

vReports v1.6.0

User Manual

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1 Change Control

Date	Version	Description	Author
2024/02	1.4.5 – 1.6.0	1.5.0: - many enhancements to make the generation of queries more robust. - various MSSQL bugs resolved. 1.6.0: introduction of OrgChart.	jfcc
2023/08	1.4.4	- fixed issued with subtotals when using SQL code. Also, added more info on using aggregated functions. - funnel charts for Apex now also supported	jfcc
2023/05	1.4.2	- added Counters module to support “fixed” ordering in Reports (for those situations when e.g. you want to report starting with Monday but there is no data for Monday). Also needed for heatmaps. - charts with Detail and no Grouping resulted in “No results” charts. The graph-engine is now somewhat more permissible. Specially the APEX engine. Can be used now for Scatter and Bubbles (see those special notes).	jfcc
2023/04	1.4.0 v2	- known issues: dynamic table not supported for MSSQL (REGEXP in SQL statements: needs work) - introduced advanced configuration for Charts (APEX library) using JSON file (magic wand icon)	jfcc
2023/04	1.4.0	- For advanced users: introduced support for INNER and Right Join when creating a report with multiple tables (magnet icon next to target icon) - Changed behavior when in Fields Management "Deleted Usage" was checked. Before, this meant that ONLY entries where deleted was not NULL applied. Now, this is left open (you can now use ignore empty filters also for "Deleted", or select explicitly true, false or NULL). - Introduced references to global variables. Now you can access e.g. the id of the current user through a variable (and e.g. use this in a comparison). - New behavior in Reports-engine to avoid more typical “wrong query set-up” (with “No results” output). - When you use SQL, you have to pay attention to the label name (section 8.2.5)	jfcc

		<ul style="list-style-type: none"> - Clarified that when you use SQL, you have to set the format-type to some numeric value for the graphical engine to take this into account. 	
2023/04	.. 1.3.2	<ul style="list-style-type: none"> - Placeholder for multienum is now also translated (in user input filters) - Filters in dashlets did not work. Now they are fully functional, also supporting "save search". - mssql related issues: <ul style="list-style-type: none"> - granularity beyond seconds is dropped. - there was an error in list view 	jfcc
2023/03/17	1.3.0	<p>Added information on filter operator "My Items"</p> <ul style="list-style-type: none"> - whenever you can fill in a string in the first parameter in filters, you can use the right-button to make a list of references appear from which you can pick. Can save you time !!. - option added so that for extra-format "string" (applies for filters) the system can suggest you the list of known values to select (quick-search option). - When applying a filter on "My items" using "User Input", only 2 values were permitted (radio-button). This is changed now to standard "boolean" including "not defined". This is now in line with normal filtering, and allows for constructions like "I don't care who created this" for filter. 	jfcc
2022/07/04	1.2.4	<p>More information on use of audit tables. Logic on report allowed and not allowed tables enhanced (see admin manual).</p>	jfcc
2022/06/03	1.2.2	<p>#28 More strict check for sensitive SQL keywords #30 tinyint(1) now also presented as "bool" (checkbox). Used to be 0 or 1.</p>	jfcc
2022/04/26	1.2.0	<p>Support for MSSQL database in addition to MySQL</p>	jfcc
2022/02/23	1.1.2	<p>BUGS:</p> <ul style="list-style-type: none"> - Various small bugs solved. - Maps were not properly scaled when data was available. - Charts did slightly overflow into next elements - Tooltips in maps were considerably off when sidebar was open. - Title did not show in Apex-Charts - In case of advanced format "Multimedia", content indicator (blue-wheel) was active, even after a "Clean" format. - In edit mode, if you did an execute real quick "while loading" the report in edit mode, you got "no results" 	jfcc

		<ul style="list-style-type: none"> - In Edit mode, when executing a report, the “paging” buttons broke the execution when clicked. - Config option for charts now works: you can now present up to 4 graphs in a row. <p>Features:</p> <ul style="list-style-type: none"> - Map-charts allow now for more interaction (zoom, click, drag) - Improved support for filters in Meta-reports - Added more documentation on Meta-reports. - Improved support for multi Y-axis for Apexcharts. - Revisited examples and added explanations in manual. <p>See Chapter: 15.</p>	
2022/02/14	1.1.1	<ul style="list-style-type: none"> - APEXcharts support, including new graph “timeline” - Support for PHP 7.4 (now supports consistently <code>__construct</code> for classes initialization). 	jfcc
2021/12/12	1.0.4	<ul style="list-style-type: none"> - Scheduler-Tasks were not automatically created. 	jfcc
2021/05/17	1.0.3	<ul style="list-style-type: none"> - Solved: Metareports: when including more than one report with Target field, error occurs. 	jfcc
2021/04/28	1.0.2	<ul style="list-style-type: none"> - Corrected in the documentation syntax of variables in PHP: should be <code>%{name}</code> instead of <code>%(name)</code> - In edit-view, you can now de-select an icon in the button definition view (before this, you had to delete the field and add it again) - Added tested examples of Reports to packages + documentation 	jfcc
2020/12/10	1.0.0	First version	jfcc

2 Introduction

This manual targets the basic and advanced creator of ValeDale Reports. It complements the Admin manual that describes how to install and configure the package.

Note that the typical consumer of ValeDale Reports will normally not create reports, and will also not need a manual.

ValeDale Reports is part of the overall ValeDale initiative. “Vale Dale”, Spanish expression for “OK GO” and pronounced as “BalleDalle”, has the goal to create “out of the box thinking” solutions that will help people in their thought process pushing the limit from providing information to providing suggested actions and thus adding real tangible value.

ValeDale Reports, from now on “vReports”, builds on top of the Alineasol Reports package, with the goal to evolve this in line with ValeDale’s vision, while building on top of the expertise of people that have been involved in the creation of Alineasol’s packages and are now part of ValeDale.

The first version of vReports builds on top of the latest version published by Alineasol and adds a number of enhancements. We plan to evolve vReports specifically in the following areas:

- Usability
- Richness of presentation
- Speed
- Integration with other packages

2.1 What can you use vReports for ?

vReports is an advanced Reporting system that is integrated with SuiteCRM. It provides tabular and graphical presentation support. Furthermore, the reports are interactive.

But vReports is also very much about interaction, not only with users, but with databases, third party applications, etc.

vReports provides though much more:

1. Possibility to schedule Reports and distribute by email.
2. You can schedule actions so that target-lists are automatically populated based on Report filters.
3. Possibility to limit the unnecessary execution of heavy reports that would not change anyhow often (e.g. sales of last week).
4. Possibility to send data to external applications for further processing
5. Possibility to render reports so that they can be presented in other client applications without programming.
6. Possibility to define also queries in SQL (for advanced users)
7. Manipulate results using PHP coding (for advanced users)

8. See how Reports will look like while you are editing/creating them.
9. Create advanced, multi-graph reports, link them together with filters and bundle them in one "Metareport".
10. Versioning: Create newer versions of Reports, and test them, while keeping the old version active.
11. Present reports in dashlets for advanced (interactive) dashboards.
12. Access other databases, beyond the CRM Database, and generate Reports for those databases too!
13. Generate Reports that can only be accessed by different Roles.
14. Multi-language support for the Reports themselves.
15. Long list of advanced configuration options to safeguard the system, and control access to reports.

2.2 Thank yous !

- Great initial work to for the main application: AlineaSol.
- For the orgchart library: Xuebin Dong (dabeng)
- Apexcharts : Juned Chhipa
- NVD3: Novus Partners

3 Compatibility Matrix

SuiteCRM	ValeDale Common	vReports	Comments
7.10.X	1.0.0	1.00	First release of vReports

Please ensure that you have the correct ValeDale Common version compatible with your vReports.

See Admin Manual for information about upgrades and new installations

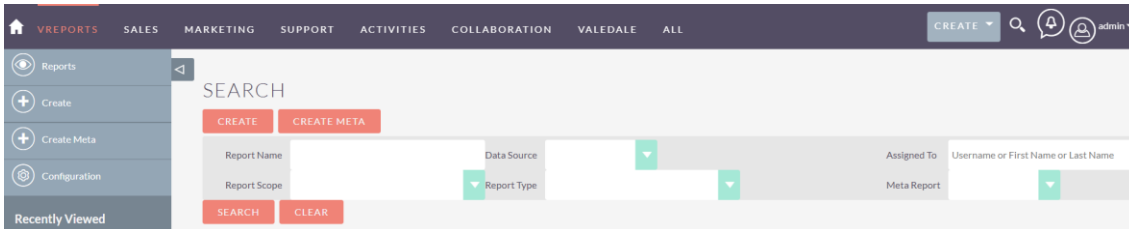
4 Install and Upgrade vReports

Please refer to the Admin Manual of vReports.

5 Creating a Report – Table Format

Let’s start with the beginning.

Login into your CRM and Select vReports



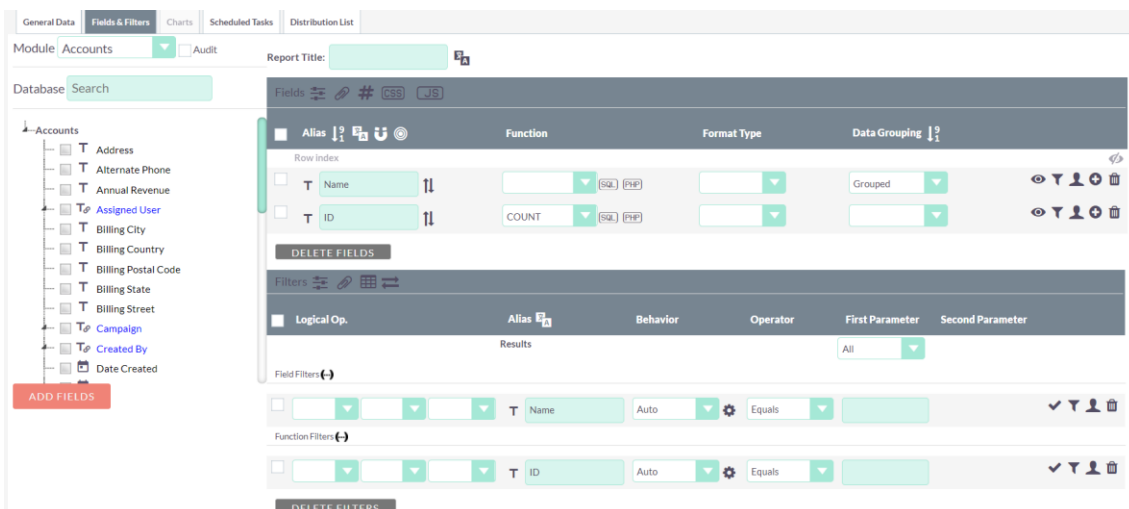
You will see the following options:

- vReports: you will get a list of the Reports visible to you.
- Create: create a standard Report
- Create Meta: create a Report from other Reports
- Configuration: here you can configure some user specific vReports parameters. Normally you would not have to change anything here.

Note that we recommend you use Reports with the sidebar closed to have a larger operational area. vReports is optimized for usage with themes without sidebar.

We will go for the standard option “Create”.

5.1 Edit/Create View



The Edit/Create View shows 4 main horizontal areas (from top to bottom):

- Action Buttons
- Work-tabs

- Working Area
- ...and Action buttons again.

5.1.1 Action buttons

You will see a list of action buttons:

- **Save and Continue:** allows you to save the current report and stay in Edit mode.
- **Save:** same as previous one but returns you to the List View.
- **Cancel:** your unsaved changes will be lost and you go to the list View.
- **Get SQL:** shows your report but in SQL format. This is normally only used by advanced users.
- **Execute:** allows you to execute the report directly from Edit View.
 - If you select this option, a new window will appear. You can close this window by hitting the “esc” key (or closing the window)
 - *Note: not all report functionality may be available from this view. So, you may want to execute outside the Edit View to check the behavior of the report.*

5.1.2 Work-tabs

Note that there are different Work-tabs for normal reports and Meta Reports. We will handle all specifics of Meta Reports separately. The rest of the section assumes the creation of a “normal” report.

- **General Data:** High level information about the Report
- **Fields & Filters:** Here is where the real thing happens !
- **Charts:** Information about Chart presentation. Only accessible if the chart option is selected in General Data.
- **Schedule Tasks:** Defines the schedule options for automatic Report generation.
- **Distribution List:** Distribution list information

5.1.3 General data

In this section you can define the main data for your Report.

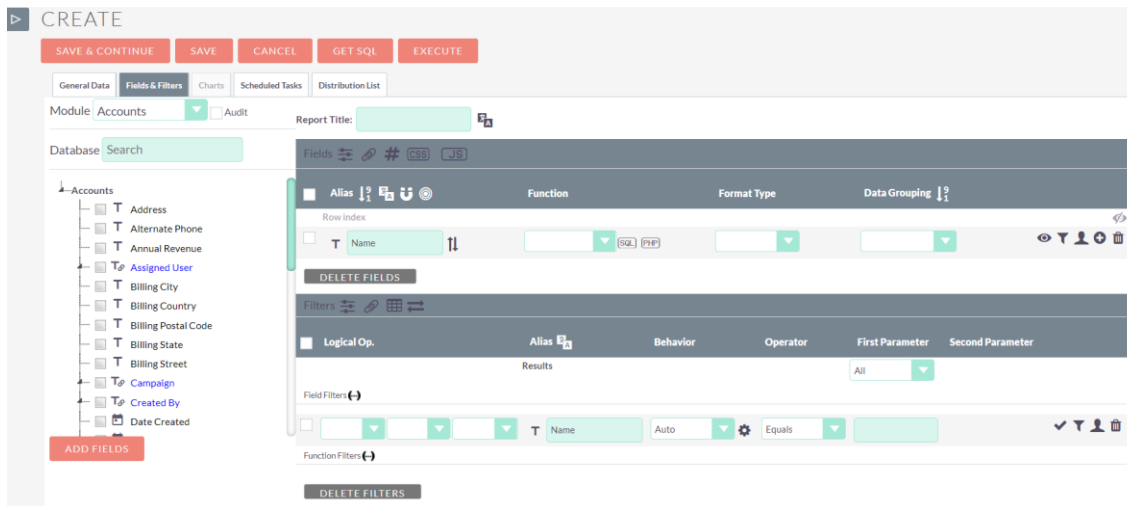
- **Report Name:** If you plan to create many Reports, you may want to define a nomenclature for easy recognition, for example include the targeted department name that will use the Report or the functional area. E.g. [Finance] Rest of report name. [TimeMngmnt] Rest of Report name.
- **Data Source:** If you have not defined alternative databases, you will only see the CRM as an option.
- **Report Type:**
 - **Manual:** This will be the typical type. You can execute the report at any time manually.
 - **Internal Usage:** This is a special type of “Manual”. These are the typical “System” Reports that an admin will create to add to a menu, that can only be accessible as dashlets, or are components of ValeDale’s ViewDesigner. I.e. Reports that normal users should not have access

- to. The difference between these and “admin” only Reports, is just to indicate what kind of use the Reports will get.
- **External Usage:** These are reports that are only accessible from remote client applications.
 - **Scheduled:** When you select this, you need to determine in the Schedule Tasks tab the frequency of Report generation. Reports will be automatically generated and distributed. You can choose various options (Please see Section 8.2.4 for advanced options).
 - Send email
 - Send to application
 - Send to ftp
 - **Scheduled Only:** This is a very useful model for heavy reports that don't change value during a specific time. You can define for this type how often and when the Report should be calculated. It is then stored, and when a user requests the report, the result will be recovered from a temporary directory: quickly and with minimum capacity consumption.
 - *Be careful that the calculation frequency should be below the “Clean-up” frequency. E.g. if you clean up the temporary directory every two weeks, you cannot have a report creation frequency of 1 month: it will be deleted after 2 weeks and it will not be presented.*
 - **Cloud (remote):** We are keeping this type for backwards compatibility, but we will be changing its functionality to make it more useful. So, for this version, this option is not supported.
 - **Email Report Link:** Only applies for scheduled reports with email distribution. If you mark this option, a link will be sent to along with the report so that the user can access directly the full report with charts.
 - *Note that in vReports Configuration, the host name should be correctly set for this to work (see Admin configuration).*
 - **Public Description:** This description will appear when the Report is executed.
 - *Note: we plan to make this a WYSIWYG field in an upcoming version.*
 - **Assigned to:** User that can edit the report.
 - **Display:** You have currently 4 options which include Table and Chart presentation in different orders. For much more flexibility on presentation see Meta Reports.
 - **Generated File Format:** Only applies to automatically distributed reports. The same options are available as for Export. See section 7 for options, which include CSV, xls, html, ..
 - **Report Scope:** Defines accessibility to the report
 - Private: only accessible to assigned user.
 - Public: accessible to everyone (be careful with this one !)
 - Role: only accessible to specified roles.
 - *Note: we are considering adding also Security Groups as an access Criterion.*
 - **Internal Description:** These notes are only shown here. Normally it will be used to provide information about report structure (for more complex reports), dependency notes, tricks, versioning information, etc.

5.2 Fields and Filters

This is where the real work takes place !

The example below shows the typical usage where the CRM database is used. For external Databases see Admin manual.



Within the tab, we can find the following areas:

- **Module selection:** In case of the standard CRM database, you will see a dropdown with all Modules that are accessible by the Reports creator. Once you select a module, a tree with the Database structure should appear
 - Next to the module dropdown you will see the “Audit” checkmark. If you select it, you will access to the audit table instead of the main module. *Note that if audit for the given module is not active (also the “Change log” will not appear in the Detail View of that module, you cannot switch to “audit”). See also section 8.5.*
 - *If you think you should see more modules: log out and login again. If you still cannot see it: contact your admin.*
- **Field Selection:** The main goal of this tree-formatted list is to select the fields that you want to make appear in the report. You can click on the checkmark and then hit the “Add Fields” button. Or you can just directly click icon to the left of the name. If you hover over the field-name, and if not otherwise configured, you will see the name of the field in the database (for advanced users). The components in the tree are:
 - Checkmark: to select the field and later add it to the report.
 - Clickable type of field: “T” for text, calendar-icon for date, etc. Click to add to the report. If you see a “link” mark to the right of this field, then you can “open” the tree (click on the black triable to the left to the checkmark) and thus add related fields to the report.
 - Name of the field.
- **Working area:**

- Report Title: Next to the Title input area, you will see the translate-icon, to support multiple languages.

5.2.1 Fields

- Fields:
 - Report and Field Configuration:
 - Configuration icon: various advanced options available (see section 8.2.2 on advanced report configuration)
 - Reference-icon: here you can see how the different fields can be referenced in formulas (advanced users). You can define your own references.
 - You can define for each field added what CSS class should be used for presentation. You can define the CSS class in the CSS section. Note that there are already a number of predefined formats that you can select in “Format Type” in the actual fields section.
 - CSS Class: here you can define your own css classes
 - JS: yes you can even define some javascript (advanced users). You can call the Javascript from advanced field options.
 - Field Configuration:
 - Order-icon: Define order hierarchy if you have defined more than one order statement (see fields).
 - Translation-icon: Can be defined for each language and each field.
 - Target Definition: You can define here the targets (e.g. sales) so that you can see the actual figures and compare them vs the targets. See section 8.3 for more information.
 - Row Index (!): This allows you to add automatically an index (nr) column starting from 1, at the beginning of the table. You will notice that the visibility-icon (to the right end) by default is set to “not visible”. This feature is especially interesting for all lists that have to be shared with teams for easy referencing.
 - Field-row: There are several elements in each row:
 - Checkmark: currently used to be able to delete various elements in one operation.
 - Type-icon: shows the type of the field. Note that a number of options later on depend on the type, so if you think you are missing operations, check the type.
 - Label/Alias: this is the name that is presented. Remember that you can translate this into other languages by accessing the translation-option in the header-row.
 - See comment in section 8.2.5 (about: choosing a label when you use SQL for that field).
 - Order: you can select Ascending or descending. Remember that in the header row you can select the priority if you have more than one order defined.

- Function: depending on the type of field, you will have various options at your disposal. Note that if you choose a function, you should select also a Data Grouping (see later in this description). For example, you can add (sum-function) the amount related to opportunities for a specific account. You would need to group on Account to create such a report. Ideally, on the ID (which is unique and will provide the best performance as it is an index). Also: functions can only be used on “simple” fields; if you use SQL logic (see next item), you should use the aggregation functions within your SQL. The exception to this statement is when only use basic arithmetic and you only refer to $\${this}$. So, $\${this}*100$ would be fine.
- SQL: this is for advanced users. See section 8.2.5.
- PHP: This is for advanced users. See section 8.2.6.
- Format Type: you can actually change the way information is presented. Note that the presentation format does NOT affect filters. See advanced options for more information.
- Data Grouping: options depend on the field. Typically, the options are “Grouped” and “Detailed”. But there are more options, specially for date-Formats.
 - Grouped: vReports will show one entry in ONE table for each unique field-value. Normally, you will also define a function for another field in the report.
 - Detail: vReports will create a sub-table for every field-value. A function in another field is not necessary. It could become a long report though.
 - *Note that “not visible” Detail field is allowed, and it will still be taken into account in the query (does not apply to other fields). This allows the “Detail” field to NOT appear repeatedly in the detailed report table.*
- Action buttons:
 - Visibility: 3 options. Visible, NOT visible (nor accessible), and not visible but accessible for filtering (hidden)
 - General Visibility Property: see admin manual. In general, only used by admins
 - In future releases we may hide this from other type of users.
 - Accessibility based on roles and access rights.
 - Add a filter: to limit the database entries that will be presented in the report. Note that if you add a filter for a field with a function operation, vReports will ask you if the filter should apply to the filter or the result of the function.

A typical function filter would be to show only accounts for which the total (sum) revenue of opportunities is above a certain threshold.

- For SQL users: this is the difference between “where...” and “Having”.
- Trash: delete field (and associated filters).

5.2.2 Filters

- Filters:
 - Filter configuration:
 - Configuration: See section 8.2.3 advanced options.
 - References: you can set the references to be used in Meta-Reports, external reports, etc. See 8.2.10 for more information.
 - Presentation of filters: If you have filters marked as “User Input” or “Visible”, you can define here how to arrange them in the execution screen.
 - In the “Advanced” mode, you can create an alternative filter choice (a richer one). If you define one, the user will see at execution an Advanced filter option at the right hand in the Filter selection, and of course can switch between basic and advanced mode.

Note: currently selecting role is not operational, this will be resolved in upcoming releases.
 - Listeners: You can define here if a specific filter can be overwritten by an external source, specifically as defined in Meta-reports. It’s also supported by ValeDale Designer.
 - Results filter: This optional filter allows you to limit the number of results. By default, all results are shown, but you can limit this to the first or last n results.
 - Logical Field Filters function: By default, all filters apply. This means that only entries will be shown that meet all criteria. You can though make much more complex structures using logical operators. As this can become a bit complex, by clicking on this function, you can see the logical representation of what is defined in the filter rows.
 - Filters: For every selected filter you will have various entries
 - Select box: for multi-delete.
 - Logical operator entries:
 - “Not” checkbox. This transforms for example a Filter “Today” into “Everything but today”.
 - Opening and Closing brackets: this is used to group filters. Note that various levels of grouping is supported.

- And-OR option: By default, all filters apply. If you want to change the Default “And” by an “Or” you can select the “Or” value here. For example: Alarm level = “High” OR Priority =”1”
- Name of the filter that will be presented. Note that they can be translated using the Translate-option in the header row.
- Behavior: three options are supported:
 - Auto: just applies and is not visible at execution
 - Visible: is visible at execution but not changeable
 - User Input: Both Visible and user Changeable.
 - In case of user input, you can also define user input options.
 - Note: only Enum and string format are currently supported. In an upcoming release this will be cleaned-up.
- Operator: depending on the type of field, you will see different operators available. The most extensive options are available for Dates.
 - Depending on the operator, you will have one or 2 parameters to fill in.
- Parameters:
 - Depending on the type of Operator chosen, you will have 1 or multiple parameters that can be filled in.
 - *Cudo: whenever you can fill in a string in the first parameter, you can use the right-button to make a list of references appear, from which you can pick. Can save you time !!*
- Actions on Filters:
 - Apply: you can enable or disable a filter without deleting it. Note that you should not use this normally if you have included logical structure in this row)
 - Visibility Properties: see admin manual.
 - Roles: you can define here to what roles this filter should apply.
 - Delete: delete filter.
- Logical Function Filters function:
 - Same as for field filters, but applies to logical conditions for functions. (for SQL users: it shows the logical conditions for the HAVING clause)

5.2.2.1 Filter Behavior

Currently only String and (Multi-) enum are supported (needs to be cleaned up as more values appear).

- Enum

- Parting from other formats, you can have force the filter to behave as an enum. A typical is case is where you could calculate a field (in SQL), for example the month of a date, and then create your own dropdown to select the month of the year.
- String
 - If you select the option: “Has suggestions?” the system will provide you suggestions based on existing values for that field. You can use the up and down arrow-key to select an option, and press enter (or pick a value with the mouse) to select. Tab will send you to next input.

Name	Like	al
Address	Equals	Southern Realty
Industry	Equals	Smallville Resources Inc
Billing City	Equals	International Art Inc
		RR. Talker Co

SEARCH CLEAR

5.2.2.2 Filter operators

5.2.2.3 My items

“My items” van be used so that the user who runs the report can get information related to him/her.

Specifically, this filter can used on:

- The ID parameter of the module Users
- The parameters: 'created_by', 'modified_user_id', 'assigned_user_id', 'reports_to_id' of any module

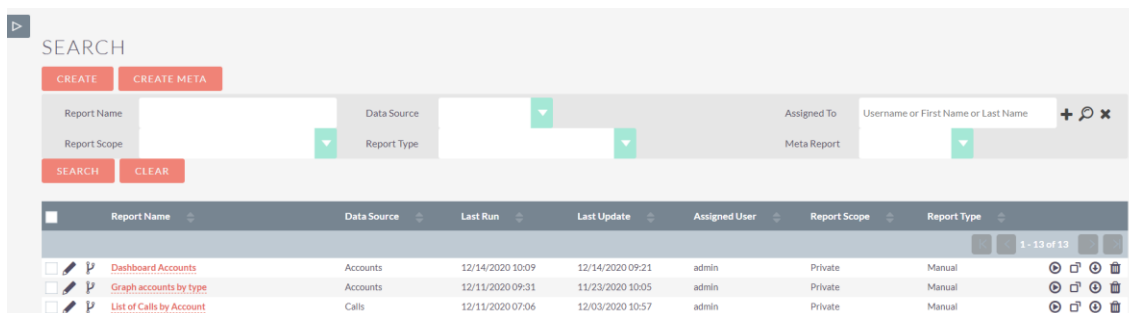
If you filter, for example, on “created_by” using “My items”, the user that runs the report will only see the elements created by him/her.

If you set the value to “False” (or nothing), the system will assume that it should NOT filter on this parameter (which clearly is different than presenting “all but your” items...)

6 List-View Reports

There are three main areas in List-view:

- Action and Search area:
- List-report area
- Multi-report action buttons (not shown in screen-shot below)



- Action and Search area:
 - From here you can create directly a Report
 - You can define filters to search for Reports.
 - Note that when you filter on Meta-reports, “data source” filters are not taken into account (as a Meta report can present data from different modules). *And indeed, the system could check all sub-reports for its data-source to do something more (overly) sophisticated, but we have chosen to keep it simple/efficient.*
- List-report area: Every report has a number of entries:
 - Edit-Report-icon: if you have the rights to do it, the icon will appear and you can go directly to Edit-mode.
 - Create Draft Version: this is advanced option (see section 8.2.1)
 - Name of the report: if you click it, it will be executed (assuming that it can be executed)
 - Columns with additional information about the report
 - Right-hand action buttons:
 - Execute-icon: to execute the report. Take into account that if the report is Scheduled only, you will get the latest scheduler-executed view.
 - Note that for Reports of “External” type, instead of an execution button, you will see a URL-button. If you click on this, you will get the URL that you can copy and use in other external clients.



- Copy: A copy of the Report will be created with a new name (old name preceded by "Copy " and you will be rerouted to Edit mode.
- Export Report: You can export Reports and import them back into other CRMs.
- Delete button: to permanently delete a Report.
- Multi-report action buttons
 - You can select multiple report to:
 - Export
 - Delete
 - Import Reports:
 - Select a file with one or multiple exported Reports and then select "Import Reports". If a Report with the same name already exists, the system will create a suffix for the name.

7 Execution-View Reports

Reports can be run in multiple ways:

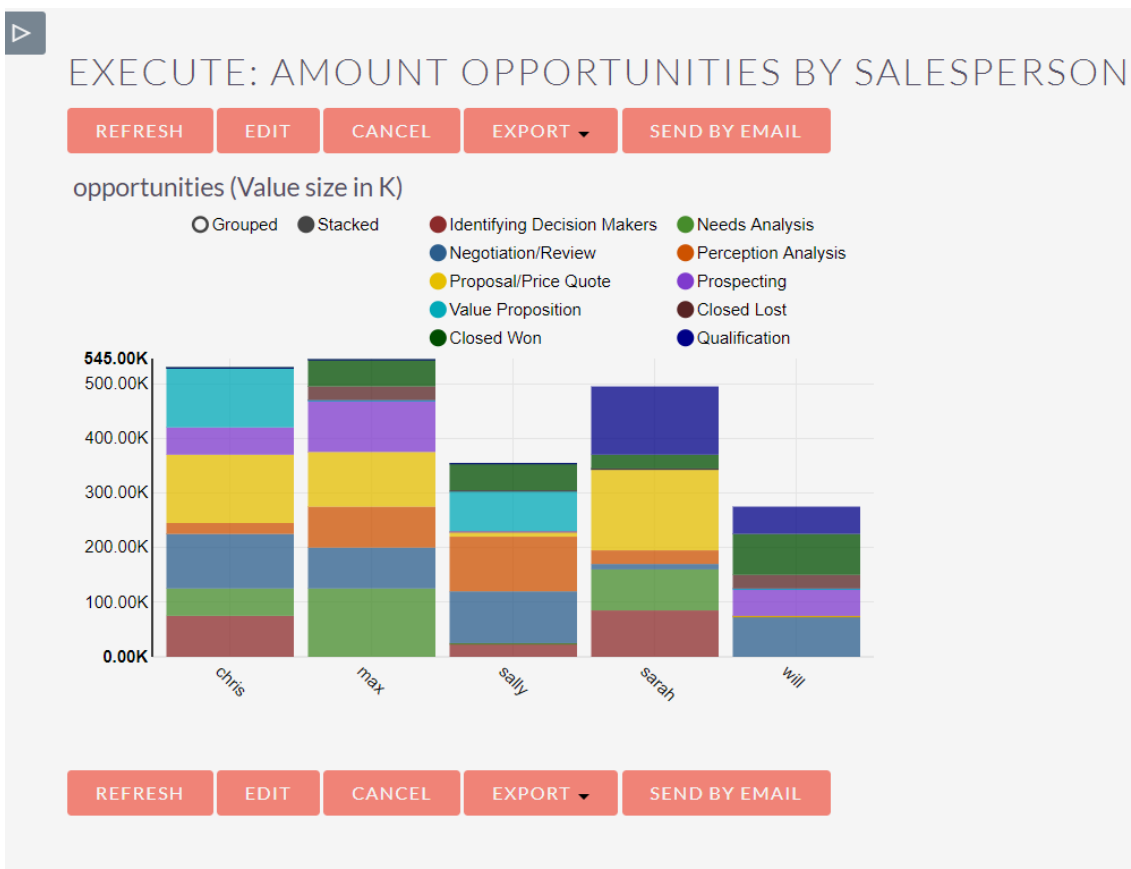
- Manually
- Automatically when added to dashlets or as a field to another View (see section 8.2.4)
- Automatically triggered from external applications
- Scheduled

Note that if the report is not of type “Scheduled only”, it will be executed real-time.

7.1 Executing an Interactive graph report

The main areas are:

- Action buttons
- Report section
- ... again action buttons



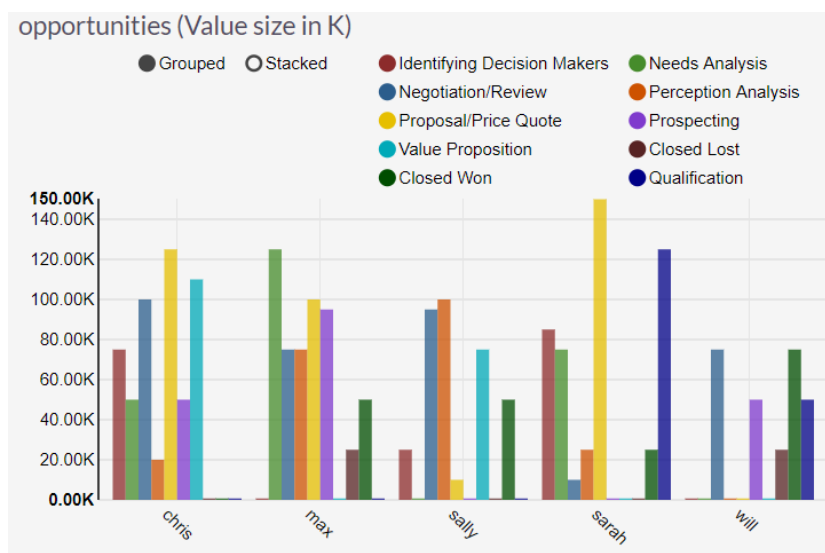
Action buttons:

- Refresh:
 - Executes again the Report
 - Edit: you will only see this if the user has edit capabilities for the report.
 - Cancel: returns to list-view
 - Export: Allows to export the result. Note that for each option certain limitations can apply.
 - Html
 - Pdf: you will get the graphics in the export which currently is not supported for scheduled report.
 - CSV: note that if you put logic into the report for presentation purpose, you will get special characters here.
 - XIS, XLSX
 - Clean CSV, XLS, XLSX: Exports results in a simplified table format so that it can be easily used in spreadsheets for further direct processing.
 - Send by email:
 - This action is currently only useful if you have predefined the distribution information in the report. The system will ask you to confirm sending the email.

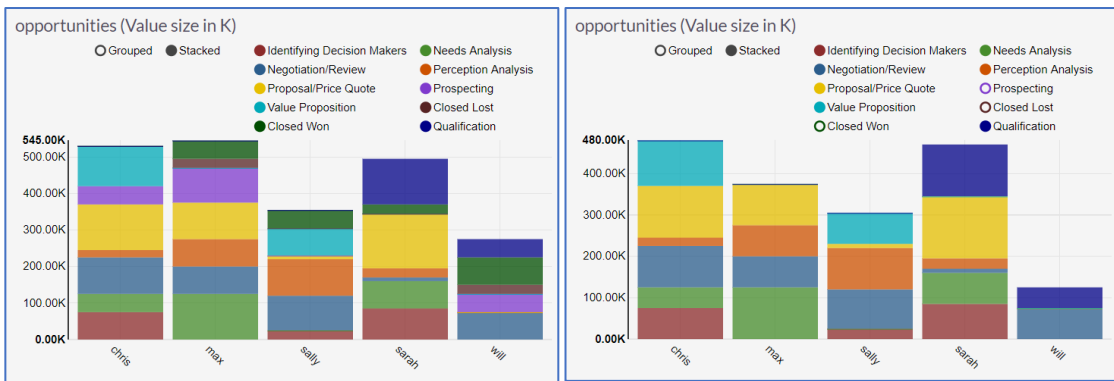
Report area (NVD engine):

Every chart will have its own characteristics. Let's look into this one:

- Graphics properties: at the left top corner, you can find the possibility to show Grouped or stacked representations. You can switch between them by clicking on the corresponding option.



- At the right top corner you will see a list of filters. In this case, you can filter in or out results based on sales-stage.



- Normally graphic representations support hover that provides additional data.

7.2 Table-Report with User input filters

If we defined a simple report with User-Input Filters (see below example with 3-column presentation format)

Filters Layout ✕

Advanced

Filters

Layout 🗑️ ⊕ Columns 3

Name	Type	Industry
		✕

SAVE
CANCEL

▼	T	Name	User Inpu	▼	⚙️	Like	▼	
▼	T	Type	User Inpu	▼	⚙️	Equals	▼	▼
▼	T	Industry	User Inpu	▼	⚙️	Equals	▼	▼

In the execution view we will see that the filters appear above the actual report.

Note that you can define in the report whether it should be executed directly with the default values of the filters or not. If not marked to be executed directly, at the first execution, you will first only see the filters.

EXECUTE: TEST1

EXECUTE CLEAR EDIT CANCEL EXPORT SEND BY EMAIL

Search

Name Like Inv Type Equals Customer Industry Equals

Results

Name	Type	Industry	TOTAL
SD Investments	Customer	Retail	2
SD Investments3	Customer	Healthcare	1
B.C. Investing International	Customer	Communications	1
Income Free Investing LP	Customer	Consulting	1
MTM Investment Bank F S B	Customer	Telecommunications	2
			7

EXECUTE CLEAR EDIT CANCEL EXPORT SEND BY EMAIL

As you can see, the filters take into account if the fields are based on dropdowns.

Note: in the example above, "ignore empty filters" was also marked/chosen in the report-options. Otherwise only accounts with Industry defined as "empty" would be listed.

8 Advanced Features

We recommend that the advanced user reads the full Admin manual of vReports. Understanding the configuration options may help in creating sophisticated solutions with vReports at its core.

8.1 Admin features

In the admin manual you can more information on the following advanced features:

8.1.1 Present Reports in other Client Applications

- This feature allows you to make Reports available to other client applications. Please be careful with this option as it allows access to certain vReports without user identification. The main usage is to make (tabular) Reports accessible (graphically not supported, yet) to other applications. One example could be presenting a Report in a Wiki.

8.1.2 Report output to external app

- This feature allows you to send generated Reports data (in CSV format) to an external application.

8.1.3 Create your own PHP Report receiver

- You can create your own PHP applications to process the report data. Your application would be the receiver and it would be invoked when the user clicks on the button “Send Report to application” in the execution screen.

8.1.4 Adding Reports to an existing View

- You might want to incorporate a specific Report in an existing View. For example, a history of sales for the Detail-view of Accounts. This can be done by an admin user. Using the vReports “Field” tool, a special vReports field is created and assigned to the corresponding module that can then be used as any other field in Studio.

8.1.5 Adding Reports to Main Menus

- You may want to have certain Reports directly accessible under certain menus. For example, Funnel under Sales menu. Again, this can be done by an Admin user.

8.1.6 Making Report elements visible based on global parameters

- In the admin manual for vReports it's described how you can define global parameters and make certain Fields or Filters visible based on certain global parameters. This can be useful for example if you have a test and production environment and you want to show different data based on this configuration property.

There are many more useful features in the admin manual, so again, we recommend that you give it a quick look if you plan to create more sophisticated vReports experiences.

8.2 Advanced User Features

In this manual we will be discussing the following additional advanced features:

- Versioning of Reports
- Automatic distribution of Reports
- Advanced configuration of Reports
- Advanced Configuration of Fields
- Working with SQL
- Working with PHP
- Multi-table report

8.2.1 Versioning of Reports

This functionality meets another enterprise-level requirement, the introduction of versioning for a Report.

Why is this relevant?

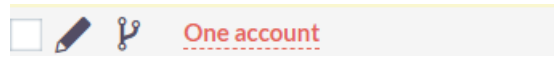
- You can work on changes to an existing Report without downtime for its users.
- You can modify an existing Report, save it, test it and only publish to the “audience” once you are happy with it.
- As you are always working with the “Same” Report (just with different versions), when you publish the new version, all links to the Report will still be valid.

The lifecycle and operations related to Report versioning are as follows:

- You can create from any Report one new Version which we call “Draft”
- Once you have a Draft version, you can change this Draft version without any impact to the “public” version.
- You can still Edit the main Version (should only be done in very special cases) when there is also a Draft version.
- You can “Publish” the draft version to make the Draft version the “Public” one. The “Draft” version is not deleted.
- When no further work is expected further on the Draft version (after it is published or you decide to “cancel” the work) you should delete the Draft version (from a process perspective it would be the correct thing to do, although not strictly necessary).

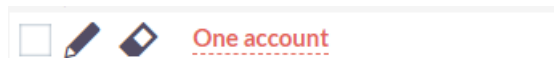
How does this look like:

In List-view, you will see next to the Edit-icon, a “Versioning”-icon.



If you click on this, you will automatically create a Draft and be sent to the Edit-View. There you can make any change to the draft, even to the name, without affecting the published version.

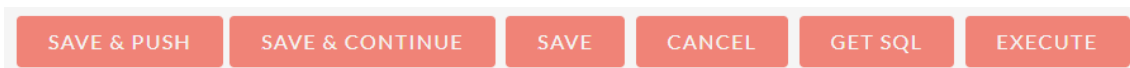
Once you have a Draft, the “Versioning” icon in the List-view will change to “Switch to Draft”:



If you click on it, you will switch to draft mode. You can now edit, execute or delete the Draft.



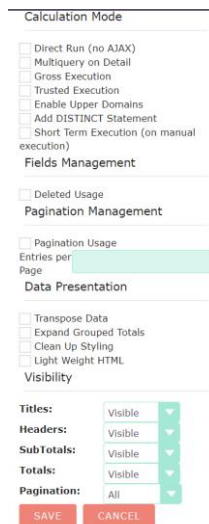
When you edit a Draft version, you will have one additional Action: “Save&Push” (Save and Publish)



This “publishes” the Draft Report.

8.2.2 Advanced Table Configuration

In Edit-View, you have a number of advanced Table Configuration options.



- Calculation Mode:
 - Direct mode (no ajax): in general, we suggest you do not use this option. Execution of reports will be slower if you mark it.

- Multiquery on Detail: If marked, for every element grouped in “Detail” (see grouping option for tables) there will be an independent query. In most cases this will only slow down (considerably) the execution.
- Gross execution: Query results will not be formatted by php scripts. This is meant to ease execution on big reports.
- Trusted Execution: Before a report is executed, vReports checks if the execution might negatively affect the system. If you have tested your Report, and you are sure of what you are doing, you can disable these checks, making the execution slightly faster.
- Add DISTINCT Statement: This is a bit of “tech statement” and is really meant for SQL users. What it means is that the system will only work with “Distinct” values. For example, if you want to count the number of different names in a specific database, you don’t want to count names that appear more than once. For SQL users: This check will add a DISTINCT to the SELECT statement.
- Short Term Execution: By default, it is assumed that reports you create can contain a large number of data. vReports executes normally “in the background”, launching the execution and then checking if the result is ready. This option disables that background process. It is only recommended for small reports or those that you know are quick. If you enable this option for a Report that is large, you have a higher chance of getting a PHP timeout.
- Fields Management:
 - Deleted Usage: When marked, makes a “Deleted” field visible in every Module of the report. Should only be used for “admin” type of work. For SQL users: it removes the automatic default filter “Deleted = 0”.
- Pagination Management:
 - Pagination Usage: Forces results to be paginated.
 - Entries per Page: Overrides default pagination value in Reports Configuration
- Data Presentation:
 - Transpose data: this will transform the rows to columns. Can be useful for certain representations.
 - Expand Grouped Totals: Shows Totals in dedicated line.
 - Clean Up Styling: Removes styling in the creation of the table. This may provide better output for export, or just to include in dashlets, etc.
 - Light Weight HTML: Removes unnecessary headers and tags to create a clean HTML containing just the Report data. See comment above.
- Visibility:
 - Titles: Show or hide titles.
 - Headers: Show or hide headers.
 - SubTotals: Show or hide subtotals.
 - Totals: Show or hide totals.
 - Pagination: Select if pagination will appear at the top, the bottom or at both positions of the table

8.2.3 Advanced Configuration of Filters

As with the table/fields you have also different advanced options related to filters

Filters Configuration ✕

User Input

Initial execution with default values
 Save last search
 Autoexecute limit entries

Search Behaviour

Avoid trimming spaces at search
 Ignore empty filters
 Avoid autocomplete

Data Source

URL Parameter
 Link Filter

Display Buttons

Activate bookmarks management

- User Input:
 - Initial execution with default values: This is a very powerful, and frequently used function. It allows you to execute directly the report with the default values for the filters. If you don't select the option, at execution the system will first ask you to fill in the values and hit the execute button. Note that this option really only should be used if you can define default values that have meaning to the user. The default values are the ones that are defined under "First Parameter" column. *Note: we plan to include in a future release also the optional second parameter.*
 - Save last search, Autoexecute limit entries. If you schedule reports, and send them to an ftp site, you can keep a historical copy by selecting this option. Copies will only be saved up to the indicated number of entries in your report (to control usage of space). An additional icon will appear in the list view for this report.



- Search Behaviour:
 - Avoid trimming spaces at search: This option prevents spaces from user inputs from being automatically removed. Generally, you don't want to mark this option.
 - Ignore empty filters: this option is more commonly used. If chosen, filters that have no value will not be used to generate the report.
- Data Source

- URL parameter, Link filter: This feature is mainly used for ValeDale Designer. It will map the URL parameter to the selected Link filter (and overwrite the default value).
- Display Buttons: Selects where to show the Execute, Clear and edit buttons.
 - All, Top or Bottom: in reference to the filters.

8.2.4 Automatic distribution of Reports

For the automatic distribution of Reports the following must be set-up:

CRM specific:

- CRON defined

vReports specific:

- Admin, recommended: set default email data in config options
- Define Reports scheduler

If this is all done, you can define a scheduled report.

In Edit-view: Select for type: “Scheduled”. The Scheduled Tasks bar will then become accessible. Also, you will be asked to define how the report should be distributed:

- Through Email (discussed in this chapter)
- To application (see admin manual)
- To ftp (see admin manual)
- To Target List (see target list section 8.2.4.3)

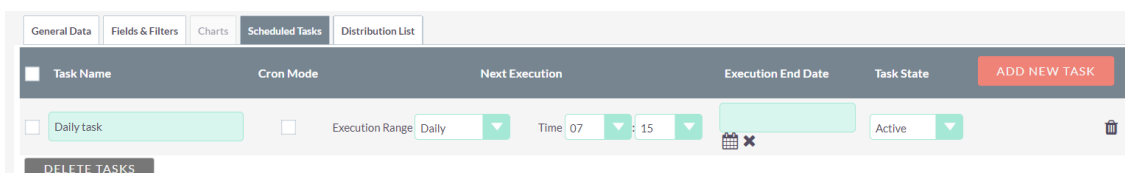
For each option, you can configure the corresponding data through the wheel/options icon.

8.2.4.1 Scheduled Tasks.

Note that for this to work, the corresponding scheduler must be operations (see Admin manual).

There are 2 ways to define scheduled tasks.

The first one is to do this with the graphical interface.



You can set here if the report should be generated:

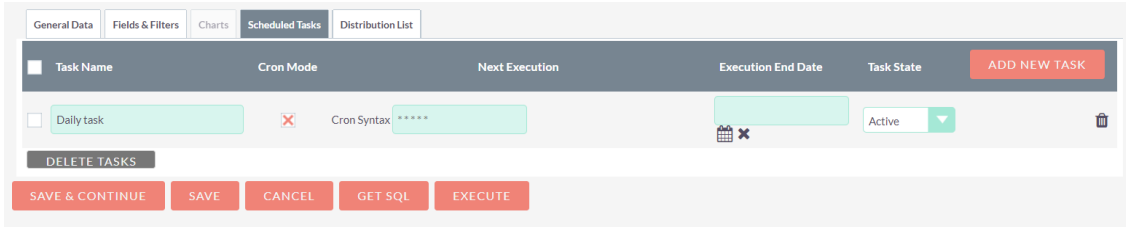
- Daily
- Weekly
- Monthly

You can also set the time of execution and an optional End-date. Finally, you have to activate the task (dropdown).

Note that you can define more than one scheduled task. For example, you may want to have a morning and afternoon report. Or a Report on Monday and on Friday.

You can give each task a name for reference.

Alternatively, you can use the Cron mode by selecting that option in the task definition.



You can find the Cron Syntax in Internet.

8.2.4.2 Distribution list

You can define a distribution list for any type or report. If it's scheduled, the report will be sent to all people in the distribution list automatically. If not, when you run a report, you can use the option "send email" to send them a copy.

Note: we plan to simplify the interface in upcoming releases

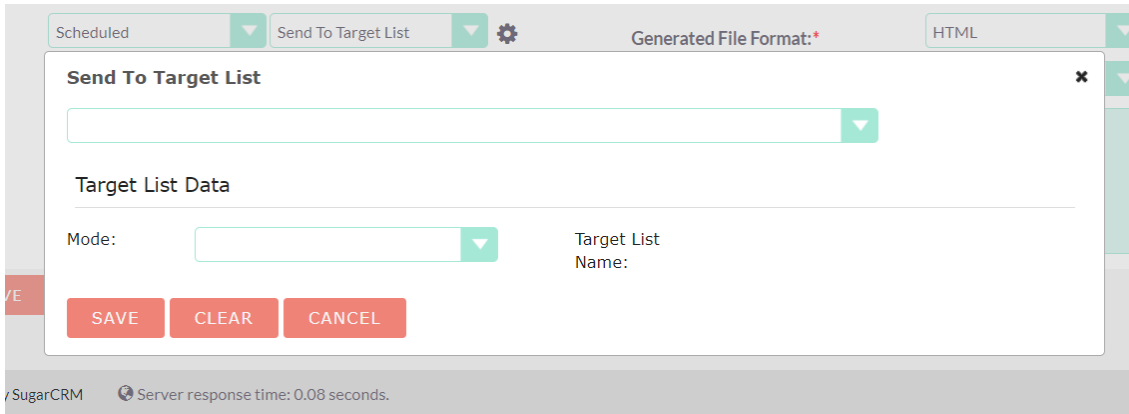
Tabs

- In the summary tab you will see who will get the report. Here you can (or must if there is not a default defined) fill the "From" field. Make sure that the "From" data is compatible with your email account. For example, you cannot send using 1.b@test.com from a gmail account
- In the to, CC and BCC tabs you can add destinations. You can select:
 - Users
 - Roles (everyone with that role will get the report)
 - Or add email addresses separated by a ",".

Are you will in the data, remember to save it.

8.2.4.3 Target lists

This functionality can save you a lot of time. You can add to, or replace target lists with the automatic output of a report.



If you have predefined Target Lists, these will appear in the first dropdown.

In the second part:

- Mode: you can select:
 - Create: will be used in a limited way
 - Update: will replace the old target list. E.g. to fill a list so that all members meet specific criteria.
 - Append: will add entries to the given target list. E.g. to add new members to a list (e.g. users that subscribed to a service in the last day).

8.2.5 SQL Function Support

When creating a report, SQL functions can be defined for fields. You can access this functionality by clicking on the SQL button in Edit-View, in a specific Field entry.

When you use this functionality, make sure that your "Alias" for the given field is unique and does not have the same name as a column in your DB (the Alias is used as a reference within the SQL execution). For example ("ID" is a bad choice as an alias).

8.2.5.1 Using Aggregated functions with SQL

If you use SQL, and you want to use aggregated functions (SUM, COUNT, etc.), then you should do so within the SQL code, NOT using the Function column of the fields.

8.2.5.2 Subquery-editor, graphical

You will see then a new screen to graphically define a sub-query.



ADD FIELDS

This is very similar to the main query editor.

To take into account:

- You have to select a module in which you want to make the subquery.
- You can see how the “main module” is set-up by clicking on the tree icon. It turns to red (you cannot add fields in this mode).
- Normally, you want to link the main query with the subquery. You can do this in two ways, always using a filter:
 - Filter inheritance: when you add a filter to your subquery, one of the operators available will be “Inherit”, you can select from a drop-down menu the filter reference that is Type-compatible.
 - Setting the value of a filter “equal” to a value in the main module. For this, you add a filter, select operator “Equal” and then type in the reference of the corresponding field eg.. %{reference_id}. Note that this “reference_id” should correspond with one of the references in your main report.

8.2.5.3 Sub-query editor, SQL

In the top right corner of the subquery window, you can switch between the graphical and pure SQL representation.

Operator	Description	Example
+	Addition operator	amount + 2
-	Minus operator	amount - 2
*	Multiplication operator	amount * 2
/	Division operator	amount / 2
%	Modulo operator	amount % 2
DIV	Integer division	amount DIV 2
-(columnName)	Unary minus. It changes the sign of the argument.	-(amount)

You can write here directly SQL code and create powerful queries. Note that these can be subqueries with full SQL functionality, or you can use this to manipulate data. A simple example could be to limit the length of a string.

In the tabs under the SQL box, you will find a number of help functions. If you click on them, they will be copied directly into the working area.

Note that both the MySQL and MSSQL variants are supported. Depending on your database, the appropriate support functions will appear.

The last area is dynamically generated and includes all the references in your Report. The variable section is really for reference, although you can use “\${this}” as a reference to the field that you are working on.

The support tabs are:

- **Flow Control:** List of operators that returns one value or another depending on the result of a given condition.
- **Arithmetic:** SQL Arithmetic Operators.
- **Aggregate:** SQL Aggregate Functions.
- **Dates:** SQL DateTime Functions.
- **Numeric:** SQL Integer Functions.
- **String:** SQL String Functions.
- **String 2:** More SQL String Functions.
- **Appendix:** SQL Used Constants. You may need these in some functions.
- **Variables:** Variables defined for vReports
- **References:** The list of references available in your report.

In Appendix 1- SQL Function Support you have a guide that describes the usage of references in more detail.

Note that for security purposes certain keywords are not allowed in the SQL text. These include:

'DELETE',
 'REPLACE',
 'INSERT',
 'SHOW',
 'ALTER',

8.2.6 PHP Function Support

In Edit mode, you will see a “PHP” in every field entry. This button that launches a popup where you can manipulate the value to be displayed for the current field using PHP functions.

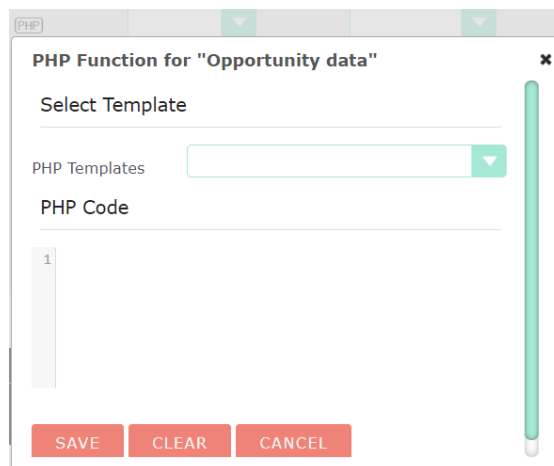
You can use report variables for fields added to the current report, as in the following examples:

- `$(this)` : References the value of the current field.
- `%{fieldRef}` : Gets the cell value associated to the named reference (you can use # instead of % simbol).
 - Note: you will have to put the reference between double quotes in most circumstances, e.g. `"%{id}"` when you want to use it as a string in PHP functions.

It's optional to put the code between PHP tags: `[php] [/php]`

Note:

- you need to include the value to be presented by using a return statement , e.g.: `return 4;`
- Don't forget the semicolon at the end !
- The value returned must be compatible with the type of the field you are working on.



If PHP templates are defined you can select them. The code will appear in the working area.

Examples:

```
[php]
return "Hello World!";
[/php]
```

```
[php]
return 1+2;
[/php]
```

See also example code in section 11.

8.2.7 Advanced format options

You can adjust how a specific field is presented by assigning a specific format type. These go from relatively standard to sophisticated options. Format type is a dedicated column in Edit-View.

The following types are currently supported:

- **String:** String will show the data as it is stored in DB. This may be useful if in a specific Report you wish to bypass the translations or automatic Sugar formatting. This may be useful for PHP processing.
- **Date:** If you have a Date stored in DB, with a different type than Date, you may use this format type to convert. Format yyyy-mm-dd hh:mm:ss is assumed (time part is optional). You can also use this option to show (or not) the time, by setting the option “add time”.
- **Integer:** Will format numbers to show only its Integer part. Also, a configuration option will appear to select color presentation based on value range. When you open the option, you will see:
 - Default value: The parameter set here will be taken as default for this field. When the Report runs, it will be using the value set here if not otherwise defined.
 - Style Scope: You may select between “Text”, “Cell” and “Row”.
 - “Text” applies color to the cell-font. “Cell”, to the cell-background and Row to row-background.
 - Thresholds:
 - Select Template: Threshold templates may be defined in admin section. See Admin Manual
 - Click on the add-icon to add thresholds:
 - Each Threshold has a number and a color. If the value formatted is greater or equal than a Threshold, the Threshold color applies. Only the highest of Threshold will be applied, and a Threshold with a blank number will be used as “default” color.
- **Decimal:** Same as Integer, but will accept decimal values.
- **Currency:** Same as Decimal, but will add the currency symbol defined in Sugar to the left of the value.
- **Percent:** This format is special to show percentages. It will translate numeric values to % (0.5 being 50%, 2 equals 200% and so on. Non-numeric values will be treated as 0%).
 - Display Mode: Select between Numeric, Graphic, and Numeric&Graphic “Numeric” will show a number percentage. “Graphic” a bar filled to the equivalent percentage. “Numeric&Graphic” activates both at the same time.

- Thresholds: Similar rules apply as for Integer.
 - **NOTE!** The value of the field is expected to be normally between 0 and 1, while in the formatting section you define thresholds with values between 0 and 100.

Threshold	Graphic Color	CSS Class	
25			
50			
75			

- **Boolean:** Checkmark will be shown. Checkmark is filled (true) for anything except Null, 0 or false.
- **Enum:** With this format you may define display values different from the raw data (normally originally of type string). See section 8.2.11.
- **MultiLevel Enum:** You need to have a template defined for multi-enum (see Admin Manual)
 - Level: You can define the level that should be applied
 - Keep Ordered: allows you to show the data by alphabetically ascending order, taking into account the presentation language.
 - Add Null Option allows you to add a null value (the value and presentation values will be an empty character) at the first element of the enum.
 - Listening channel: If you use multiple times Multi-enum in one report, you need to differentiate them. You have to assign a specific channel to each field. Think for example about using multiple address in one report.
- **Buttons:**
 - See next section for generic buttons and also section 11, for clickable links.
 - Multimedia: This format type allows you to display multimedia content at this
 - Size text-boxes allow you to specify the size for the preview (multimedia content shown when executing the report) of the multimedia content that you are configuring.
 - Extension allows you to indicate the extension of the multimedia content that you are configuring (only mandatory for base64 content, see below)
 - Rotate button checkbox: a rotate icon will be added to the window so that if clicked, the multimedia content will be rotated in steps of 90 degrees.

- No preview checkbox: if selected, the multimedia content will not be shown when executing the report. Instead an icon will appear. You can click the icon to see the multimedia content.
- Is Base 64 checkbox: will allow you to specify base64 images. You will need to indicate the extension in the Extension textfield.
- Source URL, indicate the URL where your multimedia content is located. **NOTE:** if you don't fill here any information, no data for the multimedia format will be saved)
 - For multimedia based on base64, check the Is Base 64 checkbox and enter the base64 content here.
 - You can use the references to create URL strings.

8.2.8 Buttons !!

These are very special “formats” that we will be handling separately.

When you select “button” the “configuration” icon will appear next to the format. From here you can select the various options

- Button General Data:
 - Button Type: Here you can select between different kinds of buttons, each having its own function. After selecting the button type, more options become available.
 - Is Massive Action: This positions the button next to the main Action buttons. The operation will be executed for all rows that are checked (similar to the Mass Delete button).
 - Icon Path: A set of icons is included for you to use. If you don't select the an icon, the label will be used instead.
 - Button Label: This is the label presented if no icon has been selected. If no icon or label is selected, the label of the field will be used.

Additional common elements (may not be available to all buttons):

- Hover Size & Position: used when new dialogues are opened (confirmation, extra information, .)
 - Width: width of the confirmation dialog. Must be a number (indicating nr of pixels). (although expressing it as “em” will normally also work (does NOT apply to height!!)).
 - Height: height of the dialog. Must be a number (indicating nr of pixels).
 - Centered on screen: positions at center of screen.
 - Reload on closing: Will reload the report contents after closing the dialogue
- Confirmation Mode
 - Title: text that will be shown to the user as the title for the confirmation dialog.
 - Message: text that will be shown to the user as a main message
 - Accept: text that will be shown to the user for the accept button
 - Cancel: text that will be shown to the user for the cancel button

Other specific options will appear depending on the button type:

- Additional Info: Opens a new window showing more detail on selected element.
- HTML Link: see section 11 for detailed information.
- Ajax Request: performs an Ajax request.
- Hover IFrame: Opens a new Frame showing a specific url.
- Hover Element: Shows an element that you can choose. Besides vReports, if you are using ValeDale Designer, you will also be able to select a Form or a View.
- Download Attachment: to generate a downloadable document.
- Javascript Code: executes JavaScript code when user clicks on the button.
- PHP Code: executes PHP code when user clicks on the button. A confirmation dialog is shown.
- Web Service: sends a request to a Web Service, when user clicks on the button.

8.2.8.1 Additional Info

When you have a big report, you may not want to show all data directly in the table.

“Additional info” buttons allow you to show a window with additional information. *E.g. Details on a user (Address, email, telephone number, etc...)*

The following concepts have been used to show this extra information:

- All hidden fields, are candidates to be presented in the additional information window
- You have to explicitly define which should NOT be presented
- All extra information can be grouped in Panels

So, these are main ideas. And it is implemented as follows:

First, we need to have included some fields in the Report in “hidden” status, by setting it's display to “</>”. In this way the field will be retrieved but not immediately presented. And then:

- Grouping: You need to group the hidden fields in Panels. You do this by prefixing the Alias/Label with the Panel-name, followed by the token delimiter. By default, the token delimiter is “.”
- We suggest you use as special Panel name: “Hidden” and include all fields that should never be presented in that Panel. See next graph for an example. You may need to click on “Update” for all Panels to appear in the dropdown selection.

Row index	Field	SQL	PHP	Buttons	Visibility	Filter	Help	Delete
T	Billing.City							
T	Billing.Country							
T	Shipping.City							
T	Shipping.Country							
T	Hidden,Alternate Phc							
T	ID			Button				
T	Name			String				
T	Type							
T	Industry			String				
T	Date Created							

Format Configuration ID

Button General Data

Button Type: Additional Info Is Massive

Action?

Icon Path:

Button Label:

Hover Size & Position

Width: Height:

Centered On: Reload on Closing:

Screen

Panels Management

Token Delimiter: Main Panel:

Hidden Panels: Hidden UPDATE

SAVE CLE

- [Select All]
- Billing
- Shipping
- Hidden

DELETE FIELDS

With as result (when you click on the selected icon):

Billing

City: Ohio Country: USA

Shipping

City: Ohio Country: USA

5D Investments3	Customer	Healthcare
B.C. Investing International	Customer	Communications
MTM Investment Bank F S B	Customer	Telecommunications
Income Free Investing LP	Customer	Consulting
MTM Investment Bank F S B	Customer	Apparel
5D Investments	Customer	Retail
5D Investments	Customer	Other

Note: Fields that are in the same panel must be adjacent in the Fields section, else panels will not appear correctly.

- Main Panel: You can also include the visible data in the “Additional Info” window by selecting this option.

8.2.8.2 Ajax Request

You can use this functionality to interact with other processes. The system will ask for confirmation before executing the action (so you must fill in the labels).

The options are:

- Base URL: Enter here the URL to the application that you want to send your requests to.
- **URL Parameters:** Click “Add a new parameter” to create a new pair “Parameter/Value”. These parameters will be applied to the base URL when the ajax request button is pressed. Values can be generated with PHP (PHP code must be between PHP tags [php][/php]) or based on References.

8.2.8.3 Hover IFrame

This is similar to the Ajax Request configuration. Functionally though, it will use the URL and attributes passed to open a window showing that page.

8.2.8.4 Hover Element

This is similar to the Hover iFrame functionality, but here you can choose a Report (it also supports ValeDale Forms and Views).

You can also overwrite filters with the data provided.

Note: currently the filter is also overwritten to “Equal”. This is a limitation that will be resolved in an upcoming release.

Format Configuration ID ✕

Button General Data

Button Type: Hover Element Is Massive

Action?

Icon Path: [i]

Button Label: [x]

Hover Size & Position

Width: Height:

Centered On: Reload on Closing:

Screen

Element Selection

Type: vReports Element: Amount Opportunities by S [x]

Send Data/Record:

Override Parameters +

Parameter: Users Username Value: sally [x]

SAVE
CLEAR
CANCEL

- **Send Data/Record:** sends the ID of the element as the “record” parameter. This means that in the target report, you can map (Filter configuration in target report) this element to the filter that includes the ID (in the target record), so that you can present further information related to that record. You can also get the same result by using a Override Parameter and passing along the id of the record, but that would be more cumbersome.

8.2.8.5 Download Attachment

With this feature you will be able to download (download NOT upload !) data as a file.

The contents are assumed to be coded in Base64 encoding.

In the example below, we will be generating a file. Another approach would be to actually get a previously uploaded file.

- **File Properties:**
 - **File Name:** Name of the generated file. At the above example you will see that we are using a PHP function to create it.
 - **Mime Type:** Specify MIME Content Type, you can see a list of MIME types here: <http://www.freeformatter.com/mime-types-list.html>.
- **Base64 Content:** Base64 contents for our file. In the example we just are delivering some plain text. In the case of a previously uploaded file, you could use something like: `return base64_encode(file_get_contents("upload/{$this}"));`

Format Configuration ID ✕

Button General Data

Button Type Download Attachment Is Massive

Action?

Icon Path 📎

Button Label 📎

File Properties

File Name [php] return "%{name}.txt"; [/php] Mime Type text/plain

Base64 Content

```
[php]
return base64_encode("This is just some text");
[/php]
```

SAVE
CLEAR
CANCEL

10.6 JavaScript and PHP Code

These features allow you to run JavaScript or PHP code when user clicks on the button.

In the editor area you can type in the code. You can make use of the references that are automatically generated for you by just clicking on them.

Make use of the confirmation feature for

For PHP code: enter PHP syntax, into [php] and [/php] tags and include a return statement to indicate result of the operation.

Example:

```
[php]
$hello=1;
$goodbye=2;
echo($hello+$goodbye."-----");
return true;
[/php]
```

8.2.8.6 HTML Link

Please see section 11.

8.2.9 Multi-table Report

vReports supports the creation of reports pulling data from more than one table. The tables must have the same structure, and there must be a pattern in the tables. Typical usage would be when you have tables segregated by some time extension, but referring to the same type of data.

This only works for external Databases.

In this case, to the right of the module selection you will see a “magic wand” and a “x”.

- “Magic Wand” icon: Will offer you the option to look for tables. The search string must go between quotes “searchstring*” and with an asterisk/wildchar “*” at the end. Click on “Check-Tables” to get the list of tables that would apply. If the list is the one that you are looking for, select “Get fields” and you can start working !
 - Note that the new tables that would fit the search string will be automatically incorporated.
- “X” icon: Remove current multi-table selection

8.2.10 Variables and References

For the creation of your report, you can use variables and references in you SQL logic.

8.2.10.1 Referencing fields

The syntax supported is as follows:

- References the value of the current field:
 - `#{this}`
- References a field of the current report module.
 - `#{bean->DbField}`
 - E.g. `#{bean->name}`
- References a custom field of the current report module.
 - `#{bean_cstm->DbField}`
 - e.g `#{bean_cstm->account_type_c}`
- References a related field value.
 - `#{ModuleName->DbLinkField->RelatedDbField}`
- References a related custom field value
 - `#{ModuleName_Cstm->DbLinkField->RelatedDbField_c}`
- Gets the SQL value associated to the named reference (you define fieldRef in the reference section for each Report)
 - `%{fieldRef}`

Note: under specific circumstances (this will be documented later), the syntax starting with \$ will work for certain reports where the %{fieldRef} will not work.

8.2.10.1.1 Referencing Global Data

You can access certain global data to use in your report in those places where you can use variables. These variables have the format:

```
#{globalref->elementref->optionalref...}
```

Note that these variables are assigned a value before the SQL execution (you need to use PHP for post-processing).

The globalref component can have one of the following values:

- global
- session
- request
- current_language
- current_user

You can have multiple levels after the “globalref” (depending on its value).

8.2.10.1.2 Examples

SQL syntax reference examples:

- Create a html link from Accounts to the assigned user Detail View (note that we do not recommend to use trick: see section 11 for a more flexible structured way):
 - Start with Account module. Add the field assigned_user_id and add the following SQL:

```
CONCAT('<a target=_blank href=index.php?module=Users&action=DetailView&record=', #{this}, '>', #{Users->assigned_user_id->user_name}, '</a>')
```

- Create a html link from Calls to Parent ID (flex relate)
 - Start with Calls module. Add “parent_id” field and add the following SQL code:

```
CONCAT("<a target=_blank href=index.php?module=", #{bean->parent_type}, "&action=DetailView&record=", #{this}, ">", #{bean->parent_type}, "</a>")"
```

8.2.10.2 Filter referencing

You can reference existing filters from your reports to propagate filter settings into your functions:

- Syntax:
 - %[filterRef(queryField)]

You can use this for subqueries (using straight SQL). You must precede in your query the filterRef by “Where”.

8.2.11 User input: Definable drop-downs

In Edit mode, you can define for filters report specific drop-downs. This is done selecting by:

- Clicking on the options-icon in the filters Entry
- Selecting Enum as format option
 - NOTE: no other options are currently supported in this release. This will be cleaned up in upcoming versions.

In the section: User input options, you can now define the Labels and Values.

You are able to choose between two dropdown models:

- Simple model: This model has options separated by commas, so internal and display values will be the same.

optionA,optionB,optionC

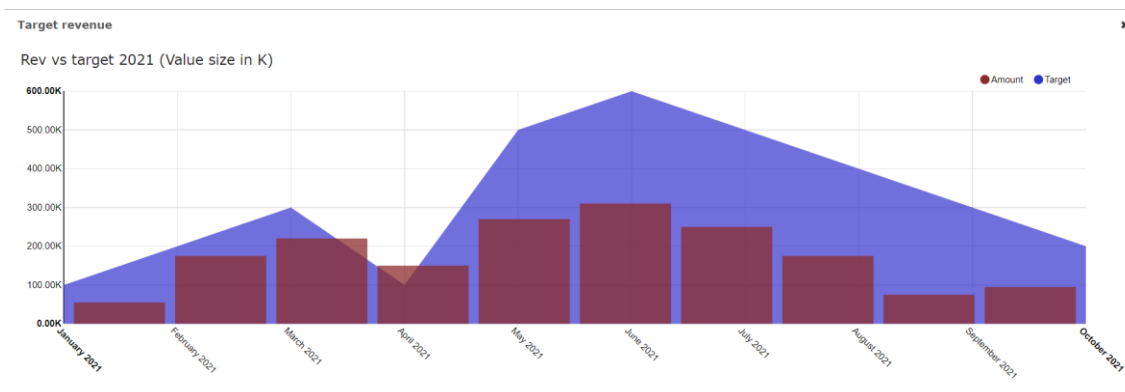
- Advanced model: This model has options separated by commas and each of this values contains internal and display values separated by the equals character (=).

optionA=OptA,optionB=OptB,optionC=OptC

After filling in the data, click on “Generate enum values” to the right of the input field.

8.3 Target Reports

You can define Targets to compare how things are going versus what you expected.



Note that normally you should choose some type of Grouping for a field for this option to be really useful. Normally, it will be done on a date field.

As an example, we create a simple report with the expected revenue for a given year (note that the Target field will be added later automatically).

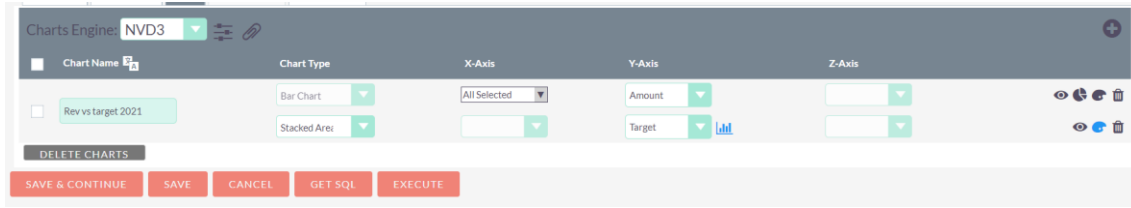
The screenshot shows the configuration interface for a report. At the top, there are tabs for 'Fields' and 'Filters'. The 'Fields' section includes a table with columns for 'Alias', 'Function', 'Format Type', and 'Data Grouping'. Three fields are listed: 'Expected Close Date' (with a blue target icon), 'Amount', and 'Target'. Below this is a 'DELETED FIELDS' button. The 'Filters' section includes a table with columns for 'Logical Op.', 'Alias', 'Behavior', 'Operator', 'First Parameter', and 'Second Parameter'. A 'Results' dropdown is set to 'All'. Below the filters are 'Field Filters' and 'Function Filters' sections, each with a list of active filters.

Click on the Target icon in the fields header (the target icon is blue in the above picture) and fill in the target revenue (note that the system will automatically use the grouped element).

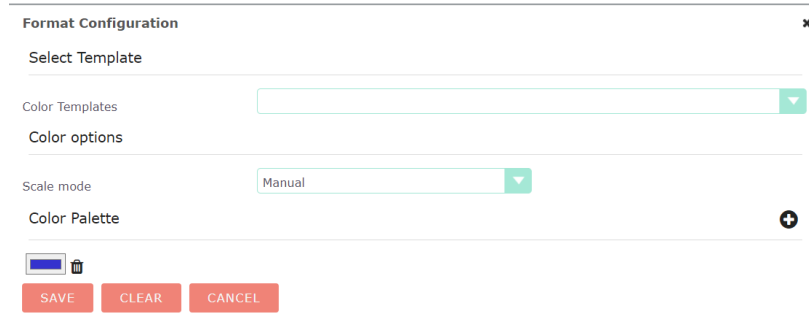
The 'Target values' dialog box is open, showing a table for 'Expected Close Date (Month Grouped) Target'. The table has columns for 'Year', 'Month', and 'Target Value'. The 'Year' column is set to 2021 for all rows. The 'Month' column ranges from 1 to 12. The 'Target Value' column contains numerical values for each month. There are 'SAVE', 'CLEAR', and 'CANCEL' buttons at the bottom.

Year	Month	Target Value
2021	1	10000
2021	2	20000
2021	3	30000
2021	4	10000
2021	5	50000
2021	6	60000
2021	7	70000
2021	8	40000
2021	9	30000
2021	10	20000
2021	11	20000
2021	12	20000

The next step will be to make a nice graph out of this. In this example, we choose a Bar chart as main graph, and add the Target as a sub-chart.



Note that we have fixed the color of the Target representation to blue to stand-out.



Note: if you delete the first target element in the target configuration, you currently need to click on "Clear" for things to be "cleaned up" properly.

8.4 Counters, Heatmaps, etc.

You may have noticed that if you create a report, and there is no entry for a specific element, e.g. you make a reports of opportunities and there is no entry for a given account, then no info will appear...quite logically. This may not always be wanted behaviour, especially when you work with dates.

For this reason, we have introduced the concept of counters.

Let's briefly talk about the boring underlying stuff:

- Counter-data will be uploaded when you install vReports unless the table already has some data. So, if you want to reload the original data, you have to empty the vde_counters table (we are doing this in case for some reason you have adapted yourself the entries and want to keep them so).
- For Counters to work, you need:
 - Virtual Relationships (this comes with vReports)
 - Define some relationships between counters and (same upload rules apply as for Counter-data)
 - Counters: if you want to use e.g. heatmaps
 - The modules for which you want to have continuous reports: by default vReports creates relations with Accounts, Cases and Opportunities. You may want to add vCases if you have that module.
 - When you define a report you have to change the "Join" to "Outer", or "All". This will be explained later.

These are the virtual relations that are automatically loaded.

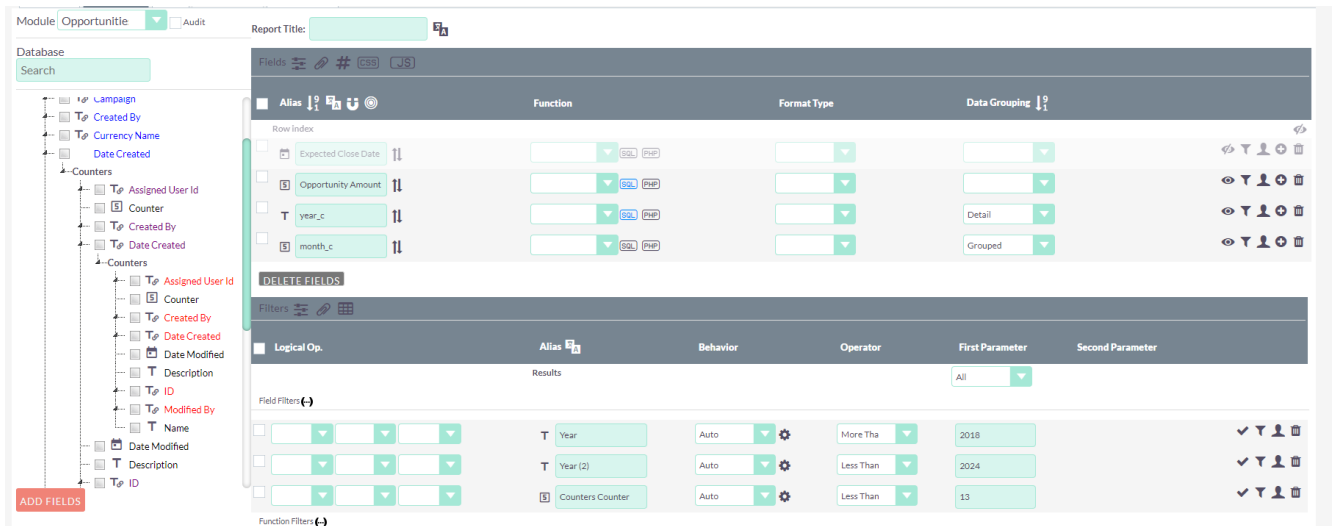
VIRTUAL RELATION MANAGEMENT					
Relation Name	Relation Database	Main Module/Field	Relation Module/Field	Relation Scope	
counters_counters	CRM	Counters	Counters	Public	
accounts_counters	CRM	Accounts	Counters	Public	
cases_counters	CRM	Cases	Counters	Public	
opportunities_counters	CRM	Opportunities	Counters	Public	

Note: we have used consistently "Date Created" as the new link (which means it does not conflict with other relationships). The right module field, for our purpose, is irrelevant as we will be using these relationships only by a AllxAll (see explanation later). Notice that we have created also a relationship between counters, which is needed if you want to use 2 dimensional heatmaps. Ah: counters start with 1, and they go up to 2000 (that's more than 5 years if you want a daily output).

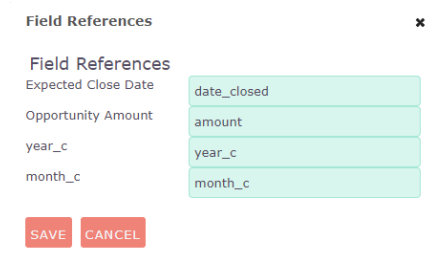
And now the real stuff, let's make a heatmap !

First, we must understand that a heatmap requires a 2 dimensional array of data. We will create this with the counters. Let's assume that we want for Opportunities, a heatmap for the total amount of opportunities based on the closed date. We want this for a number of years (let's assume 2019-2022) and of course for all 12 months. This means that we need the "multiplication" of {2019..2022 } x {1..12}

Let's look at the report that we have created:



We are using 4 fields:



- Expected close Date: we need this as we want the report related to the close date. But we make it invisible as we cannot use this in the graph.
- Opportunity amount:

For MySQL:

```
sum(if(COALESCE(EXTRACT(YEAR FROM %{date_closed}),0) = %{year_c} AND COALESCE(EXTRACT(MONTH FROM %{date_closed}),0) =
%{month_c}, ${this},0))
```

The code above sums up the amounts if the year and the month of “date closed” match the 2 dimensional map. The “COALESCE” is only used to ensure that if entries do not have a “date closed” the sum does not break.

- Year:

§{this} + 1950

As the counters start with “1” and end at “2000”, we need to add something.

- Month: we are OK with as we need 1..12 (see filters).

Furthermore, we use the for the SQL joins (magnet icon) a AllxAll relationship (SQL Cross). This allxall is exactly what we needed.

SQL Joins Management ✕

Include in result if link value exists (* Main Table)

Link Table	Exists	Exists	AllxAll	Join Table	SQL
, Counters	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Counters	CROSS

SAVE
CANCEL

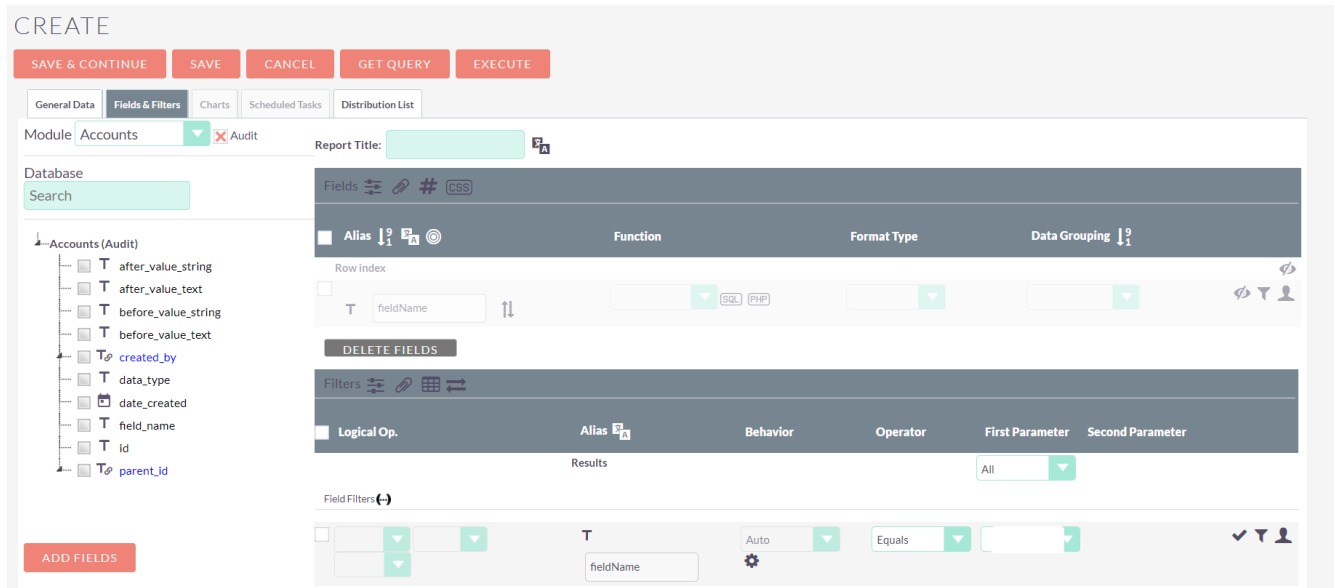
Be careful with AllxAll relationships, you can “explode” your database if you don’t filter properly. Note that if something goes wrong, you can use a different browser and as admin, you can kill long outstanding queries (untill then, the browser of the naughty user will be blocked...).

8.5 Reports on audit tables

For this to work ensure that audit is active for your target module!

Also: reports for audit tables are really only meant for “experts”. You have to be aware of some of the “insides” of the CRM to make the more sophisticated reports.

When you select the audit option next to the Module name, you will see that new field names appear in the field-tree part.



Also, to make things easier, you will notice that one new report-entry and one associated filter-entry are created:

The report-entry points to the field that you want to check-on, while the filter-entry offers you an automatic dropdown with all audited fields, so you only have to select the one you are interested in. You will want to add additional filters on time and through the parent_id field you can access the “normal” fields of that module.

If you want to do something more enhanced, you can de-activate this automatic filter and create more complex logical constructs.

9 Advanced options Charts

9.1 General instructions

The comments below apply for non-Orgchart style. For Orgchart specifics see section 9.2.

- To make use of charts, ensure that you have selected in the Display type an option that includes Charts.
- In general you have to group on a field and use a function on another field. For example, group by month, and do a SUM on revenue. Note that for Stacked graphs, whatever you want on the X-axis should be “Detail” and “Grouped” by what you want to stack.
 - Due to its specificity, Orgchart style deviates from this: One field should be grouped, and no functions or other grouping should be included.
- If you are using sql on a field, you have to give the format type some numeric value (Integer)
- Currently the main engine supported is Apexcharts, now preferred above NVD3, which supports animation effects and interaction. Although the good old HTML format is still available. Every engine supports different types of Graphs.
- In the configuration section (sliders-icon) you can select the number of graphs that you want to present per row. If you don't define a value, vReports will define the width based on graph and mode of presentation. Works for Apex and NVD3 charts. Note that the current pdf export does not take this parameter into account (it will assume value “1”).
- Chart name: Will appear in the chart as a “Title”.
- Chart type: Select one of the available types mentioned above.
 - Note that for the Donut chart you can select full or half-donut.
- X-axis: select any of the numerical fields that you have in your report
- Y-axis: select any of the numerical fields that you have in your report
- Z-axis: available for a few graph types
- Functions:
 - View or hide graph
 - Add subchart: Adds a sub-chart shown in the same figure as the original chart. Currently only supported for “Line”, “Bar” and “Stacked Area” charts
 - When you select a chart that supports sub-graphs, you can add multiple sub-graphs to the same graph. Next to the “Y-axis” entry you will see a new icon indicating where the labels for the Y-axis will appear. By default, its to the left, i.e. only one Y-axis. You can toggle this so that you can add a right-hand Y-axis. This is useful when the data you display in the graph and subgraph are of different magnitude (see note below on multi y-axis)

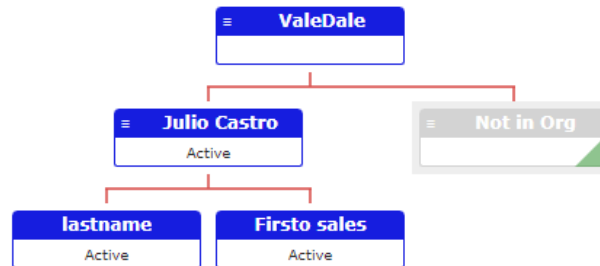
- Color: You can define your own color palette. The default palette is meant for discrete values. You can customize a palette by adding a color (add color button) and deleting a color (“x” to the right of the color). If you click on the color/coding, you can edit it by entering the corresponding value, or just picking it from the color&hue picker (i.e. don’t forget about the hue picker: the vertical bar on the right...)
 - *Note: Admin can create new color templates and make them available to all users.*
- Bin: delete.

Notes on Multi y-axis:

- Currently vReports supports a maximum of 2 y-axis
- The data-labels indicate for each serie which Y-axis is used by appending “<<” for left and “>>” for right y-axis.
- All series will refer to these two Y-axis (same scale, etc).
- The first defined X-axis, and Y-axis will be used for all the sub-reports.

9.2 Orgcharts

How important is it to know how an organization is set-up ? Well, a lot! It was due time to have an organization representation included in vReports. So this is it. As you will see there are a lot of configuration options.



What can you do with this?

- You can view any (non-cyclical) organisation structure (not only employees !)
- We have included for Users and Employees, an “Edit” option, so you can adapt graphically the structure of the company !
- Present any specific data (short) that you may be interested in.
- Adapt for each node the presentation based on per “node” data (e.g. different colors for type of job, department, etc.)

Things that we plan to do (not available yet):

- Be able to expand the information for each node using some extension technique (click, hover...)
- Introduce more interactivity, integrated with other CRM modules
- Some interesting surprises to come !

9.2.1 Orgchart basics

In order to create an orgchart you need to do the following as a minimum:

- Group by one field : this will be the “header” info of each node.
- 2 fields with the following (exact) alias (first column in vReport):
 - **id** (small letters!) : this is used to identify each node uniquely
 - **parentId** (capital “I”): used to uniquely identify the parent of each node.

The grouped-by field will be automatically added to the X-axis. You NEED to add at least the other fields to the Y-axis (in the chart section).

You probably will want to show some additional information (e.g. the title of a person). Just add any additional field to the Y-axis in the chart. If you add more than one, the content of each field will be presented separated by a “,”.

Fields	Alias	Function
T id		
T firstname		
T lastname		
T fullName		
T status		
T parentid		

EDIT: TEST ORGCHART

SAVE & CONTINUE SAVE CANCEL GET QUERY EXECUTE

General Data Fields & Filters Charts Scheduled Tasks Distribution List

Charts Engine: Apex

Chart Name	Chart Type	X-Axis	Y-Axis	Z-Axis
Org Chart	Orgchart	All Selected	3 Selected Items	
Org2	Orgchart	All Selected		

DELETED CHARTS

SAVE & CONTINUE SAVE CANCEL GET QUERY EXECUTE

© Supercharged by SuiteCRM © Powered By SugarCRM Server response time: 0.68 seconds. BACK TO TOP

There is one more special alias that you can define: “**vde_class**”. With this one, you can define what classes will be assigned to each specific node.

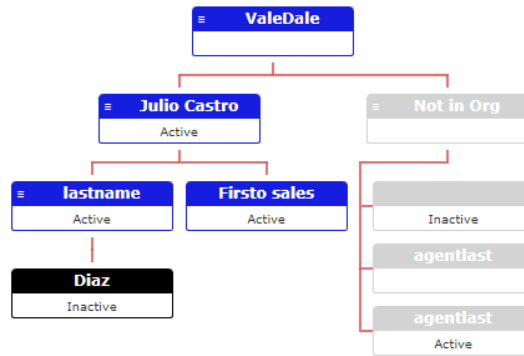
For example, you can define a field (in MySQL) as follows:

```
if( isnull(%{status}) OR (%{status} != 'Active'), 'something different', '')
```

if you declare the alias as “vde_class” and you add this in the Chart section to the y-axis, then the 2 css classes “something” and “different” will be assigned to the nodes that have a status that is not “Active”.

You can define in the vReports css section the color of the node box to become black when the 2 classes apply:

```
.orgchart .something.different .title {background-color : black !important }
.orgchart .something.different .content { border-color : black !important }
```

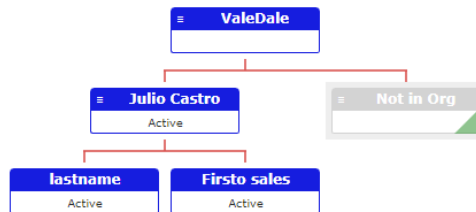


Note that this will not affect the colour of the “Not in Org” nodes.

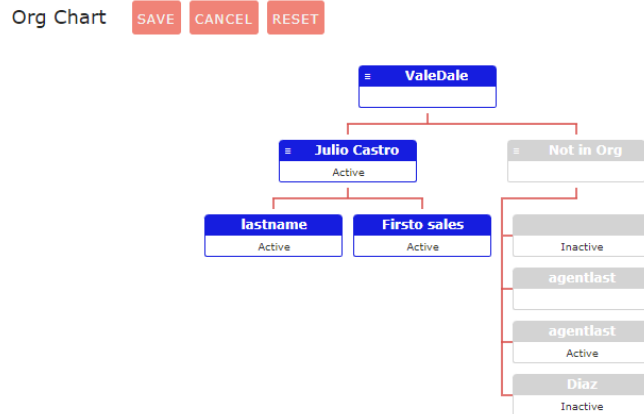
9.2.2 Orgchart Edit mode

Currently only admin users can edit an organisation. By default, an orgchart is editable (see configuration options).

Org Chart EDIT



When the user selects the Edit option, the fun can start. Note that due to the default settings/rules (see next section) nodes may be automatically reorganized when you save the chart. Also, some changed may apply to the org presentation, as not all configurations are supported in “Edit mode”.



As you can see in the above example, the “Not in Org” is expanded. You can “Cancel” the edition (nothing will be saved) and you go back to non-edit mode. You can also “Reset” the org: this will just return the organization to the same state as when you clicked “Edit” (no empire tumbling here). You will remain in Edit mode.

Note: if you “zoom” heavily, the orgchart may get over the edition buttons (they become unreachable). Just zoom-back to make them again accessible.

9.2.3 Orgchart configuration

Orgchart uses the great library of “dabeng”. Quite a number of the configuration options from the original library are supported, but this will be discussed in the next section.

Note also that some combination of options may not be optimal/supported. E.g. Left to Right org presentation is currently not compatible with “Compact” mode.

9.2.3.1 Default configuration

vReports does a number of things “automatically” to simplify the presentation (and edition) of orgcharts. We will refer here to “nodes” instead of people or elements, to refer to each instance in the org-structure.

1. **Not in Org:** Nodes without parent and without children are considered outside the org. They will be clustered under a specific “Not in Org” node. These “loose” nodes will be presented “vertically” so take up less space (see though “compact” option).
2. **Company node:** If there is more than one node without a parent, vReports will automatically add a “root” node. By default “Company” (but you can change the name!).
3. **Not in Report:** If the node-data-structure has “holes”, e.g. due to a filtering of the Report, special nodes will be added “Not in Report”. Note that the parent-id is taken into account to better reflect the hierarchical structure, so more than one “Not in Report” node will appear.

4. The “special” “Not in..” nodes will be colored light-grey.
5. **Compact mode:** If a node has more than 4 children, none of them with children of their own, a compact presentation will be used (this can be deactivated). You can “compact” and “decompact” by clicking on the green rectangle.
6. **Edit mode:** admin users can edit by default Employee and User hierarchies using a drag&drop mechanism.
 - Note that you cannot drag the “Not in ...” nodes (obviously).
 - Remember that if you drag a node under the “Company” virtual node, and you save it, it will return automatically to the “Not in org” node (as the conditions still apply).
 - Also, a node under “Not in Org” that gets a child, automatically will get into the organisation when you save the hierarchy.
 - Colours will not change until you save the hierarchy.
7. **Zoom and pan:** you can zoom (in and out) as well as move the hierarchy around by default.
8. **Visibility:** the user, by default, can implode and explode the tree. When you hover over a node, and its part of a hierarchy, you can implode/explode in vertical or horizontal direction. For example, you can make the whole organisation disappear around your “node”. Note that nodes with children will have a special icon in the top-left corner. At this moment you cannot see if elements of a node are imploded, unless you hover over the visible nodes.

9.2.3.2 Changing default configuration

You can change the “node” colour by using the colour facilities of the chart. The first defined custom colour will be used for all nodes. The default colour is “reddish”.

Let’s get into the more advanced options. See also section 9.3 (using the wizard wand) for background info.

- **draggable:** set this to false (Boolean, no quotes !) if you don’t want the Edit option to appear (currently applies to admin users only).
- **activeCompact :** set to false ((Boolean, no quotes !) if you don’t want the automatic compact. You can also set this to a numeric value (no quotes!) if you want compact to apply for larger groups (minimum is 4).
- **hierarchyName :** if you want to change the name of the auto-generated “Company” node, you can fill in any string. Typically, this would be the name of your company.

Wizard code:

```
{"direction" : "t2b",
"draggable" : true,
"activeCompact" : false,
"hierarchyName" : "ValeDale"}
```

9.2.3.3 Orgchart native configuration options

Orgchart uses de great library of “dabeng”. Quite a number of the configuration options from the originally library are supported.

For detailed information see: <https://github.com/dabeng/OrgChart>

The following parameters are supported (although some combinations may not !)

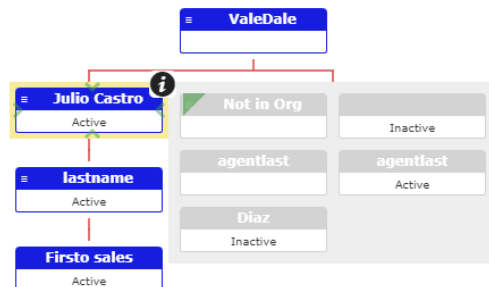
Name	Type	Required	Default	Description
pan	boolean	no	true	Can be set to false if you don't want to allow the org to be moved around.
zoom	boolean	no	true	false to disable the option to zoom.
zoominLimit	number	no	7	Users are allowed to set a zoom-in limit.
zoomoutLimit	number	no	0.5	Users are allowed to set a zoom-out limit.
direction	string	no	"t2b"	The available values are t2b(implies "top to bottom", it's default value), b2t(implies "bottom to top"), l2r(implies "left to right"), r2l(implies "right to left").
verticalLevel	integer(>=2)	no		Users can make use of this option to align the nodes vertically from the specified level.
toggleSiblingsResp	boolean	no	true	If set to true: users can show/hide left/right sibling nodes respectively by clicking left/right arrow.
visibleLevel	positive integer	no	999	It indicates the level that at the very beginning orgchart is expanded to.
parentNodeSymbol	string	no	"oci-menu"	Using your own icon to imply that the node has child nodes.
icons	json	no		Users can use this option to plug Font Awesome icons back in. <pre> 'icons': { 'theme': 'fa-solid fa-sm', 'parentNode': 'fa-user-tie', 'expandToUp': 'fa-angles-up', 'collapseToDown': 'fa-angles-down', 'collapseToLeft': 'fa-angles-left', 'expandToRight': 'fa-angles-right', 'collapsed': 'fa-circle-plus', 'expanded': 'fa-circle-minus' } </pre>

See next section for JSON syntax of options (or check out previous section for a quick example).

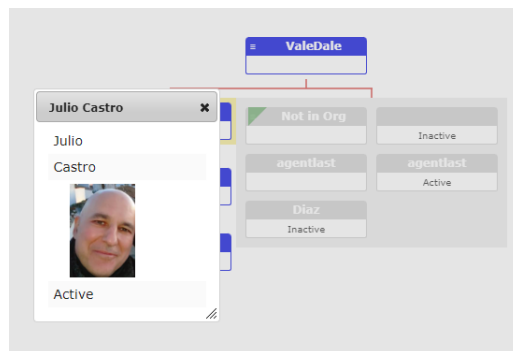
9.2.4 vReport popping out of OrgChart !

Orgchart presentation is nice and concise, but how about if you want to expand the information for a node?

We have introduced a new feature so that you can have vReports pop-up for each node. When activated, and you hover over a node, you will see an information icon appear.



When you click on it, you will see the defined vReport.



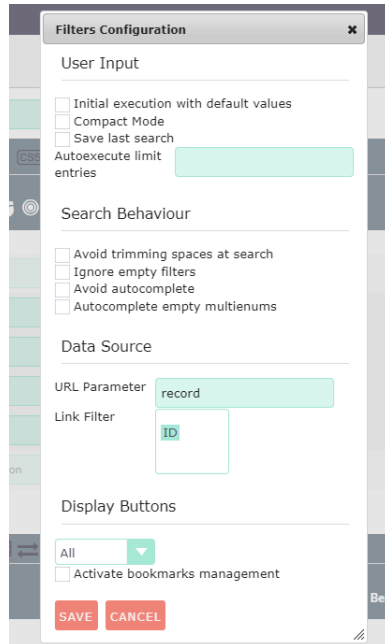
You may have noticed that this specific target vReport is “Transposed”. As of vReports 1.6.0 this is much better supported (although there are still a number of limitations).

So, how does this all work? In the extended configuration, you have to add the element “vdeElement”. After that, you can define an array with all the relevant data. See an example below.

```
{ "vdeElement" : { "elementType" : "vde_Reports", "elementId" : "4cae13da-39b2-27b5-9620-65d694374f90", "width" : "200", "height": "250", "hoverCentered" : false, "icon" : "icn-clock"}}
```


- **vdeElement**
 - **elementType**: define one of the following values: (vde_Reports, vde_Forms, vde_Views)
 - **elementId**: id of the element. In the example above, id of the vReport.
 - **width, height** : string or integers. Indicates the nr of pixels.
 - **hoverCentered**: Boolean. Default false. If true, the element will be page centered. Else, it will appear close to the click-location.
 - **Icon**: default: “icn-info-circled “. If you want to change the icon on hover, you can define another reference. You can use any of the vReports supported icons.

Typically, you will want to show a vReport filtered on the node Id. This id will be passed to the Report (You have to make sure that the corresponding filter is linked with “record”). See below for filter configuration in the target report.



9.3 Advanced configuration options for APEX

For APEX charts you have an (expert) function to configure APEX charts with a lot of flexibility. You can define these options by creating a basic JSON file.

To access this advanced option, go, in Edit-view, to the charts menu and select, to the right of the specific chart row, the magic wand. .

For APEX, you can find the official documentation at the official website: <https://apexcharts.com/docs/>

Although it is recommended to start at the beginning, you can find the options information in the “Options (Reference)” section.

Some specific rules apply, but before you lose interest and run to a new chapter, be informed that we are including a number of examples here so that you can easily copy/paste and surprise your manager !

First the rules:

You have to define the options in JSON format. As an example:

```
{"chart" : { "toolbar" : {"show" : "true"}}, "background": "azure"}
```

Notes:

- Information is defined as “parameter” : “value”
- Brackets at start and end
- Use double quotes (except for constants like numbers and true, false)
- Structures are again within brackets.
- Elements are separated by a “comma”.
- Make sure that the last element does not terminate with a “comma” (before the closing bracket) and that if after a closing bracket there is another element, there should be a “comma”.
- No comma’s between closing brackets.
- You cannot pass functions.
- For colors: use vReports Color options.
- For array values use format [“value1”, “value2”] (array NOT surrounded by quotes)

9.3.1 Examples

You can directly copy and paste the examples’ code into the advanced option configuration.

Note that not all options apply to all types of charts...

9.3.1.1 Add graphical-export facility in chart

```
{"chart" : { "toolbar" : {"show" : true}}}
```

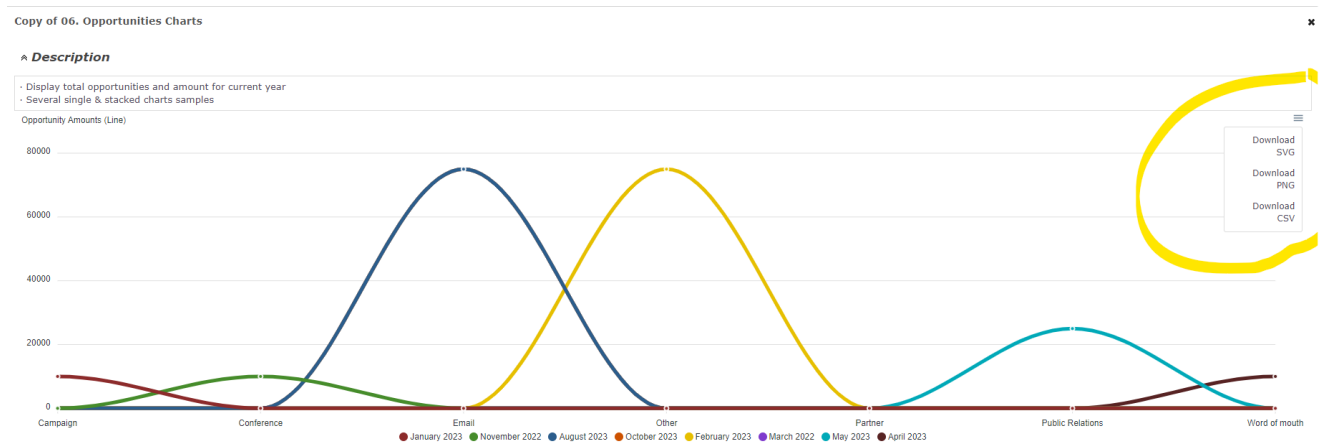
Explanation:

In the chart option:

In the toolbar option:

Set the attribute “show” to “true”.

You will see a small toolbar appear to the right of the graph. Click on it to see the various export options.



9.3.1.2 Change background color of chart

```
{"chart" : { "background": "azure"}}
```

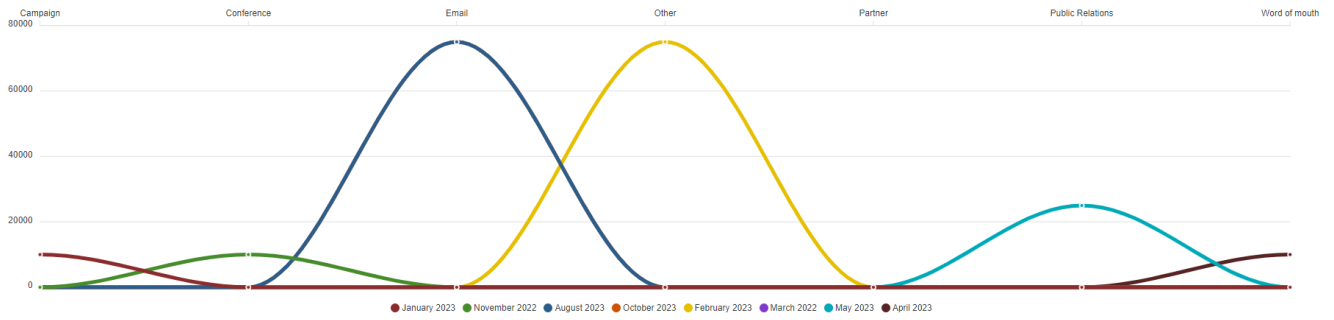
9.3.1.3 Combine two options

See an example of how the 2 options are combined:

```
{"chart" : { "toolbar" : {"show" : "true"}, "background": "azure"}}
```

9.3.1.4 Put labels of x-axis at top of chart

```
{"xaxis" : {"position" : "top"}}
```



9.3.1.5 Add zoom option

```

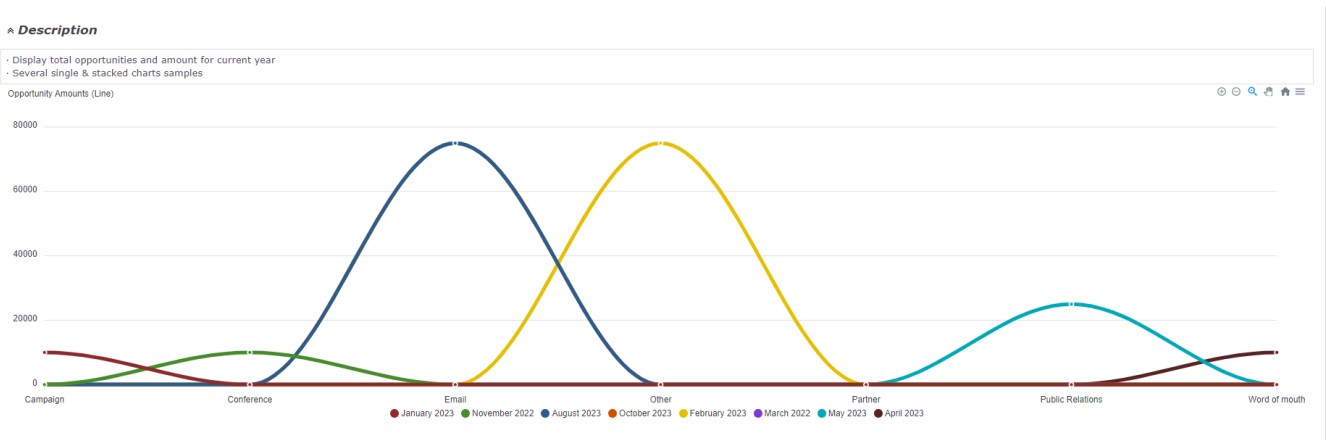
{
  "chart": {
    "toolbar": {
      "show": "true"
    },
    "zoom": {
      "enabled": "true",
      "type": "xy",
      "autoScaleYaxis": "false",
      "zoomedArea": {
        "fill": {
          "color": "#90CAF9",
          "opacity": "0.4"
        },
        "stroke": {
          "color": "#0D47A1",
          "opacity": "0.4",
          "width": "1"
        }
      }
    }
  }
}

```

```
}
}
```

Explanation:

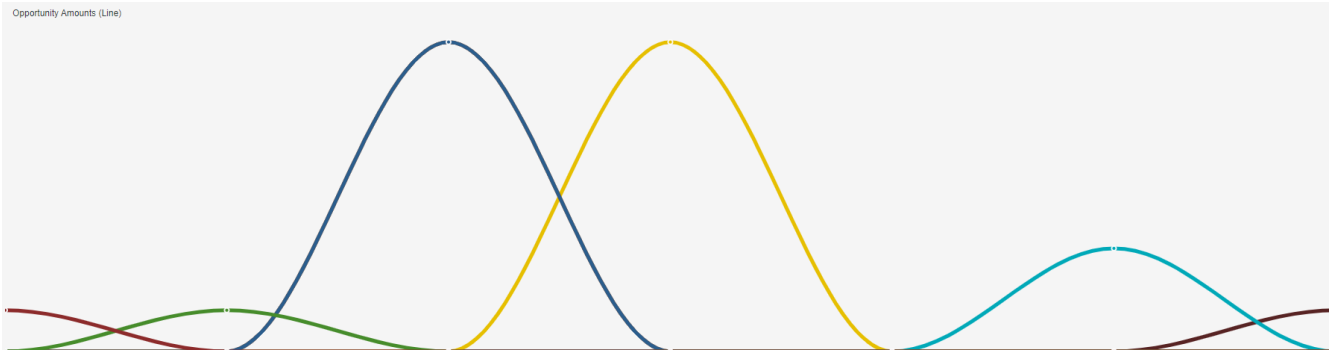
- In addition to setting the zoom-option, we want to include here also the zoom-toolbar to more easily zoom-around (note that you can activate and deactivate elements of the toolbar; by default all made visible for the corresponding facilities). Check-out:
 - o “hand-option” to change to drag mode
 - o “spy-glass” to change to zoom mode
 - o Zoom in and out
 - o “home” icon to rest zoom.
- You can zoom in and out by selectin a rectangle within the chart (note that in the zoom-definition we enabled both x and y zoom !)



9.3.1.6 Sparkline

```
{"chart": {
  "sparkline": {
    "enabled": "true"}}}
```

You can use this option to clean up the chart (removing axis and labels). Useful when you want to show trends and want to show multiple charts in one screen.



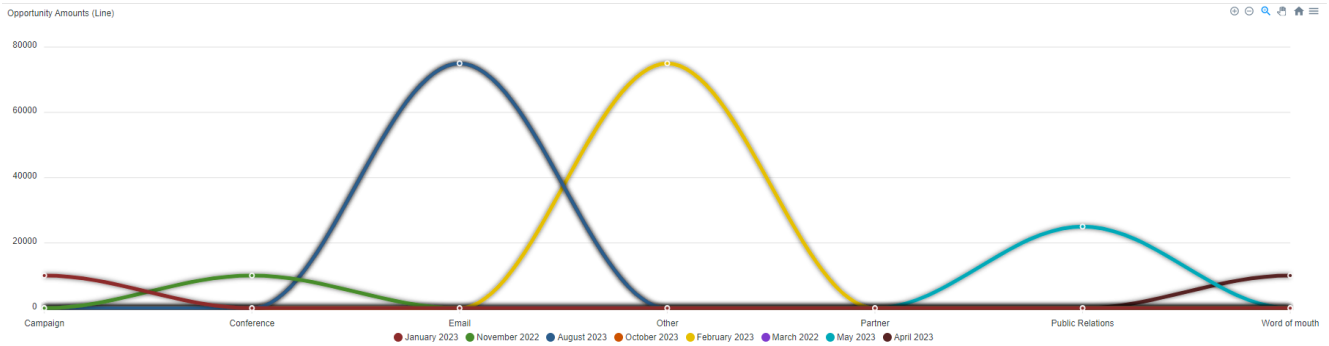
9.3.1.7 Shadow effects

```
{
  "chart": {
    "toolbar": {
      "show": "true"
    },
    "dropShadow": {
      "enabled": "true",
      "enabledOnSeries": "",
      "top": "0",
      "left": "0",
      "blur": "3",
      "color": "black",
      "opacity": "0.35"
    }
  }
}
```

Explanation:

- Make "blur" bigger for wider shadows.

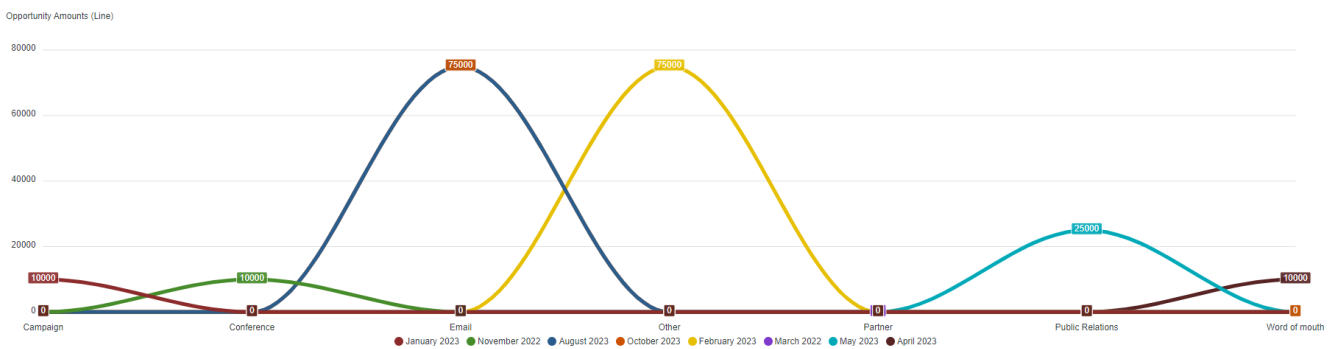
- You can add elements (array) to enabledSeries. For example, "enabledOnSeries": "[0,1]", for only the first 2 series.
- You can change the color to make it more “disco” !



9.3.1.8 Show datalabels

```
{
  "dataLabels": {
    "enabled": true
  }
}
```

Alternatively, you can disable them if the standard presentation does show them...



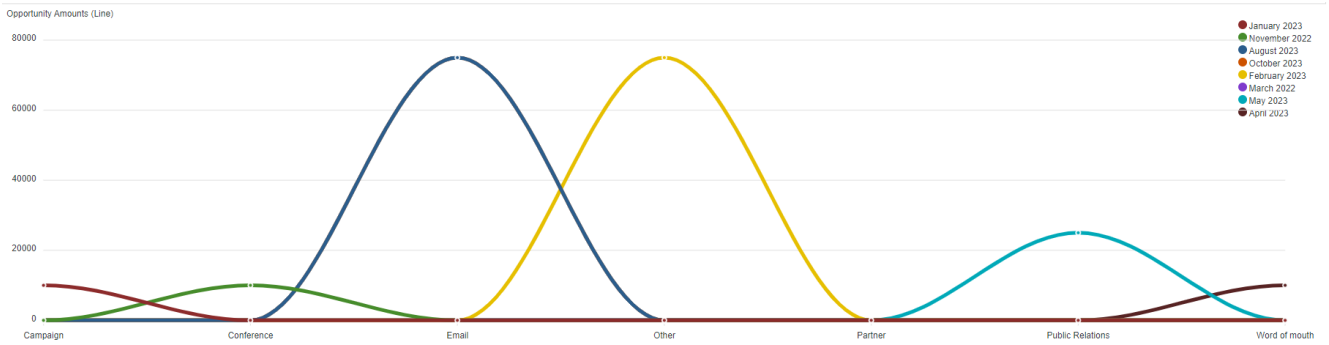
9.3.1.9 Legend placement

```
{
  "legend": {
    "show": true,
    "position": "right",
  }
}
```

```
"floating": true
}
}
```

Explanation:

- The “floating” value puts the legend within the chart.

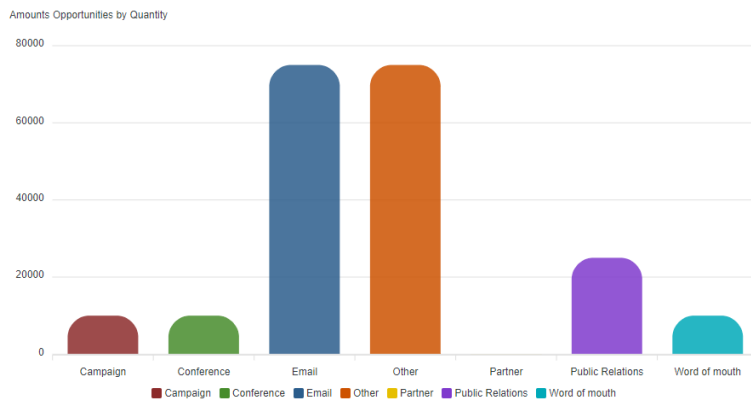


9.3.1.10 Rounded bars

```
{ "plotOptions": {
  "bar": {
    "borderRadius": 24,
    "borderRadiusApplication": "end"
  }
}
```

Explanation:

- Adapt the borderRadius to smaller (less rounded) or bigger (more rounded) number
- You can also use the value “all” for the application (rounded at both ends)

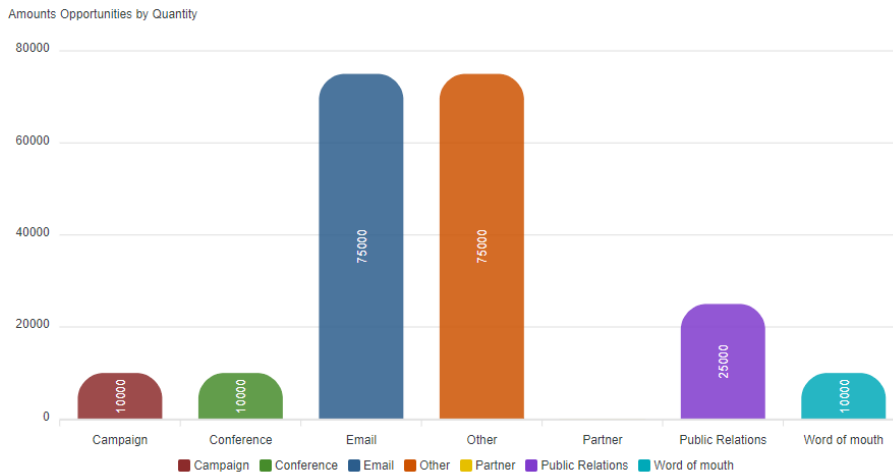


9.3.1.11 Positioning and orientation of datalabels

```
{
  "dataLabels": {
    "enabled": true
  },
  "plotOptions": {
    "bar": {
      "borderRadius": 24,
      "borderRadiusApplication": "end",
      "dataLabels": {"position": "center", "orientation": "vertical"}
    }
  }
}
```

Explanation:

- Enable dataLabels
- Position at "center", "top", "bottom"
- Orientation: "vertical" or "horizontal"



9.3.1.12 Half donut with gradient

```
{"chart": {"type": "donut"},
  "plotOptions": {
    "pie": {
      "startAngle": -90,
      "endAngle": 90,
      "donut": {
        "size": "65%",
        "background": "transparent"
      }
    }
  }
}
```



```

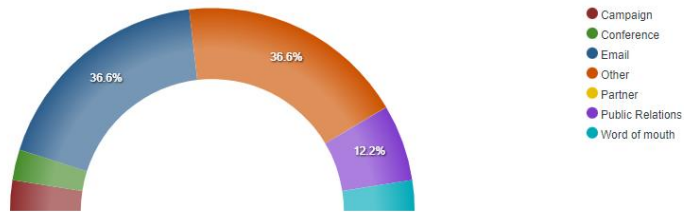
    }
  }
},
"fill" : {"type" : "gradient"}
}

```

Explanation:

- Apply to Pie chart
- Convert Pie to Donut Chart
- Let the pie start at angle -90 and end at 90 degrees
- 65% is the area covered by the donut
- Make the bacjground transparent
- And the fill: gradient.

Opportunity Amounts (Pie)



9.3.1.13 Radarchart

```

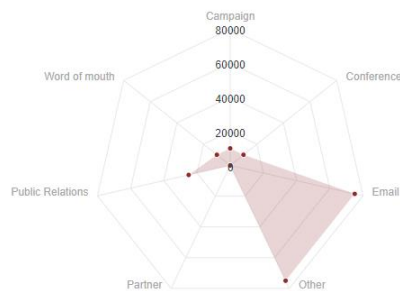
{"chart" : { "toolbar" : {"show" : "true"}, "type" : "radar"}}

```

Explanation

- Convert Bart chart to radar chart.

Amounts Opportunities by Quantity



9.3.1.14 Basic Heatmap

```

{"chart" : { "toolbar" : {"show" : "true"}, "type" : "heatmap"},

"dataLabels": {"enabled": true },
"grid" : {
  "show" : true,
  "position": "front",
  "xaxis": { "lines" : {"show" : true}},
  "yaxis": { "lines" : {"show" : true}}
}
}

```

Explanation

- Change Detail + Grouped graphic (line, stackedbar...) to “heatmap”
- Select ONE color with the color picker (in this case reddish).
- Order by Grouped field
- In this example with activated datalabels and a full grid (“front”, instead of “back”)



9.3.1.15 Dark theme

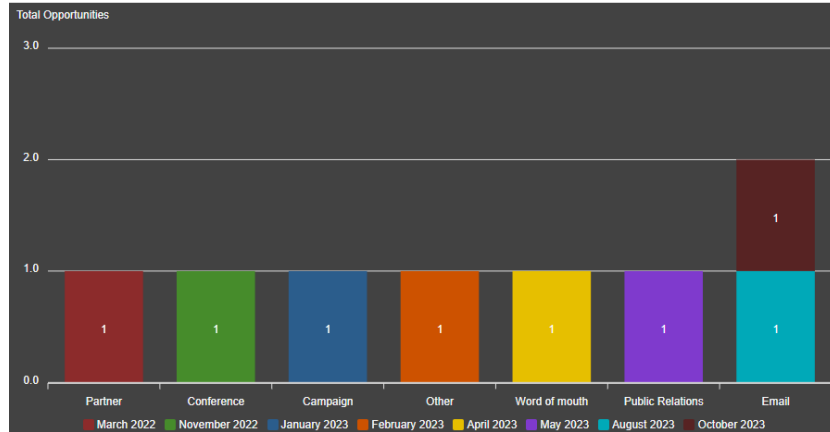
```

{"theme": {"mode": "dark"},
"dataLabels": {"enabled": true }
}

```

Explanation:

- Default theme is “light”



9.3.1.16 Xaxis configuration

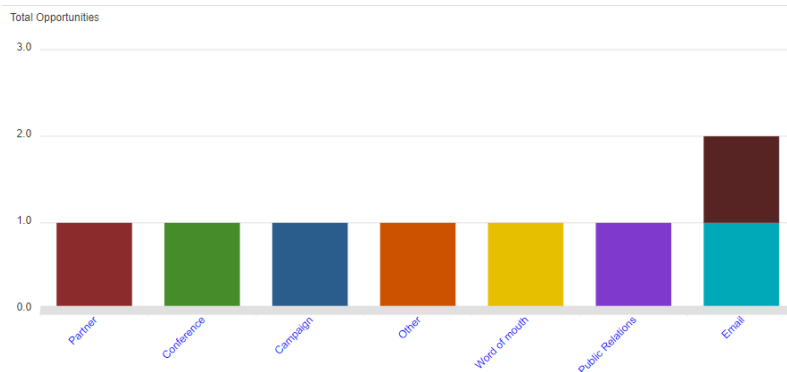
```

{ "xaxis" :
  { "position" : "bottom",
    "labels":
    { "show": true,
      "rotate": -45,
      "rotateAlways" : true,
      "style" : {
        "colors": "blue"
      }
    }
  },
  "axisBorder": {"show": true, "height": "10"}
}

```

Explanation :

- Set labels to rotate (always)
- Set the color of xaxis labels
- Make the axisborder 10px heigh



9.3.1.17 Changing the marker size

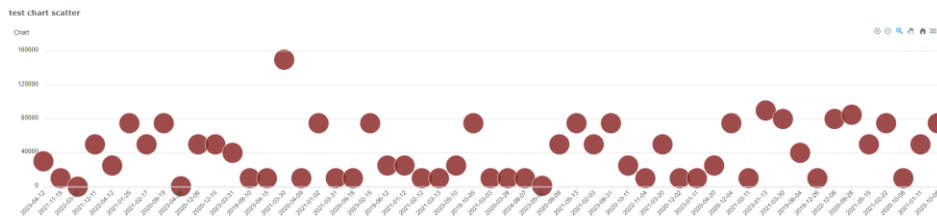
```

{"chart" : { "toolbar" : {"show" : true},
              "zoom" : {"enabled": "true",
                        "type": "xy",
                        "autoScaleYaxis": "false",
                        "zoomedArea": {
                          "fill": {
                            "color": "#90CAF9",
                            "opacity": "0.4"
                          },
                          "stroke": {
                            "color": "#0D47A1",
                            "opacity": "0.4",
                            "width": "1"
                          }
                        }
            }
        }
    },
    "xaxis" : {"type" : "category", "bottom" : "bottom", "labels" : {"show": true, "rotate" : "-45", "rotateAlways" : true, "hideOverlappingLabels" : false, "showDuplicates": true, "trim" : true}},
    "markers": {"size": 20}
}

```

Explanation:

- Set size of market (see bold, underlined text) to pixel width
- Most of the configuration is for the rest of the graphic



9.4 Working with Maps

vReports supports built-in Geo representation. Your admin can add new Maps (see admin manual).

These are the types of graphs that are supported



As an example, let's make a simple Report that groups by State and City for accounts.

Row index								
<input type="checkbox"/>	T	Nr	↕	CC	SQL PHP			👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	T	Billing State	↕		SQL PHP		Grouped	👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	T	Billing City	↕		SQL PHP		Grouped	👁️ ⚙️ 👤 + 🗑️

DELETE FIELDS

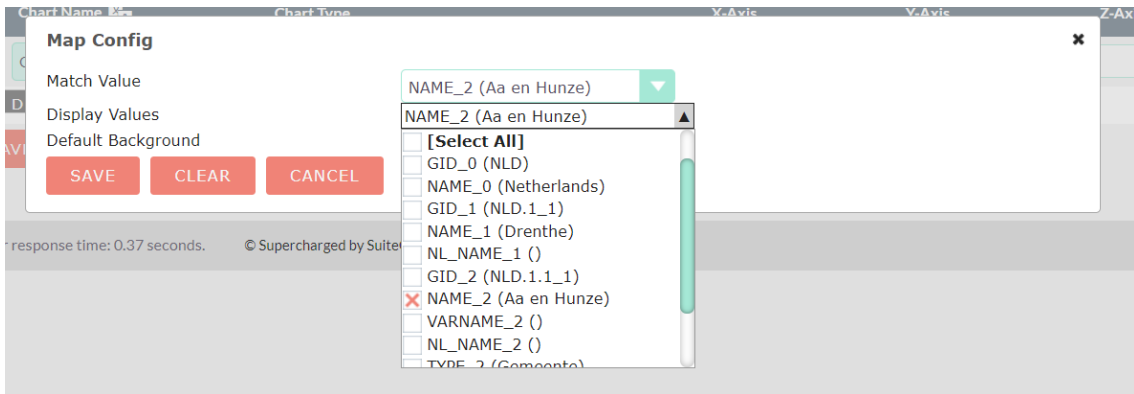
We have added a little extra with SQL: "IFNULL({this}, "Onbekend")" so that if nothing is defined for an account, it will get the value "Onbekend".

We then go to Charts and select "Nederland", and specifically "Gemeente" (City). This is where it gets interesting.

Charts Engine: NVD3							
Chart Name	Chart Type	X-Axis	Y-Axis	Z-Axis			
Gemeentes met data	Maps	Nederlan	Billing City	Nr			👁️ ⚙️ 🗑️

DELETE CHARTS

Click on the Options-icon to see the variables that are available, and the one that you wish to map to the field selected for the X-axis, and what variable should be shown. Normally you will choose NAME_1 (region) or NAME_2 (city) for both Match as well as Display.



In this case we take Name_2.



Make sure that you use a proper background color or you may not see the part of map that is not filled in.

Note that we are using here a map with city-level detail. We can group by region and show the region too here. Alternatively, we can use the Region-map but then we see the city-detail...



There is one additional feature that will tell you if all the data selected could be mapped, to ensure that you actually see what you expect to see:

You can click on the map to zoom, and click back to zoom-back. You can also use the mouse-wheel. Dragging the map around is also supported (might give you some extra sense of power !).



The information icon at the bottom right of the screen, when clicking on it, will provide you data about elements that could not be mapped.

Unknown keys and values :	
Alabama	: 2
Cupertino	: 2
Denver	: 5
Kansas City	: 5
Los Angeles	: 2
Ohio	: 4
Persistence	: 6
Salt Lake City	: 4
San Francisco	: 2
San Jose	: 5
San Mateo	: 4
Santa Fe	: 4
St. Petersburg	: 1
Sunnyvale	: 4
Total unknown keys : 14	

In the example above, there were 14 different values that could not be mapped and for each of these values, the occurrence is provided (this is what happens when you try to map the US in NL: it does not fit ...)

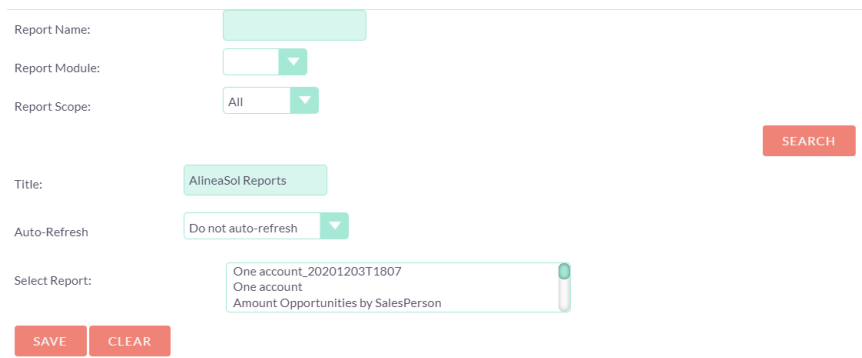
10 Dashlets !

To add a vReports dashlet to your home-page:

- click on “Add Dashlet”
- select under Charts: vReports.

Once you have added the vReports dashlets, close the Add Dashlet window to configure them.

- Click on the “edit”-icon. The configuration window will appear.



The screenshot shows a configuration window for a vReports dashlet. It contains the following elements:

- Report Name:** A text input field with a light blue background.
- Report Module:** A dropdown menu with a light blue background.
- Report Scope:** A dropdown menu with a light blue background, currently set to "All".
- SEARCH:** A red button.
- Title:** A text input field with a light blue background, containing the text "AlineaSol Reports".
- Auto-Refresh:** A dropdown menu with a light blue background, currently set to "Do not auto-refresh".
- Select Report:** A dropdown menu with a light blue background, showing a list of reports: "One account_20201203T1807", "One account", and "Amount Opportunities by SalesPerson".
- SAVE:** A red button.
- CLEAR:** A red button.

- Report Name: fill part of the name of the report (“like” function will be used).
 - You can filter by Report DB and Scope.
- Click on Search.
 - A list of filtered Reports will appear.
- Select the appropriate Report
- Update the Title with your preference.
- Click on Save.

11 Clickable links in Reports

There are mainly 2 ways to create links in vReports:

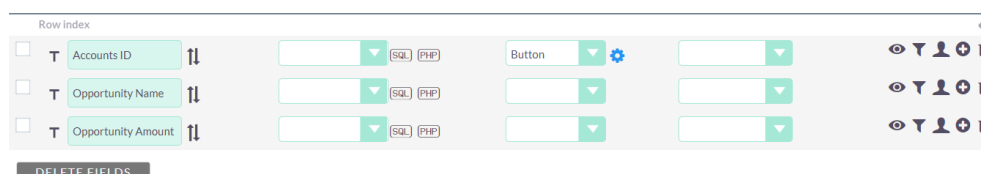
1. Through a clickable extra field/icon
2. By making an existing field clickable.

As an example let's create a Opportunities report I which we link to Accounts.

11.1 Extra field/icon

1. Add the account-ID as a field
 - In the tree, look for "ID", open the tree, look for Accounts and add ID Open "ID", within accounts.
2. Select "Button" as "format" type for this field.
3. Click on Options-icon
4. Select HTML link
5. Pick a nice icon, or define the text that should appear
6. Target: you can select to stay in same window or open a new one.
 - If you execute the report in Edit mode, remember to save (and continue) first if you select "self" as target (you will lose your Edit window!)
7. Base URL: (relative) URL that will be used to create the link. For Sugar actions, this is always "index.php".
8. URL Parameters: you have to add here the parameters that Sugar uses to identify the module, type of action and the actual record. To add a parameter click on "Add New Parameter".
 - module
 - module name
 - action
 - Type of View
 1. DetailView
 2. EditView
 3. ListView (not very useful here)
 - record
 - in this case \${this} which is the account_id

Fields definition in Report:



Button Configuration:

Format Configuration Accounts ID ✕

Button General Data

Button Type: Is Massive Action?

Icon Path:

Button Label:

Target Window

Target Window:

Base URL

Override Parameters ADD NEW PARAMETER

Parameter	<input type="text" value="module"/>	Value	<input type="text" value="Accounts"/>	
Parameter	<input type="text" value="action"/>	Value	<input type="text" value="DetailView"/>	
Parameter	<input type="text" value="record"/>	Value	<input type="text" value="{this}"/>	

SAVE CLEAR CANCEL

Result:

Link from Opportunities to Accounts ✕

Page 1 of 4

Opportunity Name	Opportunity Amount
Tortoise Corp - 1000 units	\$50,000.00
Green Tractor Group Limited - 1000 units	\$50,000.00
Southern Realty - 1000 units	\$10,000.00
Insight Marketing Inc - 1000 units	\$25,000.00
SD Investments - 1000 units	\$25,000.00
NW Bridge Construction - 1000 units	\$10,000.00
Trait Institute Inc - 1000 units	\$75,000.00
Ink Conglomerate Inc - 1000 units	\$75,000.00
B.C. Investing International - 1000 units	\$10,000.00
Smallville Resources Inc - 1000 units	\$25,000.00
AtoZ Co Ltd - 1000 units	\$50,000.00
TJ O'Rourke Inc - 1000 units	\$50,000.00
Dirt Mining Ltd - 1000 units	\$10,000.00
Kaos Trading Ltd - 1000 units	\$75,000.00
Smith & Sons - 1000 units	\$75,000.00
TOTAL	50

Page 1 of 4

11.2 Clickable name

Let's now make the Accounts name clickable.

1. Add the account ID as field: see above.

2. Add a new field to the report that shows the account Name, and give it an easy reference name, e.g. "account_name". As you need to use this field but you don't want it to appear "double", make it "hidden"
3. Copy all other steps, but instead of selecting an icon define the Button label using a PHP function:
 - [php] return '{account_name}'; [/php]
 - Note: ensure that you wrap the reference in single quotes !

Format Configuration Accounts ID - name ✕

Button General Data

Button Type: HTML Link Is Massive

Action? Action?

Icon Path: Set Icon

Button Label: [php] return '{account_name}'; [/php] 🔗

Target Window

Target Window: Blank (New)

Base URL

index.php

Override Parameters ADD NEW PARAMETER

Parameter	<input style="width: 95%;" type="text" value="module"/>	Value	<input style="width: 95%;" type="text" value="Accounts"/>	🗑️
Parameter	<input style="width: 95%;" type="text" value="action"/>	Value	<input style="width: 95%;" type="text" value="DetailView"/>	🗑️
Parameter	<input style="width: 95%;" type="text" value="record"/>	Value	<input style="width: 95%;" type="text" value="{this}"/>	🗑️

SAVE
CLEAR
CANCEL

Result:

Link from Opportunities to Accounts

◀
◀
Page 1 of 4
▶
▶▶

Accounts ID - name	Opportunity Name
Tortoise Corp	Tortoise Corp - 1000 units
Green Tractor Group Limited	Green Tractor Group Limited - 1000 units
Southern Realty	Southern Realty - 1000 units
Insight Marketing Inc	Insight Marketing Inc - 1000 units
5D Investments3	5D Investments - 1000 units
NW Bridge Construction	NW Bridge Construction - 1000 units
Trait Institute Inco	Trait Institute Inc - 1000 units
Ink Conglomerate Inc	Ink Conglomerate Inc - 1000 units
B.C. Investing International	B.C. Investing International - 1000 units
Smallville Resources Inc	Smallville Resources Inc - 1000 units
AtoZ Co Ltd	AtoZ Co Ltd - 1000 units
TJ O'Rourke Inc	TJ O'Rourke Inc - 1000 units
Dirt Mining Ltd	Dirt Mining Ltd - 1000 units
Kaos Trading Ltd	Kaos Trading Ltd - 1000 units
Smith & Sons	Smith & Sons - 1000 units

◀
◀
Page 1 of 4
▶
▶▶

12 Meta-reports

12.1 Introduction

Meta Reports is a Report aggregation function. You can use parts of regular vReports to create new ones. Importantly, you can connect the filters from one sub-Report to another, so that with one set of filters you can drive multiple reports.

So, the main reasons of being for Meta-Reports:

- Add explanations on how to interpret a report:
 - You can define the comments with the WYSIWYG editor and place the tables and graphs of the corresponding report where you want it. A basic two-column setup might be useful.
- Create a more fancy layout for Reports
 - For example you could position a table and Graph next to each-other (horizontally) (this is currently not possible in report).
 - You could add elements of an aggregated report to a text, and emphasize that data. Typical examples would be Total sales, Yearly profitability, etc.
- Show more complex data set-ups where certain data is presented from different angles
 - Meta-reports allows you to put the results of various reports on one screen. For example, financial figure from one account, and how important this account is in your customer portfolio.
- Apply filters on multiple reports at the same time
 - For example you may want to see in separate reports KPIs (Key Performance Indicators) on calls and meetings based on different criteria. You pick the filters, run them, and the various reports will be automatically updated.

12.2 Considerations

Setting up a Meta-report, requires some planning and various topics need to be considered:

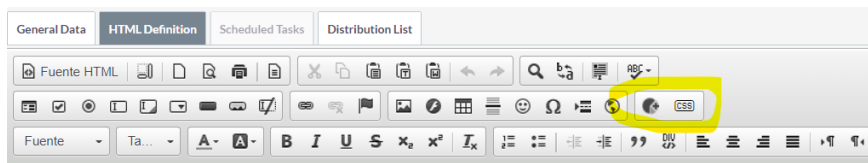
1. Determine what you want to see, and how you want to see it.
2. In principle, when you are using "user-input" filters, each report should ONLY be referenced once within the meta-report. However, you still can use more than one reference to the report that includes the user-input filters, if you make sure that the first reference to that report includes the filters (if you don't do this, filters will not work). Or with others words: the user-input filters should be the first things you see in the meta-report.

3. You can use tables and format the cells, to give reports a specific size. Remember to set the width (and possibly height, for each cell if you do so, or elements will be “out of the screen”.
4. You have to connect the push-filters from the report that is pushing those filters. The connections will appear in the “listening report” (see further-on for more detail).
5. Note that if something is not visible in the standard report, it will also not be visible in the meta-report.

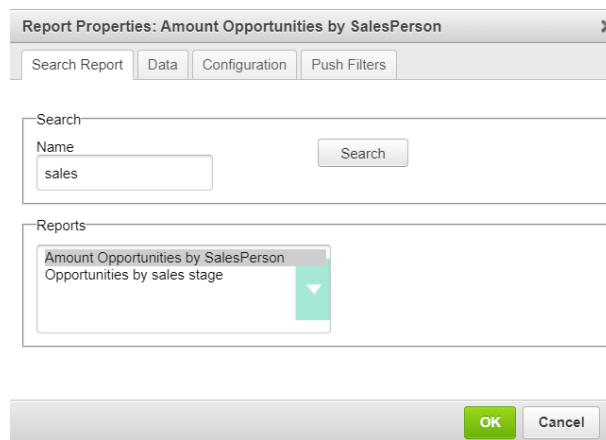
12.3 Options

You can use the WYSIWYG editor to create the layout for your final report:

- General Data: See normal report. You have some limitations for Meta Reports:
 - Report type: Manual, Internal Usage, External Usage and Scheduled
 - Email attachment Format: Only html is supported.
- HTML Definition: A few special icons have been introduced:

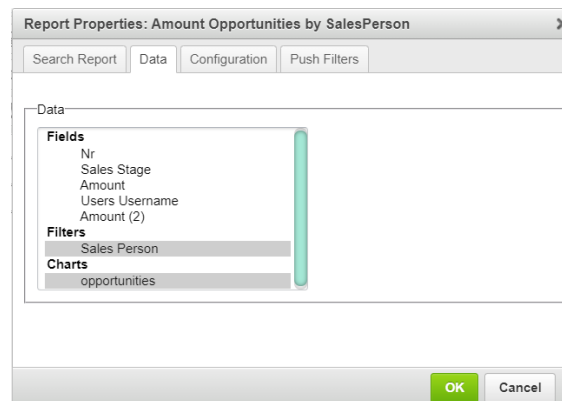


- CSS: you can change the style of the report (note that you can also use the WYSIWYG capabilities to do so too).
- Add Report button: adds previously created Reports to where your cursor is.
 - Search Report: fill in part of the name and click on “Search”.
To select a report you have to double-click it. You can see that the report is selected as the title will appear in the header of the window

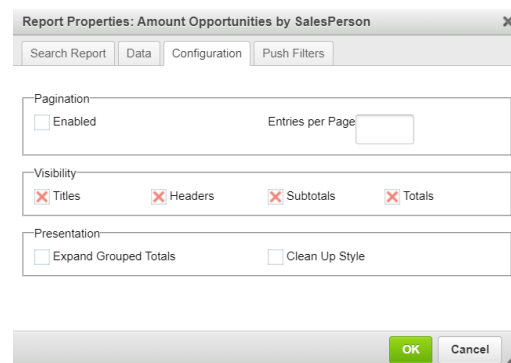


- Data: select which of the selected Report data will be displayed: applies for fields filters and charts. If none is selected, then nothing will appear, so make sure to select

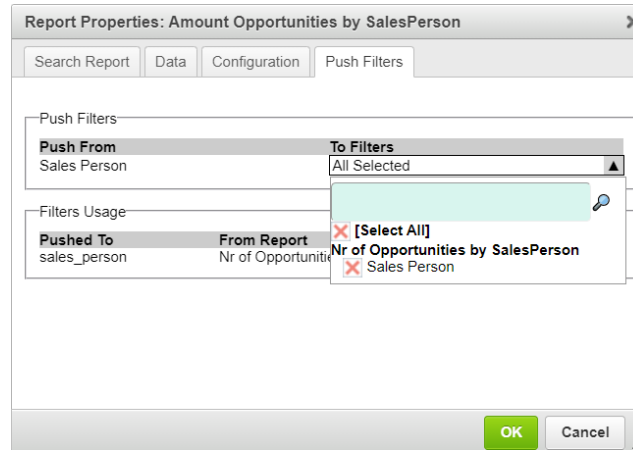
something in this tab for every Report! (you can select multiple items by pressing control and clicking on them)



- *Note: Report elements without a reference will NOT be displayed. If you can't see your charts, check the original Report and look if you defined a "reference".*
- Configuration: Allows to set some configuration for the added Report.



- **Pagination:** you can force it here. Also if you have an ordered Report (e.g. based on total revenue, descending) you may select 1 entry, and thus create a basic dashboard.
- **Visibility:** un-select to hide elements.
- **Presentation:** Expand Grouped Totals : included to provide compatibility with legacy versions. This will show Totals in a separate new row.
- **Clean Up Style:** as the name says... Relevant to have consistent presentations throughout the Meta-report.
- **Push Filters:** Applies filters from one sub-Report to another. You need at least 2 Reports with filters to use this feature. You will then see in the Push Filters window a dropdown to Push/link a filter to another sub-Report (within the same Meta Report). With other words, you define this link in the report that pushed the filters.
 - "Filters Usage" section shows how the filters of other sub-reports are linked to the filters of the sub-report you are viewing.



To edit the data for a sub-report, double click on it, or right click and select “Edit Report”.

Below an example where the filters of one Report are included in the top left cell of a table; the corresponding chart is below, and another report, with linked filters is in the right bottom cell. Plus some basic static html formatting.

NO DATA	Simple Example	<small>Common Filters separated from Report</small>
NO DATA	NO DATA	

Result:

EXECUTE: META EXAMPLE

REFRESH EDIT CANCEL EXPORT SEND BY EMAIL

EXECUTE CLEAR

Search

Sales Person:

EXECUTE CLEAR

opportunities (Value size in K)

Grouped Stacked

Nr of Opportunities

Sales Person	Nr of Opportunities
chris	12
max	12
sally	10
sarah	11
will	5

13 Known Issues (or for special attention)

- “Multiquery on Detail” (legacy querying model, not efficient) will not longer be supported in future releases. This should have no functional impact.
- Pdf export for Apex charts needs to be finetuned: use for the time being html export.
- If you click more than once the “refresh” button for Meta-reports, the presentation gets scrambled. Workaround: just click on the refresh button of the browser.
- The CSSs of Meta-reports are not applied when a Meta-report is used in the home-page
- Some databases, and also depending on their settings, require that you include a function for all fields that you display. This has a certain logic, as in this way you define “deterministically” what should be shown and not just “any” value. If those cases, if you do not define a function, the query will break and you will see “No Results”. We have introduced now for all cases in the report editor that you can use the function “Max”. You should add this construction for example if you group on “ID” (to make sure that the entities are different), but you want to show the name. Alternatively, you can group on both (result will be basically the same).
- \${this} is required in sub-queries when using the SQL editor (this is resolved for main queries).
- After installing vReports we recommend that you execute the “rights” changes as defined for SuiteCRM installations.
- You must make a "repair & rebuild" after installing Reports for the functionality to become available in a number of areas.
- In Edit mode, certain advanced features may not work when the report is executed. Just save the report and execute it in normal mode to test out.
 - In Edit-mode, execute a report with multimedia is not working
- In Common fields management, you cannot see if an added field was saved or not. This will be added in the future.
- In subqueries, using SQL editor, local references are not supported. bean-> references are supported.
- Single quotes should not be used in subqueries.
- Currently some css data is replicated in various files (including common style, and for reports: style + detail. This will be cleaned-up.
- When sidebar is open, ck-editor cursor in Edit mode may not appear always in the right place: close side-bar. Needs to be reproduced.
- Need to check if all Reports CSSs are not loaded when Report is included in standard SuiteCRM View through “fields”.

- If you want that filters only apply to certain roles, AND you are making use of the “OR” logic operator, make sure that the line that includes the Roles limitation is the one that also includes the “OR” statement. It should not make a difference if the Roles limitation is defined in the next line, but it does.
- When you use “paging” in a report, there are some limitations in how “order” works. In principle, only the first order-field is used, and with the actual value (not calculated one). The first page of the report will be presented correctly, but when you start navigating through the pages, the “order” will change (this has no simple solution...)
 - For reports with “headers” NOT visible, the actual report order is preserved, even with paging (this special case did fit in the current SuiteCRM table presentation).
- Certain filters are only supported for certain field types. This is currently not properly “limited”. This will be cleaned up. For the time being, if you experience issues with a filter (parameters not showing up, or too many) then delete filter and add it again.
- When you define a subquery with the Editor, and you want to use SQL, you cannot easily refer to the subquery table: the bean-variables are only supported for the main query. Also, you cannot use references, as only one field is picked-up. Workaround: Add the variable the you want in the subquery by clicking on it. Check out how it appears in the “Generate Query” output, and copy that to your sql...
- dynamic table not supported for MSSQL (REGEXP in SQL statements: needs work)
- When you order on more than one field, when paging is applied, elements are ordered only on one field when navigating through the pages.
- When you kill a long outstanding query, screen is not refreshed automatically.

14 Appendix 1: Date filters and operators

***Todo: needs more explanation on how to pass these filters.*

1: Operators 'equals' & 'not equals'

- First parameter: 'calendar'
 - Second parameter: String with date (yyyy-mm-dd)

- First parameter: 'dayofweek'
 - Second parameter: int from 0 to 6 If multiple days, delimit with '\${'}

- First parameter: 'weekofyear'
 - Second parameter: Selectable int from 1 to 53.

- First parameter: 'monthofyear'
 - Second parameter: int from 1 to 12 If multiple days, delimit with '\${'}

- First parameter: 'naturalquarterofyear' & 'fiscalquarterofyear'
 - Second parameter: Multiple selected int from 1 to 4, delimit with '\${'}

- First parameter: 'naturalyear' & 'fiscalyear'
 - Second parameter: int specifying the year.

2: Operators 'before date' and 'after date'

- First parameter: 'calendar'
 - Second parameter: String with date (yyyy-mm-dd)

- First parameter: 'weekofyear'
 - Second parameter: Selectable int from 1 to 53.

- First parameter: 'naturalyear' & 'fiscalyear'
 - Second parameter: int specifying the year.

3: Operators 'between' and 'not between'

- First parameter: 'calendar'
 - Second parameter: String with date (yyyy-mm-dd)

- Third parameter*: '\${comma}' delimiter and String with date (yyyy-mm-dd)

- First parameter: 'weekofyear'

- Second parameter: int from 1 to 53.

- Third parameter*: '\${comma}' delimiter and int from 1 to 53.

- First parameter: 'naturalyear' & 'fiscalyear'

- Second parameter: int specifying the year.

- Third parameter*: '\${comma}' delimiter and int specifying the year.

4: Operators 'last' and 'not last', 'this' and 'not this', 'these', 'next' and 'not next'

- First parameter: 'day', 'week', 'month', 'Nquarter', 'Fquarter', 'Nyear', 'Fyear'

- Second parameter: int specifying the value to search for. Default is 1.

- First parameter: 'monday' to 'sunday', 'january' to 'december'





















































*: In the GUI there is not a Third parameter. The third parameter is the second input at “Second parameter” after AND label.

15 Appendix 2: vReports examples

You can find an extensive set of Report examples in the vReports zip file, under: modules\vde_Reports\include_premium\examples.

As of 1.2.9 a new set of more biz oriented reports are shipped.

Note that for the reports to show data, there must be data (yours). Check out the specific filters to possibly expand filtered values.

<input type="checkbox"/>			[Accounts] Directly Associated HELD Meetings and Calls last 12 weeks
<input type="checkbox"/>			[Accounts] Top 10 with ACTIVE Opportunities
<input type="checkbox"/>			[Accounts] Top 10 with WON Opportunities LAST year
<input type="checkbox"/>			[Accounts] Top 10 with WON Opportunities THIS year
<input type="checkbox"/>			[Login Audit] Daily logins per week by user THESE 5 weeks
<input type="checkbox"/>			[Login Audit] Failed login attempts THESE 5 Weeks
<input type="checkbox"/>			[Opportunities] AUDIT wrong Expected Close Date
<input type="checkbox"/>			[Opportunities] AUDIT wrong Expected Close Date by Sales Person
<input type="checkbox"/>			[Opportunities] OPEN Weighted Value by Expected Close Date by Month GRAPH
<input type="checkbox"/>			[Opportunities] Overview GRAPH Last 12M and Next 12M
<input type="checkbox"/>			[Opportunities] with expected Close Date in NEXT 4 weeks
<input type="checkbox"/>			[timeline] example
<input type="checkbox"/>			[vCases] Open vCases Top 10 Activity (vNotes These 30 days)
<input type="checkbox"/>			[vCases] List 10 Oldest OPEN
<input type="checkbox"/>			[vCases] My OPEN vCases
<input type="checkbox"/>			[vCases] My vCases status Last 30 days graph
<input type="checkbox"/>			[vCases] Opened These 12 months
<input type="checkbox"/>			[vCases] Status Last 30 days graph
<input type="checkbox"/>			[vCases] Summary Open graph
<input type="checkbox"/>			[vNotes] Created by User THESE 30 days
<input type="checkbox"/>			[vNotes] Opened These 30 days
<input type="checkbox"/>			[vNotes] Opened These 30 days by Module
<input type="checkbox"/>			[vProjects] My Projects summary status
<input type="checkbox"/>			[vProjects] Project Basic Presentation
<input type="checkbox"/>			[vProjects] Projects summary status
<input type="checkbox"/>			[vProject] Projects Status

Additional reports:

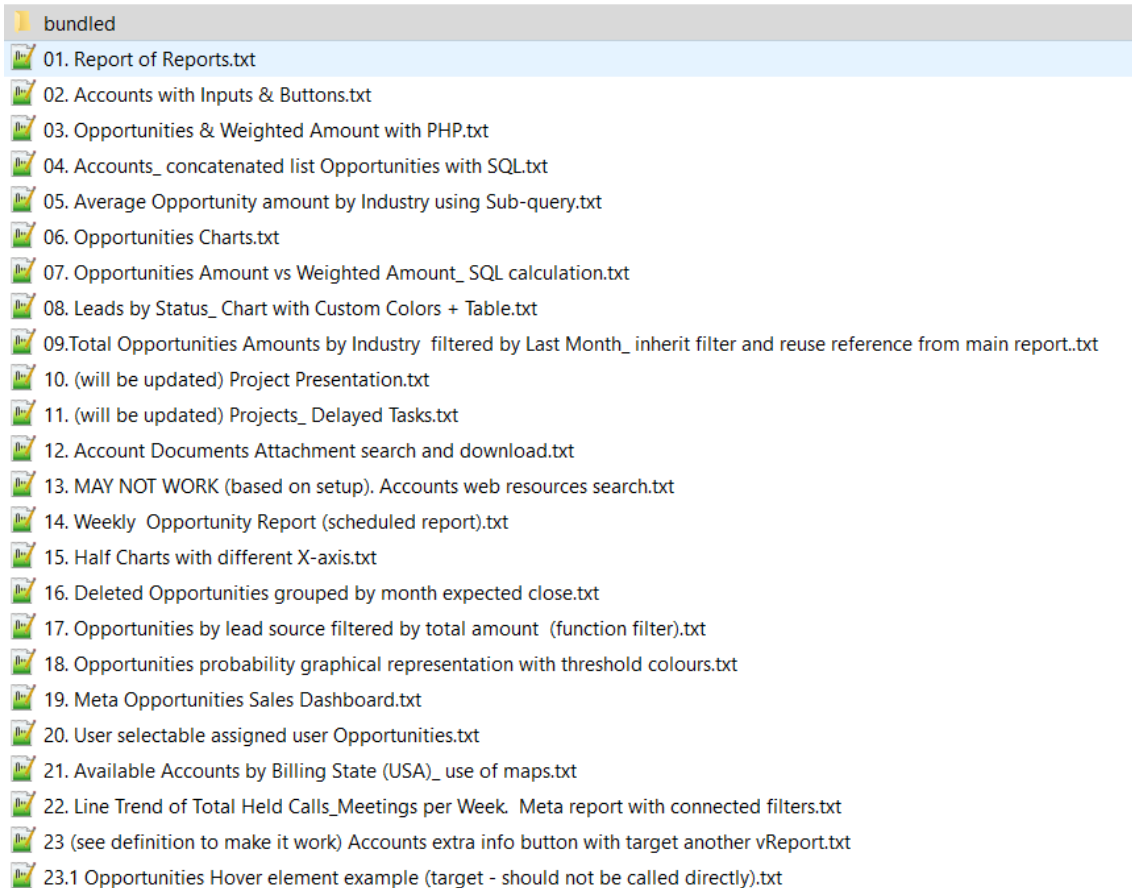
- Orgchart example

Consists of 2 reports. The main vReport called “test orgchart” and a support vReport: #OrgEmployeeData.

Please see the related section of this manual for more information.

15.1 Appenix 2 bis (deprecated)

In the “bundled” folder you can still find the reports that were previously included.



You can import them one by one, choosing the individual reports in this directory, or you can import them all in one go using the file under the “bundled” subdirectory.

Please check out the public description for each report for more information on each report.

- **01: REPORT OF REPORTS:** yes, also the Reports information is available to make a report out of it. This is a basic report that lists the Reports accessible to you, and supports also a click-through, by clicking on the name.

EXECUTE: 01. REPORT OF REPORTS

REFRESH EDIT CANCEL EXPORT SEND BY EMAIL

Results

Page 1 of 2

Name	Report Module	Description
01. Report of Reports	vReports	
02. Accounts with Inputs & Buttons	Accounts	· Accounts ListView Simulation - Edit Button to transition to traditional Edit View · Additional info through a button to display a DetailView like panel
03. Opportunities & Weighted Amount with PHP	Opportunities	· Generate weighted amount using PHP code
04. Accounts: concatenated list Opportunities with SQL	Accounts	· List of Accounts · Execute SQL to obtain concatenated list of associated opportunities

- 02: ACCOUNTS WITH INPUTS & BUTTONS:** This report has a number of filters. It does auto-execute with the values provided as default in the filters (you could also choose to NOT auto-execute, so that the system would first ask you to fill-in the filters, and after that, present you the results. Two action buttons are included: the pencil to the left, to start editing the account, and the additional information button to the right, that will provide, as the name present, the additional information the report designer has selected.

Search

Name Like Industry One of 30 Selected Items

SEARCH CLEAR

Results

Page 1 of 3

Name	Date Created	Industry	Office Phone
Anytime Support	18-05-2020 14.16	Consulting	(220) 878-8362
Insight Marketing Inc	18-05-2020 14.16	Chemicals	(983) 542-1198

- 03. OPPORTUNITIES & WEIGHTED AMOUNT WITH PHP:** Although easier to do this with SQL, here an example of how to present weighted data using php.

Name	Opportunity Amount	Probability (%)	Weighted Amount
Jungle Systems Inc - 1000 units	\$10,000.00	40	\$4,000.00
Riviera Hotels - 1000 units	\$50,000.00	60	\$30,000.00
A.G. Parr PLC - 1000 units	\$50,000.00	60	\$30,000.00

With the simple code: ($\${this}$ refers to the amount field.

```
[php]
return (  $\${this}$  *  $\%{probability}$  ) / 100;
[/php]
```

- 04. ACCOUNTS: CONCATENATED LIST OPPORTUNITIES WITH SQL:** Here you can see how to let your database engine do the hard work. We are creating a list of comma separated opportunities for each account.

Account Name	Total Opps	Accounts Opportunities
	0	
24/7 Couriers	3	Beautiful opportunity, The best opportunity, 24/7 Couriers - 1000 units
5D Investments	1	5D Investments - 1000 units
A.G. Parr PLC	1	A.G. Parr PLC - 1000 units

With the simple code: ($\{this\}$ refers to the Opportunities Name field. Note that we are using comma and space as separator, i.e. 2 characters).

```
GROUP_CONCAT( $\{this\}$  SEPARATOR ", ")
```

- 05. AVERAGE OPPORTUNITY AMOUNT BY INDUSTRY USING SUB-QUERY:** although this can also be done much easier directly, it does show how you can create more complex aggregated values.

Account Industry	Total Opportunities	Opportunities Amount Average
Apparel	2	\$62,500.00
Banking	1	\$75,000.00
Biotechnology	1	\$50,000.00

The average amount is calculated using a subquery, whereby:

- Main module is Accounts, and subquery module is Opportunities (we are looking at the module tree of the subquery (blue tree, else it would be red))
- We filter the subquery result based on Industry.

Account Industry	Total Opportunities	Opportunities Amount Average
Apparel	2	\$62,500.00
Banking	1	\$75,000.00
Biotechnology	1	\$50,000.00

SAVE GET QUERY

Accounts -> Opportunities Amount Average

Editor

Module Opportunitie Audit

Database Search

- Opportunities
 - T Address
 - T Amount
 - T Assigned User
 - T Campaign
 - T Created By
 - T Currency Name
 - T Date Created
 - T Date Modified
 - T Description
 - T Expected Close Date
 - T Geocode Status
 - T ID
 - T Latitude

ADD FIELDS

Fields #

Alias	Function	Data Grouping
Opportunity Amount	AVG	
Accounts Industry		

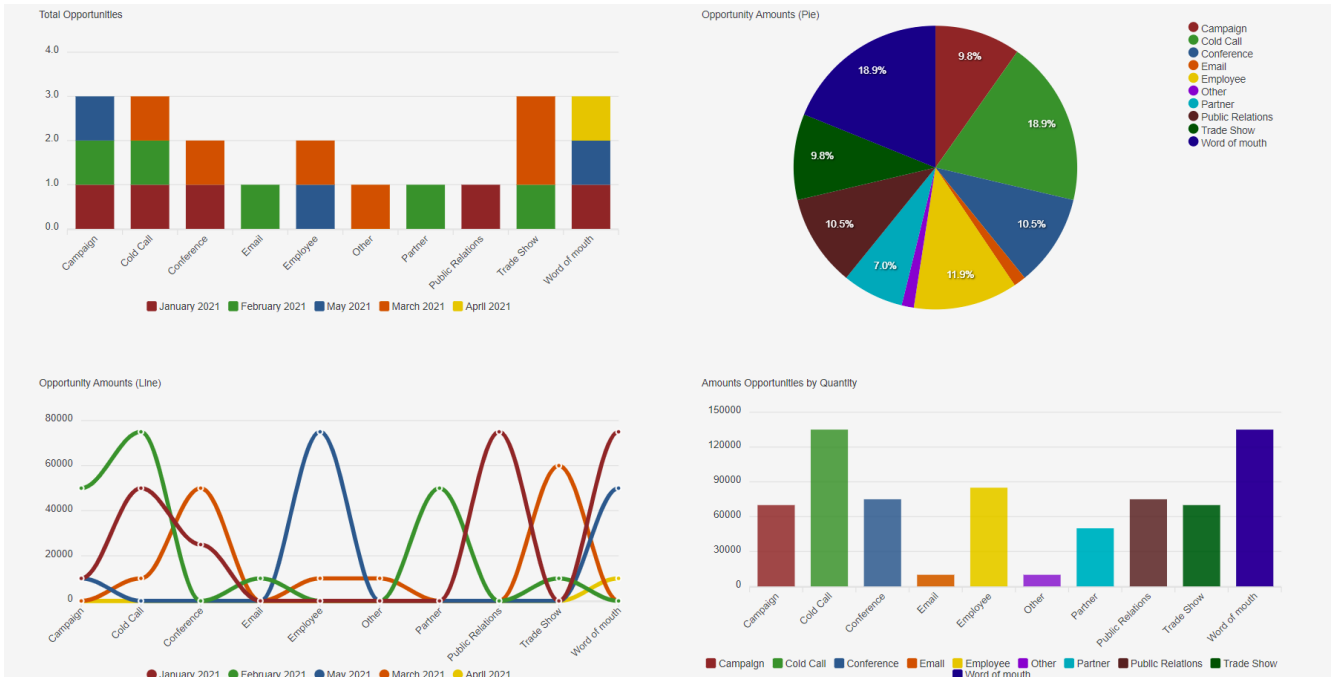
DELETE FIELDS

Filters

Logical Op.	Alias	Operator	First Parameter	Second Parameter
	Accounts Industry	Like	%{Industry}	

DELETE FILTERS

- **06. OPPORTUNITIES CHARTS:** a quick selection of Charts. Using the Apex engine and presenting 2 graphs per row.

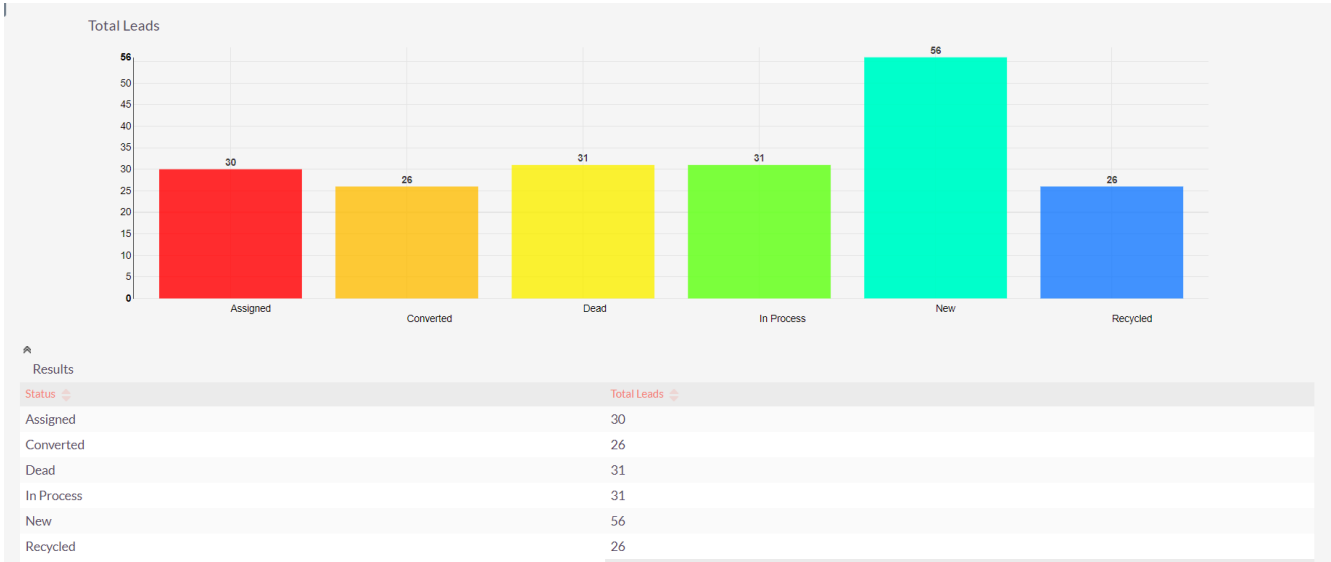


- **07. OPPORTUNITIES AMOUNT VS WEIGHTED AMOUNT: SQL CALCULATION.** This is the easier way to calculate a weighted amount: using SQL. Note that sub-charts are used with 2 y-axis and colors are set manually.



And there is the SQL code: ($\{this\}$ is associated with the field for amount)
 $SUM((\{this\} * \{bean \rightarrow probability\}) / 100)$

- 08. LEADS BY STATUS: CHART WITH CUSTOM COLORS + TABLE:** Basic chart with custom colors. First the graph is presented then the table.



- 09.TOTAL OPPORTUNITIES AMOUNTS BY INDUSTRY FILTERED BY LAST MONTH: INHERIT FILTER AND REUSE REFERENCE FROM MAIN REPORT:** This is a more enhanced report, with a subquery that filters based on two parameters from the main query: when the opportunity was created and the industry.

Part of the report result:

Industry	Total Opportunities	Total Amount
Apparel	2	\$125.000,00
Banking	1	\$75.000,00
Biotechnology	1	\$50.000,00
Chemicals	4	\$185.000,00

Main Query:

The screenshot shows the main query configuration interface. At the top, there are tabs for 'Fields' and 'Filters'. The 'Fields' section contains a table with columns: Alias, Function, Format Type, and Data Grouping. The fields listed are Date Created, Industry, Total Opportunities, and Total Amount. Below the fields is a 'DELETE FIELDS' button. The 'Filters' section contains a table with columns: Logical Op., Alias, Behavior, Operator, First Parameter, and Second Parameter. There is a 'Results' dropdown set to 'All'. Below the filters are 'Field Filters' and 'Function Filters' sections, each with a table for configuring specific filters.

Sub-query:

Accounts -> Total Amount

Editor

The screenshot shows the sub-query configuration interface. At the top, there are tabs for 'Fields' and 'Filters'. The 'Fields' section contains a table with columns: Alias, Function, and Data Grouping. The fields listed are Opportunity Amount, Date Created, and Accounts Industry. Below the fields is a 'DELETE FIELDS' button. The 'Filters' section contains a table with columns: Logical Op., Alias, Operator, First Parameter, and Second Parameter. There are two 'Field Filters' listed: one for Date Created with operator 'Inherit' and first parameter 'date_ente', and one for Accounts Industry with operator 'Like' and first parameter '%[industry]'. There are also 'Function Filters' and 'Field Filters' sections.

Note:

- The first filter in the subquery directly inherits the filter of the main query.
- The second filter reuses the value of the Industry (grouped by in main query).

- **12. ACCOUNT DOCUMENTS ATTACHMENT SEARCH AND DOWNLOAD:** This is a more complex example allowing you to download documents. It allows you to filter the documents based on account name.

Description

- Download an archive through button
- User Input on Account Name
- Account creation descending order
- Generate the document dynamically through php coding
- Custom SQL Join Management
- (Ensure that in the button definition the upload directory is correctly defined: assumed: upload)

EDIT CANCEL EXPORT SEND BY EMAIL

Search

Account Name Like

SEARCH CLEAR

Results

Document Name	Mime Type	Account Name	Account Date Created
ValeDale.png	image/png	First National S/B	18-05-2020 14.16
accounts_opportunities.sql	application/octet-stream	24/7 Couriers	18-05-2020 14.16

Totals

TOTAL

2

Main query:

Row index

Row index	Field	Behavior	Operator	First Parameter	Second Parameter	Actions
<input type="checkbox"/>	T Download Link	Button				👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	T Document Name					👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	T Mime Type					👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	T Account Name					👁️ ⚙️ 👤 + 🗑️
<input type="checkbox"/>	📅 Account Date Created	1st				👁️ ⚙️ 👤 + 🗑️

DELETE FIELDS

Filters

Logical Op.	Alias	Behavior	Operator	First Parameter	Second Parameter
	Results			All	

Field Filters

<input type="checkbox"/>	<input type="text"/>	T	Account Name	User Input	Like	<input type="text"/>	✓ ⚙️ 👤 + 🗑️
--------------------------	----------------------	---	--------------	------------	------	----------------------	-------------

Function Filters

Download button definition:

Format Configuration Download Link



Button General Data

Button Type Is Massive

Action?

Icon Path

Button Label

File Properties

File Name Mime Type

Base64 Content

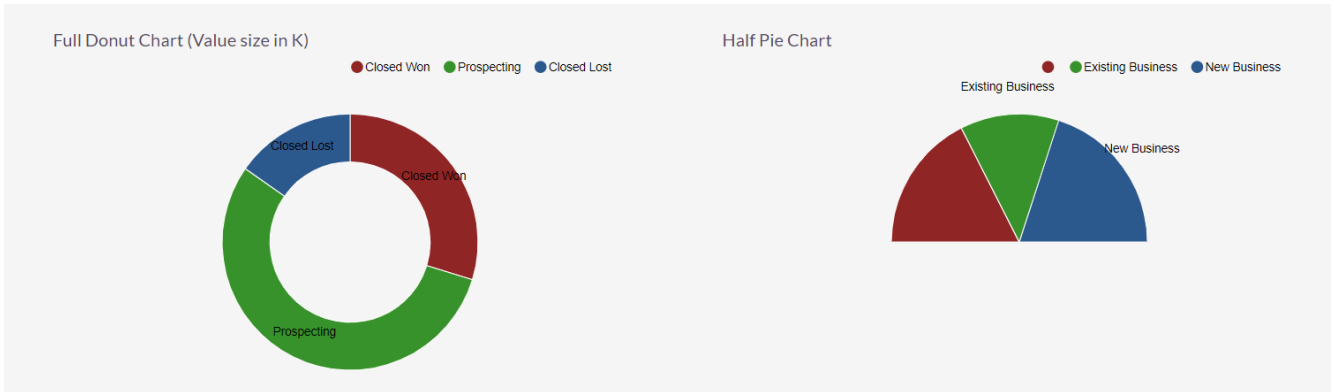
```
[php]
$upload_dir= $sugar_config['upload_dir'];
return base64_encode(file_get_contents($upload_dir."${this}"));
[/php]
```

Note:

- It uses the upload_dir config parameter to determine where the docs are saved.
- **14. WEEKLY OPPORTUNITY REPORT (SCHEDULED REPORT)** : example of a basic scheduled report. Note that the task is by default set to inactive: you have to switch this to active to make it work. Also, update the distribution list 😊 .

Task Name	Cron Mode	Next Execution	Execution End Date	Task State	ADD NEW TASK
<input type="checkbox"/> Send Email	<input type="checkbox"/>	Execution Range: Monthly <input type="button" value="v"/> Day 01 <input type="button" value="v"/> Time 00 <input type="button" value="v"/> : 00 <input type="button" value="v"/>	31-12-2050 <input type="button" value="📅"/> <input type="button" value="✖"/>	Inacti <input type="button" value="v"/>	<input type="button" value="🗑"/>

- **15. HALF CHARTS WITH DIFFERENT X-AXIS** : Two charts with different x-axis.



X-axis selection for each chart:

Chart Name	Chart Type	X-Axis	Y-Axis	Z-Axis
Full Donut Chart	Donut Chart	Sales Stage	Total Amc	
Half Pie Chart	Pie Chart	Type	Total Opp	

DELETE CHARTS

- 16. DELETED OPPORTUNITIES GROUPED BY MONTH EXPECTED CLOSE** : By default, vReports will NOT show deleted entries. For auditing, you can activate the option to also present deleted entries. The deleted flag will just be added to the report, and can be used as any other field.

Table Configuration

Calculation Mode

- Direct Run (no AJAX)
- Multiquery on Detail
- Gross Execution
- Trusted Execution
- Enable Upper Domains
- Add DISTINCT Statement
- Short Term Execution (on manual execution)

Fields Management

- Deleted Usage

Pagination Management

- Pagination Usage

- 17. OPPORTUNITIES BY LEAD SOURCE FILTERED BY TOTAL AMOUNT (FUNCTION FILTER) :** Function filters are strong and actually quite intuitive. In this example, you will see ONLY the lead sources for which the total amount of opportunities (combined) are above a certain figure .

Search

Total Amount More Than

Results

Lead Source	Total Amount
Partner	\$120.000,00
Trade Show	\$295.000,00
Word of mouth	\$145.000,00
Cold Call	\$210.000,00
Employee	\$185.000,00
Public Relations	\$175.000,00
Existing Customer	\$120.000,00
Email	\$210.000,00
	\$1.460.000,00

In edit mode, when you want to add a filter to an entry that has a function associated (SUM in this example), vReports will give you two options (see below). To filter on the actual entry (on the amount of the opportunity here) or on the Function result. The second one has been chose here. You will see that the filter already is under the “Function Filters” header.

Fields

Alias	Function	Format Type	Data Grouping
Lead Source			Grouped
Total Amount	SUM		

DELETED FIELDS

Filters

Logical Op.	Alias	Behavior	Operator	First Parameter	Second Parameter
	Results			All	

Field Filters (0)

Function Filters (1)

	Total Amount	User Inpu	More Tha	100
--	--------------	-----------	----------	-----

- 18. OPPORTUNITIES PROBABILITY GRAPHICAL REPRESENTATION WITH THRESHOLD COLOURS :** Adding some coloured bars to your reports. You can pick your own colours and thresholds.

Opportunity Name	Type	Lead Source	Amount	Probability (%)
Jungle Systems Inc - 1000 units		Conference	\$10,000.00	40%
Riviera Hotels - 1000 units	Existing Business	Partner	\$50,000.00	60%
A.G. Parr PLC - 1000 units	New Business	Trade Show	\$50,000.00	60%
S Cane Sweeteners Ltd - 1000 units	Existing Business		\$25,000.00	70%
Airline Maintenance Co - 1000 units	Existing Business	Word of mouth	\$75,000.00	60%
Smallville Resources Inc - 1000 units	Existing Business	Partner	\$50,000.00	10%

With special format for the probability parameter:

Format Configuration Probability (%)

Display Mode

Mode: Numeric & Graphic

Additional Data:

Select Template

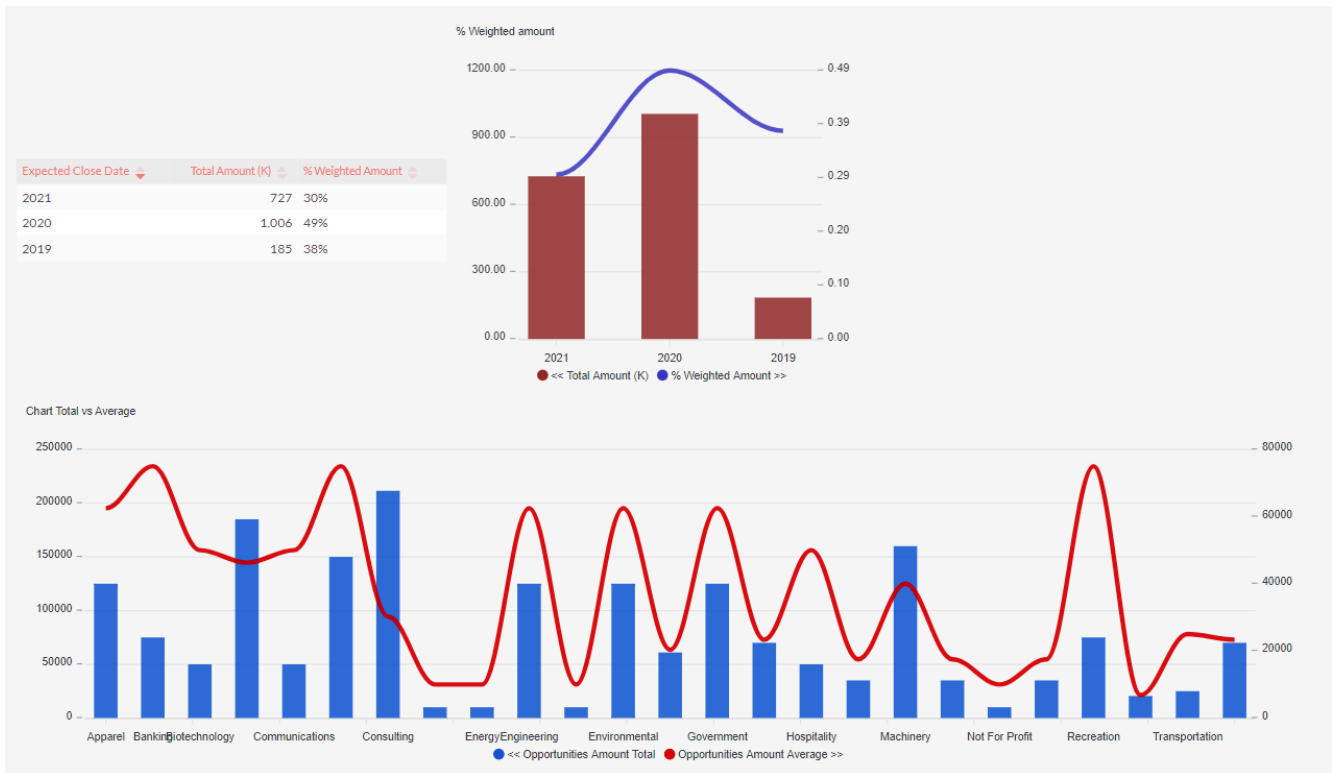
Threshold Templates:

Thresholds

Threshold	Graphic Color	CSS Class	
			 ✕
25			 ✕
50			 ✕
75			 ✕

SAVE
CLEAR
CANCEL

- 19. META OPPORTUNITIES SALES DASHBOARD:** Example of a meta report that positions the table and the graph of one report in different places and adds a new Report into the bargain. This could be done using a table and distributing the various reports over the table, but here we used flexbox as an exercise, with a special CSS, including re-scaling to make a nicer screen-capture...



The flexbox layout: (the first 2 elements refer to the same report; the first one picks the table, the second one the graph).

The screenshot shows an HTML editor with tabs for 'General Data', 'HTML Definition', 'Scheduled Tasks', and 'Distribution List'. The 'HTML Definition' tab is active, displaying a toolbar with various editing tools. Below the toolbar, a flexbox layout is visible, consisting of three stacked DIV elements. The top DIV contains a calendar icon, the middle DIV contains a pie chart icon, and the bottom DIV contains another pie chart icon.

The source html:

```

<p>&nbsp;</p><div class="vdeWrapperTotal" id="vdeWrap1"><div class="vdeMetaFlex1"
id="vdeWrap2"><p><report
data="%7B%22fields%22%3A%5B%22date_closed%22%2C%22total_amount%22%2C%22percentage%22%5D
%7D" record="5db6bcea-f040-207c-2365-621636963f82" showheaders="true"></report></p></div><div
class="vdeMetaFlex1" id="metawrapper3"><p><report
data="%7B%22charts%22%3A%5B%22chart_0%22%5D%7D" record="5db6bcea-f040-207c-2365-
621636963f82" showtitles="true"></report></p></div><div class="vdeMetaFlex2" id="wrapper4"><p><report
data="%7B%22charts%22%3A%5B%22mixed_chart%22%5D%7D" record="1cb1843b-30d5-19f9-5720-
621636c1d8c2" showtitles="true"></report></p></div></div>
  
```

And the CSS:

```

.vdeWrapperTotal {
  display: flex;
  flex-wrap: wrap;
  align-items: center;
  width: 100%;
  transform:scale(0.7);
  transform-origin: top left;
}
  
```

```

.vdeMetaFlex1 {

  flex-basis: 33%;
  flex-shrink: 2;
  min-width: 100px;

}
  
```

```

.vdeMetaFlex2 {

  flex-basis: 100%;
  flex-shrink: 1;
  min-width: 400px;

}
  
```

- **20. USER SELECTABLE ASSIGNED USER OPPORTUNITIES** : Here you can find the technique to select based by on user.

Search

Assigned User Equals



Results

Opportunity Name
Beautiful opportunity
Draft Diversified Energy Inc - 1000 units
The best opportunity
opp3
Testo Anytime
Opportunity1
Totals
TOTAL
6

And the report layout:

Fields # GSS JS

	Alias ↓⁹	Function	Format Type	Data Grouping ↓⁹		
<input type="checkbox"/>	T Assigned User ↑↓	<input type="text"/>	SQL PHP	<input type="text"/>	<input type="text"/>	
<input type="checkbox"/>	T Opportunity Name ↑↓	<input type="text"/>	SQL PHP	<input type="text"/>	<input type="text"/>	
<input type="checkbox"/>	T Opportunity Amount ↑↓	<input type="text"/>	SQL PHP	<input type="text"/>	<input type="text"/>	

DELETE FIELDS

Filters

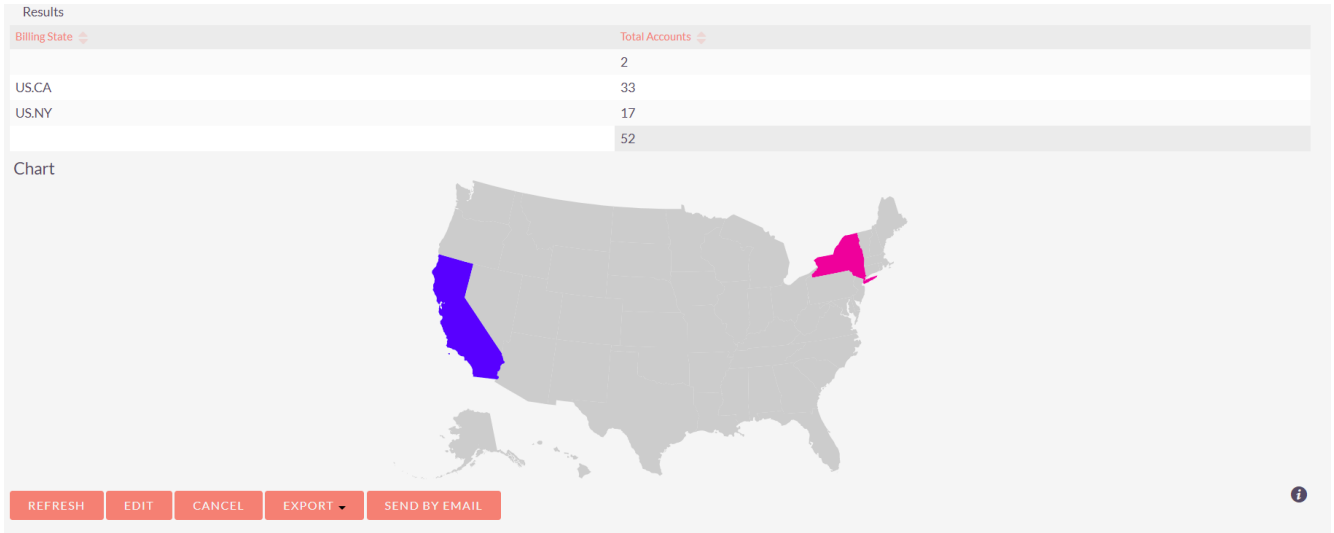
Logical Op.	Alias	Behavior	Operator	First Parameter	Second Parameter
	Results			All ↓⁹	

Field Filters (↔)

<input type="text"/>	<input type="text"/>	<input type="text"/>	T Assigned User	User Inpu	Equals ↓⁹	<input type="text"/>	
----------------------	----------------------	----------------------	-----------------	-----------	---	----------------------	--

Function Filters (↔)

- **21. AVAILABLE ACCOUNTS BY BILLING STATE (USA): USE OF MAPS** : A map showing data based on US-State. Please see the maps section for more information.



Report layout:

Alias	Function	Format Type	Data Grouping
Row index			
<input type="checkbox"/> T Billing State			Grouped
<input type="checkbox"/> T Total Accounts	COUNT		

Logical Op.	Alias	Behavior	Operator	First Parameter	Second Parameter
	Results			All	

SQL code: (you may have to apply some translation to meet the identifiers used in the maps).

```
CONCAT("US.", ${this})
```

And map configuration:

EDIT: 21. AVAILABLE ACCOUNTS BY BILLING STATE (USA): USE OF MAPS

SAVE & CONTINUE SAVE CANCEL GET QUERY EXECUTE

General Data Fields & Filters Charts Scheduled Tasks Distribution List

Charts Engine: Apex

Chart Name Chart Type X-Axis Y-Axis Z-Axis

Chart Maps United_st All Selected Total Accc

DELETED CHARTS

SAVE & CONTINUE SAVE CANCEL

percharged by SuiteCRM © Powered By SugarCRM

Map Config

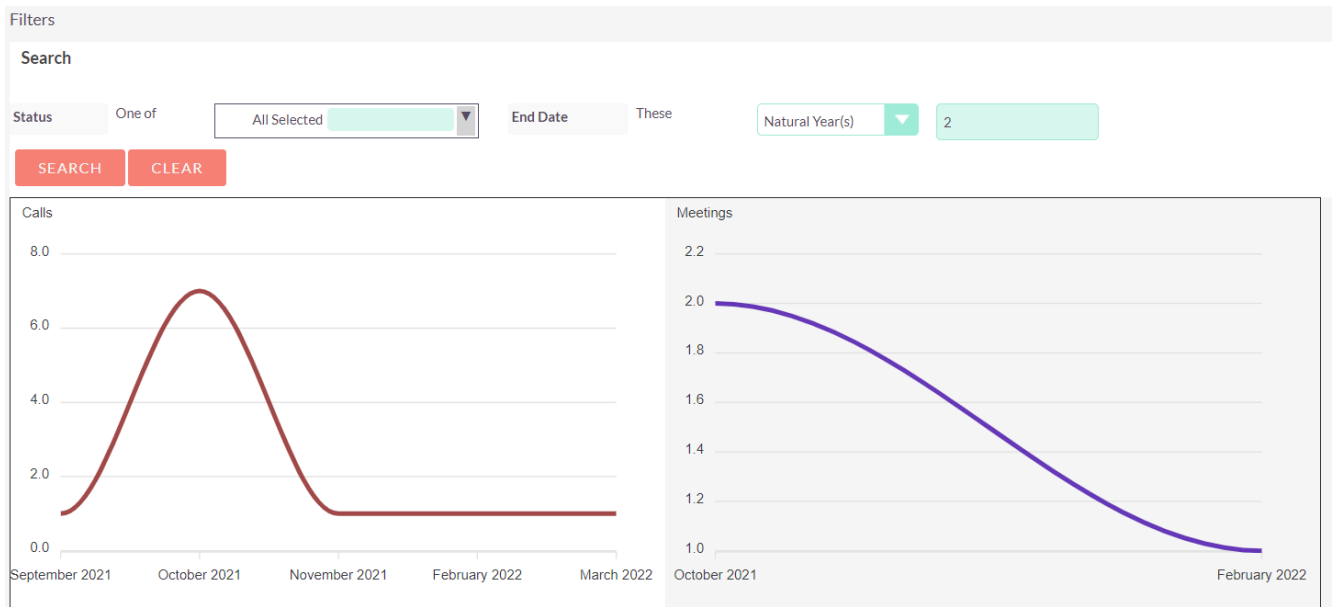
Match Value: HASC_1 (US.AL)

Display Values: NAME_1 (Alabama)

Default Background: [Color Picker]

SAVE CLEAR CANCEL

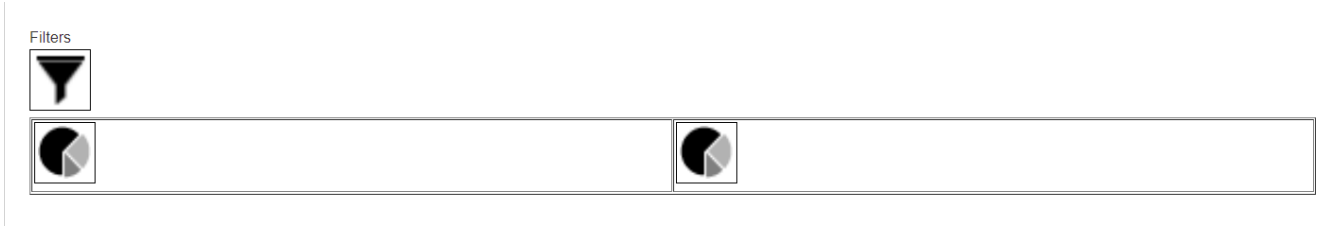
- 22. LINE TREND OF TOTAL HELD CALLS/MEETINGS PER WEEK. META REPORT WITH CONNECTED FILTERS** : This report shows how you can, with one filter set, influence 2 reports.



Definition of meta report:

The basis are two reports. The first report is presented with the filters (on top) and the graph separately. Of the second report, only the graph is presented. Both graphs are formatted within a table (cell properties set to 50% width !!)

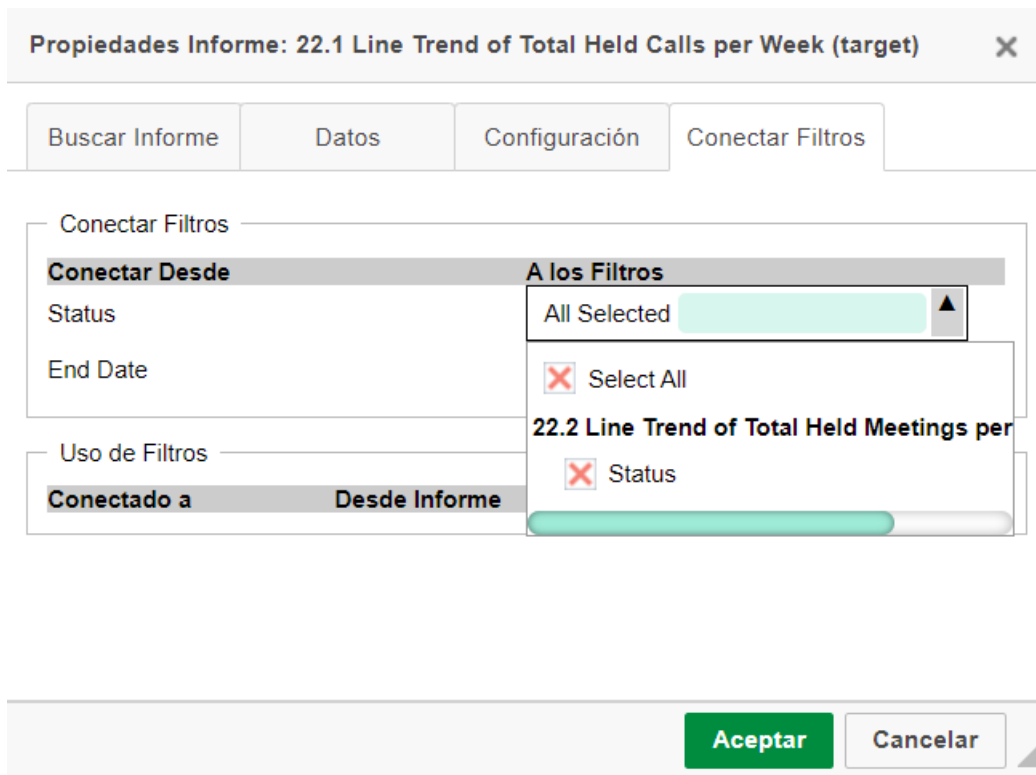
2 filters of the first report are pushed to the second report.



Definition of pushed filters:

Note that the pushed filters are defined in the FIRST (and only there!) report instance in the meta-report.

The pushing side (the filters are pushed from 22.1 to 22.2. No filters are pushed into the 22.1 report as nothing is shown in the last table.



The receiving side:

The filters that are pushed into the 22.2 filters are automatically shown. This report does NOT push filters by itself.

Propiedades Informe: 22.2 Line Trend of Total Held Meetings per Week (target) ✕

Buscar Informe
Datos
Configuración
Conectar Filtros

Conectar Filtros

Conectar Desde	A los Filtros
Status	<input style="width: 100%;" type="text"/>
End Date	<input style="width: 100%;" type="text"/>

Uso de Filtros

Conectado a	Desde Informe	con Filtro
status	22.1 Line Trend of Total Held Calls per Week (target)	Status
date_end	22.1 Line Trend of Total Held Calls per Week (target)	End Date

Aceptar
Cancelar

- 23 (SEE DEFINITION TO MAKE IT WORK) ACCOUNTS EXTRA INFO BUTTON WITH TARGET ANOTHER VREPORT :** In this report you can click on an element (here “OPPORTUNITIES”) to show yet another report. In this case, the opportunities related to the account (of course you could also make a clickable icon for this). This gives you considerably more flexibility compare to the “additional-information” option that is built in. Remember that in order to make this work, you have to edit the main report to point to the helper-report (currently these reports are not automatically saved and re-assigned).

Results

Page 1 of 2

Name
OPPORTUNITIES Anytime Support
OPPORTUNITIES Insight Marketingu Inc
OPPORTUNITIES 24/7 Couriers
OPPORTUNITIES Kaos Trading Ltd
OPPORTUNITIES JJ Resources Inc
OPPORTUNITIES Rhyme & Reason Inc

Opportunities ✕

Amount	Date Created	Lead Source	Sales Stage	Probability (%)
\$75.000,00	18-05-2020 14.16	Cold Call	Value Proposition	10,00
\$500,00	02-08-2021 13.32		Prospecting	10,00
\$1.000,00	18-05-2020 14.47		Prospecting	20,00
TOTAL				
3				

And the button definition (see where you have to pick Report 23.1 for the magic to work):

Format Configuration Opportunities ✕

Button General Data

Button Type: Hover Element Is Massive

Icon Path: Set Icon Action?

Button Label:

Hover Size & Position

Width: Height:

Centered On: Reload on Closing:

Screen

Element Selection

Type: vReports Element: 23.1 Opportunities Hover

Send Data/Record:

Override Parameters +

SAVE CLEAR CANCEL