



User guide



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This document describes managing SmartTUBE, Multiscreen Media Service Delivery Platform, in a web interface: adding and editing entities, working with users and service accounts.

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1 Terms and abbreviations

API

Application Programming Interface

DRM

Digital rights management – various access control technologies that are used to restrict usage of proprietary hardware and copyrighted works

IPTV

Internet Protocol Television

Media stream

A bunch of digital video and audio streams transmitted for playback on client devices

Operator

Entity that offers IPTV/OTT services, and which has a contractual relationship with the Subscriber (see Services)

OTT

Over-the-Top – multimedia service delivery over the Internet

SDP

Service Delivery Platform

Service

Content, information and/or additional functions, which are offered to the Subscriber

STB

Subscriber

The individual who makes the contract (subscription) with a Service Provider for the consumption of certain Services

VOD

Video on demand – the service which allows subscribers to select and watch movies and series when they choose to. By default there are the following VoD types:

- ▶ FVoD (*Free Video on Demand*) – no limited access to video (for free and without an advertising).
- ▶ AVoD (*Advertising Video on Demand*) – access to video is provided with an advertising which is periodically shown in video.
- ▶ SVoD (*Subscription Video on Demand*) – access to video is provided after purchasing a periodic subscription.
- ▶ TVoD (*Transactional Video on Demand*) – access to video is provided after one-time purchase. The video could be accessible without limits or with limits on viewing quantity or a time period (e.g. the video is accessible in 30 days from purchase date and 48 hours from watching start).

DVR

Digital Video Recorder – the service which allows subscribers to watch recorded TV programmes. Includes the following services:

- ▶ Pause Live (PL) – allows to pause a live programme and continue watching from the same point.
- ▶ Networked Public Video Recorder (NPVR) – allows to view programmes after the live broadcasting. A subscriber chooses a programme and initiates its recording, the programme is recorded to the provider's storage medium.
- ▶ Time Shifted TV (TSTV) – allows to view programmes after the live broadcasting. A subscriber does not need to record a programme by himself, the programme is recorded to the provider's storage medium automatically.

2 Getting started

In the administrator's web interface you can manage your service delivery platform SmartTUBE 5 including the content, users, content metadata, service plans, access to statistical reports on service consumption, and more. You can fulfill all your management tasks in a web browser in a user-friendly way.

2.1 Prerequisites

Install SmartTUBE 5 following the instructions in the document *SmartTUBE 5. Server installation guide*.

SmartTUBE web interface is compatible with the following browsers:

1. Google Chrome 52
2. Mozilla Firefox 47
3. Internet Explorer 11.

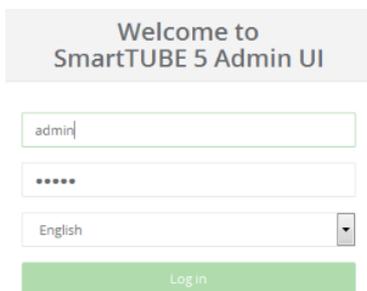
Support for JavaScript and Cookies is required to access SmartTUBE.

2.2 First start

To start managing your service delivery platform:

1. Paste the SmartTUBE link in the address bar of your browser. A login page is displayed.
2. Select the interface language, enter the default username and password – `admin / admin`, and then click **Log in**.

Picture 1 Logging in to AdminUI



Welcome to
SmartTUBE 5 Admin UI

admin

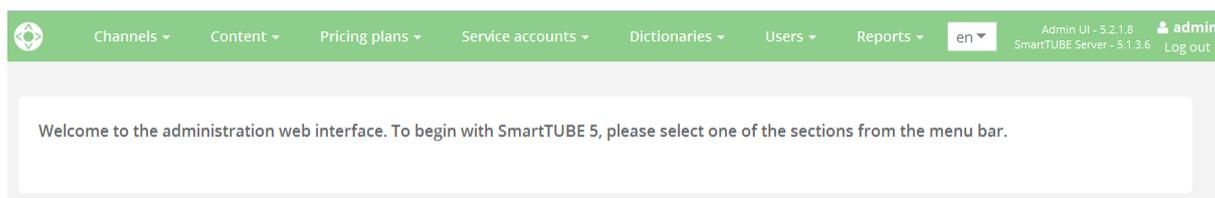
.....

English

Log in

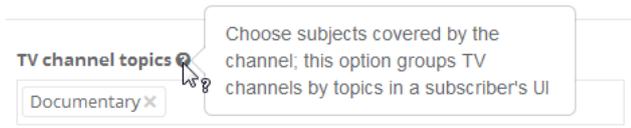
3. Now you are logged in as the Administrator and you have access to all the features of SmartTUBE 5 web interface.

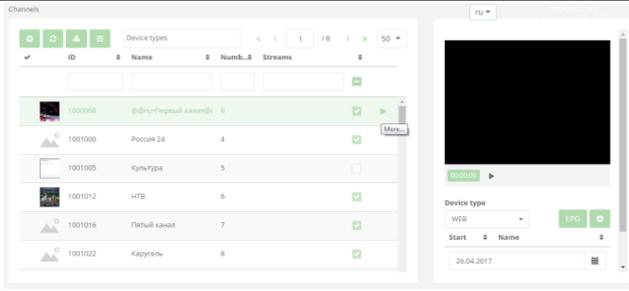
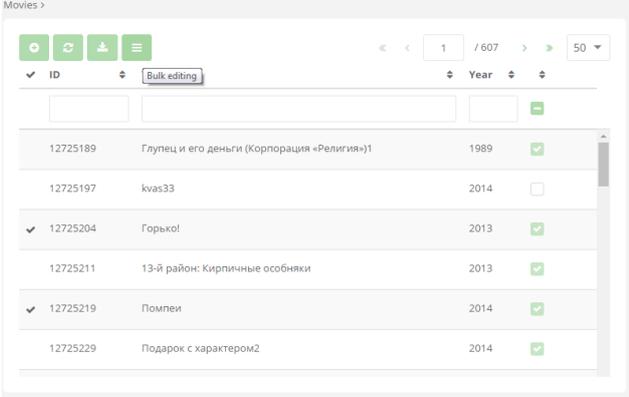
Picture 2 Main page of AdminUI



4. Before proceeding to administration, change the default password to the user-defined one. To do this, click the **Users** menu to open the users list; click **admin**; and then type and confirm your new password.
5. Now you are ready to manage your platform.

2.3 Useful to know

Feature	Comment
Hints	<p>Please, note that there are hints for almost all fields in the SmartTUBE 5 web interface. These hints will help you through the process of configuring. To read a hint, hover the mouse pointer over the field and click the hint icon </p> <p>.</p> 
Making changes visible to subscribers	<p>When you apply changes to most of the entities in the SmartTUBE 5 web interface, you have two options:</p> <ul style="list-style-type: none"> ▶ Click Save . In this case you will save the changes, but they will not be displayed in subscribers' UI. You do this if you are going to apply more changes soon. ▶ Select the Published check box and click Save and update in cache , if you want to display the changes in subscribers' UI.
Viewing more information about the entity without leaving the page	<p>When you open a page, for example the list of channels, programmes in the EPG or TV bundles, the pane to the right is empty. You can view detailed information on a list item in this pane, if you hover your mouse over the item and click More.</p>

	
<p>Bulk editing</p>	<p>If you need to change the same parameters of several similar items (for example, movies) to the same value you may use Bulk editing feature instead of editing each item separately:</p> <ol style="list-style-type: none"> 1. Select or filter the needed entries. 2. Click Bulk editing .  <ol style="list-style-type: none"> 3. Click Edit  to edit entries or Delete  to remove them.

2.4 Multilingual fields

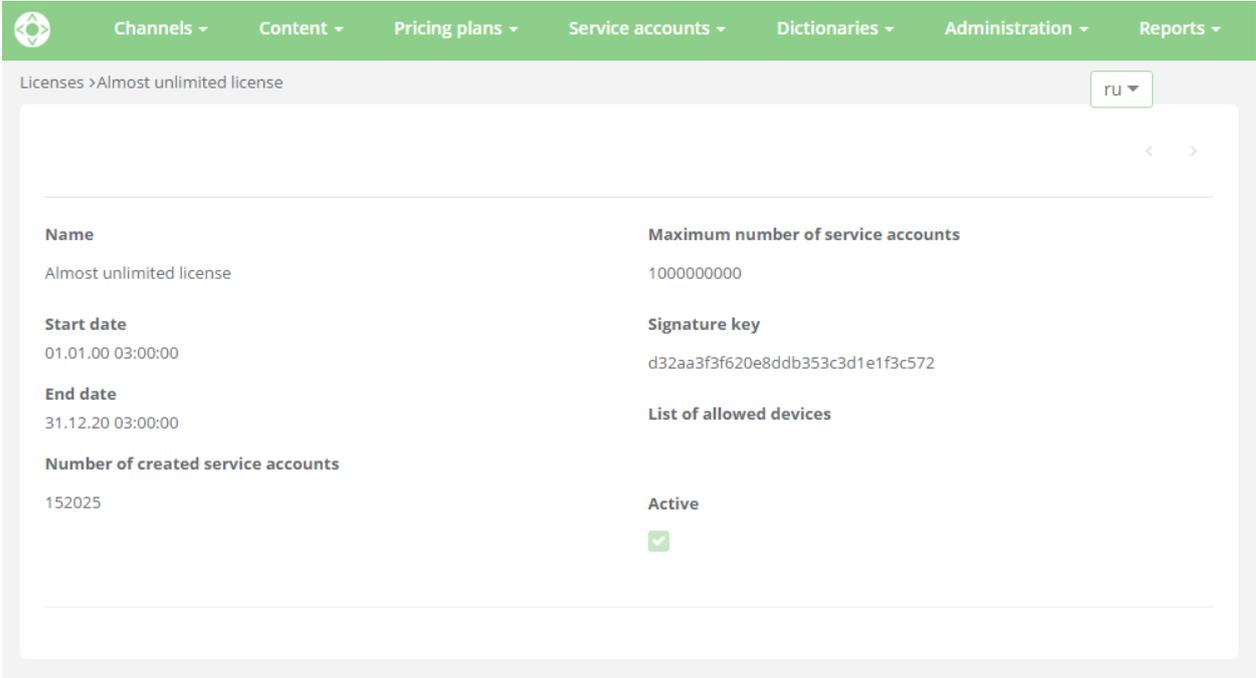
In Admin UI you can specify the value of text fields in several languages.

For that purpose:

1. Choose the language in the drop-down list on the top panel of Admin UI. It will affect only the fields' value, the interface language will remain as chosen in the logging window.
2. Fill the fields in this language and save the changes. After that choose another language, fill the fields and save. Repeat for all needed languages.

3 Licensing

The number of service accounts and the term of using SmartTUBE 5, your Multiscreen Media Service Delivery Platform, are controlled by the license. You can find your licensing information on the **Users – Licenses** page. To see the details of a specific license, click it on the list of licenses. To switch to the next or the previous license details click < or >.



The screenshot shows the 'Licenses' page in the SmartTUBE 5 interface. The breadcrumb path is 'Licenses > Almost unlimited license'. The license details are as follows:

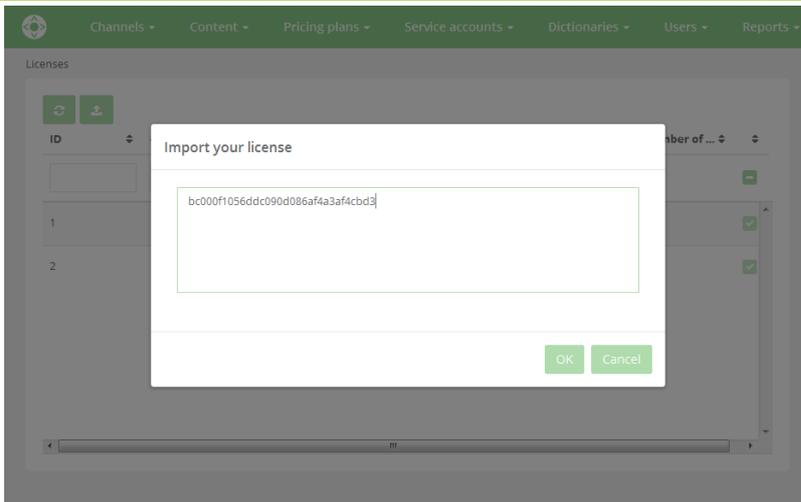
Name	Maximum number of service accounts
Almost unlimited license	1000000000
Start date	Signature key
01.01.00 03:00:00	d32aa3f3f620e8ddb353c3d1e1f3c572
End date	List of allowed devices
31.12.20 03:00:00	
Number of created service accounts	Active
152025	<input checked="" type="checkbox"/>

Please, note that if you reach the maximum number of service accounts that is allowed by the license, new accounts cannot be registered. If the term of use specified by the license expires and you do not prolong the license, your subscribers will not be able to use the services.

Please contact a SmartLabs representative before your license expires, to continue using SmartTUBE 5.

3.1 Importing a license

If you have already received updated licensing information from a SmartLabs representative, then you should import it in SmartTUBE 5. To do this, on the **Users – Licenses** page, click **Import License**  and copy and paste the signature key that you have received.



Make sure that you see the new license on the list on the **Users – Licenses** page. The new license will become active automatically on the day your current license expires. The work of your SmartTUBE 5 will not be interrupted.

4 TV services delivery

In SmartTUBE 5 web interface, you can work with channels metadata:

- ▶ view the channels list
- ▶ add channels
- ▶ manage TV listings (EPG)
- ▶ set broadcast sources for different devices
- ▶ set a channel access level
- ▶ add channels to bundles
- ▶ configure the stream and record encryption
- ▶ manage the TV service cost, and more

To provide TV content and services to your customers, fulfill the steps from the checklist.

Note: delivering the TV content must be allowed to you by the right holders. So, before providing it, reach agreement with owners.

	Step	Comment
<input type="checkbox"/>	1. Add the channel you are going to deliver to the subscribers	On the Channels – Channels page, click Add and enter the channel parameters you have received from the right holders. For some settings explanation, see below. Set Published flag for the channel. Note: to apply the changes on STBs click Refresh on STBs after saving the changes.
<input type="checkbox"/>	2. Create or import EPG for the channel	On the Channels – EPG page, on the EPG pane, click Add and add the EPG manually. For importing EPG automatically, read Importing EPG .
<input type="checkbox"/>	3. Add the channel to one or several bundles	On the Pricing plans – TV bundles page, select the existing bundle or create a new one. On the bundle editing page, in the pane to the right, select the channel you want to add. To provide Pause Live and/or TSTV services also add the channel to the DVR bundle by the same way.

		To provide nPVR services also add the channel to the NPVR bundle by the same way. Note: contact the Commercial Editor for information on the bundles you need to choose.
<input type="checkbox"/>	4. Add the bundle(s) to a pricing plan. Set the price for the bundle(s) to start charging for your services	Choose or create a new pricing plan on the Pricing plans – Pricing plans page. Select the bundle that includes the new channel on the Services tab and define the pricing rules for the bundle on the Price lists tab. Repeat for all bundles the channel was added to. Note: to make the channels from the bundle be available for a subscriber, this subscriber must be subscribed to the pricing plan including this bundle. You may set the bundle active by default, otherwise a subscriber will need to activate a corresponding service in his UI to get access to the channel.

4.1 Broadcast sources

Subscribers watch TV channels from different devices, which support different technologies (OTT, IPTV, DVB-T).

OTT/IPTV

Specify the source of the stream for each device type in the **Stream URL** field on the **Streams** tab. For example:

- ▶ `http://hls.svc.sml.tv/hls/CH_NTV/variant.m3u8` – broadcast source for OTT devices
- ▶ `igmp://233.3.3.78:5000` – broadcast source for IPTV STBs

If you provide DVR services also specify recorded stream source for each device type (**DVR URL** field on the **Streams** tab).

Note: device type is the group of devices that use the same technology. You may create device types and also join them in **Dictionaries - Device types**.

DVB-T

Specify the source of the stream in the **URL** field on the **DVB-T streams** tab.

4.2 Content protection

To protect the content, encryption algorithms are applied. Thus, you need to choose:

- ▶ If live streams are encrypted – **Stream encryption** for every **Stream URL**.
- ▶ If recorded channels are encrypted (TSTV) – **Record encryption** for every **DVR URL**, .

Choose **no encryption** if encrypted is not used.

If a stream is encrypted also specify the DRM identifier used for its encryption.

4.3 nPVR

If you provide nPVR services, specify the name of the video server that is going to play the recording and the channel identifier used to set up the recording.

4.4 Importing EPG

You can manage the TV listings that are displayed in subscribers' UI, and you can do it either manually in the SmartTUBE 5 web interface, or automatically.

To configure automatic importing and updating of the EPG, obtain the link to the EPG from your EPG provider. The EPG provider must store EPG in a certain agreed format. The example of the EPG file formatting is described in the document *SmartTUBE 5. EPG file format*. To configure the EPG importing, edit the `scheduled-jobs` section in the `data-server.conf` file. Use the obtained URL to set the `epg-import` parameter value in the `params` section. Specify the login (the `epg-import.login` parameter) and password (the `epg-import.password` parameter) if you have received them from the EPG provider. Now, every day at 23.55, SmartTUBE 5 will send the import request `url?channel=<channel externalId>` to the EPG storage.

Please take into account that the language of the EPG you are importing must be defined in SmartTUBE 5 (**Dictionaries – Languages**). Make sure that the **Language ID** in SmartTUBE 5 corresponds to the language ID specified in the EPG file.

After importing the EPG make sure that the import has been performed correctly:

- ▶ Check that the EPG is displayed in the SmartTUBE 5 web interface and in subscribers' UI.
- ▶ Scan the log of the SmartTUBE 5 Server `SmartSDPCompContainer.log` for errors.

5 Users and their roles

A user is a person who manages or views entities in the SmartTUBE web interface. There are 6 possible roles, and their scope is shown in the table below.

Role	Manages
TV channels editor	TV channels
VoD editor	meta content
Commercial editor	service plans
Analyst	reports
Technical support specialist	all of the above
Administrator	users and all of the above

Only users with the Administrator role can add, edit or delete users.

The Administrator can assign one or more roles to each user depending on the functions the user is going to perform in the web interface. The interface is adapted to the convenience of each role, so the user sees only those entities that are needed to perform the user's duties within the assigned role or roles. For example, report settings are not displayed for the VoD editor, whose main duty is to manage meta content. Only the Administrator sees all entities in the web interface.

6 Movies and series

In SmartTUBE 5 web interface, you can work with movies and series metadata:

- ▶ view content list
- ▶ add content
- ▶ set a content access level
- ▶ add content to bundles
- ▶ configure content encryption
- ▶ manage services cost, and more

Storage and streaming of the content files (assets) are in the operator's area of responsibility. The operator can store files in his own repository (on internal servers) or involve third-party providers:

- ▶ **If third-party providers are involved** content metadata is usually imported to Admin UI automatically by the help of provider's API. Integration functionality is included in the commercial version of SmartTUBE platform. For the information about the commercial version, please contact your SmartLabs manager.
- ▶ **If content assets are stored in the provider's own repository** (without involving third-party providers) the provider is called "Internal" and it is needed to add content metadata to Admin UI manually.

If **third-party providers are involved**, to provide content to customers, fulfill the steps from the checklist.

	Step	Comment
<input type="checkbox"/>	1. Import data to Admin UI using content providers' API	<p>To import data contact contact us by email smarttube5@smartlabs.tv.</p> <p>The following items could be automatically created in Admin UI after import:</p> <ol style="list-style-type: none">1. VoD bundle (if it doesn't already exist).2. Content card, including:<ul style="list-style-type: none">▶ content parameters.▶ content asset parameters.▶ content price list, associated with a VoD bundle. <p>You may edit some data, e.g. change the bundle name or specify it in other languages. Other data at the next import will</p>

		become again as it was specified by the provider
<input type="checkbox"/>	2. Add the bundle to the pricing plan	<p>Choose or create a new pricing plan on the Pricing plans – Pricing plans page. Select the bundle (created in step 1) that includes the content on the Services tab and if the bundle includes SVOD-content define the pricing rules for the bundle on the Price lists tab. Repeat for all bundles content was added to.</p> <p>Note: to make the channels from the bundle be available for a subscriber, this subscriber must be subscribed to the pricing plan including this bundle. You may set the bundle active by default, otherwise a subscriber will need to activate a corresponding service in his UI to get access to the channel.</p>

If the **files are stored in the own repository**, to provide content to customers, fulfill the steps from the checklist.

Note: delivering the content must be allowed to you by the right holders. So, before providing it, reach agreement with owners.

	Step	Comment
<input type="checkbox"/>	1. Create one or several bundles, if needed	<p>Content should be included into one or several bundles. If needed, create a new bundle on the Pricing plans – VoD bundles page.</p> <p>Note: contact the Commercial Editor for information on the bundles you need to choose.</p>
<input type="checkbox"/>	2. Add the bundle(s) to the pricing plan	<p>Choose or create a new pricing plan on the Pricing plans – Pricing plans page. Select the bundle that includes the content on the Services tab and if the bundle includes SVOD-content define the pricing rules for the bundle on the Price lists tab. Repeat for all bundles content was added to.</p> <p>Note: to make the channels from the bundle be available for a subscriber, this subscriber must be subscribed to the pricing plan including this bundle. You may set the bundle active by default, otherwise a subscriber will need to activate a corresponding service in his UI to get access to the channel.</p>
<input type="checkbox"/>	3. Add the content you are going to deliver to the subscribers	<p>To add a series/movie on the Content – Series/Movie page click Add and enter the content parameters you have received from the right holders.</p> <p>▶ If you are adding a movie add one or several</p>

		<p>assets for it as described below.</p> <ul style="list-style-type: none"> ▶ If you are adding a series see below for some settings explanation. <p>Set Published flag for the content.</p>
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6.1 Adding a series

To provide a series to your customers:

- ▶ Add at least 1 asset to the series itself (the **Assets** tab). Specify the mandatory parameters for this asset:
 - **File name** – random value (e.g., the series ID).
 - **Content provider** – choose "Internal".
 - **External content ID** – random value (e.g., also the series ID).
 - Add a TVOD or SVOD (**Movie packages** tab) price list, specify the created VoD bundle for the price list as described below. This price list will be used for pricing the series on the whole.
- ▶ Add at least 1 published season.
- ▶ For each published season add at least 1 published episode.
- ▶ For each published episode add at least 1 ready asset. Data from the episodes assets is used for playing content. Specify the assets as described below, but set a TVOD or a SVOD price list for an episode only if you want your subscribers to buy this episode separately from the whole series. If a price list is set for an episode and a subscriber bought the whole series, he will still need to buy the episode separately. The episode and the series may be included into the same VoD bundle.

6.2 Assets

Set the following parameters for each asset:

- ▶ File name for forming the URL which the set top box is going to send queries to. URL format: "provider's prefix" + "file name or relative file address" + "provider's postfix". Provider's prefix and postfix can be specified in the actual file name or in **Pricing plans – Content providers** section for this asset's provider (in the latter case you don't need to specify the prefix and the postfix in the file name).
- ▶ To protect the content, encryption algorithms are applied. Thus, you need to choose the encryption system in **Encryption type** field. Choose **no encryption** if encrypted is not used. If the asset is encrypted also specify the **DRM identifier** used for its encryption.
- ▶ Choose "Internal" in the **Content provider** field.
- ▶ Specify other parameters if needed.
- ▶ Add the price list depending on the content delivery rule:

- **TVOD.** Create a **TVOD price list**, specify the created VoD bundle and the price per unit of content.
- **SVOD.** Create a **Movie packages** price list, specify the created VoD bundle.

Attention: the price list type must match the value in the **Content delivery rule** field on the VoD bundle that includes this content:

Content delivery rule	Price list
TVOD	TVOD
SVOD	SVOD
AVOD	SVOD
FVOD	SVOD

After configuring set **Ready** flag for the asset. Content without ready assets does not appear on subscribers devices.

7 Banners and recommendations

You can choose content which will be recommended in the subscriber's interface in a certain period.

There are two ways:

1. Create a banner and add a recommended content for it in **Content - Banners**.
2. Add recommended content in **Content - Recommendations**.

8 Pricing plans

A pricing plan defines, which services will be available to the subscriber. You can set rules for each service in the pricing plan, for example its cost, access time, etc. For more information about creating a pricing plan, please see [Adding and editing a pricing plan](#).

Services in the SDP may be of the following types:

- ▶ TV bundles
- ▶ DVR bundles
- ▶ VoD bundles
- ▶ NPVR bundles

Also you can establish dependency between services:

- ▶ Dependent services - to subscribe to service B, a user has to be subscribed to service A (you may specify the services that the service depends on or affects)

- ▶ Mutually exclusive services - to subscribe to service B, a user cannot be subscribed to service A

When you activate a service that works under such conditions, a user will see a message that he or she needs to enable or disable the corresponding service.

You can add bundles on the **Pricing plans – <Bundle type>** page. Each type of bundle has its own parameters, for example, for TV bundles specify the **Channels** which should be included into this bundle.

8.1 Add and Edit Pricing Plan

Choose **Pricing plans > Pricing plans** and click . Specify the parameters of the pricing plan and add services. For each service add one or more price lists.

Save the changes.

9 Service accounts

A service account is an ID of a subscriber in SmartTUBE. A subscriber can bind several devices – STBs, tablets, SmartTVs – to the account and use all of them.

9.1 Adding and editing an account manually

1. Go to **Service accounts – Service accounts** and click **Add**  or click an existing service account for editing.
2. Enter account details. Pay attention on the **State** field, it defines if the subscriber has the access to the services provided by the pricing plan.
3. In the pane to the right, add a pricing plan, so that the subscriber can access the services provided by the operator.
4. Under **Connections**, you can bind devices to the account. You need to create the login and password for every device; the subscriber enters them when starting the device for the first time, and thereby activates the device.
5. Save the changes by clicking .

9.2 Automatic creation of accounts

You can configure automatic creation of a service account at the first start of a device based on the device type. To do this:

1. Create a service account template for the device type in **Service accounts – Service account templates**.
2. In the template, specify the device type and a pricing plan that will be applied to the automatically created service account. If there is no template with the same name as device type, the default one will be used. The service accounts will be created for the devices automatically and the chosen pricing plan will be applied to all of them.

9.1 Devices' limit restrictions

You may set a restriction on the quantity of connections bound to a service account: by device type and/or on all connections in total. For that purpose create a restriction in the **Device limit restrictions** dictionary and specify this restriction in the **Devices' limits** field of the service account card or of the service account template.

9.2 Services management

See the list of services that are available for the subscriber under his pricing plan in the pane to the right.

To enable or disable a service click on it. To change the End date of the service for the current subscriber click .

9.3 Profiles

A subscriber can create profiles from his or her user interface.

You can view and create profiles for the subscriber's account on the **Profiles** tab. Moreover, in SmartTUBE web interface the profiles can be created using templates



(**Service accounts – Profile templates**). Profiles are displayed on all devices that are bound to the service account, in other words, profiles are associated with the account, not the device.

9.4 Account activity

You can see the history of account activity:

- ▶ **History of service consumption,**
- ▶ **History of state changes,**
- ▶ **NPVR history,**
- ▶ **Accepted offers,**
- ▶ **History of pricing plans,**
- ▶ **Time quota usage.**

On the **Connections** tab, you can find the information about devices that the subscriber uses. You can reboot those devices by clicking **Reboot devices** at the top of the page.

10 Sending messages to subscribers

You can send messages to chosen subscribers and they will see the messages in the subscriber's UI.

To send a message:

1. Create it in **Messages - Messages**.

2. Specify receivers of the message. There are two ways:

- ▶ specify a list of MAC-addresses the message will be sent to. For this purpose click **Send to MAC-addresses from the list** and specify the list in the appropriate field or upload it in a file.

List format: 1 MAC-address in 1 row, duplicates are accounted as different addresses (message is delivered again). MAC-addresses are not validated, if there is a mistake in an address, the message will not be delivered and the system will not inform about the mistake.

- ▶ specify a receivers' filter, which is a combinations of several groups, each of which has its own conditions. You may create it either in the message card or in **Messages - Receivers' filters**. The message will be delivered only to the receivers that meet all the groups of the filter specified for the message, herewith a receiver meets the group only if he meets at least one of the group's conditions. To send the message using the filters click **Send message**.

If you want the message to be delivered to all subscribers, create a receivers' filter without conditions and specify it for the message. The delivering of such message could take a long time depending on subscribers number.

You can also reboot subscribers' devices. For that purpose click  in **Messages - Messages** at the top of the messages list and choose the receivers.

11 Scheduled jobs

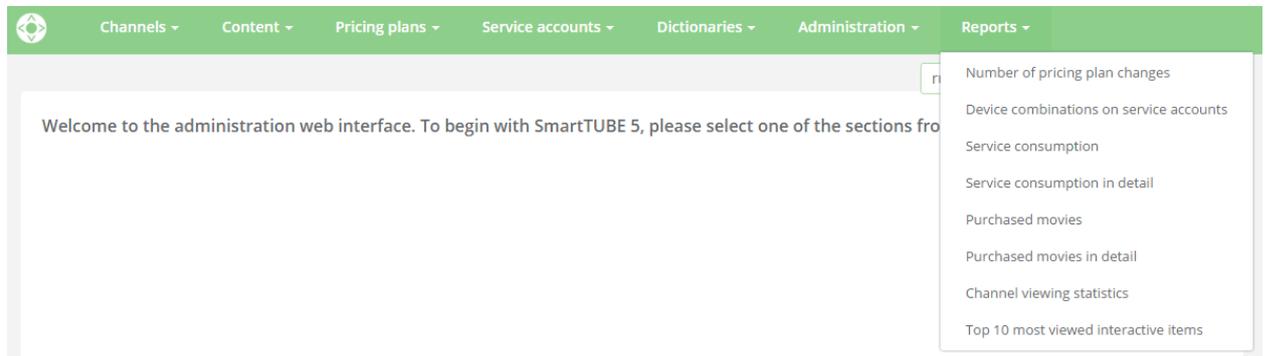
If you want a job (e.g. EPG import, weather forecast update) to be automatically performed at the concrete time you can create the job and specify a schedule for it in **Administration – Scheduled Jobs**. The kinds of jobs which can be scheduled are listed in the **Method** field.

To plan a job, specify its parameters, set the **Active** flag and press **Apply**. After that the job will be automatically added to a schedule and will start in time.

You can change any job, regardless if it's active. After pressing **Apply** all the changes will be applied at once.

12 Generating reports

The SmartTUBE 5 web interface allows you to create reports and to export them to csv-file.



You can filter the data that will be added to the report.

Picture 3 Examples of filtering panes on report pages

