
VitalPBX
SonataSuite
Billing
BILLING
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www.vitalpbx.org

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Introduction

Sonata Billing is a system through which you can rate all calls from your PBX. Allowing summary and detail reports to be generated.

Sonata Suite is a set of programs that integrate with platforms based on Asterisk, below the list of these programs:

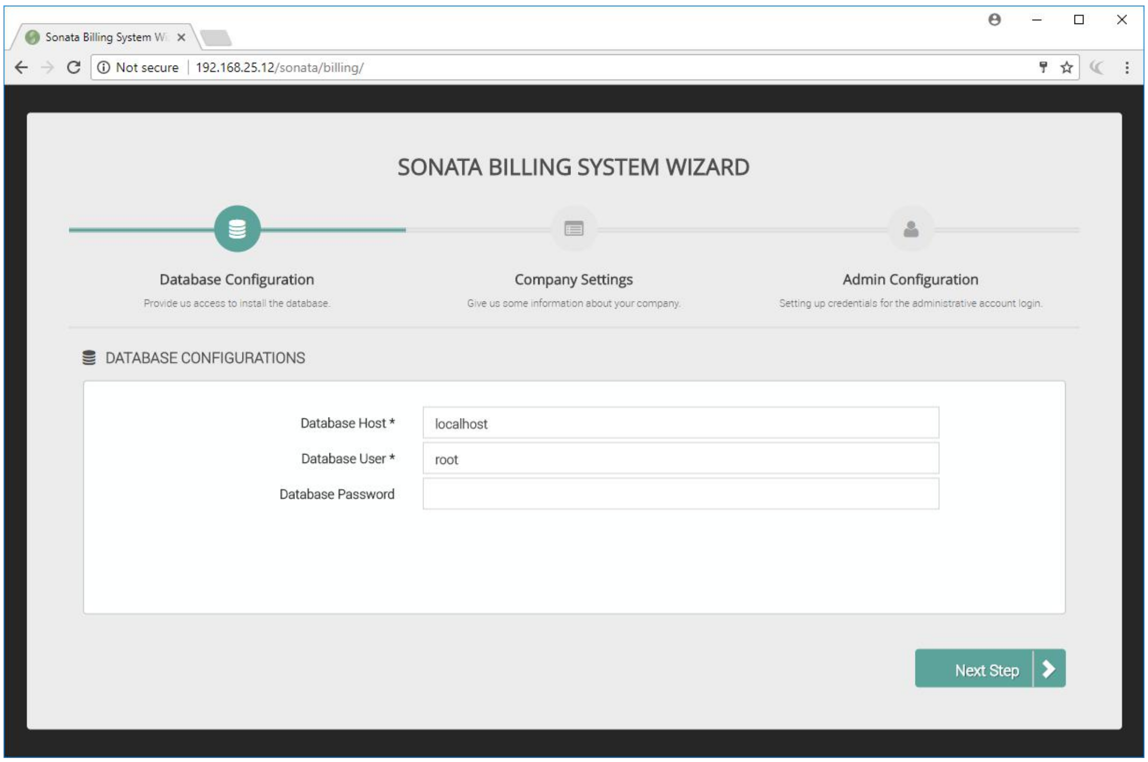
- SwitchBoard
- **Billing System**
- Recording Management System
- Call Center Reports
- Stats (Call Center Reports)
- Dialer

1.- Installation

In your VitalPBX go to Admin/Add-ons/Add-ons, select Sonata Billing and press the install button shown in the Actions column. Wait a couple of minutes and then click the Sonata Billing link and start configuring.

1.1.- Press URL

Press the URL in the Add-ons list.

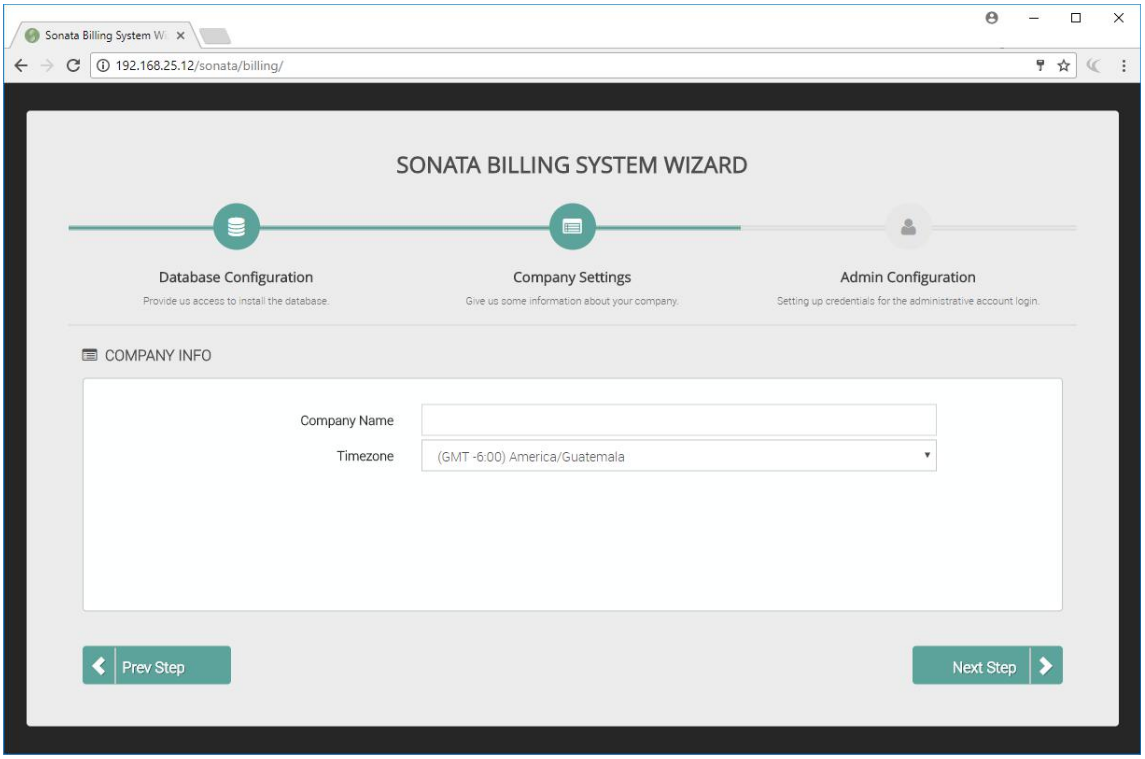


a.- The first step is to fill the following information

- **Database Host**, if you install Sonata Billing on the same server where the PBX is installed and the CDRs are stored, it is recommended to select "localhost", otherwise enter the remote IP or host.
- **Database User**, user to access the MySQL database administrator, is very important as it is used to create Sonata Billing databases.
- **Database Password**, password to access the MySQL database administrator, is very important as it is used to create Sonata Billing databases. In the case of VitalPBX the root user does not have a password.

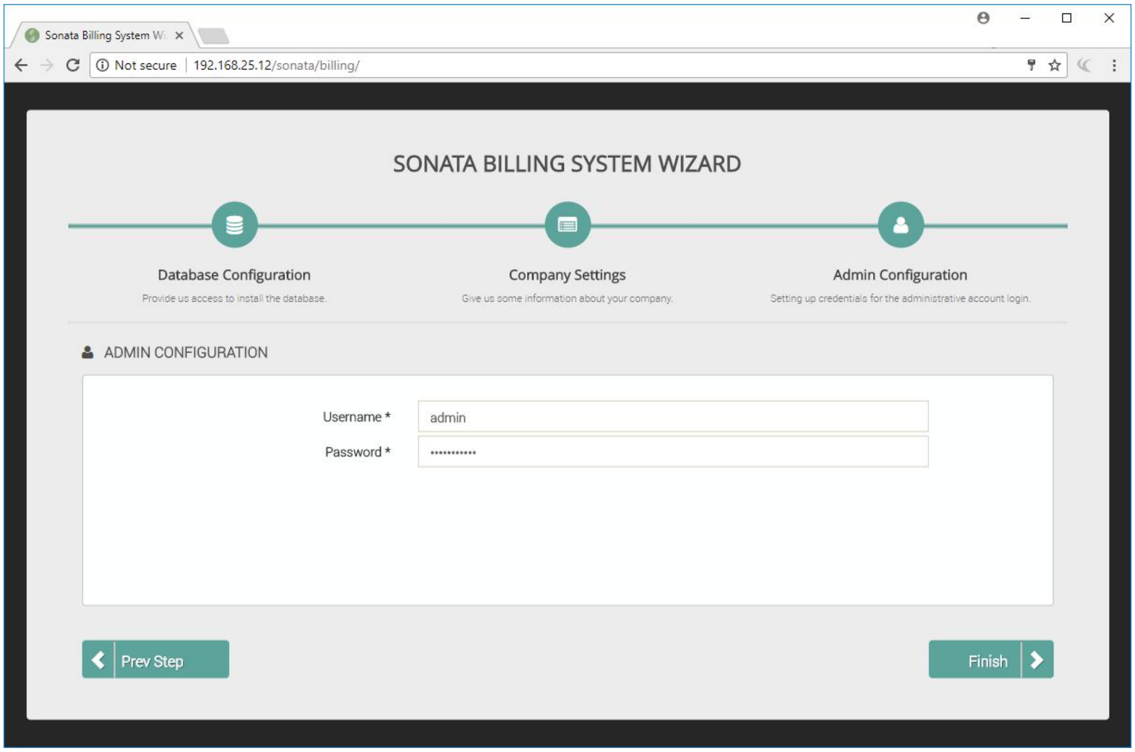
b.- The second step is to fill the following information

- **Company Name**, name of the Company, this name will be shown in all reports
- **Timezone**, time zone to be used by default to create system users.


Sonata Billing System W
192.168.25.12/sonata/billing/
SONATA BILLING SYSTEM WIZARD
Database Configuration
Provide us access to install the database.
Company Settings
Give us some information about your company.
Admin Configuration
Setting up credentials for the administrative account login.
COMPANY INFO
Company Name
Timezone
(GMT -6:00) America/Guatemala
Prev Step
Next Step

c.- The final step is to fill the following information

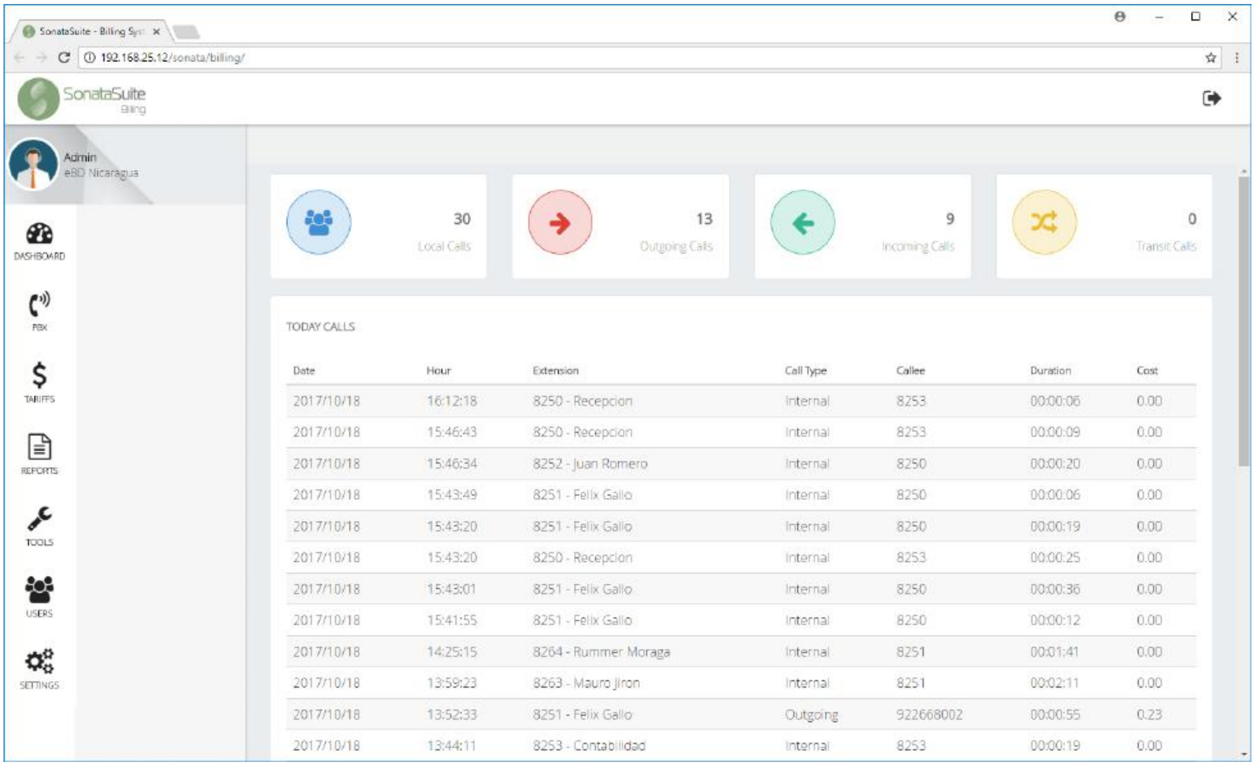
- **Username**, admin user to login into Sonata Billing.
- **Password**, admin password.



d.- Login with the user and password previously created.

2.- Dashboard

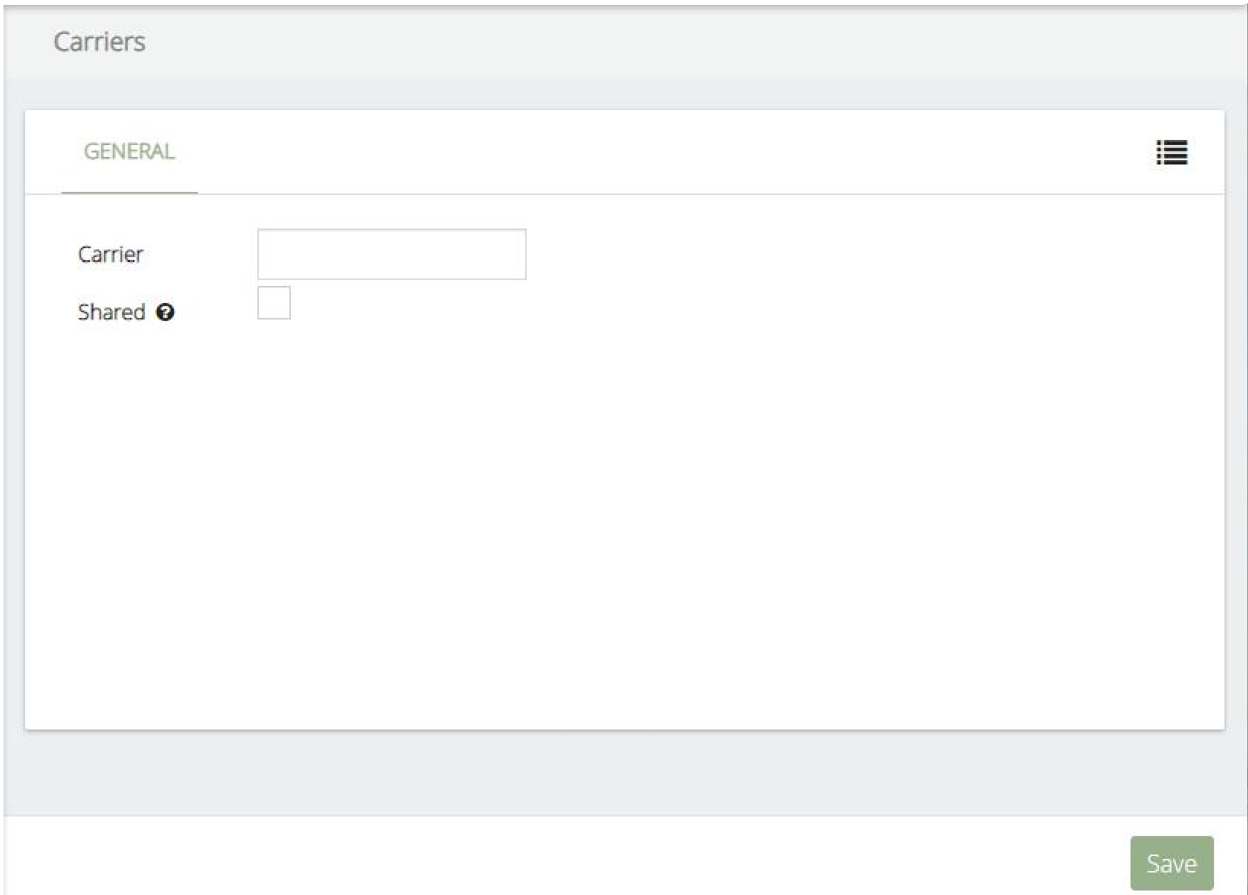
The Dashboard shows the last calls of the system and is updated every minute. The newest call is shown at the top.



3.- PBX

3.1.- Carrier

The first step to be able to rate a call is to define the different carriers to which we are going to interconnect, for this we must go to PBX/Carriers.

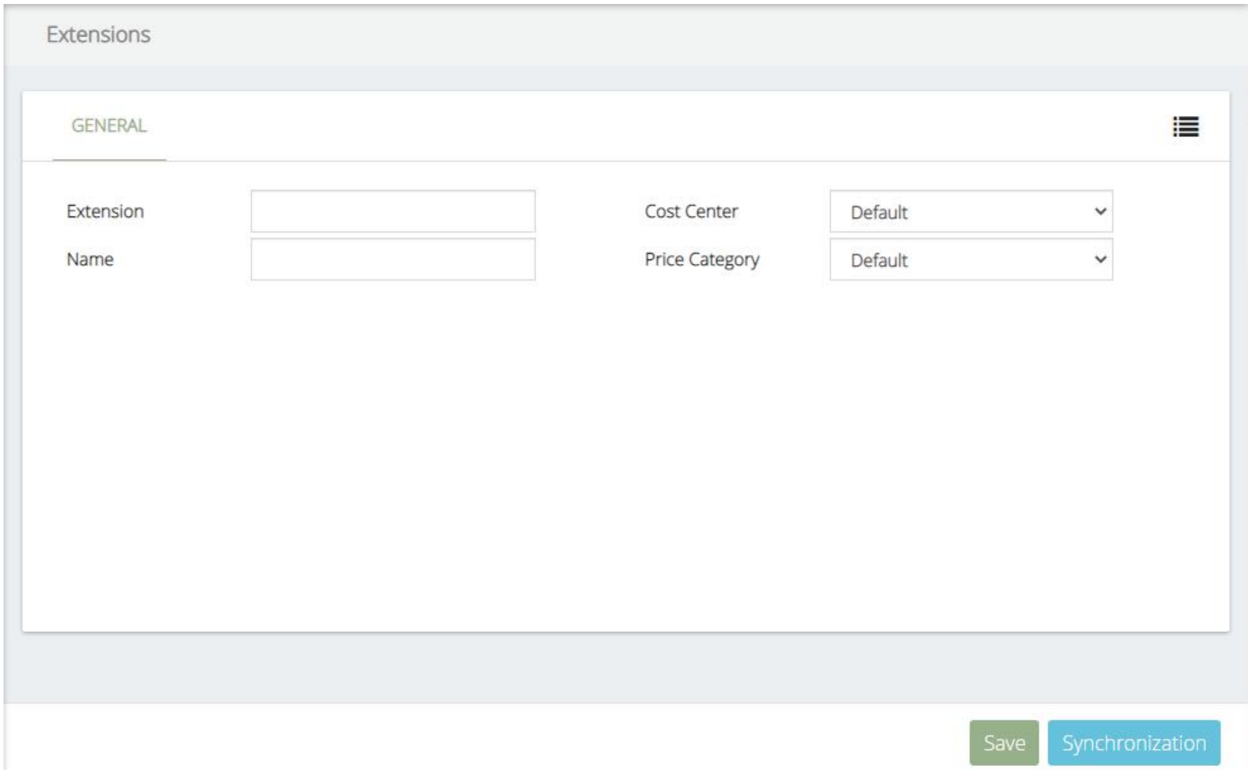


The information to be configured are the following:

- **Carrier**, just write the name of the carrier, which will be used later.
- **Share**, if checked, the operator and the rates assigned to it will be shared with the other tenants.

3.2.- Extensions

It is necessary to synchronize the extensions that will apply a cost, for this we must go to PBX / Extensions.

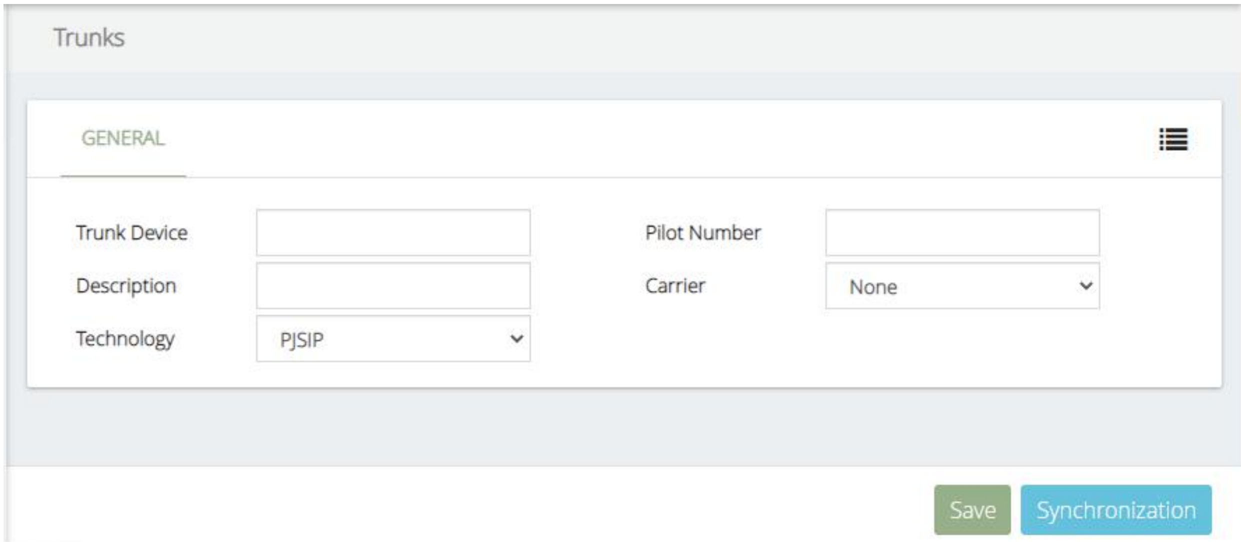


The information to be configured are the following:

- **Extension**, extension number to be set.
- **Name**, name that describes the user of the extension
- **Cost Center**, cost center to which the extension is associated, this Cost Center must have been previously created.
- **Price Category**, type of tariff that will be charged to the extension, these tariffs are created in tariffs and there are two types, those of the Carrier (Default) and those of the Customer.

3.3.- Trunk

It is necessary to synchronize and configure the trunks as these are associated with a Carrier and this way you can charge the calls more accurately. There are also reports by trunks which help us verify if what the Carrier is charging is correct. To configure the trunks it is necessary to go to PBX/Trunks.

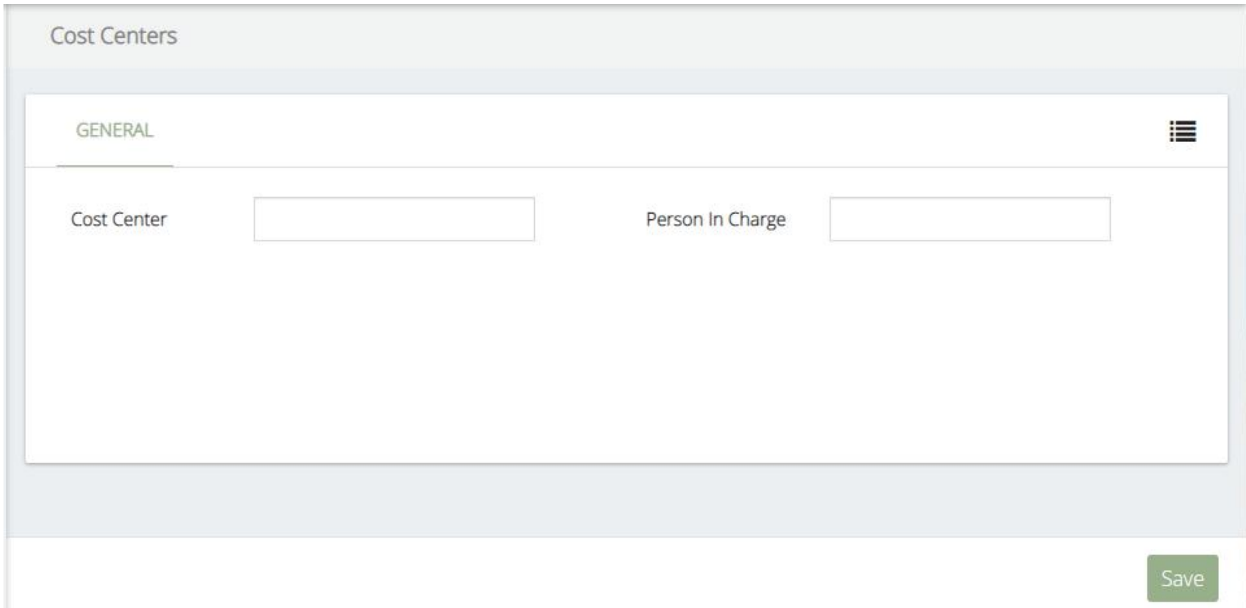


The data to be configured are the following:

- **Trunk Device**, the name of the trunk as it appears in the call, for example in the case of Dahdi channels it is a number.
- **Description**, short description to identify the trunk
- **Technology**, type of trunk technology
- **Pilot Number**, number of pilot associated to the trunk, can be a DID or a telephone number that identifies the trunk.
- **Carrier**, the carrier that provides the service. Very important as this depends on how you will charge the calls that are taken by this trunk.

3.4.- Cost Center

It is possible to obtain reports organized by cost centers, for this it is necessary to assign the extensions the Cost Center to which it belongs.

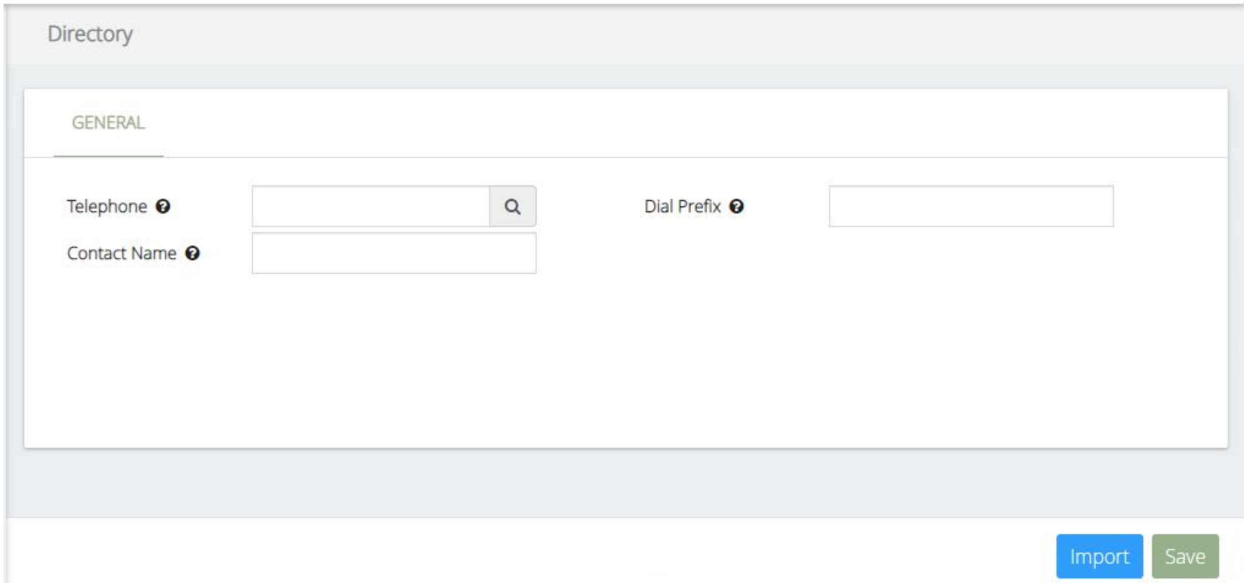


The data to be configured are the following:

- **Cost Center**, short name of the cost center
- **Person in Charge**, Person in charge of the Cost Center

3.5.- Directory

In order to better identify the destinations of the calls it is possible to add an external telephone directory. In the reports will appear the number alongside with the contact name configured here.



The data to be configured are the following:

- **Telephone**, phone number to be included in the directory. Should be unique.
- **Contact Name**, brief description of the contact or company.
- **Dial Prefix**, when a call is made from the PBX in the CDR it is usually stored together with the prefix, for example, if we are going to call the number 88823700, and to call it is necessary to dial 9, in the CDR 988823700 will be stored. The prefix 9 must be added here in order to correctly identify the outgoing call. For incoming calls receiving CID this prefix is not used.

It is also possible to import a csv list that contains the following information and in the following order.

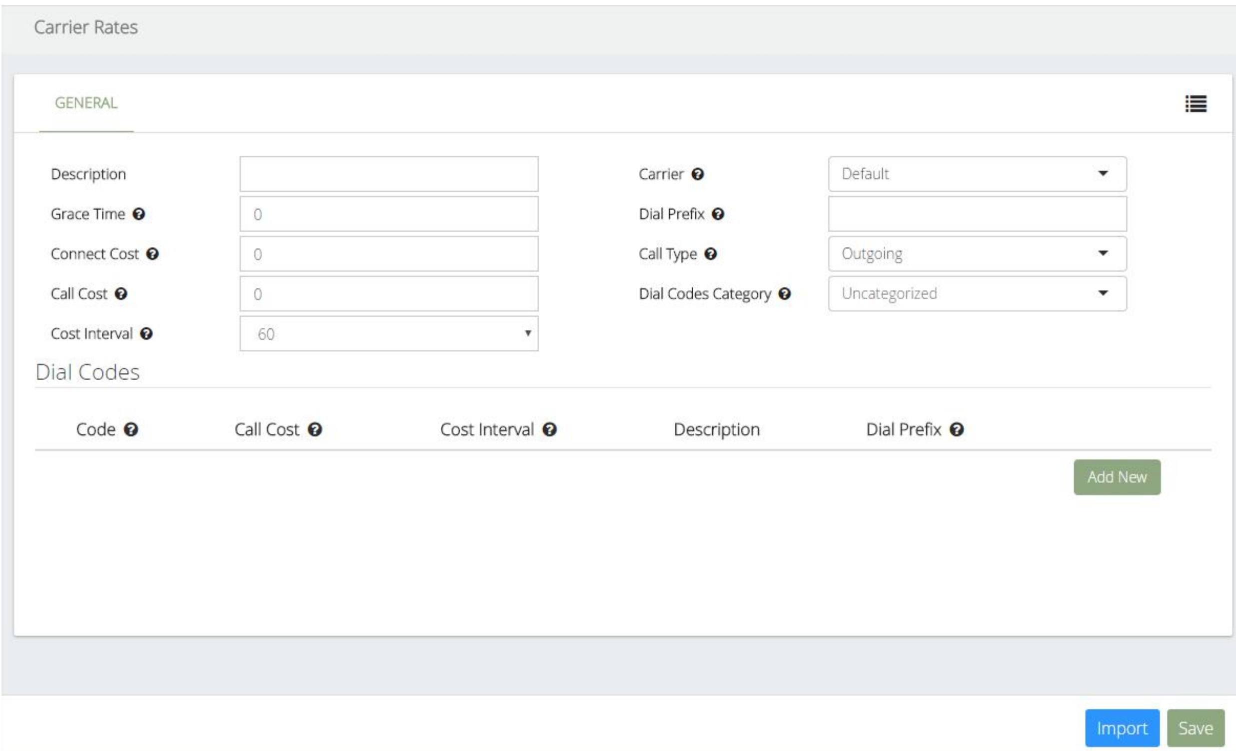
- **mode**, add or delete
- **full_name**, brief description of the contact or company.
- **phone_number**, phone number to be included in the directory. Should be unique.
- **dial_prefix**, when a call is made from the PBX in the CDR it is usually stored together with the prefix, for example, if we are going to call the number 88823700, and to call it is necessary to dial 9, in the CDR 988823700 will be stored. The prefix 9 must be added here in order to correctly identify the outgoing call. For incoming calls receiving CID this prefix is not used.

4.- Tariffs

Before connecting the program to the PBX you must first define the tariffs of the different carriers, otherwise we run the risk that the cost of calls is not correct. If for some reason we connect the program to the PBX before setting the rates, do not worry, you can reprocess the calls or at the moment of obtaining reports choose the option to “Apply Current Rates”.

4.1.- Carrier Rates

It is very easy to create the tariffs of the different carriers, for this process there are two methods, which we will show below:



1.- Import rates from csv file

To import tariffs, you must press the Import button, then there will be two fields,

- **Carrier**, name of the Carrier associated with the tariffs to be imported, this name must have been previously created in PBX/Carrier
- **Rates**, load CSV file with the rates to import. This file must have the following format:
  - **Group Name**, name that the rates are grouped, example if we are going to load tariffs to USA, which places USA, in other words could be the name of the country.
  - **Code**, country or region code, example USA is 1, Mexico 52. Can also be more specific USA, Miami 1305.
  - **Call Cost**, Cost of the call

- **Cost Interval**, every few seconds the cost applies.
- **Code Description**, specific description of the code, example in case of code 1305, in Group name is USA but in Code Description is Miami.
- **Dial Prefix**, if it is necessary to add a prefix to the code, in many countries the number "00" is used for international calls.

To see an example of the CSV format you can download it by clicking the button “Download CSV Format”

2.- Create rate manually

It is possible to create or modify an existing tariff, to create a new tariff manually you must configure the following:

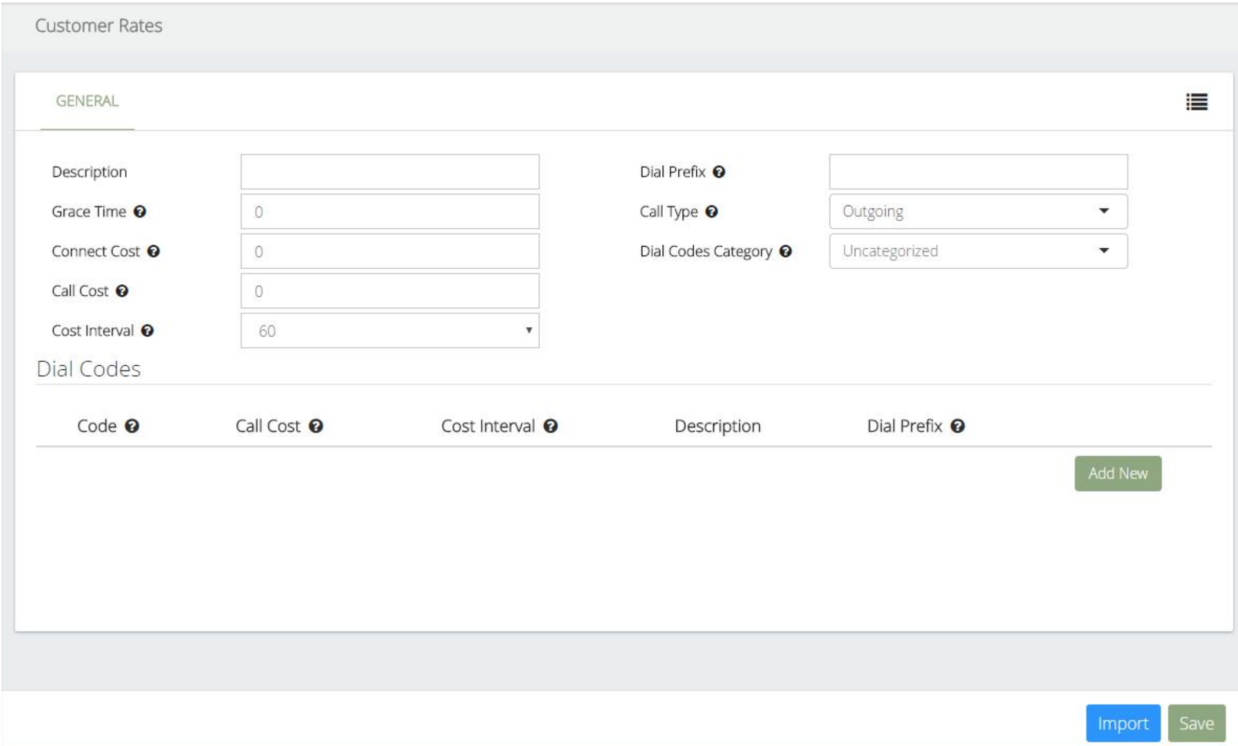
- **Description**, brief description of the group of codes to be created.
- **Grace Time**, define the seconds will be free from the call duration for each call.
- **Connect Cost**, cost to apply when the call began with connection.
- **Call Cost**, represents the global cost to apply to all the dial codes without a cost defined.
- **Cost Interval**, it defines how often seconds will be applied the global cost.
- **Carrier**, defines to which carrier belongs this group of dial codes and rates
- **Dial Prefix**, any number that is dialed before a telephone number to initiate a telephone call for the purpose of selecting an appropriate telecommunications circuit by which the call is to be routed.
- **Prepend**, any number to prepend at the beginning of the dialed number, at the time of showing a report.
- **Call Type**, allows you to define which kind of calls these dial codes represent.
- **Dial Code Category**, allows you to categorize your dial codes to make reports by it.

In the Dial Codes table, the following must be configured:

- **Code**, the full or partial dialed number as was saved on the CDR.
- **Call Cost**, represents the global cost to apply to all the dial codes without cost defined.
- **Cost Interval**, It defines how often seconds will be applied the global cost.
- **Description**, brief description of the code to be created
- **Dial Prefix**, any number that is dialed before a telephone number to initiate a telephone call for the purpose of selecting an appropriate telecommunications circuit by which the call is to be routed. If it empty, the global is taken
- **Prepend**, any number to prepend at the beginning of the dialed number, at the time of showing a report. If it empty, the global is taken

4.2.- Customer Rates

It is very easy to create personalized rates, this option is very useful for Hotels or institutions that charge calls, for this process there are two methods, which we will show below:



1.- Import rates from csv file

To import tariffs, you must press the Import button, then there will be two fields,

- **Rates**, load CSV file with the rates to import. This file must have the following format:
    - **Group Name**, name in which the rates are grouped, example if we are going to load tariffs to USA, which places USA, in other words could be the name of the country.
    - **Code**, country or region code, example USA is 1, Mexico 52. Can also be more specific USA, Miami 1305.
    - **Call Cost**, Cost of the call
    - **Cost Interval**, every few seconds the cost is applied.
    - **Code Description**, specific description of the code, example in case of code 1305, in Group name is USA but in Code Description is Miami.
    - **Dial Prefix**, if it is necessary to add a prefix to the code, in many countries the number "00" is used for international calls.

To see an example of the CSV format you can download it by clicking the button "Download CSV Format"

2.- Create rate manually

It is possible to create or modify an existing tariff. To create a new tariff manually you must configure the following:

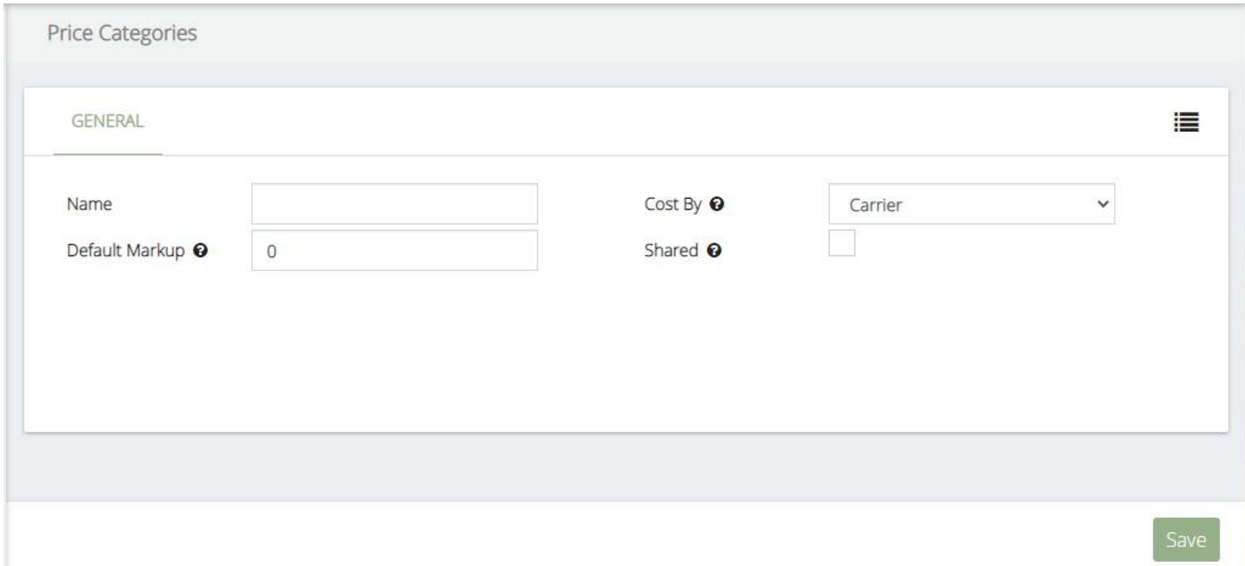
- **Description**, brief description of the group of codes to be created.
- **Grace Time**, define how many seconds will be free from the call duration for each call.
- **Connect Cost**, cost to apply when the call with connection.
- **Call Cost**, represents the global cost to apply to all the dial codes without cost defined.
- **Cost Interval**, it defines how often seconds will be applied the global cost.
- **Dial Prefix**, any number that is dialed before a telephone number to initiate a telephone call for the purpose of selecting an appropriate telecommunications circuit by which the call is to be routed.
- **Prepend**, any number to prepend at the beginning of the dialed number, at the time of showing a report.
- **Call Type**, allows you to define which kind of calls these dial codes represent.
- **Dial Code Category**, allows you to categorize your dial codes to make reports by it.

In the Dial Codes table, the following must be configured:

- **Code**, the full or partial dialed number as was saved on the CDR.
- **Call Cost**, represents the global cost to apply to all the dial codes without cost defined.
- **Cost Interval**, It defines how often seconds will be applied the global cost.
- **Description**, brief description of the code to be created
- **Dial Prefix**, any number that is dialed before a telephone number to initiate a telephone call for the purpose of selecting an appropriate telecommunications circuit by which the call is to be routed. If it empty, the global is taken

4.3.- Price Categories

Each extension is associated to a Price Category. This has the aim of being able to charge in differentiated form by extension. Very useful for Hotels.

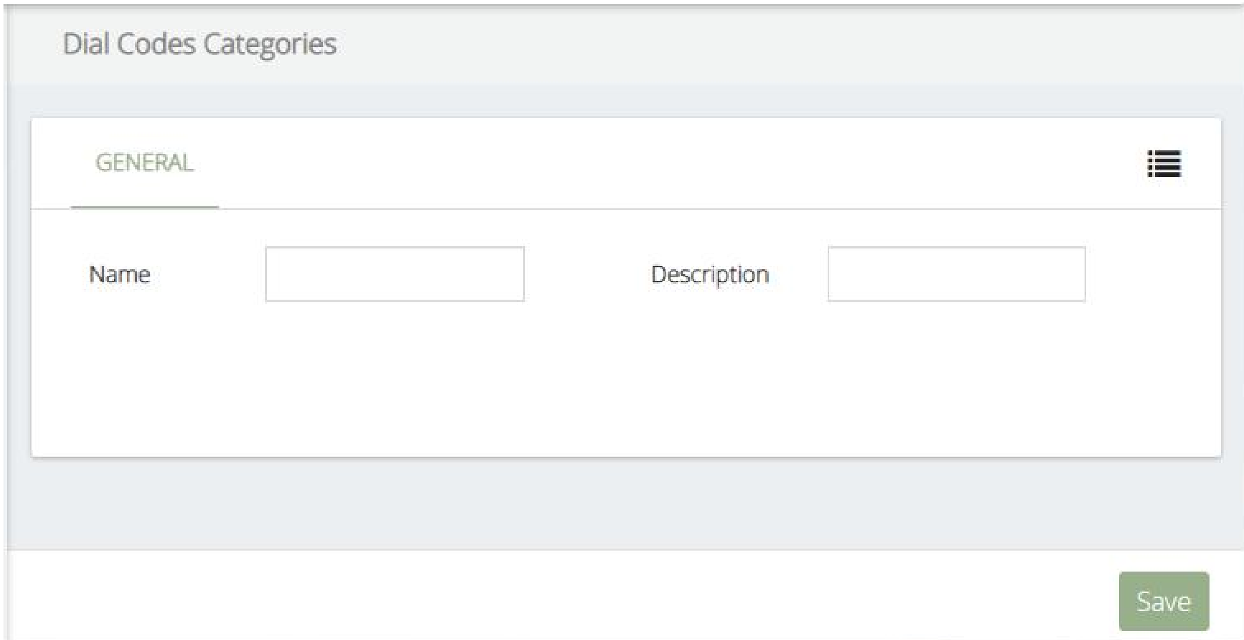


The data to be configured are the following:

- **Name**, Brief description of the Price Category
- **Markup**, the percentage added by a seller to the cost of a carrier/customer rates to cover expenses and profit in fixing the selling price.
- **Cost By**, defines if the extensions with this category will use the carrier or customer rates. If Customer is selected it is necessary to configure the following options.
    - **Customer Rate**, you can add several Customer Rates with different Markup.
    - **Markup**, the percentage added by a seller to the cost of a carrier/customer rates to cover expenses and profit in fixing the selling price. If is not defined or is zero the global is taken.
- **Share,** if checked, the price category will be shared with all the tenants.

4.4.- Dial Codes Categories

This option allows us to obtain more descriptive reports regarding the destination code.



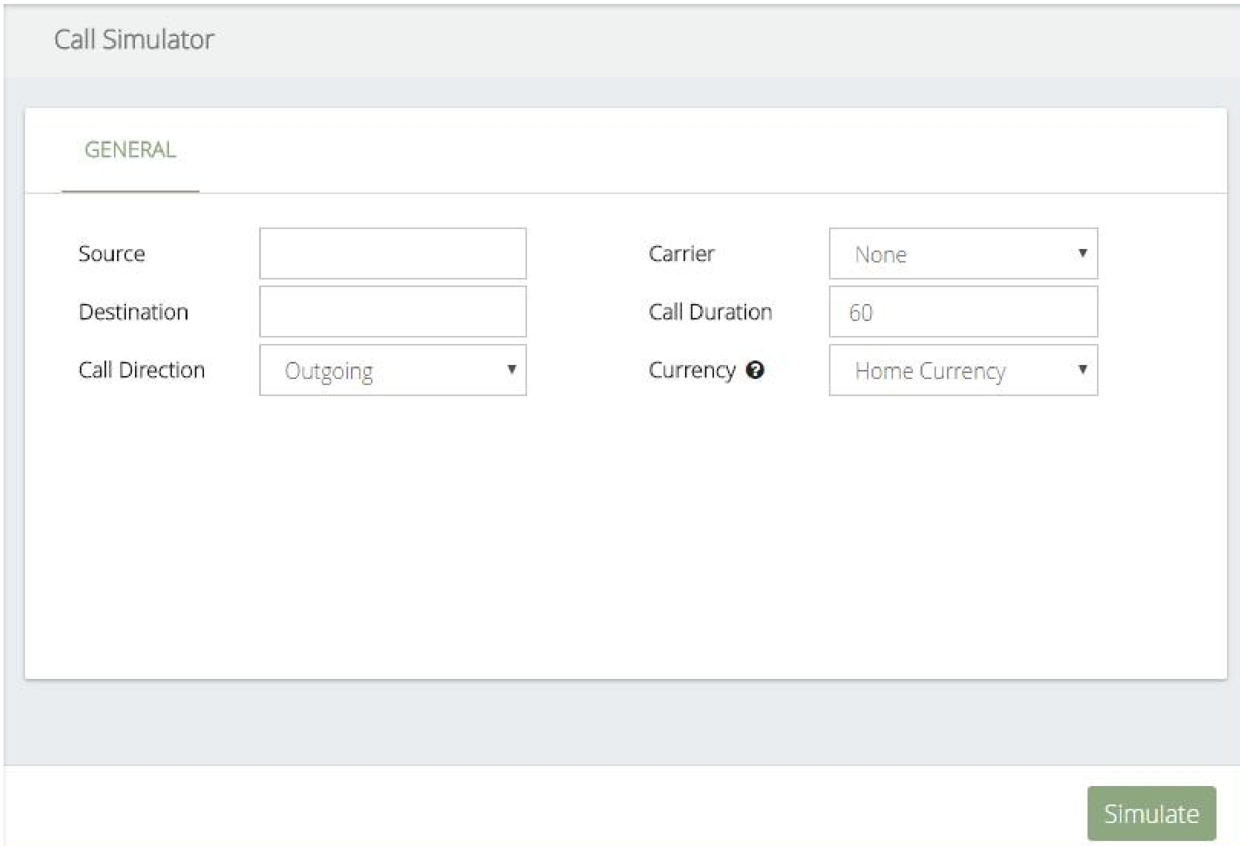
The data to be configured are the following:

- **Name**, short name of the Dial Code, for example National, International, etc.
- **Description**, brief description of the Dial Code, for example National Calls, International Calls, etc.

5.- Tools

5.1.- Call Simulator

Simulates the cost of a call, this module is very useful to test the rates.



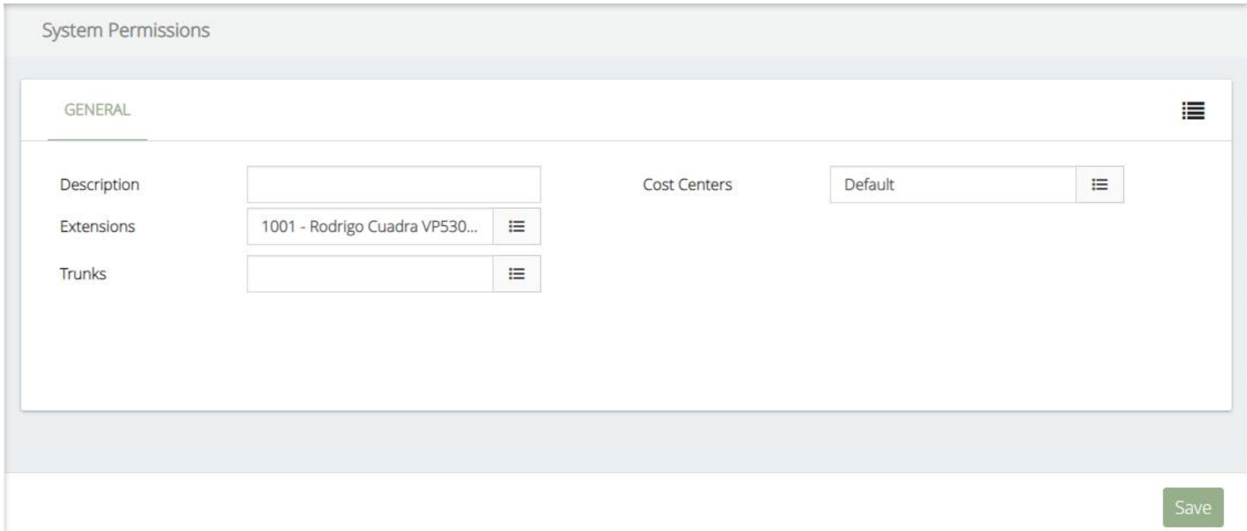
The data to be configured are the following:

- **Source**, extension that makes the call.
- **Destination**, destination number of the call.
- **Call Direction**, type of call, incoming, outgoing, internal or transit.
- **Carrier**, carrier used to make the call.
- **Call Duration**, call duration.
- **Currency**, allows you to define in which currency the results will be shown. The exchange is made according to the rates' currency.

6.- Users

6.1.- System Permission

It is possible to limit to which Extensions, Trunks or Cost Centers a user will have access to, for which it is necessary to go to USERS/System Permission.

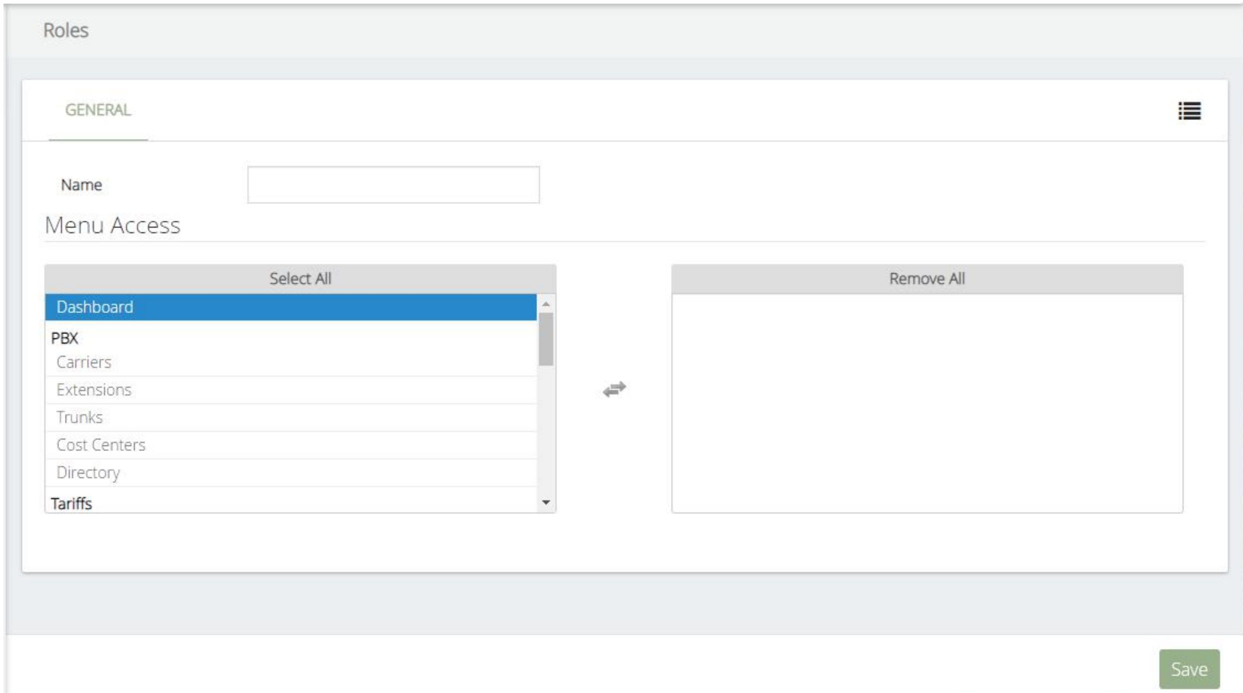


The data to be configured are the following:

- **Description**, Brief description of System Permission.
- **Extensions,** the Extensions that the user will have access to.
- **Trunks**, the Trunks that the user will have access to.
- **Cost Center**, the Cost Center that the user will have access to.

6.2.- Roles

Using the Roles, we can limit to which modules the user will have access to, for which it is necessary to go to USERS/Roles.

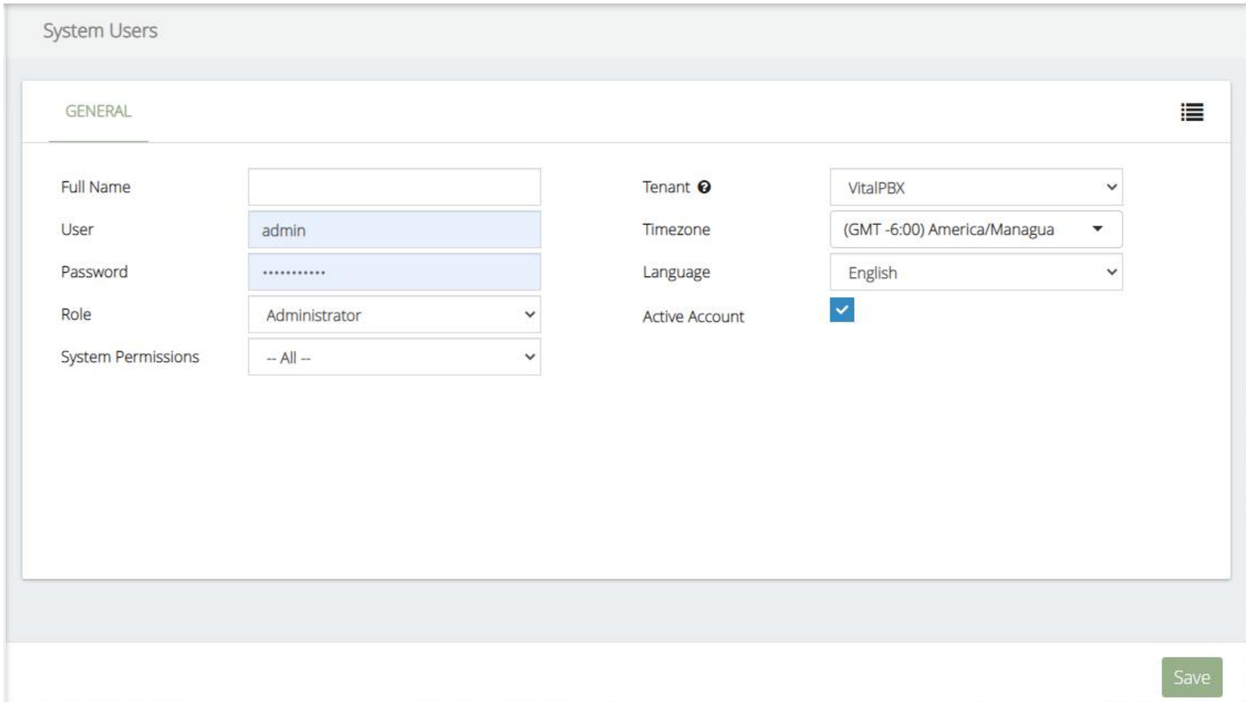


The data to be configured are the following:

- **Name**, brief description of the Role
- **Menu Access**, to which modules the users that are associated with this Role will have access to.

6.3.- System Users

In System Users all users of the system are created, for which it is necessary to go to USERS/System Users.



The data to be configured are the following:

- **User**, User to Login into the system.
- **Password**, Password to Login into the system
- **Role**, Role that will be associated with the user
- **System Permission**, permissions to access to different modules that the user will have.
- **Tenant,** Tenant to which this user belongs to.
- **Timezone**, user time zone, very important since the reports will be displayed in the time zone of the user.
- **Language**, language that the user interface will be displayed in.
- **Active Account**, indicates whether the account is active or not.

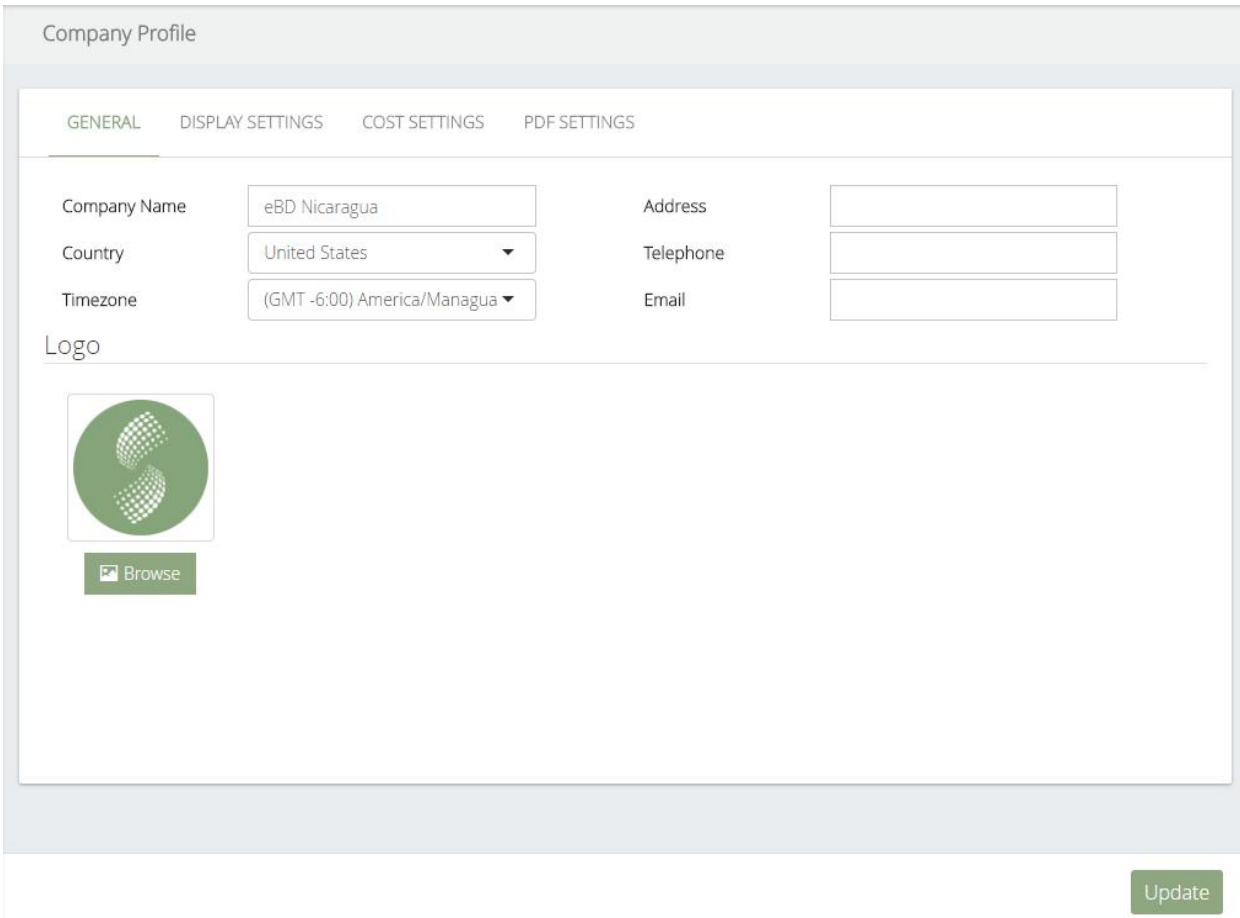
7.- Settings

In Settings is where all the information of the system environment is configured, for example Company Profile, Email, PBX Server, etc.

7.1.- Company Profile

To configure the company information, go to SETTINGS/Company Profile

GENERAL

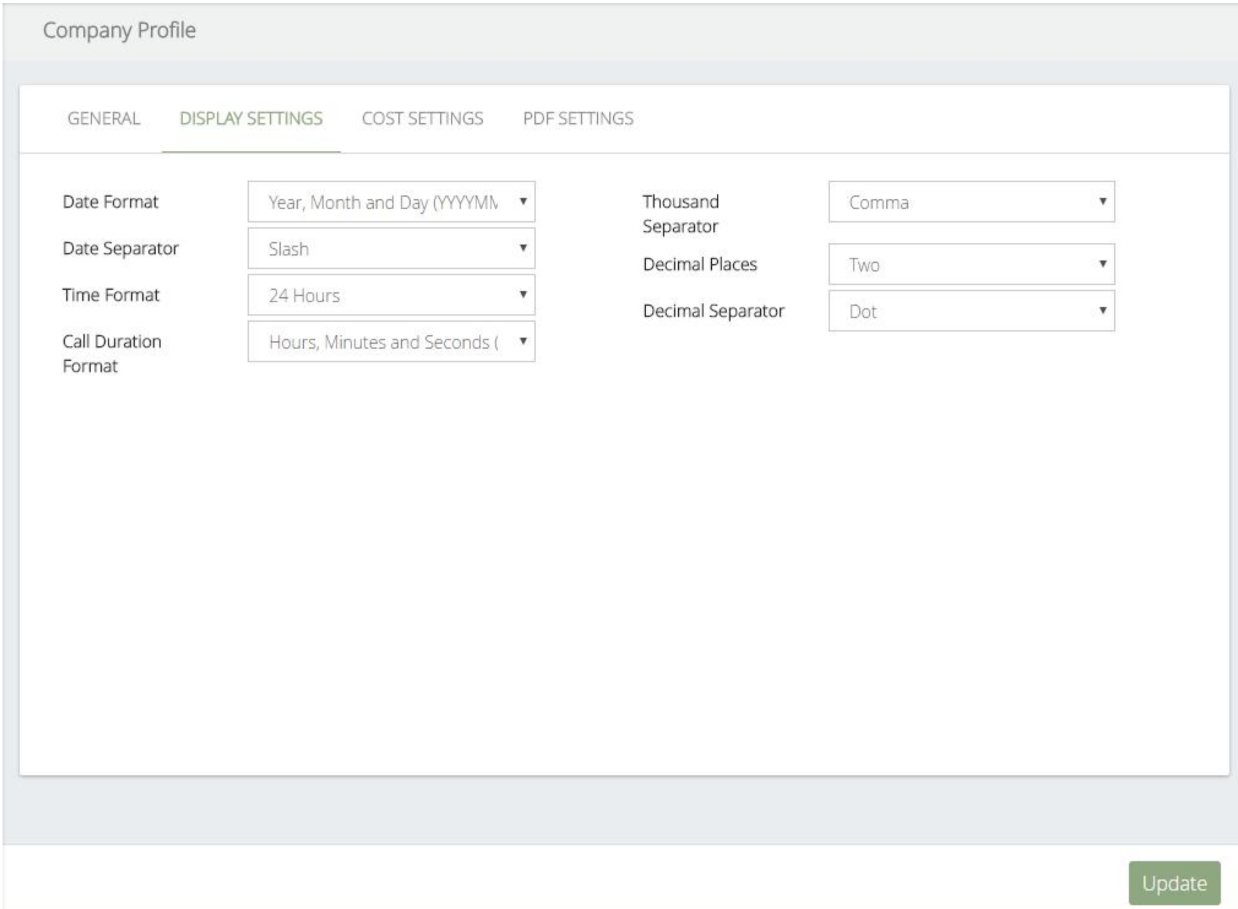


The data to be configured are the following:

- **Company Name**, on behalf of the company. This will appear in the header of all reports.
- **Country**, Country where the PBX is installed.
- **Timezone,** Time Zone is used as the default time zone when creating system users.
- **Address**, Company Address (Optional)
- **Telephone**, Company Phone (Optional)
- **Email,** Company Email (Optional)

- **Logo**, company logo, it will appear in the header of all reports

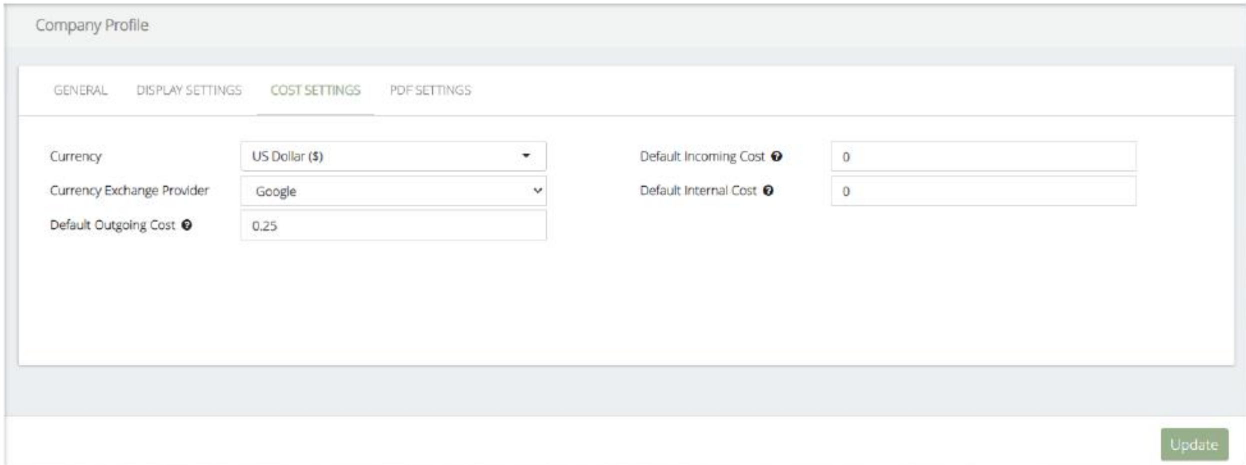
DISPLAY SETTINGS



The data to be configured are the following:

- **Date Format**, select a desired date format to display in the reports and interface.
- **Date Separator**, type of separator for the date to be shown in the reports and interface.
- **Time Format**, select the time format to be displayed in the reports and interface.
- **Call Duration Format**, select the format of call duration to show in the reports and interface.
- **Thousand Separator**, type of thousands separator to show the cost of the calls in the reports and interface.
- **Decimal Places**, number of decimals of call costs to be displayed in the reports and interface.
- **Decimal Separator**, type of decimal separator to show the cost of the calls in the reports and interface.

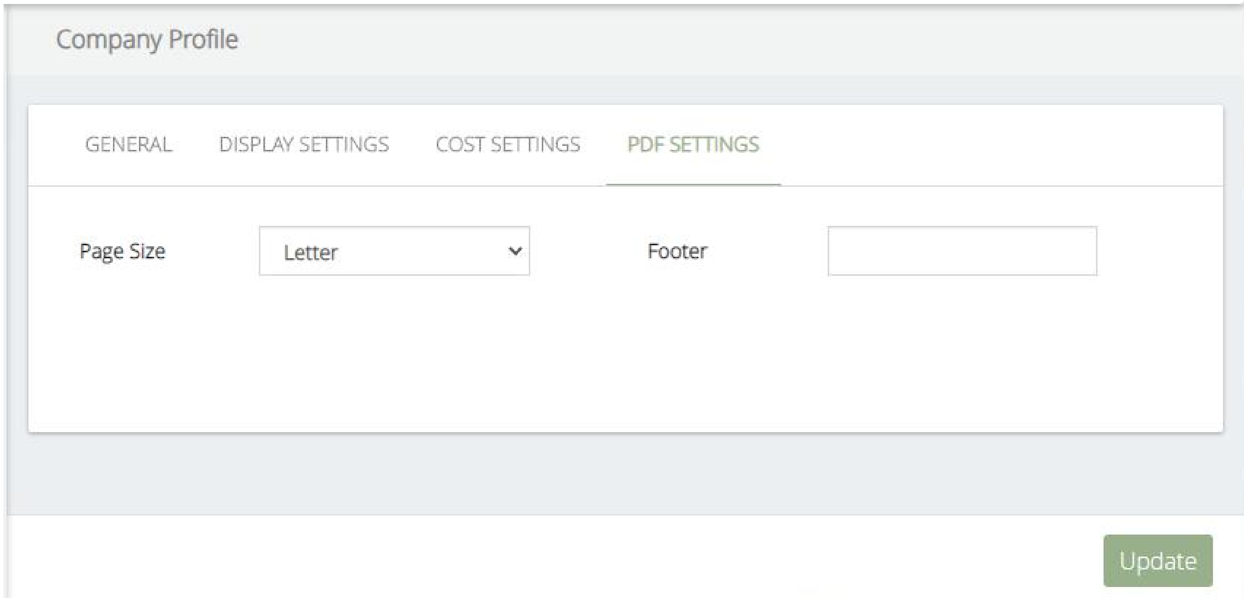
COST SETTINGS



The data to be configured are the following:

- **Currency**, local currency.
- **Currency Exchange Provider**, Exchange Rate Provider (Google or Yahoo)
- **Default Outgoing Cost**, cost of outgoing calls when no tariff associated with it is found.
- **Default Incoming Cost**, cost of incoming calls when no tariff associated with it is found.
- **Default Internal Cost**, cost of internal calls when no tariff associated with it is found.

PDF SETTINGS

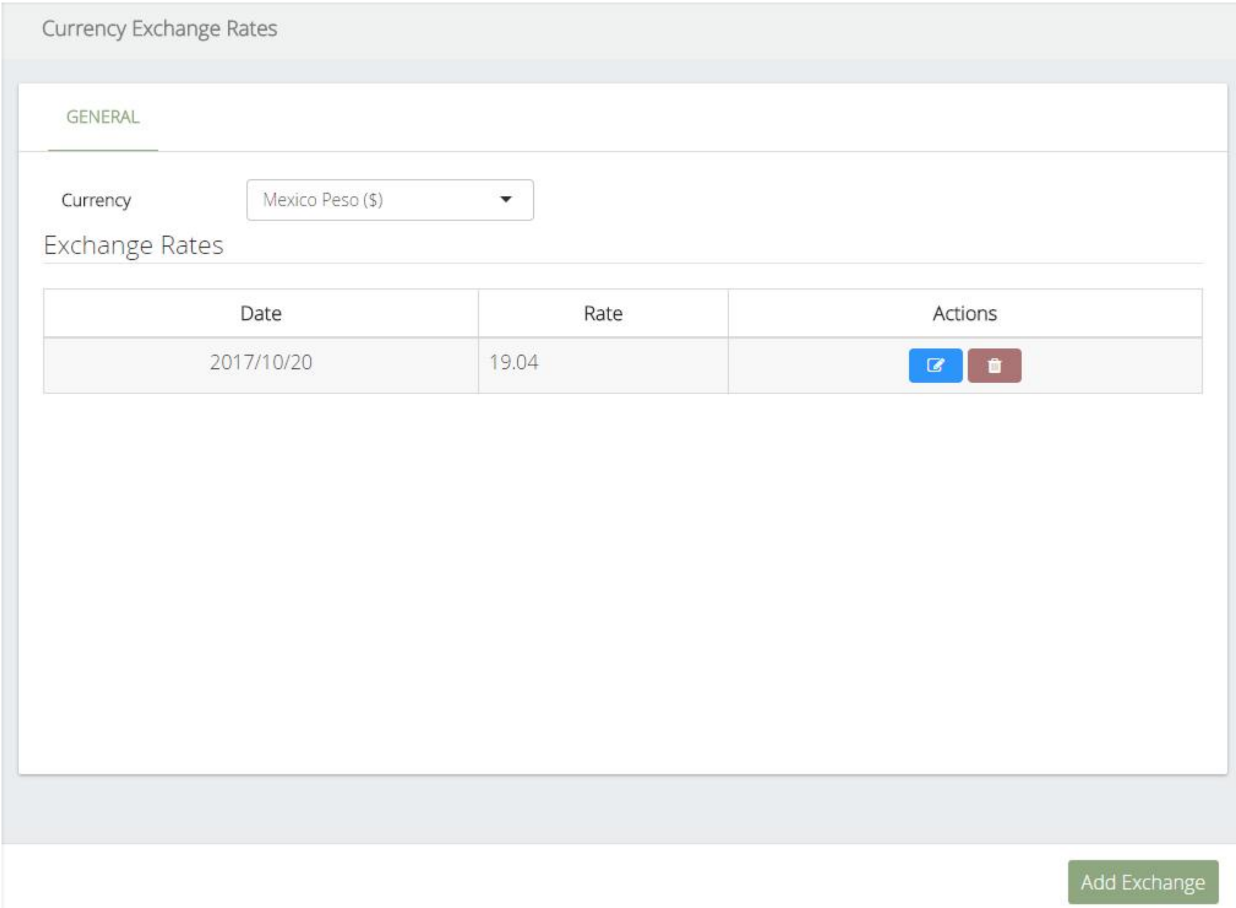


The data to be configured are the following:

- **Page Size**, page size to use for generating reports.
- **Footer**, Legend that will appear in the footer of all reports.

7.2.- Currency Exchange Rates

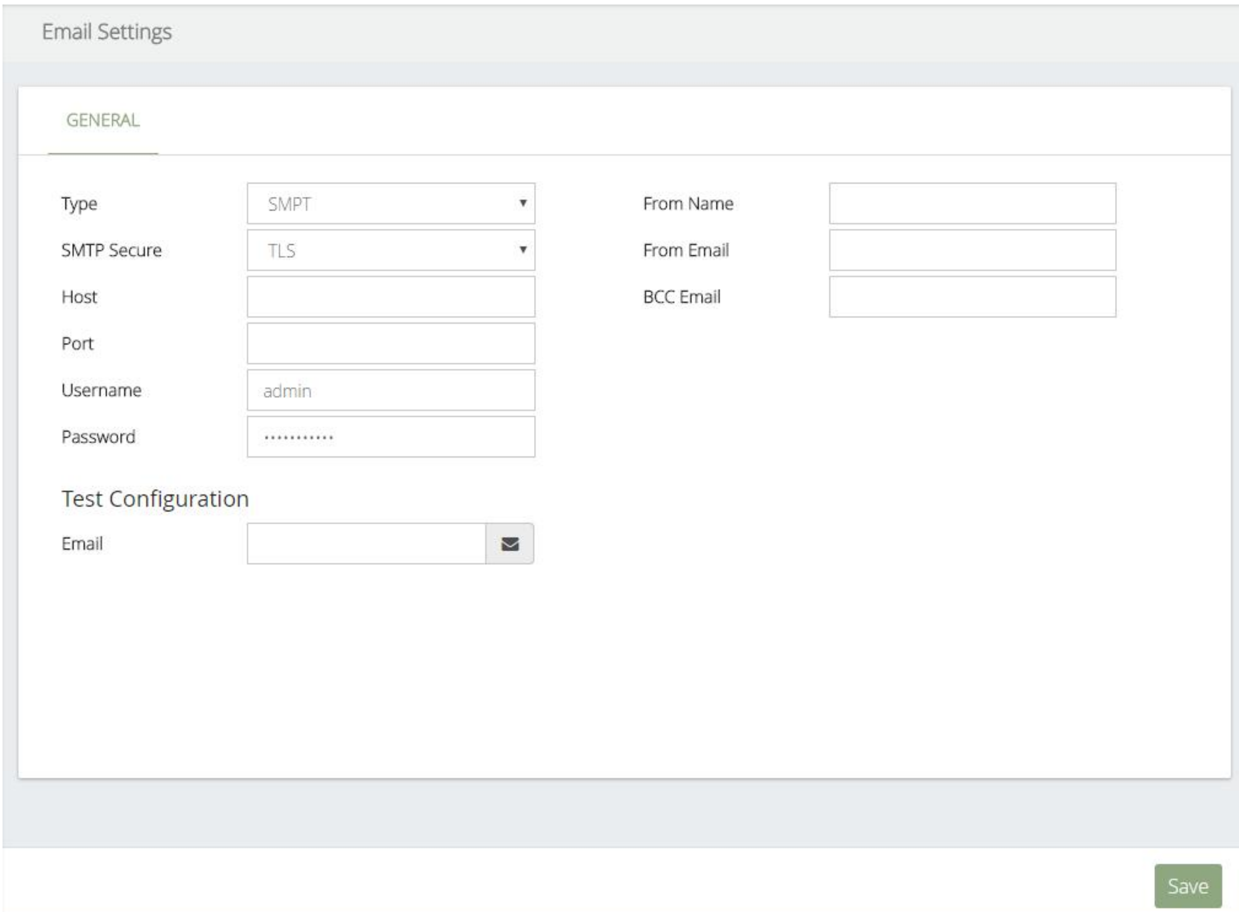
The program is multi-currency, you can get reports in the currency that the user wants. To enable a currency, it is necessary to go to SETTINGS/Currency Exchange Rates



Select the country and then press the Add Exchange button. The exchange rate of the day will appear with the possibility to change it manually.

7.3.- Email Settings

To be able to use the module of sending reports automatically it is necessary to configure an email account, to configure this account go to SETTINGS/Email Settings

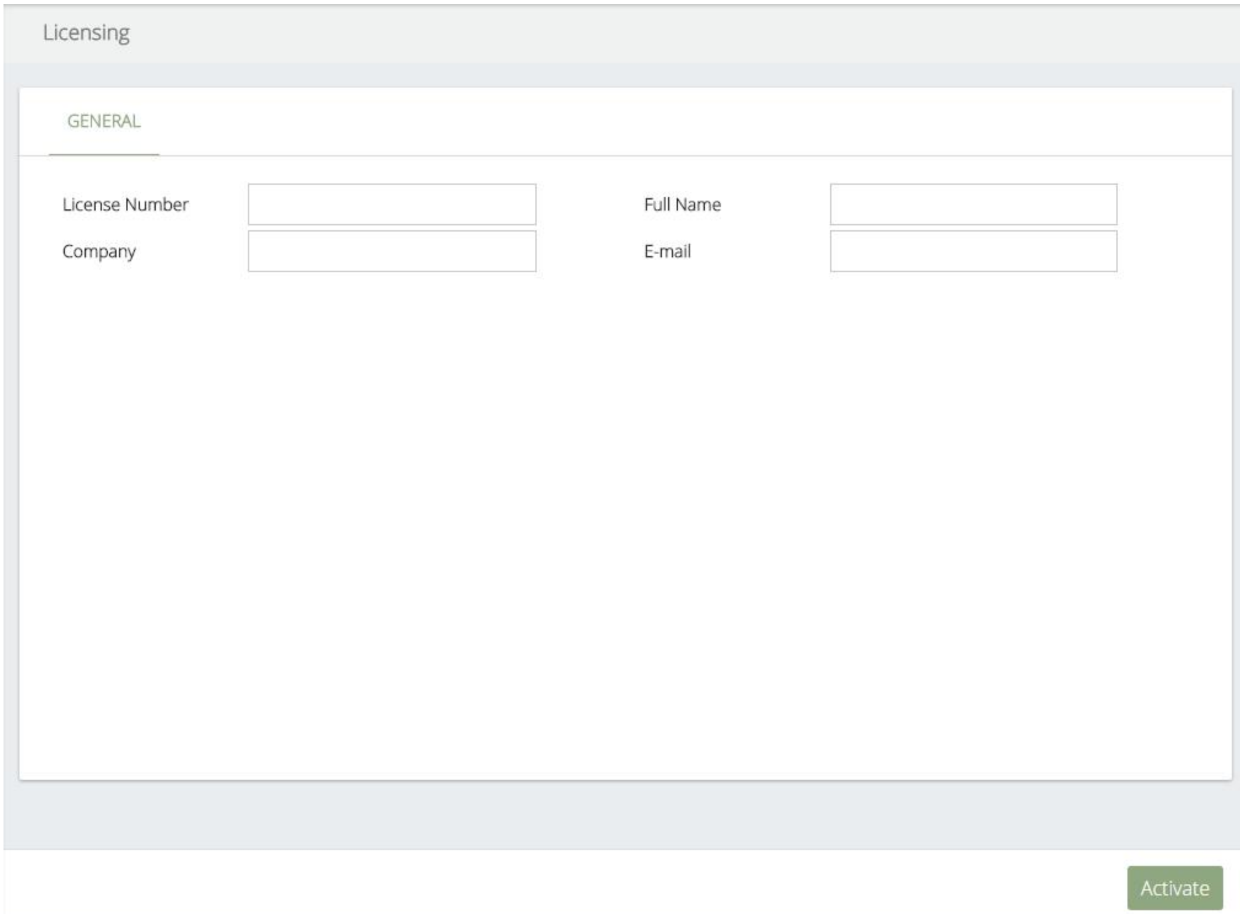


The data to be configured are the following:

- **Type,** select the type of email server to use.
- **SMTP secure**, type of security
- **Host,** email server
- **Port**, port of the email server
- **Username**, user to authenticate to the email account
- **Password**, password to authenticate to the email account
- **From Name**, name of the owner of the email
- **From Email**, complete email
- **BCC Email**, if you want to send a copy of the hidden email, write it here
- **Test Configuration**, test email settings

7.4.- Licensing

Sonata Billing comes with a free license of up to 8 extensions, you can purchase a license that fits your needs by contacting your supplier.



The data to be configured are the following:

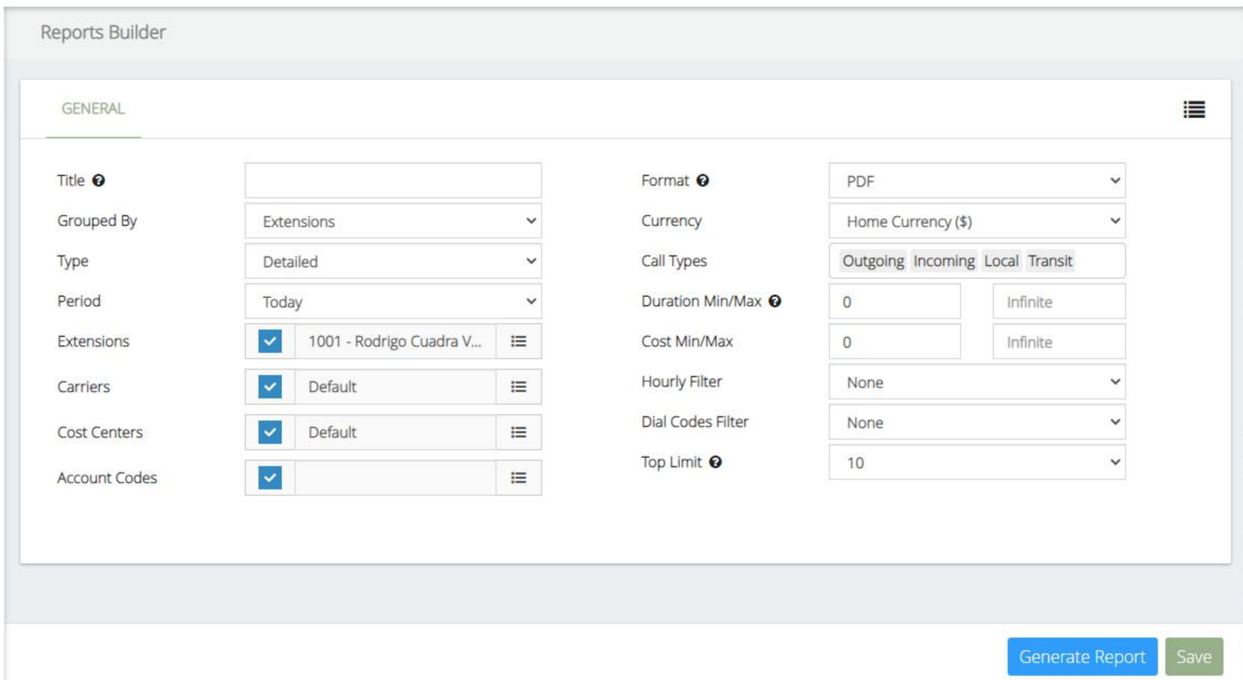
- **License Number**, license of the product, this will be supplied by your supplier.
- **Company**, name of the company to whom you want to register the product
- **Full Name**, name of the user who will be responsible for the product.
- **E-Mail**, email of the user who will be responsible for the product. Very important since under this email the license will be registered.

8.- Reports

Sonata Billing generates many summarized and detailed reports. To generate reports, go to REPORTS.

8.1.- Reports Builder

Report Builder generates all the detailed and summarized reports by extension, cost center, trunks, etc.



The data to be configured are the following:

- **Title**, this represents the title of the report, is required only when the report is saved as template.
- **Group By**, generate the report by grouping it by the selected option.
- **Type**, generate the report with the selected option.
- **Period,** range of date and time to be taken into account in the report.
- **Extensions**, extensions to be included in the report, if the check is selected, all extensions will be included.
- **Carriers,** carriers to be included in the report, if the check is selected, all carriers will be included.
- **Cost Center**, cost center to be included in the report, if the check is selected, all cost centers will be included.
- **Account Codes**, account codes to be included in the report, if the check is selected, all account codes will be included.
- **Format**, defines the format in which the report will be exported.
- **Currency**, currency to show report.

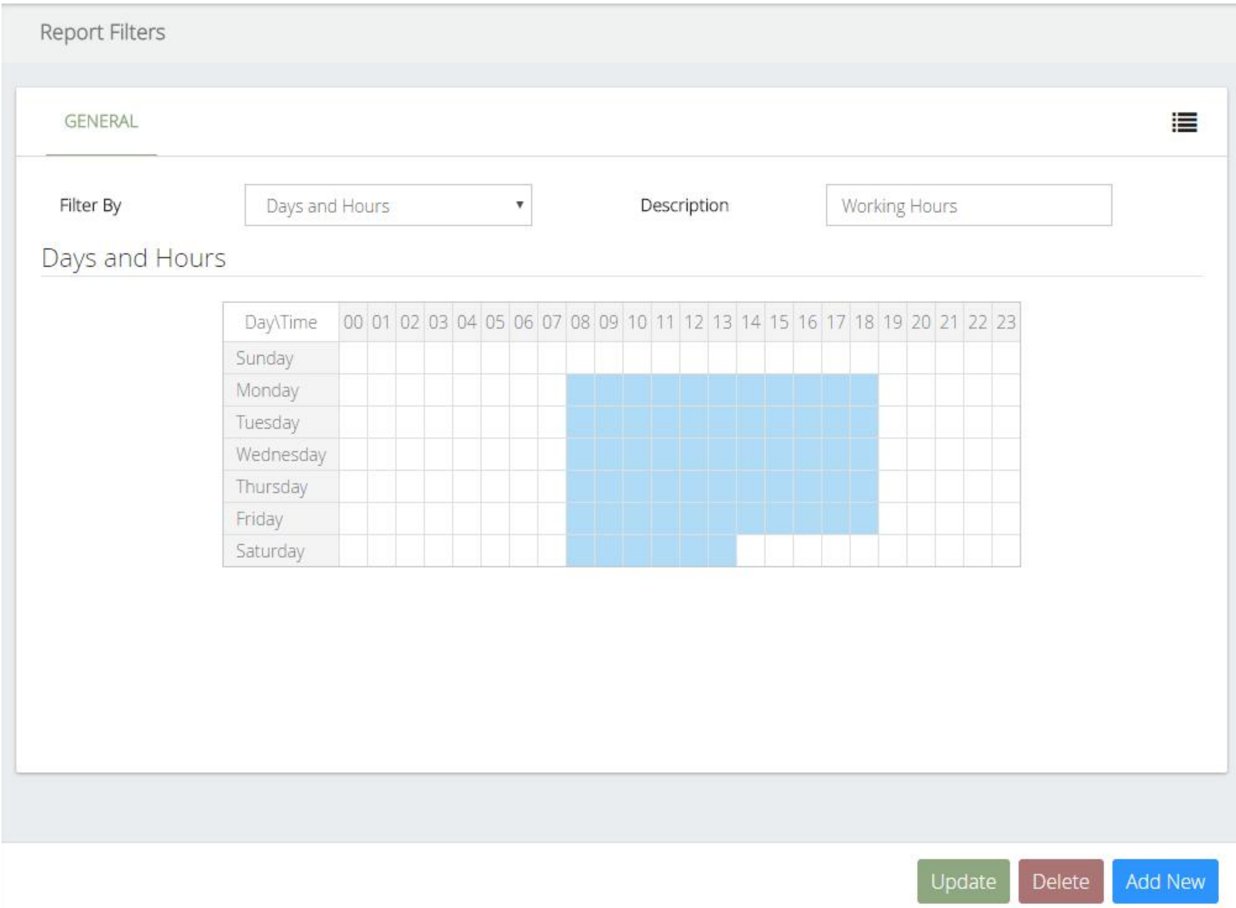
- **Call Types**, types of calls to be included in the report.
- **Duration Min/Max**, duration Min/Max expressed in seconds
- **Cost Min/Max**, cost Min/Max expressed in home currency
- **Hourly Filter**, hour filter to use to generate the report. This filter must have been previously created.
- **Dial Codes Filter**, dial codes filter used to generate the report. This filter must have been previously created.
- **Top Limit**, limit the number of items to show in top reports.

You can create a profile for later use in Report Schedule, configure the information and press the "Save" button.

8.2.- Reports Filters

HOUR FILTER

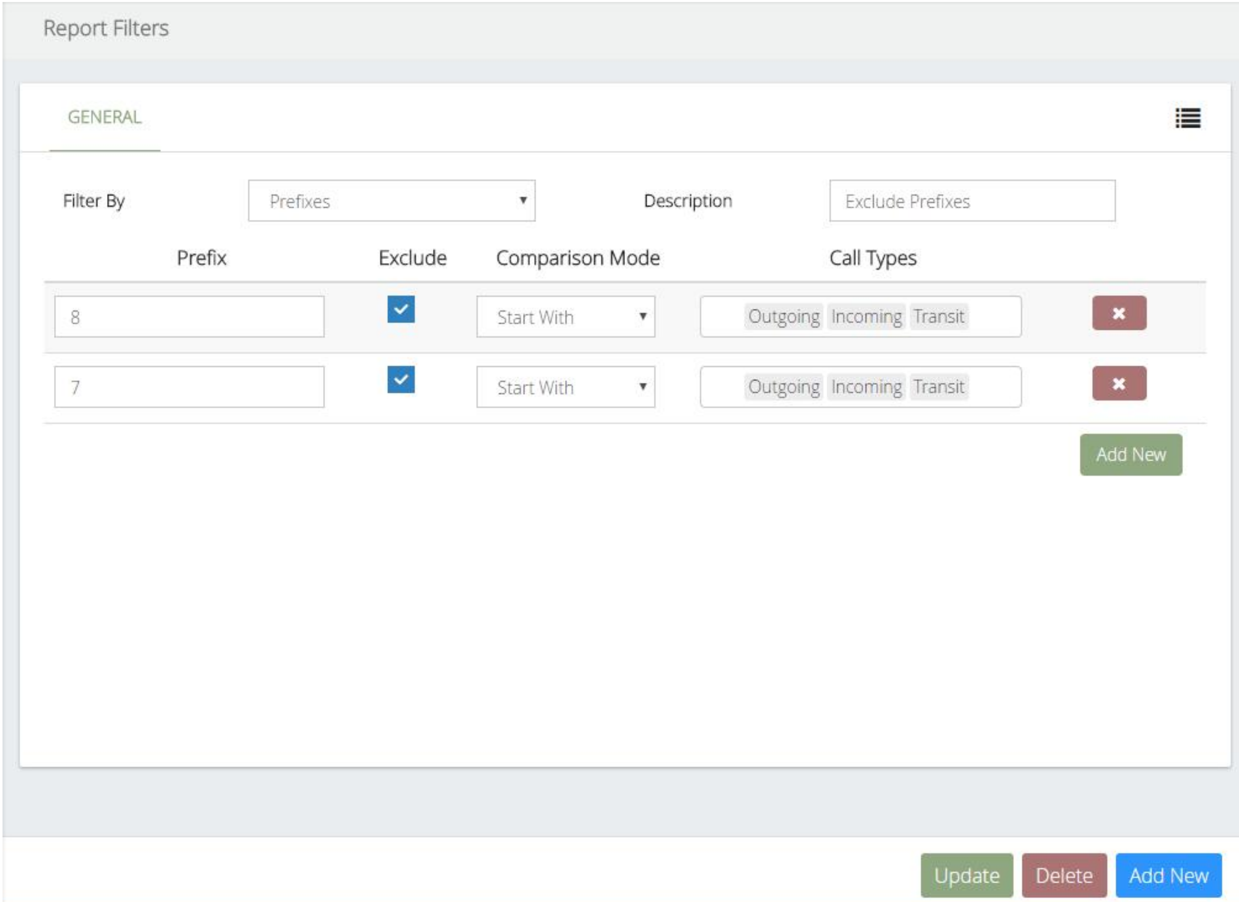
Hours Filters are used to select only calls that are made within the time set in the filter. This screen shows a filter of working hours.



The data to be configured are the following:

- **Filter By**, type of filter to create, Days and Hours or Prefixes.
- **Description**, brief description of the filter.
- **Days and Hours**, day of the week and hours to select in the filter.

DIAL CODES FILTER

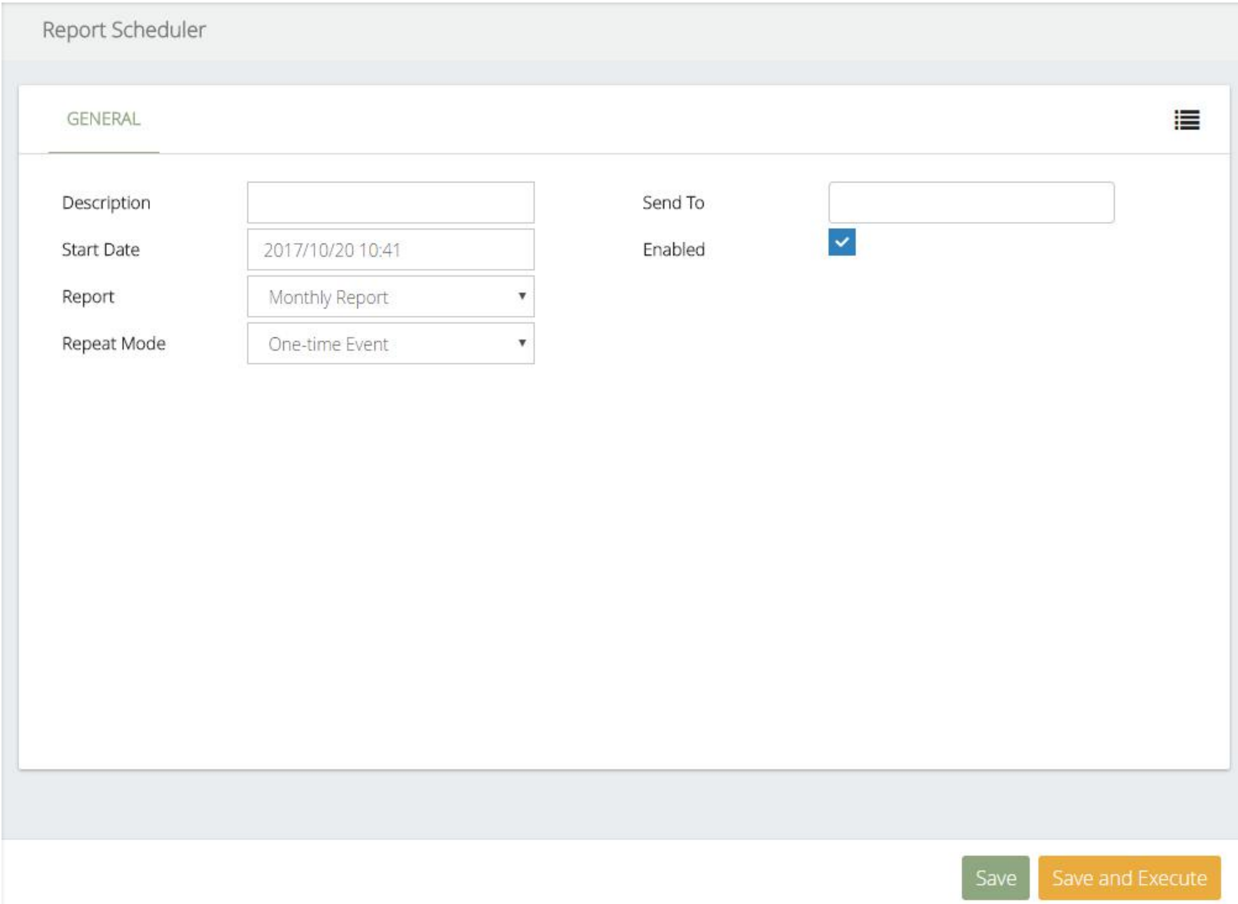


The data to be configured are the following:

- **Filter By**, type of filter to create, Days and Hours or Prefixes.
- **Description**, brief description of the filter.
- **Prefix**, prefix to include in the filter.
- **Exclude**, select whether to exclude this prefix when applying this filter.
- **Comparison Mode**, type of comparison to use when comparing the prefix.
- **Call Types**, type of calls in which this prefix will be applied

8.3.- Reports Schedule

Sonata Billing allows the execution of reports automatically and periodically. To configure this option, go to REPORTS/Reports Schedule.



The data to be configured are the following:

- **Description,** Short description of scheduled report.
- **Start Date**, day to execute the process.
- **Report**, report to use, it must have been previously created.
- **Repeat Mode**, periodicity for the execution of the process.
- **Sent To**, email to send the report.
- **Enabled**, it is possible to enable or disable the schedules.

A.- Technical Specification

Name	Sonata Billing
Version	3.0.1-1
OS	Linux Centos 7 64 bits
Compatibility	VitalPBX 3.x
Database	MariaDB 10.x
Developed Language	PHP 7, HTML
Necessary Memory	2 GB
Necessary HDD	250 MB
Packet Technology	RPM
Dependency	Already installed in VitalPBX 3.x