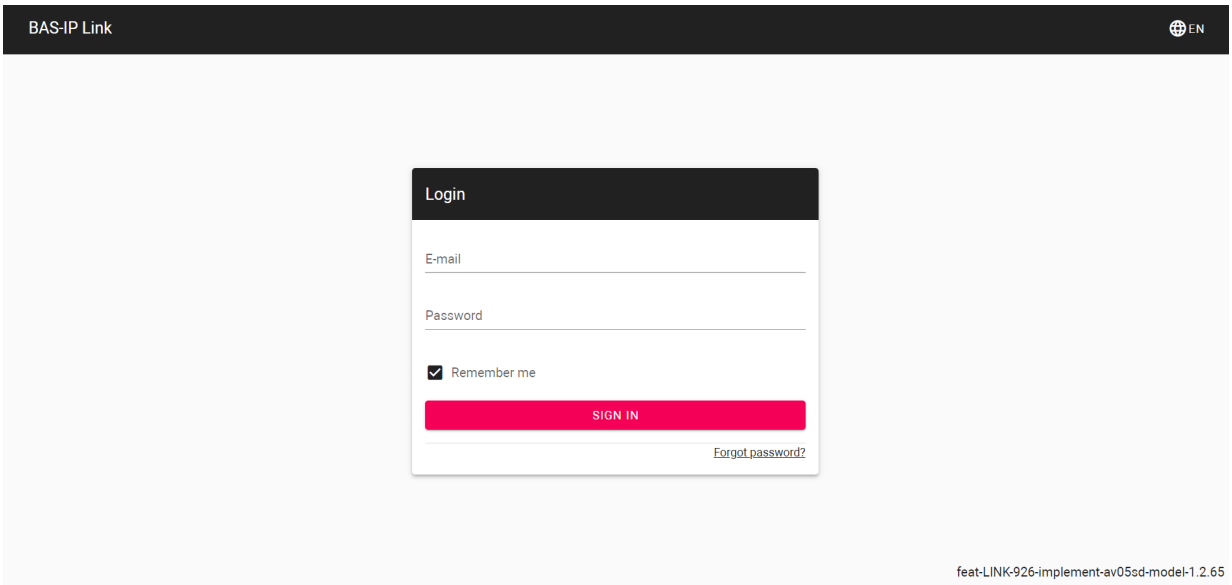
```
git reset --hard
```

1.3 First authorization and the server initial setup

After successful software installation, open the browser and go to the server address where the Link is installed. At the top right corner, you can change the interface language to English or Russian.

Also, you can find the current software version in the lower right corner.

Enter default values to get access to the Link for the first time.



Info

Default values to enter the web interface:

Login: admin@bas-ip.com[9]

Password: **qwerty11!@**

After logging in to the server you must complete the server initial setup for its further functioning.

1.3.1 Server initial setup

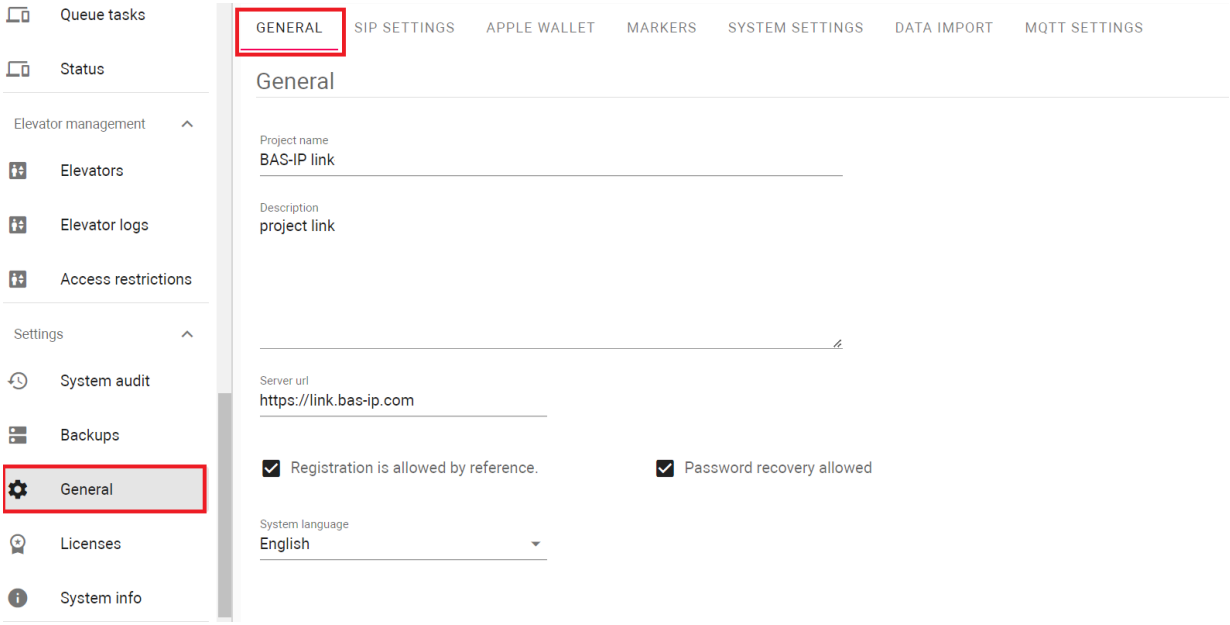
1. In the sidebar scroll to the **Settings** section.
2. Open the **General** tab and enter the following general settings:
    - your project name;

9 mailto:admin@bas-ip.com

- project description (if necessary);
- server URL, e.g., https://link.example.com;

If you don't have a server domain name (link.example.com[10]), enter the IP address of a device where the Link software is installed. Or if you use a Virtual box, enter the IP address given to the system inside the virtual box image. In this case, the server URL is http://192.168.1.1, for example.

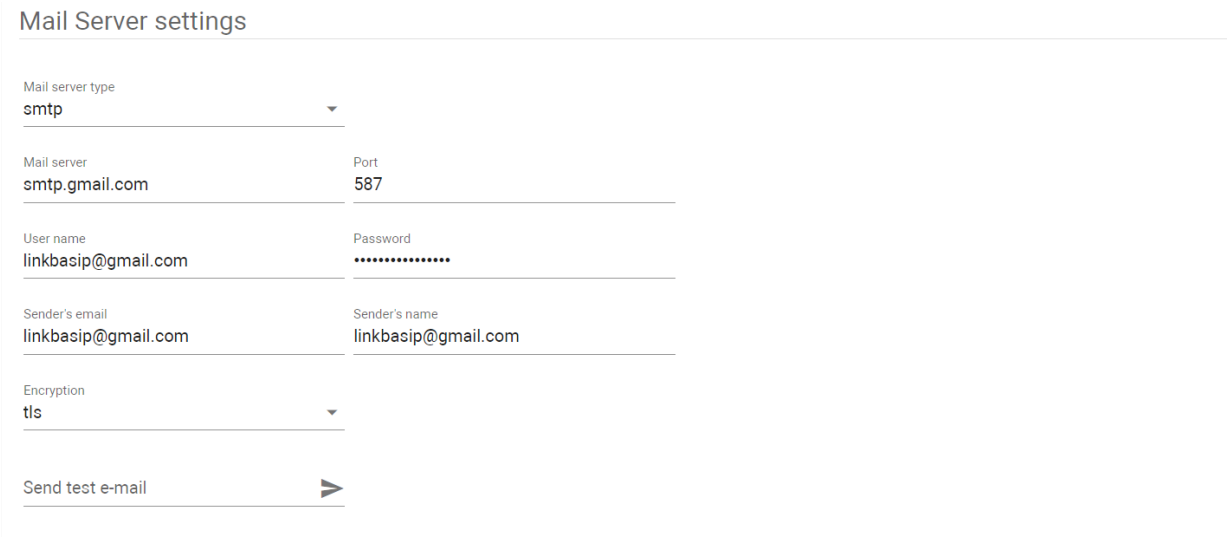
- enable **Registration is allowed by reference** field to be able to invite new users;
- **allow** users to self-**recover** their **password** by ticking the corresponding box. Otherwise, only an administrator will be able to do it;
- select system language: English, Russian.



3. Enter **mail server settings** to be able to send registration link and emails to users:

- for the **mail server type** field select smtp (outgoing mail server);
- **mail server address**, e.g. smtp.gmail.com[11];
- mail server **port** number;
- SMTP server **username** (email address from which letters will be sent);
- email (from which letters will be sent) **password**;
- **sender email** (coincides with SMTP server username);
- **sender name** that will be indicated in letters;
- preferred **encryption type**: ssl or tls;

10 http://link.example.com
11 http://smtp.gmail.com



Info

You can find the **mail server (SMTP) address** and used **port number** in the official documentation of the mail service you use to send/receive emails (Gmail, Yahoo!, etc.).

Tip

After entering the **mail server settings** check the correctness by **sending test email**.

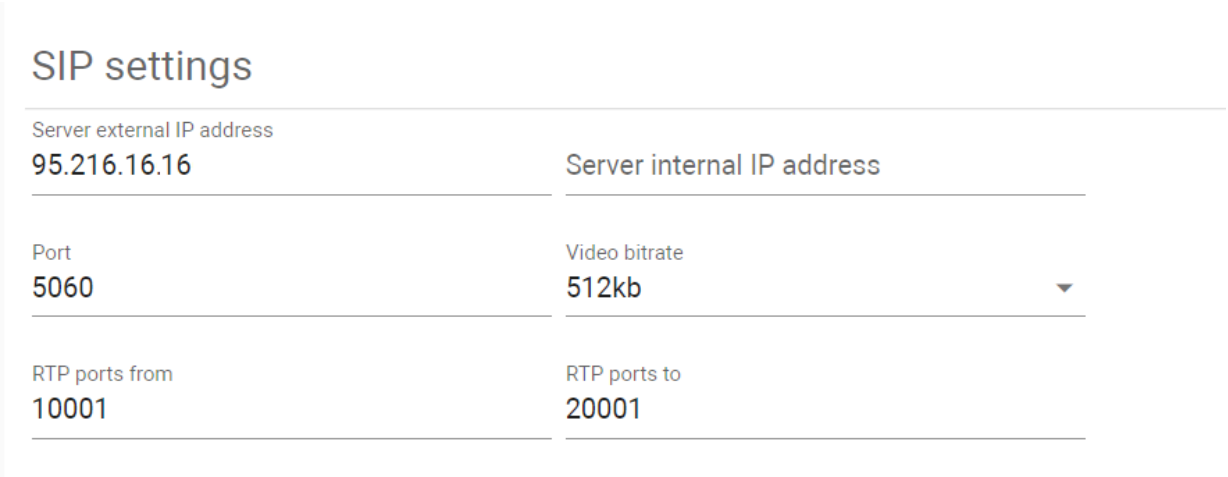
4. Enter the **system administrator email** to get further information about system functioning. More about notifications for administrator read here[12].
5. Confirm changes and the end of the page.
6. Go to the **SIP settings** tab and enter the following data:
   - only **server external IP address** if a server with public IP only is used;
   - both **server external** and **internal IP addresses** if the server is behind NAT. In this case, server external address is router IP address, and the internal value is the server (computer) IP address where the Link is installed;

12 https://wiki.bas-ip.com/basiplinken/general-135955998.html

If your Link system is more complex: SIP nodes are deployed on another server or a separate server with a node is behind NAT you must enter additional settings. Detailed information about them can be found here[13].

In other cases, the value of the server external IP address will be used for blank fields.

Also, you can enable the feature of **automatic creation of forward rules for apartment group user/s**, sending them to device/s, and data correction for device/s (if there are some changes in virtual numbers or logical address). More detailes about the feature you can find here[14].



7. Confirm changes and the end of the page.

! Warning

After entering all the data, you need to create and register a new account instead of the default user. Detailed information on how to register a new user you can find here[15].

After logging in to your account, go to the **Users** section and **delete** admin@bas-ip.com[16] user. This must be done to avoid unauthorized access to your server by third parties. Otherwise, any user who reads the information above will be able to access the server and make any changes to its configuration.

13 https://wiki.bas-ip.com/basiplink/en/sip-settings-83460880.html
14 https://wiki.bas-ip.com/basiplinken/sip-settings-135956014.html
15 https://wiki.bas-ip.com/basiplinken/users-135955765.html
16 mailto:admin@bas-ip.com

1.4 Supported devices and firmware versions

Link version	Type of device	Models	Device minimum firmware version
1.1.x	Multiapartment panels	AA-01, AA-03, AA-05	2.0.0
		AA-07, AA-07B, AA-07B2M, AA-07BC, AA-07BV, AA-07BD, AA-07E, AA-07FB, AA-07FB2M, AA-07FBC2M, AA-07FBV, AA-07FBV2M, AA-07MF, AA-09, AA-09B, AA-09BV, AA-09E, AA-11, AA-11B, AA-11BV, AA-11E, AA-11FBV, AA-11M, AA-12, AA-12B, AA-12FB, AA-12FB2M, AA-14FB, AA-14FB2M, AA-14FBS	3.7.0
	Multi-button panels	BI-02, BI-02B, BI-02FB, BI-02FB2M, BI-04, BI-04B, BI-04FB, BI-04FB2M, BI-06, BI-06B, BI-06FB, BI-06FB2M, BI-08, BI-08B, BI-08FB, BI-08FB2M, BI-12, BI-12B, BI-12FB, BI-12FB2M	3.7.0
		BA-04, BA-08, BA-12	2.0.0
		BA-04BD, BA-08BD, BA-12BD	2.3.0
		BA-04MD, BA-08MD, BA-12MD	3.3.0
	Individual panels	AV-01, AV-01T, AV-01TE, AV-02	2.0.0
		AV-01D, AV-01ED, AV-01MD, AV-01MFD, AV-01BD, AV-01KD, AV-02D, AV-02IDE, AV-02IDE, AV-03D, AV-03BD, AV-04AFD, AV-04ASD, AV-04FD, AV-04SD, AV-05FD, AV-05SD, AV-07T, AV-07B, AV-08FB;	2.3.0
		AV-02IPD	3.3.0
	Access controllers	CR-02BD	2.3.0
	Indoor monitors	AQ-07, AQ-07L, AQ-07LA, AQ-07LL, AK-10, AK-10L, AT-07L, AT-10, AT-10L, AM-02, AZ-07LL, AU-04LA	4.2.1
		AT-10	5.1.0

Link version	Type of device	Models	Device minimum firmware version
		AK-10LP	5.4.0
	Hands-free	SP-03	1.1.0
		SP-03F	1.12.0

1.5 Link Changelog

Here you can find the list of all changes made to a project.

1.5.1 1.2.180

- Implemented SOS functionality

1.5.2 1.2.177

- Added ability to enable/disable call forwarding for an apartment
- Added link to the user agreement
- Removed unused buttons during registration
- Improved process of uploading SIP registration settings to devices

1.5.3 1.2.174

- Improved server and mobile app interaction when calling

1.5.4 1.2.173

- Fixed sending announces or polls functioning

1.5.5 1.2.172

- Updated the process of uploading SIP registration settings to devices
- Improved video delivery quality to mobile clients
- Fixed bug with displaying the Delete button in conversations for users who do not have this permission
- Fixed EVRC-IP interaction with identifiers added to the Link
- Fixed error display when confirming e-mail by a user who was deleted from Link

1.5.6 1.2.170

- Refactored mobile API for managing forwards

1.5.7 1.2.169

- Fixed bug with setting restriction period for guest identifiers on iOS

1.5.8 1.2.168

- Fixed automatic sending of apartment entities added in the Link to CR-02BD

1.5.9 1.2.167

- Fixed bug (Device problem) when using guest URL in Link
- Fixed e-mail uniqueness bug when adding/editing a user

1.5.10 1.2.165

- Corrected description of the panel features for the endpoint
- Fixed sending of announcements, after dividing permissions and profiles for multiple projects on the same server
- Decreased expiration time of registration for SIP number to 30 sec
- Optimized API

1.5.11 1.2.161

- Added support for 6th Model of face recognition

1.5.12 1.2.159

- Implemented the ability to connect the SIP server to trunks via Twilio

1.5.13 1.2.158

- Added ability to host several small projects on 1 server

1.5.14 1.2.157

- Implemented a set of default values for Whitelabel
- Added profile permission to get Whitelabel settings

1.5.15 1.2.155

- Added option to subscribe to family members actions in the mobile app
- Added ability to revoke identifiers
- Added validation of SIP login/password settings before sending to the device
- Learned the possibility of customizing server emails

1.5.16 1.2.150

- Fixed and tested API

1.5.17 1.2.149

- Added automatic data update for the user about number forwarding for the group the user is assigned to

1.5.18 1.2.148

- Added incoming call ringtones
- Fixed the display of the number name for incoming calls
- Fixed the display of contacts avatars
- Fixed bug with accepting incoming calls if notifications are disabled in the browser

1.5.19 1.2.146

- Refactored the functionality of the interaction with devices

1.5.20 1.2.145

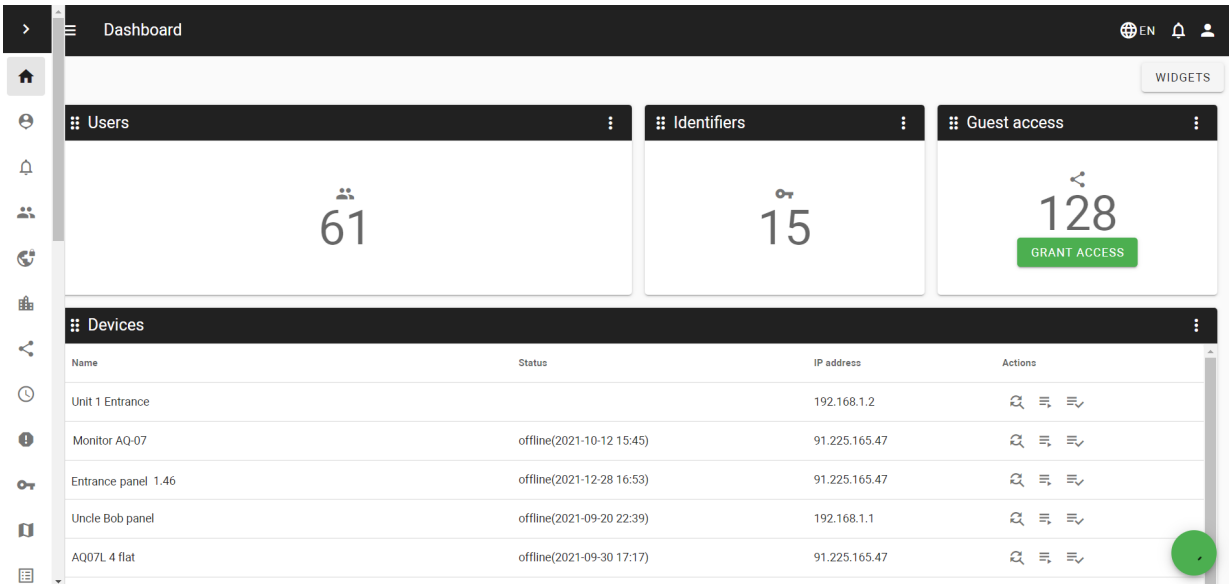
- Fixed bug when deleting virtual numbers
- Corrected translations of device and elevator logs
- Fixed the display of assigned to groups virtual numbers
- Fixed custom groups generation
- Fixed virtual number display of deleted user

- Fixed avatar change for user profile
- Fixed bug with adding numbers to the call queues for forwards
- Fixed display of the entries number in the table on the Info and polls page

2 Dashboard

After successful authorization, you will access the control panel with the main system widgets and counters of added users added, identifiers, etc. In the section you can get information about:

- number of registered **users**;
- number of **identifiers** (an access code, a card, a UKEY, a QR code, etc.) added to the system;
- number of created **guest** (temporary) **passes**. By clicking Grant Access you can quickly create and share guest identifier. Detailed instructions are here[17];
- **devices** connected to the system, their statuses and IP addresses. In this section you can initialize device[18] (only for SP-03), restart device queue[19] and synchronize device data[20];
- all events (**logs**) that happened with added devices. In the section you can also refresh, filter and export data (detailed information about these options you can find here[21]).

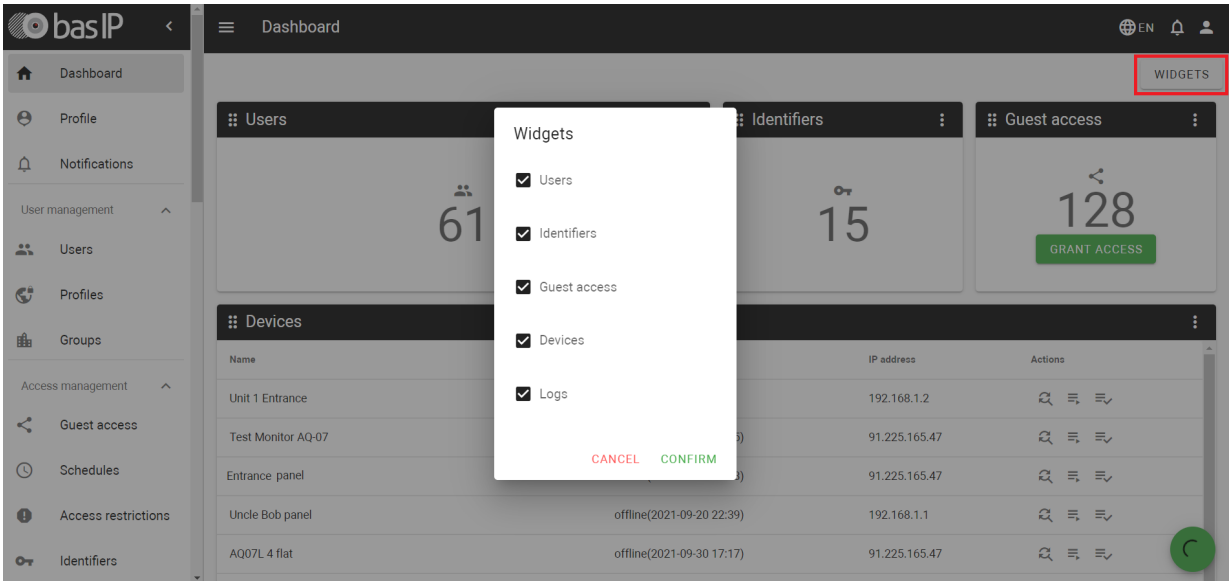


Tip

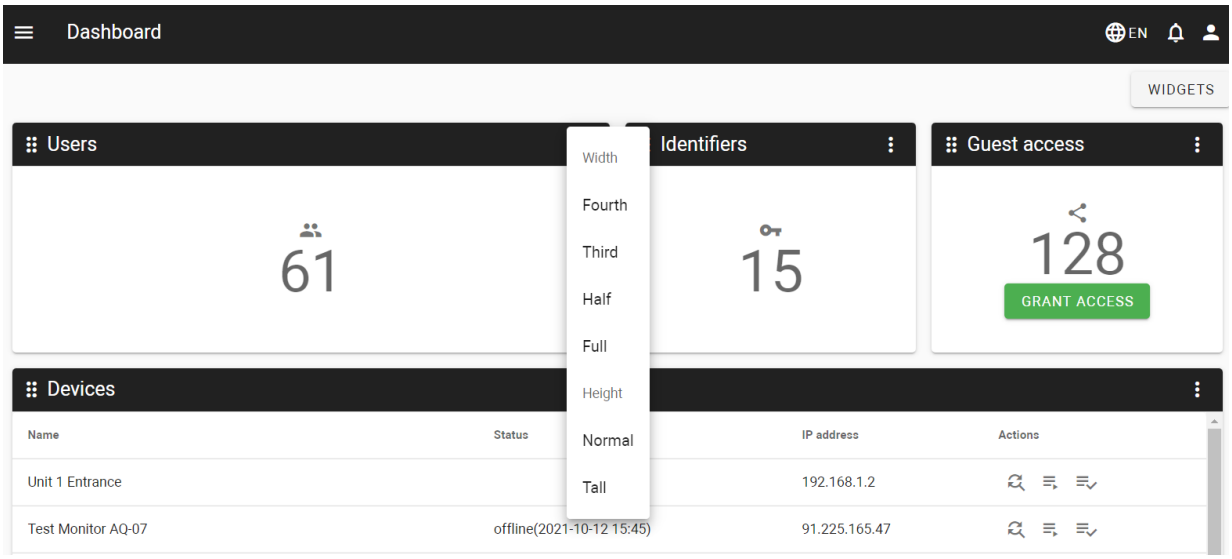
You can access Users, Identifiers, and Guest access tabs by clicking corresponding widgets.

You can **edit** the widgets **display** by clicking the **Widgets** button in the upper right corner and selecting the menus you want to see.

17 https://wiki.bas-ip.com/basiplinken/guest-access-135955799.html
18 https://wiki.bas-ip.com/basiplinken/device-initialization-135955953.html
19 https://wiki.bas-ip.com/basiplinken/queue-tasks-135955941.html
20 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
21 https://wiki.bas-ip.com/basiplinken/logs-135955936.html



Also, you can **resize sections** by clicking 3 dots in the widget upper right corner and selecting preferred height and width.



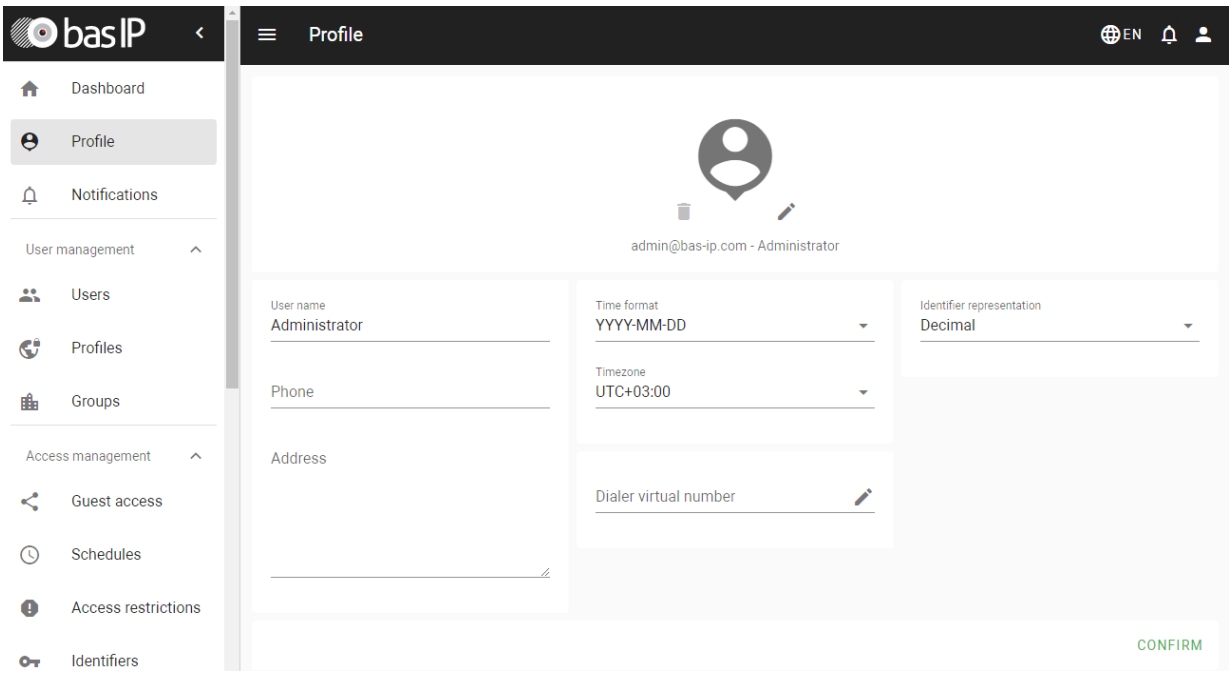
It is possible to **change** widgets **layout** by clicking and holding button of a section and draging it on the desired place.

3 Profile

Each confirmed user has a personal profile. This section displays the user basic data (with the possibility of editing):

- user name;
- their phone number (if required);
- their address (if required);
- preferred time display format;
- timezone;
- a user virtual number (can be assigned from the created in the corresponding tab[22]) for SIP calls;
- preferred identifier representation format: Decimal or HEX numeral system;
- profile photo (if required);

When all data is entered, click **Confirm** to save changes.

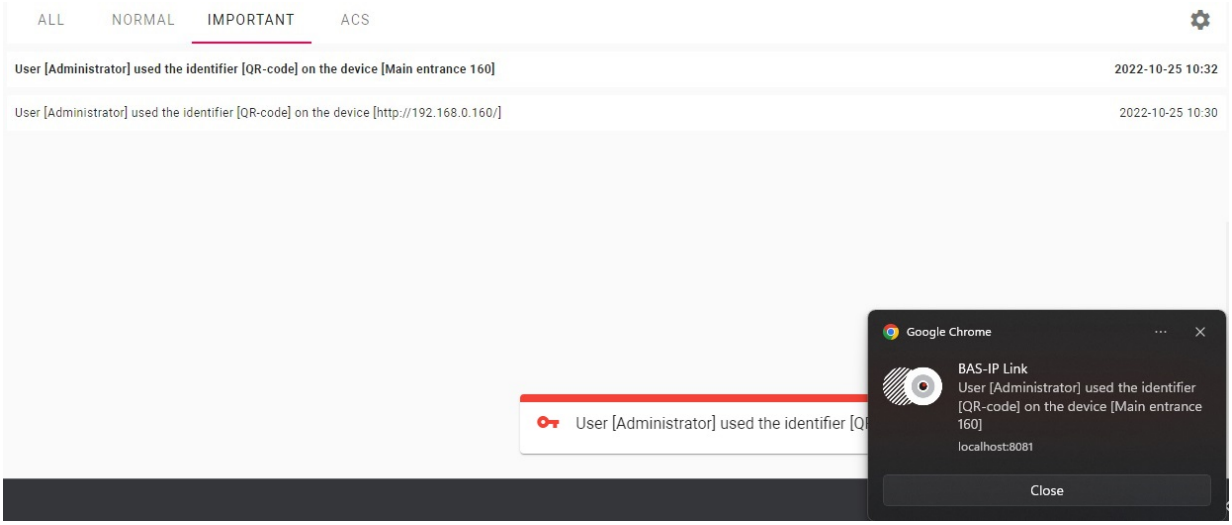


22 https://wiki.bas-ip.com/basiplinken/virtual-numbers-135955892.html

4 Notifications

In this tab, you get notifications about the success/failure of some processes or connected with your profile, e.g sending new settings to devices, statuses of created announcements, or received announcements/polls, etc. This will help you not to control some processes in real-time but check only the result.

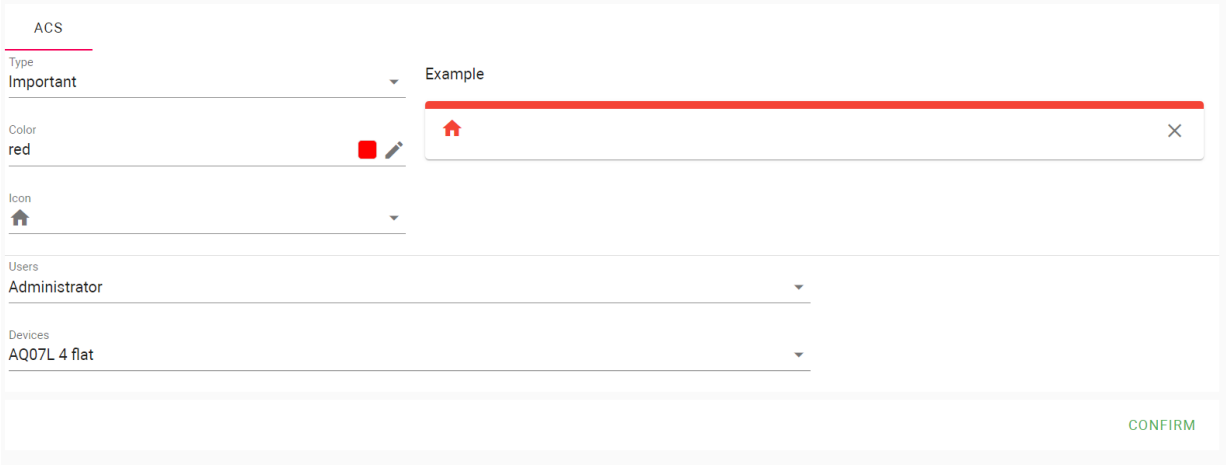
You can monitor **all** notifications in the corresponding section or mark some messages (about user or device activity) as **important** and receive prioritized notifications. All other notifications not marked as important are displayed in the **Normal** tab.



4.1 How to configure important notifications

1. Go to the **Notifications** tab.
2. Click ⚙ in the upper right corner.
3. Select important notifications **type**.
4. Select desired **color** and **icon** for notification.
5. Select **user/s** whose actions you want to be notified about.
6. Select **device/s** with those you want to receive notifications about interactions.

7. Confirm settings.

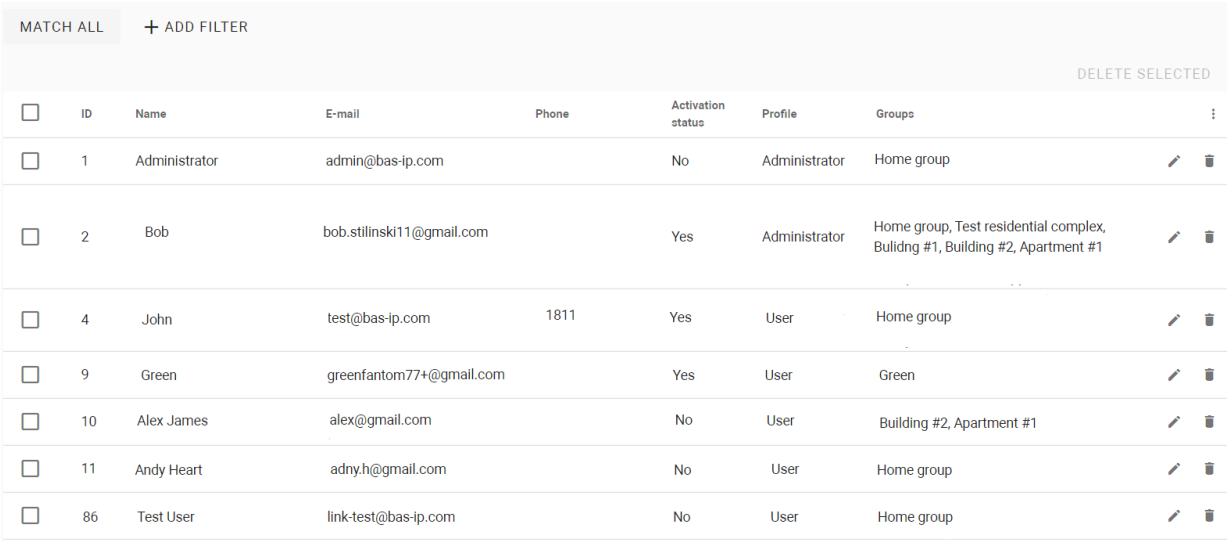


5 Users management

In this section, you can add, delete and modify profiles with various permissions, manage users, and add/edit groups for buildings, or residential complexes.

5.1 Users

In this tab, you can add new users, manage already added ones, and check important information about them.



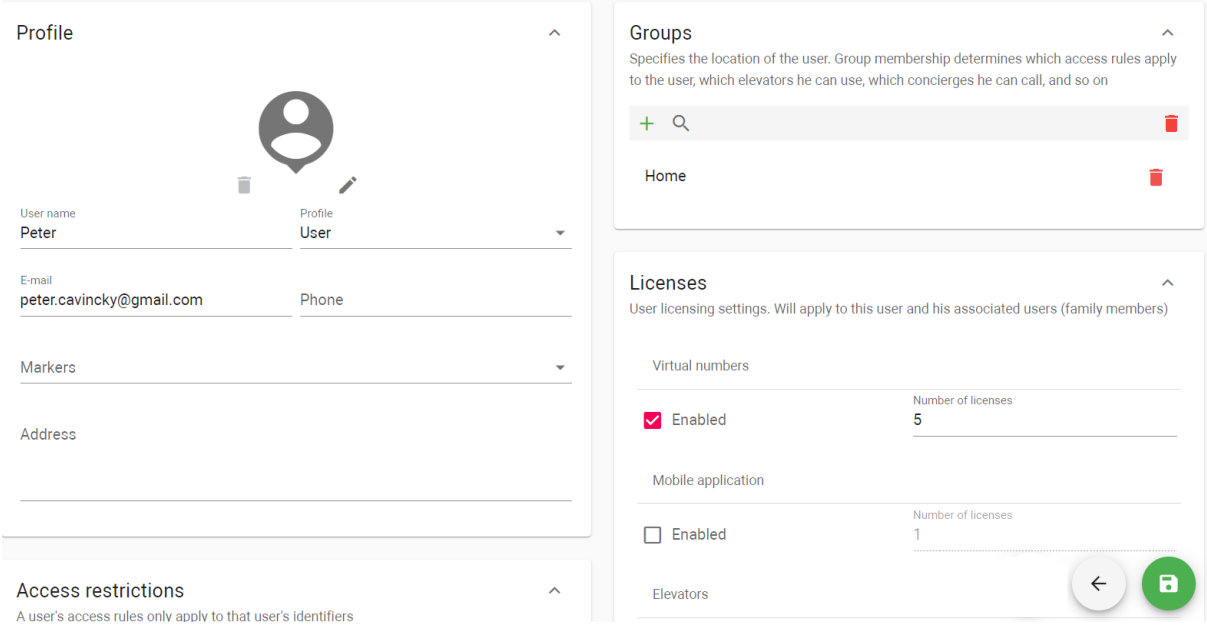
ID	Name	E-mail	Phone	Activation status	Profile	Groups
1	Administrator	admin@bas-ip.com		No	Administrator	Home group
2	Bob	bob.stilinski11@gmail.com		Yes	Administrator	Home group, Test residential complex, Bulidng #1, Building #2, Apartment #1
4	John	test@bas-ip.com	1811	Yes	User	Home group
9	Green	greenfantom77+@gmail.com		Yes	User	Green
10	Alex James	alex@gmail.com		No	User	Building #2, Apartment #1
11	Andy Heart	adny.h@gmail.com		No	User	Home group
86	Test User	link-test@bas-ip.com		No	User	Home group

5.1.1 How to register a new user

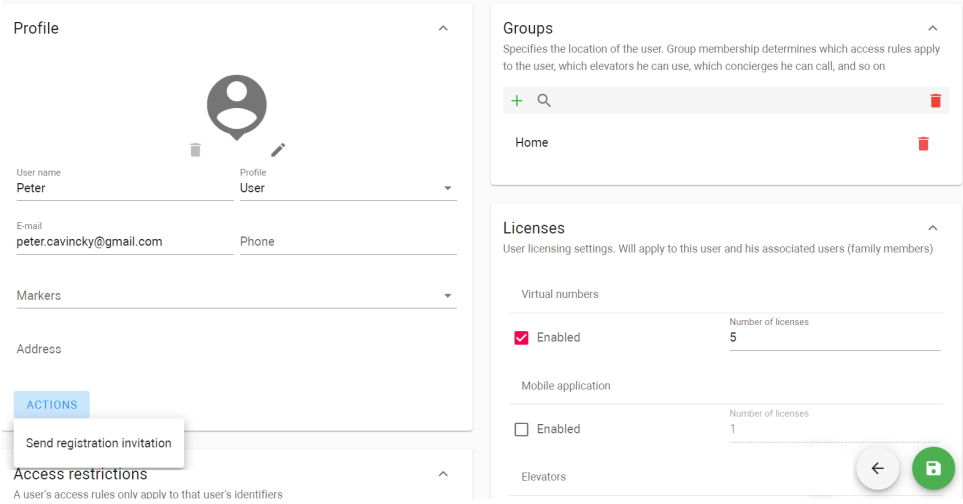
1. Open the **User** tab of the User management section.
2. Click **plus** icon in the left low corner.
3. Enter a user **name**.
4. Add user photo if necessary.
5. Select the profile[23] from created to give the user the required permissions.
6. Enter the user **email** to send the registration link.
7. Enter user **phone** number if necessary.
8. If required, select a **marker** for the user.
9. If necessary, enter user **address**.
10. Add a user to a corresponding **group**[24]or create a new one for this user.

23 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html
24 https://wiki.bas-ip.com/basiplinken/groups-135955783.html

11. Select from already added or create access restrictions[25]. After clicking you will be redirected to the corresponding tab[26] where it is possible to create restrictions.
12. Select identifier/s[27] available for the user.
13. Set available for user **licenses** that they purchased.
14. Click the **Save** button in the left low corner when all necessary data is entered.



15. Open created user profile again.
16. Click **Actions** and send a registration invitation to the user.



17. Close the profile.

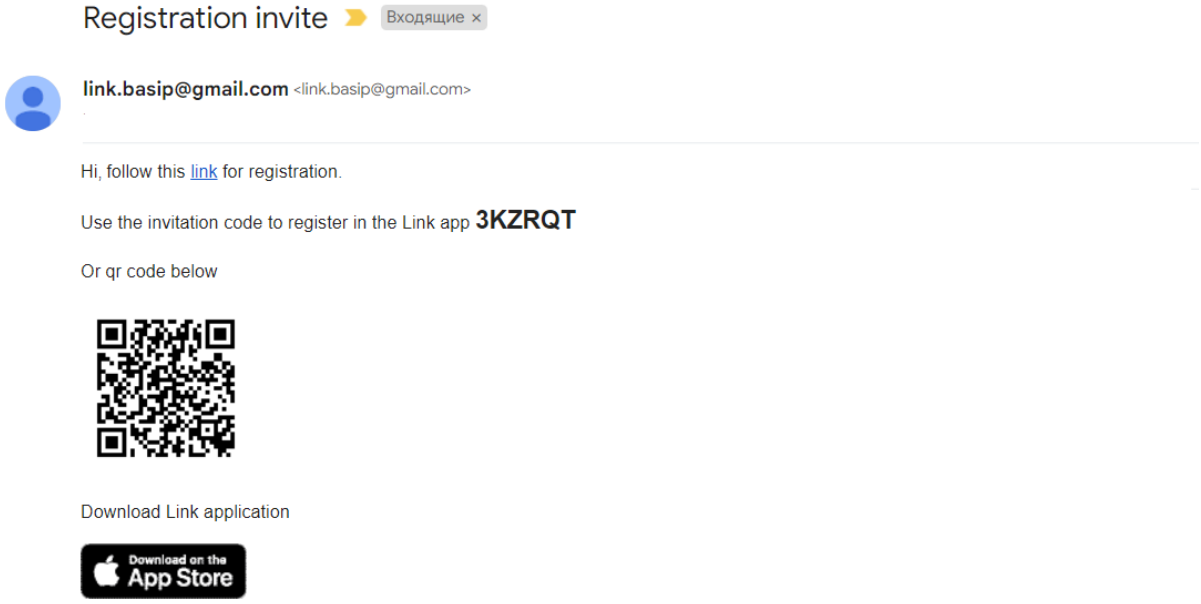
> After receiving the invitation user must activate the profile. Detailed steps are further.

25 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
26 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
27 https://wiki.bas-ip.com/basiplinken/identifiers-135955834.html

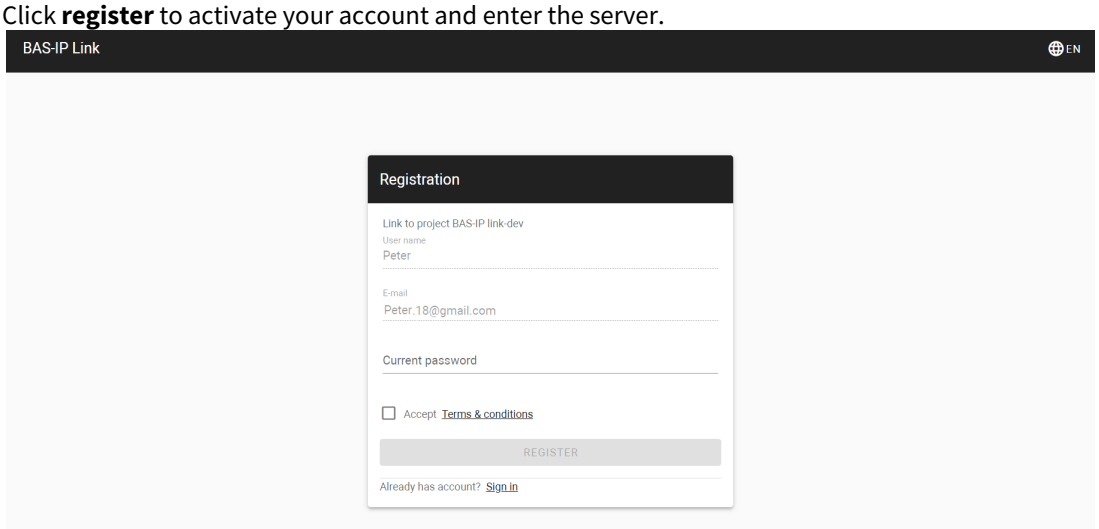
Also, when you open user entry after creating, you can check not only the information that you entered, and but Elevator access rules, Virtual numbers, Mobile app clients[28] available for the user, and also users (family members) invited by this user (can be done via the mobile app).

5.1.2 How to activate a user profile

1. Open your email and find the invitation letter from the Link server.
2. Follow the **link** indicated in the letter.



3. Create a **password** for your account.
4. Accept **Terms & Conditions**.
5. Click **register** to activate your account and enter the server.



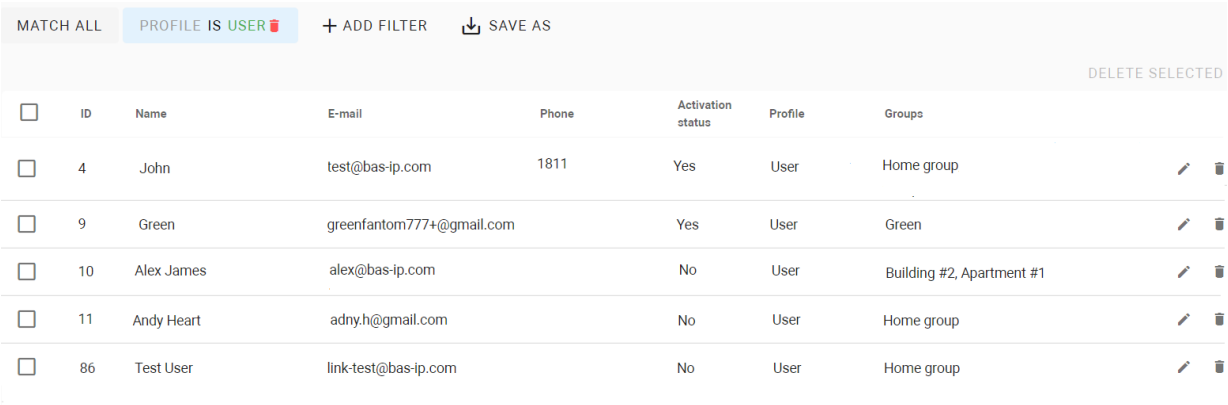
28 https://wiki.bas-ip.com/basiplinkapp/bas-ip-link-110561562.html

6. If you are going to register via the Mobile app, complete these[29]steps.

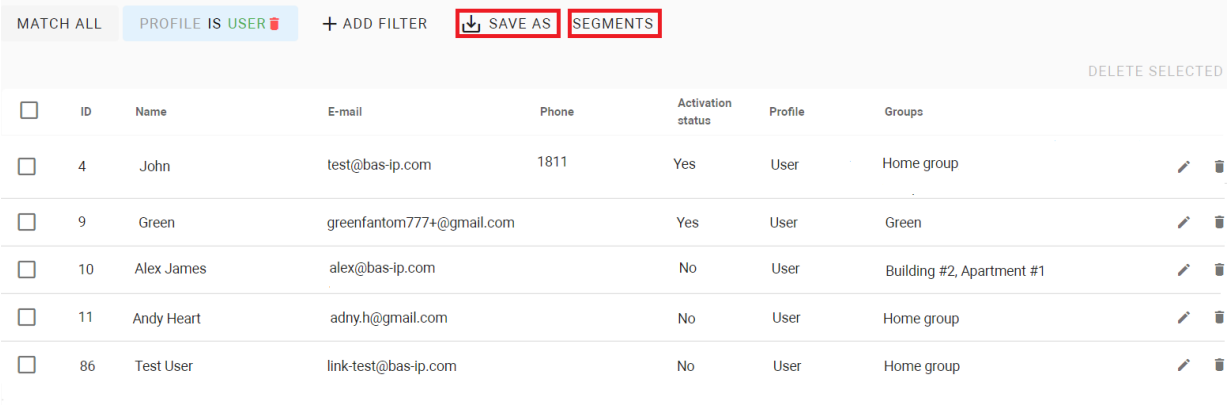
To enter your account next time, you are required to enter your email and password.

5.1.3 Users filtering

With the help of and buttons, you can edit or delete restrictions. Also, there is a filter by name, profile, groups, phone, e-mail, and marker. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or contain (**has**) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



5.2 Profiles

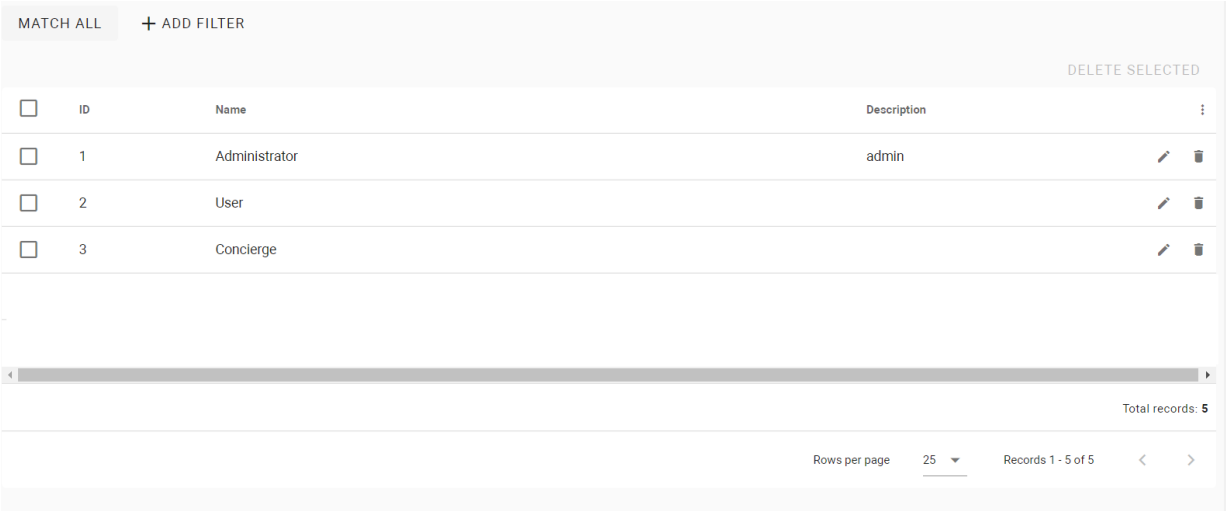
Not every user requires access to all menus and settings of the Link server. In the section, you can create general profiles (roles) for different user types and provide more or fewer permissions for them. These profiles will be applied to all users.

29 https://wiki.bas-ip.com/basiplinkapp/registration-110561569.html

- How to create a profile(see page 36)
- Independent projects on the one server(see page 37)
- How to create a root group administrator profile(see page 37)
- Example of server configuration for hosting several projects(see page 39)

Below there are examples of the most common profiles that can be useful for your projects:

- **administrator:** users that control the whole system and have all possible permissions to perform system installation, configuration, and support;
- **concierge:** users that interact with residents and visitors, manage residents group(s), devices, and access conditions, send announcements and messages;
- **user**: an ordinary profile that has access to a personal account where it's possible to change personal settings, interact with messages, check the status of personal/shared devices, and their logs, change device settings, generate guest passes and check available identifiers and access restrictions.



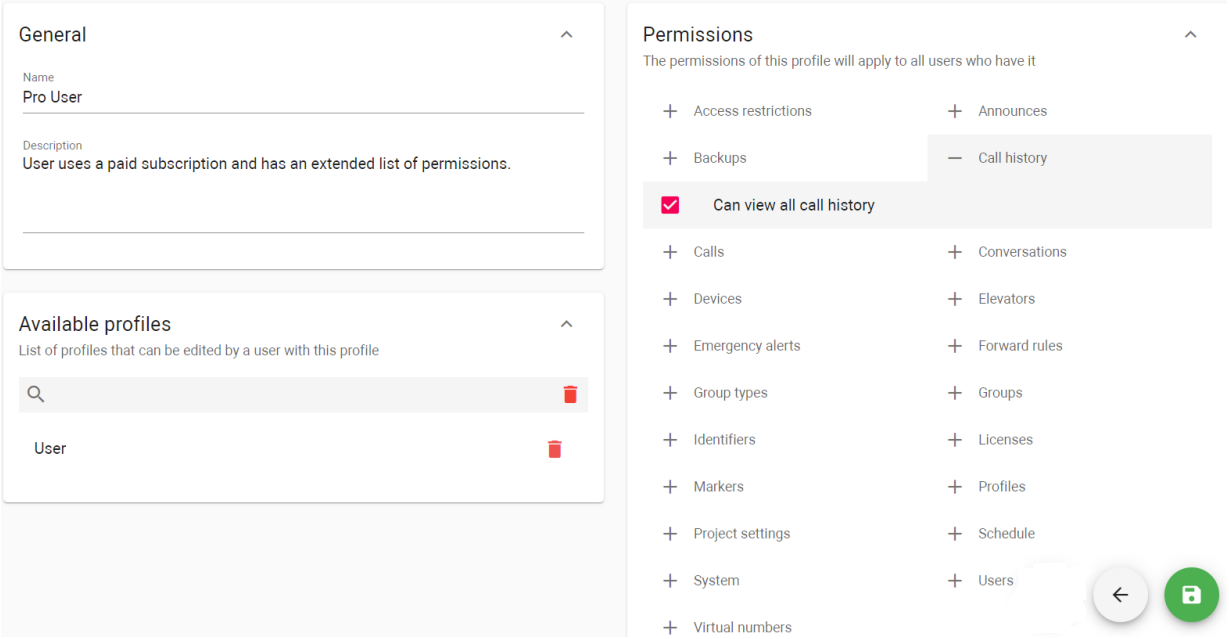
Here is the list of all possible permissions that can be provided for profiles:

- **access restrictions**: can view/create/edit/delete access rules, can view all access rules;
- **announces**: can create/edit/delete/send announces, can view all/particular announces;
- **backups**: can create/delete/view/apply backup, apply/download backup file;
- **call history**: can view all call history;
- **calls**: can receive call like concierge, can call to all, can call to intercom;
- **conversations**: can view all conversations, can send messages to all, can create conversation/conversation message, can delete conversation, can accept messages from descendant users;
- **devices**: can view device tasks/status, can create/edit/delete/view devices, can view all devices, can view device events;
- **elevators**: can create/edit/delete elevator, can view elevators/all elevators, can view all elevator access rules;
- **emergency alerts**: can view particular/all emergency alerts, can create/edit/delete/playback emergency alerts;
- **forward rules**: can view/create/edit/delete forward rules, can view all forward rules;
- **groups**: can view all groups, can create root group, can delete/edit group, can create group-descendant;
- **identifiers**: can view all/particular identifiers; can create/edit/delete identifier; can create guest identifier, can import/export identifiers, can view ACS logs;
- **licenses**: can manage licenses;
- **markers**: can view/create/edit/delete/apply marker, can view all markers;

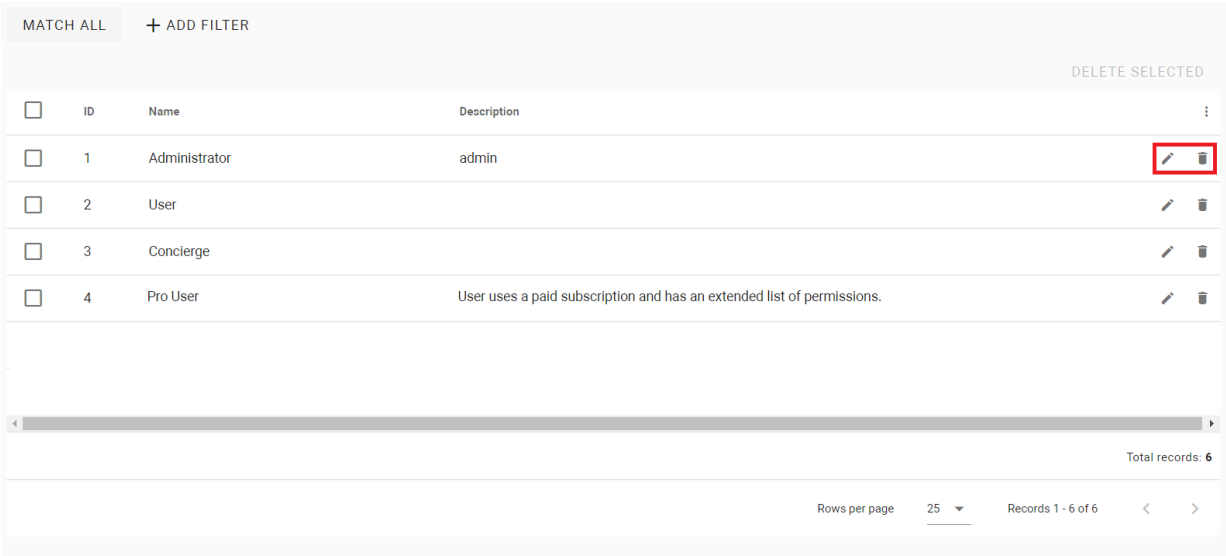
- **profiles**: can view roles, can create/edit/delete role, can grant permissions more than his own, can view all roles, not available roles only;
- **project settings**: can change/view project settings, can import device backup data, can view management company info;
- **schedule**: can view/create/edit/delete schedule, can view all schedules;
- **system**: can view audit/system info;
- **users**: can edit/view all users, create/edit/delete user;
- **virtual numbers**: can create/edit/delete/activate virtual number, can mark system virtual numbers, can view all virtual numbers;

5.2.1 How to create a profile

1. Go to the **Profiles** tab of the User management section.
2. Click the plus icon (in the low left corner).
3. Enter a profile **name** and add a description (if required).
4. Select the **permissions** (and, corresponding, the functionality) you want this user type to have.
5. Add other available profile types that this type can edit (if necessary). For example, for the administrator type, all profiles can be added in this section.
6. Save data by clicking the corresponding button in the left low corner.



As a result, the profile will be added to a list where you can edit or delete it. Also, you can filter profiles by name.



To apply the profile to a user you can in the Users[30] tab.

5.2.2 Independent projects on the one server

It is possible to use a server for several small projects, e.g., for some separate areas with few devices. In this case, each root group stands for a single project. The administrators see only their root group info about subgroups, device(s), user(s), role(s), access rule(s), logs, etc. In other words, the administrator must be added to the root group to manage and monitor all linked with this group. So, they can not influence and access other projects they are not linked with.

If you are going to use this mechanism, it is required to limit the administrator default profile as it has permissions for access to all data available on the server. This default role can be renamed as the master administrator and used for those who monitor and configure all projects available on the server. So, for the root group administrator, a new profile must be created. You can use one profile for all projects or create it for each project. Also, user and concierge profiles can be created for all or each project.

5.2.3 How to create a root group administrator profile

1. Go to the **Profiles** tab of the User management section.
2. Click plus icon (in the low left corner).
3. Enter a profile **name** (e.g. root group administrator) and add a description (if required).
4. Select the following **permissions**:

30 https://wiki.bas-ip.com/basiplinken/users-135955765.html

Info

Be aware, if you use one root group administrator profile for several projects, and if later you will expand the administrator permissions (e.g., for some projects), this will affect all projects.

- **access restrictions**: can view/create/edit/delete access rules;
- **announces**: can create/edit/delete/send announces, can view announces;
- **conversations**: can create conversation/conversation message, can delete conversation, can accept messages from descendant users;
- **devices**: can view device tasks, can create/edit/delete/view devices, can view device events;
- **elevators**: can create/edit/delete elevator, can view elevators;
- **emergency alerts**: can view emergency alerts, can create/edit/delete/playback emergency alerts;
- **forward rules**: can view/create/edit/delete forward rules;
- **groups**: can delete/edit group, can create group-descendant;
- **identifiers**: can view identifiers; can create/edit/delete identifier; can create guest identifier, can import/export identifiers, can view ACS logs;
- **markers**: can view/create/edit/delete/apply marker;
- **profiles**: can view roles, can edit role (these rules are applied to the list of available profile types set in the corresponding section);
- **schedule**: can view/create/edit/delete schedule;
- **users**: create/edit/delete user;
- **virtual numbers**: can create/edit/delete/activate virtual number, can mark system virtual numbers;

Info

We do not provide any permissions for call history and calls, as the user can see all calls of all users with subordinate profiles and can call them (by default).

5. Add other available profile types that this type can edit (if necessary), e.g. user, concierge.
6. Save data by clicking the corresponding button in the left low corner.

It is very important to set permissions for user and concierge profiles correctly because this will determine their functionality and scope. You can edit the default profiles or create new ones and the set of permissions can differ depending on the project. But the obligatory permissions for **concierge** are the following:

- **announces**: can create/edit/delete/send announces, can view announces;
- **calls**: can receive call like concierge, can call to intercom;
- **conversations**: can view all conversations, can send messages to all, can create conversation/conversation message, can accept messages from descendant users;

- **emergency alerts**: can view particular emergency alerts, can playback emergency alerts;
- **markers**: can view marker;

User must have such permissions as:

- **calls**: can call to intercom;
- **conversations**: can create conversation message;
- **identifiers**: can view identifiers; can create guest identifier;

After the profiles are created, they must be applied to the pre-created users[31]. Then users must be added to the groups[32]: root group administrator must be added to the root group (the main progect group), all other users must be added to the corresponding groups.

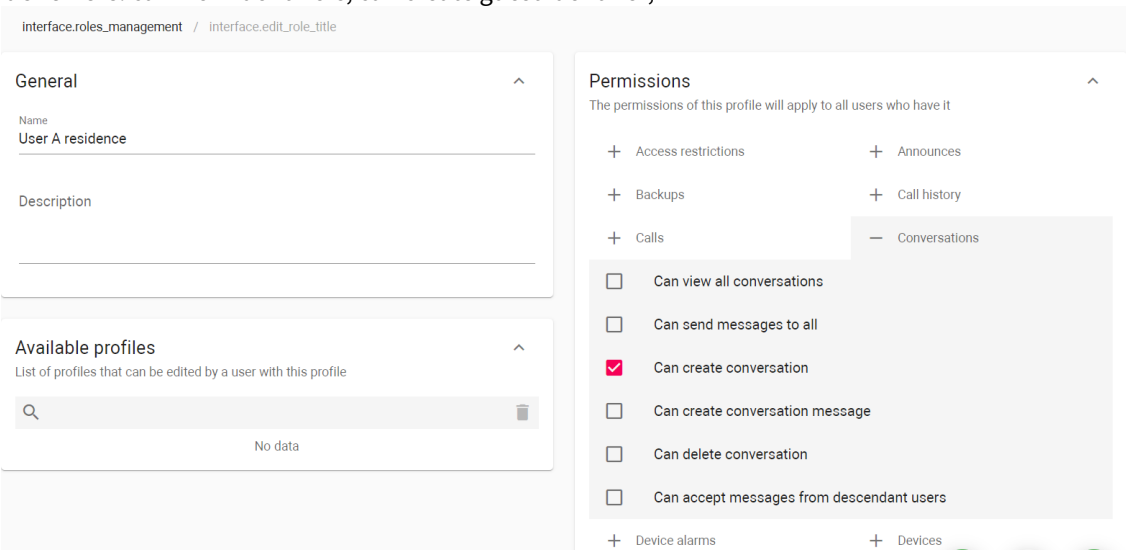
5.2.4 Example of server configuration for hosting several projects

For example, we are managing 2 separate houses and must create conditions for users to interact only with houses groups they live in. Each house group must have its own administrator with the permissions to edit the list of users, devices, groups, apartments, etc. only within the house they are added to. In addition, each group must have its own resident users and concierges, who must be able to normally interact with each other, but not overlap with neighboring house group.

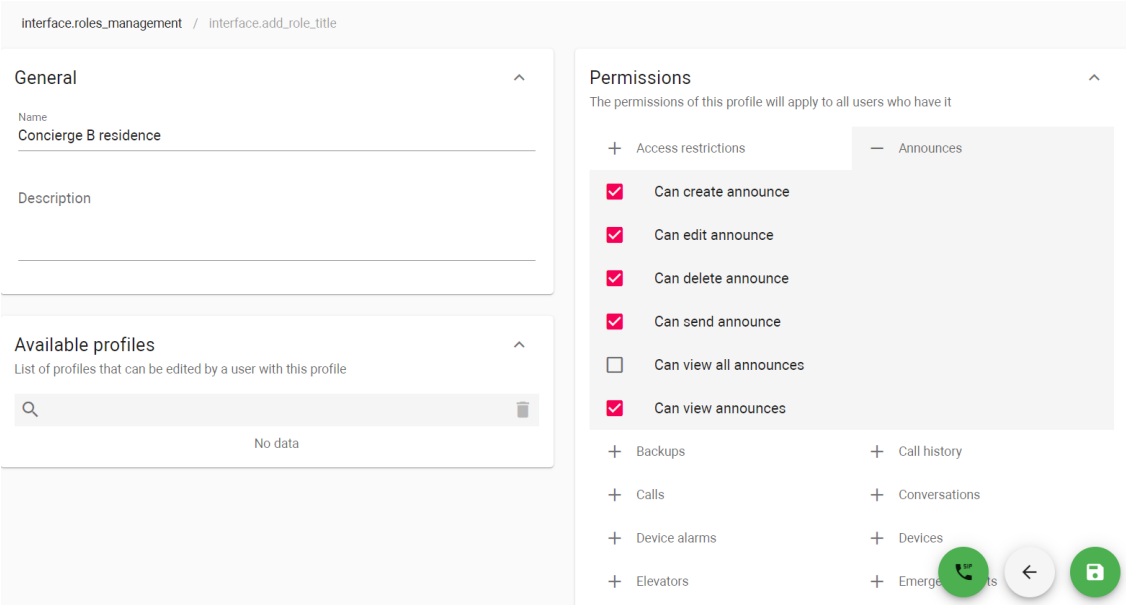
1. As the local (root group) administrators of each house have advanced rights only in their groups, the server must have a master administrator who can configure the whole server. So, you must **create the profile for this master administrator**. The default Administrator profile has all necessary permissions, so leave it, but rename to the master administrator. Apply this profile to the user who will manage the whole server.
2. Edit the default profile or create a new one for **users** and set the permissions (they can differ depending on the project). It is very important to set permissions because this will determine their functionality and scope. You can use one profile for all projects or create profiles for each project. In this example, we create separate profiles for each project. **User** must have such permissions as:
    - **calls**: can call to intercom;
    - **conversations**: can create conversation message;

31 https://wiki.bas-ip.com/basiplinken/users-135955765.html
32 https://wiki.bas-ip.com/basiplinken/groups-135955783.html

- **identifiers**: can view identifiers; can create guest identifier;



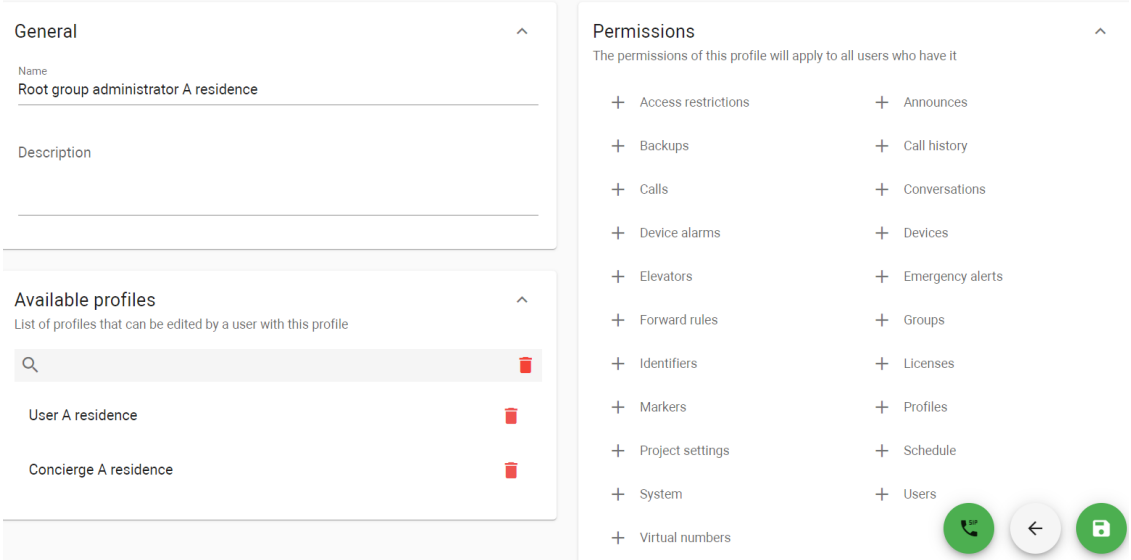
3. Edit the default profile or create a new one for **concierge** and set the permissions (they can differ depending on the project). It is very important to set permissions because this will determine their functionality and scope. You can use one profile for all projects or create profiles for each project. In this example, we create separate profiles for each project. The obligatory permissions for **concierge** are:
    - **announces**: can create/edit/delete/send announces, can view announces;
    - **calls**: can receive call like concierge, can call to intercom;
    - **conversations**: can view all conversations, can send messages to all, can create conversation/ conversation message, can accept messages from descendant users;
    - **emergency alerts**: can view particular emergency alerts, can playback emergency alerts;
    - **markers**: can view marker;



4. Create a profile for **root group administrator** as they must see only their root group, subgroups, device(s), user(s), role(s), access rule(s), logs, etc. You can use one profile for all projects or create profiles for each project. In this example, we create separate profiles. This profile must have the following permissions:
    - **access restrictions**: can view/create/edit/delete access rules;
    - **announces**: can create/edit/delete/send announces, can view announces;

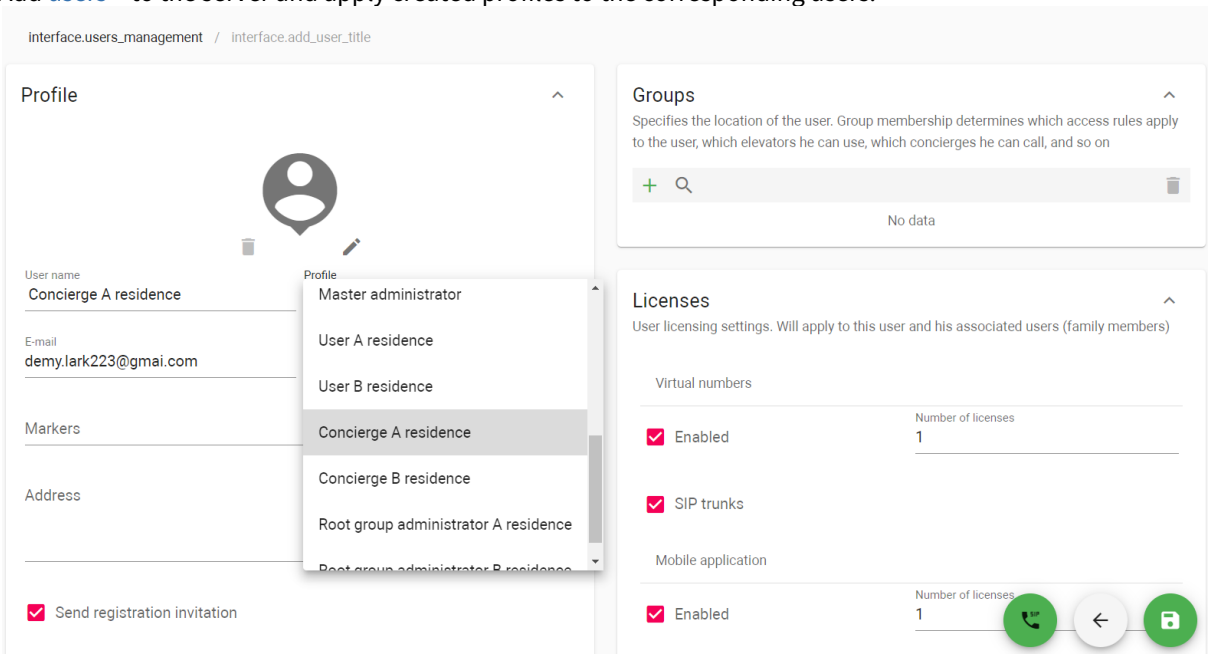
- **conversations**: can create conversation/conversation message, can delete conversation, can accept messages from descendant users;
- **devices**: can view device tasks, can create/edit/delete/view devices, can view device events;
- **elevators**: can create/edit/delete elevator, can view elevators;
- **emergency alerts**: can view emergency alerts, can create/edit/delete/playback emergency alerts;
- **forward rules**: can view/create/edit/delete forward rules;
- **groups**: can delete/edit group, can create group-descendant;
- **identifiers**: can view identifiers; can create/edit/delete identifier; can create guest identifier, can import/export identifiers, can view ACS logs;
- **markers**: can view/create/edit/delete/apply marker;
- **profiles**: can view roles, can edit role (these rules are applied to the list of available profile types set in the corresponding section);
- **schedule**: can view/create/edit/delete schedule;
- **users**: create/edit/delete user;
- **virtual numbers**: can create/edit/delete/activate virtual number, can mark system virtual numbers;

  Also, the root group administrator must be allowed to edit all subordinate profiles, so select the corresponding profiles of user and concierge as **Available profiles.**



5. Create a **root groups**(see page 44) that stand for the houses projects, e.g., the 1st group is A residence, and the 2nd is B residence.
6. Add the required number of **subgroups** (depending on the project structure).

7. Add users[33] to the server and apply created profiles to the corresponding users.



8. Add users to the created groups: root group administrator must be added to the root group (the main project group), and all other users must be added to the corresponding groups.

As a result, the administrator added to the root group can manage and monitor all linked with this group users, access restrictions, devices, schedules, etc. So, they can not influence and access other projects (root groups) they are not linked with. But both root groups are available for the master administrator.

33 https://wiki.bas-ip.com/basiplinken/users-135955765.html

5.3 Groups

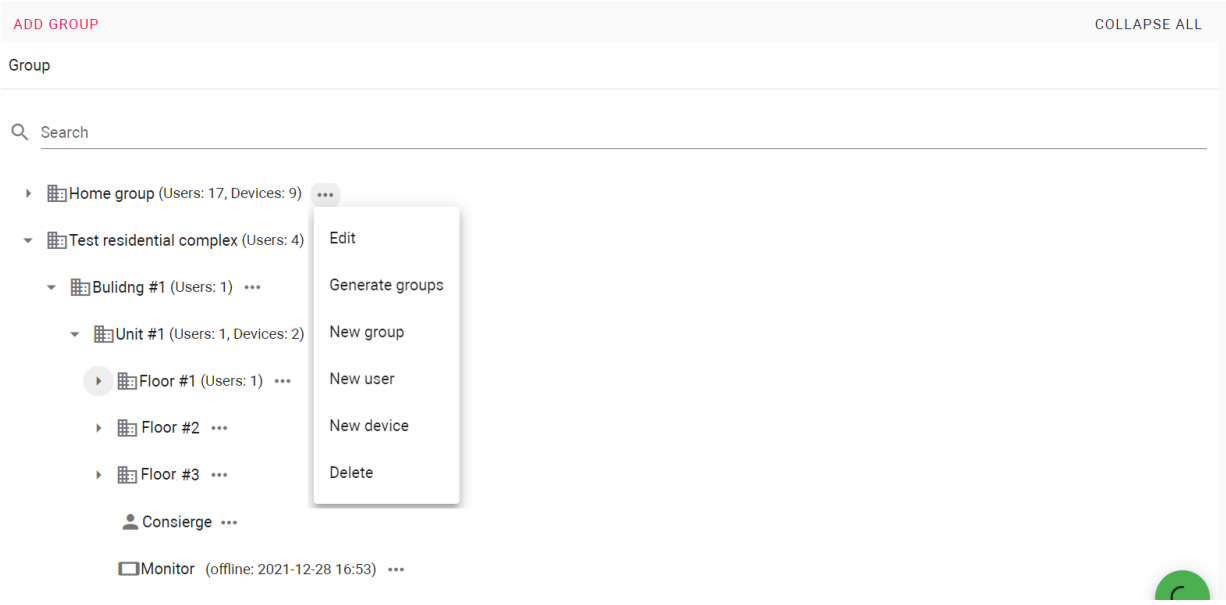
- How to add root group(see page 44)
- How to generate root groups(see page 45)
- Group forward rules(see page 48)

Group is a structure of your project for its easy management and one of the basic data that must be entered. A group can stand for a whole residential complex consisting of many houses, units, and apartments with thousands of users, or it can be a separate house or apartment, including one user.

> For example, you can create a root group for a residential complex, and assign an administrator to this group who will install, configure, and monitor the whole system of this complex. Then, you can create subgroups for each house, and assign a manager for each of them (security guard or concierge) to register new users (tenants), be responsible for issuing access identifiers, and monitor the system.

By creating groups and adding users you give them access to devices, restrictions, and all other possibilities of the group, e.g. in one house (group) there is an elevator controller and users can use its features, but in another, there is no such option as an elevator controller is not installed.

In the tab, you can create groups and manage them: add new subgroups, devices (previously added in the corresponding tab[34]), and users (previously added in the corresponding tab[35]) to the group/subgroup, etc.



There are 2 options for creating a group: **Add root group** and **Generate root groups**. If the building is not very big and has few units, it is better to add a root group. Generating root groups is better for quickly creating a large number of groups and subgroups for complex projects (a lot of buildings, units, etc.).

34 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
35 https://wiki.bas-ip.com/basiplinken/users-135955765.html

If you are going to host several independant projects on the one server, you must create root group for each project (as the main group) and then subgroups for houses, units, etc. It is importnat to provide correct permissions for user roles. More about this mechanism is here[36].

5.3.1 How to add root group

1. Go to the **Groups** tab in the User management section.
2. Click **Add group** and select **Add root group**.
3. Enter a group **name**.
4. Select its **type:** if the group is for building, unit, floor, apartment, or custom (for parking or service rooms). We recommend use custom group type for root groups.
5. Enter a **logical address**: depending on the group type it can be Building No., Unit No., Floor No., or Apartment No.
6. Select **SIP trunk** (from the previously created[37]) will work for the group for calls to mobile numbers (if the Link version with SIP and the corresponding license[38] is used). Users of this group will use the assigned trunk when calling mobile numbers.

> Only one trunk can be assigned to one group. Different trunks can be used for root group and its subgroups.

7. Add a description, if necessary.
8. Select **users** (must be previously added in the Users[39]tab).
9. Select **devices** (must be previously added in the Devices[40] tab) installed in the place for what you are creating the group.
10. Create **access restrictions** + or select 🔍 from already created. After clicking + you will be redirected to the corresponding tab[41] where it is possible to create restrictions.

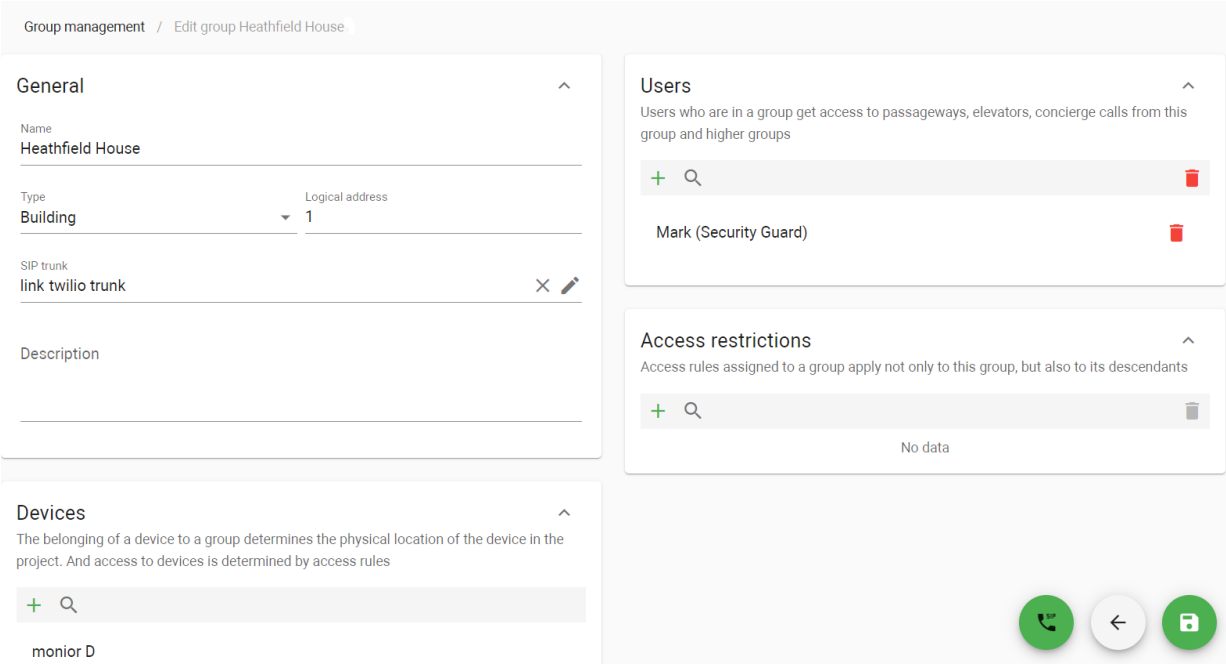
> Applying access restriction is obligatory. This parameter helps to connect groups, devices, and users.

11. Enable and configure **forward settings** if necessary to redirect calls from devices/users added to the group to other devices.

36 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html
37 https://wiki.bas-ip.com/basiplinken/sip-trunks-135958438.html
38 https://wiki.bas-ip.com/basiplinken/licenses-135956024.html
39 https://wiki.bas-ip.com/basiplinken/users-135955765.html
40 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
41 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html

More details about the configuration you can find here[42]. Forward rules will be applied to all group users.

12. Click the **Save** button in the low left corner when all required data is entered.



5.3.2 How to generate root groups

1. Go to the **Groups** tab in the User management section.
2. Click **Add group** and select **Generate root groups**.
3. Click **Add group** in the opened window.
4. Select groups **type**: if the group is for building, unit, floor, apartment, or custom.
5. Enter groups **name**.
6. Indicate the **number of buildings** for which you need to create groups.
7. Set the number from which the numbering of buildings starts.
8. Click plus icon to add subgroups (e.g. Unit) and enter the same information for this section: type names, amount of units in one building, and the number from which the numbering starts.
9. Add and set the same settings for floors and apartment subgroups.

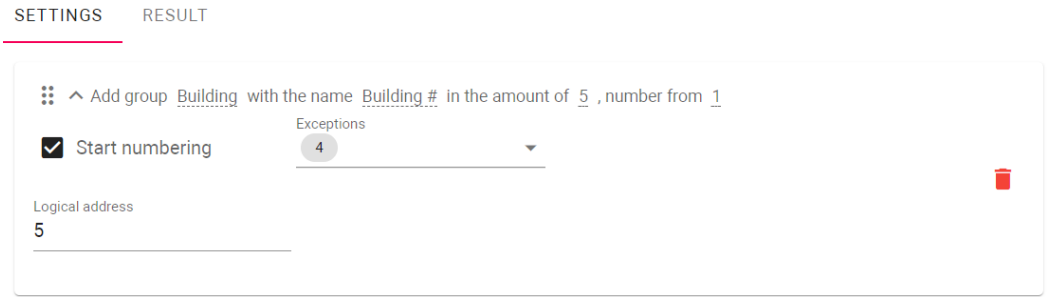
When entering the apartment amount, enter a general value of apartments on the one floor, not their No.

10. If there are any specific subgroups (parking or service rooms), you need to create and select a custom group type.

42 https://wiki.bas-ip.com/basiplink/en/forward-rules-110562890.html

For each group, by clicking you will expand additional parameters to set:

- the number from which the numbering of logical addresses will start. To do this tick the **Start number** field and enter the required value in the **Logical address** field;
- number/s which will be excluded from the numbering (**exceptions**);



As a result, groups will be created according to your settings:

SETTINGS RESULT

Building #1(Type: Building, Logical address: 5)

Building #2(Type: Building, Logical address: 6)

Building #3(Type: Building, Logical address: 7)

Building #5(Type: Building, Logical address: 8)

Building #6(Type: Building, Logical address: 9)

11. When all data is entered click **Generate** and all groups will be created according to the entered data.
12. Check the correctness. Open the **Settings** tab to edit entered data.

SETTINGS RESULT

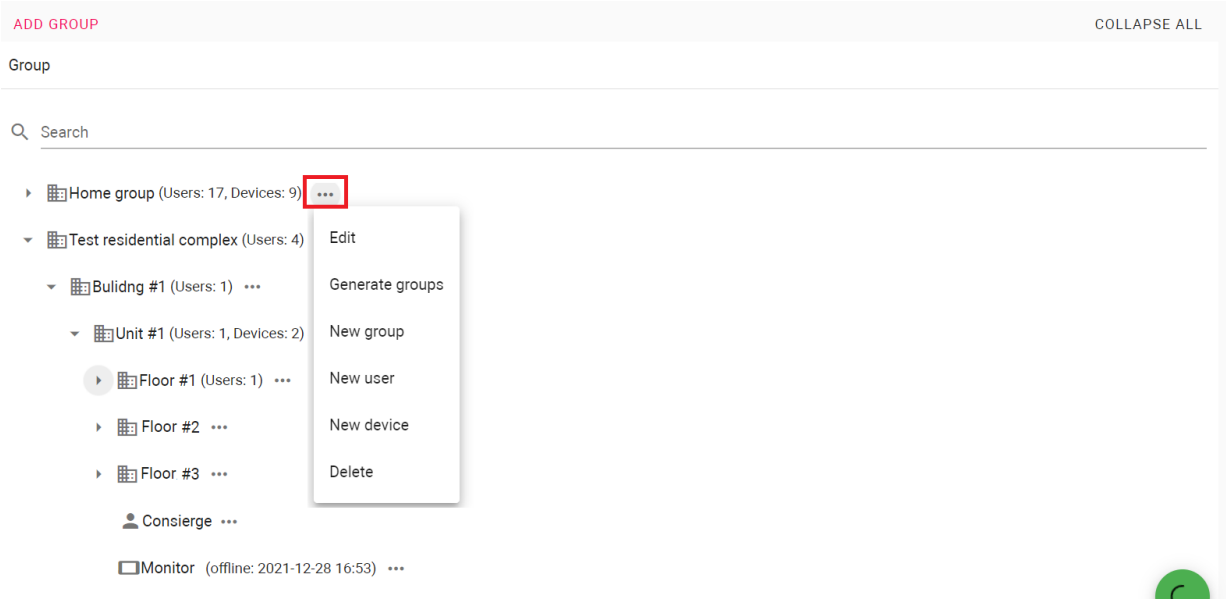
- Building #1(Type: Building, Logical address: 1)
  - Unit #1(Type: Unit, Logical address: 1)
    - Floor #1(Type: Floor, Floor number: 1)
      - Apartment #1(Type: Apartment, Logical address: 1)
      - Apartment #2(Type: Apartment, Logical address: 2)
      - Apartment #3(Type: Apartment, Logical address: 3)
      - Apartment #4(Type: Apartment, Logical address: 4)
    - Floor #2(Type: Floor, Floor number: 2)
    - Floor #3(Type: Floor, Floor number: 3)
    - Floor #4(Type: Floor, Floor number: 4)
    - Floor #5(Type: Floor, Floor number: 5)

13. Save generated groups and then add previously registered users[43], devices[44], or access restrictions[45].

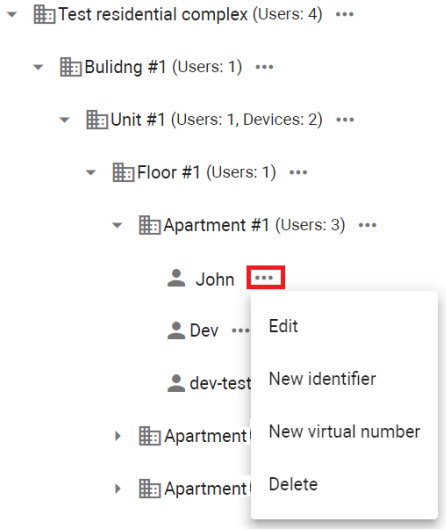
When adding a device to a group be careful with the place of its installation, whether it's a unit, floor, or user apartment. So, you need to add the device to the corresponding group.

43 https://wiki.bas-ip.com/basiplinken/users-135955765.html
44 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
45 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html

You can edit a root group and add a new subgroup/user/device by clicking **3 dots** near the necessary group name. After selecting the option, the corresponding menu will open.



If you click **3 dots** near the user name, you can edit/delete their profile or add a new identifier or virtual number.

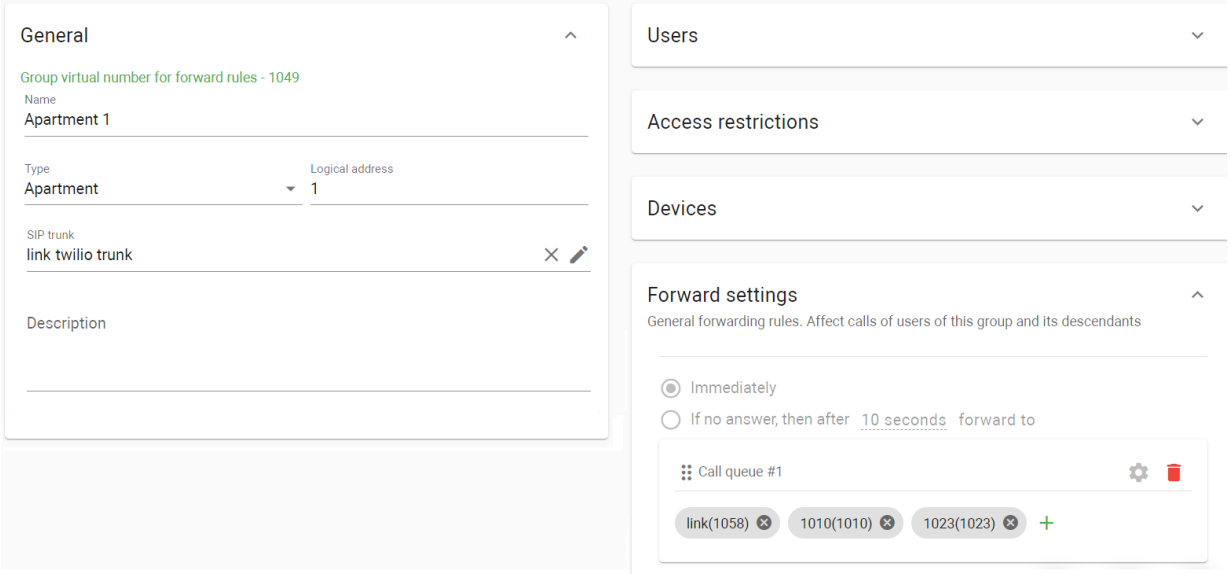


5.3.3 Group forward rules

In the SIP settings[46], you can enable the feature of automatic creation of forward rules for apartment group user/s. When adding a user that has virtual number/s to a group, forwarding that includes all user numbers is automatically created. These rules will be sent to panel/s available for the group.

46 https://wiki.bas-ip.com/basiplinken/sip-settings-135956014.html

The group will have its virtual number and logical address. And when calling from the added to the group panel to a device (entering group logical address), the call will be redirected to all user virtual numbers.



! Warning

For correct feature functioning, logical addresses must be entered for all groups and subgroups.

If some data (logical address, virtual numbers, devices) is added/changed/deleted, then the old forward rule will be deleted and the new one (with updated data) will be created and sent to device/s.

You or a user can configure **forward settings** when editing the group with the device, or in the Link app. By default, forward rule includes immediate call redirection to all user numbers (by default they are indicates in the 1st queue), but you can add/delete numbers to/from the queue or create new queue/s.

Also, when the user will get new virtual number, it will be added to the call queue #1, if there is only 1 queue. If there are 2 or more call queues, new virtual number will be added to a new call queue.

In addition, you can edit forward settings for the group virtual number in the Virtual number[47] settings.

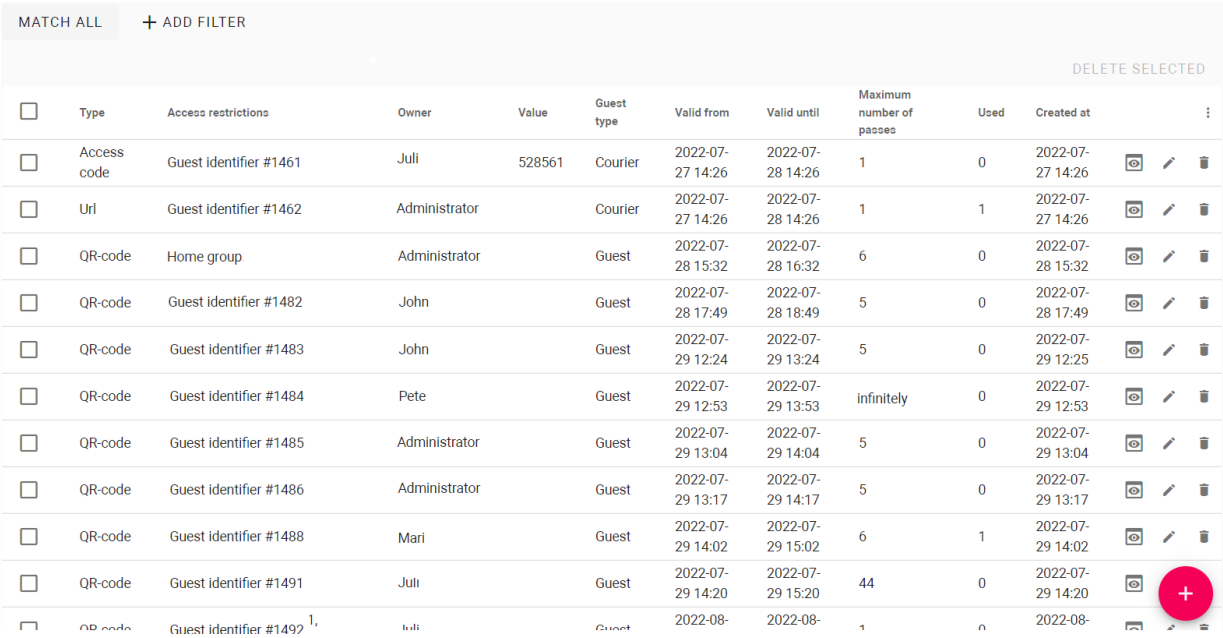
47 https://wiki.bas-ip.com/basiplinken/virtual-numbers-135955892.html

6 Access management

6.1 Guest access

Here you can create and monitor temporary identifiers for guests, couriers, taxi drivers, etc. Such access provides additional security as it's possible to configure areas visitors will have access to, the time and date when the ID will work, and the number of available passes.

In the tab, you see all created guest identifiers with detailed information about them. With the help of and buttons, you can edit or delete created identifiers. By clicking , the identifier will be shown and you can share it with a visitor.



MATCH ALL + ADD FILTER

DELETE SELECTED

Type	Access restrictions	Owner	Value	Guest type	Valid from	Valid until	Maximum number of passes	Used	Created at
Access code	Guest identifier #1461	Juli	528561	Courier	2022-07-27 14:26	2022-07-28 14:26	1	0	2022-07-27 14:26
Url	Guest identifier #1462	Administrator		Courier	2022-07-27 14:26	2022-07-28 14:26	1	1	2022-07-27 14:26
QR-code	Home group	Administrator		Guest	2022-07-28 15:32	2022-07-28 16:32	6	0	2022-07-28 15:32
QR-code	Guest identifier #1482	John		Guest	2022-07-28 17:49	2022-07-28 18:49	5	0	2022-07-28 17:49
QR-code	Guest identifier #1483	John		Guest	2022-07-29 12:24	2022-07-29 13:24	5	0	2022-07-29 12:25
QR-code	Guest identifier #1484	Pete		Guest	2022-07-29 12:53	2022-07-29 13:53	infinitely	0	2022-07-29 12:53
QR-code	Guest identifier #1485	Administrator		Guest	2022-07-29 13:04	2022-07-29 14:04	5	0	2022-07-29 13:04
QR-code	Guest identifier #1486	Administrator		Guest	2022-07-29 13:17	2022-07-29 14:17	5	0	2022-07-29 13:17
QR-code	Guest identifier #1488	Mari		Guest	2022-07-29 14:02	2022-07-29 15:02	6	1	2022-07-29 14:02
QR-code	Guest identifier #1491	Juli		Guest	2022-07-29 14:20	2022-07-29 15:20	44	0	2022-07-29 14:20
QR-code	Guest identifier #1492	Juli		Guest	2022-08-	2022-08-	1	0	2022-08-

6.1.1 How to create a guest identifier

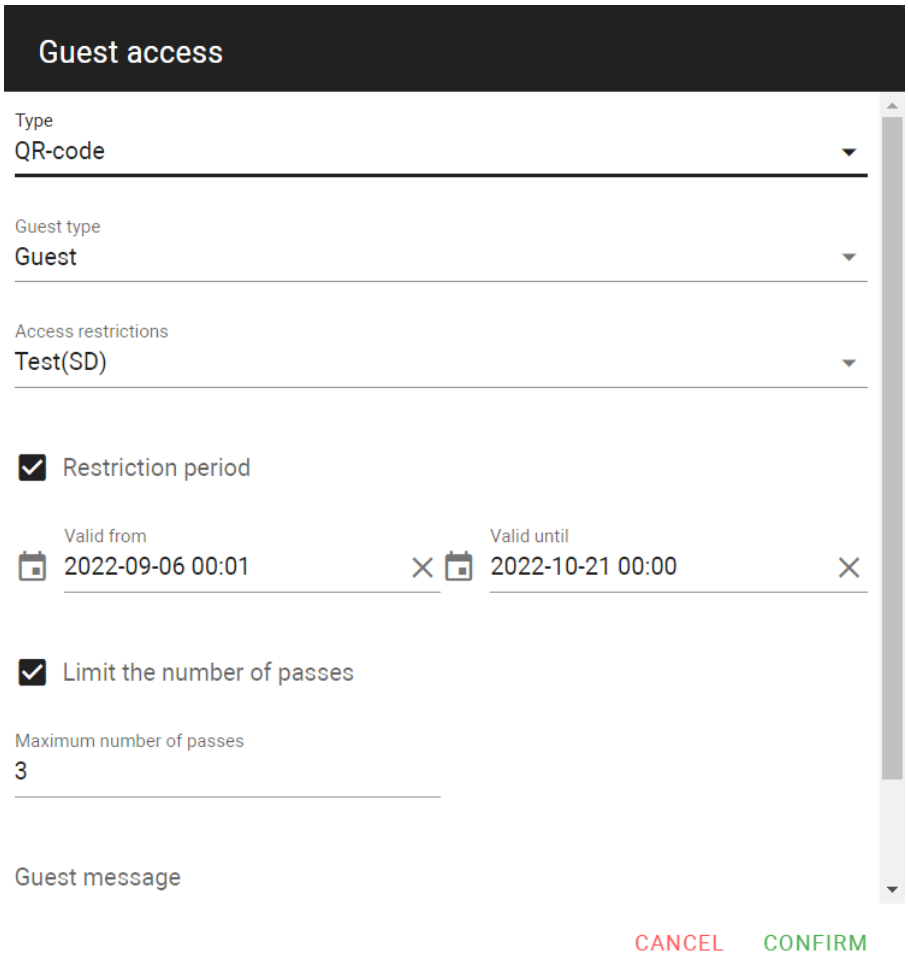
Only a user that has at least 1 access restriction and at least 1 device associated with this restriction can create a guest identifier.

1. Go to the **Guest access** tab in the Access management section.
2. Click **plus** icon in the left low corner.

3. Select ID **type**: **QR code** (available for panels with camera), **Access code** (available for panels with keypad), **URL** (available for all devices), or a **License plate** (available for panels and installed Axis camera with Axis License Plate Verifier software).
4. Select **guest type**: Courier or Guest.
5. Select the **access restrictions** you want to apply for the ID. Selected access restrictions must coincide with restrictions applied to the user is creates the ID.
6. Tick the **restriction period** field if it is necessary to limit the ID validity period.
7. Indicate the **beginning** and the **ending** of the ID active period. By default, the pass works for 1 day.
8. If necessary, tick the **limit the number of passes** field.
9. Enter the available **number of passes** for this ID. By default, 1 pass is available.

> You may enable and set either a **restriction period** or **a number of passes** parameters.

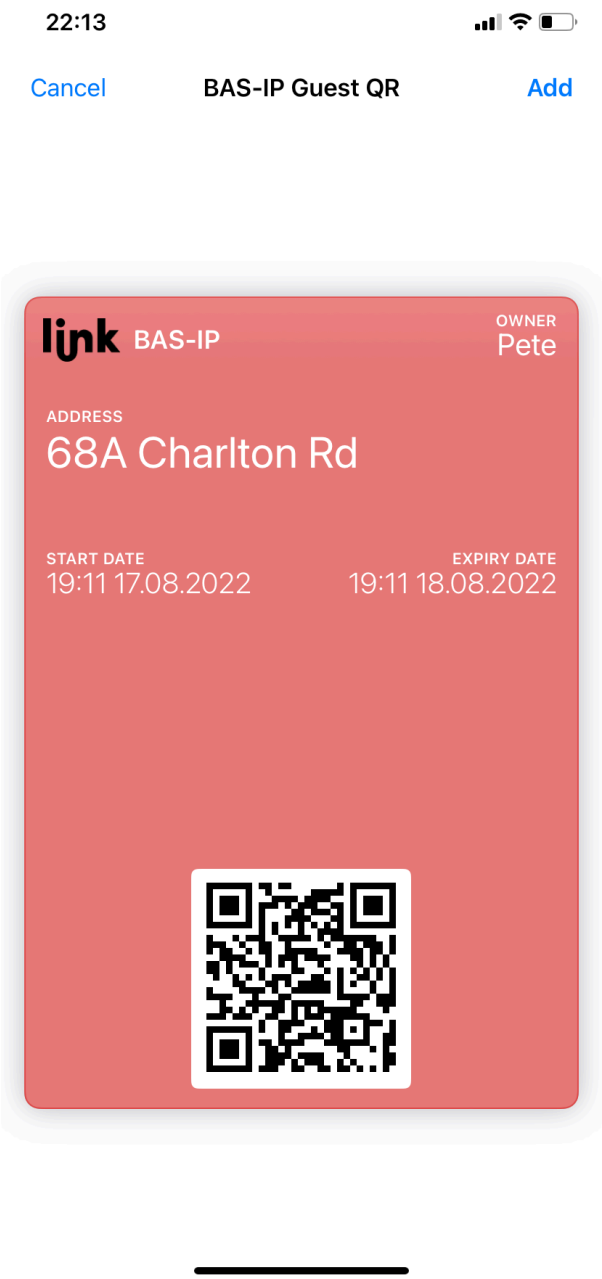
10. Enter a **guest message** if required.
11. Click confirm when all data is entered.



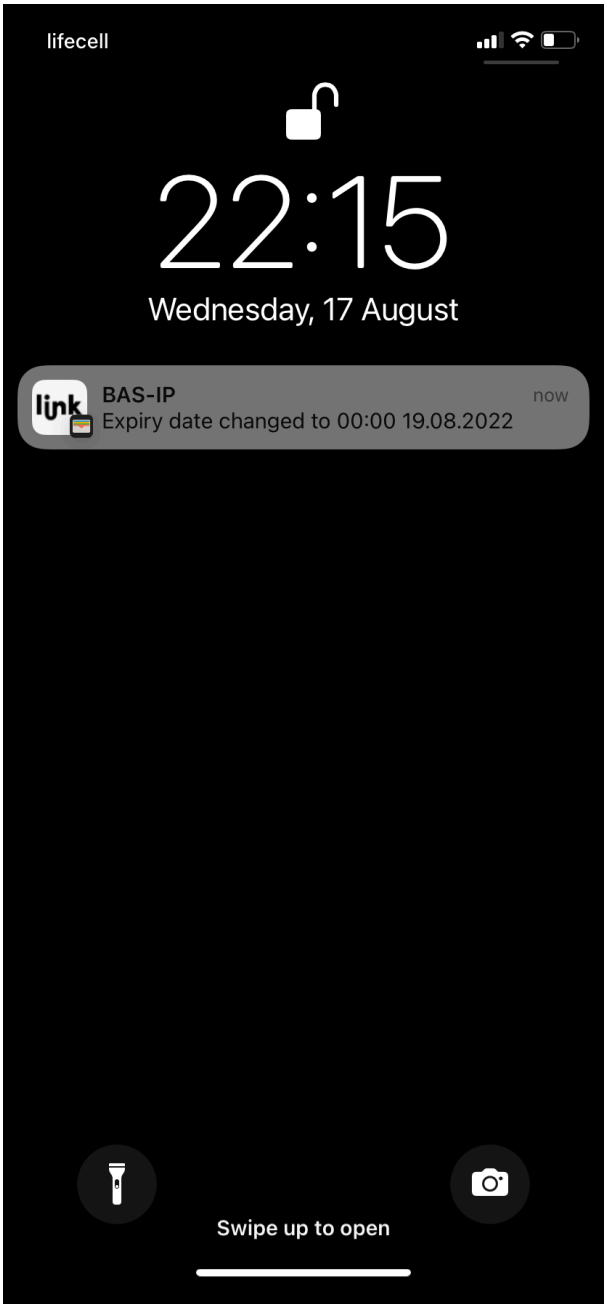
12. Copy the link/access code or download a QR code (or pkpass file for adding the QR code to Apple Wallet) and sent it to the guest for further use.

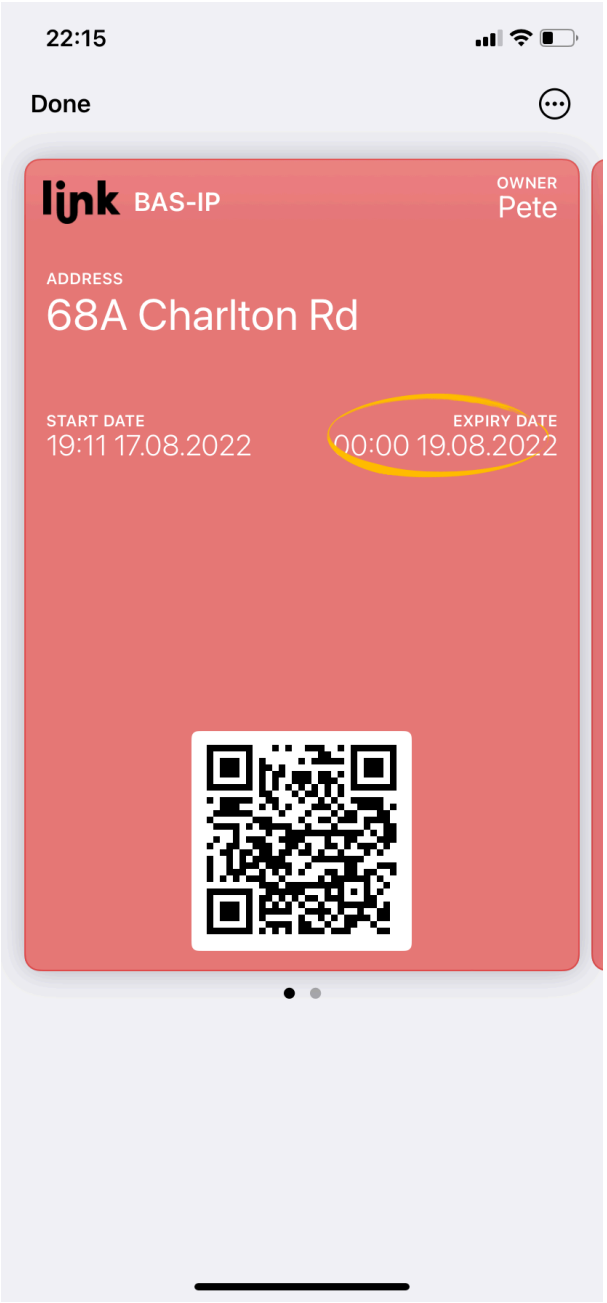
When you select a **QR-code** pass, you can share it as an image of the code and all the main information. Visitor can check all the necessary information (validity period, the number of available passes) and has to open it and show for entrance panel scanning.

In addition to the image, the QR code can be shared in a format for adding it to Apple Wallet if you/your visitor use **IOS**. When receiving a pass, a visitor must open it and press **Add** button. As a result, the visitor will get access to the pass by opening Apple Wallet.



Also, if some changes about the pass are done on the Link server, the visitor will be notified about it and they will be automatically applied. So, there is no need to send another pass.



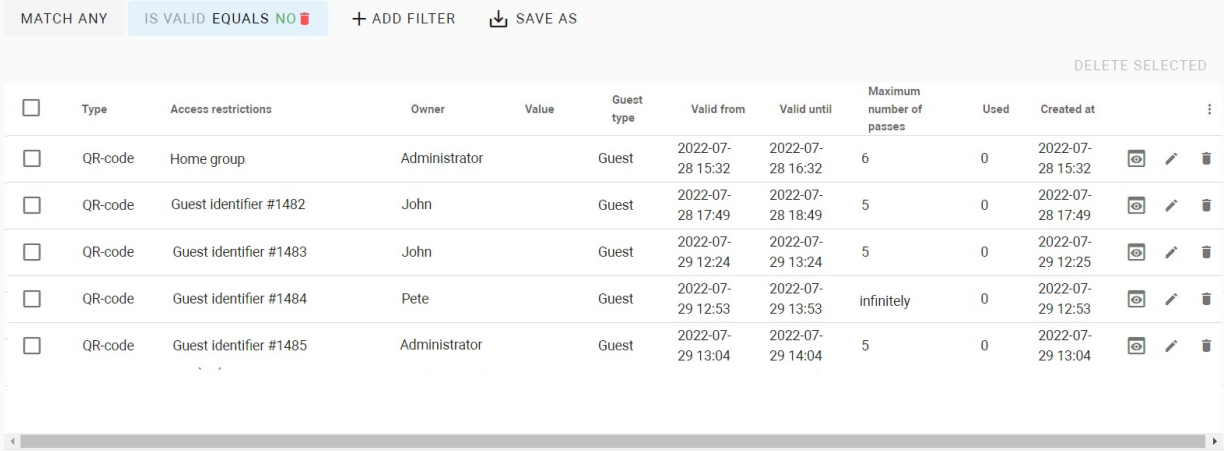


You can configure how guests passes will look in the Additional settings[48]tab.

48 https://wiki.bas-ip.com/basiplinken/additional-settings-135956004.html

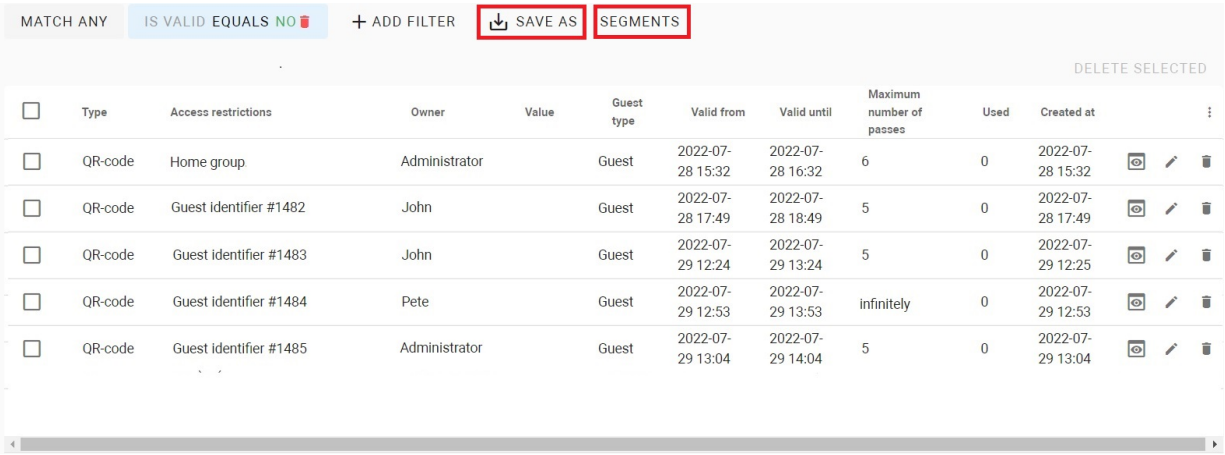
6.1.2 Guest passes filtering

There is a filter by the date the identifier was **created**, **owner**, and is the identifier **valid**. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all identifiers used before the date.



Type	Access restrictions	Owner	Value	Guest type	Valid from	Valid until	Maximum number of passes	Used	Created at
QR-code	Home group	Administrator		Guest	2022-07-28 15:32	2022-07-28 16:32	6	0	2022-07-28 15:32
QR-code	Guest identifier #1482	John		Guest	2022-07-28 17:49	2022-07-28 18:49	5	0	2022-07-28 17:49
QR-code	Guest identifier #1483	John		Guest	2022-07-29 12:24	2022-07-29 13:24	5	0	2022-07-29 12:25
QR-code	Guest identifier #1484	Pete		Guest	2022-07-29 12:53	2022-07-29 13:53	infinitely	0	2022-07-29 12:53
QR-code	Guest identifier #1485	Administrator		Guest	2022-07-29 13:04	2022-07-29 14:04	5	0	2022-07-29 13:04

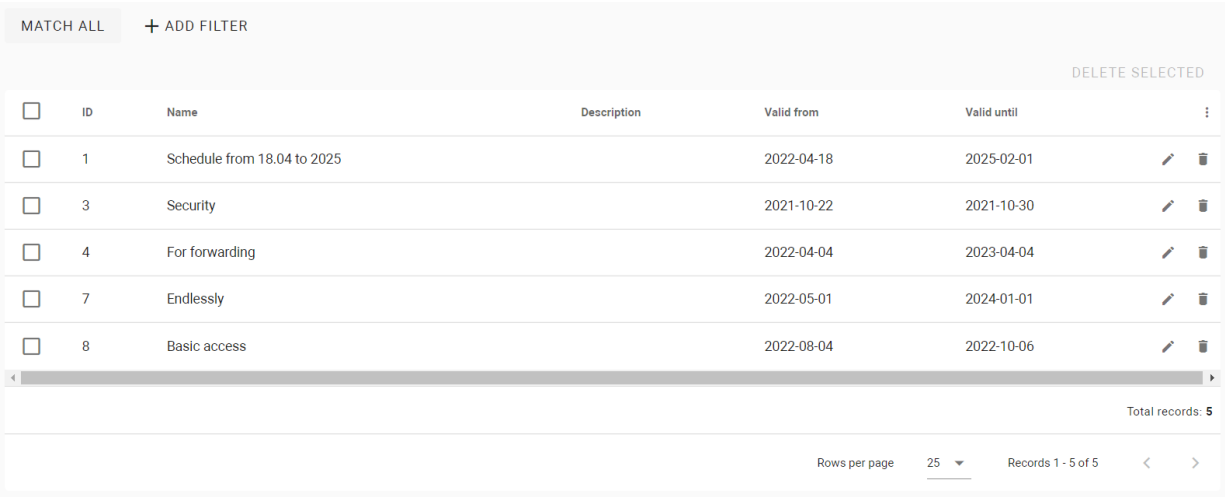
You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



Type	Access restrictions	Owner	Value	Guest type	Valid from	Valid until	Maximum number of passes	Used	Created at
QR-code	Home group	Administrator		Guest	2022-07-28 15:32	2022-07-28 16:32	6	0	2022-07-28 15:32
QR-code	Guest identifier #1482	John		Guest	2022-07-28 17:49	2022-07-28 18:49	5	0	2022-07-28 17:49
QR-code	Guest identifier #1483	John		Guest	2022-07-29 12:24	2022-07-29 13:24	5	0	2022-07-29 12:25
QR-code	Guest identifier #1484	Pete		Guest	2022-07-29 12:53	2022-07-29 13:53	infinitely	0	2022-07-29 12:53
QR-code	Guest identifier #1485	Administrator		Guest	2022-07-29 13:04	2022-07-29 14:04	5	0	2022-07-29 13:04

6.2 Schedules

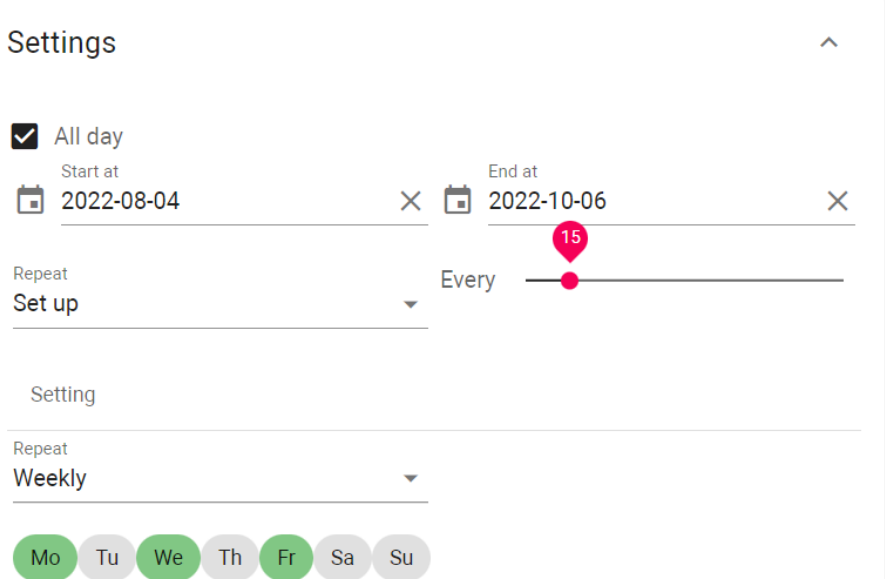
In the section, you can set active time schedules for devices and/or users. For schedule correct functioning, it must be applied to access restriction (to link devices and users). With the help of and buttons, you can edit or delete created schedules.



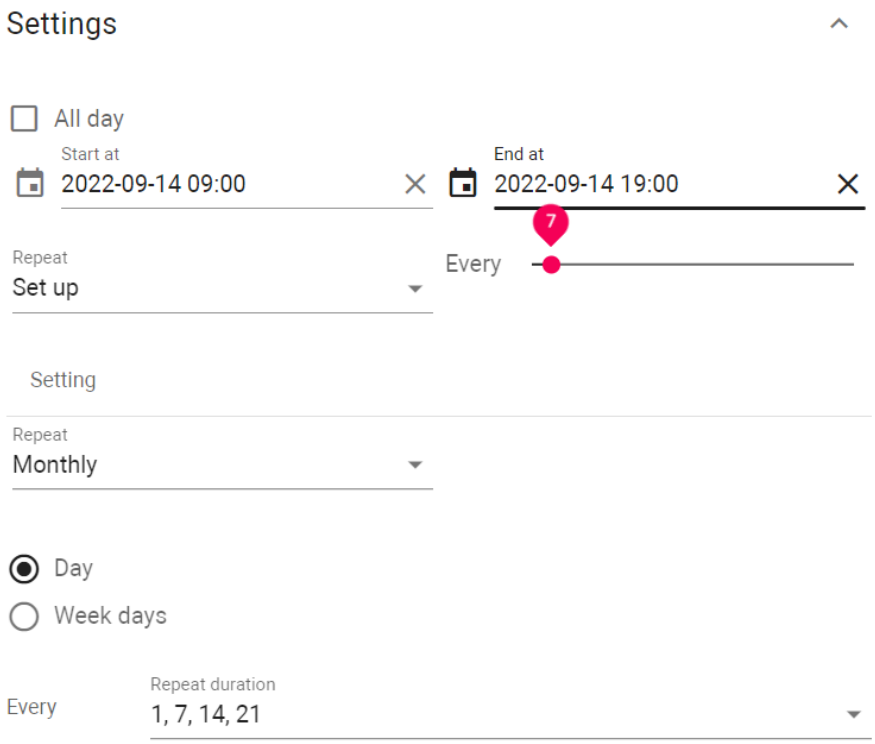
6.2.1 How to add a new schedule

1. Go to the **Schedules** tab of the Access management section.
2. Click **plus** icon in the left low corner.
3. Enter the schedule **name**.
4. Add a **description**, if required.
5. Set the time when the schedule must work:
    - enable **all day** and only the date (day/month/year) of the beginning and end of this schedule functioning;
    - if the **All day** option is disabled, specify the date (day/month/year) and set the start and end time of this schedule functioning.
6. If required, indicate the frequency of repetitions:
    - **never**: the schedule will function only on the indicated date;
    - **daily**: the schedule will be active every day for a specified time period. For example, the identifier will work every day from 9:00-18:00 (if you set a day and time);
    - **weekly**: the schedule will work on the specified days and hours, e.g., every Tuesday (if you select an all-day option and set a date);
    - **every 2 weeks**: the schedule will repeat every two weeks on the specified day/s. For example, if you create a schedule that works from Monday to Wednesday, then it will be active from Monday to Wednesday with 2 weeks intervals;
    - **monthly**: the schedule will be active every month, e.g., every 15th day of the month;
    - **yearly**: the schedule will repeat every year, e.g., every 15th of December;
    - **set up**: the schedule will be active on indicated dates, days, and months:
        - **daily**: the schedule will be active every day for a specified time period. In **Every** field, you can indicate after how many days the schedule will be activated again, e.g., every 5th day;
        - **weekly**: you can configure schedule repetition on specific days of the week. In **Every** field, you can indicate after how many weeks the schedule will be activated again. According to the

screen, it will work on Mondays, Wednesdays, and Fridays every 15 weeks;

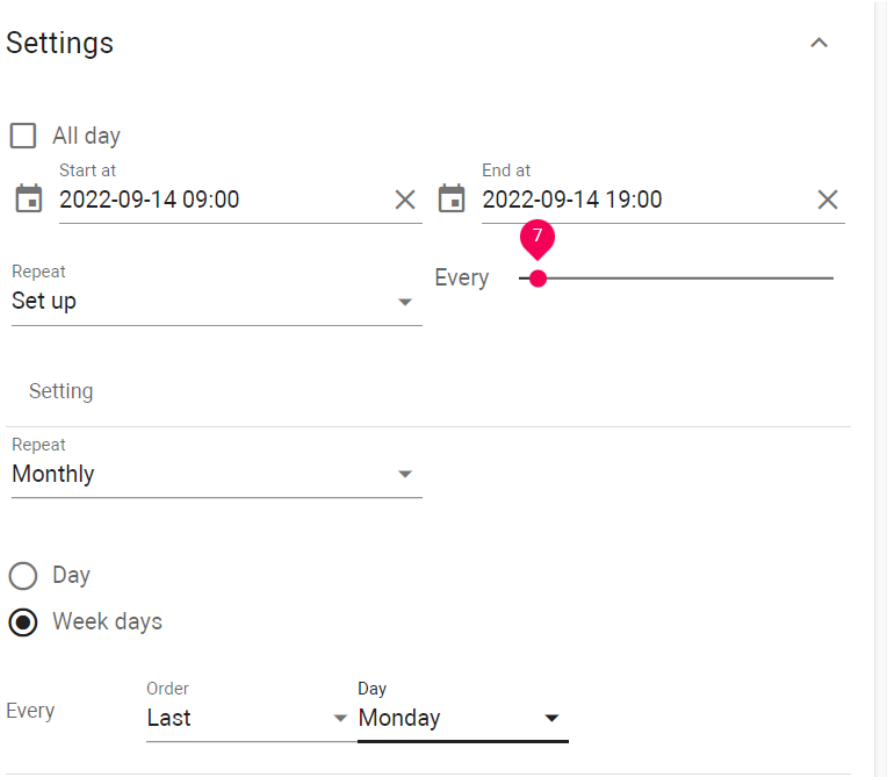


- **monthly**: you can configure schedule repetition on specific dates each month. According to the screen, the schedule will work from 9:00-19:00 every 1st, 7th, 14th, and 21st day of the month. In **Every** field, you can indicate after how many months the restriction will be activated again, e.g., every 7th month;

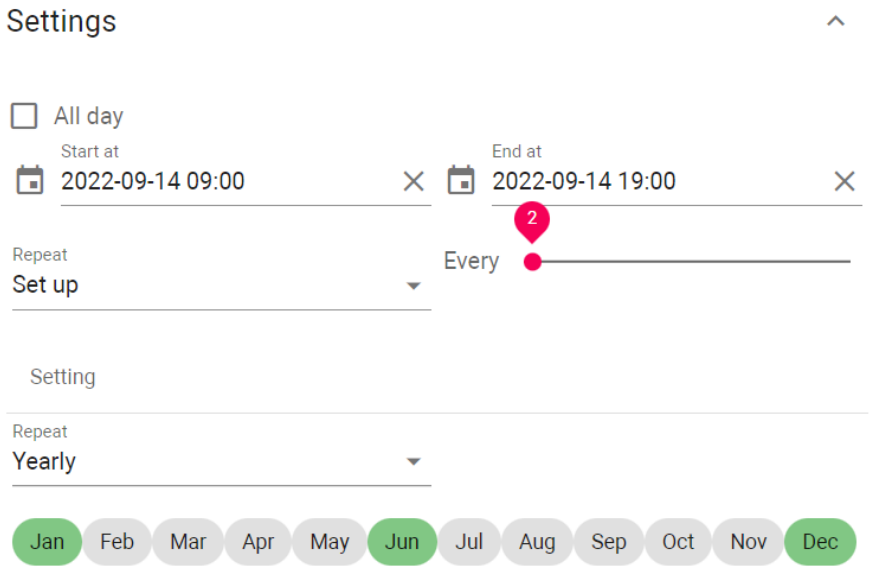


Also, it is available to configure repetition every month on the first/second/third/fourth/fifth/last specific day of the week, e.g., on the first Tuesday of every month. According to the following image, the schedule will work from 9:00-19:00 every last working day of every 7th

month.

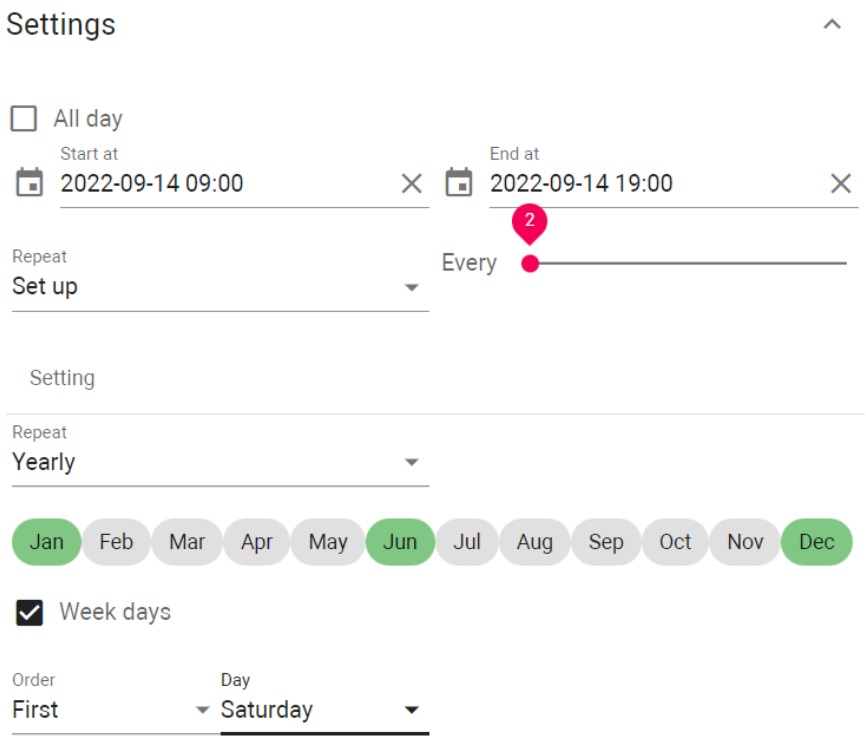


- **yearly**: you can configure repetition in a specific month of the year. In **Every** field, you can indicate after how many years the schedule will be activated again, e.g., every 3 years. According to the screen, the schedule will work from 9:00-19:00 every 15th of January, June, and December with 2 years frequency;

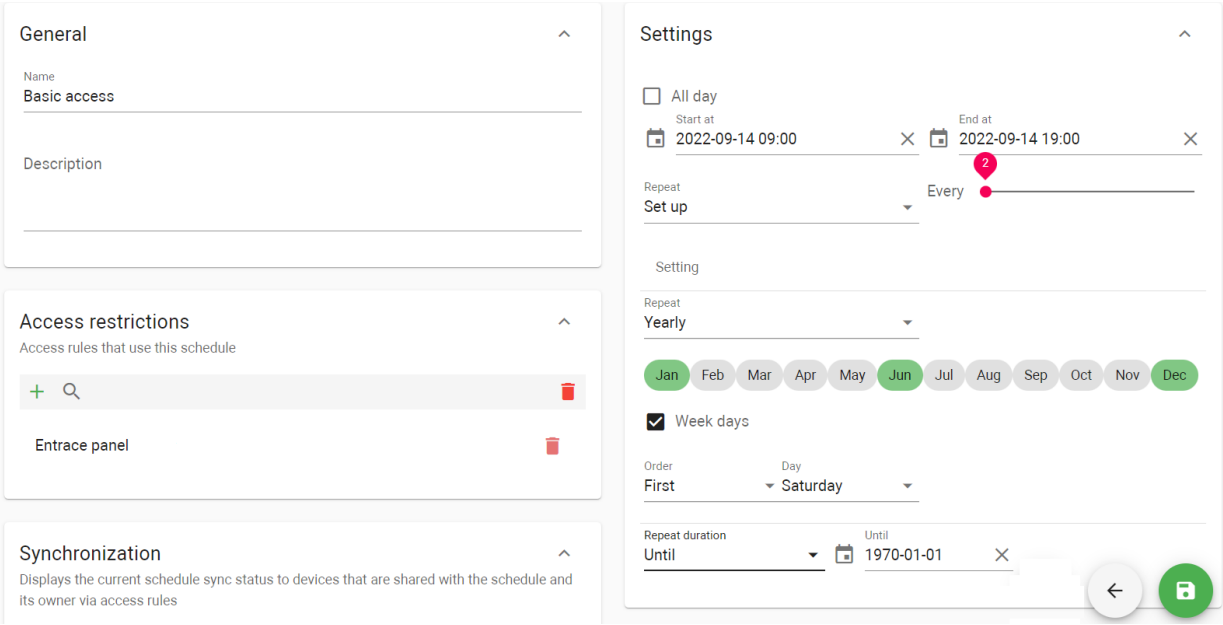


Also, it is available to configure repetition every year on weekdays (the option must be enabled): the first/second/third/fourth/fifth/last specific weekday of chosen months, e.g., the first Tuesday of January. According to the following image, the schedule will work from

9:00-19:00 every first Saturday of January, June, and December with a 2 years frequency;

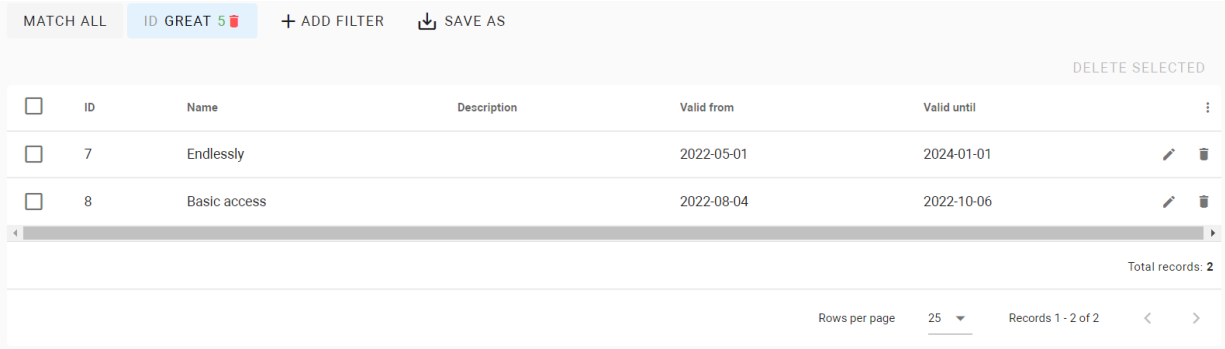


7. Set the **repeat duration** of the schedule:
    - **always**: the schedule will infinitely repeat;
    - **until**: it will be active until the indicated date.
8. Select or add new **access restrictions** to link schedules, devices, and users.
9. Click the **Save** buttons in the left low corner.

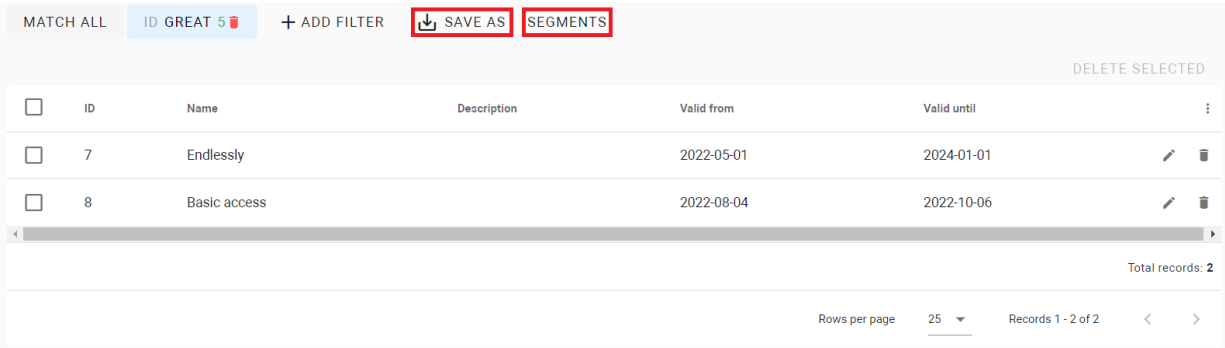


6.2.2 Schedules filtering

Also, there is a filter by ID No., name, and valid time. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), they can be **less** or **great** than your parameter, or contain (**has**) it, e.g. search less than indicated ID will display numbers before it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.

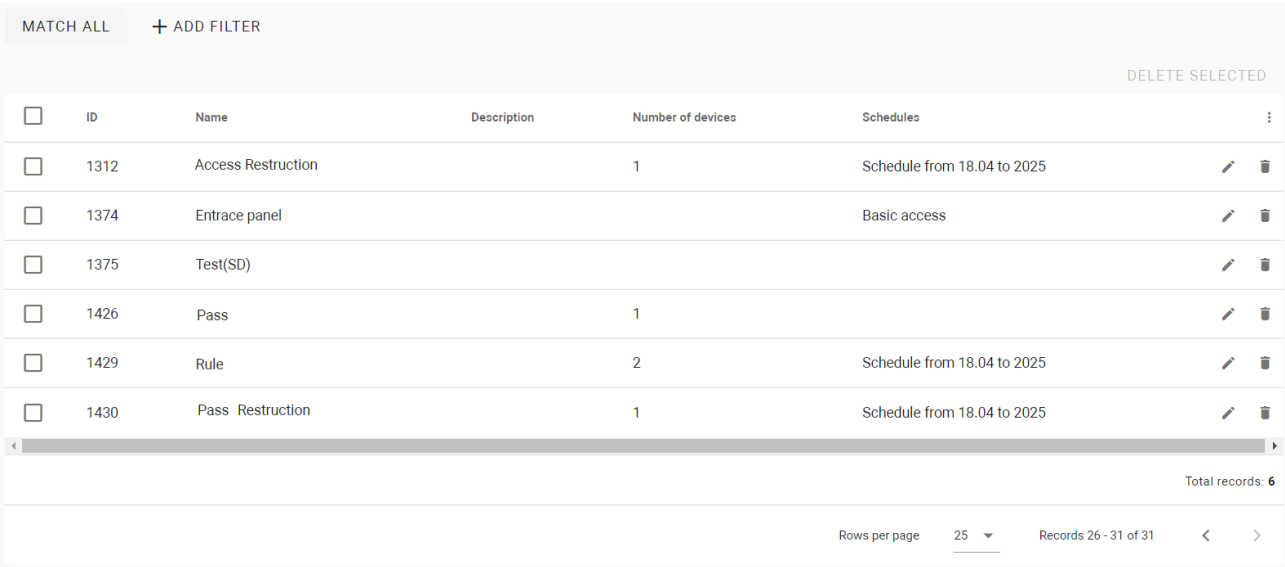


In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



6.3 Access restrictions

Access restrictions are an integral part of the Link server that links devices, users, and schedules if required. You can quickly configure giving access or not to these or those devices for concrete users. Access restrictions must be applied to groups with added devices and users.



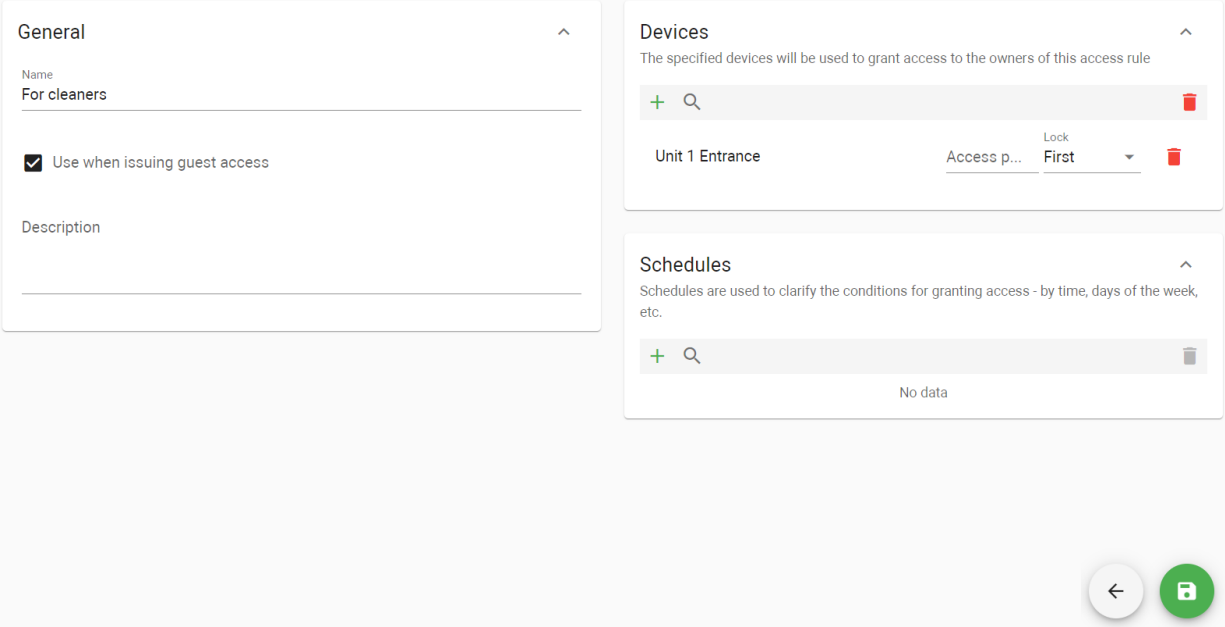
Info

The access restriction that is applied to a group will automatically be distributed and will be applied to all subgroups and their users.

6.3.1 How to create access restriction

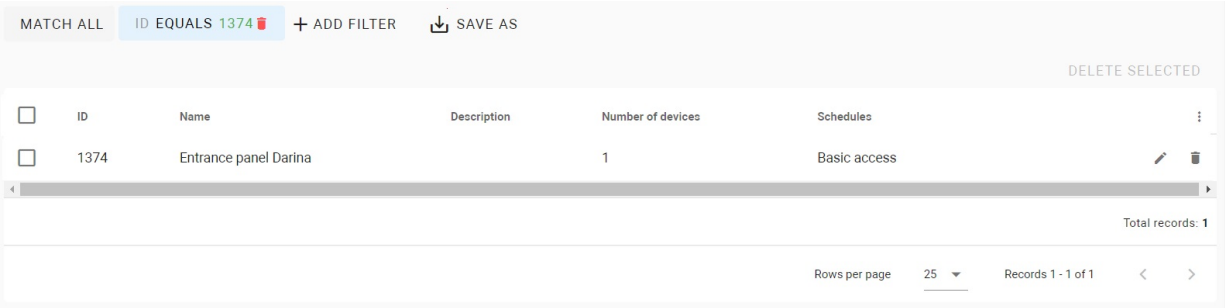
1. Go to the **Access restriction** tab of the Access management section.
2. Click **plus** icon in the left low corner.
3. Enter the restriction **name**.
4. If necessary, enable the possibility to **use** this restriction **for guest identifiers**.
5. Add description, if required.
6. Select **devices** from the list or add new ones to allow their use. Further access restrictions will be applied to users[49] or groups[50] to allow them to open indicated device/s.
7. If necessary, specify the access point the is allowed to use.
8. Select the number of locks (if 2 locks are connected) that are allowed to open by users: the first, the second or all
9. If necessary, select a **schedule** from the list or add a new one to indicate restriction functioning time.
10. Click the **Save** button in the low left corner after entering all required data.

49 https://wiki.bas-ip.com/basiplinken/users-135955765.html
50 https://wiki.bas-ip.com/basiplinken/groups-135955783.html

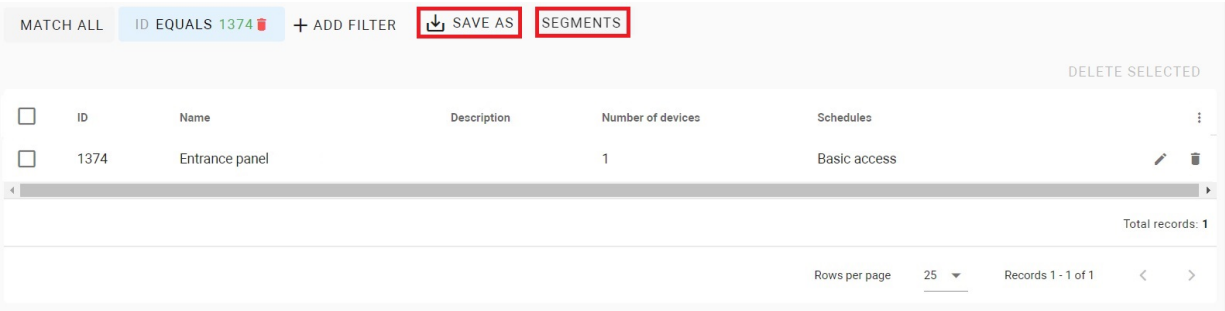


6.3.2 Access restrictions filtering

With the help of and buttons, you can edit or delete restrictions. Also, there is a filter by ID No., name, a number of devices, schedules, and devices. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), they can be **less** or **great** than your parameter, or contain (**has**) it, e.g. search less than indicated ID will display numbers before it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

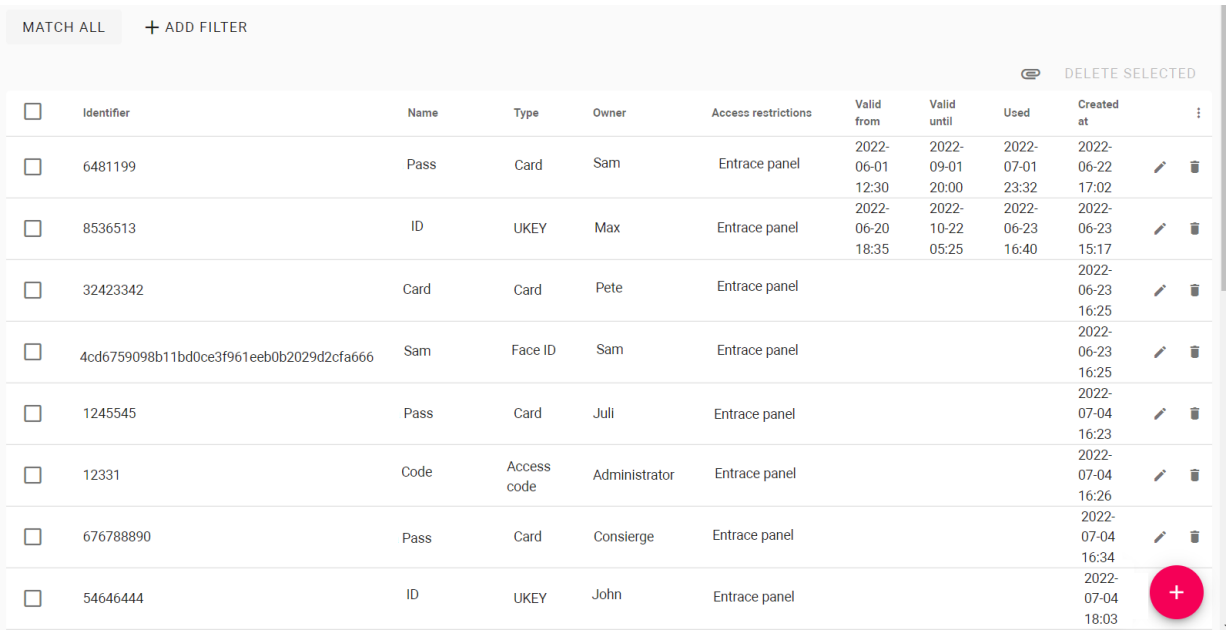


6.4 Identifiers

Here you can add or view a table with identifiers added to the system.

- How to add an identifier(see page 64)
- Identifiers filtering(see page 66)

You can check information about the identifier owner, its type, number, validity period, applied access restrictions, etc. With the help of and buttons, you can edit or delete created identifiers.



6.4.1 How to add an identifier

1. Go to the **Identifiers** tab in the Access management section.
2. Click **plus** icon in the left low corner.
3. Enter the identifier name.
4. Select the user of this ID.
5. Select the identifier type (pay attention to a device characteristics) and enter its value:

- **card**: EM-Marin or Mifare card. In the **Identifier** field, you must enter a card number in decimal format, without commas. Usually, the number is printed on the card in decimal or hexadecimal format. You can use this link[51]to convert a value from one to another system;
- **UKEY** allows using smartphones as identifiers (BAS-IP UKEY[52] app is required). You must enter the identifier number in the **Identifier** field;
- **access code** that must be entered on the panel keypad to open lock/s. In the **Identifier** field, you must indicate a numeric code that will be used to open a lock;
- **face ID** allows opening the lock by scanning visitors faces. When adding this identifier type, you must upload a user photo with a well-lit face and real face proportions in .jpeg format. For AA-14FBS, face recognition works little differently and if you upload identifiers backup from AA-14FB, they will not work for AA-14FBS;

> Requirements for a photo:
>
> - strictly a full face photo: front view and open eyes;
> - presents full head from top of hair to shoulders, face occupies about 80% of the space;
> - with a neutral background;
> - with a well-lit face, no shadows;
> - face has natural expression and real proportions;
> - in .jpeg format;
> - with a resolution of at least 320x240px and no more than 5120×2700px;

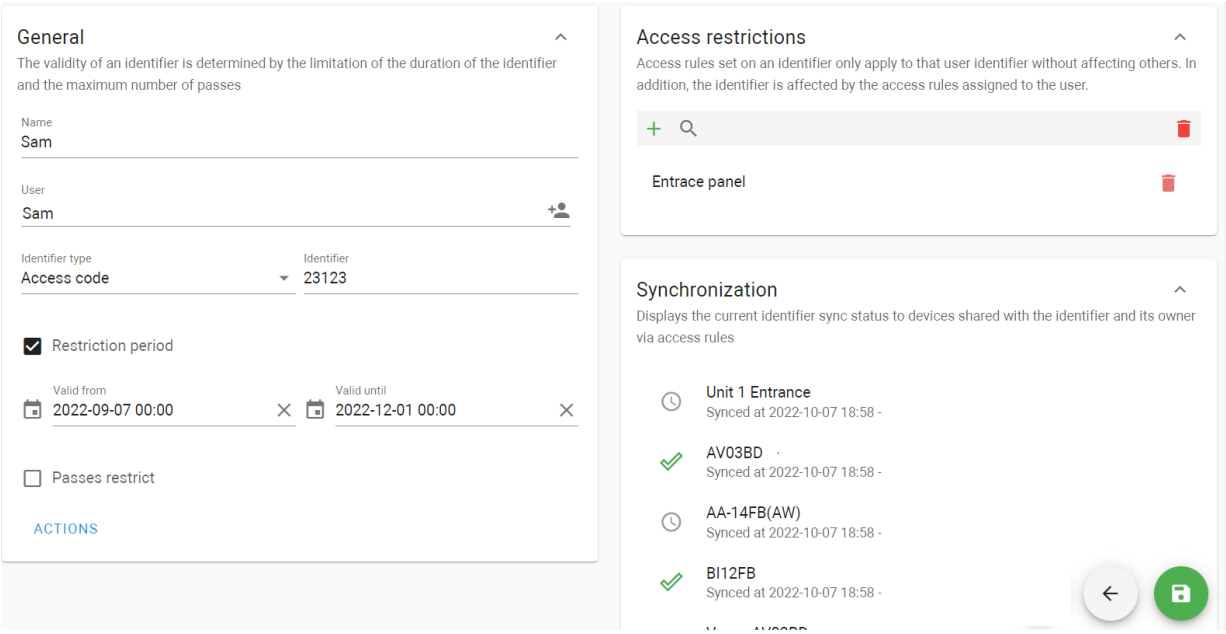
- the automatically generated **QR code**. Enable the **Download QR code** option and after saving the identifier, it will be saved to the computer. Then it must be uploaded to a mobile device for further use;
- **license plates** can be added and used to open lock/s. In the **Identifier** field, you enter the plate number. For this identifier to work, you need an Axis camera for plate scanning and installed AXIS License Plate Verifier software to send a number to the panel.

6. If necessary, enable and set restriction period restrictions for identifier validity.
7. If necessary, enable and set the maximum number of passes in the passes **restrictions** field.
8. Select 🔍 from already added or create **access restrictions**. After clicking + you will be redirected to the corresponding tab[53] where it is possible to create restrictions.

> Applying access restriction is obligatory. This parameter helps to connect groups, devices, and users.

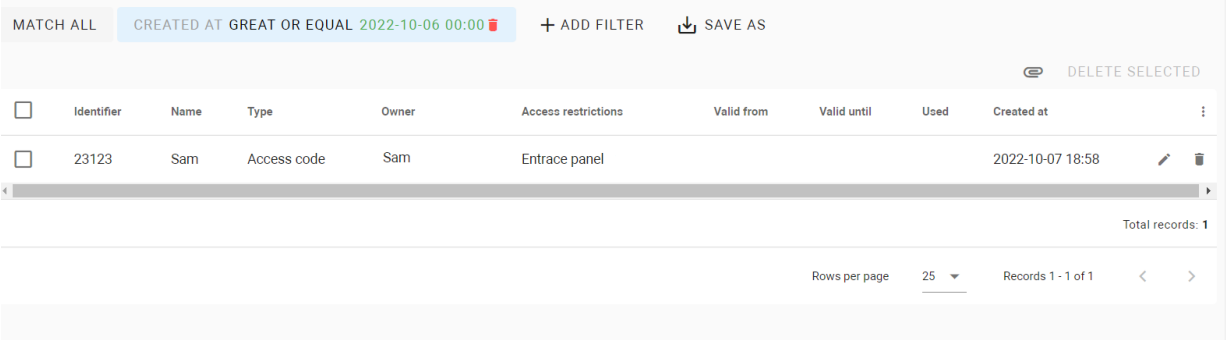
9. Click the **Save** button in the left low corner when all required data will be entered. The identifier will automatically be sent to the devices indicated in access restrictions. You can check where ID is added in the Synchronization section.

51 https://www.binaryhexconverter.com/hex-to-decimal-converter
52 https://bas-ip.com/catalog/soft/bas-ip-ukey/
53 https://wiki.bas-ip.com/basiplink/en/creating-access-restrictions-15794714.html

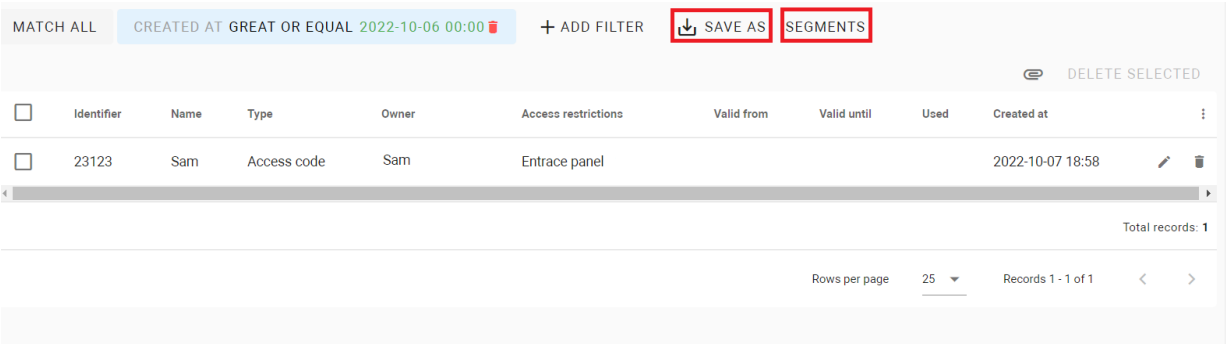


6.4.2 Identifiers filtering

There is a filter by value, name, ID type, owner, the date the identifier was used or created and is the identifier valid. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all identifiers used before the date. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.

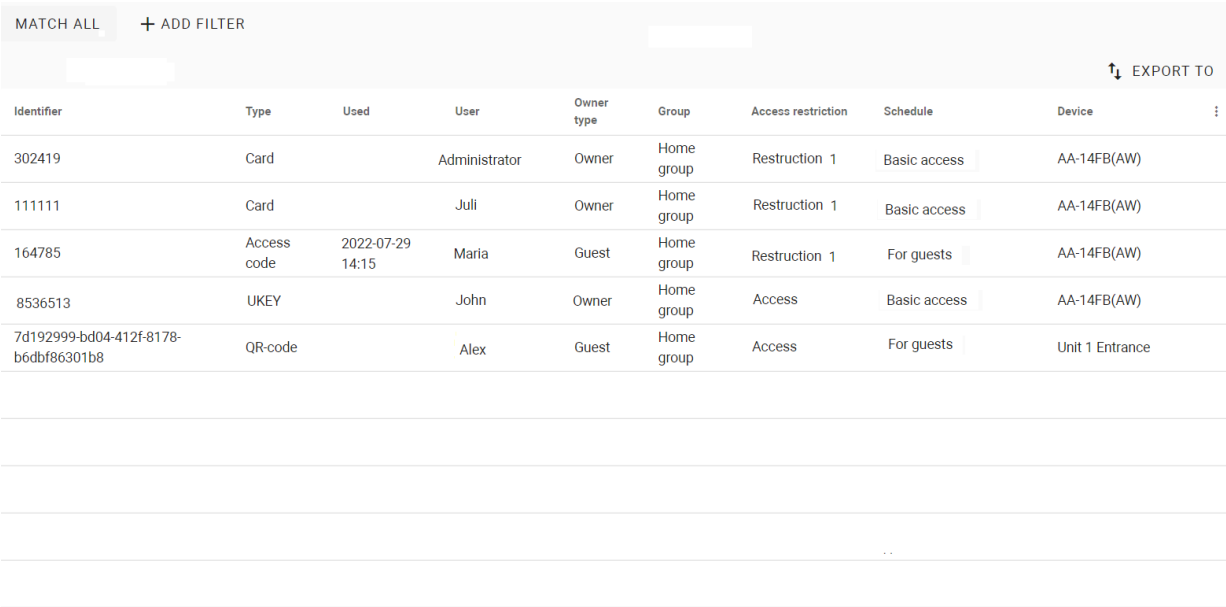


In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



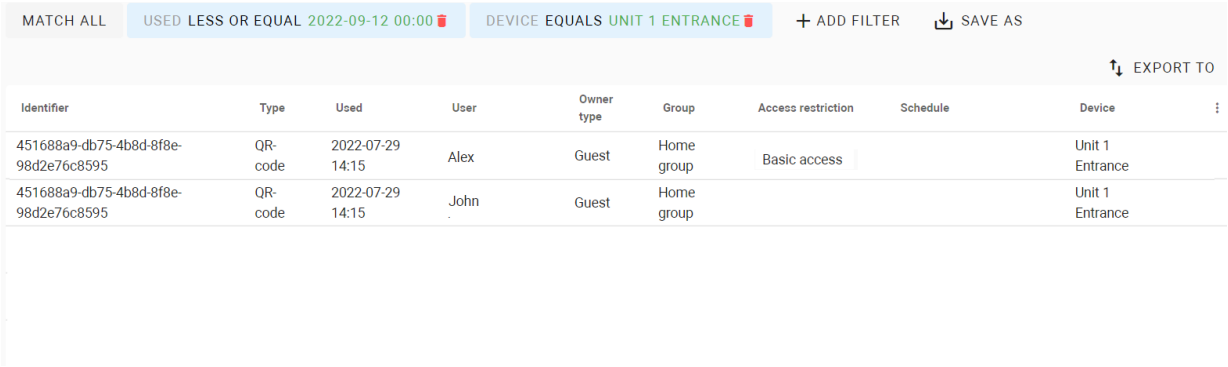
6.5 Access matrix

This tab contains information about all identifiers added to the system: their type, owner, group and device to which the ID can be applied, access restrictions and schedule that work for the ID. So, this tab is a perfect option for monitoring all identifiers and their connections. You can export all data by clicking the corresponding button.

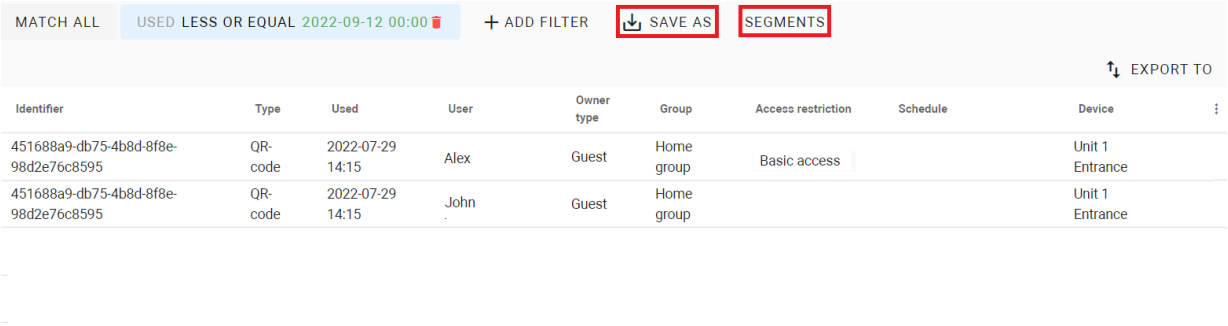


If you click values in the User, Access restrictions, Schedule, or Device columns, you will be redirected to the corresponding tab for editing.

Also, there is a filter by **identifier**, **type**, **user** (owner), **device, access restrictions, schedule,** or the date the identifier was **used**. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all identifiers used before the date.

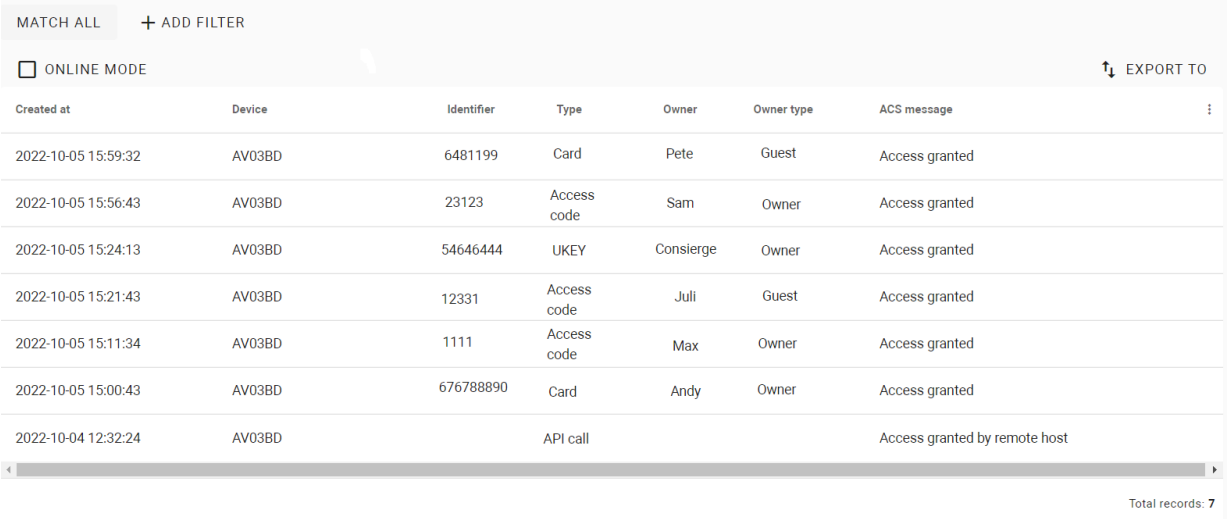


You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



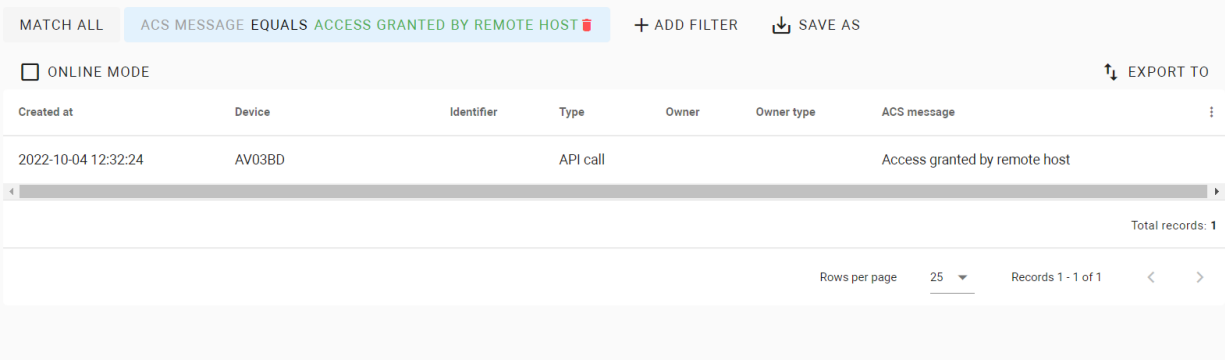
6.6 ACS logs

In the tab, you can monitor all events that are connected with access and identifiers. With the **online mode**, you can control all successful and unsuccessful passes in real time.

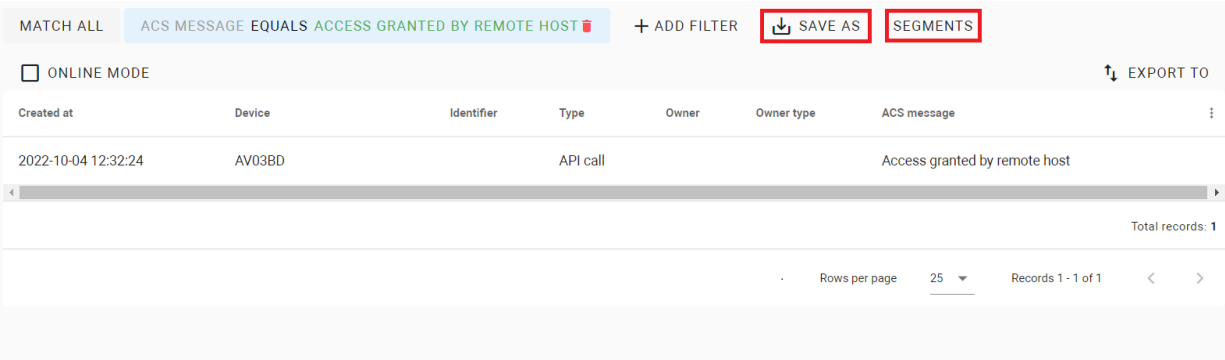


If necessary you can **export** all information to your computer.

Also, there is a filter by date, device, identifier, identifier type, owner, owner type, and ACS message. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display events that happened before the date.



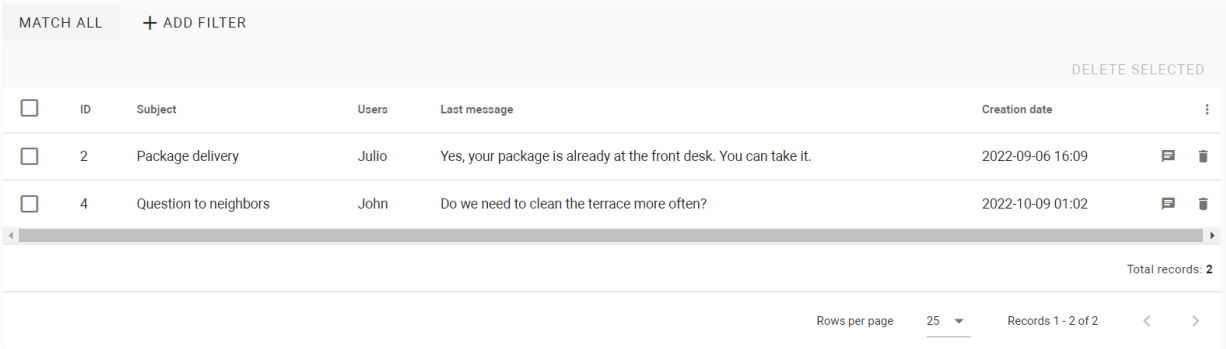
You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



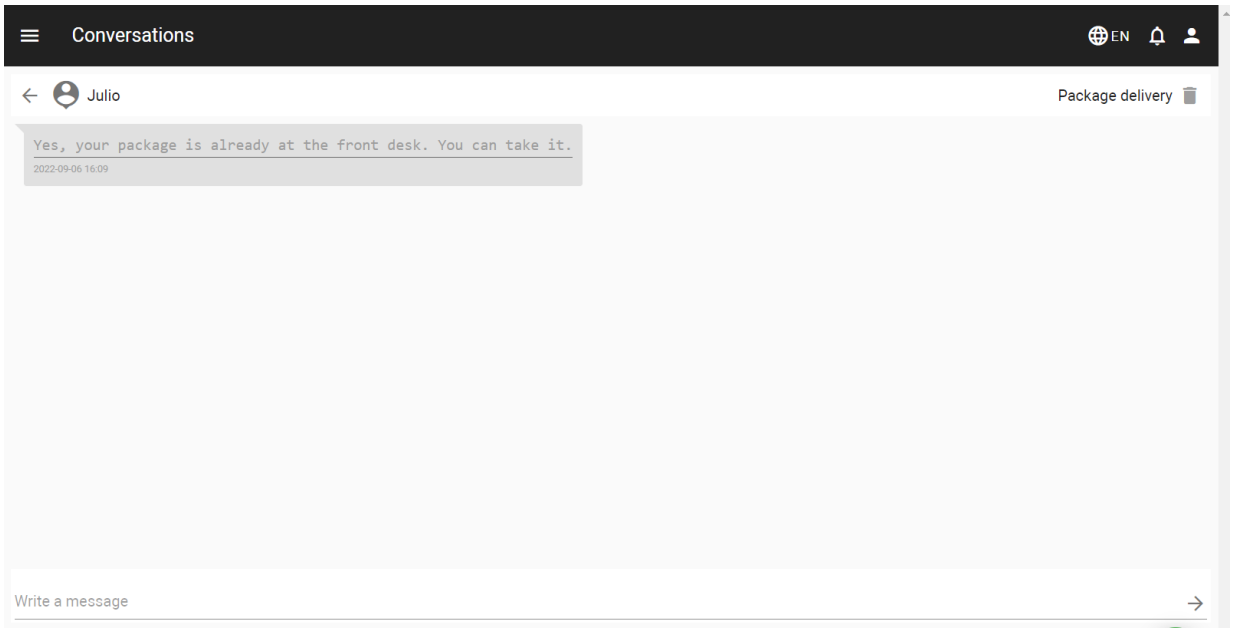
7 Communications

7.1 Conversations

In this tab, users can communicate with other users. Depending on user rights, you see you see either all the conversations or only started by you, addressed to you messages.

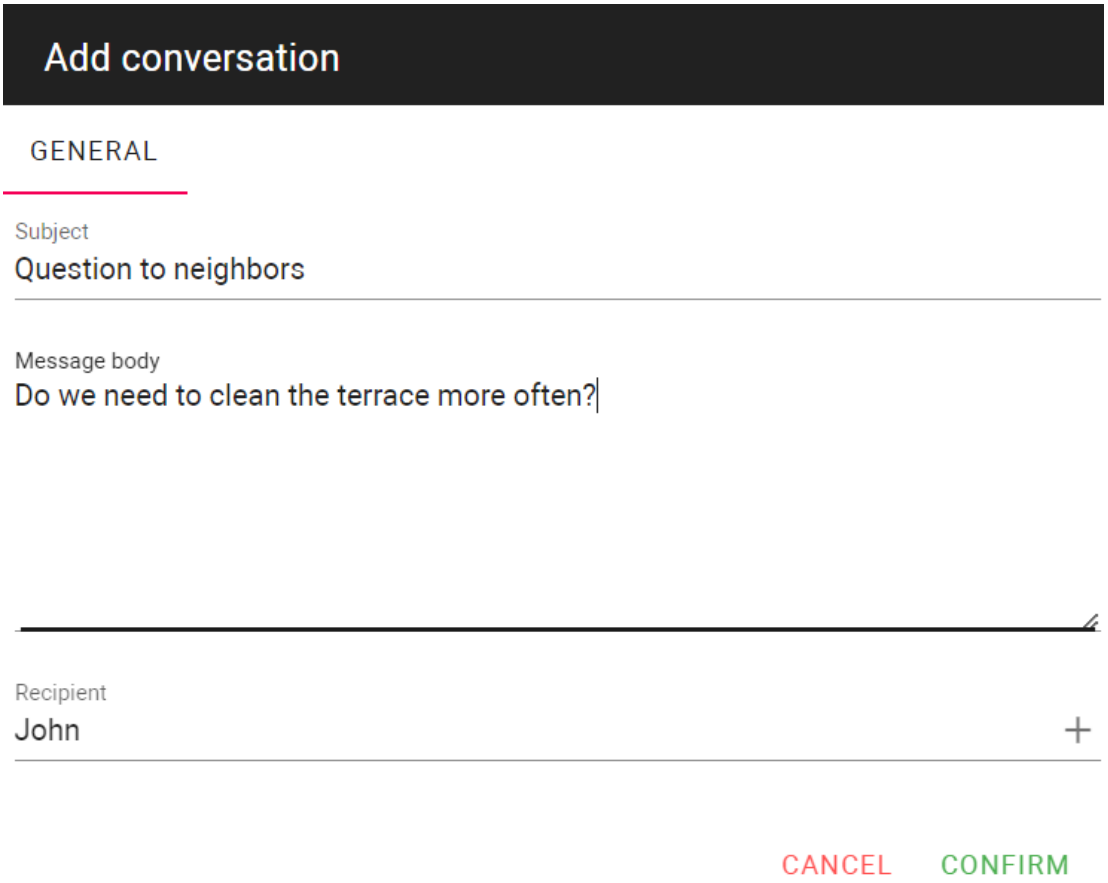


You can click all available conversations to see correspondence or for a reply. If necessary, you can delete a conversation.



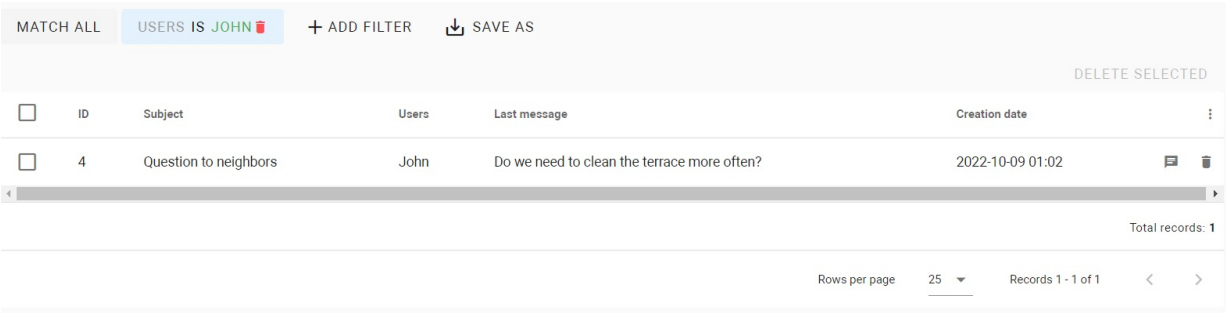
7.1.1 How to create a conversation

1. Go to the **Conversation** tab of the Communications section.
2. Click **plus** icon in the left low corner.
3. Enter the conversation **subject**.
4. Type a **message body**.
5. Select **recipient/s**.
6. Click Confirm to send the message.

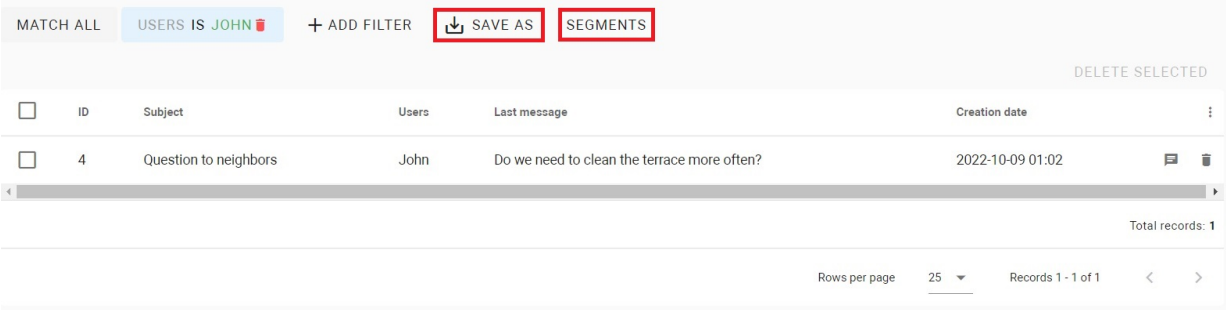


7.1.2 Conversations filtering

Also, there is a filter by subject, message body, users, and date of creation. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less, great** than your parameter, or contain (**has**) it, e.g. search less than indicated date will display all events before the date. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



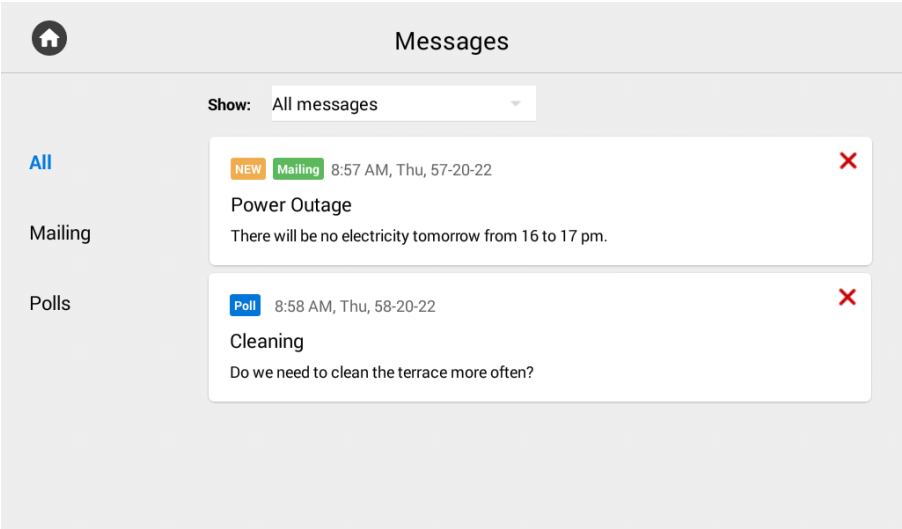
In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



7.2 Announces

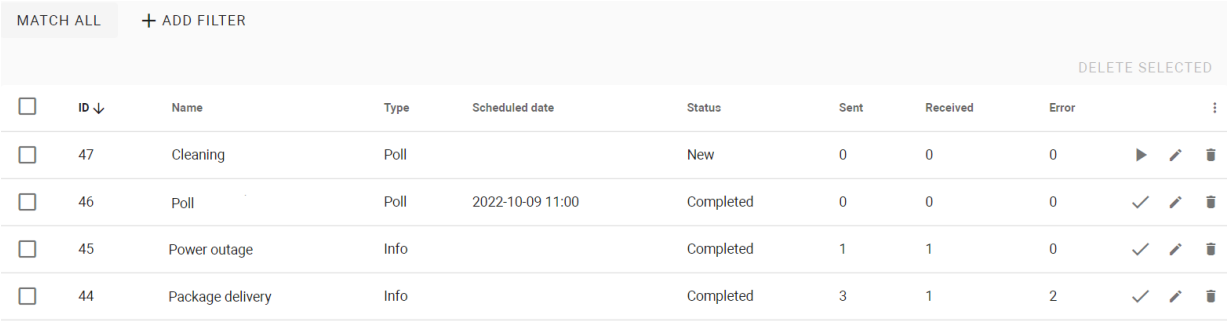
- How to create an announce(see page 73)
- Announces filtering(see page 74)

On the Link server, it is possible to create announce or poll with important information and sent it to all necessary groups or users. This announcement will be displayed in the Link web interface[54] or on users monitors:



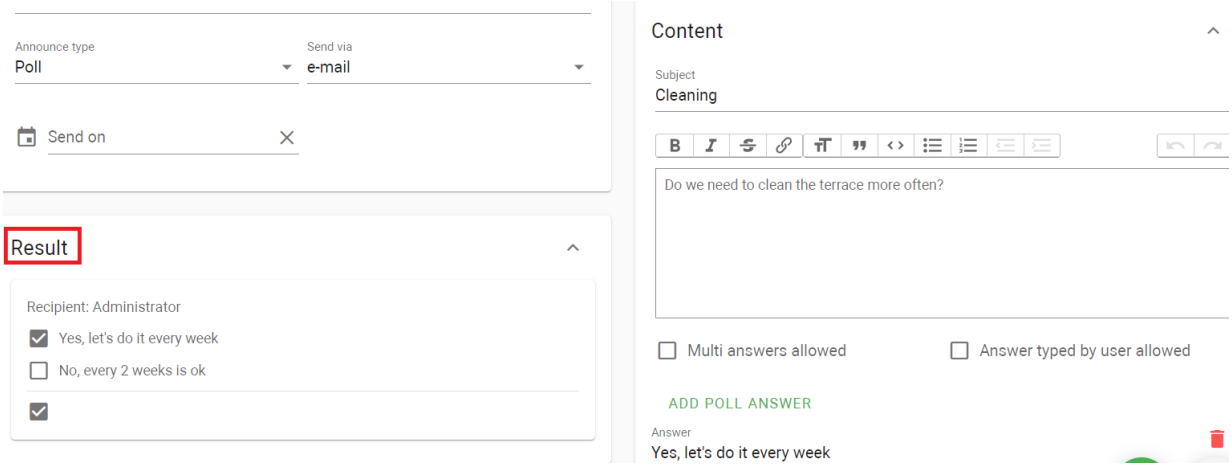
54 https://wiki.bas-ip.com/basiplinken/info-and-polls-135955874.html

In this section, you can create announcements or polls, set the time of their sending, check statuses (complete or not), and results of polls. If an entry is not necessary anymore delete it .



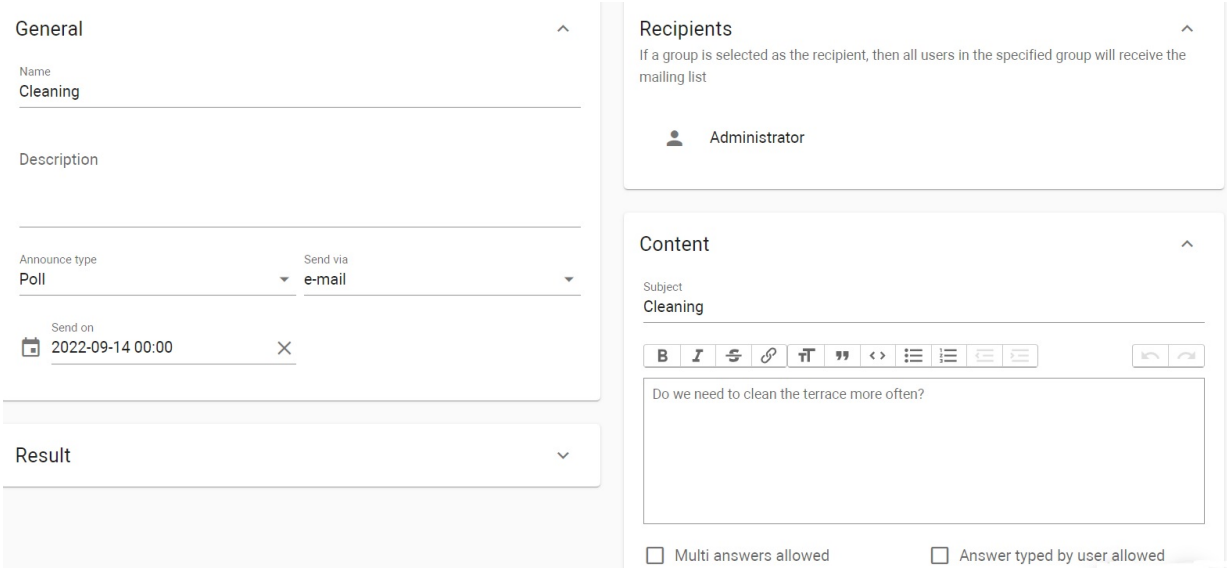
ID	Name	Type	Scheduled date	Status	Sent	Received	Error
47	Cleaning	Poll		New	0	0	0
46	Poll	Poll	2022-10-09 11:00	Completed	0	0	0
45	Power outage	Info		Completed	1	1	0
44	Package delivery	Info		Completed	3	1	2

With the help of the edit button, you can check announces content or poll results in the corresponding section.



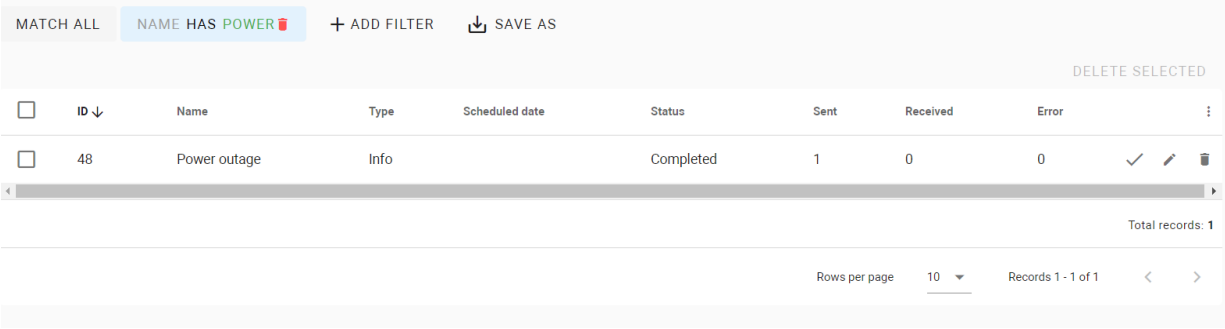
7.2.1 How to create an announce

1. Go to the **Announces** tab of the Communications section.
2. Click **plus** icon in the low left corner.
3. Enter the entry **name** that will be displayed in the Announces tab.
4. Add a **description** if necessary.
5. Select the announce type: **info** (just message) or **poll** (message with a possibility to select variants or type answer).
6. Select in which way the announcement must be sent via **e-mail** or to **devices**.
7. Set the **date** of the announcement sending.
8. Add **recipients** in the corresponding section.
9. In the Content section enter data that will be displayed for recipients:
    - the **subject** of the announcement;
    - message **content**;
    - if you select a poll type, **add poll answers**;
    - for poll type, enable the options of selecting some variants of answer (**multi answers**) or typing free answer (**answer typed by user**).
10. Click the **Save** button in the low left corner when all required data will be entered.

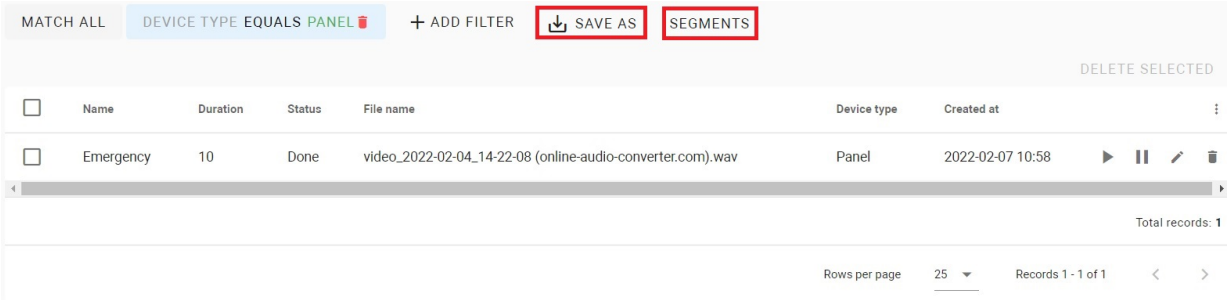


7.2.2 Announces filtering

Also, there is a filter by name, status, and type. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less**, **great** than your parameter, or contain (**has**) it. You can select a few parameters and choose whether the results will match all filters or any of them.

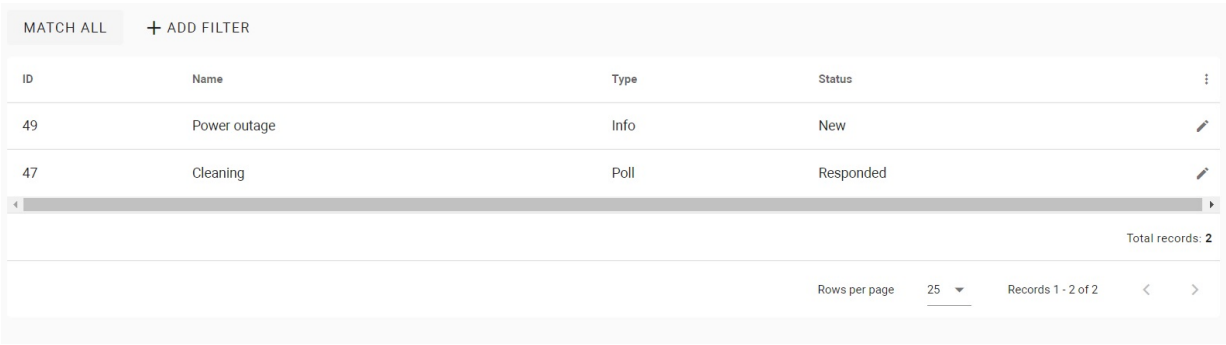


In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

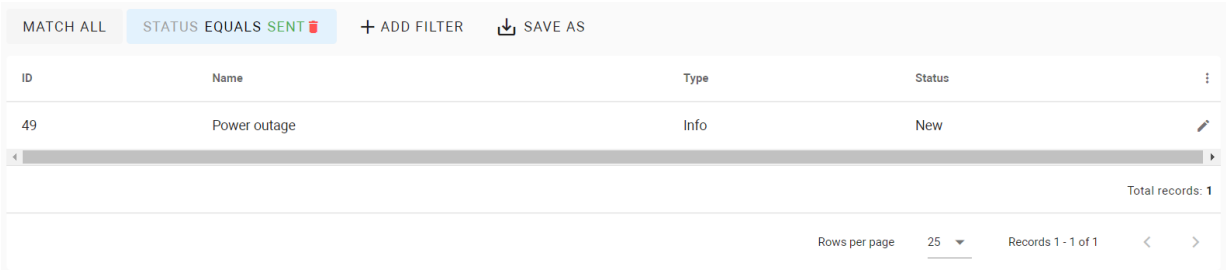


7.3 Info and polls

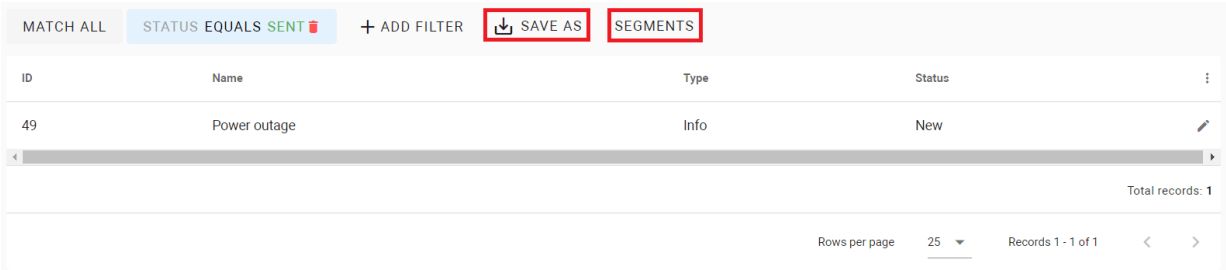
In this tab, you can check all addressed to you announcements and polls. To read it and answer, click .



Also, there is a filter by name, status, and type. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or contain (**has**) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

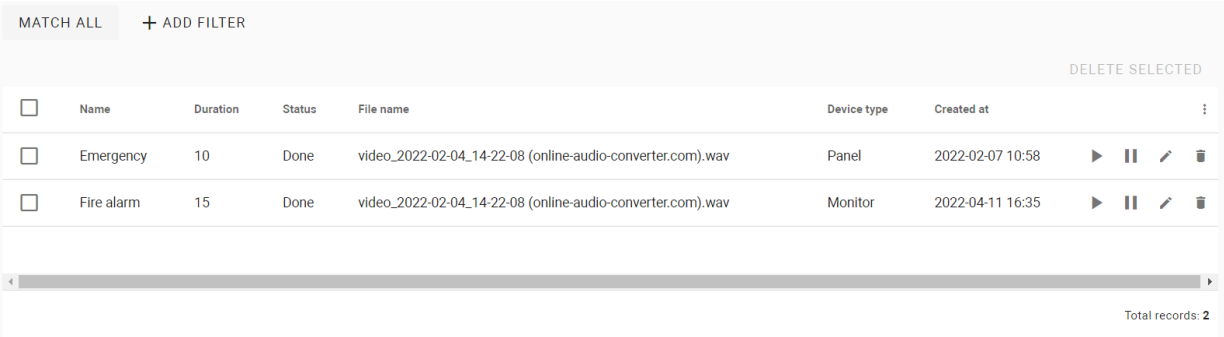


7.4 Emergency alerts

In the tab, you can create and manage emergency alerts that can be sent by the administrator or concierge in case of fire or other emergencies. An alert will be played on the device.

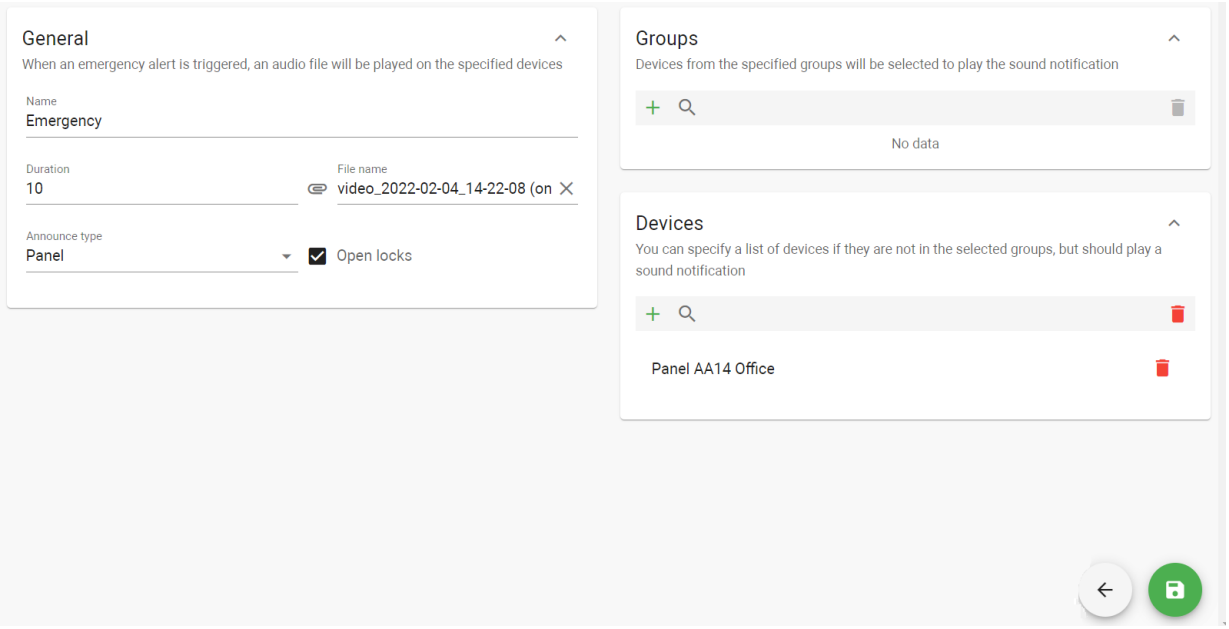
The feature is available for AQ-07LL, AZ-07LL, AU-04LA, AU-04LAF, SP-03, and SP-03F.

You can prepare alerts for different cases and manage them with the help of buttons: ▶ to start playing the alert, ⏸ to stop the sound. Also, you can edit ✎ or delete 🗑 alerts.



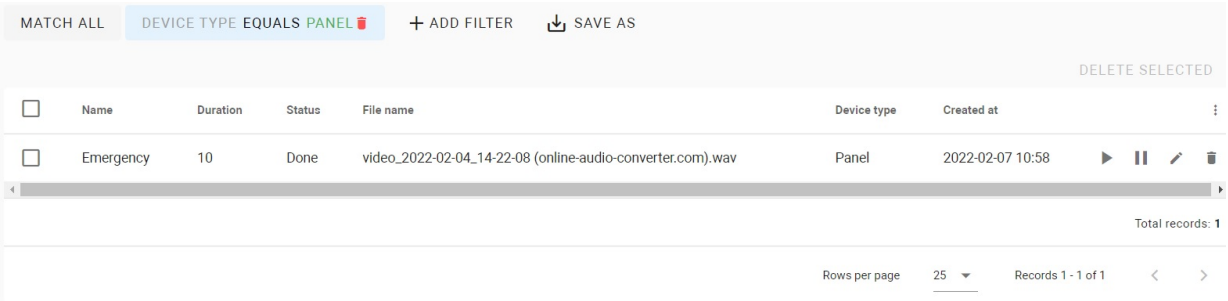
7.4.1 How to create an emergency alert

1. Go to the **Emergency alert** tab of the Communications section.
2. Click **plus** icon in the left low corner.
3. Enter the event **name**.
4. Set the alert playback **duration**.
5. Upload a **sound file in .wav** format that will be played while alerting.
6. Select announce **type** depending on what device the alert will be sent to: panel, monitor, or all.
7. Enable the **open locks** option when an emergency alert is triggered.
8. Select or add a **group** or concrete **device**/s to which this alert will be applied.
9. Click the **Save** button in the left low corner when all required data will be entered.

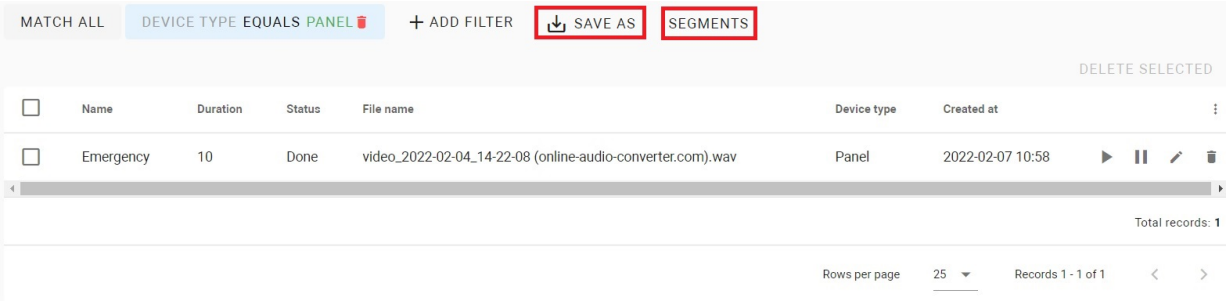


7.4.2 Alerts filtering

Also, there is a filter by alert name, device type, and status. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or contain (**has**) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



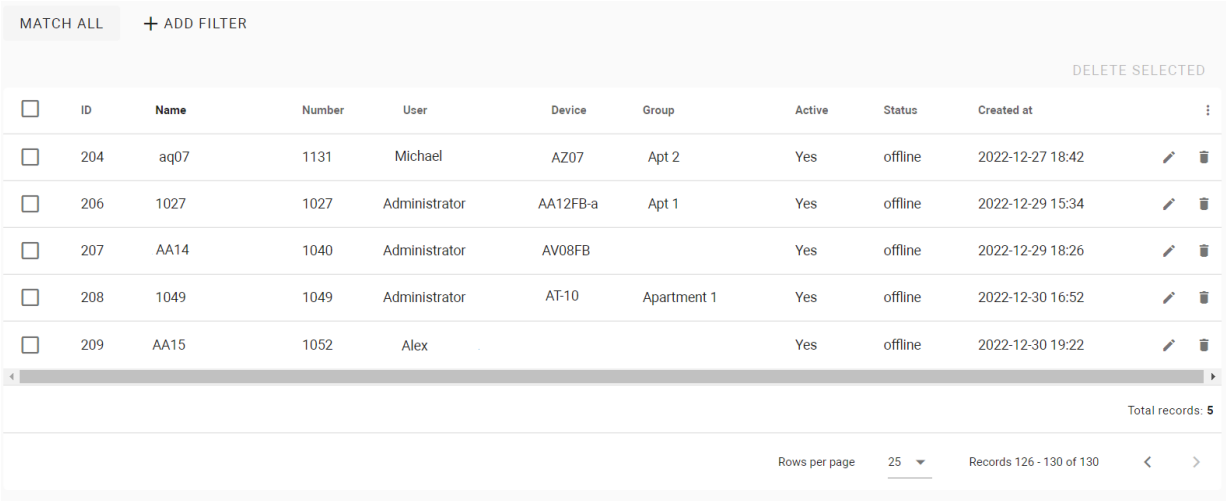
8 Telephony settings

8.1 Virtual numbers

To make a call between a panel, an indoor video entry phone (monitor), or a user phone, the Link version with SIP must be deployed and the corresponding license must be applied for the server. Here you can create and manage virtual numbers.

> For a user registered in the Link app, a virtual number is created and applied automatically. You can check the number in the user profile[55].

In the tab, you see all created virtual numbers with detailed information about them. With the help of and buttons, you can edit or delete numbers.



ID	Name	Number	User	Device	Group	Active	Status	Created at
204	aq07	1131	Michael	AZ07	Apt 2	Yes	offline	2022-12-27 18:42
206	1027	1027	Administrator	AA12FB-a	Apt 1	Yes	offline	2022-12-29 15:34
207	AA14	1040	Administrator	AV08FB		Yes	offline	2022-12-29 18:26
208	1049	1049	Administrator	AT-10	Apartment 1	Yes	offline	2022-12-30 16:52
209	AA15	1052	Alex			Yes	offline	2022-12-30 19:22

8.1.1 How to create a virtual number

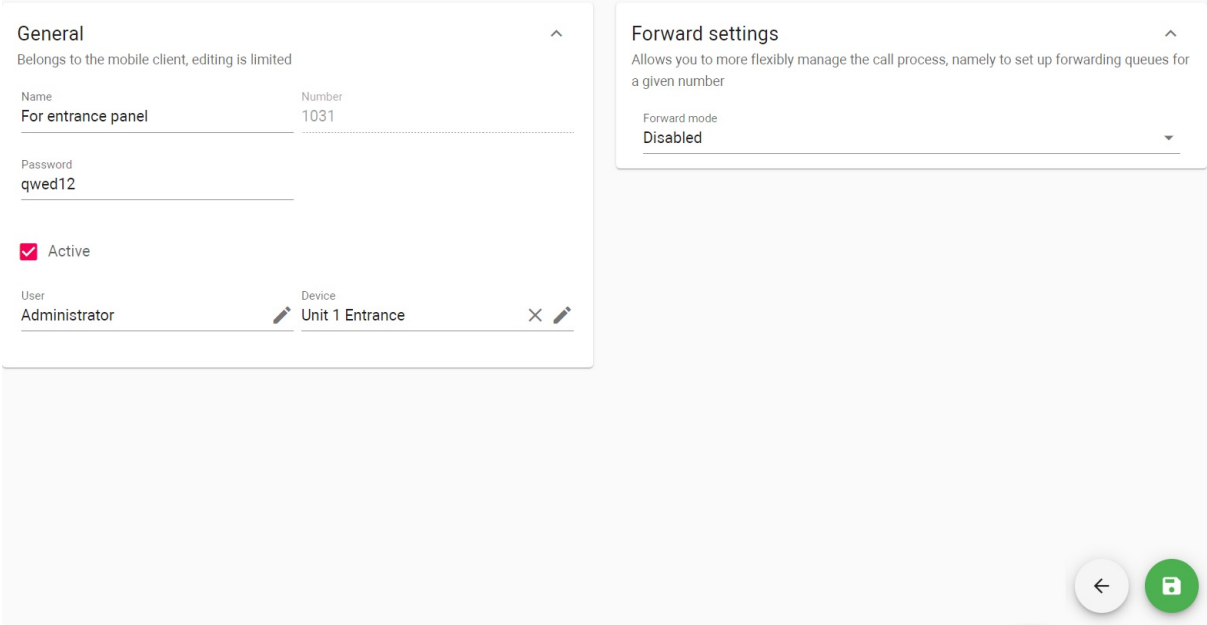
1. Go to the **Virtual numbers** tab of the Telephony settings section.
2. Click **plus** icon in the left low corner.
3. The system will automatically generate a SIP number. Enter a name for the number.
4. Create the password for the number.

55 https://wiki.bas-ip.com/basiplinken/users-135955765.html

5. Tick the **Active** box to turn on the number operating.

> To deactivate a number enable this box in the number settings.

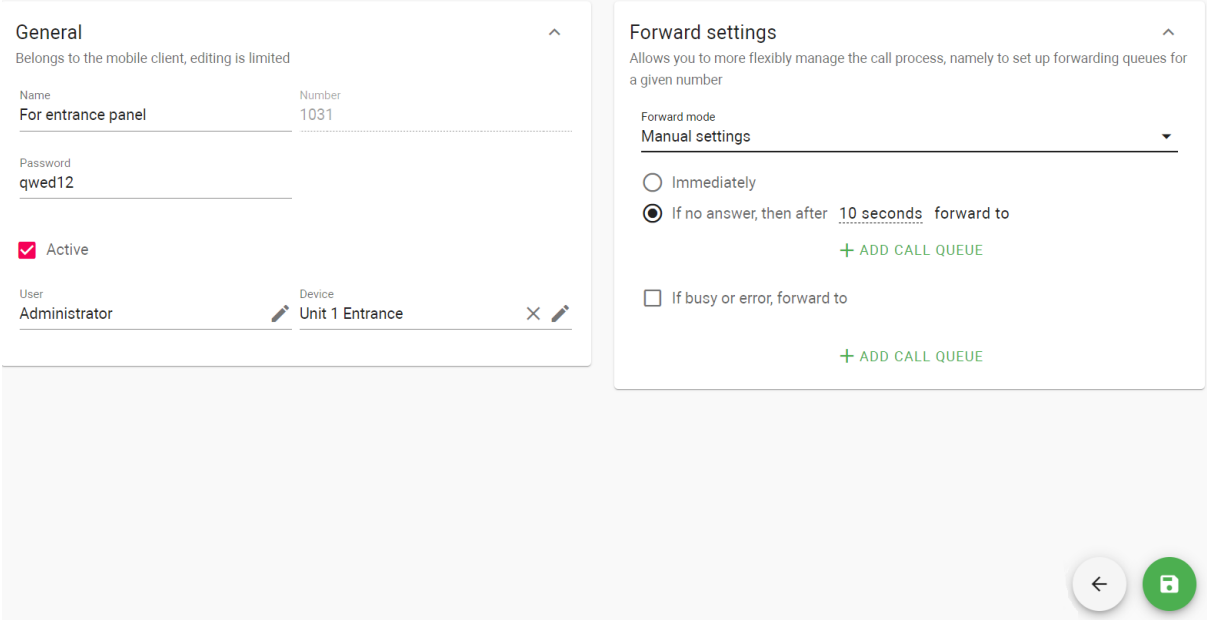
6. Select the **user** (from previously added in the User[56]tab) of the number.
7. Select the **device** on which the number must be used. If a user will use the number on a 3d-party device, leave the field blank.



8. If it is necessary, enable and **forward settings** for the number and set them manually or select a forward rule[57] from previously created.

> The following options are available:
>
> - to forward calls **immediately** to all indicated in the call queue field/s numbers;
> - to forward calls to indicated in the call queue number/s **if there is no answer** from the main number;
> - to set the **time** (5-30 sec) after which the call will be forwarded if there is no answer;
> - **add** number/numbers (to which the call will be forwarded) to the **call queue** from the virtual number list;
> - to set **call duration** by clicking ⚙ ;
> - to set days and time when the forward is **valid** by clicking ⚙ ;
> - forward calls to indicated in the call queue field/s numbers if the primary **number is busy or an error occurs;**

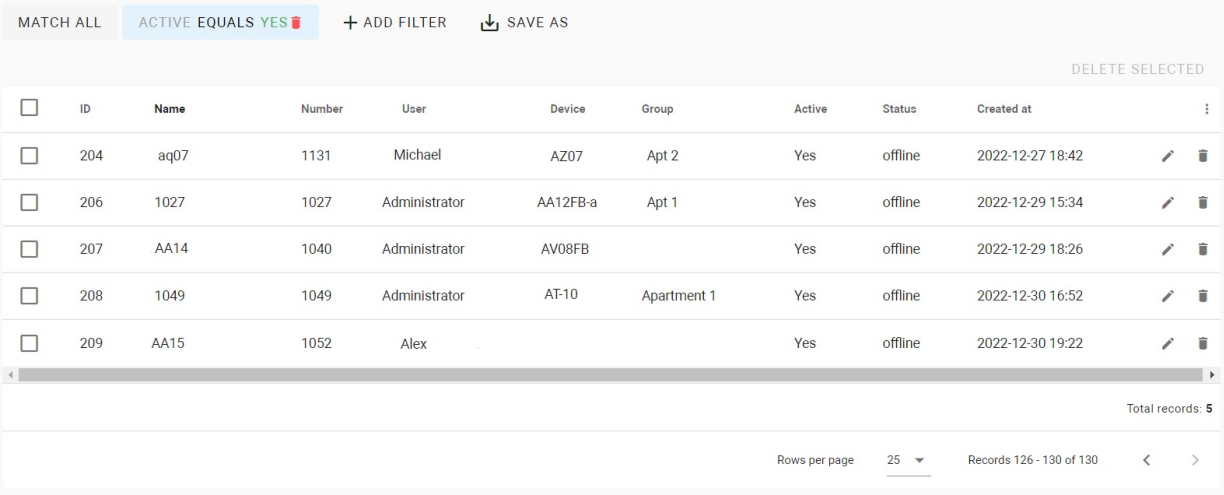
56 https://wiki.bas-ip.com/basiplinken/users-135955765.html
57 https://wiki.bas-ip.com/basiplinken/forward-rules-135955902.html



9. Click the **Save** button in the left low corner when all required data will be entered.

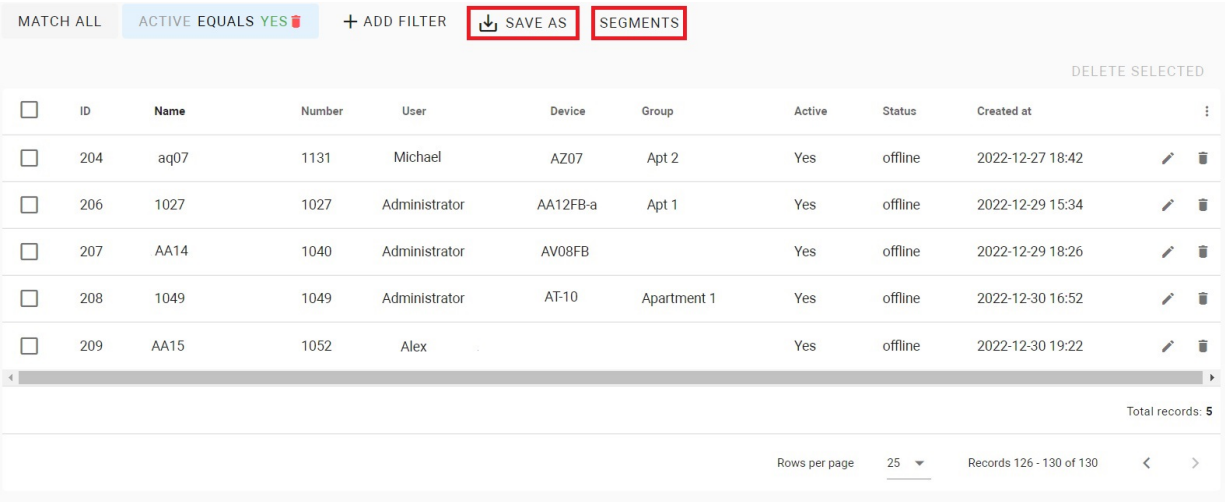
8.1.2 Virtual numbers filtering

There is a filter by number, name, activeness, user, device, and group. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated number will display all numbers created before the indicated.



ID	Name	Number	User	Device	Group	Active	Status	Created at
204	aq07	1131	Michael	AZ07	Apt 2	Yes	offline	2022-12-27 18:42
206	1027	1027	Administrator	AA12FB-a	Apt 1	Yes	offline	2022-12-29 15:34
207	AA14	1040	Administrator	AV08FB		Yes	offline	2022-12-29 18:26
208	1049	1049	Administrator	AT-10	Apartment 1	Yes	offline	2022-12-30 16:52
209	AA15	1052	Alex			Yes	offline	2022-12-30 19:22

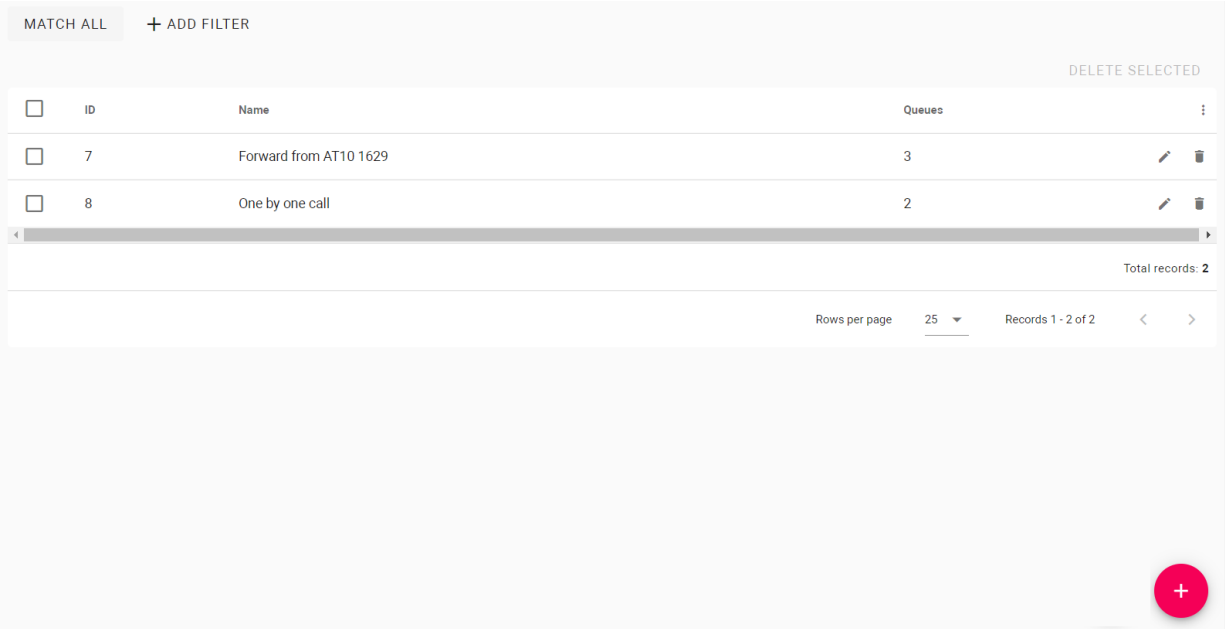
You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can **save** your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



8.2 Forward rules

- How to create a forward rule(see page 82)
- Forward rules filtering(see page 83)

In this tab, you can create forward rules for redirecting calls from one virtual number to other/s. These rules can be applied to required numbers in the Virtual numbers[58]tab. With the help of and buttons, you can edit or delete rules.



58 https://wiki.bas-ip.com/basiplinken/virtual-numbers-135955892.html

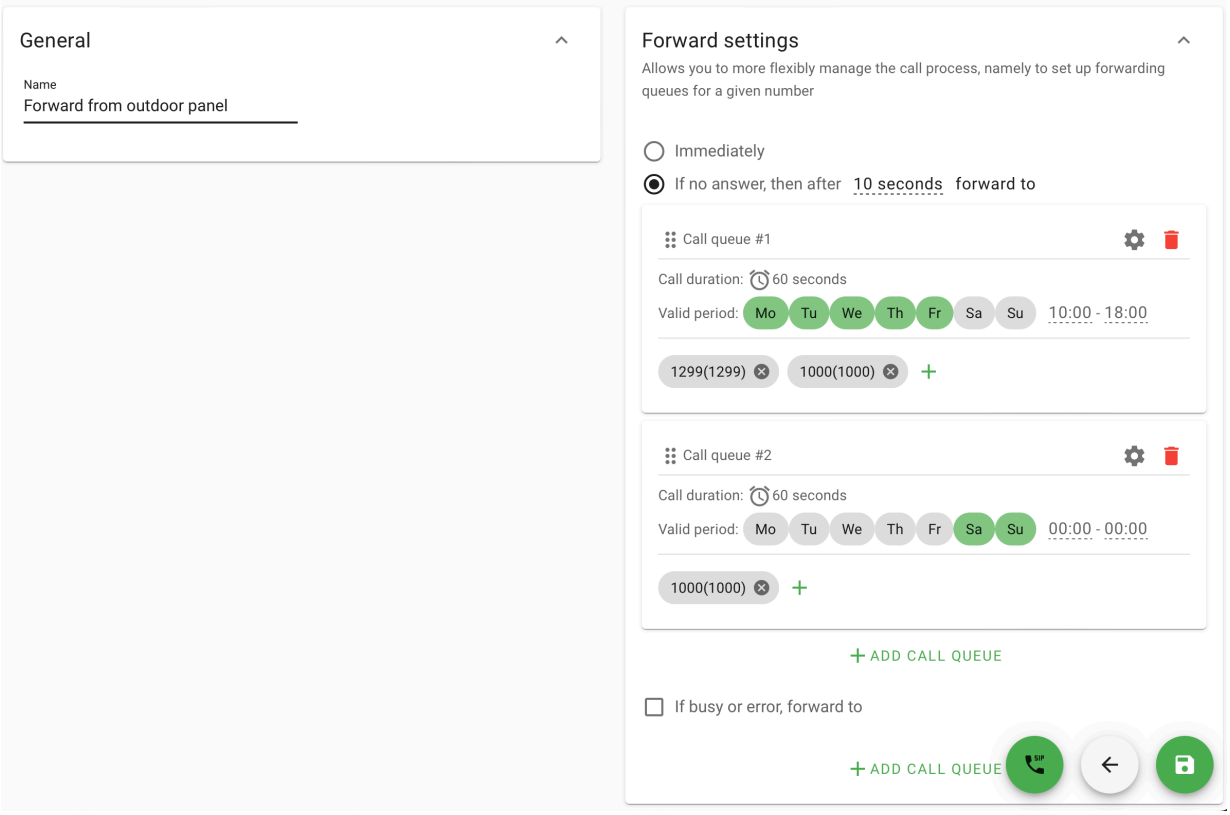
8.2.1 How to create a forward rule

1. Go to the **Forward rules** tab of the Telephony settings section.
2. Click **plus** icon in the left low corner.
3. Enter a rule name.
4. Select in what case the call will be forwarded. The following options are available:
   - to forward calls **immediately** to all indicated in the call queue field/s numbers;
   - to forward calls to indicated in the call queue number/s **if there is no answer** from the main number;
   - to set the **time** (5-30 sec) after which the call will be forwarded if there is no answer;
   - **add** number/numbers (to which the call will be forwarded) to the **call queue** from the virtual number list;
   - to set **call duration** by clicking ⚙ ;
   - to set days and time when the forward is **valid** by clicking ⚙ ;
   - forward calls to indicated in the call queue field/s numbers if the primary **number is busy or an error occurs;**
5. Click add **call queue** and select type number you want to add: **virtual** or **mobile phone number** (if SIP trunks[59] are enabled). You can add (+) several call queues with a few numbers in them.

   > If you want to receive calls to a mobile phone instead of the Link app, this number (in an international format) must be indicated in the call queue.

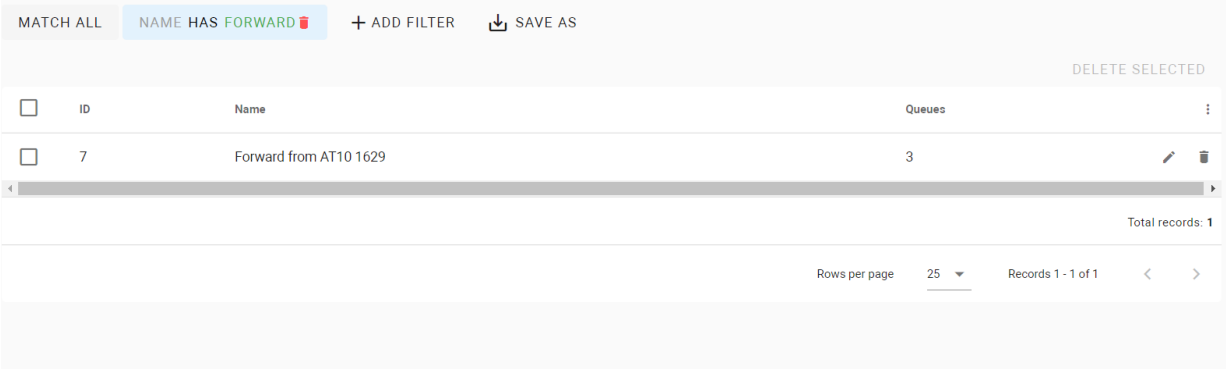
6. Click the **Save** button in the left low corner when all required data will be entered.

59 https://wiki.bas-ip.com/basiplinken/sip-trunks-135958438.html

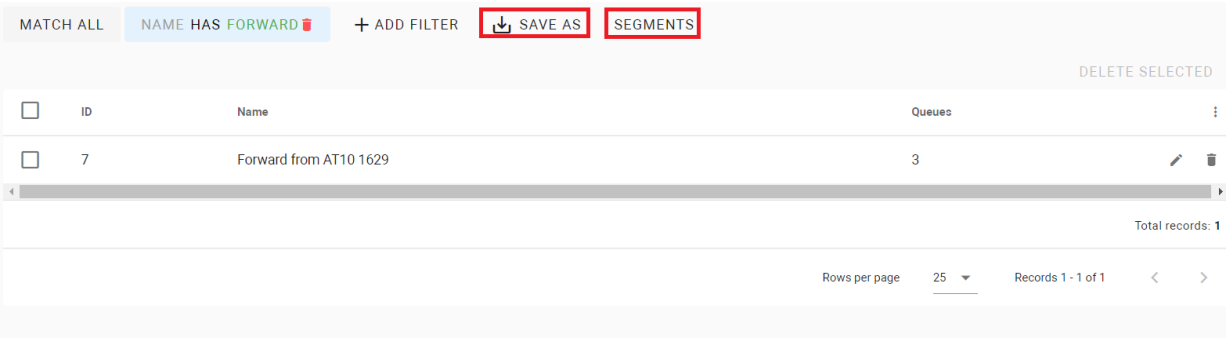


8.2.2 Forward rules filtering

Also, there is a filter by rule name for quick search. To do this, you need to click the **Add filter** button, select the parameter and enter the rule name.

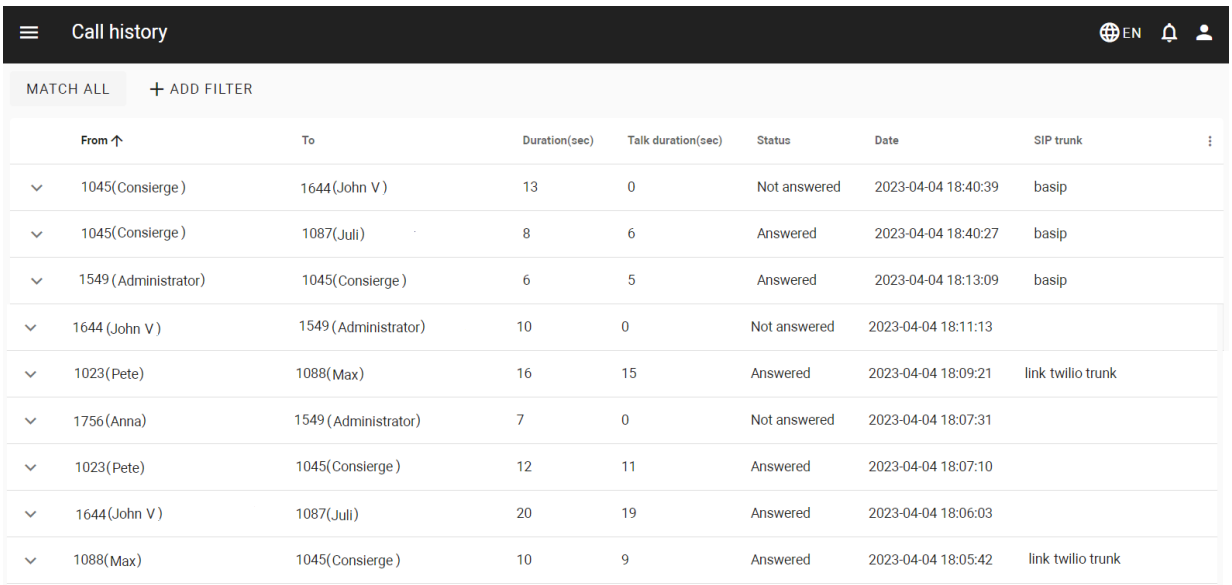


In addition, you can **save** your search for further use by clicking the corresponding button. All saved searches are displayed after clicking the **Segments** button.



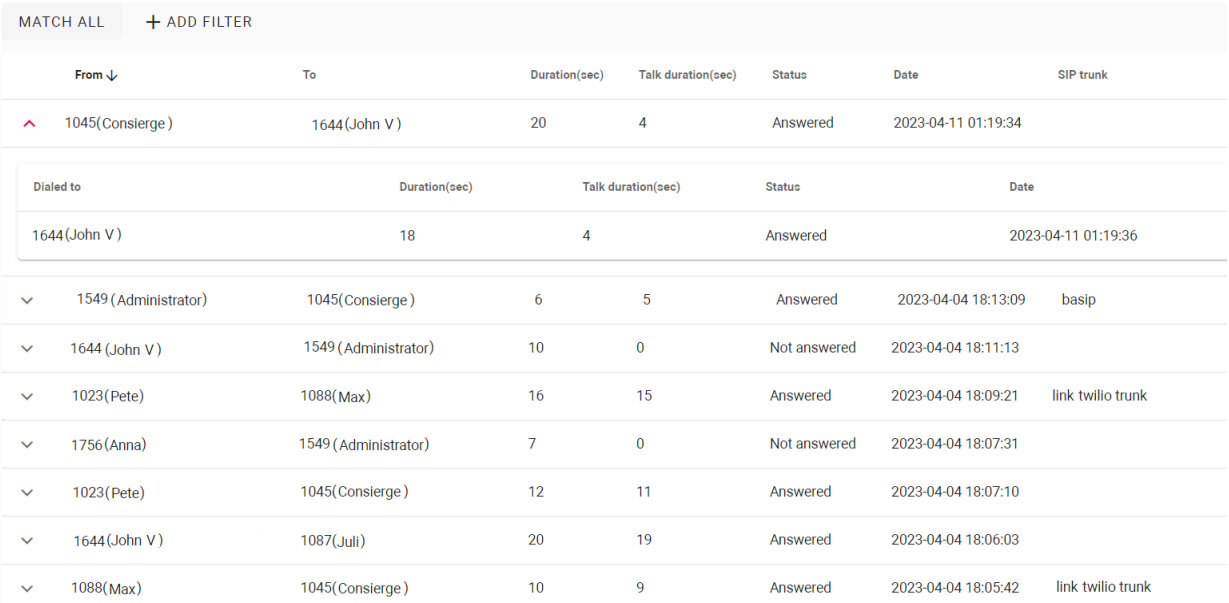
8.3 Call history

This tab contains information about all virtual numbers calls, their duration, statuses, and dates they were made.

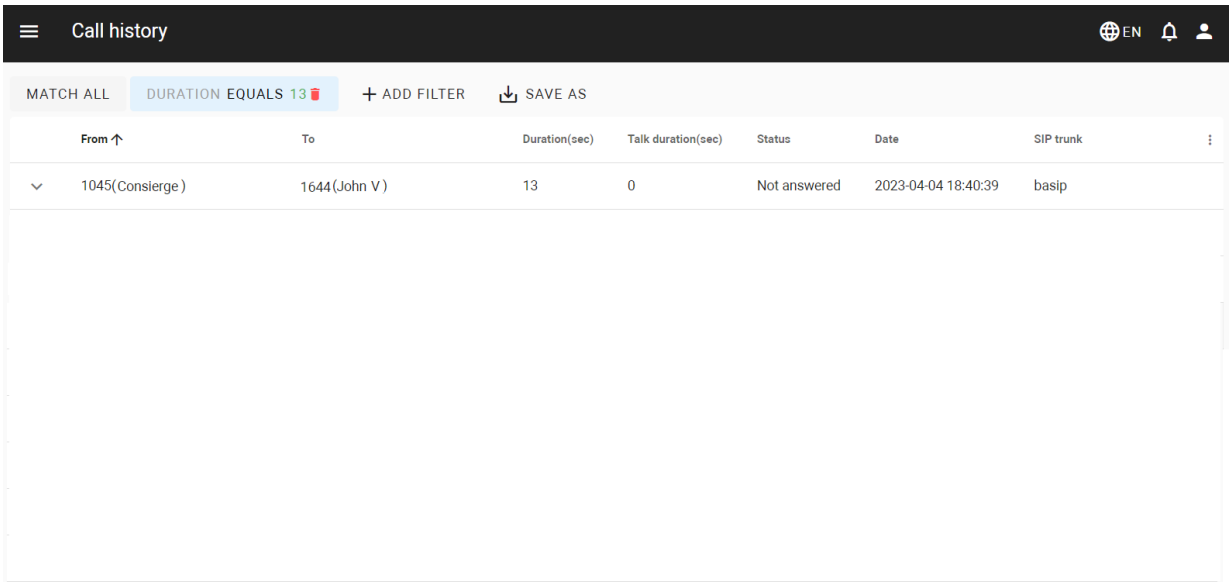


From	To	Duration(sec)	Talk duration(sec)	Status	Date	SIP trunk
1045(Consierge)	1644(John V)	13	0	Not answered	2023-04-04 18:40:39	basip
1045(Consierge)	1087(Juli)	8	6	Answered	2023-04-04 18:40:27	basip
1549 (Administrator)	1045(Consierge)	6	5	Answered	2023-04-04 18:13:09	basip
1644 (John V)	1549 (Administrator)	10	0	Not answered	2023-04-04 18:11:13	
1023(Pete)	1088(Max)	16	15	Answered	2023-04-04 18:09:21	link twilio trunk
1756(Anna)	1549 (Administrator)	7	0	Not answered	2023-04-04 18:07:31	
1023(Pete)	1045(Consierge)	12	11	Answered	2023-04-04 18:07:10	
1644(John V)	1087(Juli)	20	19	Answered	2023-04-04 18:06:03	
1088(Max)	1045(Consierge)	10	9	Answered	2023-04-04 18:05:42	link twilio trunk

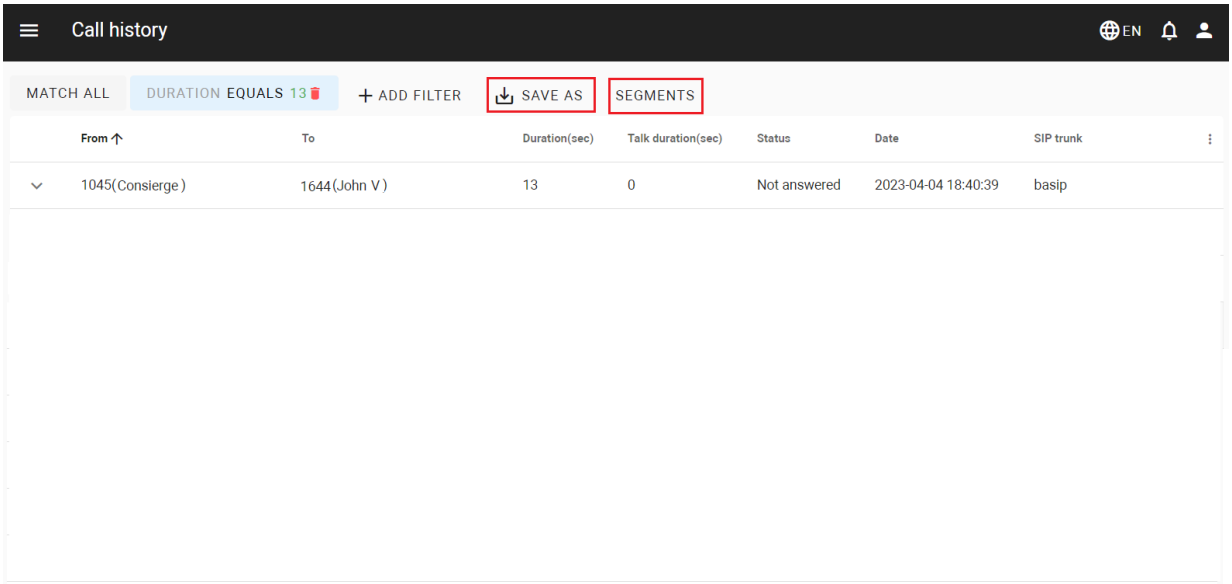
By pressing ⌄, you can unfold the entity with detailed info about the call, its direction (virtual number, mobile number), and forwardings (if they are configured).



There is a filter by ID, a number from which the call was made, user, a number to which the call was made, date, call duration, and status. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate) or **has** the value, or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all calls made before that day.



You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can **save** your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



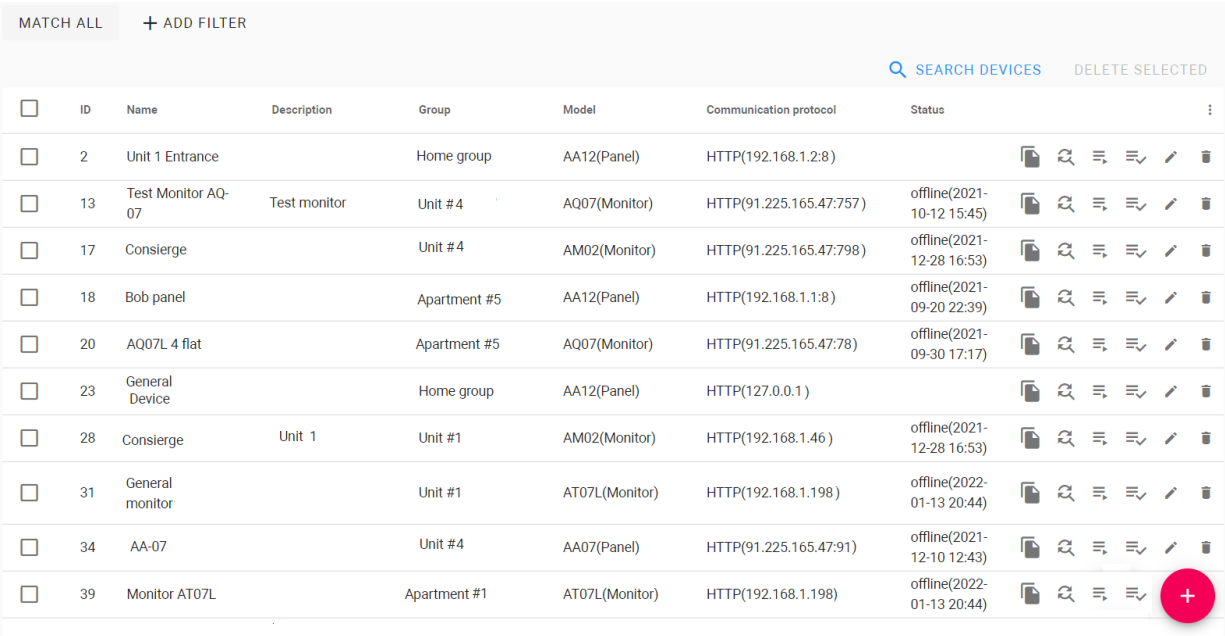
8.4 Inbuild call service

9 Devices management

9.1 Devices

All devices (panels, controllers, monitors) must be added to the Link server to associate physical devices with data on the server. Adding a device to the Link server gives the ability for remote interaction and monitoring.

In the tab, you can add a new device, check already added device settings, edit or delete them. Also for each device, there is the ability to cope information , start initialization[60] (only for SP-03), restart the task queue[61] , and synchronize device data (to send to a device all information about settings, identifiers, users, etc., that the server has) .



ID	Name	Description	Group	Model	Communication protocol	Status
2	Unit 1 Entrance		Home group	AA12(Panel)	HTTP(192.168.1.2:8)	
13	Test Monitor AQ-07	Test monitor	Unit #4	AQ07(Monitor)	HTTP(91.225.165.47:757)	offline(2021-10-12 15:45)
17	Consierge		Unit #4	AM02(Monitor)	HTTP(91.225.165.47:798)	offline(2021-12-28 16:53)
18	Bob panel		Apartment #5	AA12(Panel)	HTTP(192.168.1.1:8)	offline(2021-09-20 22:39)
20	AQ07L 4 flat		Apartment #5	AQ07(Monitor)	HTTP(91.225.165.47:78)	offline(2021-09-30 17:17)
23	General Device		Home group	AA12(Panel)	HTTP(127.0.0.1)	
28	Consierge	Unit 1	Unit #1	AM02(Monitor)	HTTP(192.168.1.46)	offline(2021-12-28 16:53)
31	General monitor		Unit #1	AT07L(Monitor)	HTTP(192.168.1.198)	offline(2022-01-13 20:44)
34	AA-07		Unit #4	AA07(Panel)	HTTP(91.225.165.47:91)	offline(2021-12-10 12:43)
39	Monitor AT07L		Apartment #1	AT07L(Monitor)	HTTP(192.168.1.198)	offline(2022-01-13 20:44)

60 https://wiki.bas-ip.com/basiplinken/device-initialization-135955953.html
61 https://wiki.bas-ip.com/basiplinken/queue-tasks-135955941.html

Tip

Synchronize device data feature can be useful to automatically fill renewed device with existing data. For example, after replacing a broken device.

9.1.1 How to add a device to the Link server

1. Go to the **Devices** tab of the Device management section.
2. Click **plus** icon in the left low corner.
3. Enter the device **name**.
4. Select its **type**: panel, monitor, access controller.
5. Select the device **model**.
6. Indicate the device **Serial number** (check the Dashboard[62]tab of the device web interface or device box).
7. Select a **group**/subgroup where the device is installed.
8. If necessary, set panels location **geodata**. This data is required for the Link app, when a visitor with a pass (added to Apple Wallet) approaches the available panel (with location), the pass will be automatically shown.
9. Add a **description**, if necessary.
10. Enable **using a camera to identify license plates**, if necessary.
11. Allow **remote lock opening** (from the device web interface, via API), if necessary.
12. Enter network settings for server and panel interaction:

Warning

For correct server functioning, all devices must be added to the access rules that apply to the corresponding groups.

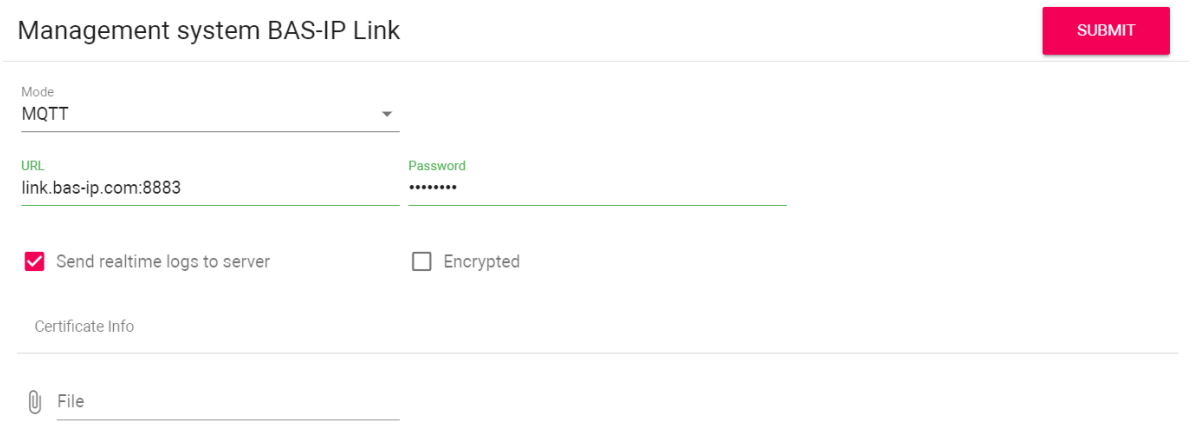
- select the appropriate **communication protocol**: HTTP or MQTT (is recommended to use);
- enter the device **IP address** and **port** (for HTTP only);
- enter **login** and **password** that are used to enter the device web interface;
- indicate server interaction password (is created in the Management system section (Network[63]tab) of the device web interface).

62 https://wiki.bas-ip.com/aa07/dashboard-135955050.html
63 https://wiki.bas-ip.com/aa07/network-135955054.html

Also, the same network settings as for the server must be entered in the device web interface. The management system must be enabled for the device:

1. Log in to the device web interface. By default, the username is **admin**, and the password is **123456**.
2. Go to the **Network** tab > **Management system** section.
3. Select the necessary **protocol:** HTTP or MQTT (is recommended to use) in the **Mode** field.
4. Enter all required data.
5. Submit settings.

Detailed instructions are here[64].

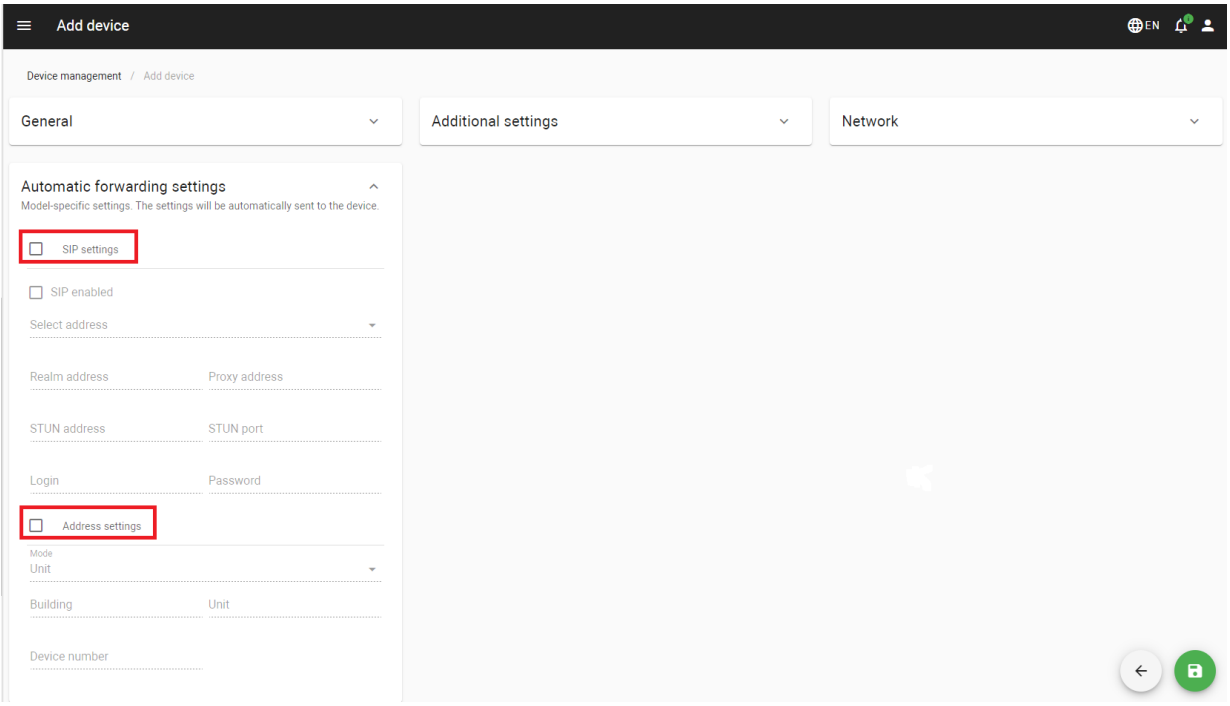


13. Click the **Save** button in the left low corner when all required data will be entered.

9.1.2 Remote device configuration

Device basic configurations can be done in the device web interface. And if they are done, there is no need to set them from the Link side. But if some of the following parameters are missed or required corrections, so they, also, can be done in the corresponding sections. You must enable setting section you want to send.

64 https://wiki.bas-ip.com/aa07/network-135955054.html

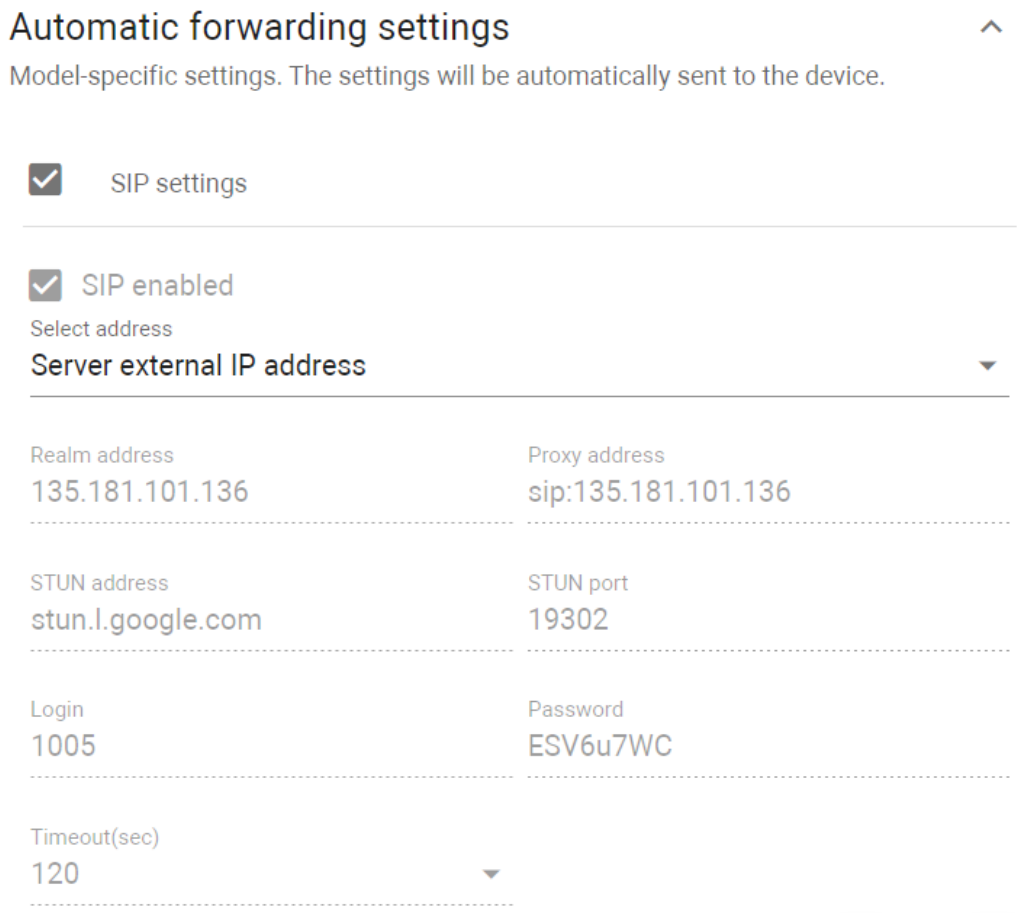


The following settings can be entered:

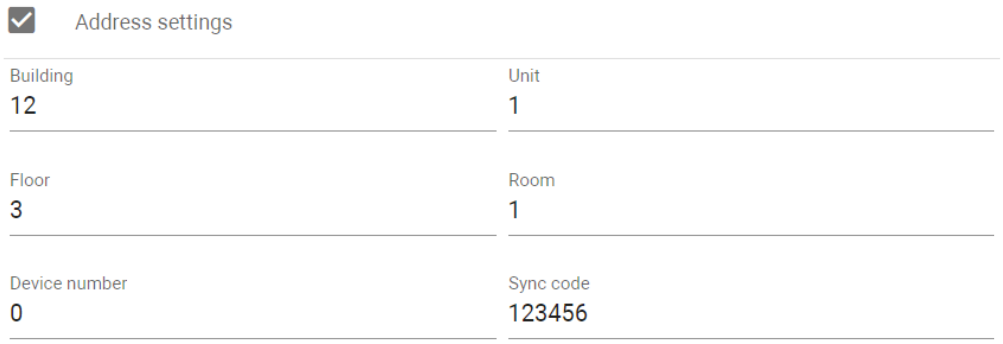
- automatic forwarding(see page 121) **settings** is a feature of automatic creation of forward rules for apartment group user/s and sending them to device/s. If this feature is enabled, for all groups will be automatically created and applied virtual numbers. And when adding a user that has virtual number/s to a group, forwarding that includes all user numbers is automatically created. In addition, SIP and address settings are also automatically created and sent to the device.
  But if there are troubles with them (e.g., logical addresses are already set for devices manually and do not match created on the server or the Link set and sent SIP settings for connecting to an external address, but internal is required, etc.), it is possible to set and sent the following settings to the device manually:
  - SIP settings[65] are required for calls via SIP protocol. For correct SIP functioning, you must:
    - **enable SIP**;
    - select SIP address type: server URL or server external IP address;
    - enter SIP **server address** (realm) that can be represented by both an IP address and a domain name, e.g. gb.sip.bas-ip.com[66];
    - enter **SIP server proxy** that can be represented by both an IP address and a domain name, e.g. sip:gb.sip.bas-ip.com[67]. Before the proxy address, you must enter "sip:";
    - server **STUN IP address**, e.g., stun.l.google.com[68];
    - **port** of the STUN server, e.g., 19302;
    - SIP number (**login**);
    - **password** for the SIP number;

65 https://wiki.bas-ip.com/aa07/panel-135955062.html
66 http://gb.sip.bas-ip.com
67 http://gb.sip.bas-ip.com
68 http://stun.l.google.com

- **timeout** for re-registration to renew the lost connection with the SIP server.



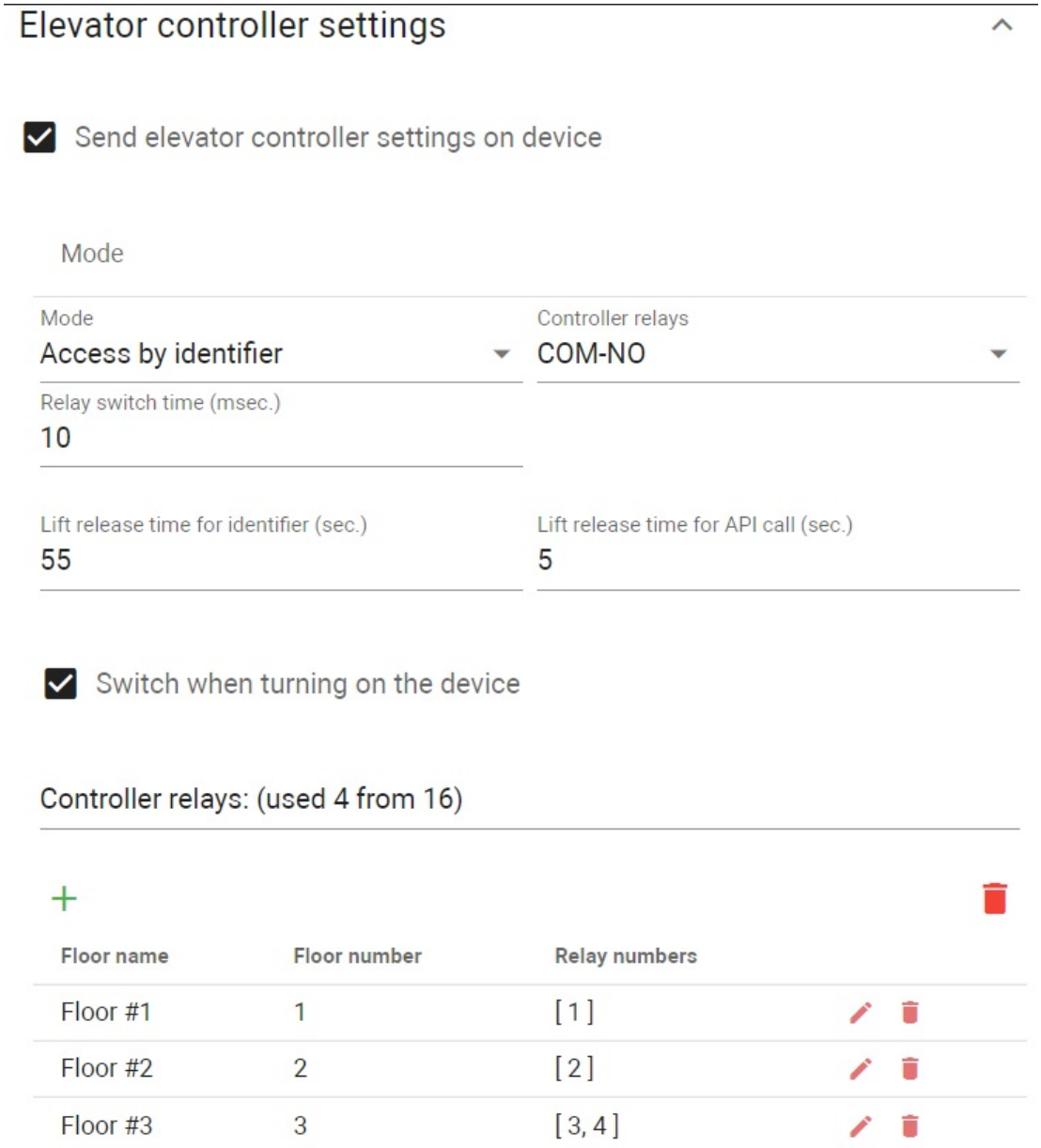
- address settings[69] that are required for device correct display in the intercom system and connecting between devices. If you are adding a panel, you must select **panel operation mode** (more details are here[70]). **Building No., Unit No., Floor No., Apartment No.** and **Device No.** must be indicated depending on the device type.



69 https://wiki.bas-ip.com/aa07/panel-135955062.html
70 https://wiki.bas-ip.com/aa07v4/en/konfigurirovanie-cherez-web-interfejs/vyzyvnaya-panel#id-Вызывнаяпанель-ApartmentSettings

- for an elevator controller[71] the following settings can be done:
  - enable/disable sending of settings on device;
  - select available **mode**: Up (an elevator moves only in the upward direction), Down (movement is only in the downward direction), Up and down (both directions are available), Access by identifier (movement only to those floors that are available for the used identifier);
  - select relay **type**: COM-NO/COM-NC;
  - set the **time** during which the relay will be switched;
  - set lift **release time** (during which relay will be closed/opened) for identifier and for API call;
  - enable/disable the **switching relay when turning on the device**;
  - create + a list of floors (depending on number of available relays) and corresponding relays for a unit;
  - enter **Floor No**. and **Relay No.** that connected to each floor at the controller;
  - endicate whether the floor is public or not. Users will always have access to the public floor despite their identifier settings;
  - select apartments located on each floor;

71 https://wiki.bas-ip.com/evrc-ip-135957503.html



9.1.3 Filter for devices display

There is a filter by name, device type, and IP domain. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less**, **great** than your parameter, or contain (**has**) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.

MATCH ALL | TYPE EQUALS PANEL | + ADD FILTER | SAVE AS

SEARCH DEVICES | DELETE SELECTED

ID	Name	Description	Group	Model	Communication protocol	Status
2	Unit 1 Entrance			AA12(Panel)	HTTP(192.168.1.2:80)	
18	Bob panel		Apartment #5	AA12(Panel)	HTTP(192.168.1.1:8)	offline(2021-09-20 22:39)
23	Device		Home group	AA12(Panel)	HTTP(127.0.0.1:80)	
34	AA-07		Unit #4	AA07(Panel)	HTTP(91.225.165.47:91)	offline(2021-12-10 12:43)
47	AA12FB		Home group	AA12(Panel)	HTTP(192.168.1.1:80)	

In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

MATCH ALL | TYPE EQUALS PANEL | + ADD FILTER | SAVE AS | SEGMENTS

SEARCH DEVICES | DELETE SELECTED

ID	Name	Description	Group	Model	Communication protocol	Status
2	Unit 1 Entrance			AA12(Panel)	HTTP(192.168.1.2:80)	
18	Bob panel		Apartment #5	AA12(Panel)	HTTP(192.168.1.1:8)	offline(2021-09-20 22:39)
23	Device		Home group	AA12(Panel)	HTTP(127.0.0.1:80)	
34	AA-07		Unit #4	AA07(Panel)	HTTP(91.225.165.47:91)	offline(2021-12-10 12:43)
47	AA12FB		Home group	AA12(Panel)	HTTP(192.168.1.1:80)	

9.2 Logs

This tab contains a log that displays all the events that happened with added to the Link devices (panels, monitors, elevator controllers): login to the web interface, lock opening using an identifier, to or from which number a call was made, elevator called, etc. You can export all logs by clicking the corresponding button.

With the online mode, you can monitor all events in real time.

MATCH ALL | + ADD FILTER

ONLINE MODE | REFRESH DATA | EXPORT TO

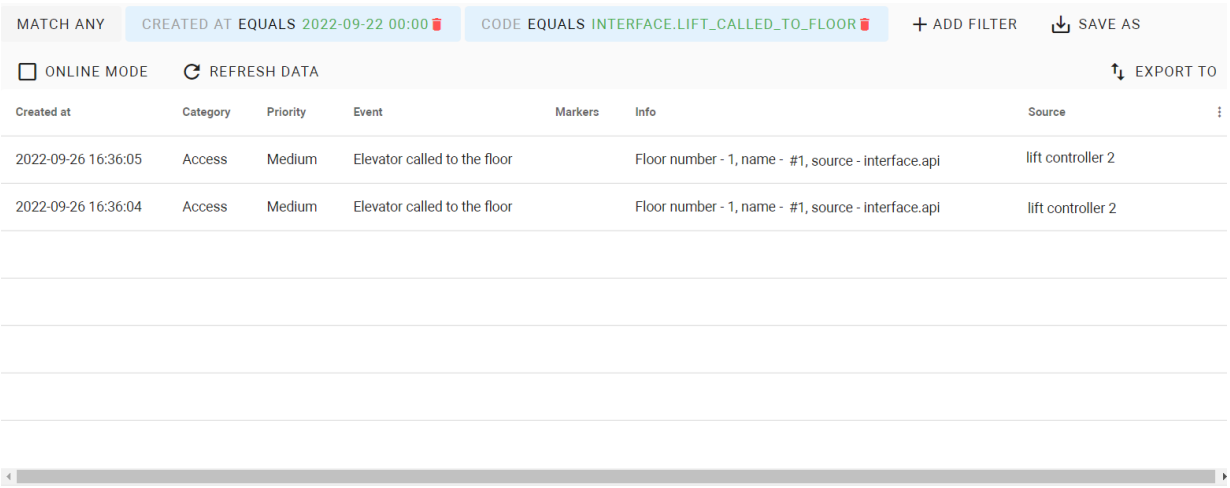
Created at	Category	Priority	Event	Markers	Info	Source
2022-10-07 18:58:30	System	Low	Login to the web interface		Successful (admin) login to the web interface	AV03BD
2022-10-07 13:52:57	Information	Low	Incoming call		Incoming call from number 1024@95.216.166.9, call was accepted	AV03BD
2022-10-07 13:19:25	Access	Medium	Elevator called to the floor		Floor number - 1, name - Floor 1, source - interface.api	lift controller
2022-10-07 13:19:25	Access	Medium	Access granted by the web interface		Lock All locks opened opened from the web interface	AV03BD
2022-10-07 13:19:09	Information	Low	Sip registration lost			Unit 1 Entrance
2022-10-07 13:19:09	Information	Medium	Outgoing call		Outgoing call to number sip:38307@sip.bas-ip.com, call was not accepted	Unit 1 Entrance
2022-10-07 13:18:19	Access	Medium	Access granted by the web interface		Lock 1 opened from the web interface	Unit 1 Entrance
2022-10-07 13:18:19	System	Low	Login to the web interface		Successful (admin) login to the web interface	Unit 1 Entrance
2022-10-07 12:23:00	Access	Medium	Elevator called to the floor		Floor number - 1, name - Floor 1, source - interface.api	lift controller

List of all events displayed in the log:

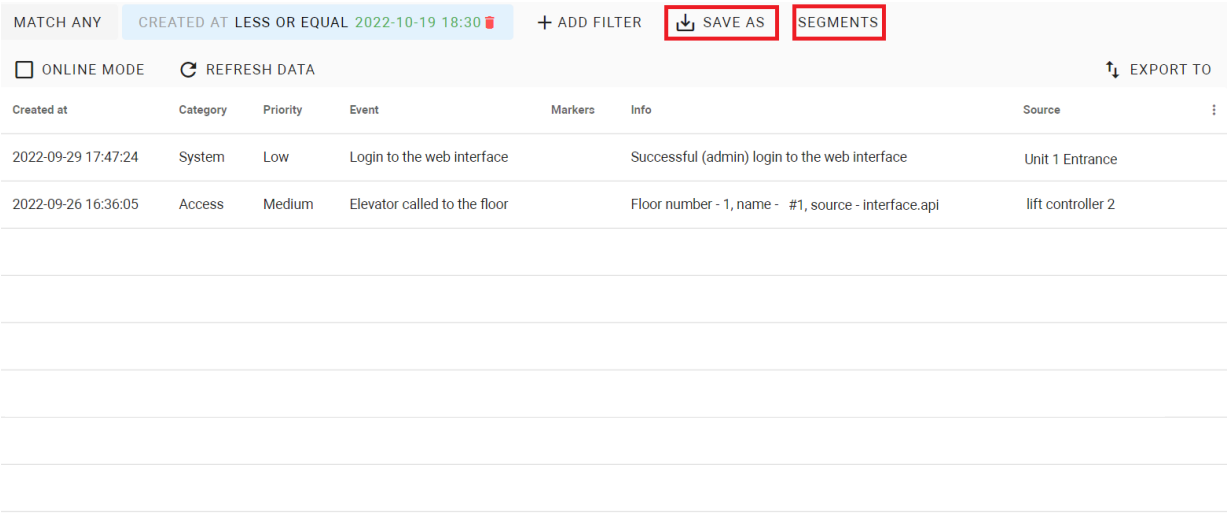
Priority	Category	Event
Low	Information	Device Booted
	System	SIP registration lost
Medium	Access	Door was opened
	Access	Door was closed
	Access	Lock was opened by free access button
	Access	Lock opened by exit button
	Access	Lock opened by identifier
	Access	General access code entered
	Access	Access granted by valid face identifier
	Access	Lift called to floor
	System	Login to the web interface
	System	Unsuccessful attempt to enter GUI settings
	System	Successfully logging into GUI settings
	Information	Incoming call
	Information	Outgoing call
	Information	Incoming call without status
	Information	Outgoing call without status
	Information	Outgoing call from web-interface
	Information	Missed call

Priority	Category	Event
High	Access	Access denied by remote server
	Access	Access granted by remote server
	Access	Wrong input code
	Access	Unknown identifier
	Access	Access denied by invalid face identifier
	Access	Unknown QR code
	Access	Access granted by the web interface
	Access	Access denied by the web interface
	Access	Lock opened by response device
	Access	Not valid identifier
	Access	Access granted by valid license plate
	Access	Access denied by not valid license plate
	Access	Access denied by unknown license plate
	Emergency	Tamper event
Critical	Access	Lock opened too long
	Access	Door is open too long
	Emergency	Abnormal event
	Emergency	Emergently event
	System	Firmware update

Also, there is a filter by **date** (created at), **category**, **priority**, **code**, **device**, **identifier**, **owner**, or created **marker**. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all events before the date.



You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



9.3 Queue tasks

Some data for devices[72](SIP, Network, or Address settings), adding/deleting identifiers can be done in the Link and sent to the required device. In this section, you can monitor tasks status and results, restart queues or delete .

72 https://wiki.bas-ip.com/basiplinken/devices-135955918.html

MATCH ALL + ADD FILTER

DELETE SELECTED

ID	Device	Type	Status	Result	Created at	Updated at
14244	lift controller 2	Sending elevator controllers	Completed	controller settings updated, controller floor map updated	2022-10-04 16:59	2022-10-04 16:59
14243	lift controller 2	Sending elevator controllers	Completed	controller settings updated, controller floor map updated	2022-10-04 16:58	2022-10-04 16:59
14242	lift controller 2	Sending elevator controllers	Completed	controller settings updated, controller floor map updated	2022-10-04 16:57	2022-10-04 16:59
14241	AV03BD	Sending identifiers	New		2022-10-04 12:29	
14240	Panel AA14 Office	Sending identifiers	New		2022-10-04 12:29	
14239	CR02BD	Sending identifiers	New		2022-10-04 12:29	
14238	AV03BD home	Sending identifiers	Completed	Success: 7, Errors: 0	2022-10-04 12:29	2022-10-04 12:29

Here is the whole list of all tasks that can be displayed in the tab:

- sending settings;
- sending Link settings;
- sending SIP settings;
- sending virtual numbers;
- sending identifiers;
- deleting identifiers;
- sending identifiers to the elevator controller;
- deleting identifiers from the elevator controller;
- sending schedules;
- deleting schedules.

There is a filter by device and status (new, queued, started, completer, error). So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s.

MATCH ANY STATUS EQUALS ERROR + ADD FILTER SAVE AS

DELETE SELECTED

ID	Device	Type	Status	Result	Created at	Updated at
14231	CR02BD	Sending identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3000 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html) /share/app/Services/Transport/Http/HttpClient.php 141	2022-10-04 10:42	2022-10-04 10:42
14227		Sending identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3001 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html) /share/app/Services/Transport/Http/HttpClient.php 141	2022-10-04 10:42	2022-10-04 10:42
14218	AA14 home	Deleting identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3000 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html)	2022-10-04 10:41	2022-10-04 10:41
14214	AV03BD	Deleting identifiers	Error	Http client error: 500, Server error: `POST http://localhost:48088/devices/request/8554d877-d9dc-48d7-9977-923a822b8bb3/46ca9bb5-21ca-477d-8567-98fd7c483b88?accessToken=1G10iaRlnogD88WJgrq3&connectionTimeout=3000&requestTimeout=600000` resulted in a `500 Internal Server Error` response: {"error": "device connection timeout reached"}	2022-10-04 10:41	2022-10-04 10:41
14212	Panel camdroid AV01BD	Deleting identifiers	Error	Http client error: 0, cURL error 7: Failed to connect to 91.225.165.47 port 5313: No route to host (see https://curl.haxx.se/libcurl/c/libcurl-errors.html)	2022-10-04 10:41	2022-10-04 10:41

You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can **save** your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

MATCH ANY | STATUS EQUALS ERROR | + ADD FILTER | SAVE AS | SEGMENTS

DELETE SELECTED

ID	Device	Type	Status	Result	Created at	Updated at
14231	CR02BD	Sending identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3000 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html) /share/app/Services/Transport/Http/HttpClient.php 141	2022-10-04 10:42	2022-10-04 10:42
14227		Sending identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3001 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html) /share/app/Services/Transport/Http/HttpClient.php 141	2022-10-04 10:42	2022-10-04 10:42
14218	AA14 home	Deleting identifiers	Error	Http client error: 0, cURL error 28: Connection timed out after 3000 milliseconds (see https://curl.haxx.se/libcurl/c/libcurl-errors.html)	2022-10-04 10:41	2022-10-04 10:41
14214	AV03BD	Deleting identifiers	Error	Http client error: 500, Server error: `POST http://localhost:48088/devices/request/8554d877-d9dc-48d7-9977-923a822b8bb3/46ca9bb5-21ca-477d-8567-98fd7c483b88?accessToken=1G10iaRlnogD88WJgrq3&connectionTimeout=3000&requestTimeout=600000` resulted in a `500 Internal Server Error` response: {"error": "device connection timeout reached"}	2022-10-04 10:41	2022-10-04 10:41
14212	Panel camdroid AV01BD	Deleting identifiers	Error	Http client error: 0, cURL error 7: Failed to connect to 91.225.165.47 port 5313: No route to host (see https://curl.haxx.se/libcurl/c/libcurl-errors.html)	2022-10-04 10:41	2022-10-04 10:41

9.4 Status

In the Management system[73] settings of each BAS-IP device, it is possible to select MQTT or HTTP protocol for connection with the Link server. If MQTT protocol is used, a device by default sends a heartbeat (current status: online/offline) to the server, for HTTP this option can be enabled/disabled.

Here you can monitor the statuses of devices that are online with enabled MQTT protocol or sending heartbeat feature for HTTP protocol.

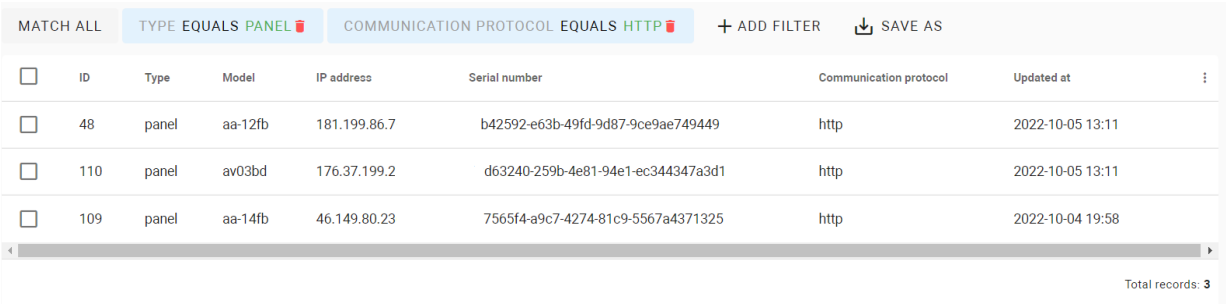
MATCH ALL | + ADD FILTER

ID	Type	Model	IP address	Serial number	Communication protocol	Updated at
48	panel	aa-12fb	181.199.86.7	eb42592-e63b-49fd-9d87-9ce9ae74944	http	2022-10-05 12:44
76	lift-controller	evrc-ip	176.37.199.24	e9198a7-bd6b-48f2-9fb3-dc7451c8705	http	2022-10-05 12:44
110	panel	av03bd	176.37.199.2	2d63240-259b-4e81-94e1-ec344347a3	http	2022-10-05 12:44
109	panel	aa-14fb	46.149.80.23	c7565f4-a9c7-4274-81c9-5567a4371	http	2022-10-04 19:58

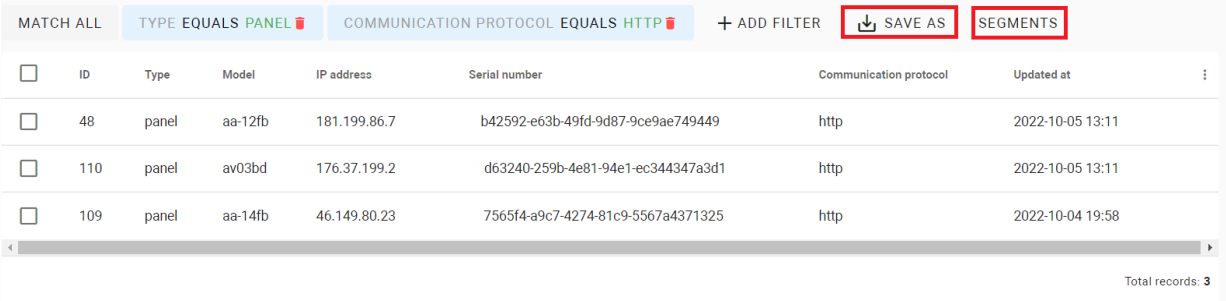
Total records: **4**

There is a filter by serial number, device IP address, model, type, and communication protocol. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.

73 https://wiki.bas-ip.com/aa07/network-135955054.html



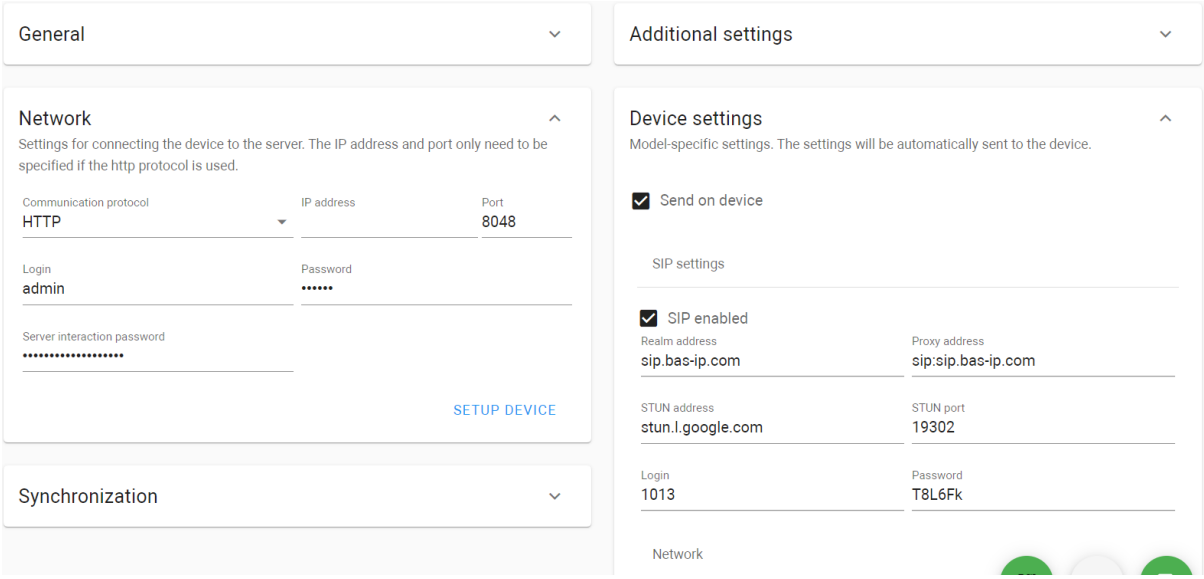
In addition, you can **save** your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



9.5 Device initialization

Only for SP-03 you can prepare some configurations on the Link server and apply them to the device. To send settings from the Link server to the device, you need:

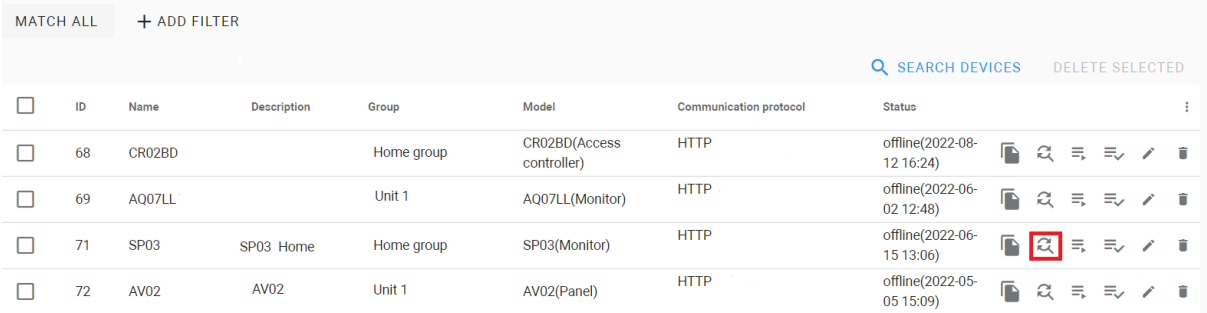
1. Open the Device[74]tab to add the SP-03 device to the Link tab.
2. Add the device and enter all required settings (network, SIP, management system, address) you want to send to the device.



3. Save entered data.

74 https://wiki.bas-ip.com/basiplinken/devices-135955918.html

4. Find the added device in the list and click the **Initialize device** button.



5. On the device, press button for 5 sec to start sending settings. The changing backlight flashing indicates that the device has switched to the automatically receiving settings mode.
6. The process takes some time. In case of successful initialization, the device will play the corresponding sound and the backlight will flash in different colors 3 times. After this, the device will be ready to work.

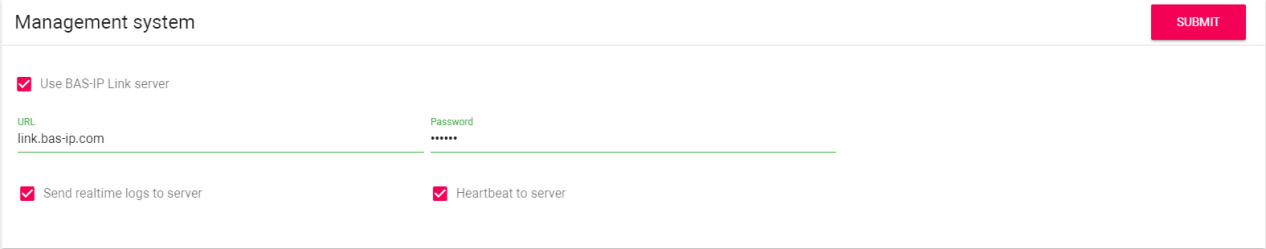
10 Elevator management

This section is for EVRC-IP elevator controllers management and configuration. EVRC-IP allows users to call the elevator to the required floor from the monitor or Link app, to call the elevator to the ground floor for visitors, and to call it when bringing identifiers to the panel reader. Also, there is an opportunity to configure access to selected floors for each identifier.

An elevator controller must be connected[75]to the devices system and configured for operation with the Link server.

10.1 Configuration from the EVRC-IP side

1. Log in to the device web interface. By default, the username is **admin**, and the password is **123456**.
2. Go to the **Network** tab > **Management system** section.
3. Activate the **Use of the BAS-IP Link server**.
4. Enter an **IP address** or **domain name** of the server where the Link software is installed.
5. Provide device **password** to Link server.
6. If necessary, you can activate **sending of real-time logs** and **heartbeat** (current status: online/offline) from the elevator controller to the server.
7. Submit settings.



The following links contain information about the main steps of Link server configuration for operation with the EVRC-IP elevator controllers:

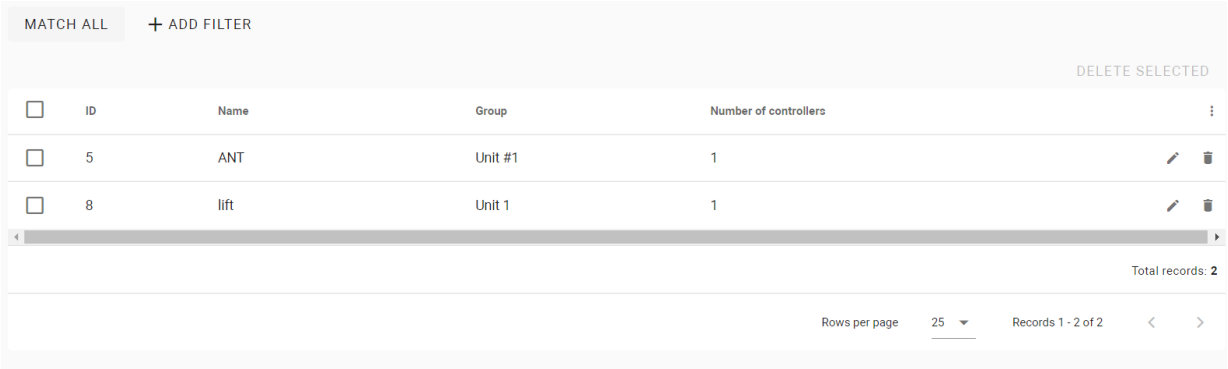
- Elevators(see page 103)
- Elevator logs(see page 106)
- Elevators access restrictions(see page 110)

75 https://wiki.bas-ip.com/evrcip/connection-scheme-135957519.html

10.2 Elevators

In this section, you can manage EVRC-IP elevator controller settings for correct operation. For correct elevator controller work, check[76] what settings must be done from the EVRC-IP side.

- How to configure an elevator controller(see page 103)
- Elevators filtering(see page 106)



Tip

Full manual about an EVRC-IP elevator controller configuration and installation you can find here[77].

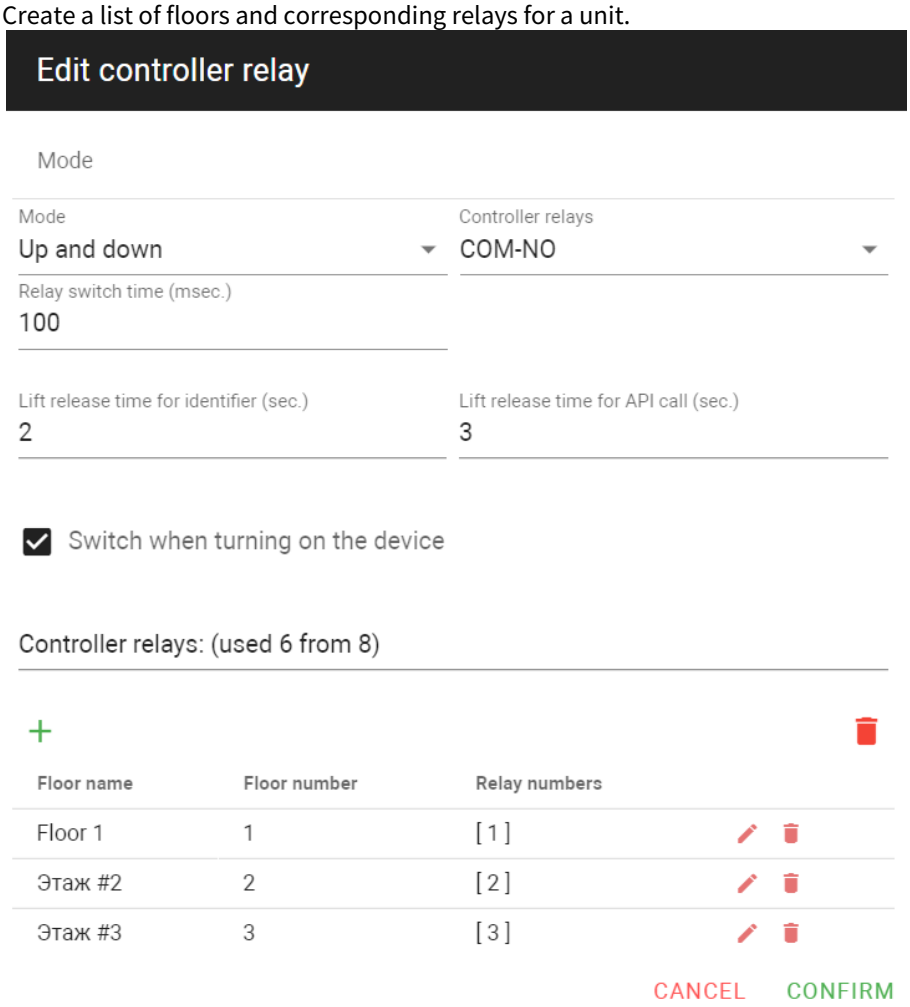
10.2.1 How to configure an elevator controller

Before controller configuration, it must be added in the Device[78] tab.

1. Open the **Elevators** tab of the Elevator management section.
2. Click **plus** icon in the left low corner.
3. Enter the elevator name.
4. Select a group where it is placed.
5. Tick **send elevator controller settings** on the device so that the settings data is transmitted to the controller.
6. Select available mode[79]: Up (an elevator moves only in the upward direction), Down (movement is only in the downward direction), Up and down (both directions are available), Access by identifier (movement only to those floors that are available for the used identifier).
7. Select relay **type**: COM-NO/COM-NC.

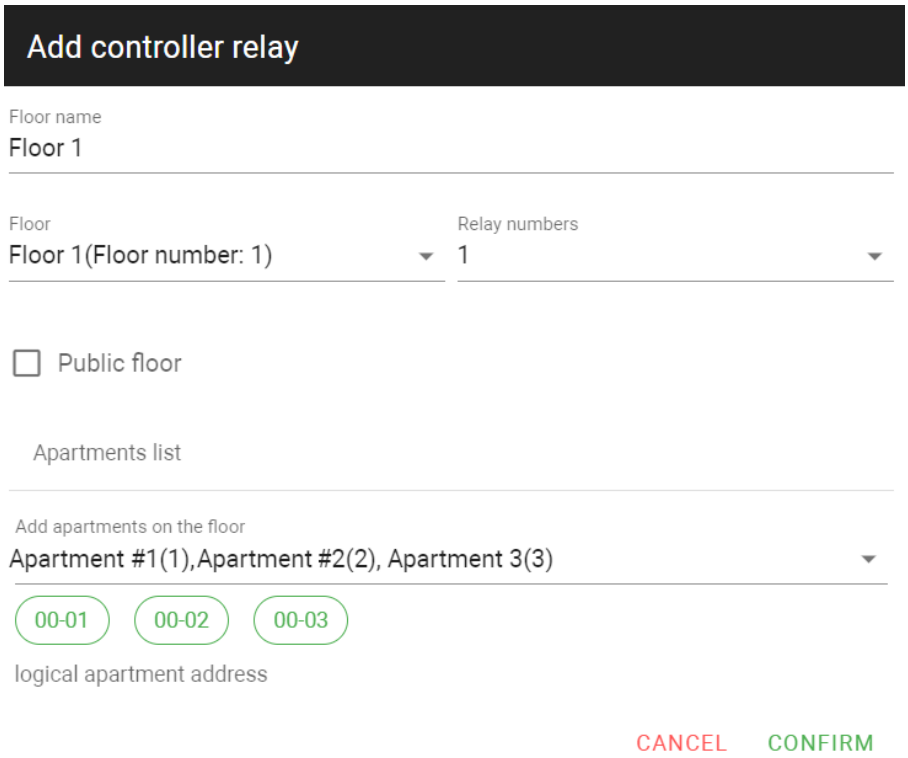
76 https://wiki.bas-ip.com/basiplinken/elevator-management-135955958.html
77 https://wiki.bas-ip.com/evrcip/evrc-ip-135957507.html
78 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
79 https://wiki.bas-ip.com/evrcip/device-135957549.html

8. Set the **time** during which the relay will be switched.
9. Set lift **release time** (during which relay will be closed/opened) for identifier and for API call.
10. If necessary, enable the **switching relay when turning on the device**.
11. You can see the number of available and used relays. For Up and down mode only 8 relays are available, for other modes 16 can be used.
12. Create a list of floors and corresponding relays for a unit.

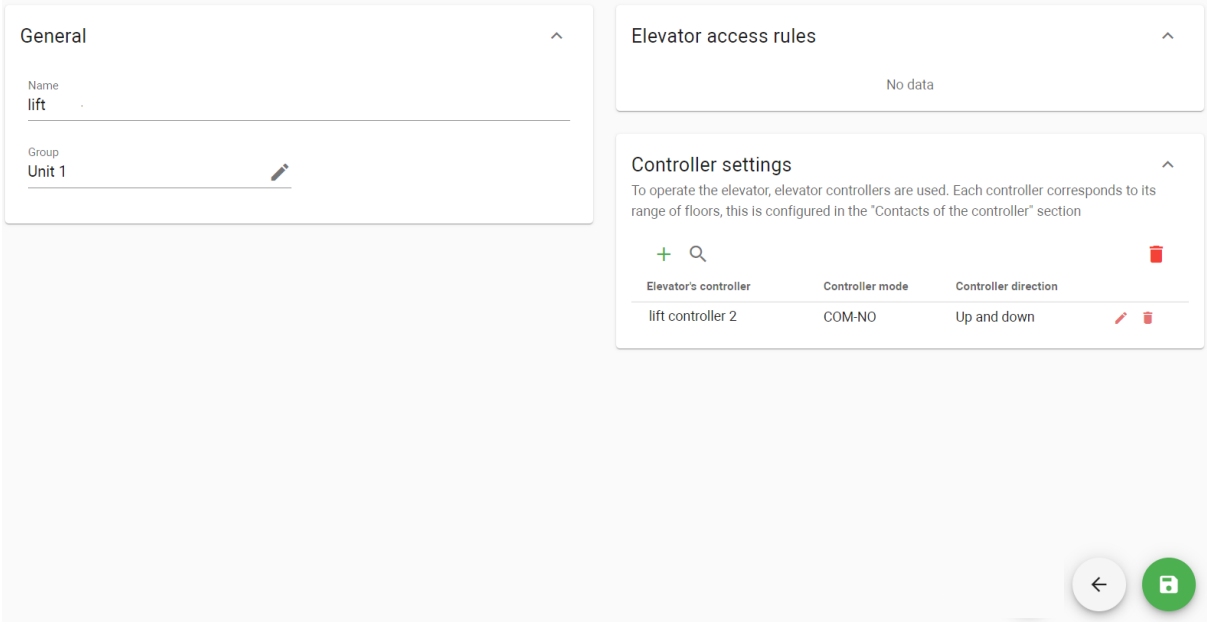


13. To add a floor click **plus** icon.
14. Enter **Floor No**. and **Relay No.** that connected to this floor at the controller.
15. Indicate whether the floor is public or not. Users will always have access to the public floor despite their identifier settings.
16. Select necessary apartments located on the floor (data is automatically taken from the Groups tab).

17. Click Confirm to add the floor to the list.



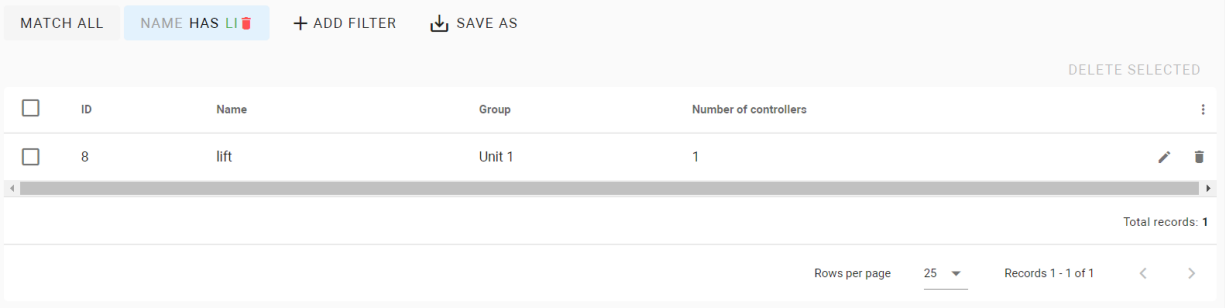
18. Click **Confirm** to add the controller when you enter all necessary data.
19. Click the **Save** button in the left low corner.



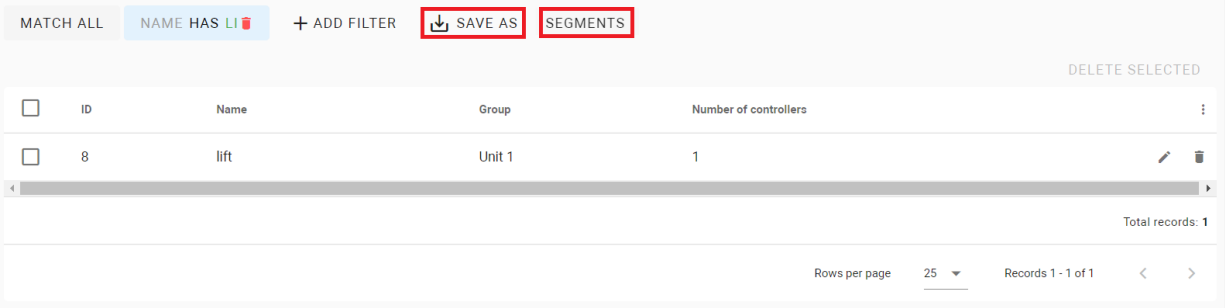
20. Open the **Device settings** tab of the Device management tab and find the controller.
21. Check the correctness of settings (if they are the same as entered in the Elevators tab).
22. Enable send on device feature to transmit entered settings to the controller.
23. Save changes.

10.2.2 Elevators filtering

There is a filter by name and group. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate) or contain (has) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



10.3 Elevator logs

This tab contains a log that displays all the events that happened with elevator controllers: login to the web interface, lock opening using an identifier, elevator called, etc. You can export all logs by clicking the corresponding button.

MATCH ALL + ADD FILTER

ONLINE MODE REFRESH DATA EXPORT TO

Created at	Category	Priority	Event	Markers	Info	Source
2022-09-29 17:47:24	System	Low	Login to the web interface		Successful (admin) login to the web interface	lift controller 2
2022-09-26 16:36:05	Access	Medium	Elevator called to the floor		Floor number - 1, name - #1, source - interface.api	lift controller 2

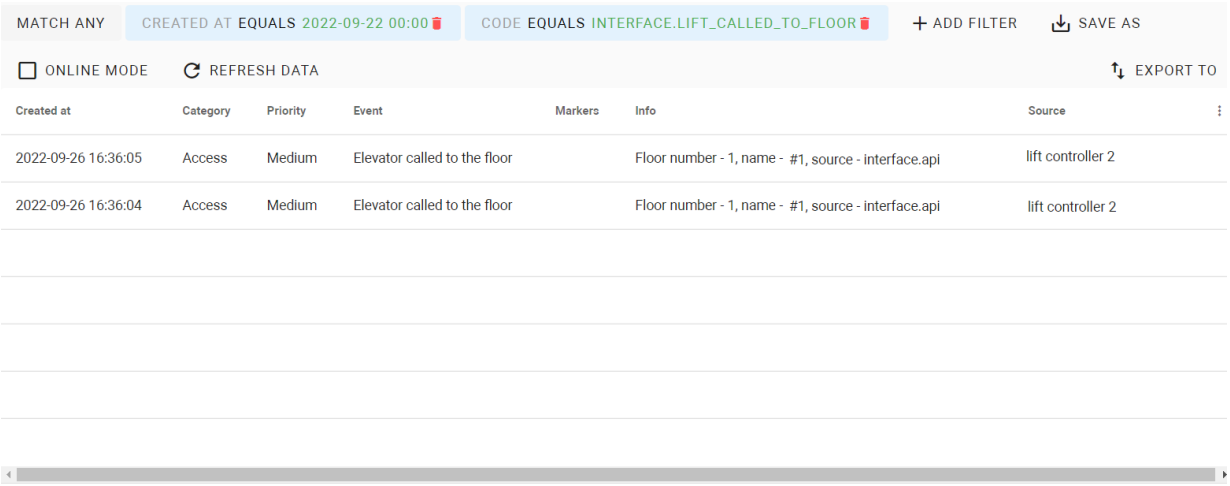
List of all events displayed in the log:

Priority	Category	Event
Low	Information	Device Booted
	System	SIP registration lost
Medium	Access	Door was opened
	Access	Door was closed
	Access	Lock was opened by free access button
	Access	Lock opened by exit button
	Access	Lock opened by identifier
	Access	General access code entered
	Access	Access granted by valid face identifier
	Access	Lift called to floor
	System	Login to the web interface
	System	Unsuccessful attempt to enter GUI settings

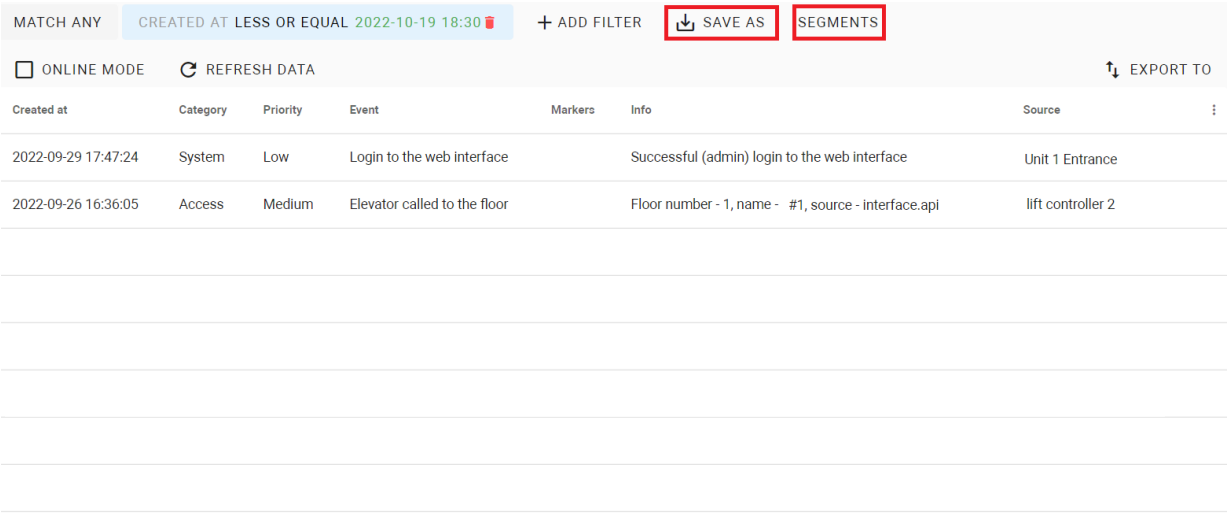
Priority	Category	Event
	System	Successfully logging into GUI settings
	Information	Incoming call
	Information	Outgoing call
	Information	Incoming call without status
	Information	Outgoing call without status
	Information	Outgoing call from web-interface
	Information	Missed call
High	Access	Access denied by remote server
	Access	Access granted by remote server
	Access	Wrong input code
	Access	Unknown identifier
	Access	Access denied by invalid face identifier
	Access	Unknown QR code
	Access	Access granted by the web interface
	Access	Access denied by the web interface
	Access	Lock opened by response device
	Access	Not valid identifier
	Access	Access granted by valid license plate
	Access	Access denied by not valid license plate

Priority	Category	Event
	Access	Access denied by unknown license plate
	Emergency	Tamper event
Critical	Access	Lock opened too long
	Access	Door is open too long
	Emergency	Abnormal event
	Emergency	Emergently event
	System	Firmware update

Also, there is a filter by **date** (created at), **category**, **priority**, **code**, **device**, **identifier**, its **owner**, or created **marker**. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all events before the date.

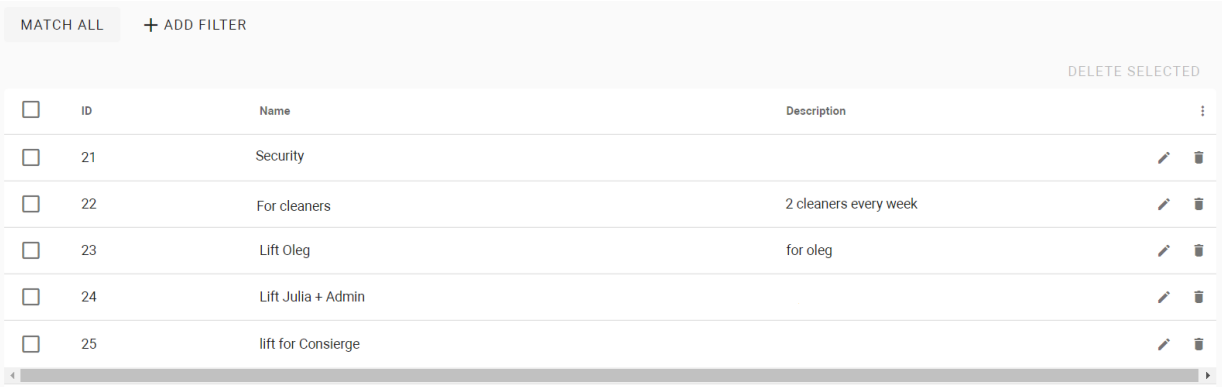


You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.



10.4 Elevators access restrictions

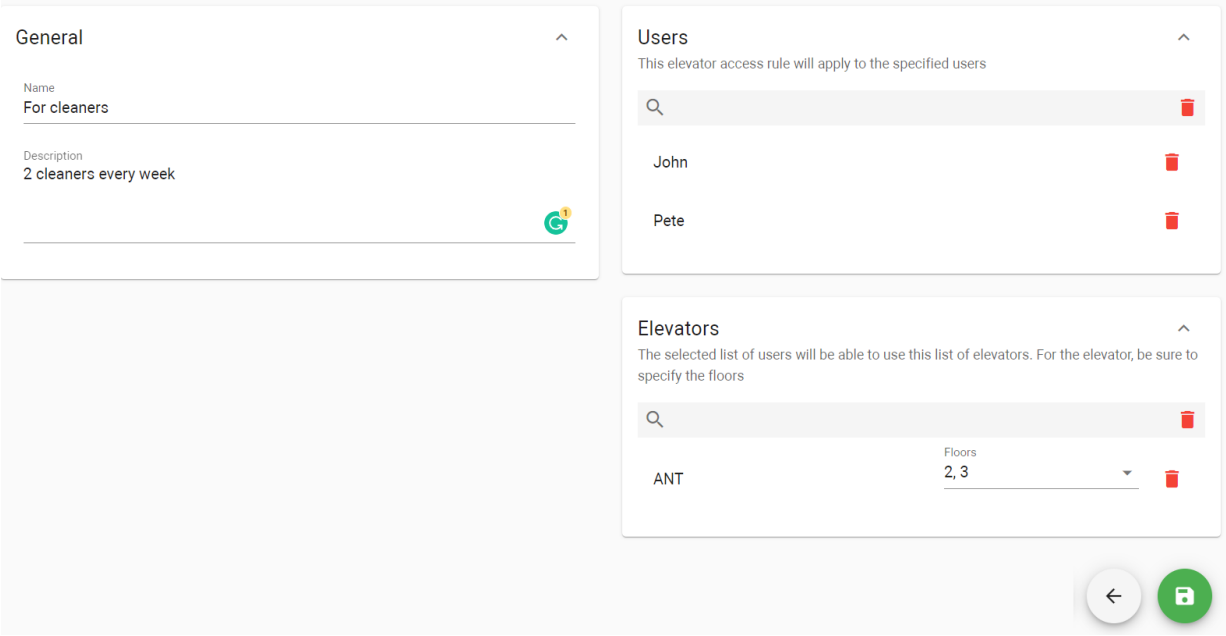
With the access restrictions help, you can configure giving access to these or those elevators for concrete users. With the help of and buttons, you can edit or delete restrictions.



10.4.1 How to create access restriction for an elevator

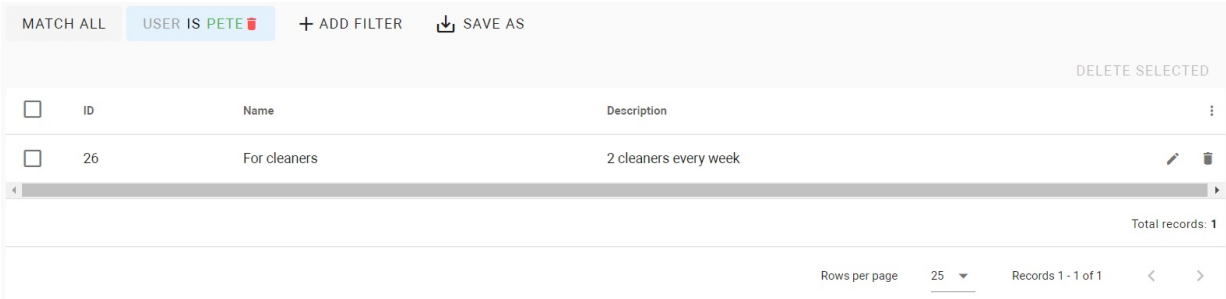
1. Go to the **Access restriction** tab of the Elevator management section.
2. Click **plus** icon in the left low corner.
3. Enter the restriction **name**.
4. Add **description**, if required.
5. Select **user/s**[80]from the list to whom this restriction will be applied.
6. Select the elevator[81] that the selected users can use.
7. Specify **floor**/s to which user/s will have access.
8. Click the **Save** button in the low left corner after entering all required data.

80 https://wiki.bas-ip.com/basiplinken/users-135955765.html
81 https://wiki.bas-ip.com/basiplinken/elevators-135955962.html

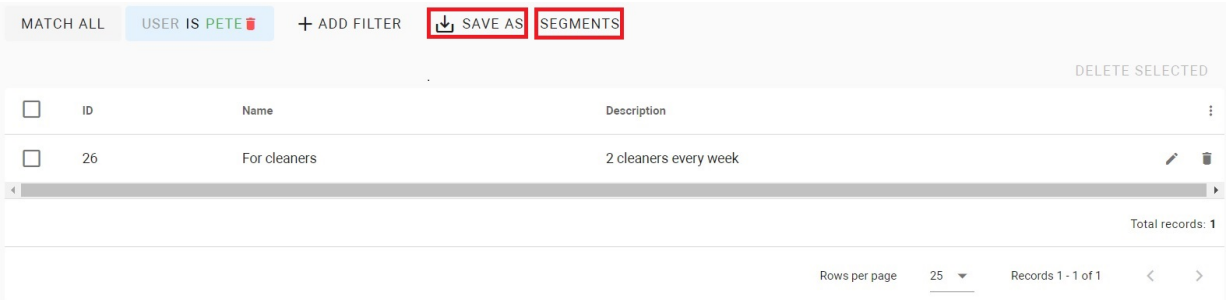


10.4.2 Access restrictions filtering

Also, there is a filter by name, user, and elevator. So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameters. For some searches, results can **equal** your search (so to be exactly as you indicate), or **contain** (has) it. You can select a few parameters and choose whether the results will **match all** filters or **any** of them.



In addition, you can save your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.


MATCH ALL
USER IS PETE
+ ADD FILTER
SAVE AS
SEGMENTS
DELETE SELECTED
ID
Name
Description
26
For cleaners
2 cleaners every week
Total records: 1
Rows per page
25
Records 1 - 1 of 1

11 Settings

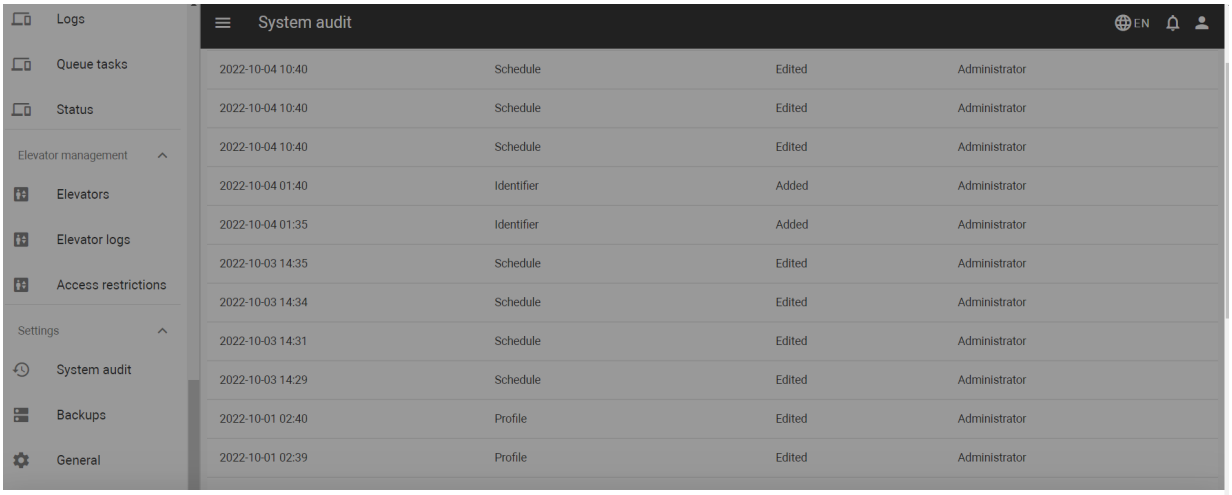
11.1 System audit

This section displays a list of all events that happened in the system: adding/editing/deleting users, groups, areas, access restrictions, schedules, and identifiers. So, you can monitor all changes on the server, when they were, and who did them.

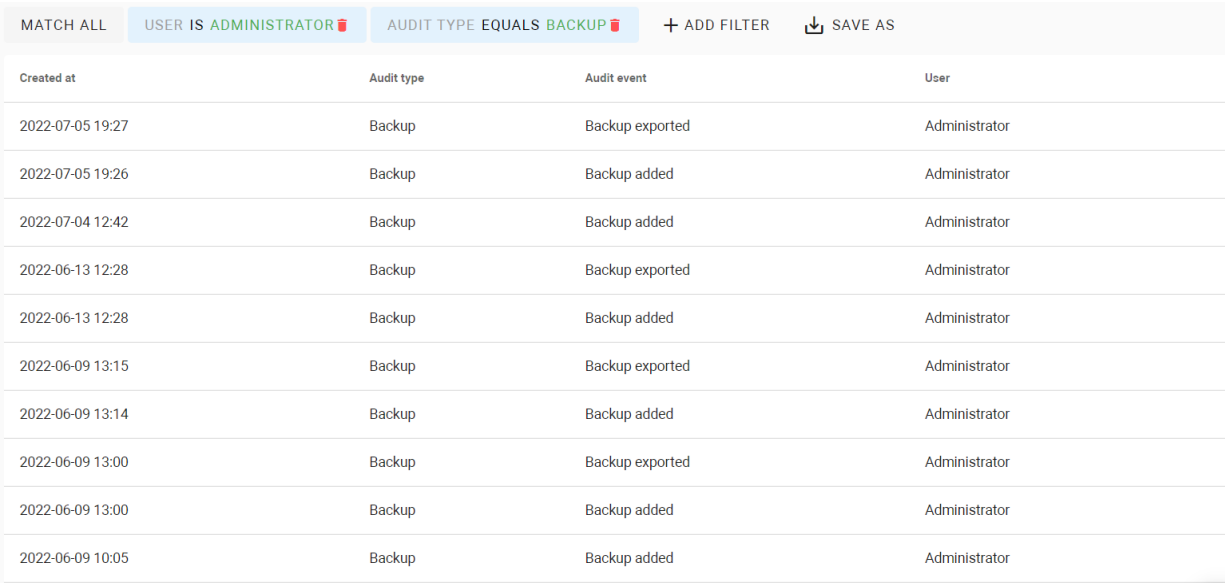
MATCH ALL + ADD FILTER

From	User	To	User	Duration(sec)	Status	Date
1664	Consierge	1644	John	53	Answered	2022-09-13 17:28
1664	Consierge	1644	Administrator	72	Canceled	2022-09-13 17:21
1549	Juli	1644	Pete	69	Answered	2022-09-13 17:19
1549	Administrator	1644	Anna	0	Failure	2022-09-13 17:01
1549	Max	1644	Consierge	0	Canceled	2022-09-13 17:01
1549	Anna	1663	Administrator	91	Canceled	2022-09-13 16:59
1549	Pete	1756	Max	16	Not answered	2022-09-13 16:59
1023	Administrator	1663	Juli	10	Answered	2022-09-13 16:57
1023	John	1644	Consierge	0	Canceled	2022-09-13 16:56
1023	Herman	1663	John	4	Answered	2022-09-13 16:55

By clicking an event about adding or deleting data, this information will display to check what exactly was added/deleted. By clicking an event about ending data, you can look at the original variant or edited.



There is a filter by **date**, **user**, **audit type** (access restriction, authorization, announce, backup, device, group, identifier, mail server, marker, profile, schedule, user), and **audit event** (added, edited, deleted, setting changes, backup added, backup deleted). So, you can configure a flexible data display and quick search. To do this, you need to click the **Add filter** button and set the necessary parameter/s. For some searches, results can **equal** your search (so to be exactly as you indicate), or they can be **less** or **great** than your parameter, e.g. search less than indicated date will display all events happened before.



You can select a few parameters and choose whether the results will **match all** filters or **any** of them. In addition, you can **save** your search parameters for further use by clicking the corresponding button. All saved parameters are displayed after clicking the **Segments** button.

MATCH ALL | USER IS ADMINISTRATOR | AUDIT TYPE EQUALS BACKUP | + ADD FILTER | SAVE AS | SEGMENTS

Created at	Audit type	Audit event	User
2022-07-05 19:27	Backup	Backup exported	Administrator
2022-07-05 19:26	Backup	Backup added	Administrator
2022-07-04 12:42	Backup	Backup added	Administrator
2022-06-13 12:28	Backup	Backup exported	Administrator
2022-06-13 12:28	Backup	Backup added	Administrator
2022-06-09 13:15	Backup	Backup exported	Administrator
2022-06-09 13:14	Backup	Backup added	Administrator
2022-06-09 13:00	Backup	Backup exported	Administrator
2022-06-09 13:00	Backup	Backup added	Administrator
2022-06-09 10:05	Backup	Backup added	Administrator

11.2 Backups

In this tab, you can save basic data (user, identifiers, groups, devices, access restrictions) from the server or restore settings from previous backups.

RESTORE FROM FILE | DELETE SELECTED

Name	Backup data	Created at
1	Access configuration, Devices, Groups, Users/identifiers	2022-04-15 12:19
3	Groups, Devices, Access configuration	2022-05-09 10:26
20220513	Users/identifiers, Groups, Devices, Access configuration	2022-05-13 10:02
2022-05-20 2343	Users/identifiers, Groups, Devices, Access configuration	2022-05-20 23:44
20220602-203534	Users/identifiers, Groups, Devices, Access configuration	2022-06-02 20:35
20220603-162713	Users/identifiers, Groups, Devices, Access configuration	2022-06-03 16:27
test	Users/identifiers, Groups, Devices, Access configuration	2022-06-03 16:47
20220609-100458	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 10:05
test	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 13:00
20220609-131434	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 13:14

To back up data, you must click **plus** icon in the left low corner, enter a **name** or confirm the suggested one. As a result, the copy will be displayed in the list where you can download it to your computer, restore or delete this backup.

To restore data from the downloaded copy, click Restore from the file button and select the required file from the computer.

RESTORE FROM FILE DELETE SELECTED

Name	Backup data	Created at
1	Access configuration, Devices, Groups, Users/identifiers	2022-04-15 12:19
3	Groups, Devices, Access configuration	2022-05-09 10:26
20220513	Users/identifiers, Groups, Devices, Access configuration	2022-05-13 10:02
2022-05-20 2343	Users/identifiers, Groups, Devices, Access configuration	2022-05-20 23:44
20220602-203534	Users/identifiers, Groups, Devices, Access configuration	2022-06-02 20:35
20220603-162713	Users/identifiers, Groups, Devices, Access configuration	2022-06-03 16:27
test	Users/identifiers, Groups, Devices, Access configuration	2022-06-03 16:47
20220609-100458	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 10:05
test	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 13:00
20220609-131434	Users/identifiers, Groups, Devices, Access configuration	2022-06-09 13:14

11.3 General

In this tab, you can configure general server settings. After changing any settings, click **Confirm** at the end of the page.

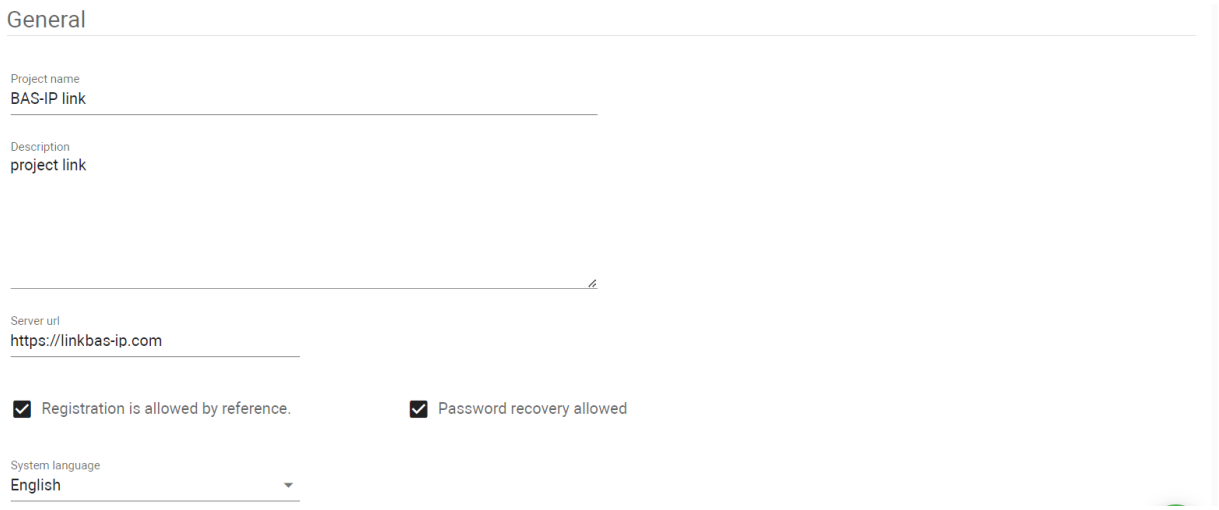
- General(see page 116)
- Mail Server settings(see page 117)
- Notifications(see page 118)
- Devices(see page 118)

11.3.1 General

In this section you can:

- enter your project **name**;
- add project **description** (if necessary);
- enter **server URL**, e.g., https://linkbas-ip.com[82];
- enable **Registration is allowed by reference** field to be able to invite new users;
- **allow** users to self-**recover** their **password** by ticking the corresponding box. Otherwise, only an administrator will be able to do it;
- select **system language**: English, Russian.

82 https://dev.bas-ip.com



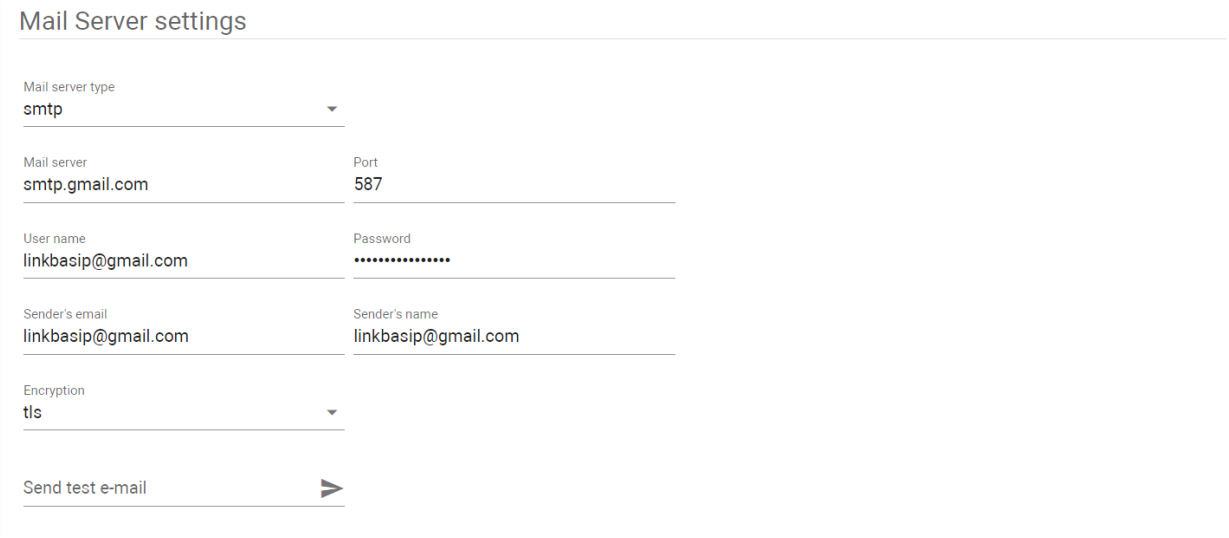
11.3.2 Mail Server settings

These settings are required Enter mail server settings to be able to send registration link and emails to users. You must enter:

- for the **mail server type** field select smtp (outgoing mail server);
- **mail server** address, e.g. smtp.gmail.com[83];
- mail server **port** number;
- SMTP server **username** (email address from which letters will be sent);
- email (from which letters will be sent) **password**;
- **sender email** (coincides with SMTP server username);
- **sender name** that will be indicated in letters;
- preferred **encryption** type: ssl or tls;

After entering the **mail server settings** check the correctness by **sending** a **test email**.

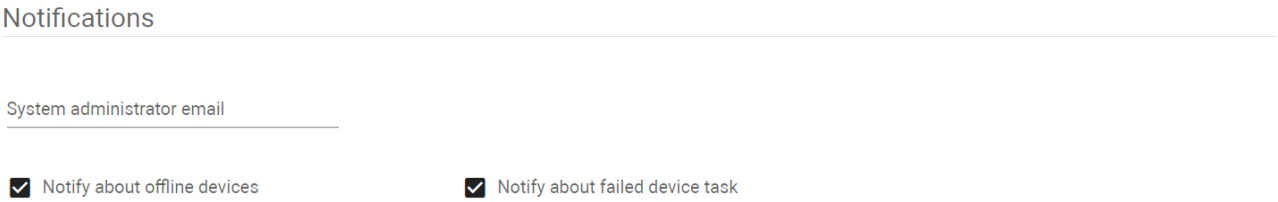
83 http://smtp.gmail.com



11.3.3 Notifications

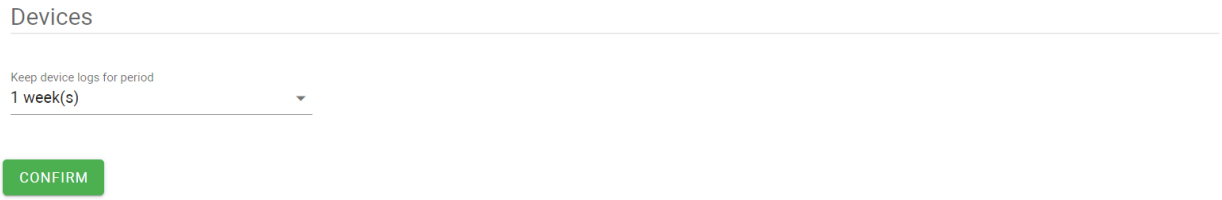
To get information about system functioning you must enter the **system administrator email**. And enable/disable what notifications you (as an administrator) want or don't want to receive:

- when devices become offline;
- when device tasks are filed.



11.3.4 Devices

Here you can configure how long the device logs must be kept: a day, a week, 2 weeks, or a month.



11.3.5 SIP settings

You can configure SIP settings in the section for correct SIP server functioning. After changing any settings, click **Confirm** at the end of the page.

11.3.5.1 SIP status

Here you can monitor SIP proxy and SIP node statuses. Click to refresh the service.

SIP status

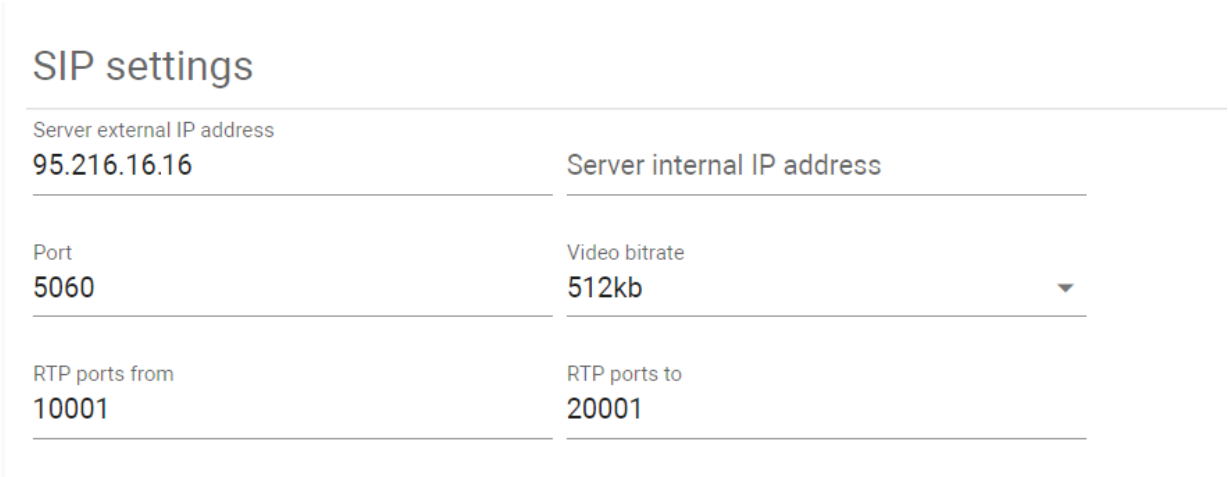
Type	IP address	Status	Actions
SIP proxy	95.216.166.9	online	
SIP node	95.216.166.9	online	

11.3.5.2 SIP settings

In this section, you can cofigure the SIP server. You must enter the following:

- only **server external IP address** if a public server is used;
- both **server external** and **internal IP addresses** if the server is behind NAT. In this case, server external address is router IP address, and the internal value is the server (computer) IP address where the Link is installed;
- UDP/TCP port for unencrypted SIP traffic. The default is 5060. For SIP over TLS, port 5061 is used;
- the maximum **bitrate** of the transmitted video stream. The default is 512kb/s.
- A pool from what **RTP ports** to what ports are used for audio/video transmission. The default values are from 10000 to 20000.

All ports require forwarding if the server is behind NAT.



11.3.5.3 Network interfaces

The value of the server external IP address is not required if the Link system is not complex and the server is not behind NAT. If the fields are left blank, the value of the server IP address will be used for them.

You must enter an external IP address, if:

- the server is behind NAT and one NIC is used. In this case, the IP address of the network card must be entered in both fields;
- the server is behind NAT and 2 network cards are used:
    - for the internal network in which the door phones are located;
    - for the external network through which the server connects to the Internet.

11.3.5.4 Internal subnets

You must enter the address of the subnets in which intercoms and SIP applications of users are connected. The record format is **subnet address/mask bit value**, for example, 192.168.1.0/24.

Internal subnetworks

Internal subnetwork
IP address ADD

No data

11.3.5.5 SIP nodes

These settings are required to fill if the container(s) of the SIP nodes are deployed on another server.

If a separate server with a node is behind NAT, then you must:

- enter the internal/external address of the node;
- forward a pool of RTP ports for a node.

If a separate server with a node is not behind NAT, then you must specify the external IP address of the node in both fields.

SIP nodes

External ip address
IP address

Internal ip address
IP address

ADD

No data

11.3.5.6 Additional SIP functionality

Here you can enable the feature of automatic creation of forward rules for apartment group user/s, sending them to device/s (if some devices are added/deleted the corresponding data will be added/deleted to/from devices), and data correction for device/s (if there are some changes in virtual numbers or logical address).

This feature simplifies forward rules configuration (when it's required to redirect calls from a panel to all user numbers) and management (you don't need to have access to a device to change a rule - it can be done in the Link when editing the group[84] with the device or in the Virtual numbers[85] tab or by the user in the Link app).

Also, you can delete all created forwarding queues from the server and devices.

84 https://wiki.bas-ip.com/basiplinken/groups-135955783.html
85 https://wiki.bas-ip.com/basiplinken/virtual-numbers-135955892.html

Warning

If forwarding rules are already created, be careful when enabling the feature, because automatically created rules may break previously created ones.

11.3.5.7 Used ports

The application uses the following ports:

- 5060 TCP/UDP: unencrypted SIP traffic port;
- 5061 TCP: port for SIP using TLS;
- 80 TCP: HTTP port;
- 443 TCP: HTTPS port;
- 6001 TCP: WebSocket port;
- 10000-20000 UDP: RTP ports for audio/video;
- 1883 TCP: unencrypted MQTT;
- 8883 TCP: encrypted MQTT.

If SIP proxies and nodes are running on more than one server with the Link server application, then the following ports must be forwarded to them:

- 48080: SIP proxy management port;
- 48081: SIP node management port.

11.3.6 SIP trunks

SIP trunks enabling makes it possible to make and forward calls to mobile numbers. For now, the Link works only with the Twilio platform. You can add multiple trunks on a server and assign them to groups.

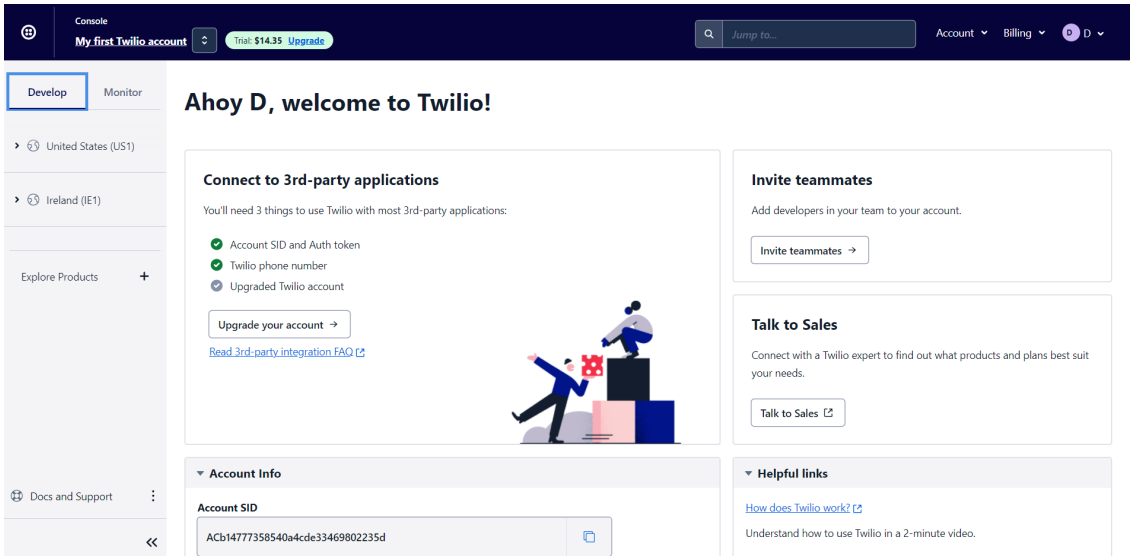
11.3.6.1 How to configure SIP trunks functioning

1. Register with Twilio.
2. Enter a reliable mobile number and verify it via SMS. It is used as CallerID.
3. Upgrade you account. It must not be Trial, as you will have to verify each called number manually. Also, you account must have positive balance.
4. Buy a number to make calls.

! Warning

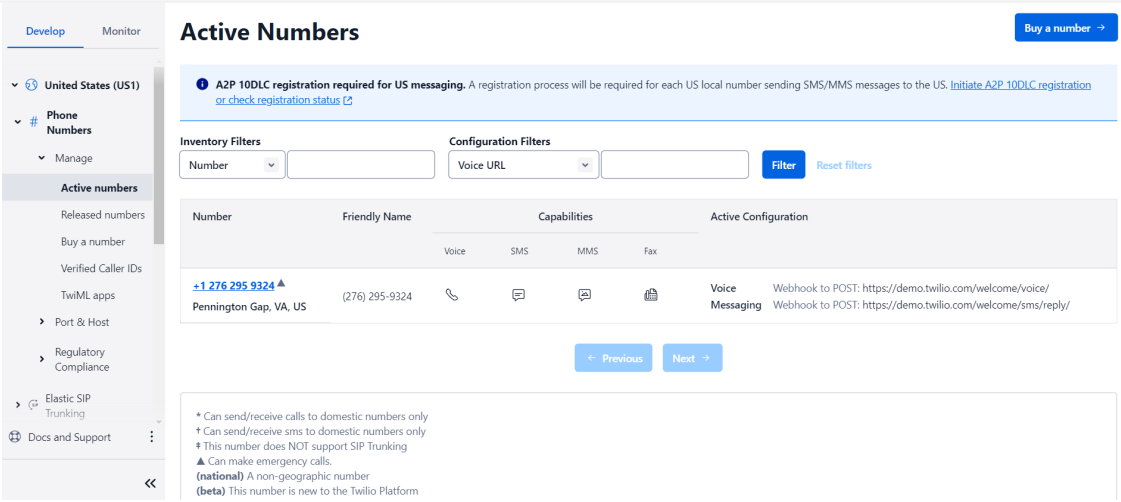
For this feature, you must have the Link version with SIP and the purchased license[86]with enabled SIP trunks.

Usually, you are recommended to buy a number as a part of your registration process.



You can check whether you have purchased number or not in the Phone Numbers > **Active Numbers** section.

86 https://wiki.bas-ip.com/basiplinken/licenses-135956024.html

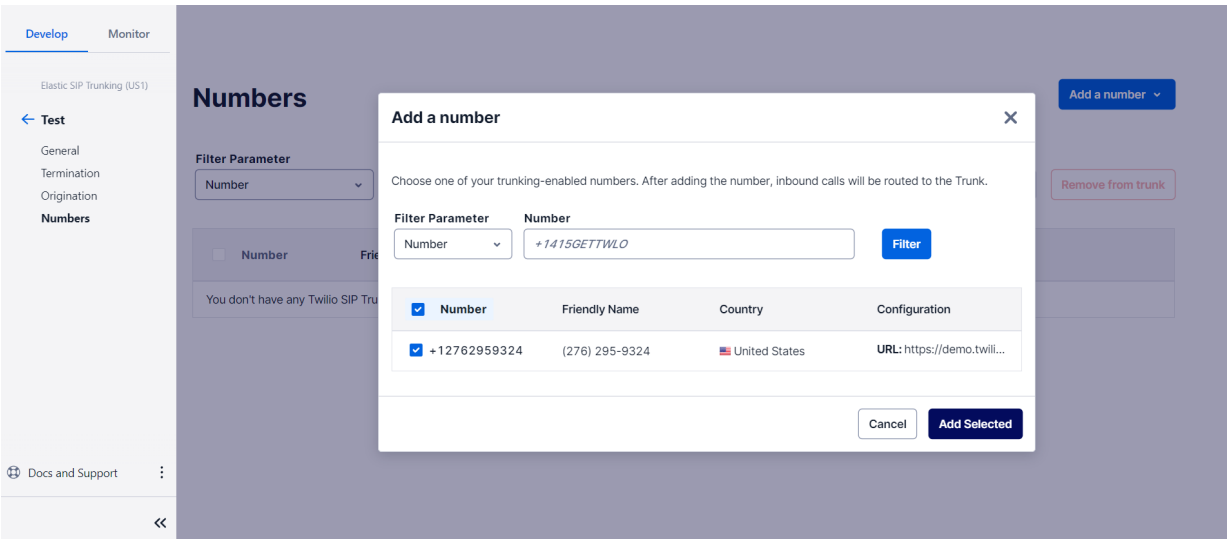


If there are no numbers, go to the **Buy a number** section. Select the country where the number is registered, its capabilities, and click Buy in the number line you are going to get.

5. Open Elastic SIP Trunks > Manage > **Trunks** and create SIP Trunk. The following settings are required for the trunk:

- disabled call recording;
- enabled SymmetricRTP;
- subdomain for SIP Trunks (in the Termination SIP URI section);
- IP access contol list: media servers and SIP proxies IP addresses (in the Authentication section). Only these IP addresses will be able to communicate with the trunk;
- credentials with which entered media server will call (in the Credential lists section);
- CallPerSec values for regions;

6. In the **Numbers section**, add an exesting (previously) created number for the trunk.



7. Select available for calls counties in the Voice > Settings > **Geo permissions** section.

8. Open General setting of the Link server and go to the **SIP trunks** tab.

9. Click plus icon (in the left low corner).

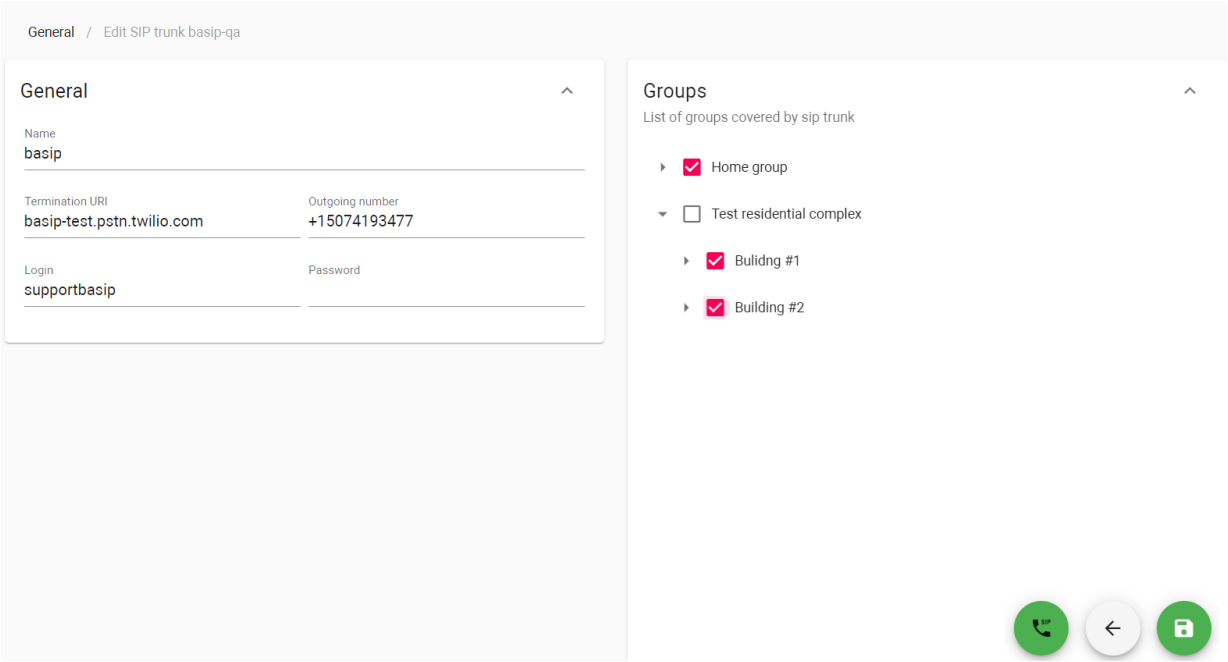
10. Enter all required data:

- trunk **name**;
- **termination SIP URI** (indicated in the step 5);
- **outgoing number** (number that the mobile user will see when he receives a call, CallerID);
- trunk **login** from twilio;
- trunk **password** from twilio.

11. Select **group(s)** for which this trunk will work. Users of these groups will use the trunks assigned to them when calling mobile numbers. It is possible to assign different trunks for root group(s) and subgroups.

> Only one trunk can be assigned to one group. If you select a group with assigned another trunk, then it will be replaced with the current one. Different trunks can be used for root group and its subgroups.
>
> In case when root group and subgroups have different trunks, the closest trunk to the user will be used for the call. For example, for Building #1 and Test residental complex different trunks are assigned. So, for a user from Building #1, tunks assigned to the Building #1 group will be used, as its the closest.

12. Save configurations.



11.3.7 Additional settings

Also in the General tab, you have access to some settings for the mobile app and system.

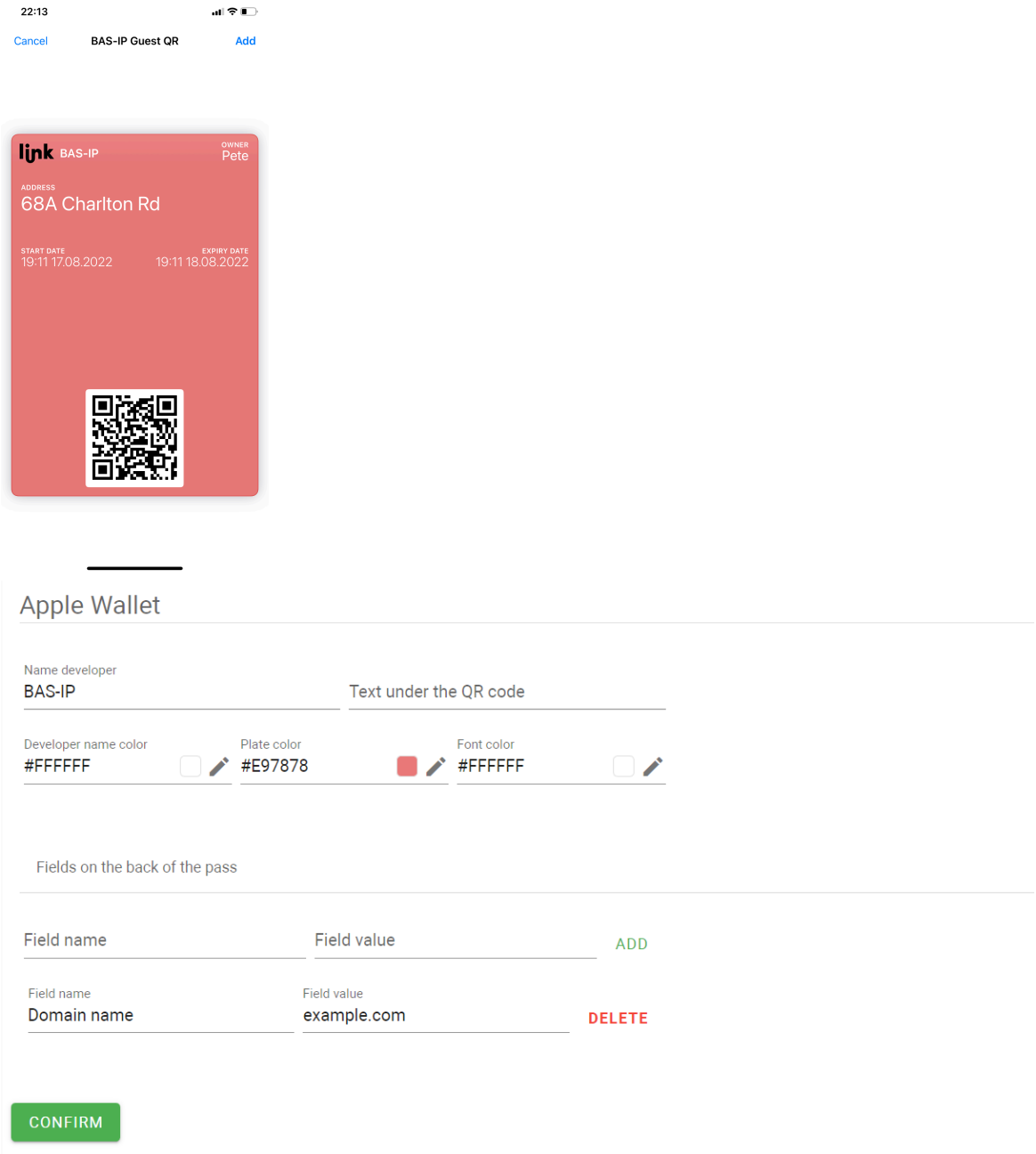
- Whitelabel(see page 126)
- Markers(see page 128)

- System settings(see page 129)
- Data import(see page 129)
- MQTT settings(see page 129)

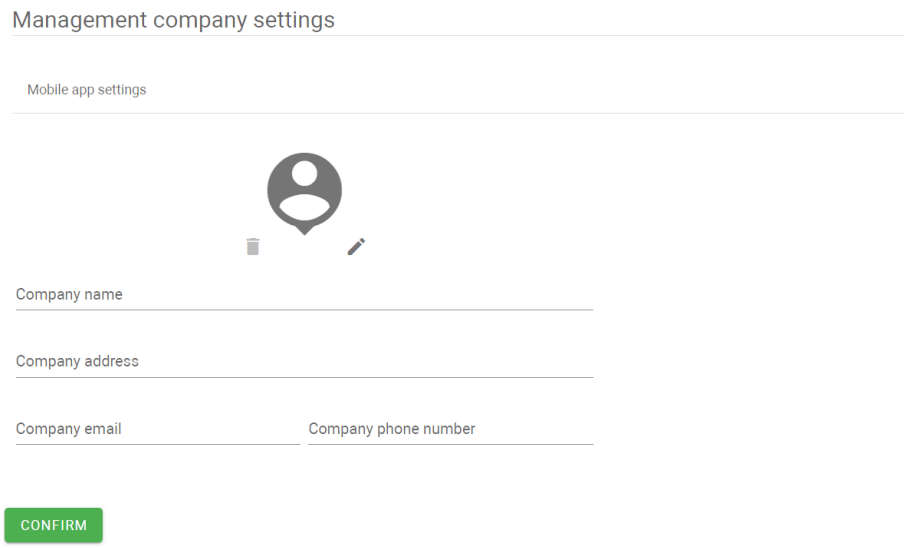
11.3.7.1 Whitelabel

Here you set some settings for the mobile app.

In the Apple wallet section, you can configure how guests passes will look. You can set: the developer name, the text under the QR code, colors for all elements, and info to display on the back of the pass.



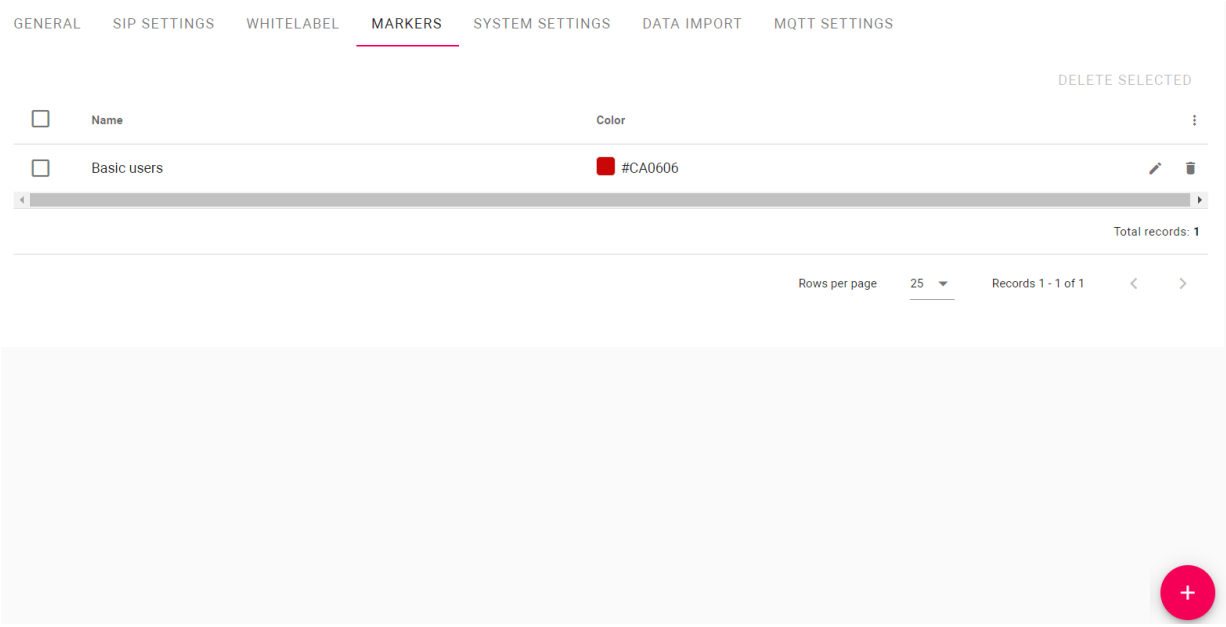
In the management company settings, you can add all the required for display information about the company.



11.3.7.2 Markers

In this section, you can create some markers and apply them to different users in the corresponding tab[87]. All events connected to the mark user will also be marked. So, this can help to monitor required users actions.

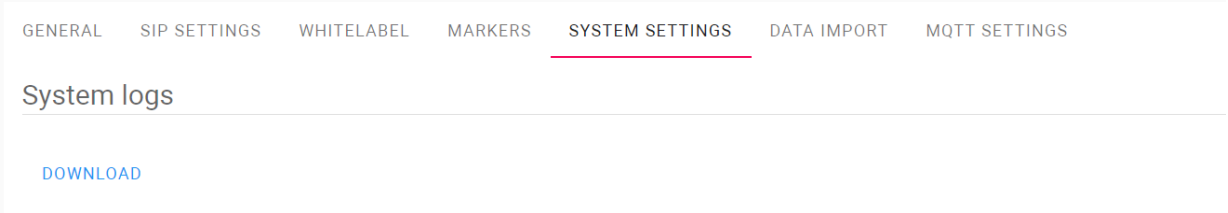
To add a marker, click the **plus** icon in the left low corner, enter the marker name, and select color.



87 https://wiki.bas-ip.com/basiplinken/users-135955765.html

11.3.7.3 System settings

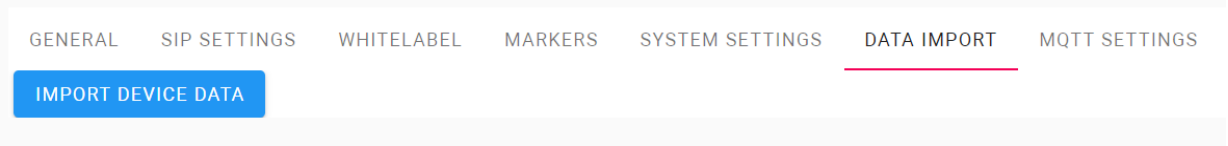
Here you can download system logs.



11.3.7.4 Data import

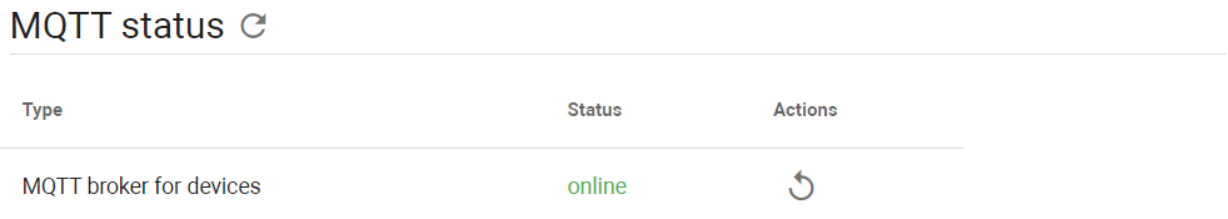
In the tab, you can import to the Link other device data such as identifiers from a panel. Data applies to the user that imports them and the devices available for the user.

This feature is necessary for not adding all the identifiers (available on the panel) to the Link manually. For example, on the object, there is a panel with added identifiers, but later you need to add these identifiers to the Link and a few more panels. So, you can import identifiers and they will automatically add to the Link and all available for you panels.



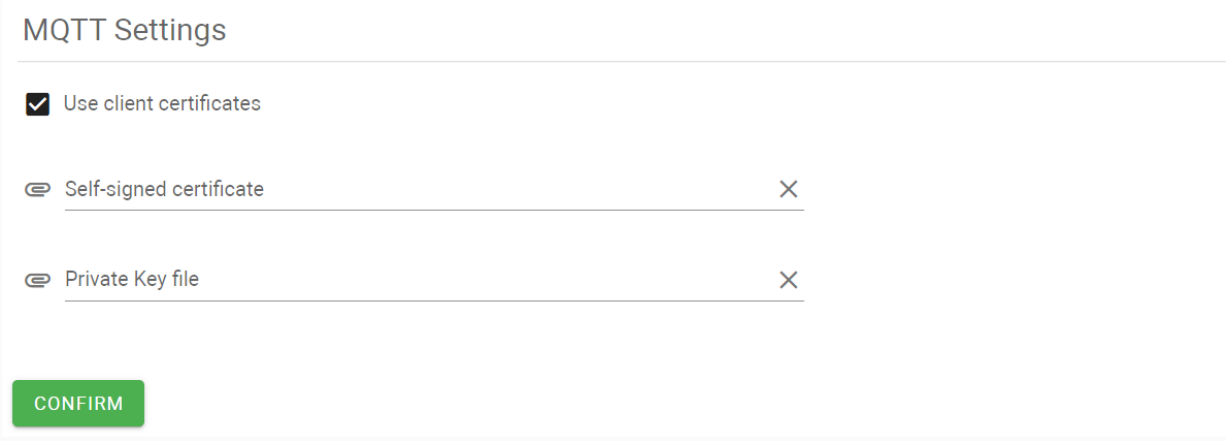
11.3.7.5 MQTT settings

Here you can check the MQTT broker status.



Also, you can **configure client certificates use** and upload a self-signed certificate or private key file. If you use **the version with a web proxy** and upload the **Let'sencrypt certificate**, the data will be encrypted using it. But if **the**

version without a proxy is used and a certificate is not indicated at all, the data will be encrypted with a **self-signed certificate**.



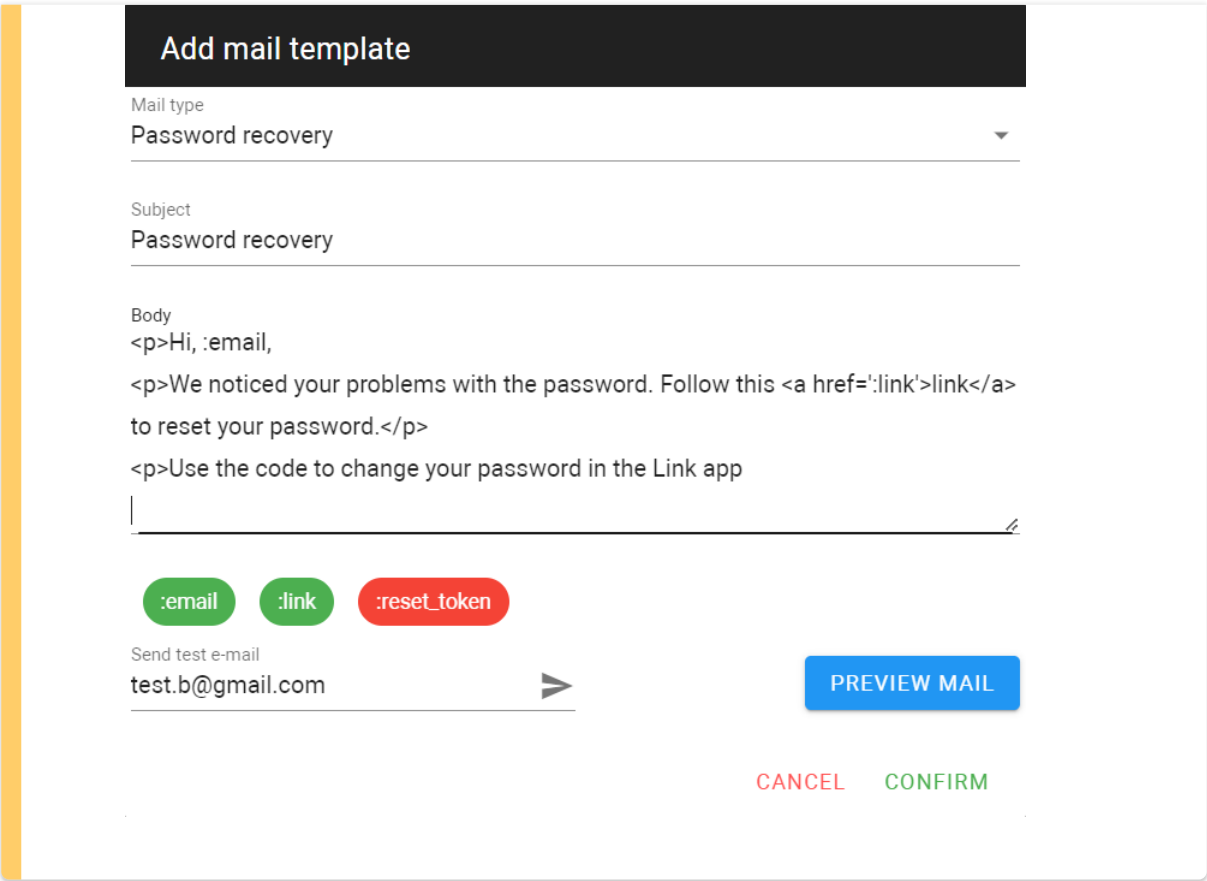
11.3.8 Mail Templates

In this tab, you can customize default mails for user registration invites, user password changes, and account password recovery. The system marks what obligatory data you must include, and all other info/language must be changed/added, e.g. the name of a residential area, its address, and so on.

11.3.8.1 How to create a mail template

1. Go to the General settings > **Mail Templates** tab.
2. Click **plus** icon in the low left corner.
3. Select the **Mail type** you want to edit.
4. Make necessary changes to the mail **subject** and **body**. HTML language is used for markup.

> Obligatory for mentioning element turns red, if you skip it.



5. Click **Preview** the mail if you need to check how it will look. Also, you can enter an **e-mail** to send a test version.
6. Confirm the template when all data are entered.

From the moment you create a template for any type of mail, it will be sent instead of a default email. To return default mail, delete the template for this type.

11.4 Licenses

In this section, you can check general information about purchased licenses for the project: validity period, available features (virtual number, mobile app, elevators, additional identifier types, SIP trunks, automatic creation of forward rules), and a number of available and used numbers.

Instance ID 8d26d1ce-0a04-11ec-9dbc-0242ac1e00

Virtual numbers Enabled	Total 5000	Used 449	Left 4551
SIP trunks Enabled	Web dialer Enabled		
Mobile app clients Enabled	Total 5000	Used 45	Left 4955
Edit group forward settings for mobil... Enabled			
Elevators Enabled			
Face recognition Enabled for guest identifiers			
License plates Enabled			

Also, you can check whether your license is active . If it is expired , you can upload a new license from the file or from the cloud.

ADD FROM FILE ADD FROM CLOUD

Licenses

#5b2530bb-563b-4981-a26a-9a51226b7c13

Name Enterprise pack #1	Valid from 2022-07-01	Valid until 2022-10-31	Issuer BAS-IP
Virtual numbers Enabled	Total 5000(Per user: 5)	Mobile app clients Enabled	Total 5000(Per user: 5)
Elevators Enabled	Face recognition Enabled for guest identifiers	License plates Enabled	

REMOVE

#ee79faed-5f60-48f4-954a-37c3806d7983

Name Enterprise pack #1	Valid from 2022-06-01	Valid until 2022-07-01	Issuer BAS-IP
Virtual numbers Enabled	Total 5000(Per user: 8)	Mobile app clients Enabled	Total 5000(Per user: 5)
Elevators Enabled	Face recognition Enabled for guest identifiers	License plates Enabled	

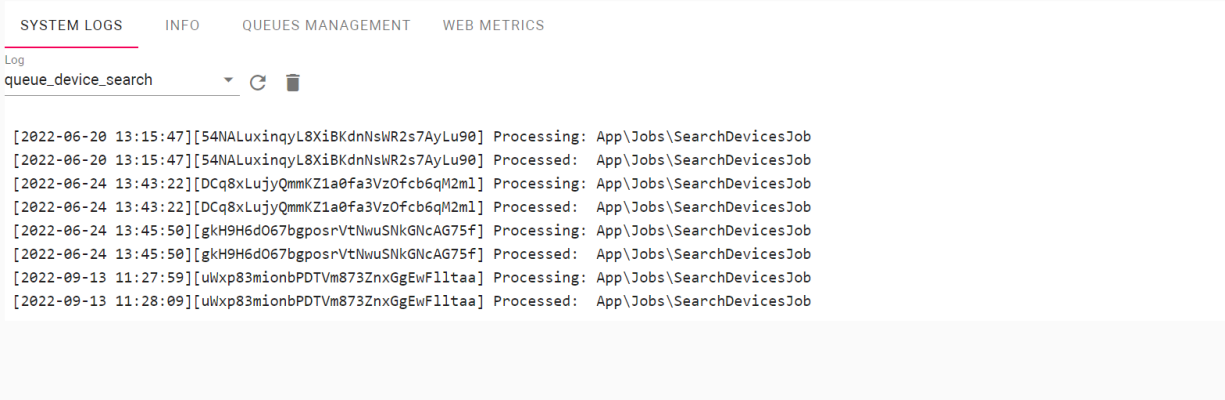
11.5 System info

This section contains information about events, processes, and system boot. Here you can monitor the system state and collect information.

- System logs(see page 133)
- Info(see page 133)
- Queues management(see page 134)
- WEB metrics(see page 134)

11.5.1 System logs

This tab contains logs of system managers responsible for executing processes in the Link. To display information, you need to select a log from the list and click to display and update the information.



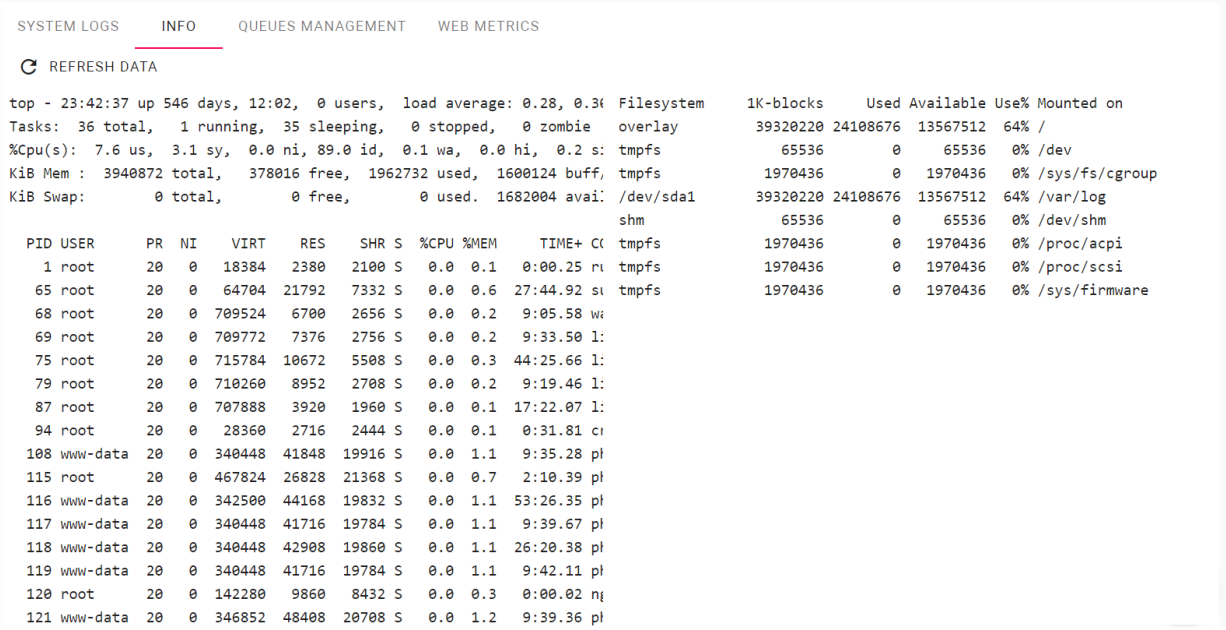
List of logs:

- queue_alert - emergency alert queue manager logs;
- queue_access_matrix_processing - manager logs of queues for collecting information on the access matrix for generating key distribution packets for devices;
- queue_device_search - network search queue manager logs;
- queue_default - application base queue manager log;
- supervisor - service manager log in the system;
- queue_sip - SIP server queue manager logs;
- queue_announces - announcement queue manager logs;
- queue_device_task - task queue manager logs of sending IDs, schedules, and settings to devices;
- websocket - websocket logs for application;
- nginx_access - nginx server logs;
- nginx_error - nginx web server error logs;
- nginx_unit - application server logs;
- mysql_error - mysql database server logs;
- app - application logs.

To clear the data, delete your search.

11.5.2 Info

This tab contains information about the system, application execution environment, running processes, used memory, CPU, and used disk space.



11.5.3 Queues management

This tab contains information about application queue managers and provides access to manage them.

To display and update the list, click **Refresh data**.

11.5.4 WEB metrics

This tab contains information on the number of requests to the application.

SYSTEM LOGS INFO QUEUES MANAGEMENT WEB METRICS

REFRESH DATA RESET

POST_broadcasting/auth	6988
GET_api/v0/notifications/unread	1251
GET_api/v0/users/items	1890
GET_api/v0/devices/items	2268
GET_api/v0/identifiers/items	8794
GET_api/v0/devices/events	1705
POST_api/v0/mobile-client/invite/person	69
GET_api/v0/mobile-client/data	9155
GET_api/v0/profile	1364
GET_api/v0/frontend/resources/meta	1217
GET_api/v0/call-history/items	1548
GET_api/v0/sip-numbers/contacts	381
GET_api/v0/project/settings/general	140
GET_api/v0/project/settings/broker	21

12 FAQ

Here you can find quick recommendations for some features configuration.

12.1 What settings must be done on the device for the Link server correct operation?

The management system must be enabled for the device:

1. Log in to the device web interface. By default, the username is **admin**, and the password is **123456**.
2. Go to the **Network** tab > **Management system** section.
3. Select the necessary **protocol:** HTTP or MQTT (is recommended to use) in the **Mode** field.

> **MQTT** allows organizing the interaction of BAS-IP Link with devices, which are located in different networks/subnets/behind NAT without additional settings from the network infrastructure (port forwarding, etc.) as **HTTP** requires. We recommend using the MQTT protocol as it is less complex, more effective, provides data security, and fast and efficient message delivery.

4. Enter all required data.

> If you select MQTT, you must:
>
> - enter management system broker **address** and **port**;
> - create a **password** for interaction with the management system;
>
> Also, you can activate **sending real-time logs** to the server. If necessary, you can enable/disable integrated message **encryption** or add your certificate by clicking the **File** field and selecting the

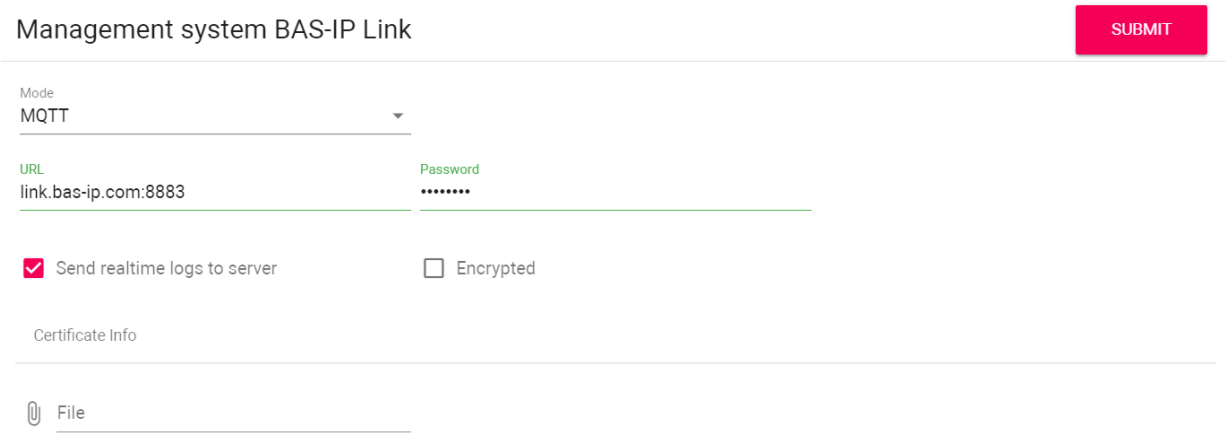
appropriate one. Sending of **heartbeat** (current status: online/offline) is done by default here without the ability to enable/disable it.

If you select HTTP, you must enter:

- an **IP address** or **domain name** of the server where the Link software is installed;
- device **password** to the server.

If necessary, you can activate **sending real-time logs** and **heartbeat** (current status: online/offline) from the panel to the server.

5. Submit settings.



12.2 What server elements are required for a basic server functioning?

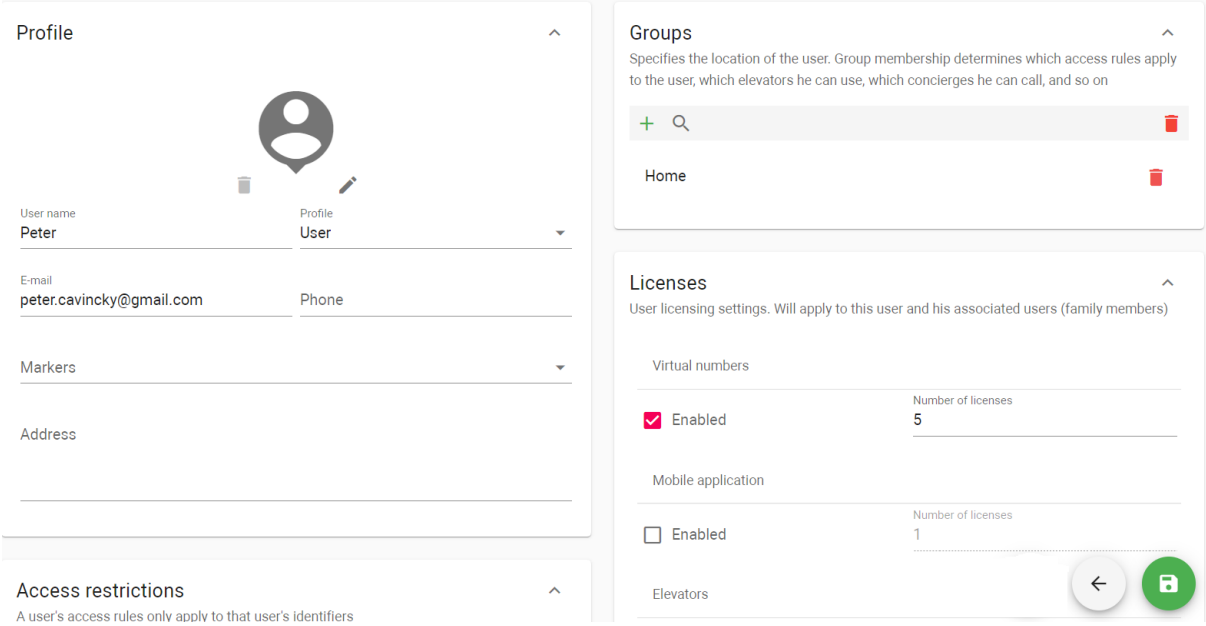
The main server elements are groups, users, identifiers, access restrictions, and connections between them. These are the basic elements that must be configured at the beginning.

12.3 How to register a new user?

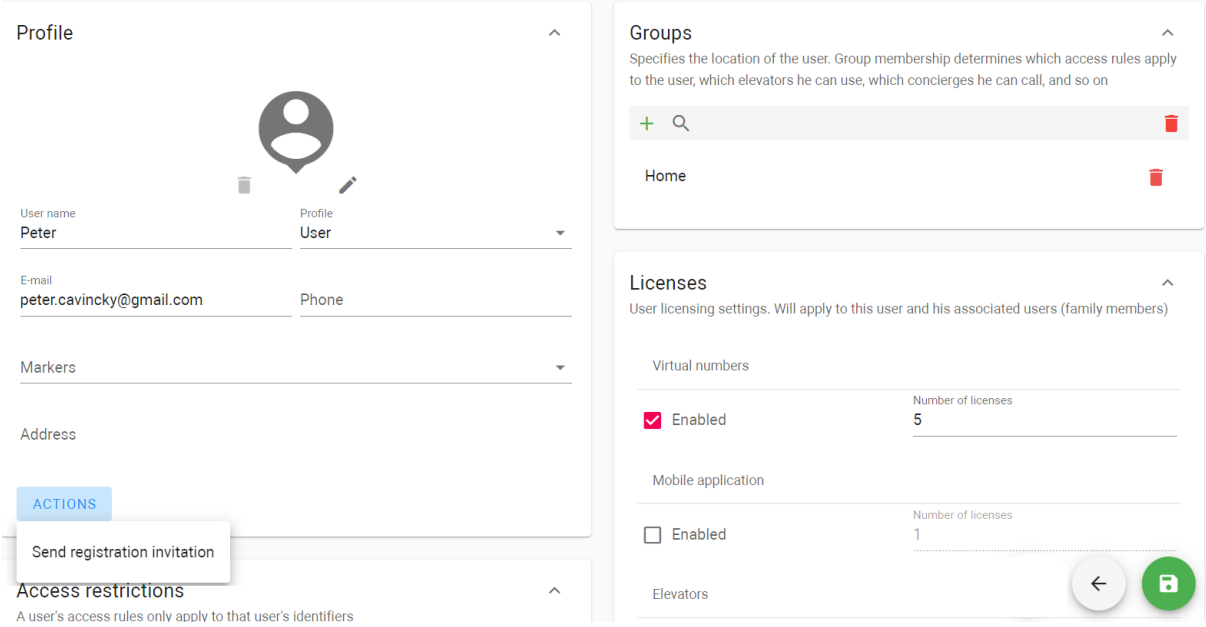
1. Open the **User** tab of the User management section.
2. Click **plus** icon in the left low corner.
3. Enter a user **name**.
4. Add user photo if necessary.
5. Select the profile[88] from created to give the user the required permissions.
6. Enter the user **email** to send the registration link.
7. Enter user **phone** number if necessary.
8. If required, select a **marker** for the user.
9. If necessary, enter user **address**.
10. Add a user to a corresponding **group**[89] or create a new one for this user.

88 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html
89 https://wiki.bas-ip.com/basiplinken/groups-135955783.html

11. Select from already added or create access restrictions[90]. After clicking + you will be redirected to the corresponding tab[91] where it is possible to create restrictions.
12. Select identifier/s[92] available for the user.
13. Set available for user **licenses** that they purchased.
14. Click the **Save** button in the left low corner when all necessary data is entered.



15. Open created user profile again.
16. Click **Actions** and send a registration invitation to the user.



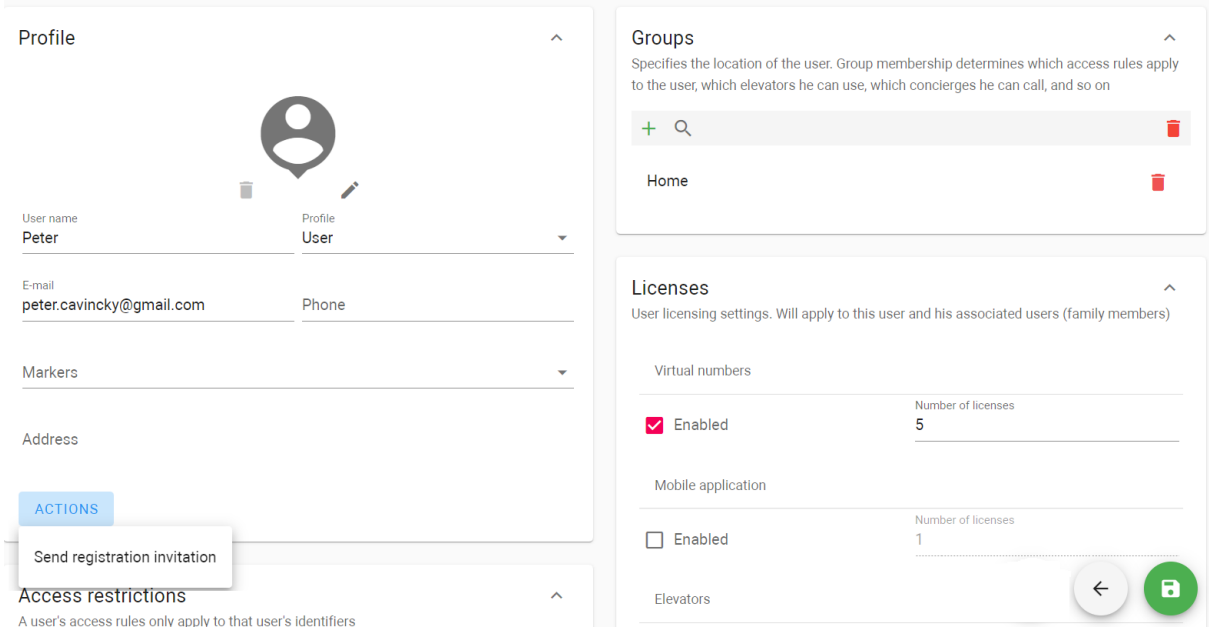
17. Close the profile.

90 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
91 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
92 https://wiki.bas-ip.com/basiplinken/identifiers-135955834.html

After receiving the invitation user must activate the profile.

12.4 How limit users if they have not paid for some features?

1. Open the **User** tab of the User management section.
2. Find the required user and click .
3. In the Licenses section, disable futures that are not allowed for this user.
4. Click Save in the left low corner.

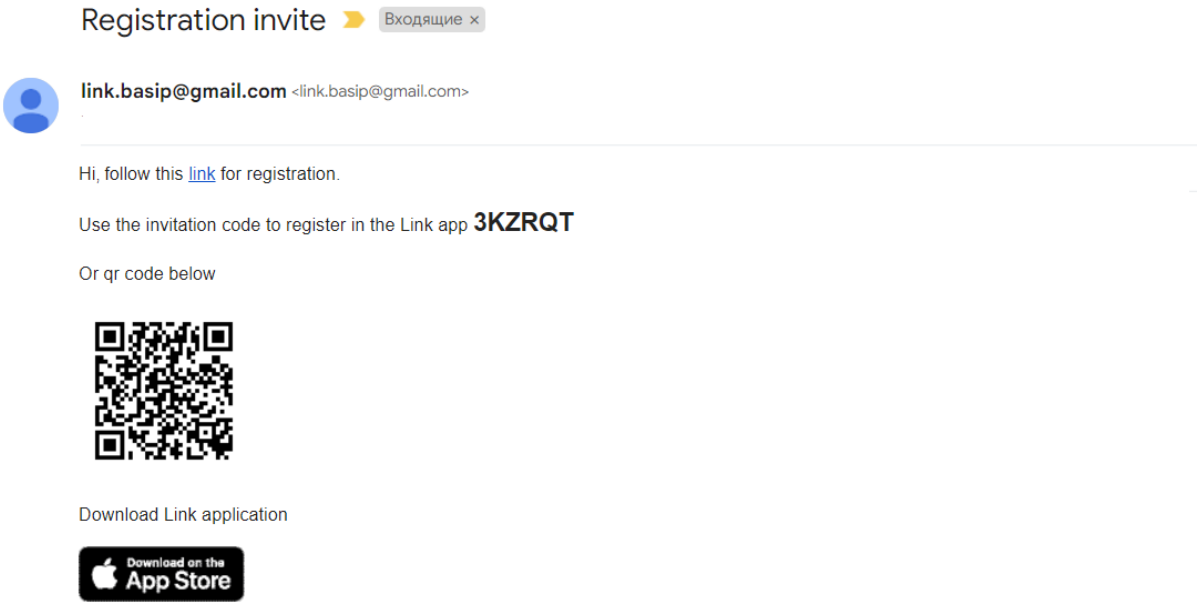


When the user pays for the subscription, you can enable these options in the same way.

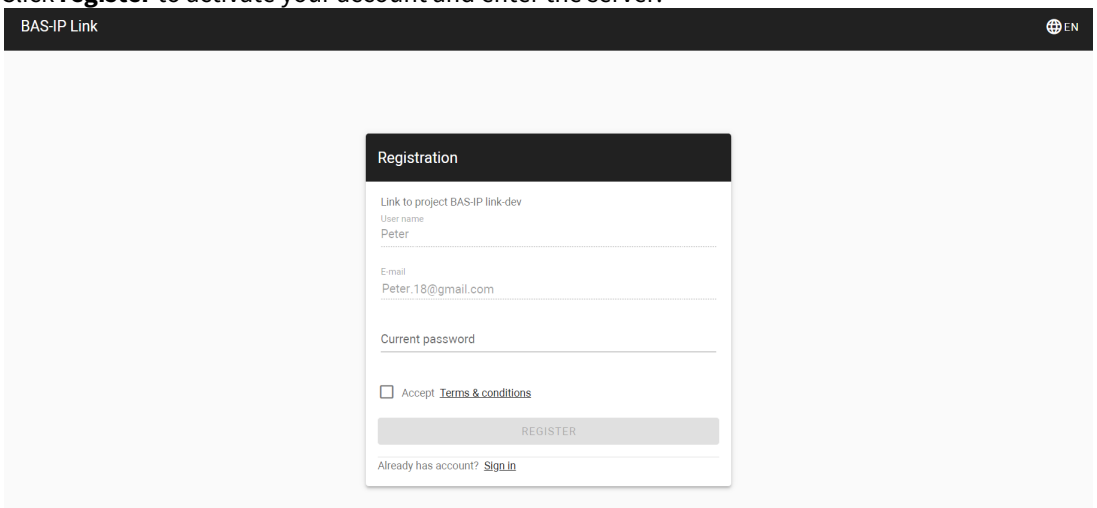
12.5 How to activate a user profile?

1. Open your email and find the invitation letter from the Link server.

2. Follow the **link** indicated in the letter.



3. Create a **password** for your account.
4. Accept **Terms & Conditions**.
5. Click **register** to activate your account and enter the server.



12.6 How to add root group?

1. Go to the **Groups** tab in the User management section.
2. Click **Add group** and select **Add root group**.
3. Enter a group **name**.
4. Select its **type:** if the group is for building, unit, floor, apartment, or custom (for parking or service rooms).
5. Enter a **logical address**: depending on the group type it can be Building No., Unit No., Floor No., or Apartment No.
6. Add a description, if necessary.

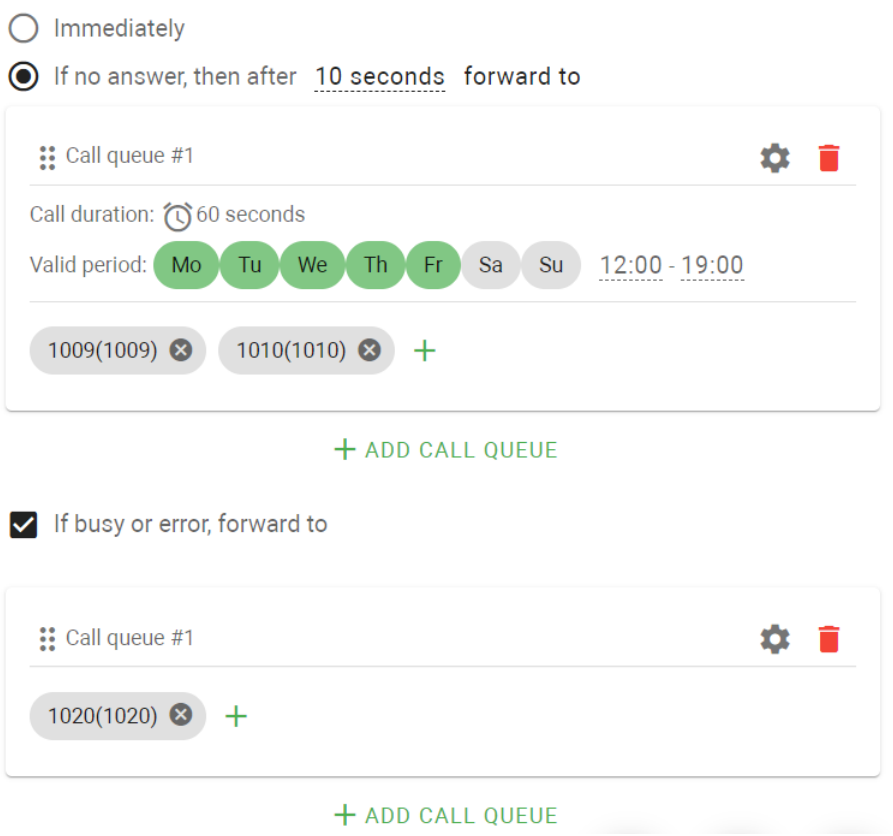
7. Select **users** (must be previously added in the Users[93]tab).
8. Select **devices** (must be previously added in the Devices[94] tab) installed in the place for what you are creating the group.
9. Create **access restrictions** + or select 🔍 from already created. After clicking + you will be redirected to the corresponding tab[95] where it is possible to create restrictions.

> Applying access restriction is obligatory. This parameter helps to connect groups, devices, and users.

10. If necessary, enable and configure **forward settings** that will be applied to all group users.

> It is also possible to create forward rules in the corresponding tab[96]. The following options are available:
>
> - to forward calls (from devices/users added to the group) **immediately** to all indicated in the call queue field/s numbers simultaneously;
> - to forward calls to indicated in the call queue number/s **if there is no answer**;
> - to set the **time** (5-30 sec) after which the call will be forwarded if there is no answer;
> - **add** number/numbers (to which the call will be forwarded) to the **call queue** from the virtual number list;
> - to set **call duration** by clicking ⚙ ;
> - to set days and time when the forward is **valid** by clicking ⚙
> - forward calls to indicated in the call queue field/s numbers if the primary **number is busy or an error occurs;**

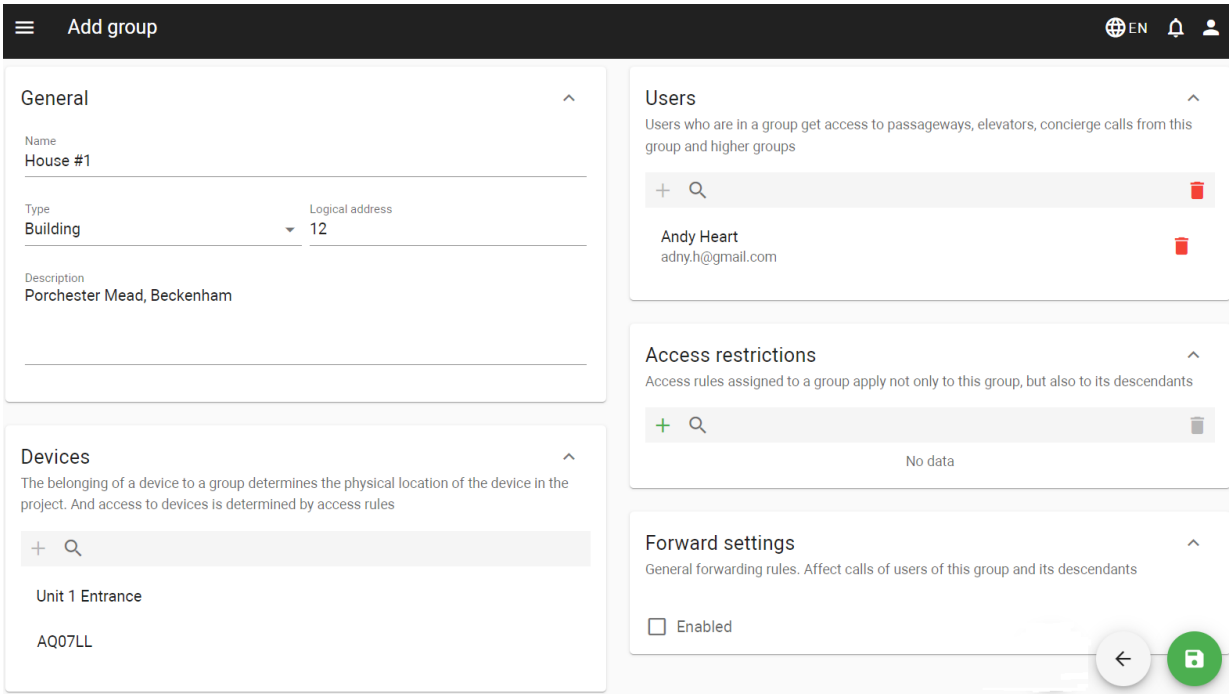
93 https://wiki.bas-ip.com/basiplinken/users-135955765.html
94 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
95 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
96 https://wiki.bas-ip.com/basiplinken/forward-rules-135955902.html



You can get numbers for calls and forwardings in the Virtual numbers[97]tab (if you have the corresponding license).

11. Click the **Save** button in the left low corner when all required data will be entered.

97 https://wiki.bas-ip.com/basiplink/en/virtual-numbers-47781248.html



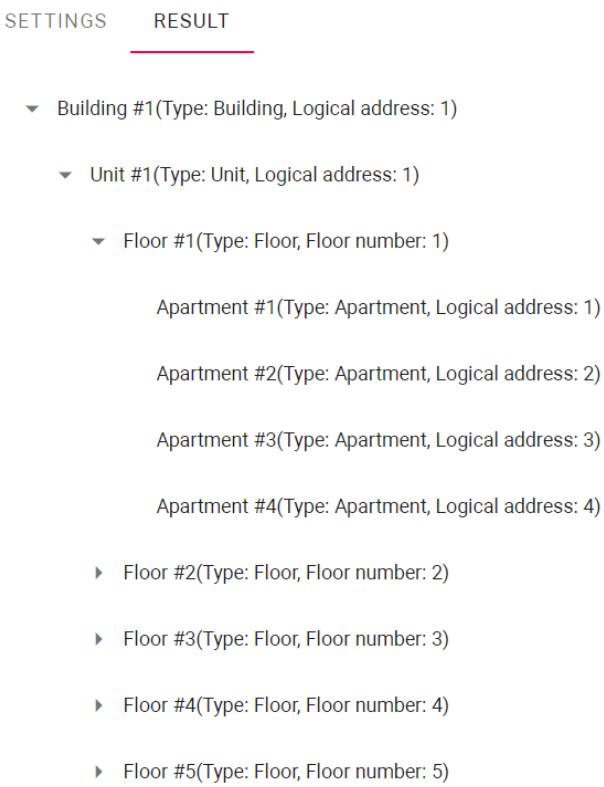
12.7 How to generate root groups?

1. Go to the **Groups** tab in the User management section.
2. Click **Add group** and select **Generate root groups**.
3. Click **Add group** in the opened window.
4. Select groups **type**: if the group is for building, unit, floor, apartment, or custom.
5. Enter groups **name**.
6. Indicate the **number of buildings** for which you need to create groups.
7. Set the number from which the numbering of buildings starts.
8. Click plus icon to add subgroups (e.g. Unit) and enter the same information for this section: type names, amount of units in one building, and the number from which the numbering starts.
9. Add and set the same settings for floors and apartment subgroups.

> When entering the apartment amount, enter a general value of apartments on the one floor, not their No.

10. If there are any specific subgroups (parking or service rooms), you need to create and select a custom group type.

11. When all data is entered click **Generate** and all groups will be created according to the entered data.
12. Check the correctness. Open the **Settings** tab to edit entered data.



13. Save generated groups and then add previously registered users[98], devices[99], or access restrictions[100].

12.8 How to create a guest identifier?

Only a user that has at least 1 access restriction and at least 1 device associated with this restriction can create a guest identifier.

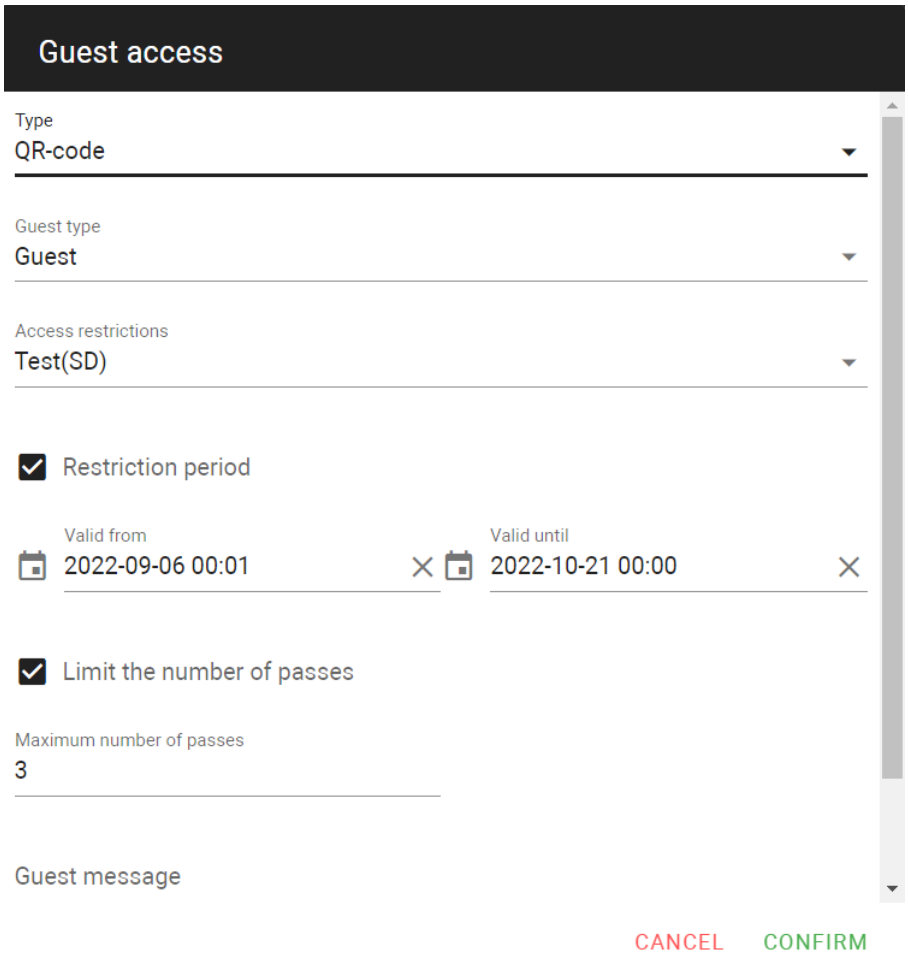
1. Go to the **Guest access** tab in the Access management section.
2. Click **plus** icon in the left low corner.
3. Select ID **type**: **QR code** (available for panels with camera), **Access code** (available for panels with keypad), **URL** (available for all devices), or a **License plate** (available for panels and installed Axis camera with Axis License Plate Verifier software).
4. Select **guest type**: Courier or Guest.
5. Select the **access restrictions** you want to apply for the ID. Selected access restrictions must coincide with restrictions applied to the user is creates the ID.
6. Tick the **restriction period** field if it is necessary to limit the ID validity period.
7. Indicate the **beginning** and the **ending** of the ID active period. By default, the pass works for 1 day.
8. If necessary, tick the **limit the number of passes** field.
9. Enter the available **number of passes** for this ID. By default, 1 pass is available.

> You may enable and set either a **restriction period** or **a number of passes** parameters.

10. Enter a **guest message** if required.

98 https://wiki.bas-ip.com/basiplinken/users-135955765.html
99 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
100 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html

11. Click confirm when all data is entered.



12. Copy the link/access code or download a QR code (or pkpass file for adding the QR code to Apple Wallet) and sent it to the guest for further use.

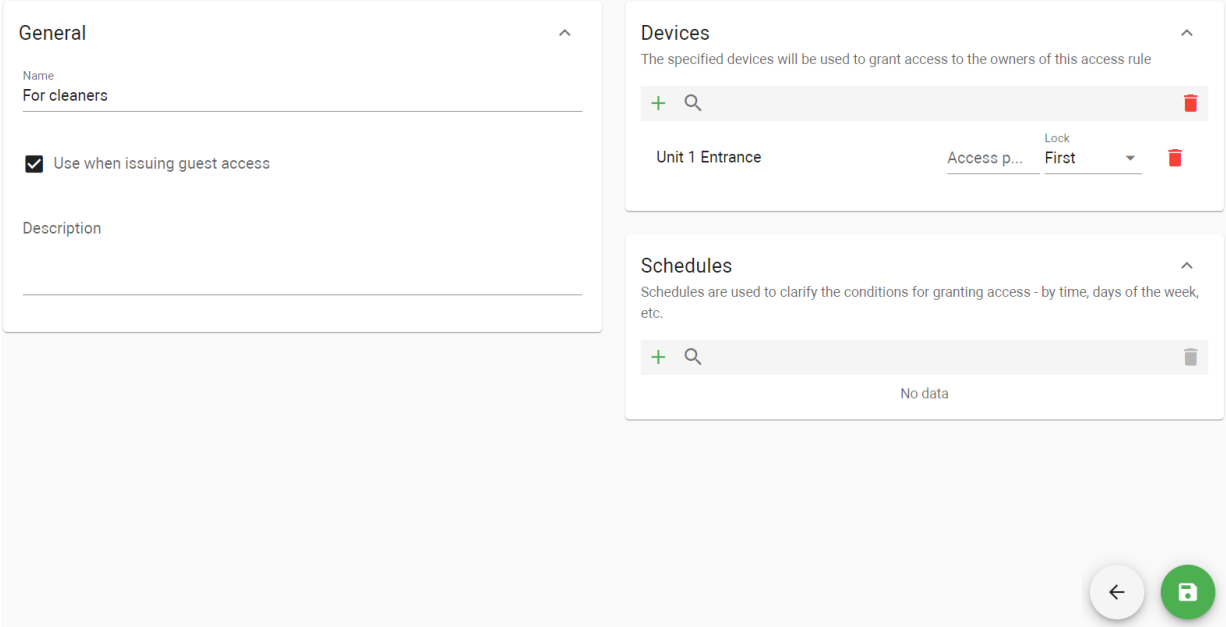
12.9 Why access restriction is required?

Access restrictions are an integral part of the Link server that links devices, users, and schedules.

12.10 How to create access restriction?

1. Go to the **Access restriction** tab of the Access management section.
2. Click **plus** icon in the left low corner.
3. Enter the restriction **name**.

4. If necessary, enable the possibility to **use** this restriction **for guest identifiers**.
5. Add description, if required.
6. Select **devices** from the list or add new ones to allow their use. Further access restrictions will be applied to users[101] or groups[102] to allow them to open indicated device/s.
7. If necessary, specify the access point the is allowed to use.
8. Select the number of locks (if 2 locks are connected) that are allowed to open by users: the first, the second or all
9. If necessary, select a **schedule** from the list or add a new one to indicate restriction functioning time.
10. Click the **Save** button in the low left corner after entering all required data.



12.11 How to add an identifier?

1. Go to the **Identifiers** tab in the Access management section.
2. Click **plus** icon in the left low corner.
3. Enter the identifier name.
4. Select the user of this ID.
5. Select the identifier type (pay attention to a device characteristics) and enter its value:
    - **card**: EM-Marin or Mifare card. In the **Identifier** field, you must enter a card number in decimal format, without commas. Usually, the number is printed on the card in decimal or hexadecimal format. You can use this link[103]to convert a value from one to another system;
    - **UKEY** allows using smartphones as identifiers (BAS-IP UKEY[104] app is required). You must enter the identifier number in the **Identifier** field;
    - **access code** that must be entered on the panel keypad to open lock/s. In the **Identifier** field, you must indicate a numeric code that will be used to open a lock;
    - **face ID** allows opening the lock by scanning visitors faces. When adding this identifier type, you must upload a user photo with a well-lit face and real face proportions in .jpeg format;

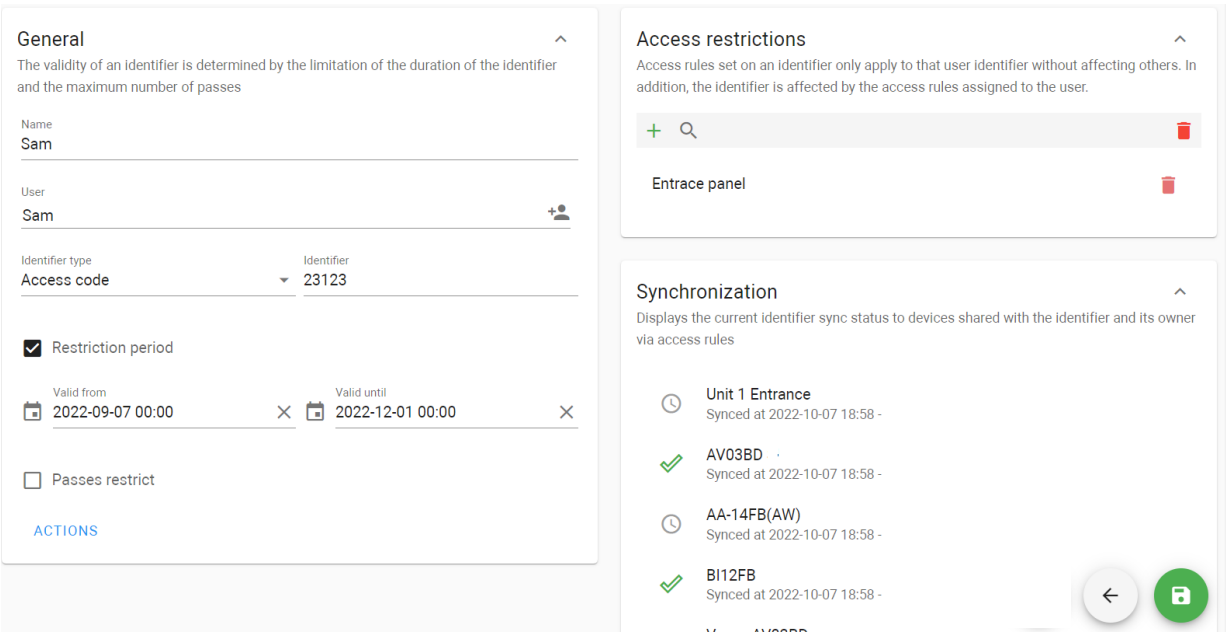
101 https://wiki.bas-ip.com/basiplinken/users-135955765.html
102 https://wiki.bas-ip.com/basiplinken/groups-135955783.html
103 https://www.binaryhexconverter.com/hex-to-decimal-converter
104 https://bas-ip.com/catalog/soft/bas-ip-ukey/

- the automatically generated **QR code**. Enable the **Download QR code** option and after saving the identifier, it will be saved to the computer. Then it must be uploaded to a mobile device for further use;
- **license plates** can be added and used to open lock/s. In the **Identifier** field, you enter the plate number. For this identifier to work, you need an Axis camera for plate scanning and installed AXIS License Plate Verifier software to send a number to the panel.

6. If necessary, enable and set restriction period restrictions for identifier validity.
7. If necessary, enable and set the maximum number of passes in the passes **restrictions** field.
8. Select from already added or create **access restrictions**. After clicking you will be redirected to the corresponding tab[105] where it is possible to create restrictions.

> Applying access restriction is obligatory. This parameter helps to connect groups, devices, and users.

9. Click the **Save** button in the left low corner when all required data will be entered. The identifier will automatically be sent to the devices indicated in access restrictions. You can check where ID is added in the Synchronization section.



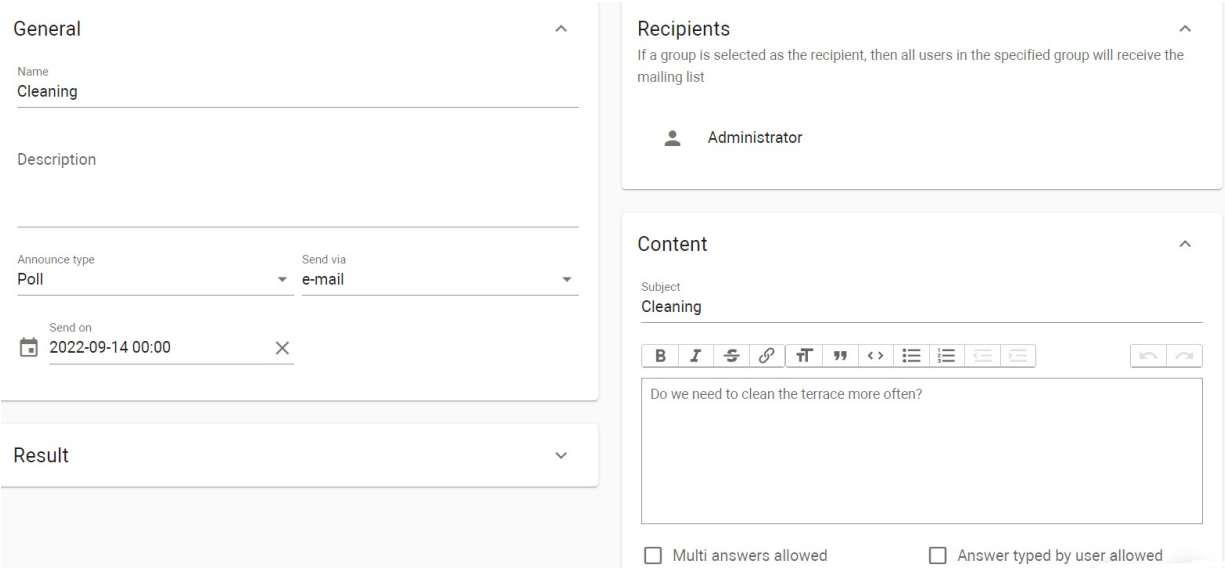
12.12 How to notify residents of important information or survey them?

A user with corresponding permissions[106]can create an announcement or poll.

1. Go to the **Announces** tab of the Communications section.
2. Click **plus** icon in the left low corner.
3. Enter the entry **name** that will be displayed in the Announces tab.
4. Add a **description** if necessary.

105 https://wiki.bas-ip.com/basiplink/en/creating-access-restrictions-15794714.html
106 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html

5. Select the announce type: **info** (just message) or **poll** (message with a possibility to select variants or type answer).
6. Select in which way the announcement must be sent via **e-mail** or to **devices**.
7. Set the **date** of the announcement sending.
8. Add **recipients** in the corresponding section.
9. In the Content section enter data that will be displayed for recipients:
    - the **subject** of the announcement;
    - message **content**;
    - if you select a poll type, **add poll answers**;
    - for poll type, enable the options of selecting some variants of answer (**multi answers**) or typing free answer (**answer typed by user**).
10. Click the **Save** button in the left low corner when all required data will be entered.



12.13 How to create a virtual number?

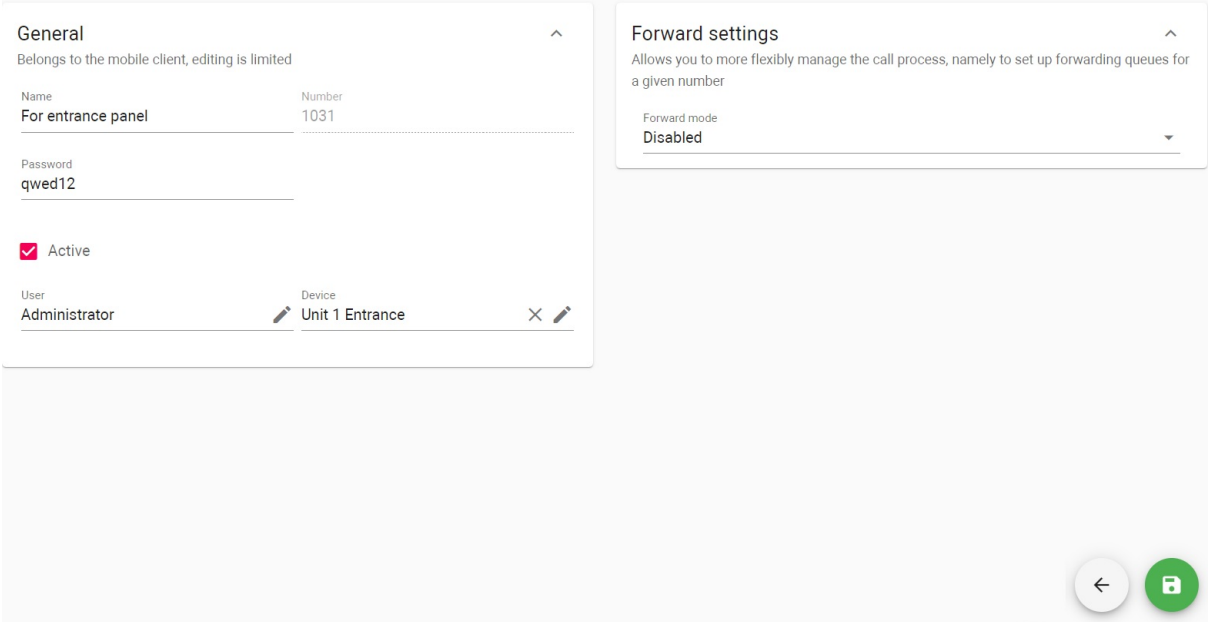
1. Go to the **Virtual numbers** tab of the Telephony settings section.
2. Click **plus** icon in the left low corner.
3. The system will automatically generate a SIP number. Enter a name for the number.
4. Create the password for the number.
5. Tick the **Active** box to turn on the number operating.

> To deactivate a number enable this box in the number settings.

6. Select the **user** (from previously added in the User[107]tab) of the number.

107 https://wiki.bas-ip.com/basiplinken/users-135955765.html

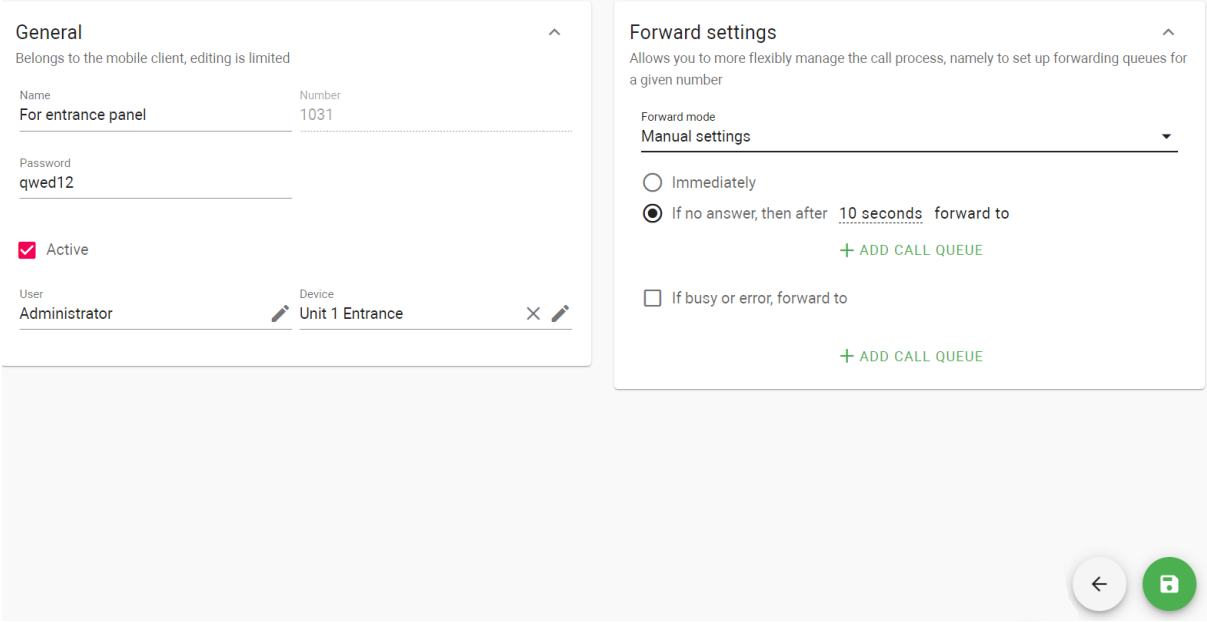
7. Select the **device** on which the number must be used. If a user will use the number on a mobile device, leave the field blank.



8. If it is necessary, enable and **forward settings** for the number and set them manually or select a forward rule[108] from previously created.

> The following options are available:
>
> - to forward calls **immediately** to all indicated in the call queue field/s numbers;
> - to forward calls to indicated in the call queue number/s **if there is no answer** from the main number;
> - to set the **time** (5-30 sec) after which the call will be forwarded if there is no answer;
> - **add** number/numbers (to which the call will be forwarded) to the **call queue** from the virtual number list;
> - to set **call duration** by clicking ⚙ ;
> - to set days and time when the forward is **valid** by clicking ⚙ ;
> - forward calls to indicated in the call queue field/s numbers if the primary **number is busy or an error occurs;**

108 https://wiki.bas-ip.com/basiplinken/forward-rules-135955902.html



9. Click the **Save** button in the left low corner when all required data will be entered.

12.14 How to add a device to the Link server?

1. Go to the **Devices** tab of the Device management section.
2. Click **plus** icon in the left low corner.
3. Enter the device **name**.
4. Select its **type**: panel, monitor, access controller.
5. Select the device **model**.
6. Indicate the device **Serial number** (check the Dashboard[109]tab of the device web interface or device box).
7. Select a **group**/subgroup where the device is installed.
8. If necessary, set panels location **geodata**. This data is required for the Link app, when a visitor with a pass (added to Apple Wallet) approaches the available panel (with location), the pass will be automatically shown.
9. Add a **description**, if necessary.
10. Enable **using a camera to identify license plates**, if necessary.
11. Allow **remote lock opening** (from the device web interface, via API), if necessary.

Enter network settings for server and panel interaction:

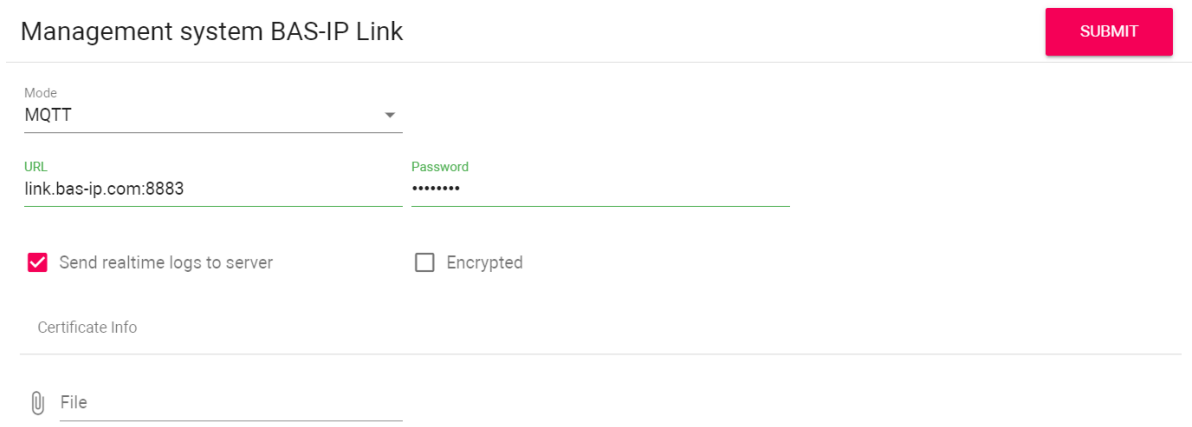
- select the appropriate **communication protocol**: HTTP or MQTT (is recommended to use);
- enter the device **IP address** and **port**;
- enter **login** and **password** that are used to enter the device web interface;
- indicate server interaction password (is created in the Management system section (Network[110]tab) of the device web interface).

> Also, the same network settings as for the server must be entered in the device web interface. The management system must be enabled for the device:

109 https://wiki.bas-ip.com/aa07/dashboard-135955050.html
110 https://wiki.bas-ip.com/aa07/network-135955054.html

1. Log in to the device web interface. By default, the username is **admin**, and the password is **123456**.
2. Go to the **Network** tab > **Management system** section.
3. Select the necessary **protocol:** HTTP or MQTT (is recommended to use) in the **Mode** field.
4. Enter all required data.
5. Submit settings.

Detailed instructions are here[111].



13. Click the **Save** button in the left low corner when all required data will be entered.

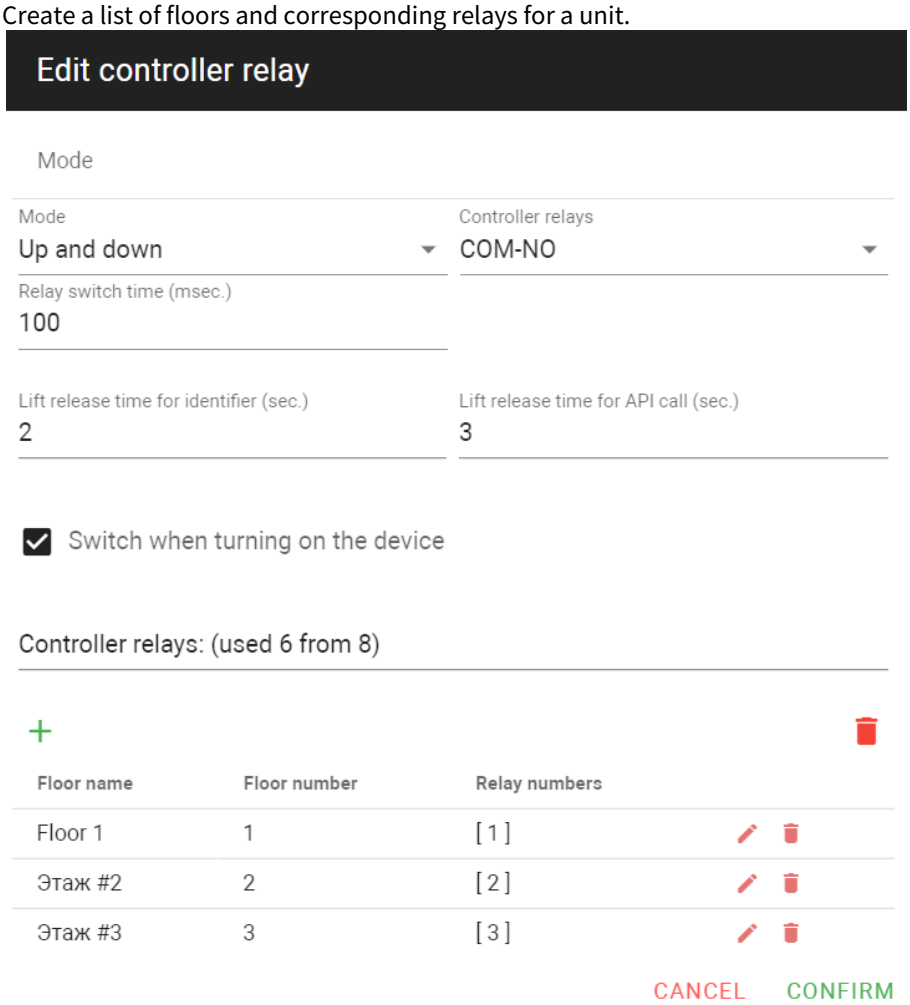
12.15 How to configure an elevator controller?

Before controller configuration, it must be added in the Device[112] tab.

1. Open the **Elevators** tab of the Elevator management section.
2. Click **plus** icon in the left low corner.
3. Enter the elevator name.
4. Select a group where it is placed.
5. Tick **send elevator controller settings** on the device so that the settings data is transmitted to the controller.
6. Select available **mode**: Up (an elevator moves only in the upward direction), Down (movement is only in the downward direction), Up and down (both directions are available), Access by identifier (movement only to those floors that are available for the used identifier).
7. Select relay **type**: COM-NO/COM-NC.
8. Set the **time** during which the relay will be switched.
9. Set lift **release time** (during which relay will be closed/opened) for identifier and for API call.
10. If necessary, enable the **switching relay when turning on the device**.
11. You can see the number of available and used relays. For Up and down mode only 8 relays are available, for other modes 16 can be used.

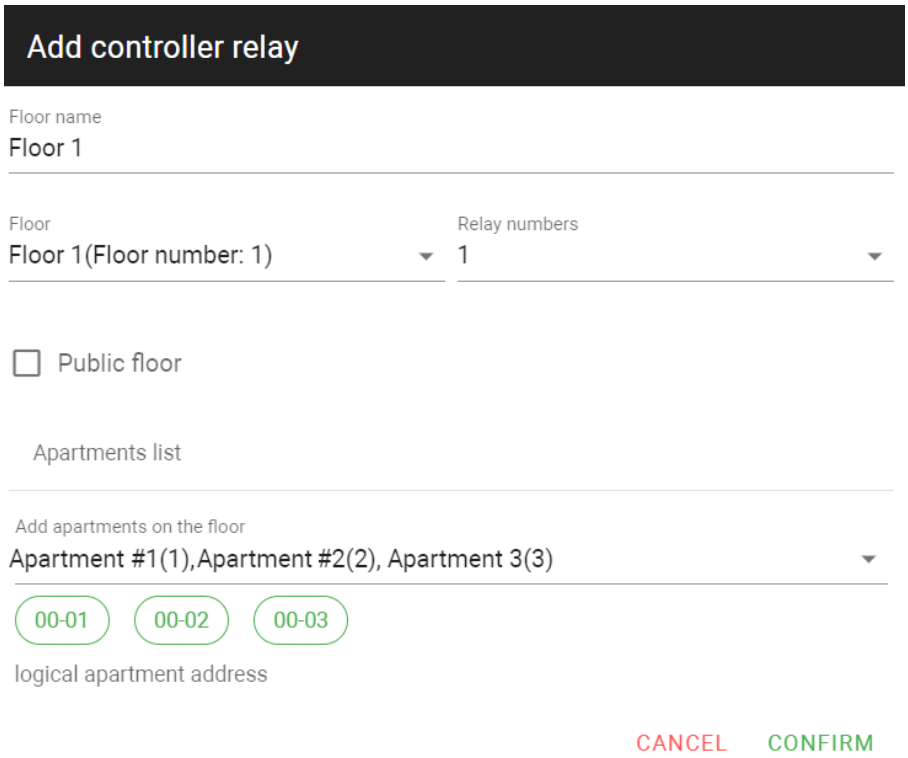
111 https://wiki.bas-ip.com/aa07/network-135955054.html
112 https://wiki.bas-ip.com/basiplinken/devices-135955918.html

12. Create a list of floors and corresponding relays for a unit.

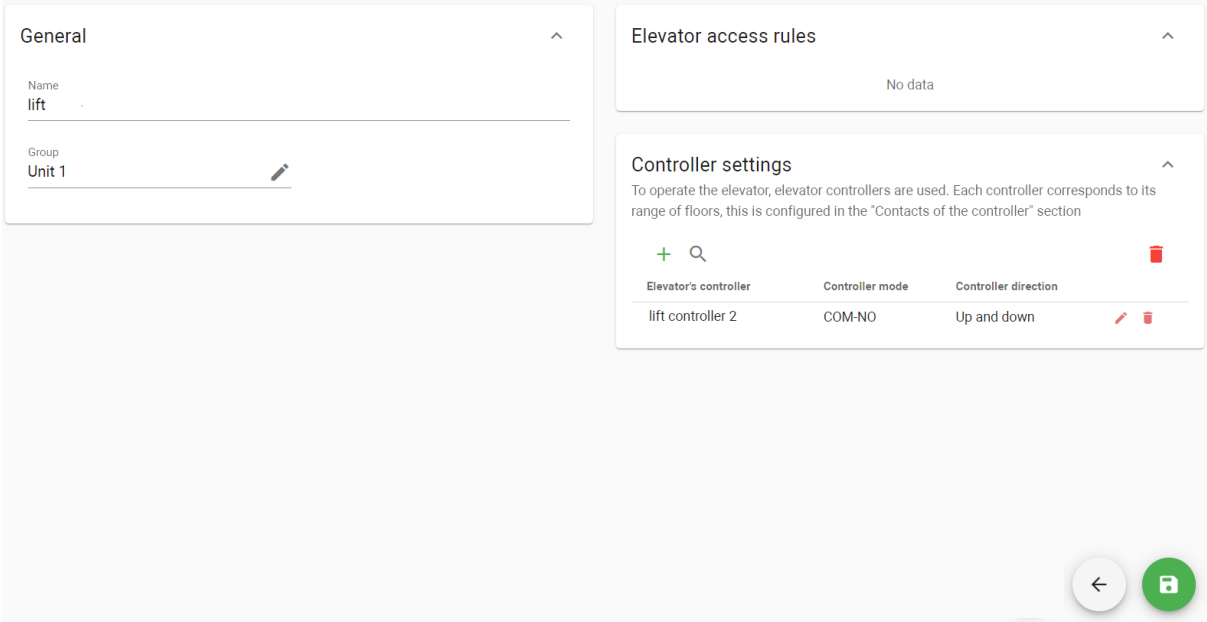


13. To add a floor click **plus** icon.
14. Enter **Floor No**. and **Relay No.** that connected to this floor at the controller.
15. Indicate whether the floor is public or not. Users will always have access to the public floor despite their identifier settings.
16. Select necessary apartments located on the floor (data is automatically taken from the Groups tab).

17. Click Confirm to add the floor to the list.



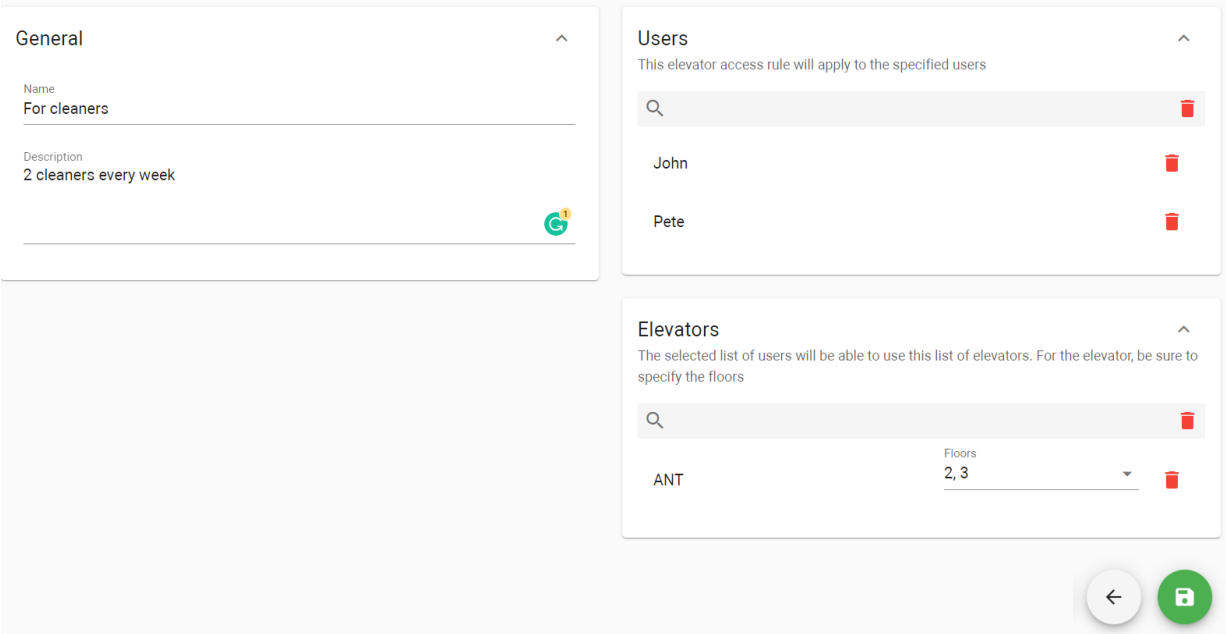
18. Click **Confirm** to add the controller when you enter all necessary data.
19. Click the **Save** button in the left low corner.



20. Open the **Device settings** tab of the Device management tab and find the controller.
21. Check the correctness of settings (if they are the same as entered in the Elevators tab).
22. Enable send on device feature to transmit entered settings to the controller.
23. Save changes.

12.16 How to create access restriction for an elevator?

1. Go to the **Access restriction** tab of the Elevator management section.
2. Click **plus** icon in the left low corner.
3. Enter the restriction **name**.
4. Add **description**, if required.
5. Select **user/s**[113]from the list to whom this restriction will be applied.
6. Select the elevator[114] that the selected users can use.
7. Specify **floor**/s to which user/s will have access.
8. Click the **Save** button in the low left corner after entering all required data.



12.17 How to configure hosting of several independent projects on the one server?

It is possible to use a server for several small projects, e.g., for some separate areas with few devices. To configure this mechanism you must:

1. Create or generate the required number of **root groups** as explained earlier. Each root group stands for a single project.
2. Add the required number of **subgroups** (depending on the project structure) as described earlier.
3. Rename the default administrator role into **the master administrator** as this user has permissions to monitor and configure all projects available on the server.
4. Create a profile for **the root group administrator** as they must see only their root group, subgroups, device(s), user(s), role(s), access rule(s), logs, etc. You can use one profile for all projects or create profiles for each project. This profile must have the following permissions:

113 https://wiki.bas-ip.com/basiplinken/users-135955765.html
114 https://wiki.bas-ip.com/basiplinken/elevators-135955962.html

- **access restrictions**: can view/create/edit/delete access rules;
- **announces**: can create/edit/delete/send announces, can view announces;
- **conversations**: can create conversation/conversation message, can delete conversation, can accept messages from descendant users;
- **devices**: can view device tasks, can create/edit/delete/view devices, can view device events;
- **elevators**: can create/edit/delete elevator, can view elevators;
- **emergency alerts**: can view emergency alerts, can create/edit/delete/playback emergency alerts;
- **forward rules**: can view/create/edit/delete forward rules;
- **groups**: can delete/edit group, can create group-descendant;
- **identifiers**: can view identifiers; can create/edit/delete identifier; can create guest identifier, can import/export identifiers, can view ACS logs;
- **markers**: can view/create/edit/delete/apply marker;
- **profiles**: can view roles, can edit role (these rules are applied to the list of available profile types set in the corresponding section);
- **schedule**: can view/create/edit/delete schedule;
- **users**: create/edit/delete user;
- **virtual numbers**: can create/edit/delete/activate virtual number, can mark system virtual numbers;

5. Edit the default profiles or create new ones for the user and concierge and set the permissions (they can differ depending on the project). It is very important to set permissions because this will determine their functionality and scope. The obligatory permissions for **concierge** are:
   - **announces**: can create/edit/delete/send announces, can view announces;
   - **calls**: can receive call like concierge, can call to intercom;
   - **conversations**: can view all conversations, can send messages to all, can create conversation/conversation message, can accept messages from descendant users;
   - **emergency alerts**: can view particular emergency alerts, can playback emergency alerts;
   - **markers**: can view marker;

   User must have such permissions as:
   - **calls**: can call to intercom;
   - **conversations**: can create conversation message;
   - **identifiers**: can view identifiers; can create guest identifier;
6. Add users[115] to the server.
7. Apply corresponding profiles to users.
8. Add users to the created groups: root group administrator must be added to the root group (the main project group), and all other users must be added to the corresponding groups.

As a result, the administrator added to the root group can manage and monitor all linked with this group users, access restrictions, devices, schedules, etc. So, they can not influence and access other projects (root groups) they are not linked with.

115 https://wiki.bas-ip.com/basiplinken/users-135955765.html

13 Example of the server configuration for a basic project

Here you can find an example of a complete server (with SIP) configuration for 1 house project:

13.1 1. Configure basic server settings[116] for the correct functioning:

- main information[117];
- mail server(see page 117) for sending emails from the Link;
- notifications(see page 118) about the system that the administrator will get;
- SIP settings[118] for calls functioning;
- purchased license[119];
- SIP trunks[120] for call to mobile numbers functioning (if the corresponding license is used);
- the appearance[121] of the guest pass for the mobile app[122];
- information[123] about the management company for display in the mobile app[124];
- invitation or other default emails[125].

13.2 2. Add user profiles for various user and configure their permissions.

In general, 3 profiles are enough for the basic project, and they are created by default:

- **administrator** controls the whole system and has all possible permissions to perform system installation, configuration, and support;
- **concierge** interacts with residents and visitors, manages access conditions, and sends announcements and messages: **announces** (can create/edit/delete/send announces, can view particular announces); **calls** (can receive call like concierge, can call to intercom); **conversations** (can create conversation/conversation message, can accept messages from descendant users); **devices** (can view devices, can view device events);

116 https://wiki.bas-ip.com/basiplinken/first-authorization-and-the-server-initial-setup-135955740.html
117 https://wiki.bas-ip.com/basiplinken/general-135955998.html
118 https://wiki.bas-ip.com/basiplinken/sip-settings-135956014.html
119 https://wiki.bas-ip.com/basiplinken/licenses-135956024.html
120 https://wiki.bas-ip.com/basiplinken/sip-trunks-135958438.html
121 https://wiki.bas-ip.com/basiplinken/additional-settings-135956004.html
122 https://wiki.bas-ip.com/basiplinkapp/guest-passes-110561627.html
123 https://wiki.bas-ip.com/basiplinken/additional-settings-135956004.html
124 https://wiki.bas-ip.com/basiplinkapp/bas-ip-link-110561562.html
125 https://wiki.bas-ip.com/basiplinken/mail-templates-135958471.html

elevators (can view elevators); **emergency alerts** (can view emergency alerts, can playback emergency alerts); **group types** (can view group type); **markers** (can view marker);

- **user** is a profile for residents with the following permissions: **access restrictions** (can view/create/delete access rules); **announces** (can particular announces); **calls** (can call to intercom); **conversations** (can create conversation/conversation message); **devices** (can view devices/all devices); **group types** (can view group type); **identifiers** (can view particular identifiers; can create/delete identifiers; can create guest identifiers, can export identifiers); **profiles** (can view available roles only);

If necessary, you can edit these profiles in the corresponding tab[126] and add other permissions or create new profiles:

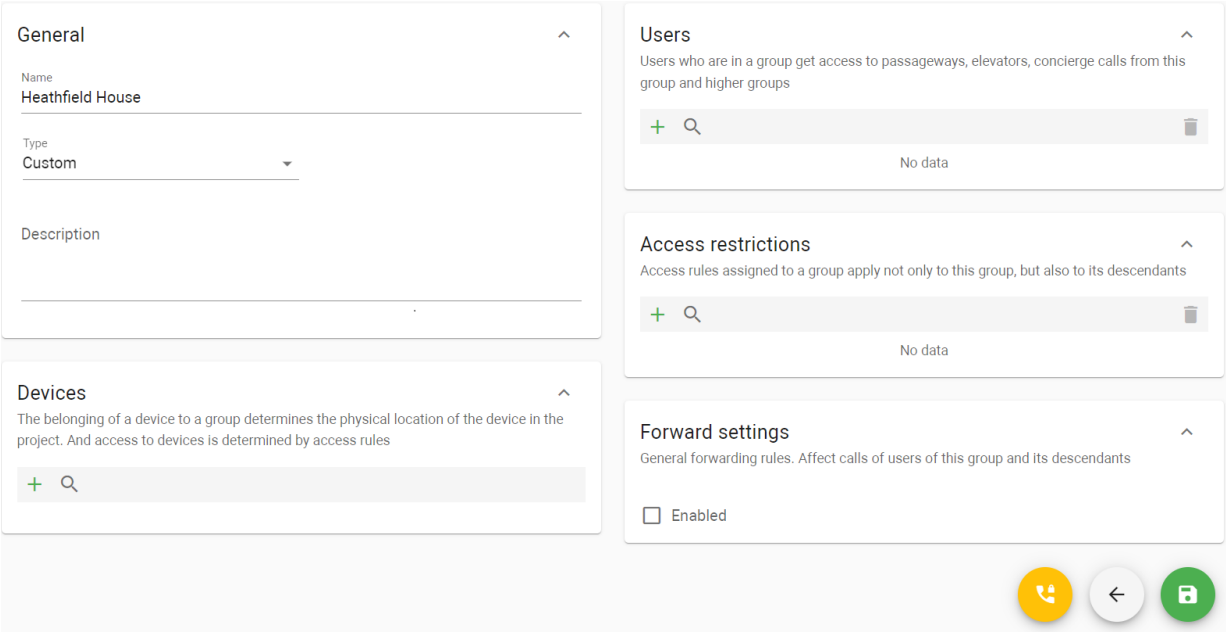
1. Go to the **Profiles** tab of the User management section.
2. Click plus icon (in the low left corner).
3. Enter a profile **name** and add a description (if required).
4. Select the required permissions.
5. Save data by clicking the corresponding button in the low left corner.

Also, it is possible to use one server for several small projects, e.g., for some separate areas with few devices. You can read about this configuration by following the link(see page 156).

13.3 3. Add a group for the house/s.

For example, there is 1 house with 2 units, 20 floors, and 4 apartments on each floor. So, manual group creation(see page 44) for example looks like this:

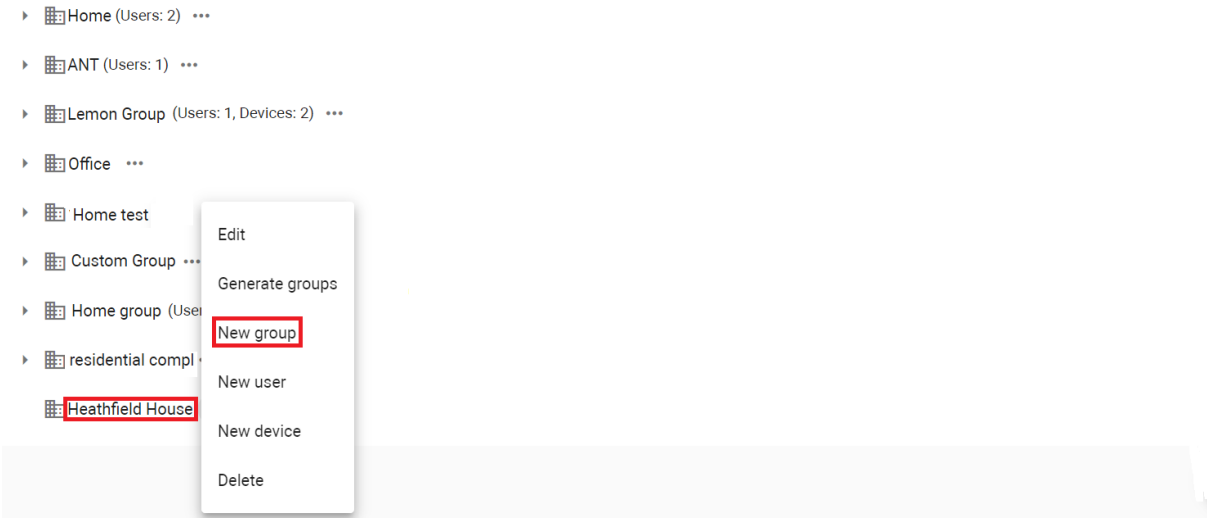
1. Go to the **Groups** tab in the User management section.
2. Click **Add group** and select **Add root group**.
3. Enter a group **name**, e.g. Heathfield House1.
4. Select custom for **type.**
5. Add a **description**, if necessary.
6. Click the **Save** button in the low left corner when all required data is entered.



126 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html

When the root (basic) group is created, you are required to add subgroups for each unit, floor, and apartment. To do this:

1. Find previously created root group in the list.
2. Click **3 dots** near the group name.
3. Select a **new group**. Menu for adding a group will open.



4. Enter all data that you've entered for the root group, but pay attention that this group stands for unit:
   - enter a group **name**, e.g. Unit 1;
   - Select unit for **type;**
   - Enter a **logical address**: Unit No., e.g. 1;
   - Add a **description**, if necessary.
5. Click the **Save** button in the low left corner when all required data is entered.
6. Repeat steps 1-5 to add a group for the 2nd unit. Pay attention, logical address must differ for the 2nd unit.
7. Repeat steps 1-5 to add subgroups for 20 floors in every unit and for 4 apartments on each floor. Select the corresponding group type for Pay attention, that subgroups for floors must be added to a unit group, and subgroups for apartments must be added to a floor group.

As a result, you will receive the following hierarchy:

Also, you can enter data about **groups** you are required to create and they **can be generated automatically**. Detailed steps you can read here[127]or watch the video.

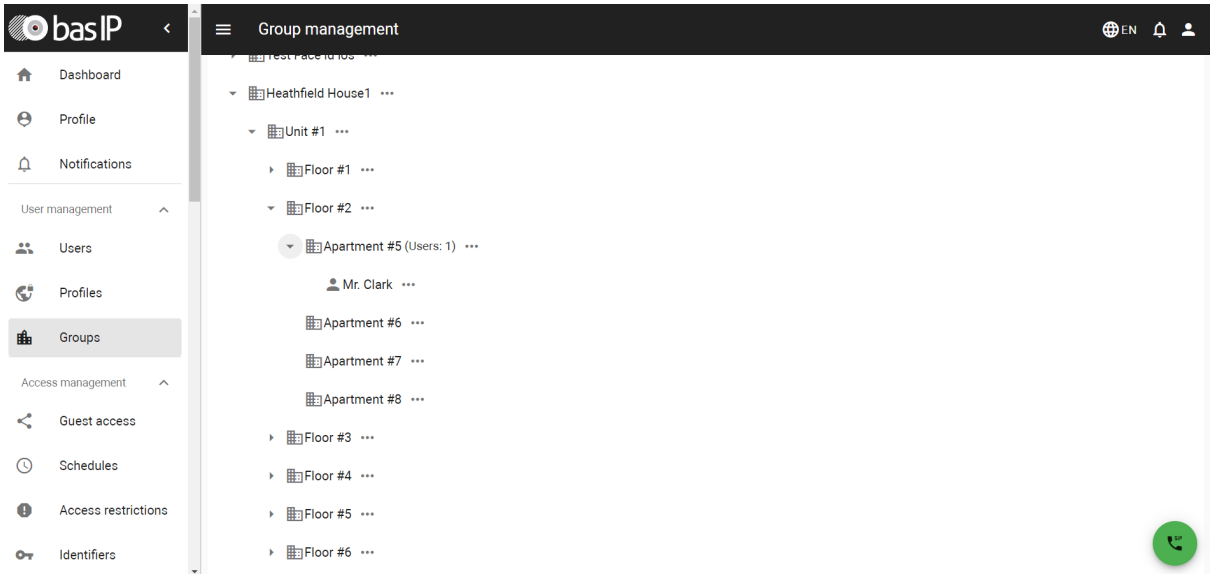
Further, you must add users[128]and devices[129]to the required subgroup (unit/floor/apartment) and set access restrictions[130] for them.

13.4 4. Add users to the system.

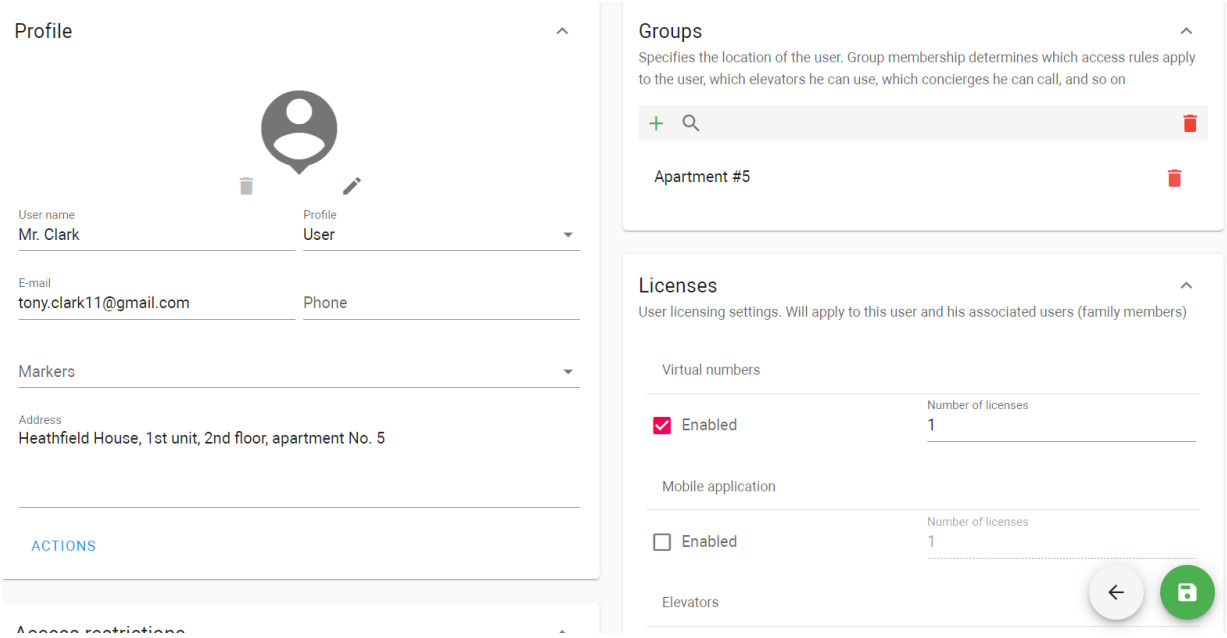
All residents and service staff must be added to the Link:

1. Open the **User tab** of the User management section.
2. Click **plus** icon in the low left corner.
3. Enter a user name.
4. Add a user photo if necessary.
5. Select the user profile[131] (from created in the previous steps).
6. Enter the user email to send the registration link.
7. Enter user phone number if necessary.
8. If necessary, enter user address.
9. Add a user to a corresponding group[132]. For example, Mr. Clark lives on the 2nd floor of the 1st unit in Heathfield House1. So, you must add Mr. Clark exactly to this group.

127 https://wiki.bas-ip.com/basiplink/en/groups-15794622.html#id-Созданиегрупп-Howtogenerateroot groups
128 https://wiki.bas-ip.com/basiplinken/users-135955765.html
129 https://wiki.bas-ip.com/basiplinken/devices-135955918.html
130 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html
131 https://wiki.bas-ip.com/basiplinken/profiles-135955778.html
132 https://wiki.bas-ip.com/basiplinken/groups-135955783.html



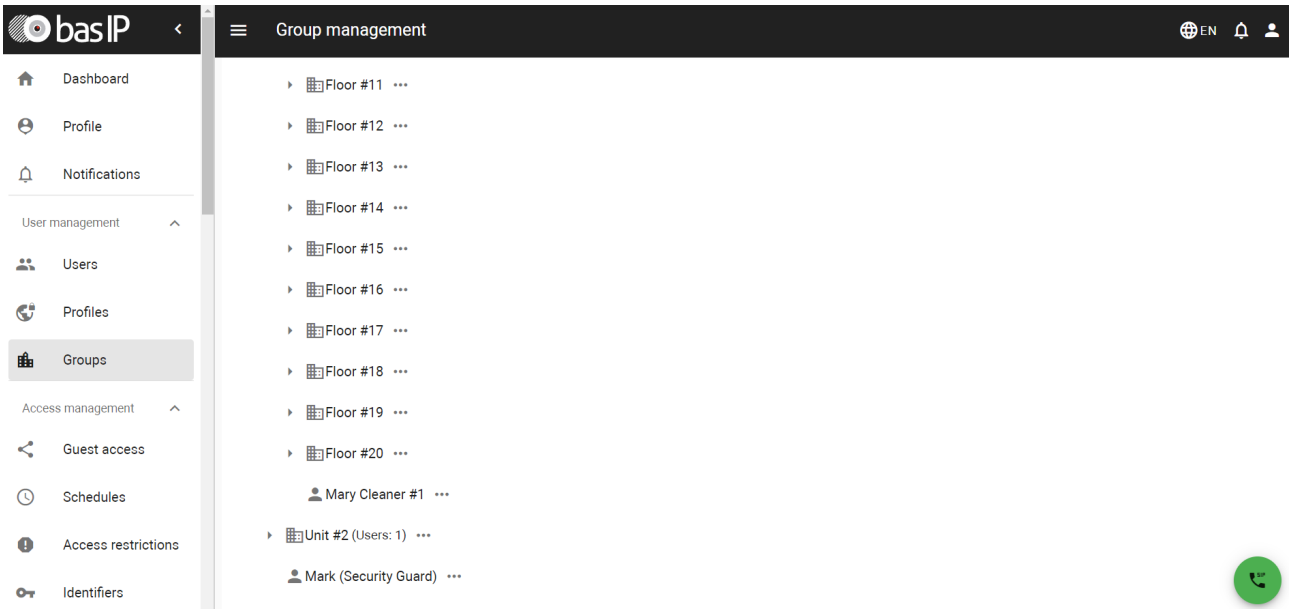
10. Set available for user licenses that they purchased.
11. Click the Save button in the low left corner when all necessary data is entered.



Further, you must add identifiersand set access restrictions[133] for users.

Also, you must add users for cleaners and security guards completing the previously described steps. Depending on what access they must have, you can add them to the root (house) group, e.g. Heathfield House1, or to the exact unit/floor group. If you add a user to the root group, they can pass only devices added to this root group, so they can only enter the house territory. This variant is appropriate for security guards. If you add user to unit group/s (e.g. a cleaner), they can use devices added to the root and unit group, so they can enter the house territory and unit/s.

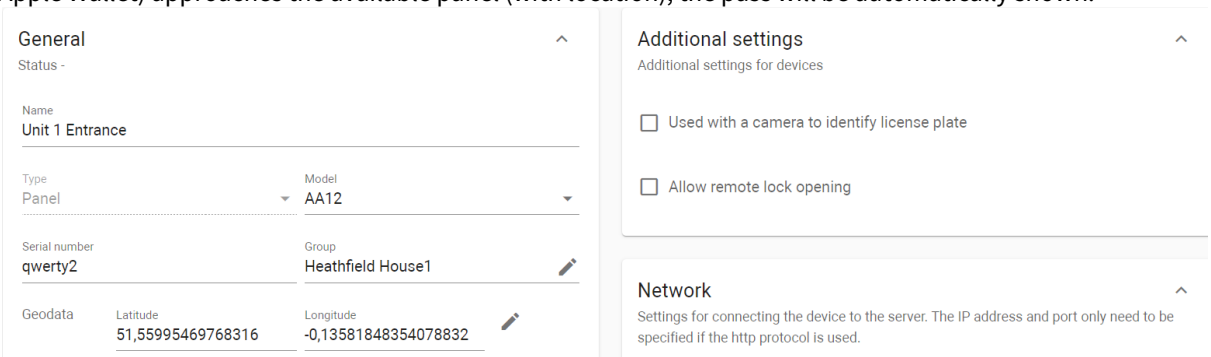
133 https://wiki.bas-ip.com/basiplinken/access-restrictions-135955826.html



13.5 5. Add devices to the system.

All devices (panels, controllers, monitors) must be added to the Link server to associate physical devices with data on the server. To do it:

1. Go to the **Devices** tab of the Device management section.
2. Click **plus** icon in the low left corner.
3. Enter the device **name**.
4. Select its **type**: panel, monitor, access controller.
5. Select the device **model**.
6. Indicate the device **Serial number** (check the Dashboard[134]tab of the device web interface or device box).
7. Select a **group**/subgroup where the device is installed.
8. Set panels location **geodata**. This data is required for the Link app, when a visitor with a pass (added to Apple Wallet) approaches the available panel (with location), the pass will be automatically shown.



9. Add a **description**, if necessary.
10. Enable **using a camera to identify license plates**, if necessary.
11. Allow **remote lock opening** (from the device web interface, via API), if necessary.
12. Enter network settings for server and panel interaction:

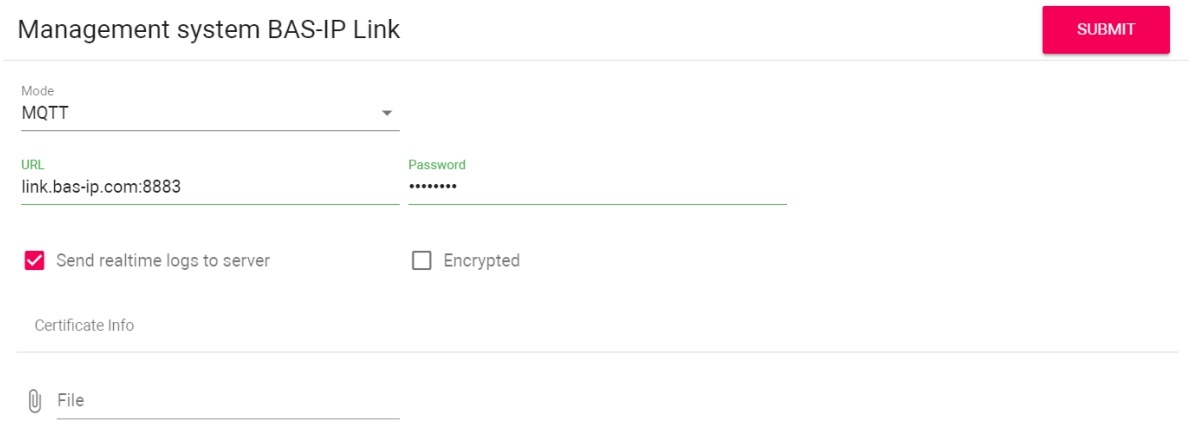
134 https://wiki.bas-ip.com/aa07/dashboard-135955050.html

- select the MQTT **communication protocol**;
- enter the device **IP address** and **port** (for HTTP only);
- enter **login** and **password** that are used to enter the device web interface;
- indicate server interaction password (is created in the Management system section (Network[135]tab) of the device web interface).

Also, the same network settings as for the server must be entered in the device web interface. The management system must be enabled for the device:

1. Log in to the device web interface. By default, the username is **admin**, and the password is **123456**.
2. Go to the **Network** tab > **Management system** section.
3. Select the MQTT **protocol.**
4. Enter all required data.
5. Submit settings.

Detailed instructions are here[136].



As an example, there is 1 entrance panel in the Heathfield House1 to access its territory, 1 panel is near the entrance for each unit and each floor, and 1 monitor is in each apartment. So, repeat all previous steps to add each device for the corresponding group.

135 https://wiki.bas-ip.com/aa07/network-135955054.html
136 https://wiki.bas-ip.com/aa07/network-135955054.html

Also, you can remotely enter SIP, Network, and Address settings and **send** them **on** the **device** to prepare the device for functioning. More details you can read here[137].

13.6 6. Add access restrictions for created groups/users.

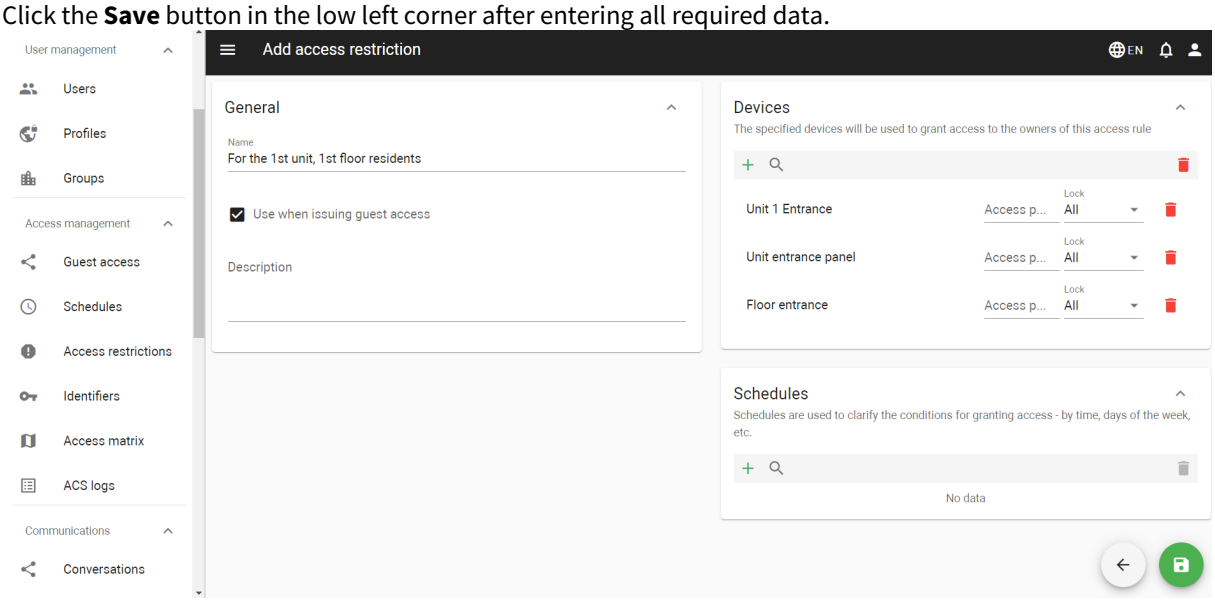
Access links devices, users, and schedules[138] (if required) and you can quickly configure giving access or not to these or those devices for concrete users. Access restrictions must be applied to groups with added devices and users.

To create access restrictions, e.g. for users who live in the 1st unit and 1st floor to have access to the Heathfield territory, their unit, and floor:

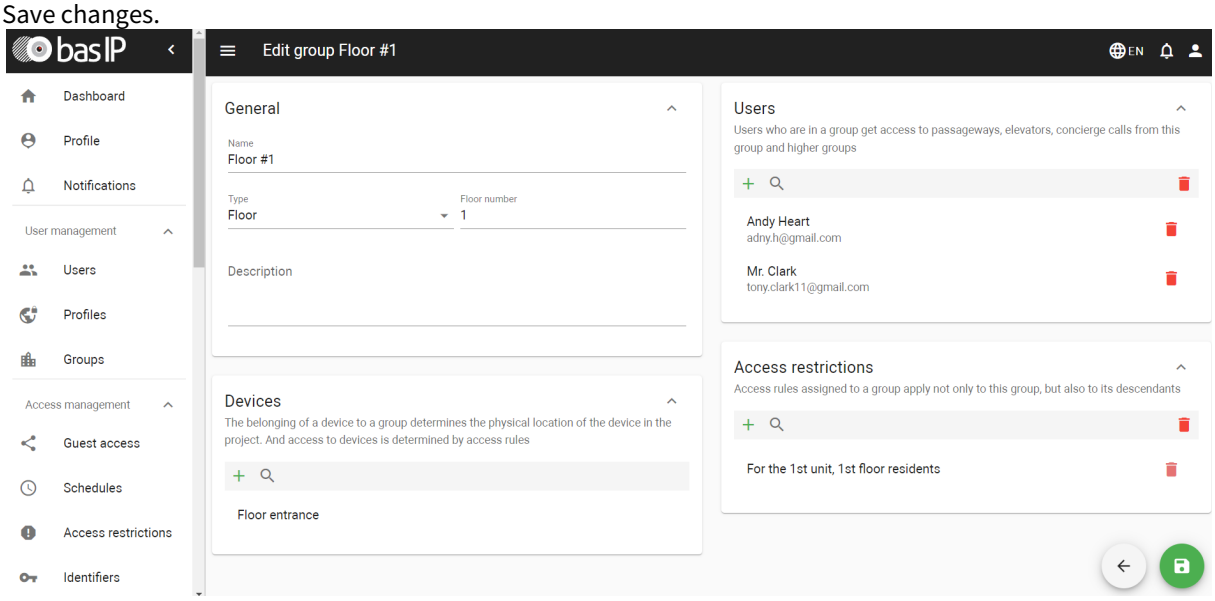
1. Go to the **Access restriction** tab of the Access management section.
2. Click **plus** icon in the low left corner.
3. Enter the restriction **name**.
4. Enable the possibility to **use** this restriction **for guest identifiers**.
5. Add description, if required.
6. Select **devices** from the list to allow their use. So, to access the Heathfield territory, 1st unit, and floor, you must select devices added to these areas.
7. Select the number of locks (if 2 locks are connected) that are allowed to open by users: the first, the second, or all.

137 https://wiki.bas-ip.com/pages/viewpage.action?pageId=15794626#id-Устройства-Remotedeviceconfiguration
138 https://wiki.bas-ip.com/basiplinken/schedules-135955813.html

8. Click the **Save** button in the low left corner after entering all required data.



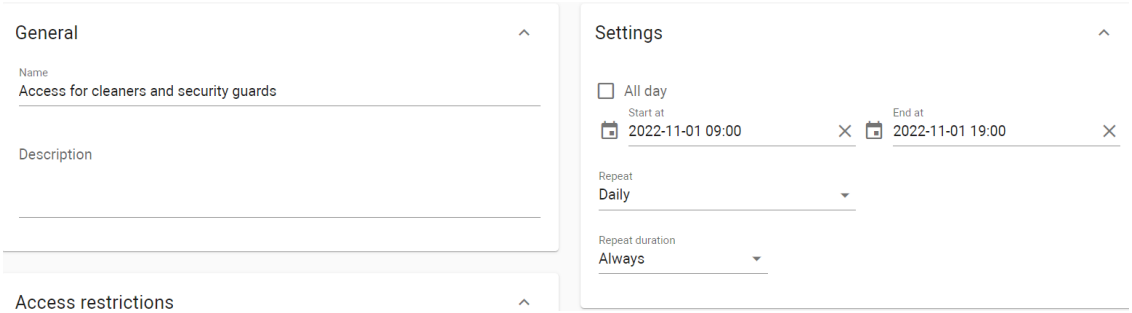
9. Go to the Groups tab and find the corresponding group for which the rule is created. In our case, it is for users who live in the 1st unit and 1st floor, so 1st floor group must be selected.
10. Click **3 dots** near the group name and select edit.
11. Select previously created access restriction.
12. Save changes.



If you want to apply access restriction to an exact user (e.g. cleaner or security guard), you must:

1. Go to the **Access restriction** tab of the Access management section.
2. Click **plus** icon in the low left corner.
3. Enter the restriction **name**.
4. Add description, if required.
5. Select **devices** from the list to allow their use, e.g workers must have access to all areas. So, you must select all devices located on the object.
6. Create a schedule to limit active time for users and their identifiers, e.g., workers are required to have access to the areas at the exact time

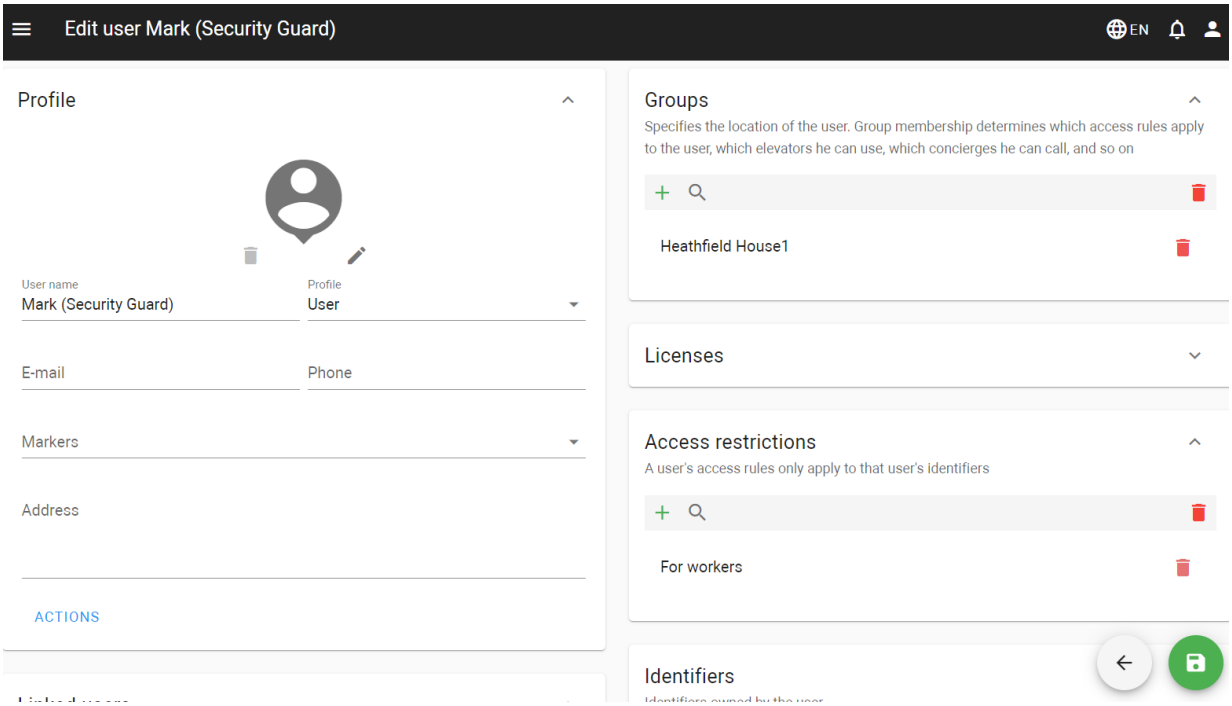
- enter the schedule **name**;
- add a **description**, if required;
- disable the **All day** option and specify the date (day/month/year) this schedule is active and set the **start** and **end** time of this schedule functioning, e.g. from 9 a.m. till 19 p.m;
- select **daily** repetition of the schedule and workers will have access to the areas every day from 9 a.m. to 19 p.m;
- save schedule;



> More details about schedules you can read here[139].

7. Save access restriction.
8. Go to the **User** tab and find the user you want to apply created access restriction.
9. Click edit the user.
10. In the Access restriction section, select created for the user restriction.
11. Save changes.

139 https://wiki.bas-ip.com/basiplinken/schedules-135955813.html



13.7 7. Add identifiers for users.

To provide an identifier for a user, you must:

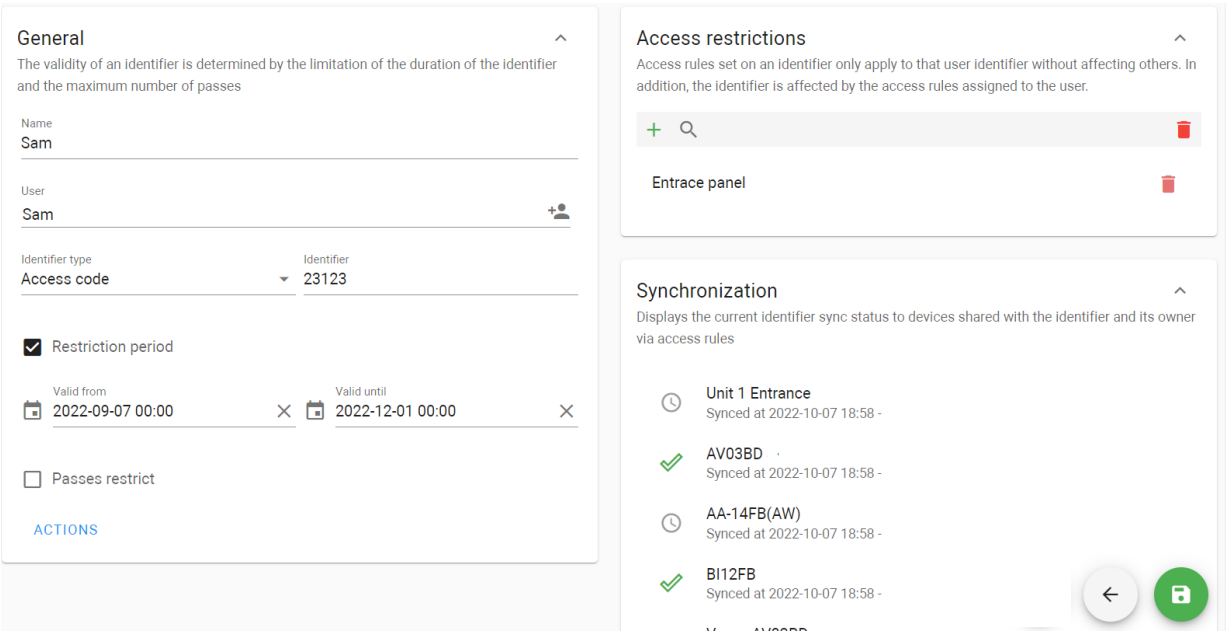
1. Go to the **Identifiers** tab in the Access management section.
2. Click **plus** icon in the low left corner.
3. Enter the identifier name.
4. Select the user of this ID.
5. Select the identifier type (pay attention to a device characteristics) and enter its value:
    - **card**: EM-Marin or Mifare card. In the **Identifier** field, you must enter a card number in decimal format, without commas. Usually, the number is printed on the card in decimal or hexadecimal format. You can use this link[140]to convert a value from one to another system;
    - **UKEY** allows using smartphones as identifiers (BAS-IP UKEY[141] app is required). You must enter the identifier number in the **Identifier** field;
    - **access code** that must be entered on the panel keypad to open lock/s. In the **Identifier** field, you must indicate a numeric code that will be used to open a lock;
    - **face ID** allows opening the lock by scanning visitors faces. When adding this identifier type, you must upload a user photo with a well-lit face and real face proportions in .jpeg format;
    - the automatically generated **QR code**. Enable the **Download QR code** option and after saving the identifier, it will be saved to the computer. Then it must be uploaded to a mobile device for further use;
    - **license plates** can be added and used to open lock/s. In the **Identifier** field, you enter the plate number. For this identifier to work, you need an Axis camera for plate scanning and installed AXIS License Plate Verifier software to send a number to the panel.
6. If necessary, enable and set restriction period restrictions for identifier validity.
7. If necessary, enable and set the maximum number of passes in the passes **restrictions** field.

140 https://www.binaryhexconverter.com/hex-to-decimal-converter
141 https://bas-ip.com/catalog/soft/bas-ip-ukey/

8. Select **access restrictions** from already added, e.g. Entrance panel.

> Applying access restriction is obligatory. This parameter helps to connect groups, devices, and users.

9. Click the **Save** button in the low left corner when all required data will be entered. The identifier will automatically be sent to all devices indicated in access restrictions. You can check where ID is added in the Synchronization section.



13.8 8. Add and configure an elevator functioning.

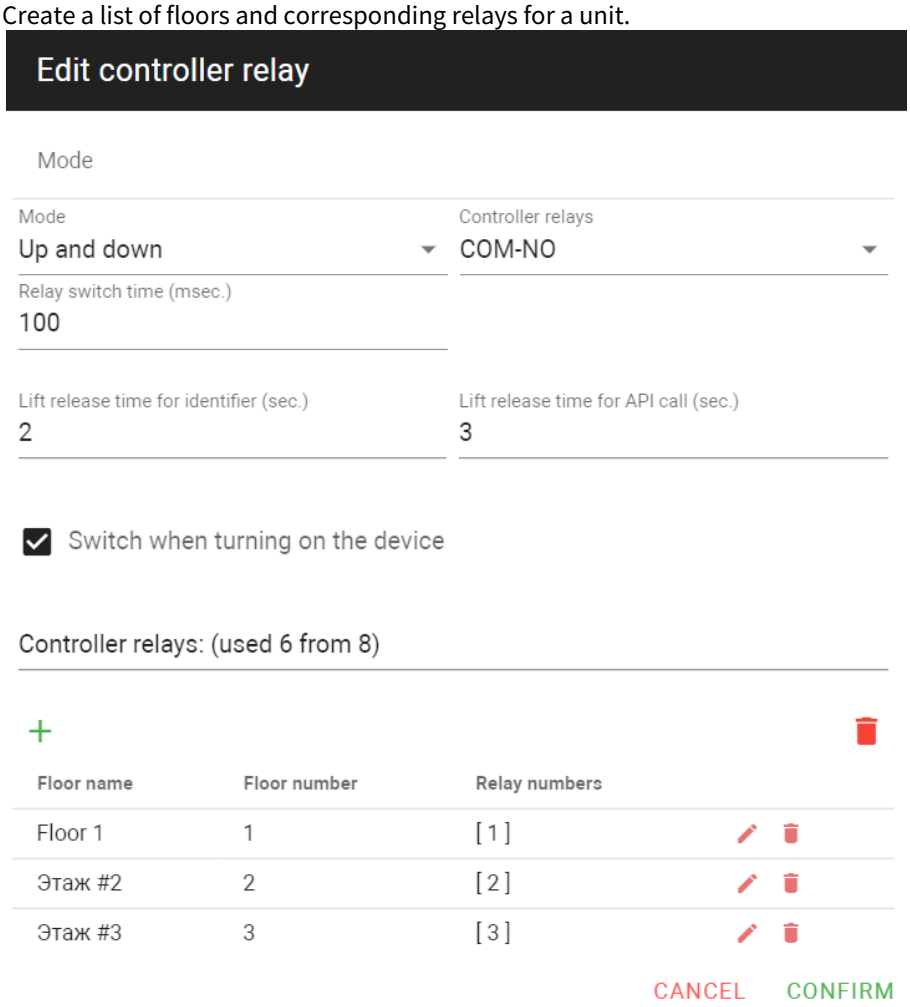
If you have a connected EVRC-IP controller[142], first of all, you must add it in the Devices tab (see step 5 above or check the video with subtitles).

After adding a device, you must configure the controller work:

1. Open the **Elevators** tab of the Elevator management section.
2. Click **plus** icon in the left low corner.
3. Enter the elevator name.
4. Select a group where it is placed, e.g. Heathfield House1
5. Tick **send elevator controller settings** on the device so that the settings data is transmitted to the controller.
6. Select available mode[143]: Up (an elevator moves only in the upward direction), Down (movement is only in the downward direction), Up and down (both directions are available), Access by identifier (movement only to those floors that are available for the used identifier).
7. Select relay **type**: COM-NO/COM-NC.

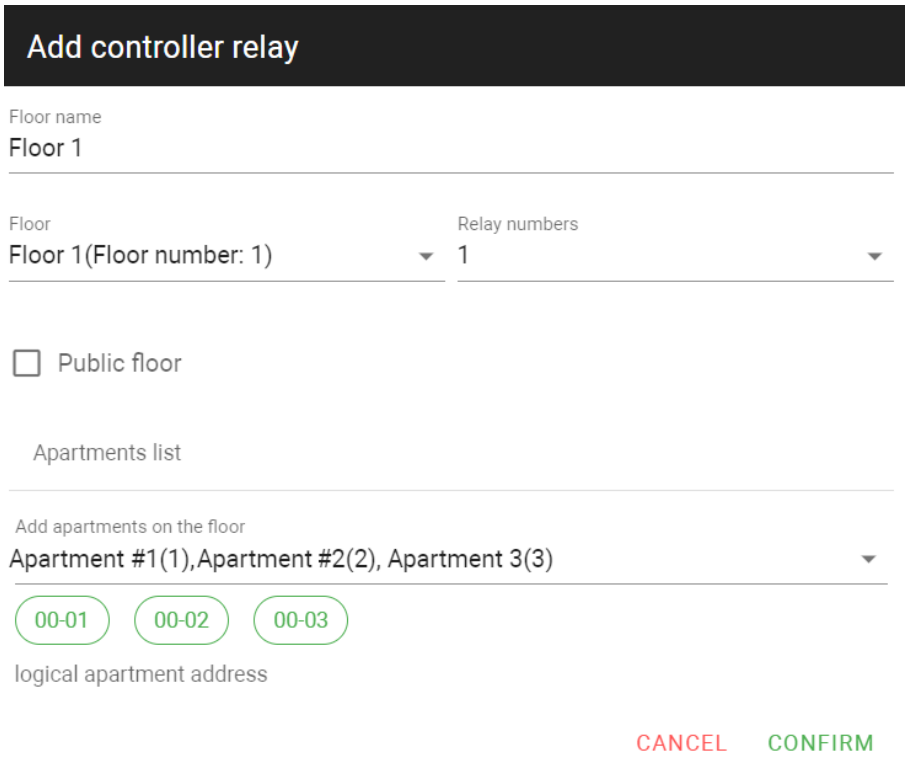
142 https://wiki.bas-ip.com/evrcip/evrc-ip-135957507.html
143 https://wiki.bas-ip.com/en/device-2752601.html#id-Настройкиадреса-Devicesettings

8. Set the **time** during which the relay will be switched.
9. Set lift **release time** (during which relay will be closed/opened) for identifier and for API call.
10. If necessary, enable the **switching relay when turning on the device**.
11. You can see the number of available and used relays. For Up and down mode only 8 relays are available, for other modes 16 can be used.
12. Create a list of floors and corresponding relays for a unit.

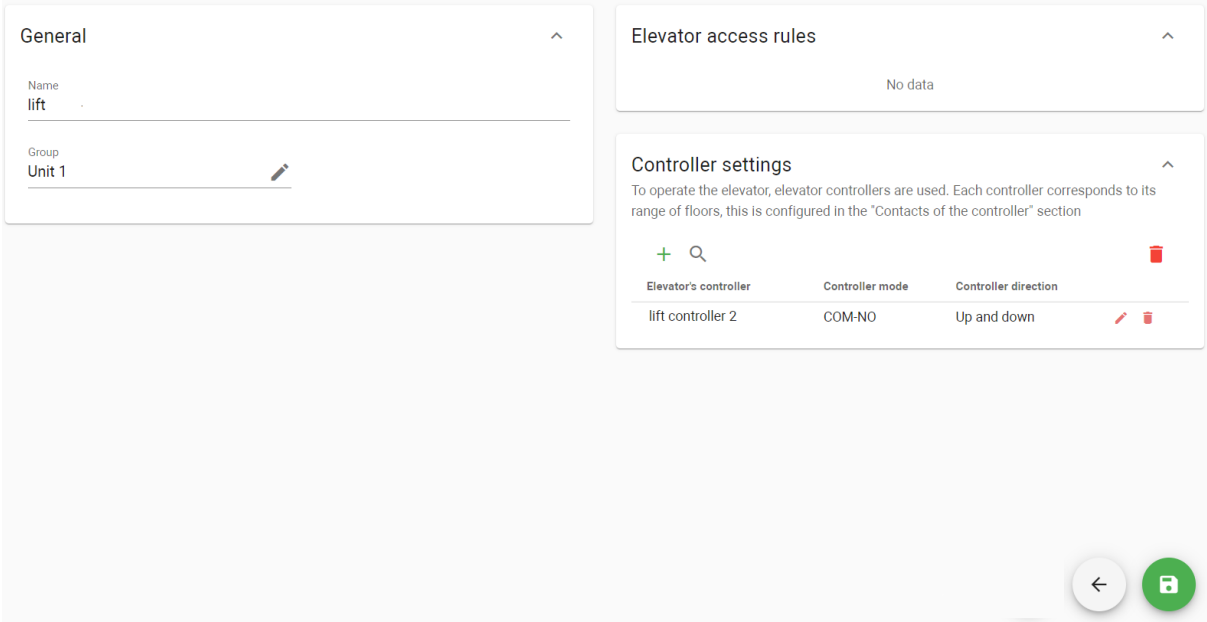


13. To add a floor click **plus** icon.
14. Enter **Floor No**. and **Relay No.** that connected to this floor at the controller.
15. Indicate whether the floor is public or not (e.g., ground floor). Users will always have access to the public floor despite their identifier settings.
16. Select necessary apartments located on the floor (data is automatically taken from the Groups tab).

17. Click Confirm to add the floor to the list.

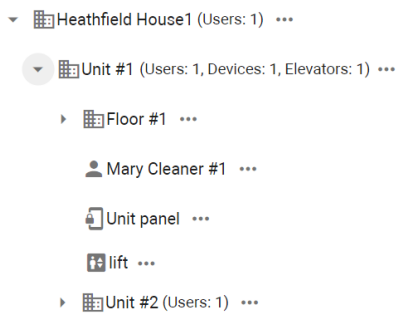


18. Click **Confirm** to add the controller when you enter all necessary data.
19. Click the **Save** button in the left low corner.



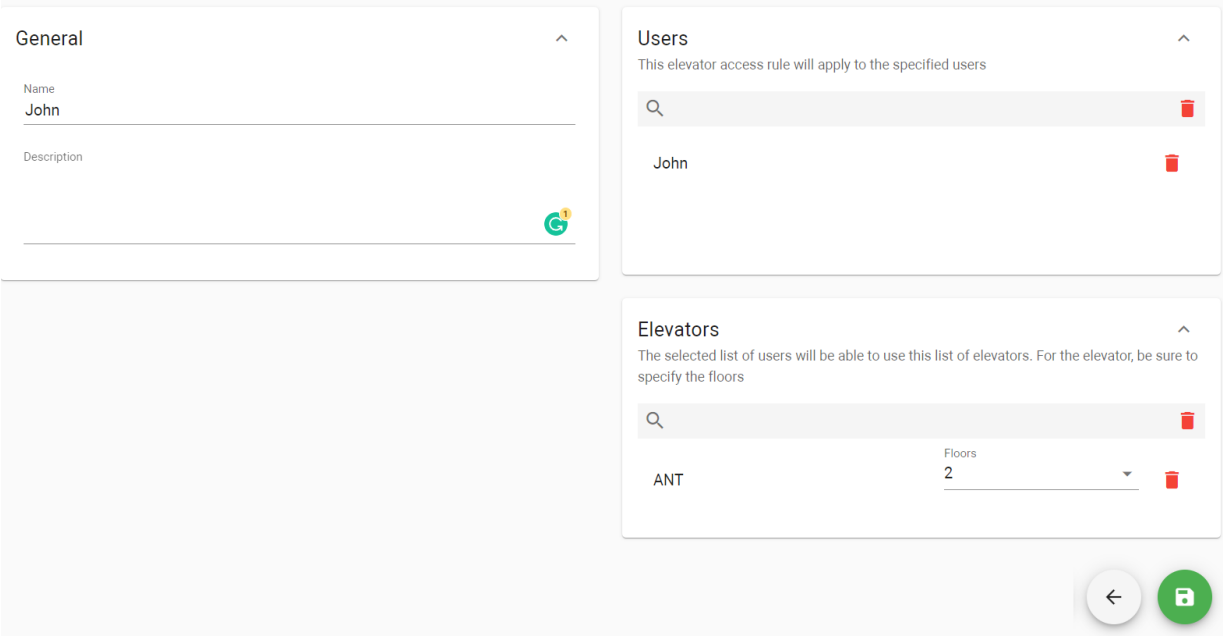
20. Open the **Device settings** tab of the Device management tab and find the controller.
21. Check the correctness of settings (if they are the same as entered in the Elevators tab).
22. Enable send on device feature to transmit entered settings to the controller.
23. Save changes.

As result, an elevator will be added to the group.



In addition, you can add **access restrictions** for users and elevators:

1. Go to the **Access restriction** tab of the Elevator management section.
2. Click **plus** icon in the low left corner.
3. Enter the restriction **name**.
4. Add **description**, if required.
5. Select **user/s**[144]from the list to whom this restriction will be applied.
6. Select the elevator[145] that the selected users can use.
7. Specify **floor**/s to which user/s will have access. Users will always have access to the floor marked as public.
8. Click the **Save** button in the low left corner after entering all required data.



144 https://wiki.bas-ip.com/basiplinken/users-135955765.html
145 https://wiki.bas-ip.com/basiplinken/elevators-135955962.html

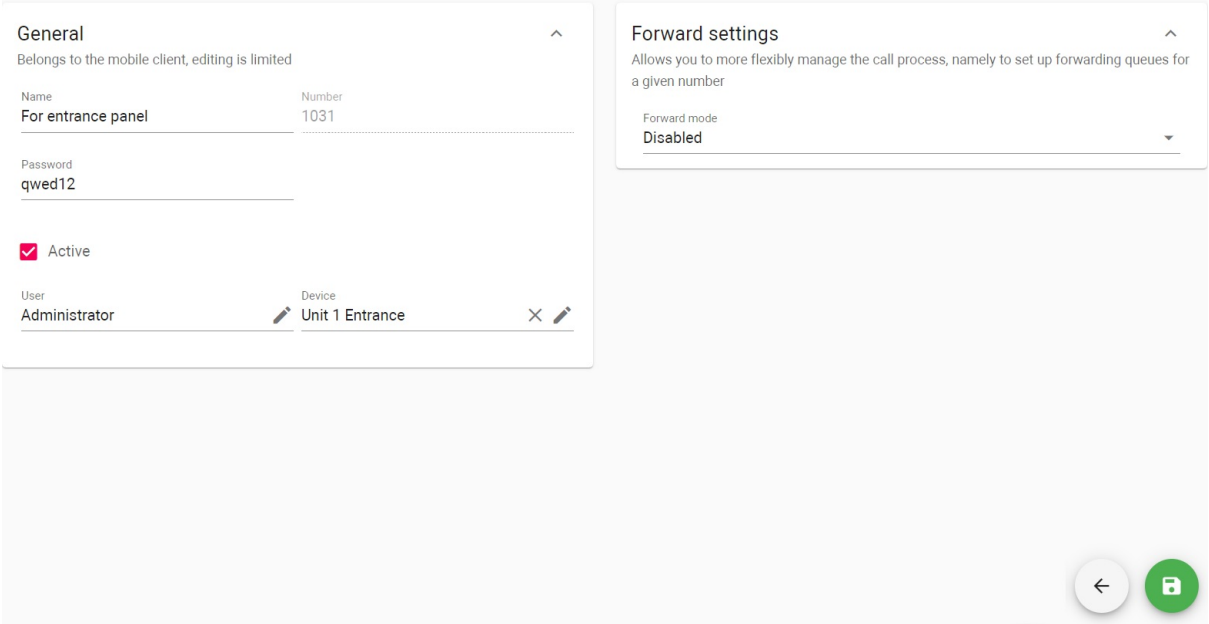
13.9 9. Create virtual numbers for users.

To make a call between devices, users and devices must have virtual numbers. For a user registered in the Link app, a virtual number is created and applied automatically. You can check the number in the user profile[146]. For other devices, you must create a virtual number:

1. Go to the **Virtual numbers** tab of the Telephony settings section.
2. Click **plus** icon in the low left corner.
3. The system will automatically generate a SIP number. Enter a name for the number.
4. Create the password for the number.
5. Tick the **Active** box to turn on the number operating.

> To deactivate a number enable this box in the number settings.

6. Select the **user** (from previously added in the User[147]tab) of the number.
7. Select the **device** on which the number must be used. If a user will use the number on a mobile device, leave the field blank.
8. Click the **Save** button in the low left corner when all required data will be entered.



When you apply a number for a device, the ability to call this device ( ) will appear in the Link app.

146 https://wiki.bas-ip.com/basiplinken/users-135955765.html
147 https://wiki.bas-ip.com/basiplinken/users-135955765.html

13.10 10. Guest access providing.

Temporary identifiers for guests, couriers, taxi drivers, etc can be provided by a concierge in the Link or by a user in the Link app. It's possible to configure areas visitors will have access to, the time and date when the ID will work, and the number of available passes.

> Only a user that has at least 1 access restriction and at least 1 device associated with this restriction can create a guest identifier.

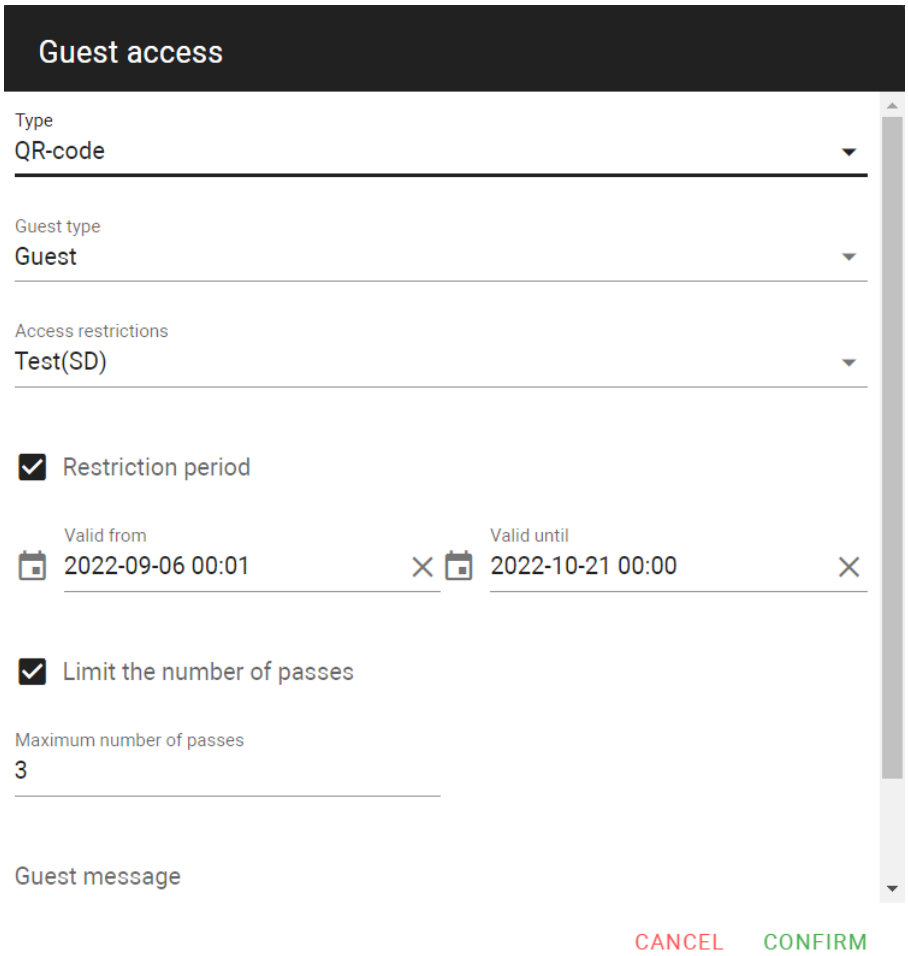
To **create a guest pass in the Link** (by concierge, for example), the concierge must:

1. Go to the **Guest access** tab in the Access management section.
2. Click **plus** icon in the low left corner.
3. Select ID **type**: **QR code** (available for panels with camera), **Access code** (available for panels with keypad), **URL** (available for all devices), or a **License plate** (available for panels and installed Axis camera with Axis License Plate Verifier software).
4. Select **guest type**: Courier or Guest.
5. Select the **access restrictions** you want to apply for the ID. Selected access restrictions must coincide with restrictions applied to the user is creates the ID.
6. Tick the **restriction period** field if it is necessary to limit the ID validity period.
7. Indicate the **beginning** and the **ending** of the ID active period. By default, the pass works for 1 day.
8. If necessary, tick the **limit the number of passes** field.
9. Enter the available **number of passes** for this ID. By default, 1 pass is available.

   > You may enable and set either a **restriction period** or **a number of passes** parameters.

10. Enter a **guest message** if required.

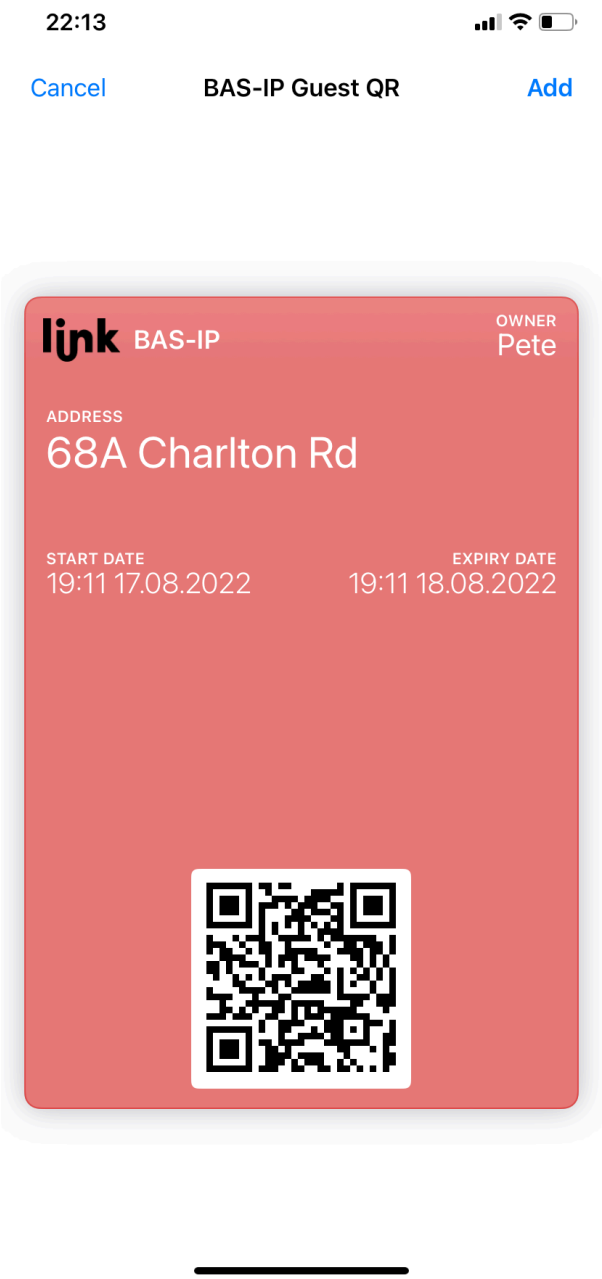
11. Click confirm when all data is entered.



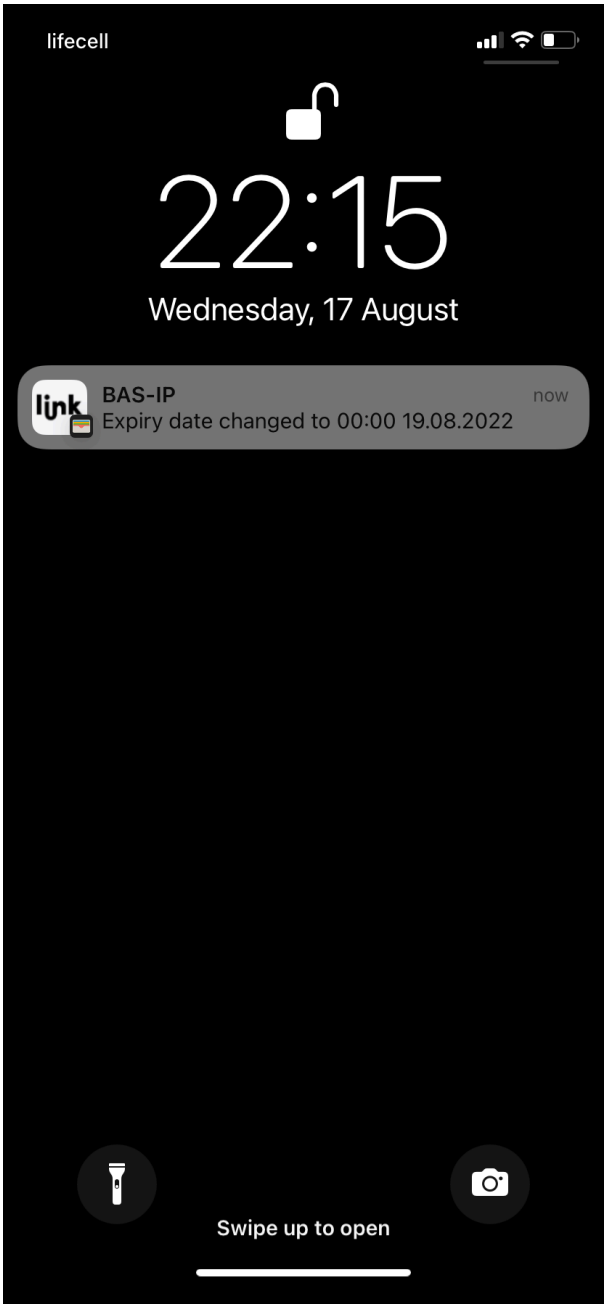
12. Copy the link/access code or download a QR code (or pkpass file for adding the QR code to Apple Wallet) and sent it to the guest for further use.

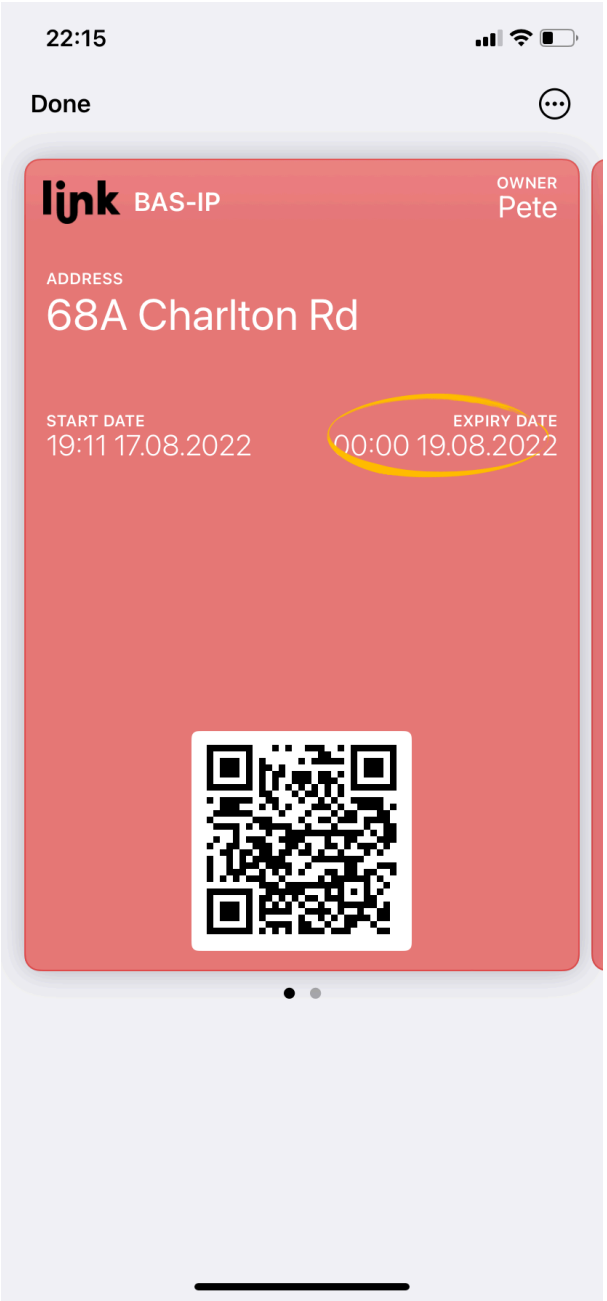
When you select a **QR-code** pass, you can share it as an image of the code and all the main information. Visitor can check all the necessary information (validity period, the number of available passes) and has to open it and show for entrance panel scanning.

In addition to the image, the QR code can be shared in a format for adding it to Apple Wallet if you/your visitor use **IOS**. When receiving a pass, a visitor must open it and press **Add** button. As a result, the visitor will get access to the pass by opening Apple Wallet.



Also, if some changes about the pass are done on the Link server, the visitor will be notified about it and they will be automatically applied. So, there is no need to send another pass.

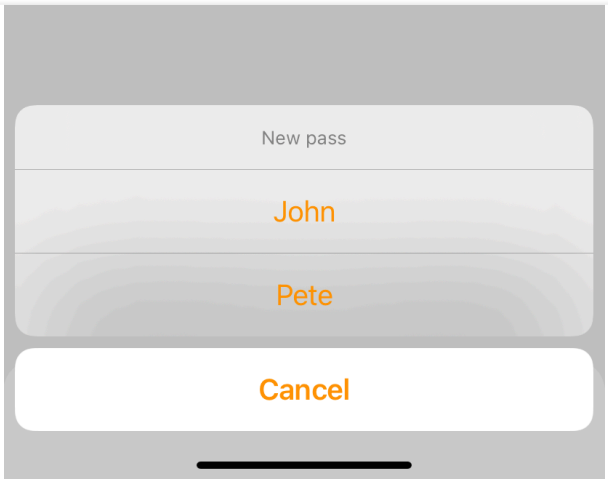




To **create a guest pass in the Link app**, a user must:

1. Press **Add pass** in the Passes tab.

> If several profiles are authorized with the app, select the profile want to use for pass creation.



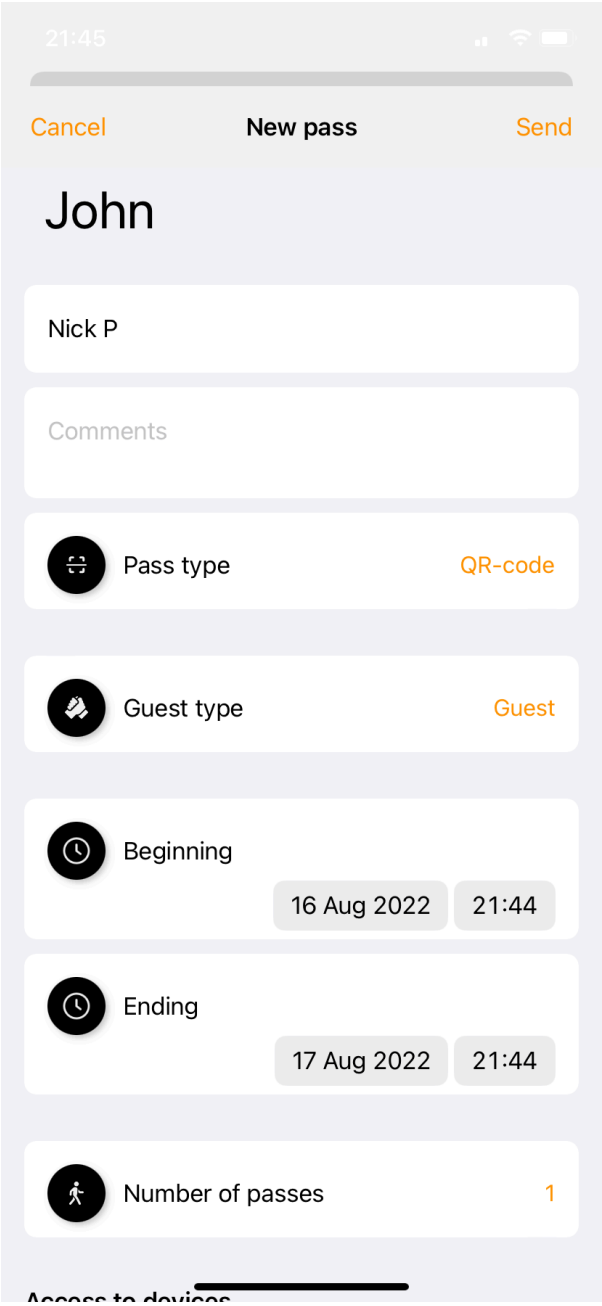
2. Enter the owner **name** of this pass. If you skip a name, the app will generate it. You also may leave **comments** if necessary.

3. Select **pass type**: QR-code (available for panels with camera), Access code (available for panels with keypad), or URL (available for all devices).

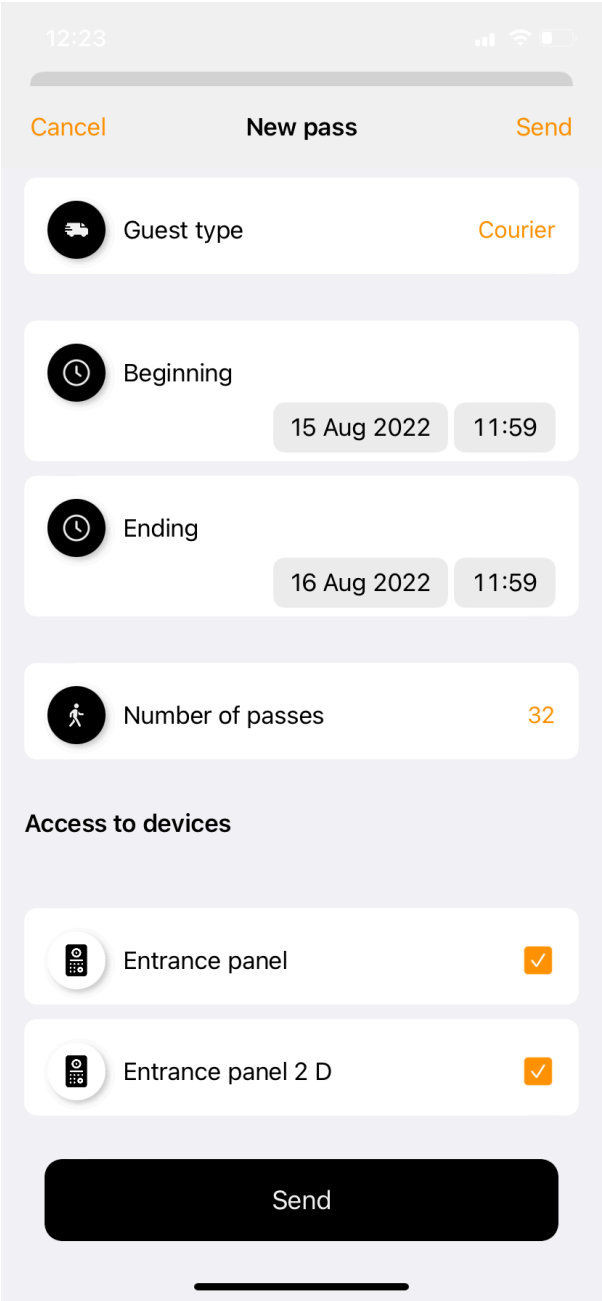
4. Select **guest type**: Courier or Guest.

5. Indicate the **beginning** and the **ending** of the pass active period. By default, the pass works for 1 day.

6. If necessary, set the available **number of passes** for the identifier. By default, 1 pass is available.



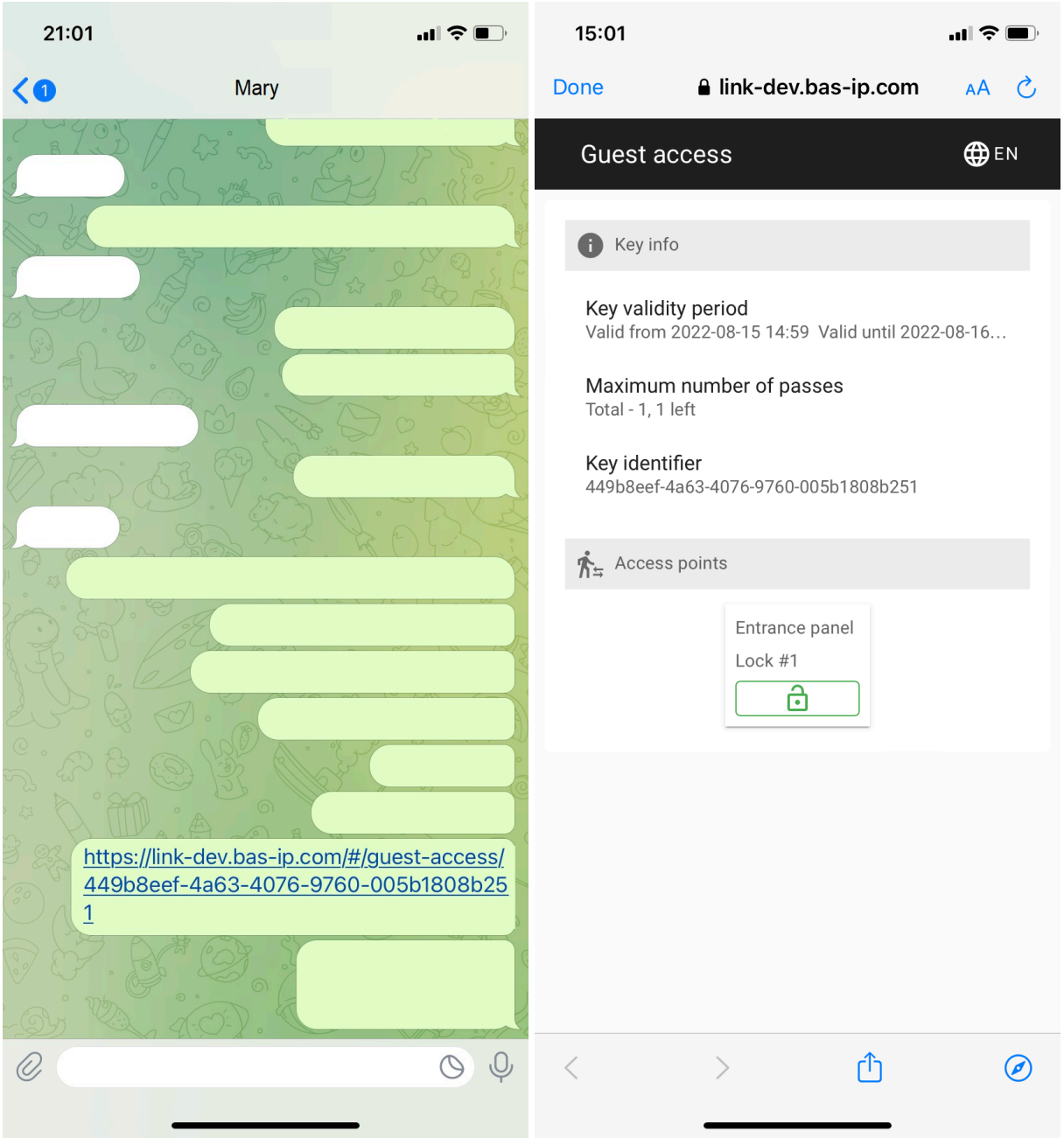
7. Select the devices to which you want to grant access. For example, the pass can open the door only to the unit only, or also to your apartment. By default, all devices are selected for pass opening.



8. Press **Send** to share the pass via any messenger when all data will be entered.

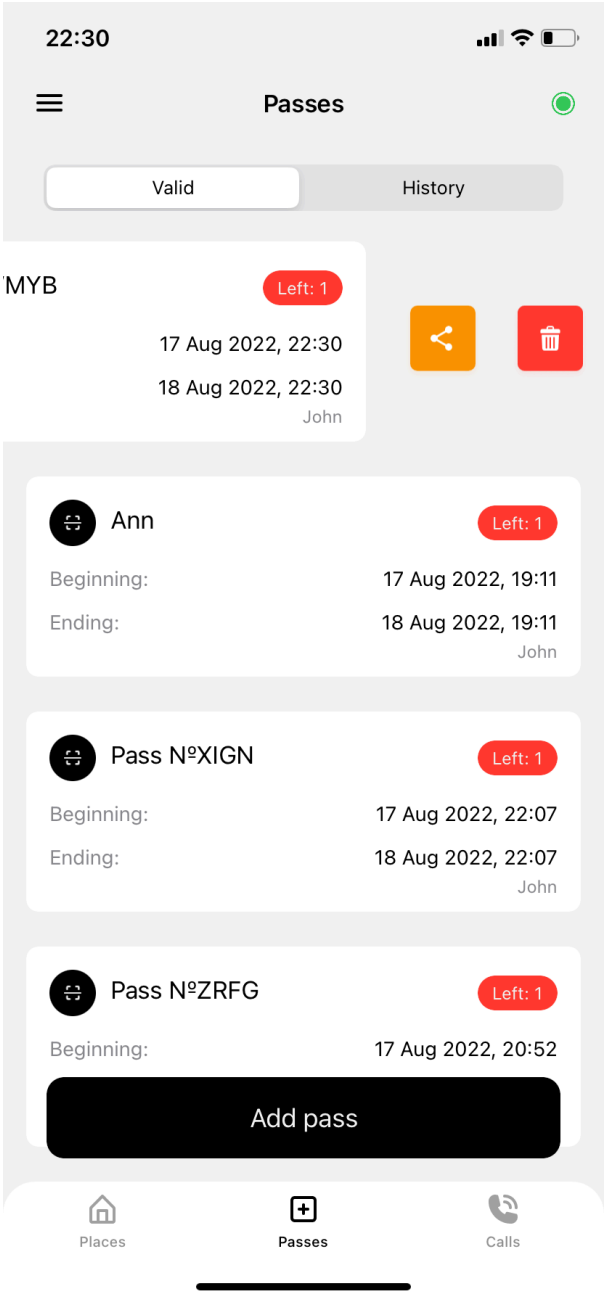
You can send a pass via any messenger or e-mail after pressing **Send** button when creating a pass. When you select an **access code**, it will be generated in text with all the necessary information (validity period, the number of available passes) to open the lock.

When you select a **link**, it will be generated in the URL. A visitor must open it to get information about the validity period, the number of available passes, and the ability to open the lock.

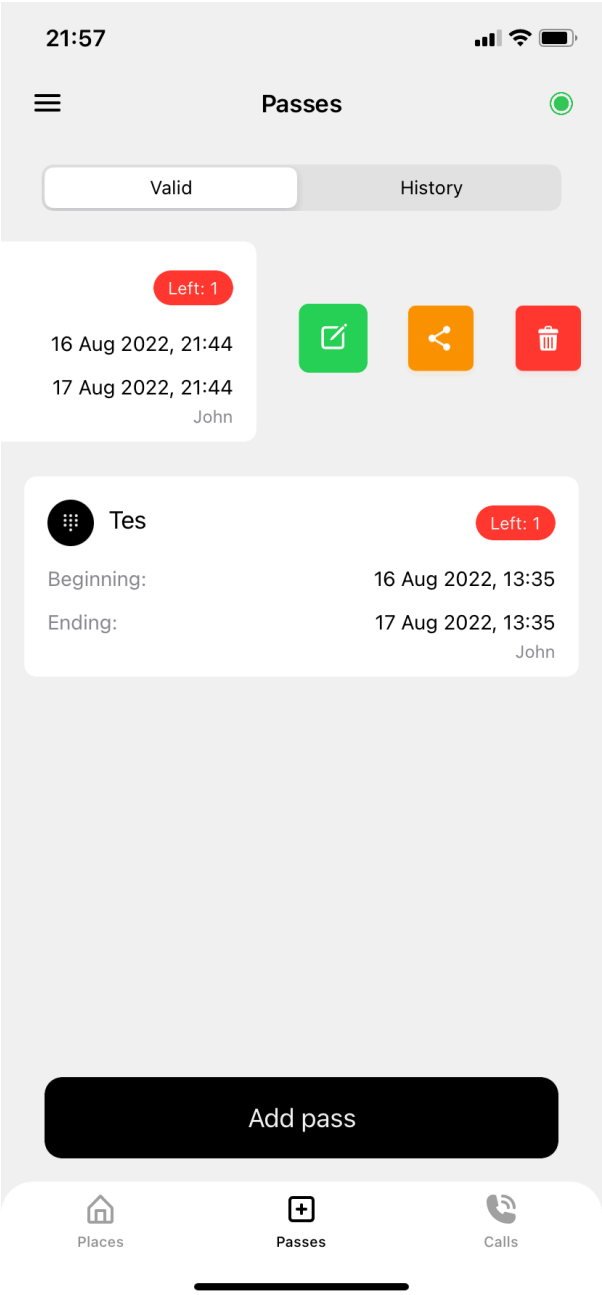


The process of sharing **QR codes** is described above (how to create a guest pass in the Link).

The other way to share the pass is to swipe it left anf press share button. Also you can delete the pass.



For QR-code pass you can edit guest type, pass active period, number of available passes and devices.



13.11 11. Link app usage.

BAS-IP Link app is a perfect addition to the Link software. Detailed information about all features you can read here[148]. Here are the basic ones:

- a user has a list of available for them places[149](property objects) with devices. They can watch a stream from entrance panels and/or monitors to check the situation at home or the office. Also, they can open the lock via Bluetooth, and call an elevator to the required floor.

148 https://wiki.bas-ip.com/basiplinkapp/bas-ip-link-110561562.html
149 https://wiki.bas-ip.com/basiplinkapp/places-110561623.html

Place/s displayed in the menu is a group/s to which the user is added on the Link server. All available **devices** are also added to the group together with the user. Also, access rules must be applied to the group for its display in the app;

- a user can call a device[150] from the list available or get a call from the other device;
- a user can provide temporary identifiers[151] for visitors;
- a user can open the lock[152] via Bluetooth;
- a user can invite up to 5 family members[153] to share the features of the app;
- a user can use the app for an Apple watch[154];

150 https://wiki.bas-ip.com/basiplinkapp/accepting-making-calls-110561625.html
151 https://wiki.bas-ip.com/basiplinkapp/guest-passes-110561627.html
152 https://wiki.bas-ip.com/display/BASIPLinkapp/Profiles#Profiles-HowtoaddUKEYidentifier
153 https://wiki.bas-ip.com/display/BASIPLinkapp/Profiles#Profiles-Howtoaddafamilymember
154 https://wiki.bas-ip.com/basiplinkapp/app-for-apple-watch-110562156.html

14 Link mobile app

BAS-IP Link app is a perfect addition to BAS-IP Link software. With this app, you can watch a stream from entrance panels and/or indoor video entry phones and monitor the situation at home or office. Also, the user can open the lock via Bluetooth, call an elevator to the required floor for you or your guests, and quickly create guest passes.

> The use of BAS-IP Link software is obligatory for the app functioning.

The main functions:

- support of VoIP/push notifications for incoming calls;
- video stream from the panel/monitor camera before answering the call;
- possibility of registration/authorization on different Link servers;
- ability to add multiple devices;
- guest passes (QR-codes, access codes, and links) creation;
- calling the elevator (when the EVRC-IP[155] module is used);
- opening the lock using UKEY (availability of UKEY identifier is required);
- availability of an archive with all calls;
- family members invitation.

Download on the App Store

GET IT ON Google Play

> For correct application functioning, especially for UKEY, you need to allow access to your location for permanent use, as well as activate Bluetooth on your smartphone. By giving permission to use the smartphone features, you agree to all the terms and conditions set forth in the privacy policy[156].

The main menus and features are described here:

- BAS-IP Link server preparation to the app[157]
- Registration[158]
- Authorization[159]
- Places[160]

155 https://bas-ip.com/catalog/accessories/evrc-ip/
156 https://www.bas-ip.com/privacy/
157 https://wiki.bas-ip.com/display/BASIPLinkapp/BAS-IP+Link+server+preparation+to+the+app
158 https://wiki.bas-ip.com/display/BASIPLinkapp/Registration
159 https://wiki.bas-ip.com/display/BASIPLinkapp/Authorization
160 https://wiki.bas-ip.com/display/BASIPLinkapp/Places

- Accepting/making calls[161]
- Guest passes[162]
- Recent calls[163]
- Settings[164]
- Profiles[165]
- App for Apple Watch[166]

161 https://wiki.bas-ip.com/pages/viewpage.action?pageId=110561625
162 https://wiki.bas-ip.com/display/BASIPLinkapp/Guest+passes
163 https://wiki.bas-ip.com/display/BASIPLinkapp/Recent+calls
164 https://wiki.bas-ip.com/display/BASIPLinkapp/Settings
165 https://wiki.bas-ip.com/display/BASIPLinkapp/Profiles
166 https://wiki.bas-ip.com/display/BASIPLinkapp/App+for+Apple+Watch